



Construction Solicitation #7461 (BID)

SOUTH WATER STREET VIADUCT REHABILITATION - Beaubien Ct. to Stetson Ave.

Specification Number:561863

Required for use by: CHICAGO DEPARTMENT OF TRANSPORTATION

Bid/Proposal Submittal Date and Time: 11:00 AM Central Time, 02-JUL-2020

Deadline for Questions: 04:30 PM Central Time, 19-JUN-2020

Buyer: WARD, SONJI

Email Address: Sonji.Ward@cityofchicago.org

Phone Number: 3127444916

Pre-Solicitation Conference Date and Time: 10:00 AM Central Time, 16-JUN-2020

Pre-Solicitation Conference Location: Tele-Conference Call, 712-770-5505, Code#650-260

Site Visit Date & Time: N/A

Site Visit Location: N/A

Please submit your response to:

<http://www.cityofchicago.org/eProcurement>
iSupplier vendor portal registration is required.
Allow 3 business days to complete registration.

LORI E. LIGHTFOOT
MAYOR

SHANNON E. ANDREWS
CHIEF PROCUREMENT OFFICER

Specification Number: 561863

Type of Funding: FEDERAL

Title: 561863: SOUTH WATER STREET VIADUCT REHABILITATION - Beaubien Ct. to Stetson Ave.

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1 Header Information

1.1 General Information

Title **561863: SOUTH WATER STREET VIADUCT REHABILITATION - Beaubien Ct. to Stetson Ave.**
 Description **SOUTH WATER STREET VIADUCT REHABILITATION - Beaubien Ct. to Stetson Ave.**
 Preview Date **08-JUN-2020 08:55:00** Open Date **08-JUN-2020 08:55:00**
 Close Date **11:00 AM Central Time, 02-JUL-2020** Award Date **Not Specified**
 Time Zone **Central Time** Buyer **WARD, SONJI**
 Quote Style **Sealed** Email **Sonji.Ward@cityofchicago.org**
 Event **Construction** Outcome **Construction Standard PO**

1.2 Terms

Ship-To Address **088-1020 WATER MANAG
1000 E OHIO STREET
Chicago, IL 60611
United States** Bill-To Address **088-1020 WATER MANAG
1000 E OHIO STREET
Chicago, IL 60611
United States**
 Payment Terms **IMMEDIATE** Carrier
 FOB **CITY OF CHICAGO** Freight Terms

1.3 Requirements

KEY SOLICITATION PARAMETERS
BID DEPOSIT: 5% of Total Base Bid Type No Response Required
PERFORMANCE BOND: 100% of Total Base Bid Type No Response Required
CONTRACT SPECIFIC GOALS: DBE 25% of Total Base Bid Type No Response Required
FUNDING SOURCE: Federal Type No Response Required
FUND NUMBER: 020-0400-084-2015-0140-220140 Type No Response Required
DPS UNIT: Construction Type No Response Required
PLANS: Attached Type No Response Required Value Type Numeric Value only
CONTRACT TERM: 540 Calendar Days from NTP Type No Response Required
PRE-BID/PRE-PROPOSAL CONFERENCE: Pre-submittal Conference Call, 6/16/20 @ 10am Central Time, Conference Call Number 712-770-5505, Code 650-260Conference Call Sign in: Email Sonji Ward

Specification Number: 561863

Type of Funding: FEDERAL

Title: 561863: SOUTH WATER STREET VIADUCT REHABILITATION - Beaubien Ct. to Stetson Ave.

KEY SOLICITATION PARAMETERS
with a list of attendees that will be on this conference call at Sonji.Ward@cityofchicago.org. Subject: POC Conference Call Attendees
Type No Response Required
COMMODITIES/WORK SERVICES/HEAVY EQUIPMENT/SMALL ORDERS/CONSTRUCTION/JOC CHECKLIST
This is a checklist of all supporting documents that must be attached to your bid response. Attach all documents specified below. After attaching, click "YES" to indicate that the attachment was completed.
Type No Response Required
- Bid Form properly completed. - (Construction)
Circle one from the response values below: YES NO
- Proposal Page completed, signed and notarized - (ALL)
Circle one from the response values below: YES NO
- Proposal To Be Completed By a Corporation - (ALL)
Circle one from the response values below: YES NO
- Proposal To Be Completed By a Partnership - (ALL)
Circle one from the response values below: YES NO
- Proposal To Be Completed By a Joint Venture - (ALL)
Circle one from the response values below: YES NO
- Proposal To Be Completed By a Sole Proprietor - (ALL)
Circle one from the response values below: YES NO
- Bid Execution Page - (ALL)
Circle one from the response values below: YES NO
- Certificate of Filing of Economic Disclosure Statement and Affidavit (EDS) - (ALL)
Circle one from the response values below: YES NO
- Certificate of Insurance

<p>COMMODITIES/WORK SERVICES/HEAVY EQUIPMENT/SMALL ORDERS/CONSTRUCTION/JOC CHECKLIST</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Affidavit of Availability (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Department of Procurement Services Bid Bond (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Contractor's Affidavit Regarding Removal of All Waster Materials and Identification of all Legal Dump Sites (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>DBE DOCUMENTS – CONSTRUCTION (Federal)</p> <p>.....</p>
<p>Type No Response Required</p>
<p>- Schedule B — DBE Affidavit of Joint Venture (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Schedule C — Letter of Intent from DBE (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Schedule D — Affidavit of Prime Contractor-DBE (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Schedule F – Report of Subcontractor Solicitations – (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- Schedule H – Documentation of Good Faith Efforts (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>
<p>- DBE Full or Partial Waiver Requested - (Construction)</p> <p>.....</p>
<p>Circle one from the response values below: YES NO</p>

1.4 Attachments

Name	Data Type	Description
ATTACHMENT 01: APPENDIX	File	ATTACHMENT 01: APPENDIX
ATTACHMENT 02: BOOK 1	File	ATTACHMENT 02: BOOK 1
ATTACHMENT 03: BOOK 2	File	ATTACHMENT 03: BOOK 2
ATTACHMENT 04: BOOK 3	File	ATTACHMENT 04: BOOK 3
ATTACHMENT 05: PLANS	File	ATTACHMENT 05: PLANS

1.5 Response Rules

- Solicitation is restricted to invited suppliers
- Suppliers are allowed to view other suppliers' contract terms, notes and attachments
- Suppliers are allowed to respond to selected lines
- Suppliers are required to respond with full quantity on each line
- Suppliers are allowed to provide multiple responses
- Buyer may close the solicitation before the Close Date
- Buyer may manually extend the solicitation while it is open

2 Price Schedule**2.1 Line Information**

Display Rank As **No indicator displayed**
 Ranking **Price Only**
 Cost Factors **None**

Retainage

Retainage Attributes	Negotiable
Maximum Retainage Amount	No
Retainage Rate (%)	No

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
1 EARTH EXCAVATION		334	Cubic Yard			
2 TRENCH BACKFILL		60	Cubic Yard			
3 POROUS GRANULAR BACKFILL		35	Cubic Yard			
4 INLET FILTERS		24	Each			
5 SAND CUSHION, VARIABLE DEPTH		123	Cubic Yard			
6 SUBBASE GRANULAR MATERIAL, TYPE B 6"		3,199	Square Yard			
7 PORTLAND CEMENT CONCRETE BASE COURSE 9"		2,718	Square Yard			
8 BITUMINOUS MATERIALS (TACK COAT)		8,460	Pound			
9 LEVELING BINDER (HAND METHOD), N70		4	Ton			
10 LEVELING BINDER (MACHINE METHOD), N70		4	Ton			
11 POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50		112	Ton			
12 HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70		234	Ton			
13 PORTLAND CEMENT		5,319	Square Foot			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
CONCRETE SIDEWALK 5 INCH						
14 PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH		2,588	Squar e Foot			
15 LINEAR DETECTABLE WARNING TILES (CAST IRON)		48	Squar e Foot			
16 RADIAL DETECTABLE WARNING TILES (CAST IRON)		180	Squar e Foot			
17 PAVEMENT REMOVAL		2,775	Squar e Yard			
18 HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"		89	Squar e Yard			
19 COMBINATION CURB AND GUTTER REMOVAL		2,530	Foot			
20 SIDEWALK REMOVAL		7,441	Squar e Foot			
21 MEDIAN REMOVAL		3,307	Squar e Foot			
22 REMOVAL OF EXISTING STRUCTURES		1	Lump Sum			
23 CONCRETE REMOVAL		28.2	Cubic Yard			
24 PROTECTIVE SHIELD		21	Squar e Yard			
25 STRUCTURE EXCAVATION		255	Cubic Yard			
26 DRAINAGE SCUPPER, DS-12		10	Each			
27 HIGH PERFORMANCE CONCRETE STRUCTURES		244.6	Cubic Yard			
28 HIGH PERFORMANCE CONCRETE SUPERSTRUCTU RES		2,038	Cubic Yard			
29 LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK		2,683	Squar e Yard			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
30	CONCRETE SUPERSTRUCTURE	20.5	Cubic Yard			
31	BRIDGE DECK GROOVING	2,433	Square Yard			
32	REINFORCEMENT BARS, EPOXY COATED	616,740	Pound			
33	MECHANICAL SPLICERS	252	Each			
34	ALUMINUM RAILING, TYPE L	136	Foot			
35	NAME PLATES	1	Each			
36	PREFORMED JOINT STRIP SEAL	274	Foot			
37	NEOPRENE EXPANSION JOINT 2 1/2"	20	Foot			
38	ANCHOR BOLTS, 1 1/4"	240	Each			
39	ANCHOR BOLTS, 1 1/2"	208	Each			
40	TEMPORARY SOIL RETENTION SYSTEM	1,253	Square Foot			
41	STORM SEWER REMOVAL 8"	80	Foot			
42	PROTECTIVE CONCRETE SEALER	4,926	Square Yard			
43	CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	10	Each			
44	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	3	Each			
45	FRAMES AND GRATES TO BE ADJUSTED	35	Each			
46	REMOVING CATCH BASINS	9	Each			
47	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12	2,585	Foot			
48	CONCRETE MEDIAN	3,372	Square Foot			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
SURFACE, 4 INCH						
49 CHAIN LINK FENCE, 8'		216	Foot			
50 CHAIN LINK GATES, 8' X 16' DOUBLE		1	Each			
51 NON-SPECIAL WASTE DISPOSAL		982	Cubic Yard			
52 SPECIAL WASTE DISPOSAL		20	Cubic Yard			
53 HAZARDOUS WASTE DISPOSAL		20	Cubic Yard			
54 SPECIAL WASTE GROUNDWATER DISPOSAL		1,000	Gallon			
55 SPECIAL WASTE PLANS AND REPORTS		1	Lump Sum			
56 SOIL DISPOSAL ANALYSIS		1	Each			
57 VOCS GROUNDWATER ANALYSIS		1	Each			
58 RCRA METALS GROUNDWATER ANALYSIS		1	Each			
59 ENGINEER'S FIELD OFFICE		18	Month			
60 MOBILIZATION		1	Lump Sum			
61 TRAFFIC CONTROL SURVEILLANCE		140	Day			
62 TEMPORARY PAVEMENT MARKING - LINE 4"		1,163	Foot			
63 TEMPORARY PAVEMENT MARKING - LINE 6"		673	Foot			
64 TEMPORARY PAVEMENT MARKING - LINE 24"		175	Foot			
65 TEMPORARY CONCRETE BARRIER		866	Foot			
66 RELOCATE TEMPORARY CONCRETE BARRIER		1,720	Foot			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
67	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE), TEST LEVEL 2	3	Each			
68	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	5	Each			
69	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	786	Foot			
70	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	744	Foot			
71	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	812	Foot			
72	POLYUREA PAVEMENT MARKING TYPE I - LINE 24"	383	Foot			
73	ELASTOMERIC BEARING ASSEMBLY, TYPE I (SPECIAL)	4	Each			
74	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 300K	4	Each			
75	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 600K	16	Each			
76	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 400K	4	Each			
77	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 550K	4	Each			
78	HIGH LOAD MULTI-ROTATIONAL BEARINGS,	2	Each			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
NON-GUIDED EXPANSION, 200K						
79 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 250K		17	Each			
80 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 300K		7	Each			
81 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 400K		2	Each			
82 CHAIN LINK FENCE REMOVAL		212	Foot			
83 TRAFFIC CONTROL AND PROTECTION, (SPECIAL)		1	Lump Sum			
84 HOT-MIX ASPHALT SURFACE REMOVAL (DECK)		117	Square Yard			
85 CONSTRUCTION LAYOUT		1	Lump Sum			
86 DRAINAGE SYSTEM		1	Lump Sum			
87 SILICONE JOINT SEALER, 1"		801	Foot			
88 JACKING AND CRIBBING		4	Each			
89 TRAINEES		500	Hour			
90 STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)		190	Foot			
91 REMOVE SIGN PANEL AND SALVAGE		25	Each			
92 REMOVE SIGN ASSEMBLY AND SALVAGE		23	Each			
93 SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A -		178	Square Foot			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
SINGLE SIDED						
94 SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - SINGLE SIDED		30	Square Foot			
95 SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - DOUBLE SIDED		34	Square Foot			
96 SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - DOUBLE SIDED		56	Square Foot			
97 FURNISH AND INSTALL POLE AND BASE		30	Each			
98 DRILL AND GROUT BARS (EPOXY COATED)		1,291	Each			
99 ADJUST FRAME AND LID		3	Each			
100 CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP		3	Each			
101 ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX		200	Foot			
102 ELECTRIC CABLE IN CONDUIT, 1/C #10		10,200	Foot			
103 ELECTRIC CABLE IN CONDUIT, 1/C #4		200	Foot			
104 GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 2"		250	Foot			
105 GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3"		3,100	Foot			
106 GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3/4"		3,400	Foot			
107 INTERCEPT EXISTING CONDUIT		12	Each			
108 JUNCTION		15	Each			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12"X10"X6"						
109 LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, & ARM		2	Each			
110 LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF		2	Each			
111 LUMINAIRE, LED, VIADUCT		100	Each			
112 MAINTAIN LIGHTING SYSTEM		1	Lump Sum			
113 MANHOLE 3'X4'X4' W/24" F&L		6	Each			
114 MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8' ANODIZED		2	Each			
115 POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED		2	Each			
116 REMOVE ANCHOR BASE POLE		2	Each			
117 REMOVE CONDUIT ATTACHED TO STRUCTURE		600	Foot			
118 REMOVE CONTROLLER ONLY		3	Each			
119 REMOVE ELECTRIC CABLE FROM CONDUIT		6,500	Foot			
120 REMOVE JUNCTION BOX		7	Each			
121 REMOVE LUMINAIRE		2	Each			
122 REMOVE MAST ARM		2	Each			
123 REMOVE VIADUCT LUMINAIRE		236	Each			
124 MONOLITHIC TERRAZZO		1,245	Square Foot			

Line	Item, Rev	Target Quantity	Unit	Response Quantity	Unit Price	Amount
FLOORING						
125 HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED		2	Each			
126 TEMPORARY SPRINKLER STANDPIPE EXTENSION		1	Lump Sum			
127 CONSTRUCTION VIBRATION MONITORING		1	Lump Sum			
128 ADDITIONAL INSURANCE FOR WORK WITHIN TEMPORARY OR PERMANENT EASEMENTS		1	Lump Sum			

2.2 Line Details

2.2.1 Line 1 EARTH EXCAVATION

Category **00000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020 12:06:35**
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.2 Line 2 TRENCH BACKFILL

Category **00000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020 12:06:35**
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.3 Line 3 POROUS GRANULAR BACKFILL

Category **00000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020 12:06:35**
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.4 Line 4 INLET FILTERS

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.5 Line 5 SAND CUSHION, VARIABLE DEPTH

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.6 Line 6 SUBBASE GRANULAR MATERIAL, TYPE B 6"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.7 Line 7 PORTLAND CEMENT CONCRETE BASE COURSE 9"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.8 Line 8 BITUMINOUS MATERIALS (TACK COAT)

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.9 Line 9 LEVELING BINDER (HAND METHOD), N70

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.10 Line 10 LEVELING BINDER (MACHINE METHOD), N70

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.11 Line 11 POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.12 Line 12 HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.13 Line 13 PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.14 Line 14 PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.15 Line 15 LINEAR DETECTABLE WARNING TILES (CAST IRON)

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.16 Line 16 RADIAL DETECTABLE WARNING TILES (CAST IRON)

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.17 Line 17 PAVEMENT REMOVAL

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.18 Line 18 HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.19 Line 19 COMBINATION CURB AND GUTTER REMOVAL

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.20 Line 20 SIDEWALK REMOVAL

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.21 Line 21 MEDIAN REMOVAL

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.22 Line 22 REMOVAL OF EXISTING STRUCTURES

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.23 Line 23 CONCRETE REMOVAL

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.24 Line 24 PROTECTIVE SHIELD

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.25 Line 25 STRUCTURE EXCAVATION

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.26 Line 26 DRAINAGE SCUPPER, DS-12

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.27 Line 27 HIGH PERFORMANCE CONCRETE STRUCTURES

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.28 Line 28 HIGH PERFORMANCE CONCRETE SUPERSTRUCTURES

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.29 Line 29 LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.30 Line 30 CONCRETE SUPERSTRUCTURE

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.31 Line 31 BRIDGE DECK GROOVING

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.32 Line 32 REINFORCEMENT BARS, EPOXY COATED

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.33 Line 33 MECHANICAL SPLICERS

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.34 Line 34 ALUMINUM RAILING, TYPE L

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.35 Line 35 NAME PLATES

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.36 Line 36 PREFORMED JOINT STRIP SEAL

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.37 Line 37 NEOPRENE EXPANSION JOINT 2 1/2"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.38 Line 38 ANCHOR BOLTS, 1 1/4"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.39 Line 39 ANCHOR BOLTS, 1 1/2"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.40 Line 40 TEMPORARY SOIL RETENTION SYSTEM

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.41 Line 41 STORM SEWER REMOVAL 8"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.42 Line 42 PROTECTIVE CONCRETE SEALER

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.43 Line 43 CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.44 Line 44 INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.45 Line 45 FRAMES AND GRATES TO BE ADJUSTED

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.46 Line 46 REMOVING CATCH BASINS

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.47 Line 47 COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.48 Line 48 CONCRETE MEDIAN SURFACE, 4 INCH

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.49 Line 49 CHAIN LINK FENCE, 8'

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.50 Line 50 CHAIN LINK GATES, 8' X 16' DOUBLE

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.51 Line 51 NON-SPECIAL WASTE DISPOSAL

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.52 Line 52 SPECIAL WASTE DISPOSAL

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.53 Line 53 HAZARDOUS WASTE DISPOSAL

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.54 Line 54 SPECIAL WASTE GROUNDWATER DISPOSAL

Category 0000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.55 Line 55 SPECIAL WASTE PLANS AND REPORTS

Category 0000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.56 Line 56 SOIL DISPOSAL ANALYSIS

Category 0000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.57 Line 57 VOCS GROUNDWATER ANALYSIS

Category 0000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.58 Line 58 RCRA METALS GROUNDWATER ANALYSIS

Category 0000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.59 Line 59 ENGINEER'S FIELD OFFICE

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.60 Line 60 MOBILIZATION

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.61 Line 61 TRAFFIC CONTROL SURVEILLANCE

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.62 Line 62 TEMPORARY PAVEMENT MARKING - LINE 4"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.63 Line 63 TEMPORARY PAVEMENT MARKING - LINE 6"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.64 Line 64 TEMPORARY PAVEMENT MARKING - LINE 24"

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.65 Line 65 TEMPORARY CONCRETE BARRIER

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.66 Line 66 RELOCATE TEMPORARY CONCRETE BARRIER

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.67 Line 67 IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE), TEST LEVEL 2

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

**2.2.68 Line 68 IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL
2**

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.69 Line 69 THERMOPLASTIC PAVEMENT MARKING - LINE 4"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.70 Line 70 THERMOPLASTIC PAVEMENT MARKING - LINE 24"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.71 Line 71 POLYUREA PAVEMENT MARKING TYPE I - LINE 4"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.72 Line 72 POLYUREA PAVEMENT MARKING TYPE I - LINE 24"

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35 to 30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
Ship-To Address	084- CDOT RM400 30 N. LA SALLE ST. ROOM 400 Chicago, IL 60602 United States		

2.2.73 Line 73 ELASTOMERIC BEARING ASSEMBLY, TYPE I (SPECIAL)

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.74 Line 74 HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 300K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.75 Line 75 HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 600K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.76 Line 76 HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 400K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.77 Line 77 HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 550K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.78 Line 78 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 200K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.79 Line 79 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 250K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.80 Line 80 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 300K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.81 Line 81 HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 400K

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.82 Line 82 CHAIN LINK FENCE REMOVAL

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.83 Line 83 TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.84 Line 84 HOT-MIX ASPHALT SURFACE REMOVAL (DECK)

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.85 Line 85 CONSTRUCTION LAYOUT

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.86 Line 86 DRAINAGE SYSTEM

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
 to **30-OCT-2020**
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.87 Line 87 SILICONE JOINT SEALER, 1"

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.88 Line 88 JACKING AND CRIBBING

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.89 Line 89 TRAINEES

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.90 Line 90 STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.91 Line 91 REMOVE SIGN PANEL AND SALVAGE

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.92 Line 92 REMOVE SIGN ASSEMBLY AND SALVAGE

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.93 Line 93 SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - SINGLE SIDED

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.94 Line 94 SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - SINGLE SIDED

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.95 Line 95 SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - DOUBLE SIDED

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.96 Line 96 SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - DOUBLE SIDED

Category 00000.. Start Price (USD) Not Specified
Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
to 30-OCT-2020
12:06:35
Ship-To Address 084- CDOT RM400
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.97 Line 97 FURNISH AND INSTALL POLE AND BASE

Category 0000.. Start Price (USD) **Not Specified**
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) **Not Specified**
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.98 Line 98 DRILL AND GROUT BARS (EPOXY COATED)

Category 0000.. Start Price (USD) **Not Specified**
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) **Not Specified**
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.99 Line 99 ADJUST FRAME AND LID

Category 0000.. Start Price (USD) **Not Specified**
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) **Not Specified**
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.100 Line 100 CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP

Category 0000.. Start Price (USD) **Not Specified**
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) **Not Specified**
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.101 Line 101 ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX

Category 0000.. Start Price (USD) **Not Specified**
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) **Not Specified**
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.102 Line 102 ELECTRIC CABLE IN CONDUIT, 1/C #10

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.103 Line 103 ELECTRIC CABLE IN CONDUIT, 1/C #4

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.104 Line 104 GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 2"

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.105 Line 105 GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3"

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.106 Line 106 GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3/4"

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.107 Line 107 INTERCEPT EXISTING CONDUIT

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.108 Line 108 JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12"X10"X6"

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.109 Line 109 LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, & ARM

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.110 Line 110 LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF

Category 00000.. Start Price (USD) Not Specified
 Need-By Date 30-OCT-2020 12:06:35 Target Price (USD) Not Specified
 to 30-OCT-2020
 12:06:35
 Ship-To Address 084- CDOT RM400
 30 N. LA SALLE ST.
 ROOM 400
 Chicago, IL 60602
 United States

2.2.111 Line 111 LUMINAIRE, LED, VIADUCT

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.112 Line 112 MAINTAIN LIGHTING SYSTEM

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.113 Line 113 MANHOLE 3'X4'X4' W/24" F&L

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.114 Line 114 MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8' ANODIZED

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.115 Line 115 POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.116 Line 116 REMOVE ANCHOR BASE POLE

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to 30-OCT-2020
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.117 Line 117 REMOVE CONDUIT ATTACHED TO STRUCTURE

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to 30-OCT-2020
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.118 Line 118 REMOVE CONTROLLER ONLY

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to 30-OCT-2020
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.119 Line 119 REMOVE ELECTRIC CABLE FROM CONDUIT

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to 30-OCT-2020
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.120 Line 120 REMOVE JUNCTION BOX

Category **0000..** Start Price (USD) **Not Specified**
 Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to 30-OCT-2020
12:06:35
 Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.121 Line 121 REMOVE LUMINAIRE

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.122 Line 122 REMOVE MAST ARM

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.123 Line 123 REMOVE VIADUCT LUMINAIRE

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.124 Line 124 MONOLITHIC TERRAZZO FLOORING

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.125 Line 125 HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED

Category	00000..	Start Price (USD)	Not Specified
Need-By Date	30-OCT-2020 12:06:35	Target Price (USD)	Not Specified
	to 30-OCT-2020		
	12:06:35		
Ship-To Address	084- CDOT RM400		
	30 N. LA SALLE ST.		
	ROOM 400		
	Chicago, IL 60602		
	United States		

2.2.126 Line 126 TEMPORARY SPRINKLER STANDPIPE EXTENSION

Category **00000..** Start Price (USD) **Not Specified**
Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to **30-OCT-2020**
12:06:35
Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.127 Line 127 CONSTRUCTION VIBRATION MONITORING

Category **00000..** Start Price (USD) **Not Specified**
Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to **30-OCT-2020**
12:06:35
Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

2.2.128 Line 128 ADDITIONAL INSURANCE FOR WORK WITHIN TEMPORARY OR PERMANENT EASEMENTS

Category **00000..** Start Price (USD) **Not Specified**
Need-By Date **30-OCT-2020 12:06:35** Target Price (USD) **Not Specified**
to **30-OCT-2020**
12:06:35
Ship-To Address **084- CDOT RM400**
30 N. LA SALLE ST.
ROOM 400
Chicago, IL 60602
United States

APPENDIX 1 - CONSTRUCTION ePROCUREMENT

This is an eProcurement Bid. Bids are to be submitted through the City's "iSupplier" system, the City's eProcurement computer system for electronic bidding and providing Contractors with access to contract, ordering and payment information for their City contracts. The following provisions apply to this bid and supersede any conflicting provisions in Books 1, 2, and 3.

1. Obtaining the Bid Documents

Bidders are solely responsible for obtaining all Bid Documents, including Clarifications and Addenda. Documents may be downloaded from the Department of Procurement Service's ("DPS") website at the following URL:

<http://www.cityofchicago.org/eProcurement>

Click on "Current Bids."

In order to receive notice of clarifications and addenda, Bidders must be registered for and log-in to iSupplier, search for the solicitation number, open the solicitation for review, and accept the disclaimer. This will sign Bidders up for notifications.

Bid Document Holders are listed on the Bid & Bond Room Opportunity Take Out List. The Opportunity Take Out List is public information and is posted to the DPS web site at www.cityofchicago.org/TOL. To find Opportunity Take Out lists go to "GetStarted Online" and search by the specification number.

2. Clarifications and Addenda

The City will send an email notification to suppliers who have indicated intent in a Bid that an addendum or clarification has been issued. The Clarifications and Addenda incorporated into the electronic bid document available at the following URL:

<https://www.cityofchicago.org/eProcurement>

Suppliers that have indicated interest in a Bid will receive email notification that an addendum or clarification has been issued. There may be multiple Clarifications and Addenda. Failure to obtain Clarifications and/or Addenda, for whatever cause, will not relieve a Bidder from the obligation to bid according to and comply with any changed or additional terms and conditions contained in the Clarifications and Addenda.

Electronic Acknowledgement of Clarifications and/or Addenda is mandatory to submit an electronic Bid. Any harm to the bidder resulting from failure to obtain all necessary documents, for whatever cause, will not be valid grounds for a protest against award(s) made under this bid solicitation.

3. Questions Regarding the Bid Documents; Bidder Inquiry Deadline

All inquiries regarding the Bid Documents or procurement process may be directed to the Procurement Specialist/Senior Procurement Specialist in iSupplier via online discussion or via email at the email address listed on the front cover of the Bid Documents.

The Bidder Inquiry Deadline is listed on the front cover of the Bid Documents under "Deadline for Questions." Inquiries received after the Bidder Inquiry Deadline will not be answered except at the discretion of the Chief Procurement Officer.

Bidders may only rely on written answers in a Clarification or in an Addendum duly issued by the Chief Procurement Officer. Bidders cannot rely on oral or informal responses; such answers will not be binding upon the City.

4. Completion of the Bid Documents

Each Bidder must complete all of the forms listed on the Bid Submittal Checklist (with the exception of the Proposal Pages) in the Requirements section and scan and upload them as attachments to the electronic bid submission. Bidders may not change any of the Bid Documents. Any changes made by a Bidder to the Bid Documents may result in rejection of the Bid, and will not be binding upon the City.

Bidders must submit their pricing electronically by filling out bid lines in the electronic Price Schedule in the iSupplier system.

Bidders must use the Bid Execution Page that is appropriate for their form of business organization (e.g., sole proprietorship, corporation, partnership, or joint venture). The individual(s) that sign the Bid Execution Page on behalf of the Bidder, by their signature, represents and warrants to the City that such individual is authorized to execute bids and contracts on behalf of the Bidder, and that the Bidder agrees and shall be bound to all of the terms and conditions of the Bid Documents and, upon execution by the City, the Contract Documents. Signatures must be sworn before a Notary Public. The form must be printed, signed, notarized and scanned then uploaded as an attachment to the electronic bid submission.

5. Date, Time, and Place

Bids are to be submitted electronically to the Department of Procurement on the date and prior to the time stated on the Cover Page of the Bid Documents, or any addendum issued by the City to change such Bid Opening Date. No bid will be accepted after the Bid Opening Date. The time of the receipt of the bid will be determined solely by the "Time of Quote" generated by the iSupplier system.

6. Bid Deposit

5% of the Total Base Bid

When submitting an electronic bid, scan and upload a copy of your bid deposit with your submittal documents. The 1st and 2nd apparent low bidders will be required to deliver their original and properly executed bid deposit to the Bid & Bond Room within 2 business days following the Bid Opening Date.

**BOOK 1
TERMS AND CONDITIONS FOR CONSTRUCTION**

**CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION**

**PROJECT TITLE: EAST SOUTH WATER STREET VIADUCT REPLACEMENT
– NORTH BEAUBIEN COURT TO NORTH STETSON STREET**

CDOT PROJECT NO.: E-1-517

SPECIFICATION NO.: 561863

F.A. PROJECT NO.: R5U5(892)

STATE JOB NO.: C-88-012-18

SECTION NO.: 11-E1517-00-BR



**LORI E. LIGHTFOOT
MAYOR**

Issued by the
DEPARTMENT OF PROCUREMENT SERVICES

SHANNON E. ANDREWS
CHIEF PROCUREMENT OFFICER

Federal Funding - FHWA

May 2017
(The City may from time to time revise these terms and conditions)

**BOOK 1
TERMS AND CONDITIONS FOR CONSTRUCTION**

**CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION**



**LORI E. LIGHTFOOT
MAYOR**

Issued by the
DEPARTMENT OF PROCUREMENT SERVICES

SHANNON E. ANDREWS
CHIEF PROCUREMENT OFFICER

Federal Funding - FHWA

May 2017
(The City may from time to time revise these terms and conditions)

Department of Transportation
Terms and Conditions for Construction Contract - Book 1 (May 2017)

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I. GENERAL PROVISIONS

A. Acronyms

"ACI" - American Concrete Institute	"CTA" - Chicago Transit Authority
"AED" - Associated Equipment Distributors	"EDS" - See Section XXII.R.
"AISC" - American Institute of Steel Construction.	"IDOT" - Illinois Department of Transportation
"ANSI" - American National Standards Institute.	"NFPA" - National Fire Protection Association
"ASME" - American Society of Mechanical Engineers.	"OSHA" - U.S. Occupational Safety and Health Administration
"ASTM" - American Society for Testing and Materials	"SSRBC" - IDOT Standard Specifications for Road and Bridge Construction issued by IDOT, as amended from time to time. See: http://www.idot.illinois.gov/doing-business/procurements/engineering-architectural-professional-services/Consultants-Resources/index
"CPM" - Critical Path Method (See XI, Schedule)	
"CPO" - Chief Procurement Officer	

B. Definitions

1. "Architect/Engineer" means the person designated by the Commissioner to provide the Contract drawings and Detailed Specifications for the Work you are to perform.
2. "Business Days" means Monday through Friday, unless an officially designated City holiday falls on one of those days. By contrast, see "Day" and "Working Day."
3. "Chief Procurement Officer" means the Chief Procurement Officer for the City of Chicago, and any representative duly authorized in writing to act on his/her behalf.
4. "City" means the City of Chicago, a municipal corporation and home rule unit of government existing under the Constitution of the State of Illinois.
5. "Commissioner" means the head of the Department and any designee duly authorized in writing to act on his/her behalf. See also "Department."
6. "Comptroller" means City Comptroller or his designated representative.
7. "Consultant(s)" refers to the person, firm or corporation awarded a contract by the City to provide professional architectural or engineering design services or construction supervision for the Project.
8. "Contract" means this Contract, including your bid proposal (as accepted by the City), the City's bid specification, which includes Books 1, 2, and 3, plans and drawings, addenda, all exhibits and schedules that are attached to it and documents incorporated in it by reference; fully executed performance and payments bond(s); and all

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amendments, modifications, or revisions made from time to time in accordance with its terms.

9. "Contract Completion Date" is the date, determined by the Commissioner, on which the Project is to reach Substantial Completion. The Contract Completion Date will be determined based on the duration for the Project set by the Contract as adjusted by any Contract modifications that extend or reduce the duration of the Project.
10. "Contract Modification" means a written modification of the terms and conditions of this Contract, signed by you, the Chief Procurement Officer, the Mayor and the Comptroller.
11. "Contractor" or "you" means the person who is awarded the Contract.
12. "Contract Price" is defined in Section XIII.A.
13. "Contract Time" is the duration of the Work from when the Work is required to begin until the scheduled date for Substantial Completion, including approved time extensions. See "Substantial Completion."
14. "Corporation Counsel" means the head of the City's Department of Law and any Assistant Corporation Counsel duly authorized to act on the Corporation Counsel's behalf.
15. "Day" means calendar day.
16. "Daytime Work" means work performed between the hours of 6:00 a.m. to 6:00 p.m.
17. "Department" means the City Department identified on the cover of this Contract.
18. "Detailed Specifications" means the written requirements for materials and equipment to be used in the Work, including any plans or drawings, and standards of performance for the Work, which are set forth in Book 3 or incorporated by reference.
19. "Environmental Laws" means all applicable Federal, State, and local laws, ordinances, rules, regulations, and executive orders pertaining to environmental matters.
20. "Equipment" means all machinery and equipment, together with the necessary supplies for upkeep and maintenance, and all tools and apparatus necessary for the proper and acceptable completion of the Work.
21. "Field Order" means the written order to you, signed by the Commissioner, unilaterally directing changes in the Work or the Contract Time, or directing you to take corrective action and to adhere to Contract.
22. "Final Completion and Acceptance of the Work " means the last date on which all of the following events have occurred: (i) the Commissioner has determined that all Punch List Work and any other remaining Work have been completed in accordance with the Contract; (ii) final inspections have been completed and operations systems and equipment testing have been completed; (iii) final occupancy certifications have been issued; (iv) all deliverables have been provided to the Commissioner; and (v) all contractual requirements for final payment have been completed.
23. "Hazardous Materials" means asbestos and asbestos-containing materials, polychlorinated biphenyls (PCBs), oil or any other petroleum products, natural gas, special nuclear materials, and by-product materials regulated under the Atomic Energy

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Act (42 U.S.C. Sec. 2014, *et seq.*), pesticides under the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. Sec. 136, *et seq.*) and any hazardous waste, toxic substance or related material, including any substance defined or treated as "hazardous waste," "special waste," or "toxic substance" (or comparable term) in any Environmental Law.

24. "Include" (in all of its forms) means "include without limitation" unless the context clearly indicates otherwise.
25. "Management Consultant" or "Program Manager" means the organization or entity, if any, that the City has retained to oversee the planning, design, and construction of the Project.
26. "Municipal Code" means the Municipal Code of Chicago.
27. "Night Work" means work performed between the hours of 6:00 p.m. and 6:00 a.m. unless otherwise defined in the plans.
28. "Notice to Bidders" means the Advertisement for Bids, the official notice inviting bids for the proposed Work to be done under this Contract.
29. "Notice to Proceed" means written authorization from the Commissioner for you to commence the Work on a specified date.
30. "Product Data" are illustrations, standard schedules, performance charts, instructions, descriptive literature, catalogs and brochures, performance and test data, test certifications, diagrams and other information furnished by you to illustrate a material, product or system for some portion of the Work.
31. "Project" means, collectively, the improvements you are to construct in accordance with the Contract.
32. "Provide" means furnish and install, unless otherwise specified in this Contract.
33. "Punch List" or "Punch List work" means minor adjustments, repairs or deficiencies in the Work, as determined by the Commissioner in his or her sole discretion.
34. "Record Documents" are all documents pertaining to the completed Work and the Project that the Contract requires you to provide to the City, including Record Drawings, Record Shop Drawings, product data, instructions, parts list, certified payrolls and operations and maintenance manuals.
35. "Record Drawings" means drawings reflecting the final built Project configuration, including approved modifications.
36. "Samples" mean physical examples that illustrate materials, equipment or workmanship. Samples include materials, fabricated items, equipment, devices, appliances, or parts of them, as called for in the Detailed Specifications and any other Samples that may be required by the Commissioner to determine whether the kind, quality, construction, workmanship, finish, color and other characteristics of the materials proposed by you conform to the required characteristics.
37. "Shop Drawings" means drawings, diagrams, schedules and other data specially prepared for the Work by you or any Subcontractor, manufacturer, supplier or distributor

to illustrate some portion of the Work. Shop Drawings include: fabrication, erection, layout and setting drawings; manufacturer's standard drawings; schedules; wiring and control diagrams; and other drawings pertaining to materials, equipment and systems and methods of construction that may be required to show that the materials, equipment or system conform to the Contract requirements. Shop drawings must establish the actual detail of all manufactured and fabricated items and indicate the proper relation to the adjoining Work.

38. "Special Wastes" means those substances as defined in the Illinois Environmental Protection Act, 415 ILCS 5/3.45, and further defined in Section 809.103 of 35 Illinois Administrative Code, Subtitle G, Ch. 1.
39. "Standard Specifications" means the SSRBC.
40. "State" means the State of Illinois.
41. "Subcontractor" means any person or entity with whom you contract to provide any part of the Work, and all subcontractors of any tier, including suppliers and material persons, whether or not in privity with you.
42. "Submittal" means Schedule, Shop Drawings, Product Data or Samples and other items that the Contract may require you to submit to the Commissioner.
43. "Substantial Completion Date" is the date upon which you have met the requirements for Substantial Completion in the opinion of the Commissioner.
44. "Substantial Completion of the Project" or "Substantial Completion" means that, in the opinion of the Commissioner, you have completed all Work in accordance with the Contract, except for Punch List Work, and the City is able to occupy and use the Project for the purpose intended.
45. "Work" means all labor, materials, equipment, deliverables, and other incidentals to be provided by you under this Contract that are necessary or convenient to the successful completion of this Project and that are required by, incidental or collateral to the Contract.
46. "Working Day" has the same meaning as in the SSRBC.
47. "You" means "Contractor." See above.

C. Usage and Contract Interpretation

1. Unless a contrary meaning is specifically noted elsewhere, words such as, "as required," "as directed," "as permitted," and similar words mean that requirements, directions of, and permission of the Commissioner are intended. The words "approved," "acceptable," "satisfactory," or words of like import, mean "approved by," "acceptable to," or "satisfactory to" the Commissioner. The words "necessary," "proper," or words of like import as used regarding the extent, conduct or character of the Work specified means that Work must be conducted in a manner, to the extent, or be of character that is "necessary" or "proper" in the opinion of the Commissioner. The Commissioner's judgment in these matters is final and you are not permitted to contest it.

2. Where the imperative form of an address is used, such as “perform the excavating,” “provide equipment required,” “remove obstructions encountered,” “furnish and install reinforcing steel bars,” etc., that address is directed to you .
3. Any headings in this Contract are for convenience of reference only and do not define or limit its terms or provisions. All article and section references, unless otherwise expressly indicated, are to sections of this Contract. Words importing persons include firms, associations, partnerships, trusts, corporations, joint ventures and other legal entities, including public bodies, as well as natural persons. Words of any gender include correlative words of other genders. Words importing the singular number include the plural and vice versa, unless the context otherwise indicates. All references to any exhibit or document include the latest version and all supplements and/or amendments to any such exhibits or documents. All references to any person or entity include any person or entity succeeding to the rights, duties, and obligations of those persons or entities in accordance with the terms and conditions of this Contract.
4. Whenever reference to a law is contained in this Contract, the reference includes any amendments to the law.

D. Severability

If any provision of this Contract is inoperative or unenforceable as applied in any particular case in any jurisdiction or jurisdictions because it conflicts with any other provision of this Contract, or of any constitution, statute, ordinance, rule of law, or public policy, or for any other reason, those circumstances will not render the provision in question inoperative or unenforceable in any other case or circumstance, or render any other provision or provisions of this Contract invalid, inoperative, or unenforceable to any extent whatever. The invalidity of any phrases, sentences, clauses, or sections contained in this Contract will not affect the remaining portions of this Contract or any part of it.

E. Estimates of Quantities

If an estimate of quantities of Work is listed in the Bid Schedule of Prices, Contractor understands that:

1. the estimate is approximate only;
2. the City does not expressly or by implication represent or warrant that the actual quantities involved will correspond to the estimate;
3. payment to you will be made only for the actual quantities furnished and installed in accordance with the terms of this Contract; and
4. the Chief Procurement Officer and the Commissioner reserve the right to jointly order, in writing, to increase, decrease or delete quantities of Work pursuant to all terms and conditions of the Contract.

F. Order of Precedence of Component Contract Parts

The order of precedence of the component contract parts is as follows:

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1. Terms and Conditions;
2. Addenda if any;
3. Plans or City Drawings;
4. Detailed Specifications;
5. Standard Specifications of the City, State or Federal Government, if any;
6. Advertisement for Bids (copy of advertisement to be attached to back of cover);
7. Requirements for Bidding and Instructions to Bidders; and
8. Performance Bond, if required.

The foregoing order of precedence governs the interpretation of the Contract in all cases of conflict or inconsistency in it.

G. Entire Agreement

The Contract constitutes the entire agreement between the parties with respect to its subject matter, and no other oral or written understandings, representations, inducements, consideration, promises, or interpretations are implied or impressed upon this Contract that are not expressly addressed in it.

II. PROJECT ORGANIZATION

A. The Commissioner

For the purposes of this Contract, the Commissioner, or any successor office to the Commissioner, will represent the City in all matters relating to the performance of Contractor's Work under this Contract and will constitute the point of receipt for all deliverables required under this Contract, unless expressly specified otherwise in this Contract. The Commissioner will decide all questions that arise with regard to the administration of the Contract such as to the quality and acceptability of materials furnished, the Work performed and rate of progress of the Work. The Commissioner will determine the amount and quality of Work performed and materials furnished and their estimates. The Commissioner's estimate will be a condition precedent to Contractor's right to receive money due under the Contract, but then only if the modifications or amendments to the Contract are approved in accordance with Article XIV, "Changes in the Work."

B. The Chief Procurement Officer

The approval of the Chief Procurement Officer is required to enter this Contract and to modify it.

C. Contractor

The Work is under your charge and care until Final Completion and Acceptance of the Work, unless otherwise specified elsewhere in the Contract.

III. CONTRACTOR'S OBLIGATIONS

A. Contractor

1. Except as may be expressly provided otherwise in the Contract, Contractor is solely responsible for selecting the means, methods, techniques, sequences, and procedures used in performing the Work. The intent of the Detailed Specifications is to describe the completed Work that Contractor must provide to fulfill the requirements of the Contract. The Detailed Specifications are not intended to cover every detail of materials, parts, or activities necessary to complete the Work. Contractor must perform all activities that may be required or necessary to complete the Work in accordance with the Contract. For the Contract Price, Contractor must construct, furnish and install all materials, parts and labor necessary to complete the entire Work, whether or not the Contract particularly specifies or shows the details of Work.
2. The Work under this Contract has not been completely segregated into divisions of Work to be performed by any trade or Subcontractor. Contractor is responsible for all division of work. However, wherever any provision of any section of the specifications conflicts with any agreements or regulations of any kind at any time in force among members of any trade or craft associations, unions or councils that regulate or distinguish that work is or is not included in the work of any particular trade, Contractor must make all necessary arrangements to reconcile any such conflict without delay, damage, or cost to the City.
3. Before submission of your bid, Contractor must (i) inspect the site of the proposed Work and familiarize itself with all the site conditions that may affect its performance of the Work; and (ii) review the Detailed Specifications, plans and drawings provided with the bid documents, as required in the "Requirements for Bidding and Instructions to Bidders," in Book 2. If at any time before the bid opening Contractor discovers any errors, discrepancies or omissions in the Contract or any discrepancy between the Contract and the physical conditions at the site or in any drawings that may be provided later, Contractor must notify the Chief Procurement Officer immediately, in writing for an interpretation through an Addendum.
4. This written request must be received by the Chief Procurement Officer no later than 10 days before bid opening, or no response will be provided. Contractor will not be allowed to take advantage of its discovery of any such error or omission or discrepancy in the Contract after the award of the Contract. Any Work done after the discovery, unless authorized by the Chief Procurement Officer, will be done at Contractor's expense.

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5. Except as otherwise expressly provided in the Contract, the Contract Price includes all costs and expenses for which Contractor will be compensated in connection with the Contract, including:
 - a. the costs of performing any or all of Contractor's obligations and duties under the Contract;
 - b. the costs of all materials, equipment, supplies, tools, machinery, labor, supervision, management and items of any and all kinds that are or may be necessary and incidental to the full and satisfactory completion of the Work, whether or not specified or indicated in the Contract;
 - c. the costs of permits, insurance, bonds and license;
 - d. the costs associated with any risks Contractor assumes under the Contract;
 - e. the costs associated with all warranties and guarantees;
 - f. the costs of complying with the directives of the Chief Procurement Officer and/or the Commissioner;
 - g. the costs of complying with all laws applicable to the Contract; and
 - h. all overhead and profit.
6. No term of the Contract that further specifically indicates that Contractor must bear the costs of an item or that further specifically indicates that an item will be performed at no additional cost to the City will be construed or interpreted to in any way limit the foregoing.
7. Contractor must begin the Work on the date specified in the Notice to Proceed. In addition, upon receipt of the Notice to Proceed, Contractor must assign and maintain during the term of the Contract and any extension of it, an adequate staff of competent personnel who are fully equipped, licensed as appropriate, available as needed, and qualified to perform the Work. Contractor must include among its staff such personnel and positions as the Contract may require.
8. If, in the reasonable opinion of the Commissioner, the performance of personnel assigned to the Work is at an unacceptable level, or does not comply with the provisions of Section VIII.A, "Competency of Workers," those personnel must cease to be assigned to this Work and must return to Contractor. Contractor must then furnish to the Commissioner the name of a substitute person or persons in accordance with Section III.A.6. Absence of sufficient qualified personnel for the Work constitutes an event of default.
9. Contractor must supervise and direct the Work competently and efficiently, devoting such attention and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract. Contractor is responsible for providing a finished Project that complies fully with the Contract.
10. Risk of Loss. The Work is under Contractor's charge and care until Final Completion and Acceptance of the Work by the Commissioner, unless otherwise specified in the Contract. Contractor assumes all responsibility for injury or damage to the Work by action of the elements, fire or any other causes whatsoever, including injury or damage

arising from the execution or non-execution of the Work. Contractor must rebuild, repair, restore and make good, at no additional cost to the City, all injuries or damages to any portion of Contractor's Work before Final Completion and Acceptance of the Work.

11. When the City furnishes equipment or materials to Contractor for use or inclusion in the Work, Contractor must safeguard all such equipment and materials as Contractor would equipment and materials that Contractor furnished.
12. The Work will not be considered to be completed and accepted until Contractor receives written notice from the Commissioner confirming the Final Completion and Acceptance of the Work.
13. If Contractor has any questions or concerns with respect to the Detailed Specifications or Contract drawings, Contractor must raise them with the Commissioner.
14. Except as specified below, Contractor must perform with its own organization and forces not less than 50% of the total amount of Work that is performed at the Project site, computed on the basis of cost. Contractor must require each Subcontractor to become familiar with all provisions of the Contract documents that may affect Subcontractor's work.

B. Subcontractors

1. All rights and obligations under this Contract are by and between the City and Contractor. Except as may otherwise be provided in the Contract, there is no privity between Subcontractors and the City. Subcontractors have no rights as third-party beneficiaries under this Contract except as may be provided in Article XXVIII. Contractor must implement such measures as may be necessary to ensure that its Subcontractors are bound by all applicable provisions of the Contract.
 - a. All Subcontractors are subject to the approval of the Chief Procurement Officer. Contractor must not substitute a Subcontractor previously accepted by the Chief Procurement Officer unless the substitution is acceptable to the Chief Procurement Officer. All requests to subcontract must be submitted on a form approved by the Chief Procurement Officer.
 - b. Contractor is responsible in all aspects and at all times for all Subcontractor Work.
2. Except as required under Article XXVIII, Contractor must upon request furnish the Chief Procurement Officer with one copy of each written subcontract and subsequent modifications signed by Contractor and the Subcontractor evidencing the agreement. All subcontracts must be in writing. All subcontracts must require that (i) all Contractor's Subcontractors's Work be performed in strict accordance with this Contract: and (ii) the Subcontractor is bound by and subject to the requirements of this Contract, whether or not a particular provision specifically mentions Subcontractors. Subcontracts may contain different provisions than are provided in this Contract with respect to payments, schedules, and matters not affecting the quality or timely completion of the Work under this Contract, but only if the City's rights are not thereby prejudiced and they are in accordance with any requirements of the funding federal agency, if applicable. Contractor must require each Subcontractor to enter into similar subcontracts with its Subcontractors. Contractor must make available to each Subcontractor, before the

execution of the subcontract, copies of this Contract, to which the Subcontractor will be bound pursuant to the requirements of this Section III.B.4.

If a subcontract provided to the City does not comply with these requirements, the City's failure to object is not a waiver of them, and you will remain liable to the City for all damages, costs, fines, losses and claims arising out of the non-compliance.

3. In the case of Work performed by Subcontractors, Contractor must secure warranties from the Subcontractors addressed to and in favor of the City; deliver copies of them to the City upon completion of the Subcontractors' Work and; guarantee and assume full responsibility for the performance of any repair or replacement Work that may be required for the full period of the warranties provided. However, the delivery of the warranties will not relieve you from any obligations assumed under this Contract.
4. Contractor hereby collaterally assigns any or all subcontracts to the City, effective upon the City's exercise, in its sole discretion, of its right to assume such assignment as a remedy for Contractor's default or in the event of early termination. The Contractor must require each of your Subcontractors (including materialmen) to consent to a collateral assignment to the City of their respective subcontract with the Contractor. The Contractor's subcontracts must include language stating:

Contractor has collaterally assigned this subcontract to the City of Chicago, effective upon written assumption of such assignment by the City in the event of Contractor's default or early termination of Contractor's contract with the City. Subcontractor hereby consents to such assignment and assumption. Subcontractor acknowledges and agrees that, in the event of such an assignment and assumption, the City will have no liability to Subcontractor for work performed by Subcontractor prior to the effective date of the assignment and assumption and that Subcontractor shall look solely to Contractor for any compensation or other obligations arising under the subcontract prior to such date.

5. The City encourages Contractors to use Subcontractors that are firms owned or operated by individuals with disabilities, as defined by § 2-92-586 of the Municipal Code, where not otherwise prohibited by Federal or State law.
6. Compliance with Multi-Project Labor Agreement (PLA). The City has entered into the PLA with various trades regarding projects as described in the PLA, which is hereby incorporated by reference. A copy of the PLA, with appendices, may be found on the City's website at <http://www.cityofchicago.org/PLA>. Contractor acknowledges familiarity with the requirements of the PLA and its applicability to any work under this agreement, and shall comply in all respects with the PLA.

C. Site Conditions and Inspection

1. Surveys, soil borings, geotechnical information, data, plans or other materials generally describing the unimproved land or existing structures at the site may be provided to you by the City. Such information is not warranted by the City to be accurate. You are not entitled to rely on it. In signing this Contract you are acknowledging that when such information appears in Contract documents, prepared by the City or its Consultants, the

City and its Consultants have not verified the information. Site plans do not constitute any representation by the City to you of site boundaries or characteristics.

2. You must take field measurements, verify field conditions and carefully compare those field measurements and conditions and any other information known to you with the Contract documents before commencing the Work. No allowance will be made to you for any extra labor and/or materials required due to site conditions or discrepancies that might have been discovered by a thorough and proper inspection of the site. If land surveying Work is required under this Contract, you must have the Work performed by a land surveyor that is licensed as such by the State of Illinois.
3. If conditions are encountered at the site which are (i) subsurface or otherwise unknown or concealed physical conditions which differ materially from those indicated in the Contract; or (ii) pre-existing unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in activities of the character provided for in the Contract, including the presence of unanticipated Hazardous Materials, then you must provide immediate written notice to the Commissioner before proceeding with the work or disturbing those areas.
4. If the conditions differ materially from those indicated in the Contract, and cause a material increase or decrease in your cost or time required for the performance of any part of the Work, an equitable adjustment in the Contract Price or Contract Time, or both, will be made under Article XIV, "Changes in the Work."
5. You must keep on hand at the Work site, for reference, a complete set of Contract documents for the Work, copies of all plans and shop drawings, all additional and revised plans furnished by the City and all orders issued to you by the Commissioner that relate to the Work.

D. Cleaning Up

During the construction, you must keep the Work site and adjacent premises as free from material, debris, and rubbish as is practicable and must remove them entirely and at once, if in the opinion of the Commissioner, the material, debris or rubbish constitutes a nuisance, a safety hazard, or is objectionable in any way to the public. Upon verbal and/or written notification of unacceptable work day conditions by the City, you will be responsible for immediate rededication within 48 hours of notification. Your failure to act accordingly will result in completion of remediation work by the City at your expense.

As a condition of Final Completion and Acceptance of the Work, you must remove from the Work site and adjacent premises all machinery, equipment, surplus materials, falsework, excavated and useless materials, rubbish, temporary buildings, barricades and signs, and must restore the site to the same general conditions that existed before the Work began.

You must clean off all cement streaks or drippings, paint smears or drippings, rust stains, oil, grease, dirt, and any other foreign materials deposited or accumulated on any portion of the Work, or existing work, due to your operations.

You are solely responsible for and must assume all liability associated with off-site disposal of any Hazardous Materials generated as a result of your construction activities.

E. Contractor's Warranties and Representations

You warrant and represent that:

1. You have carefully examined and analyzed the provisions and requirements of this Contract; you have inspected the Work site(s) to the extent made available by the City; from your own analysis you have satisfied yourself as to the nature and scope of work, all conditions, any obstructions and requirements needed for the preparation of your bid and the performance of this Contract, the general and local conditions, and all other matters that in any way may affect this Contract or your performance; and the time available for the examination, analysis, inspection and investigation was adequate;
2. This Contract is feasible of performance in accordance with all of its provisions and requirements and that you can and will perform, or cause to be performed, the Work in strict accordance with the provisions and requirements of this Contract;
3. Except for the contents of this Contract, no representation, statement or promise, oral or written, or of any kind whatsoever, by the City, its officials, agents, representatives or employees, has induced you to submit a bid nor have you relied upon any, including any reference to (i) the meaning, correctness, suitability or completeness of any provisions or requirements of this Contract; (ii) the nature, existence, or location of materials, structures, obstructions, utilities or conditions, surface or subsurface, that may be encountered at or on the Work site; (iii) the nature, quantity, quality or size of any materials, equipment, labor and other facilities needed for the performance of this Contract; (iv) the general conditions that may in any way affect this Contract or its performance; (v) the compensation provisions of the Contract; or (vi) any other matter;
4. You were given ample opportunity and time to review the Contract documents before submittal of your bid in order that you might request an addendum to the Contract documents that might correct or clarify them; you did so review the Contract documents, and every such correction or clarification has been included in this Contract or else, if omitted, you expressly relinquish the benefit of them and are willing to perform this Contract in its entirety without claiming reliance on any such omission or making any other claim on account of the omission;
5. This section does not limit the Contractor's and its Subcontractors' duty to comply with all applicable Federal, State, County and Municipal laws, statutes, ordinances and executive orders, in effect now or later, and whether or not they appear in this Contract.
6. Non-compliance with these terms and conditions may be used by the City as grounds for the termination of this Contract, and may further affect the Contractor's eligibility for future contract awards.
7. In accordance with § 11-4-1600(e) of the Municipal Code, Contractor warrants and represents that it, and to the best of its knowledge, its Subcontractors have not violated and are not in violation of the following sections of the Code (collectively, the Waste Sections):
 - 7-28-390 Dumping on public way;
 - 7-28-440 Dumping on real estate without permit;
 - 11-4-1410 Disposal in waters prohibited;
 - 11-4-1420 Ballast tank, bilge tank or other discharge;

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11-4-1450 Gas manufacturing residue;
11-4-1500 Treatment and disposal of solid or liquid waste;
11-4-1530 Compliance with rules and regulations required;
11-4-1550 Operational requirements; and
11-4-1560 Screening requirements.

During the period while this Contract is executory, Contractor's or any Subcontractor's violation of the Waste Sections, whether or not relating to the performance of this Contract, constitutes a breach of and an event of default under this Contract, for which the opportunity to cure, if curable, will be granted only at the sole discretion of the Chief Procurement Officer. Such breach and default entitles the City to all remedies under the Contract, at law or in equity.

8. Contractor warrants and represents that neither Contractor nor an Affiliate, as defined below, appears on the Specially Designated Nationals List, the Denied Persons List, the Unverified List, the Entity List, or the Debarred List as maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury or by the Bureau of Industry and Security of the U.S. Department of Commerce or their successors, or on any other list of persons or entities with which the City may not do business under any applicable law, rule, regulation, order or judgment.
9. "Affiliate" means a person or entity which directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with Contractor. A person or entity will be deemed to be controlled by another person or entity if it is controlled in any manner whatsoever that results in control in fact by that other person or entity, either acting individually or acting jointly or in concert with others, whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise.
10. You understand that the City, in its acceptance of your proposal to perform the Work, materially relied upon your response to the Advertisement for Bids. The information you provided with the bid was accurate at the time it was made and no material changes in the information have occurred since then and will not be made without the express consent of the City.
11. In preparing and submitting your bid for this Contract, you have complied with and given full consideration to the following bidding requirements:
 - a. You obtained for bidding purposes copies of the complete Contract as identified in the Advertisement for Bids and all addenda issued by the City and have become familiar with them and all Contract requirements and conditions described in them;
 - b. You clarified to your satisfaction and complete understanding any doubt as to the true meaning and intent of all parts of the specifications and plans or other portions of the Contract documents;
 - c. You have no claim for relief because of alleged mistakes or omissions in your bid, and you will be held strictly to your bid as presented.
 - d. You have the capability and financial resources to perform all of the provisions and requirements of this Contract.

- e. You can perform all of your obligations under this Contract in accordance with all of the Contract's provisions and requirements.
12. Contractor warrants that no member of the governing body of the City or other units of government and no other officer, employee, or agent of the City or other unit of government who exercises any functions or responsibilities in connection with the Project to which this Contract pertains, has any personal interest, direct, or indirect, in this Contract. In accordance with 41 USC § 22, no member of or delegate to the Congress of the United States will be permitted to any share or part of this Contract or to any financial benefit to arise from it, nor, under applicable laws, will any member of or delegate to the Illinois General Assembly nor any alderman of the City or City employee. Contractor warrants that its officers, directors and employees, and the officers, directors and employees of each of member if a joint venture, and subcontractors, presently have no interest and will acquire no interest, direct or indirect, in the Project that would conflict in any manner or degree with the performance of the Work under this Contract. Contractor further warrants that in the performance of this Contract, no person having any such interest will be employed.
13. Furthermore, if any federal funds are to be used to compensate or reimburse Contractor under this Contract, Contractor represents that it is in compliance with federal restrictions, and promises to remain so, including federal restrictions on lobbying set forth in § 319 of the Department of the Interior and Related Agencies Appropriations Act for Fiscal Year 1990, 31 USCS 1352, and related rules and regulations set forth at 54 Fed. Reg. 52,309 ff. (1989), as amended. If federal funds are to be used, Contractor must execute a Certification Regarding Lobbying, which is contained in the EDS attached to this Contract as an exhibit.

IV. PROPERTY

A. Ownership of Property

The City will be the owner of the Work, including any improvements, equipment and fixtures installed or constructed by Contractor, as part of the Project or for which the City has paid Contractor to store in anticipation of installation or construction. The City's title shall be free and clear of liens, claims, security interests or other encumbrances, upon the earlier of installation, payment therefore or Final Completion of the Project; provided, however, that transfer of title to the City shall not relieve Contractor of any of its responsibilities under this Contract with respect to Work in Progress. Nor will the transfer of title constitute acceptance of any portion of the work.

B. Ownership of Detailed Specifications and Other Contract Documents

1. The Detailed Specifications, plans and any copies of them furnished by the Commissioner are the property of the City. They are not to be used on other work. The City will provide you the number of Detailed Specifications and plans determined appropriate by the City. The City may provide you with additional copies at your request and at your cost. You are responsible for any loss or damage to the Detailed Specifications and plans while in your care and custody, and you must restore all

Detailed Specifications and plans that may be lost or damaged. Contract documents will be furnished as follows:

Contract Plans	10 Sets
Subsequent Details	10 Sets
Specifications and Contract Documents	10 Sets

2. You must obtain specifications issued by organizations other than the City to which reference is made in the City's documents at your own expense. You must also retain them at the Work site and make them accessible to the Commissioner.
3. The City is the owner of the Project. All documents, data, studies, reports, and instruments of service prepared for or by the City under this Contract are the property of the City. During the performance of your Work, you are responsible for any loss or damage to documents while in your possession or the possession of a Subcontractor and you must restore any such document so lost or damaged at your expense.

You must deliver, or cause to be delivered, at any time during the term of this Contract, all documents, including drawings, models, specifications, estimates, reports, studies, maps, and computations, prepared by or for the City, under the terms of this Contract to the City, promptly upon reasonable demand for them or upon termination of the Work. If you fail to deliver them when required, then you must pay the City all damages the City may sustain by reason of the failure, including consequential damages.

C. Right of Entry

1. You, and any of your officers, employees, agents, and Subcontractors, are permitted to enter upon any part of the Work site owned by the City in connection with the performance of the Work under this Contract, subject to the terms and conditions contained in this Contract and those rules that may be established by the Commissioner. You must provide advance notice to the City of any such intended entry. Consent to enter upon all or any part of the Work site given by the City will not create, nor be deemed to imply the creation of, any additional responsibilities on the part of the City.
2. Inspections: You acknowledge that the City has a right of access to the Work site at all times and the right to inspect all Work during the Contract period.
3. You must use, and must cause each of your officers, employees, agents, and Subcontractors to use, the highest degree of care when entering upon property owned by the City in connection with the Work. In the case of any property owned by the City, or property owned by and leased from the City, you must comply and must cause each of your officers, employees, agents, and Subcontractors to comply, with all instructions and requirements for the use of the property, including any licenses for them, which are incorporated by reference. All claims, suits, judgments, costs, or expenses, including reasonable attorneys' fees, arising from, by reason of, or in connection with any such

entry is treated in accordance with the indemnification provisions contained in this Contract.

D. Damage to City Property

If you cause damage to City property, you must, at the sole option of the City, either: (i) pay the cost of repair of the damage; or (ii) repair or replace any property so damaged. The City has the right to a set-off against its payments to you under this Contract for the cost of any such repairs. All cost to repair or replace any property so damaged will be completed before any final payment can be made to you by the City.

E. Right to Occupy Before Substantial Completion

1. The City may occupy and use the Project or portions of it in advance of Substantial Completion of the Work. If the City desires to exercise partial occupancy and use before Substantial Completion of the Work, the Commissioner will provide written notice to you, and you must cooperate with the Commissioner in making available for the City's use such Project services as heating, ventilating, cooling, water, lighting and telephone for space or spaces to be occupied, and if the equipment required to furnish the services is not entirely completed at the time the City desires to occupy and use the space or spaces, you must make every reasonable effort to complete that Work.
2. When the Commissioner determines that the City will use all or part of the Project before Substantial Completion, the Commissioner will determine:
 - a. The responsibility between the City and you for maintenance, repair, furnishing of utilities and the protection of the public (if required) for that part of the Work to be occupied;
 - b. The list of items remaining to be performed before the Work or portion of it to be occupied will be substantially complete;
 - c. Whether you will need any types of insurance; and
 - d. The effect of the City's use before Substantial Completion on required guarantees and warranties.

F. Final Completion and Acceptance of the Work

When you deem the Work to be complete, you must notify the Commissioner, in writing, that the Work will be ready for an inspection and/or test on a date you specify. The notice must be given at least 15 calendar days in advance of the date. If the Commissioner concurs that the Work will be ready for inspection or testing on the date given, the Commissioner will make the inspection within a reasonable period of time. The scheduling of the inspection to determine whether the Work is complete does not relieve you of your responsibilities under the Contract. You must cooperate in all respects in the scheduling and performance of the inspection.

Final Completion and Acceptance of the Work will occur only after the Commissioner determines that all Work, including Punch List Work, is complete and you submit to the

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Commissioner, within 180 calendar days or sooner from the Substantial Completion Date, a sworn affidavit stating the following:

1. All payrolls, invoices for materials and equipment and all other indebtedness connected with the Work for which the City might in any way be responsible have been paid or otherwise satisfied;
2. All waivers of lien required by the Contract have been provided to the Commissioner;
3. As of the date the affidavit is signed, all known claims made by Subcontractors of any tier and others against you, the City, any agents or representatives of the City pertaining to the Work required under this Contract were provided in writing to the Commissioner and have been resolved;
4. The warranties and guarantees required by the Contract have been provided to the Commissioner;
5. All warranties and guarantees are in full force and effect;
6. The surety's written consent, signed by its authorized representative, to final payment being made directly to you is attached to the affidavit;
7. Acceptance of final payment will constitute a general release to the City, its agents, representatives, officials and employees of all other claims of liability for anything done or furnished or relating to the Work or for any act or neglect of the City or its agents, representatives, officials and employees relating to or connected with this Contract;
8. Record Documents, including Record Drawings, Record Shop Drawings and operation and maintenance manuals have been provided to the Commissioner;
9. All other documents requested by the Commissioner have been provided; and
10. Wages paid and classifications for laborers and mechanics, including apprentices and trainees employed on the Project, in the following form:

FINAL CERTIFICATE

The undersigned, Contractor on _____ (Specification No: /Contract No. _____) certifies that all laborers, mechanics, apprentices and trainees employed by it or by a Subcontractor performing Work under the Contract have been paid wages at rates not less than those required by the Contract provisions, and that the Work performed by each such laborer, mechanic, apprentice or trainee conformed to the classifications set forth in the Contract or training program provisions applicable to the wage rate paid.

Signature and Title

Name

Authorized Officer

Contractor:

Project: _____

Title

V. SHOP DRAWINGS, PRODUCT DATA, RECORDS AND SAMPLES

A. Contractor's Responsibilities and Submittal Procedures

1. Shop Drawings, Product Data, Samples are part of the Work under this Contract, and if also specified, video tape and/or photographs. You must provide them at your expense to the satisfaction of the Commissioner.
2. You must submit to the Commissioner those Shop Drawings, Product Data, Samples, video tape and photographs required for the Work involved under this Contract in accordance with the Schedule.
3. The Schedule must include a schedule of proposed submittal dates. The dates listed in the Schedule must allow sufficient time for review and processing of Shop Drawings or other data by the City and your re-submittal of them, if necessary, before you will need them to complete your performance of the Work they represent under this Contract. No extensions of time will be granted to you because of your failure to have Shop Drawings, Product Data, Samples, video tape and photographs submitted in time to allow for review, re-submittal and final review. You must also submit a separate submittal schedule (in table format), in addition to the Schedule, identifying all Submittals with submittal dates to the Commissioner for review and approval.

In preparing the Schedule, you must allow 28 days for review and 14 days for processing into and out of the office. Every reasonable effort will be made by the Commissioner to hold to the time for normal submittals.

4. You must prepare and submit proper Shop Drawings, Product Data, Samples, video tape and photographs in accordance with your contractual obligations. By submitting them, you represent that you have determined and verified all materials, field measurements, field conditions and quantities, and that you have checked and coordinated the information contained within the Submittal, including your Subcontractors' Submittals, with the requirements of the Work and of the Contract.
5. You must date and stamp all Shop Drawings, Product Data, Samples, video tape and photographs. You must also indicate on them that you have reviewed and checked them before submission and found to be in conformance with the Contract. All Submittals must be transmitted to the Commissioner. You must clearly mark each Shop Drawing, Video Tape, Product Data and Sample, in accordance with the following for purposes of identification and record:

SUBMITTAL IDENTIFICATION

Name of Project: _____

Contract Name and Number: _____

Date of Submittal: _____

Submittal Number: _____

Re submittal of Submittal Number: _____

Identification of Deviations from Contract documents: _____

Specification Section, Page, and Paragraph No. and/or Drawing No.: _____

Type of Material and Manufacturer: _____

Intended use: _____

Applicable Standards such as ASTM numbers: _____

CHECKED AND SUBMITTED IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.

Contractor: _____

By: _____ Date: _____

6. Shop Drawings must be submitted with accurate dimensions. The Shop Drawings must represent the actual manner in which the Work is manufactured and installed, and the relation of the Work installed to that of other trades, clearances, and all other pertinent data. Cross-section drawings must indicate minimum clearances and all other pertinent data. Dimensions must be expressed in feet and inches. Designs prepared in the metric system may be submitted with metric units, but the equivalent English units must also be shown. All weights and dimensions must be certified before submission for review.
7. The Commissioner's review and acceptance of Shop Drawings in no way relieves you from responsibility for errors or omissions that may exist in the Work or on the certified Shop Drawings. Where such errors or omissions are discovered, you must correct them at no additional cost to the City. Submittals must be sufficiently complete to allow for

proper review. You must submit all Shop Drawings, Product Data, Samples, video tape and photographs to the Commissioner for review with an accompanying transmittal letter containing the above Submittal identification data and a list of items being submitted. You must coordinate Submittals into logical groups or sets to facilitate review of several related items.

8. Any Submittal that in the Commissioner's sole opinion is not complete and in proper form will be returned to you without review. You must not submit as Shop Drawings duplicates or reproductions of any Contract documents issued by the City.
9. You must provide Submittals in the following quantities unless a greater number is specified elsewhere in the Contract or is required by the Commissioner:
 - a. Shop Drawings: Submit one reproducible transparency and six opaque copies of shop drawings;
 - b. Product Data: Submit six copies of Product Data;
 - c. Samples: Submit four samples; and
 - d. Video and photographs (when required under the Contract): Submit two copies of Video and photographs.
10. Before submitting Shop Drawings, Product Data, Samples, video tape and photographs, you must notify the Commissioner in writing of any deviations in the Submittals from the requirements of the Contract. If deviations from the Contract requirements are rejected by the Commissioner or if evaluation of the deviations delays the progress of Work, any delay caused will not be compensable by a time extension.

B. Review by the Commissioner

1. Submittals will be reviewed by the Commissioner for compliance with the Contract. In reviewing them the Commissioner will not verify dimensions and field conditions. Any such review does not relieve you, your Subcontractor, manufacturer, fabricator or supplier from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract, nor does it relieve you or them from responsibility for (i) errors of any sort in Shop Drawings, Samples and Product Data, (ii) responsibility for proper fitting of the Work, or (iii) the necessity of furnishing any Work required by the Contract that may not be indicated on Shop Drawings when reviewed. You are solely responsible for any quantities that may be shown on the Shop Drawings. The Commissioner's review of a specific item does not indicate approval of an assembly of which the item is a component.
2. You must not fabricate products, begin Work, order or have delivered any material, equipment or system that requires a reviewed Submittal until return of the Submittal from the Commissioner with a stamp authorizing Work and/or delivery and installation to be performed, as described in Section V.B.3, immediately below.
3. The Commissioner will return Submittals stamped as follows:
 - a. "No Exceptions" means no changes need be made on the reviewed Submittal. You may proceed with the Work for that Submittal.

b. "Exceptions as Noted" indicates that the Submittal is accepted subject to the corrections and/or comments noted. You may proceed with the Work for that Submittal but only if you incorporate the Commissioner's comments, and/or corrections. Re-submittal is not required, but the corrections must be reflected in the Record Documents.

c. "Revise and Resubmit" means that the Submittal does not meet all the requirements necessary to proceed with the Work associated with the Submittal. You must resubmit in accordance with the reviewer's comments and/or corrections. Submittals marked in this manner must not be released for fabrication, delivery or construction.

4. If the Submittal requires revision, you must notify the Commissioner and all pertinent Subcontractors, in writing, that the reviewed set has been withdrawn.
5. Submittals that require revisions must be corrected and resubmitted to the Commissioner to maintain the approved CPM schedule, but in no event more than five days after receipt of the Commissioner's comments.
6. Shop Drawings: After review by the Commissioner, one reproducible stamped by the Commissioner as previously described in Section V.B.3 above will be returned to you.
7. Submission and Review of Samples: If a considerable range of color, graining, texture or other characteristics may be anticipated in finished products, you must furnish a sufficient number of Samples of the specified materials to indicate the full range of those characteristics that will be present in the finished products. Any product delivered or erected without submission and review of full-range Samples is subject to rejection. Each tag or sticker must have clear space for your stamps and those of the Commissioner. Notice of the result of the review will be provided to you with one of the stamps indicated in Section V.B.3 above. Rejected samples will be returned. Accepted samples will be retained by the Commissioner and become the property of the City. Where color samples are required to be submitted, color samples must be submitted in the actual material that will finally be installed in the Work. The various parts of the Work must be in accordance with the reviewed and approved Samples.
8. Product Data: After review by the Commissioner, two sets of Product Data stamped by the Commissioner as previously described will be returned to you.

C. Source of Materials

You must notify the Commissioner in writing as soon as possible after the Contract has been awarded, but not less than three weeks before the need for inspection and testing of the source (or sources) from which you expect to obtain the various construction materials. The source of supply of each material used must be approved by the Commissioner before delivery is commenced. If sources previously approved are found to be unacceptable at any time and fail to produce materials satisfactory to the Commissioner, you must furnish materials from other approved sources.

D. Record Documents

At Substantial Completion, you must deliver to the Commissioner, in suitable transfer cases clearly marked "Record Documents," all Record Drawings, Record Shop Drawings, warranties and guaranties, photographs, video Records (if any are required), Product Data, instructions, parts list, and operations and maintenance manuals arranged in proper order and indexed.

E. Record Drawings

1. As the Work progresses, you and the Subcontractor for each trade or division of work, under your direction must keep a complete and accurate record of the following:
 - a. Changes between the Work as shown on the Contract drawings and the Shop Drawings indicating the Work as actually installed;
 - b. The specific location of all infrastructure elements, including piping, valves, ductwork, equipment, driveways, catch basins, sewer lines, waterlines, water mains, and other such elements that were not accurately located or changed location or elevation from that shown on the Contract drawings; and
 - c. Equipment schedules indicating manufacturers' names and model numbers installed.
2. You must record changes neatly and correctly daily on blue line prints of the Contract drawings updated daily. You must keep this record set of Contract drawings at the job site for inspection by the Commissioner. Upon completion of the Work, you must submit a final set of full-size prints to the Commissioner for review and acceptance.
3. At the time Record Drawings are delivered to the Commissioner, you and each Subcontractor must certify, in writing, that the Record Drawings are complete and accurate.

F. Record Shop Drawings and Product Data

1. As the work progresses, you must keep a complete and accurate record of the changes and deviations from the Work as shown on the Shop Drawings and Product Data indicating the Work performed. You must furnish Record Shop Drawings in a form and quantity acceptable to the Commissioner. Record Shop Drawings must be submitted for all items reviewed as Shop Drawings. Record Shop Drawings must be legibly drawn on sheets of Mylar or such other medium as directed by the Commissioner. Record Shop Drawings must be submitted on the same size sheets as the Contract Document drawings and include an index of all items.
2. You must furnish six record copies of Product Data in loose leaf binders. Loose leaf binders must be subdivided by Submittal numbers and must contain an index of all items.

G. Construction Progress Photographs

You must submit to the Commissioner construction progress photographs consisting of exterior and interior views of the Work, with the date and location of the photographs as selected and directed by the City. If requested at any time by the Commissioner, you must use digital photography, at the resolution specified by the Commissioner. You must provide three prints of each view to the Commissioner within five days of taking the photographs. If digital photography is not requested or until it is requested, then you must provide each photograph on an 8" x 10" smooth surface, glossy, black and white print, on single-weight commercial-grade stock. The 1" wide margin, which is punched for a standard 3-ring binder, will have a left-sided margin for vertical shots and a top-sided margin for horizontal shots. A label will be included on the front bottom margin, which will contain the project name and date that the photograph was taken. On the back of each print, you must provide an applied label or rubber stamp impression with the following information:

1. Name of the Project;
2. Name and address of the photographer;
3. Name of the Architect ;
4. Your name;
5. Date the photograph was taken;
6. Description of vantage point , in terms of location, direction (by compass point), and elevation or level of construction.
7. Notation of vantage point marked for location and direction of shot on a key plan of the site and building, with elevation (story height) noted.

The photographs must be taken monthly, coinciding with the cutoff date associated with each application for payment. From time-to-time the City may issue a request for additional photographs, in addition to the periodic photographs specified. Additional photographs are not included in the Contract Price and will be paid for by Change Order.

H. Instructions, Parts List and Operation and Maintenance Manuals

You must furnish a complete list of equipment actually installed. The list must include a copy of pertinent nameplate data, name and address of local representative who stocks or furnishes repair or replacement parts, and name, address, and telephone number of the Subcontractor responsible to you for the equipment under the guarantee. You must guarantee any such equipment with respect to the City.

You must submit suitable operating instructions for each major component of equipment and its controls. Instructions must include a schematic diagram accurately showing equipment and controls as installed. Included with each diagram must be a set of simple operating instructions stating how the system is stopped and started, what adjustments are to be made by the operator, and what to do in case of an emergency. Five copies of proposed instructions must be submitted to the Commissioner for review and acceptance. Upon acceptance, you must post applicable instructions as directed by the Commissioner.

You must submit maintenance data prepared by the manufacturer of each major component of equipment and its controls. Data must include complete parts list, itemized lists of common purchase items of materials (e.g., bearings, packing, connectors, sealing devices, and other standard items) indicated by their standard trade designation, recommended routine and inspection maintenance, including testing recommendations to evaluate efficiency of performance, lists of special tools and gauges, lubricating instructions, and recommended spare parts lists, tolerances and clearances required for maintenance, and trouble-shooting guides prepared in a simple format to indicate complaint or problem, probable cause, and remedy. You must submit five copies of the proposed maintenance data to the Commissioner for review and acceptance in accordance with Article XV.

I. Adjustment of Equipment

Before the Work is turned over to the City, you must furnish the necessary instruments, test equipment, services, and personnel required to adjust and balance each piece of equipment in order to provide a smoothly functioning, well-integrated system complying with the letter and intent of the Contract.

J. Project Account Records

1. Project Data and Records

- a. You and each Subcontractor must keep an accurate record showing the names, occupation, and the actual hourly wages paid to all laborers, workers and mechanics employed by them in connection with the Work. The record must be open at all reasonable hours to the inspection of the Commissioner and to the Director of Labor of the State of Illinois and his deputies and agents. You also must furnish the Commissioner and the Chief Procurement Officer with certified copies of the payrolls, in accordance with Section XIII.B.3.d.
- b. You must furnish to the Commissioner upon request a written statement, verified by affidavit, giving the names and addresses of all persons, firms and corporations who have up to that date furnished labor or materials in the performance of the Contract and the amounts due or to become due them.
- c. You and all Subcontractors must furnish the Commissioner with such information as the Commissioner may require relating to labor and materials, including all information necessary to determine the cost of the Work, such as the number of workers employed, their pay, the distribution of labor into Work items, equipment time distribution and any other information that the Commissioner may require. You must, on request, furnish the Commissioner with copies of delivery tickets and invoices, in triplicate, covering the expenditures on the Contract.

2. Audits

- a. You and your Subcontractors must furnish the Commissioner such information as he may request regarding the progress, execution, and cost of the Work. You must maintain complete records showing actual time devoted and costs incurred, adopting accounting procedures and practices sufficient to record properly all costs of

whatever nature claimed to have been incurred and anticipated to be incurred for or in connection with the Work. This system of accounting must accord with generally accepted accounting principles and practices, consistently applied throughout. You must maintain its books, records, documents and other such evidence for five years after final payment.

- b. All books and accounts you and your Subcontractors are required to keep in connection with the Work under this Contract must be open to inspection and audit by authorized representatives of the City at reasonable times during the performance of the Work, and they must be retained in a safe place and available for inspection and audit during the five-year period after final payment, as provided above. No provision in this Contract granting the City a right of access to records and documents is intended to impair, limit, or affect any right of access to such records and documents that the City would have had in the absence of such provisions.
- c. If the City, in its sole discretion, chooses to conduct an audit either during the performance of the Work or in the five-year period after final payment, each audited calendar year or partial calendar year is considered an "audited period." If, as a result of such an audit, it is determined that you or any of your Subcontractors have overcharged the City in the audited period, the City will notify you. You must then promptly reimburse the City for any amounts the City has paid you due to the overcharges and also some or all of the cost of the audit, as follows:
 - (i) If the audit has revealed overcharges to the City representing less than 5% of the total value, based on the Contract Prices, of the goods, work, or services provided in the audited period, then you must reimburse the City for 50% of the cost of the audit and 50% of the cost of each subsequent audit that the City conducts;
 - (ii) If, however, the audit has revealed overcharges to the City representing 5% or more of the total value, based on the Contract Prices, of the goods, work, or services provided in the audited period, then you must reimburse the City for the full cost of the audit and of each subsequent audit.
- d. Your failure to reimburse the City in accordance with V.J.2.c above is an event of default under this Contract, and you will be liable for all of the City's cost of collection, including any court cost and attorneys' fees.

3. Confidentiality

All of the reports, information, or data, prepared or assembled by or provided to you under this Contract are confidential and except as specifically authorized in this Contract or as may be required by law, you must not make available the reports, information, or data, to any other individual or organization, without the prior approval of the Commissioner. This requirement will survive expiration or termination of this Contract.

4. Electronic Records

Upon request by the Commissioner, Contractor shall provide the City electronic versions of any hard-copy record documents that the Contractor is required to prepare by the Contract.

VI. ASSIGNMENT

A. Assignment of Contract by Contractor

You must not assign the Contract, in whole or in part, without the prior written consent of the Chief Procurement Officer. The consent of the Chief Procurement Officer will not relieve you from any obligations under this Contract, or in any other way change the terms of this Contract.

B. Assignment of Funds or Claims by Contractor

You must not transfer, pledge or assign any Contract funds or claims due or to become due without the prior written consent of the Chief Procurement Officer. The transfer, pledge or assignment of any Contract funds, either in whole or in part, or any interest in the Contract funds, that are due or to become due to you, without the prior written consent of the Chief Procurement Officer, is void with respect to the City.

C. Assignment of Contract by City

The City reserves the right to assign or otherwise transfer all or any part of its interests under this Contract without your consent or approval.

D. Assigns

All of the terms and conditions of this Contract are binding upon and inure to the benefit of the parties to it and their respective legal representatives, successors, transferees, and assigns.

E. Requests to Subcontract

All requests to subcontract must be accompanied by three copies of a written subcontract agreement that sets forth the scope of services to be subcontracted, the lump sum or unit price for the services and the signature of the subcontracting parties. Proposed Subcontractors must not commence Work on any portion of the Project without prior written approval by the Chief Procurement Officer.

VII. QUALITY OF WORKMANSHIP, EQUIPMENT AND MATERIALS

A. Standard of Performance

In addition to performing the Work in full compliance with the Contract you must perform, or cause to be performed, all Work required of you under the terms and conditions of this Contract with that degree of skill, care, and diligence normally exercised by qualified and experienced contractors in performing work in projects of a scope and magnitude comparable to the Work.

B. Correction of Work

1. You must, upon discovery of any defective or non-conforming Work, or when directed in writing by the Commissioner, promptly re-perform, correct or remove all Work identified to be defective or as failing to conform to the standards set forth in, or any requirement of the Contract, whether or not completed. You must bear all costs of correcting the defective or non-conforming Work, including costs associated with removing any defective or non-conforming Work, replacing the defective or non-conforming Work with non-defective, conforming Work and any compensation for any additional equipment, materials and/or services made necessary by the removal and replacement.
2. If you do not proceed with re-performance, correction or removal of the defective or non-conforming Work after written notice from the City within the time period designated by the notice, the City may correct or remove it and may store the materials and/or equipment at your expense, then complete the corrective Work. If you do not pay the costs incurred for the removal, storage and correction within 10 days after you receive written notice from the City of the amount of the costs, the City may upon 10 additional days' written notice, sell any such materials and/or equipment at an auction or at a private sale and will account for the net proceeds, after deducting all the costs you are required to bear, including compensation for the City's services. If the proceeds of sale do not cover all costs for removal and correction of the Work, the difference will be charged to you with a deduction of any amounts due you, and an appropriate Contract modification will be issued. If later payments due you are not sufficient to cover the amount, you must pay the difference to the City, or the City may deduct the amount from any other funds due to you, including any amounts due under any other contract between City and you.
3. You must not perform any work without lines and grades or beyond the lines shown on the drawings or outside the scope of the Contract, without the prior written consent or direction of the City. It is not authorized, and if you do so you perform it at your sole expense. Upon direction of the City, work so done must be removed or replaced and those areas restored to their previously existing state at your sole expense.
4. Neither the determination of Final Completion and Acceptance of the Work, nor payment, nor any provisions in the Contract will relieve you of responsibility for defective or non-conforming Work, faulty materials, equipment or workmanship, and unless otherwise specified, you must remedy any defects due to the foregoing and pay for any damage to the Work or other property resulting from defective or non-conforming Work, or faulty materials, equipment or workmanship throughout the Warranty Period, as defined in Section VII.E, "Warranties," below, or such other period of time afforded by industry custom or law, whichever is longer. The City will give you written notice of the observed defects with reasonable promptness.

C. Materials and Equipment

1. Quality of Materials. Unless otherwise specified in the Contract you must use all new materials for the Project and use them in such a manner as to produce completed Work that conforms with the Contract and is acceptable in every detail to the Commissioner. Only materials that conform to the requirements of these specifications may be

incorporated or used in the Work. In the absence of a definite specification, materials must be the best of their respective kind with properties best suited to the Work required.

2. **Materials Inspection and Responsibility.** Before any material is incorporated into the Work, you must submit a "Request for Materials Inspection" to the Commissioner. You are solely responsible for submitting the requests with sufficient time for the City to conduct its inspection. You are not entitled to payment for uninspected materials. The City has the right to inspect any material to be used in carrying out this Contract. The City does not assume any responsibility for the availability of any materials or equipment required under this Contract. By performing any tests or accepting any materials, the City in no way relieves you of any of your obligations or responsibility under this Contract. Materials, components or completed Work that do not comply with the Detailed Specifications and other requirements of this Contract may be rejected by the City, and you must replace them at no additional cost to the City. After you receive notice from the City that materials or components have been rejected, you must promptly remove them from the City's premises at no additional cost to the City.

D. Substitution of Materials

1. The City will consider your request for substitution in cases of product unavailability or other conditions beyond your control.
2. You must submit each request for substitution separately and each must include:
 - a. Complete data substantiating compliance of proposed substitution with requirements stated in the Contract;
 - (1) Product identification, including manufacturer's name and address
 - (2) Manufacturer's literature identifying:
 - (a) Product description
 - (b) Reference standards
 - (c) Performance and test data
 - (3) Samples, as applicable
 - (4) Names and address of similar projects on which the product has been used, and date of each installation;
 - b. Itemized comparison of the proposed substitution with product specified that lists significant variations;
 - c. Data relating to changes in the Schedule;
 - d. Any effect of substitution on other parts of the Work, any Subcontractors, or any separate contracts;
 - e. List of changes required in other Work or products;
 - f. Accurate cost data comparing proposed substitution with product specified, including the amount of any net change to Contract Price;
 - g. Designation of required license fees or royalties; and

Department of Transportation
Terms and Conditions for Construction Contract - Book 1 (May 2017)

1. Your written warranty will include the name of the project as designated in the Contract, be signed by an officer of the company having authority to provide the warranty, and state: "This document serves as a one - year written warranty for the Work performed, and material and equipment installed on the above referenced project. This warranty incorporates all provisions of the Contract that refer or relates to the warranty. This warranty begins on (date) ."
2. Contractor's Warranty Obligations:
 - a. During the Warranty Period, you must repair and replace at your own expense, when so ordered by the Chief Procurement Officer or the Commissioner, all Work that may develop defects whether these defects may be inherent in the equipment or materials, in the functioning of the piece of equipment, or in the functioning and operation of pieces of equipment operating together as a functional unit. Any equipment or material that is so repaired or replaced will have the Warranty Period extended for a period of one year from the date of the last repair or replacement.
 - b. You must bear all costs associated with any repair or replacement under this section, including removal, material, transportation, and reinstallation.
3. Manufacturer's Warranties
 - a. You must:
 - (1) ensure that all required Manufacturer's Warranties pass through to the City and the Department;
 - (2) submit all applicable manufacturers' warranties to the Commissioner and ensure that all warranty forms have been completed in the Department's name and registered with the appropriate manufacturers.
 - b. Whenever you make repairs or provide replacements under Section VII.E.3, you must provide a manufacturer's warranty for the repaired or replaced Work, if standard with the manufacturer, in addition to your warranty under Section VII.E.2.

VIII. PERSONNEL

A. Competency of Workers

You must employ only competent and efficient laborers, mechanics or artisans on the Work, as demonstrated by completion of a specific training program or demonstrated project experience. Whenever, in the opinion of the Commissioner, any worker is careless, incompetent, violates safety or security rules, obstructs the progress of the Work, acts contrary to instructions or acts improperly, or fails to follow the safety requirements of this Contract, you must, upon request of the Commissioner, remove the worker from the Work. You must not permit any person or worker to enter any part of the Work or any buildings connected with it who is under the influence of intoxicating liquors or controlled substances.

B. Supervision and Superintendence

While Work is in progress, either by your labor force or that of your Subcontractor, you must have a full-time, experienced and qualified superintendent assigned to the Work. You must superintend the Work and must have a competent superintendent at the job site at all times with authority to act for you as the contact person with the Commissioner.

C. Contractor's Project Personnel

No separate payment will be made to you for the cost of personnel. Those costs must be included in the Contract Price.

D. Key Personnel

Upon award of the Contract, you will submit a project staff organization chart that includes the names and resumes of employees in key positions for this project. All employees in key positions must be approved by the Commissioner.

You must employ and assign to work on this Contract a qualified engineer as a project manager with a valid Professional Engineer's License in the State of Illinois, satisfactory to the Commissioner, to act as a contact person with the Commissioner and a Registered Land Surveyor to set and maintain the lines and grades necessary for the proper performance of the Work under this Contract.

Changes in the assignment of any key personnel due to commitments not related to this Contract are prohibited without Commissioner's approval. If any key personnel, selected in accordance with the key personnel provisions under this section of the Contract, should become unable to continue in the performance of the assigned duties for reasons due to death, disability or termination, you must promptly notify the Commissioner and explain the circumstances.

Under a request by Commissioner, you must provide to the Commissioner, within seven days, the name of the person substituting for the individual unable to continue, together with any information the Commissioner may require to judge the experience and competence of the substitute person. Upon approval by the Commissioner, the substitute person will be assigned to the project. If the Commissioner rejects the substitute, you will have seven days after that to provide the name a second substitute person, with any information the Commissioner may require, until a proposed replacement has been approved by the Commissioner.

E. Davis-Bacon Prevailing Wages

The Contractor agrees to comply and assures compliance with the requirements of 49 U.S.C. 5333(a), the Davis-Bacon Act, 40 U.S.C. 276 a(7), and implementing U.S. DOL regulation, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5. In addition to other requirements that may apply, the Contractor agrees to pay wages to laborers and mechanics performing contract work at a rate not less than the minimum wages specified in a wage determination issued by the U.S. Secretary of Labor and not less frequently than once a week. The Contractor agrees to place a copy of the

current prevailing wage determination issued by the U.S. DOL in each solicitation for Subcontractor work under the Project, and agrees to refrain from awarding any affected subcontract until the subcontractor agrees to the required wage determination.

You must report to the FHWA every suspected or reported violation of the Davis-Bacon Act or its federal implementing regulations.

F. Copeland “Anti-Kickback” Act

You must comply with the Copeland “Anti-Kickback” Act, 18 USC § 847 and 40 USC § 276c and U.S. DOL regulations, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part By Loans or Grants From the United States” 29 CFR Part 3. In addition to other requirements that may apply:

You must not induce, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which that employee is otherwise entitled.

You must report every suspected or reported violation of the Copeland “Anti-Kickback” Act or its Federal Implementing regulations to the FHWA.

As a condition of making payment to you, the City may request you to submit an affidavit to the effect that not less than the prevailing hourly wage rate is being paid to laborers, mechanics, and other workmen employed on this Contract in accordance with applicable law.

G. Minimum Wage, Mayoral Executive Order 2014-1

Mayoral Executive Order 2014-1 provides for a fair and adequate Minimum Wage to be paid to employees of City contractors and subcontractors performing work on City contracts.

If this contract was advertised on or after October 1, 2014, Contractor must comply with Mayoral Executive Order 2014-1 and any applicable regulations issued by the CPO. The Minimum Wage to be paid pursuant to the Order as of July 1, 2016 is \$13.15 per hour. The Minimum Wage must be paid to:

- All employees regularly performing work on City property or at a City jobsite.
- All employees whose regular work entails performing a service for the City under a City contract.

Beginning on July 1, 2015, and every July 1 thereafter, the hourly wage specified by the Executive Order shall increase in proportion to the increase, if any, in the Consumer Price Index for All Urban Consumers most recently published by the Bureau of Labor Statistics of the United States Department of Labor. Any hourly wage increase shall be rounded up to the nearest multiple of \$0.05. Such increase shall remain in effect until any subsequent adjustment is made. On or before June 1, 2015, and on or before every June 1 thereafter, the City shall make available to City Concessionaires a bulletin announcing the adjusted minimum hourly wages for the upcoming year.

The Minimum Wage is not required to be paid to employees whose work is performed in general support of contractors operations, does not directly relate to the services provided to

the City under the contract, and is included in the contract price as overhead, unless that employee's regularly assigned work location is on City property or at a City jobsite. It is also not required to be paid by employers that are 501(c)(3) not-for-profits.

Except as further described, the Minimum Wage is also not required to be paid to categories of employees subject to subsection 4(a)(2), subsection 4(a)(3), subsection 4(d), subsection 4(e), or Section 6 of the Illinois Minimum Wage Law, 820 ILCS 105/1 et seq., in force as of the date of this Contract or as amended. Nevertheless, the Minimum Wage is required to be paid to those workers described in subsections 4(a)(2)(A) and 4(a)(2)(B) of the Illinois Minimum Wage Law.

Additionally, the Minimum Wage is not required to be paid to employees subject to a collective bargaining agreement that provides for different wages than those required by Mayoral Executive Order 2014-1, if that collective bargaining agreement was in force prior to October 1, 2014 or if that collective bargaining agreement clearly and specifically waives the requirements of the order.

If the payment a Base Wage pursuant to Municipal Code of Chicago Sect. 2-92-610 is required for work or services done under this Contract, and the Minimum Wage is higher than the Base Wage, then the Contractor must pay the Minimum Wage. Likewise, if the payment of a prevailing wage is required and the prevailing wage is higher than the Minimum Wage, then the Contractor must pay the prevailing wage.

Contractors are reminded that they must comply with Municipal Code Chapter 1-24 establishing a minimum wage.

H. "Living Wage"

1. Section 2-92-610 of the Municipal Code of Chicago provides for a base wage for certain categories of workers employed in the performance of City contracts, specifically non-City employed security guards, parking attendants, day laborers, home and health care workers, cashiers, elevator operators, custodial workers, and clerical workers ("Covered Employees"). Accordingly, pursuant to Section 2-92-610 and regulations promulgated thereunder:
 - (a) if the Contractor has twenty-five (25) or more full-time employees, and
 - (b) if at any time during the performance of the contract the Contractor and/or any subcontractor or any other entity that provides any portion of the Services (collectively "Performing Parties") uses twenty-five (25) or more full-time security guards, or any number of other full-time Covered Employees, then
 - (c) the Contractor must pay its Covered Employees, and must assure that all other Performing Parties pay their Covered Employees, not less than the minimum hourly rate as determined in accordance with this provision (the "Base Wage") for all work performed pursuant to the Contract.

2. The Contractor's obligation to pay, and to assure payment of, the Base Wage will begin at any time during the Contract term when the conditions set forth in (a) and 1(b) above are met, and will continue thereafter until the end of the Contract term.
3. As of July 1, 2016, the Base Wage is \$12.15 per hour. Each July 1st, thereafter the Base Wage will be adjusted, using the most recent federal poverty guidelines for a family of four (4) as published annually by the U.S. Department of Health and Human Services, to constitute the following: the poverty guidelines for a family of four (4) divided by two thousand (2000) hours or the current base wage, whichever is higher. At all times during the term of this Contract, Contractor and all other Performing Parties must pay the Base Wage (as adjusted in accordance with the above). If the payment of prevailing wages is required for work or services done under this Contract, and the prevailing wages for Covered Employees are higher than the Base Wage, then the Contractor must pay the prevailing wage rates.

Note: As of July 1, 2016, the wage specified by Mayoral Executive Order 2014-1 is higher than the Base Wage rate. Therefore, the higher wage specified by the Executive Order (or other applicable rule or law) must be paid.

4. The Contractor must include provisions in all subcontracts requiring its subcontractors documentation acceptable to the Chief Procurement Officer demonstrating that all Covered Employees, whether employed by the Contractor or by a subcontractor, have been paid the Base Wage, upon the City's request for such documentation. The City may independently audit the Contractor and/or subcontractors to verify compliance herewith. Failure to comply with the requirements of this Section will be an event of default under this Contract, and further, failure to comply may result in ineligibility for any award of a City Contract or subcontract for up to three (3) years.
5. Not-for-Profit Corporations: If the Contractor is a corporation having Federal tax-exempt status under Section 501(c)(3) of the Internal Revenue Code and is recognized under Illinois not-for-profit law, then the provisions of Sections 1 through 4 above do not apply.

I. Working hours in city contracts

Eight hours constitutes a legal day's work under this Contract, in accordance with § 2-92-220 of the Municipal Code of Chicago.

IX. PERMITS AND LICENSES

A. Contractor Obtains Permits

Whenever the Work under this Contract requires permits to be obtained from the City or other public authorities, you must obtain them and furnish triplicate copies of the permits to the City before the Work covered by them is started. **NO WORK IS ALLOWED TO PROCEED BEFORE SUCH PERMITS ARE OBTAINED.**

The City will obtain permits required from the Metropolitan Water Reclamation District of Greater Chicago, the Illinois Division of Waterways and the U.S. Army Corps of Engineers.

B. Contractor Pays Permit Fees

The special use of, or removal, alteration or replacement of certain City-owned facilities and appurtenances such as traffic signs, parking meters, trees, sewers, hydrants, bridges and viaducts which are required for you to perform your Work are subject to all applicable Municipal Ordinances. It is your responsibility to obtain all the necessary permits and pay the associated fees. You must furnish copies of the permits to the City before the Work covered is started. Information with regard to the above may be obtained by contacting the appropriate City Departments.

C. Occupancy Placard and Fees

You must provide an occupancy placard indicating occupancy and floor plans based upon key plans provided by the Architect. It is your responsibility to pay all fees and expenses related to providing the occupancy placard.

X. COORDINATION WITH OTHER CITY DEPARTMENTS

A. Water System Work and Usage

If water from a City hydrant is necessary for the execution of the Work, you must obtain a hydrant permit from the City's Department of Water Management. You must obtain a permit from that department also for any construction, repair or adjustment of any water main, branch or service connection. Requests for permits must be made at the **Department of Water Management, City Hall, 121 North LaSalle Street, Room 906, Chicago, Illinois 60602; 312/744-7060.**

B. Sewer System Work

If you will be constructing, repairing, adjusting or cleaning any subsurface structure designed to collect or transport storm and/or sanitary waste water, either in private property or in the public way you, through a licensed drainlayer, must obtain a permit issued under this Section X.B. (A licensed drainlayer is a person possessing a current sewer and drain license issued by the Department of Water Management.) Requests for permits must be made at the **Department of Buildings, Sewer Engineers, Address: 121 N. LaSalle St., Room 906, Chicago, IL 60602; Telephone: 312-744-3351.**

Project plans must be submitted to the Department of Water Management (Sewers and Drains) sufficiently in advance for examination and review. Plans meeting the department's requirements must be submitted with the application for permit at least four days before the issuance of permit. When applying for a permit, you must submit three sets of plans that show all new underground sewer Work inside and around the project with a clear site or location plan together with the estimate of quantities for sewer sizes and sewer structures to be installed.

A copy of the permit must be on the Work site before the start of construction. Failure to obtain a permit before the start of construction will result in a penalty and could result in the revocation of the drainlayer's license.

You must arrange for sewer inspections at least 48 hours before the start of Work. Inspections may be requested by calling **(312) 743-7477 for Plumbing Inspections and (312) 744-5502 for Mason Inspections.**

C. Parking Meter Removal and Replacement

The City via the metered parking concessionaire shall close or remove and opened or reinstall any parking meters, including signs indicating pay boxes, as may be required. However, you must pay all fees and lost meter revenues required by § 9-68-050 of the Chicago Municipal Code. You must advise the Department of Transportation, Bureau of Inspections, Construction Compliance Section (Public Way Permits), Room 804, City Hall, Chicago, Illinois 60602, in writing at least two weeks in advance of the closure citing the location and meter number of the meters to be closed or removed. Closures of less than 6 hours on a given day and limited to less than 10 business days are strongly encouraged, and you must be prepared to detail any reason requiring closures of a longer hourly and daily duration.

You may not remove any parking meters without the express written consent of the Commissioner. If you violate this provision, you (a) recognize that the City will suffer damages as a result, including the costs incurred by the City in tracking, retrieving, and repairing damage to the parking meters, and (b) will be liable for liquidated damages in the amount of \$350 for each single-space parking meter or \$10,000 for each pay box you removed. All amounts, including any other debts, will be deducted from any amounts due or that may become due you.

Notification must be provided immediately once meters can be opened or reinstalled. That notification must be e-mailed to the Department of Revenue at parking-meter-closure@cityofchicago.org. Please include "REOPEN/REINSTALL" in the subject line and provide details concerning permit numbers, locations, and dates that the meters may be opened or reinstalled.

The City of Chicago Department of Transportation and the Department of Revenue may modify these requirements in the future.

D. Traffic and Parking Sign Removal and Replacement

The City will remove and re-install any traffic and parking sign(s) as may be required, however, you will be responsible for all fees relative to the removal and replacement of all of the City's traffic and parking signs. You must inform the Bureau of Signs and Markings, in writing, of the location of each sign to be removed and specify its distance from the property line of the nearest cross street. Each sign legend must also be stated. This information must be provided at least five days before removal. You must also inform the Bureau of Signs and Markings, in writing, of when signs may be reinstalled as soon as this date is known. Contact the **Bureau of Signs and Markings, 3458 S. Lawndale, Chicago, Illinois, 60623, Attn.: Deputy Commissioner, (312)747-2210.**

E. Trees

In accordance with § 10-32-060 *et seq.* of the Municipal Code, you must obtain a permit from the Bureau of Forestry when removing planting, trimming, spraying, or in any way affecting the general health or structure of trees in the public way. There is no fee for this permit. The permit must be obtained from the **Bureau of Forestry Permits Division; 2352 S. Ashland Av., Chicago, IL 60608 312-746-5254, fax 312-743-8030**. The Bureau of Forestry requires 48 hours' notice before starting Work for all activities with the exception of tree planting, which requires two weeks' prior notice. To obtain tree planting permits, two copies of the site plan must be presented to the Bureau for its review and approval. A Bureau representative must also assist in the selection of those trees to be planted in the public way. Tree planting standards and specifications are outlined in the Bureau of Forestry's "Manual of Tree Planting Standards," which is available upon request from the Bureau of Forestry.

F. Demolition

If demolition of a structure or removal of an underground storage tank is required during construction, you must obtain a permit and pay the required fee as set forth in the Municipal Code and its amendments to date. The permit must be obtained from the **Department of Buildings, City Hall, 121 North LaSalle Street, Room 900, Chicago, Illinois 60602; (312/744-3400)**.

XI. SCHEDULE

A. Time

1. The date for commencement of the Work is the date set forth in the Contract or such other date as may be established at the discretion of the Commissioner in a Notice to Proceed. Within five calendar days after the award and release of the Contract, you must provide the Commissioner, a schedule for the performance of the Work, which complies in all respects with the Contract, within the Contract Time. The schedule may be used as a means of determining the progress of your performance of the Work, but neither the provision of the schedule to the City, nor the City's acceptance or use of the schedule, acts in any way to relieve you of any of your obligations under the Contract.
2. Progress and Completion. **TIME IS OF THE ESSENCE IN THIS CONTRACT.** No time extensions will be allowed unless they are contained in a Contract Modification that has been approved and executed by the City. Liquidated damages will be assessed against you for late completion of the Work and failure to achieve any milestone dates that provide for liquidated damages set forth in the Contract. You must not suspend any Work that may be subject to damage by climatic conditions without the Commissioner's prior written approval. Notwithstanding any other terms contained in this Contract, you must take measures to protect the Work and to minimize the impact of such conditions on the progress of the Work.

B. Progress Schedule

1. You must begin performance of the Work and to prosecute it with all due diligence, so as to complete the entire Work under this Contract within the Contract Time stipulated, after the date of commencement of Work, as specified in the written Notice to Proceed to you. The date for the commencement of Work is not counted as a day, but each day after that, from midnight to midnight, is counted as one day and the last day counted is the date of Final Acceptance and Completion of the Work. You must, when necessary, use overtime, multiple shifts, weekend and/or holiday work to maintain the approved schedule at no additional cost to the City.
2. Except when otherwise specified by the Commissioner, you must provide the progress schedule ("Schedule") for the Work using the Critical Path Method ("CPM") as described in Section XI.D, "Critical Path Method Schedule," below.
3. The Commissioner's approval of your Schedule is done for the sole purpose of insuring that all CPM scheduling documents you prepare are in conformance with the Contract requirements. This approval does not relieve you of the responsibility for the means, methods, procedures and sequence of the construction process nor does it entitle you to additional funds for completing Work in a period that is less than the Contract Time.
4. Daily Progress Reports: You and all Subcontractors must prepare and submit to the Commissioner daily progress reports on the various parts of the Work, including in the report the number of workers and the classification of the trades involved, equipment used and any pertinent information regarding possible delays in the Work.

C. Construction Operations Plan

1. You must, within 14 days after Notice to Proceed, submit to the Commissioner for review the order of procedure you propose to follow in performing the Work. Work begins only after your proposed order of procedure in performing the Work and the Schedule have been submitted to and consented upon by the Commissioner, in writing. You understand that a reasonable amount of time is required by the Commissioner for the examination of the procedure and Schedule. As Work progresses, changes or modifications in the procedure and Schedule, may be required by the Commissioner. In that event, upon notice from the Commissioner to you, further Work is performed only in accordance with the changed or modified procedure and Schedule as have been submitted to and consented upon, by the Commissioner, in writing.
2. The Commissioner, in his/her sole discretion, may reject or require modification of any proposed or previously approved order of procedure, that he or she considers to be unsafe for the Work under this Contract, or for other Work being carried on in the vicinity, or for other structures, or for the public, or for workmen, engineers and inspectors employed thereon, or that will not provide for the completion of the Work within the period of time specified in the Schedule, or that is contrary to any other requirement of this Contract.
3. The City's acceptance or approval of any order or procedure or equipment that you submitted or employ does not in any manner relieve you of responsibility for the performance of the Work, or for the safety of the performance of the Work under this

Contract, or from any liability whatsoever on account of any procedure employed by you, or due to any failure or movement of any structure or equipment furnished by it. Notwithstanding any approval by the Commissioner, should any structure or equipment installed under this Contract afterwards prove insufficient in strength or fail in any manner whatsoever, the insufficiency or failure in no way forms the basis of any claim for extra compensation for delay, or for damages or expenses caused by the insufficiency or failure, or for an extension of time for completion of the Work, or for material, labor or equipment required for repairing or rebuilding the structure or equipment, or for repairing or replacing any other Work that may have been damaged by the movement or insufficiency or failure of any such structure or equipment, respectively.

D. Critical Path Method (“CPM”) Schedule

1. You must format the Schedule to show the proposed starting and completion date for the various stages of the Work, including any float time, and must prepare it in such a way that it can be used to plot actual progress against proposed progress. You must update the Schedule and submit it to the Commissioner no less than monthly or as directed by the Commissioner. The Commissioner may request more frequent Submittals. Monthly payment will be withheld for failure to submit updated Schedules. One copy of the Schedule must be submitted to the Commissioner in a reproducible format. A copy of the Schedule must be submitted on a computer diskette in a format acceptable to the Commissioner.
2. You must assure that the Schedule includes, at a minimum:
 - a. Project name, Contract number, Contractor's name, data date and plot date on each separate sheet. If multiple diagrams are prepared, each must, in addition to the above, include a descriptive title of that portion of the Work included in them.
 - b. The order and interdependency of activities, indicating the sequence in which you plan to perform the Work; the Schedule must describe and indicate the critical path; and
 - c. Estimates of man hours and/or crew sizes for each activity.
 - d. The dates for:
 - (1) starting and completing the various stages of the Work, including milestones identified by the City in the Contract;
 - (2) placing material orders, fabrication and delivery of materials and equipment;
 - (3) preparation, submittal and approval of all required submittals to the City;
 - (4) procuring material and equipment furnished by the City;
 - (5) interface activities performed by other contractors or Subcontractors upon which your Schedule depends;
 - (6) all Work activities and field construction operations;

- (7) equipment installation, testing and balancing.
3. For purposes of the Schedule, "activity" means each logically separate part of the Work defined by an observable start and an observable finish, subject to the following:
 - a. To establish the scope of an activity for Schedule purposes, you must form a single activity from the largest grouping of related operations that permit a continuous and measurable flow of Work;
 - b. The scope of an activity must be small enough to permit a reasonable appraisal of its status or as directed by the Commissioner;
 - c. Each activity on the Schedule must be manpower loaded;
 - d. The activities must be defined so that the average activity has a value of approximately \$25,000, with no activity exceeding \$200,000 without the consent of the Commissioner; and
 - e. Activities of other contractors or companies that must be completed before the start of your Work or portion of Work must be included in the Schedule as milestones and identified with a designation approved by the Commissioner.
 4. You must furnish the following information on the Schedule for each activity:
 - a. Activity numbers assigned to the related portions of Work in the format of the project specification division and section numbers. You must submit the activity numbers to the Commissioner for review and approval;
 - b. A description of the activity that is sufficiently detailed to permit an evaluation of your performance of the Work described;
 - c. Duration of the activity in days, unless otherwise noted;
 - d. Responsibility code for each activity that is not performed by you, indicating which Subcontractor, supplier, fabricator, or other contractor is to perform the activity;
 - e. Each activity must be identified with early/late start, early/late finish, and total float;
 - f. A breakdown by monthly node of dollar amount and percentage of Contract Price.
 5. In addition to the above, any activity whose start or finish dates has been specified elsewhere in the Contract must be shown as the specified dates in the Schedule.
 6. The following information must be furnished on the Schedule as summary items:
 - a. The projected total percentage complete, on a monthly basis;
 - b. Anticipated total partial payments, on a monthly basis, including Subcontractor payment breakdown; and
 - c. The projected total manpower requirements, on a weekly basis.

- d. Within 14 days after receipt of the detailed Schedule and supporting documents, the Commissioner will either approve the Schedule or reject it with written comments. If the Schedule is rejected, you must submit a revised Schedule within seven calendar days of the date of rejection. The Commissioner's decision to reject the Schedule is final and you may not dispute it under Article XX of the Contract.
 - e. You must provide prompt written notice to the Commissioner of any events or other changes that may delay or accelerate the Schedule.
 - f. If you fail to provide the Schedule within the time prescribed and/or updates within the stated time frames, it is an event of default under the Contract, and the Commissioner may, in addition to any other remedies available to the City, withhold monthly partial payments until such time as you submit the required information.
7. Changes to the Schedule
- a. If you propose to make any changes to the Schedule, you must provide the Commissioner notice of the proposed changes, in writing, stating the reasons for the change, identifying each changed activity (including durations and interrelationships between activities) and providing a diskette of the proposed changed Schedule.
 - b. The originally approved Schedule will be the Baseline Schedule. The Commissioner, in his sole discretion, may approve or disapprove the proposed change in the Schedule to the extent that the change does not extend the Contract Time. He will provide a decision in writing to you within 10 days of receipt of your submission. All monthly updates must be plotted against the current revision of the Baseline Schedule.
 - c. If the Commissioner approves the change to the CPM Schedule you must submit a revised Schedule incorporating the change(s) within 10 days after approval along with a written description of the change(s) to the Schedule.
 - d. Any proposed change that would result in an extension of Contract Time requires a written modification of the Contract pursuant to Section XXIII.B, "Modifications," of the Contract.
8. Updating. The originally approved CPM will be designated as the Baseline Schedule and will only be changed based on a Contract Modification that extends the Contract duration.
- a. All updates will be plotted against the Baseline Schedule. You must update the CPM Schedule on a monthly basis coincident with the submission of the pay estimate. The updated information must include the Baseline Schedule detail and the following additional information for each activity:
 - (1) Actual start dates;
 - (2) Actual finish dates;

- (3) Actual activity percent complete;
 - (4) Remaining duration of activities in progress; and
 - (5) Critical activities must be identified or highlighted.
 - b. The updated information must include the Baseline Schedule detail and the following additional information for each summary item:
 - (1) Actual monthly and total-to-date Work percentage complete.
 - (2) Actual monthly partial payments, including Subcontractor partial payments; and
 - (3) Actual weekly and total-to-date manpower utilization.
 - c. The City may withhold partial payments if you do not submit updates as required.
9. Neither an update nor Schedule change may, in itself, extend the term of this Contract. The term of the Contract may only be extended by a written Contract Modification executed pursuant to Section XXIII.B, "Modifications," of the Contract.
10. Narrative Report. As part of the CPM Schedule update, you must prepare a written narrative report, highlighting the progress during the past update period. This written report must include the following information:
 - a. Summary of Work accomplished during the past update period;
 - b. Contract milestone comparison chart;
 - c. Analysis of critical path(s);
 - d. Analysis of time lost/gained during the update period;
 - e. Identification of problem areas; and
 - f. Recommended solutions to current problems.
11. You are required to attend a monthly CPM Schedule review meeting where the Schedule will be reviewed with the Commissioner. The purpose of this meeting is to review past progress, current status, problem areas and future progress. Your narrative report is reviewed at this meeting. Your representatives attending this meeting must have the authority to commit manpower and/or other resources to correct any negative impact to the Schedule. Any possible means of shortening the Schedule at no additional cost will be brought to the attention of the Commissioner. The Updated Progress Schedule will be used as a guide for verifying estimates of work completed for which payment is requested, and must accurately represent the project's current status. None of the information provided in this Section constitutes a request for a time extension.

E. Recovery Schedule

1. You must maintain an adequate work force and the necessary materials, supplies and equipment to meet the current approved Schedule. If you, in the sole opinion of the Commissioner, are failing to meet the approved Schedule, including any Contract

milestones, you must submit a recovery Schedule (the "CPM Recovery Schedule"). The CPM Recovery Schedule sets forth a plan to eliminate the schedule slippage (negative float). The plan must be specific and show the methods to achieve the recovery of time, e.g., increasing manpower, working overtime, weekend work, employing multiple shifts. You must bear all costs associated with implementing the CPM Recovery Schedule.

2. Upon receipt of the CPM Recovery Schedule, the Commissioner will review it for conformance with the Contract and degree of detail. The Commissioner, within 14 days after receipt of the CPM Recovery Schedule and supporting documents will approve it or reject it with written comments. If the detailed CPM Recovery Schedule is rejected, you must submit a revised CPM Recovery Schedule within seven calendar days after the date of rejection. The Commissioner's decision to reject the CPM Recovery Schedule is final and you may not dispute it.
3. If you refuse to follow the direction of the Commissioner, the Commissioner reserves the right after seven days written notice to you, to procure the materials, equipment and labor to proceed with or to complete the Work or any portion of it and charge the cost to you. The Commissioner's rights under this provision are cumulative to rights under any other provisions of the Contract including the City's rights to terminate for default or to early termination.

F. Time for Completing Punch List

1. TIME IS OF THE ESSENCE IN CLOSING OUT THE WORK, and you must begin work immediately after receipt of a list of minor miscellaneous or finishing work known as "Punch List Work." Your failure or that of your Subcontractors to begin the Punch List work within three days of receipt of the Punch List is an event of default.
2. You must diligently prosecute the Punch List work once begun and complete it within 30 days from receipt of the Punch List. If you fail to complete Punch List work within the 30 day time period, you must pay the liquidated damages set forth for "Punch List Work" in Book 2.
3. If liquidated damages are assessed, they will be added to the previously determined liquidated damages assessed as of the Substantial Completion Date or the City's beneficial occupancy of the Project, whichever occurs earlier. The City's takeover of the Project under Section XXI.C.3.b., however, does not constitute beneficial occupancy for purposes of liquidated damages.

G. No Damages for Delay; Extensions of Time

1. Should you be delayed in starting, prosecuting or completing the Work by any act of the City, including a delay, change, addition, deletion or modification in the Work or any omission, neglect or default of the City, or by order of the City, or anyone employed by or acting on behalf of the City, or by any cause beyond your control, none of which are due to any fault, neglect, act or omission on your part, then your relief is limited to an extension of the Contract Time that is no greater than the duration of any such delay. The extension of time releases and discharges the City, its employees, officials, agents and representatives from all claims for damages of whatever character, including any

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claims you may make on account of disruption, changes in sequence, interference, inefficiency, direct or indirect cost or any other causes of delay.

2. You must notify the Commissioner in writing of the cause within five calendar days after the delay begins. Consideration of a time extension for events beyond your reasonable control will be made if the delay directly impacts the Schedule for completion of the Work. Events considered to be beyond your reasonable control are limited to acts of God, acts of the public enemy, fires, floods, earthquakes, epidemics, quarantine restrictions, labor strikes at the job site, freight embargoes, or weather significantly more severe than the norm, but only if the listed causes were not foreseeable and did not result from your fault or negligence and only if you took reasonable precautions to prevent delays owing to such causes.
3. Unless otherwise provided in the Contract, the Contract Time is based on normal weather conditions. An extension is granted for weather significantly more severe than the norm only if you demonstrate to the satisfaction of the City that any delay in the progress of the Work was due to such weather. The basis used to define normal weather will be the "normal" data as compiled by the United States Department of Commerce, National Oceanic and Atmospheric Administration in their most current report entitled "Local Climatological Data, Annual Summary with Comparative Data" for the month for which the time extension is sought. The effects of weather less severe than the norm may be taken into account in considering your requests for time extensions for the effects of more severe weather.
4. No extension of time will be granted under this Section for any delay if you, by your action or inaction, including your fault or negligence or that of your Subcontractors, caused the delay, or for which any remedies are provided under any other provision of the Contract.
5. The grant of an extension of time pursuant to this Section XI.G, "No Damages for Delay and Extension of Time," in no way constitutes a waiver by the City of any rights or remedies existing under this Contract, at law or in equity.
6. You must submit in writing any claim for extension of time to the Commissioner not more than five days after the delay begins, otherwise the claim is waived. Any claim for extension of time must (i) state the cause of the delay; (ii) specifically demonstrate the impact of the delay on the Schedule; and (iii) state the number of extension days requested. If the cause of the delay is continuing, only one claim is necessary, but you must report, in writing, the cessation of the cause for the delay within 10 days after the termination. Any claim for extension of time that does not comply with this provision constitutes a waiver by you of your rights to any such extension.
7. After receipt of a timely and properly completed request for a time extension, the City may (i) grant a time extension for the entire length of the delay; (ii) grant a time extension for a portion of the extent of the delay; or (iii) deny the time extension.
8. If you do not agree with the City's decision on a claim for time extension, you may appeal the ruling to the Chief Procurement Officer under Article XX, "Claims and Disputes," but only if you have complied with the notice requirements provided in these Terms and Conditions for Construction and the time extension request exceeds five

calendar days or the liquidated damages exceed \$10,000. The Commissioner's decision is final whenever the time extension request is for a duration of less than five days or the liquidated damages are less than \$10,000.

H. Suspension of Work

The Commissioner has authority to suspend the Work wholly, or in part, for such period of time as the Commissioner may deem necessary due to conditions unfavorable for the satisfactory prosecution of the work, or to conditions that, in the Commissioner's opinion, warrant the action or for such time as is necessary by reason of failure on your part to carry out orders given or to perform any or all provisions of the Contract. No additional compensation will be paid to you because of any costs caused by the suspension when the suspension is ordered for reasons resulting from any action or omission on your part or is related to utility adjustments, railroad work, work by other contractors on or near the Work covered by the Contract, or unforeseeable weather conditions.

I. Liquidated Damages

1. If the Work is delayed, you are liable for liquidated damages for every day you fail to achieve the Contract Completion Date (or any milestone completion date that provides for liquidated damages), but only if the delay is not the result of an excusable cause permitted under Section XI.G.2, "No Damages for Delay and Extensions of Time." The specific amount of liquidated damages for which you are liable is set forth in Book 2 of this Contract.
2. The City will recover liquidated damages by deducting the amount thereof out of any moneys due or that may become due you. If the moneys are insufficient to cover the damages, then you or your surety must pay the amount due. Nothing contained in this Section is to be construed as limiting the right of the City to recover from you all amounts due or to become due, and all costs and expenses sustained by the City for improper performance under this Contract, repudiation of the Contract, failure to begin work on the date of commencement, or failure to perform the Work with adequate forces, equipment or materials or other resources, or breaches in any other respect, including defective workmanship or materials. In addition to liquidated damages for failure to meet any milestones, you are liable to the City for any other damages sustained as the result of your refusal or failure to perform the Work.
3. If the City permits you to continue to perform Work despite your failure to meet any milestone date set forth in the Contract, the action in no way constitutes a waiver by the City of any rights or remedies that exist under this Contract, at law, or in equity.

XII. MEETINGS

A. Pre-Construction Meeting

Before beginning Work, the Commissioner may conduct a Pre-Construction meeting. Your representatives and Subcontractors must attend. The purpose of the meeting is to establish lines of authority and communication and the identification of duties and responsibilities of the organizations. Discussion will cover specific contract plans, specifications, unusual conditions, schedules of completion, and other features of the Contract. The Commissioner may conduct additional coordination meetings at his discretion.

B. Weekly Review Meetings

The Commissioner may conduct weekly review meetings. At a minimum, your project manager and superintendent must attend. However, you must arrange for Subcontractors to attend the meetings if expressly requested by the Commissioner. The meetings may include the following:

1. Review of Work progress since the previous weekly review meeting;
2. Discussion of field observations, problems and decisions;
3. Review of off-site fabrication problems and other problems affecting in the Contract Time;
4. Review of equipment deliveries;
5. Discussion of corrective measures and procedures to achieve the CPM Schedule;
6. Review of submittal schedules and effect on the CPM Schedule;
7. Review of proposed Contract changes and effect on the construction schedule;
8. Coordination requirements;
9. Clarifications and decisions required of the Commissioner;
10. Review of your forces on the Work; and
11. Review of Project Record Document status and content.

C. Monthly Review Meetings

The Commissioner may conduct monthly review meetings. At a minimum, your project manager and superintendent must attend. However, you must arrange for Subcontractors to attend the meetings if expressly requested by the Commissioner. The meetings may include the following:

1. Review of Work progress since the previous monthly review meeting;
2. Discussion of field observations, problems and decisions;
3. Review of off-site fabrication problems and other problems affecting the CPM Schedule;

4. Review of equipment deliveries;
5. Discussion of corrective measures and procedures to achieve completion in the Contract Time;
6. Review of submittal schedules and effect on the CPM Schedule;
7. Review of proposed Contract changes and effect on the Schedule;
8. Coordination requirements;
9. Clarifications and decisions required of the Commissioner;
10. Review of your forces on the Work; and
11. Review of Project Record Document status and content.

XIII. PAYMENTS

A. Contract Price

The "Contract Price" is the total dollar amount of your bid accepted by the City, including approved change orders. It includes all labor, equipment, materials, permits, licenses, fees, and taxes necessary to perform the Work. In the case of a lump sum Contract Price or lump sum line item, you must provide the Commissioner with a breakdown that includes a schedule of costs for the various parts of the Work included in the lump sum. The total of these costs must equal the lump sum Contract Price or lump sum line items, as applicable.

The breakdown must be submitted in such form and detail, and supported as to correctness by such data, as the Commissioner may direct. The City will make no payment to you until you have submitted the breakdown and the Schedule required by Article XI, "Schedule," and the Commissioner has approved them. The breakdown may be used for verifying monthly progress payments upon substantiation of the costs detailed and the progress of the Work.

For unit price line items, measurement and payment is as specified in the Detailed Specifications.

B. Procedure for Monthly Payment Requests and Final Payment

1. You and the City will agree upon a payment schedule of at least once per month, or more frequently if appropriate or if specified elsewhere in the Contract. The Commissioner will process payment requests pursuant to that agreement if your payment requests, in the Commissioner's sole judgment, are acceptable in form and content, and if the Work for which payment is being requested has been completed according to the terms and conditions of this Contract. All payment requests are subject to correction by the Commissioner.
2. In cases where you proceed to perform and complete the Work properly under the Contract, progress payments will be processed on a monthly basis unless the amount earned is greater than \$1,000,000, then payments may be made twice a month. The payment period ends on the monthly anniversary date of the Notice to Proceed.

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3. Each monthly payment request must include one original and two copies of the following:
 - a. Certified Statement. You must submit certified statement(s) (signed by an authorized individual and notarized) for each payment request; the statement, in the form acceptable to the Commissioner, must list the following for you and for each Subcontractor and supplier for the period for which payment is requested:
 - (1) the name and business address of the particular Subcontractor or supplier;
 - (2) description of the work performed and/or product supplied;
 - (3) [intentionally omitted]
 - (4) the total amount of the particular subcontract;
 - (5) the amount previously paid to the Subcontractor and the dates paid;
 - (6) the amount of the monthly pay request you will pay to each individual Subcontractor and/or supplier from payments you receive on the request, and the dates those amounts were invoiced or requested by the Subcontractor or supplier;
 - (7) the balance remaining under the subcontract to complete the Work.
 - b. Partial Waivers of Lien to Date and Affidavit for Payment. Following your first payment request, you must submit Partial Waivers of Lien from all Subcontractors and suppliers that performed services and provided supplies during the month before your previous payment request. The Partial Waivers of Lien must be in a form acceptable to the City and must identify, at a minimum, the payment request number and time period covered. The Partial Wavier of Lien must be in dollar amount equal to the dollar amount of the services performed or supplies provided by the Subcontractor or supplier during the relevant time period. With every payment request, you must also submit an Affidavit for Payment from all Subcontractors and suppliers for whose services or supplies you request payment. The Affidavit for payment must be in a form acceptable to the Commissioner and identify, at a minimum, the payment estimate number, the time period covered, and the total amount invoiced by the Subcontractor or supplier, and the total amount paid to the Subcontractor or supplier to date; and
 - c. [Intentionally Omitted]
 - d. Certified Payrolls. You and all Subcontractors working on the job site must submit three copies of certified payrolls for the payment period to the Commissioner every week until all Work is completed. All payrolls must be identified with Contractor or Subcontractor's name, as appropriate, Contract name and be sequentially numbered. If there are periods of no Work by you or a Subcontractor, you must submit a payroll labeled "NO WORK." The final payroll must be clearly labeled "FINAL". Certified payrolls are required to assure EEO compliance as well as wage compliance. Race, worker classification, and gender must be clearly marked for each employee on the certified payroll along with all additional information required by the Chief Procurement Officer. An employee's address should appear every time

his or her name appears on the payroll. You must submit the certified payrolls and additional information regarding EEO and wage compliance by providing a Payroll Summary Report in the form required by the Chief Procurement Officer. You and each Subcontractor must submit the EEO report forms required by the City and U.S. Department of Labor reflecting fully the periods of Work covered by the partial payment request. When directed, Contractor shall be required to submit payrolls electronically using the City's certified payroll and reporting system.

- e. In April 2004, the Chicago City Council passed an ordinance requiring the City to report payments to subcontractors and suppliers on the City's website. This ordinance applies to all City-funded, construction-related contracts awarded after June 28, 2004. In order to comply with this new ordinance, contractors meeting these criteria will be required to declare subcontractor payments with each invoice submitted. This reports the intended payments from prime contractors to subcontractors and suppliers from the invoice. The Subcontractor Payment Certification Form can be downloaded from the City's website at www.cityofchicago.org/finance/subcontractorform. The information from this form will be recorded in the City's financial system and posted on the City website.

C. Payment for Stored Material

1. Whether stored on- or off-the job site, the risk of loss for stored material will remain with you, and you must insure the stored materials against the risk of loss, theft or damage until its installment in the Work.
2. Payment for material stored on the job site will be 100% of a valid invoice. No payment will be made for materials stored off the job site unless otherwise authorized by the Commissioner in accordance with Section XIII.C.3. If Materials stored on the job site cannot be incorporated in the finished Work within a reasonable period of time you may include them in the monthly progress payment, but only if the following documents are submitted with the request for payment:
 - a. Paid invoices showing the cost of material or equipment;
 - b. Waiver of lien from the supplier indicating that the cost of the material or equipment was paid; and
 - c. Inspection tickets showing that material or equipment had been inspected and accepted by the City.
3. Payment for material stored off-site, if authorized, will be 100% of a valid invoice when you have provided the Commissioner with the documents and assurances listed and complied with the requirements below:
 - a. A paid invoice from the supplier showing the unit, quantity, description of the material or equipment and costs;
 - b. A waiver of lien from the supplier for the total amount of the material purchased;
 - c. Inspection for all of the material stored;

- d. A certified statement giving the exact location of the materials or equipment, stating that:
 - (1) you have inspected all of the material stored and that it is complete and in good condition;
 - (2) the materials are suitably stored and maintained at a bonded, secure and environmentally appropriate location that the Commissioner has agreed upon and subject to the conditions required or established by him;
 - (3) you have complied with procedures satisfactory to the Commissioner to establish the City's title to the materials or otherwise protect the City's interest in them, including, insurance, storage and transportation to the Project site for the materials stored off-site, as the Commissioner may reasonably require;
 - (4) the materials, equipment and associated fabricated components will not be diverted away from the Project;
 - (5) a certificate of insurance coverage for the stored material upon which payment is requested;
- e. Immediately upon receipt of payment for the material, you must prepare and execute all documents required to transfer title to the City, including, any Uniform Commercial Code documentation necessary to perfect transfer of title; and
- f. All material and Work covered by payments will thereupon become the sole property of the City, subject to your obligation to insure it until Acceptance of the Work.

D. Retainage

Pursuant to § 2-92-250 of the Municipal Code, specifically paragraph A.1., the Chief Procurement Officer in consultation with the Chicago Department of Transportation has made a finding that holding retainage for this contract is not in the best interest of the City.

E. Payments Withheld

- 1. The Commissioner may decline a request for payment if, in the Commissioner's sole opinion, the request for payment is not adequately supported. If you and the Commissioner cannot agree on a revised amount, the Commissioner must process the payment in the amount he deems appropriate.
- 2. The Commissioner may decline to process any payment or may rescind in whole or in part any approval previously made to the extent that may be necessary in his sole opinion because of any failure to perform any obligation under the Contract, including:
 - a. Failure or refusal to provide the City the required initial schedule for the Work or monthly schedule updates and obtain the City's approval for either or both;
 - b. Your failure to remedy defective Work;
 - c. Your failure to make payments to Subcontractors, or employees, or provide partial waivers of lien;

- d. Your failure to maintain timely progress of the Work as stated in your schedule, or the City's determination that the Work will not be completed within the Contract Time, or your failure to carry out the Work in accordance with the Contract;
 - e. Failure to follow the City, State, Federal, or Contract safety and security requirements;
 - f. Failure to maintain insurance policies as required by the Contract and/or to provide to the Commissioner each evidence of insurance coverage, in the form of current certificates of insurance, as he or she may require;
 - g. Failure to comply with other requirements as referenced in the Contract;
 - h. Failure to provide certified payrolls or other documents required under Section XI.G, "No Damages for Delay and Extensions of Time."
 - i. Failure to provide material inspections as required by the Contract; and
 - j. Failure to provide contract deliverables such as, accurate Record Drawings, warranties, guarantees, manuals, etc.
3. Pursuant to § 2-92-270 of the Municipal Code, the Chief Procurement Officer may, in his sole discretion, direct that no further payments be made, or vouchers or estimates issued to you, if he determines that you have failed to pay any Subcontractor, employee or worker for Work performed under this Contract. The City may withhold payment until you demonstrate, to the satisfaction of the Chief Procurement Officer, that payments to the Subcontractors, employees or workers have been made in full.

If the Chief Procurement Officer gives you notice under Section XXIII.H that no further vouchers or estimates will be issued or payments made on the Contract until the Subcontractors, workers, and employees have been paid, and you neglect or refuse for a period of 10 days or more after notice was given to pay those Subcontractors, workers or employees, the Chief Procurement Officer may apply any money due, or that may become due, under the Contract to the payment of those Subcontractors, workers or employees without further notice to you and the effect will be the same, for purposes of payment to you of the Contract Price, as if the City had paid you directly.

The failure of the City, however, to retain and apply any money, or of the Chief Procurement Officer to order or direct that no vouchers or estimates be issued or further payments made, will not, nor will the paying over of the reserved percentage without the Subcontractor, workers, or employees being first paid, in any way affect your liability or that of your sureties to the City, or to any such Subcontractor, worker or employee upon any bond given in connection with this Contract.

4. Debts; Outstanding Parking Violation Complaints

In accordance with § 2-92-380 of the Municipal Code, and as otherwise permitted by law, in addition to any other rights and remedies (including any set-off) available to the City under the Contract or permitted at law or in equity, the City is entitled to set off a portion of the Contract price or compensation due under the Contract, in

an amount equal to the amount of the fines and penalties for each outstanding parking violation complaint and the amount of any debt owed by the contracting party to the City. For purposes of this provision, the terms "outstanding parking violation complaints" and "debt" are defined in the Municipal Code as are the conditions under which no set-off will be made.

5. Provisions Relating to Liens

Contractor will notify Subcontractors that no mechanic's lien under the Illinois Mechanics' Lien Act, 770 ILCS 60/23, *et seq.*, will be permitted to arise, be filed, or maintained against public funds, the Project, or any part of it, or any interest in them, or any improvements on them, or against any monies due or to become due to Contractor on account of any work, labor, services, materials, equipment, or other items performed or furnished for or in connection with the Project to the extent permitted by law. Contractor, for itself and its Subcontractors, expressly waives, releases, and relinquishes such liens and all rights to file or maintain such liens; and Contractor further covenants that this waiver of liens and waiver of the rights to file or maintain such liens is an independent covenant.

If any of Subcontractors, employees, officials, agents, or any other person directly or indirectly acting for, through, or on their behalf files or maintains a lien or claim under the Illinois Mechanic's Lien Act, 770 ILCS 60/23, *et seq.*, against public funds or against any monies due or to become due to Contractor on account of any Work, labor, services, materials, equipment, or other items performed or furnished for or in connection with the Project, Contractor must cause such liens and claims to be satisfied, removed, or discharged within 30 days from the date of filing. The City may extend the 30 day period if (i) the City determines that the lien claim cannot be so satisfied, removed, or discharged in such period and (ii) Contractor, in the City's sole determination, is proceeding diligently to cause such liens or claims to be satisfied, removed or discharged. The City has the right, in addition to all other rights and remedies provided under this Contract or by law, to cause such liens or claims to be satisfied, removed, or discharged by any means at Contractor's sole cost, such cost to include reasonable legal fees.

6. The City's rights under this Section XIII.E, "Payments Withheld," are cumulative with any other rights provided for under this Contract. Failure by the City to exercise any such right afforded in this Contract, or at law or in equity, will not constitute a waiver of that right.

F. Prompt Payment to Subcontractors

1. Payment Within Seven Days. The Contractor must make payment to its Subcontractors **within 7 days** of receipt of payment from the City for each invoice, but only if the Subcontractor has satisfactorily provided goods or services or completed its work or services in accordance with the Contract Documents and provided the Contractor with all of the documents and information required of the Contractor. The Contractor may delay or postpone payment for a to a Subcontractor when the Subcontractor's work or materials do not comply with the requirements of the Contract Documents, the Contractor is acting in good faith, and not in retaliation for a Subcontractor exercising legal or contractual rights.

2. Liquidated Damages for Failure to Promptly Pay. Much of the City's economic vitality derives from the success of its small businesses. The failure by contractors to pay their subcontractors in a timely manner, therefore, is clearly detrimental to the City. Inasmuch as the actual damages to the City due to such failure are uncertain in amount and difficult to prove, Contractor and City agree that the Chief Procurement Officer may assess liquidated damages against contractors who fail to meet their prompt payment requirements. Such liquidated damages shall be assessed to compensate the City for any and all damage incurred due to the failure of the Contractor to promptly pay its subcontractors, and does not constitute a penalty. Any and all such liquidated damages collected by the City shall be used to improve the administration and outreach efforts of the City's Small Business Program.

3. Reporting Failures to Promptly Pay. The City posts payments to prime contractors on the web at:

<http://webapps.cityofchicago.org/VCSearchWeb/org/cityofchicago/vcsearch/controller/payments/begin.do?agencyId=city>.

If the Contractor, without reasonable cause, fails to make any payment to its Subcontractors and material suppliers within 7 days after receipt of payment under a City contract, the Contractor shall pay to its Subcontractors and material suppliers, in addition to the payment due them, interest in the amount of 2% per month, calculated from the expiration of the 7-day period until fully paid.

In the event that a Contractor fails to make payment to a Subcontractor within the 7-day period required above, the Subcontractor may notify the City by submitting a report form that may be downloaded from the DPS website at:

http://www.cityofchicago.org/content/dam/city/depts/dps/ContractAdministration/StandardFormsAgreements/Failure_to_Promptly_Pay_Fillable_Form_3_2013.pdf

The report will require the Subcontractor to affirm that (a) its invoice to the Contractor was included in the payment request submitted by the contractor to the City and (b) Subcontractor has not, at the time of the report, received payment from the contractor for that invoice. The report must reference the payment (voucher) number posted on-line by the City in the notice of the payment to the contractor.

Subcontractors are hereby reminded that per Chapters 1-21, "False Statements," and 1-22, "False Claims," of the Municipal Code of Chicago, making false statements or claims to the City are violations of law and subject to a range of penalties including fines and debarment.

4. Action by the City. Upon receipt of an electronic report of a failure to pay, the City will issue notice to the contractor, and provide the contractor with an opportunity to demonstrate reasonable cause for failing to make payment within applicable period set forth in the Contract. The Chief Procurement Officer, in his or her sole judgment, shall determine whether any cause for nonpayment provided by a contractor is reasonable. In the event that

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the contractor fails to demonstrate reasonable cause for failure to make payment, the City shall notify the contractor that it will assess liquidated damages. Any such liquidated damages will be assessed according to the following schedule:

First Unexcused Report:	\$50
Second Unexcused Report:	\$100
Third Unexcused Report:	\$250
Fourth Unexcused Report:	\$500
Fifth and Each Succeeding Unexcused Report:	\$1,000

The liquidated damages set forth above shall be assessed per unexcused report per contract, i.e., each successive report regarding a contractor's failure to pay under this Contract will be assessed liquidated damages, regardless of which subcontractor files the unexcused report(s).

By executing this Agreement, Contractor acknowledges and agrees that the City may collect such damages by deducting any amount due to the City from the next payment to be made to the Contractor. In the event that no further payments are due to Contractor, Contractor agrees to promptly pay such liquidated damages as it may owe to the City. Failure to make such payment within thirty (30) days of receipt of notice of the assessment of liquidated damages may result in Contractor being debarred from participating in City contracts for a period of not less than one year.

Contractors are reminded that each unexcused failure to pay promptly is an event of default under the Contract and, in addition to the liquidated damages provided for in this Section, is subject to the remedies found in Section XX.C of this Contract. Contractors are further reminded that per Section 2-92-270 of the Municipal Code of Chicago, failure to pay subcontractors as required by law and the Contract may result in the City suspending payments to Contractor and making direct payments to such subcontractors. Any such direct payments shall be from funds due and owing to the contractor.

5. Whistleblower Protection. Contractor shall not take any retaliatory action against any subcontractor for reporting non-payment pursuant to this Section F. Any such retaliatory action is an event of default under this Contract and is subject to the remedies set forth in Section XX.C hereof, including termination. In addition to those remedies, any retaliatory action by a contractor may result in a contractor being deemed non-responsible for future City contracts or, if, in the sole judgment of the Chief Procurement Officer, such retaliatory action is egregious, the Chief Procurement Officer may initiate debarment proceedings against the contractor. Any such debarment shall be for a period of not less than one year.

6. If the Chief Procurement Officer determines that the circumstances pertaining to a contractor's failure to pay promptly warrant excusing such non-performance, or determines that excusing such non-performance is in the best interests of the City, the Chief Procurement Officer may waive any of the remedies provided in this Section F. Each such

waiver is discrete, non-precedential and does not constitute a waiver of any subsequent remedies against a contractor who fails to comply with the terms and conditions set forth herein.

G. Payment for Changes

1. **Payment for Changes.** The amount to be paid by the City for changes (additions, deletions or revisions) in the Work or directions to change the Contract Time, will be made in accordance with Sections XIII.G.1.a through XIII.G.1.f below.
 - a. **Unit Price Basis.** Should the changes in the plans result in an increase or decrease in the quantities of unit priced Work to be performed, you will accept payment as follows:
 - (1) All increases in the Work of the type that appears in the Contract as unit price items will, except as provided in Section XIII.G.1.b., "Proposal Basis," be paid for at the Contract unit bid prices. Decreases in quantities included in the Contract will be deducted from the Contract value at the unit bid prices. No allowances will be made for delays or anticipated profits.
 - (2) Quantities in excess of 125% of the bid quantities, when the total dollar value of the unit price item exceeds 5% of the original Contract bid amount, will be paid for at a negotiated unit price based on costs that are demonstrated by you and agreed to by the Commissioner, subject to the approval of the Chief Procurement Officer. The negotiated unit price can be higher or lower than the Bid Unit Price. Quantities in excess of 125% of the bid quantities, when the total dollar value on any unit price item does not exceed 5% of the total value of the original Contract bid amount, will be paid at the bid unit price.
 - (3) Quantities below 75% of the bid quantities, when the total value of the unit price item exceeds 5% of the Contract Price at the time of bid, will be paid for at a negotiated unit price based on costs which are demonstrated by you and agreed to by the Commissioner, subject to the approval of the Chief Procurement Officer. The negotiated unit price can be higher or lower than the Bid Unit Price. Quantities below 75% of the bid quantities, when the total value on any unit price item does not exceed 5% of the total value of the Contract Price at the time of bid will be paid at the bid unit price.
 - (4) If the Commissioner and you are unable to agree on a negotiated unit price, the Commissioner will determine a unit price, prepare a Contract Modification with the Work so priced, that you will sign. You may, however, timely dispute the amount of the unit price to the Chief Procurement Officer under Article XX, "Claims and Disputes." This is the only Contract Modification in which the release language required by Section XIV.D, "Contractor's Release," will not be included.
 - b. **Proposal Basis.** If there are no unit prices for the changed Work, the payment may be based upon a price agreed to by the City and you. The proposal submitted will be a starting point for negotiation between the City and you. You must submit any

proposal for consideration for changed Work in writing, breaking down the Work to be done into segments of cost as follows:

- (1) Labor. For all hourly wage labor and hourly wage foremen in direct charge of the specific operations, you will receive the prevailing rate of wage for every hour that the labor and foremen are actually engaged in the Work. No additional allowance or payment will be made for general superintendence. You will receive the actual costs paid to, or in behalf of, workers for health and welfare benefits, pension fund benefits or other benefits, when the amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the Work. An amount not to exceed 30% of XIII.G.1.a.(1) above and an amount not to exceed 10% of XIII.G.1.a.(2) above will also be paid to you.
- (2) Insurance and Payroll Taxes. Cost for property damage, liability, and worker's compensation insurance premiums, unemployment insurance contributions and social security taxes on the extra Work, to which an amount not to exceed 10% of the cost of these items will be added. You must furnish satisfactory evidence of the rates paid for the insurance and taxes.
- (3) Materials. For materials accepted by the Commissioner and used as an integral part of finished Work, you will receive the actual costs of the materials delivered on the job site, including transportation charges that you paid (exclusive of machinery rentals as set forth below), as shown by original receipted bills, to which 15% will be added to the first \$10,000.00 and 10% for any amounts over \$10,000.00.
- (4) Equipment. Number of proposed equipment hours multiplied by the rate as allowed by the latest revision of "Schedule of Average Equipment Ownership Expense With Operating Cost" as issued by IDOT, or in the AED Compilation of Rental Rates if equipment is to be rented, for the period that the machinery and equipment are to be used on the Work, to which no percent will be added. Where machinery and equipment are not listed in these schedules, then the rates will be determined by the Commissioner after reviewing all of your available records or other information concerning the expense of operating that type of equipment.
- (5) Cost for Increase in Performance and Payment Bond. You will furnish the Commissioner written documentation from the surety of the rate or rates applicable for additional bonding for this Contract. These rates will be applied to all the changes increasing or decreasing the Contract Price. No bonding costs will be allowed for Subcontractors. In the absence of written documentation from the surety, a percentage of the total change, as determined by the Commissioner, will be added or subtracted to cover the increase or decrease of the cost of the bond.
- (6) When Work is to be performed by a Subcontractor, the proposal may include as administrative costs for you an amount not to exceed 5% of the first \$10,000.00 and 1% of any amount over \$10,000.00 of the total approved costs of the Work. The Subcontractor, however, is not allowed any additional markup if it sublets its

Work. The use of a Subcontractor requires the approval of the Chief Procurement Officer. All subcontracted costs must be supported by proposals from the Subcontractors performing the Work. The Contractor's Subcontractor's proposal must be broken down into its various parts of Work as described in items XIII.G.1.b.(1) through XIII.G.1.b.(4) above, or as required by the Commissioner.

- c. **Time and Material Basis.** If the Commissioner and you cannot agree on a price based on a proposal, the Work will be paid for on a time and material basis. Work that is done on a time and material basis will be paid for as follows:
- (1) Labor. For all hourly wage labor and hourly wage foremen in direct charge of the specific operations, you will receive the prevailing rate of wage for every hour that the labor and foremen are actually engaged in the Work. No additional allowance or payment will be made for general superintendence.
 - (2) You will receive the actual costs paid to, or in behalf of, workers for health and welfare benefits, pension fund benefits or other benefits, when the amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the Work.
 - (3) An amount not to exceed 30% of XIII.G.1.c.(1) above and an amount not to exceed 10% of XIII.G.1.c.(2) above will also be paid to you.
 - (4) No payment will be made for labor performed on a time and material basis until you have furnished the Commissioner with itemized statements of the labor cost as follows.
 - (a) Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman.
 - (b) Certified payrolls or certified copies of them, pertinent to the Work for which payment is requested. The payroll records will contain the name, address and social security number of each employee, the employees correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid. The time and material bills will be audited and corrected against the certified payrolls. Falsification of the certified payroll is an offense punishable by law.
 - (5) Insurance and Payroll Tax. For property damage, liability, and workers compensation insurance premiums, unemployment insurance contributions and social security taxes on the time and material Work, you will receive the actual costs, to which 10% will be added. No payment will be made for insurance and payroll taxes until you have furnished satisfactory evidence of the rate or rates paid for the insurance and tax.
 - (6) Materials. For materials accepted by the Commissioner and used as an integral part of finished Work, you will receive the actual costs of the materials delivered on the job site, including transportation charges paid by him (exclusive of machinery rentals as set forth below), as shown by original receipted bills, to

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which 15% will be added to the first \$10,000.00 and 10% for any amounts over \$10,000.00.

- (7) You will be reimbursed for any materials used in the construction of the Work, such as sheeting, falsework, form lumber, burlap, or other materials for curing, etc., that are not integral part of the finished Work. The amount of reimbursement will be agreed upon in writing before the Work is begun and no percent will be added. The salvage value of the materials will be taken into consideration in the reimbursement agreed upon.
- (8) No payment will be made for material cost until you have furnished itemized statements of the material costs, which must include:
 - (a) Quantities of materials, prices, and extension;
 - (b) Material transportation costs supported by receipted invoices; and
 - (c) Receipted invoices for all materials used. However, if materials used on the time and material Work are not specifically purchased for the Work but are taken from your stock, then in lieu of the invoices, you will furnish an affidavit certifying that the materials were from your stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to you. The price quoted for the material must be reasonable and acceptable as per the normal industry practice.
- (9) Equipment. You will be paid for all machinery and equipment (other than small tools as currently defined by the Illinois Department of Transportation) used on the Work in accordance with the latest revision of "Schedule of Average Annual Equipment Ownership Expense with Operating Cost," as issued by the Illinois Department of Transportation, for the period that the machinery and equipment are in use on the Work, to which no percent will be added. Where machinery and equipment are not listed in this schedule, the rates will be determined by the Commissioner after reviewing all your available records or other information concerning the expense of operating that type of equipment. Where idle time for equipment is authorized by the Commissioner, it will be paid at a rate not to exceed 50% of the rates described above.
- (10) When equipment is rented, you will receive actual rental cost as shown by original receipted bills to which 5% will be added.
- (11) No payment will be made for equipment unless designations, dates, daily hours, rental rates, and extensions for each unit of machinery and equipment are shown on the itemized statement of time and material Work.
- (12) Bond. The City will pay you the actual increase in cost of your performance bond. You will furnish from the bonding company written documentation of the rate or rates applicable for additional bonding for this Contract. These rate/rates will be applied to all the changes increasing or decreasing the Contract value. No bonding costs will be allowed for Subcontractors. In the absence of written documentation from the bonding company, a percentage of the total change, as determined by the Commissioner,

will be added or subtracted to cover the increase or decrease of the cost of the bond.

- (13) When Work is performed by Subcontractor, you will receive as administrative costs an amount equal to 10% of the first \$10,000 and 5% of any amount over \$10,000 of the total approved costs of the Work. The Subcontractor, however, is not allowed any additional markup if it sublets its Work. The use of a Subcontractor will require the approval of the Chief Procurement Officer. All subcontracted costs must be supported by invoices from the Subcontractors performing the Work. The Subcontractors' invoices must be submitted in the form described in items (1) through (4) above.
- (14) Documentation. For additional Work performed on a time and material basis you will each day submit to the Commissioner detailed and complete records of the labor, material, equipment, and other costs relating to any force account Work performed on the day the Work is performed. You and the Commissioner will sign these daily extra Work reports.
- (15) Base Contract Work on a Premium Time Basis.
- (a) For Contract Work performed outside of regularly schedule working hours as defined by the Contract, premium time costs will be paid, only if expressly directed in writing by the Commissioner before you begin the Work. Compensation, when authorized, will cover only the direct cost of the premium portion of the time involved and will be without any charge for insurance. No payment will be made for union fringe benefits on the premium portion of the time unless expressly required by union agreement. Taxes that are attributed to the premium portion of the time will be paid. If you seek to charge taxes, the Commissioner may require you to supply verification that the employees' Social Security Tax, Federal Unemployment Tax, and State Unemployment Tax limits have not been exceeded.
- (b) An amount equal to 7% of the sum of the premium portion of the work plus taxes will also be paid to you to cover job site general conditions, overhead, and profit. All indirect costs are considered part of the overhead, including supervision, engineering, and other technical personnel.
- (c) If you enter into a subcontract, you will be allowed an additional 2% of the Contractor's Subcontractor's premium time billing to cover your supervisory and related expense on subcontract operations. The Subcontractor is not allowed the additional 2% if it sublets its Work.
- (d) You must keep Daily Work Reports for the premium time hours signed by you and the Commissioner. The reports must indicate the time of day when the Work was performed and wage rate differential that will be charged. Billings must reflect hours reported on Daily Work Reports.
- d. **Changes on Lump Sum Contracts or Lump Sum Items in Unit Priced Contracts.** All increases or decreases in the Work that is listed in the approved schedule of values will be priced, for the purpose of any change, based on the amounts stated for the Work in the approved schedule of values.

- e. **All invoices for changed work.** You must submit all invoices for changed work within 45 days following completion of the changed work. Failure to provide a complete invoice for the changed work within that period, will authorize the Commissioner, subject to the approval of the Chief Procurement Officer, to determine the final amount for the Contract Modification that may be awarded without your signature.
- f. **Miscellaneous.**
 - (1) For the purposes of this Section, any business entity which employs field labor and performs Contract Work on the job site is defined as a Subcontractor.” (This definition excludes suppliers/deliverers of materials.)
 - (2) When the extra Work involves only supply of material without any field labor at the job site, the supplier, for the purposes of this Section, will be considered a “Materials Subcontractor” and the mark up specified in Section XIII.G.1.c (6), “Materials,” will apply.
 - (3) Expenses incurred by the City. Upon written request of the Commissioner, you will pay the costs related to the Work that are the responsibility of the City. You will be reimbursed for the actual amount paid out to which will be added a markup as specified in Section XIII.G.1.c above.

2. Change Claims:

- a. If you and Commissioner are unable to agree on the price and/or time extension in connection with a change, you must, within 15 days of completing the changed work, provide written notice to the Commissioner of the amount of money and/or time extension sought by you and the Contractual and factual basis for each. You will designate the document Notice of Claim.
- b. The Commissioner will, within 30 days from receipt of the Notice of Claim, respond by requesting a meeting with you, making a written request for additional information from you, including a general statement of the basis for the claim, the facts underlying the claim, the notice to the Commissioner of the change that gave rise to the claim, reference to the applicable Contract provisions, and all documentation that describes, relates to and supports the claim; taking other action to attempt to resolve the Notice of Claim, and/or advising you in writing that it should file a claim under Article XIX, “Claims and Disputes.” Any steps taken by the Commissioner to resolve the Notice of Claim will not exceed 60 days from receipt of the Notice of Claim unless you agree to an additional amount of time in writing.
- c. If the Notice of Claim cannot be resolved as provided for in Section XIII.G.2, you must follow the requirements of Sections XX.B and C, “Claims” and “Disputes.”
- d. If you do not agree with the adjustment for time and/or money proposed by the Commissioner, you must follow the procedures set out by the Contract to file a claim and/or dispute as provided in Article XX, Failure to follow the procedures set out by the Contract to file a claim and/or dispute as provided in Article XX, constitutes a waiver of the right to make a claim or file a Dispute to the Chief Procurement Officer. In the event of your waiver, you may file a Dispute under Section XX with the Chief

Procurement Officer seeking a final decision as to the adjustment for the changed work.

H. Night, Sunday and Holiday Work

Whenever you are permitted to perform Work at night, or on Sundays or State or Federal holidays, or to vary the period of hours during which any work is carried on each day, you must give written notice to the Commissioner, at least 24 hours in advance, so that proper inspection may be provided. The Work will be done under regulations to be furnished in writing by the Commissioner, and no extra compensation will be allowed therefore.

I. Acceleration

1. If progress falls behind the approved schedule, the Commissioner may direct and authorize you, in writing, to perform premium time work as indicated in TIME OF COMPLETION in the Proposal section of the specifications. No additional compensation will be paid for such premium time work and the cost incurred for inspection and testing during the premium time work will be considered as "extra" inspection, and reimbursement will be provided by you as described in Section XV.C, "Materials and Equipment Testing and Inspection."
2. If conditions are encountered where you are specifically directed and authorized in writing by the Commissioner to perform premium time work, on the original contract, to advance an already established completion date of an event or the project, or project milestone, you will be compensated in accordance with Section XIII.G.c (15).
3. When the premium time Work is performed by approved subcontractor, you will receive a markup as specified in Section XIII.G.c (15). of the Contract.

J. Payroll Canvass Reports

[This section deliberately omitted]

K. Electronic Ordering And Invoices

The Contractor will cooperate in good faith with the City in implementing electronic ordering and invoicing, including but not limited to catalogs, purchase orders, releases, and invoices. Contractor will accept electronic purchase orders and releases upon request of the Chief Procurement Officer. Contractor will provide the City electronic catalogs, copies of invoices and other electronic documents upon request. The electronic ordering and invoice documents will be in a format specified by the City and transmitted by an electronic means specified by the City. Such electronic means may include, but are not limited to, disks, e-mail, EDI, FTP, web sites, and third party electronic services. The Chief Procurement Officer reserves the right to change the document format and/or the means of transmission upon written notice to the Contractor. Contractor will ensure that the essential information, as determined by the Chief Procurement Officer, in the electronic document, corresponds to that information submitted by the Contractor in its paper documents. The electronic documents will be in addition to paper documents required by this Contract, however, by written notice to the Contractor, the Chief Procurement Officer may deem any or all of the

electronic ordering and invoice documents the official documents and/or eliminate the requirement for paper ordering and invoice documents.

XIV. CHANGES IN THE WORK

A. City's Right to Change Work

The Chief Procurement Officer and the Commissioner reserve the right to jointly order, in writing, changes in the Work or the Contract Time without prior notice to your surety. You are obligated to perform in a timely manner the changed Work included in the written notice from the Chief Procurement Officer and Commissioner. These changes may consist of additions, deletions, or other revisions, at the discretion of the City. You must begin the changed work upon receipt of a Field Order, signed by the Commissioner, with the prior written approval of the Chief Procurement Officer, unilaterally directing changes in the Work or Contract Time.

B. Contractor's Request

Within 14 days of receipt of the written notice from the Commissioner, you must submit to the Commissioner a written request for adjustment to the Contract Price and/or Contract Time for the revised Work.

C. Contract Modification

The final provisions of the Proposed Contract Modification, including the adjustment in the Contract Sum and/or the Contract time, if any, will be incorporated into a written Contract Modification signed by the City and you.

D. Contractor's Release

All Contract Modifications constitute a full release of the City from any liability for any additional compensation or extension of time arising or resulting from the Work performed pursuant to the Contract Modification. By executing a Contract Modification, you accept the compensation and/or time extension provided in it in full accord and satisfaction for that Contract Modification, and you expressly waive, release and relinquish all additional claims and demands relating to or arising out of the matters covered by that Contract Modification, including direct or indirect cost, profit, or damages related to disruptions.

E. Performance of Changed Work

You must promptly proceed with any changes in the Work or Contract Time as directed by a written order of the Commissioner ("Field Order"), in accordance with Section XIV.A., "City's Right to Change Work," with or without any Contract Modification. Your refusal or failure to proceed promptly with the changed Work as directed constitutes an event of default under the Contract. No change to the Work by you as directed by the Commissioner will operate to invalidate the Contract or release your surety.

F. Change Claims and Disputes

If you and Commissioner are unable to agree on the price and/or time extension in connection with a change, the procedures set forth in Article XX, "Claims and Disputes," will govern.

XV. TESTING & INSPECTION

A. Material, Inspection and Responsibility

The City has the right to inspect all materials, equipment and each part or detail of Work, at any time, to be used in carrying out this Contract. The City does not assume any responsibility for the availability of any materials or equipment required under this Contract. You are responsible for all materials, components and completed Work furnished under this Contract. The City may reject materials, components or completed Work not complying with the terms and provisions of this Contract and you must replace it or them at no additional cost to the City. You must promptly remove any rejected materials or components rejected from the City's premises at no additional cost to the City after you receive notice from the City that the materials or components have been rejected.

B. Inspection of the Work

1. All materials and equipment and each part or detail of the Work are subject at all times to inspection by the Commissioner or the Commissioner's authorized representatives. You are held strictly to the requirements of the Contract with respect to quality of materials, workmanship and the diligent execution of the Contract. Inspection may include mill, plant, shop and field inspection of any material or equipment furnished and any installation and construction under the Contract. You must allow the Commissioner and his representatives access to all parts of the Work and furnish such information and assistance as may be required to make a complete and detailed inspection.
2. All tests performed by or at the direction of the Commissioner under this Contract are to verify that the materials you are providing meet the Contract requirements. You, at your own expense, may perform or have others perform similar tests for the purpose of maintaining the quality of the material being provided. Payment will not be made for uninspected or unauthorized use of materials incorporated into the Work.
3. You must remove or uncover such portions of the finished Work as the Commissioner may direct before acceptance. After the examination, you must restore the portion of the Work to the standard required by the Contract. If the Work thus exposed or examined proves acceptable, the City will pay the expenses of uncovering, removing and/or replacing the parts as extra work, but if the Work so exposed or examined is unacceptable, you must bear the expense of uncovering, removing and/or replacing of it in accordance with the Contract.
4. Except as may be otherwise specified in other sections of the Contract, the Commissioner will make final inspection of all Work included in the Contract as soon as possible after you notify him that the Work is substantially completed and ready for acceptance. If the Work is not acceptable to the Commissioner at the time of the

inspection, he or she will inform you as to the particular defects to be remedied before the Work is accepted as substantially complete.

C. Materials and Equipment Testing and Inspection

1. You must provide the Commissioner sufficient notice of placing orders to permit tests to be completed before the materials are incorporated into the Work. You must afford such facilities as the Commissioner may require for collecting and forwarding Samples and making inspections and test. All Samples must be furnished without charge to the Commissioner. You must not make use of or incorporate into the Work the materials represented by the Samples until tests have been made and the materials have been found to be in accordance with the requirements of the Contract.
2. For materials that are integral parts of machinery or equipment or of parts of equipment that you or your Subcontractor normally stock, you must furnish the original and one copy of certified tests made at the time of production. You will keep the original and the Commissioner will retain the copy.
3. You must assure that the Commissioner has free entry, at all times while Work is being performed, to all parts of the manufacturer's works that concern the manufacture of the material or equipment ordered. The Commissioner must be permitted to examine all components and subassemblies. Assemblies and parts must be numbered for identification. You must provide the Commissioner with a detailed production schedule before the first inspection. After review of the schedule, the Commissioner will inform you of the methods, extent of inspection, facilities desired and date of inspection. You will afford the Commissioner without charge, all facilities necessary to determine that the material or equipment furnished are in accordance with the Contract. Test and inspection may be at the place of manufacture before shipment.
4. If for any reason, the City elects not to make the tests, the Commissioner may direct you to make the necessary tests. You must furnish a certification of the ordered tests after completion. The Commissioner reserves the right to inspect and reject all materials or equipment that were previously inspected and accepted at the place of manufacture or source of supply, after they were delivered to the Work site, if the materials or equipment do not meet the requirements of the Contract.
5. When an inspection trip is terminated due to insufficient materials, unacceptable quality, Contractor labor problems, or Contractor equipment problems, you must pay the City its costs for any additional inspection trip.
6. The Contract documents may require you to include the cost of travel and living expenses for a specific number of City employees and/or other persons for a specific test. The manufacturer or you must furnish a certification of the ordered tests after completion. The Commissioner reserves the right to reinspect and reject all materials or equipment that have been previously inspected and accepted at the place of manufacture or source of supply, after they have been delivered to the site if the materials or equipment do not meet the requirements of the Contract.
7. Unless otherwise provided, all materials will be sampled and tested in accordance with the latest published standards and methods of the American Society for Testing and Materials (ASTM) and any revisions of them. If there are no ASTM standards that apply,

applicable standard methods of other recognized standardizing agencies will be used. You must provide the name and qualifications of any such standardizing agency to the Commissioner for review and approval.

D. Testing Laboratory Labels

You must submit all equipment containing electrical wiring to the City for acceptance before installation. All electrical components that you furnished and installed or assemble under this Contract must be approved and so labeled by one of the following Testing Laboratories:

1. Underwriters' Laboratories (UL)
2. Canadian Standards Association (CSA)
3. Electrical Testing Laboratory of New York (ETL)
4. Illinois Institute of Technology research Institute (IITRI)
5. American Gas Association (AGA)
6. Factory Mutual Research Corporation (FMRC)
7. Maintenance and Electrical Testing (MET)
8. American Research Lab (ARL)

Any electrical unit comprised of a number of components, assembled at the factory and considered custom made, must bear one of the above labels for the entire unit as well as for each component.

You must pay all costs in obtaining a testing laboratory label at no additional cost to the City. Any delays in completion of the Work caused by the manufacturer of equipment in obtaining the required testing laboratory labels and the City approval are not grounds for an extension of time beyond the time of completion indicated in the Contract.

XVI. CONTRACTOR PRACTICES AT SITE

A. Cooperation Among Contractors

You must conduct the Work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors within or adjacent to the Work site. You must assume all liability, financial or otherwise, in connection with this Contract, and must protect and save harmless the City from all damages or claims that may arise because of inconvenience, delay, or loss experienced due to the presence and operations of other contractors working within the limits of the Work. You must assume all responsibility for Work not completed or accepted due to the presence and operations of other contractors. You must coordinate and tie-in, where appropriate, your Work with that of others in an acceptable manner and perform the Work in proper sequence to the work of others. When other contractors cause any damage to the Work that you performed, you must file claims with the other contractors, and not against the City, and you must obtain compensation for damage directly from those other contractors.

B. Protection of Persons and Property

1. Protection of Existing Structures and Property. You must avoid causing damage to trees, plant life, sidewalks, curbs, streets, alleys, pavements, utilities, adjoining property, the work of other contractors and the property of the City and others, and must, at your own expense, repair any damage that you or any Subcontractor may cause.

You are responsible for loss or damage by fire or theft of equipment, material, or other property of the City, incurred while the equipment, material or other property is located in any field office or on the site of the Work. Further, you must repair or replace any such equipment, material or other property so lost or damaged, to the satisfaction of the Commissioner, at no additional cost to the City.

You must familiarize yourself with the requirements of local and state laws applicable to underpinning, shoring and other Work affecting adjoining property and, wherever and whenever required by law, site conditions or standard industry practice, you must shore-up, brace, underpin, secure and protect all foundations and other parts of existing structures adjacent to, adjoining and in the vicinity of the Work site that may be in any way affected by the excavations or other operations connected with the Work to be performed under this Contract.

You are responsible for the giving of all required notices to any adjacent or adjoining property owner or other potentially affected party. The notice must be served in sufficient time so as not to delay the progress of the Work under this Contract.

You must take such precautions as are necessary to insure the safety of private property owners, lessees, and their invitees against injury caused as a result of settlement or displacement of structures. You must immediately proceed with all shoring or other Work necessary to restore the private property owner's property to a safe condition. If you fail to undertake the Work within 24 hours after written notice by the Commissioner, the City may proceed to repair or restore any such structure to a safe condition, and the cost of it will be deducted from any compensation due, or that may become due to you.

If, in the prosecution of the Work, it is necessary to excavate or occupy any street, alley, or public grounds of the City, you must erect and maintain such barriers, and, during the night time, such lights as will effectively prevent the happening of any accidents or damage to life, limb, or property in consequence of such excavation or occupation of such street, alley, or public grounds. You are liable for all damage occasioned by you, your agents, employees or Subcontractors of any tier in the excavation or occupation of any street, alley, or public grounds, and you must indemnify the City pursuant to Article XIX, "Insurance, Indemnity and Bonds."

Upon Final Completion and Final Acceptance of the Work, you must remove all machinery, equipment, materials, false work, rubbish or temporary structures and leave the Work site and the premises of any private property owners in as good condition as they were before commencement of Work.

Materials and equipment necessary for the performance of the Work may only be placed, stored or allowed to occupy any space in public streets or alleys upon the written consent of the Commissioner. It is the City's intent that the operations under this Contract are conducted as far as practicable without interference with the public use of streets and alleys. All materials or equipment used in the performance of the Work must

be placed so as not to impede traffic on streets and alleys adjacent to the site of the Work, and to allow free access to all fire hydrants, water valves and manholes that are a part of electric, telephone and telegraph conduit lines, fire alarms and police call boxes in the vicinity.

In removing existing pavements, sidewalks, curbs, gutters, walls, foundations, vaults and other structures, the use of any type of impact device in a manner that might damage buildings or their foundations, or other underground structures and utilities is not permitted.

You must indemnify and hold the City harmless from any damage due to settlement or the loss of lateral support of adjacent or adjoining property and from all loss or expense and all damages for which the City may become liable in consequence of the injury or damage to adjacent and adjoining structures and their premises. Your indemnity obligations will survive the expiration or termination of this Contract and include and apply to any liabilities and duties placed upon the City as owner or occupant of the property on which the improvements provided for in this Contract are to be constructed, by the provisions of an Act entitled "An Act to Prescribe the Duty of an Owner or Occupant of Lands Upon Which Excavations are Made in Reference to the Furnishing of Lateral and Subjacent Support to Adjoining Lands and Structures Thereon." See of 765 ILCS 140/0.01 et seq.

2. Existing and Proposed Utilities. The Contract may show existing utilities lying within the limits of the Work, such as sewers, manholes, catch basins, gas lines, water lines, telephone and electrical duct lines, CTA facilities, and similar structures. The City does not guarantee the completeness or accuracy of the information regarding utilities, whether public or privately owned. You must make your own investigation to determine the existence, nature and location of all utilities at the Work site. You must verify the exact location of all utilities that may interfere with performance of the Work and must report to the Commissioner any differences from the locations shown on the Contract.

You must so arrange and conduct your Work that utilities may be removed, relocated or supported during excavation and maintained in service until the Work is completed. In addition, you must arrange and conduct your Work that utilities may be replaced, rearranged or relocated before backfill being placed. You must cooperate with the owners of those utilities in the performance of the Work.

Where existing utilities are abandoned and it is necessary to remove them due to the performance of the Work, you must remove them at no additional cost to the City, and they will become your property.

It is your responsibility to protect those existing utilities that are to remain in operation during and after completion of the Work, and any new utilities installed by others during the performance of the Work. You will be held fully responsible for any damage resulting from your performance of the Work, and will be required to repair, replace or reconstruct any utilities damaged, at your own expense, to the satisfaction of the Commissioner. The protection of the utilities as specified in this Contract must be at no additional cost to the City.

3. Utilities Outside the Limits of the Work. You must protect and maintain City-owned water lines, sewers, connections and appurtenances and all City-owned electrical

conduits, cables, vaults and appurtenances that are located entirely outside the limits of the Work in a satisfactory manner until the completion of the Work. Whenever in the performance of the Work it is necessary, because of the nature of the Work or because of your method of performing the Work, to support, remove, replace, relocate, rearrange, adjust or repair such City-owned structures located entirely outside of the excavations, you must notify the appropriate City department to perform the Work, and must cooperate with the department in preserving service. You must reimburse the appropriate City department for the cost of performing the Work at no additional cost to the City under the terms of this Contract.

4. Utility Relocation and Continuance of Service Plan. You must prepare a Utility Relocation and Continuance of Service Plan, identifying procedures, locations, time frames and affected agencies and private owners. The Plan must be submitted to the Commissioner for review within 14 days after the Notice to Proceed.
5. Cooperation with Utilities. You must cooperate with all utility companies involved in connection with the removal, temporary relocation, reconstruction, or abandonment by these agencies of all services or facilities owned or operated by them within the limits of the Work.
6. Work Performed by Others. The Work must be performed with a minimum of interference to street traffic in the area. You must coordinate your Work with that of other City contractors, with contractors employed by adjacent property owners, and with contractors employed by any other party or parties for work on utilities to insure the best progress of the Work as a whole.
7. Preservation and Protection of City Standard Bench Monuments and Survey Controls. You are responsible for the preservation and protection of all City Standard Bench Monuments, in accordance with the provisions of § 10-4-220 of the Municipal Code and Article 105.09 of the Standard Specifications, and as directed by the Commissioner. Any survey control point that you disturb or remove you must replace or reestablish to the satisfaction of the Commissioner, at no additional cost to the City. **DAMAGE TO ANY OF THE CITY STANDARD BENCH MONUMENTS WILL RESULT IN YOUR BEING PROSECUTED TO THE FULL MEASURE OF THE LAW.** The Department of Transportation will pursue the matter of compensation for damages incurred by the City resulting from your actions or your failure to act during the execution of Work on this project.
8. Protection of Streets and Traffic. You must provide all necessary barricades, signs, flags, lights and reflectors. You must assure that vehicular and pedestrian traffic on all streets, including adjacent streets, bridges, overpass structures and ramps is maintained during the performance of the Work in accordance with the requirements of the Contract.
9. Temporary Restoration of Trench Cuts. Failure to maintain the temporary restoration of trench cuts, which causes the surrounding work area to be in an impassable and/or hazardous condition thereby creating undue inconvenience and danger to area residents is an event of default under this Contract.
10. Temporary Barriers, Signs, Lights and Flaggers. You must furnish, relocate and remove portable barricades and lights, collision protection, temporary signs (including traffic and project signs) and supports as directed by the Commissioner; and furnishing all

necessary flaggers and other protection necessary for the maintenance of traffic flow in a safe and orderly fashion, as required by Article 107.14 of the IDOT Standard Specifications, except as otherwise specified in the Contract.

You must maintain, repair or replace all damaged or destroyed appurtenances referenced in the immediately preceding paragraph throughout the life of the Contract. Maintenance includes cleaning of the barricades and traffic signs by means of clean water. Flaggers must be provided whenever circumstances warrant.

The barricades must be erected, moved, repaired and repainted as required. Upon the completion of the Work, all barricades remain your property and must be promptly removed from the Work site.

11. Historical and Scientific Specimens. You must preserve and deliver to the Commissioner any specimens of historical or scientific value encountered in the Work, as directed by the Commissioner.

C. Protection of Streets, Alleys and Public Grounds

When excavating or occupying any street, alley or public grounds of the City, you must erect and maintain temporary barriers and, during the night time, lights that will effectively prevent accidents or damage to life, limb or property in consequence of the excavation or occupation of the street, alley or public grounds. You are liable for all damages as a result of the excavation or occupation of any street, alley or public grounds, or by the carelessness of you, your subcontractors, agents, employees or workers and must indemnify and hold harmless the City against all judgments rendered against it by reason thereof.

Construction Period Traffic Management Plan. You must prepare a Construction Period Traffic Management Plan consistent with the requirements of the Contract. The Plan must be submitted to the Commissioner for review within 14 days after award. You must comply with all applicable federal, state and local requirements and coordinate with Chicago Department of Transportation, Bureau of Traffic and Illinois Department of Transportation. You must also comply with the following requirements:

1. Construction staging segments must be kept as short as feasible;
2. Lane closure must be kept to a minimum, and at least one lane must remain open to vehicular traffic;
3. Intersections must remain open to traffic in both directions at all times;
4. Detours must be provided in streets as necessary and approved by the Commissioner;
5. Signage plans must be developed and implemented for all approved detours;
6. Coordinate adjustments required for traffic signals; and
7. Allow for emergency access at all times.

D. Protection of Existing Trees in the Right of Way

1. In accordance with the provisions of Chapter 10-32 of the Municipal Code you must protect all trees and shrubs at the construction site from damage. You must restore all

damaged parkways to their original condition and repair or remove and replace any trees and shrubs damaged as a result of construction activity (as determined by the Department of Streets and Sanitation, Bureau of Forestry) at your expense. If any trees or shrubs damaged by construction activity must be removed and replaced, and trees or shrubs of comparable size, type, and value are unavailable or the time for planting is unsuitable, the City will charge you their appraised value determined as provided under § 10-32-200 of the Municipal Code, which amount the City will deduct from amounts due you, or, if no amounts are due, then you must promptly pay the City the amounts determined. Any tree greater than 4" D.B.H. that is permanently damaged due to the construction project and not originally marked for removal must be replaced with a new tree as identified by the Bureau of Forestry and must have a minimum of 4" caliper B&B. Any damaged tree smaller than 4" caliper measured 6" above the ground must be replaced in kind, inch for inch.

2. You must install a **protection barrier or temporary fence** of at least 1.2m (4 feet) in height around each tree to be *protected and preserved*. *The tree protection* must be installed before the actual construction starts and maintained for the duration of the project.

Within this protection zone, you must prevent construction materials from being stored, equipment from being operated and temporary storage buildings or work trailers from being placed.

The protection barrier must be constructed of orange snow fencing securely fastened to fence posts spaced a maximum of 1.5 m (5 feet) on center. Posts are 1.8m (6 feet) in length with 61 cm (2 feet) set into the ground and 1.2m (4 feet) extending above ground. The fencing must be attached to the post with a minimum of four nylon locking ties evenly spaced at each post.

Dimensions of the **protection barrier** are as follows:

Trees located in Tree Pits: Where trees are located within Tree Pits, the temporary fencing should be installed at a minimum distance of the inside dimension of the Tree Pit opening with one stake at each corner of the opening.

Trees located in Parkways or Boulevards:

Small Trees (<9" D.B.H.): Minimum 1.5m (5 feet) from face of tree along the parkway length. In the dimension bordered by the public sidewalk or curb, the temporary fencing must be the width of the grass parkway with a maximum offset of 30cm (1 foot) from back of curb or edge of sidewalk. In no case must the closure be less than 61cm (2 feet) from the centerline of the tree.

(Example: 6" Tree in a 6' parkway as measured from back of curb to sidewalk. The dimension of the protection fencing would be 1.2m x 3m (4' x 10') with tree in the center). Note: Larger grass parkways (>12') may allow for a ten foot by ten foot (10' x 10'). Thus, the dimension bordered by the sidewalk or curb would not affect fencing distance.

Medium (10"to 15" D.B.H.): Minimum of ten (10) feet from face of tree along the parkway length. In the dimension bordered by the public sidewalk or curb, the fencing must be the width of the grass parkway with a maximum offset of one foot from back of

curb or edge of sidewalk. In no case must the closure be less than two feet from the centerline of the tree.

Large (>15" D.B.H.): Minimum of 15 feet from face of tree along the parkway length. In the dimension bordered by the public sidewalk or curb, the fencing must be the width of the grass parkway with a maximum offset of one foot from back of curb or edge of sidewalk. In no case must the closure be less than two feet from the centerline of the tree.

E. Care of Existing Structures and Property

1. Property Access Maintenance Plan. You must prepare a Property Access Maintenance Plan consistent with the requirements of the Contract. The plan must be submitted to the Commissioner for review within 14 days after award of the Contract. You must comply with all applicable Federal, State, and local requirements. You must also comply with the following requirements:
 - a. Maintain vehicle and pedestrian access to properties;
 - b. Maintain pedestrian access on both sides of all streets;
 - c. Provide access walkways to all buildings and businesses;
 - d. Sidewalks must remain open to the maximum extent possible;
 - e. Provide temporary relocation of access, where required;
 - f. Provide advisory and temporary signs for pedestrian and vehicle access changes and reroutings; and
 - g. Coordinate delivery locations and timing.
2. Before doing any Work adjacent to or on the site of any buildings or other structures adjoining or in the line of the Work to be performed under the Contract, you must supply written notice of it to the owner or owners that the Work is to be done, and must cooperate with the owner(s) in the maintaining, removing, relocating, rearranging or adjusting wherever necessary, of all basements of buildings, subsidewalk vaults, tunnels, conduits, wires, poles, pipes, gas mains, cables, steam and street railway tracks and equipment, or other appliances and structures located in any portion of the streets, public areas, highways and easements to be occupied or used during the prosecution of the Work.
3. Wherever in the performance of the Work it is necessary to remove, reconstruct, relocate, rearrange, adjust or repair City-owned sewers, catch basins, manholes, inlets, sewers connections and appurtenances by reason of the fact that the structures and appurtenances pass through or are located within the limits of the Work as shown on the plans, or ordered by the Commissioner you must perform the Work necessary to remove, reconstruct, relocate, rearrange, adjust or repair those structures and appurtenances, unless otherwise noted on the plans.
 - a. The Commissioner will, at his sole discretion, direct you to modify your method of Work to interfere as little as possible with the normal conduct of business in or around the portions of the buildings or structures in use.

- b. The building or structures may be in full time use and operation and will continue in normal use during performance of the Work. Building facilities, including heating, ventilation, and air conditioning, lighting and plumbing, will not be interrupted in the occupied areas, except as required for making connections to power sources as specified below.
 - c. You will serve written notification to the Commissioner requesting any anticipated interruption in facilities at least two weeks before disruption of services. You must provide any temporary facilities deemed necessary by the Commissioner due to a disruption of services. The Commissioner, in his sole discretion, will determine the procedures, times of day and dates you may accomplish the Work and may reject or modify your request.
 - d. Storage of all material and/or equipment must be in areas approved by the Commissioner, in a manner to minimize interference with the normal conduct of business in or around the occupied portions of the building and vehicular areas.
4. You must not perform Work on City-owned water mains, connections and appurtenances or on any City-owned electrical conduits, cables, vaults and appurtenances unless the City has abandoned the structure and the Commissioner has authorized the Work or the Work is included in the Contract. But, you must adjust City-owned water manholes and electric manholes that are shown as “to be adjusted” on the plans.
- a. You must protect and maintain in a manner satisfactory to the Commissioner, protect and maintain all City-owned water mains, connections and appurtenances and all City-owned electrical conduits, cables, vaults and appurtenances that are located entirely outside of the neat lines of the excavation as shown on the plans or as ordered by the Commissioner, until the completion of the Work under the Contract. Whenever in the performance of the Work under the Contract it becomes necessary because of the nature of the Work required by the Contract or because of your method of performing the Work, to support, remove, replace, relocate, rearrange, adjust or repair those City-owned structures located entirely outside of the excavations, you must notify the appropriate City Department to perform the Work, and must cooperate with the Department in preserving service in or through them. You must reimburse the appropriate City Department for the cost of performing the Work, and the cost must be included in the various Contract prices.
 - b. Without cost to you the City will support, protect and maintain all City-owned water mains, connections and appurtenances and all City-owned electrical conduits, cables, vaults and appurtenances, any part of which is located inside of the neat lines of the excavations as shown on the plans or ordered by the Commissioner, or it will remove, replace, relocate, rearrange, adjust, or repair them, both inside and outside of the excavations. You, however, must adjust those City-owned water manholes and electric manholes that are shown as “to be adjusted” on the plans. Whenever in the performance of the Work under the Contract it becomes necessary to support, protect, maintain, remove, replace, relocate, rearrange, adjust or repair such City-owned structures any part of which is located inside of the excavations, you must notify the appropriate City department to perform the Work and must cooperate with the department in preserving service in or through them.

- c. With the exception of the City-owned water mains, connections and appurtenances and the City-owned electric conduits, cables, vaults and appurtenances described above, and with the exception of City-owned structures that are to be removed or otherwise Worked upon as part of the requirements of the Contract, you must support, protect, maintain or relocate and rebuild all poles, trees, shrubbery, fences, sewers, pipes, conduits, cables, wires, manholes, tunnels, buildings, subways and other City-owned structures that pass through and are located within the excavations or that are adjacent to the Work to be constructed under the Contract during the construction and until the completion of the Work under the Contract.
5. You must notify and cooperate with the owners thereof in maintaining, removing, relocating, rearranging, or adjusting wherever necessary, all basements of buildings, subsidewalk vaults, tunnels, conduits, wires, poles, pipes, gas mains, cables, steam and street railway tracks and equipment or other appliances or structures located in any portion of the streets, public areas, highways and easements that are to be occupied or used during the construction of the Work specified under the Contract.
 - a. Wherever in the performance of the Work specified under the Contract it becomes necessary to remove, replace, rearrange, adjust or repair City-owned sewers, catch basins, manholes, inlets, sewer connections and appurtenances by reason of the fact that the structures and appurtenances pass through or are located within the limits of the excavations as shown on the plans or ordered by the Commissioner, you must perform the Work necessary to remove, replace, relocate, rearrange, adjust or repair the structures and appurtenances. The cost of performing the Work must be included in the Contract price.
 - b. Wherever in the performance of the work specified under the Contract it becomes necessary to support and maintain City-owned sewers, catch basins, manholes, inlets, sewer connections and appurtenances or wherever it becomes necessary as a result of your methods of construction during the Work under the Contract, to remove, replace, relocate, rearrange, adjust, or repair City-owned sewers, catch basins, manholes, inlets, sewer connections and appurtenances (other than those specified in the last preceding paragraph) you must perform the Work necessary to support, maintain, remove, replace, relocate, rearrange, adjust or repair the structures and appurtenances, and you must bear the cost of the Work without any additional compensation for it.
 - c. It is the intention of the specifications that you include in the appropriate Contract Price or prices, all necessary cost and expense of supporting, maintaining, removing, replacing, relocating, rearranging, adjusting or repairing all City-owned appliances and structures (other than City-owned water mains, connection and appurtenances and City-owned electrical conduits, cables, vaults and appurtenances described in Section XVI.E.4.b), encountered in or affected by the Work, and that you must also include in the price or prices all necessary cost and expense of removing structures that have been or will be abandoned by their owners and that are necessary to be removed in order to construct work under the Contract, but you must not

include in the price or prices the cost or expense of supporting, maintaining, moving, replacing, relocating, rearranging, adjusting or repairing those appliances or structures that are not owned by the City and are not abandoned by their owners, except as may be otherwise specified below in this Section.

6. You must take all reasonable precautions for the protection of buildings, railroad tracks, street railway tracks and appurtenances, and other appliances and structures not owned by the City.
7. You must determine the methods to be employed, the procedure to be followed, the equipment, plant, falsework, shoring, bracing and other temporary structures and equipment to be used on the Work, subject to the requirements of the Contract and the approval of the Commissioner. Only adequate and safe procedures, methods, structures and equipment must be used.
8. You must provide drawings and calculations for all equipment, falsework, shoring, bracing and other temporary structures required for the Work, designed, signed and sealed by an Illinois licensed structural engineer. You must submit copies of all such drawings and calculations to the Commissioner for information only.
9. Field Check of Dimensions, Cutting and Patching. Where the Work connects to existing structures or appurtenances, you must take complete field measurements affecting all Work under this Contract and are solely responsible for the proper fit between the Work and existing structures or appurtenances. You must perform all cutting, patching, or fitting of Work that may be required to properly fit together the several parts of the Work and the existing structures or appurtenances.
10. Contractor's Layout of the Work. You are responsible for the correct lay-out and accurate fitting of all parts of the Work. You must furnish at your own expense all labor, materials and other expenses necessary for, or incidental to, the setting and maintaining of lines and grades (exclusive of the Work of establishing the original reference base line and bench marks that will be performed by the City). No separate payment to you for the cost of any of the Work specified in this Contract. The cost is included in the Contract unit or lump sum prices.
11. Salvage of Materials. If and whenever City- owned property such as valves, cast iron manholes, catch basin frames and covers, inlet boxes and grates, or any other appurtenance are to be removed and are not to be reused in the Work, you must securely store them at a suitable place on the job Site for possible use by the City (unless otherwise stipulated). You must take care to prevent damage in your handling of these appurtenances. You must deliver all items identified by the City for reuse to a location designated by the Commissioner and must legally dispose of the remaining items.
12. Wherever basements of buildings, subsidewalk vaults, tunnels, sewers, water, gas, telephone, telegraph, electric or other pipes, conduits, cables, wires, manholes, vaults, steam and street railway tracks or other similar structures and appliances not owned by the City are in or cross the excavations for structures to be built under this Contract, you must notify the owners of the structures and appliances to support, move, rearrange or abandon them, and cooperate with the owners of the structures and appliances in

preserving the service or services provided by the structures and appliances, except as may be otherwise specified or provided in the Contract. If you have complied with the above requirements and has been notified by the owners of the structures and appliances that any of them have been abandoned, or lacking such notice, if you have made all investigations and has found that any of the above structures or appliances have been abandoned by their owners and if the removal of any such abandoned structure or appliance is necessary in order to construct the Work, you must remove them at no additional cost to the City.

13. Wherever basements of buildings, subsidewalk vaults, tunnels, sewers, water, gas, telephone, telegraph, electric or other pipes, conduits, cables, wires, manholes, vaults, steam and street railway tracks or other similar structures and appliances are adjacent to, but do not cut through or cross the excavations for structures to be built under the Contract, you must perform the Work in such a manner as to not cause damage to the structures and appliances and not interrupt their use during the progress of the Work.
14. You must arrange to notify the owners of structures and appliances that are to be supported, maintained, removed, reconstructed, relocated, rearranged, adjusted or repaired by reason of the Work in ample time to permit them to do their work. The Commissioner may direct you to suspend your operations on that part of the Work that affects the structures and appliances until their owners have had time to perform the work.
15. You must conduct the Work so that no equipment, material or debris is placed upon private property unless you have first obtained the owner's written consent thereto and provided this written consent to the Commissioner. You must take such means as may be required to prevent the creation of a public nuisance on any part of the Work site or adjacent streets or property.
16. You must thoroughly clean all streets, pavements, sidewalks and parkways and all private property of all surface materials, earth and rubbish and restore them to as good condition as before the commencement of the Work. Where you have removed or killed sod, you must provide new live sod. Where the areas have been seeded, you must replace top soil equivalent to that removed, fertilize it, seed and roll it to the satisfaction of the owner of the land. You must replace all trees, shrubs and plants damaged in the proper season of the year with live, growing stock of the same kind and variety and of the size ordinarily used for planting purposes.

F. Precautions and Safety

1. You must take any precautions that may be necessary to render all portions of the Work secure in every respect, to decrease the liability of accidents from any cause and to avoid contingencies that are liable to delay the completion of the Work. You must furnish and install, subject to the approval of the Commissioner, all necessary facilities to provide safe means of access to all points where Work is being performed and make all necessary provisions to insure the safety of workers and of engineers and inspectors during the performance of the Work. You are required to conduct your Work so as not to unnecessarily obstruct the activities of other contractors who also may be engaged in work on this or any other project.

2. Although the Commissioner may observe the performance of the Work and reserves the right to give you opinions and suggestions about safety defects and deficiencies, the City is not responsible for any unsafe working conditions. The Commissioner's suggestions on safety, or lack of it, will in no way relieve you of your responsibility for safety on the Work site. You have sole responsibility for safety and the obligation to immediately notify the Commissioner of all accidents.
3. Precautions must be exercised at all times for protection of persons (including employees) and property. The safety provisions of applicable laws and building and construction codes must be observed.
4. You must provide completely equipped first aid kits readily accessible at all times on the Work site. You must designate an appropriately trained individual on each shift to be in charge of first aid.
5. You must provide at appropriate locations fire extinguishers or other fire protection equipment that comply in all respects with the Municipal Code and NFPA standards. You must maintain this equipment in proper operating condition at all times and must cause the equipment to be inspected by all appropriate agencies as required by law, but in no event less than monthly. You must comply with the Municipal Code requirements on the use of standpipes, hoses and other fire protection equipment.
6. Only such materials and equipment as are necessary for the construction of the Work under this Contract must be placed, stored or allowed to occupy any such space at the site of the Work. Not more than one day's supply of flammable liquids, including oil, gasoline, paint, or solvent is permitted to be kept on hand at any one time. If gasoline, flammable oils, other highly combustible materials or compressed gas cylinders are to be stored at the site, they must be stored in a secure manner, in compliance with all applicable laws, ordinances and regulations, and all storage places must be clearly marked. The written consent of the Commissioner is required for such storage. That consent in no way limits your liability for the materials.
7. You must prohibit all lighting of fires about the premises and all smoking in restricted areas where posted with "NO SMOKING" signs, and you must diligently enforce this prohibition. You must furnish and post "NO SMOKING" signs. You must not permit any debris or waste materials to be burned at the Work site.

G. Health, Safety and Sanitation

1. Clean-Up. During construction, you must keep the Work site and adjacent premises as free from material, debris and rubbish as practicable. Haul roads, streets and public areas must be swept daily. Before Final Completion and Acceptance of the Work, you must remove from the Work site and adjacent premises all machinery, equipment, surplus materials, falsework, excavated and useless materials, rubbish, temporary buildings, barricades and signs and must restore the site to the same general conditions that existed before the commencement of the Work. The cost of final clean-up is included in the unit prices for the various items, or included in the Contract lump sum price, as the case may be. You must clean off all cement streaks or drippings, paint smears or drippings, rust stains, oil, grease, dirt and any other foreign materials

deposited or accumulated on any portion of your Work, or existing facilities and structures, due to your performance of the Work.

2. Snow and Ice Removal. You must remove snow and ice that may impair progress of Work, be detrimental to workers, or impair trucking to and from points of delivery at the Work site.
3. Glass Breakage. You must replace all glass broken or damaged during construction at no additional cost to the City. You must promptly remove all broken glass from the Work site.
4. Noise and Vibration Control. All equipment, vehicles, and Work under this Contract must be conducted in accordance with the City Building Code, Chapter 11-4 of the Municipal Code, "Environmental Protection and Control," Article VII - *Noise and Vibration Control*, so as to cause a minimum of noise, vibration and inconvenience to the activities of the occupants of property and buildings in the vicinity of the Work. When the Commissioner, in his sole discretion, determines that your operations constitute a nuisance, you must immediately proceed to conduct your operations in a manner that abates the nuisance. You must provide all measures, including engine and exhaust mufflers, acoustic casing enclosures, maintaining equipment, or physical barriers along the edges of the construction zone, required to minimize noise and vibration. Noise and vibration levels may be monitored by the Commissioner.
5. Health and Safety. You must comply with the requirements of 29 C.F.R. part 1926 - Safety and Health Regulations for Construction, promulgated under the U.S. Occupational Safety and Health Act of 1970, as amended, 29 U.S.C. 651 *et seq.* (OSHA). Copies may be obtained from the Regional Administrator of the U.S. Department of Labor, Federal Office Building, 230 S. Dearborn, Chicago, Illinois.

You must comply with the requirements of the Illinois Health and Safety Act, 820 ILCS 225/01 *et seq.*, and the rules and regulations promulgated under it by the Director of Labor for the State of Illinois, which are on file with the Illinois Secretary of State.

Whenever a Federal OSHA Compliance Officer arrives at the work site, you must notify the Commissioner immediately. At the conclusion of the inspection, you must report any findings to the Commissioner. Copies of any citations issued and related documents must be submitted to the Commissioner.

You must maintain the following records and make available to the Commissioner for review: (i) all records required by OSHA, including the accident log, Fed/OSHA #200, and posting of the prescribed OSHA poster; (ii) log of safety activities, accident investigation, employee instruction, training, tool-box meetings, and any other pertinent information; and (iii) Material Safety Data Sheets (MSDS) as required for each material you have used at the Work site.

6. You must enforce among your employees such regulations in regard to cleanliness and the disposal of garbage and wastes that are necessary for their health and tend to prevent the inception and spread of contagious and infectious disease among them. You must provide an ample supply of suitable, pure drinking water, and must take such means as the Commissioner may direct to effectively prevent the creation of a nuisance on any part of the Work site or adjacent streets or property. You must construct and

maintain necessary sanitary conveniences for the use of the laborers on the Work, properly secluded from public observation, in such manner and at such points as be approved, and their use must be strictly enforced. Whenever manholes have been used for sanitary proposes, they must be thoroughly flushed and cleaned when no longer needed.

The manner of disposing of waste must be such that all waste is disposed of without creating a public nuisance or health hazard and in accordance with Illinois Department of Public Health Circular No. 815, Educational Health Circular No. 4.001, and all Illinois Environmental Protection Agency rules and regulations.

You must also comply with all rules and regulations of the Federal and State governments and the City Department of Public Health.

H. Hazardous Operations and Security

1. During construction, all cutting or welding operations must be carried out with all precautions taken to prevent fires resulting from sparks or hot slag. Extreme care must be exercised to determine that sparks or embers do not fall into any combustible materials, even if such material is stored on lower floors. Sheet metal wind screens must be provided around the lead-melting furnaces whether the Work site is enclosed or not. Portable fire extinguishers must be provided at and below all locations where cutting or welding or melting operations are being performed or, if those operations are extensive, a hose from the stand pipe system or fire hydrant must be placed nearby. You must obtain special permission from the Commissioner of Water and pay all associated connection fees.
2. No welding, flame cutting, or other operations involving use of flame, arcs, or sparking devices, will be allowed without adequate protection. All combustible or flammable material must be removed from the immediate working area. If removal is impossible, flammable or combustible materials must be protected with fire blankets or suitable non-combustible shields to prevent sparks, flames or hot metal from reaching flammable or combustible materials. You must provide necessary personnel and equipment to control incipient fires resulting from welding, flame cutting, or other sources involving use of flame, arcs, or sparking devices.
3. You must immediately report any concentration of gas fumes, and you are responsible for clearing the area and notifying the Commissioner and the appropriate utility company. All operations in the area must be suspended until the source of the fumes has been located and corrected.
4. You must arrange for the installation of necessary fire protection lines and equipment as required by the Chicago Fire Department and as necessary to properly protect the Work site. Permanent fire protection facilities may be used for this purpose as soon as they are installed, tested and approved by the Commissioner for temporary use.
5. Salamander heaters or similar forms of uncontrolled heaters must not be used except with the special written permission of the Commissioner and City fire marshal and then only when each salamander is maintained under constant supervision.
6. Gasoline must be kept in and handled from approved safety cans.

7. All tarpaulins used for any purpose must be made of fire, water and weather-resistant materials.
8. You must furnish such watchmen as may be necessary to protect the public and those who are at or in the vicinity of the Work under this Contract, and to protect all materials, tools, machinery and equipment and all Work you have performed.
9. You must comply with all Federal and State and local occupational health and safety statutes, and any occupational health and safety standards promulgated thereunder; provide reasonable protection to the lives, health and safety of all persons employed under this Contract; furnish to all such persons a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm; keep all persons employed under this Contract informed of your protections and obligations under the statutes; and provide all persons employed under this Contract with information regarding hazards in the workplace, including information about suitable precautions, relevant symptoms and emergency treatment. The Federal and State occupational health and safety statutes, and the rules and regulations promulgated thereunder, are considered part of this Contract as though fully set forth in this Contract.
10. You must provide safety instructions and training for all workers. You must conduct weekly craft safety meetings (tool-box type) of reasonable length as an effective means of communicating safety issues to workers. Reports containing tool box discussion topics must be signed-off by all attendees and must be submitted to the Commissioner.

I. Services and Use of Site

1. Work Area. After receipt of the Notice to Proceed, you must propose a suitable working area subject to approval by the Commissioner. You must secure the space at your own expense.
2. Temporary Services and Utilities. If specified in the Contract, you are responsible for arranging for and providing all general services and temporary facilities as specified in the Contract and as required for the proper and expeditious prosecution of the Work. You must pay all costs for those general services and temporary facilities. You must provide temporary connections for water, electricity and heat including installation, maintenance and removal of those facilities. You must pay the cost of all water, telephone, and electricity during the construction period.
 - a. Water. You must provide temporary water connections as required for drinking and construction purposes. The Commissioner reserves the right to regulate the use of water and may impose restriction on the use if you are using water carelessly. You must provide water and facilities for obtaining water for sanitary purposes, drinking, mixing concrete and for all other purposes at your expense. You are not permitted to obtain the water from the mains of the Chicago water system, except as may be provided in the Contract. Except with special permission from the Commissioner and the Department of Water, you must not make connections for water to the City's fire hydrants.
 - b. Light and Power. You must furnish the electricity and must furnish and install all wiring, electrical services, lighting units, insulated supports for wiring and all other electrical equipment together with all other incidental and collateral Work

necessary for the furnishing of the temporary power and lighting facilities for the Work to be done under this Contract, all at no additional cost to the City. Electrical Work must be performed by a licensed electrician.

- c. Temporary Heating During Construction. You must provide temporary closures or enclosures for all exterior door, window, roof or other types of exterior openings as required to provide protection from the elements during construction. It is your responsibility to keep water in pipes from freezing and to maintain temporary heat in areas where Work is being performed at not less than 50° Fahrenheit. Finish Work includes, but is not limited to masonry, plastering painting, millwork and other temperature sensitive Work. The Heating period is from approximately October 1 to May 30 unless conditions warrant otherwise. You must furnish, install, operate and maintain all required temporary heating equipment, and must provide and pay all fuel costs.
3. Temporary Construction Facilities. Unless otherwise specified, you must provide and maintain the following temporary construction facilities throughout the construction period and remove them at the completion of the Work:

- a. Field Offices. Unless otherwise specified in Book 3, you must provide a temporary building or mobile type field office of such size and containing such equipment as you deem necessary to conduct the operations. The field office must be provided with a telephone for your superintendent and a pay telephone for use by others during the entire period of construction. The telephone must be removed promptly upon Final Completion and Acceptance of the Work.

Unless otherwise specified in Book 3, you must supply a field office for the City's Superintendent consisting of a separate office facility. It must be of adequate size for efficient operations and be furnished with a desk, three chairs, 4-drawer file cabinet and a plan table. It must be equipped with electric lighting, heating, ventilating and cooling facilities. You must provide a separate telephone for City Superintendent's use.

You must also provide and maintain in clean condition for Superintendent's use, including toilet facilities, having a water closet and laboratory fixture connected to sanitary sewer and water service. Temporary toilet facilities must be located in the City's Superintendent's trailer and comply with City and State regulations relating to health and sanitation. The toilet facility must be serviced twice weekly and kept stocked with toilet paper, soap, and paper towels.

- b. Toilets. You must provide at least one portable chemical toilet for every 20 workers or fraction of that number at the Work site as soon as construction operations commence. Toilet facilities must be serviced, at a minimum, twice weekly, which includes draining tank and refilling and disinfecting the interior of each toilet unit, and keeping each unit stocked with toilet paper. Toilet facilities must be maintained during the term of the construction period and removed upon completion of the Work.
- c. Stove heaters in temporary offices and sheds must be properly installed to protect combustible walls, floors and roof.

- d. **Storage of Materials.** If it is necessary to store materials, they must be protected in such a manner as to insure the preservation of their quality and fitness for the work. All stored materials will be inspected at the time of use in the Work even though they may have been inspected and approved before being placed in storage. You may store materials in the areas provided as working areas by the Contract. If no areas are provided, or if the areas provided are insufficient, you must provide the space required at your expense. Upon completion of the Work, you must clean and restore the storage sites and working areas to their original condition at your expense.

All materials and equipment must be received at the Work undamaged. The Commissioner has the right to reject any method of packing and shipping that, in the Commissioner's opinion, will not adequately protect the materials and equipment against damage while they are in transit or storage or that will damage existing structures.

- e. **Storage Sheds.** You and each Subcontractor must provide suitable watertight storage sheds for your, or their own, use as needed. You and each Subcontractor are responsible for and must pay for any electric services to your or their storage sheds. However, the electrical Work must be performed by a licensed electrical Subcontractor. You are responsible for materials stored in the open; they must be arranged in an orderly manner and properly protected against the elements and damage.
4. **Working Space.** You must provide working space for your own use and for each of your Subcontractors. It must provide sufficient space for benches, tools, material storage and for such other purposes as may be required to properly perform and expedite the Work. Allocation of such Work areas is subject to approval by the Commissioner. You must maintain all Work areas in a clean and orderly condition and take whatever precautions as may be necessary adjacent to the new Work. You must clean, repair or replace any damage to Work site due to improper protection at no additional cost to the City.
 5. **Equipment and Falsework:** You must determine the methods to be employed, the procedures to be followed, the equipment, plant, falsework, shoring, bracing, and other temporary structures and equipment to be used on the Work, subject to the requirements of the Contract. Only adequate and safe procedures, methods, structures, and equipment must be used. You must furnish and maintain and are solely responsible for all equipment such as temporary ladders, ramps, runways, hoists, scaffolding, and similar items required for proper execution of Work. All such apparatus, equipment and construction must meet the requirements of Federal, State and local laws concerning the safety and protection of employees. No hoist, scaffolding or other equipment must be erected at such location as will interfere with general construction or progress of other trades. Hoists, scaffolding or other equipment must be located at sufficient distance from exterior walls to prevent staining or marring of any permanent Work. All suspended scaffolding and staging must be lowered to ground level at the end of each work day.
 6. **Project Signs.** You must erect and maintain signs identifying the Project and indicating City, and to the extent applicable, State and Federal participation. Work under this item includes constructing and erecting project signs of the size and material specified in the Contract drawings. These signs must be erected in locations approved by the

Commissioner and must be maintained throughout the term of this Contract. You are responsible for the immediate removal of graffiti. If you are notified of graffiti, you must remove such within 24 hours. The signs must not be removed until you receive such notice from the Commissioner. No separate payment will be made for furnishing, erecting and maintaining the project signs; it is incidental to the Contract.

J. Reports and Plans

1. Daily Progress Reports. You and all Subcontractors must prepare and submit to the Commissioner daily progress reports on the various parts of the Work. The report must include the number of workers and the classification of the trades involved, equipment used and any pertinent information regarding possible delays in the Work.
2. Procedures, Methods and Equipment. You will determine the methods to be employed, the procedure to be followed, the equipment, plant, falsework, shoring, bracing and other temporary structures and equipment to be used on the Work, subject to the requirements of the Contract. Only adequate and safe procedures, methods, structures and equipment must be used. Any approval, constructive or otherwise, by the Commissioner of such methods, procedures and equipment in no way relieves you of any of your obligations under this Contract.

XVII. STANDARD SPECIFICATIONS

A. Concreting in Freezing Weather

You must provide protection of Portland Cement Concrete from cold weather in accordance with Articles 1020.13(c) and/or 1020.13(e) of the Standard Specifications. The cost of all protection of the concrete from cold weather as may be required and as specified in the those specifications must be included in the contract unit prices for Class "SI" concrete other appropriate items of the contract and no additional payment will be made therefore.

B. Protection of Railroad Traffic and Property

The following supplements the Standard Specifications and any Supplemental Specifications in effect; and in case of conflict with any part of parts of the Standard or Supplemental Specifications, this supplement takes precedence and governs. Add the following to Article 107.12., "Protection of Railroad Traffic and Property":

Whenever such Work, in the opinion of the Railroad Engineer, or his duly constituted and authorized representative, may affect the safety of trains and the continuity of the Railroad's operations, the method of doing such Work must first be submitted to the Railroad Engineer for approval, which will not be unreasonably withheld or delayed, and without which the Work must not be commenced or prosecuted.

The approval of the Railroad Engineer is not to be considered as a release from responsibility or liability for any damage that the Railroad may suffer, or for which it may be held liable by the acts of you, your Subcontractors, or your or their employees.

You are cautioned that when you are working over and/or near railroad property, you must provide adequate protection to safeguard the railroad property. You must also notify all railroad companies affected by the construction 10 days before starting any work that involves working on or over railroad property and must receive permission from the companies before entering onto railroad property.

XVIII. ENVIRONMENTAL REQUIREMENTS

A. Compliance with Environmental Laws

1. You must comply with all Environmental Laws including those listed in the Economic Disclosure Statement and Affidavit (EDS), which you must execute and have notarized, and any analogous future local, State or Federal ordinance or statute, rule and regulation promulgated under or under the foregoing, and any other present or future law, ordinance, rule, regulation, permit or permit condition, order, or directive which regulates, relates to, imposes liability for or establishes standards of conduct concerning any Hazardous Materials that may be set forth by the Federal government, any state or any political subdivision thereof, or any agency, court or body of the Federal government, any state or any political subdivision thereof exercising executive, legislative, judicial, regulatory or administrative functions.
2. If you are required under any Environmental Laws to file any notice or report of a release or threatened release of Hazardous Materials or Special Wastes on, under, or about any premises you use to perform the Work required under this Contract, you must provide a copy of the report or notice to the City. In the event of a release or threatened release of Hazardous Materials or special waste into the environment, or in the event of any claim, demand, action or notice is made against you regarding your failure or alleged failure to comply with any Environmental Law, you must notify the City pursuant to Section XVIII.C, "Disposal of Waste Materials, Construction Debris, Soils and Waste," below.
3. If you fail to comply with any Environmental Law, the City may terminate this Contract in accordance with the default provisions of this Contract and may adversely affect your eligibility for future contract awards.

B. Environmental Permits

1. You must show evidence of, and keep current throughout the term of this Contract, all waste hauling, special waste hauling, disposal permits and insurance certificates required by Federal, State, City or other local governmental body or agency pursuant to any Environmental Law.
2. When requested by the Chief Procurement Officer, you must submit copies of all hauling permits required by any Environmental Law. Copies of all permits and insurance certificates that require periodic renewal must be forwarded to the Chief Procurement Officer throughout the duration of this Contract. Noncompliance with this requirement may be cause for rejection of the bid and/or termination of this Contract and declaring you non-responsible in future bids.

3. Environmental Records and Reports. You are required to prepare and maintain proper, accurate and complete records of accounts of all transactions related to the performance of this Contract, including:
 - a. Vehicle maintenance records;
 - b. Safety and accident reports;
 - c. IEPA or OSHA manifests;
 - d. Disposal records, including disposal site used, date, truck number and disposal weight, bills of lading, manifests, or other confirmatory receipts signed by a representative of accepting facility for each load of material; and
 - e. Permit documentation and all other documentation and transactions pertaining to all Environmental Laws.

C. Disposal of Materials, Construction Debris, Soil and Waste

1. You are responsible for the proper disposal of all materials, construction debris, soil and other waste. Hauling and disposal by a Subcontractor does not relieve you from responsibility for proper disposal. Disposal of all materials, construction debris, soil, and other wastes must be at a disposal site that is properly licensed and permitted to accept the particular materials, construction debris, soil and other wastes delivered to it in accordance with all Environmental Laws. You must identify the disposal site(s) or transfer station(s) to which you have contractual access and for which proper, sanitary landfill permits and/or licenses have been obtained.
2. You must provide the Commissioner or his designated representative with copies of all load tickets, manifests, bills of lading, scale tickets and other pertinent documents. When requested by the Chief Procurement Officer, you must provide copies of all permits and/or licenses for the proposed transfer station and/or landfill. If the transfer station and/or landfill you propose to use does not possess the necessary permits and/or licenses to accept the materials, construction debris, soil or other wastes, you must replace the transfer station and/or landfill submitted as part of their bid proposal at no additional cost to the City. If you dispose of materials, construction debris, soil or other wastes at a site that is not properly permitted, you will be responsible for all costs associated with the removal of the waste to a properly licensed/permitted landfill or disposal site.
3. You must notify the Commissioner, within 24 hours, of receipt of any environmental complaints, fines, citations, violations or notices of violation ("Environmental Claim") by any governmental body or regulatory agency against you by any third party relating to the loading, hauling or disposal of materials, construction debris, soil or other wastes. You must provide evidence to the Commissioner that any such Environmental Claim has been addressed to the satisfaction of its issuer or initiator.
4. You must notify the City of any community meetings, media involvement or media coverage related to the loading, hauling or disposal of materials, construction debris, soil and other wastes under this Contract in which you are asked to participate.

5. You must verify, in writing, whenever requested by the Commissioner, that all materials, construction debris, and other waste you accept from the City have been disposed of in compliance with all Environmental Laws.
6. The form for identifying your debris disposal/handling site(s) and acknowledging terms and conditions relating thereto which you have executed and attached to this Contract is incorporated by reference (the "Form"). In addition to the representations and requirements contained in the Form, you acknowledge that unless otherwise authorized in writing by the Commissioner of Environment, you must not continue to use a disposal/handling site identified in the Form that (i) has been cited as being in violation of any environmental law or regulation or of any City ordinance; or (ii) does not have a necessary permit. If only one site was identified in the Form, you must arrange for a substitute disposal/handling site that meets the requirements specified in the Form and provide a revised Form to the Commissioner of Environment. You further acknowledge that any such substitution is at no additional cost to the City, regardless of the reason necessitating such substitution.

D. Equipment and Environmental Control During Transport

You must haul materials, construction debris, soil and other wastes in vehicles and/or containers complying with all applicable Environmental Laws. All equipment used to transfer materials, construction debris, soil and other wastes must be designed to prevent spillage during the hauling operation. Your equipment must fully comply with all City, State and Federal Regulations, laws and ordinances pertaining to size, load weight, safety and any Environmental Law.

E. Environmental Control

In performing the Work, you must become thoroughly familiar with all Federal, State, and local statutes, ordinances, and directives with respect to the elimination of excessive noise and pollution of air, water, and soil due to construction and other operations. Attention must be given to reduce the noise of heavy construction equipment and to the control of dust, smoke, and fumes from construction equipment and other operations on the Work site, and the dirt and noise created by heavy truck operations over City streets in accordance with ordinances of the City and orders of the Commissioner. The discharge of Hazardous Materials into waterways and City sewers is not permitted.

F. Open Dumping Prohibited

The removal of all recyclable material and garbage, refuse or other waste material, including broken concrete, bricks, rock, paving asphalt and incidental debris generated from all construction or demolition activities performed under this Contract, must be transported to a facility that is zoned and permitted to accept the material under Chapter 11-4 of the Municipal Code and all applicable local, State, and Federal regulations.

You must retain bills of lading, manifests, or other confirmatory receipts signed by a representative of accepting facility for each load of material and make them available to the City upon request

G. Environmental Protection

You must comply with, and must cause your Subcontractors to comply with, all Federal environmental and resource conservation laws and regulations, whether existing or promulgated later, as they apply to this Contract. You must include these provisions in all subcontracts. Some, but not all, of the major Federal laws that may affect this Contract include the National Environmental Policy Act of 1969, as amended, 42 USC §§ 4321 *et seq.*; the Clean Air Act, as amended, 42 USC §§ 7401 *et seq.* and scattered sections of 29 USC; the Clean Water Act, as amended, scattered sections of 33 USC and 12 USC; the Resource Conservation and Recovery Act, as amended, 42 USC §§ 6901 *et seq.*; and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 USC §§ 9601 *et seq.*. You and your Subcontractors must also comply with Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 59 Fed. Reg. 7629, Feb. 16, 1994; U.S. DOT statutory requirements on environmental matters at 49 USC § 5324(b); Council on Environmental Quality regulations on compliance with the National Environmental Policy Act of 1969, as amended, 40 CFR Part 1500 *et seq.*; and U.S. DOT regulations, "Environmental Impact and Related Procedures," 23 CFR Part 771 and 49 CFR Part 622.

1. Air Quality. You must comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 USC §§ 7401 *et seq.* Specifically, you must comply with applicable requirements of U.S. EPA regulations, "Conformity to State of Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 USC or the Federal Transit Act," 40 CFR Part 51, Subpart T; and "Determining Conformity of Federal Actions to State or Federal Implementation Plans," 40 CFR Part 93; and National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR § 61.145. You further must report and require each Subcontractor at any tier to report any violation of these requirements resulting from any Contract implementation activity to the City and the appropriate U.S. EPA Regional Office.
2. Clean Water. You must comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 USC §§ 1251 *et seq.* You further must report and require each Subcontractor at any tier to report any violation of these requirements resulting from any Contract implementation activity to the City and the appropriate U.S. EPA Regional Office.
3. List of Violating Facilities. You acknowledge that any facility to be used in the performance of the Contract or to benefit from the Contract must not be listed on the U.S. EPA List of Violating Facilities ("List"), and you must promptly notify the City if you receive any communication from the U.S. EPA that such a facility is under consideration for inclusion on the List.
4. Preference for Recycled Products. To the extent practicable and economically feasible and to the extent that it does not reduce or impair the quality of the Work, you must use recycled products in performance of the Contract pursuant to U.S. Environment Protection Agency (U.S. EPA) guidelines at 40 CFR Parts 247-253, which implement section 6002 of the Resource Conservation and Recovery Act, as amended, 42 USC § 6962.

H. Clean Diesel Fleet (Section 2-92-595 of the Chicago Municipal Code)

1. If this Contract is for construction, demolition, restoration, repair, renovation, environmental remediation, or environmental abatement of any building, structure, tunnel, excavation, roadway, bridge, transit station, or parcel of land and the estimated value of this Contract is \$2,000,000 or more:
2. The Contractor must comply with the Clean Diesel Contracting Ordinance, Section 2-92-595 of the Municipal Code of Chicago.
3. The Contractor and any Subcontractor(s) must utilize Ultra Low Sulfur Diesel Fuel (ULSD) for any heavy-duty diesel-powered vehicle, non-road vehicle or non-road equipment used in the performance of the Contract.
4. The Contractor and any Subcontractor(s) must minimize idling of motor vehicles and non-road vehicles used in the performance of the Contract during periods of inactivity, and must comply with the anti-idling requirements imposed by any applicable federal, state, or local law.
5. The Contractor and any Subcontractor(s) may not use any of the following vehicles and equipment in the performance of the contract:
 - a. any heavy-duty diesel vehicle not meeting or exceeding the US EPA's emission standards for heavy-duty diesel vehicles for the 1998 engine model year, unless such vehicle is fitted with a verified diesel emission control retrofit device; or
 - b. any non-road vehicle or non-road equipment not meeting or exceeding the US EPA's Tier 1 Non-Road Diesel Standards, unless such vehicle or equipment is fitted with a verified diesel emission retrofit device.
6. Any heavy-duty diesel vehicles, non-road vehicles, and non-road equipment used in the performance of this Contract must incorporate such engine or retrofit technology so that the Contractor, through such engine or retrofit technology used directly by the Contractor and all subcontractors, shall have a minimum of 2.1 clean fleet score per a reporting period, as calculated by using the methodology described in MCC subsection 2-92-595(c)(5). Contractor may exclude from the calculation of the clean fleet score all of the heavy-duty diesel vehicles, non-road vehicles, and non-road equipment used in the performance of the contract during a reporting period that are owned or leased by any firm that the CPO has granted a clean fleet score annual waiver certificate pursuant to MCC subsection 2-92-595(f).

7. The City may conduct an audit of the Contractor or inspect any vehicle or equipment used in the performance of the Contract to ensure compliance with the requirements specified above. In the event that Contractor or any Subcontractor fails to utilize ULSD or fails to minimize idling or comply with anti-idling requirements, Contractor will be subject to liquidated damages of \$5,000 per day for each violation and each day of noncompliance will be a separate violation; provided, however, the damages will not exceed \$50,000 for any one vehicle or piece of equipment, as specified in Section 2-92-595(e) of the Municipal Code of Chicago. Such liquidated damages are imposed not as a penalty but as an estimate of the damages that the City will sustain from delay in completion of the project and inspection and inspection and other enforcement costs, as well as the resultant damages to the public health of its citizens, which damages by their nature are not capable of precise proof. The City is authorized to withhold and deduct from monies otherwise payable to the contractor the amount of liquidated damages due to the City.

8. Contractor understands that pursuant to Section 2-92-595(e)(6) of the Municipal Code of Chicago, any person knowingly making a false statement of material fact to any City department with respect to compliance with the contract provisions specified in Section 2-92-595(e) of the Municipal Code of Chicago may be fined not less than \$1,000 or more than \$5,000 for each statement.

XIX. INSURANCE, INDEMNITY AND BONDS

A. Indemnity

1. You must protect, defend, indemnify, and hold the City, its officers, officials, representatives, and employees (collectively the "Indemnitees"), harmless from and against any and all claims, damages, demands, injury or death, in consequence of granting this Contract or arising out of or being in any way connected with your performance under this Contract except for matters shown by final judgment to have been caused by or attributable to the negligence of Indemnitees. This indemnification obligation is effective to the maximum extent permitted by applicable law. This indemnity extends to all legal costs, including attorney fees, costs, liens, judgments, settlements, penalties, professional fees, and other expenses incurred by the City, including fines and penalties imposed by public bodies, and the reasonable settlement of such claims. This indemnification obligation is not limited by any amount of insurance required under this Contract. Further, the indemnification obligation contained in this section will survive the expiration or termination of this Contract.
2. You will be solely responsible for the defense of any and all claims, demands, or suits against Indemnitees, including claims by your employees, subcontractors, agents, or servants even though the claimant may allege that the Indemnitees were in charge of the Work or alleged negligence on the part of Indemnitees. The City will have the right, at its sole option, to participate in the defense of any such suit, without relieving you of your obligations under this section.
3. "Injury" or "damage" as these words are used in this section will be construed to include injury or damage consequent upon the failure of or use or misuse by you, your

Subcontractors, agents, servants, or employees, of any scaffolding, hoist cranes, stays, ladders, supports, rigging, blocking or any and all other kinds of items of equipment, whether or not they are owned, furnished, or loaned by the Indemnitees.

4. You will promptly provide, or cause to be provided, to the Commissioner and City Corporation Counsel copies of all notices that you may receive of any claims, actions, or suits that may be given or filed in connection with your performance or the performance of any Subcontractor and for which the Indemnitees are entitled to indemnification under this Contract and to give the Indemnitees authority, information and assistance for the defense of any claim or action.

B. Contribution

To the extent permissible by law, you waive any limits on your liability that you would otherwise have by virtue of the Worker's Compensation Act or any other related law or judicial decision (such as *Kotecki v. Cyclops Welding Corporation*, 146 Ill. 2d 155 (1991)). The City, however, does not waive any limitations it may have on its liability under the Worker's Compensation Act, the Illinois Pension Code or any other statute.

C. Admiralty

In addition, you waive the right to receive the benefits of or to invoke the protection afforded by all maritime statutory limitations of liability, including the Limitation of Vessel Owner's Liability Act, 48 U.S.C. § 183 *et seq.*, that could act to diminish your liability for any harm or damage arising from your performance of your obligations under the Contract in any manner or for all claims or other costs arising from or occasioned by your operations on any waterways, including Lake Michigan and the Chicago River. This provision is not intended to avoid or waive Federal jurisdiction under the applicable admiralty laws. This waiver extends only to the Indemnitees, and not to third parties seeking recovery for claims solely against you.

Without limiting your waiver, you specifically consent to pay all sums in respect of any claims against the Indemnitees and other costs suffered by the Indemnitees arising from or occasioned by your operations in or on waterways, including the following:

- a. Loss or damage to any other ship, vessel or boat caused proximately or otherwise by your vessel, or loss of the cargo or the other ship, vessel or boat;
- b. Loss of life or personal injury, or for any cost of life salvage;
- c. Loss or damage to any harbor, dock, building, graving or otherwise, slipway, pontoon, pier, quay, tunnel, jetty, stage, buoy, cables of any kind, or other fixed or movable object or property whatsoever;
- d. The cost of the removal, raising or destruction of the wreck of any vessel you employ in performing your obligations under the Contract;
- e. If a vessel is disabled or otherwise, the cost of towage or other salvage of any vessel you employ in performing your obligations under the Contract;
- f. Loss or damage to the bottom, banks, or shoreline of the waterway.

D. Performance and Payment Bonds

You must, before award of the Contract, deliver to the Chief Procurement Officer a performance and payment bond in the amount set forth in Book 2. Any performance bond that you provide must comply with the provisions of 30 ILCS 550/1 *et.seq.*, as amended, and of § 2-92-030 of the Municipal Code, as amended. It must also be in the form of the performance and payment bond form included in Book 2. The surety or sureties issuing the bond must be acceptable to the Comptroller and must have a Best's Key Rating Guide of "B+," Class XI or greater and be listed in the most recently published "Listing of Approved Sureties" of the U.S. Department of the Treasury Circular 570, with underwriting limitations in excess of the Contract Price. The bond must cover the warranty period required by the Contract.

In case of your neglect, failure, or refusal to provide satisfactory sureties when so directed within 10 days after such notification, pursuant to § 2-92-040 of the Municipal Code the Chief Procurement Officer may declare this Contract forfeit, but such forfeiture will not release you or your surety or sureties from any liability that may have accrued before the date of the forfeiture.

If at any time the surety or sureties, or any one of them, upon the bond become insolvent, or are, in the sole opinion of the Chief Procurement Officer, unsatisfactory, or unable to respond to damages in case of liability on such bond, the Chief Procurement Officer will notify you and direct that you furnish a bond issued by a satisfactory surety or sureties forthwith.

E. Insurance

You must procure and maintain at all times, at your own expense, through the completion of the warranty period, the types of insurance specified in Book 2 of the Contract, with insurance companies authorized to do business in the State of Illinois, covering all operations under this Contract, whether performed by you or by Subcontractors. Upon written request by the Commissioner, you must allow the Commissioner to review and copy any original insurance policies you are obligated to maintain under this policy.

You waive any and every claim or right of recovery from the City for all injuries and losses arising under this Contract or in any way related to the Work, including any claim for loss of or damage to the Work or to the contents of it, which injury, loss or damage is covered or is required to be covered by valid and collectible insurance policies, to the extent that such injury, loss or damage is recoverable under the insurance policies. As this waiver will preclude the assignment of any claim by subrogation (or otherwise) to an insurance company (or any other person), you must give each insurance company that has issued, or in the future may issue, your policies of insurance, written notice of the terms of this waiver, and to have the insurance policies properly endorsed, if necessary, to prevent the invalidation of insurance coverage by reason of the waiver. You must require each Subcontractor to include similar waivers of subrogation in favor of the City.

The City reserves the right to change, modify or delete insurance requirements set forth in the Contract, including the right to request that you provide additional types of insurance.

XX. CLAIMS AND DISPUTES

A. General

Compliance with the provisions in this Article XX is a precondition to seeking judicial review of an adverse decision of the Chief Procurement Officer. **You must not withhold performance of and must prosecute any Work required by the Commissioner while your claim, including judicial resolution, if any, is pending. You must prosecute all of your Work including any disputed Work with the same diligence and effort as if no dispute existed.** Neither the Chief Procurement Officer's determination (see Section XX.C.3 below), nor the continued performance by either party, constitutes an admission as to any factual and/or legal position in connection with the dispute or a waiver of any rights under the Contract.

B. Claims

1. This provision applies to all claims under this Contract, including those for time, money, or both.
2. Procedures. Within 14 days after a basis for claim arises, you must submit your claim in writing to the City's resident engineer or its project manager ("Commissioner's Representative). This written claim to the Commissioner's Representative will constitute "notice" to the City for purposes of determining initial timeliness of the claim; oral notice is insufficient. If you and the Commissioner's Representative are unable promptly (depending upon the complexity of the matter) to resolve the claim, you must forward your claim in writing to the Commissioner together with the documents listed in (a) through (d) below (collectively, "your documents"). You must include:
 - a. A general statement of the basis for the claim,
 - b. Reference to the applicable Contract provisions,
 - c. All records that support the claim, and
 - d. All documents that relate to it, such as correspondence, and that are reasonably necessary for the Commissioner's understanding to resolve the claim.

It is your responsibility to furnish your documents to the Commissioner at the time you forward the claim to him, as, with or without the supporting documentation, the Commissioner has 30 days to respond in writing to you after he has received the claim. Incomplete information may result in an adverse response. The response may be in the form of a contract modification.

If within the 30 days the Commissioner neither responds nor forwards the claim to the Chief Procurement Officer in lieu of responding, the claim will be considered denied, unless you and the Commissioner have agreed to extend the time for him to complete his response. The Commissioner may, at his sole option, forgo the opportunity to respond directly to your claim by referring it with all your documentation and a Request for Resolution of Dispute to the Chief Procurement Officer and supplying such additional documentation as the Chief Procurement Officer may require of him.

C. Disputes

1. Invoking Dispute Resolution Procedures. If you dispute the Commissioner's resolution or denial of your claim, or if your claim is deemed denied, you have 10 days to forward your claim and your documentation to the Chief Procurement Officer indicating to him that you are requesting resolution of a dispute and showing that you have complied with the preceding claims procedures. Your 10-day period to invoke dispute resolution by the Chief Procurement Officer is counted from the date the Commissioner's written resolution was sent to you, or, if he has not responded or forwarded the claim, from the date on which the time for the Commissioner's response lapsed.
2. Waiver. If you fail to file a Request for Resolution of Dispute with the Chief Procurement Officer within the 10-day period you will have waived your claim, the right to make the claim later, and the right to dispute its resolution or denial.
3. Dispute Procedures. Once the dispute resolution procedures are invoked, the Chief Procurement Officer will proceed to a final and binding decision under such rules and regulations as he from time to time promulgates. A copy of those rules and/or regulations is available through the Department of Procurement Services. The Chief Procurement Officer's decision will be implemented through a Contract Modification, if required, that will be made a part of the Contract with your signature or without it should you refuse to sign the Contract Modification. If either you or the Commissioner disagree(s) with the decision of the Chief Procurement Officer, the exclusive remedy is judicial review by a common law *writ of certiorari*. Unless such review is sought within 35 days of receipt of the Chief Procurement Officer's decision, all rights to seek judicial review are waived.

XXI. EVENTS OF DEFAULT AND TERMINATION

A. Chief Procurement Officer's Right

1. The Chief Procurement Officer may, at his sole discretion, exercise the right to send you notice under Sections XXI.C.1 or XXI.C.2. Whether to declare you in default is within the sole discretion of the Chief Procurement Officer and neither that decision nor the factual basis for it is subject to review or challenge under Article XI, "Claims and Disputes."
2. If the Chief Procurement Officer terminates this Contract under the provisions of Section XXI.C.1 or XXI.C.2, the Commissioner may use the material and equipment, whether owned or leased, that is within the scope of the Work or necessary for completion of the Work paid for by the City (whether located on or off the Work site), to complete the Work and you will receive no further payment until the Work is completed. If, however, the cost of completion exceeds the unpaid balance of the Contract, you must pay the difference to the City immediately upon demand.

B. Events of Default

Your failure to perform any of your obligations under the Contract, including one or more of the following, is an event of default:

1. Failure to begin the Work at the time specified;
2. Failure to perform the Work with sufficient workers and equipment or with sufficient materials to insure the completion of Work or any part of the Work within the time specified by the Contract;
3. Failure to perform the Work in accordance with the Contract;
4. Failure to promptly remove materials, repair, or replace Work that was or were rejected as defective or unsuitable;
5. Unauthorized discontinuation of the Work;
6. Insolvency, bankruptcy or assignment for the benefit of creditors that impairs your ability to pay Subcontractors or perform the Work;
7. Failure to pay Subcontractors or material suppliers;
8. Failure to carry on the Work in a manner acceptable to the Commissioner;
9. Failure to observe Federal, State, or local laws or regulations governing safety and security requirements, including all environmental requirements;
10. Failure to comply with any other term of this Contract that states an event of default or failure to comply with any term of this Contract in any material respect; and
11. Failure to identify disposal site(s) for materials, construction debris, soil and other wastes or to submit such information when requested by the Chief Procurement Officer.
12. Failure to notify City of change in information submitted in Contractor's original Economic Disclosure Statement ("EDS") and to submit a new EDS;
13. Default under any other City contract;
14. Violation of any City ordinance, even if unrelated to contract performance.

C. Remedies

If an event of default occurs, the Chief Procurement Officer, at his sole discretion, may send you notice of his intent to exercise remedies pursuant to the following:

1. **Opportunity to Cure:** The Chief Procurement Officer may provide you the opportunity to cure the default. If he does so, you must cure the default within 10 days after notice from the Chief Procurement Officer is given. If the Chief Procurement Officer receives written notification from the Commissioner that you have not cured the default within the 10-day cure period, the Chief Procurement Officer may at any time after that terminate the Contract, in which event the termination of the Contract is final and effective.
2. **Termination:** The Chief Procurement Officer may terminate the Contract. Written notification of the default and termination of the Contract will be provided to you and the bond company by the Chief Procurement Officer. The Chief Procurement Officer's decision and declaration of termination is final and effective.
3. In addition to the foregoing, upon an event of default as defined in Section XXI.B, "Events of Default," the City may invoke any or all of the following remedies:

- a. The right of set-off against any payments due or to become due to you and against any retainage;
- b. The right to take over and complete the Work, or any part of it, either directly or through others. The City may use your Subcontractors, materials and equipment to complete the Work. If the City notifies you that it is invoking this remedy, all rights you may have in or under your subcontracts are assigned to the City, subject to the City's right to take assignment of all or only selected subcontracts, at the City's discretion. The sole obligation accepted by the City under such subcontracts is to pay for Work satisfactorily performed after the date of the assignment. In the event a conditional assignment has not been executed, you must execute, or cause to be executed, any assignment, agreement, or other document that may be necessary, in the sole opinion of the Corporation Counsel, to evidence or effect compliance with this provision. You must promptly deliver such documents upon the City's request. In the case of any subcontract so assigned and accepted by the City, you remain liable to the Subcontractors for any payment already invoiced to and paid by the City, and for any claim, suit, or cause of action based on or resulting from any error, omission, negligence, fraud, willful or intentionally tortious conduct, or any other act or omission, or breach of Contract, by you, your officers, employees, agents, and other Subcontractors, arising before the date of assignment to the City, when such claim, suit, or cause of action has not been discharged, disposed of, or otherwise resolved as of that date. You must notify your Subcontractors of these requirements;
- c. In the event of termination, all costs and changes incurred by the City, together with the cost of completing the Work, are deducted from any moneys due or that may become due to you. When the expense incurred by the City exceeds the sum that would have been payable under the Contract, you and the surety are liable and must pay to the City the amount of the excess;
- d. The right to terminate the Contract as to any or all of the Work yet to be performed;
- e. The right of specific performance, an injunction, or any other appropriate equitable remedy, as may be applicable;
- f. The right to money damages, including all expert witness or other consultant fees, court costs, and attorneys' fees that the City may incur in connection with any claim, suit, or action based upon, related to, or arising from, directly or indirectly, an event of default under this Contract;
- g. The right to withhold all or any part of your compensation;
- h. The right to terminate any or all of any other contracts that you may have with the City; and
- i. The right to deem you non-responsible in future contracts to be awarded by the City.

D. Nonexclusivity of Remedies

The remedies under the terms of this Contract are not intended to be exclusive of any other remedies provided, but each and every such remedy is cumulative and is in addition to any other remedies, existing now or hereafter, at law, or in equity. No delay or omission to exercise any right or power accruing upon any event of default impairs any such right or power, nor constitutes a waiver of any event of default or acquiescence in it, and every such right and power may be exercised from time to time and as often as may be deemed expedient.

E. Adjudication of Termination

If the Contract is terminated by the City for cause and it is subsequently determined by a court of competent jurisdiction that the termination was without cause, the termination will thereupon be deemed under Section XXI.F, "Early Termination," and the provisions of Section XXI.F, "Early Termination," apply.

F. Early Termination

1. The City, through the Chief Procurement Officer, may terminate your Work by written notice stating the effective date of the termination. Immediately upon receipt of the notice, you must provide similar written notice to the affected Subcontractor(s), whereupon you and Subcontractor(s) must, except for services necessary for the orderly termination of the Work.
 - a. Stop all Work and place no further order or subcontracts for materials, services, equipment or supplies;
 - b. Assign to the City, in the manner and to the extent directed, all of your rights under Work orders, purchase orders and subcontracts relating to the portion of the Work that has been completed;
 - c. Terminate Work orders, purchase orders and subcontracts outstanding to the extent that they relate to the Work and are not assigned to the City;
 - d. Take any action necessary to protect property in your possession in which the City has or may acquire an interest; and
 - e. Take any other action toward termination of the Work that the City may direct.
2. If all or a portion of your Work is terminated under this Section, "Early Termination," you are entitled to payment of those costs relating to the completed portion of the Work. No payment will be made for Work not actually performed. Deductions will be made by the City for any amounts previously paid to you and for any amounts that may be due the City, or that the City may offset or withhold by the terms of this Contract. Thus, the City will pay you, subject to the limitations set forth in this Contract, the sum of the following costs:
 - a. That portion of the Contract Price related to the Work you completed immediately before notice of termination less the payments for progress or changes previously made; and

- b. Expenses incurred for which you are liable as the result of your termination of respective Work orders, purchase orders or subcontracts related to the notice of termination. The total amount of all payments to you must not, in any event, exceed the proportion that the Work actually performed (including materials delivered to the Project site minus credits for returned goods or canceled orders) at the date of termination bears to the entire Work to be performed under this Contract. Any payment to you under this subsection will be made in accordance with the provisions of Article XII, "Payments."
3. After receipt of a notice of termination under this Section XXI.F, "Early Terminations," you must submit to the Commissioner your final invoice in the form required, with supporting documentation. The Commissioner may require certified payrolls, receipts and other proof of expenditures. The final invoice must be submitted promptly, but in no event more than 60 days after the effective date of termination. Failure to submit the final invoice within 60 days after the effective date of termination constitutes a waiver of the final invoice.

G. Non-Appropriation

If no funds or insufficient funds are appropriated and budgeted in any fiscal period of the City for payments to be made under this Contract, then the City will notify you of that occurrence and this Contract will terminate on the earlier of the last day of the fiscal period for which sufficient appropriation was made or whenever the funds appropriated for payment under this Contract are exhausted. No payments will be made to you under this Contract beyond those amounts appropriated and budgeted by the City to fund payments under it.

XXII. COMPLIANCE WITH ALL LAWS

A. Contractor Must Comply with All Laws

Contractor must observe and comply with all Applicable Laws, in effect now or later and whether or not they appear in the Agreement, including those specifically referenced herein or in any of the Contract Documents. Contractor must pay all taxes and obtain all licenses, certificates and other authorizations required in connection with the performance of its obligations hereunder, and Contractor must require all subcontractors to do so. Contractor is fully responsible for ascertaining and complying with all agency and code requirements applicable to the Work.

By entering into this Contract with the City, Contractor certifies to the best of its knowledge and belief that it, its principals and any subcontractors used in the performance of this contract, have not been subject to any debarment, suspension or other disciplinary action by any government agency. Additionally, if at any time the contractor becomes aware of such information, it must immediately disclose it to the City.

B. Civil Rights Act of 1964, Title VI, Compliance With Nondiscrimination Requirements

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Federal Nondiscrimination Requirements

The contractor will comply with federal nondiscrimination laws, regulations, and authorities, as they may be amended from time to time (Acts and Regulations), which include:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination under Title VI includes discrimination because of limited English proficiency (LEP). (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, prohibits discrimination because of sex in education programs or activities (20 U.S.C. 1681 et seq);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, religion, color, national origin, or sex in any activity carried out with a grant from the FAA).

2. Non-discrimination

The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21 (Nondiscrimination in Federally-Assisted Programs of the US Department of Transportation).

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment

In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. Information and Reports

The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City or applicable federal agency (e.g. Federal Aviation Administration, Federal Highway Administration, Federal Transit Authority, Transportation Security Administration, Department of Housing and Urban Development, etc.) providing funding to the City department(s) on this contract to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the federal agency, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance

In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the City will impose such contract sanctions as it or the relevant federal funding agency may determine to be appropriate, including, but not limited to:

A. Withholding payments to the contractor under the contract until the contractor complies; and/or

B. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions

The contractor will include the provisions of above paragraphs 1, "Compliance With Regulations" through 6, "Incorporation of Provisions" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the applicable federal agency may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

7. Other Non-Discrimination Requirements

a. Illinois Human Rights Act

Contractor must comply with the Illinois Human Rights Act, 775 ILCS 5/1-1 01 et seq., as amended and any rules and regulations promulgated in accordance therewith, including, but not limited to the Equal Employment Opportunity Clause, 44 Ill. Admin. Code 750 Appendix A.

Contractor must comply with the Public Works Employment Discrimination Act, 775 ILCS 10/0.01 et seq., as amended; and all other applicable state laws, rules, regulations and executive orders.

b. Chicago Human Rights Ordinance MCC Ch. 2-160

Contractor must comply with the Chicago Human Rights Ordinance, MCC Ch. 2-160, Sect. 2-160-010 et seq., as amended; and all other applicable municipal code provisions, rules, regulations and executive orders.

Contractor must furnish or shall cause each of its Subcontractors to furnish such reports and information as requested by the Chicago Commission on Human Relations.

c. State of Illinois Equal Employment Opportunity Clause

In the event of the Contractor's non-compliance with the provisions of this Equal Employment Opportunity Clause or the Illinois Human Rights Act, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance of this contract, the Contractor agrees as follows:

A) That Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual

orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service; and, further, that he or she will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any underutilization.

B) That, if Contractor hires additional employees in order to perform this contract or any portion of this contract, Contractor will determine the availability (in accordance with 44 Ill. Admin. Code Part 750) of minorities and women in the areas from which Contractor may reasonably recruit and Contractor will hire for each job classification for which employees are hired in a way that minorities and women are not underutilized.

C) That, in all solicitations or advertisements for employees placed Contractor or on Contractor's behalf, Contractor will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status or an unfavorable discharge from military service.

D) That Contractor will send to each labor organization or representative of workers with which Contractor has or is bound by a collective bargaining or other agreement or understanding, a notice advising the labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and 44 Ill. Admin. Code Part 750. If any labor organization or representative fails or refuses to cooperate with the Contractor in Contractor's efforts to comply with the Act and this Part, the Contractor will promptly notify the Illinois Department of Human Rights and the City and will recruit employees from other sources when necessary to fulfill its obligations under the contract.

E) That Contractor will submit reports as required by 44 Ill. Admin. Code Part 750, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or the City, and in all respects comply with the Illinois Human Rights Act and 44 Ill. Admin. Code Part 750.

F) That Contractor will permit access to all relevant books, records, accounts and work sites by personnel of the City and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights's Rules and Regulations.

G) That Contractor will include verbatim or by reference the provisions of this clause in every subcontract awarded under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable

provisions of this clause by subcontractors; and further it will promptly notify the City and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with the provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

C. Business Relationships with Elected Officials

Pursuant to Section 2-156-030(b) of the Municipal Code, it is illegal for any elected official, or any person acting at the direction of such official, to contact either orally or in writing any other City official or employee with respect to any matter involving any person with whom the elected official has any business relationship that creates a financial interest on the part of the official, or the domestic partner or spouse of the official, or from whom or which he has derived any income or compensation during the preceding twelve months or from whom or which he reasonably expects to derive any income or compensation in the following twelve months. In addition, no elected official may participate in any discussion in any City Council committee hearing or in any City Council meeting or vote on any matter involving the person with whom the elected official has any business relationship that creates a financial interest on the part of the official, or the domestic partner or spouse of the official, or from whom or which he has derived any income or compensation during the preceding twelve months or from whom or which he reasonably expects to derive any income or compensation in the following twelve months.

Violation of Section 2-156-030 of the Municipal Code by any elected official with respect to this contract will be grounds for termination of this contract. The term financial interest is defined as set forth in Chapter 2-156 of the Municipal Code.

D. Inspector General and Legislative Inspector General

It is the duty of any bidder, proposer or Contractor, all Subcontractors, every applicant for certification of eligibility for a City contract or program, and all officers, directors, agents, partners and employees of any bidder, proposer, Contractor, Subcontractor or such applicant to cooperate with the Inspector General or the Legislative Inspector General in any investigation or hearing, if applicable, undertaken pursuant to Chapter 2-56 or 2-55 of the Municipal Code, respectively. Contractor understands and will abide by all provisions of Chapters 2-56 and 2-55.

All subcontracts must inform Subcontractors of this provision and require understanding and compliance with them.

E. Governmental Ethics Ordinance

As required by § 2-156-120 of the Municipal Code, no payment, gratuity or offer of employment shall be made in connection with any city contract, by or on behalf of a subcontractor to the prime contractor or higher-tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

F. False Statements

False statements made in connection with this Agreement, including statements in, omissions from and failures to timely update the EDS, as well as in any other affidavits, statements or contract documents constitute a material breach of the Agreement (each a "Disclosure Misrepresentation"). Any such Disclosure Misrepresentation renders the Agreement voidable at the option of the City, notwithstanding any prior review or acceptance by the City of any materials containing a Disclosure Misrepresentation. In addition, the City may debar Contractor, assert any contract claims or seek other civil or criminal remedies as a result of a Disclosure Misrepresentation (including costs of replacing a terminated Contractor pursuant to Chicago Municipal Ordinance 1-21-010).

G. Americans with Disabilities Act

Contractor must perform all construction or alteration that Contractor undertakes in connection with this Contract in compliance with all federal, state and local laws and regulations regarding accessibility standards for disabled or environmentally limited persons including: Americans with Disabilities Act, P.L. 101-336 (1990) and the Uniform Federal Accessibility Standards ("UFAS") or the American with Disabilities Act ("ADA") and; the Illinois Environmental Barriers Act, 410 ILCS 25/1 *et seq.* (1991), and the regulations promulgated with them. If the above cited standards are inconsistent, Contractor must comply with the standard providing greater accessibility.

H. Prohibition on Certain Contributions – Mayoral Executive Order 2011-4

No Contractor or any person or entity who directly or indirectly has an ownership or beneficial interest in Contractor of more than 7.5% ("Owners"), spouses and domestic partners of such Owners, Contractor's Subcontractors, any person or entity who directly or indirectly has an ownership or beneficial interest in any Subcontractor of more than 7.5% ("Sub-owners") and spouses and domestic partners of such Sub-owners (Contractor and all the other preceding classes of persons and entities are together, the "Identified Parties"), shall make a contribution of any amount to the Mayor of the City of Chicago (the "Mayor") or to his political fundraising committee during (i) the bid or other solicitation process for this Contract or Other Contract, including while this Contract or Other Contract is executory, (ii) the term of this Contract or any Other Contract between City and Contractor, and/or (iii) any period in which an extension of this Contract or Other Contract with the City is being sought or negotiated.

Contractor represents and warrants that since the date of public advertisement of the specification, request for qualifications, request for proposals or request for information (or any combination of those requests) or, if not competitively procured, from the date the City approached the Contractor or the date the Contractor approached the City, as applicable, regarding the formulation of this Contract, no Identified Parties have made a contribution of any amount to the Mayor or to his political fundraising committee.

Contractor shall not: (a) coerce, compel or intimidate its employees to make a contribution of any amount to the Mayor or to the Mayor's political fundraising committee; (b) reimburse its employees for a contribution of any amount made to the Mayor or to the Mayor's political

fundraising committee; or (c) bundle or solicit others to bundle contributions to the Mayor or to his political fundraising committee.

The Identified Parties must not engage in any conduct whatsoever designed to intentionally violate this provision or Mayoral Executive Order No. 2011-4 or to entice, direct or solicit others to intentionally violate this provision or Mayoral Executive Order No. 2011-4.

Violation of, non-compliance with, misrepresentation with respect to, or breach of any covenant or warranty under this provision or violation of Mayoral Executive Order No. 2011-4 constitutes a breach and default under this Contract, and under any Other Contract for which no opportunity to cure will be granted. Such breach and default entitles the City to all remedies (including without limitation termination for default) under this Contract, under Other Contract, at law and in equity. This provision amends any Other Contract and supersedes any inconsistent provision contained therein.

If Contractor violates this provision or Mayoral Executive Order No. 2011-4 prior to award of the Contract resulting from this specification, the CPO may reject Contractor's bid.

For purposes of this provision:

"Other Contract" means any agreement entered into between the Contractor and the City that is (i) formed under the authority of MCC Ch. 2-92; (ii) for the purchase, sale or lease of real or personal property; or (iii) for materials, supplies, equipment or services which are approved and/or authorized by the City Council.

"Contribution" means a "political contribution" as defined in MCC Ch. 2-156, as amended.

I. Licensing of General Contractors

Important: The failure to comply with the provisions of Chapter 4-36 of the Municipal Code ("Chapter 4-36") may result in ineligibility to bid, inability to perform (or continue) to work, imposition of substantial fines, and/or in the City's revoking the Bidder's "general contractor" license. Information about Chapter 4-36 and application forms are available on the City's website, www.cityofchicago.org. A copy of the entire ordinance is provided in Book 2 of this contract.

As stated elsewhere in the specification, the City reserves the right to reject any or all bids.

Bidder must be in compliance with the requirements of Chapter 4-36, in the appropriate license class commensurate with the size of this project, if the license is required for the scope of work, **at the time Bidder submits its bid** and, if it is awarded a contract, throughout the term of the contract.

Contractor's failure to be licensed as a "general contractor" at all times throughout the term of the contract, if the license is required for the scope of work, is an **event of default** under the Agreement and the City may exercise any and all rights and remedies permitted under the contract, at law, or in equity.

J. Buy America

Contractor must ensure that, to the extent applicable, Work provided under this Contract complies with any Buy America provisions of the federal government and/or any similar provisions of the State or City.

K. Steel Products

Unless otherwise provided in the Steel Products Procurement Act, 30 ILCS 565/1 *et seq.*, steel products used or supplied in the performance of this contract or any subcontract to this contract must be manufactured or produced in the United States. Knowing violation of this law may result in the filing and prosecution of a complaint by the Attorney General of the State of Illinois and will subject violators to a fine of the greater of \$5,000 or the payment price received as a result of such violation.

L. No Waste Disposal in Public Way MCC 11-4-1600(e)

Contractor warrants and represents that it, and to the best of its knowledge, its Subcontractors have not violated and are not in violation of the following sections of the Code (collectively, the Waste Sections):

- 7-28-390 Dumping on public way;
- 7-28-440 Dumping on real estate without permit;
- 11-4-1410 Disposal in waters prohibited;
- 11-4-1420 Ballast tank, bilge tank or other discharge;
- 11-4-1450 Gas manufacturing residue;
- 11-4-1500 Treatment and disposal of solid or liquid waste;
- 11-4-1530 Compliance with rules and regulations required;
- 11-4-1550 Operational requirements; and
- 11-4-1560 Screening requirements.

During the period while this Contract is executory, Contractor's or any Subcontractor's violation of the Waste Sections, whether or not relating to the performance of this Contract, constitutes a breach of and an event of default under this Contract, for which the opportunity to cure, if curable, will be granted only at the sole discretion of the CPO. Such breach and default entitles the City to all remedies under the Contract, at law or in equity.

This section does not limit the Contractor's and its Subcontractors' duty to comply with all applicable federal, state, county and municipal laws, statutes, ordinances and executive orders, in effect now or later, and whether or not they appear in this Contract.

Non-compliance with these terms and conditions may be used by the City as grounds for the termination of this Contract, and may further affect the Contractor's eligibility for future contract awards. The opportunity to cure, if curable, will be granted only at the sole discretion of the Chief Procurement Officer. Such breach and default entitles the City to all remedies under the Contract, at law or in equity.

M. Deemed Inclusion Provisions required by Applicable Law to be inserted in the Agreement are deemed inserted in the Agreement whether or not they appear in the Agreement or, upon application by either party, the Agreement will be amended to make the

insertion; however, in no event will the failure to insert the provisions before or after the Agreement is signed prevent its enforcement.

N. Firms Owned or Operated by People with Disabilities

The City encourages Contractors to use Subcontractors that are firms owned or operated by individuals with disabilities, as defined by Section 2-92-586 of the Municipal Code of the City of Chicago, where not otherwise prohibited by Federal or State law.

O. 2014 City Hiring Plan Prohibitions

1. The City is subject to the June 16, 2014 "City of Chicago Hiring Plan" (the "2014 City Hiring Plan") entered in *Shakman v. Democratic Organization of Cook County*, Case No 69 C 2145 (United States District Court for the Northern District of Illinois). Among other things, the 2014 City Hiring Plan prohibits the City from hiring persons as governmental employees in non-exempt positions on the basis of political reasons or factors.
2. Contractor is aware that City policy prohibits City employees from directing any individual to apply for a position with Contractor, either as an employee or as a subcontractor, and from directing Contractor to hire an individual as an employee or as a Subcontractor. Accordingly, Contractor must follow its own hiring and contracting procedures, without being influenced by City employees. Any and all personnel provided by Contractor under this Contract are employees or Subcontractors of Contractor, not employees of the City of Chicago. This Contract is not intended to and does not constitute, create, give rise to, or otherwise recognize an employer-employee relationship of any kind between the City and any personnel provided by Contractor.
3. Contractor will not condition, base, or knowingly prejudice or affect any term or aspect of the employment of any personnel provided under this Contract, or offer employment to any individual to provide services under this Contract, based upon or because of any political reason or factor, including, without limitation, any individual's political affiliation, membership in a political organization or party, political support or activity, political financial contributions, promises of such political support, activity or financial contributions, or such individual's political sponsorship or recommendation. For purposes of this Contract, a political organization or party is an identifiable group or entity that has as its primary purpose the support of or opposition to candidates for elected public office. Individual political activities are the activities of individual persons in support of or in opposition to political organizations or parties or candidates for elected public office.
4. In the event of any communication to Contractor by a City employee or City official in violation of paragraph 2 above, or advocating a violation of paragraph C above, Contractor will, as soon as is reasonably practicable, report such communication to the Hiring Oversight Section of the City's Office of the Inspector General, and also to the head of the relevant City Department utilizing services provided under this Contract. Contractor will also cooperate with any inquiries by OIG Hiring Oversight.

P. Duty to Report Corrupt Activity

Pursuant to MCC 2-156-018, it is the duty of the Contractor to report to the Inspector General, directly and without undue delay, any and all information concerning conduct which it knows to involve corrupt activity. "Corrupt activity" means any conduct set forth in Subparagraph (a)(1), (2) or (3) of Section 1-23-020 of the MCC. Knowing failure to make such a report will be an event of default under this Contract. Reports may be made to the Inspector General's toll free hotline, 866-IG-TIPLINE (866-448-4754).

Q. Equal Pay

The Contractor will comply with all applicable provisions of the Equal Pay Act of 1963, 29 U.S.C. 206(d) and the Illinois Equal Pay Act of 2003, 820 ILCS 112/1, et seq., as amended, and all applicable related rules and regulations including but not limited to those set forth in 29 CFR Part 1620 and 56 Ill. Adm. Code Part 320.

R. Economic Disclosure Statement and Affidavit and Appendix A ("EDS")

Pursuant to MCC Ch. 2-154 and 65 ILCS 5/8-10-8.5 any person, business entity or agency submitting a bid or proposal to or contracting with the City of Chicago will be required to complete the Disclosure of Ownership Interests in the EDS. Failure to provide complete or accurate disclosure will render this Contract voidable by the City.

Contractors must complete an online EDS prior to the Bid Opening Date. Contractors are responsible for notifying the City and updating their EDS any time there is a change in circumstances that makes any information provided or certification made in an EDS inaccurate, obsolete or misleading. Failure to so notify the City and update the EDS is grounds for declaring the Contractor in default, terminating the Contract for default, and declaring the Contractor ineligible for future contracts.

Contractor makes certain representations and certifications that the City relies on in its decision to enter into a contract. The Laws and requirements that are addressed in the EDS include the following:

1. MCC 1-23 and 720 ILCS 5/33E Bribery, Debts, and Debarment Certification

The Contractor or each joint venture partner, if applicable, must complete the appropriate subsections in the EDS which certify that the Contractor or each joint venture partner, its agents, employees, officers and any subcontractors (a) have not been engaged in or been convicted of bribery or attempted bribery of a public officer or employee of the City of Chicago, the State of Illinois, any agency of the federal government or any state or local government in the United States or engaged in or been convicted of bid-rigging or bid-rotation activities as defined in this section as required by the Illinois Criminal Code; (b) do not owe any debts to the State of Illinois, in accordance with 65 ILCS 5/11-42.1-1 and (c) are not presently debarred or suspended; Certification Regarding Environmental Compliance; Certification Regarding Ethics and Inspector General; and Certification Regarding Court-Ordered Child Support Compliance.

Contractor, in performing under this contract shall comply with MCC Sect. 2-92-320, as follows:

No person or business entity shall be awarded a contract or sub-contract if that person or business entity: (a) has been convicted of bribery or attempting to bribe a public officer or employee of the City of Chicago, the State of Illinois, or any agency of the federal government or of any state or local government in the United States, in that officers or employee's official capacity; or (b) has been convicted of agreement or collusion among bidders or prospective bidders in restraint of freedom of competition by agreement to bid a fixed price, or otherwise; or (c) has made an admission of guilt of such conduct described in (a) or (b) above which is a matter of record but has not been prosecuted for such conduct. For purposes of this section, where an official, agent or employee of a business entity has committed any offense under this section on behalf of such an entity and pursuant to the direction or authorization of a responsible official thereof, the business entity will be chargeable with the conduct.

One business entity will be chargeable with the conduct of an affiliated agency. Ineligibility under this section will continue for three (3) years following such conviction or admission. The period of ineligibility may be reduced, suspended, or waived by the CPO under certain specific circumstances. Reference is made to Section 2-92-320 for a definition of affiliated agency, and a detailed description of the conditions which would permit the CPO to reduce, suspend, or waive the period of ineligibility.

Failure by the Contractor or any controlling person (as defined in Section 1-23-010 of the Municipal Code of Chicago) thereof to maintain eligibility to do business with the City of Chicago as required by Section 1-23-030 of the Municipal Code of Chicago shall be a default for which no cure is available and grounds for termination of this Contract.

2. Federal Terrorist (No-Business) List

Contractor warrants and represents that neither Contractor nor an Affiliate, as defined below, appears on the Specially Designated Nationals List, the Denied Persons List, the Unverified List, the Entity List, or the Debarred List as maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury or by the Bureau of Industry and Security of the U.S. Department of Commerce or their successors, or on any other list of persons or entities with which the City may not do business under any applicable law, rule, regulation, order or judgment.

"Affiliate" means a person or entity which directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with Contractor. A person or entity will be deemed to be controlled by another person or entity if it is controlled in any manner whatsoever that results in control in fact by that other person or entity, either acting individually or acting jointly or in concert with others, whether directly or indirectly and whether through share ownership, a trust, a contract or otherwise.

S. Wheel Tax (City Sticker)

Contractor must pay all Wheel Tax required by Chapter 3-56 of the MCC, as amended from time to time. Contractor should take particular notice of MCC 3-56-020 and MCC 3-56-125 which relate to payment of the tax for vehicles that are used on City streets or on City property by City residents. For the purposes of Chapter 3-56, any business that owns, leases or otherwise controls a place of business within the City wherein motor vehicles or semi-trailers are stored, repaired, serviced, or loaded or unloaded in connection with the business is also considered to be a City resident.

T. EDS Update Obligation

Contractor is required to notify the City and update the EDS whenever there is a change in circumstances that makes any certification or information provided in an EDS inaccurate, obsolete or misleading. Failure to notify the City and update the EDS is grounds for declaring the Contractor in default, termination of the Contract for default, and declaring that the Contractor is ineligible for future contracts.

U. Electronic Mail Communication

Electronic mail communication between Contractor and City employees must relate only to business matters between Contractor and the City.

XXIII. MISCELLANEOUS

A. Counterparts

This Contract is comprised of several identical counterparts, each to be fully executed by the parties and each to be deemed an original having identical legal effect.

B. Modifications

No changes, modifications, cancellation, or discharge of this Contract, or any part of it, is valid unless in writing and signed by the parties to it, or their respective successors and assigns.

C. No Waiver of Legal Rights

1. The City will not be precluded or estopped from showing the true amount and character of the Work performed and materials furnished by you, or from showing that any measurement, estimate, or certificate is untrue or incorrectly made, or that the Work or materials do not conform in fact to the Contract. The City will not be precluded or estopped from recovering from you and your sureties such damages as the City may sustain by reason of your failure to comply with the terms of the Contract.
2. Neither the acceptance by the City, or any representative of the City, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the City, will operate as a waiver by the City of any portion of

the Contract, or of any power reserved in it or any right of the City to damages provided in it. A waiver of any breach of the Contract does not constitute a waiver of any other or subsequent breach.

3. **Miscellaneous Provisions:** Whenever under this Contract, the City by a proper authority waives your performance in any respect or waives a requirement or condition to either the City's or your performance, the waiver so granted, whether express or implied, only applies to the particular instance and is not deemed a waiver forever or for subsequent instance of the performance, requirement, or condition. No such waiver may be construed as a modification of this Contract regardless of the number of times the City may have waived the performance, requirement, or condition.

D. Contractor's Governing Law

This Contract is governed in accordance with the laws of the State of Illinois without regard to choice of law principles. You irrevocably submit, and will cause your Subcontractors to submit, to the original jurisdiction of those State or Federal courts located within the County of Cook, State of Illinois, with regard to any controversy arising out of, relating to, or in any way concerning the execution or performance of this Contract. You consent to service of process on you, at the option of the City, either by registered or certified mail addressed to the applicable office as provided for in this Contract, by registered or certified mail addressed to the office actually maintained by you, or by personal delivery on any of your officers, directors, or managing or general agents.

E. Consent to Service of Process and Jurisdiction

All judicial proceedings brought against you with respect to this Contract may be brought in (i) any court of the State of Illinois of competent jurisdiction; and (ii) any Federal court of competent jurisdiction located within the boundaries of the Federal court district of the Northern District of Illinois, and by execution and delivery of this Contract, you accept, for yourself and in connection with your properties, generally and unconditionally, the exclusive jurisdiction of those courts, and irrevocably agree to be bound by any final judgment rendered by them from which no appeal has been taken or is available. You designate and appoint the representative identified on the signature page to this Contract under the heading "Designation of Agent for Service Process" as your agent in Chicago, Illinois to receive on your behalf service of all process in any such proceedings in the court (which representative must be available to receive the service at all times), the service being acknowledged by the representative to effective and binding service in every respect. The agent may be changed only upon the giving of written notice by you to the City of the name and address of a new Agent for Service of Process who works within the geographical boundaries of the City of Chicago and is retained or employed by you. You irrevocably waive any objection (including any objection of the laying of venue or based on the grounds of *forum non conveniens*) which you may now or later have to bring any action or proceeding with respect to this Contract in the jurisdiction set forth above. Nothing in this section affects the right to serve process in any other manner permitted by law or limits the right of the City to bring proceedings against you in the courts of any other jurisdiction.

F. Contractor Cooperation

You must act in good faith in the performance of this Contract and co-operate with the City and any other City contractors at the site to assure timely completion of the Work. You must implement such measures as may be necessary to ensure that your staff and your Subcontractors are bound by the provisions of this Contract.

G. Joint and Several Liability

If you, or your successors or assigns, if any, are comprised of more than one individual or other legal entity (or a combination of them), then each and every obligation or undertaking stated in this Contract that you are to fulfill or perform is the joint and several obligation or undertaking of each such individual or other legal entity.

H. No Third Party Beneficiaries

Except as may otherwise be provided in this Contract, this Contract is solely for the benefit of the parties and nothing in this Contract is intended to create any third party beneficiary rights for Subcontractors or other third parties.

I. Notices

Notices, unless expressly provided for otherwise in this Contract, must be in writing and must be delivered personally or by placing in the United States mail, first class and certified, return receipt requested, with postage prepaid and addressed as follows:

1. If to the City: Commissioner, (Addresses of Department set forth in Book Two)
2. With Copies to: The Chief Procurement Officer, City Hall, 121 North LaSalle, Room 403, Chicago, IL 60602;
3. If to you: The address identified on your Proposal; and
4. With Copies to: Your bonding company.

Notices delivered by mail are deemed effective three days after mailing in accordance with this Section. Notices delivered personally are deemed effective upon receipt. Refusal to accept notice has the same effect as if notice were delivered. The addresses stated in this Contract may be revised without need for modification or amendment of this Contract, as long as written notification is given in accordance with this Section.

J. Authority

1. Contractor: Your execution of this Contract is authorized and signature(s) of each person signing on your behalf has been made with complete and full authority to commit you to all terms and conditions of this Contract, including every representation, certification, and warranty contained in it, attached to it and collectively incorporated by reference in it, or that may be required by the terms and conditions of this Contract. If other than a sole proprietorship, you must provide satisfactory evidence that the execution of the Contract is authorized in accordance with the business entities rules and procedures.

2. Consents and Approvals: Unless otherwise expressly stated in this Contract, any consents and approvals to be given by the City are made by the Commissioner.

K. Software License Agreements

The City reserves the right to negotiate software license agreements directly with the software supplier.

L. Title VI Solicitation Notice

The City, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

XXIV. NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Time-tables	Goals for minority participation for each trade	Goals for female participation in each trade
	19.6%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As used in this Notice, and in the contract resulting from this solicitation, the "covered area" includes the City of Chicago, Cook, DuPage, Kane, Lake, McHenry, and Will Counties (Standard Metropolitan Statistical Area).

XXV. EQUAL EMPLOYMENT OPPORTUNITY

Contractor's federal Equal Opportunity obligations, including but not limited those of 41 CFR Part 60-2 and Executive Order 11246 are set forth in FHWA Form 1273. Contractor's attention is particularly directed to the provisions under II. "Nondiscrimination."

XXVI. OTHER FEDERAL PROVISIONS

A. Interest of Members of or Delegates to the United States Congress

In accordance with 41 USC § 22, you will not admit any member of or delegate to the United States Congress to any share or part of the Contract or any benefit derived therefrom.

B. False or Fraudulent Statements and Claims

1. You recognize that the requirements of the Program Fraud Civil Remedies Act of 1986, as amended, 49 USC § 3081 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to your actions pertaining to the Contract. Accordingly, by signing the Contract, you certify or affirm the truthfulness and accuracy of any statement you have made, you make, or you may make pertaining to the Contract, including any invoice for your services. In addition to other penalties that may be applicable, you also acknowledge that if you make a false, fictitious, or fraudulent claim, statement, submission, or certification, the federal government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986, as amended, on you to the extent the federal government deems appropriate.

2. You also acknowledge that if you make a false, fictitious, or fraudulent claim, statement, submission, or certification to the City or federal government in connection with an urbanized area formula project financed with federal assistance authorized by 49 USC § 5307, the Government reserves the right to impose on you the penalties of 18 USC § 1001 and 49 USC § 5307(n)(1), to the extent the federal government deems appropriate.

C. Federal Interest in Patents

1. **General.** If any invention, improvement, or discovery of yours is conceived or first actually reduced to practice in the course of or under the Contract, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, you must notify City immediately and provide a detailed report.

2. **Federal Rights -** Unless the federal government later makes a contrary determination in writing, the rights and responsibilities of the City, you, and the federal government pertaining to that invention, improvement, or discovery will be determined in accordance with applicable federal laws and regulations, including any waiver of them; and irrespective of your status or the status of any Subcontractor at any tier (e.g., a large business, small business, non-profit organization, institution of higher education, individual), you will transmit to the federal government those rights due the federal government in any invention resulting from the Contract.

D. Federal Interest in Data and Copyrights

1. Definition

The term "subject data" used in this Section means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the Contract. Examples include computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to Contract administration.

2. Federal Restrictions

The following restrictions apply to all subject data first produced in the performance of the Contract. Except as provided in the Contract and except for your own internal use, you may not publish or publicly reproduce subject data in whole or in part, or in any manner or form, nor may you authorize others to do so, without the written consent of the City and the federal government, until such time as the federal government may have either released or approved the release of such data to the public.

3. Federal Rights in Data and Copyrights

In accordance with subparts 34 and 36 of the Common Rule, the City and the federal government reserve a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, for City or federal government purposes, the types of subject data described below. Without the copyright owner's consent, the City and federal government may not extend their license to other parties.

- a. Any subject data developed under the Contract or subagreement financed by a federal Grant Agreement or Cooperative Agreement, whether or not a copyright has been obtained; and
- b. Any rights of copyright in which you purchase ownership with federal assistance.

4. Special Federal Rights for Planning Research and Development Projects

When the federal government provides financial assistance for a planning, research, development, or demonstration project, its general intention is to increase public knowledge, rather than limit the benefits of the project to participants in the project. Therefore, unless the federal government determines otherwise, if this is a planning, research, development, or demonstration project, you consent, in addition to the rights in data and copyrights set forth above, that the City or federal government may make available to any third party either a license in the copyright to the subject data or a copy of the subject data. If the project is not completed for any reason whatsoever, all data developed under the project will become subject data and must be delivered as the City or federal government may direct. This subsection, however, does not apply to adaptations of automatic data processing equipment or previously existing software programs for the City's use whose costs are financed with federal transportation funds for capital projects.

5. Hold Harmless

Unless prohibited by state law, upon request by the City or the federal government, you must hold harmless the City and the federal government and their officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by you of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction,

delivery, use, or disposition of any data furnished under the Contract. You are not required to indemnify the City or federal government for any such liability arising out of the wrongful acts of employees or agents of the City or federal government.

6. Restrictions on Access to Patent Rights

Nothing contained in this Section on rights in data implies a license to the City or federal government under any patent or is to be construed as affecting the scope of any license or other right otherwise granted to the City or federal government under any patent.

7. Application on Materials Incorporated into Project

The requirements of subsections XXVI.D.2 , XXVI.D.3, and XXVI.D.4 of this Section do not apply to material furnished by the City and incorporated into the Work.

E. No Exclusionary or Discriminatory Specifications

Apart from inconsistent requirements imposed by federal statute or regulations, you will comply with the requirements of 49 USC ' 5323(h)(2) by refraining from using any federal assistance to support subcontracts procured using exclusionary or discriminatory specifications.

F. Cargo Preference - Use of United States Flag Vessels

You must comply with U.S. Maritime Administration regulations, "Cargo-Preference -- U.S. Flag Vessels," 49 CFR Part 381, and include the clauses required by those regulations, modified as necessary to identify the affected parties, in each subcontract or sub-agreement involving equipment, materials, or commodities suitable for transport by ocean vessel.

G. Fly America

You must comply with 49 USC Section 40118, and related regulations at 41 CFR Part 301-10, regarding use of United States air carriers, and included clauses requiring your Subcontractors to comply with the requirements of 49 USC Section 40118, and related regulations at 4 CFR Part 52, in all of your subcontracts.

H. No Federal Government Obligations to Third Parties

Absent the federal government's express written consent, the federal government is not subject to any obligations or liabilities to any contractor or any other person not a party to the Grant Agreement or Cooperative Agreement between the City and the federal government, which is a source of funds for this Contract. Notwithstanding any concurrence provided by the federal government in or approval of any solicitation, agreement, or contract, the federal government continues to have no obligations or liabilities to any party, including you.

I. Allowable Costs

Notwithstanding any compensation provision to the contrary, your compensation under this Contract is limited to those amounts that are allowable and allocable to the Contract in accordance with OMB Circular A-87 and the regulations in 49 CFR Part 18. To the extent that an audit reveals that you have received payment in excess of such amounts, the City may offset such excess payments against any future payments due to you and, if no future payments are due or if future payments are less than such excess, you must promptly refund the amount of the excess payments to the City.

J. Contract Work Hours and Safety Standards Act

If applicable according to their terms, you must comply and assure compliance with sections 102 and 107 of the Contract Work Hours and Safety Standards Act, as amended, 40 USC " 327 through 333, and implementing U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 CFR Part 5; and U.S. DOL regulations, "Safety and Health Regulations for Construction," 29 CFR Part 1926. In addition to other requirements that may apply:

1. In accordance with sections of the Contract Work Hours and Safety Standards Act, as amended, 40 USC " 327 through 332, you must assure that, for the Contract, the wages of every mechanic and laborer will be computed on the basis of a standard work week of 40 hours, and that each worker will be compensated for Work exceeding the standard work week at a rate of not less than 1.5 times the basic rate of pay for all hours worked in excess of 40 hours in the work week. Determinations pertaining to these requirements will be made in accordance with applicable U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-Construction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 CFR Part 5.
2. In accordance with section 107 of the Contract Work Hours and Safety Standards Act, as amended, 40 USC §333, you must assure that no laborer or mechanic working on a construction contract is required to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to his or her health and safety, as determined in accordance with US DOL regulations, "Safety and Health Regulations for Construction," 29 CFR Part 1926.

K. Seismic Safety

If this Contract is for the construction of a building or an addition thereto, you must apply the requirements of US DOT regulations applicable to seismic safety requirements for US DOT assisted construction projects at 49 CFR Part 41, (specifically, 49 CFR ' 41.120), and any implementing guidance the federal government may issue, to the construction of any new building and to additions to any existing building.

L. Buy America

You must ensure that any Work performed under this Contract complies with the "Buy America" regulations of the FHWA, as set forth in 23 CFR Part 635.410, which generally require that all manufacturing processes for steel and iron products to be incorporated in a construction project, including application of a coating, must occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied.

XXVII. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

A. As used in these specifications:

1. "Covered Area" means the geographical area described in the solicitation from which this contract resulted;

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2. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

3. "Employer Identification Number" means the federal Social Security number used on the Employer's Quarterly federal Tax Return, U.S. Treasury Department Form 941.

4. "Minority" includes:

a. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

b. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

c. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

d. American Indian or Alaskan Native (all persons having origins in any of the original people of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

B. Whenever you, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, you must physically include in each subcontract in excess of \$10,000 the provisions of these specification and the Notice that contains the applicable goals for minority and female participation and that is set forth in the solicitations from which this contract resulted.

C. If you are participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) must be in accordance with the Plan for those trades that have unions participating in the Plan. You must be able to demonstrate your participation in and compliance with the provisions of any such Hometown Plan. Each contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

D. You must implement the specific affirmative action standards provided in paragraphs XXVI.G.1 through XXVI.G.16 of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization you should reasonably be able to achieve in each construction trade in which you have employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract must apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from federal procurement contracting officers. You are expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

E. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom you have a collective bargaining agreement, to refer either minorities or women excuses your obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

F. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, you must employ such apprentices and trainees during the training period, and you must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

G. You must take specific affirmative action to ensure equal employment opportunity. The evaluation of your compliance with these specifications will be based upon your effort to achieve maximum results from your actions. You must document these efforts fully, and must implement affirmative action steps at least as extensive as the following:

1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which your employees are assigned to work. You, where possible, will assign two or more women to each construction project. You must specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out your obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when you or your unions have employment opportunities available, and maintain a record of the organization's responses.

3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If the individual was sent to the union hiring hall for referral and was not referred back to you or the union or, if referred, not employed by you, this must be documented in the file with reason therefor, along with whatever additional actions you may have taken.

4. Provide immediate written notification to the director when the union or unions with which you have a collective bargaining agreement have not referred to you a minority person or woman that you sent, or when you have other information that the union referral process has impeded your efforts to meet your obligations.

5. Develop on-the-job training opportunities and/or participate in training programs for the area that expressly includes minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to your employment needs, especially those programs funded or approved by the Department of Labor. You must provide notice of these programs to the sources complied under G.2. above.

6. Disseminate your EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting you in meeting your EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy

with all management personnel and with all minority and female employees at least once a year and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., before the initiation of construction work at any job site. A written record must be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

8. Disseminate your EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing your EEO policy with other contractors and Subcontractors with whom you anticipate doing business.

9. Direct your recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving your recruitment area and employment needs. Not later than one month before the date for the acceptance of applications for apprenticeship or other training by any recruitment source, you must send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and your obligations under these specifications are being carried out.

14. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities must be provided to assure privacy between the sexes.

15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

16. Conduct a review, at least annually of all supervisor's adherence to and performance under your EEO policies and affirmative action obligations.

H. Contractors are encouraged to participate in voluntary associations that assist in fulfilling one or more of their affirmative action obligations (G.1. through 16.). The efforts of a contractor association, joint contractor-union, contractor community, or other similar group of which you are a member and participant, may be asserted as fulfilling any one or more of its obligations under G.1. through 16 of these Specifications but only if you actively participate in the group, make every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensure that the concrete benefits of the program are reflected in your minority and female workforce participation, make a good faith effort to meet your individual participation, make a good faith effort to meet your individual goals and timetables, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of you. The obligation to comply, however, is yours and failure of such a group to fulfill an obligation is not a defense for your noncompliance.

I. A single goal for minorities and a separate single goal for women have been established. You, however, are required to provide equal employment opportunity and to make affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, you may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though you have achieved its goals for women generally, you may be in violation of the Executive Order if a specific minority group of women is underutilized).

J. You must not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

K. You must not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

L. You must carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties is in violation of these specifications and Executive Order 11246, as amended.

M. You, in fulfilling your obligations under these specifications, must implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph G. of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If you fail to comply with the requirements of the Executive Order, the implementing regulations, or these Specifications, the Director must proceed in accordance with 41 CFR 60-4.8.

N. You must designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions of this Section as may be required by Government and to keep records. Records must at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records must be maintained in an

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easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors are not required to maintain separate records.

O. Nothing provided in this Contract may be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

XXVIII. Special Conditions Regarding Disadvantaged Business Enterprise Commitment

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CITY OF CHICAGO
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**DBE SPECIAL CONDITIONS FOR FAA/FTA/FHWA (IDOT) FUNDED CONTRACTS
CONSTRUCTION, SERVICES, TASK ORDER SERVICES, AND SUPPLY**

Contractor must comply with the following terms and conditions where Work or Services are funded in whole or in part by any federal funds including but not limited to FHWA, FTA and FAA.

1.1. Policy and Terms

In the event of a conflict between these Special Conditions and 49 CFR Part 26, the provisions of 49 CFR Part 26 shall control.

It is the policy of the City that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, have the maximum opportunity to participate fully in the performance of contracts subject to 49 CFR Part 26. Contractor must not discriminate against any person or business on the basis of race, color, national origin or sex in the performance of this Contract. Contractor must carry out applicable requirements of 49 CFR Part 26 in the award and administration of United States Department of Transportation (DOT)-assisted contracts and take affirmative action to ensure that businesses owned by socially and economically disadvantaged individuals have full opportunity to participate.

The City has set an overall DBE Program Goal of 30%.

Failure to carry out the commitments and policies set forth in this Article constitutes a material breach of the Contract and may result in the termination of the Contract or such remedy as the City deems appropriate.

1.1.1. Contract-Specific DBE Participation Goal

The City sets contract-specific goals for participation in furtherance of reaching its overall DBE Program Goal.

For purposes of this contract, the City has set the following contract goal:

Contract DBE Participation Goal: See percentage set out in Book 2.

Note: if this contract is task-order based, goals will be set for the individual task orders; in the context of each task order, these provisions will apply to those task order goals as if they were an overall contract goal.

A bid or proposal may be rejected as non-responsive if the bidder/proposer fails to submit one or more of the following with its bid demonstrating its good faith efforts to meet the Contract DBE Participation Goal by reaching out to DBEs to perform work on the contract:

- A. A DBE compliance plan demonstrating how the bidder/proposer plans to meet the Contract DBE Participation Goal (Schedule D, D-1 or D-3 and Schedule(s) C, C-1 or C-3); and/or
- B. Documentation of Good Faith Efforts to obtain DBE participation in this contract.

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Note: Schedules D and C are used for contracts for construction work. Schedules D-1 and D-3 are used for contracts for services, and Schedules D-3 and C-3 are used for task order based contracts.

The bidder/proposer must make good faith efforts to obtain DBE participation in this contract. The commitment will be reflected in Schedule D, D-1 or D-3. The bidder/proposer must document that it has obtained enough DBE participation to meet the Contract DBE Participation Goal set forth above or, if unsuccessful in doing so, has made adequate Good Faith Efforts to meet the goal (see Section 1.7 "Good Faith Efforts"). If awarded the Contract, Contractor must expend not less than the committed percentage of the total Contract Price (including any amendments and modifications) for contract participation by DBEs.

For purposes of evaluating bidder/proposer's responsiveness, the Contract DBE Participation Goal will be a percentage of the total contract value. The Contract DBE Participation Goal applies to the total value of the contract, inclusive of all amendments and modifications. The Chief Procurement Officer also has the authority to review each proposed contract modification and amendment that by itself or aggregated with previous modification/amendment requests, increases the contract value by 10 percent of the initial award or \$50,000, whichever is greater, for opportunities to increase participation of DBEs already involved in the contract.

The Contract DBE Participation Goal may be met by the bidder/proposer's status as DBE, or by joint venture with one or more DBEs (but only work performed by the DBEs own forces will be counted), or by subcontracting a portion of the work to one or more DBEs, or by purchasing materials used in the performance of the contract from one or more DBEs or by any combination of the foregoing, as further described in Section 1.5, "Counting DBE Participation Towards the Contract DBE Participation Goal."

1.1.2. DBE Financial Institutions

Bidder/Proposer is encouraged to use financial institutions owned and controlled by socially and economically disadvantaged individuals. Use of such institutions may be considered by the City as evidence of bidder/proposer's willingness to do business with DBEs. Information about such institutions is available in the City's DBE Program document. In addition, the Illinois Unified Certification Program (IL UCP) Disadvantaged Business Enterprises Directory is available via the internet at www.cityofchicago.org/procurement and in print at the City of Chicago, Bid and Bond Room, City Hall, 121 N. LaSalle, Room 301, Chicago, IL 60602.

1.1.3. DBE Participation Goals for Contract Modifications

The DBE Participation Goals established at the time of bid/proposal submission shall also apply to any modifications to the Contract after award. This is, any additional work and/or money added to the Contract must also adhere to these Special Conditions requiring Contractor to (sub)contract with DBEs to meet the DBE Participation Goals.

- Contractor must assist the Construction Manager or User Department in preparing its "proposed contract modification" by evaluating the subject matter of the modification and determining whether there are opportunities for DBE participation and at what rates.
- Contractor must produce a statement listing the DBEs that will be utilized on any contract modification. The statement must include the percentage of utilization of the firms. If no DBE participation is available, an explanation of good faith efforts to obtain participation must be included.

The Chief Procurement Officer shall review each proposed contract modification and amendment that by itself or aggregated with previous modification/amendment requests, increases the contract value by ten percent (10%) of the initial award, or \$50,000, whichever is less, for opportunities to increase the participation of DBEs already involved in the Contract.

1.2. Definitions and Usage

Terms that are capitalized in these Special Conditions are defined terms and have the meanings set forth in 49 CFR Part 26.5, unless otherwise defined in these Special Conditions or the Contract Documents.

"Area of Specialty" means the description of a DBE firm's business which has been determined by the certifying agency to be most reflective of the DBE firm's claimed specialty or expertise. Each DBE letter of certification contains a description of the firm's Area of Specialty. This information is also contained in the Directory. Credit toward the Contract DBE Participation Goal is limited to the participation of firms performing within their Areas of Specialty.

NOTICE: The Department of Procurement Services does not make any representation concerning the ability of any DBE to perform work within its Area of Specialty. It is the responsibility of all bidders/proposers to determine the capability and capacity of DBE firms to satisfactorily perform the work proposed.

Certain terms are used in these Special Conditions to indicate the stage of bidding, proposing or contracting in which certain obligations arise. The term "proposer" means a firm responding to a request for proposals by the City for professional or technical services or other procurement not adaptive to competitive bidding; a bidder or proposer becomes a "contractor" after being awarded a contract by the City.

"Contractor" also means "Consultant," if Consultant is the term used for the entity that has entered into this agreement or contract with the City.

"Directory" means the IL UCP Disadvantaged Business Enterprises Directory, maintained by the City as well as all IL UCP participating agencies, that identifies all firms eligible to participate as DBEs. The Directory lists the firm's name, address, phone number, date of most recent certification and the type of work the firm has been certified to perform as a DBE. The City revises the Directory on a monthly basis. The Directory is available via the internet on the City's web site at www.cityofchicago.org/procurement, and in print at the City of Chicago, Bid and Bond Room 121 N. LaSalle St., Room 301, Chicago, Illinois, 60602. Bidder/Proposers are responsible for verifying the current certification status of all proposed DBE firms.

"Disadvantaged Business Enterprise" or "DBE" means a for-profit small business concern that (i) is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged, or in the case of a corporation, 51 percent of the stock is owned by one or more such individuals; (ii) whose management and daily operations are controlled by one or more of the socially and economically disadvantaged individuals who own it; (iii) the personal net worth of the individuals who own it does not exceed the limit specified at 49 CFR Part 26; and (iv) it has been certified as a DBE in accordance with the procedures set out in 49 CFR Part 26.

"Joint Venture" means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

1.3. Third Party Challenges To Eligibility Of DBE Firm

As noted in 49 CFR Section 26.87, any third party (complainant) may file a complaint alleging that a currently certified DBE is ineligible. The complaint must be made in writing to the City and specify the alleged reasons why the firm is ineligible and include all available information relevant to a determination of whether the challenged party is in fact socially and economically disadvantaged. The City, during its determination of findings, will notify the challenged party of the allegations and notify both parties in writing of the outcome. The confidentiality of the complainant's identity will be protected as provided in 49 CFR Section 26.109(b). If the City determines first, that there were not reasonable grounds presented in the complaint sufficient to justify an inquiry, then the City will notify the complainant and the challenged party of this determination and

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the reasons for it. During the pendency of any complaint, the presumption that the challenged party is a socially and economically disadvantaged will remain in effect.

1.4. Joint Ventures

Bidders/proposers may develop joint venture agreements as an instrument to provide participation by DBEs in contract work. A joint venture may consist of any combination of DBEs and non-certified firms as long as one member is a DBE.

- A. The joint venture may be eligible for DBE participation credit towards the Contract Specific Goals only if:
1. The DBE joint venture partner's share in the capital contribution, control, management, risks and profits of the joint venture is equal to its ownership interest;
 2. The DBE joint venture partner is responsible for a distinct, clearly defined portion of the requirements of the contract for which it is at risk;
 3. Each joint venture partner executes the bid/contract to the City; and
 4. The joint venture partners have entered into a written agreement specifying the terms and conditions of the relationship between the partners and their relationship and responsibilities to the contract, and all such terms and conditions are in accordance with the conditions set forth in Items 1, 2, and 3 above in this Paragraph A.

B. The Chief Procurement Officer shall evaluate the proposed joint venture agreement, the Schedule B submitted on behalf of the proposed joint venture, and all related documents to determine whether these requirements have been satisfied. The Chief Procurement Officer shall also consider the record of the joint venture partners on other City of Chicago contracts. The decision of the Chief Procurement Officer regarding the eligibility of the joint venture for credit towards meeting the Contract Specific Goals, and the portion of those goals met by the joint venture, shall be final.

The joint venture may receive DBE credit for work performed by the DBE joint venture partner(s) equal to the value of work performed by the DBE with its own forces for a distinct, clearly defined portion of the work.

The Chief Procurement Officer may also count the dollar value of work subcontracted to other DBEs. Work performed by the forces of a non-certified joint venture partner shall not be counted toward the Contract Specific Goals.

C. Schedule B: DBE Affidavit of Joint Venture

Where the bidder/proposer's Compliance Plan includes the participation of any DBE as a joint venture partner, the bidder/proposer must submit with its bid or proposal a Schedule B and the proposed joint venture agreement. These documents must both clearly evidence that the DBE joint venture partner(s) will be responsible for a clearly defined portion of the work to be performed, and that the DBE's responsibilities and risks are proportionate to its ownership percentage. The proposed joint venture agreement must include specific details related to:

1. The parties' contributions of capital, personnel, and equipment and share of the costs of insurance and bonding;
2. Work items to be performed by the DBE's own forces and/or work to be performed by employees of the newly formed joint venture entity;
3. Work items to be performed under the supervision of the DBE joint venture partner; and
4. The DBE's commitment of management, supervisory, and operative personnel to the performance of the contract.

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Vague, general descriptions of the responsibilities of the DBE joint venture partner do not provide any basis for awarding credit. For example, descriptions such as "participate in the budgeting process," "assist with hiring," or "work with managers to improve customer service" do not identify distinct, clearly defined portions of the work. Roles assigned should require activities that are performed on a regular, recurring basis rather than as needed. The roles must also be pertinent to the nature of the business for which credit is being sought. For instance, if the scope of work required by the City entails the delivery of goods or services to various sites in the City, stating that the DBE joint venture partner will be responsible for the performance of all routine maintenance and all repairs required to the vehicles used to deliver such goods or services is pertinent to the nature of the business for which credit is being sought.

D. DBE Participation Level in Joint Venture

Credit for participation by DBEs in joint ventures with non-DBEs does not require a minimum participation of 51 percent in venture ownership and control on the part of the DBE. Credit is based on the percentage of the work performed by the DBE's own forces. See Section 1.5, "Counting DBE Participation Toward the Contract DBE Participation Goal").

NOTE: The City requires that whenever a joint venture submits a bid/proposal as prime contractor, each joint venturer must separately sign the bid/proposal to the City on the pages marked TO BE EXECUTED BY A CORPORATION; TO BE EXECUTED BY A PARTNERSHIP; and/or TO BE EXECUTED BY A SOLE PROPRIETOR as applicable.

1.5. Counting DBE Participation Toward The Contract DBE Participation Goal

When a DBE participates in a contract, count only the value of the work actually performed by the DBE toward the DBE Participation Goal, as described in 49 CFR 26.55.

Refer to this section when preparing the DBE compliance plan and completing Schedule D for guidance on what value of the participation by DBEs will be counted toward the stated DBE Participation Goal. The "Percent Amount of Participation" depends on whether and with whom a DBE subcontracts out any portion of its work and other factors.

Expenditures to a DBE contractor or subcontractor may be counted only if the DBE is performing a "commercially useful function" on the contract. The term "commercially useful function" is defined in 49 CFR 26.55(c). If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the City will rebuttably presume that the DBE is not performing a commercially useful function.

A contractor (and bidder/proposers in their proposals) may count only the following toward the Contract DBE Participation Goal and should report only the following to the Chief Procurement Officer:

A. **The value of the work actually performed by a DBE**, as described below:

1. For construction contracts and other contracts not covered by A.2., below:

The entire amount of that portion of a contract that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate). (See 49 CFR 26.55(a)(1).)

2. For contracts involving the provision of "bona fide services" (such as professional, technical, consultant or managerial services), or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract:

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The entire amount of fees or commissions charged by a DBE for providing a bona fide service, provided that the fee is reasonable and not excessive as compared with fees customarily allowed for similar services. The determination of whether the fee is reasonable and not excessive will be made by the City. (See 49 CFR 26.55(a)(2).)

3. When a DBE subcontracts part of the work of its contract to another firm:

The value of the subcontracted work may be counted toward the Contract DBE Participation Goal only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward the Contract DBE Participation Goal. (See 49 CFR 26.55(a)(3).)

B. **Joint Ventures:** When a DBE performs as a participant in a joint venture, the portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces is counted towards the Contract DBE Participation Goal. (See 49 CFR 26.55(b).)

C. **Materials and Supplies:** Regarding expenditures with a DBE for materials or supplies:

1. If the materials or supplies are obtained from a DBE "manufacturer," as that term is described in 49 CFR 26.55(e)(1), 100 percent of the cost of the materials or supplies. A manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles or equipment required under the contract and of the general character described in the specifications.
2. If the materials or supplies are purchased from a DBE "regular dealer," as that term is described in 49 CFR 26.55(e)(2), 60 percent of the cost of the materials or supplies.
3. With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, the amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, provided that the fees are reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of materials and supplies themselves.

The City shall determine the amount of credit awarded to a firm for the provisions of materials and supplies (e.g., whether a firm is acting as a regular dealer or a transaction expediter) on a contract-by-contract basis.

D. **Trucking Firms:** If the DBE manages and supervises the entire trucking operation for which it is responsible on a particular contract and the DBE itself owns and operates at least one fully licensed, insured and operational truck used on the contract and all leased trucks display the name and identification number of the DBE, then:

1. The total value of the transportation services a DBE provides on the contract using trucks it owns, insures and operates using drivers it employs.
2. The total value of the transportation services a DBE provides on the contract using trucks leased from another DBE trucking firm, including an owner-operator who is certified as a DBE trucking firm, but only if the lease indicates that the DBE lessee has exclusive use of and control over the truck, or, if the truck is used for work for others with the DBE lessee's consent, then the lease must give the DBE lessee absolute priority over its use.
3. Only the value of the fee or commission the DBE receives under a lease arrangement with non-DBE firms for the lease of trucks used to provide transportation services on the contract but only if the lease indicates that the DBE has exclusive use of and control over the truck, or, if the truck

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works for others with the DBE's consent, then the lease must give the DBE absolute priority over its use.

E. Other Considerations:

1. **Firm Not Currently Certified:** If a firm is not currently certified as a DBE in accordance with the standards of 49 CFR Part 26, subpart D, at the time of execution of the contract, do not count or report the firm's participation, except as provided in 49 CFR 26.87(i).
2. **Firm Whose Eligibility Has Been Removed:** Do not report the dollar value of work performed under a contract with a firm after it has ceased to be certified.
3. **Payment:** Do not report the participation of a DBE subcontractor until the amount to be counted toward the goal has been paid to the DBE.
4. **Area of Specialty:** Only the value of the dollars paid to the DBE firm for work that it performs in its Area of Specialty in which it is certified counts toward the DBE Participation Goal.

1.6. Procedure To Determine Bid/Proposal Compliance

The following Schedules and documents constitute the bidder's/proposer's DBE proposal, and must be submitted at the time of submission of proposals unless stated otherwise:

1.6.1. Schedule B: Affidavit of DBE/Non-DBE Joint Venture

Where the bidder/proposer's DBE proposal includes the participation of any DBE as a joint venturer prime or subcontractor, the bidder/proposer must submit, together with its bid/proposal, a Schedule B: Affidavit of DBE/Non-DBE Joint Venture with an attached copy of the joint venture agreement proposed among the parties. See Section 1.4 above, "Joint Ventures," for detailed requirements.

1.6.2. Schedule C, C-1 or C-3: Letter of Intent to Perform as a Subcontractor, Consultant, Subconsultant or Material Supplier

Bidder/proposer must submit a Schedule C, C-1 or C-3, for each DBE included on its Schedule D, D-1, or D-3) (including any DBE joint venture partners), signed by the respective DBE firm. Schedule C and D must be used for contracts for construction work, and Schedule C-1 and Schedule D-1 for all other contracts, except for task order based contracts, where Schedule C-3 and Schedule D-3 must be used instead.

Each Schedule C, C-1 or C-3 must accurately detail the work to be performed by the DBE firm and the agreed rates and prices to be paid. Each Schedule must specify the percentage of the dollar value of the DBE's subcontract that will be sublet to non-DBE and DBE contractors and be signed and dated by the DBE. Each Schedule must also include a separate sheet as an attachment on which the DBE fully describes its proposed scope of work, including a description of the commercially useful function being performed by the DBE in its Area of Specialty. If a facsimile copy of Schedule C, C-1 or C-3 has been submitted with the bid or proposal, an executed original Schedule C-1 must be submitted promptly by the bidder/proposer for each DBE included on the Schedule D, D-1 or D-3 after the date of bid or proposal opening.

Failure to submit any Schedule C, C-1, or C-3 as required by this Section will result in a Chief Procurement Officer's determination that a bid or proposal is "non-responsive." The Chief Procurement Officer has the discretion to apply additional suitable sanctions against any bidder/proposer who fails to comply with these requirements. Appropriate sanctions may include, without limitation, forfeiture of the bidder/proposer's bid deposit, rejection of the bidder/proposer's bid, or suspension of the bidder/proposer's eligibility to enter into future contracting opportunities with the City.

1.6.3. Schedule D, D-1 or D-3: Affidavit of Prime Contractor Regarding DBEs

Bidders/Proposers must submit at the time specified in the request for proposals, a completed Schedule D or D-1 (or for Task Order based contracts, Schedule D-3, which must be submitted at the time specified in

the request for task order proposals) committing them to the utilization of each listed DBE firm (*but see, Section 1.7, Good Faith Efforts*). The Schedule D, D-1 or D-3 must include the name, address, description of the work to be performed and dollar amount participation of each DBE subcontractor, supplier or consultant.

The bidder/proposer must use "Good Faith Efforts," as that term is described in 1.7 to meet the Contract DBE Participation Goal (i.e., the specific dollar amount of participation by each DBE firm included on its Schedule D-1 or D-3). The total dollar commitment to proposed DBE firms should equal the Contract DBE Participation Goal. Bidders/proposers are responsible for calculating the dollar equivalent of the Contract DBE Participation Goal as a percentage of their proposal. All commitments made by the bidder/proposer's Schedule D, D-1 or D-3 must conform to those presented in the submitted Schedule Cs, C-1s or C-3s.

A contractor may not modify its Compliance Plan after proposal opening except as directed by the Department of Procurement Services to correct minor errors or omissions. Bidders/proposers shall not be permitted to add DBEs after proposal opening to meet the Contract DBE Participation Goals, however, contractors are encouraged to add additional DBE vendors to their approved compliance plan during the performance of the contract when additional opportunities for participation are identified. Except in cases where substantial, documented justification is provided, the bidder/proposer or contractor shall not reduce the dollar commitment made to any DBE in order to achieve conformity between the Schedule Cs/ C-1s/C-3s and Schedule D/D-1/D-3. All terms and conditions for DBE participation on the contract must be negotiated and agreed to between the bidder/proposer or contractor and the DBE prior to submission of the Compliance Plan. If a proposed DBE ceases to be available after submission of the Compliance Plan, the bidder/proposer or contractor must comply with the provisions of Section 1.10, "DBE Substitutions."

1.6.4. Schedule F: Report of Subcontractor Solicitations

All Bidders/Proposers must submit, together with their bid/proposal, a completed Schedule F report containing information on all subcontractors, DBEs and non-DBEs, solicited for participation in the contract. The Schedule F shall include the following subcontractor information:

Contractor name; Address; Contact person; DBE status; Type of work solicited

1.6.5. Letters of Certification

A copy of each proposed DBE firm's Letter of Certification from the IL UCP must be submitted with the bid or proposal if currently certified. All Letters of Certification issued by the IL UCP include a statement of the DBE firm's Area of Specialty. The DBE firm's scope of work, as detailed by its Schedule C, C-1, or C-3 must conform to its stated Area of Specialty.

NOTE: Failure to submit the following information at the time of submission of bids or proposals (or in the case of task order contracts, the time of submission of task order proposals) will render the bid or proposal non-responsive: the names and addresses of DBE firms that will participate in the contract (Schedule D, D-1 or D-3), a description of the work that each DBE will perform (Schedule D, D-1 or D-3), the dollar amount of the participation of each DBE firm participating (Schedule D, D-1 or D-3), written documentation of the bidder/proposer's commitment to use a DBE subcontractor whose participation it submits to meet a contract goal (Schedule D, D-1 or D-3), written confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment (Schedule C, C-1 or C-3), affidavit of joint venture when a DBE participates in the contract for DBE credit as a joint venturer (Schedule B), report on all subcontractors solicited for participation in the contract (Schedule F) and if the Contract goal is not met, evidence of good faith efforts, as set out in Section 1.7, "Good Faith Efforts".

1.6.6. Procedure

- A. The submittals must have all blank spaces on the Schedule pages applicable to the subject specification filled in correctly.

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Agreements between a bidder/proposer and a DBE in which the DBE promises not to provide subcontracting quotations to other bidder/proposers are prohibited.

- B. During the period before award, the submitted documentation will be evaluated. As required under 49 CFR 26.109(c), all participants in the DBE Program, including the bidder/proposer, must give, upon request, earnest and prompt cooperation to the using department and the City's Chief Procurement Officer or his or her authorized delegate in submitting to interviews that may be necessary, or in allowing entry to places of business or in providing further documentation, or in soliciting the cooperation of a proposed DBE in providing such assistance. A bid/proposal may be treated as non-responsive by reason of the determination that the bidder/proposer was found to be unresponsive or uncooperative when asked for further information about the bid/proposal, or that false statements were made in the Schedules.
- C. Bidders/Proposers will not be permitted to modify their DBE proposal except as permitted to do so by the City. All terms and conditions stipulated for prospective DBE sub-contractors or suppliers therefore should be satisfactorily negotiated prior to the submission to the City of the bidder/proposer's DBE commitment as part of the DBE proposal. If circumstances arise, where a proposed DBE becomes no longer available, the process described in Section 1.10 DBE Substitutions, should be followed.
- D. When necessary in the interest of time, the City may treat a bid/proposal as non-responsive instead of granting extended time for a bidder/proposer to replace DBEs named in the DBE proposal that are later determined to be ineligible or unavailable.

1.7. Good Faith Efforts

1.7.1. Demonstration of Good Faith Efforts

In order for a bid/proposal to be responsive, at the time specified in the request for bids/proposals, the bidder/proposer must demonstrate it has made Good Faith Efforts to meet the Contract DBE Participation Goal. The demonstration is made in the form of the documentation described in Section 1.7.2 "Documenting Good Faith Efforts." The bidder/proposer can demonstrate it has made Good Faith Efforts to meet the Contract DBE Participation Goal either by:

- A. Meeting the Contract DBE Participation Goal, as provided in these Special Conditions, and documenting commitments for participation by DBE firms sufficient for this purpose; or
- B. Documenting, in the manner described below, adequate Good Faith Efforts to meet Contract DBE Participation Goal. This means bidders/proposers must submit at the time specified in the request for bids/proposals, documentation to show that it took all necessary and reasonable steps to achieve the Contract DBE Participation Goal or other requirements of 49 CFR Part 26, Appendix A, which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if the bidder/proposer was not fully successful. The following are examples of documented actions the City may consider to determine whether the bidder/proposer made Good Faith Efforts:
 - i. Soliciting through all reasonable and available means (e.g., attendance at pre-bid/proposal meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder/proposer must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder/proposer must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - ii. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the Contract DBE Participation Goal will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE

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participation, even where the prime contractor might otherwise prefer to perform these work items with its own forces.

- iii. Providing interested DBEs with adequate information about the plans, specifications and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- iv. Negotiating in good faith with interested DBEs. It is the bidder/proposer's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work. A bidder/proposer using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder/proposer's failure to meet the Contract DBE Participation Goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract within its own organization does not relieve the bidder/proposer of the responsibility to make Good Faith Efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
- v. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The DBE's standing within its industry, membership in specific groups, organization or associations and political or social affiliation (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder/proposer's efforts to meet the Contract DBE Participation Goal.
- vi. Making efforts to assist interested DBEs in obtaining bonding, lines of credit or insurance as required by the City or the bidder/proposer.
- vii. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- viii. Effectively using the services of available minority/women community organizations and contractors' groups; local, state and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

1.7.2. Documentation of Good Faith Efforts

The following 11 types of documentation, as applicable to the situation, will be considered by the Chief Procurement Officer in determining whether the bidder/proposer has made Good Faith Efforts to meet the Contract DBE Participation Goal. The documentation must be submitted at the time of submission of proposals or the proposal will be deemed non-responsive.

- A. A detailed statement of efforts to identify and select portions of work identified in the request for proposals to certified DBE firms. Include copies of attendance logs from pre-bid/proposal meetings, advertisements and written notices, as applicable.
- B. A listing of all DBE firms contacted that includes:
 - names, address and telephone numbers of DBE firms solicited;
 - date and time of contact;

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- method of contact (written, telephone, facsimile transmittal, etc.)
 - name of the person contacted.
- C. Copies of letters or any other evidence of mailing that substantiates outreach to DBE vendors that includes:
- project identification and location;
 - classification/commodity of work items for which quotations were sought;
 - date, item and location for acceptance of subcontractor bid proposals;
 - detailed statement which summarizes direct negotiations with appropriate DBE firms for specific portions of the work and indicates why negotiations were unsuccessful;
 - affirmation that good faith efforts have been demonstrated by choosing subcontracting opportunities likely to achieve the Contract DBE Participation Goal by not imposing any limiting conditions which were not mandatory for all subcontractors; or denying the benefits ordinarily conferred on DBE subcontractors for the type of work that was solicited.
- D. Copies of proposed plans for selecting portions of the work to be performed by DBEs in order to increase the likelihood that the Contract DBE Participation Goal will be achieved.
- E. Evidence that the bidder/proposer negotiated in good faith with interested DBEs.
- F. Evidence that the bidder/proposer did not reject DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities.
- G. Evidence that the bidder/proposer made efforts to assist interested DBEs in obtaining bonding, lines of credit or insurance, as required by the City or the bidder/proposer.
- H. Evidence that the bidder/proposer made efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.
- I. Evidence that the bidder/proposer has provided timely notice of the need for subcontractors to at least 50 percent of the DBEs listed in the City's Directory as being certified in the applicable Areas of Specialty. Proof of notification (e.g. certified mail receipt or facsimile transmittal receipt) prior to the date a bidder/proposer's DBE proposal is due is required for any proposal to be deemed responsive. The Chief Procurement Officer may contact the certified DBEs for verification of notification.
- J. Evidence that subcontractor participation is excessively costly. Subcontractor participation will be deemed excessively costly when the DBE subcontractor proposal exceeds the average price quoted by more than 15 percent. In order to establish that a subcontractor's quote is excessively costly, the bidder/proposer must provide the following information at the time specified in the request for proposals:
1. A detailed statement of the work identified for DBE participation for which the bidder/proposer asserts the DBE quote(s) were excessively costly (in excess of 15 percent higher).
 - (A) a listing of all potential subcontractors contacted for a quotation on that work item;
 - (B) prices quoted for the subcontract in question by all such potential subcontractors for that work item.

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2. Other documentation that demonstrates to the satisfaction of the Chief Procurement Officer that the DBE proposals are excessively costly, even though not in excess of 15 percent higher than the average price quoted. This determination will be based on factors that include, but are not limited to the following:
 - (A) the City's estimate for the work under a specific subcontract;
 - (B) the bidder/proposer's own estimate for the work under the subcontract;
 - (C) an average of the bona fide prices quoted for the subcontract;
 - (D) demonstrated increase in other contract costs as a result of subcontracting to the DBE or other firm.

- K. Copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract. This is must be included in the documentation of Good Faith Efforts whenever a non-DBE subcontractor is selected over a DBE for work on the contract.

Note: The City reserves the right to modify this procedure when deemed appropriate.

1.8. Reporting

- A. The Contractor will, not later than thirty (30) calendar days from the award of a contract by the City, execute formal contracts or purchase orders with the DBEs included in their approved DBE Utilization Plan. These written agreements will be made available to the Chief Procurement Officer upon request.
- B. The contractor will be responsible for reporting payments to all subcontractors on a monthly basis in the form of an electronic audit. Upon the first payment issued by the City of Chicago to the contractor for services performed, on the first day of each month and every month thereafter, email and or fax audit notifications will be sent out to the contractor with instructions to report payments that have been made in the prior month to each subcontractor. The reporting of payments to all subcontractors must be entered into the Certification and Compliance Monitoring System (C2), or whatever reporting system is currently in place, on or before the fifteenth (15th) day of each month.
- C. Once the prime contractor has reported payments made to each DBE, including zero dollar amount payments, the DBE will receive an email and or fax notification requesting them to log into the system and confirm payments received. All monthly confirmations must be reported on or before the 20th day of each month. Contractor and subcontractor reporting to the C2 system must be completed by the 25th of each month or payments may be withheld.
- D. All subcontract agreements between the contractor and DBE firms or any first tier non-certified firm and lower tier DBE firms must contain language requiring the DBE to respond to email and/or fax notifications from the City of Chicago requiring them to report payments received for the prime or the non-certified firm. Access to the Certification and Compliance Monitoring System (C2), which is a web based reporting system, can be found at: <https://chicago.mwdbe.com>
- E. The Chief Procurement Officer or any party designated by the Chief Procurement Officer, shall have access to the contractor's books and records, including without limitation payroll records, tax returns and records and books of account, to determine the contractor's compliance with its commitment to DBE participation and the status of any DBE performing any portion of the contract. This provision shall be in addition to, and not a substitute for, any other provision allowing inspection of the contractor's records by any officer or official of the City for any purpose.
- F. The contractor shall maintain records of all relevant data with respect to the utilization of DBEs retaining these records for a period that is the longer of five years or as required by relevant retention schedules after

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final acceptance of the work. Full access to these records shall be granted to City, federal or state authorities or other authorized persons.

G. The contractor must make available upon request a copy of all DBE subcontracts. The contractor must ensure that all subcontracts or agreements with DBEs to supply labor or materials require that the subcontract and all lower tier subcontractors be performed in accordance with the provisions of 49 CFR Part 26.

1.9. Required Assurance

Contractor must comply with, and each subcontract Contractor signs with a subcontractor must include, the following assurance:

The Contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT- assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to, (1) withholding monthly progress payments, (2) assessing sanctions, (3) liquidated damages, and/or (4) disqualifying the Contractor from future bidding as non-responsible.

1.10. DBE Substitutions

A. Arbitrary changes by the bidder/proposer of the commitments earlier certified in the Schedule D, D-1 or D-3 are prohibited. Further, after once entering into each approved DBE subcontract, the bidder/proposer may neither terminate the subcontract, nor reduce the scope of the work to be performed by the DBE, nor decrease the price to the DBE, without in each instance (i) having just cause, including situations where bidder/proposer's contract with the DBE includes termination for convenience; (ii) making Good Faith Efforts to find another DBE subcontractor to substitute for the original DBE (these Good Faith Efforts must be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the Contract DBE Participation Goal); and (iii) receiving the prior written approval of the City in all instances.

Unless the City provides written approval for the substitution of a DBE, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

1. The bidder/proposer must give the Chief Procurement Officer reasons that justify the bidder/proposer's terminating a DBE, reducing the scope of work to be performed by a DBE, or decreasing the price to a DBE. The substitution procedure will be as follows:
 - a) The bidder/proposer/contractor must notify the Chief Procurement Officer as soon as possible in writing of an apparent necessity to reduce or terminate a DBE subcontract and to propose a substitute firm for some phase of work, if needed in order to sustain the fulfillment of the Contract DBE Participation Goal. Prior to submitting notice to the Chief Procurement Officer, bidder/proposer/contractor must give notice in writing to the DBE subcontractor, with a copy to the Chief Procurement Officer, of its intent to request to terminate and/or substitute, and the reason for the request.
 - b) Bidder/proposer/contractor must give the DBE five days to respond to the notice and advise the City and bidder/proposer/contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City should not approve the bidder/proposer/contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the City may provide a response period shorter than five days.
2. The bidder/proposer/contractor's notification should include the specific reasons for the proposed substitution. Stated reasons which would be acceptable include the following examples:
 - a) The listed DBE subcontractor fails or refuses to execute a written contract;

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- b) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- c) The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements.
- d) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- e) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law;
- f) The City has determined that the listed DBE subcontractor is not responsible;
- g) The listed DBE subcontractor voluntarily withdraws from the project and provides to the City written notice of its withdrawal;
- h) The listed DBE is ineligible to receive DBE credit for the type of work required;
- i) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
- j) Other documented good cause that the City may determine compels the termination of the DBE subcontractor.

The bidder/proposer/contractor's position in these cases must be fully explained and supported with adequate documentation. Stated reasons which will not be acceptable include: A replacement firm has been recruited to perform the same work under terms more advantageous to the prime contractor; issues about performance by the committed DBE were disputed (unless every reasonable effort has already been made to have the issues resolved or mediated satisfactorily); a DBE has requested reasonable price escalation which may be justified due to unforeseen circumstances; or the bidder/proposer seeks to terminate a DBE it relied upon to obtain the contract so that the bidder/proposer can self-perform the work for which the DBE subcontractor was engaged.

3. The bidder/proposer/contractor's notification should include the name, address and principal official of any proposed substitute DBE and the dollar value and scope of work of the proposed subcontract. Attached should be all the same DBE affidavits, documents, and Letter of Intent which are required of bidders, as enumerated in Section, Procedure to Determine Bid Compliance.

4. The City will evaluate the submitted documentation, and respond within 15 working days to the request for approval of a substitution. The response may be in the form of a request for more information, or a request for an interview to clarify or mediate the problem. In the case of an expressed emergency need to receive the necessary decision for the sake of job progress, the City will instead respond as soon as practicable.

5. If termination of a DBE subcontractor is approved, or a DBE subcontractor fails to complete its work on the contract for any reason, bidder/proposer/contractor must make Good Faith Efforts to replace that subcontractor. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract. The good faith efforts shall be documented by the bidder/proposer. If the City requests documentation, the bidder/proposer/contractor shall submit the documentation within 7 days, which may be extended for an additional 7 days if necessary at the request of the bidder/proposer/contractor. The City shall provide a written determination to the bidder/proposer/contractor stating whether or not good faith efforts have been demonstrated.

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6. Actual substitution of a replacement DBE to fulfill the Contract DBE Participation Goal may not be made before City approval is given of the acceptability of the substitute DBE. A subcontract with the substitute DBE subcontractor must be executed within five working days following the City's approval, and a copy of the DBE subcontract with signatures of both parties to the agreement should be submitted immediately to the City.

B. The City will not approve extra payment for escalated costs incurred by the bidder/proposer/contractor when a substitution of subcontractors becomes necessary for the bidder/proposer/contractor to comply with the Contract DBE Participation Goal.

C. The Chief Procurement Officer will make the determination of whether the bidder/proposer/contractor has exercised Good Faith Efforts.

1.11. Non-Compliance

A. Each of the following constitutes a material breach of this contract and entitles the City to declare a default, terminate the contract, and exercise those remedies provided for in the contract, at law or in equity:

1. failure to make good faith efforts to satisfy the Contract DBE Participation Goal proposed by the bidder/proposer and accepted by the City; and
2. the contractor, a subcontractor or supplier is disqualified as a DBE, where the status was a factor in the contract award and was misrepresented by the contractor.

If the contractor is determined by the City not to have been involved in any misrepresentation of the status of a disqualified subcontractor or supplier, the contractor must discharge the disqualified subcontractor or supplier and, if possible, identify and engage a qualified DBE as its replacement. Furthermore, contractor's continued eligibility to enter into future contracting arrangements with the City may be jeopardized as a result of non-compliance. The City may withhold payments due to the contractor until corrective action is taken.

B. The contractor's failure to comply with the Contract DBE Participation Goal proposed by the bidder/proposer and accepted by the City, or failure to comply with the provisions of Section IX, DBE Substitutions, will entitle the affected DBEs to recover from the contractor damages suffered by these DBEs as a result of such under- or non-utilization, but this provision will not apply to the extent the under- or non-utilization occurs pursuant to Good Faith Efforts approved by the City, provided that this paragraph 1.11.B shall apply only to contracts funded by the Federal Aviation Administration. See 1.12, "Arbitration."

C. For contracts funded in whole, or in part, by Federal Highway Administration, Federal Transit Administration, Illinois Department of Transportation: When the contract requirements are completed, in the event that the City has determined that the bidder/proposer/contractor failed to comply with the Contract DBE Participation Goal proposed by the bidder/proposer/contractor and accepted by the City, the City will thereby be damaged in the failure to provide the benefit of participation to DBEs to the degree set forth in the Special Conditions. Therefore, in such case of non-compliance, the City will deduct as liquidated damages cumulative amounts computed as follows:

For each one percent (or fraction thereof) of shortfall toward the Contract DBE Participation Goal, one percent of the base bid for this contract shall be surrendered by the bidder/proposer to the City of Chicago in payment as liquidated damages.

1.12. Arbitration (FAA Funded Contracts)

A. The contractor hereby agrees that any disputes between the contractor and any affected DBE regarding damages as a result of contractor's under- or non-utilization of the DBE on any contract funded, in whole or in part, by the Federal Aviation Administration may, at the sole discretion of the DBE, be resolved by binding arbitration before an independent arbitrator other than the City, with reasonable expenses, including attorneys' fees, being recoverable by a prevailing DBE in accordance with applicable City regulations. This

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provision is intended for the benefit of any DBEs affected by under- or non-utilization and grants them specific third party beneficiary rights. In cases where deemed appropriate by the Contract Compliance Administrator, notification of a dispute by the affected DBE or prime contractor may lead to the withholding of final contract payouts until the City receives a copy of the final arbitration decision. Any rights conferred by this regulation are non-waivable and take precedence over any agreement to the contrary, including those contained in a subcontract, suborder or communicated orally between a contractor and a DBE.

B. If requested by the DBE, the DBE has the right to arbitrate. A DBE desiring to arbitrate must contact the contractor in writing to initiate the arbitration process. Except as otherwise agreed to in writing by the affected parties, subject to the limitation contained in the last sentence of the previous paragraph, within 10 days of the contractor receiving notification of the intent to arbitrate from the DBE the above-described disputes must be arbitrated in accordance with the Commercial Arbitration Rules of the American Arbitration Association (AAA), a not-for-profit agency, with an office at 225 North Michigan Avenue, Suite 1840, Chicago, Illinois 60601-7601. [Phone: (312) 616-6560; Fax: (312) 819-0404]. All such arbitrations must be initiated by the DBE filing a demand for arbitration with the AAA; must be conducted by the AAA; and held in Chicago, Illinois.

C. All fees of the arbitrator are the initial responsibility of the DBE; the arbitrator, however, is authorized to award reasonable expenses, including attorney's and arbitrator fees, as damages to a prevailing DBE.

D. The DBE must send the City a copy of the "Demand for Arbitration" within 10 days after it is filed with the AAA. The DBE also must send the City a copy of the decision of the arbitrator within 10 days of receiving the decision. Judgment upon the award rendered by the arbitrator may be entered in any court of competent jurisdiction.

1.13. Prime Contractor Assistance

Prime contractors should themselves assist DBEs in overcoming barriers to program participation. The following instruments of assistance, for example, should be used as applicable:

- Developing solicitations of sub-contract bids so as to increase potential DBE participation. This can take the form of breaking down large subcontracts into smaller ones, and of issuing notice of solicitations in a timely manner.
- Providing technical assistance and guidance in the bidding, estimating and scheduling processes.
- Considering purchasing supplies and/or leasing the required equipment for a job, then subcontracting only for the expertise required to perform the work.
- Providing accelerated payments or establishing pro-rated payment and delivery schedules so as to minimize cash flow problems faced by small firms.
- Providing, waiving or reducing subcontractor bonding requirements; allowing stage bonding (bonding carried over from one project stage to the next).
- Providing a pre-bid conference for potential sub-contractors.

In addition to the employment of DBEs, the bidder/proposer should consider the utilization of DBEs in fields indirectly related to the contract, such as banking, office equipment sales, vehicles sales, mechanical repair, legal and accounting services, building security, graphics and advertising, etc.

1.14. Record Keeping

The Contractor shall maintain records of all relevant data with respect to the utilization of DBEs, retaining these records for a period that is the longer of five years or as required by relevant retention schedules after final acceptance of the work. Full access to these records shall be granted to the City of Chicago, Federal or State authorities in this project, the U. S. Department of Justice, or any duly authorized representatives thereof.

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1.15. Assistance Agencies

Small business guaranteed loans, surety bond guarantees; 8(a) certification:

U. S. Small Business Administration
500 W. Madison Street, Suite 1250
Chicago, Illinois 60601
Attention: Robert Conner
(312)353-4528

S.B.A. Bond Guarantee Program/Surety Bonds
500 W. Madison Street, Suite 1250
Chicago, Illinois 60601
(312)353-7331

S.B.A. Procurement Assistance
500 W. Madison Street, Suite 1250
Chicago, Illinois 60601
Attention: Robert P. Murphy, Assistant Regional Administrator
(312)744-1895

City of Chicago Web site:

www.cityofchicago.org/purchasing

Information on DBE availability in the manufacturing, sales or supplies, and related fields (direct assistance from 42 regional affiliates located throughout the U.S.):

National Minority Supplier
Development Council, Inc.
1040 Avenue of the Americas – 2nd Floor
New York, New York 10018
Attention: Harriet R. Michel
(212)944-2430

Chicago Minority Business Development Council
11 South LaSalle Street – Suite 850
Chicago, Illinois 60603
Attention: Tracye Smith
(312)263-0105

1.16. Equal Employment Opportunity

Compliance with DBE requirements will not diminish or supplant Equal Employment Opportunity and Civil Rights provisions as specified elsewhere in this contract and as they relate to prime contractor and subcontractor obligations.

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XXIX. FHWA-FORM 1273

Contractor is required to adhere to FHWA-1273 and any changes that may be made to these requirements. Information may be found at: <http://www.fhwa.dot.gov/programadmin/contracts/1273/>

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- | | |
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| <ul style="list-style-type: none">I. GeneralII. NondiscriminationIII. Nonsegregated FacilitiesIV. Davis-Bacon and Related Act ProvisionsV. Contract Work Hours and Safety Standards Act ProvisionsVI. Subletting or Assigning the ContractVII. Safety: Accident PreventionVIII. False Statements Concerning Highway ProjectsIX. Implementation of Clean Air Act and Federal Water Pollution Control ActX. Compliance with Governmentwide Suspension and Debarment RequirementsXI. Certification Regarding Use of Contract Funds for Lobbying | <ul style="list-style-type: none">2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. |
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ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

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The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO

obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

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c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants

without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of

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this contract or such other remedy as the contracting agency deems appropriate.

11. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

- (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
- (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
- (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

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(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal

contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the

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FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).
Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S.

Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).
Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the

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provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentice. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT). Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such

disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work

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performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards

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and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder,

proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction

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under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as

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subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is

presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**BOOK 2
INSTRUCTION AND EXECUTION DOCUMENTS**

**PROJECT TITLE: EAST SOUTH WATER STREET VIADUCT REPLACEMENT –
NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE**

C.D.O.T. PROJECT NO.: E-1-517
SPECIFICATION NO.: 561863
F.A. PROJECT NO.: R5U5(892)
STATE JOB NO.: C-88-012-18
SECTION NO.: 11-E1517-00-BR



**CITY OF CHICAGO
LORI E. LIGHTFOOT
MAYOR**

GIA BIAGI

Commissioner

Department of Transportation
Suite 1100, 30 North LaSalle Street
Chicago, Illinois 60602-2570

OSWALDO CHAVES

Deputy Commissioner
Division of Engineering

**Issued by
DEPARTMENT OF PROCUREMENT SERVICES**

SHANNON E. ANDREWS

Chief Procurement Officer

Document Printed May 2019

All Signatures To Be Sworn To Before A Notary Public

Any contract entered into as a result of this bid process is governed by the terms and conditions set forth in Book 1 "Terms and Conditions for Construction" for CDOT Federally Funded – Non FTA projects, dated May, 2017, as amended and incorporated as if fully set forth here by this reference; and by Book 2, Book 3 (if applicable), plans, drawings, exhibits, and attachments as appropriate.

Printed copies of Book 1 are available at the City of Chicago, Department of Procurement Services, 121 North LaSalle Street, Room 103, Chicago, Illinois 60602. Book 1 is also available on the City's web site at http://www.cityofchicago.org/city/en/depts/dps/provdrs/contract/svcs/forms_and_standardagreements.html.

BOOK 2 – INSTRUCTIONS AND EXECUTION DOCUMENTS

ADVERTISEMENT FOR BIDS

**ATTACH
LEGAL
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BOOK 2 - INSTRUCTIONS AND EXECUTION DOCUMENTS
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DOCUMENT SUBMITTAL CHECKLIST

This checklist is intended to assist you. Missing forms may invalidate your bid. Please ensure that you have completed the forms and indicate such by placing an "X" next to each completed item:

1. _____ Schedule of Prices

2. _____ Submit the Appropriate Proposal
 ___ Proposal To Be Completed By a Joint Venture; or
 ___ Proposal To Be Completed By a Corporation; or
 ___ Proposal To Be Completed By a Partnership; or
 ___ Proposal To Be Completed by a Sole Partnership

3. _____ Affidavit of Availability

4. _____ Contractor's Affidavit Regarding Removal of all Waste Materials and
 Identification of All Legal Dump Sites

5. _____ Schedule B – Affidavit of Joint Venture (if applicable)

6. _____ Schedule C – Letter of Intent from DBE

7. _____ Schedule D – Affidavit of Prime Contractor

8. _____ Schedule F – Report of Subcontractor Solicitations

9. _____ City of Chicago Economic Disclosure Statement Certificate of Filing

SECTION ONE

PROJECT INFORMATION

The following Specifications supplement the “Requirements for Bidding and Instructions for Bidders” in Section Two of this document.

Proposals will be received by the Chief Procurement Officer of the City of Chicago for:

**EAST SOUTH WATER STREET VIADUCT REPLACEMENT –
NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE
C.D.O.T. PROJECT NO. E-1-517**

all in accordance with Contract Documents set forth below.

General Description of Work

The work for which proposals are invited consist of improvements to East South Water Street. This includes but is not limited to furnishing all means, methods, labor, material, tools, equipment, transportation and services for the General Contract for performing the General Work, Civil Work, Structural Work, and Electrical Work as shown on the drawings and as described in the detail specifications, including all appurtenant work and accessories, to the complete satisfaction of, approval and acceptance by the City. This includes, but is not limited to, the demolition of existing structures and pavements and the construction of new piers, abutments, bridge superstructure, sidewalks, pavement, curbs, gutters, drainage system, electrical ducts, wiring and lighting.

This description of work is intended to be general in nature and is neither a complete description nor a limitation on the work to be performed. Contractor shall perform all Work described in the Contract Documents or reasonably inferable as necessary to produce the results specified therein, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.

Fund Source: Federal Highway Administration

Concurrence from the Illinois Department of Transportation (“IDOT”) is required as a condition precedent to award of a contract for the Work described herein.

PROJECT INFORMATION

Contract DBE Participation Goal: 25% of Total Base Bid

Bid Deposit: 5% of Total Base Bid

Award of Contract

Proposals will be compared based on the **Total Base Bid**, correctly computed, and a contract, if awarded, will be awarded to the lowest responsible and responsive bidder, in the amount of the Total Base Bid.

The City reserves the right to check all calculations and to correct all extensions in case of error.

Inspection of Site

The bidder is expected to inspect the site of the Work. No allowance will be made for any difficulties that may be encountered in executing the Work due to a failure of the bidder to inspect the site. Site inspection shall be arranged through the Project Manager at the office of the Division of Engineering, 30 N. LaSalle Street, Suite 400, Chicago, IL. (Telephone 744-2012)

Government – Equal Employment Opportunity

The attention of bidders is directed to the Government Requirements for construction contracts included in Book 1, AFFIRMATIVE ACTION PLAN TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (Executive Order 11246), Notice of Affirmative Action to Ensure Equal Employment Opportunity, and the Standard Federal Equal Employment Opportunity construction Contract Specifications (Executive order 11246).

Document Deposit

\$0.00 first set per bidder on CD ROM

\$50.00 each subsequent set per bidder on CD ROM.

Pre Bid Conference

A pre bid conference will be held at the date, time and location indicated in the advertisement for bids. All interested parties are **strongly encouraged** to attend. The City may answer questions or clarify the terms of the bid documents at the conference. Written answers may be provided following the conference. Questions and requests for clarification may be submitted in writing, or may be raised at the conference; however, verbal questions or requests for clarification must be sent by email mail and directed to the attention of the Contract Administrator, Department of Procurement Services, Room 806 of the City Hall 121 N. LaSalle, Chicago, IL, 60602. The City will not accept any questions for the ten (10) day period preceding the bid opening date.

CONTRACT INSURANCE REQUIREMENTS

Department of Transportation

East South Water Street Viaduct Replacement – North Beaubien Court to North Stetson Avenue

CDOT Project Number: E-1-517

A. INSURANCE REQUIRED

The Contractor must provide and maintain at Contractor's own expense, until Contract completion and during the time period following final completion if Contractor is required to return and perform any additional work, services, or operations, the insurance coverages and requirements specified below, insuring all work, services or operations related to the Contract.

1) Workers Compensation and Employers Liability (Primary and Umbrella)

Workers Compensation Insurance, as prescribed by applicable law covering all employees who are to provide a work, services or operations under this Contract and Employers Liability coverage with limits of not less than \$1,000,000 each accident, \$1,000,000 disease-policy limit, and \$1,000,000 disease-each employee, or the full per occurrence limits of the policy, whichever is greater. Coverage must include but not be limited to alternate employer and voluntary compensation endorsement, when applicable.

Contractor may use a combination of primary and excess/umbrella policy/policies to satisfy the limits of liability required herein. The excess/umbrella policy/policies must provide the same coverages/follow form as the underlying policy/policies.

2) Commercial General Liability (Primary and Umbrella)

Commercial General Liability Insurance or equivalent must be maintained with limits of not less than \$2,000,000 per occurrence, or the full per occurrence limits of the policy, whichever is greater, for bodily injury, personal injury, and property damage liability. Coverages must include but not be limited to, the following: All premises and operations, products/completed operations, (for the full statue of repose following project completion) explosion, collapse, underground, separation of insureds, defense, contractual liability (not to include endorsement CG 21 39 or equivalent), no exclusion for damage to work performed by Subcontractors, any limitation of coverage for designated premises or project is not permitted (not to include endorsement CG 21 44 or equivalent) and any endorsement modifying or deleting the exception to the Employer's Liability exclusion is not permitted. If a general aggregate limit applies, the general aggregate must apply per project/location and once per policy period if applicable, or Contractor may obtain separate insurance to provide the required limits which will not be subject to depletion because of claims arising out of any other work or activity of Contractor. If a general aggregate applies to products/completed operations, the general aggregate limits must apply per project and once per policy period.

The City must be provided additional insured status with respect to liability arising out of Contractor's work, services or operations and completed operations performed on behalf of the City. Such additional insured coverage must be provided on ISO form CG 2010 10 01 and CG 2037 10 01 or on an endorsement form at least as broad for ongoing operations and completed operations. The City's additional insured status must apply to liability and defense of suits arising out of Contractor's acts or omissions, whether such liability is attributable to the Contractor or to the City. The full policy limits and scope of protection also will apply to the City as an additional insured, even if they exceed the City's minimum limits required herein. Contractor's liability insurance must be primary without right of contribution by any other insurance or self-insurance maintained by or available to the City.

Contractor may use a combination of primary and excess/umbrella policy/policies to satisfy the limits of liability required herein. The excess/umbrella policy/policies must provide the same coverages/follow form as the underlying policy/policies.

3) Owner's and Contractor's Protective Liability

With respect to the operations performed by Contractor, an Owner's and Contractor's Protective Liability policy designating the City of Chicago as named insured must be provided with limits of not less than \$2,000,000 per occurrence, combined single limit, for losses arising out of bodily injuries to or death of all persons and for damage to or destruction of property.

4) Automobile Liability (Primary and Umbrella

Contractor must maintain Automobile Liability Insurance with limits of not less than \$2,000,000 per occurrence, or the full per occurrence limits of the policy, whichever is greater, for bodily injury and property damage. Coverage must include but not be limited to, the following: ownership, maintenance, or use of any auto whether owned, leased, non-owned or hired used in the performance of the work or devices, both on and off the Project site including loading and unloading. When applicable, coverage extension must include a) an MC-90 endorsement where required by the Motor Carrier Act of 1980 and b) pollution coverage for loading, unloading and transportation of hazardous and special waste. The City is to be named as an additional insured on a primary, non-contributory basis.

5) Excess/Umbrella

Excess/Umbrella Liability Insurance must be maintained with limits of not less than \$15,000,000 per occurrence, or the full per occurrence limits of the policy, whichever is greater. The policy/policies must provide the same coverages/follow form as the underlying Commercial General Liability, Automobile Liability, Employers Liability and Completed Operations coverage required herein and expressly provide that the excess or umbrella policy/policies will drop down over reduced and/or exhausted aggregate limit, if any, of the underlying insurance. If a general aggregate limit applies the general aggregate must apply per project/location. The Excess/Umbrella policy/policies must be primary without right of contribution by any other insurance or self-insurance maintained by or available to the City.

Contractor may use a combination of primary and excess/umbrella policies to satisfy the limits of liability required in sections A.1, A.2, A.3 and A.4 herein.

6) Builders Risk

When Contractor undertakes any construction, including improvements, betterments, and/or repairs, the Contractor must provide All Risk Builders Risk Insurance at replacement cost for materials, supplies, equipment, machinery and fixtures that are or will be part of the permanent facility/project. Coverages must include but are not limited to, the following: right to partial occupancy, material stored off-site and in-transit, water including overflow, leakage, sewer backup or seepage, collapse, debris removal, faulty workmanship or materials, testing, mechanical-electrical breakdown or failure and extra expense. The City of Chicago is to be named as an additional insured and loss payee.

7) Professional Liability

When any architects, engineers, construction managers or other professional consultants perform work, services, or operations in connection with this Contract, Professional Liability Insurance covering acts, errors, or omissions must be maintained with limits of not less than \$2,000,000. Coverage must include but not be limited to, pollution liability if environment site assessments will be done. When policies are renewed or replaced, the policy retroactive date must coincide with, or precede, start of work on the Contract. A claims-made policy which is not renewed or replaced must have an extended reporting period of two (2) years.

8) Valuable Papers

When any plans, designs, drawing, specifications and other documents are produced or used under this Contract, Valuable Papers Insurance must be maintained in an amount to insure against any loss whatsoever, and must have limits sufficient to pay for the re-creation and reconstruction of such records.

9) Railroad Protective Liability

When any work or services is to be done adjacent to or on railroad or transit property, Contractor must provide, with respect to the operations that Contractor or subcontractors perform, Railroad Protective Liability Insurance in the name of railroad or transit entity. The policy must have limits of not less than the requirement of the operating railroad for losses arising out of injuries to or death of all persons, and for damage to or destruction of property, including the loss of use thereof.

If applicable, a certified copy of the Railroad Protective policy is to be submitted

METRA, ATTN: Risk Management, 547 West Jackson Blvd, Chicago, IL 60661. An

Insurance binder will be accepted until such time the policy is submitted.

10) Contractors Pollution Liability

When any work or services performed involves a potential pollution risk that may arise from the operations of Contractor's scope of services Contractors Pollution Liability must be provided or caused to be provided, covering bodily injury, property damage and other losses caused by pollution conditions with limits of not less than \$2,000,000 per occurrence. Coverage must include but not be limited to completed operations, contractual liability, defense, excavation, environmental cleanup, remediation and disposal and if applicable, include transportation and non-owned disposal coverage. When policies are renewed or replaced, the policy retroactive date must coincide with or precede, start of work on the Contract. A claims-made policy which is not renewed or replaced must have an extended reporting period of two (2) years. The City is to be named as an additional insured.

B. ADDITIONAL REQUIREMENTS

Evidence of Insurance. Contractor must furnish the City, Department of Procurement Services, 121 N. LaSalle Street, Room 806, Chicago, IL 60602, original certificates of insurance and additional insured endorsement, or other evidence of insurance, to be in force on the date of this Contract, and renewal certificates of Insurance and endorsement, or such similar evidence, if the coverages have an expiration or renewal date occurring during the term of this Contract. Contractor must submit evidence of insurance prior to execution of Contract. The receipt of any certificate does not constitute agreement by the City that the insurance requirements in the Contract have been fully met or that the insurance policies indicated on the certificate are in compliance with all requirements of Contract. The failure of the City to obtain, nor the City's receipt of, or failure to object to a non-complying insurance certificate, endorsement or other insurance evidence from Contractor, its insurance broker(s) and/or insurer(s) will not be construed as a waiver by the City of any of the required insurance provisions. Contractor must advise all insurers of the Contract provisions regarding insurance. The City in no way warrants that the insurance required herein is sufficient to protect Contractor for liabilities which may arise from or relate to the Contract. The City reserves the right to obtain complete, certified copies of any required insurance policies at any time.

Failure to Maintain Insurance. Failure of the Contractor to comply with required coverage and terms and conditions outlined herein will not limit Contractor's liability or responsibility nor does

it relieve Contractor of its obligation to provide insurance as specified in this Contract. Nonfulfillment of the insurance conditions may constitute a violation of the Contract, and the City retains the right to suspend this Contract until proper evidence of insurance is provided, or the Contract may be terminated.

Notice of Material Change, Cancellation or Non-Renewal. Contractor must provide for sixty (60) days prior written notice to be given to the City in the event coverage is substantially changed, canceled or non-renewed and ten (10) days prior written notice for non-payment of premium.

Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions on referenced insurance coverages must be borne by Contractor.

Waiver of Subrogation. Contractor hereby waives its rights and its insurer(s)' rights of and agrees to require their insurers to waive their rights of subrogation against the City under all required insurance herein for any loss arising from or relating to this Contract. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the City received a waiver of subrogation endorsement for Contractor's insurer(s).

Contractors Insurance Primary. All insurance required of Contractor under this Contract shall be endorsed to state that Contractor's insurance policy is primary and not contributory with any insurance carrier by the City.

No Limitation as to Contractor's Liabilities. The coverages and limits furnished by Contractor in no way limit the Contractor's liabilities and responsibilities specified within the Contract or by law.

No Contribution by City. Any insurance or self-insurance programs maintained by the City do not contribute with insurance provided by Contractor under this Contract.

Insurance not Limited by Indemnification. The required insurance to be carried is not limited by any limitations expressed in the indemnification language in this Contract or any limitation placed on the indemnity in this Contract given as a matter of law.

Insurance and Limits Maintained. If Contractor maintains higher limits and/or broader coverage than the minimums shown herein, the City requires and shall be entitled the higher limits and/or broader coverage maintained by Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

Joint Venture or Limited Liability Company. If Contractor is a joint venture or limited liability company, the insurance policies must name the joint venture or limited liability company as a named insured.

Other Insurance obtained by Contractor. If Contractor desires additional coverages, the Contractor will be responsible for the acquisition and cost.

Insurance required of Subcontractors. Contractor shall name Subcontractor(s) as a named insured(s) under Contractor's insurance or Contractor will require each Subcontractor(s) to provide and maintain Commercial General Liability, Commercial Automobile Liability, Worker's Compensation and Employers Liability Insurance and when applicable Excess/Umbrella Liability Insurance with coverage at least as broad as in outlined in Section A, Insurance Required. The limits of coverage will be determined by Contractor. Contractor shall determine if Subcontractor(s) must also provide any additional coverage or other coverage outlined in Section A, Insurance Required. Contractor is responsible for ensuring that each Subcontractor has named the City as an additional insured where required and name the City as an additional insured under

the Commercial General Liability on ISO form CG 2010 10 01 and CG 2037 10 01 for ongoing operation and completed operations on an endorsement form at least as broad and acceptable to the City. Contractor is also responsible for ensuring that each Subcontractor has complied with the required coverage and terms and conditions outlined in this Section B, Additional Requirements. When requested by the City, Contractor must provide to the City certificates of insurance and additional insured endorsements or other evidence of insurance. The City reserves the right to obtain complete, certified copies of any required insurance policies at any time. Failure of the Subcontractors to comply with required coverage and terms and conditions outlined herein will not limit Contractor's liability or responsibility.

City's Right to Modify. Notwithstanding any provisions in the Contract to the contrary, the City, Department of Finance, Risk Management Office maintains the right to modify, delete, alter or change these requirements.

INSURANCE CERTIFICATE OF COVERAGE

Named Insured: _____
 Address: _____

 (City) (State) (Zip)

Specification #: _____
 RFP: _____
 Project#: _____
 Contract#: _____

Description of Operation/Location	
-----------------------------------	--

The insurance policies and endorsements indicated below have been issued to the designated named insured with the policy limits as set forth herein covering the operation described within the contract involving the named insured and the City of Chicago. The Certificate issuer agrees that in the event of cancellation, non-renewal or material change involving the indicated policies, the issuer will provide at least sixty (60) days prior written notice of such change to the City of Chicago at the address shown on this Certificate. This certificate is issued to the City of Chicago in consideration of the contract entered into with the named insured, and it is mutually understood that the City of Chicago relies on this certificate as a basis for continuing such agreement with the named insured:

Type of Insurance	Insurer Name	Policy Number	Expiration Date	Limits of Liability All Limits in Thousands
General Liability <input type="checkbox"/> Claims made <input type="checkbox"/> Occurrence <input type="checkbox"/> Premise-Operations <input type="checkbox"/> Explosion/Collapse Underground <input type="checkbox"/> Products/Co <input type="checkbox"/> Blanket Con <input type="checkbox"/> Broad Form <input type="checkbox"/> Independent <input type="checkbox"/> Personal Inj <input type="checkbox"/> Pollution				CSL Per Occurrence \$ _____ General
Specimen				
Automobile Liability <input type="checkbox"/> Excess Liability <input type="checkbox"/> Umbrella Liability				CSL Per Occurrence \$ _____ Each Occurrence \$ _____
Worker's Compensation and Employer's Liability				Statutory/Illinois Employers Liability \$ _____
Builders Risk/Course of Construction				Amount of Contract
Professional Liability				\$ _____
Owner Contractors Protective				\$ _____
Other				\$ _____

- a) Each Insurance policy required by this agreement, excepting policies for worker's compensation and professional liability, will read: "The City of Chicago is an additional insured as respects operations and activities of, or on behalf of the named insured, performed under contract with or permit from the City of Chicago."
- b) The General, Automobile and Excess/Umbrella Liability Policies described provide for severability of Interest (cross liability) applicable to the named insured and the City.
- c) Workers Compensation and Property Insurers shall waive all rights of subrogation against the City of Chicago.
- d) The receipt of this certificate by the City does not constitute agreement by the City that the insurance requirements in the contract have been fully met, or that the insurance policies indicated by this certificate are in compliance with all contract requirements.

Name and Address of Certificate Holder and Recipient of Notice	
Certificate Holder/Additional Insured	Signature of Authorized Rep.: _____
City of Chicago	Agency/Company: _____
Department of Procurement Services	Address: _____
121 N. LaSalle St., #806	Telephone: _____
Chicago, IL 60602	

For City use only
 Name of City Department requesting certificate: (Using Dept.) _____
 Address: _____ ZIP Code: _____
 Attention: _____

PROPOSAL PAGES

PROPOSAL

The undersigned proposes to construct the

**EAST SOUTH WATER STREET VIADUCT REPLACEMENT –
NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE
C.D.O.T. PROJECT NO. E-1-517**

as required by this Contract, to perform all Work required, and to provide and furnish the required performance and payment bond and all of the labor, materials tools, equipment (expendable and otherwise), accessories and transportation services necessary to perform and complete the Work required, in a workmanlike manner and within the specified time, all in accordance with the Contract Documents, at the unit and lump sum prices set forth in the Schedule of Prices.

In connection with this proposal, the Bidder represents and warrants:

- Bidder will furnish a performance and payment bond in the required form and with sureties satisfactory to the City of Chicago within 7 calendar days after Bidder receives written notice that the City has accepted its proposal;
- Bidder has carefully examined the Contract Documents, Addenda (if any), and Exhibits on file at the Department of Transportation; inspected in detail the site of the proposed Work; familiarized itself with all of the conditions affecting the Contract, the Work to be done, and the conditions under which it must be carried out; and understands that in making its proposal it waives all rights to plead any misunderstanding regarding these matters;
- Bidder has completed and signed the “Economic Disclosure Statement” form and all other forms requiring Bidder’s authorized signature;
- Bidder is ready, willing and able to undertake the Project and is prepared to and will provide documentation as outlined in Article 6 of the Requirements for Bidding and Instructions to Bidders entitled “Competency of the Bidder” to the satisfaction of the Chief Procurement Officer in her sole judgment, relating to Bidder’s experience and performance ability and possession of necessary facilities, financial resources, and insurance, all for such a Project;
- Bidder or any of its officers is not barred from contracting with any unit of state or local government as a result of violations of law prohibiting bid-rigging or bid-rotating;
- Bidder understands that Bidder’s Schedule of Prices must show the unit or lump sum price, as the case may be, for which Bidder proposes to perform each item of Work; that all extensions and the summation for the Total Base Bid must be made by Bidder, and that if not so made, Bidder’s proposal may be rejected as irregular; and

- Bidder's price stated for each item of Work is based on the projected cost of that item at the time the Work is performed and includes a proportionate amount of the total cost for full compliance with the Contract Documents and with all applicable laws, ordinances, regulations, and codes of federal, state, and local governments having jurisdiction, and constitutes compensation in full for performing and completing the Work pertaining to that item, free of all claims and charges whatsoever.

NOTE: THE BIDDER SHOULD NOT ADD ANY CONDITIONS OR QUALIFYING STATEMENTS TO HIS PROPOSAL, AS SUCH ADDITIONS MAY CAUSE THE PROPOSAL TO BE DECLARED INFORMAL AND NOT RESPONSIVE TO THE REQUEST FOR BIDS.

TIME OF COMPLETION

It is understood and agreed that TIME IS OF THE ESSENCE IN THIS CONTRACT, and the Contractor agrees to begin actual work covered by this Contract after notification by the Commissioner to commence work and to prosecute the same with all due diligence so as to complete the entire work under the Contract within 540 Calendar Days after the date for commencement of work. It is understood that "Completion" will mean completion to the point of acceptance by the Commissioner, i.e. substantial completion/beneficial occupancy.

The Contractor may prosecute the work through two shifts each working day if he deems such action necessary in order to complete the work within the specified time period. However, no work will be permitted between the hours of 9:00 p.m. and 8:00 a.m. Any variation from these restricted working hours to include extended shift hours and daytime work, if any, can only be permitted with the written approval of the Commissioner.

In the event that progress falls behind the approved schedule, work must proceed on a twenty-four (24) hour per day basis without additional compensation, if so ordered by the Commissioner, to comply with the requirements of this Section.

PUNCH LIST TIME OF COMPLETION

It is also understood and agreed that TIME IS OF THE ESSENCE IN CLOSING OUT THE JOB SITE WORK OF THIS CONTRACT, and the Contractor agrees to begin work immediately after receipt of formal comprehensive list of minor miscellaneous or finishing work also known as "Punch List" work.

Further, upon physical completion of the Work and final inspection of same, a final "Punch List" will be transmitted to the Contractor from the Commissioner. This final "Punch List" will consist of not only physical work items requiring corrective action, but will also include all applicable Contractor submittals as may be required by the Contract. It is understood and agreed that **all** final "Punch List" work will be prosecuted expeditiously and completed, in total, within thirty (30) calendar days of the date of the transmittal to the Contractor. Failure to complete **all** final "Punch List" items within the thirty (30) calendar day time limit shall be construed as failure to prosecute work of the contract and, as such, will subject the Contractor to the assessment of project liquidated damages in the amount(s) specified under the "Liquidated Damages" section of this proposal. These damages will be assessed continuously from the time

SCHEDULE OF PRICES

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON
AVENUE

Bidder's pricing for each line item should carry its share of the costs of work, plus its share of overhead and profit. Bidders should avoid nominal pricing for some lines and enhanced pricing for other lines. Bids that the Chief Procurement Officer considers in his/her opinion to be materially unbalanced will be rejected.

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
1	20200100	EARTH EXCAVATION	CU YD	334		
2	20800150	TRENCH BACKFILL	CU YD	60		
3	20900110	POROUS GRANULAR BACKFILL	CU YD	35		
4	28000510	INLET FILTERS	EACH	24		
5	CDOT3110010	SAND CUSHION, VARIABLE DEPTH	CU YD	123		
6	31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	3,199		
7	35300400	PORTLAND CEMENT CONCRETE BASE COURSE 9"	SQ YD	2,718		
8	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	8,460		
9	40600535	LEVELING BINDER (HAND METHOD), N70	TON	4		
10	40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	4		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE

Bidder's pricing for each line item should carry its share of the costs of work, plus its share of overhead and profit. Bidders should avoid nominal pricing for some lines and enhanced pricing for other lines. Bids that the Chief Procurement Officer considers in his/her opinion to be materially unbalanced will be rejected.

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
11	40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	112		
12	40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	234		
13	CDOT4240010	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	5,319		
14	CDOT4240030	PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH	SQ FT	2,588		
15	CDOT4240055	LINEAR DETECTABLE WARNING TILES (CAST IRON)	SQ FT	48		
16	CDOT4240065	RADIAL DETECTABLE WARNING TILES (CAST IRON)	SQ FT	180		
17	44000100	PAVEMENT REMOVAL	SQ YD	2,775		
18	44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SQ YD	89		
19	44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	2,530		
20	44000600	SIDEWALK REMOVAL	SQ FT	7,441		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE

Bidder's pricing for each line item should carry its share of the costs of work, plus its share of overhead and profit. Bidders should avoid nominal pricing for some lines and enhanced pricing for other lines. Bids that the Chief Procurement Officer considers in his/her opinion to be materially unbalanced will be rejected.

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
21	44003100	MEDIAN REMOVAL	SQ FT	3,307		
22	CDOT5010010	REMOVAL OF EXISTING STRUCTURES	L SUM	1		
23	CDOT5010030	CONCRETE REMOVAL	CU YD	28.2		
24	50157300	PROTECTIVE SHIELD	SQ YD	21		
25	50200100	STRUCTURE EXCAVATION	CU YD	255		
26	CDOT5030010	DRAINAGE SCUPPER, DS-12	EACH	10		
27	CDOT5030020	HIGH PERFORMANCE CONCRETE STRUCTURES	CU YD	244.6		
28	CDOT5030030	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURES	CU YD	2,038.0		
29	CDOT5030070	LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK	SQ YD	2,683		
30	50300255	CONCRETE SUPERSTRUCTURE	CU YD	20.5		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE

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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
31	50300260	BRIDGE DECK GROOVING	SQ YD	2,433		
32	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	616,740		
33	50800530	MECHANICAL SPLICERS	EACH	252		
34	50900105	ALUMINUM RAILING, TYPE L	FOOT	136		
35	51500100	NAME PLATES	EACH	1		
36	52000110	PREFORMED JOINT STRIP SEAL	FOOT	274		
37	52000325	NEOPRENE EXPANSION JOINT 2 1/2"	FOOT	20		
38	52100530	ANCHOR BOLTS, 1 1/4"	EACH	240		
39	52100540	ANCHOR BOLTS, 1 1/2"	EACH	208		
40	52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1,253		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON
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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
41	55100300	STORM SEWER REMOVAL 8"	FOOT	80		
42	CDOT5870010	PROTECTIVE CONCRETE SEALER	SQ YD	4,926		
43	CDOT6020010	CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	10		
44	CDOT6020020	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	3		
45	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	35		
46	CDOT6050020	REMOVING CATCH BASINS	EACH	9		
47	CDOT6060020	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12	FOOT	2,585		
48	60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SQ FT	3,372		
49	66400505	CHAIN LINK FENCE, 8'	FOOT	216		
50	66409600	CHAIN LINK GATES, 8' X 16' DOUBLE	EACH	1		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON
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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
51	66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	982		
52	66900205	SPECIAL WASTE DISPOSAL	CU YD	20		
53	66900210	HAZARDOUS WASTE DISPOSAL	CU YD	20		
54	66900400	SPECIAL WASTE GROUNDWATER DISPOSAL	GALLON	1,000		
55	66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1		
56	66900530	SOIL DISPOSAL ANALYSIS	EACH	1		
57	66900575	VOCS GROUNDWATER ANALYSIS	EACH	1		
58	66900605	RCRA METALS GROUNDWATER ANALYSIS	EACH	1		
59	CDOT6700010	ENGINEER'S FIELD OFFICE	CAL MO	18		
60	67100100	MOBILIZATION	L SUM	1		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON
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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
61	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DAY	140		
62	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1,163		
63	70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	673		
64	70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	175		
65	70400100	TEMPORARY CONCRETE BARRIER	FOOT	866		
66	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1,720		
67	70600235	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	3		
68	70600320	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	5		
69	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	786		
70	78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	744		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
71	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	812		
72	78008270	POLYUREA PAVEMENT MARKING TYPE I - LINE 24"	FOOT	383		
73	X5210015	ELASTOMERIC BEARING ASSEMBLY, TYPE I (SPECIAL)	EACH	4		
74	X5210130	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 300K	EACH	4		
75	X5210190	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 600K	EACH	16		
76	X5210330	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 400K	EACH	4		
77	X5210345	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 550K	EACH	4		
78	X5210770	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 200K	EACH	2		
79	X5210780	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 250K	EACH	17		

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CDOT PROJECT NO. E-1-517
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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
80	X5210790	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 300K	EACH	7		
81	*****	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 400K	EACH	2		
82	X6640300	CHAIN LINK FENCE REMOVAL	FOOT	212		
83	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1		
84	Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	117		
85	Z0013798	CONSTRUCTION LAYOUT	L SUM	1		
86	Z0018800	DRAINAGE SYSTEM	L SUM	1		
87	Z0021904	SILICONE JOINT SEALER, 1"	FOOT	801		
88	Z0031200	JACKING AND CRIBBING	EACH	4		
89	Z0076600	TRAINEES	HOUR	500	\$0.80	\$400

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CDOT PROJECT NO. E-1-517
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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
90	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	190		
91	*****	REMOVE SIGN PANEL AND SALVAGE	EACH	25		
92	*****	REMOVE SIGN ASSEMBLY AND SALVAGE	EACH	23		
93	*****	SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - SINGLE SIDED	SQ FT	178		
94	*****	SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - SINGLE SIDED	SQ FT	30		
95	*****	SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - DOUBLE SIDED	SQ FT	34		
96	*****	SIGN PANEL - TYPE 1 - NON RETRORELECTIVE - TYPE A - DOUBLE SIDED	SQ FT	56		
97	*****	FURNISH AND INSTALL POLE AND BASE	EACH	30		
98	*****	DRILL AND GROUT BARS (EPOXY COATED)	EACH	1,291		
99	*****	ADJUST FRAME AND LID	EACH	3		

SCHEDULE OF PRICES
CDOT PROJECT NO. E-1-517
EAST SOUTH WATER STREET VIADUCT REPLACEMENT – NORTH BEAUBIEN COURT TO NORTH STETSON AVENUE

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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
100	*****	CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP	EACH	3		
101	*****	ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX	FOOT	200		
102	*****	ELECTRIC CABLE IN CONDUIT, 1/C #10	FOOT	10,200		
103	*****	ELECTRIC CABLE IN CONDUIT, 1/C #4	FOOT	200		
104	*****	GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 2"	FOOT	250		
105	*****	GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3"	FOOT	3,100		
106	*****	GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3/4"	FOOT	3,400		
107	*****	INTERCEPT EXISTING CONDUIT	EACH	12		
108	*****	JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12"X10"X6"	EACH	15		
109	*****	LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, & ARM	EACH	2		

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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
110	*****	LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF	EACH	2		
111	*****	LUMINAIRE, LED, VIADUCT	EACH	100		
112	*****	MAINTAIN LIGHTING SYSTEM	L SUM	1		
113	*****	MANHOLE 3'X4'X4' W/24" F&L	EACH	6		
114	*****	MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8' ANODIZED	EACH	2		
115	*****	POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED	EACH	2		
116	*****	REMOVE ANCHOR BASE POLE	EACH	2		
117	*****	REMOVE CONDUIT ATTACHED TO STRUCTURE	FOOT	6,200		
118	*****	REMOVE CONTROLLER ONLY	EACH	3		
119	*****	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	6,500		

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ITEM NO.	CODE NO.	DESCRIPTION	UNIT	ESTIMATED TOTAL QUANTITY	UNIT PRICE	TOTAL PRICE
120	*****	REMOVE JUNCTION BOX	EACH	7		
121	*****	REMOVE LUMINAIRE	EACH	2		
122	*****	REMOVE MAST ARM	EACH	2		
123	*****	REMOVE VIADUCT LUMINAIRE	EACH	236		
124	*****	MONOLITHIC TERRAZZO FLOORING	SQ FT	1,245		
125	*****	HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED	EACH	2		
126	*****	TEMPORARY SPRINKLER STANDPIPE EXTENSION	L SUM	1		
127	X0327357	CONSTRUCTION VIBRATION MONITORING	L SUM	1		
128	*****	ADDITIONAL INSURANCE FOR WORK WITHIN TEMPORARY OR PERMANENT EASEMENTS	L SUM	1	\$55,000	\$55,000
TOTAL BASE BID:						

SECTION TWO

REQUIREMENTS FOR BIDDING AND INSTRUCTIONS FOR BIDDERS

Contract for Work

Proposals are received by the Chief Procurement Officer of the City of Chicago in accordance with Contract Documents as set forth herein.

1. Examination by Bidder

The bidder must, before submitting its bid, carefully examine the proposal, plans, specifications, contract documents and bonds. The bidder must inspect in detail the site of the proposed work and become familiar with all of the local conditions affecting the contract and the detailed requirements of construction. If its bid is accepted, the bidder will be responsible for all errors in its proposal resulting from failure or neglect to comply with these instructions. The City will, in no case, be responsible for any change in anticipated profits resulting from such failure or neglect.

Unless otherwise provided in the Contract, when the plans or specifications include information pertaining to subsurface exploration, borings, test pits, and other preliminary investigation, such information represents only the opinion of the City as to the location, character, or quantity of the materials encountered and is only included for the convenience of the bidder. The City assumes no responsibility with respect to the sufficiency or accuracy of the information, and there is no guaranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the work, or that unanticipated developments may not occur.

2. Bid Deposit

Bid deposit shall be required for all competitive sealed bidding for contracts when required in the legal advertisement. Bid deposit shall be a bond provided by a surety company authorized to do business in the State of Illinois, or the equivalent in cashiers check, money order or certified check. All certified checks must be drawn on a bank doing business in the United States, and shall be made payable to the order of the City of Chicago. **CASH IS NOT AN ACCEPTABLE FORM OF BID DEPOSIT.**

Bid deposits shall be in the amount shown in the advertisement or as may be prescribed herein, but not in excess of 10% of the bid. Should the amount of the bid deposit shown in the advertisement prove to be more than 10% of the bid, then the bidder may submit, in lieu of the foregoing, an amount equal to 10% of her bid. When the legal advertisement requires a deposit, noncompliance requires rejection of the bid. Compliance with the provisions herewith shall be determined in all cases by the Chief Procurement Officer and her determination shall be final.

After bids are opened, deposits shall be irrevocable for the period specified herein. If a bidder is permitted to withdraw its bid before award, no action shall be taken against the bidder or the bid deposit.

Requirements for Bidding and Instructions for Bidders

3. Preparation of Proposal

The bidder shall prepare its proposal on the attached proposal forms. Unless otherwise stated, all blank spaces on the proposal page or pages, applicable to the subject specification, must be correctly filled in. Either a unit price or a lump sum price, as the case may be, must be stated for each and every item, either typed in or written in ink, in figures, and, if required, in words.

If bidder is a corporation, the President and Secretary must execute the bid and the Corporate seal must be affixed. In the event that this bid is executed by other than the President, attach hereto a certified copy of that section of Corporate By-Laws or other authorization by the Corporation which permits the person to execute the offer for the corporation.

If bidder is a partnership, all partners must execute the bid, unless one partner has been authorized to sign for the partnership, in which case, evidence of such authority satisfactory to the Chief Procurement Officer shall be submitted.

If bidder is a sole proprietorship, the sole proprietorship must execute the bid. A “Partnership”, “Joint Venture” or “Sole Proprietorship” operating under an Assumed Name must be registered with the Illinois county in which located, as provided in 805ILCS 405 (1992).

4. Submission of Proposals

All prospective bidders shall submit sealed proposals with applicable bid deposit enclosed in envelopes provided for that purpose by the DEPARTMENT OF PROCUREMENT SERVICES, 1st Floor, City Hall. If proposals are submitted in envelopes other than those so provided for this purpose, then the sealed envelope submitted by the prospective bidder shall carry the following information on the face of the envelope: bidder’s name, address, subject matter of proposal, advertised date of bid opening and the hour designated for bid opening as shown on the legal advertisement.

Where proposals are sent by mail to the DEPARTMENT OF PROCUREMENT SERVICES, the bidders shall be responsible for their delivery to the Chief Procurement Officer before the advertised date and hour for the opening of bids. If the mail is delayed beyond the date and hour set for the bid opening, proposals thus delayed will not be accepted.

Proposals must be submitted with original signatures in the space provided on the appropriate Proposal Execution Page. Proposals not properly signed shall be rejected.

5. Withdrawal of Proposals

Bidders may withdraw their proposals at any time prior to the time specified in the advertisement as the closing time for the receipt of bids. However, no bidder shall withdraw or cancel his proposal for a period of 60 calendar days after said advertised closing time for the receipt of proposals nor shall the successful bidder withdraw or cancel or modify his proposal after having been notified by the Chief Procurement Officer that said proposal has been accepted by the City. The City reserves the right to withhold and deposit, as liquidated damages

Requirements for Bidding and Instructions for Bidders

and not a penalty, the bid deposit of any bidder requesting withdrawal, cancellation or modification of its proposal prior to the stated period for acceptance of proposal.

Where this contract shall be approved by another agency, such as the Federal Government or State of Illinois, then the bidder shall not withdraw or cancel or modify his proposal for a period of 90 calendar days after said advertised closing time for the receipt of proposals.

6. Competency of Bidder

The Chief Procurement Officer reserves the right to refuse to award a Contract to any person, firm or corporation that is in arrears or is in default to the City of Chicago upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to said City, or had failed to perform faithfully any previous contract with the City.

The bidder, if requested, must present within a reasonable time, as determined by the Chief Procurement Officer, evidence satisfactory to the Chief Procurement Officer of performance ability and possession of necessary facilities, pecuniary resources and adequate insurance to comply with the terms of these specifications and contract documents.

7. Consideration of Proposals

The Chief Procurement Officer represents and act for the City in all matters pertaining to this proposal and contract in conjunction therewith. The Chief Procurement Officer reserves the right to reject any or all proposals and to disregard any informality in the bids and bidding, when in her opinion the best interest of the City will be served by such action. The proposal is contained in these contract documents and **MUST NOT BE DETACHED HERE FROM** by any bidder when submitting a proposal. Incomplete proposals are subject to rejection.

8. Balanced Bids

Bidder's pricing for each line item should carry its share of the cost of work, plus its share of overhead and profit. Bidders should avoid nominal pricing for some lines and enhanced pricing for other lines. Bids that the Chief Procurement Officer considers in her sole opinion to be materially unbalanced will be rejected.

9. Acceptance of Proposals

The Chief Procurement Officer will accept in writing one of the proposals or reject all proposals, within 60 calendar days, or within 90 calendar days where approval by other agencies is required, from the date of opening of bids, unless the lowest responsible bidder, upon request of the City, extends the time of acceptance to the City.

Requirements for Bidding and Instructions for Bidders

10. Performance Bond

When required by the Chief Procurement Officer the successful bidder or bidders shall, within seven (7) calendar days of receipt of notice from the City, furnish a performance bond in the full amount of the contract on Form P.W.O. 62, a specimen of which is bound herein.

Receipt of written notice from the City to furnish a bond constitutes tentative notice of pending award and proposal acceptance. Release of the contract shall be withheld pending receipt and approval of a satisfactory bond.

Attention is called to the provisions of 30 ILCS 550/1, et.seq. and to the provisions of Section 2-92-030 of the Municipal Code of Chicago.

11. Failure to Furnish Bond

In the event that the bidder fails to furnish the performance bond in said period of seven (7) calendar days, then the bid deposit of the bidder shall be retained by the City as liquidated damages and not as a penalty.

12. Interpretation of Contract Documents

If any person contemplating submitting a proposal is in doubt as to the true meaning of any part of the specifications or other contract documents, a written request for an interpretation thereof may be submitted to the Chief Procurement Officer. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by an addendum duly issued by the Chief Procurement Officer. A copy of such addendum will be mailed, faxed, electronically mailed or delivered to each person receiving a set of such contract documents and to such other prospective bidders as shall have requested that they be furnished with a copy of each addendum. Failure on the part of the prospective bidder to receive a written interpretation prior to the time of the opening of bids will not be grounds for withdrawal of proposal. Bidder will acknowledge receipt of each addendum issued in space provided on proposal page. Oral explanations will not be binding.

13. Catalogs

Each bidder must submit, where necessary, or when requested by the Chief Procurement Officer, catalogs, descriptive literature, and detailed drawings, fully detailing features, designs, construction, appointments, finishes and the like not covered in the specifications, necessary to fully describe the material or work he proposes to furnish.

14. Substitution

The Bidder must, if awarded the Contract, provide the items specified in the Contract Documents when those items are specified by manufacturer's trade name in Book-Three, unless equivalent alternatives have been proposed as described below. Reference to a specific manufacturer, trade name, or catalog is intended to be descriptive but not restrictive and only to

Requirements for Bidding and Instructions for Bidders

indicate to the prospective bidder items that will be satisfactory. The Bidder may bid another product(s) provided that the alternative product is on a separate sheet of paper designated as such and is supported by the type of information listed in Section VII.D.1.a.,b.,e.,g.,h., and Section VII.D.2., of the Terms and Conditions for Construction, in order to facilitate the Chief Procurement Officer's evaluation of such product. The Chief Procurement Officer may, in his sole discretion, accept an alternate bid for a specified item, provided the alternate item so bid is, in the Chief Procurement Officer's sole opinion, the equivalent of the item specified in the Contract Documents. An alternate that is not equivalent to the specified item may render the bid non-responsive. Unless the alternate item is so identified, it is understood that the Bidder proposes, and will be required to provide, the specific item described in the Contract Documents. No substitution of specified items will be allowed thereafter except as provided in Section VII.D.2., of the Terms and Conditions for Construction.

15. Return of Bid Deposit

The bid deposit of all except the two lowest bidders on each contract will be returned shortly after the bid opening. The Chief Procurement Officer reserves the right to hold all bid deposits, if the intent is to award multiple contracts for a requirement and/or if the two lowest responsible bidders cannot be readily determined based on price until all proposals have been evaluated.

The remaining bid deposits on each contract will be returned with the exception of the accepted bidder, after the Chief Procurement Officer has awarded the contract. The bid deposit of the accepted bidder will be returned after the contract has been awarded and a satisfactory performance bond has been approved, where such bond is required.

16. Taxes

Federal Excise Tax does not apply to materials purchased by the City of Chicago by virtue of Exemption Certificate No. 36-6005820 and State of Illinois Sales Tax does not apply by virtue of Exemption Certificate No. E9998-1874-01. Illinois Retailers' Occupation Tax, Use Tax, and Municipal Retailers' Occupation Tax do not apply to materials or services purchased by the City of Chicago by virtue of Illinois statutes. The price or prices quoted herein shall include all other Federal and/or State, direct and/or indirect taxes which apply. The prices quoted herein shall agree with all Federal Laws and Regulations.

17. Contractor's Financial Statement

Each bidder must either (1) submit with the bid a current and valid Illinois Department of Transportation (IDOT) 'Certificate of Eligibility' issued by IDOT as a result of filing with IDOT an APPLICATION FOR PREQUALIFICATION: STATEMENT OF EXPERIENCE, EQUIPMENT AND FINANCIAL CONDITION showing prequalification in the required work categories, or (2) if the bidder has not been issued an applicable IDOT 'Certificate of Eligibility,' bidder must have on file in the office of the Chief Procurement Officer prior to bid opening a CONTRACTOR'S STATEMENT OF EXPERIENCE AND FINANCIAL CONDITION dated not earlier than the end of the Contractor's last fiscal year period. This Statement shall be kept on file by the Chief Procurement Officer as a representative statement for a period of one year

Requirements for Bidding and Instructions for Bidders

only. Forms are available at the office of the Bid and Bond Section, DEPARTMENT OF PROCUREMENT SERVICES, Room 103 City Hall, 121 North LaSalle Street, Chicago, Illinois, 60602, 312-744-9773 or may be obtained online: http://www.cityofchicago.org/city/en/depts/dps/provdrs/contract/svcs/forms_and_standardagreements.html

Failure to submit an IDOT 'Certificate of Eligibility' or alternatively to have a current financial statement on file in the DEPARTMENT OF PROCUREMENT SERVICES at time of bid opening may be cause for the rejection of Contractor's Proposal.

When submitting a CONTRACTOR'S STATEMENT OF EXPERIENCE AND FINANCIAL CONDITION it must be in a PDF format on a labeled CD-ROM that contains complete and all information in a single file. Paper submissions of this STATEMENT are no longer permissible. Additionally include an e-mail address for the Department of Procurement Services to acknowledge receipt of this STATEMENT which will be kept on file by the Chief Procurement Officer as a representative statement for a period of one year only. The Department of Procurement Services no longer issues a financial rating statement or certificate. The financial Statement information must be sent to, DEPARTMENT OF PROCUREMENT SERVICES, Room 806 City Hall, 121 North LaSalle Street, Chicago, Illinois, 60602.

18. Notices

All communications and notices to the City herein provided for shall be faxed, delivered personally, electronically mailed or mailed first class, postage prepaid, to the Commissioner of the using department by name and address listed on the cover hereof, and to the Chief Procurement Officer, Room 806, City Hall, 121 N. LaSalle Street, Chicago, Illinois 60602. All communications and notices to the bidder, unless otherwise provided for, shall be faxed, delivered personally, electronically mailed or mailed first class, postage prepaid, to the bidder by name and address listed on the proposal hereof.

19. Acknowledgment of Receipt of Addenda

The bidder must acknowledge the receipt of all formally issued addenda in the space provided on the signature pages of the Proposal.

20. Economic Disclosure Statement and Affidavit

The Contractor or each joint venture partner shall be required to submit with their bid, proposal or response, a fully executed Economic Disclosure Statement and Affidavit, which includes a Disclosure for Retained Parties, on the form attached herein, signed by an authorized officer of the company before a notary which includes a certification that the Contractor or each joint venture partner, its agents, employees, officers and any subcontractors have not been engaged in or been convicted of bidrigging or bid-rotating activities as defined in the Economic Disclosure Statement and Affidavit. The certification is required in accordance with the Illinois Criminal Code.

Requirements for Bidding and Instructions for Bidders

21. Disadvantaged Business Enterprise Commitment

The attention of bidders is directed to the Special Condition Regarding Disadvantaged Business Enterprise Commitment and the Proposal Schedules that precede the Proposal form. If awarded the Contract, the bidder agrees to expend at least the percentage of the Contract Price indicated on bidder's Proposal Schedules for participation by bona fide Disadvantaged Business Enterprises. **Appropriate Schedules must be completed and executed by the bidder in submitting a proposal. Refer to Book 1.**

22. Bidders List Information - The following language is included in all bids or proposals:

Information/Documentation required at the time of bid opening or submission of proposals:

Pursuant to 49 CFR Section 26.11, the City is required to maintain a bidder's list, consisting of all firms bidding or proposing on prime contracts and bidding or quoting subcontracts. The bidder/proposer is requested to provide a list of all DBE and non-DBE subcontractors who bid or quote price information on this Contract. Failure to cooperate may result in the bidder/proposer being deemed non-responsible in this and future bids.

23. Protests

The bidder shall submit any protests or claims regarding this solicitation to the office of the City's Chief Procurement Officer located at City Hall, 121 North LaSalle Street, Room 806, Chicago, Illinois 60602. A pre-bid protest must be filed no later than the five (5) days before the bid opening date, a pre-award protest must be filed no later than 10days after the bid opening date, and a post-award protest must be filed no later than 10days after the award of the contract.

All protests or claims must set forth the name and address of the protester, the specification number, the grounds for the protest or claim, and the course of action that the protesting party desires that the Chief Procurement Officer take.

Copies of the Bid Protest Procedures are available at the Bid and Bond Room.

24. Bidder's Affidavit (Anti-collusion)

The attention of bidders is called to the following quotation from a Federal Highway Administration memorandum pertinent to this contract:

23 U.S.C. 112(c) requires, as a condition precedent to approval by the Commissioner of the Department of Transportation of the Contract for this work, that there be filed a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such Contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any

Requirements for Bidding and Instructions for Bidders

agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such Contract. This sworn statement shall be in the form of an affidavit executed and sworn to by the successful bidder before a person who is authorized by the laws of this state to administer oaths.

The affidavit referenced above is included as part of the City of Chicago Economic Disclosure Statement and Affidavit, instructions for completing are included below.

25. Multi-Project Labor Agreement (PLA)

The City has entered into a Project Labor Agreement (“PLA”) with various trades regarding projects involving construction, demolition, maintenance, rehabilitation and/or renovation work, as described in the PLA, a copy of which may be found on the City’s website at:

<http://www.cityofchicago.org/dam/city/depts/dps/RulesRegulations/Multi-ProjectLaborAgreement-PLAandSignatoryUnions.pdf>.

Contractor acknowledges familiarity with the requirements of the PLA and its applicability to any Work under this Agreement, and shall comply in all respects with the PLA.

26. Prevailing Wage Rates

Davis-Bacon Act: The Contractor agrees to comply and assures compliance with the requirements of 49 U.S.C. 5333(a), the Davis-Bacon Act, 40 U.S.C. 276 a(7), and implementing U.S. DOL regulation, Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act), 29 C.F.R. Part 5. In addition to other requirements that may apply, the Contractor agrees to pay wages to laborers and mechanics performing contract work at a rate not less than the minimum wages specified in a wage determination issued by the U.S. Secretary of Labor and not less frequently than once a week.

Contractor is responsible for paying the generally prevailing hourly rate of wages in effect, as determined by the Department of Labor, at the time the Work is performed. If the Department of Labor revises the prevailing rate of hourly wages to be paid for the Work before completion of the Project, the revised rate will apply to this Contract from the effective date of the revision, but the revision will not entitle Contractor to any increased compensation under the terms of this Contract.

Prevailing wages are incorporated into the Contract by reference. Current Prevailing Wages may be found at: <http://www.wdol.gov/dba.aspx>

The Contractor agrees to place a copy of the current prevailing wage determination issued by the U.S. DOL in each solicitation for Subcontractor work under the Project, and agrees to refrain from awarding any affected subcontract until the subcontractor agrees to the required wage determination. The Contractor further agrees to report to USDOT or FHWA every suspected or reported violation of the Davis-Bacon Act or its Federal implementing regulations

Requirements for Bidding and Instructions for Bidders

All Contractors and Subcontractors rendering services under a Contract for the construction of a public work must comply with all requirements of the Act, including but not limited to, all wage, notice and record keeping duties.

The term general prevailing hourly rate, when used in this requirement will mean the hourly cash wages plus fringe benefits for health and welfare, insurance, vacations and pensions paid generally, in the locality in which the work is being performed, to employees engaged in work of a similar character on public works.

As a condition of making payment to the Contractor, the City may require the Contractor to submit an affidavit to the effect that not less than the prevailing hourly wage rate is being paid to laborers, mechanics and other workmen employed on this Contract in accordance with Illinois or federal law, as applicable.

LICENSING OF GENERAL CONTRACTORS

LICENSING OF GENERAL CONTRACTORS

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4-36-010 Definitions.

As used in this chapter:

“Act related to general contracting” means: (1) any activity requiring a license under this chapter; or (2) any conduct regulated by this chapter; or (3) any activity requiring a building permit issued under Chapter 13-32 of this Code; or (4) any duty or other requirement imposed by this chapter; or (5) any inspection of a building or premises or performance of other legal or work-related duty by a city inspector, city personnel or other government official in connection

with: (i) the issuance of a general contractor license under this chapter, or (ii) the issuance of a building permit under Chapter 13-32 of this Code, or (iii) for the purpose of enforcing the requirements of the building code, zoning code or any other law regulating building construction or the health or safety of construction site workers, of the current or eventual users or occupants of a building or premises or of the general public.

“Building code” has the meaning ascribed to the term in Section 1-4-090.

“City” means the City of Chicago.

“City personnel” means any person employed by the City of Chicago.

“City inspector” means any person authorized by the City of Chicago to conduct an inspection.

“Department” means the department of buildings.

“Commissioner” means the commissioner of buildings.

“Controlling person” means any person who: (1) is an officer, director, partner, general partner, limited partner, manager, managing member or member of any entity seeking or holding a license under this chapter; or (2) owns, directly or indirectly through one or more intermediate ownership entities, 25 percent or more of the interest in the licensee or applicant, as applicable.

“General contractor” means any person who, as an investment or for compensation or with the intent to sell or to lease, (i) arranges or submits a bid or offers to undertake or purports to have the capacity to undertake or undertakes, through himself or through others, to erect, construct, alter, repair, move, install, replace, convert, remodel, rehabilitate, modernize, improve or make additions to any building as defined in Section 13-4-010 or to any appurtenance thereto attached to real estate and located on the same lot as the building, including, but not limited to, driveways, swimming pools, porches, decks, garages, fences, fallout shelters and other accessory objects or uses; and (ii) retains for himself control over the means, method and manner of accomplishing the desired result; and (iii) whose business operations, in whole or in part, require the hiring or supervision of one or more persons from any building trade or craft, including, but not limited to, plumbing, masonry, electrical, heating, air-conditioning or carpentry. The term includes nonresident general contractors who do business within the city and developers of conversion condominiums as defined in the Condominium Property Act, as amended.

“Knowingly”, with respect to a material fact, means (i) having actual knowledge of the material fact; or (ii) being aware of facts or information that would cause a reasonable person to have actual knowledge of the material fact; or (iii) acting in deliberate ignorance or reckless disregard of the truth or falsity of the material fact.

“Licensee” means any person licensed or required to be licensed under this chapter.

“Nonresident general contractor” means any general contractor who is not domiciled in the city and has not maintained a permanent place of business or residence in the city for at least six months.

“Zoning code” has the meaning ascribed to the term in Section 1-4-150.

4-36-020 License – Required.

(A) No person shall own, operate, conduct, manage, engage in, maintain or carry on the business of general contractor without first having obtained a general contractor license. The general contractor license shall be in addition to any other license required by law, including, but not limited to, the excavators license issued pursuant to Chapter 4-196 of this Code, if applicable.

(B) The following persons are not general contractors within the meaning of this section:

- (1) Any subcontractor, employee or agent working for or under the supervision of a general contractor licensed or required to be licensed under this chapter and acting within the scope of his contract, employment or agency;
- (2) Any person who merely furnishes materials or supplies for use at a construction site without fabricating them into, or consuming them in the performance of, the work of a general contractor;
- (3) Any person licensed by the City of Chicago as a mason contractor, plumbing contractor or electrical contractor and acting within the scope of his license;
- (4) Any licensed architect or engineer acting within the scope of his license;
- (5) Any person who does general contracting work on property that constitutes his primary residence, if the primary residence is a single-family dwelling or a multiple-family dwelling that does not exceed three stories in height and contains six or fewer dwelling units as defined in Section 13-4-010 of this Code. This exception is limited to one such property during a calendar year;
- (6) Any person who hires a general contractor licensed under this chapter to do general contracting work on the person's property;
- (7) Any property owner, or employee or agent thereof, who does minor nonstructural repairs on the owner's property; and
- (8) A governmental entity for work upon premises owned by the governmental entity and performed by employees of the governmental entity.

4-36-030 License classifications.

General contractor licenses shall be divided into the classifications which follow. The holders of such licenses shall be entitled to engage in the business of general contractor within the city subject to the following limitations:

Class A license: The holder of a Class A license is subject to no limitation as to the value of any single contract project.

Class B license: The holder of a Class B license is not entitled to engage in the construction of any single contract project of a value in excess of \$10,000,000.00.

Class C license: The holder of a Class C license is not entitled to engage in the construction of any single contract project of a value in excess of \$5,000,000.00.

Class D license: The holder of a Class D license is not entitled to engage in the construction of any single contract project of a value in excess of \$2,000,000.00.

Class E license: The holder of a Class E license is not entitled to engage in the construction of any single contract project of a value in excess of \$500,000.00.

4-36-040 License – Posting – Nontransferability.

Each license issued pursuant to this chapter shall be posted in a conspicuous place near the entrance of the licensee's chief place of business. A photocopy of the license shall be posted in a conspicuous place at each construction site maintained by the licensee. No transfer of ownership shall be allowed on any license issued under this chapter.

4-36-050 License – Application.

An application for a license under this chapter shall be made in writing to the commissioner on a form provided by the department of buildings, and shall be accompanied by the following:

- (A) If the applicant is an individual:
 - (1) The applicant's full name, residence address, business address, business e-mail address and business telephone number;
 - (2) Proof that the applicant is at least 18 years of age;
- (B) If the applicant is a corporation:
 - (1) The corporate name, address, e-mail address and telephone number of the applicant's principal office or place of business;
 - (2) The date and state of incorporation;
 - (3) The full name, title, residence address, e-mail address and residence telephone number of all controlling persons;
 - (4) Proof that all corporate officers and controlling persons are at least 18 years of age;
 - (5) Proof that the corporation is in good standing under the laws of the State of Illinois;
- (C) If the applicant is a partnership or limited liability company:
 - (1) The name, address, e-mail address and telephone number of the applicant's principal office or place of business;

(2) The full name, title, residence address, e-mail address and residence telephone number of all partners, if a general partnership; of all general and limited partners, if a limited partnership; of all managers, managing members and members, if a limited liability company; and of all controlling persons;

(3) Proof that all partners, managers, managing members, members and controlling persons are at least 18 years of age;

(D) The class of license for which application is being made;

(E) The license fee;

(F) A description of the work and services the applicant will provide;

(G) A statement verified by affidavit as to whether the applicant and each controlling person is financially solvent;

(H) The name and address of the principal location from which the applicant has engaged in the business of general contracting at any time within the last five years;

(I) If the applicant is not a sole proprietor, proof that the applicant is authorized to do business in the State of Illinois;

(J) Proof of insurance as required by Section 4-36-090;

(K) The date of birth, and social security number or other acceptable identifier, of each natural person named in the license application;

(L) A statement as to whether the applicant or any controlling person has ever been convicted, in custody, under parole or under any other non-custodial supervision resulting from a conviction in a court of any jurisdiction for the commission of a felony or criminal offense of whatever degree involving bribery, and if so, the details surrounding each such conviction;

(M) A statement as to whether the applicant or any controlling person is currently under indictment or has been charged under any State or Federal law with the crime of bribery; and

(N) Any other information that the commissioner may require.

It is a condition of the license that all information in the application be kept current. Any change in required information shall be reported to the department of buildings within 14 business days after such change has occurred.

For purposes of this section, a post office box shall not suffice as an address.

4-36-060 License issuance and renewal prohibited when.

No general contractor license shall be issued to the following persons:

(A) Any person whose license under this chapter has been revoked for cause at any time within the last four years;

(B) Any person whose permit privileges have been suspended pursuant to Section 4-36-130 until such time that the suspension is lifted by the department of buildings;

(C) Any person who is under the age of 18;

(D) Any person who has been convicted, in custody, under parole or under any other non-custodial supervision resulting from a conviction in a court of any jurisdiction for the commission of a felony or criminal offense of whatever degree involving bribery, unless, upon request of such person, the commissioner determines that such person has been substantially rehabilitated to warrant the public trust. The burden of proof of substantial rehabilitation shall be on the person seeking such rehabilitation; and

(E) Any person who is currently under indictment or has been charged under any State or Federal law with the crime of bribery.

The above prohibitions and requirements shall apply to the licensee and to all controlling persons.

Eligibility for issuance of a license under this chapter shall be a continuing requirement for maintaining a license under this chapter. Failure to maintain such eligibility may result in license suspension or revocation in accordance with the requirements of Section 4-4-280 of this Code.

4-36-070 License – Fee – Termination.

The license fee set forth in Section 4-5-010 of this Code shall be payable annually. The general contractor license shall expire on the date indicated on the face of the license.

4-36-080 License number to be printed where.

The licensee shall print his general contractor license number legibly on the front page of every estimate, contract and subcontract, and in any advertisement placed by or on behalf of a general contractor. The general contractor license number, and the class of general contractor license obtained, shall appear on every application for a building permit. The licensee shall affix his name and general contractor license number on all vehicles used in the course of his business.

4-36-090 Proof of insurance – Required.

Prior to the issuance of a general contractor license, each applicant shall furnish a certificate of insurance, issued by an insurer authorized to insure in Illinois with a credit rating of B+ or higher by A.M. Best Company, evidencing commercial general liability insurance, as follows:

(A) If the applicant is applying for a Class A license: limits of not less than \$5,000,000.00 per occurrence (primary or umbrella) for bodily injury and property damage arising in any way from the issuance of the license;

(B) If the applicant is applying for a Class B license: limits of not less than \$3,000,000.00 per occurrence (primary or umbrella) for bodily injury or property damage arising in any way from the issuance of the license;

(C) If the applicant is applying for a Class C license: limits of not less than \$1,000,000.00 per occurrence, \$2,000,000.00 in the aggregate combined single limit, for bodily injury or property damage arising in any way from the issuance of the license;

(D) If the applicant is applying for a Class D license: limits of not less than \$1,000,000.00 per occurrence, \$2,000,000.00 in the aggregate combined single limit, for bodily injury or property damage arising in any way from the issuance of the license;

(E) If the applicant is applying for a Class E license: limits of not less than \$1,000,000.00 per occurrence for bodily injury or property damage arising in any way from the issuance of the license.

Each policy of insurance required under this section shall include a provision requiring 30 days advance notice to the commissioner prior to cancellation or lapse of the policy. The licensee shall maintain the insurance required under this section in full force and effect for the duration of the license period. A single violation of this section shall result in suspension or revocation of the general contractor license in accordance with Section 4-4-280 of this Code.

Each policy of insurance required under this section shall name the City of Chicago as an additional insured on a primary, noncontributory basis.

4-36-100 Reserved.

4-36-110 Unlawful acts.

It shall be unlawful for any licensee or for any person requiring a license under this chapter to engage in any of the following conduct:

(A) Knowingly to allow any person to use the licensee's name or license identification on a building permit application unless the licensee will be performing the work attributed to the licensee in the permit application. Any person who violates this subsection shall be punished by a fine of \$1,000.00 for the first offense; \$1,500.00 and a 90-day license suspension for the second offense; and \$2,000.00 and license revocation for the third offense;

(B) To do work or to direct, permit, encourage, assist, aid, abet or cause others to do work without first having obtained any permit required by this Code, or in violation of Section 13-12-050 of this Code;

(C) To violate or to direct, permit, encourage, assist, aid, abet or cause others to violate any stop work order issued under this Code;

(D) To hire any subcontractor or to direct, permit, encourage, assist, aid, abet or cause others to hire any subcontractor who lacks a valid license to perform the work for which the subcontractor is hired;

(E) To submit any bid on general contracting work without a valid license issued under this chapter;

(F) To fail to allow the department of buildings or the department of business affairs and consumer protection to examine pursuant to Section 4-36-120(B) the financial books and records of the business within three business days of the time a written request for such an examination is made by the commissioner of buildings or the department of business affairs and consumer protection;

(G) To fail to comply with the Workers' Compensation Act, as amended;

(H) To fail to maintain any insurance required by law, including but not limited to workers' compensation insurance and automobile liability insurance;

(I) To knowingly make or cause to be made a false statement of material fact on or in connection with a building permit application;

(J) To knowingly submit or cause to be submitted in support of a building permit application any document containing false or fraudulent information;

(K) To knowingly affix or cause to be affixed a false signature on a building permit application;

(L) To bribe or attempt to bribe or cause others to bribe or attempt to bribe any building inspector, government official, city personnel or other person in connection with an act related to general contracting as defined in Section 4-36-010.

(M) To knowingly engage or cause others to engage in any conduct in connection with a building permit application in violation of the Illinois Architecture Practice Act, the Illinois Professional Land Surveyor Act, the Illinois Professional Engineering Practice Act or the Illinois Structural Engineering Act, as amended.

(N) To do work or to direct, permit, encourage, assist, aid, abet or cause others to do work in violation of the zoning code or in a manner that fails to conform to the minimum standards of health or safety set forth in this Code or in any other applicable law or that otherwise endangers the health or safety of construction site workers, or the current or eventual users or occupants of a building or premises or the general public.

(O) To fail to comply with any requirement applicable to the contractor on a project as set forth in Article XIV of Chapter 11-4 of this Code.

The prohibitions set forth in subsections (A) through (O) of this section shall apply to the licensee and to all controlling persons.

4-36-120 Duties.

A licensee under this chapter shall have the following duties:

(A) To maintain a list that includes information about all permits obtained and all contractors or subcontractors performing work on any project permitted or requiring a permit, under this Code, including the contractor's or subcontractor's name and address, and if applicable, their license number. If requested by the commissioner, the general contractor shall produce this list within 72 hours of the commissioner's request.

(B) To maintain sufficient and proper personnel, financial ability and facility to coordinate, develop, provide management expertise and complete in its entirety any proposed work for which a permit has been issued or is required to be issued under this Code. If the commissioner of buildings or the department of business affairs and consumer protection receives a complaint, or otherwise has reasonable cause to believe, that a licensee or any person requiring a license under this chapter is not financially solvent, the commissioner and the department of business affairs and consumer protection are authorized to examine that licensee's or person's financial books and records in order to determine whether the person's past and current financial solvency and expectations for financial solvency in the future give rise to a reasonable expectation that the person can successfully do business as a general contractor without jeopardizing the public health, safety or welfare, and can carry through to completion any project permitted or requiring a permit under this Code. Financial solvency is a continuing requirement for maintaining a license under this chapter. Any financial books and records submitted pursuant to this subsection, and all information contained therein, shall be deemed confidential, shall be used for purposes of enforcing this subsection only, and shall not be divulged to any person or agency, except to the United States Attorney, the Illinois Attorney General, the State's Attorney of Cook County or to the extent required by law. Any person who uses or divulges confidential information in violation of the requirements of this subsection shall be subject to incarceration for a term not to exceed six months or a fine not to exceed \$500.00 or both.

(C) To assure compliance with the building code by its employees, agents and subcontractors in the performance of a project.

(D) To comply with all reasonable requests made by any authorized city official necessary or appropriate to implement the requirements of this chapter;

(E) To cooperate fully with any authorized city official in any inquiry, inspection or investigation necessary or appropriate to implement the requirements of this chapter;

(F) To keep a copy of the certificate of insurance required under Section 4-36-090 at the following locations: (1) the licensee's principal office or place of business, as identified in the license application; and (2) each construction site within the city managed or controlled by the licensee. Upon request, such copy of the certificate of insurance shall be made available for inspection by any city inspector or other authorized city official.

The duties set forth in this section shall apply to the licensee and to all controlling persons.

(G) If the licensee is engaged at a specific job site in the business of home repair, as defined in Section 4-6-280(a), to comply with the requirements set forth in paragraphs (2) through (6), inclusive, of Section 4-6-280(d) and in paragraphs (1) through (4), inclusive, of Section 4-6-280(c).

4-36-130 Permit privileges – Suspension for failure to correct defects in work.

If the commissioner of buildings determines that a licensee or any person requiring a license under this chapter has failed to correct any substantial defect, error or deficiency, or has established a pattern of deviating from the drawings or plans approved by the appropriate department issuing the permit, in any work done under the authority of a permit issued pursuant to this Code, the commissioner shall notify the licensee or person that if the noncompliance is not corrected to the satisfaction of the department within ten business days after written notification thereof, the issuance to the general contractor of any new permit for any work at any location shall be prohibited until the noncompliance is cured. If the general contractor fails to correct the noncompliance within ten business days after written notification thereof, the commissioner shall, without further notice, stop the issuance of any new permit to the general contractor until such time that the noncompliance is corrected and the correction is inspected and approved by the department.

For purposes of this section:

“Substantial defect, error or deficiency” means any construction, alteration, installation, repair or razing of any building, structure, premises or part thereof which (i) is being done or has been done without any permit required by this Code; or (ii) creates a danger to the health or safety of workers on the site, to current or eventual users or occupants of the building, structure, premises or part thereof, or to the general public.

“Pattern” means five or more uncorrected deviations from any permit at one or more construction sites within any six-month period.

4-36-140 License – Immediate suspension based upon a pattern of substantial code violations.

If the commissioner of buildings determines that a licensee is engaging in or has engaged in a pattern of substantial code violations, the commissioner may order the temporary suspension of any license issued pursuant to this chapter for a period not to exceed ten days. Notice of the temporary suspension and the grounds for that suspension shall be immediately sent or delivered to the licensee. The licensee shall have an opportunity for a hearing before the department of business affairs and consumer protection prior to the expiration of the ten day temporary suspension. If the department of business affairs and consumer protection determines by a preponderance of the evidence that a pattern of substantial code violations exists, nothing in this section shall prevent the department of business affairs and consumer protection from

suspending the licensee's general contractor license for a longer period of time or from revoking the license in accordance with Section 4-4-280 of this Code.

For purposes of this subsection, the term “pattern of substantial code violations” means five or more violations of the building code which imperil the public health, safety or welfare, or two or more violations of any stop work order issued pursuant to this Code, or any combination thereof involving five or more violations of this Code, within any six-month period, at one or more construction sites within the city managed or controlled by the licensee.

4-36-145 License suspension pending final adjudication of a bribery charge.

If the commissioner has knowledge that a licensee under this chapter or any controlling person has been indicted or charged with any offense set forth in item (L) of Section 4-36-110 or with a similar offense under any State or Federal law and the commissioner determines that continued operation of the licensed business or activity may pose a threat to the public health, safety or welfare or may threaten to impair public confidence in the licensed business or activity, the commissioner may suspend the general contractor license of such licensee, in accordance with the requirements of Section 4-4-280, until final adjudication is made with respect to such offense. The subject matter of any hearing conducted under Section 4-4-280 shall be limited to determining (1) whether the licensee or any controlling person has, in fact, been indicted or charged with any offense set forth in item (L) of Section 4-36-110 or with a similar offense under any State or Federal law; and (2) whether such offense is connected in any way with an act related to general contracting; and (3) whether continued operation of the licensed business or activity may pose a threat to the public health, safety or welfare or may threaten to impair public confidence in the licensed business or activity. The burden of proving that continued operation of the licensed business or activity does not pose a threat to the public health, safety or welfare and does not threaten to impair public confidence in the licensed business or activity shall be on the licensee.

4-36-150 License – Suspension or revocation.

Any violation of this chapter or of the building code or of any regulation promulgated thereunder may result in license suspension or revocation in accordance with the requirements Section 4-4-280 of this Code.

4-36-160 License revocation – Four-year wait for new license.

No person whose license under this chapter is revoked for any cause shall be granted another general contractor license under the same or a different name for a period of four years after the date of revocation.

4-36-170 Regulations.

The commissioner of buildings shall have the authority to promulgate rules and regulations necessary to implement the requirements of this chapter.

4-36-180 Enforcement.

The commissioner of buildings shall (i) enforce the requirements of this chapter; (ii) investigate complaints regarding violations of this chapter; and (iii) maintain a roster of all licensees under this chapter and of all persons whose general contractor license has been suspended or revoked within the previous four years.

(Added Coun. J. 10-1-03, p. 9163, § 2.1)

4-36-190 Violation – Penalty.

Except as otherwise provided in this chapter, any person violating any of the requirements of this chapter shall be fined, as follows:

(A) If the person holds or requires a Class A license under this chapter: not less than \$1,000.00, nor more than \$5,000.00, for each offense;

(B) If the person holds or requires a Class B license under this chapter: not less than \$750.00, nor more than \$3,500.00, for each offense;

(C) If the person holds or requires a Class C license under this chapter: not less than \$500.00, nor more than \$2,500.00, for each offense;

(D) If the person holds or requires a Class D license under this chapter: not less than \$400.00, nor more than \$2,000.00, for each offense;

(E) If the person holds or requires a Class E license under this chapter: not less than \$250.00, nor more than \$1,000.00, for each offense.

Each day that a violation continues shall constitute a separate and distinct offense.

PROPOSAL TO BE EXECUTED BY A CORPORATION

The undersigned, hereby acknowledges having received **Specification No. 561863** containing a full set of Contract Documents, including, but not limited to, 1) Instructions to Bidders (Proposers), 2) General Conditions, 3) Special Conditions, 4) Contract Plans or Drawings (if applicable) 5) Detailed Specifications or Scope of Services, Evaluation/Selection Criteria and Submittal Requirements (If RFP/RFQ), 6) Proposal Pages, 7) Certifications and 8) Addenda Nos. **(none unless indicated here)** _____, and affirms that the corporation shall be bound by all the terms and conditions contained in the Contract Documents, regardless of whether a complete set thereof is attached to this proposal, except only to the extent that the corporation has taken express written exception thereto in the sections of this specification designated for that purpose.

Under penalty of perjury, the undersigned: (1) warrants that he/she was authorized to submit an EDS on behalf of the Disclosing Party on-line; (2) warrants that all certifications and statements contained in the EDS are true, accurate and complete as of the date the EDS was submitted on-line; and (3) further warrants that, as of the date of submission of this proposal or bid, there have been no changes in Circumstances since the date that the EDS was submitted that would render any certification in the EDS false, inaccurate or incomplete.

Further, the undersigned being duly sworn deposes and says on oath that no disclosures of ownership interests have been withheld and the information provided therein to the best of its knowledge is current and the undersigned has not entered into any agreement with any other bidder (proposer) or prospective bidder (proposer) or with any other person, firm or corporation relating to the price named in this proposal or any other proposal, nor any agreement or arrangement under which any act or omission in restraint of freedom of competition among bidders (proposers) and has not disclosed to any person, firm or corporation the terms of this bid (proposal) or the price named herein.

Proposals must be submitted with original signatures in the space provided. Proposals not properly signed will be rejected.

NAME OF CORPORATION: _____
(Print or Type)

SIGNATURE OF PRESIDENT*:
(Or Authorized Officer) _____
(Signature)

TITLE OF SIGNATORY: _____
(Print or Type)

BUSINESS ADDRESS: _____
(Print or Type)

*Note: In the event that this bid (proposal) is signed by other than the President, attach hereto a certified copy of that section of Corporate By-Laws or other authorization, such as a resolution by the Board of Directors, which permits the person to sign the offer for the Corporation.

ATTEST: _____
(Corporate Secretary Signature)
(Affix Corporate Seal)

State of _____
County of _____

This instrument was acknowledged before me on this _____ day of _____, 20__ by _____ as President (or other authorized officer) and _____ as Secretary of _____ (Corporation Name).
(Seal)

Notary Public Signature
Commission Expires: _____

PROPOSAL TO BE EXECUTED BY A JOINT VENTURE

The undersigned, hereby acknowledges having received **Specification No. 561863** containing a full set of Contract Documents, including, but not limited to, 1) Instructions to Bidders (Proposers), 2) General Conditions, 3) Special Conditions, 4) Contract Plans or Drawings (if applicable) 5) Detailed Specifications or Scope of Services, Evaluation/Selection Criteria and Submittal Requirements (If RFP/RFQ), 6) Proposal Pages, 7) Certifications and 8) Addenda Nos. **(none unless indicated here)** _____, and affirms that the Joint Venture shall be bound by all the terms and conditions contained in the Contract Documents, regardless of whether a complete set thereof is attached to this proposal, except only to the extent that the Joint Venture has taken express written exception thereto in the sections of this specification designated for that purpose.

Under penalty of perjury, the undersigned: (1) warrants that he/she was authorized to submit an EDS on behalf of the Disclosing Party on-line; (2) warrants that all certifications and statements contained in the EDS are true, accurate and complete as of the date the EDS was submitted on-line; and (3) further warrants that, as of the date of submission of this proposal or bid, there have been no changes in Circumstances since the date that the EDS was submitted that would render any certification in the EDS false, inaccurate or incomplete.

Further, the undersigned being duly sworn deposes and says on oath that no disclosures of ownership interests have been withheld and the information provided therein to the best of its knowledge is current and the undersigned has not entered into any agreement with any other bidder (proposer) or prospective bidder (proposer) or with any other person, firm or corporation relating to the price named in this proposal or any other proposal, nor any agreement or arrangement under which any act or omission in restraining of free competition among bidders (proposers) and has not disclosed to any person, firm or corporation the terms of this bid (proposal) or the price named herein.

Proposals must be submitted with original signatures in the space provided. Proposals not properly signed will be rejected.

JOINT VENTURE NAME: _____
(Print or Type)

JOINT VENTURE ADDRESS: _____
(Print or Type)

If you are operating under an assumed name, provide County registration number herein under as provided in the Illinois Revised Statutes 1965 Chapter 96 Sec. 4 et seq.

Registration Number: _____

SIGNATURES AND ADDRESSES OF ALL MEMBERS OF THE JOINT VENTURE

(If all members of the Joint Venture do not sign, indicate authority of signatories by attaching copy of Joint Venture agreement or other authorizing document):

SIGNATURE OF Authorized Party: _____
(Signature)

TITLE OF SIGNATORY: _____
(Print or Type)

BUSINESS ADDRESS: _____
(Print or Type)

ATTEST: _____
(Joint Venture Secretary Signature)
(Affix Joint Venture Seal)

OR
Joint Venturer Signature: _____
(Signature)

Address: _____
(Print or Type)

Joint Venturer Signature: _____
(Signature)

Address: _____
(Print or Type)

Joint Venturer Signature: _____
(Signature)

Address: _____

(Print or Type)

State of _____
County of _____

This instrument was acknowledged before me on this ____ day of _____, 20__ by _____ as
President (or other authorized officer) and _____ as Secretary of _____ (Corporation
Name).
(Seal)

Notary Public Signature
Commission Expires: _____

PROPOSAL TO BE EXECUTED BY A PARTNERSHIP

The undersigned, hereby acknowledges having received **Specification No. 561863** containing a full set of Contract Documents, including, but not limited to, 1) Instructions to Bidders (Proposers), 2) General Conditions, 3) Special Conditions, 4) Contract Plans or Drawings (if applicable) 5) Detailed Specifications or Scope of Services, Evaluation/Selection Criteria and Submittal Requirements (If RFP/RFQ), 6) Proposal Pages, 7) Certifications and 8) Addenda Nos. **(none unless indicated here)** _____, and affirms that the partnership shall be bound by all the terms and conditions contained in the Contract Documents, regardless of whether a complete set thereof is attached to this proposal, except only to the extent that the partnership has taken express written exception thereto in the sections of this specification designated for that purpose.

Under penalty of perjury, the undersigned: (1) warrants that he/she was authorized to submit an EDS on behalf of the Disclosing Party on-line; (2) warrants that all certifications and statements contained in the EDS are true, accurate and complete as of the date the EDS was submitted on-line; and (3) further warrants that, as of the date of submission of this proposal or bid, there have been no changes in Circumstances since the date that the EDS was submitted that would render any certification in the EDS false, inaccurate or incomplete.

Further, the undersigned being duly sworn deposes and says on oath that no disclosures of ownership interests have been withheld and the information provided therein to the best of its knowledge is current and the undersigned has not entered into any agreement with any other bidder (proposer) or prospective bidder (proposer) or with any other person, firm or corporation relating to the price named in this proposal or any other proposal, nor any agreement or arrangement under which any act or omission in restraining of free competition among bidders (proposers) and has not disclosed to any person, firm or corporation the terms of this bid (proposal) or the price named herein.

Proposals must be submitted with original signatures in the space provided. Proposals not properly signed will be rejected.

BUSINESS NAME: _____
(Print or Type)

BUSINESS ADDRESS: _____
(Print or Type)

If you are operating under an assumed name, provide County registration number herein under as provided in the Illinois Revised Statutes 1965 Chapter 96 Sec. 4 et seq.

Registration Number: _____

SIGNATURES AND ADDRESSES OF ALL MEMBERS OF THE PARTNERSHIP

(If all General Partners do not sign, indicate authority of partner signatories by attaching copy of partnership agreement or other authorizing document):

Partner Signature: _____
(Signature)

Address: _____
(Print or Type)

Partner Signature: _____
(Signature)

Address: _____
(Print or Type)

Partner Signature: _____
(Signature)

Address: _____
(Print or Type)

State of _____
County of _____

This instrument was acknowledged before me on this ____ day of _____, 20__ by _____ as President (or other authorized officer) and _____ as Secretary of _____ (Corporation Name).
(Seal)

Notary Public Signature _____
Commission Expires: _____

PROPOSAL TO BE EXECUTED BY A SOLE PROPRIETOR

The undersigned, hereby acknowledges having received **Specification No. 561863** containing a full set of Contract Documents, including, but not limited to, 1) Instructions to Bidders (Proposers), 2) General Conditions, 3) Special Conditions, 4) Contract Plans or Drawings (if applicable) 5) Detailed Specifications or Scope of Services, Evaluation/Selection Criteria and Submittal Requirements (If RFP/RFQ), 6) Proposal Pages, 7) Certifications and 8) Addenda Nos. **(none unless indicated here)** _____, and affirms that the sole proprietor shall be bound by all the terms and conditions contained in the Contract Documents, regardless of whether a complete set thereof is attached to this proposal, except only to the extent that the sole proprietor has taken express written exception thereto in the sections of this specification designated for that purpose.

Under penalty of perjury, the undersigned: (1) warrants that he/she was authorized to submit an EDS on behalf of the Disclosing Party on-line; (2) warrants that all certifications and statements contained in the EDS are true, accurate and complete as of the date the EDS was submitted on-line; and (3) further warrants that, as of the date of submission of this proposal or bid, there have been no changes in Circumstances since the date that the EDS was submitted that would render any certification in the EDS false, inaccurate or incomplete.

Further, the undersigned being duly sworn deposes and says on oath that no disclosures of ownership interests have been withheld and the information provided therein to the best of its knowledge is current and the undersigned has not entered into any agreement with any other bidder (proposer) or prospective bidder (proposer) or with any other person, firm or corporation relating to the price named in this proposal or any other proposal, nor any agreement or arrangement under which any act or omission in restraining of free competition among bidders (proposers) and has not disclosed to any person, firm or corporation the terms of this bid (proposal) or the price named herein.

Proposals must be submitted with original signatures in the space provided. Proposals not properly signed will be rejected.

SIGNATURE OF PROPRIETOR: _____
(Signature)

DOING BUSINESS AS: _____
(Print or Type)

Business Address: _____
(Print or Type)

If you are operating under an assumed name, provide County registration number herein under as provided in the Illinois Revised Statutes 1965 Chapter 96 Sec. 4 et seq.

Registration Number: _____
(Print or Type)

State of _____
County of _____

This instrument was acknowledged before me on this _____ day of _____, 20__ by _____ as President (or other authorized officer) and _____ as Secretary of _____ (Corporation Name).
(Seal)

Notary Public Signature
Commission Expires: _____

AFFIDAVIT OF AVAILABILITY For the Letting of

Instructions: Complete this form by either typing or using black ink. "Authorization to Bid" will not be issued unless both sides of this form are completed in detail. Use additional forms as needed to list all work.

Part I. Work Under Contract

List below all work you have under contract as either a prime contractor or a subcontractor. It is required to include all pending low bids not yet awarded or rejected. In a joint venture, list only that portion of the work which is the responsibility of your company. The uncompleted dollar value is to be based upon the most recent engineer's or owners estimate, and must include work subcontracted to others. If no work is contracted, show **NONE**.

	1	2	3	4	Awards Pending	
County and Section Number						
Contract With						
Estimated Completion Date						
Total Contract Price						Accumulated Totals
Uncompleted Dollar Value if Firm is the Prime Contractor						
Uncompleted Dollar Value if Firm is the Subcontractor						
Total Value of All Work						

Part II. Awards Pending and Uncompleted Work to be done with your own forces.

List below the uncompleted dollar value of work for each contract and awards pending to be completed with your own forces. All work subcontracted to others will be listed on the reverse of this form. In a joint venture, list only that portion of the work to be done by your company. If no work is contracted, show **NONE**.

						Accumulated Totals
Earthwork						
Portland Cement Concrete Paving						
Bituminous Plant Mix						
Bituminous Aggregate Mixture						
Miscellaneous Bituminous Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases & Surfaces						
Highway, R.R. and Waterway Structures						
Drainage						
Electrical						
Cover and Seal Coats						
Miscellaneous Concrete Construction						
Landscaping						
Fencing						
Guardrail						
Painting						
Signing						
Fabrication						

Affidavit of Availability

Building Construction						
Other Construction (List)						
Totals						

Disclosure of this information is **REQUIRED** to accomplish the statutory purpose as outlined in the "Illinois Procurement Code". Failure to comply will result in non-issuance of an "Authorization To Bid." This form has been approved by the State Forms Management Center.

Part III. Work Subcontracted to Others.

For each contract described in Part I, list all the work you have subcontracted to others.

	1	2	3	4	Awards Pending
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Total Uncompleted					

Affidavit of Availability

I, being duly sworn, do hereby declare that this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion dates.

Subscribed and sworn to before me

this _____ day of _____

Type or Print Name _____

Officer or Director

Title

Signed _____

Notary Public

My commission expires _____

Company _____

(Notary Seal)

Address _____

SCHEDULE B: AFFIDAVIT OF DBE/NON-DBE JOINT VENTURE
(FTA, FHWA and FAA Funded Contracts)

Note: If all joint venturers are DBEs, a written joint venture agreement between the DBE venturers may be submitted in lieu of this form. In all proposed joint ventures, each DBE venturer must submit a copy of its current Letter of Certification.

ALL INFORMATION REQUESTED BY THIS SCHEDULE MUST BE ANSWERED IN THE SPACES PROVIDED. DO NOT REFER TO YOUR JOINT VENTURE AGREEMENT EXCEPT TO EXPAND ON ANSWERS PROVIDED ON THIS FORM. IF ADDITIONAL SPACE IS REQUIRED, ADDITIONAL SHEETS MAY BE ATTACHED.

I. Name of joint venture: _____
Address of joint venture: _____

Phone number of joint venture: _____

II. Identify each non-DBE venturer(s):
Name of Firm: _____
Address: _____

Phone: _____
Contact person for matters concerning DBE compliance: _____

III. Identify each DBE venturer(s): _____
Name of Firm _____
Address: _____

Phone: _____
Contact person for matters concerning DBE compliance: _____

IV. Describe the role(s) of the DBE venturer(s) in the joint venture:

V. Attach a copy of the joint venture agreement. In order to demonstrate the DBE venturer's share in the ownership, control, management responsibilities, risks and profits of the joint venture, the proposed joint venture agreement must include specific details related to: (1) the contributions of capital and equipment; (2) work items to be performed by the DBE's own forces; (3) work items to be performed under the supervision of the DBE venturer; and (4) the commitment of management, supervisory and operative personnel employed by the DBE to be dedicated to the performance of the project.

VI. Ownership of the Joint Venture.

A. What are the percentage(s) of DBE ownership of the joint venture?
DBE ownership percentage(s) _____
Non-DBE ownership percentage(s) _____

Schedule B

B. Specify DBE percentages for each of the following (provide narrative descriptions and other details as applicable):

1. Profit and loss sharing: _____

2. Capital contributions:

(a) Dollar amounts of initial contribution: _____

(b) Dollar amounts of anticipated on-going contributions: _____

3. Contributions of equipment (specify types and quantities of equipment to be provided by each venturer): _____

4. Other applicable ownership interests, including ownership options or other agreements which restrict or limit ownership and/or control: _____

5. Provide copies of all written agreements between venturers concerning this project.

6. Identify each current City of Chicago contract (and each contract completed during the past two (2) years) by a joint venture of two or more firms participating in this joint venture:

VII. Control of and Participation in the Joint Venture. Identify by name and firm those individuals who are, or will be, responsible for, and have the authority to engage in the following management functions and policy decisions. (indicate any limitations to their authority such as dollar limits and co-signatory requirements.):

A. Joint venture check signing:

B. Authority to enter contracts on behalf of the joint venture:

C. Signing, co-signing and/or collateralizing loans:

D. Acquisition of lines of credit:

Schedule B

E. Acquisition and indemnification of payment and performance bonds:

F. Negotiating and signing labor agreements:

G. Management of contract performance. (identify by name and firm only):

1. Supervision of field operations: _____
2. Major purchases:_____
3. Estimating:_____
4. Engineering:_____

VIII. Financial Controls of joint venture:

A. Which firm and/or individual will be responsible for keeping the books of account?

B. Identify the “managing partner,” if any, and describe the means and measure of their compensation:

C. What authority does each venturer have to commit or obligate the other to insurance and bonding companies, financing institutions, suppliers, subcontractors, and/or other parties participating in the performance of this contract or the work of this project?

IX. State the approximate number of operative personnel (by trade) needed to perform the joint venture’s work under this contract. Indicate whether they will be employees of the non-DBE firm, the DBE firm, or the joint venture.

Trade	Non-DBE Firm (number of employees)	DBE (number of employees)	Joint Venture (number of employees)

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Schedule B

Note: If there are any changes in the information submitted after filing this Schedule B and before the completion of the joint venture’s work on the project, the joint venture must inform the City of Chicago, either directly or through the prime contractor if the joint venture is a subcontractor.

Name of DBE Partner Firm

Name of Non-DBE Partner Firm

Signature of Affiant

Signature of Affiant

Name and Title of Affiant

Name and Title of Affiant

Date

Date

On this ____ day of _____, 20 ____, the above-signed officers

_____,
(names of affiants)

personally appeared and, known to me to be the persons described in the foregoing Affidavit, acknowledged that they executed the same in the capacity therein stated and for the purpose therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Signature of Notary Public

My Commission Expire: _____

(SEAL)

**SCHEDULE C: LETTER OF INTENT FROM DBE
TO PERFORM AS SUBCONTRACTOR, SUPPLIER AND/OR CONSULTANT**

Name of Project/Contract: _____
 Department Project Number: _____
 Specification Number: _____

From: _____
 (Name of DBE Firm)

To: _____ and the City of Chicago:
 (Name of Prime Contractor)

The DBE status of the undersigned is confirmed by the attached **Letter of Certification** from the **City of Chicago** dated _____ (or letter of certification from the Illinois Department of Transportation dated _____). If proposing to perform as a DBE/non-DBE Joint Venture, then Letter of Certification from DBE venturer is attached along with completed Schedule B and joint venture agreement.

The undersigned is prepared to provide the following described services or supply the following described goods in connection with the above named project/contract:

Pay Item No. / Description	Quantity / Unit Price	Total
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Sub (or Grand) Total: \$ _____

Partial Pay Items: (If any of the above items are partial pay items, specifically describe the work and subcontract dollar amount):

Grand Total: \$ _____

If more space is needed to fully describe the DBE firm's (or DBE/non-DBE joint venturer*s) proposed scope of work and/or payment schedule, attach additional sheets.

Schedule C

SUB-SUBCONTRACTING LEVELS

_____ % of the dollar value of the DBE's subcontract that will be sublet to non-DBE contractors.

_____ % of the dollar value of the DBE's subcontract that will be sublet to DBE contractors.

NOTICE: IF DBE WILL NOT BE SUB-SUBCONTRACTING ANY OF THE WORK DESCRIBED IN THIS SCHEDULE, A ZERO (0) MUST BE SHOWN IN EACH BLANK SPACE ABOVE.

NOTICE: IF MORE THAN TEN PERCENT (10%) OF THE VALUE OF THE DBE*s SCOPE OF WORK WILL BE SUBLET, A BRIEF EXPLANATION AND DESCRIPTION OF THE WORK TO BE SUBLET MUST BE ATTACHED TO THIS SCHEDULE.

Conditioned upon your execution of a contract with the City of Chicago, the undersigned will enter into a formal written agreement for the above described work with your firm as a Prime Contractor, and will do so within (3) three working days of your receipt of a signed contract from the City of Chicago.

NOTICE: THIS SCHEDULE (AND ALL ACCOMPANYING ATTACHMENTS) MUST BE SUBMITTED WITH ORIGINAL SIGNATURES.

(Signature of Owner, President or Authorized Agent of DBE)

Name /Title (Print)

Date

Phone

If proposing to perform as a DBE/non-DBE Joint Venture:

(Signature of Owner, President or Authorized Agent of non-DBE)

Name /Title (Print)

Date

Phone

Schedule D

To the best of my knowledge, information and belief the facts and representations contained in the afformentioned attached Schedules are true, and no material facts have been omitted.

The undersigned will enter into formal written agreements with all listed DBE firms for work as indicated in this Schedule D and accompanying Schedules, and will enter into such agreements within five (5) business days after receipt of the contract executed by the City of Chicago. Copies of each signed subcontract, purchase order, or other agreement will be submitted to the Department of Procurement Services so as to assure receipt within ten (10) business days after Award.

The Prime Contractor designates the following person as its DBE Liaison Officer:

(Name- Please Print or Type)

(Phone)

I DO SOLEMNLY DECLARE AND AFFIRM UNDER PENALTIES OF PERJURY THAT THE CONTENTS OF THE FOREGOING DOCUMENT ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED ON BEHALF OF THE PRIME CONTRACTOR TO MAKE THIS AFFIDAVIT.

(Name of Prime Contractor -Print or Type)

(Signature)

(Name of Affiant)

(Date)

On this _____ day of _____, 20____,
the above signed officer, _____,
(Name of Affiant)

personally appeared and, known by me to be the person described in the foregoing Affidavit, acknowledged that (s)he executed the same in the capacity stated therein and for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and seal.

Notary Public Signature

Seal

Commission Expires: _____

DBE Construction Rev. 6/8/01 (dlh)

SCHEDULE F: REPORT OF SUBCONTRACTOR SOLICITATIONS
FHWA, FTA and FAA Funded Contracts

Project Name: _____
Specification #: _____

I, _____ on behalf of _____
(Name of reporter) (Prime contractor)

have either personally solicited, or permitted a duly authorized representative of this firm to solicit, work for this contract from the following subcontractors which comprise all DBE and non-DBE subcontractors who bid or quoted price information on this contract:

Name of Subcontractor _____
Address of Subcontractor _____
Contact Person _____
Status: DBE Certified? _____ Yes No
Type of Work Solicited _____
Years in Business (if available) _____
Annual Gross Receipts (if available) _____

Name of Subcontractor _____
Address of Subcontractor _____
Contact Person _____
Status: DBE Certified? _____ Yes No
Type of Work Solicited _____
Years in Business (if available) _____
Annual Gross Receipts (if available) _____

Name of Subcontractor _____
Address of Subcontractor _____
Contact Person _____
Status: DBE Certified? _____ Yes No
Type of Work Solicited _____
Years in Business (if available) _____
Annual Gross Receipts (if available) _____

Name of Subcontractor _____
Address of Subcontractor _____
Contact Person _____
Status: DBE Certified? _____ Yes No
Type of Work Solicited _____
Years in Business (if available) _____
Annual Gross Receipts (if available) _____

Name of Subcontractor _____
Address of Subcontractor _____
Contact Person _____
Status: DBE Certified? _____ Yes No
Type of Work Solicited _____
Years in Business (if available) _____
Annual Gross Receipts (if available) _____

(dlh) (Rev. 6/8/01)

STATUS REPORT OF DBE CONTRACT PAYMENTS
(FTA & FHWA Contracts)

Specification No.: _____

Department Project No.: _____

Date: _____

Voucher No.: _____

STATE OF: _____)

COUNTY (CITY) OF: _____)

In connection with the above-captioned contract:

I HEREBY DECLARE AND AFFIRM that I am the _____
(Title – Print or Type)

and duly authorized representative of _____
(Name of Company - Print or Type)

(Address of Company) () (Phone)

and that the following Disadvantaged Enterprises (DBEs) have been contracted with, and have furnished, or are furnishing and preparing materials for, and have done or are doing labor on the above referenced project; that there is due and to become due them, respectively the amounts set opposite their names for material or labor as stated; and that this a full, true and complete statement of all such DBEs and of the amounts paid, due, and to become due to them:

DBE NAME	GOODS/SERVICES PROVIDED	AMOUNT OF CONTRACT	AMOUNT PAID TO DATE
		\$	\$
		\$	\$
		\$	\$
		\$	\$
		\$	\$
		\$	\$

TOTAL AMOUNT PAID TO DBEs TO DATE: \$ _____

(Revised November 27, 2000)

Status Report of DBE (Sub) Contract Payments

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THE FOREGOING DOCUMENT ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED, ON BEHALF OF THE CONTRACTOR, TO MAKE THIS AFFIDAVIT.

Name of Contractor: _____
(Print or Type)

Signature: _____

Name of Affiant: _____

Date: _____
(Print or Type)

State of _____
County (City) of _____

This instrument was acknowledged before me on _____ (date)
by _____ (name/s of person/s)
as _____ (type of authority, e.g., officer, trustee, etc.)
of _____ (name of party on behalf of whom instrument
was executed).

Signature of Notary Public

(Seal)

(Revised November 27, 2000)

INSTRUCTIONS FOR COMPLETING ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT (EDS) ON-LINE

The Bidder shall complete an online EDS prior to the bid due date. A Bidder who does not file an electronic EDS prior to the bid due date may be found non-responsive and its bid rejected. If you are unable to complete the online EDS and print a Certificate of Filing prior to the response due date, the City will accept a paper EDS provided written justification is provided explaining the Bidders good faith efforts to complete it before the response due date and the reasons why it could not be completed.

1.1. **ONLINE EDS FILING REQUIRED PRIOR TO BID OPENING**

The Bidder must complete an online EDS prior to the bid opening date.

A Bidder that does not file an electronic EDS prior to the bid opening will be found non-responsive and its bid will be rejected unless a paper EDS and written justification is submitted with the bid as explained in the above paragraph).

1.2. **ONLINE EDS WEB LINK**

The web link for the Online EDS is <https://webapps.cityofchicago.org/EDSWeb>

1.3. **ONLINE EDS NUMBER**

Upon completion of the online EDS submission process, the Proposer will be provided an EDS number. Bidders should provide this number here:

EDS Number: _____

1.4. **ONLINE EDS CERTIFICATION OF FILING**

Upon completion of the online submission process, the Proposer will be able to print a hard copy Certificate of Filing. The Proposer should submit the signed Certificate of Filing with its bid. Please insert your Certification of Filing following this page.

A Proposer that does not include a signed Certificate of Filing with its bid must provide it upon the request of the Chief Procurement Officer.

1.5. **PREPARATION CHECKLIST FOR REGISTRATION**

To expedite and ease your registration process, we recommend that you collect the following information prior to registering for an Online EDS user account:

	1. Invitation number, if you were provided an invitation number.
	2. EDS document from previous years, if available.
	3. Email address to correspond with the Online EDS system.
	4. Company Information:

	a. Legal Name
	b. FEIN/SSN
	c. City of Chicago Vendor Number, if available.
	d. Address and phone number information that you would like to appear on your EDS documents.
	e. EDS Captain. Check for an EDS Captain in your company - this maybe the person that usually submits EDS for your company, or the first person that registers for your company.

1.6. PREPARATION CHECKLIST FOR EDS SUBMISSION

To expedite and ease your EDS submission, we recommend that you collect the following information prior to updating your EDS information online.

Items #1 through #7 are needed for both EDS information updates and contract related EDS documents:

- _____ 1. Invitation number, if you were provided with an invitation number.
- _____ 2. Site address that is specific to this EDS.
- _____ 3. Contact that is responsible for this EDS.
- _____ 4. EDS document from previous years, if available.
- _____ 5. Ownership structure, and if applicable, owners' company information:
 - _____ a. % of ownership
 - _____ b. Legal Name
 - _____ c. FEIN/SSN
 - _____ d. City of Chicago Vendor Number, if available.
 - _____ e. Address
- _____ 6. List of directors, officers, titleholders, etc. (if applicable).
- _____ 7. For partnerships/LLC/LLP/Joint ventures, etc.:
 - _____ a. List of controlling parties (if applicable).

Items #8 and #9 are needed ONLY for contract related EDS documents:

- _____ 8. Contract related information (if applicable):
 - _____ a. City of Chicago contract package
 - _____ b. Cover page of City of Chicago bid/solicitation package
 - _____ c. If EDS is related to a mod, then cover page of your current contract with the City.
- _____ 9. List of subcontractors and retained parties:
 - _____ a. Name
 - _____ b. Address

c. Fees – Estimated or paid

1.7. **EDS FREQUENTLY ASKED QUESTIONS**

Q: Where do I file?

A: The web link for the Online EDS is <https://webapps.cityofchicago.org/EDSWeb>

Q: How do I get help?

A: If there is a question mark on a page or next to a field, click on the question mark for help filling out the page or field. You may also consult the User Manual and the Training Videos available on the left menu.

Q: Why do I have to submit an EDS?

A: The Economic Disclosure Statement (EDS) is required of applicants making an application to the City for action requiring City Council, City department or other City agency approval. For example, all bidders seeking a City contract are required to submit an EDS. Through the EDS, applicants make disclosures required by State law and City ordinances and certify compliance with various laws and ordinances. An EDS is also required of certain parties related to the applicant, such as owners and controlling parties.

Q: Who is the Applicant?

A: “Applicant” means any entity or person making an application to the City for action requiring City Council or other City agency approval. The applicant does not include owners and parent companies.

Q: Who is the Disclosing Party?

A: “Disclosing Party” means any entity or person submitting an EDS. This includes owners and parent companies.

Q: What is an entity or legal entity?

A: “Entity” or “Legal Entity” means a legal entity (for example, a corporation, partnership, joint venture, limited liability company or trust).

Q: What is a person for purposes of the EDS?

A: “Person” means a human being.

Q: Who must submit an EDS?

A. An EDS must be submitted in any of the following three circumstances:

Applicants:	An Applicant must always file this EDS. If the Applicant is a legal entity, state the full name of that legal entity. If the Applicant is a person acting on his/her own behalf, state his/her name.
--------------------	--

Entities holding an interest:	Whenever a legal entity has a beneficial interest (E. G. direct or indirect ownership) of more than 7.5% in the Applicant, each such legal entity must file an EDS on its own behalf.
Controlling entities:	Whenever a Disclosing Party is a general partnership, limited partnership, limited liability company, limited liability partnership or joint venture that has a general partner, managing member, manager or other entity that can control the day-to-day management of the Disclosing Party, that entity must also file an EDS on its own behalf. Each entity with a beneficial interest of more than 7.5% in the controlling entity must also file an EDS on its own behalf.

Q: What information is needed to submit an EDS?

A: The information contained in the Preparation Checklist for EDS submission.

Q: I don't have a user ID & password. Can I still submit an Online EDS?

A: No. You must register and create a user ID and password before submitting an Online EDS.

Q: What information is needed to request a user ID & password for Online EDS?

A: The information contained in the Preparation Checklist for Registration is needed to request a login for the Online EDS.

Q: I already have a username and password from another City web site (City Web Portal, Department of Construction and Permits, Department of Consumer Services, etc.). Can I log-in the Online EDS with that account?

A: Usually not. The Online EDS uses a user ID and password system that is shared by the Public Vehicle Advertising and Water Payment web sites. You may use a username and password from those sites by answering "Yes" to "Is this an existing City of Chicago user ID?" when registering. Other usernames and passwords will not be automatically recognized. However, you may choose to create an identical username for the Online EDS if it is not already taken.

Q: I don't have an email address. How do I submit an Online EDS?

A: You cannot get an account to submit an online EDS without an email address. If you need an e-mail address, we suggest that you use a free internet email provider such as www.hotmail.com or www.yahoo.com or gmail.com to open an account. The City does not endorse any particular free internet email provider. Public computers are available at all Chicago Public Library branches.

Q: I forgot my user ID. Can I register again?

A: No. If you are the EDS Captain of your organization, please contact the Department of Procurement Services at 312-744-4900. If you are an EDS team member, contact your EDS Captain, who can look up your user ID.

Q: Who is the EDS Captain?

A: The EDS Captain is a person who performs certain administrative functions for an organization which files an EDS.

Each organization registered with the Online EDS has at least one EDS Captain. There may be co-captains, who are all equal. EDS Captains approve new users, change contact information for an organization, and de-active accounts of employees who have left the organization. Please see the User Manual for more information.

Q: Why do we need EDS Captains?

A: The Online EDS is designed to be a self-service web application which allows those doing or seeking to do business with the City to perform as many routine functions as possible without City intervention. Because many organizations have multiple staff filing an EDS, the EDS Captain role allows those organizations to self-manage the contact information and users.

Q: Who is the EDS team?

A: The EDS team for an organization is everyone who is registered to file an EDS on behalf of the organization.

Q: I forgot my password. What should I do?

A: To retrieve a temporary password, click the “Forgot your password?” link on the login page. Enter your user ID that you provided when you registered your account. The system will automatically generate a temporary password and send it to you. When you log-in with your temporary password, you will be asked to create a new password.

Q: How do I complete an Online EDS?

A: Click on “Create New” after logging in. The Online EDS system will walk you through the EDS questions. Please see the User Manual for details.

Q: How do I fill out a Disclosure of Retained Parties?

A: There is no longer a separate Disclosure of Retained Parties filing. After logging in, click on “Create New”. Answer (click) “Contract” to “Is this EDS for a contract or an EDS information update?” Click “Fill out EDS”, and click on the “Retained Parties” tab. When finished, click on “Ready to Submit.”

Q: How do I attach documents?

A: Attachments are discouraged. If at all possible, please provide a concise explanation in the space provided in the online form. Attachments with pages of officers are not acceptable. Names of officers must be typed into the system. If you must provide an attachment for another reason, please send it to your City of Chicago contact (contract administrator or negotiator for procurements) and they will attach it for you. Documents can be sent in PDF (preferred), Word, or paper format.

Q: Who can complete an Economic Disclosure Statement online?

A: Any authorized representative of your business with a user ID and password can complete your EDS online. One person, such as an assistant, can fill in the information and save it, and another person can review and electronically sign the Online EDS.

Q: What are the benefits of filing my Economic Disclosure statement electronically?

A: Filing electronically reduces the chance of filing an incomplete EDS and speeds up the processing of contract awards. A certificate of filing can be printed at the completion of the process and inserted into your bid package. The biggest benefit for those who frequently do business with the City is that after the first EDS, each EDS is much easier to fill out

because non-contract specific information is pre-filled from the last submitted EDS.

Q: Will my information be secure?

A: Yes. When making your internet connection to our Web Server, you will connect through a Secure Socket Layer (SSL for short) to the “Online EDS” login page. All information you type will be protected using strong encryption. Within the login page, you will provide us with a user ID, password, and secret question for user authentication, only you will have knowledge of this unique identification information.

Q: I am filing electronically. How do I sign my EDS?

A: Once you have completed the EDS, you will be prompted to enter your password and answer to your secret question. Together, these will serve as your electronic signature. Although you will also print and physically sign an EDS certification of filing as a notice that your EDS was filed, your EDS is complete as a legal document with only the electronic filing.

Q: My address has changed. How can I update my information?

A: You must be an EDS Captain for your organization to update this. Log-in and click on “Vendor Admin, Site Administration.” Select the appropriate site and click edit.

Q: I have more questions. How can I contact the Department of Procurement Services?

A: Please contact the contract administrator or negotiator assigned to your solicitation or contract. You may call DPS at 312-744-4900 between 8:30 AM and 5:00 PM Central Time.

Q: Can I save a partially complete EDS?

A: Yes. Click “Save”. To avoid data loss, we recommend you save your work periodically while filling out your EDS.

Q: Do I have to re-type my information each time I submit an EDS?

A: No. The system will remember non-contract specific information from your last submitted EDS for one year. This information will be filled-in for you in your new EDS. You will have an opportunity to correct it if it has changed since your last filing. When you submit your new EDS, the information is saved and the one-year clock begins running anew.

Q: What are the system requirements to use the Online EDS?

A: The following are minimum requirements to use the Online EDS:

- A PDF viewer such as Adobe Reader is installed and your web browser is configured to display PDFs automatically. You may download and install Adobe Reader free at <http://get.adobe.com/products/reader/>
- Your web browser is set to permit running of JavaScript.
- Your web browser allows cookies to be set for this site. Please note that while we use cookies in the Online EDS, we do not use them to track personally identifiable information, so your privacy is maintained.
- Your monitor resolution is set to a minimum of 1024 x 768.

- While not required to submit an EDS, if you wish to view the training videos, you must have Adobe Flash Plug in version 9 or higher, speakers, and sound. Please note that very old computers may not be able to run Adobe Flash and will not be able to play the training videos. In that case, we encourage you to seek help using the Online EDS Manuals. You may download and install Adobe Flash Plug in free at <http://get.adobe.com/flashplayer>

The Online EDS has been tested on Internet Explorer 6.0 and 7.0 and Firefox 2.0 and 3.0 on Windows XP and Mac OS X. Although it should work on other browsers and operating systems, the City of Chicago cannot guarantee compatibility.

CITY OF CHICAGO ECONOMIC DISCLOSURE STATEMENT AND AFFIDAVIT

INSTRUCTIONS FOR COMPLETING

The City of Chicago (the "City") requires disclosure of the information requested in this Economic Disclosure Statement and Affidavit ("EDS") before any City agency, department or City Council action regarding the matter that is the subject of this EDS. Please fully complete each statement, with all information current as of the date this EDS is signed. If a question is not applicable, answer with "N.A." An incomplete EDS will be returned and any City action will be delayed.

Please print or type all responses clearly and legibly. Add additional pages if needed, being careful to identify the portion of the EDS to which each additional page refers.

For purposes of this EDS:

“Applicant” means any entity or person making an application to the City for action requiring City Council or other City agency approval.

“Disclosing Party” means any entity or person submitting an EDS.

“Entity” or **“Legal Entity”** means a legal entity (for example, a corporation, partnership, joint venture, limited liability company or trust).

“Person” means a human being.

WHO MUST SUBMIT AN EDS:

An EDS must be submitted in any of the following three circumstances:

1. **Applicants:** An Applicant must always file this EDS. If the Applicant is a legal entity, state the full name of that legal entity. If the Applicant is a person acting on his/her own behalf, state his/her name.
2. **Entities holding an interest:** Whenever a legal entity has a beneficial interest (*i.e.* direct or indirect ownership) of more than 7.5% in the Applicant, each such legal entity must file an EDS on its own behalf.
3. **Controlling entities.** Whenever a Disclosing Party is a general partnership, limited partnership, limited liability company, limited liability partnership or joint venture that has a general partner, managing member, manager or other entity that can control the day-to-day management of the Disclosing Party, that entity must also file an EDS on its own behalf. Each entity with a beneficial interest of more than 7.5% in the controlling entity must also file an EDS on its own behalf.

CONTRACTOR'S AFFIDAVIT REGARDING REMOVAL OF ALL WASTE MATERIALS AND IDENTIFICATION OF ALL LEGAL DUMP SITES

Contractor to show here the name and location of the ultimate disposal site he/she is proposing to use for the subject project:

SPECIFY THE TYPE OF MATERIALS TO BE DISPOSED OF:

LEGAL NAME OF LANDFILL/DISPOSAL SITE:

(The Contractor must provide to the commissioner of his/her designated representative with copies of all dump tickets, manifests, etc.)

LOCATION ADDRESS: _____

PHONE: (_____)_____

CONTACT PERSON: _____

Disposal site submitted shall be of sufficient capacity as to insure acceptance of the volume of Construction and/or Demolition Debris received for the period of this contract. These disposal sites must meet all zoning and other requirements that may be necessary.

If requested by the Chief Procurement Officer, the Contractor shall submit copies of all contractual agreements, sanitary landfill permits and/or licenses for these disposal site(s) proposed by the Contractor.

(Revised 6/30/2000)

CONTRACTOR'S PERFORMANCE & PAYMENT BOND

Know All Men by these Presents, That we, **COMPANY NAME**
STREET ADDRESS
CITY, STATE ZIP CODE

Principal, hereinafter referred to as Contractor, and _____, Surety of the County of _____ and State of _____, are held and firmly bound unto the CITY OF CHICAGO in the penal sum of:

--- Dollar Amount in Words and 00/100 Dollars (\$) ---

lawful money of the United States, for the payment of which sum of money, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this _____ day of _____, 20__.

The Condition of the Above Obligation is such, that whereas the above bounden Contractor has entered into a certain contract with the City of Chicago, bearing

Contract No. XXXXX and Specification No. XXXXXX all in conformity with said contract, for,

Furnishing the City of Chicago, **Name of User Department**, all labor, tools, material, and equipment required and necessary for the project known as:

PROJECT DESCRIPTION

* The attached rider is incorporated herein by reference.

Now, if the said Contractor shall in all respects well and truly keep and perform the said contract on its part, in accordance with the terms and provisions of all of the Contract Documents comprising said contract, and in the time and manner therein prescribed, and further shall save, indemnify, and keep harmless the City of Chicago against all loss, damages, claims, liabilities, judgments, costs and expenses which may in anywise accrue against said City of Chicago, in consequence of the granting of said contract, or which may in anywise result therefrom, or which may result from strict liability, or which may in anywise result from any injuries to, or death of, any person, or damage to any real or personal property, arising directly or indirectly from or in connection with, work performed or to be performed under said contract by said Contractor, its Agents, Employees or Workmen, assignees, subcontractors, or anyone else, in any respect whatever, or which may result on account of any infringement of any patent by reason of the materials, machinery, devices or apparatus used in the performance of said contract, and moreover, shall pay to said City any sum or sums of money determined by the Purchasing Agent, and/or by a court of competent jurisdiction, to be due said City by reason of any failure or neglect in the performance of the requirements of said contract, wherefore the said Purchasing Agent shall have elected to suspend or cancel the same, and shall pay all claims and demands whatsoever, which may accrue to each and every materialman and subcontractor, and to each and every person who shall be employed by the said Contractor or by its assignees and subcontractors, in or about the performance of said contract, and with wages paid at prevailing wage rates if so required by said contract, and shall insure its liability to pay the compensation, and shall pay all claims and demands for compensation which may accrue to each and every person who shall be employed by them or any of them in or about the performance of said contract, or which shall accrue to the beneficiaries or dependents of any such person, under the provisions of the Workers' Compensation Act, 820 ILCS 305, as amended, and the Workers' Occupational Disease Act, 820 ILCS 310, as amended (hereinafter referred to as "Acts") then is this obligation to be null and void, otherwise to remain in full force and effect.

And it is hereby expressly understood and agreed, and made a condition hereof, that any judgement rendered against said City in any suit based upon any loss, damages, claims, liabilities, judgments, costs or expenses which may in anywise accrue against said City as a consequence of the granting of said contract, or which may in anywise result therefrom, or which may in anywise result from any injuries to, or death of, any person, or damage to any real or personal property; arising directly or indirectly from, or in connection with, work performed, or to be performed under said contract by said Contractor or its agents, employees or workmen, assignees, subcontractors, or anyone else and also any decision of the Industrial Commission of the State of Illinois;

and any order of court based upon such decision, or judgement thereon, rendered' against said City of Chicago in any suit or claim arising under the aforementioned Acts when notice of the pendency or arbitration proceedings or suit shall have been given said Contractor, shall be conclusive against each and all parties to this obligation, as to amount, liability and all other things pertaining thereto.

Every person furnishing material or performing labor in the performance of said contract, either as an individual, as a subcontractor, or otherwise, shall have the right to sue on this bond in the name of the City of Chicago for his use and benefit and in such suit said person as plaintiff, shall file a copy of this bond, certified by the party or parties in whose charge this bond shall be, which copy shall be, unless execution thereof be denied under oath; prima facie evidence of the execution and delivery of the original; provided, that nothing in thus bond contained shall be taken to make the City of Chicago liable to any subcontractor, materialman, laborer or to any other person to any greater extent than it would have been liable prior to the enactment of the Public Construction Bond Act, 30 ILCS 5 5 0 , as amended; provided further, that any person having a claim for labor and materials furnished m the performance of this contract shall have no right of action unless he shall have filed a verified notice of such claim with the Clerk of the City of Chicago within one hundred eighty (180) days after the date of the last item of work or the furnishing Of the last item of materials, and shall have furnished a copy of such verified notice to the contractor within ten (10) days of the filing of the notice with the City of Chicago. Such claim shall lie verified and shall contain the name and address of the claimant, the business address of the claimant within the State of Illinois, if any, or if the claimant be a foreign corporation having no place of business with the State the principal place of business of said corporation, and in all cases of partnership the names and residences of each. of the partners, the name of the contractor for the City of Chicago, the name of the person, firm or corporation by whom the claimant was employed or to whom such claimant furnished materials, the amount of the claim and a brief description of the public improvement for the construction or installation of which the contract is to be performed. Provided, further that no defect in the notice herein provided for shall deprive the claimant of his right of action under the terms and provisions of this bond unless it shall affirmatively appear that such defect has prejudiced the rights of an interested party asserting the same; provided, further, that no action shall be brought until the expiration of one hundred twenty (120) days after the date of the last item of work or of the furnishing of the last item of material, except in cases where the final settlement between the City of Chicago and the Contractor shall have been made prior to the expiration of the 120-day period in which case action may be taken immediately following such final settlement, and provided, further that no action of any kind shall be brought later than six (6) months after the acceptance by the City of Chicago of the completion of work. Any suit upon this bond shall be brought only in a circuit court of the State of Illinois in the judicial district in which the contract shall have been performed.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of any of the Contract Documents comprising said contract, or to the work to be performed thereunder, shall in anywise affect the obligations on this bond, and it does by waive notice of any such change, extension of time, alteration or addition to the terms of said Contract Documents or to the work.

COMPANY NAME

Approved: _____, 20____

By: President (Seal)

Chief Procurement Officer

Attest: Secretary (Seal)

(Seal)

(Seal)

(Seal)

(Seal)

PRINCIPAL
IF CORPORATION

STATE OF ILLINOIS, }
COUNTY OF COOK, } ss.

I, _____, a Notary Public in and for the County and State
aforesaid, DO HEREBY CERTIFY that _____ President and
_____ Secretary of the _____
who are personally known to me to be the same persons whose names are subscribed in the foregoing instrument as
such _____ President and _____ Secretary, appeared
before me this day in person and acknowledged that they signed, sealed and delivered the said instrument of writing as
their free and voluntary act, and as the free and voluntary act of the said _____
for the uses and purposes therein set forth, and caused the corporate seal of said Company to be thereto attached.

GIVEN under my hand and Notarial Seal this _____ day of _____ 20____

Notary Public

SURETY, IF CORPORATE

STATE OF ILLINOIS, }
COUNTY OF COOK, } ss.

I, _____, a Notary Public in and for the County and State
aforesaid, DO HEREBY CERTIFY that _____
_____ of the _____ who _____ personally known
to be the same person _____ whose name _____ subscribed in the foregoing instrument as such _____
_____, appeared before me this day in person and acknowledged that _____
signed, sealed and delivered the said instrument of writing as _____ free and voluntary act, and as the free
and voluntary act of the said _____
for the uses and purposes therein set forth, and caused the corporate seal of said Company to be thereto attached.

GIVEN under my hand and Notarial Seal this _____ day of _____ 20____

Notary Public

PRINCIPAL
IF INDIVIDUAL

STATE OF ILLINOIS, }
COUNTY OF COOK, } ss.

I, _____, a Notary Public in and for the County and State
aforesaid, DO HEREBY CERTIFY that _____
who _____ personally known to me to be the same persons whose name _____ subscribed in the foregoing
instrument, appeared before me this day in person and acknowledged that _____ he _____ signed, sealed and delivered the
said instrument of writing as _____ free and voluntary act, for the uses and purposes therein set forth.

GIVEN under my hand and Notarial Seal this _____ day of _____ 20____

Notary Public

RIDER TO CONTRACTOR'S PERFORMANCE AND PAYMENT BOND

This Rider supplements Contractor's Performance and Payment Bond ("Bond") on that certain contract with the City of Chicago ("City") bearing Contract No. _____ and Specification No. _____ ("Contract"). Surety acknowledges that the Contract requires Contractor to obtain from each of its subcontractors consent to a collateral assignment of their contracts with Contractor to the City. The Contract further grants the City the right, upon Contractor's default for failure to comply with Chapter 4-36 of the Municipal Code of the City, and at the City's sole option, to take over and complete the work to be performed by Contractor through the City's assumption of some or all of Contractor's subcontracts. If the City, in its sole discretion, exercises this right, then Surety waives any rights it may have to cure Contractor's default by performing the work itself or through others and remains bound by its other obligations under the Bond.

**BOOK 3
DETAIL SPECIFICATIONS, STANDARDS, AND DETAILS**

**PROJECT TITLE: EAST SOUTH WATER STREET VIADUCT REPLACEMENT
– NORTH BEAUBIEN COURT TO NORTH STETSON STREET**

**C.D.O.T. PROJECT NO.: E-1-517
SPECIFICATION NO.: 561863
F. A. PROJECT NO.: R5U5(892)
STATE JOB NO.: C-88-012-18
SECTION NO.: 11-E1517-00-BR**



**CITY OF CHICAGO
LORI E. LIGHTFOOT
MAYOR**

Prepared by
DEPARTMENT OF TRANSPORTATION
Contracts Section

GIA BIAGI
Commissioner of Department of Transportation
Suite 1100, 30 North LaSalle Street
Chicago, Illinois 60602-2570

OSWALDO CHAVES
Deputy Commissioner, Division of Engineering

Issued by
DEPARTMENT OF PROCUREMENT SERVICES

SHANNON E. ANDREWS
Chief Procurement Officer

Document Printed May 2019

All Signatures to Be Sworn to Before a Notary Public

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General Information.....I-1
 Location of Project.....I-1
 Traffic Control Plan.....I-2
 Cooperation with Utilities and Others.....I-3

II. DETAILED SPECIFICATIONS

STANDARD SPECIFICATIONS:

The following Detailed Specifications supplement the IDOT “Standard Specification for Road and Bridge Construction”, adopted April 1, 2016 (hereinafter referred to as the Standard Specifications); the “Supplemental Specifications and Recurring Special Provisions”, adopted January 1, 2019 indicated on the Check Sheets; latest edition of the “Illinois Manual on Uniform Traffic Control Devices for Streets and Highways” in effect on date of invitation for bids; the City of Chicago Department of Transportation Regulations for Openings, Construction and Repair in the Public Way; and the “Manual of Test Procedures for Materials” in effect on the date of invitation for bids included herein which apply to and govern this project. In case of conflict with any part or parts of said specifications, these Detailed Specifications shall take precedence and shall govern.

SPECIAL PROVISION (SP) NOTE:

- "Y" DENOTES ITEMS WITH CONTRACT OR PROJECT SPECIFIC SPECIAL PROVISIONS, AND/OR CONFORMS TO IDOT RECURRING SPECIAL PROVISIONS AND IDOT BUREAU OF DESIGN & ENVIRONMENT (BDE) SPECIAL PROVISIONS.
 "N" DENOTES ITEMS WHICH CONFORM TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED APRIL 1, 2016 OR THE LATEST EDITION OF THE SUPPLEMENTAL SPECIFICATIONS.

IDOT Standard Specifications Coded Pay Item Index

No. 201	-----	To No. 671	-----	Road and Bridge Construction Items
No. 701	-----	To No. 783	-----	Traffic Control, Signing, Pavement Marking
No. Z	-----	To No. Z	-----	Special Pay Items
No. XX	-----	To No.	-----	Local Roads Temporary Pay Items
No. XZ	-----	To XZ	-----	Design Temporary Pay Items

Typical Example and Digit Breakdown of a Coded Pay Item

Code No.	Description
20800150	Trench Backfill
	208 - First 3 digits indicate the section in the Standard Specifications
	00150 - Last 5 digits indicate the numerical sequence the item has in that section.

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ITEM NO.	CODE NO.	ITEM DESCRIPTION	SP Req. Y/N	Page No.
1	20200100	EARTH EXCAVATION	N	
2	20800150	TRENCH BACKFILL	N	
3	20900110	POROUS GRANULAR BACKFILL	N	
4	28000510	INLET FILTERS	N	
5	CDOT3110010	SAND CUSHION, VARIABLE DEPTH	Y	DS-1
6	31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	N	
7	35300400	PORTLAND CEMENT CONCRETE BASE COURSE 9"	N	
8	40600290	BITUMINOUS MATERIALS (TACK COAT)	N	
9	40600535	LEVELING BINDER (HAND METHOD), N70	N	
10	40600635	LEVELING BINDER (MACHINE METHOD), N70	N	
11	40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	N	
12	40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	N	
13	CDOT4240010	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	Y	DS-2
14	CDOT4240030	PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH	Y	DS-3
15	CDOT4240055	LINEAR DETECTABLE WARNING TILES (CAST IRON)	Y	DS-4
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17	44000100	PAVEMENT REMOVAL	N	
18	44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	N	
19	44000500	COMBINATION CURB AND GUTTER REMOVAL	N	
20	44000600	SIDEWALK REMOVAL	N	
21	44003100	MEDIAN REMOVAL	N	
22	CDOT5010010	REMOVAL OF EXISTING STRUCTURES	Y	DS-5
23	CDOT5010030	CONCRETE REMOVAL	Y	DS-6
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29	CDOT5030070	LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK	Y	DS-14
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31	50300260	BRIDGE DECK GROOVING	N	
32	50800205	REINFORCEMENT BARS, EPOXY COATED	N	
33	50800530	MECHANICAL SPLICERS	N	
34	50900105	ALUMINUM RAILING, TYPE L	N	
35	51500100	NAME PLATES	N	
36	52000110	PREFORMED JOINT STRIP SEAL	N	
37	52000325	NEOPRENE EXPANSION JOINT 2 1/2"	N	
38	52100530	ANCHOR BOLTS, 1 1/4"	N	
39	52100540	ANCHOR BOLTS, 1 1/2"	N	
40	52200020	TEMPORARY SOIL RETENTION SYSTEM	N	
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67	70600235	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE), TEST LEVEL 2	N	
68	70600320	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	N	
69	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	N	
70	78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	N	
71	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	N	
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GENERAL INFORMATION

The following Detailed Specifications supplement the Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction," adopted April 1, 2016 (hereafter referred to as the Standard Specifications or SSRBC); the "Supplemental Specifications and Recurring Special Provisions", adopted January 1, 2019; the latest edition of the "Illinois Manual of Uniform Traffic Control Devices for Streets and Highways" in effect on the date of invitation for bid; the "Manual of Test Procedures for Materials" in effect on the date of invitation for bid; the City of Chicago Department of Transportation Regulations for Openings, Construction and Repair in the Public Way (including Appendix B – ADA Standards) in effect on date of invitation for bids; and the City of Chicago Street Restoration Requirements in effect on date of invitation for bids. The latter two (2) documents are available on the City of Chicago Department of Transportation's web site. In case of conflict with any part or parts of said specifications, these Detailed Specifications will take precedence and will govern.

Unless otherwise specified, the Description, General Requirements, Method of Measurements and Basis of Payment for the following items shall be as stated in the appropriate Sections of the Standard Specifications.

Any references in these Detail Specifications to "the Engineer" will be read "the Commissioner, Department of Transportation, City of Chicago" (Commissioner), and any reference to the "Department" will be read "Chicago Department of Transportation, Division of Engineering" (CDOT).

The following specifications from the City of Chicago are applicable: Standard Specification for Sewer Construction, Department of Water Management, and the Bureau of Electricity (now the CDOT Division of Electrical Operations) Standard Specifications.

These Detail Specifications and the referenced standard specifications will govern the construction of the **E. South Water Street Viaduct Replacement Project**.

LOCATION OF PROJECT

E. South Water Street: from N. Beaubien Court to N. Stetson Avenue

TRAFFIC CONTROL PLAN

Traffic Control will be according to the applicable sections of the Standard Specifications for Road and Bridge Construction, the guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, the Supplemental Specifications and the Recurring Special Provisions, the Specifications and any special details and highway standards contained herein and in the plans.

Special attention is called to Articles 107.09 and 107.14 and Section 701 of the Standard Specifications for Road and Bridge Construction and the following traffic control related (1) Highway Standards; (2) Details; (3) Supplemental Specifications and Recurring Special Provisions; and (4) Other Specifications contained herein:

1. Standards:

IDOT

- 643001-02 SAND MODULE IMPACT ATTENUATOR
- 701501-06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701606-10 URBAN SINGLE LANE CLOSURE MULTILANE, 2W WITH MOUNTABLE MEDIAN
- 701701-10 URBAN LANE CLOSURE MULTILANE INTERSECTION
- 701801-06 SIDEWALK, CORNER OR CROSSWALK CLOSURE
- 701901-07 TRAFFIC CONTROL DEVICES
- 704001-08 TEMPORARY CONCRETE BARRIER

DISTRICT ONE

- TC21 DETOUR SIGNING FOR CLOSING STATE HIGHWAYS
- TC24 CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS

2. Details:

- Maintenance of Traffic – General Notes
- Maintenance of Traffic – Typical Sections (See Structural Sheets for Staging Typical Cross Sections)
- Maintenance of Traffic – Signs and Symbols
- Maintenance of Traffic – Stage Pre-Stage
- Maintenance of Traffic – Stage 1
- Maintenance of Traffic – Stage 2
- Maintenance of Traffic – Stage 3
- Detour Plan – Upper Level – During Stage 1 and 2
- Detour Plan – Upper Level – During Stage 3
- Detour Plan – Intermediate Level – During Stage 1 and 2
- Detour Plan – Intermediate Level – During Stage 3
- Detour Plan – Lower Level – During Stage 1 and 2
- Maintenance of Traffic – CTA Bus Detour

3. Supplemental Specifications and Recurring Special Provisions:

- LRS 3 WORK ZONE TRAFFIC CONTROL SURVEILLANCE
- LRS 4 FLAGGERS IN WORK ZONES
- LRS 5 CONTRACT CLAIMS
- LRS 6 BIDDING REQUIREMENTS AND CONDITIONS FOR MATERIAL PROPOSALS
- LRS 17 SUBSTANCE ABUSE PREVENTION PROGRAM

4. Specifications:

TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

5. Traffic:

E. South Water Street: Maintain traffic as depicted on the Maintenance of Traffic Layout Plan on Pre-Stage, Stage 1, Stage 2, Stage 3 and Typical Sections. Truck and CTA Bus traffic will be detoured during time periods as depicted on the Detour Plans.

6. Detours:

CDOT-Traffic, CTA and OEMC must be notified 30 days prior to closing E. South Water Street and immediately after the road has reopened. Advance CMS and CMS signs must be in place two weeks in advance of detour.

COOPERATION WITH UTILITIES AND OTHERS

The Contractor is responsible for verifying the nature and status of all utility relocation work prior to preparation of the Detailed Progress Schedule (Article 108.02 of the Standard Specifications). The Contractor will take appropriate measures to ensure that construction operations do not interfere with utility facilities and relocation work. The Detailed Progress Schedule will reflect construction sequencing which coordinates with all utility relocation work. The Contractor will be required to adjust the order of its work from time to time, to coordinate with utility relocation work, and will prepare revised Progress Schedule(s) in compliance therewith as directed by the Commissioner.

The Commissioner will be notified in writing by the Contractor at least 48 hours prior to the start of any operation requiring cooperation with others. All other agencies, unless otherwise noted, will be notified in writing by the Contractor ten (10) days prior to the start of any such operation.

Where the Contractor is constructing new facilities for a utility, the utility will be notified at least five (5) days prior to the start of this work. The following persons have been contacted in reference to utilities they own and operate within the right-of-way limits for this project. All known data from these agencies has been incorporated into the plans. It is, however, the Contractor's responsibility to confirm or establish the existence of all utility facilities and their exact locations, whether contained in the data submitted by these agencies or not.

1. Chicago Department of Transportation – Division of Electrical Operations

Daniel Grigas P: (312) 744-4815

2. Chicago Department of Water Management – Water Section

Bret Koehler P: (312) 742-1875

3. Chicago Department of Water management – Sewer Section

Girley Abraham P: (312) 742-1060

4. Chicago Transit Authority

Jack Chalabian P: (312) 681-4176

5. AT&T

Adam Cyrier P: (630) 573-6457

6. Comcast

Michel Soreze P: (773) 394-8557

7. Commonwealth Edison

Joe Leung P: (773) 509-3288

8. People's Gas

Lynn Lyon P: (312) 240-3602

9. MCI

Tom Buher P: (708) 458-6410

10. Illinois Bell

Sandra Spendal P: (708) 396-8080

11. SBC

Sandra Spendal P: (708) 396-8080

12. Level 3 Communications

John Dykstra P: (708) 410-1683

13. Enwave Chicago

Frank Duffy P: (312) 447-1600

14. McLeod USA

Sheryl Holt P: (870) 743-5157

15. Qwest Communications

John Dykstra P: (708) 410-1683

16. Sunesys

Erick Perez P: (630) 480-5221

17. Looking Glass

John Dykstra P: (708) 410-1683

18. Mobilitie

Robert Wilson P: (312) 638-5363

19. Office of Emergency Management and Communications (OEMC)

Jeff Cairns P: (312) 746-9111

ITEM 5 CDOT3110010 SAND CUSHION, VARIABLE DEPTH

Effective: August 1, 2008

Revised: July 1, 2010

Description. Work under this item shall be performed according to Section 311 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

This work shall consist of placing sand cushion of variable depth beneath proposed sidewalks, driveways, or other appurtenances as directed by the Commissioner.

Materials. Materials shall be a fine aggregate meeting the requirements of Article 1003.04.

General Requirements. If unstable or unsuitable subbase conditions are encountered after excavation to proposed subbase elevations, the Commissioner may require removal and replacement of this unsuitable material with sand cushion.

Construction Requirements. The method for placement and compaction of the sand cushion shall be to the satisfaction of the Commissioner.

Method of Measurement. This work will be measured for payment in place in cubic yards.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for SAND CUSHION, VARIABLE DEPTH.

ITEM 13 CDOT4240010 PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH

Effective: December 1, 2008

Revised: July 1, 2010

Description. Work under this item shall be performed according to Section 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Construction Requirements. This work shall be constructed according to current City of Chicago Department of Transportation ADA Standards. Construction of ADA ramps will be paid for separately.

Basis of Payment. This work will be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH and PORTLAND CEMENT CONCRETE SIDEWALK 8 INCH.

ITEM 14 CDOT4240030 PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH

Effective: December 1, 2008

Revised: July 1, 2010

Description. Work under this item shall be performed according to Section 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Construction Requirements. This work shall be constructed according to current City of Chicago Department of Transportation ADA standards.

Method of Measurement. This work will be measured for payment in place in square feet. It will include the side curbs, side flares, level landing area, ramps and the sidewalk constructed between adjacent ramps within the corner radius.

Basis of Payment. This work will be paid for at the contract unit price per square foot for PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH and PORTLAND CEMENT CONCRETE ADA RAMP 8 INCH. Detectable warning tiles required for this work will be paid for separately.

ITEM 15 CDOT4240055 LINEAR DETECTABLE WARNING TILES (CAST IRON)
ITEM 16 CDOT4240065 RADIAL DETECTABLE WARNING TILES (CAST IRON)

Effective: May 21, 2012

Description. Work under this item shall consist of installing cast iron detectable warning tiles on ADA curb ramps as shown on the plans and according to the latest Chicago Department of Transportation ADA Standards. Work shall be performed according to Section 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Materials. Detectable warning tiles shall be cast gray iron and shall be provided by a Manufacturer approved by the City of Chicago Department of Transportation. A list of approved Manufacturers of cast iron detectable warning tiles is available on the City of Chicago Department of Transportation website under Construction Guidelines/Standards.

The cast iron detectable warning tiles shall be of uniform quality, free from surface defects and shall be provided with an untreated, natural surface finish as directed by the Commissioner.

Construction Requirements. **The detectable warning system shall be installed in fresh concrete and shall comply with the City of Chicago Department of Transportation Regulations for Openings, Construction and Repair in the Public Way, Appendix B, ADA Standards. The equipment and installation procedures shall be according to the Manufacturer's specifications.**

The contractor shall install the detectable warning system flush with adjacent concrete, and resulting in a snug fit between tiles to limit water infiltration around the perimeter of the system and between tiles, as directed by the Commissioner.

QC/QA Requirements. **A Manufacturer's written certification that the material complies with these specifications shall be provided to the Commissioner.**

Method of Measurement. This work will be measured for payment in place in square feet.

Basis of Payment. This work will be paid for at the contract unit price per square foot for LINEAR DETECTABLE WARNING TILES (CAST IRON) and RADIAL DETECTABLE WARNING TILES (CAST IRON).

ITEM 22 CDOT5010010 REMOVAL OF EXISTING STRUCTURES

Effective: August 1, 2008

Revised: May 28, 2009

Description. Work under this item shall consist of removing existing structure(s) at the location(s) designated on the plans. Work under this item shall be performed according to Section 501 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Submittals. A proposal plan for the removal of the structure(s) shall be submitted to the Commissioner for review and approval, at least 14 days prior to the beginning of the removal work. The removal of existing structures shall not commence without the Commissioner's approval.

The submittal shall show the procedures, equipment, haul routes, disposal site, and sequence of removal. The submittal shall include a written description of the proposed sequence of removal and the methods to be employed in the removal operations. Further, the submittal shall include calculations, drawings and details of the sequence of removal of the existing structures and locations of any temporary supports or bracing, the anticipated loads and the step-by-step removal procedure. The submittal shall also identify the location of disposal for the items removed. The removal procedure shall result in a safe and stable structure at all times, and shall comply with all safety requirements as required by all City, State and Federal laws, codes or other regulations. The submittal shall be sealed by an Illinois licensed Structural Engineer.

Method of Measurement. Removal of existing structure(s) at the location(s) designated on the plans will be included for payment unless it is specifically included with a separate pay item.

Basis of Payment. This work will be paid at the contract unit price per Lump Sum for REMOVAL OF EXISTING STRUCTURES.

ITEM 23 CDOT5010030 CONCRETE REMOVAL

Effective: January 1, 2009

Description. Work under this item shall be performed according to Section 501 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

General Requirements. Only the use of hand sledges and pneumatic hand tools will be permitted to break out concrete. The use of frost balls, drop hammers, explosive and other means employing heavy inertial or explosive forces will be prohibited, unless permitted in writing by the Commissioner.

ITEM 26 CDOT5030010 DRAINAGE SCUPPER, DS-12

Effective: December 1, 2008

Description. Work under this item shall consist of furnishing and placing drainage scuppers at the locations specified on the plans, and as directed by the Commissioner. Work under this item shall be performed in accordance with the requirements of the most current standard for DRAINAGE SCUPPER, DS-12 of the Illinois Department of Transportation Bureau of Bridges and Structures.

Construction Requirements. The Contractor shall follow the manufacturer's recommended installation procedure in addition to the requirements of the latest standard for DRAINAGE SCUPPER, DS-12 of the Illinois Department of Transportation Bureau of Bridges and Structures.

Material Acceptance. The Contractor must provide a Manufacturer's written certification that the materials comply with these specifications.

Method of Measurement. Drainage scuppers will be measured for payment as each.

Basis of Payment. This work will be paid at the contract unit price per each for DRAINAGE SCUPPER, DS-12. The contract unit price shall include all materials, fabrication, shop assembly, delivery and installation.

ITEM 27 CDOT5030020 HIGH PERFORMANCE CONCRETE STRUCTURES
ITEM 28 CDOT5030030 HIGH PERFORMANCE CONCRETE SUPERSTRUCTURES

Effective: January 12, 2009

Revised: July 1, 2014

Description. Work under this item shall be performed according to all applicable portions of Section 503 of the IDOT Standard Specifications for Road and Bridge Construction for Class SI and BS Concrete, and as modified herein.

This work shall consist of mix designs, mix design testing, proportioning and mixing, transporting, placing, finishing, curing, and protection of cast-in-place high performance and cast-in-place high strength high performance concrete structures and superstructures.

Materials. Materials shall be provided from IDOT approved sources, except as stated herein.

- a) Portland cement. Type I, IS, I(SM), or IP, according to Article 1001.01 of the Standard Specification.
- b) Fine Aggregate.
 - i) Quality. According to Article 1003.02 of the Standard Specifications, except all sands or blends must comply with the minus No. 200 sieve requirements in Article 1003.01(b) of the Standard Specification.
 - ii) ASR Rating. The IDOT assigned expansion value for dolomite or limestone stone sand shall be used. The expansion value for natural sands shall be as determined by IDOT.
 - iii) Gradation. FA/FM02.
- c) Coarse Aggregate.
 - i) Quality. According to Article 1004.02 of the Standard Specification, except Crushed gravel, crushed concrete, crushed slag or crushed sandstone are not allowed. Coarse Aggregates used in HPC Structure and Superstructure concrete shall contain no more than two percent total by weight (mass) of deleterious materials as specified in Article 1004.01(b) of the Standard Specification.
 - ii) Freeze-Thaw Rating. Must be a minimum of an IDOT 30-Year rating.
 - iii) ASR Rating. The IDOT assigned expansion value for limestone or dolomite coarse aggregates (crushed stone) shall be used.

- iv) Gradation. Two or more coarse aggregate sizes, consisting of CA/CM 11, CA/CM 13, CA/CM 14, and CA/CM 16 may be combined, provided a CA/CM 11 is included in the blend.
- d) Fly ash. Class F according to Section 1010 of the Standard Specification.
- e) Microsilica (silica fume). According to Section 1010 of the Standard Specification.
- f) Ground Granulated Blast Furnace (GGBF) Slag. According to Section 1010 of the Standard Specification.
- g) Admixtures. According to Section 1021 of the Standard Specification.
- h) Water. According to Section 1002 of the Standard Specification.

Concrete Mix Design.

- a) Proportions - HPC mixes shall be designed and produced within the following target proportions.

	HIGH STRENGTH HPC CONCRETE	HPC CONCRETE
Portland Cement	605 lbs. per CY minimum	490 lbs. per CY minimum
Microsilica (silica fume)	25 lbs. per CY required	
One of the Following Required:	Minimum content shall be 15% of the minimum Portland Cement content.	
Ground Granulated Blast Furnace Slag Cement or Fly Ash, Type F	If used for ASR mitigation, use ASR special provision, without cement reduction.	
Water:Cementitious Ratio	0.36 - 0.40	0.38 - 0.44
Air-Entraining Agent	Per IDOT approved list and manufacturer's written instructions	
High Range Water-Reducer	Per IDOT approved list and manufacturer's written instructions	
Retarder	Per IDOT approved list and manufacturer's written instructions	

- b) Cement replacement for IDOT Class BS concrete according to Article 1020.05(c)(1)(d) of the Standard Specification shall not apply.
- c) Corrosion inhibitors, accelerating admixtures (Types C or E), viscosity modifiers, and hydration stabilizers are not allowed unless approved by the Commissioner.
- d) Alkali-Silica Reaction (ASR) Mitigation shall be according to the current Illinois Department of Transportation Supplemental Specification for Portland Cement Concrete. The Contractor shall include a letter of compliance with the mix design submittal indicating which mitigation option has been selected.
- e) Physical Properties. The mix design shall meet the specifications listed in Table 1-A. The Commissioner reserves the right to conduct additional tests as required to determine the acceptability of durability and material properties of the HPC mixture.

**Table 1-A
 Physical Properties**

Property	HIGH STRENGTH HPC CONCRETE	HPC CONCRETE	Test Methods
Total air content, plastic concrete	7 +/- 1.5% ^{2/}		AASHTO T152 ^{1/}
Slump, maximum after HRWR addition	8 in.		AASHTO T119 ^{1/}
Slump, minimum after 45 minutes	4 in.		AASHTO T119 ^{1/}
Initial set time, minimum	3 hours		AASHTO T197
28-day compressive strength, minimum	6,000 psi	5,000 psi	AASHTO T22 ^{1/}
28-day compressive strength, maximum	9,500 psi	9,500 psi	AASHTO T22 ^{1/}
Total air content, hardened concrete	7+/- 1.5%		ASTM C457
Maximum air void spacing factor	0.010 in		ASTM C457
Minimum air void specific surface	500 in ² /in ³		ASTM C457
Chloride Permeability Resistance	<2000 coulombs at 28 days		AASHTO T277
Petrographic examination	Report		ASTM C856

Footnotes:

^{1/} Per IDOT Manual of Test Procedures

^{2/} Or as required to meet the total air content in the hardened concrete.

Mix Design, Trial Mixes and Verification Testing.

- a) Mix designs shall be submitted to the Commissioner for approval at least 45 days prior to the start of production. Mix designs shall be performed according to the IDOT PCC Mix Design Program.
- b) The Trial Mix shall be produced with the mix equipment proposed for production. The Trial Mix evaluation shall include testing for the properties in Table 1-A.
 - i) Testing shall be conducted by laboratories approved by the Commissioner, and at no cost to the City.
 - ii) Initial Set Time (AASHTO T 197), Air Voids analysis (ASTM C457), Chloride Permeability Resistance (AASHTO T277), and Petrographic Analysis (ASTM C856) shall be performed by AASHTO accredited laboratories. Advance notice of testing shall be provided to the Commissioner, who may witness the trial mix and testing.
- c) Documentation:
 - i) Ingredient Materials. Include relevant pages of IDOT's:
 - (1) Approved aggregate source list.
 - (2) Freeze-thaw rating list.
 - (3) Approved list of qualified cement plants.
 - (4) Approved list of concrete admixtures.
 - (5) Approved list of suppliers for finely divided minerals.
 - (6) Alkali-Silica Potential Reactivity Rating List.
 - ii) Trial Mix test results verifying conformance with the requirements of Table 1-A.
- d) Mix Changes. Once the mix design is approved, no ingredient sources may be changed without the written approval of the Commissioner. The Commissioner may require or conduct additional tests to verify the affect of ingredient material changes.
- e) Approved HPC mix designs shall be valid for two years from date of approval.

Equipment. Equipment shall meet the requirements of Article 503.03 of the Standard Specifications unless superseded by this specification.

Construction Requirements.

Placing and Consolidating. Work shall be performed according to Article 503.07 of the Standard Specification and as modified herein:

- a) All weather parameters shall be measured, recorded and provided. In addition, all weather monitoring equipment to support any request to deviate from the temperature requirements of this specification shall be provided.
 - i) Temperature. The air and concrete temperature at placement shall be in accordance with Article 1020.14(b) of the Standard Specifications and as modified herein.
 - ii) HPC shall not be cast when air temperatures exceed 90°F.
 - iii) HPC deck shall be cast at night whenever air temperatures exceed 80°F, unless it has been demonstrated the evaporation rate will be less than 0.10 lbs./sf/hr and approval has been granted by the Commissioner.
- b) Wind. Whenever wind speeds exceed 10 mph (light breeze), fogging of the exposed concrete surface shall be continuous.
- c) Evaporation. Evaporation rates shall be determined utilizing the ACI 305 nomograph and shall be based on actual temperature and wind speed data obtained from the field the day prior to the pour. The resulting evaporation rates will determine the time of day for the subsequent placement if climatic conditions are anticipated to be similar in nature. If the conditions prior to the pour are deemed by the Commissioner not to be similar in nature, the time of day for the placement will need to be reevaluated using current field data. Unless waived by the Commissioner, evaporation rates shall also be monitored during every placement to determine the level of fogging necessary to reduce the potential for shrinkage cracking.
 - i) When the evaporation rate exceeds 0.15 lbs/sf/hr, HPC concrete shall not be cast.
 - ii) When the evaporation rate exceeds 0.10 lbs/sf/hr, casting HPC at night shall be performed.

Methods necessary to lower concrete temperatures including night time placements, cooling the mix water, adding ice, shading, or sprinkling the coarse aggregates with chilled water shall be implemented when concrete temperatures cannot be maintained below the maximum acceptable limit given the application. Extra attention to fogging may be required, as well as applying curing as soon as possible after finishing.

- d) No additional or supplemental compensation shall be made for any measures required for the satisfactory placement of HPC concrete as described herein or as directed by the Commissioner, including but not limited to weather data collection, equipment, admixtures, premium costs, lighting, or other appurtenant and collateral work required. The cost shall be included in the unit price for the placement of HPC, as shown on the Contract Plans and indicated in the Contract Specifications.

Method of Measurement. Measurement shall be performed according to Article 503.21 of the Standard Specification.

Basis of Payment. This work will be paid for at the contract unit price per cubic yard for HIGH PERFORMANCE CONCRETE STRUCTURES, HIGH PERFORMANCE CONCRETE SUPERSTRUCTURES, HIGH STRENGTH HIGH PERFORMANCE CONCRETE STRUCTURES and HIGH STRENGTH HIGH PERFORMANCE CONCRETE SUPERSTRUCTURES.

Concrete protected according to Article 1020.13(d) of the Standard Specification may be paid for at the adjusted unit prices which will be a percentage according to the table from Article 503.22 of the Standard Specification of the contract unit price for the classes of concrete involved. These adjustments will be made only when they are authorized in writing by the Engineer. No adjustment will be made in the contract unit prices for any concrete if winter work is necessary to meet the required completion dates specified in the contract.

ITEM 29 CDOT5030070 LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK

Effective: October 1, 2011

This work shall consist of the preparation of a new concrete bridge deck and the construction of a latex overlay to the specified thickness.

Materials. Materials shall meet the following Articles of Section 1000:

<u>Item</u>	<u>Section</u>
(a) Latex/Portland Cement Concrete (Note 1) (Note 2)	1020
(b) Packaged Rapid Hardening Mortar or Concrete	1018
(c) Concrete Curing Materials	1022.02

Note 1. The latex admixture shall be a uniform, homogeneous, non-toxic, film-forming, polymeric emulsion in water to which all stabilizers have been added at the point of manufacture. The latex admixture shall not contain any chlorides and shall contain 46 to 49 percent solids.

The Contractor shall submit a manufacturer's certification that the latex emulsion meets the requirements of FHWA Research Report RD-78-35, Chapter VI. The certificate shall include the date of manufacture of the latex admixture, batch or lot number, quantity represented, manufacturer's name, and the location of the manufacturing plant. The latex emulsion shall be sampled and tested in accordance with RD-78-35, Chapter VII, Certification Program.

The latex admixture shall be packaged and stored in containers and storage facilities which will protect the material from freezing and from temperatures above 85°F (30°C). Additionally, the material shall not be stored in direct sunlight and shall be shaded when stored outside of buildings during moderate temperatures.

Note 2. Cement shall be Type I portland cement. Fine aggregate shall be natural sand and the coarse aggregate shall be crushed stone or crushed gravel. The gradation of the coarse aggregate shall be CA 13, CA 14 or CA 16.

Mixture Design. The latex concrete shall contain the following approximate units of measure or volumes per cubic yard (cubic meter).

Type I Portland Cement	658 lb. (390 kg)
Latex Admixture	24.5 gal (121.3 L)
Coarse Aggregate	42 to 50 percent by weight (mass) of total aggregate
Water (including free moisture on the fine and coarse aggregates)	157 lb. (93.1 kg) maximum

No air entraining admixtures shall be added to the mix.

This mix design is based on a specific gravity of 2.65 for both the fine and the coarse aggregates. The mix will be adjusted by the Engineer to compensate for aggregate specific gravity and moisture.

The latex concrete shall meet the following requirements:

Slump shall be according to Article 1020.07 and 1020.12:	3 to 6 in. (75 to 150 mm)
Air Content shall be according to Article 1020.08 and 1020.12:	7 percent maximum
Water-cement ratio (considering all the nonsolids in the latex admixture as part of the total water)	0.30 to 0.40
Required Strength (Compressive) minimum	4000 psi (27,500 kPa)
Required Strength (Flexural)	675 psi (4,650 kPa) minimum

Equipment. The equipment used shall be subject to the approval of the Engineer and shall meet the following requirements:

- (a) Surface Preparation Equipment. Surface preparation equipment shall be according to the applicable portions of Section 1100 and the following:
- (1) Sawing Equipment. Sawing equipment shall be a concrete saw capable of sawing concrete to the specified depth.
 - (2) Mechanical Blast Cleaning Equipment. Mechanical blast cleaning shall be performed by high-pressure water blasting. Mechanical high-pressure water blasting equipment shall be mounted on a wheeled carriage and shall include multiple nozzles mounted on a rotating assembly, and shall be operated with a 7000 psi (48 MPa) minimum water pressure. The distance between the nozzles and the deck surface shall be kept constant and the wheels shall maintain contact with the deck surface during operation.
 - (3) Hand-Held Blast Cleaning Equipment. Blast cleaning using hand-held equipment shall be performed by high-pressure water blasting. Hand-held high-pressure water blasting equipment that is used in areas inaccessible to mechanical blast cleaning equipment shall have a minimum water pressure of 7000 psi (48 MPa).
 - (4) Vacuum Cleanup Equipment. The equipment shall be equipped with fugitive dust control devices capable of removing wet debris and water all in the same pass. Vacuum equipment shall also be capable of washing the deck with pressurized water prior to the vacuum operation to dislodge all debris and slurry from the deck surface.

- (b) Pull-off Test Equipment. Equipment used to perform pull-off testing shall be either approved by the Engineer, or obtained from one of the following approved sources:

James Equipment
007 Bond Tester
800-426-6500

Germann Instruments, Inc.
BOND-TEST Pull-off System
847-329-9999

SDS Company
DYNA Pull-off Tester
805-238-3229

Pull-off test equipment shall include all miscellaneous equipment and materials to perform the test and clean the equipment, as indicated in the Illinois Test procedure 304 and 305 "Pull-off Test (Surface or Overlay Method)". Prior to the start of testing, the Contractor shall submit to the Engineer a technical data sheet and material safety data sheet for the epoxy used to perform the testing. For solvents used to clean the equipment, a material safety data sheet shall be submitted.

- (c) Concrete Equipment. A mobile portland cement concrete plant shall be used for Latex Concrete and shall be according to Articles 1020.12, 1103.04 and the following:
- (1) The device for proportioning water shall be accurate within one percent.
 - (2) The mixer shall be a self-contained, mobile, continuous mixer used in conjunction with volumetric proportioning.
 - (3) The mixer shall be calibrated prior to every placement of material or as directed by the Engineer.
- (d) Finishing Equipment. Finishing equipment shall be according to Article 503.03.
- (e) Mechanical Fogging Equipment. Mechanical fogging equipment shall be according to 503.03.

Construction Requirements. Sidewalks, curbs, drains, reinforcement and/or existing transverse and longitudinal joints which are to remain in place shall be protected from damage during cleaning operations. All damage caused by the Contractor shall be corrected, at the Contractor's expense, to the satisfaction of the Engineer.

The Contractor shall control the runoff water generated by the various construction activities in such a manner as to minimize, to the maximum extent practicable, the discharge of untreated effluent into adjacent waters, and shall properly dispose of the solids generated according to Article 202.03. The Contractor shall submit a water management plan to the Engineer specifying the control measures to be used. The control measures shall be in place prior to the start of runoff water generating activities. Runoff water shall not be allowed to constitute a hazard to adjacent or underlying roadways, waterways,

drainage areas or railroads nor be allowed to erode existing slopes.

(a) Deck Preparation.

- (1) Bridge Deck Blast Cleaning. The blast cleaning operation shall consist of preparing the designated concrete deck surface using water blasting equipment as specified under Surface Preparation Equipment. The areas designated shall be blast cleaned to the depth specified on the plans. If a blast cleaning depth is not specified, a minimum of one eighth of an inch shall be required.

After water blasting, the deck shall be thoroughly vacuum cleaned in a timely manner before the water and debris are allowed to dry and re-solidify to the deck.

- (2) Final Surface Preparation. Any areas determined by the Engineer to be inaccessible to water blasting equipment shall be thoroughly water blasted with hand-held equipment.

If spoils from the blast cleaning operation are allowed to dry and re-solidify on the deck surface, the deck surface shall be cleaned again with blasting cleaning equipment and immediately vacuumed.

Final surface preparation shall also include the cleaning of all dust, debris, concrete fines and other foreign substances from the deck surface including vertical faces of curbs, previously placed adjacent overlays, barrier walls up to a height of 1 in. (25 mm) above the overlay, and depressions. Hand-held high-pressure water blasting equipment shall be used for this operation.

Surface pull-off testing shall be conducted at a frequency of one location per 2500 square feet. Testing shall be in according to the Illinois Test Procedure 304 "Pull-off Test (Surface Method)". The Contractor shall provide the test equipment. The Engineer shall determine each test location, and each individual test shall have a minimum strength of 175 psi (1,207 kPa). In the case of a failing test, the Contractor shall adjust the blast cleaning method and re-clean the area. Testing will be repeated until satisfactory results are attained.

All dust, concrete fines, debris, including water, resulting from the surface preparation shall be confined and shall be immediately and thoroughly removed from all areas of accumulation. If concrete placement does not follow immediately after the final blast cleaning, the area shall be carefully protected with well-anchored white polyethylene sheeting.

- (b) Pre-placement Procedure. Prior to placing the overlay, the Engineer will inspect the deck surface. All contaminated areas shall be blast cleaned again at the Contractor's expense. Before placing the overlay, the finishing machine shall be operated over the full length of bridge segment to be placed to check support rails for deflection and confirm the minimum overlay thickness. All necessary adjustments shall be made and another check performed, unless otherwise directed by the Engineer.

(c) Testing. All testing shall be according to Check Sheet 31 of the Illinois Department of Transportation Supplemental Specifications and Recurring Special Provisions, except the frequency for slump testing by QC shall be revised to a minimum of one test per truck.

(d) Placement Procedure. Concrete placement shall be according to Article 503.07 and the following:

(1) Bonding Method.

The deck shall be cleaned to the satisfaction of the Engineer and shall be thoroughly wetted and maintained in a dampened condition with water for at least 12 hours before placement of the overlay. Any excess water shall be removed by compressed air or by vacuuming prior to the beginning of overlay placement. Water shall not be applied to the deck surface within one hour before or at any time during placement of the overlay.

(2) Overlay Placement.

Placement of the concrete shall be according to Article 503.16.

Internal vibration will be required along edges, adjacent to bulkheads, and where the overlay thickness exceeds 3 in. (75 mm). Internal vibration along the longitudinal edges of a pour will be required with a minimum of 2 hand-held vibrators, one on each edge of the pour. Hand finishing will be required along the edges of the pour and shall be done from sidewalks, curbs or work bridges.

A construction dam or bulkhead shall be installed in case of a delay of 30 minutes or more in the concrete placement operation.

All construction joints shall be formed. When required by the Engineer the previously placed overlay shall be sawed full-depth to a straight and vertical edge before fresh concrete is placed. The Engineer will determine the extent of the removal. When longitudinal joints are not shown on the plans, the locations shall be subject to approval by the Engineer and shall not be located in the wheel paths.

The Contractor shall stencil the date of construction (month and year) and the letters LX into the overlay before it takes its final set unless directed otherwise by the Commissioner. The stencil shall be located in a conspicuous location, as determined by the Engineer, for each stage of construction. This location shall be outside of the grooving where possible and within 3 ft. (1 m) of an abutment joint. The characters shall be 3 to 4 in. (75 mm to 100 mm) in height, 1/4 in. (5 mm) in depth and face the centerline of the roadway.

(3) Limitations of Operations.

(a) Weather Limitations. Temperature control for concrete placement shall be according to 1020.14(b). The concrete protection from low air temperatures during the curing period shall be according to Article 1020.13(d). Concrete

shall not be placed when rain is expected during the working period. If night placement is required, illumination and placement procedures will be subject to the approval of the Engineer. No additional compensation will be allowed if night work is required.

- (b) Other Limitations. Concrete delivery vehicles driven on the structure shall not exceed the legal load limit of the structure.

Final blast cleaning and concrete placement on adjacent portions of the deck may proceed, provided the process does not interfere in any way with any other blast cleaning or placement operations.

Water or contaminants from blast cleaning operations shall not be permitted in areas where the new overlay has been placed until the overlay has cured a minimum of 24 hours.

No concrete shall be removed within 6 ft. (1.8 m) of a newly-placed overlay until the concrete has obtained a minimum compressive strength of 3000 psi (20,700 kPa) or flexural strength of 600 psi (4,150 kPa).

(4) Curing.

The minimum curing time shall be 48 hours of wet cure followed by 48 hours of dry cure. The wet cure shall be according to Article 1020.13(a)(5), except Cotton Mats shall be replaced with two layers of burlap that have been pre-dampened for a minimum of 12 hours. Excess water shall not be allowed to drip from the burlap onto the overlay during placement. After the wet cure is completed all layers of covering materials shall be removed to allow for the dry cure.

If the ambient temperature falls below 50°F (10°C) during either the wet or dry curing periods, the time below 50°F (10°C) will not be included in the 96 hour curing period. If there is sufficient rain to wet the surface of the overlay for more than one hour of the dry cure period, the wet time will not be included in the 48 hour dry cure period.

(5) Opening to Traffic.

No traffic or construction equipment will be permitted on the overlay until after the specified cure period and the concrete has obtained a minimum compressive strength of 4000 psi (27,500 kPa) or flexural strength of 675 psi (4,650 kPa).

At the Engineers discretion, no traffic or construction equipment will be permitted within 12 feet of any overlay until the overlay has obtained initial set, or the concrete has obtained a minimum compressive strength of 4000 psi (27,500 kPa) or flexural strength of 675 psi (4,650 kPa).

(6) Overlay Testing.

The Engineer reserves the right to conduct pull-off tests on the overlay to determine if any areas are not bonded to the underlying concrete. The overlay

will be tested according to the Illinois Test procedure 305 “Pull-off Test (Overlay Method)”, and the Contractor shall provide the test equipment. Each individual test shall have a minimum strength of 150 psi (1,034 kPa). Unacceptable test results will require removal and replacement of the overlay at the Contractor’s expense, and the locations will be determined by the Engineer. When removing portions of an overlay, the saw cut shall be a minimum depth of 1 in. (25 mm).

If the overlay is to remain in place, all core holes due to testing shall be filled with a rapid set mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used, and the material shall be struck-off flush with the adjacent material.

For a rapid set mortar mixture, one part packaged rapid set cement shall be combined with two parts fine aggregate, by volume; or a packaged rapid set mortar shall be used. For a rapid set concrete mixture, a packaged rapid set mortar shall be combined with coarse aggregate according to the manufacturer’s instructions; or a packaged rapid set concrete shall be used. Mixing of a rapid set mortar or concrete shall be according to the manufacturer’s instructions.

Method of Measurement. The latex concrete overlay will be measured for payment in square yards (square meters).

Basis of Payment. Latex concrete overlay will be paid for at the contract unit price per square yard (square meter) for LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK, of the thickness specified.

ITEM 42 CDOT5870010 PROTECTIVE CONCRETE SEALER

Effective: July 1, 2010

Description. Work under this item shall be performed according to the applicable portions of Sections 420, 421, 483, 503 and 587 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

This work shall consist of providing and applying the protecting concrete sealer as directed by the Commissioner.

Materials. The use of linseed oil shall not be permitted. Material shall be in accordance with Section 1026 of the IDOT Standard Specifications for Road and Bridge Construction. The material shall not affect the appearance of the concrete.

General Requirements. Proposed material shall be submitted for approval by the Commissioner. No material application work shall be allowed without the approval of the Commissioner.

Construction Requirements. The material shall be applied according to the Manufacturer's specifications.

Basis of Payment. This work will be paid for at the contract unit price per square yard for PROTECTIVE CONCRETE SEALER.

**ITEM 43 CDOT6020010 CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1
FRAME, OPEN LID (CITY OF CHICAGO)**

Effective: July 15, 2009

Description. Work under this item shall be performed according to Section 602 of the IDOT Standard Specifications for Road and Bridge Construction and the City of Chicago Department of Water Management Standard Specifications for Water and Sewer Main Construction, except as herein modified.

Basis of Payment. This work will be paid at the contract unit per each for CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO).

**ITEM 44 CDOT6020020 INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY
OF CHICAGO)**

Effective: July 15, 2009

Description. Work under this item shall be performed according to Section 602 of the IDOT Standard Specifications for Road and Bridge Construction and the City of Chicago Department of Water Management Standard Specifications for Water and Sewer Main Construction, except as herein modified.

Basis of Payment. This work will be paid at the contract unit per each for INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO).

ITEM 46 CDOT6050020 REMOVING CATCH BASINS

Effective: May 15, 2009
Revised: August 8, 2016

Description. Work under this item shall be performed according to Section 605 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

General Requirements. The Contractor shall deliver all old frames to the City at a facility designated by the Commissioner. A signed and dated receipt for the delivery of the old frames shall be given to the Commissioner.

Method of Measurement. All work associated with the salvage of the frames and lids shall be incidental to this item.

ITEM 47 CDOT6060020 COMBINATION CONCRETE CURB AND GUTTER,
TYPE B-V.12

Effective: December 1, 2008

Description. Work under this item shall be performed according to Section 606 of the IDOT Standard Specifications for Road and Bridge Construction, and to the City of Chicago Department of Transportation Regulations for Openings, Construction and Repair in the Public Way.

ITEM 59 CDOT6700010 ENGINEER'S FIELD OFFICE

Effective: August 1, 2008

Revised: July 8, 2009

Description. Work under this item shall consist of supplying engineer's field offices. Work under this item shall be performed according to Section 670 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

General Requirements. Field offices must comply with the requirements for Engineer's Field Office, except as herein modified.

Field offices shall have a ceiling height of not less than seven (7) ft. and a floor space of not less than 800 sq. ft.

Adequate all weather parking space shall be available to accommodate a minimum of 10 vehicles.

Solid waste disposal consisting of two waste basket(s) and an outside trash container of sufficient size to accommodate a weekly pick-up service shall be provided by the Contractor.

In addition, the following equipment and furniture meeting the approval of the Commissioner shall be furnished:

- (a) Five desk(s) with minimum working surface 42"x30" each and five non-folding office chairs with upholstered seats and backs and with wheels.
- (b) One four-drawer legal size file cabinets.
- (c) Eight folding chairs and one 36"x96" folding tables.
- (d) One office style frostless refrigerator with a minimum size of eight cubic feet with a separate freezer unit.
- (e) One microwave oven with a minimum capacity of one cubic feet.
- (f) One electric desk type tape printing calculators.
- (g) One telephone(s) with multiline capability touch tone and voice mail (for exclusive use by the Commissioner). One phone line(s), one for voice, one for fax *and one for security*. One high speed broadband internet connection with unlimited access and wireless networking capabilities for multiple users (for exclusive use of the Commissioner).
- (h) One desktop color laser multifunction fax-printer-scanner-copier with network connectivity, including maintenance, paper supply and toner. The machine shall have a minimum of 600 dpi resolution, and shall be capable of reproducing, sorting and stapling prints up to size 11"x17".
- (i) The computer equipment shall fulfill the following minimum requirements, in conformance with the latest technology in use in the City of Chicago:

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- (j) One case of approximately twelve cans of aerosol marking paint, of the color chosen by the commissioner.
 - (k) Accessible potable water and coffee service.

Basis of Payment. The building or buildings fully equipped, will be paid for at the contract unit price per calendar month or fraction thereof for ENGINEER'S FIELD OFFICE, according to article 670.07 of the IDOT Standard Specifications for Road and Bridge Construction.

ITEM 73 X5210015 ELASTOMERIC BEARING ASSEMBLY, TYPE I (SPECIAL)

This work shall conform to Sections 521 of the Standard Specifications except as modified herein:

Add the following to Article 521.02:

“(e) Stud Shear Connectors.....1006.32”

Revise Article 521.03 to read:

“Steel bearing plates shall be fabricated according to Section 505. The steel components of bearings shall be hot-dipped galvanized after fabrication.”

Revise the “Physical Properties” in the table in Article 1083.02(a) to read:

Physical Properties	D 2240	Hardness	65 ± 5 Shore “A” points	65 ± 5 Shore “A” points
	D 412	Min. Tensile Strength	2250 psi (15,500 kPa)	2250 psi (15,500 kPa)
		Min. Ultimate Elongation	400%	400%

ITEM 74	X5210130	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 300K
ITEM 75	X5210190	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 600K
ITEM 76	X5210330	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED – 400K
ITEM 77	X5210345	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED – 550K
ITEM 78	X5210770	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 200K
ITEM 79	X5210780	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 250K
ITEM 80	X5210790	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 300K
ITEM 81	*****	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 400K

Effective: October 13, 1988

Revised: April 1, 2016

Description. This work shall consist of furnishing and installing High Load Multi-Rotational type bearing assemblies at the locations shown on the plans.

High Load Multi-Rotational (HLMR) bearings shall be one of the following at the Contractors option unless otherwise noted on the plans:

- a) Pot Bearings. These bearings shall be manufactured so that the rotational capability is provided by an assembly having a rubber disc of proper thickness, confined in a manner so it behaves like a fluid. The disc shall be installed, with a snug fit, into a steel cylinder and confined by a tight fitting piston. The outside diameter of the piston shall be no more than 0.03 in. (750 microns) less than the inside diameter of the cylinder at the interface level of the piston and rubber disc. The sides of the piston shall be beveled. PTFE sheets, or silicone grease shall be utilized to facilitate rotation of the rubber disc. Suitable brass sealing rings shall be provided to prevent any extrusion between piston and cylinder.
- b) Shear Inhibited Disc Type Bearing. The Structural Element shall be restricted from shear by the pin and ring design and need not be completely confined as with the Pot Bearing design. The disc shall be a molded monolithic Polyether Urethane compound.

These bearings shall be further subdivided into one or more of the following types:

- 1) Fixed. These allow rotation in any direction but are fixed against translation.
- 2) Guided Expansion. These allow rotation in any direction but translation only

in limited directions.

- 3) Non-Guided Expansion. These allow rotation and translation in any direction.

The HLMR bearings shall be of the type specified and designed for the loads shown on the plans. The design of the top and bottom bearing plates are based on detail assumptions which are not applicable to all suppliers and may require modifications depending on the supplier chosen by the Contractor. The overall depth dimension for the HLMR bearings shall be as specified on the plans. The horizontal dimensions shall be limited to the available bearing seat area. Any modifications required to accommodate the bearings chosen shall be submitted to the Engineer for approval prior to ordering materials. Modifications required shall be made at no additional cost to the State. Inverted pot bearing configurations will not be permitted.

The Contractor shall comply with all manufacturer's material, fabrication and installation requirements specified.

All bearings shall be supplied by prequalified manufacturers. The Department will maintain a list of prequalified manufacturers.

Submittals. Shop drawings shall be submitted to the Engineer for approval according to Article 105.04 of the Standard Specifications. In addition the Contractor shall furnish certified copies of the bearing manufacturer's test reports on the physical properties of the component materials for the bearings to be furnished and a certification by the bearing manufacturer stating the bearing assemblies furnished conform to all the requirements shown on the plans and as herein specified. Submittals with insufficient test data and supporting certifications will be rejected.

Materials. The materials for the HLMR bearing assemblies shall be according to the following:

- (a) Elastomeric Materials. The rubber disc for Pot bearings shall be according to Article 1083.02(a) of the Standard Specifications.
- (b) Polytetrafluoroethylene (PTFE) Material. The PTFE material shall be according to Article 1083.02(b) of the Standard Specifications.
- (c) Stainless Steel Sheets: The stainless steel sheets shall be of the thickness specified and shall be according to Article 1083.02(c).
- (d) Structural Steel. All structural steel used in the bearing assemblies shall be according to AASHTO M 270, Grade 50 (M 270M Grade 345), unless otherwise specified.

- (e) Threaded studs. The threaded stud, when required, shall conform to the requirements of Article 1083.02(d)(4) of the Standard Specifications.
- (f) Polyether Urethane for Disc bearings shall be according to all of the following requirements:

PHYSICAL PROPERTY	ASTM TEST METHOD	REQUIREMENTS	
Hardness, Type D durometer	D 2240	45 Min	65 Max
Tensile Stress, psi (kPa) At 100% elongation, min	D 412	1500 psi (10,350 kPa)	2300 psi (15,900 kPa)
Tensile Stress, psi (kPa) At 200% elongation, min	D 412	2800 psi (19,300 kPa)	4000 psi (27,600 kPa)
Tensile Strength, psi (kPa), min	D 412	4000 psi (27,600 kPa)	6000 psi (41,400 kPa)
Ultimate Elongation, %, min	D 412	350	220
Compression Set 22 hr. at 158 °F (70 °C), Method B %, max	D 395	40	40

The physical properties for a durometer hardness between the minimum and maximum values shown above shall be determined by straight line interpolation.

Design. The fabricator shall design the HLMR bearings according to the appropriate AASHTO Design Specifications noted on the bridge plans.

Fabrication. The bearings shall be complete factory-produced assemblies. They shall provide for rotation in all directions and for sliding, when specified, in directions as indicated on the plans. All bearings shall be furnished as a complete unit from one manufacturing source. All material used in the manufacture shall be new and unused with no reclaimed material incorporated into the finished assembly.

The translation capability for both guided and non-guided expansion bearings shall be provided by means of a polished stainless steel sliding plate that bears on a PTFE sheet bonded and recessed to the top surface of the piston or disc. The sliding element of expansion bearings shall be restrained against movement in the fixed direction by exterior guide bars capable of resisting the horizontal forces or 20 percent of the vertical design load on the bearing applied in any direction, whichever is greater. The sliding surfaces of

the guide bar shall be of PTFE sheet and stainless steel. Guiding off of the fixed base, or any extension of the base, will not be permitted.

Structural steel bearing plates shall be fabricated according to Article 505.04(l) of the Standard Specifications. Prior to shipment the exposed edges and other exposed portions of the structural steel bearing plates shall be cleaned and given a corrosion protection coating as specified on the plans and according to the applicable Special Provisions and Articles 506.03 and 506.04 of the Standard Specifications. During cleaning and coating the stainless steel, PTFE sheet and neoprene shall be protected from abrasion and coating material.

PTFE sheets shall be bonded to steel under factory controlled conditions using heat and pressure for the time required to set the epoxy adhesive used. The PTFE sheet shall be free from bubbles and the sliding surface shall be burnished to an absolutely smooth surface.

The steel piston and the steel cylinder for pot bearings shall each be machined from a solid piece of steel. The steel base cylinder shall be either integrally machined, recessed into with a snug fit, or continuously welded to its bottom steel bearing plate.

Packaging. Each HLMR bearing assembly shall be fully assembled at the manufacturing plant and delivered to the construction site as complete units. The assemblies shall be packaged, crated or wrapped so the assemblies will not be damaged during handling, transporting and shipping. The bearings shall be held together with removable restraints so sliding surfaces are not damaged.

Centerlines shall be marked on both top and base plates for alignment in the field. The bearings shall be shipped in moisture-proof and dust-proof covers.

Performance Testing. The following performance tests are required. All tests shall be performed by the manufacturer prior to shipment. Where lot testing is permitted, a lot size shall be the number of bearings per type on the project but not to exceed 25 bearings per type.

Dimension Check. Each bearing shall be checked dimensionally to verify all bearing components are within tolerances. Failure to satisfy any dimensional tolerance shall be grounds for rejecting the bearing component or the entire bearing assembly.

Clearance Test. This test shall be performed on one bearing per lot. The bearing selected for this test shall be the one with the least amount of clearance based on the dimension check. The bearing assembly shall be loaded to its service limit state rated capacity at its full design rotation but not less than 0.02 radians to verify the required clearances exist. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction. Any visual signs of rubbing or binding shall be grounds for rejection of the lot.

Proof Load Test. This test shall be performed on one bearing per lot. The bearing assembly shall be load tested to 150 percent of the service limit state rated capacity at a rotation of 0.02 radians. The load shall be maintained for 5 minutes, removed then reapplied for 5 minutes. If the load drops below the required value during either application, the test shall be restarted from the beginning. This test shall be performed twice for each bearing with the rotation oriented longitudinally with the bridge once in each direction.

The bearing shall be visually examined both during the test and upon disassembly after the test. Any resultant visual defects include, but are not limited to:

1. Extruded or deformed elastomer, polyether urethane, or PTFE.
2. Insufficient clearances such as evidence of metal to metal contact between the pot wall and the top plate.
3. Damaged components such as cracked steel, damaged seal rings, or damaged limiting rings.
4. Bond failure.

If any of the above items are found it shall be grounds for rejection of the lot.

Sliding Friction Test. For expansion bearings, this test shall be performed on one bearing per lot. The sliding surfaces shall be thoroughly cleaned with a degreasing solvent. No lubrication other than that specified for the bearing shall be used. The bearing shall be loaded to its service limit state rated capacity for 1 hour prior to and throughout the duration of the sliding test. At least 12 cycles of plus and minus sliding with an amplitude equaling the smaller of the design displacement and 1 inch (25 mm) shall then be applied. The average sliding speed shall be between 0.1 inch and 1.0 inches (2.5 mm and 25 mm) per minute. The sliding friction coefficient shall be computed for each direction of each cycle and its mean and standard deviation shall be computed for the sixth through twelfth cycles.

The friction coefficient for the first movement and the mean plus two standard deviations for the sixth through twelfth cycles shall not exceed the design value used. In addition, the mean value for the sixth through twelfth cycles shall not exceed 2/3 of the design value used. Failure of either of these shall result in rejection of the lot.

The bearing shall also be visually examined both during and after the testing, any resultant defects, such as bond failure, physical destruction, or cold flow of the PTFE shall also be cause for rejection of the lot.

The Contractor shall furnish to the Department a notarized certification from the bearing manufacturer stating the HLMR bearings have been performance tested as specified. The Contractor shall also furnish to the Engineer of Tests at the Bureau of Materials and

Physical Research (126 East Ash Springfield, IL 62704) a purchase order prior to fabrication. The purchase order shall contain, as a minimum, the quantity and size of each type of bearing furnished. The Department reserves the right to perform any of the specified tests on one or more of the furnished bearings. If the tested bearing shows failure it shall be replaced and the remaining bearings shall be similarly tested for acceptance at the Contractor's expense.

When directed by the Engineer, the manufacturer shall furnish an additional bearing assembly and/or random samples of component materials used in the bearings, for testing by the Department, according to Article 1083.04 of the Standard Specifications.

Installation. The HLMR bearings shall be erected according to Article 521.05 of the Standard Specifications.

Exposed edges and other exposed portions of the structural steel plates shall be field painted as specified for Structural Steel.

Basis of Payment. This work will be paid for at the contract unit price each for HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED; HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION; or HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

When the fabrication and erection of HLMR bearings is accomplished under separate contracts, the applicable requirements of Article 505.09 shall apply.

Fabricated HLMR bearings and other materials complying with the requirements of this item, furnished and accepted, will be paid for at the contract unit price each for FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED, FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION or FURNISHING HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

Storage and care of fabricated HLMR bearings and other materials complying with the requirements of this item by the Fabrication Contractor beyond the specified storage period, will be paid for at the contract unit price per calendar day for STORAGE OF HIGH LOAD MULTI-ROTATIONAL BEARINGS if a pay item is provided for in the contract, or will be paid for according to Article 109.04 if a pay item is not provided in the contract.

HLMR bearings and other materials fabricated under this item erected according to the requirements of the specifications, and accepted, will be paid for at the contract unit price each for ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED, ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION or ERECTING HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION of the load rating specified.

ITEM 82 X6640300 CHAIN LINK FENCE REMOVAL

Description. This item of work shall conform to Section 664 of the Standard Specifications for Road and Bridge Construction except as herein modified.

Method of Measurement. The areas for the fence to be removed are as shown on the plans or as directed by the Engineer. Any costs associated with removing the existing fences or posts shall be included in this item and no compensation will be allowed. The fences shall be removed in a manner to minimize damage as much as practicable.

Basis of Payment. This work will be paid at the contract unit price per FOOT for CHAIN LINK FENCE REMOVAL. This price shall include all materials, labor and equipment to perform the work.

ITEM 83 X7010216 TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

Description: This item consists of the following items and includes a charge for failure to provide this Work.

This item includes furnishing, installing, maintaining, relocating and removing of work zone traffic control and protection. Which included signs, markings, traffic cones, drums, barricades, temporary barriers, warning lights, flaggers and other devices for regulating, warning or guiding traffic during all construction staging and special events for motorized traffic, non-motorized traffic, and pedestrians.

This item includes the establishment of all construction staging, detailed on maintenance of traffic - staging plans.

This item includes the establishment and maintenance of WB truck detour during all construction period, detailed in maintenance of traffic - detour plans.

This item includes the establishment and maintenance of CTA bus detour for CTA bus route #124 during stage 1 and stage 2, detailed in maintenance of traffic – CTA bus detour plans.

This item consists of providing and maintaining on one side sidewalk opening for pedestrians access from all emergency exit from adjacent buildings during all construction period, detailed on maintenance of traffic - staging plans.

This item also include the maintenance of permitted traffic of emergency vehicles during all construction period, detailed on maintenance of traffic – staging plans.

General Requirements: Perform work in accordance with Section 701 and Articles 107.09 and 107.14 of the Standard Specifications and applicable sections of the Supplemental Specifications and Recurring Special Provisions, guidelines contained in the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, Interim Special Provisions and any Special Details and Highway Standards contained herein and in the plans. Placement and maintenance of all traffic control devices shall be as directed by the Commissioner. The Commissioner shall be the sole judge as to the acceptability of placement and maintenance of the traffic control devices prescribed in the appropriate standards.

Care shall be taken to adhere to provisions of the City of Chicago Municipal Code Section 13-32-125 Construction Site Cleanliness. Should contractor fail to comply, they may be cited for violation of the ordinance. Erection of a chain link fence and permeable mesh fabric as specified by the ordinance will not be paid separately. This fence will be relocated as necessary to protect the current work zone. Relocation of the temporary chain link fence to work areas shall not be paid separately.

This item of work shall include furnishing, installation, maintenance, relocation and subsequent removal of all signs, signals, markings, traffic cones, barricades warning lights, flaggers, variable message sign, and other devices which are to be used for the purpose of regulating, warning or guiding traffic and maintaining pedestrian access during the construction of this improvement.

A reduction of the traffic control shown in the contract will not be allowed

The Contractor must install changeable message signs two weeks prior to any major change in traffic patterns and/or detours. When portable changeable message signs are shown on the standard, this work will not be paid for separately.

Temporary information signing necessary for detours or maintaining access and community relations as indicated in the plans and herein will not be measured separately for payment but is considered incidental to the contract.

Special attention must be given to advance guide signs during these operations in order to keep barricade placement consistent with lane assignment. The Contractor must cover all traffic control devices which may be inconsistent with traffic patterns during the transfer from one construction stage to another.

At the completion of each stage of construction or whenever operations indicate that a relocation of a proposed or existing traffic control device is advisable as determined by the Commissioner, the Contractor must remove all traffic control devices which were furnished, installed and maintained by him/her under this contract, and such devices shall remain the property of the Contractor. Any traffic control devices furnished, installed and maintained by the City will be removed by City forces and will remain the property of the City. All traffic control devices must remain in place until specific authorization for relocation or removal is received from the Commissioner.

The Commissioner will provide to the Contractor "NO PARKING AT ANY TIME - TOW ZONE" signs to be banded to all light poles or existing sign posts within the work zone, when construction is in progress.

Personal vehicles will not be permitted to park within the right of way except in specific areas designated by the Commissioner.

The Contractor must immediately furnish a certified flagger or flaggers if, in the opinion of the Commissioner, the Contractor's construction means or methods warrant. No additional compensation shall be made for flaggers. If no flaggers are available the Contractor must cease operations until they become available.

The Contractor must be aware of the requirements for coordination of all work in this project and adjoining or overlapping projects and for coordination of barricade placement necessary to provide a uniform traffic detour pattern. The Contractor will not be permitted to

erect, change or remove his/her detour barricade system without the prior approval of the Commissioner.

Maintenance of Roadways: Beginning on the date when the Contractor begins work on this project he/she shall assume responsibility for the normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Commissioner but shall not include snow removal operations.

The work involved in maintaining the existing pavement as above specified will be paid for as extra work, in accordance with Article 109.04 of the Standard Specifications. Traffic control and protection required for this work shall be considered included in the lump sum price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

Project Signs: The Contractor is required to furnish, erect, and maintain signs identifying the project subject.

Arrow Boards: A flashing arrow board meeting the requirements of Article 1106.02(H) of the Standard Specifications shall be operating at all times when a lane is closed to traffic on a multi-lane highway. Arrow boards shall be provided and located in ahead-on position within each lane closure taper. The cost of furnishing and maintaining arrow boards will be considered incidental to the Contract Lump Sum Price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

Delays to the Contractor caused by complying with these requirements will be considered incidental to the item for Traffic Control and Protection, and no additional compensation will be allowed.

Construction stage: The Contractor must establish and maintain construction pre-stage, stage 1, stage 2, and stage 3 for this project, detailed in maintenance of traffic – staging plans. Payment included in TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

WB Truck detour: The Contractor must establish and maintain the truck detour during all construction period, detailed in maintenance of traffic - detour plans. Payment included in TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

CTA bus detour: The Contractor must provide the CTA bus #124 detour during stage 1 and stage 2, in accordance with CTA and CDOT engineers/officers and detailed on maintenance of traffic – CTA bus detour plans. Payment included in TRAFFIC CONTROL AND PROTECTION, (SPECIAL).

Pedestrian Access: The Contractor must maintain pedestrian access to adjacent properties by installing ADA compliant wood frame-constructed walkways and ramps from the curb line to adjacent property entrances, and at either end of the pedestrian path as directed by the Commissioner. These ramps can be reused, if maintained in acceptable condition,

throughout the project. Pedestrian access to adjacent properties must be uninterrupted until the walk is fully restored.

The Contractor must maintain disabled person pedestrian access to crosswalks across main streets and side streets at all times via ADA compliant wood frame-constructed walkways and ramps through the work zones. These accesses must be observed and protected by the Contractor at all times, as shown on the M.O.T. plans.

Installation, maintenance and removal of necessary signs and barricades needed to direct pedestrians to usable sidewalks and walkways during the construction is incidental to this item. Contractor may provide temporary access with clean crushed stone as described in Maintenance of Access to Abutting Property in conjunction with wood ramps compliant with the ADA to provide walkways and access to abutting properties. TEMPORARY CHAIN LINK FENCE may be used to also delineate the pedestrian path in addition to being the perimeter of the construction work site, however, care must be taken to not obstruct the proposed path with fence footings.

NOTES:

- 1) Illinois Standard sign R11-1102 Sign legend "Sidewalk Closed (Arrow) Use Other Side": Size 24" x 30"; black legend on a white reflectorized background) must be placed at pedestrian crossing locations informing pedestrians of closed sidewalk sections where necessitated. Barricades shall be placed on all closed sidewalk sections.
- 2) Barricades shall be Type I or II.
- 3) Pedestrian access paths will be maintained on at least one sides of the street where possible. Full closures of sidewalk must be approved by Commissioner. At minimum, where construction activities involve sidewalks on both sides of the street, the work shall be staged so that both sidewalks are not out of service at the same time.
- 4) At each point of closure, sufficient numbers of barricades shall be used to completely close the pathway. Use one "Sidewalk Closed" sign at each end of a sidewalk section being reconstructed.
- 5) Pedestrian walkways shall be maintained free of any obstructions and hazards such as holes, debris, mud, construction equipment, stored materials, etc.
- 6) All hazards near or adjacent to walkways shall be clearly delineated.
- 7) Care shall be taken to comply with the ADA Accessibility Guidelines while providing temporary pedestrian access, including: a) at minimum a 4' wide unobstructed path and a 5' wide x 5' long area at minimum every 200', b) maintain curb ramp access to open sidewalks and c) open excavations adjacent to pedestrian access paths must be protected by barricades or fence and delineated by a continuous bottom edge at least 6" high from walkway and a continuous rail or surface (fence) at 3' above the walkway.
- 8) In accordance with the ADA guidelines, a 4' wide unobstructed sidewalk shall be maintained adjacent to the property line. Should this sidewalk be removed, replacement must be completed within 72 hours, unless otherwise directed by the Commissioner.

Submittals:

- A. Name of the individual in his/her direct employ who is to be responsible for the installation and maintenance of the traffic control for this project (see Article 701.04)
- B. The Contractor must notify the O.E.M.C. – Permit Section at 744-0330, 121 N. La Salle St., Room 905, Chicago, IL and apply for the required permits at least fourteen (14) days before commencing construction or changing traffic flow unless otherwise approved by the Commissioner.
- C. Contractor must submit a traffic control plan at the beginning of the project identifying proposed pedestrian access path, access to adjacent business and residential entrances, and delineating proposed signage to clearly define pedestrian walkways during each construction phase.

Traffic control plans must be approved by the Commissioner prior to start of work.

Method of Measurement: TRAFFIC CONTROL AND PROTECTION, (SPECIAL), which consist of the items of Traffic Control and protection as described, will be measured for payment on a lump sum basis.

Basis of Payment: This work will be paid for at the Contract Lump Sum Price for TRAFFIC CONTROL AND PROTECTION, (SPECIAL), which price shall be payment in full for all labor, materials, equipment, transportation, handling and incidentals necessary to furnish, install, maintain, removing, and disposing of all traffic control devices, materials for construction staging, truck detour, CTA bus detour, temporary access, emergency vehicles, and materials for security and weather protection required by the appropriate standards and as approved by the Commissioner.

No adjustment or additional compensation will be allowed except as specified herein. The salvage value of the materials removed shall be reflected in the bid price for this item.

Traffic control surveillance will be measured and paid for separately.

Temporary and permanent pavement markings will be measured and paid for separately. Perform these work in accordance with Section 703.

Temporary concrete barrier will be measured and paid for separately. Perform these work in accordance with Section 704.

Temporary impact attenuators will be measured and paid for separately. Perform these work in accordance with Section 706.

Removal of existing pavement markings will be measured and paid for separately. Perform these work in accordance with article 783.

Traffic control deficiencies: The following tasks are incidental to this item. Failure to complete any of the following in a timely manner will result in the CHARGE FOR TRAFFIC CONTROL DEFICIENCIES being assessed daily until adequate traffic control is provided or

the task is completed satisfactorily in the opinion of the Commissioner.

1. Pavement Removal/ Replacement: Traffic control and protection required to safely route traffic around the removed pavement until the replacement pavement has cured and is ready to be opened to traffic. This traffic control and protection must include the use of arrow boards when required. The Commissioner will be the sole judge of the need for arrow boards.
2. Pavement Removal/ Replacement: Contractor must have base course paved and cured within 60 calendar days from start of pavement removal.
3. Paving Operations: At all times when paving operations are in progress to place surface, binder and/or leveling binder on roadways open to traffic, the contractor must provide a minimum of two certified flaggers. Flaggers must be assigned exclusively to flagging duties. Additional traffic control may also be required, including but not limited to arrow boards and cones.
4. Sidewalk at Corners: At intersections, sidewalk must be replaced on corners within 10 calendar days after removal, unless otherwise approved by Commissioner.

CHARGE FOR TRAFFIC CONTROL DEFICIENCY: To ensure a prompt response to incidents involving the integrity of the work zone traffic control devices, the Contractor must provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis.

When the Commissioner is notified or determines a deficiency exists, in Traffic Control, Maintenance of Access to Abutting Property, Security and Weather protection, or pedestrian access/safety, (s)he will be the sole judge as to whether the deficiency is an immediate safety hazard. The Contractor must dispatch sufficient resources within 2 hours of notification to make needed corrections of deficiencies that constitute an immediate safety hazard. Other deficiencies shall be corrected within 12 hours. If the Contractor fails to restore the required traffic control and protection within the time limits specified above, the Commissioner will impose a daily monetary deduction for each 24-hour period (or portion thereof) the deficiency exists. This time period will begin with the time of notification to the Contractor and end with the Commissioner's acceptance of the corrections. For this project, the daily deduction will be **\$1,000** per calendar day. For those deficiencies where corrective action was not an option, this monetary deduction will be immediate.

In addition, if the Contractor fails to respond, the Commissioner may correct the deficiencies and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities. In addition any work performed by the Contractor within the work zone that presents a hazard to vehicular or pedestrian traffic shall be subject to charges for TRAFFIC CONTROL DEFICIENCY. Debris removal, fly dumping, proper access to abutting property, timely and correct placement of short term, temporary and permanent pavement markings, along with all items of work contained within this item are also subject to this charge.

ITEM 84 Z0004556 HOT-MIX ASPHALT SURFACE REMOVAL (DECK)

This work shall consist of hot-mix asphalt surface removal on an existing bridge deck.

Construction Requirements: Sidewalks, curbs, drains, reinforcement and/or existing transverse and longitudinal joints which are to remain in place shall be protected from damage during removal and cleaning operations.

The hot-mix asphalt surface course and all waterproofing membrane shall be removed and disposed of according to applicable portions of Articles 440.04 and 440.06. Removal of the hot-mix asphalt surface by the use of radiant or direct heat will not be permitted.

Method of Measurement.

Hot-mix asphalt surface removal will be measured for payment and computed in square yards (square meters).

Basis of Payment.

The hot-mix asphalt surface removal will be paid for at the contract unit price per square yard (square meter) for HOT-MIX ASPHALT SURFACE REMOVAL (DECK).

ITEM 85 Z0013798 CONSTRUCTION LAYOUT

Description. The Contractor shall furnish and place construction layout stakes for this project. The Department will provide adequate reference points to the centerline of survey and bench marks as shown in the plans and listed herein. Any additional control points set by the Department will be identified in the field to the Contractor and all field notes will be kept in the office of the Resident Engineer.

The Contractor shall provide field forces, equipment, and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal or vertical controls, including supplementary bench marks, necessary to secure a correct layout of the work. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 50 ft (15 m)) to assure substantial conformance to plan line and grade. The Contractor will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract nor to determine property lines between private properties.

The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Department Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset when any are damaged, lost, displaced, removed, or otherwise obliterated.

Responsibility of the Department.

- (a) The Department will locate and reference the centerline of all roads and streets, except interchange ramps. The centerline of private entrances and short street intersection returns may not be located or referenced by the Department.

Locating and referencing the centerline of survey will consist of establishing and referencing the control points of the centerline of surveys such as PC's, PT's and as many POT's as are necessary to provide a line of sight.

- (b) Bench marks will be established along the project outside of construction lines not exceeding 1000 ft (300 m) intervals horizontally and 20 ft (6 m) vertically.
- (c) Stakes set for (a) and (b) above will be identified in the field to the Contractor.
- (d) The Department will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. Where the Contractor's work will tie

into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.

- (e) The Department will set all stakes for utility adjustments and for building fences along the right-of-way line by parties other than the Contractor.
- (f) The Department will make all measurements and take all cross sections from which the various pay items will be measured.
- (g) Where the Contractor, in setting construction stakes, discovers discrepancies, the Department will check to determine their nature and make whatever revisions are necessary in the plans, including the recross sectioning of the area involved. Any additional restaking required by the Engineer will be the responsibility of the Contractor. The additional restaking done by the Contractor will be paid for according to Article 109.04 of the Standard Specifications.
- (h) The Department will accept responsibility for the accuracy of the initial control points as provided herein.
- (i) It is not the responsibility of the Department, except as provided herein, to check the correctness of the Contractor's stakes; any errors apparent will be immediately called to the Contractor's attention and s(he) shall make the necessary correction before the stakes are used for construction purposes.
- (j) Where the plan quantities for excavation are to be used as the final pay quantities, the Department will make sufficient checks to determine if the work has been completed in conformance with the plan cross sections.

Responsibility of the Contractor.

- (a) The Contractor shall establish from the given survey points and bench marks all the control points necessary to construct the individual project elements. S(he) shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to, line and grade stakes, line and grade nails in form work, and/or filed or etched marks in substantially completed construction work. It is the Contractor's responsibility to tie in centerline control points in order to preserve them during construction operations.
- (b) At the completion of the grading operations, the Contractor shall set stakes at 100 ft (25 m) Station intervals along each profile grade line. These stakes will be used for final cross sectioning by the Department.

- (c) The Contractor shall locate the right-of-way points for the installation of right-of-way markers. The Contractor shall set all line stakes for the construction of fences by the Contractor.
- (d) All work shall be according to normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Department at the completion of the project. All notes shall be neat, orderly and in accepted form.
- (e) For highway structure staking, the Contractor shall use diligent care and appropriate accuracy. Points shall be positioned to allow reuse throughout the construction process. Prior to the beginning of construction activities, all structure centerlines and pier lines are to be established by the Contractor and checked by the Engineer. The Contractor shall provide a detailed structure layout drawing showing span dimensions, staking lines and offset distances.

Measurement and Payment. This work will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT.

ITEM 86 Z0018800 DRAINAGE SYSTEM

Effective: June 10, 1994

Revised: June 24, 2015

Description. This work shall consist of furnishing and installing a bridge drainage system as shown on the plans, including all piping, fittings, support brackets, inserts, bolts, and splash blocks when specified.

Material. The pipe and fittings shall be reinforced fiberglass according to ASTM D 2996 RTRP with a 30,000 psi (207 MPa) minimum short-time rupture strength hoop tensile stress. The reinforced fiberglass shall also have an apparent stiffness factor at 5 percent deflection exceeding 200 cu in.-lbf/sq. in. (22.6 cu mm-kPa) and a minimum wall thickness of 0.10 in. (2.54 mm). The adhesive for joining pipe and fittings shall be as recommended by the manufacturer. All pipe supports and associated hardware shall be hot dip galvanized according to AASHTO M 232 (M 232M). The fiberglass pipe and fittings furnished shall be pigmented through out, or have a resin-rich pigmented exterior coat, specifically designed for overcoating fiberglass, as recommended by the manufacturer. The color shall be as specified by the Engineer. The resin in either case shall have an ultraviolet absorber designed to prevent ultraviolet degradation. The ultraviolet protection shall be designed to withstand a minimum of 2,500 hours of accelerated weathering when tested in conformance with the requirements in ASTM Designation: G 154. Lamps shall be UV-8 (313 nm wavelength). The resting cycle shall be 4 hours of ultraviolet exposure at 140°F (60°C), and then 4 hours of condensate exposure at 120°F (49°C). After testing, the surface of the pipe shall exhibit no fiber exposure, crazing, or checking, and only a slight chalking or color change. The supplier shall certify the material supplied meets or exceeds these requirements.

Design. The drainage system shall be designed as an open system with allowances for the differential expansion and contraction expected between the superstructure and the substructure to which the drainage system is attached.

Installation. All connections of pipes and fittings shown on the plans to facilitate future removal for maintenance cleanout or flushing shall be made with a threaded, gasketed coupler or a bolted gasketed flange system. Adhesive bonded joints will be permitted for runs of pipe between such connections. The end run connection shall feature a minimum nominal 6 in. (150 mm) female threaded fiberglass outlet. Straight runs may utilize a 45 degree reducing saddle bonded to the pipe. The female outlet shall be filled with a male threaded PVC plug.

Runs of pipe shall be supported at spacings not exceeding those recommended by the manufacturer of the pipe. Supports that have point contact or narrow supporting areas shall be avoided. Standard slings, clamps, clevis hangers and shoe supports designed for use with steel pipe may be used. A minimum strap width for hangers shall be 1 1/2 in. (40 mm) for all pipe under 12 in. (300 mm) in diameter and 2 in. (50 mm) for diameters 12 in.

(300 mm) or greater. Straps shall have 120 degrees of contact with the pipe. Pipes supported on less than 120 degrees of contact shall have a split fiberglass pipe protective sleeve bonded in place with adhesive.

All reinforced fiberglass pipe, fittings, and expansion joints shall be handled and installed according to guidelines and procedures recommended by the manufacturer or supplier of the material.

Basis of Payment. This work will be paid for at the contract lump sum price for DRAINAGE SYSTEM.

ITEM 87 Z0021904 SILICONE BRIDGE JOINT SEALER, 1”

Effective: August 1, 1995
Revised: October 15, 2011

Description. This work shall consist of furnishing all labor, equipment and materials necessary to install the silicone joint sealer as shown on the plans and as specified herein.

When specified, a polymer concrete nosing compatible with the silicone sealant as required by the sealant manufacturer shall be installed. The minimum dimensions for a polymer concrete nosing cross section are 1 1/2 in. (40 mm) deep by 3 1/2 in. (90 mm) wide. The polymer concrete shall be furnished and installed according to the Special Provision for "Polymer Concrete".

Materials:

- (a) Silicone Joint Sealer. The silicone joint sealer shall cure in less than one week, and shall accommodate typical bridge movements and traffic within 8 hours. The sealant shall be self-leveling, cold applied, and two component. The sealant, upon curing, shall demonstrate resilience, flexibility and resistance to moisture and puncture. The sealant shall also demonstrate excellent adhesion to portland cement concrete, polymer concrete and steel over a range of temperatures from -30 to 130°F (-34 to 54°C) while maintaining a watertight seal. The sealant shall not contain any solvents or diluents that cause shrinkage or expansion during curing. In addition, acid cure sealants will not be permitted. The date of manufacture shall be provided with each lot. Materials twelve months old or older from the date of manufacture will not be accepted. The manufacturer shall certify that the sealant meets or exceeds the following test requirements before installation begins. The Department reserves the right to test representative samples from material proposed for use.

Physical Properties:

Each component as supplied:

Specific Gravity (ASTM D 1475)	1.2-1.4
Extrusion Rate (ASTM C 1183)	200 - 600 grams per minute

Durometer Hardness, "00" (ASTM C 661) (32°F and 77 ± 3°F (0° and 25°C ± 1°C))	40-80
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Accelerated Weathering (ASTM C 793)	No chalking, cracking or bond loss after 5,000 hours.
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After Mixing:

Tack Free Time (ASTM C 679)	60 minutes max.
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<u>Upon Complete Cure:</u> (ASTM D 5329)	
Joint Elongation (Tensile Adhesion)	600% min
Joint Modulus	3-15 psi (21-103 kPa) @ 100% elongation

¹Modified; Sample cured 7 days at 77 ± 2°F (25±1°C) 50 ± 5% relative humidity

(b) Backer Rod. The backer rod shall conform to ASTM D 5249, Type 3.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall furnish the Engineer with the manufacturer's product information and installation procedures at least two weeks prior to installation.

When placing the silicone against concrete, the concrete surface shall be dry. For newly placed concrete, the concrete shall be fully cured and allowed to dry out a minimum of seven additional days prior to placement of the silicone. Cold, wet, inclement weather will require an extended drying time.

(a) Surface Preparation:

(1) Sandblasting. Both faces of the joint shall be sandblasted. A separate pass for each face for the full length of the joint and to the design depth of the center of the backer rod will be required. The nozzle shall be held at an angle of 30-90 degrees to the joint face, at a distance of 1 – 2 in. (25-50 mm).

For portland cement concrete and polymer concrete surfaces, sandblasting will be considered acceptable when both joint faces have a roughened surface with clean, exposed aggregate. The surface shall be free of foreign matter or plastic residue.

For steel surfaces, sandblasting will be considered acceptable when the steel surfaces have been cleaned to an SSPC-SP10 degree of cleanliness.

After sandblasting is completed, the joint shall be cleaned of debris using compressed air with a minimum pressure of 90 psi (620 kPa). The air compressor shall be equipped with traps to prevent the inclusion of water and/or oil in the air line.

(2) Priming. Priming shall be according to the manufacturer's instructions. This operation will immediately follow sandblasting and cleaning, and will only be permitted to proceed when the air and substrate temperatures are at least 41°F (5°C) and rising. Sandblasting, priming and sealing shall be performed on the same day. Surfaces to be

primed shall be primed using a brush applied primer. For steel surfaces, when specified per the manufacturer's instructions, the primer shall be allowed to cure before proceeding. The minimum cure time shall be extended according to the manufacturer's recommendations when the substrate temperature is below 60°F (15°C).

The primer shall be supplied in original containers and shall have a "use-by" date clearly marked on them. Only primer, freshly poured from the original container into clean pails will be permitted. The primer shall be used immediately. All primer left in the pail after priming shall be disposed of and shall not be reused.

(b) Joint Installation:

- (1) Backer Rod Placement. The backer rod shall be installed to a uniform depth as specified on the plans and as recommended by the manufacturer. All splices in the backer rod shall be taped to prevent material loss during sealing. The backer rod shall be installed to within 1/8 in. (3 mm) tolerance prior to sealing.
- (2) Sealant Placement. The sealant shall be 1/2 in. (13 mm) thick within $\pm 1/8$ in. (3 mm) tolerance as measured in the center of the joint at the thinnest point. The sealant thickness shall be measured during installation every ± 2 ft. (± 600 mm). Adjustments to correct sealant thickness to within tolerance shall be made immediately before the sealant begins to set up. Sealant placement will only be permitted when the air and substrate temperatures are above 41°F (5°C) and 5°F (2.8°C) above the dew point. The joint shall be kept clean and dry during sealing. If the joint becomes wet and/or dirty during sealing, the operation shall stop until the joint has been restored to a clean and dry state.

Sealing shall be performed using a pneumatic gun approved by the sealant manufacturer. Prior to sealing, the gun shall be inspected to insure that it is in proper working order and that it is being operated at the recommended air pressure.

The gun shall demonstrate proper mixing action before sealant is placed in the joint. All unmixed sealant found in the joint shall be removed and replaced.

After the Engineer has determined that the pneumatic gun is functioning properly, the joint shall be sealed to the thickness and depth as shown on the plans. The sealant shall achieve initial set before opening the joint to traffic.

End of seal treatment at vertical faces of curbs, sidewalks or parapets shall be as recommended by the manufacturer and as shown on the plans.

Sealant placed incorrectly shall be removed and replaced by the Contractor.

- (3) **Field Testing.** A minimum of one joint per bridge per joint configuration will be tested by the Engineer by performing a "Pull Test". The sealant shall cure for a minimum of 24 hours before testing. The locations for the tests will be determined by the Engineer. The tests will be performed per the manufacturer's instructions. As part of the test, the depth and thickness of the sealant will be verified. All joint system installations failing to meet the specifications shall be removed and replaced, by the Contractor, to the satisfaction of the Engineer. In addition, the Pull Test is a destructive test; the Contractor shall repair the joint after completion of the test per the manufacturer's instructions.

Method of Measurement. The installed joint sealer will be measured in feet (meters) along the centerline of the joint.

Basis of Payment. The silicone joint sealer measured as specified will be paid for at the contract unit price per foot (meter) for SILICONE JOINT SEALER, of the size specified. When a polymer concrete nosing is specified it shall not be included in this item but will be paid for according to the Special Provision for "Polymer Concrete".

ITEM 88 Z0031200 JACKING AND CRIBBING

Description: This item shall consist of furnishing all material, equipment and labor for installation and subsequent removal of jacking support systems complete, including jacks, support beams, shims and all necessary cribbing to be used while performing the repairs as detailed on the plans.

Construction Requirements: Traffic shall be removed from the portion of the structure to be jacked prior to commencing jacking operations. Traffic shall be kept off that portion of the structure during the jacking operations and until the structure is fully cribbed. The superstructure shall be raised in such a manner as to avoid distortion or damage to any of its members. Differential jacking height shall not exceed 1/8 inch transversely between adjacent beams or 1/4 inch longitudinally between adjacent supports. The actual raising of the superstructure shall be kept to the minimum height required to complete the repairs, as shown on the plans.

Jacking and cribbing details with calculations shall be submitted to the Engineer for approval prior to starting any jacking procedures. The Contractor's jacking plans shall be prepared and sealed by an Illinois Licensed Structural Engineer. The Engineer shall be present during the jacking operation and the jacking sequence shall meet with his approval. The Engineer's presence or approval shall not relieve the Contractor of responsibility for the safety of the operation or for damage to the structure. The Jacking and Cribbing system shall be designed to carry the Dead Load plus full (Live Load + Imp) as shown in the plans. Additionally other work on this contract may require the use of concrete trucks that exceed the live load shown on the plans. If this occurs, the Structural Engineer shall work with the Contractor to determine the live load to be used in the design of the jacking and cribbing operation. The Jacking and Cribbing system shall be designed to carry the greater of the live load shown on the plans and the live load required to complete the work.

At any time during the bridge raising operations, the Engineer may require the Contractor to provide additional supports or measures in order to furnish an added degree of safety. The Contractor shall provide such additional supports or measures at no extra cost to the Department.

The Contractor shall be responsible for restoring to their original condition, prior to jacking, the drainage, pavement, or utilities disturbed by the cribbing footings.

The Contractor shall assume all responsibility and be liable for any damage caused by improper supports for shoring in all cases and for any damage to existing utility conduits suspended under the bridge. Neither added precautions nor the failure of the Engineer to

order additional protection will in any way relieve the Contractor of sole responsibility for the safety of lives, equipment and structure..

Method of Measurement: The unit of measurement will be each, for each location jacking and cribbing is required to be installed.

Basis of Payment: This work, as herein specified, will be paid for at the contract price each for JACKING AND CRIBBING at the locations specified, which price shall be payment for all work and materials required at each location.

ITEM 89 Z0076600 TRAINEES

Description. This item shall consist of the work done by the Contractor in locating, qualifying and increasing the skills of minority group employees and applicants for employment; providing and making training programs such as pre-apprenticeship, apprenticeship, and/or on-the-job training programs available; in advising employees and applicants of such programs; in periodically reviewing the training and promotion potential of minority group employees and encouraging employees to apply for such training and promotion.

All work shall be in accordance with the requirements of Special Provision (BDE No. 20338) "Training Special Provisions" contained in Part 1 of Detail Specifications.

Method of Measurement. the unit measurement is the actual hours worked by the trainee. For every 500 hours indicated, the Contractor shall supply a minimum of one (1) trainee.

Basis of Payment. This work will be paid at the contract unit price of 80 cents per hour for TRAINEES. The estimated total hours, unit prices and total price have been included in the Schedule of Prices.

ITEM 90 *** STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)**

Description: Work under these items shall be performed according to Section 550 of the Standard Specifications and the current City of Chicago Department of Water Management (DWM) Regulations for Sewer Construction and Storm water Management and DWM Standard Specifications for Water and Sewer Main Construction, except as herein modified.

This work shall consist of constructing storm sewers at locations designated by the Commissioner, including any dewatering, sheeting and/or shoring required to perform the work as specified.

Materials: Materials shall be per the most current DWM Standard Specifications for Water and Sewer Main Construction:

Construction Requirements: Where a ductile iron pipe to be connected to a proposed downspout Fiberglass 6" ID, ductile iron pipe a manufactured Y or T branch pipe shall not be installed in the sewer at this junction. The locations of connection to proposed downspout Fiberglass 6" ID should be 1 foot above the proposed concrete surface, accordance with structure drainage system for connection.

All ductile iron pipe must be encased in 4-mil, cross-laminated, high density polyethylene tubing meeting the requirements of AWWA C105.

Where under building structures, or the sewer size is less than 24 inches, or less than three feet of cover exists, use ductile iron pipe.

Where a sewer and waterline have less than 10 feet of horizontal clearance, or the sewer is less than 18 inches below the waterline, use ductile iron pipe.

QC/QA Requirements: The Contractor must provide a Manufacturer's written certification that the materials comply with these specifications.

Inspection and Acceptance

All sewers and sewer structures must be inspected by the Department of Sewers prior to the final payment to the Contractor. In conjunction with these sewer inspections, the Contractor must furnish a videotape of a televised inspection of the interior of all main line sewer constructed and the existing main line sewer connected to under this contract. Record the videotape under the supervision of the Commissioner. The cost of producing and furnishing the video tape will be incidental to the STORM SEWER items(s) of the contract. Perform 2 sessions of videotaping of the sewer: 1) before construction and 2) prior to the placement of final wearing surface. The name, phone number, and contact person of the firm which will be performing the videotaping of the sewer must be provided by the Contractor at the pre-construction meeting. Clean all sewers prior to videotaping. The final acceptance of the sewer shall be based on the sewer videotape. All deficiencies exposed on the videotape must be corrected by the Contractor within 30 calendar days of

notification.

All costs incurred by the Contractor to make the required repairs are to be borne solely by the Contractor. Pavement removal, if required, must be in full panel sections and pavement anchors will be required for pavement restoration. The Contractor is required to re-videotape the sewer to verify that the deficiencies noted on any previous videotape have been corrected to the satisfaction of the Chicago Department of Sewers. All costs to re-videotape the sewer, regardless of the number of times required, will be borne solely by the Contractor. Every effort is to be made by the Contractor to correct all deficiencies prior to the placement of the final wearing surface. If, in the opinion of the Commissioner, the Contractor has delayed in submitting the videotape, the placement of the final wearing surface may be suspended. No time extension will be granted due to this suspension and the Commissioner will be sole judge as to any delays. Include location maps, legends and descriptions on all videotape submittals. 2 copies of each submittal are required.

Method of Measurement: This work will be measured for payment in place per foot. When a proposed sewer is to be placed at the same location of an existing sewer, the removal of the existing sewer will not be measured for payment in this work. Televising and inspection of sewers will not be measured separately for payment and is considered incidental to the work.

Basis of Payment: This work will be paid for at the contract unit price per foot for the STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE).

ITEM 91 *** REMOVE SIGN PANEL AND SALVAGE**

ITEM 92 *** REMOVE SIGN ASSEMBLY AND SALVAGE**

Description: Work under these items consists of removing existing Sign Panels from light poles, traffic signal posts, traffic signal mast arms, and sign assemblies. Sign Assemblies consist of poles in ground, base mounted poles on the sidewalk, embedded poles in concrete, the mounted sign panels, sleeves, wedges, bases and other associated hardware. The contractor will dispose of all salvaged Sign Panels and Sign Assemblies by delivering to the Bureau of Signs and Markings, 3458 South Lawndale Avenue, Chicago, Illinois 60623. The Contractor must contact the Bureau at (312) 747-2210 at least 24 hours in advance to arrange delivery of salvaged Sign Panels, Sign Assemblies. The Contractor will obtain a receipt for all the delivered Sign Panels and Sign Panel and Pole Assemblies from the Superintendent of Signs Division and submit the same to the Resident Engineer on a regular basis. All removal work shall be performed in accordance with Section 724 of Standard Specifications.

In the case of removal of a pole installed in a parkway that is not going to be replaced with a new pole at the same location, the Contractor will fill and compact the hole with an approved fill material such as FA-2 at no additional cost to the City.

In the case of removal of base mounted poles installed in existing sidewalk that won't be replaced, the extruding bolts will be sawed flush to the sidewalk surface immediately. The cost of sawing the bolts is incidental to the cost of REMOVE SIGN ASSEMBLY AND SALVAGE.

In the case of removal of poles embedded in sidewalk, the pole shall be sawed flush to the sidewalk surface and grouted with approved materials to close the open pipe. The cost of installing grout is incidental to the cost of the item REMOVE SIGN ASSEMBLY AND SALVAGE.

Method of Measurement: REMOVE SIGN PANEL AND SALVAGE, and REMOVE SIGN ASSEMBLY AND SALVAGE will be measured for payment on the basis of each item removed and salvaged.

Basis of Payment: REMOVE SIGN PANEL AND SALVAGE, and REMOVE SIGN ASSEMBLY AND SALVAGE will be paid for at the contract unit price per each.

- ITEM 93** ******* SIGN PANEL – TYPE 1 – RETROREFLECTIVE – TYPE A - SINGLE SIDED**
- ITEM 94** ******* SIGN PANEL – TYPE 1 – NON-RETROREFLECTIVE – TYPE A – SINGLE SIDED**
- ITEM 95** ******* SIGN PANEL - TYPE 1 – RETROREFLECTIVE – TYPE A - DOUBLE SIDED**
- ITEM 96** ******* SIGN PANEL - TYPE 1 – NON-RETROREFLECTIVE – TYPE A - DOUBLE SIDED**

Description: Work consists of furnishing and/or fabricating reflectorized and non-reflectorized sign panels complete with sign faces, legend, and supplemental panels, and installing them on previously erected sign support(s), sign structures, traffic signal poles, traffic signal mast arms, light poles, columns, piers, or bridges.

Work must be performed in accordance with the requirements of Section 720 of the Standard Specifications and the latest version of the City of Chicago Department of Transportation (CDOT) Field Manual for Sign Installation. Standard traffic signs designated by letters and numbers must be according to the Manual on Uniform Traffic Control Devices (MUTCD). Non-standard signs must be according to the CDOT Field Manual for Sign Installation and Detailed Drawings.

Submittals:

- A. Shop Drawings: Fabrication shop drawings showing full size sign layout, color, message (including "City of Chicago" logo and date of sign fabrication), graphics and proposed materials for each sign assembly, including poles, bases and hardware, must be submitted for approval prior to start of fabrication. Similar sign types that have the same sizes, colors, symbols and text layout must be submitted using one full size sign layout. Note: The message "City of Chicago XX", where XX represents the last two digits of the calendar year of sign manufacture, must be screened on all signs furnished under this contract. For stock items, submit manufacturer's catalog sheets for approval before shipping the order.
- B. Materials:
1. Aluminum: Mill Certifications, Samples
 2. Powder Coating: Test Data; Sample; Manufacturer's Certification that material complies with the required specifications.
 3. Sign Face Material: Test Data; Samples; Manufacturer's Certification that material complies with the required specifications. Test Data must be gathered by an independent agency, such as AASHTO's National Transportation Product Evaluation Program (NTPEP). Test data must cover retroreflective sheeting and process inks and/or overlay films manufactured by the sheeting manufacturer in standard traffic colors.

- C. Samples: Submit one sample for each sign type.
- D. Material Acceptance: The Contractor must provide a Manufacturer's written certification that the material complies with these specifications.
- E. Maintenance Instructions: Submit manufacturer's printed instructions for maintenance of each product, coating and film, including precautions for use of cleaning materials and solvents for paint removal which could damage specified materials.

Method of Measurement: The Sign Panels will be measured for payment in square feet of furnished and delivered sign panel. The area used for measurement will be the area of the smallest rectangle that will circumscribe each individual sign panel measured from edge to edge (horizontally and vertically). Double sided signs will be measured by the overall dimension of the complete panel, and not per face. Work will include all labor and materials necessary to install the sign. Mounting hardware and appurtenances are included in the work and will not be measured separately for payment.

Basis of Payment: This work will be paid for at the Contract Unit Price per square foot of SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - SINGLE SIDED and SIGN PANEL - TYPE 1 - NON-RETROREFLECTIVE - TYPE A - SINGLE SIDED and SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - DOUBLE SIDED and SIGN PANEL - TYPE 1 - NON-RETROREFLECTIVE - TYPE A - DOUBLE SIDED for a fabricated, furnished and delivered sign.

ITEM 97 *** FURNISH AND INSTALL POLE AND BASE**

Description: This work consists of furnishing sign poles of various lengths and installation either by dig method or drill method as shown on the Contract Drawings. The poles installed using dig method shall be 11 feet and 6 inches in length and the poles installed using drill method shall be 10 feet and 6 inches in length (minimum 7 feet clearance to bottom of sign). The cost of wedges, sleeves, pole bases and all other required hardware to install poles is incidental to the cost of items.

Sign Poles:

Materials: The material for the poles furnished must be hollow steel tubes, 2 - 3/8 inches outside diameter, conforming to ASTM A500 Grade B and coated for resistance to corrosion and outdoor weathering. Nominal wall thickness of pole must be 0.08". The sign pole must be formed to the size and type specified in the Contract Drawings. Holes must be drilled prior to coating to prevent indentations and dimples in the poles.

Finish: The poles must be galvanized, straight and have a smooth, black, uniform powder coating finish as specified below. The interior of the sign poles must be coated with a minimum of an 81% zinc rich primer. The exterior of the poles must be galvanized with material conforming to AASHTO M 120 with a minimum weight of 1.00 ounces per square foot. The weight of the exterior galvanizing may be reduced to 0.65 ounces per square foot of High Grade material conforming to AASHTO M120 if applied with a chromate conversion coating and a clear high performance organic polymer coating. Powder coating of the poles and extensions must meet the following requirements:

Color:	Vulcan Black Polyester
Product No.:	PFB-401-S6
Cure:	400F-18 minutes PMT
Resin type:	Polyester
Gloss:	Medium

Pretreatment Process:

Cleaning: All parts must be cleaned utilizing spray washers and an alkaline cleaner to remove any remaining grease, dirt, or other contaminants.

Rinsing: All parts must be spray rinsed in a continuously overflowing rinse stage to remove any remaining cleaning solution.

Phosphating: All parts must be spray phosphated in a heated phosphate solution to provide a transition coating between metal and powder.

Rinse: All parts must be spray rinsed in a continuously overflowing rinse stage to remove any remaining phosphate / sealant solution.

Powder Coating Process:

Drying: All parts must be preheated to totally eliminate moisture and prevent offgassing of

casting.

Powder Coating: A premium TGIC polyester powder must be Electrostatically applied to provide a uniform coating to a thickness of 1-3 mils (1 mil minimum). To achieve proper mil thickness, the powder must be applied with one application. The vendor must be responsible for ensuring proper adhesion to the metal surface.

Curing: All parts must be heated to the exact time and temperature requirements, recommended by the powder coat material manufacturer, in precisely controlled gas ovens.

Sleeve and Locking Wedge:

Pole Sleeve (pipe socket): Material must be hollow steel tubes conforming to ASTM A500 Grade B or ASTM A501, and galvanized according to AASHTO M111, nominal wall thickness of .109", 2-5/8 inch inside diameter that allows for a minimum of 13-1/4 " of sign pole to nest inside the sleeve. The overall length must be 27".

Locking Wedge: Material shall be 11 gauge steel tube conforming to ASTM A500 Grade B or ASTM A501 and galvanized according to AASHTO M111. The locking wedge shall be contoured to fit between the steel pole and the 27-inch sleeve.

Sign Pole Base:

The sign pole base furnished under this contract includes a carriage bolt, tamper-resistant nuts, and anchor bolts with nuts. The finished casting must be free from burrs, cracks, voids, or other defects.

Support Base: Twelve-inch diameter, aluminum -zinc alloy casting per ASTM A197. The casting must have the words "City of Chicago" cast in relief.

Bolt washers and nut: Stainless steel as specified in Article 1006.31(a) of the Standard Specifications. Include a 1" x 4-1/2" carriage bolt with two 1" flat washers and a 1" x 13 full height hex nylon locknut.

Anchor Bolt: Galvanized steel expansion anchors conforming to Article 1006.09 of the Standard Specifications. Suggested manufacturer Red Head #1236 (2"x 3-3/4"). Furnish three per each sign base provided.

Finish: Powder coat to minimum 1 mil thickness with satin black polyester finish.

Submittals:

Shop Drawings: Fabrication shop drawings showing the full size layout, color, and proposed materials for poles, bases, and hardware must be submitted for approval prior to start of fabrication.

Poles: Mill certification, samples of each size of finished pole and extension. Locking wedge and sleeve: Samples of each item.

Cast Aluminum Base: Mill Certifications.

Powder Coating: Test Data; Sample; Manufacturer's Certification that material complies with the required specifications.

Galvanizing: Manufacturer's Certification for compliance with these specifications.
Stainless steel bolts and nuts, anchor bolts: sample, product data sheet.

Material Acceptance: The Contractor must provide a Manufacturer's written certification that the material complies with these specifications.

Installation: All installation shall be performed in accordance with Article 720.04 of the Standard Specifications or as directed by the Commissioner.

Drill Method: The base will be secured to the concrete surface by steel expansion anchors and must be leveled by using stainless steel washers as shims at the anchor bolt locations and under the base castings. The sign pole will be installed into the cast iron base and locked in place with a carriage bolt with two flat washers and a nylon lock nut. The holes at the top of the sign pole must be aligned such that the sign to be installed will properly face the flow of traffic.

Sign poles will be installed 18" from back of curb unless otherwise specified. Poles for transportation stops, e.g. bus, taxi, tour bus, or tour boat stops, must be installed 24" from the back of the curb unless otherwise noted.

Dig Method: To install a sign pole by dig method, the Contractor will first drive a base sleeve to a level with the top of the sleeve near flush to the ground. The sign pole will then be inserted into the sleeve and raised to a level with the bottom of the pole 10 to 12 inches below the ground. The sign pole will then be locked in place by driving a locking wedge between the sign pole and the base sleeve. Note: Pipe sleeve and wedge shall not be bolted together. The holes at the top of the sign pole will be properly aligned such that the sign to be installed will properly face the flow of traffic.

Warranty: Warranty must be as referenced in Book 1. A manufacturer's warranty should be valid for 5 years. The warranty period will begin on the date of Final Punch List Completion and Acceptance of the work.

Method of Measurement: FURNISH AND INSTALL POLES AND BASE will be measured on the basis of each pole furnished and installed under the specified method.

Basis of Payment: FURNISH AND INSTALL POLE AND BASE will be paid for at the Contract Unit Price per each, which prices shall include the cost of poles, all sleeves, locking wedges, bases and all other required hardware to complete the installation of poles.

ITEM 98 *** DRILL AND GROUT BARS (EPOXY COATED)**

Description. This work consists of furnishing and installing #4 or #5 epoxy coated dowel bars or epoxy coated tie bars in existing Portland Cement Concrete (P.C.C.) bases where new P.C.C. Curbs and Gutters, new P.C.C. Bases and pavement patches are poured against existing P.C.C. Bases, and for interfaces between proposed P.C.C. structural slabs or retaining walls and existing walls or beams at locations shown on the Plans and as designated by the Commissioner.

General Requirements. Perform work in accordance to Sections 442, 420, and Division 1000 of the Standard Specifications, except as herein modified. Materials for #4 or #5 dowel bars shall meet the requirements of Article 1006.06 of the Standard Specifications for Dowel Rods and Article 1024.01 of the Standard Specifications for Non-shrink Grout or one of the approved chemical adhesives as listed by the Bureau of Materials and Physical Research. Epoxy adhesive shall not be allowed.

Bars shall be located as indicated on the plans. Individual bar locations shall be shifted at least 5 inches away from existing cracks, joints and unsound concrete.

Holes for dowel bars shall be drilled with suitable equipment for this purpose to the depth shown and to a diameter large enough to allow grouting around the dowel bar or tie bar. The dowel bars or tie bar shall be secured in the drilled holes with non-shrink grout. The grout shall be allowed to cure before the concrete for new structural slabs, retaining walls, curbs and gutters and bases are poured.

Method of Measurement. This work is to be measured per each basis.

Basis of Payment. This work will be paid for at the Contract Unit Price per each for DRILL AND GROUT BARS (EPOXY COATED), which price shall include the cost of all labor, equipment, and materials, including Dowel Bars, Tie Bars and non-shrink grout and all other work or material required to complete the work as specified.

ITEM 99 *** ADJUST FRAME AND LID**

Description: This item will consist of adjusting or replacing an existing or new 24 inch or 30 inch frame and lid for an existing manhole or handhole to the new or existing grade. The existing manhole or handhole may be in the street, in the sidewalk, or in the parkway.

Material: The 24 inch frame and lid must be as shown in Standard Drawing 872. All frames and lids must conform to Material Specification 1458. Bricks must meet the requirements of Article 1041 of the Standard Specifications.

Installation: Pavement, sidewalk, and dirt must be removed to the extent necessary to adjust the frame. Material must be disposed of according to the requirements of Section 202.03 of the Standard Specifications. Mortar and brick, or mortar and concrete rings, must be used to adjust to the proper grade. With the approval of the Resident Engineer, the contractor may use precast adjusting rings. Adjustment rings, bricks, and frames are to be set in a full mortar bed. Mortar must be mixed in a proportion of one (1) part cement to three (3) parts sand by volume of dry mix. The interior of the adjustment must be smooth. Use of partial bricks will not be allowed. Bricks must be laid in full header courses only. In no instance will the neck of the manhole or handhole exceed two (2) feet in depth.

The pavement, sidewalk, or parkway must be restored to the proper grade after adjustment. Patching of pavement around a structure must be with high early strength concrete meeting the requirements of Articles 1001 and 1020 of the Standard Specifications. The bituminous concrete layer must be properly restored. Sidewalk must be replaced to the nearest full slab, or expansion joint, and must be a minimum of 5 inches in thickness. Parkways must be properly backfilled and topped with appropriate soil material.

Method of Measurement: The work will be measured on a per each basis.

Basis of Payment: This work will be paid for at the contract unit price per each unit for ADJUST FRAME AND LID. All excavation and restoration, as well as bricks, concrete, mortar, backfill, soil, disposal of surplus excavated material, reinforcement bars, frames and lids, etcetera will be included in the unit price.

Material Specification
1458

Drawing
872

ITEM 100 *** CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED,
1 PHASE, 100 AMP**

Description: This work shall consist of furnishing and installing an underpass lighting controller with aluminum cabinet containing various electro-mechanical devices to automatically control energizing and de-energizing of street lighting circuits, and to provide protection for the equipment so controlled. The controller will be mounted on a bridge abutment wall or as shown on the plans.

Installation: The installation of feeder cables and branch circuit cables shall be performed in a neat and workmanlike manner with all cable trained around the cabinet, secured to the proper terminals and identified either by tagging of the cables, or by identification of the branch breakers, all as part of the controller installation and not as a separate pay item.

The lighting circuit shall be placed in operation as soon as practicable with the Contractor being charged for the energy until the circuits are accepted by the Commissioner.

Method of Measurement: Installation of the underpass lighting controller will be measured for payment as each.

Basis of Payment: This work will be charged for at the contract unit price each for a CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP, which shall be payment in full for furnishing and installing the controller complete in place.

Material Specification
1497

Drawing
861 869

ITEM 101 *** ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX**

Description: This work will consist of furnishing and installing electric cable that is triplexed. The cable must be rated at 600 volts and must consist of two number 6 conductors and one number 8 conductor. The cable will be installed in conduit underground.

Material: The cable must meet all requirements of Material Specification 1534 of the Bureau of Electricity, City of Chicago.

Construction Method: All cables must be installed with care to prevent damage to the cable. Any defects found in the cable must be reported to the resident engineer. Damaged cable must be replaced.

The cable must be pulled into the conduit with a minimum of dragging on the ground or pavement. This will be accomplished by means of reels mounted on jacks or other suitable devices located for unreeling cable directly into duct. Lubricants must be used to facilitate installation if deemed necessary by the contractor.

Bends in the cable will conform to the recommended minimum radii as outlined in the National Electric Code.

Cable passing through manholes must be trained and racked around the sides of the manhole into a permanent position. If racks are non-existent or in poor condition, the contractor must install racks. The material must be approved by the resident engineer. Any material and labor involved in training and racking the cable will be considered incidental to the cost of this pay item.

Where cable runs continue from manhole to manhole without tapping within a light pole, they will be continuous without splices unless authorized by the resident engineer.

The cable installation must be color coded so that each lead of all circuits may be easily identified and lighting units connected to the proper leg as indicated on the plans. The equipment grounding conductor (no. 8) must be color coded green.

All wire or cable in the distribution panels and control cabinets must be properly trained and have sufficient slack provided for any rearrangement of equipment or future additions.

There must be at least three feet of slack in a street light pole base or street light controller base. A handhole must have at least five feet of slack and a manhole at least ten feet of slack.

Method of Measurement: The length of cable furnished and installed will be measured as the length of conduit plus three feet for cable entering and leaving a light pole or street light control cabinet, plus any slack in manholes or handholes.

Basis of Payment: This work shall be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX. The price will be payment in full for furnishing, installing, and testing the cable, and will include all material, labor, terminations, and incidentals necessary to complete the work as per the contract plans.

Material
1534

ITEM 102 *** ELECTRIC CABLE IN CONDUIT, 1/C #10**

ITEM 103 *** ELECTRIC CABLE IN CONDUIT, 1/C #4**

Description: This work will consist of furnishing and installing electric cable as specified. The cable will be installed in conduit attached to structure.

Material: The cable must meet all requirements of Material Specification 1534 of the Bureau of Electricity, City of Chicago.

Construction Method: All cables must be installed with care to prevent damage to the cable. Any defects found in the cable must be reported to the resident engineer. Damaged cable must be replaced.

The cable must be pulled into the conduit with a minimum of dragging on the ground or pavement. This will be accomplished by means of reels mounted on jacks or other suitable devices located for unreeling cable directly into duct. Lubricants must be used to facilitate installation if deemed necessary by the contractor.

Bends in the cable will conform to the recommended minimum radii as outlined in the National Electric Code.

Cable passing through manholes must be trained and racked around the sides of the manhole into a permanent position. If racks are non-existent or in poor condition, the contractor must install racks. The material must be approved by the resident engineer. Any material and labor involved in training and racking the cable will be considered incidental to the cost of this pay item.

Where cable runs continue from manhole to manhole without tapping within a light pole, they will be continuous without splices unless authorized by the resident engineer.

All wire or cable in the distribution panels and control cabinets must be properly trained and have sufficient slack provided for any rearrangement of equipment or future additions. There must be at least two feet of slack in a street light pole base or street light controller base. A handhole must have at least five feet of slack and a manhole at least ten feet of slack.

Method of Measurement: The length of cable furnished and installed will be measured as the length of conduit plus three feet for cable entering and leaving a light pole or street light control cabinet, plus any slack in manholes or handholes.

Basis of Payment: This work will be paid for at the contract unit price per foot for **ELECTRIC CABLE IN CONDUIT**, size specified. Such price will be payment in full for furnishing, installing, and testing the cable, and will include all material, labor, terminations, and incidentals necessary to complete the work as per the contract plans.

Material 1534

ITEM 104	*****	GALVANIZED	STEEL	CONDUIT	ATTACHED	TO
		<u>STRUCTURE 2"</u>				
ITEM 105	*****	GALVANIZED	STEEL	CONDUIT	ATTACHED	TO
		<u>STRUCTURE 3"</u>				
ITEM 106	*****	GALVANIZED	STEEL	CONDUIT	ATTACHED	TO
		<u>STRUCTURE 3/4"</u>				

Description: This work will consist of furnishing and installing a galvanized steel conduit attached to structure of the type and size specified. This work shall also include furnishing and installing stainless steel concrete inserts in conjunction with the proposed structure work, as shown on the contract plans.

Materials: Galvanized rigid steel conduit and PVC coated steel conduit shall conform to the requirements of Material Specification 1462.

Polyvinyl chloride (PVC) conduit shall conform to the requirements of Material Specification 1533 and to the requirements of the National Electrical Manufacturers Association Standard, Publication Number TC2 for EPC-40, or EPC-80. Conduit color will be determined by the Commissioner.

Coilable non-metallic conduit shall be a high density polyethylene meeting the requirements of Material Specification 1533 and ASTM-D1248, Type III, Grade PE34, Category 5, and Class C. The duct shall meet the requirements of Section 1088.01(c) of the Standard Specifications. The average outside diameter of the 1.25 inch duct shall be 1.66 inches, with a minimum wall thickness of .15 inches for the Schedule 40 conduit, and a wall thickness of .20 for the Schedule 80 conduit. Conduit color will be as determined by the Commissioner.

Aluminum conduit will be rigid wall conduit with a minimum wall thickness of 0.099". The conduit will be extruded from 6063 aluminum alloy and tempered to T-1. Aluminum conduit shall meet the requirements of UL-6 and ANSI C80.5.

Construction:

Definition Of Laterals - A lateral will mean a conduit raceway extending from one sub-surface location to another sub-surface location, and in every case intended to encase electric circuit cable under paved surfaces, or in unpaved parkway, street or alley, where specifically designated.

Locations - Laterals shall be installed at the locations shown on the construction plans. Laterals shall be installed in the shortest practicable line between points of termination, or under adverse conditions, as directed by the Commissioner. Laterals not shown on the drawing, but necessary to be installed will be paid for at the unit price bid for laterals as additional units of construction.

Installation Requirements - Galvanized rigid steel conduit may be installed in a trench, pushed underground, or attached to a structure. PVC conduit will normally be installed in a trench or attached to a structure. Coilable conduit will be installed in a trench. The Contractor shall exercise care in installing the conduit to ensure that it is smooth, free from sharp bends or kinks, and has the minimum practicable number of bends. Crushed or deformed conduit will not be accepted. All conduit and fittings shall have the burrs and rough places smoothed, and all conduit runs shall be cleaned and swabbed before installation of electric cables. If cable is not to be installed immediately after cleaning of the conduit, a light weight pulling line such as 1/8" polyethylene line shall be placed in the conduit and will remain in the conduit for future work. The excavation for pushing conduit shall be located at least two feet (2') from the edge of pavement. All underground conduits shall have a minimum cover of thirty inches (30") below grade. If conduit cannot be installed with a minimum cover of thirty inches (30"), the conduit shall be encased in concrete for protection. The method of encasement and protection shall be approved by the Commissioner. Concrete encasement will be paid for as a separate pay item.

When multiple laterals in a common trench are required, no more than three (3) three inch (3") or smaller conduit laterals can be laid on a single, horizontal level. Four or more conduit laterals shall be installed on two (2) levels in accordance with instructions of the Commissioner.

Conduit laterals attached to a structure shall be flush to the structure where possible. Clamps or hangers shall be used at a maximum interval of ten feet (10') to hold the conduit rigidly in place. Fittings shall be supplied and installed that are compatible with the conduit in use. Expansion couplings shall be used at locations where the conduit crosses expansion joints in the structure.

Conduit laterals installed under vaulted walks shall be securely attached to the retaining wall by means of galvanized clamps and clamp backs held in place by anchor bolts. Laterals will be fastened as close to the underside of the sidewalk as possible, and securing clamps installed every five feet (5'). Laterals shall be continuous through party walls.

Threaded fittings and bends of the same material as conduit shall be furnished and installed as required. Threadless couplings may be used only for splicing existing conduit. All conduit splices, where required, will be considered incidental to this pay item.

Method of Measurement: The length measured will be the number of feet of conduit installed and accepted, measured in place. Each conduit will be measured separately even if in a single trench. The length for measurement will be the distance horizontally between changes in the direction of the conduit plus the conduit vertically attached to structures. All conduit on structures will be measured from point to point, whether vertical or horizontal.

Basis of Payment: This work will be paid for at the contract unit price per foot for GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE, of the size specified, which price will be payment in full for furnishing and installing the conduit and fittings complete. Cleaning, swabbing, and p-lining of new conduit will be incidental to this pay item. Hangers, clamps, concrete inserts, and fittings for conduit attached to structure will be incidental to this item. Trench and backfill will be paid for separately. Concrete encasement, if required, will be paid for separately. No additional payment will be allowed for pushing under pavements or for jackholes for conduit laterals.

Material Specification
1462

Drawing
579 813

ITEM 107 *** INTERCEPT EXISTING CONDUIT**

Description: This item will consist of intercepting an existing city conduit or conduits for the purpose of installing a new foundation, a new manhole or handhole, or making a connection to a new conduit.

Construction: Work under this item will be performed in accordance with Section 800 of the Standard Specifications, Bureau of Electricity Standards and the City of Chicago Electrical Code, except as herein modified.

Method of Measurement: This work will be measured on a per each basis for each conduit end cut.

Basis of Payment: This work will be paid for at the contract unit price per each for INTERCEPT EXISTING CONDUIT, which price will include all necessary excavation, backfilling, and restoration of a parkway. No additional compensation will be made for removal or placement of concrete. This item will include all work necessary to bring the conduit into the manhole, handhole, or foundation, or to make the necessary connection to a new conduit. The contractor will furnish all materials for a complete installation

ITEM 108 *** JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12”X10”X6”**

Description: This work shall consist of furnishing and installing a stainless steel junction box of the size indicated in locations shown on the Contract drawings and as directed by the Commissioner.

Materials: Materials shall be according to the following Articles of Section 1000 of the Standard Specifications - Materials:

<u>Item</u>	<u>Article/Section</u>
e) Stainless Steel Junction Box	1088.04
g) Electrical Raceway Materials	1088.01

Construction Requirements: The junction box shall be installed on ½" long stainless steel or brass spacers with the hinge on top of the box and the cover lying in the vertical plane when closed. The exact orientation shall be as shown on the plans or as directed by the Commissioner. Care shall be taken to assure proper orientation of mounting lugs. The junction box shall be mounted as indicated on the Contract Drawing and as directed by the Commissioner.

Field cut conduit openings shall be uniform and smooth. All burrs and rough edges shall be filed smooth to the satisfaction of the Commissioner prior to the installation of conduit(s) into the junction box. Field cut conduit openings shall be fitted with the appropriate conduit fittings and accessories. Conduit fittings and accessories shall be provided according to Article 1088.01 of the Standard Specifications and as shown on the plans.

Method of Measurement: The unit of measurement will be each, for each junction box installed.

Basis of Payment: This work will be paid for at the contract unit price each for JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12”X10”X6”, which price shall be payment in full for furnishing and installing the junction box as described herein.

ITEM 109 *** LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, &
ARM**

Description: This work will consist of furnishing and installing a mid-mount luminaire with arm onto a street light pole at approximately 16 feet from grade for an arterial street installation, 8 to 10.5 feet from grade for a residential street installation, or as directed by the Engineer or as shown on the plans. The luminaire will provide pedestrian level lighting.

Material: The luminaire for the arterial installation must meet the requirements of Material Specification 1549 and Standard Drawing 912. The arm for the arterial installation must meet Material Specification 1546 and Standard Drawing 959A. The high pressure sodium luminaire for the residential installation must meet the requirements of Material Specification 1531 and Standard Drawing 958. The LED luminaire for the residential installation must meet the requirements of Material Specification 1568 and Standard Drawing 958. The arm for the residential installation must meet Material Specification 1546 and Standard Drawing 959. High pressure sodium lamps must meet the requirements of Material Specification 1524. Fuses must meet the requirements of Material Specification 1464. Pole wire to connect the luminaire to the field cable at the base of the pole must meet Material Specification 1351. Pole wire will be installed in the arm by the supplier before the arm is shipped to the contractor. Luminaires and arms will be factory painted either gloss black or silver.

Installation: For the arterial pole, the contractor must drill a one inch hole for the wire in the light pole at the proper height and location, as directed by the Engineer. The hole must be free from burrs and must be smooth. A rubber or nylon grommet must be inserted in the hole. The luminaire arm must be mounted to the pole to align with the wire hole. The arm will be attached to the pole with 2 (3/8-16X 1 1/4") bolts. The pole will be drilled at the proper locations and 2 rivets will be inserted to accept the bolts. An alternate method of attachment is to use two 5/8" stainless steel bands. The attachment method used will be determined by the Engineer.

For the residential pole, the pole will come with the holes pre-drilled, including a grommet for the wireway and 2 rivets.

The luminaire must be securely mounted to the arm tendon with hex head set screws. The pole wire will be run from the luminaire, through the arm, into and down the pole to the field cable. The pole wire must be spliced to the field cable in an acceptable and approved manner.

Method of Measurement: This work will be measured per each unit installed, complete and operational. All hardware and wire necessary to install the unit will be included.

Basis of Payment: This work will be paid for at the contract unit price for LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, & ARM which price will be payment in full for furnishing and installing the unit.

Material Specification
1549 1546 1531
1351 1524 1464 1568

Drawing
912 959
958 959A

ITEM 110 *** LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF**

Description: This item will consist of installing a street lighting luminaire, complete with internal driver, and LED SSL luminaire of the proper wattage and input voltage, on a street light mast arm attached to a street light pole, and connecting the unit to an underground wire distribution system or an aerial wire distribution system at the location shown on the plans, or as directed by the Engineer.

Installation: The luminaire must be securely installed on the mast arm. The vertical axis of the luminaire must be in a vertical plane, and the longitudinal axis must be leveled as specified in shop drawings supplied by the manufacturer to produce the desired distribution pattern with the LEDs secured in the required position for that distribution.

For an aerial distribution system, the primary wiring to the driver must consist of 3 1/C #12 AWG wires, with 150 degree C. irradiated polyolefin insulation, connected to the terminal board "line" terminals. They must extend through the mast arm and exit from the mast arm through the grommet in the hole provided for this purpose, and extend further forming a drip loop and connect with aerial circuit wires. Connection to the aerial circuit wires must be made with a split bolt type pressure connector for a No. 6 solid copper wire and the connection so formed must be wrapped with two layers of an approved electrical tape. The ground wire must be terminated to the pole by drilling into the top of the pole and making the connection through the use of a Burndy grounding connector, or as specified by Commissioner.

A cartridge type fuse, type KTK, rated at 10 amperes must be installed in each of the fuse holders. The primary wiring to the driver must consist of 3 1/C No. 12 AWG wires with 150 degree C. irradiated polyefin, insulation connected to the terminal board "line" terminals. They must extend through the mast arm raceway and down the inside of the pole to the pole base where they must be spliced to the underground feeder cables. Sufficient wire must be supplied to extend the wires outside of the pole through the access handhole to permit splicing work to be performed outside the pole.

All splice methods must be approved by the Engineer before implemented. All splices, tapes and grounding connections must be inspected by the Commissioner's authorized representative before wires are permanently trained in the light pole.

Current, insulation resistance, and voltage readings must be taken and tabulated by the Contractor for each circuit. These readings are to be witnessed by the Commissioner's authorized representative. Any indication of grounds, open, or crossed conductors must be thoroughly investigated and remedied before acceptance of the installation. Line voltage must be taken at any in-line fused location, within the pole designated by the Commissioner's authorized representative. Locations and voltage must be tabulated as directed. Three (3) copies of the tabulated voltage insulation resistance, and current readings must be submitted to the Commissioner's authorized representative. Maximum

voltage drop must not exceed 10% of nominal source voltage. The insulation resistance must not be less than 2 Megohms, when tested to ground with 500 volts AC.

The Contractor must submit the manufacturer's certified test reports on all materials used on this project. Any material deemed defective must be removed and disposed of by the Contractor at his sole cost.

After the lighting installation has been completed and satisfactory current and voltage readings recorded, a field test must be made to insure that all lighting and control equipment are in proper operating condition. This field test must be witnessed by the Engineer.

The Contractor will furnish special test devices, tools and miscellaneous items that will be required for the testing of cables and control equipment, all as herein specified.

Method of Measurement: This work will be measured per each unit installed, complete. All wiring to the underground feeder cable, including splices, will be included in this measurement.

Basis of Payment: This work will be paid for at the contract unit price each for LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF of the proper wattage, voltage, and distribution type, which will be payment in full for installing, connecting and testing the unit complete in place.

Material Specification
1584

ITEM 111 *** LUMINAIRE, LED, VIADUCT**

Description: This item will consist of furnishing and installing a LED viaduct luminaire, complete with all supports, hardware, 4"x4"x3" stainless steel junction box, and appurtenant mounting accessories.

Material: The luminaire must meet the appropriate material specification for the lamp wattage and type of distribution specified. The luminaire must meet Material Specification 1587.

Construction: Luminaires will be surface mounted, as indicated on the drawings. All mounting hardware shall be 304 or 316 stainless steel. 3/4" liquid-tight flexible metallic conduit with 3-1/C #10 cable (fixture "whips") shall be provided between the luminaire and adjacent junction box and is included in the price of this item.

Basis of Payment: This work will be paid for at the contract unit price each for LUMINAIRE, LED, VIADUCT complete in place and operational, including the fixture "whip" and required mounting hardware, 4"x4"x3" stainless steel junction box, which will constitute payment in full for furnishing and installing the luminaire.

Material Specification
1587

Drawing
1542

ITEM 112 *** MAINTAIN LIGHTING SYSTEM**

Description: This work will consist of maintaining existing lighting that has been designated to remain in operation during construction of the new lighting system. Purpose of this item is to provide adequate lighting in an area during the construction of this improvement. This item will include furnishing, installation, wiring, maintenance relocation, and subsequent removal of all temporary equipment.

Maintenance Procedures: Before taking over maintenance of the existing lighting system, the Contractor shall arrange to make an inspection with the Engineer to determine if any corrective action is required and to mutually agree on a date for transferring maintenance. The Contractor should normally begin maintaining the existing lighting as soon as the Contractor begins any work at the site.

General Requirements: Temporary street lighting will be in accordance with the applicable section of CDOT specification, and IESNA Roadway Lighting RP-8-14 recommended values and ratios for the street being improved. The contractor shall maintain the temporary lighting system and ensure continuous operation of the lighting system at all times during all construction stages.

To ensure a prompt response to incidents involving the integrity of the work zone street lighting devices, the Contractor shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis. When the Commissioner is notified or determines a deficiency exists, (s) he will be the sole judge as to whether the deficiency is an immediate safety hazard. The Contractor shall dispatch sufficient resources within 12 hours of notification to make needed corrections of deficiencies that constitute an immediate safety hazard. Other deficiencies shall be corrected within 24 hours. If the Contractor fails to restore the required street light within the time limits specified above, the Commissioner will impose a daily monetary deduction for each 24-hour period (or portion thereof) the deficiency exists. This time period will begin with the time of notification to the Contractor and end with the Commissioner's acceptance of the below. In addition, if the Contractor fails to respond the Commissioner may correct the deficiencies and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

Method of Measurement: This work will be measured for payment per lump sum, which will include all equipment, wiring and additional appurtenances required for the system to be functional during construction up to the time the new system has been installed.

Basis of Payment: This work will be paid for at the contract lump sum price for MAINTAIN LIGHTING SYSTEM, which will be payment in full for maintaining the lighting system from the mutually agreed maintenance transfer date until the de-energization of the existing lighting system. If for any reason the Contractor fails to properly maintain the lighting installation, leading to and requiring a response from City maintenance forces, the cost of such a response will be charged to the Contractor.

ITEM 113 *** MANHOLE 3'X4'X4' W/24" F&L**

Description: This item will consist of furnishing and installing an electrical manhole of the dimensions indicated with either a 24" or 30" frame and lid.

Material: The concrete manhole must meet the applicable requirements of Material Specification 1528. The frame and lid must meet the requirements of Material Specification 1458. A 24" frame and lid must meet the requirements of Standard Drawing 872. A 30" frame and lid must meet the requirements of Standard Drawings 874 and 10927. Bricks must meet the requirements of Section 1041 of the Standard Specifications. All other materials used must meet the appropriate material requirements of the Standard Specifications.

Construction: The manhole will be a precast concrete structure, or, if conditions merit, a cast in place concrete structure, complete with cast iron frame and lid. A 3'X3'X4' manhole with a 24" frame and lid must conform to Drawing 730. A 3'X3'X4' manhole with a 30" frame and lid must conform to Drawing 733. The number and size of conduit openings will be as shown on the construction plans.

Each manhole will be installed in paved sidewalk, earth parkway, or in pavement at the location specified on the construction plans or at a location as directed by the Resident Engineer.

The area where the manhole is to be placed must be properly excavated. All disposable material will be properly disposed of per Section 202.03 of the Standard Specifications. Each manhole must be set or constructed to conform with the appropriate City of Chicago drawings, except that the number and size of conduit openings will be in accordance with the construction plans. The frame casting must be accurately set on a full bed of mortar to the finished elevation so that no subsequent adjustment will be necessary. Mortar and brick, or mortar and concrete rings, may be used to adjust to the proper grade. Adjustment rings, bricks, and frames must be set in a full mortar bed. Use of partial bricks will not be allowed. Bricks must be laid in full header courses only. In no instance will the neck of the manhole exceed two (2) feet in height. Mortar will be mixed in a proportion of one (1) part cement to three (3) parts sand by volume of dry materials. After entering laterals have been installed in place in the manhole, the openings in the wall must be plugged in an approved manner flush with the inner surface. If backfill is required, screenings must be used and properly compacted. Parkway must be restored to the proper grade. Pavement must be restored to the correct grade. Patching of the pavement must be done with high early strength concrete meeting the requirements of Sections 1001 and 1020 of the Standard Specifications. Sidewalks must be restored to the proper grade using a 5 inch thickness of concrete. The inside of the manhole must be clean of all debris.

Method of Measurement: This item will be measured per each installed.

Basis of Payment: The unit price for installing manholes will include necessary excavation, backfilling and restoration of parkway and pavement in accordance with the foregoing specifications. No additional payment will be allowed for restoring parkway or the restoration of sidewalk or pavement. Removal of sidewalk or pavement will be covered by separate pay items. New conduit, if necessary, will also be paid for separately. The unit cost will be for complete installation for each unit for MANHOLE 3'X4'X4' W/24" F&L.

Material Specification
1458 1528

Drawing
730 872 874 10927 729 733
732

ITEM 114 *** MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8'**
ANODIZED

Description: This item will consist of furnishing, installing and aligning an aluminum davit mast arm to which a street light luminaire will be attached. The arm will be attached to an aluminum pole constructed to accept the arm. These arms are designed to fit the arterial davit pole.

Material: The mast arm must meet the requirements of Material Specification 1453. The mast arm for a davit arterial pole must meet the requirements and dimensions of Standard Drawing 948, 949, or 950, depending upon the required overall length of the arm. The davit arm will have a 6 inch outside diameter at the base, where the arm slips over the top of the pole.

Installation: The mast arm must be installed on the aluminum pole as shown on the appropriate standard drawing. The davit arm must be attached to the pole by slipping the arm over the top of the pole and securing the arm to the pole with two stainless steel hex-head bolts. Details of the installation may be found on the appropriate standard drawing. The pole and arm must be properly orientated in relation to the street.

Method of Measurement: The item will be measured per each arm installed, complete.

Basis of Payment: This work will be paid for at the Contract unit price each for a MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8' ANODIZED which will be payment in full for furnishing and installing the mast arm and hardware complete in place. The light pole, foundation and luminaire will not be included in this pay item but will be paid for separately.

Material Specification
1453

Drawing
948 949 950

ITEM 115 *** POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED**

Description: This item will consist of furnishing, installing and setting plumb an aluminum anchor base pole to which an aluminum davit arm and a street light luminaire will be attached. The pole will be set on a separate foundation and affixed with anchor rods or bolts.

Material: The pole must meet the requirements of Material Specification 1452. In addition, the arterial pole must meet the requirements and dimensions of Standard Drawing 941. The short arterial pole must meet the requirements and dimensions of Standard Drawing 941A. The Skyway pole must meet the requirements and dimensions of Standard Drawing 942. The residential pole must meet the requirements and dimensions of Standard Drawing 940. The short residential pole must meet the requirements and dimensions of Standard Drawing 940A.

Installation: The pole must be installed on a concrete foundation or a steel helix foundation designed for the particular pole usage. When using double nut construction please follow the details as shown on Standard Drawing 837. Double nut construction provides proper ventilation, as well as providing a way to plumb the pole. When using a helix foundation, double nutting is not feasible. Any exposed portions of anchor rods extending above the nuts which interfere with the installation of the bolt covers must be cut off to provide the necessary clearance. The excess must not be burned off. The pole must be set secure and plumb using the nuts and washer provided with the foundation pay item. The bolt covers, and handhole cover must be securely attached. The pole must be properly orientated in relation to the street, so that the davit arm will be perpendicular to the direction of the roadway.

Method of Measurement: This item will be measured per unit installed, complete. Work will consist of attaching the pole to the foundation, application of nut covers, attachment of handhole door, and plumbing of the pole.

Basis of Payment: This work will be paid for at the Contract unit price each for a POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED which will be payment in full for furnishing and installing the pole complete in place. Bolt covers and the handhole door will be included as incidentals. The light standard foundation (including nuts and washers), davit arm, and luminaire will not be included in this pay item but will be paid for separately.

Material Specification
1452

Drawing
837 940 941 942 940A 941A

<u>ITEM 116</u>	<u>*****</u>	<u>REMOVE ANCHOR BASE POLE</u>
<u>ITEM 118</u>	<u>*****</u>	<u>REMOVE CONTROLLER ONLY</u>
<u>ITEM 120</u>	<u>*****</u>	<u>REMOVE JUNCTION BOX</u>
<u>ITEM 121</u>	<u>*****</u>	<u>REMOVE LUMINAIRE</u>
<u>ITEM 122</u>	<u>*****</u>	<u>REMOVE MAST ARM</u>

Description: This work will consist of the removal, salvage, and delivery of existing electrical equipment, including but not limited to light poles, arms, luminaires, signs, signals, controllers, and enclosures as specified on the plans or as directed by the Engineer. Salvaged electrical equipment must be delivered to the Bureau of Electricity yard at Cicero and 41st Street or to another City of Chicago location as directed by the Engineer.

General Requirements: Electrical equipment to be removed and salvaged must be disassembled as required for the complete and safe removal and transport of the item from the work site. Electrical equipment must be hoisted, loaded and secured on adequate transport with care to prevent damage. Removal will include all incidental work and items associated with the equipment as directed by the Engineer.

Method of Measurement: Electrical equipment to be removed and salvaged must be measured per each unit removed and salvaged.

Basis of Payment: Electrical equipment removal and salvage will be paid for at the contract unit price for each unit removed and salvaged, which price will be payment in full for all labor, equipment, materials, and incidental work necessary to complete the work as specified.

ITEM 117 *** REMOVE CONDUIT ATTACHED TO STRUCTURE**

Description: This work will consist of the removing electrical conduit from bridge structures, as shown on the Contract Plans.

General Requirements: Shall be in accordance with Section 842 of the Standard Specifications for Road and Bridge Construction, except as modified herein.

The removal of electrical conduit from bridge structure shall include associated hardware such as, but not limited to clamps, brackets, connection devices and anchor devices.

All material removed shall become the property of the Contractor and shall be disposed of according to Article 202.03 of the Standard Specifications for Road and Bridge Construction.

Method of Measurement: This work will be measured for payment for each structure location in units of each, which includes removal of electrical conduit from bridge structure and associated hardware described herein.

Basis of Payment: This work will be paid for at the Contract unit price per foot for REMOVE CONDUIT ATTACHED TO STRUCTURE.

ITEM 119 *** REMOVE ELECTRIC CABLE FROM CONDUIT**

Description: This work will consist of the removal and disposal of an existing electric cable from a conduit.

General Requirements: The removed cable will become the property of the Contractor and shall be removed from the work site.

Method of Measurement: Removal of existing electric cable will be measured for payment in feet. Measurements will be from point to point, and will not include slack or sag.

Basis of Payment: Removal of existing electric cable will be paid for at the contract unit price per foot for REMOVE ELECTRIC CABLE FROM CONDUIT, which price will be payment in full for all labor, equipment, materials, and incidental work necessary to complete the work as specified.

ITEM 123 *** REMOVE VIADUCT LUMINAIRE**

Description: This work will consist of the removal, salvage, and delivery of an existing luminaire of the type specified as shown on the plans or as directed by the Engineer. Removal of the luminaire includes all associated conduit, wire, junction boxes, hardware, and appurtenant materials. Salvaged electrical equipment must be delivered to the Division of Electrical Operations yard at Cicero Avenue and 41st Street or to another City of Chicago location as directed by the Engineer.

General Requirements: Conduit hangers, straps, and supports shall be removed from bridge steel as designated by the Engineer. Where the conduit system is removed from parapet walls and other concrete surfaces, the Contractor shall cut off the anchor device 1 in. below the surface of the concrete, and fill all voids with Portland cement concrete mortar, making a smooth finish to the concrete surface. Unprotected bridge steel which is exposed by the removal of the conduit system shall be touched up using a paint and procedure approved by the Engineer.

Method of Measurement: Luminaires to be removed and salvaged will be measured per each unit removed and salvaged.

Basis of Payment: Luminaire removal and salvage will be paid for at the contract unit price per each for REMOVE VIADUCT LUMINAIRE, which price will be payment in full for all labor, equipment, materials, and incidental work necessary to complete the work as specified.

ITEM 124 *** MONOLITHIC TERRAZZO FLOORING**

Description: This work consists of the preparation, transportation, installation, and finishing of all materials needed to create MONOLITHIC TERRAZZO FLOORING. The cost of all materials and hardware required to install MONOLITHIC TERRAZZO FLOORING is incidental to the cost of items.

Definitions: NTMA: National Terrazzo and Mosaic Association, Inc.

Materials: Portland Cement: ASTM C 150, Type 1, white or gray as required to match existing Terrazzo colors.

Water: Potable

Sand: ASTM C 33/C33M, clean, washed, and locally available.

Aggregate Chips: Select aggregates based on existing aggregate sizes. Chips shall contain no deleterious or foreign matter.

Divider Strips: The material, strip thickness, and heavy top thickness shall match the existing strips. One-half inch type "L" strips shall be used. Strips shall have a depth of ½ inch.

Colorants: Alkali-resistant color stable pigments shall be used.

Curing Materials: Water or polyethylene sheeting shall be used.

- (a) Miscellaneous Accessories – Sealant: Polyurethane with appropriate backer rod shall be used.
- (b) Mixes - Terrazzo Selection: Terrazzo Contractor shall provide terrazzo mix(es) to match existing color on north side of South Water Street and to match the existing color on south side of the South Water Street.
- (c) Proportions for Terrazzo Topping - One 94-lb. bag of Portland cement per 150 lb. of marble chips, color pigment as required and sufficient potable water to produce a workable mix.
- (d) Mixing of Terrazzo Topping - Charge and mix aggregate chips, Portland cement, and color pigment if required. Then, add water, and mix to a uniform workable consistency.

Submittals:

Action Submittals:

Terrazzo Contractor shall submit Product Data for each type of product required for installation including: strip materials and cement.

Terrazzo Contractor shall prepare and submit a maximum of three samples. The samples shall be sizes 6 by 6 inches for each color and type of terrazzo specified.

Terrazzo Contractor shall submit samples for initial selection to match existing Terrazzo showing full range of colors and patterns available for each terrazzo type.

Terrazzo Contractor shall prepare and submit samples for verification for each type, material, color and pattern of terrazzo matching the existing terrazzo and accessory required showing the full range of color, texture and pattern variations expected. Terrazzo samples should be 6 by 6 inches, and samples for accessories should be 6" long and of each type and kind of exposed item required.

Informational Submittals:

Terrazzo Contractor shall submit two copies of qualification data. This includes a list of projects indicating name and location of project, name of Owner, name and contact information for General Contractor. It also includes a letter from NTMA with the name of the Project and name of member, stating current member status.

Closeout Submittals:

Terrazzo Contractor shall submit two copies of NTMA maintenance recommendations.

Quality Assurance:

Acceptable Suppliers: A firm experienced in manufacturing products in accordance with NTMA standards and with a record of successful in-service performance, as well as sufficient production capacity to produce required materials.

Acceptable Terrazzo Contractors: A Contractor Member of NTMA whose work has resulted in construction with a record of successful in-service performance. The installer shall have completed terrazzo installations within the past 5 years of scale and complexity similar to the proposed installation.

Source Limitations for Aggregates: Terrazzo Contractor shall obtain each color, grade, type, and variety of granular materials from sources capable of providing materials of consistent quality in appearance and physical properties.

Mockups: Terrazzo Contractor shall construct mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. A mockup of each color shall be built. A minimum of one section must match existing section sizes adjacent to terrazzo remaining in place. Approved mockups may become part of the completed work if undisturbed at time of Substantial Completion.

Pre-installation Meeting.

The General Contractor shall conduct a conference at project site before Terrazzo Contractor begins installation. The General Contractor shall invite Terrazzo Contractor and the Engineer. At this meeting, methods and procedures related to terrazzo will be reviewed. This may include, but is not limited to the following:

- Inspect and discuss condition of substrate and other preparatory work performed by other trades.

- Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
- Review custom terrazzo mixes, designs, and patterns.
- Coordination with the work of other installers.

Construction Requirements:

Delivery, Storage, and Handling. Materials shall be delivered to Project site in supplier's original wrappings and containers, labeled with source or manufacturer's name, material or product brand name and lot number if any. The materials should be stored in their original undamaged packages and containers.

General Contractor shall provide temporary enclosures and other suitable methods to protect adjacent spaces from damage during installation.

Ambient temperatures must be maintained in the areas to receive terrazzo and should be at not less than 50 deg. F. Adequate ventilation in the area to receive terrazzo must also be maintained.

General Contractor shall protect other adjacent work from water and dust generated by Terrazzo operations.

Examination. The General Contractor shall examine substrates and areas, with Terrazzo Contractor present, for compliance with requirements for installation tolerances and other conditions affecting performance of the work. It must be verified that concrete surfaces to receive monolithic terrazzo flooring are sound, free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil and other contaminants incompatible with terrazzo flooring materials.

Terrazzo Contractor shall proceed with installation only after unsatisfactory conditions, including levelness tolerances, have been corrected.

Preparation. General Contractor shall broom clean area to receive terrazzo to remove loose chips and all foreign matter.

Terrazzo Contractor shall prepare slab to meet CSP 3-5.

Poured-In-Place Terrazzo Installation.

Strip Materials: Terrazzo Contractor shall install strip materials as follows. Divider strips should be installed at locations to match existing patterns. Control-joint strips shall be installed back to back in locations indicated or as required by control joints in the concrete substrate. The strips shall be installed in adhesive setting bed without voids below the

strips. Accessory strips shall be installed as required to provide a complete installation.

Placing Terrazzo: Terrazzo mixture shall be placed in panels formed by divider strips and trowel mixture to top of strips. The surface shall be rolled and compacted until all excess cement and water has been extracted. The surface shall be troweled to a dense uniform flat surface disclosing lines of divider strips. Additional aggregate chips shall be seeded in as required to match existing terrazzo.

Curing: Terrazzo Contractor shall cure the terrazzo topping as follows. Once the composition of the placed terrazzo has sufficiently set, cover with water or polyethylene sheeting. The terrazzo shall be cured until topping develops sufficient strength to prevent lifting or pulling of terrazzo chips during grinding.

Finishing: Terrazzo Contractor shall finish the terrazzo topping to match existing finish texture.

Joint Sealants: Place sealant in joints with backer rod as required.

Repair: Terrazzo Contractor shall repair terrazzo areas that display a lack of bond between topping and underbed according to NTMA's written recommendations.

Protection: The General Contractor shall protect the finished floor after the Terrazzo Contractor has completed terrazzo surfaces.

Method of Measurement: This work will be measured for payment in accordance with Article 424.12 of the Standard Specifications.

Basis of Payment: This work will be paid for at the contract unit price per square foot for MONOLITHIC TERRAZZO FLOORING.

ITEM NO. 125 *** HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED**

Description. This work shall consist of the removal of existing City of Chicago high-rise fire hydrants and installation of new high-rise fire hydrants at locations specified and as approved by the City of Chicago Department of Water Management (DWM). This work shall be performed according to Department of Water Management requirements, Section 564 of the Standard Specifications, and as directed by the Commissioner.

The hydrants shall be removed, to the limits shown on the plans, using methods that minimize damage to the hydrant, pipe, valves, fittings, hydrant vault, and other elements, salvaged and delivered to the district yard as directed by the Commissioner. The Contractor shall use reasonable care in removing materials designated for salvage encountered in the work. The Contractor must obtain a signed and dated receipt for all materials that are delivered to the designated storage point. If the hydrant is rejected by the DWM due to condition, the hydrant must be disposed of off-site in an approved manner at the Contractor's expense.

The Contractor is advised that the work will be performed on a potable water system owned and operated by the Chicago Department of Water Management (DWM), and all work will require the review and approval of the DWM prior to starting the work.

Any water main shutdown required to perform the work will only be allowed based upon coordination and scheduling with the Department of Water Management.

Furnishing and installation of ductile iron hydrants, fittings, and other appurtenances for the installation of fire hydrants shall conform to the following Department of Water Management Special Provisions included elsewhere in these Specifications:

Ductile Iron Pipes and Fittings	Section 33 11 13
Fire Hydrants	Section 33 12 19
Hydrostatic Testing and Disinfecting Water Mains	Section 33 13 00

Existing box outs in the roof of the hydrant vault will be removed and replaced with cast-in-place concrete conforming to the DWM Special Provisions for Cast-In-Place Concrete (Section 03 30 00) included elsewhere in these Specifications.

Method of Measurement. This work will be paid for per each HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED, installed and accepted by the Commissioner.

Basis of Payment. The work will be paid for at the contract unit price per each HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED which shall include all labor, tools and materials necessary to complete the work as described, and includes all necessary thrust restraints.

ITEM NO. 126 *** TEMPORARY SPRINKLER STANDPIPE EXTENSION**

Description. This work shall consist furnishing, erecting, maintaining, and removing extensions to the sprinkler stand pipe fire access points from the southwest corner of 233 N. Michigan (upper level) to the west project limit as shown on the plans and as directed by the Building Owner and the Bureau of Fire Prevention. The objective of this work is to provide temporary access for fire equipment connections to the building standpipe/sprinkler system during removal and reconstruction of the bridge deck. This work shall be performed according to the details shown in the plans and as directed by the Commissioner. The Contractor is advised that the work will be performed on a water system owned and operated by the Building Owner and all work will require the review and approval of the Building Owner prior to starting the work.

The Contractor shall notify the Department of Water Management, Bureau of Fire Prevention, and the Building Owner 2 weeks in advance of performing the work.

The location of the temporary pipe shown on the plans is suggested and the Contractor shall submit design plans showing layout of the temporary pipe including the locations, all bends, restraint joint systems, and hangar systems for any pipe attached to structure. All piping used shall meet the requirements of National Fire Protection Association (NFPA) Standards 13 and 14 including materials and pressure ratings as specified in Sections 2-2.1 to 2-2.4, both inclusive, of NFPA Standard 14, *Standard for the Installation of Standpipe and Hose Systems*, 1993 Edition. Pipe fittings used in standpipe systems shall meet the requirements of Sections 2-3.1 and 2-3.3 of the above referenced NFPA Standard 14. The Contractor shall submit design calculations for any proposed hangar system, sealed by an Illinois Licensed Structural Engineer. Prior to starting the design and ordering of materials, the Contractor shall submit proposed material and manufacturers cut sheets for review and approval by the Commissioner. The work performed on jointing all pipe and fittings must be performed by a plumber licensed in the City of Chicago. The relocated siamese connections shall be located not less than 12 inches nor more than five feet above the grade at the temporary location and shall be located so that immediate access can be made by the fire department. Obstructions on, before, or around siamese connections shall not be permitted. A minimum 5-foot clearance on all sides of the connections shall be maintained.

The following is a suggested means of providing access as described above:

1. The existing fire access point faceplate on the building will be removed and stored until replacement by the Contractor.
2. The three existing siamese 2.5" standpipe sprinkler access connections for the "Concourse", "Floors 1-14", and "Floors 15-Roof" will be removed from the three standpipes. Standpipes for the "Out Hydrant" and "Wall Control" will not be extended.
3. Pipe, of the same size as the standpipes, will be installed from each of the three standpipes to the west project limit.
4. The three existing siamese 2.5" access connections will be temporarily relocated to the corresponding end of the pipes.
5. Each access connection will be clearly labeled, matching the existing building face plate, with signs per the plans and Section 701 of the Standard Specifications and lettering not less than 1 inch in height.

6. Upon completion of the bridge and pavement work, the temporary pipe will be removed and the three siamese 2.5” standpipe sprinkler access connections and building faceplate will be re-installed to match existing conditions.

The Contractor shall coordinate with the Bureau of Fire Prevention to perform pressure testing of each relocated fire access point.

Method of Measurement. This work will not be measured for payment.

Basis of Payment. The work will be paid for at the contract lump sum price for TEMPORARY SPRINKLER STANDPIPE EXTENSION.

ITEM 127 X0327357 CONSTRUCTION VIBRATION MONITORING

Description. This work shall consist of monitoring retaining walls, buildings, utilities, and other structures susceptible to movement. Additional monitoring of facilities may be required and these will be determined by the Commissioner during the work. This additional monitoring will be included in this item.

Requirements. The Contractor shall monitor adjacent buildings for both vibration and displacement. The Contractor shall designate a minimum of two monitoring point locations per building adjacent to E. South Water Street, with the exception of 233 N. Michigan Avenue which shall have 4 monitoring point locations. The monitoring point locations shall be spaced as evenly as possible along the building edge at the interface between the viaduct and the building property. The monitoring points for vibration and displacement do not have to be at the same location, but should be relatively close. The Contractor shall coordinate with the building to ensure the proposed monitoring locations are acceptable to the building and accessible to both the Contractor and the Commissioner. The Contractor is to review proposed construction operations adjacent to utilities and install Utility Monitoring Points along any utility susceptible to vibrations or displacement. Proposed locations of building and utility displacement monitoring points are to be submitted to the Commissioner for approval prior to construction.

Vibration Monitoring. The Contractor shall employ the services of a seismic monitoring consultant as approved by the Commissioner. Monitoring point locations and frequency of data collection shall be as determined by the Contractor's Consultant and are subject to the approval of the Commissioner. All vibration monitoring devices (seismographs) shall be attached to the floor of the buildings they are monitoring. The limit of acceptable vibration at the interface between the existing building and the Viaduct shall be 0.5 in/s (inches per second) peak particle velocity. The Contractor's consultant may propose a Limiting Value and Threshold Value of vibration. When the Threshold Value is reached, the contractor stops work and meets with the engineer to determine the best course of action to reduce the vibrations (or minimize further displacement). Once the Limiting Value is reached, the work is stopped and a more formal response plan is submitted for approval before work can proceed. All seismographs on the project shall be programmed to actuate an alarm when the vibration limit is exceeded. The alarm notification protocol shall consist of immediate dialing of mobile telephone numbers of the Commissioner and the Contractor.

If the vibration limits are exceeded, all vibration inducing work within 100 feet of the existing building shall be stopped. Work may resume at the direction of the Commissioner with the Contractor continuing to closely monitor the vibration in the area of the alarm.

Displacement Monitoring. The Contractor shall provide the exact horizontal and vertical location of the displacement monitoring points to the Commissioner prior to the commencement of any construction activities. The data shall be presented in a tabular format and shall include horizontal positions (stations and offsets or Northing and Easting)

as well as vertical elevation (Chicago City Datum) to a minimum of one hundredth of a foot (0.01').

Monitoring Frequency. During the beginning phase of each stage of demolition and construction, displacement monitoring shall be performed at the beginning and end of each work day at a minimum. These surveying intervals are the minimum required, and more frequent monitoring may be required by the Commissioner as field conditions warrant.

If after a period of time resulting in movements that are small in magnitude, monitoring frequency can be reduced to a frequency as established by the Commissioner. If resulting movements become random in nature and/or large in magnitude, the frequency shall be increased as directed by the Commissioner. The frequency of readings will be dictated by the phase of current construction but must be sufficient to detect serious movements so that corrective measures can be initiated immediately.

Monitoring readings for displacement shall be dated, recorded, and reported to the Commissioner the same day the readings are taken.

Vibration monitoring shall be a continuous and uninterrupted process. During demolition within 50 feet of a vibration monitoring point location, the Contractor shall report the results of the largest amplitude of vibration to the Commissioner on the same day. At all other times, the vibration report shall be submitted weekly.

Construction Requirements. The Contractor shall hold a preconstruction conference with CDOT and the seismic monitoring consultant to discuss planned activities that will happen within 100 feet of the building. Before the start of construction, the contractor shall complete a pre-construction inspection of existing buildings that are located along the viaduct. This survey shall include mapping of all current deterioration/distress on elevation and plan views of the buildings or building elements. The survey shall also include videotaping and close-up photographs of 100% of the building contents (floors, walls, and ceilings) within 25 feet of the edge of the viaduct. The results of the pre-construction survey shall be consolidated in a Pre-Construction Survey Report. The locations of the displacement monitoring points shall be included in the Report. The report shall be reviewed and deemed complete by the Commissioner prior to the commencement of any work.

The Contractor must devise means and methods of construction that will not exceed the specified vibration limits. The Contractor is advised that particularly careful demolition requirements will be required at the edges of the viaduct where the property line is immediately adjacent to the viaduct.

Corrective Measures. If at any time resulting movements are serious in nature or cause damage to facilities or property, the Contractor shall stop work immediately and the necessary corrective measures shall be initiated as directed by the Commissioner. Damage to utilities, adjacent buildings and structures as a result of the work activity of the Contractor

will be corrected by the Contractor as determined by the Commissioner and the utility. No additional compensation will be due from the Contractor for repaying these facilities.

Submittals. The Contractor must submit a Vibration and Displacement Control Plan to the Commissioner for Approval. The Plan must be approved prior to the commencement of work. The plan must include, but is not limited to the following:

- Locations of all monitoring points (Vibration and displacement)
- Procedure and outline for how the data will be provided to the Commissioner.
- Type of seismograph to be used (Submit to Commissioner for Approval)
- Limits of acceptable vibration criteria
- List of pneumatic equipment to be used during demolition operations
- Contact information for the Seismic Monitoring consultant
- Timetable that outlines the duration that each monitoring point will be maintained and checked.
- A "Response Plan" to detail how the contractor will address any concerns with vibration or displacement.

Additional Submittals include

- Preconstruction Survey reports as outlined above
- Daily reports of all displacement monitoring
- Weekly reports of all vibration monitoring

Method of Measurement. The work under this item as described herein will not be measured separately. It will be paid for as lump sum.

Basis of Payment. This work will be paid at the contract unit price per lump sum for CONSTRUCTION VIBRATION MONITORING which payment shall be full compensation for the work described herein and as directed by the Commissioner.

ITEM 128 *** ADDITIONAL INSURANCE FOR WORK WITHIN
TEMPORARY AND PERMANENT EASEMENTS**

Description. This item is to establish a budgetary account to allocate funds for the payment of the additional insurance that may be necessary for work within temporary and permanent easements throughout the course of construction or a construction stage. A budgetary allowance has been established since the final cost is unknown.

Requirements. The Contractor will be reimbursed to the exact amount of money as required to secure the additional insurance, including adding parties as additional insureds, at locations designated as temporary or permanent easements as approved by the Commissioner. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

Method of Measurement. **This item shall be bid at a price of \$55,000.00** for the private insurance within the temporary or permanent easement locations. This amount of money will be set aside and only paid to the Contractor to reimburse him/her for the actual charges he/she paid out to secure the additional insurance as evidenced by the submittal of receipt marked PAID. Any portion of this amount remaining when the contract is complete will remain the property of the City. If the cost of the additional insurance exceeds this amount, the Contractor must receive written approval by the Commissioner before he/she enters into an agreement with the additional insurers.

Basis of Payment. This item shall be paid for at the contract lump sum price or fraction thereof for ADDITIONAL INSURANCE FOR WORK WITHIN TEMPORARY AND PERMANENT EASEMENTS. The Contractor will be reimbursed to the exact amount of money for this insurance as billed by the approved insurance providers. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

STRUCTURAL ASSESSMENT REPORTS FOR CONTRACTOR'S MEANS AND METHODS

Effective: March 6, 2009

Revised October 5, 2015

Description. This item shall consist of preparing and submitting, to the Engineer for approval, Structural Assessment Reports (SARs) for proposed work on structure(s) or portions thereof. Unless noted otherwise, a SAR shall be required when the Contractor's means and methods apply loads to the structure or change its structural behavior. A SAR shall be submitted and approved prior to beginning the work covered by that SAR. Separate portions of the work may be covered by separate SARs which may be submitted at different times or as dictated by the Contractor's schedule.

Existing Conditions. An Existing Structure Information Package (ESIP) will be provided by the Department to the Contractor upon request. This package will typically include existing or "As-Built" plans, and the latest National Bridge Inspection Standards (NBIS) inspection report. The availability of structural information from the Department is solely for the convenience and information of the Contractor and shall not relieve the Contractor of the duty to make, and the risk of making, examinations and investigations as required to assess conditions affecting the work. Any data furnished in the ESIP is for information only and does not constitute a part of the Contract. The Department makes no representation or warranty, express or implied, as to the information conveyed or as to any interpretations made from the data.

Removal SARs. A SAR for removal of existing structures, or portions thereof, shall demonstrate that the Contractor's proposed means and methods to accomplish the work do not compromise the structural adequacy of the bridge, or portions thereof that are to remain in service, at any time during the work activities being performed. Each phase of the operation shall be accounted for, as well as the existing condition of the structure.

Construction SARs. A SAR for new construction or for construction utilizing existing components shall demonstrate that the Contractor's proposed means and methods to accomplish the work do not compromise the structural adequacy of the bridge or portions thereof at any time during the work activities being performed. For construction activities applying less than 10 tons (9 metric tons) of total combined weight of equipment and stockpiled materials on the structure at any one time, a SAR submittal shall not be required provided the Contractor submits written verification to the Engineer stating the applied loads do not exceed this threshold. The verification shall be submitted prior to the start of the activity. This SAR exemption shall not relieve the Contractor from responsibility for the structure. A SAR shall be submitted in all cases where the existing structure is posted for less than legal loads or the Contract plans indicate a live load restriction is in place.

Requirements

a) General. All work specified shall be performed according to the Contract plans, Special Provisions and/or Standard Specifications governing that work.

Submittals for falsework and forming for concrete construction shall be according to Articles 503.05 and 503.06 and does not require a SAR. Moving construction equipment across a structure, or portions thereof, open to traffic shall be addressed according to Article 107.16 and does not require a SAR. Operating equipment on an in-service structure and/or using a portion of an in-service structure as a work platform shall require a SAR and Article 107.16 shall not apply.

The Contractor may move vehicles across the existing bridge without a SAR after closure and prior to removal of any portion of the structure provided:

- The vehicles satisfy the requirements of Section 15-111 of the Illinois Vehicle Code (described in the IDOT document “Understanding the Illinois Size & Weight Laws”) or of the Federal Highway Administration document “Bridge Formula Weights” (available at: http://www.ops.fhwa.dot.gov/freight/publications/brdg_frm_wgths/index.htm)
- The Contractor submits written verification to the Engineer stating the vehicles meet these requirements. The verification shall be submitted prior to allowing the vehicles on the structure.

This SAR exemption shall not relieve the Contractor from responsibility for the structure. This SAR exemption shall not be allowed where the existing structure is posted for less than legal loads or the Contract plans indicate a live load restriction is in place. No stockpiling of material is allowed under this exemption.

All SARs shall detail the procedures and sequencing necessary to complete the work in a safe and controlled manner. When appropriate, supporting design calculations shall be provided verifying the following:

- The effects of the applied loads do not exceed the capacity at Operating level for any portions of the structure being utilized in the demolition of the structure provided those portions are not to be reused.
- The effects of the applied loads do not exceed the capacity at Inventory level for new construction or for portions of the existing structure that are to be reused.
- The condition of the structure and/or members has been considered.

See AASHTO Manual for Bridge Evaluation for further information on determining the available capacities at the Operating and Inventory levels.

b) Confidential Documents. Due to the sensitivity of the inspection reports and bridge condition reports to bridge security, the following confidentiality statement applies to

these reports:

“Reports used by the Contractor and the contents thereof are the property of the Department, and are subject to the control of the Department in accordance with State and Federal law. The distribution, dissemination, disclosure, duplication or release of these reports or the content thereof in any manner, form or format without the express permission of the keeper of this record is prohibited. The owner is the official keeper of these records, except for state owned bridges, where the official keeper of these records is the Regional Engineer.”

- c) Submittals. The Contractor shall be pre-approved to prepare SAR(s) or shall retain the services of a pre-qualified engineering firm to provide these services. Pre-approval of the Contractor will be determined by the Illinois Department of Transportation and will allow SAR(s) preparation by the Contractor unless otherwise noted on the plans. For engineering firms, pre-qualification shall be according to the Department in the category of “Highway Bridges-Typical” unless otherwise noted on the plans. Firms involved in any part of the project (plan development or project management) will not be eligible to provide these services. Evidence of pre-approval/pre-qualification shall be submitted with all SAR(s). The SAR(s) shall be prepared and sealed by an Illinois Licensed Structural Engineer. The Contractor shall submit SAR(s), complete with working drawings and supporting design calculations, to the Engineer for approval, at least 30 calendar days prior to start of that portion of the work.

At a minimum a Structural Assessment Report shall include the following:

1. A plan outlining the procedures and sequence for the work, including staging when applicable.
2. A demolition plan (when removal is included as an item of work in the contract) including details of the proposed methods of removal.
3. A beam erection plan (when beam erection is included as an item of work in the contract) including details of the proposed methods of erection.
4. Pertinent specifications for equipment used during the work activity.
5. The allowable positions for that equipment during the work activity.
6. The allowable positions and magnitudes of stockpiled materials and/or spoils, if planned to be located on the structure.
7. Design and details for temporary shoring and/or bracing, if required by the Contractor’s means and methods.

Approval or acceptance of a Structural Assessment Report shall not relieve the Contractor of any responsibility for the successful completion of the work.

Revisions to the Contractor’s means and methods resulting in no increased load effects to the structure, as determined by the Contractor’s Structural Engineer, shall not require a SAR resubmittal. However, the Contractor’s Structural Engineer shall submit to the Engineer written verification that there is no increased load effect. The written verification shall specify the revisions and shall be submitted prior to the start of the

revised activities.

The Contractor shall be responsible for following the approved SAR related to the work involved.

Method of Measurement. Structural Assessment Reports will not be measured for payment.

Basis of payment. Structural Assessment Reports will not be paid for separately but shall be considered as included in the contract unit price(s) for the work item(s) specified.

ADJACENT CONTRACT & BUILDING COORDINATION

Description. The Contractor shall coordinate construction staging and traffic control operations with adjacent construction contracts prior to and throughout the duration of the project. This includes the 210 N. Stetson Avenue building construction along with any other construction contract that may impact the staging operations of this contract. This effort is to help provide the most safe and effective staging environment throughout the project and at locations where adjacent projects impact the limits of staging.

The Contractor is responsible for coordinating the Work with the building owners and their tenants, when building areas are to be reconstructed and/or otherwise disturbed due to construction activities.

The Contractor shall define the limits of the proposed disturbance and the location of improvements at each individual location in consultation with the building owners/occupants prior to demolition.

The Contractor shall maintain access 24 hours per day for the Chicago Fire Department Station located at 259 N. Columbus Drive.

The Contractor shall maintain building access for pedestrians, vehicles, loading docks, refuse collection and emergency access at all times. The Contractor shall coordinate construction so as not to render access to adjoining businesses & properties inaccessible at any time. The Contractor shall meet with all adjacent property owners prior to the physical start of any construction operations to discuss any and all measures to accomplish this accessibility. The Contractor shall submit procedures and protection plans to the Commissioner prior to any work. The Contractor shall provide temporary access to adjacent properties at his own cost.

All adjacent property owners must be notified at least 14 days in advance of the time that work will commence.

This work shall be included in the cost of TRAFFIC CONTROL AND PROTECTION, (SPECIAL), which includes any adjustments to traffic control devices and/or staging needed to accommodate adjacent construction contract staging operations.

Method of Measurement. ADJACENT CONTRACT & BUILDING COORDINATION will not be measured for payment.

Basis of payment. ADJACENT CONTRACT & BUILDING COORDINATION will not be paid for separately but shall be included in the cost of TRAFFIC CONTROL AND PROTECTION, (SPECIAL), which includes any adjustments to traffic control devices and/or staging needed to accommodate adjacent construction contract staging operations.

PROBING FOR FREIGHT TUNNELS

Description. The Contractor shall determine the location, depth, and profile of the freight tunnels using probes to allow a penetration to proceed above, adjacent to, and beyond the freight tunnel. Probes shall consist of augured soil borings conforming to the applicable provisions of ASTM D1452.

A minimum of four (4) probes will be required to determine the location, depth, and profile of the freight tunnel(s). A minimum of two (2) groups of probes are required for each straight section of tunnel. A minimum of three (3) groups of probes are required for each curved section of tunnel. The first probe to be drilled shall be the furthest from the freight tunnel; the remaining probes shall be advanced toward the freight tunnel.

Probing operations shall commence with the drilling of a temporary casing to a suitable clay layer, at various CCD elevations, as determined by the soil borings.

The probe hole to the freight tunnel will be drilled to within a caution distance of approximately fifteen (15) inches of the calculated probing length. Drilling operations shall stop at the calculated caution distance to prepare for possible contact with the freight tunnel. The freight tunnel shall not be penetrated during probing procedures. Upon encountering the freight tunnel, the location of the probe, the angle of the probe (if any), and the depth of the probe from existing grade to the freight tunnel shall be recorded.

During withdrawal of the drill bit and extension rods, the entire cavity, annular space, and voids caused by the displaced soil shall be completely filled with a bentonite-cement grout approved by the Engineer.

To prevent damage to the existing tunnels drilling shall cease immediately if an obstruction is encountered between elevations five (5) feet above and below the outer tunnel liner. If the freight tunnel is penetrated or damaged during probing or by any other penetration all operations are to cease and CDOT is to be notified immediately. The Contractor shall not remove the casing, drill bit, auger, rods or etc. from the borehole or shaft. A repair procedure approved by CDOT shall be implemented. Upon completion of the repair work a licensed State of Illinois Structural or Professional Engineer shall inspect and approve the repairs to the interior of the tunnel liner and provide photographs and documentation of the final repairs to CDOT.

Within 15 days after the completion of the freight tunnel probing the Contractor shall provide the Engineer with a detailed drawing prepared and stamped by a licensed State of Illinois Structural or Professional Engineer indicating the location of the probes. The detail drawing at a minimum shall include the locations from the north/south and east/west coordinates of the right-of-way lines; the depth of penetration; the distance between probes; and the outside limits of the freight tunnel walls.

For determining the placement of a penetration adjacent to the freight tunnel, the outer

limits of the freight tunnel shall be considered the probe that does not touch the outside wall of the freight tunnel and exceed the depth of the underside of the freight tunnel floor by ten (10) feet.

The Contractor's submittal for Temporary Soil Retention System shall show the locations and depths of the freight tunnels relative to the adjacent columns. The horizontal and vertical clearances between freight tunnel and the temporary soil retention system shall also be shown on the shop drawings.

The Contractor shall notify the Engineer and J.J. Madia (email jj.madia@cityofchicago.org) at least twenty-four (24) hours prior to commencing the approved construction activity above, adjacent to, and beyond the freight tunnel(s).

Field personnel performing the penetrations shall be fully knowledgeable of the elevations and locations of the unreinforced freight tunnel(s).

Method of Measurement. PROBING FOR FREIGHT TUNNELS will not be measured for payment.

Basis of payment. PROBING FOR FREIGHT TUNNELS will not be paid for separately but shall be included in the cost of TEMPORARY SOIL RETENTION SYSTEM.

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APPENDIX A

CDOT Division of Electrical Operations Material Specifications

**ELECTRICAL SPECIFICATION 1452
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 19, 2014**

POLE: ANCHOR BASE, ALUMINUM, TAPERED TUBULAR SHAFT

SUBJECT

1. This specification states the requirements for tapered, tubular, aluminum anchor base poles. They will support street light luminaires mounted on either truss type arms or davit style arms. The poles will be served by underground cables.

GENERAL

2. (a) Specifications. The poles shall conform in detail to the requirements herein stated, and to the requirements of the following organizations as cited herein:

Aluminum Association (AA)
American Association of State Highway and Transportation Officials (AASTHO)
American National Standards Institute (ANSI)
American Society for Testing and Materials (ASTM)
American Welding Society (AWS)
Society for Protective Coatings (SSPC)

(b) Acceptance. Poles not conforming to this specification will not be accepted. The Commissioner will be the sole judge in determining if the poles meet this specification.

(c) Bidders Drawings. Bidders must submit with their bids detailed scale drawings of the mast showing actual dimensions, details, and welds. Shop drawings must be original engineering drawings created by the manufacturer. The drawings must show every dimension necessary to show how all parts will fit each other and be properly held in assembly. These drawings must also be submitted in electronic format, in the latest version of either Microstation or Autocad, if so requested by the City.

(d) Standard Drawings. The drawings mentioned herein are drawings of the Department of Transportation being an integral part of this

specification cooperating to state necessary requirements.

- (e) Sample. If requested by the Chief Procurement Officer, one completely assembled anchor-base pole of the manufacture intended to be furnished, must be submitted for review by the Commissioner within fifteen (15) business days after receipt of notice.
- (f) Warranty. The manufacturer shall warrant the performance and construction of the light poles to meet the requirements of this specification and shall warrant all parts, components, and appurtenances against defects due to design, workmanship, or material developing within a period of five years after the light poles have been delivered. This will be interpreted particularly to mean structural or mechanical failure of any element or weld, or any faults in the anodized surfaces. The warranty must be furnished in writing guaranteeing material replacement including shipment, free of charge to the City. The Commissioner will be the sole judge in determining which replacements are to be made. The Commissioner's decision will be final.

STANDARDS

- 3. (a) Assembly. Each anchor base pole shall consist of an aluminum mast with handhole entry, aluminum hinged entry door, grounding nut, mast base plate, top cap for non-davit masts, bolt covers, and all necessary hardware required for complete assembly of these parts, ready for assembly, without special tools.
- (b) Interchangeability. Members of each pole type must be mutually interchangeable for assembly, so that no reworking will be required to make any member fit properly in the place of any other similar member of any other similar pole.
- (c) Design. Each pole type must conform in design and dimensions to the pertinent drawing(s) listed in Table A.

MASTS

- 4. (a) Mast Size. The outside diameters of the mast of each pole type shall be as listed in Table A. The mast taper will be approximately 0.14 inches per foot.
- (b) Material. The shaft must be fabricated from one length of 6063-T4 wrought aluminum alloy meeting the requirements of ASTM B221. After all welding operations are completed, the mast must be brought to a T6 temper having minimum physical characteristics of ASTM B221. The wall thickness of the shaft and the diameter of the shaft shall be as listed in Table

A and as shown on the appropriate standard drawing. Material certification shall be provided from the tube manufacturer.

(c) Fabrication. The mast must be fabricated with no longitudinal or lateral welds in the tube. The completed masts must have smooth external surfaces free from protuberances, dents, cracks or other imperfections marring their appearance. Each mast must be straight and centered on its longitudinal axis.

(d) Base. The mast base must be a permanent mold aluminum casting conforming to the requirements for aluminum alloy 356-T6 of ASTM B-108 or ASTM B-26. The base shall be similar in shape and dimensions to that shown on the appropriate standard drawing for the specific mast. The base shall consist of a collar, flange, and any other members necessary to provide strength and reduce the concentration of anticipated stresses. The shaft must extend into the base as shown on the appropriate standard drawing and be circumferentially welded to the base casting at the top outer surface and the lower inner surface of the base. Bases must be attached to the mast so that the bearing surface of the base is at right angles to the longitudinal axis of the mast.

Non-metallic removable bolt covers which completely cover the anchor bolts and nuts must be provided. The covers must be attached with stainless steel screws or another type of non-seizing fastener, as approved by the Commissioner. The covers must enclose the anchor bolts and be secured in an approved manner.

All anchor rod openings for each pole type must have a width as listed in Table A. Each opening must be sized to have a circumferential slot length equal to 15° of the circumference.

(e) Cable Entry for Conventional Poles. An opening of approximately one and one quarter inches (1-1/4") in diameter, rimmed with a rubber or nylon grommet, must be furnished and installed at the point on the shaft where the clamp on the upper member of the mast arm bracket meets the pole. Certain masts may require two cable entries, depending on the order. There will be no extra compensation for the extra cable entry. This cable entry requirement does not apply to pole masts designed for davit style arms. This requirement does apply to conventional poles (Drawings 890 and 938).

(f) Option: Side Mount for Luminaire. If requested, the pole mast will be prepared for the mounting of a sidewalk-side luminaire. An opening of approximately one and one-quarter inches (1-1/4") in diameter, rimmed with a rubber or nylon grommet, must be furnished and installed at the proper height, as indicated on the appropriate standard drawing, or as

directed in the order. In addition, two (2) holes must be drilled to accept two (2) rivnuts for mounting a City back plate for a mid-mount luminaire. All three (3) holes must be properly spaced and aligned to accept the City standard back plate for the appropriate mid-mount luminaire. The rivnuts (3/8-16) must be inserted in the pole. The holes must be properly aligned with the handhole as indicated on the standard drawings.

- (g) Top of Shaft for Davit Arm. The top one foot of the mast shall be formed as shown on the appropriate standard drawing. An adapter ring may be provided if required. Two sets of holes 9/16 inches in diameter must be drilled through the mast to accommodate two bolts to attach a davit arm. The lower set (two holes) must be in line with the mast arm. The other set must be 90° apart from the other. These requirements apply to pole masts designed for davit style arms.

(h) Provision for Ground. A tapped hole must be provided on an extension or offset, centered on the handhole door frame's interior vertical surface, to accept a 1/2"-13 bolt for a ground connection.

(i) Entry. A vertical doorframe for reinforcing a door opening which provides access to the interior of the mast must be welded on the inside of the pole and be centered approximately 18 inches above the bottom of the base. The doorframe must be formed and welded of aluminum alloy 6063-T6 with a cross-section to adequately reinforce the opening of the mast. The doorframe must be as indicated on the appropriate standard drawing. The actual door opening must be sized to perfectly match the door size. For all arterial poles and for all conventional poles, the vertical centerline of the entry must be at a right angle clockwise to the vertical centerline of the mast arm. For the residential davit poles, the vertical centerline of the entry must be in-line with the vertical centerline of the mast arm. An internal flange must be welded to the inside of the pole at the bottom of the door opening. This flange will be drilled to accept a bolt. The bolt will be used to attach a hinged door to the pole. An aluminum tab must be welded to the inside upper portion of the door opening. A hole must be drilled into the tab that will accept a 1/4 inch screw. The hole must be centered horizontally in the door opening and must be centered 3/8 of an inch down from the uppermost portion of the door opening. A steel spring clip must be mounted to the tab. The clip must be made to accept a 1/4"-20 machine screw.

(j) Door. The removable door must be formed of the same aluminum as the pole. The door must fit the pole opening within a tolerance of 1/8 of an inch. The door must be flush with the pole surface in the closed position and appear as part of the original mast. The door must be attached to an internal hinge which will allow the door to open out and down. The hinge must be bolted to a flange on the inside of the pole at the bottom of the door opening, so that the door and hinge may be un-bolted and replaced if need

be. The door opening must be sized according to the appropriate standard drawing. A hole must be drilled in the top of the door in alignment with the hole on the mast. A 1/4"-20 Allen head button machine screw must be provided to fasten the door to the doorframe. The screw must have a stainless steel core with a nylon threaded body. Other types of non-seizing fasteners may be considered. All doors of the same size must be interchangeable. The door and attachment method will be subject to approval by the Commissioner or his duly authorized representative.

(k) Tag. To each pole must be attached immediately below the handhole, by mechanical means and not by adhesive, a stainless steel tag with a stamped or embossed legend which must include the pole outside diameter at the base, the overall length, and the wall thickness.

- (l) Structural Requirements. The mast shall be manufactured in accordance with AASTHO's 1994 version of the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals". The shaft and base assembly must be designed to meet AASTHO's 1994 criteria for 80 MPH wind loading with a 30% gust factor. The poles shall be designed appropriately for Chicago street lighting applications, including mast arm and luminaires. Thirty - foot davit poles and thirty- foot conventional poles for arterial streets must also allow for banner and flower basket attachments. The pole manufacturer must provide load calculations that verify that the poles are designed properly.

TOP CAP FOR NON-DAVIT POLES

5. The top cap shall be aluminum alloy. It must have smooth surfaces, neat edges and corners and be free from fins, holes, or other casting flaws. Three stainless steel set screws not less than 3/8 inches long must be equally spaced in tapped holes around the skirt to securely hold the top in place.

VIBRATION DAMPER

6. Each pole shaft will have an internal vibration damper, if requested, located at a position as shown on the appropriate standard drawing. The vibration damper must be welded or bolted to the inside of the pole shaft. If the standard drawing does not show a vibration damper none should be provided. The design of the vibration damper is subject to approval by the Commissioner or his representative.

HARDWARE

7. All the hardware necessary to complete the assembly of the pole must be furnished. All hardware will be as specified elsewhere in these specifications. Hardware not specified elsewhere must be stainless steel, or

equal corrosion-resistant non-seizing metal, or a non-metallic material subject to approval by the Commissioner.

WELDING

8. (a) General. Every welded joint shall be made in conformity with the proper interpretation of the standard welding symbols of the American Welding Society as indicated on the drawings. Each bidder must submit with his proposal a drawing showing the sizes and types of welds, must state the type of electrode, and must describe the welding methods, he proposes to use in fabricating the pole.
- (b) Testing. All welds of five percent (5%) of the poles in every lot must be inspected for penetration and soundness of the welds by radiography, or by a penetrant method. Acceptance or rejection will be governed by the same conditions as in the TESTING Section.
- (c) Certifications. Welders must have proper certification for the welding operations required. Welding by non-certified personnel will not be allowed. Certifications must be available upon request.

FINISH

9. (a) General. All completed masts shall have a brushed satin natural finish or an anodized finish, as required by the project or in the purchase order.
- (b) A satin aluminum finish requires that each mast be rotary sand finished. The satin finish shall be accomplished by using 40-50 grit belts to remove taper marks and scratches. A minimum of one pass with a 120 grit belt over the entire shaft is required to provide a uniform appearance.
- (c) An anodized finish will be either matte black or semi-gloss black. A color sample must be submitted for approval before any factory production. The anodizing process must include cleaning, etching, anodizing, and sealing the mast. The etching process must meet the requirements of AA-C22. The anodizing process must meet the requirements of AA-A42. The contractor must submit his anodizing process for approval before any factory production.

MAST TEST

10. (a) General. All completed masts shall be available for testing for

maximum deflection and set. The masts must meet the structural requirements of Section 4(1). Unless specifically authorized in writing, all tests must be made by the manufacturer. A record of every test must be made and a certified copy of the test record must be submitted to the Electrical Section of the Division of Engineering before the masts are shipped.

(b) Lot. Tests for deflection of the mast must be made upon five (5%) percent of all the masts in every lot (two (2) min.). The selection of masts for testing must be random from the entire completed lot. If any of the masts in any lot fail to meet the test, an additional three (3%) percent of the masts of the same lot must be tested (two (2) min.). If any of these masts fail to meet the test requirements, the entire lot will be subject to rejection, except that the manufacturer may subject each mast in the lot to the test, and those which fulfill the requirement will be accepted. After testing, each base weld must be inspected by radiography or the penetrant method to determine that the welds have not been affected. After testing, no permanent set should be visible or apparent. The mast should appear straight.

(c) Mast Requirements. With base rigidly anchored, a test load of 500 pounds must be applied at a point approximately eighteen inches (18") from the free end. The load must be applied at right angles to the center line of the mast and in the same vertical plane. With no failure of any component part, the deflection must not be greater than 7.5% of the pole height. After removal of the load, the deflection measurement device must be reset to zero and the test load must be reapplied. The deflection must not change from the deflection noted in the first test by more than $\pm 5\%$.

PACKAGING

11. (a) General. The poles must be shipped in bundles. Each pole or bundle shall be wrapped so that the poles can be handled and stored without damage to the surfaces.
- (b) Bundles. The poles in each bundle must be laid base to top to form an approximately rectangular cylinder. Materials such as lumber (2" x 4" min.), non-marring banding, and other appropriate bundling materials must be used to make a rigid, long lasting, bundle capable of being handled, shipped and stored without shifting of contents or breaking. Any bundles, in which either poles or packaging is received broken, damaged or with contents shifted, will not be accepted and it will be the responsibility of the supplier to return the bundle to its original destination at no cost to the City of Chicago. The bundles should be capable of being stacked two (2) high without breaking, or shifting of the contents. Each bundle must be capable of being lifted by a fork lift truck or crane and the bundles must be shipped on a flat bed truck to facilitate unloading.

(c) Hardware. The bolt covers and their attachment devices must be shipped with each bundle. The package must be labeled and placed in a prominent position to facilitate accessibility, and must be attached to, or within, the bundle in such a manner as to assure safe delivery. Payment will be withheld for any bundle delivered without the accompanying hardware. Pole caps must be attached at the manufacturer's facilities, or be packed separately in a manner similar to the bolt covers, and the same payment conditions will prevail. Cracked, broken or chipped parts will be considered as an incomplete delivery as regards payment.

TABLE A

POLE	T H I C K N E S S	BOLT CIRCLE	ANCHOR ROD	BASE P L A T E	M A X. D E F L	D R A W I N G
7"x4.5"x12'-5"	.156"	10"	1.0"	0.75"	11"	940
7"x4.5"x20'-0"	.156"	10"	1.0"	0.75"	18"	890
8"x4.5"x27'	.312	11.5"	1.0"	0.75"	26"	975
10"x6"x24'-5"	.312"	15"	1.25"	1.25"	22"	941
10"x6"x27'-10.5"	.312"	15"	1.25"	1.25"	25"	938
10"x6"x29'-4.625"	.312"	15"	1.25"	1.25"	27"	971
10"x6"x34'-4.625"	.312"	15"	1.25"	1.25"	31"	972

**ELECTRICAL SPECIFICATION 1453
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 14, 2013**

MAST ARMS: ALUMINUM, TRUSS TYPE AND DAVIT TYPE

SUBJECT

1. This specification covers the requirements for aluminum mast arms for supporting street light luminaires. The aluminum arms will be supported by aluminum light poles.

GENERAL

2. (a) Specifications. The mast arms shall conform in detail to the requirements herein stated and to the requirements of the following organizations as cited herein:

Aluminum Association (AA)
American Association of State Transportation and Highway Officials (AASTHO)
American National Standards Institute (ANSI)
American Society for Testing and Materials (ASTM)
American Welding Society (AWS)
Society for Protective Coatings (SSPC)

- (b) Acceptance. Mast arms not conforming to this specification will not be accepted. The Commissioner will be the sole judge in determining if the arms meet this specification.
- (c) Bidders Drawings. Bidders must submit with their bids detailed scale drawings of the mast arm and bracket attachment proposed to be welded to the mast arm as the means for attaching these mast arms to poles. For davit arms, drawings must show how the davit is attached to the top of the light pole and is secured. The drawings must give every dimension necessary to show how the parts will fit each other and be properly held in assembly. These drawings must also be submitted in electronic format, in the latest version of either Microstation or Autcad, if so requested by the City.
- (d) Drawings. The drawings mentioned herein are drawings of the Department of Transportation being an integral part of this specification

cooperating to state the necessary requirements.

- (e) Sample. If requested by the Chief Procurement Officer, one complete mast arm of the manufacture intended to be furnished, must be submitted within fifteen (15) business days upon receipt of such request.

- (f) Warranty. The manufacturer shall warrant the performance and construction of the mast arms to meet the requirements of this specification and shall warrant all parts, components, and appurtenances against defects due to design, workmanship, or materials, developing within a period of five years after the mast arms have been delivered. This will be interpreted particularly to mean structural or mechanical failure of any element or weld, or any faults in the anodized surfaces. The warranty must be furnished in writing guaranteeing material replacement including shipment, free of charge to the City. The Commissioner will be the sole judge in determining which replacements are to be made. The Commissioner's decision will be final.

- (g) Structural Requirements. The arms shall be manufactured in accordance with AASTHO's 1994 version of the Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. The arms must be designed to meet AASTHO's 1994 criteria for 80 MPH wind loading with a 30% gust factor. The arms shall be designed for Chicago street lighting applications. The arm manufacturer must provide structural calculations that verify that the arms are designed properly.

TRUSS ARM DESIGN

- 3. (a) Each mast arm must be a truss type fabricated of two (2) inch "standard" aluminum pipe or tube 6063-T4 alloy conforming to the requirements of ASTM B429, or ASTM B221, or other approved design. The arm must be heat treated to a T-6 temper after fabrication and welding.

- (b) Mast Arm Attachment. The mast must be attached to the pole by means of an extruded aluminum clamp with a bolting arrangement to hold the arm firmly in place. The extrusion must be aluminum alloy 6061-T6 conforming to the requirements of ASTM B221, B308, or an approved equal. The clamps shall be designed to securely fasten the mast arm to the pole so that the arm cannot be dislodged vertically or horizontally from its intended position on the pole by wind gusts, vibrations or other normally anticipated natural phenomena.

- (c) Dimensions. The truss type arm must have the dimensions indicated on Standard Drawing 943 or Standard Drawing 944 for the appropriate arm specified. Truss arms will be available in nominal horizontal lengths of 4 foot, 6 foot, 8 foot, 12 foot, and 15 foot, with either 4.5 inch or 6 inch

clamps. The distance between the lower and upper members, measured between the vertical centers of the upper and lower attachment plates, must be 1'-9". With the arm attached to the pole intended to be supplied, the vertical rise from the center of the top attachment plate to the horizontal centerline of the end of the arm must be no greater than 2'-8". The horizontal axis of the free end of the upper member, when attached to the pole, must not exceed 3° above the true horizontal without the luminaire weight, nor be less than 1/2° above the true horizontal with a 35 lb. weight supported at the free end of the arm.

- (d) Mating of Members. The upper and lower members shall be mated in such a manner as to assure that they will not separate due to vibration, weather conditions such as high wind gusts, icing, etc., or any other normally anticipated stress condition.
- (e) Interchangeability. Members of each truss arm size must be mutually interchangeable for assembly, so that no reworking will be required to make any member fit properly in the place of any other similar member of any other similar arm.

DAVIT ARM DESIGN

- 4. (a) Each arm must be fabricated from either 4.5 inch diameter or 6.0 inch diameter aluminum tubing of 6063-T4 alloy. After all fabrication and welding, the arm must be heat treated to a T6 temper.
- (b) The arm must be attached to the mast by slipping the bottom of the arm tube over the top of the mast. The arm must have four (4) holes pre-drilled at its base to accommodate two (2) through bolts set 90° apart, as shown on the Standard Drawings. The bottom bolt will be in direct line with the length of the arm. The holes must match the holes in the mast so that after assembly the arm and mast appear as a single continuous unit. When bolted to the pole, the arm must not shift or become dislodged by wind gusts, vibrations, or other phenomena.
- (c) The davit arm must be dimensioned as indicated on Standard Drawing 945, 946, 948, 949, or 950, for the appropriate arm specified. Davit arms must be available in nominal horizontal lengths of 8 foot and 12 foot for the 4.5 inch pole tops. Davit arms must be available in nominal lengths of 8 foot, 12 foot, and 15 foot for 6 inch pole tops. Davit arms will be single or twin as specified. A 2 3/8 inch diameter tenon will be attached to the end of each arm. The horizontal axis of the tenon, when the arm is attached to the pole, must not exceed 3° above the true horizontal without the luminaire weight, nor be less than 1/2° above the true horizontal with a 35 lb. weight supported by the tenon.

- (d) Interchangeability. All davit arms for a 4.5 inch pole top must be interchangeable with each other. The same is required of davit arms for a 6 inch pole top.

WELDING

5. (a) General. Every welded joint shall be made in conformity with the proper interpretation of the standard welding symbols of the American Welding Society as indicated on the drawings. Each bidder must submit with his proposal a drawing showing the sizes and types of welds, must state the type of electrode, and must describe the welding methods, he proposes to use in fabricating the arms.
- (b) Testing. All welds of five percent (5%) of the arms in every lot must be inspected for penetration and soundness of the welds by radiography or by penetrant inspection. Acceptance or rejection will be governed by the same conditions as in the TESTING Section.
- (c) Certifications. Welders must have proper certification for the welding operations required. Welding by non-certified personnel will not be allowed. Certifications must be made available upon request.

FINISH

6. (a) General. All completed arms shall have a brushed satin natural finish or an anodized finish, as required by the project or in the purchase order.
- (b) A satin aluminum finish requires that each arm be rotary sand finished. The satin finish shall be accomplished by using 40-50 grit belts to remove taper marks and scratches. A minimum of one pass with a 120 grit belt over the entire arm is required to provide a uniform appearance.
- (c) An anodized finish will be either matte black or semi-gloss black. A color sample must be submitted for approval before any factory production. The anodizing process must include cleaning, etching, anodizing, and sealing the aluminum arm. The etching process must meet the requirements of AA-C22. The anodizing process must meet the requirements of AA-A42. The contractor must submit his anodizing process for approval before any factory production.

HARDWARE

7. All hardware furnished for attachment of mast arm to pole must be series 300 stainless steel. All hardware necessary to complete the assembly

of the arm to the pole must be provided.

MAST ARM TESTS

8. (a) General. Five percent (5%) of the mast arms of each size in every order shall be tested for structural integrity.
- (b) Tests. The mast arms, when securely attached to a suitable and proper supporting structure, must withstand a horizontal (sideward) pulling force as indicated in Table A, and a vertical (downward) load as indicated in Table A. These loads may be applied independently. Each load must be applied at the end of the arm without any apparent permanent set, or damage to the welds joining the arm and mast arm attachment. The appropriate loading for each arm is indicated in Table A. On twin arms each arm extension must be tested.
- (c) Rejection. If the mast arms fail to meet the test, an additional three percent (3%) of the mast arms in the same lot must be tested. If any of these mast arms fail to meet the test requirements, the entire lot will be subject to rejection, except that the manufacturer may subject each mast arm in the lot to the test, and those which fulfill the requirements will be accepted.
- (d) All mast arms must meet the structural requirements of Section 2(g). All tests shall be certified by the manufacturer. Test results should be submitted to the Electrical Section of the Division of Engineering, upon request.

PACKAGING

9. (a) General. The mast arms must be shipped in bundles. Each arm or bundle shall be wrapped so that the arms can be handled and stored without damage to the surfaces.
- (b) Bundles. The bundles shall consist of fifty (50) to seventy five (75) arms laid to form an approximately rectangular bundle. Materials such as lumber (2"x4"), stainless steel banding, and other appropriate bundling materials must be used to make a rigid, long lasting, bundle capable of being handled, shipped and stored without shifting of contents or breaking, subject to approval. Any bundles, in which either the arms or packaging, is received broken, damaged, or with contents shifted, will not be accepted, and it will be the responsibility of the supplier to return the bundle to its original destination at no cost to the City of Chicago. The bundles should be capable of being stacked two (2) high without breaking, or shifting of the contents. Each bundle must be capable of being lifted by a fork lift truck or crane and the bundles must be shipped on a flat bed truck to facilitate unloading.

- (c) Hardware. The clamp backs and mounting hardware must be attached to the clamp fronts on the end of the arm, and must be shipped with each mast arm bundle. Mounting hardware for the davit arms must be packed and shipped with each davit arm bundle. Payment will be withheld for any bundle delivered without the accompanying hardware. Cracked, broken or chipped parts will be considered as an incomplete delivery as regards payment.

TABLE A

ALUMINUM ARM	HORIZONTAL LOAD	VERTICAL LOAD	DRAWING #
Truss 4.5"x 4'	100#	250#	943
Truss 4.5"x 6'	100#	250#	943
Truss 4.5"x 8'	100#	250#	943
Truss 4.5"x 12'	100#	250#	943
Truss 4.5"x 15'	100#	250#	943
Davit 4.5"x 8'	100#	250#	945
Davit 4.5"x 12'	100#	200#	946
Davit 6.0"x 8'	100#	250#	948
Davit 6.0"x 12'	100#	250#	949
Davit 6.0"x 15'	100#	250#	950

**ELECTRICAL SPECIFICATION 1458
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MARCH 4, 2014**

**ELECTRICAL MANHOLE FRAMES AND COVERS
24 INCH AND 30 INCH DIAMETER**

SCOPE

1. This specification describes the requirements for both 24 inch and 30 inch round frames and covers. These frames and covers will be used for electrical manholes and handholes and will provide access to the interior of the manholes and handholes. The 24 inch frames and covers will be used in parkway and sidewalk areas. The 30 inch frames and covers will be used in streets and in driveways and will provide sufficient strength to withstand normal traffic conditions.

GENERAL REQUIREMENTS

2.
 - (a) Conformance. The manhole frames and covers shall conform with every detail of the requirements herein stated and to the specifications and methods of test of the American Society for Testing and Materials cited by ASTM Designation Number in which the most recently published revision will govern.
 - (b) Acceptance. Frames and covers not conforming to this specification will not be accepted. The Commissioner of Transportation will have the final say as to whether or not the frames and covers meet specifications.
 - (c) Drawings. The drawings mentioned herein are drawings of the Department of Transportation, Division of Engineering, and must be interpreted as part of these specifications.
 - (d) Sample. Upon request, one complete manhole frame and cover of the manufacture intended to be furnished must be submitted within fifteen (15) business days after receipt of such a request from the Chief Procurement Officer. The samples must be delivered to the Division of Electrical Operations, 2451 South Ashland Avenue, Chicago, Illinois.
 - (e) Warranty. The manufacturer shall warrant that the frames and covers meet the specifications and warrant the frames and covers for a

period of one (1) year from the date of delivery against defects which may occur during that period from normal and customary use. Any frame or cover which fails during this period must be replaced by the manufacturer at no cost to the City.

DESIGN

3. (a) The frames and covers shall each conform in detail to the designs shown on Drawings 872, 874 and 10927.
- (b) Each frame and cover shall weigh approximately as shown on the drawings.
- (c) Machining. The bearing surfaces of both the cover and the frame shall be machine finished as indicated on the drawings.
- (d) Workmanship. The frames and covers must be mutually interchangeable size for size, so that each lid will fit every frame neatly without jamming and with only such clearance as the drawings indicate. In addition, 24" & 30" covers must fit existing 24" & 30" frames, as shown on drawings 872, 874 and 10927. The castings shall be neat, true to pattern and free from cracks and casting flaws. No welding of defective castings will be permitted nor must the castings be painted.
- (e) Material. The frames and covers must be made of Class 30 Cast Iron described in the specifications for Gray Iron Castings of ASTM A48. No plugging of defective castings will be permitted.

TESTS

4. (a) Test bars of the metal used for the castings shall be made and tested for tensile and transverse strength in accordance with ASTM A48. The metal must be tested at the works of the manufacturer. The manufacturer must furnish a certified copy of all test data sheets to the City prior to delivery of the castings. Frames and covers shall each be considered a separate casting for determining the requirement of testing.

**ELECTRICAL SPECIFICATION 1462
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED NOVEMBER 21, 2014**

**RIGID STEEL CONDUIT
(HOT DIPPED GALVANIZED)**

SCOPE

1. This specification describes rigid steel conduit, zinc coated. This specification also describes rigid steel conduit that is both zinc and PVC coated. The conduit will be used underground or on structure as a raceway for electrical cables.

GENERAL REQUIREMENTS

- (b) 2. (a) Rigid steel conduit must be zinc coated by the hot-dip process. Conduit must be furnished in 10 foot lengths, threaded on each end and with one coupling attached to one end and a protective cap at the other end.
- (b) The conduit shall be manufactured according to Underwriters Laboratories Standard U.L. - 6 and must meet ANSI Standard C 80.1 and the requirements of NEC Article 344. In addition, conduit must be recognized as an equipment grounding conductor as per NEC Article 250. There will be no exceptions to meeting these standards.
- (c) (c) Acceptance. Conduit not conforming to this specification will be rejected. The Commissioner will be the final judge in determining if the conduit meets the specification.
- (d)
- (e) (d) Sample. If requested by the Chief Procurement Officer, a sample of conduit must be submitted to the Engineer of Electricity within fifteen (15) business days of receipt of such a request.
- (f)
- (e) Warranty. The manufacturer shall warrant the construction and performance of the conduit to meet the requirements of this specification and shall warrant all parts and components against defects due to design, workmanship, or material developing within a period of one (1) year after the conduit has been delivered.
- (g)

(h)
STEEL

3. Conduit shall be formed from steel suitable for use as an electrical raceway. It shall be structurally sound so that it will hang straight and true when supported by hangers in accordance with Chicago electrical code requirements and shall be capable of being field bent without deformation of the walls.

Conduit shall have a circular cross section sufficiently accurate to permit the cutting of threads in accordance with Table 2 and shall provide a uniform wall thickness throughout. All surfaces shall be smooth and free of injurious defects. The dimensions and weights of rigid steel conduit must be in accordance with Table 1.

THREADING AND CHAMFERING

4. Each length of conduit, and each nipple, elbow and bend must be threaded on both ends, and each end must be chamfered to remove burrs and sharp edges.

The number of threads per inch, and the length of the threaded portion at each end of each length of conduit, nipple and elbow must be as indicated in Table 2. The perfect thread must be tapered for its entire length, and the taper must be 3/4 inch per foot.

ZINC COATING

5. After all cutting, threading, and chamfering all conduit surfaces shall be thoroughly cleaned before application of zinc. The cleaning process shall leave the interior and exterior surfaces of the conduit in such a condition that the zinc will be firmly adherent and smooth.

The conduit must be hot dipped galvanized both inside and out to provide approximately two (2) ounces of zinc per square foot. This is equivalent to 3.4 mils of zinc coating. An additional interior coating to aid in the installation of wires is required.

COUPLINGS

- (i) 6. (a) The outside surface of couplings shall be protected by means of a zinc coating. The zinc content of the coating on the outside surface must be equivalent to a minimum thickness of 3.4 mils.
- (b) Couplings shall be so made that all threads will be covered when the coupling is pulled tight on standard conduit threads.

- (c) Both ends of the coupling must be chamfered to prevent damage to the starting threads.
- (d) The outside diameter, length and weight of coupling must be as indicated in Table 3.
- (e) Couplings must be straight tapped, except that the 2 1/2 inch and larger sizes may be taper-tapped.

PVC COATED (WHEN SPECIFIED)

- (j) 7. (a) Only hot dipped galvanized conduit, couplings, and fittings may be polyvinylchloride (PVC) coated.
- (k)
- (l) All conduit, couplings, and fittings must be cleaned before being coated.
- (m)
- (n) All conduit, couplings, and fittings must have a PVC coating applied to the exterior by dipping in liquid plastisol. The coating thickness must be a nominal 40 mils.
- (o)
- (p) All coated conduit, couplings, and fittings must conform to the requirements of NEMA Standard RN1- Section 3 , “External Coatings”. The latest revision will apply.
- (q)

PACKING AND IDENTIFICATION

- 8. The pipe shall be delivered in bundles. Each length of conduit must be marked with the manufacturer's name or trademark. Securely attached to each bundle at two (2) locations on the bundle must be a weather resistant tag containing the following information:
 - a. conduit size
 - b. footage of bundle
 - c. gross weight of bundle
 - d. manufacturer’s name

Precaution will be taken by the contractor in handling during shipment or delivery of conduit, and any conduit found to be damaged will not be accepted.

TEST AND INSPECTION

- 9. Galvanized rigid conduit must be capable of being bent cold into a quarter of a circle around a mandrel, the radius of which is four times the nominal size of the conduit, without developing cracks at any portion and

without opening the weld.

The protective coatings used on the outside and inside surfaces of rigid steel conduit must be sufficiently elastic to prevent their cracking or flaking off when a finished sample of 2 inch conduit is tested within one year after the time of manufacture, by bending it into a half of a circle around a mandrel, the radius of which is 3 1/2 inches.

Tests on sizes other than 1/2 inch may be conducted within one year after the time of manufacture. If such tests are conducted, the conduit must be bent into a quarter of a circle around a mandrel, the radius of which is six times the nominal size of the conduit.

One of the following three test methods shall be employed for measuring the thickness or extent of the external zinc coating on conduit:

- (a) Magnetic test.
- (b) Dropping test.
- (c) Preece test (Material which will withstand four 1-minute immersions will be considered as meeting requirements as follows; the zinc content of the coating on the outside surface must be equivalent to a minimum thickness of 3.4 mils).

All tests and inspections must be made at the place of manufacture prior to shipment unless otherwise specified, and shall be so conducted as not to interfere with normal manufacturing processes.

Each length of conduit shall be examined visually both on the outside and inside to determine if the product is free from slivers, burrs, scale or other similar injurious defects (or a combination thereof), and if coverage of the coating is complete.

If any samples of rigid steel conduit tested as prescribed in this specification should fail, two additional samples must be tested, both of which must comply with the requirements of the specification.

All pipe which may develop any defect under tests, or which may before testing or on delivery be found defective, or not in accordance with these specifications, must be removed by the Contractor at his own expense; and such pipe so removed by the Contractor must be replaced by him within ten (10) days of such rejection with other pipe which will conform to these specifications.

TABLE 1**Design Dimension and Weights of Rigid Steel Conduit**

Nominal or Trade Size of Conduit	Inside Diameter	Outside Diameter	Wall Thickness	Length Without Coupling	Weight of Ten Unit Length w/couplings
(Inches)	(Inches) (Pounds)	(Inches)	(Inches)	(Feet/Inches)	
1/2	0.622	0.840	0.109	9-11 1/4	79.00
3/4	0.824	1.050	0.113	9-11 1/4	105.0
1	1.049	1.315	0.133	9-11	153.0
1 1/4	1.380	1.660	0.140	9-11	201.0
1 1/2	1.610	1.900	0.145	9-11	249.0
2	2.067	2.375	0.154	9-11	334.0
2 1/2	2.469	2.875	0.203	9-10 1/2	527.0
3	3.068	3.500	0.216	9-10 1/2	690.0
3 1/2	3.548	4.000	0.226	9-10 1/4	831.0
4	4.026	4.500	0.237	9-10 1/4	982.0

NOTE: The applicable tolerances are:

Length: + 1/4 inch (without coupling)

Outside diameter: + 1/64 inch or -1/32 inch for the 1 1/2 inch and smaller sizes,
± 1 % for the 2 inch and larger sizes.

Wall thickness: - 12 1/2 %

TABLE 2**Dimensions of Threads**

Nominal or Trade Size of Conduit (Inches)	Threads per Inch	Pitch Diameter at end of Thread (Inches) Tapered 3/4 Inch per foot	Length of Thread (Inches)	
			Effective L2	Overall L4
1/2	14	0.7584	0.53	0.78
3/4	14	0.9677	0.55	0.79
1	11 1/2	1.2136	0.68	0.98
1 1/4	11 1/2	1.5571	0.71	1.01
1 1/2	11 1/2	1.7961	0.72	1.03
2	11 1/2	2.2690	0.76	1.06
2 1/2	8	2.7195	1.14	1.57
3	8	3.3406	1.20	1.63
3 1/2	8	3.8375	1.25	1.68
4	8	4.3344	1.30	1.73

NOTE: The applicable tolerances are:

Threaded Length (L4 Col 5): Plus or minus one thread

Pitch Diameter (Col 3): Plus or minus one turn is the maximum variation permitted from the gaging face of the working thread gages. This is equivalent to plus or minus one and one half turns from basic dimensions, since a variation of plus or minus one half turn from basic dimensions is permitted in working gages.

TABLE 3**Designed Dimensions and Weights of Couplings**

Nominal or Trade Size of Conduit <u>(INCHES)</u>	Outside Diameter <u>(INCHES)</u>	Minimum Length <u>(INCHES)</u>	Minimum Weight <u>(POUNDS)</u>
1/2	1.010	1-9/16	0.115
3/4	1.250	1-5/8	0.170
1	1.525	2	0.300
1 1/4	1.869	2-1/16	0.370
1 1/2	2.155	2-1/16	0.515
2	2.650	2 1/8	0.671
2 1/2	3.250	3-1/8	1.675
3	3.870	3-1/4	2.085
3 1/2	4.500	3-3/8	2.400
4	4.875	3-1/2	2.839

**ELECTRICAL SPECIFICATION 1534
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED AUGUST 5, 2013**

CABLE: SINGLE-CONDUCTOR, COPPER 600 VOLT

SUBJECT

- (d) 1. This specification states the requirements for single conductor cables intended to be used in 240 VAC street lighting circuits. The cable will also be used as service cable for both street light controllers and traffic signal controllers. The cables will be installed in underground conduit and rated as 600 volt.

GENERAL

2. (a) Specifications. The cable must conform in detail to the requirements herein stated, and to the applicable portions of the latest revisions of the specifications and methods of test of the following agencies:
- (1) ASTM – American Society for Testing and Materials
 - (2) ICEA – Insulated Cable Engineers Association
 - (3) IEEE – Institute of Electrical and Electronics Engineers
 - (4) UL – Underwriters Laboratories
- (b) Acceptance. Cable not in accordance with this specification will not be accepted.
- (c) Sample. If requested by the Chief Procurement Officer, a three (3) foot sample of the cable intended to be provided under this specification must be sent to the attention of the Engineer of Electricity within fifteen (15) days of receipt of such request.
- (d) Warranty. The manufacturer must warrant the cable to be first class material throughout. In lieu of other claims against them, if the cables are installed within twelve (12) months of date of shipment, the manufacturer must replace any cable failing during normal and proper use within two years of date of installation. All replacements under this warranty must be made free of charge F.O.B. delivery point of the original contract.

CABLES

- (e) 3. (a) Construction. The cable must consist of an uncoated multiple strand copper conductor with a tight fitting thermoset, free stripping, concentric layer of ethylene propylene (EPR) insulation.
- (f)
- (g) (b) The number of strands and the outer diameter of the cable shall be as noted in TABLE A.
- (h)
- (i) (c) Cable shall be UL approved for sunlight resistance and for direct burial applications.
- (j)
- (k) (d) Cable must meet IEEE 383 and UL 1581 70,000 BTUs per hour flame test requirements.

(l)

(m)COLOR CODE

(n)

- (o) 4. (a) Triplexed cable shall consist of a black cable, a red cable, and a green ground cable. Triplexed cable will have a 16” to 18” lay.
- (p)
- (q) (b) Individual cables will be black, red, or white, depending upon the order.

CONDUCTOR

- 5. (a) Material. The conductors must be soft round copper strands.
- (b) Specifications. The conductor must meet the requirements of ASTM B3 and ASTM B8.
- (c) Sizes. The conductor sizes must be in accordance with all requirements in Table A of this specification.
- (d) Stranding. The number of strands must be as indicted in Table A. Stranding must meet the requirements of ASTM B8, Class B.

INSULATION

- 6. (a) Type. The insulation must be ethylene propylene rubber compound (EPR) meeting the requirements of ICEA S-95-658 and UL 44 for RHW-2 cable and UL 854 for USE-2 cable.
- (b) Thickness. The insulation must be circular in cross-section, concentric to the conductor, and must have an average thickness not less than that set forth in Table A of this specification, and a spot thickness not less than ninety percent (90%) of the average thickness.

- (c) Cable Marking. The cable must be identified by a permanently inscribed legend in white lettering as follows:

1/C No. (conductor size) AWG-600V-90°C-EPR-RHW-2

The legend must be repeated at approximately eighteen (18) inch intervals on the outside surface of the cable parallel to the longitudinal axis of the conductor. A sequential footage marking must be located on the opposite side from the legend.

TESTING

7. (a) Initial Physical Requirements.

1. Tensile strength, minimum, p.s.i.	1200
2. Elongation at rupture, minimum %	250

- (b) Oven Exposure Test. After conditioning in an air oven at $121\pm 1^\circ\text{C}$ for 168 hours using methods of test described in ASTM D 573:

1. Tensile strength, minimum % of initial value	75
2. Elongation at rupture, minimum percent of initial value	75

- (c) Water Absorption Test. Gravimetric method: After 168 hours in water at $70\pm 1^\circ\text{C}$ water absorption, at a maximum – 5 milligrams per square inch

- (d) Cold Bend Test. The completed cable must pass the test requirements of ASTM D 470, except that the test temperature must be -25°C .

- (e) Electrical Tests.

1. Voltage. The completed cable must meet an A.C. and D.C. voltage test in accordance with ASTM D 470 and D 2655.

2. Insulation Resistance. The completed cable must have an insulation resistance constant of not less than 20,000 ohms when tested in accordance with ASTM D 470.

- (f) Flame Tests. Cable must pass a 70,000 BTU flame test in accordance with IEEE 383.

(g) All of the above tests must be on cable produced for the order. Tests must be taken on samples taken every 25,000 feet, or fraction thereof, of each conductor size.

- (h) Test Reports. No cable shall be shipped until certified copies of all

factory tests have been reviewed and approved by the City. Cable that does not pass any one of the above tests will be rejected.

PACKAGING

8. (a) Reels. The completed cable must be delivered on sound substantial, non-returnable reels. Both ends of each length of cable must be properly sealed against the entrance of moisture and other foreign matter by the use of clamp-on cable caps. The ends must be securely fastened so as not to become loose in transit. Before shipment, complete 2 X 4 lagging must be applied to all reels.
- (b) Footage. Each reel must contain the length of cable as set forth in Table A of this specification. Alternate lengths may be considered.
- (c) Reel Marking. A metal tag must be securely attached to each reel indicating the reel number, contract number, date of shipment, gross and tare weights, the appropriate City commodity code if applicable, and a description of the cable. Also, each reel must have permanent marking on it indicating the total footage, and the beginning and ending sequential footage numbers. Directions for unrolling the cable must be placed on the reel with an approved permanent marking material such as oil-based paint or a securely attached metal tag.

TABLE A

CONDUCTOR		INSULATION THICKNESS	A-C TEST	REEL LENGTH	OVERALL DIAMETER
<u>AWG</u>	<u>STRANDS</u>	<u>MILS</u>	<u>VOLTS</u>	<u>FEET</u>	<u>INCH</u>
14	7	45	5500	2000	.133
12	7	45	5500	2000	.152
10	7	45	5500	2000	.176
8	7	60	5500	2000	.236
6	7	60	5500	2000	.274
4	7	60	5500	2000	.322
2	7	60	5500	1000	.382
1/0	19	80	7000	1000	.470
2/0	19	80	7000	1000	.514
3/0	19	80	7000	1000	.564
4/0	19	80	7000	1000	.620
250 MCM	37	95	8000	1000	.705

**DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
REVISED MAY 14, 2015**

**LUMINAIRE: LED, COBRA-HEAD, ARTERIAL,
STANDARD RIGHT-OF-WAY
IES CUTOFF TYPE II/III DISTRIBUTION**

SUBJECT

1. This specification states the requirements for an LED street lighting luminaire complete with driver. The luminaire shall be for standard arterial streets where the right-of-way is 66 feet in width and the street can be up to 48 feet in width. The luminaire shall have an IES Type II/III medium cutoff distribution. The luminaire shall be mounted at 35 feet above grade. The overall shape of the luminaire shall be the cobra-head as presently used by the City for arterial streets.

GENERAL

2. (a) Information. If so requested, the apparent low bidder shall submit the following information relative to the luminaire he proposes to furnish within fifteen (15) days of such request:
1. Outline drawing.
 2. Complete description and weight.
 3. Luminaire efficiency.
 4. Projected area in square feet.
 5. Manufacturer's name and catalogue designation of the luminaire.
 6. Manufacturer's part list.
 7. IES formatted photometric curve in electronic format.
 8. Certified test reports.
- (b) Sample. One completely assembled luminaire of the manufacture intended to be furnished, must be submitted upon request of the Chief Procurement Officer within fifteen (15) business days of such request.
- (c) Assembly. Each luminaire must be delivered completely assembled, wired, and ready for installation. It must consist of an aluminum die-cast housing, LED arrays, terminal block, driver-door panel, electronic driver, gaskets, surge arrester, fuses, slip fitter, photo-control receptacle and all necessary hardware.

- (d) Warranty. The manufacturer shall warrant the performance and construction of these luminaires to meet the requirements of this specification, and must warrant all parts, components and appurtenances against defects due to design, workmanship or material developing within a period of ten (10) years from the date of acceptance by the City. A reduction of lighting output of more than 30% within the ten years will constitute luminaire failure. Any luminaire or part thereof, not performing as required, or developing defects within this period must be replaced by a new luminaire, delivered to the City by the manufacturer, without expense to the City. The Commissioner will be the sole judge in determining which replacements are to be made and his decision will be final.
- (e) The manufacturer shall have a history of manufacturing roadway and outside area lighting for a minimum of five years. The manufacturer must demonstrate to the City that the manufacturer has the capacity to supply the quantities required for the contract in a timely manner.
- (f) Organizations. The following organizations' specifications are mentioned herein.

ANSI – American National Standards Institute
ASTM – American Society for Testing and Materials
IEC – International Electrotechnical Commission
IES – Illuminating Engineering Society
UL – Underwriters Laboratories

CONSTRUCTION

- 3. (a) Weight and Area. The net weight of this luminaire must not be more than 29 pounds and should be able to be handled by one man. The effective projected area (EPA) must not exceed 0.7 square feet.
- (b) Housing. The housing shall be a precision aluminum die-casting composed of aluminum meeting ASTM Specification A380. It must be substantial and adequate enough to withstand the strains likely to be imposed on the housing when installed and in service. The housing must enclose the slipfitter, LED arrays, photo-control receptacle, terminal board, surge protector, and the electronic driver, with provision for proper mounting of these parts. The housing must have provision on its top surface to permit leveling with a spirit level. The housing must have integral heat sink characteristics, such that all enclosed components will operate within their designed operating temperatures under expected service conditions. No extra items shall be installed as heat shields or heat sinks. All heat shields and heat sinks shall be integral to the luminaire. The housing will have an appearance similar to existing cobra-head housings typically in use on Chicago's arterial streets.

The housing shall be designed to allow water shedding. The housing shall be designed to minimize dirt or bug accumulation on the optic surface.

- (c) Slip Fitter. The slip fitter shall be suitable for attachment over the end of a two (2) inch steel pipe with an approved means of clamping it firmly in place, and must provide a cast-in pipe-stop. The slip fitter must be designed to permit adjustment of not less than five (5) degrees above and below the axis of the mounting bracket. The slip fitter must contain an approved shield around the pipe entrance to block entry of birds.
- (d) Driver Door-Panel. The driver components must be completely assembled and mounted on a die-cast aluminum door-panel composed of aluminum alloy A380. The door-panel must be hinged to the luminaire housing, suitably latched and fastened at the closing end. It must be made to be removed easily. The hinge and fastening devices must be captive parts which will not become disengaged from the door panel.
- (e) Gaskets. Wherever necessary, in order to make a completely dustproof assembly, gaskets of silicone rubber or other specifically approved material must be provided.
- (f) Hardware. All machine screws, locknuts, pins and set screws necessary to make a firm assembly, and for its secure attachment to the mast arm, must be furnished in place. All hardware must be of stainless steel, copper silicon alloy or other non-corrosive metal, and where necessary must be suitably plated to prevent electrolytic action by contact with aluminum.
- (g) Finish. The luminaire shall have a polyester powder coat with a minimum 2.0 mil thickness. Surface texture and paint quality will be subject to approval. Color must be gloss black or gray (designated ANSI No. 70) as specified in the order. A paint chip must be submitted as a sample upon request. The finish shall pass 1000 hours of salt spray per ASTM B117.
- (h) Ingress Protection. The luminaire housing shall have an ingress protection rating of IP54 or better as described in IEC standard 60529 (also ANSI C136.25-2009). The optical system shall have an IP66 rating.
- (i) The luminaire shall be UL listed. It shall be suitable for wet locations per UL 1598.
- (j) The luminaire shall be rated to operate between -40° to +50° Centigrade.
- (k) The luminaire shall have the option of adding a house side shield.
- (l) A bar code with pertinent information for warranty and maintenance shall

be attached to the inside of the housing. A separate bar code label shall be on the inside of the driver door.

- (m) On the underside of the housing there should be a decal indicating the total wattage and street application for the luminaire (i.e. "54W,LED, AR" for a 54 watt LED luminaire for standard arterial streets). The decal should have black characters on a white background and be legible from ground level.

ELECTRICAL COMPONENTS

- 4. (a) LED Optical Array. The LED arrays shall be optimized for the required roadway photometrics. The arrays must be properly secured at the factory and must not require field adjustment for optimum photometric performance. The LEDs shall deliver a minimum of 70% of initial lumen output at 100,000 hours (L70 at 100K). LEDs shall provide a color rendition index (CRI) of 70. The color temperature of the LEDs shall be 4000° Kelvin. The optical unit shall have an IP66 rating.

- (b) Terminal Board-Fuse Block. A terminal block of high grade molded plastic of the barrier or safety type must be mounted within the housing in a readily accessible location. It must provide all terminals needed to completely prewire all luminaire components. The terminal block must either incorporate a barrier isolated section with fuse clips to take a "small-dimension" cartridge fuse, or a separate barrier protected fuse block must be provided. It must be UL and CSA certified.

The fuses shall be rated at 10 amps 600 VAC with a 100,000 AMPS interrupting capacity. Fuses shall be Buss type KTK, or equal. The fuse block must be wired to the appropriate terminals. The terminal board-fuse block must have plated copper or plated brass, clamp-type pressure terminals of an approved type for "line" connections, to accommodate wire sizes from #12 to #8 A.W.G. The terminals for connection of internal components must be either the screw-clamp or quick disconnect type.

- (c) Driver Requirements.

1. Voltage. The electronic driver shall operate at a nominal input voltage range of between 120 and 277 volts, 60 Hertz.
2. The driver shall provide the proper operating voltage to the LED arrays. Output frequency must be equal to or greater than 120 Hertz to avoid flicker.

3. Power Factor. The power factor of the driver over the design range of input voltages specified above must not be less than 90%.
 4. The driver input current must have Total Harmonic Distortion (THD) of less than 20% when operated at nominal line voltage.
 5. The driver must be thermally protected to shut off when operating temperatures reach unacceptable levels.
 6. The driver shall be short circuit protected and over load protected.
 7. The driver must meet the EMI (electromagnetic interference) requirements of the FCC rules and regulations, Title 47 CFR, Part 15.
 8. The driver shall have a Class A sound rating per ANSI C63.4.
 9. Transient voltage complies with ANSI C62.41 Category A.
 10. The current shall be as recommended by the LED manufacturer. The current level should be such that the LEDs are not overdriven or underdriven. LED current should produce the most efficient light output without compromising the life of the LEDs.
- (d) Surge Protection. Surge protection shall be 10kV/10kA per ANSI C62.41.2. The surge protection device shall be a 3 wire device. The suppressor shall be NRTL listed and be in accordance with UL 1449.
- (e) The minimum luminaire efficacy shall be 90 lumens per watt.
- (f) Mounting. The driver shall be mounted and fastened on the driver door in a manner such that the driver will remain secure and capable of withstanding the vibrations and shocks likely to occur when installed and in service. The driver must be readily removable for replacement.
- (g) Wiring. All components must be completely factory wired with non-fading, color coded leads. These leads must be insulated with an approved class of insulation and must be #16 AWG conductor minimum. All wires within a single circuit path must be of the same size. No wire nuts will be allowed. No unnecessary splices will be allowed. The use of wiring smaller than #16 AWG will require the written approval of the Commissioner. Color coding will be in a manner approved by the Commissioner. A complete wiring diagram must be displayed at an approved location on the interior of the luminaire and must include all luminaire and component identification and

ratings. The wiring diagram must be provided on high quality material that will be resistant to cracking, yellowing, and fading in a luminaire environment. Quick disconnects must be provided for all components.

- (h) Photo-control Receptacle and Cap. A twist-lock receptacle for a photo-control that meets ANSI Standard C136.41 for dimming receptacles must be mounted in the top of the housing with provision for proper positioning of the photo-control. The receptacle shall be a 7 position unit having 3 power prongs and 4 contacts. Two contacts shall be for 0-10 volt DC dimming. The other 2 contacts will be for a digital addressable lighting interface. All wire leads from the receptacle must be properly terminated. The receptacle must be able to be repositioned without the use of tools. A photo-control is not required to be furnished, but a shorting cap with a 3 prong plug that meets ANSI Standard C136.10 must be provided.
- (i) Component Mounting.
 - 1. Modular Construction. All electrical components must be securely mounted in such manner that individual components can be easily maintained or replaced. Permanent straps or tie-wraps will not be permitted. The entire assembly should be easily disconnected and removed for replacement.
 - 2. Interchangeability. Components must be mutually field interchangeable so that units can be restored to working condition without trouble shooting components.

PHOTOMETRIC REQUIREMENTS

- 5. (a) The manufacturer must demonstrate that the luminaires will meet or exceed the specified photometric requirements. The manufacturer must provide photometric calculations using published luminaire data as part of the submitted package. The proposal must contain luminaire photometric performance with results equal to or better than those listed in this specification. Submittal information must include computer calculations based on the controlling given conditions which demonstrate achievement of all listed performance requirements. Computer calculations must be performed for roadway lighting and for sidewalk/parkway lighting. The submitted roadway lighting calculations must be done in accordance with I.E.S. RP-8-14, and must include point-by-point illuminance, luminance and veiling luminance as well as listings of all indicated averages and ratios. The submitted sidewalk/parkway calculations must be done in accordance with I.E.S. RP-8-14, and must include point-by-point horizontal illuminance and vertical illuminance as well as listings of all indicated averages and ratios.

(b) Unless otherwise indicated, the light distribution will be I.E.S. classified as medium-cutoff-Type II/III (M-C-II/III), as defined in Appendix E of I.E.S. RP-8-14.

(c) Performance Requirements (0.7 light loss factor):

1. Roadway Illuminance:		
Average Horizontal		1.7 fc
Uniformity Ratio Av/Min	3:1	
2. Roadway Luminance:		
Average Luminance		1.2 cd/m ²
Uniformity Ratio Av/Min	3:1	
Uniformity Ratio Max/Min	5:1	
Max Veiling Luminance	0.3	

(d) The photometrics shall be run for the specific requirements. If the luminaires are to be obtained for no specific project, the luminaires must meet the performance requirements for the following physical conditions:

Right-of-way	66'
Curb-to-curb	48'
Mounting height	35'
Setback	3'
Arm length	8'
Sidewalk width	6'
Parkway width	4'
Spacing (opposite)	120'
Pavement	R3

TESTING

6. (a) Testing. All testing must be done on a prototype of the actual luminaire to be provided under this specification. If recent test results are available, they may be considered as meeting the testing requirements of this specification. The Commissioner or Commissioner's representative will have the final approval of which tests are adequate.
- (b) The manufacturer will be responsible for all costs associated with the specified testing, incidental to this contract.
- (c) Photometric testing must be in accordance with IES recommendations. The tests, at a minimum, must yield:
 1. An isofootcandle chart with maximum candela and half maximum candela trace.
 2. An isocandela diagram.
 3. Maximum plane and maximum cone plots of candela.
 4. A candlepower table (house and street side).
 5. A coefficient of utilization chart.
 6. A luminous flux distribution table.
- (d) The luminaire must meet the electrical and photometric requirements of IESNA LM -79.
- (e) The luminaire must meet the lumen maintenance requirements of IESNA LM -80.
- (f) The luminaire must meet the requirements of IESNA TM -21 for long term maintenance of LED light sources.
- (g) The LEDs must meet the requirements for chromaticity per ANSI C78.377.
- (h) The following applicable UL standards shall be met:
 1. 8750 LED Light Sources in Lighting Products
 2. 1598 Luminaires
 3. 1012 power units other than Class 2
 4. 1310 Class 2 power units
 5. 2108 low voltage lighting systems
- (i) Additional Types of Testing.

1. Interchangeability of all component parts.
2. Thermal testing in accordance with U.L. Standard 1572 or Standard 1598. The fixture must be placed in a controlled 25° Celsius environment and be energized for a minimum of 8 hours. At no time will any of the components exceed the manufacturer's recommended operating temperatures. At no time will any surface of the refractor exceed the manufacturer's recommended temperature limits.
3. Vibration testing in accordance with ANSI Standard C136.31. Upon completion of the test, all set screws, castings, and components must be secure and undamaged. The luminaire will not be energized for this test. However, the luminaire must be fully operational after the test.
4. Moisture testing in accordance with U.L. Standard 1572 or Standard 1598. The luminaire will be subjected to a water spray from various directions for a sufficient amount of time. After the water spray the inside of the refractor must remain dry and the fixture should be demonstrated to operate properly.

PACKAGING

7. (a) Packing. Each luminaire assembly must be packed in a suitable carton so secure that it must not be damaged in shipment and handling.
- (b) Marking. Each carton containing a luminaire must be clearly marked on the outside in letters not less than three-eighths (3/8) inch tall with the legend: "LUMINAIRE, LED, ARTERIAL STANDARD, IES CUTOFF TYPE II/III", the appropriate City Commodity Code Number, the name of the manufacturer, the date of manufacture, and the contract number under which the luminaire is furnished.

**ELECTRICAL SPECIFICATION 1587
DIVISION OF ENGINEERING
DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
OCTOBER 29, 2014**

LUMINAIRE: LED, VIADUCT

SUBJECT

1. This specification states the requirements for an LED luminaire complete with driver. The luminaire shall be for underpasses such as railroad viaducts and other elevated structures. The input voltage shall be between 120 and 240 volts. The luminaires shall be mounted to the structures, either directly or mounted to a trunnion type bracket.

GENERAL

2. (a) Information. If so requested, the apparent low bidder shall submit the following information relative to the luminaire he proposes to furnish within fifteen (15) days of such request:
 1. Outline drawing.
 2. Complete description and weight.
 3. Luminaire efficiency.
 4. Projected area in square feet.
 5. Manufacturer's name and catalogue designation.
 6. Manufacturer's part list.
 7. IES formatted photometric curve in electronic format.
 8. Certified test reports.
- (b) Sample. One completely assembled luminaire of the manufacture intended to be furnished, must be submitted upon request of the Chief Procurement Officer within fifteen (15) business days of such request.
- (c) Assembly. Each luminaire must be delivered completely assembled, wired, and ready for installation. It must consist of an aluminum die-cast housing, LED arrays, terminal block, electronic driver, gaskets, surge arrestor, fuses, trunnion bracket, and all necessary hardware.
- (d) Warranty. The manufacturer shall warrant the performance and construction of these luminaires to meet the requirements of this specification, and must warrant all parts, components and appurtenances

against defects due to design, workmanship or material developing within a period of ten (10) years from the date of acceptance by the City. A reduction of lighting output of more than 30% within the ten years will constitute luminaire failure. Any luminaire or part thereof, not performing as required, or developing defects within this period must be replaced by a new luminaire, delivered to the City by the manufacturer, without expense to the City. The Commissioner will be the sole judge in determining which replacements are to be made and his decision will be final.

- (e) The manufacturer shall have a history of manufacturing roadway and outside area lighting for a minimum of five years. The manufacturer must demonstrate to the City that the manufacturer has the capacity to supply the quantities required for the contract in a timely manner.
- (f) Organizations. The following organizations' specifications are mentioned herein.

ANSI – American National Standards Institute
ASTM – American Society for Testing and Materials
IEC – International Electrotechnical Commission
IES – Illuminating Engineering Society
UL – Underwriters Laboratories

CONSTRUCTION

- 3. (a) Weight and Area. The net weight of this luminaire must not be more than 25 pounds and should be able to be handled by one man.

- (b) Housing. The housing shall be a precision aluminum die-casting composed of aluminum meeting ASTM Specification A380. It must be substantial and adequate enough to withstand the strains likely to be imposed on the housing when installed and in service. The housing must enclose the LED arrays, terminal board, surge protector, and the electronic driver, with provision for proper mounting of these parts. The housing must have integral heat sink characteristics, such that all enclosed components will operate within their designed operating temperatures under expected service conditions. No extra items shall be installed as heat shields or heat sinks. All heat shields and heat sinks shall be integral to the luminaire.

The housing shall be designed to allow water shedding. The housing shall be designed to minimize dirt and bug accumulation on the optic surface.

The housing shall be able to be mounted directly to a wall or to be trunnion mounted. There shall be a .75 inch threaded conduit fitting to accommodate an electrical whip.

- (c) Mounting bracket. A trunnion type bracket shall be provided. The bracket shall be mounted directly to a wall. The luminaire shall then be attached to the bracket. The bracket will allow the luminaire to be positioned up to 90° in either direction from the horizontal. The bracket shall be marked on the outside indicating the degrees of angle. The bracket shall provide for positive locking in the desired position.
- (d) Gaskets. Wherever necessary, in order to make a completely dustproof assembly, gaskets of silicone rubber or other specifically approved material must be provided.
- (e) Hardware. All machine screws, locknuts, pins and set screws necessary to make a firm assembly, and for its secure attachment to the mast arm, must be furnished in place. All hardware must be of stainless steel, copper silicon alloy or other non-corrosive metal, and where necessary must be suitably plated to prevent electrolytic action by contact with aluminum.
- (f) Finish. The luminaire shall have a polyester powder coat with a minimum 2.0 mil thickness. Surface texture and paint quality will be subject to approval. Color must be gloss black or gray (designated ANSI No. 70) as specified in the order. A paint chip must be submitted as a sample upon request. The finish shall pass 1000 hours of salt spray per ASTM B117.
- (g) Ingress Protection. The luminaire housing shall have an ingress protection rating of IP54 or better as described in IEC standard 60529 (also ANSI C136.25-2009). The optical system shall have an IP66 rating.
- (h) The luminaire shall be UL listed. It shall be suitable for wet locations per UL 1598.
- (i) The luminaire shall be rated to operate between -40° to +50° Centigrade.
- (j) A bar code with pertinent information for warranty and maintenance shall be attached to the inside of the housing.

ELECTRICAL COMPONENTS

- 4. (a) LED Optical Array. The LED arrays shall be optimized for the required roadway photometrics. The arrays must be properly secured at the factory and must not require field adjustment for optimum photometric performance. The LEDs shall deliver a minimum of 70% of initial lumen output at 100,000 hours (L70 at 100K). LEDs shall provide a color rendition index (CRI) of 70. The color temperature of the LEDs shall be 4000° Kelvin. The optical unit shall have an IP66 rating.
- (b) Terminal Board-Fuse Block. A terminal block of high grade molded

plastic of the barrier or safety type must be mounted within the housing in a readily accessible location. It must provide all terminals needed to completely prewire all luminaire components. The terminal block must either incorporate a barrier isolated section with fuse clips to take a "small-dimension" cartridge fuse, or a separate barrier protected fuse block must be provided. It must be UL and CSA certified.

The fuses shall be rated at 10 amps 600 VAC with a 100,000 AMPS interrupting capacity. Fuses shall be Buss type KTK, or equal. The fuse block must be wired to the appropriate terminals. The terminal board-fuse block must have plated copper or plated brass, clamp-type pressure terminals of an approved type for "line" connections, to accommodate wire sizes from #12 to #8 A.W.G. The terminals for connection of internal components must be either the screw-clamp or quick disconnect type.

(c) Driver Requirements:

1. Voltage. The electronic driver shall operate at a nominal input voltage range of between 120 and 277 volts, 60 Hertz.
2. The driver shall provide the proper operating voltage to the LED arrays. Output frequency must be equal to or greater than 120 Hertz to avoid flicker.
3. Power Factor. The power factor of the driver over the design range of input voltages specified above must not be less than 90%.
4. The driver input current must have Total Harmonic Distortion (THD) of less than 20% when operated at nominal line voltage.
5. The driver must be thermally protected to shut off when operating temperatures reach unacceptable levels.
6. The driver shall be short circuit protected and overload protected.
7. The driver must meet the EMI (electromagnetic interference) requirements of the FCC rules and regulations, Title 47 CFR, Part 15.
8. The driver shall have a Class A sound rating per ANSI C63.4.
9. Transient voltage complies with ANSI C62.41 Category A.
10. The current should be as recommended by the LED manufacturer. The current level should be such that the LEDs are not overdriven or underdriven. LED current should produce the most efficient light

output without compromising the life of the LEDs.

- (d) Surge Protection. Surge protection shall be 10kV/10kA per ANSI C62.41.2. The surge protection device shall be a 3 wire device. The suppressor shall be NRTL listed and be in accordance with UL 1449.
- (e) The minimum luminaire efficacy shall be 90 lumens per watt.
- (f) Wiring. All components must be completely factory wired with non-fading, color coded leads. These leads must be insulated with an approved class of insulation and must be #16 AWG conductor minimum. All wires within a single circuit path must be of the same size. No wire nuts will be allowed. No unnecessary splices will be allowed. The use of wiring smaller than #16 AWG will require the written approval of the Commissioner. Color coding will be in a manner approved by the Commissioner. A complete wiring diagram must be displayed at an approved location on the interior of the luminaire and must include all luminaire and component identification and ratings. The wiring diagram must be provided on high quality material that will be resistant to cracking, yellowing, and fading in a luminaire environment. Quick disconnects must be provided for all components.
- (g) Component Mounting.
 - 1. Modular Construction. All electrical components must be securely mounted in such manner that individual components can be easily maintained or replaced. Permanent straps or tie-wraps will not be permitted. The entire assembly should be easily disconnected and removed for replacement.
 - 2. Interchangeability. Components must be mutually field interchangeable so that units can be restored to working condition without trouble shooting components.

PHOTOMETRIC REQUIREMENTS

- 5. (a) The manufacturer must demonstrate that the luminaires will meet or exceed the specified photometric requirements. The manufacturer must provide photometric calculations using published luminaire data as part of the submitted package. The proposal must contain luminaire photometric performance with results equal to or better than those listed in this specification. Submittal information must include computer calculations based on the controlling given conditions which demonstrate achievement of all listed performance requirements. Computer calculations must be performed for roadway lighting and for sidewalk lighting. The submitted roadway lighting calculations must be done in accordance with I.E.S. RP-8-14, and must include point-by-point illuminance, luminance and veiling

luminance as well as listings of all indicated averages and ratios. The submitted sidewalk calculations must be done in accordance with I.E.S. RP-8-14, and must include point-by-point horizontal illuminance and vertical illuminance as well as listings of all indicated averages and ratios.

(b) Unless otherwise indicated, the light distribution will be classified as short non-cutoff-Type II (S-NC-II), as defined in Appendix E of I.E.S. RP-8-14.

(c) Performance Requirements (0.6 light loss factor):

Roadway Illuminance:

Average Horizontal		4.5 fc
Uniformity Ratio Av/Min	3:1	

Roadway Luminance:

Average Luminance		2.5 cd/m ²
Uniformity Ratio Av/Min	3:1	
Uniformity Ratio Max/Min	5:1	
Max Veiling Luminance	0.5	

(d) The photometrics shall be run for the specific requirements. If the luminaires are to be obtained for no specific project, the luminaires must meet the performance requirements for the following physical conditions:

Right-of-way	66'
Curb-to-curb	46'
Mounting height	13'
Tilt	45°
Setback	10'
Arm length	1'
Sidewalk width	10'
Spacing (opposite)	30'
Pavement	R3

TESTING

6. (a) Testing. All testing must be done on a prototype of the actual luminaire to be provided under this specification. If recent test results are available, they may be considered as meeting the testing requirements of this specification. The Commissioner or Commissioner's representative will have the final approval of which tests are adequate.

(b) The manufacturer will be responsible for all costs associated with the specified testing, incidental to this contract.

(c) Photometric testing must be in accordance with IES recommendations. The tests, at a minimum, must yield:

An isofootcandle chart with maximum candela and half maximum candela trace.

An isocandela diagram.

Maximum plane and maximum cone plots of candela.

A candlepower table (house and street side).

A coefficient of utilization chart.

A luminous flux distribution table.

(d) The luminaire must meet the electrical and photometric requirements of IESNA LM -79.

(e) The luminaire must meet the lumen maintenance requirements of IESNA LM -80.

(f) The luminaire must meet the requirements of IESNA TM -21 for long term maintenance of LED light sources.

(g) The LEDs must meet the requirements for chromaticity per ANSI C78.377.

(h) The following applicable UL standards shall be met:

1. 8750 LED Light Sources in Lighting Products

2. 1598 Luminaires

3. 1012 power units other than Class 2

4. 1310 Class 2 power units

5. 2108 low voltage lighting systems

(i) Additional Types of Testing.

2. Interchangeability of all component parts.

2. Thermal testing in accordance with U.L. Standard 1572 or Standard 1598. The fixture must be placed in a controlled 25° Celsius environment and be energized for a minimum of 8 hours. At no time will any of the components exceed the manufacturer's recommended operating temperatures. At no time will any surface of the refractor exceed the manufacturer's recommended temperature limits.

3. Vibration testing in accordance with ANSI Standard C136.31. Upon completion of the test, all set screws, castings, and components must be secure and undamaged. The luminaire will not be energized for this test. However, the luminaire must be fully operational after the test.

5. Moisture testing in accordance with U.L. Standard 1572 or Standard 1598. The luminaire will be subjected to a water spray from various directions for a sufficient amount of time. After the water spray the inside of the refractor must remain dry and the fixture should be demonstrated to operate properly.

PACKAGING

7. (a) Packing. Each luminaire assembly must be packed in a suitable carton so secure that it must not be damaged in shipment and handling.
- (b) Marking. Each carton containing a luminaire must be clearly marked on the outside in letters not less than three-eighths (3/8) inch tall with the legend: "LUMINAIRE, LED, VIADUCT". The appropriate City Commodity Code Number, the name of the manufacturer, the date of manufacture, and the contract number under which the luminaire is furnished shall also be listed.

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APPENDIX B

Chicago Department of Water Management

Selected Specifications

NOTE: THE FOLLOWING SPECIFICATIONS SUPPLEMENT INDIVIDUAL DETAILED PAY ITEM SPECIFICATIONS AND PLANS. INDIVIDUAL DETAIL PAY ITEM SPECIFICATIONS AND THE PLANS SHALL GOVERN IF DISCREPANCIES ARISE.

CITY OF CHICAGO
Department of Water Management

AS BUILT - RECORD DRAWINGS FORM

The contractor will be required to submit "as-built plans" / record drawings of all new sewers and sewer structures that will be owned and maintained by the City. These "as-built plans" / record drawings should be sealed by a registered land surveyor and/or a registered professional engineer and **submitted within three weeks after the completion of the sewer work**. These "as-built plans" / record drawings should be forwarded to the Department of Water Management, Bureau of Engineering Services, Sewer Design Section located at 1000 East Ohio Street, Elevation +51, Room 313, Chicago, Illinois 60611 along with a copy of this form, the coinciding sewer permit and video tape, as applicable.

Drainlayer's Name: _____ Phone No.:

Drainlayer's Signature:

Date of Project Completion:

Date Submitted As-Built Plan / Record Drawing:

FOR OFFICE USE ONLY:

Project Manager: _____ Phone No.:

Project Name:

Project No. and/or Contract No.:
(i.e., CDOT, IDOT, COUNTY)

Project Location:

Issued By: _____ Date:

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT SPECIFICATIONS
APPENDIX TO SPECIAL PROVISIONS

SECTION NUMBER	SPECIFICATION NAME
01 11 00	Summary of Work
01 25 00	Security Requirements
01 30 00	Health and Safety
01 32 36	Televised Inspection of Sewer Mains
01 42 00	References Definitions & Abbreviations
03 30 00	Cast-in-Place Concrete
05 10 00	Structural and Miscellaneous Steel
31 23 10	Excavation, Trenching and Backfilling
31 23 19	Dewatering Excavations
33 01 30	Cleaning and Lining Sewer Mains
33 05 22	Repair and Adjustment of Sewer Mains and Structures
33 11 13	Ductile Iron Water Pipe and Fittings
33 11 15	Thrust Restraint for Water Main Piping
33 12 16	Water Main Control Valves
33 12 19	Fire Hydrants
33 13 00	Hydrostatic Testing and Disinfecting Water Mains
33 31 13	Sewer Main Pipe and Fittings
33 39 13	Sewer Manholes, Catch Basins, Inlets, and Special Structures

SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Description of Work
- B. Constraints
- C. Work Sequence
- D. Emergencies
- E. Project Signs
- F. Dust Control
- G. Salvaging of Existing Materials
- H. Restoration
- I. Contractor Work Documentation Submittals

1.2 DESCRIPTION OF WORK

- A. General Description of Work: Work to be done under this Contract is described in the *Project Information* found on Book 2 of these specifications.
- B. Furnishing all Labor, Materials, Equipment, and Transportation Services: Contractor must furnish all labor, materials, proper equipment and machinery, and transportation services necessary to perform and complete, in a workmanlike manner and within the specified time, all Work required under this contract.
- C. Project site: Contractor must maintain the project site and Work area in a clean, orderly and safe manner.
- D. Coordination: Contractor must coordinate his Work with other contractors, agencies, and utilities as required or directed by the Commissioner.
- E. Protection of work: Contractor must provide protection, repair and restoration of all finished Work or property damaged during construction.

- F. Implied Work: It is the intent of these Specifications to provide the City with improvements to, and ability to maintain a complete operable water distribution system. Any part or item of Work, which is implied and normally required to make each water main installation satisfactorily and completely operable, is deemed to be included in the Work and Contract price. All miscellaneous appurtenances and other items of Work incidental to meeting the intent of the Contract Documents is also deemed to be included in the Work and Contract price, even though such appurtenances may not be specifically shown or specified.
- G. Water Use Permitting: The contractor will be required to apply for a water use permit from the Department of Water Management per Book 1, Section X, subsection A of the Contract Documents. All fees associated with water use necessary for Department of Water Management generated projects will be waived.

There will be no separate fee reimbursement in connection with all the above permits and fee requirements and all costs therefore will be considered as incidental to the Project.

Department of Water Management
(Water Use) Room 803a, City Hall
60602

1.3 CONSTRAINTS

- A. The Contract documents are intended to allow the Contractor flexibility in the construction of the Work; however, the Contract Documents do contain constraints on project activities. In addition to constraints that may be stated elsewhere in the Contract Documents, the following also apply:
1. Prepare and submit a comprehensive schedule of the proposed sequence of construction of the various parts of the Work included under this contract for review by the Commissioner. Arrange the schedule to complete the Work in phases and permit operation by the City of completed phases or parts thereof as directed by the Commissioner.

2. Work under this Contract must also be accomplished while maintaining access to the surrounding residences, businesses and facilities. Any Work that affects access must be carried out such that the fire protection and emergency services will not be jeopardized or materially reduced as a result of the Work performed during the construction period.
3. Work under the Contract must be accomplished while maintaining water service and fire protection to surrounding residences, businesses and facilities. Any Work that affects the existing water service or fire protection must be carried out so that existing service will not be jeopardized or materially reduced as a result of the Work performed during the construction period.
4. The Contractor must maintain emergency access to surrounding residences, businesses and facilities at all times.
5. The Commissioner will be the sole judge of when the Contractor's operations are causing interference with water distribution operations, and the Commissioner's orders and instructions must be carried out without delay.
6. Conduct operations so as not to inconvenience the general public.
7. The critical path method (CPM) schedule of the general proposed Work specified in Book 1 is to be submitted electronically in Primavera.

B. Notification and Limitations of Water Service shut downs.

1. When an existing water main or section of the main is to be shut down during the course of construction, individual consumers must be notified at least seventy-two (72) hours prior to the shutdown at twenty-four (24) hours prior to shut down and at transfer completion (See Exhibit "Water Service Interruption"). The Contractor must not operate an existing water valve for a shut down or other purpose, without notifying and obtaining Commissioner approval.

2. Time for consumer shut downs must not exceed an eight (8) hour period. No shut downs will be permitted before 8:00 AM without prior written approval of the Commissioner.
3. If emergency shut downs are required, the Contractor must notify customers within the affected area immediately. Notification must be verbal, or written if the customer cannot be contacted and placed at the property site showing all pertinent information regarding the shutdown. The notice must contain a phone number the consumer may call for information or express any concerns they have about the shutdown.
4. If it is determined a consumer cannot withstand a planned shutdown of water service due to providing a critical emergency service, the need to maintain an ongoing manufacturing process, or medical reason, the Commissioner must be notified 48-hours before the shutdown is started by the Contractor.

1.4 WORK SEQUENCE

Construct the Work in stages as indicated on the drawings, unless directed otherwise by the Commissioner. Work must proceed in such manner so as to accommodate the City's and public's use of the project site during construction the period.

1.5 EMERGENCIES

In an emergency affecting the safety of life, work or adjoining property, the Contractor, without special instruction or authorization from the Commissioner, may act as necessary to prevent loss or injury. In such an emergency, if the Contractor is instructed or authorized by the Commissioner to act to prevent loss or injury, he must so act without appeal. The amount to be paid to the Contractor for such emergency work will be determined in the same manner as the amounts to be paid for alterations as determined under "Payment for Changes" in BOOK 1, TERMS AND CONDITIONS FOR CONSTRUCTION.

1.6 PROJECT SIGNS

The Contractor must furnish, erect and maintain at each Work Area at points and in positions to be designated by the Commissioner, two signs 2'-0" X 3'-0" or other signs as directed. Lettering on each sign will be as per the Details or as ordered or provided by the Commissioner. Upon completion of the work, the Contractor must remove all such signs unless otherwise ordered by the Commissioner and deliver these signs to the Department. The cost of furnishing, erecting and maintaining project signs will be included in the prices bid for Mobilization.

1.7 DUST CONTROL

The Contractor's operations, including hauling of materials and backfill, and mixing of concrete, must be constructed in such a way as to keep dust to a minimum. In the event that the Contractor's operations create a nuisance due to the presence of excessive dirt and dust, at the work site or along the route of his hauling operations, he must upon orders from the Commissioner, immediately dispel the dust nuisance by removing the cause or by applying a suitable dust-reducing agent. No additional payment will be made to the Contractor resulting from any expenses incurred by him while eliminating dust as specified.

1.8 SALVAGING OF MATERIALS

The Contractor must use reasonable care in removing materials designated for salvage encountered in the work, and will deliver this material to locations designated by the Commissioner.

The Contractor must obtain a signed and dated receipt for all materials that are delivered to the designated storage point.

1.9 RESTORATION

In constructing the Items of surface restoration under this Contract, the Contractor must clean and adjust all existing catch basins along the route of the work when ordered by the Commissioner. The Contractor must also repair or replace all damaged catch basins and inlets, including drain connections if necessary, and must replace all gutter boxes with inlets, wherever, in the opinion of the Commissioner, such should be done.

Catch basins or inlets which are not located along the route of the work of this Contract but which are destroyed or damaged by the Contractor due to his construction or hauling operations must be repaired or replaced by the Contractor at his expense. Gutter boxes which are not located along the route of the work of this Contract, but which are destroyed or damaged by the Contractor due to his construction or hauling operations must be replaced by the Contractor at his expense.

All restoration of pavements must comply with the requirements of the latest CDOT "Regulations for Openings, Construction and Repair in the Public Way".

After completion and acceptance of all water main work, Contractor must complete full pavement restoration within thirty (30) calendar days. Contractor will be responsible for maintaining the roadway(s) in a safe and passable condition during construction through the installation of final surface and pavement markings.

1.10 CONTRACTOR WORK DOCUMENTATION SUBMITTALS

- A. Contractor must document all construction related activities including but not limited to the amount of material used, labor and fixed rate items as requested by the Commissioner. This documentation must conform with the guidelines set by the City of Chicago.
- B. All construction equipment costing be in conformance with IDOT Force Account Billing procedures based on the Equipment Watch Rental Rate Blue Book.
- C. Contractors must enter all pre-construction and post-construction inspections, digital photographs, daily work sheets, daily work activities, completion statuses and billing information into the Department's work order tracking system: DataStream 7i (Info EAM 8.2), CW and Primavera (P-6). Payment will be made for only the completed and accepted Work which is properly entered into DataStream by the Contractor. Contractor is required to enter the data via wireless communication devices compatible with the above mentioned work order tracking system software.

- D. Contractor will be responsible for all expenses in order to document their work force productivity including but not limited to the procurement of above mentioned software, licenses and wireless communication devices. The initial training regarding the above software and technology systems will be provided by the Department with a “Train the Trainer” approach as part of the initial agreement. All subsequent training sessions for Contractor’s staff required to use these systems must be conducted by the Contractor.

- E. Contractor is responsible for ensuring that all work is completed in accordance with the Time of Completion in the Proposal Section of Book 2. The only work assignment source will be DataStream; no other sources will be acceptable for evaluating the timeline outlined in this document. Any emergency or rush work orders will be entered and transferred into DataStream or the City’s 311 Service Request System by the Department.

- F. After completion and acceptance of all water main work (the final water main connection), Contractor must complete concrete cap/plug within seven (7) calendar days. Substantial completion of all pavement and parkway restoration, including but not limited to ADA ramps, sidewalk, curb and gutter, striping, landscape, etc. must be completed within thirty (30) days of the installation of the concrete cap/plug. Contractor will be responsible for maintaining the roadway(s) in a safe and passable condition during construction through the installation of final surface and pavement markings. If the work is completed when the asphalt plants are closed, the Contractor shall have forty-five (45) days after the plants begin operation to complete the work.

NOTICE of Water Service Interruption

Project:

Street Location:

DEAR OWNER OR OCCUPANT

The water supply to your house, building and / or property will be temporarily interrupted due to water system improvement work in your neighborhood.

DATE: _____

BETWEEN the HOURS of _____ and _____ .

Please contact _____ with
_____ at phone no.:
with any questions or concerns.

Thank you in advance for your patience.

Department of Water Management, City of

Chicago

END OF SECTION 01 11 00

SECTION 01 25 00

SECURITY REQUIREMENTS

PART 1 – GENERAL

1.1 SUMMARY

- A. Contractor must comply with Department of Water Management Security Requirements.
- B. Provide completed Background Check Consent Forms and Visitor Authorization Request Forms to receive authorization to access Site.

1.2 DEPARTMENT OF WATER MANAGEMENT SECURITY REQUIREMENTS

- A. For purposes of this section “employee” refers to any individual employed or engaged by Contractor or by Subcontractor. If any employee, in the performance of this Contract, has or will have access to a Chicago Department of Water Management facility, the City may conduct such background and employment checks, including criminal history checks and work permit documentation, as the Commissioner of the Department of Water Management and the City may deem necessary, on Contractor, any Subcontractor, or any of their respective employees. The Commissioner of the Department of Water Management has the right to require Contractor to supply or provide access to any additional information the Commissioner of the Department of Water Management deems relevant. Before beginning work on the Project, Contractor must:
 - B. Provide the City with a list of all employees requiring access to enable the City to conduct such background and employment checks;
 - C. Deliver to the City consent forms signed by all employees who will work on the Project consenting to the City’s and Contractor’s performance of the background checks in this Section; and
 - D. Deliver to the City consent forms signed by all employees who will require access to the Department facility consenting to the searches described in this Section.
- E. The Commissioner of the Department of Water Management may preclude Contractor, any Subcontractor, or any employee from performing on the Project. Further, Contractor must immediately report any information to the Commissioner of the Department of Water Management relating to any threat to Department infrastructure or facilities or the water supply of the City and must fully cooperate with the City and all governmental entities investigating the threat. Contractor must, notwithstanding anything contained in the Contract Documents to the contrary, at no additional cost to the City, adhere, and cause Subcontractors to adhere, to any security and safety guidelines developed by

the City and furnished to Contractor from time to time during the time of performance under this Contract and any extensions of it.

- F. Each employee who Contractor wishes to have access to a Department facility must submit a signed, completed "Area Access Application" to the Department to receive a Department Security Badge. If Contractor wishes a vehicle to have access to a Department facility, Contractor must submit a vehicle access application for that vehicle.
- G. The applications will solicit such information as the Commissioner of the Department of Water Management in his discretion may require including, name, address, date of birth, social security number (and for vehicles: make, model, driver's license number, vehicle license plate number, and appropriate stickers). Contractor is responsible for requesting and completing these forms for each employee who will be working at Department facilities and all vehicles to be used on the Work site. The Commissioner of the Department of Water Management may grant or deny the application at the Commissioner's sole discretion. Contractor must make available to the Commissioner of the Department of Water Management, within one business day of the request, the personnel file of any employee who will be working on the Project.
- H. At the Commissioner of the Department of Water Management's request, Contractor and Subcontractors must maintain an employment history of employees going back 5 years from the date Contractor began Work on the Project. If requested, Contractor must certify that they have verified the employment history as required on the form designated by the Commissioner of the Department of Water Management. Contractor must provide the City, at its request, a copy of the employment history for each employee. Employment history is subject to audit by the City.
- I. Department Security Badges and Vehicle Permits will only be issued based upon properly completed Area Access Application Forms. Employees or vehicles without proper credentials will not be allowed on Department property.
- J. The following rules related to Security Badges and Vehicle Permits must be adhered to:
- K. Each employee must wear and display the Department Security Badge issued to that employee on their outer apparel at all times.
- L. At the sole discretion of the Commissioner of the Department of Water Management and law enforcement officials, including but not limited to the Chicago Police Department, Cook County Sheriff's Office, Illinois State Police or any other municipal, state or Federal law enforcement agency, all vehicles (and their contents) are subject to interior and exterior inspection entering or exiting Department facilities, and all employees and other individuals entering or exiting Department facilities are subject to searches. Vehicles may not contain any materials other than those needed for the Project. The Commissioner of the Department of Water Management may deny access to any vehicle or individual at the Commissioner of the Department of Water Management's sole discretion.
- M. All individuals operating a vehicle on Department property must be familiar and comply with motor driving regulations and procedures of the State of Illinois and the City. The operator must be in possession of a valid, state-issued Motor Vehicle Operator's Driver's License.
- N. All required City stickers and State Vehicle Inspection stickers must be valid.
- O. Individuals must remain within their assigned area and haul routes unless otherwise instructed by the Commissioner of the Department of Water Management or the City.

- P. Access to the Work sites will be shown or designated on the Contract Documents, Drawings or determined by the Commissioner of the Department of Water Management. The Commissioner of the Department of Water Management may deny access when, at the Commissioner's sole discretion, the vehicle or individual poses some security risk to Department.
- Q. Whenever Contractor receives permission to enter Department property in area where exit/entrance points are not secured by the City, Contractor may be required to provide gates that comply with Department design and construction standards. Contractor must provide a licensed and bonded security guard, subject to the Commissioner of the Department of Water Management's approval and armed as deemed necessary by the Commissioner of the Department of Water Management, at the gates when the gates are in use. Department Security will provide the locks. Failure to provide and maintain the necessary security will result in an immediate closure by Department personnel of the point of access.
- R. Stockpiling materials and parking of equipment or vehicles near Department security fencing are prohibited.
- S. Any security fencing, gates, or alarms damaged Contractor or Subcontractors must be manned by Contractor's licensed and bonded security guard at Contractor's expense until the damaged items are restored. Contractor must restore them to their original condition within an 8-hour period from the time of notice given by the Commissioner of the Department of Water Management.
- T. Temporary removal and security fencing, gate, or alarm to permit construction must be approved by the Commissioner of the Department of Water Management, and Contractor must provide a licensed and bonded security guard at the site, approved and armed as deemed necessary by the Commissioner of the Department of Water Management, at Contractor's expense, on a 24-hour basis during the period of temporary removal. Contractor must restore the items removed to their original condition when construction is completed.
- U. Unauthorized hazardous or illegal material, including but not limited to hazardous materials as defined in 49 CFR Parts 100-185 (e.g., explosives, oxidizers, radiological materials, infectious materials), contraband, firearms and other weapons, illegal drugs and drug paraphernalia, may not be taken on Department property. Alcoholic beverages are also prohibited.
- V. All employees and vehicles working near Department facilities must be properly identified. All vehicle passes will be issued to the Contractor by the Commissioner of the Department of Water Management, as required. Contractor, Subcontractors, and employees must return identification material to the Commissioner of the Department of Water Management upon completion of your and their respective Work within the Project, and in all cases, Contractor must return all identification material to the Commissioner of the Department of Water Management after completion of the Project. Final Payment will not be made until all passes issued have been returned to Department Security.

1.3 SECURITY COORDINATION

- A. Meet requirements for Department of Water Management security as specified elsewhere in these contract documents. Department of Water Management will decide which Contractor personnel receive badges allowing daily access to the site over the contract period, and which Contractor personnel will only be allowed short term access to the site with a visitor pass. Contractor must conform to the Department of Water Management security requirements without any modification to contract price or contract time.

- B. Background Check Consent Form
 - 1. Contractor must provide Department of Water Management with a completed Background Check Consent Form on the Contractor's letterhead for each Contractor employee, Subcontractor employee and other personnel who will receive Department of Water Management Contractor Badge allowing him/her daily access to the project site over the term of the Contract. A copy of the format of the form is attached. Department of Water Management review and approval of the Consent Form and Contractor personnel use of badges provided shall be in accordance with the requirements for Department of Water Management security as specified elsewhere in these contract documents.

- C. Visitor Authorization Request Form
 - 1. Contractor must provide Department of Water Management with completed Visitor Authorization Request Form for each Contractor employee, Subcontractor employee and other personnel who will receive Department of Water Management Visitor Badge allowing him/her daily access for "short term" access to the project site. Representative of the Commissioner must receive the completed forms at least 48 hours before the visiting individual(s) can receive a visitor pass(es) allowing entry on the site. A copy of the format of the form is attached. Department of Water Management review and approval of the Visitor Authorization Request Form and Contractor personnel use of visitor badges provided must be in accordance with the requirements for Department of Water Management security as specified elsewhere in these contract documents.

END OF SECTION 01 25 00

SECTION 01 30 00

HEALTH AND SAFETY PLAN

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section includes the requirements for providing a Health and Safety Plan.
- B. Prevention of accidents on or near the Work is the Contractor's responsibility. The Contractor shall take all necessary precautions to assure the safety of all persons and property during performance of the Work and will protect the Work and adjacent property from damage. The Contractor will conform to all laws and regulations relating to health and safety. The Contractor shall designate a qualified representative responsible for safety.
- C. The Contractor shall at all times be solely responsible for all aspects of safety in connection with the Work, including initiating, maintaining and supervising all safety precautions and plans. The Contractor shall perform the Work or ensure that it is performed, in a manner to avoid risk of injury to persons or damage to property and shall continuously inspect the Work, which includes all of the Contractor's materials, equipment and lower tier subcontractors, to discover the existence of any conditions which impose a risk of bodily injury or damage to property.

1.2 SUBMITTALS

- A. Prior to beginning the Work, The Contractor shall submit for the Commissioner's review, a written Safety Plan, with detail commensurate with the Work. Such Plan shall be prepared by an appropriate health or safety professional and shall describe anticipated hazards and control methods. The Contractor will employ to administer a Safety Plan which provides adequate safeguards for all construction employees, the Commissioner's employees, site visitors, and the public. The Plan's safety measures, policies and standards shall conform to those required or recommended by governmental and quasi-governmental authorities having jurisdiction and by the Commissioner, including, but not limited to, requirements imposed by the Contract Documents.

PART 2 – PRODUCTS - (Not Applicable)

PART 3 - EXECUTION

3.1 The Safety Plan must include, at a minimum, the following components:

- A. **Training.** The Contractor is responsible for the safety education of their employees. The training must comply with all laws and standards and include

additional training for site supervision. Training must continue through the term of the Contract. The Contractor shall provide copies of training certificates to the Commissioner for all operations, which require such training. These documents must be submitted prior to performing the Work. As a minimum, the following training is required:

1. Supervisor Safety Training – must cover record keeping, incident investigation, OSHA inspections, H&S documentation requirements, and the OSHA 10 hour course for construction.
2. Competent Person Training – each person designated as a competent person shall attend training on that particular operation. Operations requiring a competent person per OSHA requirements include, but are not limited to, trenching and excavation, fall protection, scaffolds, confined space entry, and rigging.
3. Employee Orientation Training – must cover the various safety policies, safety manuals, first aid availability, accident reporting procedures, safety meeting participation, personal protective equipment, and enforcement procedures.
4. Emergency Procedures – must cover notification procedures, evacuation routes, mustering points, and accountability.
5. Safety Meetings – must be conducted weekly with all Subcontractor's onsite personnel. Documentation detailing the subject discussed and signatures of all participants must be kept for each meeting.
6. Hazard Communication Standard – must cover all aspects of the standard including MSDSs, chemicals onsite, labeling and the written program. Annual re-training is required.
7. Lockout / Tagout – must cover each individual piece of machinery or equipment that is to be serviced or altered during this Project.

- B. **Incident Investigation.** The Contractor must report all OSHA recordable injuries and any property damage to the Commissioner immediately (within 1 hour of incident). An incident investigation must be conducted and a complete report issued to the Commissioner within twenty-four (24) hours of incident.
- C. **Emergency Procedures and First Aid/Medical Services.** The Contractor must meet OSHA's first aid requirements and provide at least one (1) onsite employee possessing a current training certification in CPR and First Aid.
- D. **Record Keeping.** Project-specific OSHA 300 and first aid logs must be maintained onsite at all times.
- E. **Personal Protective Equipment.** The Contractor shall provide and inspect all personal protective equipment (PPE). In addition, the Contractor shall enforce the use of PPE by its employees, as specified in the project health

and safety plan. Minimum PPE for the Commissioner projects includes: hard hats, safety glasses, hard soled work boots and high visibility warning vests (meeting ANSI/ISEA 107-2004 standards) when personnel are in proximity to moving equipment. The minimum dress code for the Commissioner projects includes appropriate clothing (long pants and sleeved shirts that must cover torso).

- F. **Competent Person.** The Contractor agrees to provide a competent person onsite at all times during operations which require such according to the OSHA regulations. This person must be experienced in the operation and have received detailed training on the regulations pertaining to the operation. The competent person shall perform a daily inspection of the operation.

 - G. **Housekeeping and Site Services.** The Contractor is solely responsible for housekeeping in their work areas. Good housekeeping is essential for all work performed at any of the Commissioner's sites. The Contractor is responsible to supply drinking water, adequate toilets, washing facilities, fire extinguishers, first aid kits and jobsite posters per OSHA requirements.
- 3.2 The Contractor shall designate a qualified safety representative with responsibility for preventing accidents and implementing and supervising the Safety Plan and other safety programs. The safety representative shall attend all project safety meetings, participate fully in all activities outlined in the Safety Plan and shall devote whatever time is necessary to perform such duties properly.

END OF SECTION 01 30 00

SECTION 01 32 33

PRE-CONSTRUCTION VIDEOTAPING OF PROJECT SITE

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section includes the requirements for televising construction areas prior to the start of construction.

1.2 SUBMITTALS

- A. The Contractor must provide a DVD of the televised inspection of the construction area(s) prior to the start of any construction. Recordings are to be in high quality color. Printed labels DVD containers and disks must include the contract name and number, date the recording was made, and location of the televised inspection.
- B. A log must be provided detailing all defects and deficiencies within the project limits. The footage from the beginning of recording as well as the approximate street address must be included.

1.3 QUALITY ASSURANCE

- A. Work is to be performed by a professional video operator having appropriate equipment and significant documentable experience in televising similar construction sites.

PART 2 – PRODUCTS - (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL

- A. No additional working days will be allowed due to delays in securing the televising services of a private vendor.
- B. All construction areas must be televised within three (3) months of the start of any construction, unless directed otherwise by the Commissioner.

C. Prior to televising, the Contractor must visually inspect all areas to be videotaped and make notations of any features that may not be readily visible during the televising of the area. Identify and record all measurements of such items during the pre-videotape inspection, and include the Information in the narration of the area when it is televised.

D. Any out of focus or distorted audio on any portions of the recording will be cause for rejection of the recording and require re-televising the area in question at the Contractor's expense.

3.2 TELEVISIONING PROCEDURE

A. The camera must be moved through the construction area while tracking progress with a measuring wheel at a uniform rate not to exceed 50 feet per minute, stopping when necessary to ensure proper documentation of the condition of the area. Panning and zoom in/out rates are to be controlled to maintain clarity of the documented item(s) during playback.

B. Televising the exterior construction areas during periods of good weather. Avoid televising during periods of poor visibility, precipitation, or times of the year when fallen leaves or snow obscures features in areas to be recorded. Provide auxiliary lighting when required to fill in shadow areas during taping.

C. Televised coverage must include all areas within the zone of influence of the type of construction shown on the drawings, unless directed otherwise by the Commissioner. Audio and video coverage is to be recorded simultaneously.

D. Defects or deficiencies revealed by the televised inspection must be noted on the recording and highlighted by audio commentary. Existing debris and damage to buildings or other structures, paved areas, utility structures, curb, gutter, sidewalk, driveways, aprons and other features must be recorded and audibility noted. Notation shall include the approximate street address as well as distance measured from the start of recording.

3.3 RECORDED INFORMATION

A. Audio Information

1. Each DVD must begin with the recording date, project name and city department, followed by general location references (i.e. street names, building addresses, viewing side and direction of travel, references to building floor plans, or prominent architectural features), as appropriate for the type of project, unless directed otherwise by the Commissioner. The audio track is to contain the narrative commentary of the camera operator recorded

simultaneously with the fixed elevation video record within the zone of influence of construction.

B. Video Information

1. All video recordings must by electronic means, display the following information continuously and digitally on screen. The information should be positioned on screen so as not to obscure information being videotaped.
 - a. Report or tape number
 - b. Date recorded
 - c. Location reference

END OF SECTION 01 32 33

SECTION 01 32 36

TELEVISED INSPECTION OF SEWER MAINS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. This Section includes requirements for televising the interior of existing city sewers to document the physical condition of the pipe and structures.

1. Televising existing sewer(s) when new water mains are constructed parallel to the existing sewer. Existing sewer(s) should be televised for their entire length through the construction area, starting at a manhole closest to the beginning of the construction area, working upstream, to a manhole closest to the end of the construction area.

B. The following is a list of standards which may be referenced in this section:

1. U.S. Department of Transportation, Federal Highway Administration: Manual on Uniform Traffic Control Devices (MUTCD), Part 6, Temporary Traffic Control.
2. NASSCO: Pipeline Assessment Certification Program (PACP).

1.2 SUBMITTALS

A. The Contractor must provide two (2) DVDs of the televised inspections for documenting the condition of existing city sewers within the area of construction, or as directed by the Commissioner. The first televised inspection must be made before the start of any water main construction. The second televised inspection is to be made after the water main has been installed and street and parkway restoration has been completed. The location and narration of both the pre-construction and post construction televised inspections must be synchronized by means of narration and an on screen distance meter to enable a comparison to be made to judge the physical condition of the sewer(s) before and after construction.

B. Videotaped inspections must be recorded on a DVD, of such format to be viewed on a PC or multiple-format DVD player in a read only format. All recordings are to be in high quality color. Printed labels on DVD containers and cases must include the name of the water main project, contract number, and date of inspection(s).

1.3 QUALITY ASSURANCE

- A. Submit DVDs with logs for quality review and comment to Owner and Engineer within 24 hours after the first days' work has been completed. Submit tapes and logs on a routine basis within seven (7) days after completing each tape. Picture quality and definition shall be to the satisfaction of Owner and Engineer. Inspection equipment that fails to produce satisfactory inspection quality shall be removed.

PART 2 – PRODUCTS

2.1 EQUIPMENT

A. Inspection Equipment:

1. Monitoring Studio:

- a. Temperature controlled.
- b. Size: Sufficient to allow seating for two people in addition to operating technician.
- c. Secure cable, chains, and other devices used with camera so as not to obstruct camera view or otherwise interfere with proper documentation of sewer conditions

2. Television Monitor:

- a. Locate in monitoring studio.
- b. Color video picture.
- c. Resolution capability of no less than 350 lines.
- d. Continuous display during survey:
 - 1. Date of survey.
 - 2. Number designation of manhole section being surveyed.
 - 3. Continuous forward and reverse readout of cameral distance from the manhole reference.

3. Cables: 600 feet long, minimum.

4. Power source.

5. Lights.

6. Television Camera:

- a. Explosion proof.
- b. Resolution capability: Minimum of 460 lines of horizontal resolution and 400 lines of vertical resolution.
- c. 360-degree pan and tilt unit, with adjustable supports specifically designed and constructed for operation in connection with pipe inspection. Lights shall be mounted on and turn in the direction of the camera head.

- d. 65-degree viewing angle, minimum, and either automatic or remote focus and iris controls. Remote control adjustment for focus and iris shall be located in the monitoring studio.
- e. Operative in 100 percent humidity conditions.
- f. Mounted on a device, sized for each pipe diameter, that is capable of performing work as described in this section. (Unless some significant impassable condition arises, in which case the contractor must contact the Commissioner for direction on how to proceed.)
- g. Equip with tag line suitable for pulling camera backwards.
- h. Ability to achieve proper balance of tint and brightness.
- i. Equip with winch, power winch, TV cable, powered rewind, or other devices used to move camera through pipe.
- j. Focal Distance: Adjustable through range from 6 inches to infinity.
- k. Camera Lighting:
 - 1. Minimize reflective glare.
 - 2. Remote variable intensity control.
 - 3. Lighting quality to provide clear, in-focus picture of entire inside periphery of pipe.
- l. Sufficient for 6–inch through 72–inch diameters.
- m. Remote Reading Footage Counter:
 - 1. Accuracy: two-tenths of one foot over length of section being inspected.
 - 2. Mounted over television monitor.
 - 3. Marking on cable will not be allowed.
 - 4. Calibration: Each day prior to setup.

2.2 RECORDING OF DOCUMENTATION

A. Media:

- 1. DVD-R.
- 2. DVD disc must be recorded in format compatible with standard DVD video players.
- 3. Opening Screen:
 - a. Date of inspection.
 - b. Pipe structure identification number.
 - c. Upstream and downstream node identification numbers.
 - d. Street address.
 - e. Pipe size.

- f. Normal (upstream to downstream) or reverse (downstream to upstream) pull.
4. Continuous View:
 1. Current distance along reach (tape counter footage).
 2. Do not include pipe structure identification number along active tape (only on opening screen).
 5. Audio (voice over):
 1. Description of inspection setup, including related information from log form.
 2. Unusual conditions.
 3. Operation changes (e.g., remove roots and restart inspection at footage prior to root removal).
 4. Verbal (voice over) description and location of each defect.
 5. Verbal description and location of each service connection.
 6. DVD Labeling:
 - a. Provide printed label on the inside face of the actual diskette that indicates the following:
 1. Name of Owner.
 2. Project Title.
 3. Date of Inspection.
 4. Inspection Company.
 5. Tape Number.

PART 3 - EXECUTION

3.1 GENERAL

- A. No additional working days will be allowed due to delays in securing the video inspection services of a private vendor.
- B. The initial video of the sewer(s) must be made within one (1) month of the start of construction, unless directed otherwise by the Commissioner. A second video inspection of sewers must be conducted after all water mains and surface restoration is completed.
- C. Any out of focus video or distorted audio on any portion of the video will be cause for rejection and require a new DVD of the inspection to be submitted at no additional cost to the City.
- D. When non-remote powered and controlled winches are used to pull television camera through line, telephones, radios, or other suitable means of communication shall be provided between the two manholes to ensure that adequate communications exist between crewmembers.

3.2 TELEVISION PROCEDURES

- A. Set camera so axis is at centerline of pipe.
- B. Show continuous footage reading on tape image. Place on screen where it is clearly visible (e.g., if black font, do not place on dark background, if white font, do not place on light background).
- C. Keep camera lens clean, and clear. If material or debris obscures image or causes reduced visibility, clean or replace lens prior to proceeding with recording operation.
- D. Camera lens shall remain above visible water level and may submerge only while passing through clearly identifiable line sags (or vertical misalignments).
- E. Record inside of each lateral, and connection of lateral to pipeline.
- F. Recordings shall clearly show cracks and fractures, and their severity, in addition to obvious features, i.e., laterals and joints.
- G. Immediately report obstructions that restrict flow and cause inspection to be interrupted to Owner or Engineer. Document condition with still photograph, and begin inspections of other pipelines.
- H. Camera Operation:
 - 1. Speed: 30 feet per minute, maximum, during inspection.

2. Stop, for a minimum of 5 seconds, at every lateral, broken pipe, root intrusion, or other defect or adversity.
 3. Pan entire diameter or area of pipe at each defect.
 4. Lens, lighting, and focus shall be readjusted in order to ensure clear, distinct, and properly lighted image of defect.
televised line and beginning of another.
- I. Insert 5-second blank space between line segments to clearly mark end of one
 - J. Loss of color or severe red or green color will be cause for rejection of inspection.
 - K. Recordings shall be without distortion or outside interference.
 - L. Line segments shall be televised complete from structure-to-structure on same DVD in continuous run. Video must clearly show camera starting and ending at structure, unless defect does not allow it. Do not perform partial televising on one DVD and then complete run on another DVD. If line is partially televised, due to excusable condition, i.e., collapsed line, televised length shall be viewed by Commissioner for acceptability.
 - M. Record all measurements in English units.
 - N. Obtain pipe diameter by physical measurement in upstream (or downstream) access structure.
 - O. Verify pipe material (e.g., RCP, VCP, CMP) and surface lengths between manholes.
 - P. Use calipers or measuring rod to determine diameter of inlet and outlet pipe.
 - Q. Footage measurements shall begin at centerline of upstream manhole, unless Owner or Engineer approves otherwise.
 - R. Continuous Footage Readings:
 1. Use to identify location of defects.
 2. Accurate to within plus or minus 2 percent tolerance.
 3. Defect identifications are to be called out and recorded to the nearest 1 foot.
 4. Line segment recording will be unacceptable if continuous footage meter is inaccurate or identified defects or features leave doubt as to accuracy of locations or total length.
 - S. For measurement of distance to defects, attach marker flag to top of camera yoke. Measurements recorded in log shall be zeroed in alignment with marker rather than camera itself. Measurement shall be zeroed after each segment inspected.
 - T. Check accuracy of measurement meters daily by use of walking meter, roll-a-tape, or other suitable device.

- A. Audio and written documentation must accompany all DVD's submitted to the Commissioner.
- B. The voice narrations on the recording must provide brief but informative comment on data of significance, i.e., the distance traveled within the sewer, location of any unusual conditions or damage, collapsed pipe or manhole sections, blockages, or other discernible features.
- C. The DVD recording(s) must include the following information:
 - 1. Data View:
 - a. Name of streets containing sewers being televised.
 - b. Report or videotape number.
 - c. Date of TV inspection.
 - d. Upstream and downstream manhole or station numbers.
 - e. Current distance of travel (tape counter distance).
 - 2. Printed labels on DVD container must include location, date, format, and other descriptive reference information.
- D. Work Product:
 - 1. DVD diskettes and completed inspection log sheets,
 - 2. Inspection Log Sheet:
 - a. A single and complete log for each manhole-to-manhole section of pipe will be submitted.
 - b. Provide separate logs for normal and reverse setups of same segment.
 - c. Other data of significance, including those defects listed on table at end of this section shall be recorded on videotape.
 - d. Subject to audits against tapes.

END OF SECTION 01 32 36

SECTION 01 42 00

REFERENCES DEFINITIONS & ABBREVIATIONS

PART 1 – GENERAL

1.1 FORM OF SPECIFICATIONS

- A. Wherever used in the Specifications, the following terms have the meanings indicated which are applicable to both the singular and plural form of the word.
- B. Where "as shown," "as indicated," and "as detailed," or words of similar import are used, it is understood that reference to the Drawings is made unless stated otherwise. Where "as directed," "as permitted," "approved," or words of similar import are used, it is understood that the direction, requirements, permission, approval, or acceptance of the City is intended unless stated otherwise.

1.2 DEFINITIONS

- A. Addenda: Written or graphic instruments issued prior to the opening of bids, which clarify, modify, or interpret the Contract Documents.
- B. Agreement: The written Contract, which is evidence of the agreement between the City and the Contractor covering the Work.
- C. Arterial Streets: Major streets where special construction techniques may be required by CDOT.
- D. Chief Procurement Officer: The Chief Procurement Officer of the City of Chicago.
- E. City: The City of Chicago.
- F. Water Management or the Commissioner's duly authorized representative.

- G. Completion: All tests performed and accepted, water services transferred, connections made, and abandonment's completed.
- H. Comptroller: The City Comptroller of the City of Chicago or the Comptroller's successor or successors upon whom the Comptroller's duties are transferred.
- I. Contract: The entire and integrated written agreement between the City and the Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
- J. Contract Documents: The Agreement, Addenda, Contractor's bid, and related documentation when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, the General Conditions, the Special Conditions, the Specifications and the Drawings, together with all Written Orders which completely describe the technical requirements of the Project including bid, Contract, and construction procedures.
- K. Contract Notice: A written notice from the Chief Procurement Officer mailed to the Contractor at the address designated in the Contractor's proposal or to such other address as the Contractor may designate in writing as Contractor's official place of business, transmitting to the Contractor an executed copy of the Contract.
- L. Contractor: The person, firm, or corporation with whom the City has executed the Contract, and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.
- M. Defective: An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty, or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to final acceptance.
- N. Department: The City of Chicago Department of Water Management.

- O. Drawings or Plans: The part of the Contract Documents, which shows the characteristics, and scope of the work to be performed and which have been prepared and approved by the Engineer.
- P. Engineer: The Deputy Commissioner of the Bureau of Water Engineering Services or the Deputy Commissioner's duly authorized representative.
- Q. Force Account: The method of payment for extra work performed.
- R. Furnish: Furnish means supply and deliver to the Work area, ready for unloading, unpacking, assembly, installation, and similar operations.
- S. Install: Install means the actual unloading, packing, assembly, erection, constructing, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- T. Municipal Code: The Municipal Code of the City of Chicago.
- U. Neat Lines: The required clear width of a trench or excavation. In sheeted trenches, the required width is measured to the outside of the sheeting. Unless noted elsewhere on the Plans, neat line clear width is equal to:
1. The sum of the outside diameter of the pipe plus 2-feet for water main construction,
 2. The sum of the outside diameter of the pipe plus 8-feet for sewer construction.
 3. The sum of the outside diameter or edge plus 4-feet for structure construction
- V. Notice to Bidders: The advertisement for bids, the official notice inviting bids for the work to be done.
- W. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

- X. Project: The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.
- Y. Provide: Furnish and Install as required.
- Z. Samples: Physical examples which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.
- AA. Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules, and other data, which are prepared by the Contractor, Subcontractor, manufacturer, supplier, or distributor, which illustrates how specific portions of the Work are proposed to be fabricated or installed.
- BB. Site and/or Work Area: The lands and other places on, under, in, or through which the Work is to be executed or carried out and any other lands or places provided by the City for the purposes of the Contract, together with such other places as may be specifically designated in the Contract Documents as forming part of the Site and/or Work Area.
- CC. Specifications: A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and workmanship.
- DD. State: The State of Illinois.
- EE. Subcontractor: An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the Site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative.
- FF. Supplier: Any person, supplier, or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but

who does not perform labor at the Site. A supplier is not a Subcontractor who purchases an item or equipment from a manufacturer or supplier.

- GG. Unit Price: A cost per unit of work or measurement of material, for a bid item.
- HH. Work: All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction. Work is also used to mean the same as Project.
- II. Written Order: A directive, written and signed by the Commissioner, delivered to the Contractor at the address designated in the Contractor's bid or to such other address as the Contractor may designate in writing as Contractor's official place of business.

1.3 CITATION OF OTHER SPECIFICATIONS

- A. Commonly used abbreviations have the meanings as specified in this Section. The plans may contain a list of additional abbreviations applicable thereto. Whenever the Contract Documents refer to the specifications of any society, institute, association, or governing organization, the specifications cited will become a part of this Contract as if written herein in full.

1.4 ABBREVIATIONS

- A. AASHTO: American Association of State Highway & Transportation Officials.
- B. ACI: American Concrete Institute.
- C. AISC: American Institute of Steel Construction.
- D. ANSI: American National Standards Institute.
- E. APWA: American Public Works Association.

F. <u>ASCE</u> :	American Society of Civil Engineers.
G. <u>ASME</u> :	American Society of Mechanical Engineers.
H. <u>ASTM</u> :	American Society for Testing and Materials.
I. <u>AWS</u> :	American Welding Society.
J. <u>AWWA</u> :	American Water Works Association.
K. <u>CCD</u> :	Chicago City Datum.
L. <u>CDOT</u> :	City of Chicago Department of Transportation.
M. <u>CRSI</u> :	Concrete Reinforcing Steel Institute.
N. <u>FS</u> :	Federal Specification Board.
O. <u>IDOT</u> :	Illinois Department of Transportation.
P. <u>IEPA</u> :	Illinois Environmental Protection Agency.
Q. <u>ISO</u> :	Insurance Services Office of Illinois.
R. <u>MWRD</u> :	Metropolitan Water Reclamation District of Greater Chicago.
S. <u>NBFU</u> :	National Board of Fire Underwriters.
T. <u>NBS</u> :	National Board of Standards.
U. <u>NCMA</u> :	National Concrete Masonry Association.
V. <u>NCPWB</u> :	National Certified Pipe Welding Bureau.
W. <u>NEMA</u> :	National Electric Manufacturers Association.

- X. NPT: National Pipe Thread.
- Y. OSHA: Occupational Safety and Health Act.
- Z. PCA: Portland Cement Association.
- AA. SSRBC: Illinois Department of Transportation, Standard Specifications for Road and Bridge Construction.
- BB. UL: Underwriters' Laboratory.

PART – 2 – PRODUCTS – (NOT APPLICABLE)

PART - 3 – EXECUTION – (NOT APPLICABLE)

END OF SECTION 01 42 00

SECTION 02 60 00

SPECIAL SOILS EXCAVATION AND DISPOSAL

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section includes the requirements for the excavation and disposal of soil classified as Special Soils Waste within the limits shown on the drawings.
- B. Soil Borings – The Department will provide Soil Boring logs and laboratory analysis summary tables, when available, for Contractor information only. This information is not part of the Contract Documents but is included for Contractor information only.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 31 23 19 – Dewatering Excavations.

1.3 DEFINITIONS

- A. Special Soils Waste - excavated soil containing contaminants that exceed the most stringent Tier 1 Soil Remediation Objectives for Residential Properties in Illinois Administrative Code (IAC), Title 35, Section 742, Appendix B, Table A. Such soils may contain gasoline, petroleum products, polynuclear aromatic substances (PNAs), and heavy metals such as mercury, chromium and similar metals.

1.4 SUBMITTALS

- A. Work Plan
 - 1. Submit a Work Plan for the removal of Special Soils Waste from designated areas as shown on the Drawings. Work Plan must be submitted to the Commissioner within thirty (30) days of start of excavation operations.
 - 2. The Work Plan must provide a list of all proposed subcontractors, indicating the service each is to provide. The Contractor and subcontractors must provide a Statement of Qualifications demonstrating their capabilities to provide services as indicated in the Work Plan.
 - 3. The Work Plan must describe the intended dust control measures for the removal of Special Soils Waste.

B. Documentation

1. Provide the Commissioner with copies of all environmental permits, records and reports as specified. The Contractor must provide the Commissioner with the results of any laboratory analyses necessary for permit acquisition.

C. Health and Safety Plan

1. The Contractor must develop a location specific Health and Safety Plan and submit the plan to the Commissioner a minimum of two weeks before beginning construction activities. The Contractor has full responsibility for health and safety on the Site.

D. Report

1. At the end of the Work, prepare a technical report on the activities conducted during the duration of the Work and submit three copies to the Commissioner. The technical report must include all pertinent information regarding the Work including, but not limited to:
 - a. Measures taken to monitor, handle, and dispose of Special Soils Waste Soil, prevent further migration of contaminants and to protect workers.
 - b. Cost for monitoring, handling, and disposing of special soils waste soil.
 - c. Reduced scale drawing(s) showing area(s) of Special Waste Soil removed.
 - d. Contractors and subcontractors hourly records broken down by project.
 - e. Waste manifests and/or landfill tickets (identified by project) for Special Soils Waste disposal.

1.5 PERMITS AND FEES

- A. The Contractor must include in his unit price bid the cost associated with obtaining all permits and landfill disposal fees required for disposal of special soils waste.

PART 2 - PRODUCTS - (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 DUST CONTROL.

- A. Contractor must control and minimize the release of dust during Special Soils Waste removal activities, by use of water or an acceptable chemical application.

3.2 EXCAVATION AND DISPOSAL.

A. Restrictions

1. Soil and other material removed from an excavation determined to have Special Soils Waste must not be reused and placed as trench backfill material, unless directed otherwise by the Commissioner.

B. Dewatering

1. Dewater excavations in accordance with Section 31 23 19 – Dewatering Excavations.

C. Backfill Plugs

1. When excavation occurs in areas with a high groundwater table and excavated material has been classified as Special Soils Waste, the Contractor must install backfill plugs to isolate the area from the remainder of the excavation. Backfill plugs must be installed at intervals not to exceed 50 feet, and must be a minimum of 4 feet in length (measured parallel to the trench), and of full width and depth of the trench. Plugs must be constructed only from non-porous materials such as clay soils, concrete, or equivalent material approved by the Commissioner.

D. Transporting and Disposal of Special Soils Waste.

1. Due care must be used by the Contractor in transporting Special Soils Waste material from the area of origin to the disposal area. The Contractor is responsible for the clean-up of any release of soil containing contaminants into the environment, at no additional cost to the City. Clean up includes, but is not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.
2. Transport and dispose of all material classified as a Special Soils Waste from the job site to an appropriately permitted landfill facility. Prepare all manifests required for the transport of Special Waste.
3. Line the equipment used to haul Special Soils Waste material to the landfill facility with a six (6) mil polyethylene liner and provide secure cover during transportation. The Contractor must obtain all documentation including any permits and/or licenses required to transport the Special Soils Waste material to the disposal facility.
4. Make all arrangements for testing and waste disposal approval with the disposal facility. Subsequent to the Contractor completing these activities and upon receipt of authorization from the Commissioner, the Contractor must initiate the disposal process.
5. Schedule and arrange the transport and disposal of each load of Special Soils Waste material produced. Make all transport and disposal arrangements to ensure no Special Soils Waste material remains within the

Work area at the close of business each day. The Contractor is responsible for all other pre-disposal/transport preparations necessary on a daily basis to accomplish management activities.

3.3 TEMPORARY STAGING

- A. Excavate and dispose of all waste material without temporary staging. If circumstances require the use of temporary staging, the Contractor must request approval from the Commissioner.

END OF SECTION 02 60 00

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section includes requirements for the construction of cast-in-place concrete for utility structures, pavements, curb and gutter, and sidewalks, where shown on the Drawings or specified here.

1.2 REFERENCES

- A. American Concrete Institute (ACI), latest edition:
1. ACI 117 - Standard Specification for Tolerances for Concrete Construction and Materials.
 2. ACI 301 - Standard Specifications for Structural Concrete.
 3. ACI 302.1R - Guide for Concrete Floor and Slab Construction.
 4. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
 5. ACI 305R - Hot Weather Concreting.
 6. ACI 306.1 - Standard Specification for Cold Weather Concreting.
 7. ACI 308 - Standard Practice for Curing Concrete.
 8. ACI 309R - Guide for Consolidation of Concrete.
 9. ACI 315 - Details and Detailing of Concrete Reinforcement.
 10. ACI 318 - Building Code Requirements for Structural Concrete.
 11. ACI 503.2 - Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive.
- B. American Society for Testing and Materials (ASTM), latest edition:

1. ASTM C31 - Standard Practice of Making and Curing Concrete Test Specimens in the Field.
 2. ASTM C94 - Specification for Ready-Mixed Concrete.
- C. Illinois Department of Transportation – Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.
- D. Illinois Department of Transportation – Supplemental Specifications and Recurring Special Provisions (SSRSP), latest edition.

1.3 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 31 23 10 - Excavation, Trenching and Backfilling.
- B. Section 03 20 00 - Concrete Reinforcing.

1.4 SUBMITTALS

- A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.
- B. Structural Concrete Shop Drawings:
 1. Submit drawings that indicate the locations of all joints in concrete, including construction joints, expansion joints, isolation joints, and contraction joints.
 2. Submit drawings that indicate concrete placement schedule, method, sequence, location, and boundaries. Include each type and class of concrete, and quantity in cubic yards.
- C. Concrete Forming:

Submit shop drawings for concrete forming indicating and including the following details and requirements:

1. Forming system and method of erection with associated details.

2. Shoring accompanied by design calculations.
 3. Locations of construction joints.
 4. Location and sizes of conduits, openings, recesses, pipes, ducts and other attached or embedded products.
 5. Chamfer strips for corner treatment.
 6. Method and schedule for removing forms and shoring.
 7. Method for detecting formwork movement during concrete placement.
- D. Product Data: Submit manufacturer's product data for epoxy adhesive.
- E. Records and Reports: Report the location in the finished work of each mix design, and the start and completion times of placement of each batch of concrete placed for each date concrete is placed.

1.5 QUALITY CONTROL

- A. Concrete Tolerances must comply with the requirements of ACI 117 as applicable.
- B. Cold Joints: Cold joints in concrete will not be permitted unless planned and treated properly as construction joints.
- C. Monitoring of Formwork: Provide monitoring of forms and embedded items to detect movement, or forms and embedded items out-of-alignment, from pressure of concrete placement.
- D. Provide 100% quality control (QC) independent of said Contractor for all field testing in accordance with CDOT and IDOT Standards. The Contractor is responsible for notifying CDOT and the DWM Commissioner no later than 2pm on the day prior to the concrete

placement. All provisions required for tests, samples and inspections are considered incidental to the Work and no additional payment is allowed.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. It is the contractor's responsibility (at no additional cost to the City) to deliver and place concrete in hot weather. This work must conform to the applicable requirements of ACI 305R and ACI 306.1.
- B. Delivering and placing of concrete in cold weather must conform to the applicable requirements of ACI 305R and ACI 306.1. On-site additional winter protection will be paid under a separate bid item (WINTER PROTECTION).
- C. Do not place concrete when the rate of evaporation of surface moisture from concrete exceeds 0.2 pounds per square foot per hour as indicated in Figure 2.1.5 of ACI 305R.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Formwork
 - 1. Wood forms must be built of clean, sound lumber, reasonably free from knots and dressed on all sides.
 - 2. The forms, either of steel or wood, must be watertight, with smooth surfaces, and of ample strength and rigidity. Bracing for forms must be adequate to prevent deviation from the correct lines. The forms must be coated with oil or other suitable substance that is satisfactory to obtain a smooth concrete surface. The coating must be carefully applied so none is deposited on the reinforcement steel.

3. Forms must be neatly and accurately made with all similar parts in each longitudinal section interchangeable. Bent plates required to fit must be rolled and fabricated to correct curves before being assembled.
4. All forms must be thoroughly cleaned after each use with any broken, warped or defective parts removed. Minor repairs of forms will be permitted, but any form that requires more than minor repairs in order to obtain first-class work must not be re used. The Commissioner, at his sole discretion, reserves the right to condemn any form that may compromise the structural integrity or appearance of the work, and the Contractor must at once correct the defective form or remove it from the site of the work, whichever the Commissioner may order.

B. Portland Cement Concrete for Cast-In-Place Utility Structures and Pipe Class SI Concrete conforming to Section 1020 of the SSRBC except for sewer structures and pipe, or as otherwise specified here.

1. Compressive Strength: The concrete for utility structures must have a compressive strength of not less than 3,500 pounds per square inch at the age of fourteen (14) days and not less than 4,000 pounds per square inch at the age of 28 days when tested by standard methods.
2. Admixture: The use of admixtures in the concrete for any purpose other than for air entrainment will not be permitted.
3. Air Entrainment: The amount of entrained air must not be less than 5% nor more than 8% of the volume of the concrete. The air entrainment must be produced by the use of "Darex" or other approved air-entraining agent.
4. All cement used in concrete for sewers and sewer structures must be a blend of Type I Portland cement and Fly Ash. Type I cement

and Fly Ash must not be less than 5 bags of Type I cement and 100 pounds of Fly Ash per cubic yard of concrete. Type I Portland cement must conform to the requirements of "Standard Specifications for Portland Cement," ASTM Designation C 150.

5. Fly Ash will conform to the requirements of "Tentative Specifications for Fly Ash for Use As an Admixture in Portland Cement Concrete," ASTM Designation C 618, except that the Free Carbon will not exceed 3.0 percent. **Fly Ash is not to be used in concrete mixtures to be in contact with water main pipe and / or other exposed metals for thrust restraint systems and appurtenances.**
6. The fine aggregate for concrete must conform to grade FA2 of the SSRBC.

C. Portland Cement Concrete for Pavements, Base Course, Sidewalks, Curbs and Gutters, Driveways and Alley Aprons.

1. The materials, proportioning, mixing, transporting, curing and protection of Portland cement concrete must be in conformance with Section 1020 of the SSRBC, except that air entrainment in the concrete must be produced by the use of "Darex" or other approved air-entraining agent.
2. Classes of Portland Cement Concrete.
 - a. Class SI for Normal Strength— general use, utility structures, sidewalks, curbs, sign footings, and miscellaneous uses. Minimum Compressive Strength 3500 PSI at 14 Days.
 - b. Class PP-1 for High Early Strength – use for patching pavements. Minimum Compressive Strength 3200 PSI at forty eight (48) hours.
 - c. Class PV, High Early Strength (HES) Concrete – use for all concrete pavements. An IDOT/CDOT approved patching mixture shall be used with a minimum cement factor of

6.50cwt and a maximum cement factor of 7.05cwt. Type III cement shall not be permitted. Minimum Compressive Strength 3500 PSI at three (3) Days.

3. Concrete Slump for ADA Ramps must be between 2" and 4" inclusive
4. Rapid Hardening Cement, IDOT Class PP-5 [From IDOT BDE Specification Revised November 1, 2007]:
 - a. Maximum and Minimum Cement factor:
6.75 cwt/cy (400 kg/cm).
 - b. Cement shall be calcium aluminate meeting the standard physical requirements for Type I cement according to ASTM C 150, except the time of setting shall not apply. The chemical requirements shall be determined according to ASTM C114 and shall be as follows: minimum 38 percent aluminum oxide (Al_2O_3), maximum 42 percent calcium oxide (CaO), maximum 1 percent magnesium oxide (MgO), maximum 0.4 percent sulfur trioxide (SO_3), maximum 1 percent loss on ignition, and maximum 3.5 percent insoluble residue.
 - c. Maximum final set time of 25 minutes according to Illinois modified ASTM C 191.
 - d. The cement shall have a Minimum compressive strength of 2,000 psi at 3.0 hours and 4,000 psi at 24.0 hours according to Illinois modified ASTM C 109.
 - e. The cement shall have a Maximum drying shrinkage of 0.050 percent at seven days, according to Illinois modified ASTM C596.

- f. The cement shall have a Maximum expansion of 0.020 percent at 14 days according to Illinois modified ASTM C 1038.
- g. The cement shall have a Minimum 80% relative dynamic modulus of elasticity; and shall not have a weight (mass) gain in excess of 0.15% or a weight (mass) loss in excess of 1.0 percent, after 100 cycles, according to Illinois modified AASHTO T 161, Procedure B. At 100 cycles, the specimens are measured and weighed at 73 degrees Fahrenheit (23 degrees Celsius).

D. Joint Filler

- 1. Bituminous preformed joint filler must conform to the requirements of Section 1051 of the SSRBC.

E. Protective Coat for Exposed Concrete Surfaces

- 1. The protective coat is to consist of a mixture of linseed oil and petroleum spirits and conform to the requirements of Section 1023 of the SSRBC.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. The Contractor shall notify the Commissioner, giving sufficient time in advance of removal of surface features, excavating, erecting formwork and placing concrete, to permit thorough inspection.

3.2 PREPARATION

- A. Provide excavation, bedding and backfill as specified in Section 31 23 10 - Excavation, Trenching and Backfilling.

- B. Locate and stake out all forms and establish all lines, levels and elevations. Construct formwork in accordance with the approved Shop Drawings and in a manner that will produce finished concrete surfaces conforming to the indicated design and within specified tolerances. The forms must be coated with oil or other suitable substance to obtain a smooth concrete surface. Maintain all surfaces upon which concrete is to be placed free of debris and mud.
- C. Place concrete under the observation of the Commissioner and with the Contractor's Quality Control Representative present to document requirements and results of the placement.
- D. Whenever possible, place concrete during normal working hours. When concrete- placement schedules require concrete placement at times other than normal working hours, ensure that the Commissioner is notified and is present at the time of placement.
- E. Do not place concrete until conditions and facilities for the storage, handling, and transportation of concrete test specimens are in compliance with the requirements of ASTM C31 and are approved by the Commissioner.
- F. Prior to placement of concrete, the subgrade must be in a firm, well-drained condition, and of adequate and uniform load-bearing nature to support construction personnel, construction materials, construction equipment, and steel reinforcing mats without tracking, rutting, heaving, or settlement. As directed by the Commissioner, all weak, soft, saturated, or otherwise unsuitable material must be removed and replaced with structural backfill or lean concrete.

3.3 TRANSPORTING

- A. Transport concrete to the jobsite in a manner that will assure efficient delivery of concrete to the point of placement without adversely altering

specified properties with regard to water-cement ratio, slump, air entrainment, and homogeneity.

3.4 REINFORCING STEEL

- A. Furnish and place reinforcement in accordance with Section 03 20 00 - Concrete Reinforcing.

3.5 CONVEYING AND PLACING

- A. Placement Standards: Conveying and placing of concrete must conform with applicable requirements of ACI 301, ACI 302.1R, ACI 304R, and ACI 318.

- B. Handling and Depositing:

1. Concrete placing equipment must have sufficient capacity to provide a placement rate that will preclude cold joints and that must deposit the concrete without segregation or loss of ingredients.
2. Concrete placement, once started, must be carried on as a continuous operation until the section of approved size and shape is completed.
3. Concrete must be handled as rapidly as practicable from the mixer to the place of final deposit by methods that prevent the separation or loss of ingredients. Concrete must be deposited, as nearly as practicable, in its final horizontal position to avoid redistribution or flowing.
4. Prevent segregation of materials while depositing concrete. During chuting, provide for a continuous flow without increasing the water over that specified. The discharge end of the chute must be provided with a baffle plate to prevent segregation. Slopes of chutes are not to be flatter than 1 to 3 or steeper than 1 to 2.

Concrete must not be dropped into place a distance greater than 3 feet. A tremie is to be used for placement to reach places that are otherwise inaccessible. Concrete must be deposited to maintain a plastic surface approximately horizontal.

5. Concrete that has partially hardened must not be deposited in the work. The discharge of concrete must be started not later than 60 minutes after the introduction of mixing water. Placing of concrete must be completed within 90 minutes after the first introduction of water into the mix.
6. Once started, the placing of concrete in any unit must be a continuous operation. If any unavoidable break in the operation occurs before the completion of a unit, a construction joint must be formed at the proper location, either by bulk heading, or in case of a vertical pour, by leveling off. The joint must be properly keyed, as specified in Section 03 30 00 (Paragraph 3.8), and if required, additional reinforcement bars must be placed as directed by the Commissioner, without additional cost to the City.

3.6 COLD WEATHER OPERATIONS

- A. The Contractor must not place concrete when the temperature is, or is forecast by the U.S. Weather Bureau to be less than 20 degrees Fahrenheit.
- B. Whenever temperatures are forecast by the U.S. Weather Bureau to be between 20 degrees Fahrenheit and 40 degrees Fahrenheit, it is the contractor's responsibility to implement the following provisions for protection of the concrete against freezing:
 1. Mixing water must be heated but must not exceed a temperature of 175 degrees Fahrenheit.
 2. Aggregates must be heated, either by steam jet, steam coils or other approved means prior to being placed in the mixer.

Aggregate containing frozen lumps, snow or ice must not be allowed to enter the mixer.

3. Concrete must be mixed as dry as practicable for the class or work and must reach the forms at a temperature not lower than 50 degrees Fahrenheit, nor higher than 90 degrees Fahrenheit. Freshly placed concrete and the surrounding air must be maintained at a temperature of not less than 50 degrees Fahrenheit, for a period of five (5) days after placement in the work. If necessary, the contractor must house the section being concreted, by placing canvas or other suitable covering, so that the specified temperature will be maintained.
 4. When placing a concrete arch or roof slab, as soon as hardening of concrete will permit, the upper surface of the concrete must be covered with loose, dry straw or hay to a depth of at least 12 inches. Such covering must remain in place until it is replaced by at least one foot of unfrozen backfill material. The Contractor must provide continuous and sufficient circulating artificial heat inside the structure whenever it is necessary to maintain the required curing temperature. Heating appliances must not be placed in such a manner as to endanger formwork or centering or expose any area of concrete to drying out or other injury due to temperatures in excess of those specified above.
 5. Before placing concrete in any form or on any surface, heat must be applied in such a manner that all ice or snow is completely removed. Concrete must not be placed on or against forms, other concrete, earth or rock containing frost.
- B. All concrete or mortar damaged by freezing must be removed and replaced with new concrete or mortar as directed by the Commissioner.
- C. All additional cost to the Contractor for the protection of concrete during cold weather or the removal and replacement of frozen concrete or mortar must be included in the unit or lump sum prices to be paid for the work

necessary under the appropriate items, and no additional payment therefore will be made to the contractor.

3.7 CONSOLIDATION

- A. Concrete must be thoroughly consolidated and compacted by mechanical vibration during placement in accordance with the requirements of ACI 309R.
- B. All concrete must be thoroughly worked into place and consolidated around reinforcement, ladder rungs, pipes or other shapes by internal or external vibrators, or both, of types acceptable to the Commissioner. Such vibration must be continuous with the placing of the concrete and must continue until no further settlement of the concrete mass is observed.
- C. Conduct vibration in a systematic manner by competent, skilled, and experienced workers, with regularly maintained vibrators, and with sufficient back-up units at the jobsite.
- D. Conduct vibration so as to produce concrete that is of uniform texture and appearance, free of honeycombing, air and rock pockets, streaking, cold joints, and visible lift lines.

3.8 CONSTRUCTION JOINTS

- A. Construction joints are permitted only where indicated or approved by the Commissioner. Locate joints that are not indicated so that the strength of the structure is not impaired. Joint types and their locations are subject to prior approval of the Commissioner.
- B. Provide and prepare construction joints in accordance with the applicable requirements of ACI 301 and ACI 304R.
- C. Make construction joints straight and as inconspicuous as possible, and in exact vertical and horizontal alignment with the structure, as the case may be.

- D. The top and end surfaces of the concrete first placed must be grooved or stepped. Use approved key, at least 1-1/2-Inches in depth, at joints unless otherwise indicated or approved by the Commissioner.
- E. Thoroughly clean the surface of the concrete at construction joints and remove laitance, loose or defective concrete, coatings, sand, sealing compound and other foreign material. Prepare surfaces of joints to remove laitance and expose aggregate uniformly.
- F. Immediately before new concrete is placed, wet the joint surfaces and remove standing water. To allow for shrinkage, do not place new concrete against the hardened concrete side of a construction joint for a minimum of 72 hours.
- G. Ensure that reinforcement is continuous across construction joints.
- H. Where bonding of the joint is required, provide epoxy adhesive in accordance with ACI 503.2.
- I. Retighten forms and dampen concrete surfaces before concrete placing is continued.
- J. At vertical surfaces, the freshly placed concrete must be worked sufficiently to obtain an excess of mortar against the joint. Horizontal or near horizontal surfaces, after being cleaned, must be completely coated with not less than a ½ Inch of mortar, composed of equal parts of Portland cement and sand.
- K. Allow at least 72 hours to elapse before continuing concrete placement at a construction joint. Approval for accelerating the minimum time elapsing between adjacent placements will be based on tests and methods that confirm that a minimum moisture loss at a relatively constant temperature will be maintained for the period as necessary to control the heat of hydration and hardening of concrete, and to prevent shrinkage and thermal cracking.

3.9 PARTS SET IN CONCRETE

- A. Before concreting, the Contractor must carefully place all pipe, castings, ladder rungs and other miscellaneous parts in the work as shown on the Plans or as directed by the Commissioner.

3.10 CURING AND PROTECTION

- A. Curing of concrete must conform to the applicable requirements of ACI 301 and ACI 308. A curing compound must be administered to all concrete surfaces constructed and opened to traffic in accordance with SSRBC. Curing with earth, sand, sawdust, straw, and hay will not be permitted.
- B. Keep concrete in a moist condition from the time it is placed until it has cured for at least ten (10) days. Keep forms damp and cool until removal of forms.
- C. Immediately upon removal of forms, exposed concrete surfaces must be kept moist by applying an approved curing compound.
- D. Concrete must not be permitted to dry during the curing period because of finishing operations.
- E. Protect fresh concrete from hot sun, drying winds, rain, damage, or soiling. Fog spray freshly placed slabs after bleed water dissipates and after finishing operations commence. Allow no slabs to become dry at any time until finishing operations are complete.
- F. Protect concrete from injurious action of the elements and defacement of any kind. Protect exposed concrete corners from traffic or use that will damage them in any way.

- G. Protect concrete during the curing period from mechanical and physical stresses that may be caused by heavy equipment movement, subjecting the concrete to load stress, load shock, or excessive vibration.

3.11 FINISHING

- A. Finish all interior surfaces to a smooth form finish per ACI.
- B. Finish monolithic concrete sewer inverts to a smooth troweled finish per ACI.

3.12 REPAIR OF SURFACE DEFECTS

- A. Repair surface defects in conformance with the applicable requirements of ACI.

3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Contractor must provide an IDOT qualified PCC testing agency independent of said contractor to perform tests and inspections and to submit reports for all Work. The cost of this testing is incidental to all concrete work.
- B. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 - 1. Testing Frequency: Obtain at least one composite sample for each 50 cu. yd. or fraction thereof of each concrete mixture placed each day.
 - 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.

3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 degree Fahrenheit and below and when 80 degree Fahrenheit and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M; cast and field cure **two** (2) sets of two standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at forty-eight (48) hours for PP-1, three (3) days for SI and PV and one set of two specimens at fourteen (14) days for all mixes.
7. Test results shall be reported in writing to the Commissioner within forty-eight (48) hours of testing. Reports of compressive-strength tests shall contain Contract Number, project number, project location, and date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at twenty-eight (28) days, concrete mixture proportions and materials, compressive breaking strength, and type of break for all tests.
8. The Contractor must replace all deficient Work to the satisfaction of the Commissioner.

END OF SECTION 03 30 00

SECTION 05 10 00

STRUCTURAL AND MISCELLANEOUS STEEL

PART 1 - GENERAL

1.1 DESCRIPTION. OF WORK

- A. This Section includes requirements for structural and miscellaneous steel, including all ferrous metals, whether wrought, rolled, fabricated or assembled, except construction castings (frames, grates, solid lids, & steps), pipe (ductile or steel) and steel plates. The classification includes steel angles and bracing, steel sheet piling, inserts, pins, bolts, nuts, washers, and similar items used for constructing temporary or permanent supports for excavations or work specified in other sections of this specification.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:
 - 1. AISC Manual of Steel Construction, Volumes I & II.
 - 2. ASTM A36 - Carbon Structural Steel.
 - 3. ASTM A276 - Stainless Steel Bars and Shapes.
 - 4. ASTM A283 - Low and Intermediate Tensile Strength Carbon Steel Plates.
 - 5. ASTM A307 - Carbon Steel Bolts and Studs.
 - 6. ASTM A328 - Steel Sheet Piling.
 - 7. ASTM A572 - High Strength Low Alloy Columbium-Vanadium Structural Steel.

1.3 SUBMITTALS

- A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.
- B. Complete data on date of manufacture dates of initial installation and extraction, and service for used sheet piling, must be furnished to the Commissioner for all sheet piling used in the Work.

PART 2 - PRODUCTS

2.1 STRUCTURAL AND MISCELLANEOUS STEEL

- A. Structural and miscellaneous steel must meet the requirements of the following standards, except as specified otherwise:
 - 1. Structural Steel Shapes and Plate - ASTM A36
 - 2. Mild Steel Plate - ASTM A283

3. Standard Bolts - ASTM A307
4. Steel Sheet Piling - ASTM A328, A572 Grades 45, 50 and 55
5. Stainless Steel Anchor - ASTM A276 Bolts Type 304

2.2 BOLTS AND NUTS

- A. Bolts and nuts must be of the best quality mild steel, except where bronze, aluminum, stainless steel, or other materials are shown or required.
- B. Bolts must have hexagonal nuts.
- C. Threads must be clean cut of American Standard size.

2.3 SHEET STEEL PILING

- A. All piling must be new or good quality used material approved by the Commissioner.
- B. All sheet piling must be true and straight with undamaged interlocks or ends.
- C. Used sheet piling must have been driven only one (1) time before being offered for use on this project.
- D. Used sheet piling must be made available for inspection by the Commissioner before it is shipped to the job Site.

2.4 ANCHORS

- A. Anchors must be designed for rigid fastening to the structures, whether directly or through brackets.
- B. The design of all anchors is subject to the approval of the Commissioner.
- C. Anchors for piping must be of the cast iron chair type with steel straps, except where anchors form an integral part of pipe fitting, or where an anchor of special design is required.

2.5 INSERTS

- A. Inserts must be designed to permit the rods to be adjusted horizontally in one (1) plane and to lock the rod nut or head automatically.
- B. Inserts must be recessed near the upper flange to receive reinforcing rods.
- C. Inserts must be so designed that they may be held in position during concrete pouring operations.

- D. Inserts must be designed to carry safely the maximum load that can be imposed by the rods, which they engage.
- E. Inserts for concrete must be galvanized.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

- A. The design, workmanship, and erection must conform to the requirements of the AISC Specifications for Design, Fabrication, and Erection of Structural Steel for Buildings, unless otherwise shown, specified, or required.
- B. The Contractor is responsible for the correctness of all shop and field fabrication and fit. Members must be straight, must fit closely together, and the finished work must be free from burrs, twists, bends, and open joints.
- C. Where shop assembly of field connections is shown, specified or required, the unmatched holes must be reamed and the pieces match marked before disassembly. No drifting will be allowed.
- D. In case the eccentricity is too great for good work or the strength of the joint is liable to be weakened by reaming, the piece will be rejected and a new satisfactory one must be provided at the Contractor. This process is considered incidental to the construction and no additional payment will be allowed.

3.2 FIELD CONNECTIONS

- A. Weld or bolt all field connections as hereinafter specified unless riveted connections are approved by the Commissioner.

3.3 WELDING

- A. Welding must be performed by qualified welders in accordance with the requirements of the AISC Specifications.
- B. In assembling and during welding, the component parts of built-up members must be supported and held by sufficient clamps and other adequate means to hold the parts in proper relations for welding.

3.4 STEEL SHEET PILING

- A. Drive steel sheet piling to depth as shown, or as approved by the Commissioner.
- B. Drive all sheet piling plumb and tight to the lines and grades shown and as directed.
- C. The driven sheet piling must be stiffened horizontally, as necessary to meet the requirements of Section 31 23 10 – Excavation, Trenching and Backfilling.

3.5 NUTS, BOLTS, AND ANCHORS

- A. Anchors must be furnished and installed when specified, shown, or required for holding the pipelines and equipment in position or alignment.
- B. Set anchor bolts accurately set to maintain elevation and location, and if placed after concrete is cast, all necessary drilling and grouting must be considered incidental to the construction process and no additional payment will be allowed.
- C. Coat anchor bolt threads heavily with grease while concreting.
- D. Bolt anchors must be of the sizes indicated or approved and must be of the self-drilling type.
- E. All anchor bolts and nuts submerged or subject to periodic wetting must be of stainless steel unless shown or specified otherwise.

3.6 INSERTS

- A. Install inserts in the concrete structures where required for fastening supporting devices.

END OF SECTION 05 10 00

SECTION 31 23 10

EXCAVATION, TRENCHING AND BACKFILLING

PART 1 – GENERAL

1.1 DESCRIPTION. OF WORK

This specification includes the requirements for excavation, bedding, backfilling and compaction, of utility trenches for water and sewer mains and associated appurtenances.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 01 55 26 - Traffic Control and Regulations.
- B. Section 02 60 00 - Special Soils Excavation and Disposal.
- C. Section 05 10 00 - Structural Steel and Miscellaneous Metal.
- D. Section 31 23 19 - Dewatering Excavations.
- E. Section 32 90 00 - Landscape Restoration.

1.3 REFERENCES

- A. CDOT Regulations for Openings, Construction and Repair in the Public Way (CDOT Specifications), latest edition.
- B. IDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.
- C. IDOT Supplemental Specifications and Recurring Special Provisions (SSRSP), latest edition.
- D. ASTM D1557 - Laboratory Compaction Characteristics of Soil, latest edition.
- E. Department of Labor, Occupational Safety and Health Administration 29 CFR Part 1926, Occupational Safety and Health Standards – Excavations; Final Rule (OSHA), latest edition.

1.4 DEFINITIONS

- A. Soil types are defined as follows.
 - 1. Trench Excavation. Excavation of soil for the purpose of installing water and sewer mains, their appurtenances, and for the restoration of surface features. The excavated material may be classified as either clay or sandy soil, a mixture of each, and may contain varying amounts of loam, silt, gravel, organic material, or rock fragments less than one (1) cu yd in volume. Trench excavation excludes all material defined as Rock Excavation and Unsuitable Soil.
 - 2. Rock Excavation. Excavation of naturally occurring deposits of limestone, sandstone, shale or other indigenous rock occurring as bedrock, rock ledges, outcroppings, or boulders, one (1) cu yd or larger in volume necessitating removal by the use of systematic drilling, expansive jacks, or backhoe mounted pneumatic hole punchers or rock breakers.

3. Unsuitable Soil Materials. This soil material includes varying amounts of material classified as slag, cinders, trash, debris and rubble; organic or contaminated soil and material; asphalt and concrete pavements (including aggregate sub-base); sidewalks and curbs; concrete slabs concrete or masonry foundations; metal beams, bracing, and sheet piling; or similar matter.

1.5 SUBMITTALS

- A. Submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples must be submitted in accordance with Book I – Terms and Conditions for Construction, latest edition, issued by the City of Chicago, Department of Procurement Services.
- B. Provide to the Commissioner copies of all contractual agreements, permits and / or licenses for proposed disposal sites for all material and waste removed from the job site.
- C. Shop Drawings and supporting calculations for excavation support systems must be submitted to the Commissioner for review and approval.
 1. Excavation Support Systems:
 - a. Prepare and submit a written schedule and procedure, along with detailed drawings, of the proposed excavations and excavation support systems.
 - b. Include installation procedures; method of concrete placement; excavation sequence; interface details; protection measures for existing structures and facilities; instrumentation and monitoring procedures to check performance, sequence, and method of removal; and contingency plans for excessive wall or foundation movements.
 - c. The program must take into account that excavations cannot extend beyond the right-of-way into adjacent properties above or below grade, unless otherwise indicated. Where Contractor requires the installation of part of excavation protection system on private property, the Contractor will be solely responsible for securing permission from adjacent property owners to install such temporary and permanent systems.
 - i. Any such permission from adjacent property owners must be in writing, and the owner's signature, granting such permission, must be witnessed and properly notarized. Certified copies of all such permissions must be submitted to the Commissioner for record purposes.

2. Shop Drawings: Submit Shop Drawings and specifications for support systems, lagging, and internal bracing. Include the following:
 - a. Specific Description. of field quality control measures.
 - b. Details of interface with permanent structures.
 - c. Details of bracing struts and wales, if used, and the proposed installation procedures, including method and sequence of preloading.
 - d. Details of required preloading systems, pre-stressing systems, load measuring facilities, systematic schedule of preloading and pre-stressing operations, and sequence of construction.
 - e. Method and details for securing lagging in support system openings.
 - f. Proposed method of providing for utility penetrations.
 - g. Assembly and erection details of members and connections for the system.
 3. Plating of Excavations: When requested submit design calculations stamped by a Structural Engineer Licensed in the State of Illinois as proof of the structural integrity of the plating provided.
 4. Calculations: Submit appropriate design calculations to support Shop Drawings. Include maximum theoretical deflections of supporting members. Include calculations indicating the expected magnitude of vertical and lateral movement.
 5. Professional Engineer's Certification: The excavation support systems program, Shop Drawings, calculations, and test reports must be prepared, sealed, and signed by a professional structural engineer currently registered in the State of Illinois.
 - a. Where CTA/METRA or other private railroad company approval for excavation support or shoring is required, submit calculations and related documents prepared, signed, and sealed by a professional structural engineer currently registered in the State of Illinois.
- D. The Contractor, before starting work, must submit to the Commissioner for approval, a layout of his construction procedures and the equipment to be used in maintaining the trees in place without damage.
- E. Provide for CLSM (Flowable Fill) backfill quality control (QC) and quality assurance (QA) in accordance with the IDOT SSRSP, Check Sheet #25 "Quality Control Quality Assurance of Concrete Mixtures".

PART 2 – PRODUCTS

2.1 GENERAL

- A. Pipe bedding and trench backfill material must conform to the requirements and gradation specified in Section 1003, Fine Aggregates (FA), or Section 1004, Coarse Aggregates (CA), of the SSRBC.
- B. Coarse Aggregate (CA) material classified, as Chert or Novaculite Gravels, or Slag from any source, are not permitted for use as bedding or backfill material.
- C. Fine Aggregate (FA) material classified as Silica Sand, Slag Sand from any source, or Construction Debris Sand, are not permitted for use as bedding or backfill material.
- D. All material must be dry and free of organic matter, clay, garbage, paper, wood or similar material, boulders or large particles of frozen material.

2.2 PIPE BEDDING

A. Pipe Bedding for Water Main Construction

Coarse aggregate (CA) material classified, as washed Crushed Limestone or Stone must conform to gradation CA-16 for water mains 16 inches in diameter or smaller, CA-11 for water mains larger than 16 inches in diameter, unless otherwise authorized by the Commissioner.

B. Pipe Bedding for Sewer Main Construction

Coarse aggregate (CA) material classified, as crushed gravel, crushed stone or crushed concrete must conform to gradation CA-11, unless directed otherwise by the Commissioner.

2.3 BACKFILL MATERIAL

A. Backfill Material for Water Main Construction

- 1. Coarse aggregate (CA) material classified as washed Crushed Limestone or Stone conforming to gradation CA-16 or the ¼" Limestone Chips gradation in accordance with the following Table A – Gradation of Trench Backfill Material, unless authorized otherwise.

TABLE A
GRADATION OF TRENCH BACKFILL MATERIAL

US SIEVE SIZE	<u>1/4" Limestone Chips % Passing By Weight</u>
1/2"	100
3/8"	100
1/4"	96
#4	64
#10	4
#16	2

B. Backfill for Sewer Construction

1. Fine aggregate (FA) material classified as sand, crushed concrete sand or stone sand must conform to gradation FA 6 unless directed otherwise by the Commissioner.

C. Controlled Low Strength Material, CLSM (Flowable Fill Material)

1. Materials for Flowable Fill must meet requirements of IDOT SSRBC Sections 593 and 1019 for Controlled Low Strength Material, CLSM.
 - a. Flowable fill material placed adjacent to water mains must be of a non-fly ash type mix design, mix # 2.

2.4 GEOTEXTILE FABRIC

- A. Geotextile fabric must be Fabric for Silt Filter Fence and must conform to the requirements of Article 1080.02 in the SSRBC.

2.5 AGGREGATE FOR STABILIZATION OF TRENCH BOTTOMS

- A. When required aggregate used to stabilize trench bottoms must have an aggregate such that the majority of the material passes a 1½ to 2½-inch sieve, with no more than 10% of the material passing the No. 16 sieve. The quality of the aggregate must meet requirements established for aggregate bedding.

PART 3 - EXECUTION

3.1 WORK AREA PREPARATION

A. Existing Work Area Condition

1. All information on subsurface exploration available to the Department, if any, will be made available to the Contractor for examination. However, the

Department in no way takes responsibility for, the interpretation, accuracy, or thoroughness of the information. It will be the responsibility of the Contractor to make such subsurface explorations as deemed necessary, to supplement information provided by the Department, at no additional cost to the Department.

2. Prior to excavating, thoroughly investigate the limits of the proposed trench to ascertain the existence and location of any underground structures, existing utilities or other items that might interfere with the pipe installation. Notify the Commissioner of any obstructions that will prevent the installation of the pipe or appurtenances as indicated on the Drawings.

B. Clearing Work Area

1. Before starting trench excavation, all obstructions, which must be removed or relocated, must be cleared. Pavement, curbs, walks, trees, shrubs, utility poles, and other structures, which are to be preserved, must be properly braced and protected. Unless otherwise shown or directed by the Commissioner, all trees and large shrubs must be preserved with minimal damage inflicted on the root structure. When required, small trees and shrubs may be removed and replaced with equivalent specimens if approved in advance by the Commissioner.

C. Segregation and Disposal of Soil Material

1. Topsoil suitable for final grading and landscaping, and excavated material suitable for backfilling, as described in Section 32 90 00, - Landscape Restoration, may be stockpiled separately within the Work Area if approved by the Commissioner.
2. Surplus excavated material and excavated material unsuitable for backfilling, final grading, and landscaping, must be transported off of the Site and disposed of in disposal areas obtained by the Contractor and approved by the Commissioner.
3. Excavated material must not be stockpiled along the route of the work unless authorized beforehand by the Commissioner.

D. Pavement Removal

1. The Contractor must saw cut all concrete and asphalt pavements to their full depth prior to breaking and removing the pavement. On pavements consisting of an asphalt overlay on a concrete base, the Commissioner reserves the right to order the removal of up to 6 additional inches beyond the edge of the concrete base. This additional asphalt removal must be removed to a neat saw cut edge and will be considered incidental to the Work.
2. Utilizing drop weight equipment for the purpose of breaking the pavement is not permitted.

E. Protection or Removal of Existing Trees

1. Comply with CDOT Specifications Chapter 4, "Excavation Pavement Removal" for protection of trees, shrubs, and other improvements.
 2. The Contractor is not permitted to remove trees beyond the limits of the trench excavation except as specified in these Specifications, or as shown on the Plans, or as ordered by the Commissioner.
 3. The Contractor must arrange his construction operations and use the necessary equipment required, so as not to remove or damage any existing trees due to the Work to be performed under this Contract.
 4. To protect the trunks of existing trees from damage, the Contractor must place 2" x 4" boards, six (6) feet long, vertically and about 6 inches apart around all trees located in the parkways along the route of the work. The boards must be held in place by wire looped around the circumference of the tree trunk. After completion of all work, the protective boards and wires must be carefully removed.
 5. Any pruning of trees and roots required to permit the operation of the Contractor's equipment must be kept to a minimum, subject to the approval of the Commissioner, and must be done symmetrically by a licensed arborist. The arborist is required to obtain a permit from the City of Chicago, Bureau of Forestry, Plans and Permits Section of the Department of Streets and Sanitation, to trim and spray or in any way affect the general health or structure of trees in the public way. Prior to this approval, the Bureau will conduct an investigation at the sites of the proposed sewer. They will work with the Resident Engineer and the Contractor, and request 48-hour notice prior to starting any tree work.
- F. Trench Excavations Over 12-foot Deep
1. Comply with CDOT Specifications Chapter 4, "Excavation Pavement Removal" for trenches over twelve (12) feet deep.
- G. Excavating Over or Adjacent to Existing Utilities
1. The Contractor must verify the location of existing utilities in the vicinity of the work before starting construction. The Contractor is responsible for protecting, and repairing utilities damaged by the work under of this contract, at no additional cost to the City. The Contractor must coordinate all work with the owner of the utility.
- H. Erosion Control
1. Install geotextile fabric under each storm inlet, catch basin and sewer manhole cover to prohibit dirt, debris and backfill material from entering the sewer system, but to permit drainage. The geotextile fabric is to be maintained until restoration is completed. After restoration is completed, remove the geotextile fabric.

I. Plating of Excavations

1. Unattended excavations in public streets, alleys, driveways, and walkways necessitated by the work must be plated, if the excavation has not been backfilled, or a temporary paved surface has been provided, or specifically authorized otherwise by the Commissioner.
2. Steel Plate(s) must be large enough to safely span the excavation with sufficient overlap beyond the edge of the excavation to provide firm support as appropriate for the type of pavement and soil encountered. Plate(s) must be firmly bedded and secured to the adjacent pavement to prevent rocking or movement, and of adequate thickness to carry anticipated loads. When plating is left in place during off-work periods, or if the Commissioner feels vehicular or pedestrian safety may be compromised, a bituminous ramp is to be provided at the perimeter of the plate(s) as appropriate to provide a smooth transition between the surface of the plate(s) and the adjacent pavement or walkway.
3. Plating subjected to vehicular traffic must be capable of carrying AASHTO H-20 traffic loading without movement or excessive deflection. The plating must be secured to the adjacent paved surface in such manner so as to prevent rocking or other movement which could expose the excavation. The name of the Contractor must be indicated on both sides of the plating.
4. When steel plates are used and left in place beyond normal working periods, a bituminous ramp must be provided at the perimeter of the plate(s), to provide a smooth transition between the surface of the plate(s) and the adjacent street pavement or walkway, unless authorized otherwise.
5. Plating of excavations is not intended as a substitution for providing traffic control, which must be provided in accordance with Section 01 55 26 of these specifications.

J. Protection of Existing Water Main from Contamination

Protect existing water mains from contamination by groundwater, dirt, debris, or other foreign material:

1. Prevent groundwater and surface water, dirt, debris, and other foreign material from entering the open pipe.
2. Provide water tight temporary closure of pipe before leaving work site at the end of the work day.
3. Equipment, cables, hoses, supports and all appurtenant equipment placed in the water main must be thoroughly cleaned of dirt and debris, and disinfected with chlorine solution with a chlorine concentration of at least fifty (50) parts per million.
4. Workers entering pipe must wear clean temporary disposable coveralls.
5. Install foot bath and brush and have workers entering the pipe clean footwear with chlorine solution with a chlorine concentration of at least fifty (50) parts per million.

3.2 EXCAVATION PROTECTION

A. General Requirements

1. Excavations must be protected in accordance with applicable rules, laws and regulations of Federal, State and City ordinances applicable to underpinning, shoring of excavations, and other work affecting adjoining property and the safety of worker, but must not be less than the standards and regulations established by OSHA.
2. Structural support systems are required for all excavations exceeding five (5) feet in depth. Structural support systems are to be used in all excavations in soils that are determined to be unstable or subject to cave-ins, regardless of the depth of the excavation.
3. Protective systems for any excavation exceeding ten (10) feet in depth must be designed and approved by an Structural Engineer licensed in the state of Illinois.
4. The Contractor must remove and replace, or provide the means to support any surface features when their location poses a hazard to workers in the excavation.
5. Whenever excavations cross the location of an existing underground utility, the Contractor must proceed with caution and use appropriate methods of excavation to avoid damaging the utility. The Contractor is responsible for coordinating all work with the owner of the utility.
6. Ramps, runways or ladders must be provided for ingress and egress by workers from excavations exceeding four (4) feet in depth in accordance with OSHA.
7. Surface or ground water entering excavations must be controlled by the use of appropriate equipment. If the trench interrupts the natural flow of surface water, diversion ditches or dikes must be used.

B. Protection of Adjacent Structures

1. When the stability of adjoining buildings, walls, sidewalks, pavements or other structures are endangered by the excavation operations, structural support systems such as shoring, bracing or underpinning must be used to ensure the stability of the structure.
2. The Contractor is responsible for posting and issuing all notices required to inform adjacent or adjoining property owners or other parties and such notice or notices must be served in sufficient time as not to delay the progress of the Work under this Contract.
3. Excavation below the foundation of an adjacent structure requires either of the following:

- a. A Structural Engineer or Professional Engineer licensed in the state of Illinois has determined that the structure is located far enough away from the excavation so as to be unaffected, or
- b. A Structural Engineer licensed in the state of Illinois has designed and approved a structural support system to provide adequate protection to the existing structure.

C. Structural Support Systems

Structural support systems may consist of pre-engineered systems such as aluminum hydraulic shoring, trench shields, trench boxes, or systems constructed on the job site such as timber or steel shoring or steel sheet piling.

1. Pre-Engineered System

- a. Pre-engineered structural support systems installed in accordance with the manufacturer's recommendations do not require certification by a Structural Engineer when trench depth is less than twenty (20) feet. However, the Commissioner, at his sole discretion, may require a manufacturer's certification indicating the support system is suitable for the intended use and site conditions.
- b. Pre-engineered structural support systems will require analysis and certification by a Structural Engineer licensed in the state of Illinois, when trench depth exceeds twenty (20) feet.

2. Site Constructed Systems

- a. Construct steel sheet piling system in accordance with Section 05 10 00 – Structural Steel and Miscellaneous Metal.
- b. Structural support systems built in place and made of timber constructed in accordance with OSHA Standards, do not require certification by a Structural Engineer licensed in the state of Illinois, provided trench depths shown in the OSHA Standard, relative to the soil type at the site, are not exceeded.
- c. If the OSHA Standard is not followed for timber shoring and the depths of trenches exceed those in the tabulated data; or soil conditions have been determined to be substantially different than those given in the OSHA Standard; the design must be performed and certified by a Structural Engineer licensed in the state of Illinois.

- d. A structural support system built in place and consisting of materials other than a timber shoring systems will require design and certification by a Structural Engineer licensed in the state of Illinois.
 - e. When close-sheeting is used, it must be driven so as to prevent adjacent soil from entering the trench either below or through such sheeting. Tight-sheeting must be used in that portion of the excavation in or along streets or alleys below the intersection of a 1 to 1 slope line from the nearest face of the excavation to the edge of the pavement.
 - f. Sheetting must not be in contact with existing pavement but must bear uniformly against the sides of the excavation.
3. Where structural support systems, such as steel or wood sheeting are used for stabilizing excavations, the width of the trench may be increased as necessary to accommodate installation of the work. When soils in the lower limits of the excavation have been determined to have adequate stability; the Contractor may end the shoring elements above the bottom of the excavation. If soil begins moving into the excavation below the shoring during construction, the Contractor is solely responsible for making corrections to the excavation and for lowering the shoring, at his own expense.
 4. When structural support systems are required to be left in place, they must be cut off at the same elevation as the bottom of the water main, unless otherwise directed by the Commissioner. Bracing that is to remain in place must be driven up tight. The right of the Commissioner to request sheeting and bracing to be left in place, is not meant to construe any liability or obligation on behalf of the Commissioner to issue such orders.
 5. Structural support systems that are not to be left in place may be removed only when the excavation has been backfilled to such an elevation so as to prevent the collapse of the sides of the excavation. Any voids created by the removal of the structural support system members, must be filled and compacted in an acceptable manner.

3.3 EXCAVATION

A. Trench Excavation (Open Cut)

1. The width of the trenches must provide adequate space for workers to place and join the pipe properly, and must be kept to the minimum practical width. Unless otherwise approved by the Commissioner, the total clear width of the trench at the level of the top of the pipe and at grade must be at the Neat Lines as detailed on the Drawings.
2. The Contractor must excavate a minimum of 6-inches below the bottom of the pipe unless otherwise shown, specified, or directed, so bedding material can be placed in the bottom of the trench and shaped to provide a continuous

firm bearing for the pipe barrel. Bell holes must be provided for proper make-up of the joints.

3. The open excavated trench preceding the pipe laying operation and the unfilled trench with pipe in place must be kept to a minimum length causing the least disturbance. The maximum length of open trench must not exceed 300-feet unless otherwise directed by the Commissioner. Comply with Article 4G, CDOT Specifications, for other trench opening length requirements within the public right-of-way.
 4. Excavation In Arterial Streets. Comply with Article 4C, CDOT Specifications, for protection requirements when working within arterial streets.
 5. Contractor must saw cut existing pavement prior to excavating. Width of saw cut pavement must be such that any sheeting provided for excavation protection is not in contact with the pavement.
 6. Where water is encountered in the excavation, the excavation must be dewatered in accordance with Section 31 23 19 – Dewatering Excavation of these specifications.
 7. Wherever the nature of the ground will permit, the bottom of the excavation for monolithic and brick sewers must have the shape and dimensions of their outside invert and for pipe sewers the shape and dimensions of the outside of their lower quarter. If the bottom of the trench cannot be shaped to the required form and maintained until a section of the sewer is safely constructed, then the bottom and sides of the trench must be made to conform as nearly as possible to the external shape and dimensions of the sewer, and the space between the outer surface of the sewer and the bottom and sides of the trench must be filled with suitable material for stabilization of the trench bottom.
- B. Rock Excavation (open cut)
1. Whenever rock, stone, masonry or other hard, unyielding material is encountered at or above the required trench bottom elevation, remove it to provide a clearance of no less than 6-inches below and on each side of pipes and associated fittings, valves and other appurtenances. Backfill the over excavated area with granular bedding material.
 2. Removal of Rock by blasting or by use of a drop hammer is not permitted under this contract.
 3. Excavate rock as near as practicable to the outside shape of the work as shown on the Plans. Solid rock, not loosened from the adjacent solid rock, may extend within the neat outside surfaces of these shapes no more than two (2) inches, provided no single projection exceeds one and one-half (1.5) square feet in area at the neat surfaces of the excavation and provided that on any ten (10) foot section of the excavation the total area of such projection at the neat outside surfaces of the section does not exceed twenty (20) percent of the area of the section.

4. The Contractor is required to remove all loose rock and other material from the excavation and in the event that the excavation is enlarged beyond the outside shape of the sewer or sewer structures as shown on the Plans, the Contractor will not be entitled to any payment for the additional Class SI concrete needed to fill the voids caused by such over-breakage.
5. Where rock is encountered, excavate to eight (8) inches below the bottom of the pipe for bedding placement.

C. Trench Excavation (Short Tunnel Construction)

1. In some instances, trees, fire hydrants, sidewalks, and other obstructions may be encountered, the proximity of which may be a hindrance to open cut excavation. In such cases, the Contractor must excavate by means of short tunnels in order to protect such obstructions against damage. Short tunnel work will be considered incidental to the construction and no additional payment will be allowed.

D. Additional Trench Excavation

1. If the soils encountered at the elevations specified are not suitable, or it is determined necessary to go to an additional width and depth, or required to fill designated areas for work done under Section 02 60 00 - Special Soils Excavation and Disposal, the excavation must be carried to such additional width and/or depth and must fill such excavated areas with approved backfill material as required or directed by the Commissioner.

E. Unauthorized Excavation

1. Wherever the excavation is carried beyond or below the lines and grades shown on the Drawings all such excavated space must be refilled with select fill materials and in such manner as may be directed in order to insure the stability of all affected structures. Beneath all structures, space excavated without authority must be refilled by the Contractor with approved backfill materials and will be considered incidental to the construction and no additional payment will be allowed.

F. Trenching Across or Over Existing Excavations or Utility Trenches

1. In the event that the trench passes over or through a previous excavation, carefully compact and stabilize the bottom of the new trench or excavation to a density equal to or greater than 95% of the maximum dry density as determined by ASTM D1557. Perform this compaction carefully to avoid damaging the existing utility or structure.

G. Special Excavation

1. Remove unsuitable materials to provide two (2) feet minimum horizontal and vertical clearance around water mains or related structures as applicable, unless otherwise directed by the Commissioner.

H. Excavation in Tunnel

1. The tunnel must be excavated and trimmed to such size and shape as will allow the placing of the full section of the pipe as shown on the Plans after all lining is in place.
2. The Contractor must excavate the tunnel and support the surrounding earth so there is no movement of the earth over or adjacent to the work at any time. The Contractor must excavate the tunnel and support the surrounding earth so at no time there is more than 5 feet, measured horizontally, unsupported by bracing as approved by the Commissioner.
3. The Contractor must use extreme care in excavating and trimming to insure that a full section will be placed without materially deviating from the correct lines and grades of the finished structure.
4. In case, due to bad soil conditions, the Contractor requests that the outside outline of the sewer be changed to a minor extent to accommodate his method of construction, such a change will be allowed provided the strength of the structure is not impaired. Any such modification will not alter the price per foot specified to be paid for the completed sewer, whether such minor modification results in a minor addition or subtraction from the theoretical quantity for the section herein specified.
5. If permission is given the Contractor to excavate the tunnel for a specified distance without immediately placing the concrete lining, the proposed method of bracing the tunnel and the extra bracing necessary must be submitted for approval.
6. No additional payment or allowance of any nature will be made for timber cants, steel plates or other forms of tunnel lining used for supporting the earth during construction. All such tunnel lining must be left in place.

3.4 PLACEMENT OF PIPE BEDDING

A. Pipe Bedding

1. Pipe laid in trenches must be bedded in accordance with the details shown on the Drawings. Bedding material must consist of compacted; well-graded crushed stone fill material as shown and as specified, or as directed by the Commissioner.
2. Existing underground structures, tunnels, conduits, and pipes crossing the excavation must be bedded with compacted sand. Bedding material must

be placed under and around each existing underground structure, tunnel, conduit, or pipe as required to stabilize the excavation.

3. At each joint, enough depth and width must be provided around the pipe so that joints can be properly made up.

B. Bedding Placement – Vaults and Structures

1. Pipe bedding beneath precast bases, cast-in-place bases and other foundations must be 6-Inches in thickness and thoroughly compacted in place to not less than 95% of the maximum dry density as determined by ASTM D1557.

C. Bedding and Backfill for Short Tunnel

1. Pipes placed in short tunnels must be bedded in sand. The annular space between the pipe and undisturbed earth must be completely filled with compacted sand fill material. Pipelines in short tunnels must be supported to permit the placement of backfill.

3.5 BACKFILLING EXCAVATIONS

A. General

1. All excavations must be backfilled to the original surface of the ground or to such other grades shown on the Drawings or as directed by the Commissioner. For areas to be covered by topsoil, backfill must be left 6-inches below the finished grade or as shown on the Drawings, or directed by the Commissioner. All backfilling must be done as soon as possible after water main piping has been installed and inspected, and as soon as mortar for masonry or thrust blocks have sufficiently set, unless directed otherwise by the Commissioner.
2. Crushed stone fill material must be used for trench and structure backfill and other areas as shown, specified, or ordered by the Commissioner.
3. Unsuitable material and material rejected by the Commissioner must immediately be removed from the Site and disposed of by the Contractor at his expense.
4. Construction equipment used to backfill against and over cast-in-place concrete structures must not be permitted to travel over these structures until the designated concrete strength has been obtained, as verified by concrete test cylinders. In special cases where conditions warrant, as determined by the Commissioner, the above restriction may be modified if the concrete has gained sufficient strength, as determined from test cylinders, to satisfy design requirements for the removal of forms and the application of load.

B. Backfill Procedure

1. Crushed stone fill material must be used for backfill where roadways, driveways, sidewalks or other pavements are to be placed on the backfill or where the edge of the trench excavation is 5 feet or less from any county or state highway, any city or village street pavement and in any trenches crossing

pavements or sidewalks from a distance beyond the edge of the pavement or sidewalk equal to the depth of the trench. Crushed stone fill material must be used as backfill in trenches parallel to roadways, driveways or other pavements from the top of the bedding to a depth below the ground surface equal to the distance between the inner face of the trench and the closest edge of the pavement.

2. Where pavements and appurtenances for streets are to be placed over the trenches, the backfill material must be placed in uniform layers not greater than 6-inches in thickness and compacted in place. Each layer must be compacted to or not less than 95% of the maximum dry density as determined by ASTM D1557.
 3. All pipe sewers must be surrounded and covered by trench backfill above the granular embedment as soon as they are laid. The trench backfill must be properly compacted and tamped to a depth of at least one foot above the top of the pipe prior to placing the remainder of backfilling.
 4. For sewer pipe construction with FA 6 backfill, water jet the backfill to the depth of approximately two-thirds of the depth of cover over the sewer. The distance between jetting holes must not exceed 10 foot along the length and width of the trench, or as directed by the Commissioner. Water jetting of the trench backfill must proceed as soon as practicably, as determined by the Commissioner. The Contractor, in this manner, must place and compact the trench backfill to the level of the sub-grade.
 5. Excavated material can be re-used as backfill only if directed or approved by the Commissioner.
 6. Where railroad tracks or pavements for highways are to be placed over trenches, the backfill must be placed in conformance with the standards set forth by the respective agency having jurisdiction over the railroad or highway.
 7. Trench backfilling work must be done in such a way so as to prevent damage to any pipe, utility, or structure.
 8. On monolithic concrete sewers and structures cast-in-place, trench backfill must not be placed until the concrete has attained a compressive strength of 2,000 psi.
- C. Backfill under a Supported Water Main
1. Backfill the open trench under the water main and 10 feet beyond the water main sides with approved material up to a level of 1-foot below the invert of the supported water main. The backfill material must be placed in layers of 12-inches with each layer mechanically compacted to 95% of the maximum dry density as determined by ASTM D1557.
 2. Place pipe bedding material from 1-foot below the water main invert to the water main centerline and compact to achieve 95% of the maximum dry density as determined by ASTM D1557.

3. Remove the water main pipe support systems, supporting beams, and pipe support straps; and cut-off and remove soldier piles to a level at least four (4) feet below finished grade.
4. The water main pipe must be inspected for leakage and joint integrity and repaired if necessary, prior to backfilling above the water main.
5. After approval by the Engineer, continue backfilling with approved material. The open trench must be backfilled up to the required sub grade level. The backfill material must be placed in layers of 12-Inches with each layer mechanically compacted to 95% of the maximum dry density as determined by ASTM D1557.

D. Backfilling with Controlled Low Strength Material (CLSM) - Flowable Fill

1. Do not place the mix on frozen ground, in standing water, or during wet weather conditions. Mixing and placing may begin only if the air temperature is 35° Fahrenheit minimum and rising. At time of placement, the material temperature must be 40° Fahrenheit minimum. Mixing and placing must stop when the air temperature is 40° Fahrenheit and falling.
2. Place the mix directly from the chute into the space to be filled. Other placement methods may be approved by the Commissioner if the mix design is appropriate.
3. When backfilling against structures, place the mix in layers to prevent damage by lateral pressures. Side slopes must be stepped or serrated to prevent wedging action of the backfill against the structure. Allow each layer to harden prior to placing the next layer.
4. When backfilling pipe trench, distribute the mix evenly on each side of the pipeline to prevent movement.
5. The mix must not be exposed to freezing temperatures or wet weather conditions during the first twenty (24) hours after placement.
6. The mix may be subjected to loading upon approval by the Commissioner, or when a penetration of 39 mm / blow or less has been obtained with the Dynamic Cone Penetrometer test.
7. Backfilling against water main pipe with CLSM is not allowed, unless authorized otherwise by the Commissioner. Contractor must provide a minimum of 6-inches of coarse aggregate backfill material over the water main pipe prior to placing the CLSM material.

3.6 FINISH GRADING

- A. Finish grading must be performed in accordance with the completed contour elevations and grades shown and must be made to conform to the existing ground surface. All finished graded surfaces must be left smooth and firm and graded to permit positive drainage.

3.7 TRAFFIC CONTROL

- A. The Contractor is responsible for traffic control and the protection of vehicular and pedestrian traffic from the work. For detailed requirements see Section 01 55 26.

END OF SECTION 31 23 10

SECTION 31 23 19

DEWATERING EXCAVATIONS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes requirements for dewatering excavations when necessary to provide a safe working environment and protect the Work so as to provide a satisfactory installation.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 01 11 00 – Summary of Work.

1.3 SUBMITTALS

- A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.
- B. Prior to commencing excavation work at the project site, the Contractor must submit to the Commissioner for review and comment a method for removing water which has entered the excavation either from groundwater sources, surface drainage, or other source such as the dewatering of a new or existing water or sewer main. The submittal must include a description of the source of the water, equipment to be used to dewater the excavation, the arrangement and discharge rate of the equipment expressed in gallons per minute. No excavation is to be started until authorization has been given by the Commissioner to proceed with the excavation work.
- C. When applicable for sewer projects, the Contractor is to submit the proposed method for by-pass pumping and fluming of sewage to the Commissioner for review and comment.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION 3.1

PREPARATION

- A. Capacity of Facilities
 - 1. Facilities for the removal and disposal of water must be of sufficient capacity to keep the excavation dry under all circumstances.

B. Standby Facilities

1. Adequate standby facilities must be provided to insure that the excavation will be kept dry in the event of power failure or mechanical breakdown.

C. Well Points

1. If well points are used, the Contractor must make provisions for removing and resetting individual well points without taking any part of the dewatering system out of service.

3.2 CONSTRUCTION

A. Dewatering

1. At all times during the excavation period and until completion of the Work and acceptance at final inspection, ample means and equipment must be provided with which to promptly remove and properly dispose of all water entering any excavation including leakage from the existing water main which is to be replaced. All excavations associated with the Work must be kept dry. Water must not be allowed to rise over, or to come in contact with, masonry and concrete until the concrete and mortar has attained a set satisfactory to the Commissioner and, in any event, no sooner than twelve (12) hours after placing the masonry or concrete.

B. Groundwater Levels

1. The Contractor must maintain the groundwater level at least 12-Inches below the bottom of the excavation until the excavation until the Work has been completely and the excavation has been backfilled.

C. Water Management

1. Water pumped or drained from the Work must be disposed of in a suitable manner without damage to adjacent property, other Work under construction, street pavement, and parks. Water must not be discharged onto streets without adequate protection at the point of discharge. No water containing settleable solids may be discharged into sewers.
2. All damages caused by dewatering the Work must be the responsibility of the Contractor and must be promptly repaired at the Contractor's expense.
3. Limit dewatering flow rates to current operating capacity of City sewers. See Section 01 11 00 for any limitations on discharge rates.

D. Pumping, Bailing and Diversion

1. The Contractor must at all times during construction provide and maintain ample means and devices for the temporary diversion of flow in existing sewers and drains and the prompt removal and proper disposal of all water or sewage entering the tunnels, trenches or other parts of the work, and must keep said excavations as dry as practicable until the structures to be built therein is completed. All water pumped or drained from the work and from existing sewers must be disposed of in a suitable manner without damage to adjacent property, or to sewers, pavements, electrical conduits or other work or property. The Contractor must provide all temporary flumes or pipe lines and pumping equipment required for the proper diversion of sewage and removal of drainage from the work.
2. Whenever the Contractor removes an existing bulkhead, he must install a screen suitable for the purpose of preventing construction debris from floating into the completed portions of the sewer system. As work progresses, Contractor must clean the completed portions of the sewer by removing rails, jacks, lumber, sandbags and all other construction equipment, excess material and debris.
3. The Contractor must place and maintain all temporary dams, flumes, bulkheads or other structures necessary to prevent water from adjacent sections of the sewer system from entering the work under this Contract in such a manner as to injure it, and must completely remove all such temporary structures from the completed portion of the work as rapidly as practicable. The Contractor must not place a dam, flume or bulkhead in any sewer without first obtaining the approval of the Commissioner. The Contractor must ascertain the possibility of sewage backing up into basements and causing damage and he will be held responsible for any such damage.
4. The City does not assume responsibility for providing the Contractor with an outlet for any storm water or sewage which must be disposed of during the construction work under this Contract. Until the acceptance of the work, the Contractor will, if so ordered by the Commissioner, keep the entire work pumped free of water and sewage and before the acceptance of any part of the work. Contractor must clean the entire length of such finished part of the work to the satisfaction of the Commissioner.
5. Water must not be allowed to flow over or stand on the pipe or structure invert in such a manner as to cause scouring of the surface.

6. Route all water pumped from trenches or other excavations to settling basins (five feet by ten feet by two feet deep with three compartments) before entering the City of Chicago sewer system. Discharge from the settling basin must be by gravity to the catch basin.

END OF SECTION 31 23 19

SECTION 33 01 30

CLEANING AND LINING SEWER MAINS

PART - 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes the requirement for cleaning and cured-in-place lining of existing sewer main, lateral piping and tee connections, and by-pass pumping operations necessary to perform lining of existing sewers.
- B. WORK OF THIS SECTION SPECIFIED ELSEWHERE:
 - 1. City of Chicago Department of Water Management – 2006 Sewer Permit Requirements and Fees
 - 2. Book 3 - Technical Specifications
 - a. Section 01 55 26 – Maintenance of Traffic.
 - b. Section 01 32 36 – Televised Inspection of Sewer Mains.
 - c. Section 33 39 13 – Sewer Manholes, Catch Basins, Frames and Covers.
 - d. Section 31 23 10 – Excavation, Trenching and Backfilling.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:
 - 1. ASTM D638: Standard Test Method for Tensile Properties of Plastics.
 - 2. ASTM D790: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - 3. ASTM D2990: Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics.
 - 4. ASTM D5813: Cured-In-Place Thermosetting Resin Sewer Pipe.
 - 5. ASTM F1216: Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

1.3 SUBMITTALS

- A. Submit the following information to the Commissioner for review in accordance with Book 1 - Shop Drawings, Product Data, Records and Samples.
- B. Product Data:
 - 1. Detailed information regarding materials, chemical charts, and catalog data on all materials proposed for lining sewer mains and laterals at least 28 days before it is to be used for lining the pipeline.

C. Detail Information:

1. Design calculations of proposed sewer lining for each installation.
2. Wet out procedures for liner prior to installation.
3. Equipment, methods, flushing, reinstatement of services, and testing, and operations schedules proposed for cleaning and lining work.
4. Locations for the access openings for cleaning and lining prior to construction and after having reviewed these locations in the field.

D. Samples:

Contractor is responsible at his own expense for taking, and shipping of all samples of materials used for lining. For each inversion (or insertion), two cured-in-place samples must be taken from a section of the cured pipe at an intermediate manhole or from a coupon cut from a lateral connection. Samples must be clearly identified with the date, time and location of the inversion (or insertion). The samples must be turned over to the onsite Engineer immediately after removal.

1. One sample will be retained by the Department; the other sample must be tested in accordance with current ASTM specifications for cured-in-place pipe. Testing must be performed by the Contractor through a certified independent testing laboratory.
2. Test results must be submitted to the Department no later than 30 days after sampling and will be certified and stamped by a licensed Professional Engineer registered in the State of Illinois. **The Department will reject all inversions (or insertions) not meeting the ASTM specifications.**

1.4 QUALITY ASSURANCE

- A. Perform all work under the constant supervision of a qualified foreman with at least three years of experience within the last five years in this type of work. Submit a record of experience of proposed foreman to the Commissioner in accordance with Book 1 - Shop Drawings, Product Data, Records and Samples prior to the start of work. The record is to include location and description of work, supervisor's and company's name, and dates the experience took place.
- B. Provide minimum interference with the operation and maintenance of all interconnected sewer systems.
- C. Televised Inspection:

1. Contractor must televise and record the interior of all pipelines to be rehabilitated in accordance with Section 01 32 36, Televised Inspection of Sewer Mains at the following times:
 - a. Following cleaning of pipeline: In the presence of the Commissioner's representative inspect for satisfactory cleaning, defects in pipeline and service lateral locations and condition and report findings to the Commissioner. The Commissioner is to determine whether repair or replacement is required.
 - b. If the installation of tee-liner for lateral sewer connections or lateral sewer point repair is required by the Commissioner. Contractor must inspect for satisfactory installation of repair.
 - c. Following applications of cured-in-place lining Contractor must again televise the interior of the sewer to inspect for satisfactory application of cured-in-place lining and restoration of laterals.
2. Provide two labeled copies of all televised inspections in DVD format to the Commissioner within five (5) days of taping.

D. Cured-In-Place Lining:

1. The Commissioner's inspection and acceptance of cleaning is required before cured-in-place lining of the pipeline sections.
2. All lining thicknesses and tolerances must be in accordance with the latest revision of ASTM F1216 and the approved design calculations.
3. The Commissioner's approval is required for acceptance, after cured-in-place lining work is completed for the pipeline sections.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. All excavated materials and equipment to be incorporated in the work must be placed so as not to injure any part of the work or existing facilities and so that free access can be had at all times to all parts of the work and to all public utility installations in the vicinity of the work. Excavated material is not to be stockpiled on the work site overnight. Materials and equipment must be kept neatly piled and compactly stored in such locations to avoid inconvenience to public travel and adjoining owners, tenants and occupants.

1.6 PROJECT / SITE CONDITIONS:

A. Environmental Requirements:

1. Do not perform work during unsuitable weather conditions including cold weather temperatures below 40^o Fahrenheit that may affect the lining process.
2. The Contractor must clarify discharge water from the cleaning process by separating the solid deposits removed from the sewer main. The clarified water is to be disposed of into existing sanitary or combined sewer manholes adjacent to the access point at the discharge location. The roadway and adjacent areas should be kept free of standing water at all times. The Contractor is to submit a diagram of the proposed method of clarifying the water and associated discharge system to the Commissioner for review and approval.
3. Solid deposits removed from the interior of the main are to be collected and disposed of in a legal manner by the Contractor.

B. Existing Conditions:

1. Existing pavement and base pavements may be cut no larger than necessary to provide working space for access pits and installation of appurtenances. Pavement removal is to be in accordance with Section 31 23 10 – Excavation, Trenching and Backfilling.
2. All field measurements will be the responsibility of the Contractor.
3. Traffic control is to be in accordance with Section 01 55 26 – Traffic Control and Regulations – the maximum to be closed is one lane.

1.7 SEQUENCING AND SCHEDULING

- A. All sequencing and scheduling of the work will be the responsibility of the Contractor. The Contractor will be required to submit a detailed schedule and work sequence plan to the Commissioner for review in accordance with Book 1 - Shop Drawings, Product Data, Records and Samples prior to beginning any work. The review of this schedule and sequencing plan are for record purposes only and does not constitute acceptance of any means or methods of Construction by the Contractor.

1.8 WARRANTY

- A. The Contractor must warrant the work in its entirety for a period of five (5) years. The warranty period must begin at final completion of the project.

PART - 2 PRODUCTS

2.1 MATERIALS

- A. General Description: A liner to be installed in an existing sewer using resin-impregnated flexible felt tubes. The liner is to be inverted into the existing sewer utilizing a vertical inversion standpipe and hydrostatic head. Curing is to be accomplished by circulating hot water or any other approved methods suitable to cure the resin into a hard impermeable pipe (sewer liner). When cured, the liner is to extend over the length of the inversion as a continuous tight fitting watertight pipe-within-a-pipe.
- B. General Corrosion Requirements: The finished liner must be fabricated from materials which are chemically resistant to withstand exposure to domestic sewage when cured.
- C. Materials: The liner tube must be fabricated to a size that when installed will neatly fit the internal circumference of the sewer specified by the City. Allowance must be made for circumferential stretching during insertion. Unless otherwise specified, the Contractor must furnish a general purpose unsaturated polyester resin or epoxy vinyl ester resin or an equally compatible resin meeting the requirements of this section. The catalyst system must be compatible with the process being utilized and it must provide the cured physical strengths specified herein.

Physical Strength: The cured sewer liner must conform to the minimum structural standards, as listed below:

Cured Sewer Liner	Standard	Results
Test Method for Tensile Properties of Plastics	ASTM D-638	2,500 psi
Test Method for Flexural Properties of Plastics (Flexural Strength)	ASTM D-790	4,500 psi
Test Method for Flexural Properties of Plastics (Flexural Modules of Elasticity)	ASTM D-790	250,000 psi

- D. Liner Thickness: The liner for the rehabilitated sewer must be designed in accordance with ASTM F1216 using the following parameters.
 1. The sewer to be rehabilitated will be considered fully deteriorated.
 2. The rehabilitated sewer will be subject to an earth load of 120 pounds per cubic foot.
 3. Applicable live load conditions will be considered using A.A.S.H.T.O. HS-20 highway loads.

4. A value of two (2) will be used for the Factor of Safety.
 5. The factor for the ovality of the existing sewer is to be determined using the videotape or videodisc of the televised sewer provided by the Department.

For bid purposes assume the average out of roundness of pipe to be lined is 5%.
 6. When the crown of the sewer to be rehabilitated is 7 feet or less below the surface grade, the soil modulus value will be 700 psi. When the crown of the sewer to be rehabilitated is more than 7 feet below the surface grade, the soil modulus value will be 1,000 psi. For bid purposes assume the average cover over the pipe to be lined is between five (5) feet and eight (8) feet
 7. The maximum creep retention factor will be 50%.
 8. Ground water depth 10 foot below the surface grade.
- E. Lateral and Tee Liner. The liner materials must provide the flexibility to line 45 to 90 degrees bends and produce a smooth inside radius.

2.2 EQUIPMENT

A. Cleaning

1. Sewer mains must be cleaned using a combination of flushing and one or more of the following cable-attached devices, including bucket machines, hydraulic-jet cleaning, rodding machines, and vacuum machines. Other types of cleaning may be utilized by the Contractor if they are capable of producing the specified results and are approved by the Commissioner.
2. The cleaning equipment must be capable of removing all dirt, grease, rocks, bricks, tree roots, mineral deposits, and other deleterious materials and obstructions from the main sewers and manholes.
3. The type of equipment and the method to be used must be based on the condition of the sewer, lateral sewer, or connection to the existing sewer at the time work commences without causing damage to the piping. The selection of equipment must produce the results specified and will be at the Contractor's discretion, subject to the approval of the Commissioner.

B. Bypass Piping

1. The Contractor will be required to supply continuous service to both commercial and residential customers at all times during both the cleaning and lining process when called for on the drawings, specified, or when directed by the Commissioner. All cleaning methods, even those requiring short shutdowns will be required to have a bypass piping system in place.

There will be no additional compensation to the Contractor for protecting any bypass piping system from weather, accident or vandalism.

2.3 SOURCE QUALITY CONTROL

- A. All materials provided and work performed will be subject to inspection. The Contractor must provide, without additional cost to the DWM, samples and reasonable assistance for the inspection of materials and workmanship. The minimum amount of inspection or verification required will be as outlined in ASTM F1215.

PART - 3 – EXECUTION

3.1 EXAMINATION AND INSPECTION

- A. The entire procedure for cleaning the pipeline and the application of the cured-in-place lining will be subject to continuous inspection by the Commissioner, but the inspection does not relieve the Contractor of the responsibility to provide material and perform work in accordance with this specification. The guarantee period must be five (5) years from the date of final completion. Any repair of defective lining will be at the discretion of the Commissioner and the cost to make such repairs is to be borne by the Contractor.

3.2 PREPARATION

A. Cleaning

1. The Contractor must clean all sewers, lateral and tee connections as required for liner installation. For sewer cleaning, all sludge, dirt, sand, rock, grease, and other solid or semi-solid material existing or resulting from the cleaning operation must be removed at the downstream manhole of the main sewer section being cleaned. The Contractor must not pass material from one main sewer section to another main sewer section.
2. For sewer cleaning, whenever hydraulic cleaning equipment is used, a suitable weir or dam must be constructed in the downstream manhole of the main sewer section from which material is being removed that traps all solids for removal from the sewer.

Whenever a bucket machine is used, a suitable container must be provided to receive the materials dumped from the bucket machine.

3. In the event of a rain storm causing debris to wash into a previously cleaned main sewer section/lateral connection, the Contractor must ensure that such main sewer sections/lateral connections are cleaned again prior to the installation of the liner.

The Contractor is responsible at the final inspection for ensuring that the entire job is acceptable to the Commissioner.

4. The Department retains the right to determine the acceptance or rejection of all work according to the terms of these Special Provisions. In the event of a rejection of the completed work, corrective action must be initiated within 48 hours of a notice of rejection.

B. ROOT REMOVAL

1. Roots must be removed during the cleaning operation prior to the installation of the liner in those main sewer sections and lateral connections where root intrusion is a problem. All Contractor costs for root removal will be considered incidental to the appropriate bid items for cleaning and no separate payment will be made.

C. CUTTING OF PROTRUDING LATERAL SEWER CONNECTIONS

1. The Contractor must cut and remove protruding private drain lateral connections as ordered by the Commissioner. The work must be accomplished without open excavation by use of cutters inserted into the sewer and operated from a remote surface location.

D. DISPOSAL OF MATERIALS REMOVED

1. All solids or semi-solids resulting from the cleaning and/or repair operations must be removed from the site by the Contractor on a daily basis and transported for disposal in an approved dump location conforming to all current government regulations.
2. The Contractor must not deposit or accumulate debris in main sewer sections.
3. No debris or dump boxes will remain on the public way outside of working hours unless a prior written request is submitted and approved in writing by the Commissioner.

E. PROTECTION DURING CLEANING OPERATIONS

1. Satisfactory precautions must be taken to protect the main sewers and sewer manholes from damage that might be caused by the improper use of cleaning equipment. Whenever hydraulically propelled cleaning tools, which depend on water pressure, or any tools which retards the flow of water in the main sewers is used, precautions must be taken to ensure that the water pressure created does not cause any damage or flooding to any public or private property served by the main sewer section being cleaned.
2. The flow of waste water in the main sewers will be utilized to operate hydraulic cleaning devices whenever possible. When it is necessary to use additional water from other sources to avoid delay in normal work procedures, the water will be conserved and not used unnecessarily. Fire hydrants must not be obstructed by the Contractor's operation.

3. The Contractor is responsible for the costs of restoring all damage to public and private property as a result of all cleaning operations.

F. PROTECTION DURING REHABILITATION OPERATIONS

1. Satisfactory precautions must be taken to protect the main sewers, sewer manholes and lateral connections from damage that might be inflicted by the improper use of rehabilitation equipment. The Contractor must use care to prevent damage to portions of the sewers, sewer structures and lateral connection which are to remain in place. All repairs outside of the limits of removal or order by the Commissioner and which are damaged by the Contractor will be repaired or replaced by the Contractor without cost to the City.
2. The Contractor will be responsible for all damage to public and private property as well as all repairs outside of the limits of removal or as ordered by the Commissioner which are damaged by the Contractor must be repaired by the Contractor without cost to City.
3. The Contractor must take all necessary precautions to insure that the water pressure created by diverting or retarding the flow does not cause any damage or flooding to public or private property being served by the main sewer section being rehabilitated.
4. The Contractor's attention is called to the fact that flows in the existing sewers could flood the work under this Contract, especially in the event of heavy rains. He must be prepared at all times to safeguard workmen and protect the work under this Contract from damage by flooding. The Contractor will maintain the flow of the existing sewers.
5. The Contractor must install a screen capable of keeping debris from entering the sewer system.

3.3 INSTALLATION

A. Sewer Flow Control

1. Pumping and By-passing: When pumping and bypassing is required, the Contractor must supply the pumps, flumes, and other equipment necessary to divert the flow of waste water around the main sewer section being rehabilitated. The contractor must submit in writing to the Commissioner for approval, a plan for pumping and bypassing. The bypass system must have the necessary capacity to handle existing flow plus additional flow that may occur during a rainstorm. The Contractor will furnish the necessary labor and supervision to set up and operate the pumping and bypass system.
2. While performing the work under this Contract, the Contractor will comply with all applicable Federal, State and Local statutes, ordinances, and directives with respect to the elimination of excessive noise and pollution of air and water due to

his operations. When pumping and by-passing is required, engines will be equipped in a manner to keep noise to a minimum.

3. Flow Control Precautions: When a main sewer is plugged, blocked, or bypassed, sufficient precautions must be taken to protect the main sewer from damage that might result from sewer surcharging. Precautions must be taken to ensure that the sewer flow control operations do not cause flooding or damage to public or private property served by the sewer being rehabilitated.

B. Pumping Discharge from Private Drains

1. This work must be performed as specified herein by a drain-layer licensed by the Department.
2. This work is required when a private drain cannot be placed out of service during the period of sewer rehabilitation work. The Contractor, in such cases, must intercept the discharge from a private drain, provide a temporary by-pass manhole, and pump the flow to a nearby active sewer.
3. The work includes pavement removal, excavation, disposing of all material, earth retention system, pumping, fluming, removing water and sewerage, furnishing all materials required to connect all existing live drains to the sewer; furnishing, placing and water jetting of trench backfill material; the bypass system for the private drains will include the temporary sump, pumping unit and discharge line to an active sewer; restoring the private drain and backfilling as specified; furnishing and placing surface restoration to the original condition or better; furnishing all materials required and all incidental work.
4. The sump pump is to be installed in a pit within the street's right-of-way, as approved by the Commissioner. After the sewer rehabilitation work is completed, the private drain by-pass including a sump, pumps, temporary discharge line, etc. must be removed. The broken drain must be replaced using short lengths of full pipe, with compression joints meeting the requirements of these Specifications. When it is not feasible to repair the drain with full lengths of pipe, a sewer repair coupling with adjustable stainless steel shear rings may be used with Commissioner's approval. Following the completion of this work the drain must be rodded and checked for proper function.
5. The sump for the private drain by-pass system must be of such size and material that no flow is permitted to infiltrate into the adjacent soil. The pump must be of adequate capacity as to handle the maximum possible flow from the drain.
6. The Contractor is to maintain an adequate and properly functioning drain by-pass system. The pumping must continue until the disconnected drain is reconnected to the sewer permitting gravity flow. The Contractor is responsible for all property damage that is due to waste water backup from disconnected drains and damages will be recoverable from him.
7. The replacement drain pipes must be of the same material as the existing drain pipes unless otherwise approved by the Commissioner. Full length replacement

drain pipes must be installed in a manner that the face of the spigot is brought into contact with the shoulder of the socket. When this is not feasible, the Commissioner may permit removal of half the circumference of the bell for ease in pipe installation. In this latter case, the pipe must be rotated by 180 degrees along the horizontal axis to bring the intact portion of the bell to the bottom of the pipe. The joints must be covered with a collar of brick and mortar, with the bricks laid perpendicular to the joint or a concrete collar formed around the connection of a structural grade concrete or grout with a minimum 28 day compressive strength of 3,000 psi.

8. The maximum width of a trench is the outside diameter of sewer plus 8 feet.
9. When water mains cross the existing drain within the limits of excavation the Contractor must support, protect and use special care in the area of the water mains. All cost incurred by reason of such work must be included in the prices bid for the appropriate items.
10. The Contractor must recognize the fact that it is impractical for utilities to relocate their lines that cross, run parallel or are within the limits of the sewer trench. Hand excavating and supporting of any and all utilities within the limits of the sewer trench will be performed by the Contractor in cooperation with the utility owners, unless advised otherwise by the Commissioner. The Contractor must provide adequate protection in conformance with the standards set forth by OSHA regulations. The Contractor must take all reasonable precautions necessary to insure the safety of its workers and the protection of the utilities encountered.
11. When the use of a trench box is approved and conditions do not permit its use due utility interference, the Contractor, must furnish, place and maintain all sheeting, bracing and shoring required to properly maintain the trench
12. Prior to starting work, the Contractor must submit the details of all by-pass systems to the Commissioner for approval.

C. Cured-In-Place Lining:

1. Proceed as soon as possible after pipeline is cleaned, necessary point repairs completed and the Commissioner has approved, in writing, the pipeline to be lined.
2. Conform to ASTM F1215.
3. The Contractor is to designate the location where the felt tube liner will be vacuum impregnated, wet-out, prior to installation.
4. Transport impregnated liner at a temperature below 40 degrees Centigrade and out of direct sunlight and install within 24-hours of wetting.
5. Insertion of prepared impregnated felt tube for:
 - a. The liner for laterals must be inverted into the existing lateral sewer connection utilizing a launching, carrying and bladder devices launched in

2. Whenever the Contractor, at the downstream end of his Contract, removes an existing bulkhead which was placed as part of a previous contract, he must install a screen suitable for the purpose of preventing his construction debris from floating into the completed portions of the sewer system. As his work progresses, he must also clean the completed portions of the sewer by removing rails, jacks, lumber, sandbags and all other construction equipment, excess material and debris.
3. The Contractor must place and maintain all temporary dams, flumes, bulkheads or other structures necessary to prevent water from adjacent sections of the sewer system from entering the work under this Contract in such a manner as to injure it, and must completely remove all such temporary structures from the completed portion of the work as rapidly as practicable. The Contractor must not place a dam, flume or bulkhead in any sewer without first obtaining the approval of the Commissioner. The Contractor must ascertain the possibility of sewage backing up into basements and causing damage and he will be held responsible for any such damage.
4. The City does not assume responsibility for providing the Contractor with an outlet for any storm water or sewage which must be disposed of during the construction work under this Contract. Until the acceptance of the work, the Contractor will, if so ordered by the Commissioner, keep the entire work pumped free of water and sewage and before the acceptance of any part of the work, must clean the entire length of such finished part of the work to the satisfaction of the Commissioner.
5. Water must not be allowed to flow over or stand on the invert in such a manner as to cause scouring of the concrete surface.
6. Water pumped from trenches or other excavations must be routed to settling basins before entering the City of Chicago sewer system. The settling basins will be 5 feet by 10 feet with three (3) compartments or baffles having a minimum depth of 2 feet. Discharge from the settling basin must be by gravity to the catch basin.
7. All costs due to the provisions of this section or by interruption of the work incidental thereto, are to be included in the unit or lump sum prices stated in the proposal.

E. FINISHING OF CONTRACT WORK

1. The Contractor must protect the main sewers and sewer manholes from damage that might be inflicted by improper use of installation equipment.

2. The Contractor must ensure that a water tight seal is made at all connections in manholes and apply a seal if the installed cured tube fails to make a water tight seal. The costs for such seals are incidental to the Contract.
3. The Contractor must reconnect all active drain connections and other lateral sewers as directed by the Commissioner without excavation.
4. The Contractor must seal the liner edges between inversions / insertions or at the end of an inversion / insertion to an even thickness with a hydraulic mortar.
5. When the liner is continuous through a manhole, the liner must be trimmed flush with the wall of the bench. The cut edges must be sealed with a hydraulic mortar that adheres to both the wall of the bench and the liner.

3.4 FIELD QUALITY CONTROL

- A. For the sewer liner the water tightness of the sewer liner must be gauged while curing and under a positive pressure head.
- B. At each connection between the service lateral and main sewer pipe the Contractor must test the water tightness of each joint by either conducting an air pressure test or dye water flood test.

3.5 SCHEDULES

- A. The Contractor must submit a schedule clearly depicting the date and duration of both the cleaning and lining work are to the Commissioner for review in accordance with Book 1, "Schedule". No work is to begin until the schedules have been submitted and reviewed by the Commissioner.

END OF SECTION 33 01 30

SECTION 33 05 22

REPAIR AND ADJUSTMENT OF SEWER MAINS AND STRUCTURES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section includes the requirements associated with the repair, adjustment and abandonment of existing sanitary and storm sewers, house drains, manholes, catch basins and inlets as shown on the Drawings, or as directed by the Commissioner. This Section also includes the requirements for cleaning existing catch basins.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 03 30 00 – Cast-In-Place Concrete.
- B. Section 31 23 10 – Excavation, Trenching and Backfilling.
- C. Section 33 31 13 – Sewer Pipe and Fittings.

1.3 REFERENCES

- A. City of Chicago, Department of Water Management, Standard Specifications for Sewer Construction, latest edition.
- B. Follow the latest edition of the following references.
 - 1. ASTM C700 - Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated.
 - 2. ASTM C425 - Compression Joints for Vitrified Clay Pipe and Fittings.
 - 3. ASTM C76 - Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
 - 4. AWWA C151 - Ductile Iron Pipe, Centrifugally Cast for Water.
 - 5. ASTM C443 - Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
 - 6. ASTM C478 - Pre-cast Reinforced Concrete. Manhole Sections.
 - 7. ASTM C32 - Sewer and Manhole Brick (Made from Clay or Shale).

8. ASTM A48 - Gray Iron Castings.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. Sewer piping must conform to the requirements of Section 33 31 13 – Sewer Pipe and Fittings.
 1. Sewers 21-Inches in diameter and smaller must be Extra Strength Vitrified Clay Pipe or Ductile Iron Pipe.
 2. Sewers 24-Inches and larger, must be Reinforced Concrete Pipe.

2.2 MANHOLES, CATCH BASINS AND INLETS

- A. Manholes, catch basin and inlets must conform to the requirements of Section 33 39 13 – Sewer Manholes, Catch Basins, Frame and Covers.
- B. Manhole lids and frames, catch basin or inlet frames, grates, and manhole steps must conform to the requirements of Section 33 39 13 – Sewer Manholes, Catch Basins, Frame and Covers.

2.3 SEWER BRICK

- A. Sewer brick must conform to the requirements of Section 33 39 13 – Sewer Manholes, Catch Basins, Frames and Covers.

2.4 MORTAR AND GROUT

- A. Portland Cement Mortar for sealing pipe connections, structures, manholes and catch basin frames must conform to ASTM C150, and be composed of one (1) part Portland cement and one(1) part sand, and minimal amount of water to make a workable mix.

- B. Grout: Portland Cement, Admixtures, and Sand must meet the requirements of Section 03 30 00 – Cast-In-Place Concrete.

PART 3 - EXECUTION

3.1 GENERAL

- A. Existing sewer facilities disturbed or damaged by the Contractor's operation must be promptly reported to the Department of Water Management, (Sewers Engineering Section) and repaired by the Contractor. All repairs must be done using a licensed drain layer, in conformance with Department requirements, and are considered incidental to the Work of the operation. No additional payment will be allowed for this work.
- B. Sewer pipe used in the repair or adjustment of sewers and sewer structures must be of the same diameter and pipe material as the existing sewer, with the exception of the conditions listed hereafter, unless otherwise directed by the Commissioner.
 - 1. Where water mains cross over existing sewers, house drains, catch basins drain pipes, and where an 18-Inch vertical separation cannot be maintained between the bottom of the water main and top of existing sewer, the existing sewer pipe must be replaced with a ductile iron pipe with rubber gasketed joints comparable to water main standards, for a of perpendicular distance of 10 feet each side of the water main to be crossed.
 - 2. Where the horizontal separation between a water main and existing sewer is less than 10 feet and less than 18-Inches vertically above the crown of the existing sewer pipe, the sewer must be replaced with ductile iron pipe to a distance 10 foot each side of the center line of the water main.
 - 3. If a water main crosses under existing sewers, house drains, or catch basin drains, the sewer must be replaced with ductile iron pipe to a distance of 10 feet either side of the centerline of the water main, and an 18-Inch vertical separation must be maintained.

3.2 LAYING SEWERS

- A. Trenches must be kept free from excess water until the sewer has been installed and mortar joints, if used, have set.
- B. Each pipe and fitting must be inspected for soundness and damage immediately before being laid, and any pipe or fitting not conforming to the requirements of this Section, is rejected and must be removed from the Site at the Contractor's expense.
- C. Each pipe must be laid to the line and grade given by the Department unless directed otherwise by the Commissioner. Pipe must be laid on even firm bedding along the entire bed of the pipe with bedding material shaped to conform to pipe bells or joint sleeves, and so not to bear on pipe bells or joints. Bedding must conform to the requirements of Section 31 23 10 – Excavation, Trenching and Backfilling.
- D. The socket end of the pipe must be laid upgrade.
- E. Pipe must not be trimmed or clipped in order to fit in the socket.
- F. The face of the spigot must be brought into contact with the shoulder of the socket.
- G. The joints must be sealed in accordance with the manufacturer's specifications.
- H. Whenever pipe laying is discontinued, the unfinished end of the sewer must be protected from displacement, cave in, or other injury and a suitable stopper or dam must be placed in the end socket.

3.3 MORTAR JOINTS FOR DRAIN CONNECTIONS

- A. Mortar joints used for connections to existing sewer pipes or house drains may be used only when connections cannot be made using gasketed joints as specified or the appropriate pipe adaptor as supplied or recommended by the pipe manufacturer, or as directed otherwise by the Commissioner.
- B. When mortar joints are required, they must be constructed using the following procedure:
 - 1. In joining pipe, the spigot must be centered in the socket by means of a packing gasket of twisted impregnated oakum of proper thickness and sufficient length to pass around the pipe and lap the top.
 - 2. After the pipe has been placed, the gasket must be caulked into the annular space and the remainder of the space filled with Portland cement mortar beveled off with the outside of the socket.
 - 3. Mortar for pipe joints or fittings must be made of one (1) part Portland Cement and one (1) part sand conforming to applicable requirements of Section 03 30 00 – Cast-In-Place Concrete.
 - 4. Only a sufficient amount of mortar may be prepared for use within forty-five (45) minutes of application. Any mortar that has begun to set must not be used.
 - 5. As each joint is completed, the inside of the pipe must be thoroughly cleaned to remove all excess joint material.

3.4 EXISTING CATCH BASINS

- A. Thoroughly clean any existing catch basin to remain to its full depth, removing and properly disposing of all material removed from the basin. No material removed from a catch basin must be allowed to enter any City sewer.

- B. Inspect the drain connection from each catch basin and rod-out the drain when said drain is found to have obstructions. Any drain connection found to be defective must be removed and relayed.

- C. The Contractor must install flow restrictors in all existing / proposed catch basins within the project limits (area of pavement resurfacing). Three inch (3") diameter plastic vortex type restrictors must be installed in the residential streets, whereas the same without swirl chamber must be installed in the arterial streets. The Department of Water Management will supply the restrictors, which can be obtained at the Department of Water Management's Central District, located at 3901 S. Ashland Avenue.

3.5 REPAIR AND ADJUSTMENT OF STRUCTURES

- A. Remove the existing frames and covers and inspect the existing masonry. Remove and replace defective masonry in the upper portions. Remove or add masonry, as necessary, to meet the elevations established by the Commissioner.

- B. For any manhole or catch basin cover or frame raised more than 6 inches, remove the old masonry for the structure to the point where the manhole or catch basin structure reaches its full internal diameter and rebuild the structure as shown on the Plans.

- C. Material used in each repair and adjustment must be the same type as in the existing manhole, catch basin or inlet, unless otherwise ordered by the Commissioner.

- D. Reset the existing frames and covers on the repaired and adjusted manholes, catch basins and inlets in a full bed of mortar, unless the Commissioner orders that new frames or covers be installed.

- E. Examine the drain connection from each catch basin and inlet, and if such connection is found to be defective, then remove and relay the defective portions as ordered by the Commissioner.

- F. Place granular trench backfill, as described in Section 31 23 10 – Excavation, Trenching and Backfilling, around the repaired and adjusted manholes, catch basins, inlets, valve basins and vaults.

3.6 FINAL ADJUSTMENT OF STRUCTURES

- A. To prevent debris from entering the sewers, place 22 gauge galvanized steel plate beneath all perforated lids of all sewer structures prior to the placing of any type of surfacing material. Maintain plates in place until the completion of all paving operation have been completed.
- B. After the base course and binder course have been placed, and prior to placing the surface course, the structures must be adjusted to match the final pavement elevation.
- C. Remove the binder and base course adjacent to and for a distance not exceeding 12-inches outside the base of the castings.
- D. Adjust the castings to final pavement elevation with adjusting rings set in mortar.
- E. Fill the space around the casting with Class SI concrete to the elevation of the surface of the binder course.

3.7 ABANDONMENT OF SEWERS AND SEWER STRUCTURES

- A. Fill abandoned sewers, sub-sidewalk space, water tunnels, structures, drains, manholes, catch basins and inlets as shown on the Plans or as ordered by the Commissioner with fine aggregate material meeting the requirements of Section 31 23 10 – Excavation, Trenching and Backfilling. A hole must be drilled every 100 feet in abandoned backfilled sewers and drains that are 15 inches and larger in internal diameters to verify the backfilling and to allow refilling if necessary.
- B. When called for on the Drawings, abandoned sewers must be completely filled with sewer grout or controlled low strength material / flowable fill. Fill abandoned sewers to a point approximately six (6) inches up in the manhole riser above the top of the sewer crown. Care must be taken so as not to fill any drain connection.

END OF SECTION 33 05 22

SECTION 33 11 13

DUCTILE IRON WATER PIPE AND FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes requirements for the installation of ductile iron water pipe and fittings as shown on the drawings and specified here.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 31 23 19 - Dewatering Excavations.
- B. Section 31 23 10 - Excavation, Trenching and Backfilling.
- C. Section 33 11 15 - Thrust Restraint for Water Main Piping.
- D. Section 33 13 00 - Hydrostatic Testing and Disinfecting Water Mains.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:
 - 1. AWWA C104 - Cement Mortar Lining for Ductile Iron Pipe and Fittings.
 - 2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
 - 3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
 - 4. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure pipe and Fittings.
 - 5. AWWA C115 - Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.
 - 6. AWWA C116 - Protective Fusion-Bonded Epoxy Coatings Int. and Ext. Surf. Ductile-Iron/Gray-Iron Fittings.
 - 7. AWWA C150 - Thickness Design of Ductile-Iron Pipe.
 - 8. AWWA C151 - Ductile Iron Pipe, Centrifugally Cast.
 - 9. AWWA C153 - Ductile Iron Compact Fittings for Water Service.
 - 10. ASME/ANSI B16.1 - Flanges and Flanged Fittings.
 - 11. ANSI B16.21 - Metallic Gaskets for Pipe Flanges.
 - 12. ASME B18.2.1 - Square and Hex Bolts and Screws.
 - 13. ASME B18.2.2 - Square and Hex Nuts.
 - 14. ASTM A123 - Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.
 - 15. ASTM A153 - Zinc Coating (Hot Dip) on Iron and Steel.
 - 16. ASTM A240 - Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip, for Pressure Vessels and for General Applications.
 - 17. ASTM A307 - Carbon Steel Bolts and Studs.

18. ASTM A536 - Ductile Iron Castings.
19. ASTM A767 - Zinc Coated (galvanized) Steel.
20. ASTM A775 - Epoxy Coated Steel.
21. ASTM A780-93 - Repair of Zinc Coated (Galvanized) Steel.
22. ASTM B308 – Stainless Steel Alloy Standard Structural Shapes, Rolled, or Extruded.
23. ASTM C564 - Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
24. ANSI A21.5/AWWA C105 - Polyethylene Encasement.

1.4 SUBMITTALS

- A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.
- B. The Contractor must give notice in writing to the Commissioner, sufficiently in advance of his intention to purchase or place a special order for any pipe required to be installed under this contract. Fully dimensioned drawings and/or manufacturers' catalog cuts are to be submitted for review.
- C. The Contractor must submit to the Commissioner certified copies of all test reports for test conducted on the pipe by the manufacturer when so requested by the Commissioner.
- D. The Contractor must provide the Commissioner with a notarized statement that all tests have been made and met as specified.

1.5 QUALITY ASSURANCE

- A. Each manufacturer supplying pipe for water mains under this contract must furnish all facilities, personnel, and materials to conduct tests required as applicable to the type of pipe being supplied, when requested by the Commissioner. The cost of all plant tests required as proof of the acceptability of the water main pipe will be considered incidental to the Work and no additional payment will be allowed.
- B. **The Work performed on joining all pipe and fittings, must be performed by a plumber licensed in the State of Illinois or the City. This Work must include, but not be limited to, joining all pipe and fittings, installing joint gaskets, assembling all joints, installing continuity wedges, and tightening all gland nuts and bolts, as applicable for the installation.**

1.6 NOTIFICATION AND LIMITATIONS OF WATER MAIN SHUT DOWNS

- A. **Whenever an existing water main or a section thereof is to be shut down during the course of construction, every individual consumer**

must be notified at least seventy-two (72) hours prior to the shut down. The Contractor must never operate, under any circumstances, an existing valve for a shut down or other purpose without first notifying and obtaining approval from the Commissioner.

- B. **The time for a consumer shut down must not exceed eight (8) hours. Absolutely no shut downs will be permitted before 8:00 AM without approval from the Commissioner.**
- C. In case of emergency shut downs, the Contractor must notify customers immediately. Notification may be verbal on a door-to-door basis. However, if a consumer cannot be contacted, a written notice must be placed at the property site showing all pertinent information regarding the shut down. The notice must show a telephone number the consumer may call for information or to express any problem that the consumer may have with the shut down.
- D. If a consumer cannot withstand a planned shut down due to a dialysis machine being present or other medical reason, the Commissioner must be notified immediately.
- E. All valves 16-Inches in diameter and larger must be operated only by personnel of the Department. Notify the Commissioner seventy-two (72) hours prior to the need for operation of the valve.

PART 2 - PRODUCTS

2.1 DUCTILE IRON PIPE

- A. Ductile iron pipe must conform to the requirements of AWWA C151 and with the additions or substitutions specified in this Section.
- B. Pipe bells must be designed to provide a watertight joint without leakage and must be capable of withstanding pressures exceeding those that will rupture pipe of this class and thickness without requiring additional jointing material.
- C. Electrical conductivity must be provided at each joint on all push-on and mechanical jointed pipe 16-Inches in diameter and smaller, to facilitate thawing of frozen pipe and building water services. It must also be provided on pipe 24-inches in diameter and larger when building services are directly connected to the water main. Conductivity is to be accomplished by installing serrated silicon wedges as recommended or supplied by the pipe manufacturer. **The use of lead tip gaskets will not be allowed.** Wedges are to be installed in accordance with the requirements of paragraph C in Articles 3.6 and 3.7 of this specification.

- D. All pipes must be manufactured so that where a cut is made at any point along the barrel, the cut end will fit properly into a standard mechanical joint bell and be drip tight at hydrostatic test pressure. All pipes shall be “gauged full length”.
- E. Exterior of pipe must be coated with a petroleum asphaltic material in conformance with AWWA C110, Section 10-10. Interior of pipe must be cement-mortar lined only, in accordance with AWWA C104; an asphaltic seal coat is not allowed, and shall not be used.
- F. Pipe thickness and classes must conform to standards shown in Table A.

TABLE A PIPE THICKNESS AND CLASS

Pipe Size	Nominal Wall Thickness	Thickness Class
3-inch	0.34-inch	54
4-inch	0.38-inch	55
6-inch	0.40-inch	55
8-inch	0.45-inch	56
10-inch	0.47-inch	56
12-inch	0.49-inch	56
14-inch	0.48-inch	55
16-inch	0.46-inch	54
18-inch	0.44-inch	53
20-inch	0.45-inch	53
24-inch	0.50-inch	54
30-inch	0.47-inch	52
36-inch	0.53-inch	52
42-inch	0.59-inch	52
48-inch	0.65-inch	52
54-inch	0.73-inch	52
60-inch	0.77-inch	52

2.2 JOINTS

- A. **LEAD JOINTS ARE NOT TO BE USED UNDER ANY CIRCUMSTANCES.**
- B. Pipe joints must be push-on type joints unless otherwise noted on the drawings, specified here, or directed by the Commissioner. Push-on type joints must conform to AWWA C111.

C. Restrained joints when specified are to meet the following requirements:

1. Mechanical joint pipe with mechanical joint restraint glands. Mechanical joints must conform to AWWA C110. Gaskets must conform to Section 2.4 of this specification.
2. Restrained joint pipe with manufactured weldment, field weldments or manufactured locking rings, locking segments and runner retainers and appurtenances conforming to AWWA C110. Acceptable products are Super-Lock Pipe manufactured by Clow Water Systems Company; FlexRing Pipe or Lok-Ring Pipe manufactured by American Ductile Iron Pipe; or TRFLEX manufactured by United States Pipe and Foundry Company.

D. Mechanical Joint Restraint Glands.

1. Provide restraint glands at all mechanical joints.
2. Restraint glands must be designed for use with the standardized mechanical joint bell pipe conforming to AWWA C110 and AWWA C153. Restraint is to be incorporated into the design of the gland. Acceptable products for this use are Mega Lugs manufactured by EBAA Iron Works; Uniflange manufactured by Ford Meter Box; or Star Grip manufactured by Star Pipe Products.
3. Restraint is to be accomplished by the use of multiple, wedge style restraints. Proper actuation of the wedges is to be ensured with torque limiting twist off nuts.
4. Glands 3-Inches through 16-Inches are to be pressure rated at 350-psi; glands 18-Inch through 48-Inch are to be rated at 250 psi.
5. The gland body and restraint components are to be made from ductile iron conforming to ASTM A536, 65-45-12. Ductile iron wedges are to be heat-treated within a range of 370 to 470 BHN.
6. The joint is to be capable of full deflection during assembly and joint deflection after assembly
7. Provide glands with minimum weights and number of wedges as shown in Table B.
8. Retainer glands are not acceptable.

**TABLE B – MINIMUM WEIGHT & NUMBER OF WEDGES
PER RESTRAINED JOINT**

Pipe Size.	Number of Wedges	Minimum Weight
3-inch	2	6.0-lbs
4-inch	2	7.0-lbs
6-inch	3	11.0-lbs
8-inch	4	14.5-lbs
10-inch	6	23.0-lbs
12-inch	8	28.5-lbs
14-inch	10	46.0-lbs
16-inch	12	52.0-lbs
18-inch	12	63.6-lbs
20-inch	14	71.0-lbs
24-inch	16	90.0-lbs
30-inch	20	190.7-lbs
36-inch	24	226.5-lbs
42-inch	28	400.0-lbs
48-inch	32	488.0-lbs

- E. Flanged joints, when shown on the Drawings, specified, or directed by the Commissioner, must conform to the following:
1. Flanged joints must conform to AWWA C115. Flanges must be the long hub type, screwed on the threaded end of the pipe in the shop. There must be no leakage through the pipe threads. The flanges must be designed to prevent corrosion of the threads from the outside.
 2. Flanges must be drilled according to the requirements of ANSI/ASME B16.1, Class 125 unless special drilling is called for on the Drawings, specified, or directed by the Commissioner. Bolt holes must be equally spaced, drilled smooth and true. When stud bolts are used flanges must be drilled and tapped to accommodate the studs.
 3. The face of the screwed-on flange and plain-end of the pipe must be accurately refaced together, at right angles to the pipe axis. After facing and drilling, the face of the screwed-on flange must immediately be covered with an appropriate rust-preventive coating.
 4. Flanged joints must be secured with either bolts and nuts, or stud bolts with a nuts. Bolts, stud bolts, and nuts must meet the

requirements of ASTM A307, Grade B. Bolts and stud bolts must conform to ANSI/ASME B18.2.1. Nuts must conform to ANSI/ASME B18.2.2. All bolts, stud bolts, and nuts must be primed with bitumastic paint after the bolts and nuts have been installed and tightened.

5. Gaskets must conform to Section 2.4 of this specification.

2.3 FITTINGS

- A. Fittings to be furnished and installed as specified or shown on the Drawings must be mechanical joint, ductile iron, and full body type in accordance with AWWA C110. Laying length of mechanical joint castings must be as shown in AWWA C110. Wall thickness and allowable variation in the thickness of mechanical joint castings must conform to AWWA C110 and have a 250-psi pressure rating.
- B. Compact fittings may not be used unless otherwise approved by the Commissioner.
- C. Plain ends of mechanical joint fittings must be beveled and gauged to properly seat in push-on joint bells.
- D. The fittings must be smooth and free from defects of every nature that would make them unfit for the use that they were intended. Plugging of fittings is not allowed. Repairing of defects by welding will be allowed if such repairs will not adversely affect the serviceability of the fittings or their ability to meet the strength requirements of the referenced AWWA standards.
- E. All castings must be coated with a petroleum asphaltic material in conformance with AWWA C110, Section 10-10. Interior of pipe must be cement-mortar lined only, in accordance with AWWA C104; an asphaltic seal coat is not allowed, and shall not be used.
- F. Flanged fittings must conform to AWWA C110, and have a 150-pound per square inch pressure rating.

2.4 GASKETS

- A. All gaskets for pipe, fittings and appurtenances must be vulcanized natural or vulcanized synthetic rubber, non-porous, free of foreign materials and visible defects. Recycled rubber may not be used.
- B. When soil conditions do not permit the use of natural or synthetic rubber gaskets and when directed by the Commissioner, all gaskets for pipe, fittings and appurtenances must be Nitrile (acrylonitrile butadiene), nonporous, free of foreign materials and visible defects.

- C. Gaskets for flanged joints must be of the ring type, 1/16-Inch thick, and meet the requirements of ANSI Standard B16.21. Acceptable manufactures for gaskets type as manufactured by the Crane Company; Garlock Packing Company; or U.S. Rubber Company.
- D. Gaskets must be stored in a cool place and protected from light, heat, oil, or grease until installed. Any gasket showing signs of cracking, weathering, abrasion or other deterioration will be rejected.

2.5 POLYETHYLENE ENCASEMENT

- A. Polyethylene encasement material must be either 8-mil, low density or 4-mil, cross-laminated, high-density polyethylene tubing in accordance with AWWA C105.

2.6 TRANSITION SLEEVES

- A. Transition sleeves for pipe 16-inches in diameter and smaller must be of type as manufactured by Dresser, Style 253 Modular Cast Couplings; Smith Blair, Type 441 Cast Transition Couplings; Ford, Style FC2A Transition Couplings; Power Seal, Model 3501 Transition Couplings; or JCM Industries Model 212 Transition Couplings.

Transition sleeves for pipe diameter greater than 16-inches must be of type as manufactured by Ford, Style FC2A or Style FC5 Transition Couplings; Romac Industries, Style 501 Transition Couplings; Dresser Style 38, Style 62, or Style 138 Transition Couplings; or Power Seal, Model 3501 Transition Couplings; or Smith Blair, Type 441 Cast Transition Couplings.

- B. Transition sleeves must be designed to join class "B" pit cast iron pipe to AWWA C111/C151 standard ductile iron pipe. They must provide for pipe misalignment and settlement deflection and make a leak proof non-soldered joint, which allows for limited line movement due to expansion and contraction. Design couplings for a minimum rated working pressure of 150-pounds per square inch.
- C. Transition sleeves pipe 16-Inches in diameter and smaller must be constructed of ductile iron conforming to ASTM A536. Transition sleeves for pipe diameters greater than 16-Inches must be constructed of ductile iron conforming to ASTM A536 or carbon steel conforming to ASTM A36. Ends must have a smooth inside taper for uniform gasket seating. The follower flanges must be ductile iron conforming to ASTM A536 or carbon steel conforming to ASTM A36.
- D. Transition sleeves must be shop coated inside and outside with fusion bonded epoxy coating conforming to AWWA C-213.

- E. Gaskets must be of molded rubber conforming to ASTM C564 for potable water service.
- F. Bolts and nuts must be 5/8-Inch in size and must be Grade 304L stainless steel, annealed. Nuts must be Teflon coated to prevent galling during storage.
- G. Each transition sleeve must be supplied with four electrical continuity brackets for electrical continuity across the sleeve. The angle bracket must be made from ASTM A240-T304 stainless steel with a stainless steel set screw.
- H. Contractor must field measure the existing cast iron water main for exact size of outer dimension and degree of out-of-roundness at the location to install the transition sleeve prior to ordering and installing the transition sleeve for that location.

2.7 PIPE SUPPORT SYSTEMS AND HANGERS (INTENDED FOR PERMANENT INSTALLATIONS)

- A. Manufactured pipe support systems, fasteners, and miscellaneous hardware must be fabricated from high strength stainless steel conforming to ASTM B308, or hot-dipped galvanized steel conforming to ASTM 123 and ASTM 153. Pipe support systems must be designed to have a minimum load safety factor of three (3) times the anticipated loading.
- B. Field fabricated pipe support systems, fasteners, and miscellaneous hardware must be cold-galvanized by painting metal surfaces with a 2-mil thick coating of ethyl silicate in-organic zinc-rich paint primer per manufacture's directions. Galvanized primer must be completely dry before backfilling the excavation. Field fabricated pipe support systems must be designed to have a minimum load safety factor of three (3) times the anticipated loading.
- C. Repair damaged galvanized coated surfaces in accordance with ASTM A780-93. Apply 2-mil thick coating of ethyl silicate in-organic zinc-rich paint primer per manufacturer's directions. Zinc primer must be allowed to completely dry before backfilling the excavation.
- D. Cold-galvanizing zinc primer paint must be of the inorganic, ethyl silicate type, containing at least 60% zinc dust and 40% adhesive binders, and conform to ASTM 780-93, type as manufactured by Tnemec Products, Kansas City, MO., Brite Products, Detroit, Mich., or Valspar Coatings, Minneapolis, MN.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All ductile iron pipe, fittings, and appurtenances must be installed in accordance with the manufacturer's recommendations and requirements.
- B. All pipe, fittings, and accessories must be delivered, unloaded, strung, and laid as specified here.
- C. The water mains must be laid with depths of cover as indicated under Article 3.12 of this specification, unless otherwise shown on the drawings, or directed by the Commissioner. The pipes must be laid true to line and grade.
- D. Fittings as specified must be used where shown on the drawings and where grade or alignment changes require offsets greater than those recommended by the pipe manufacturer.

3.2 TRANSPORTATION, DELIVERY AND STORAGE

- A. Every precaution must be taken to prevent damage to the pipe during transportation and delivery. Pipe ends, fittings, valves and hydrants must be sealed with caps or by another suitable method upon transportation from the supplier. Caps or end seals must be sturdy, secure, and wind-resistant so as to protect the pipe at all times prior to installation. Pipe ends, fittings, valves, and hydrants discovered without proper end caps or seals, upon delivery or during construction, will not be accepted until the unprotected pipe has been cleaned, swabbed, and or pressure washed by the contractor to the satisfaction of the Commissioner. Extreme care must be taken in loading and unloading the pipe and fittings. Such work must be done slowly with skids or suitable power equipment and the pipe must be under complete control at all times. Under no conditions may the pipe be dropped, bumped, dragged, pushed, or moved in any way that will cause damage to the pipe. When handling the pipe with a crane, a suitable pipe hook or rope sling around the pipe must be used. Under no condition may the sling be allowed to pass through the pipe unless adequate measures are taken to prevent damage to the pipe ends and lining.
- B. If in the process of transportation, handling, or installation, any pipe or fitting is damaged, such pipe or fitting must be replaced by the Contractor and be considered incidental to the construction and no additional payment will be allowed.
- C. The Contractor must store pipe in a manner that will prevent damage. Pipe must be placed on wooden timbers or another suitable support on level ground. The Contractor must prevent the pipe from rolling. The procedures used to prevent rolling must be approved by the Commissioner

3.3 PREPARATION FOR LAYING PIPE

- A. Materials, coatings, and linings must be as specified herein, shown on drawings, or directed by the Commissioner. Water mains and services must be installed where shown on the drawings. Installation must be in accordance with standards as recommended by the pipe manufacturer, and as specified herein.
- B. Proper and suitable tools and appliances for the safe and convenient cutting, handling, and laying of the pipe and fittings must be used.
- C. Before laying, all pipe and fittings must be thoroughly examined for defects and no piece may be installed which is known to be defective. If defects are discovered after pipe or fittings have been installed, the Contractor must remove the defective pipe and/or fitting and replace it with a sound one at his expense and to the satisfaction of the Commissioner.
- D. The pipe and fittings must be thoroughly cleaned before they are laid and must be kept clean until they are accepted in the finished work. Care must be exercised to avoid leaving bits of wood, dirt, rock and other foreign particles in the pipe. If any such materials are discovered before the final acceptance of the work, they must be removed and the pipe and fittings replaced, if necessary. All pipes must be kept absolutely clean during construction and must be stopped off with night plugs or caps at the end of each day's work so as to provide a watertight seal. Exposed ends of uncompleted lines and existing water mains and services cut and not abandoned must be capped or otherwise temporarily sealed watertight at all times when pipe laying is not in progress.
- E. When cutting ductile iron pipe, it must be neatly cut perpendicular to the longitudinal axis of the pipe without damaging the pipes lining or coating or jointing surface area.

3.4 LAYING WATER MAIN PIPE

- A. All pipelines must be laid in trench excavations on bedding or other foundations, as shown on the drawings, specified herein, or ordered by the Commissioner. The pipe must be properly secured against movement and pipe joints must be made in the excavation as required. Pipes must have solid bearing throughout their entire length.
- B. At locations where pipe thrust is anticipated to occur, pipe and fittings must be anchored or restrained as shown on the drawings, specified in Section 33 11 15 – Thrust Restraint for Water Main Piping, or as directed by the Commissioner. **Polyethylene encasement is to be installed on all new water main pipe and fittings before pipe is installed and braced against movement.** Care must be taken so as not to damage the polyethylene

encasement during the installation or blocking of the pipe and fittings. If damage occurs, the Contractor must repair or replace the polyethylene encasement at his expense to the satisfaction of the Commissioner.

- C. Pipe laying will be permitted only in dry trenches having a stable bottom. Groundwater or water from other sources must be removed as per Section 31 23 19 – Dewatering Excavations. If the trench bottom is unsuitable for the pipes foundation, the kind of stabilization to be utilized will be ordered in writing.
- D. If, in the opinion of the Commissioner, the Contractor has failed to obtain an acceptably dry trench bottom using conventional methods of dewatering, the Commissioner may order the Contractor to excavate below the intended grade and to place sufficient sub-grade material as may be suitable over the trench bottom in accordance with Section 31 23 10 – Excavation, Trenching and Backfilling.
- E. The Contractor must also take such required precautions to prevent flotation of the new pipeline.

3.5 ASSEMBLY OF FLANGED JOINTS

- A. Flanged joints must be made with bolts or bolt studs with nuts as specified in Section 2.2 of this specification.
- B. Tighten flange bolts as recommended by the gasket manufacturer to ensure an evenly compressed gasket and leak tight joint.
- C. After the bolts and nuts have been properly installed, tightened, and cleaned, prime them with bitumastic paint.

3.6 ASSEMBLY OF MECHANICAL JOINTS

- A. Thoroughly brush the surfaces with which the rubber gasket comes in contact with a wire brush just prior to assembly of the joint. Brush lubricant over the gasket and the plain end just prior to installation. In making up mechanical joints, the spigot must be centered in the bell.
- B. The gasket and gland must be placed in position, the bolts inserted, and the nuts tightened finger tight. The nuts must be tightened by means of a torque wrench in such a manner that the gland must be brought up evenly into the joint.
- C. Joints are to be made up to allow electrical continuity from one pipe to another by installing wedges as specified in Article 2.1, Paragraph C of this specification and are to be installed in the following manner:

1. Use two (2) wedges per joint for 3-Inch to 12-Inch diameter pipes. Wedges must be placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.
 2. Use four (4) wedges per joint for 16-inch to 24-inch diameter pipes. Wedges must be installed side by side in pairs placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.
 3. Use six (6) wedges per joint for pipes larger than 24-inches in diameter only if building services are directly connected to the main. Wedges must be installed side by side in pairs 120 degrees apart at the 12, 4, and 8 o'clock positions around the joint.
- D. The following range of bolt torques must be applied as specified in Table C. If sealing is not obtained at the maximum torque requirements listed in Table C, the joint must be disassembled, thoroughly cleaned, and reassembled.

TABLE C – BOLT TORQUE REQUIREMENTS

Bolt Size	Torque Range
5/8-inch	45-60 ft-lbs
3/4-inch	75-90 ft-lbs
1-inch	85-100 ft-lbs
1 1/4inches	105-120 ft-lbs

3.7 ASSEMBLY OF PUSH-ON RUBBER GASKET JOINTS

- A. Thoroughly brush the gasket seat in the bell with a wire brush and wipe the gasket and gasket seat with a cloth. Place the gasket in the socket with the large round end entering first so that the groove fits over the bead in the seat. Apply a thin film of NSF 61 approved joint lubricant to the inside surface of the gasket that will come into contact with the entering pipe.
- B. Thoroughly brush the plain end of the pipe with a wire brush and placed it in alignment with the bell of the pipe to which it is to be joined. Make up the joint by exerting sufficient force on the entering pipe so that its plain end is moved past the gasket until it makes contact with the base of the socket.
- C. Joints are to be made up to provide electrical continuity from one pipe to another by installing wedges as specified in Article 2.1, Paragraph C of this specification and are to be installed in the following manner:

1. Use two (2) wedges per joint for 3-Inch to 12-Inch diameter pipes. Wedges must be placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.
 2. Use four (4) wedges per joint for 16-Inch to 24-Inch diameter pipes. Wedges must be installed side by side in pairs placed on opposite sides of the joint at an equal distance apart (9 and 3 o'clock positions) around the joint.
 3. Use six (6) wedges per joint for pipes larger than 24-Inches in diameter only if building services are directly connected to the main. Wedges must be installed side by side in pairs 120 degrees apart at the 12, 4, and 8 o'clock positions around the joint.
- D. Assemble restrained joint pipe in accordance with manufacturer's instructions.

3.8 TEMPORARY BULKHEADS

- A. At ends of constructed sections where adjoining water mains or structures have not been completed and are not ready to be connected, temporary bulkheads must be used.

3.9 SHORT TUNNEL CONSTRUCTION

- A. Pipes to be placed in short tunnels must be jointed prior to being pulled into position. Pipe must be pushed or pulled into position in a manner arranged to keep joints tight and to prevent deflection.

3.10 ENCASING DUCTILE IRON PIPE IN POLYETHYLENE

- A. All cast and ductile iron pipe and fittings must be encased in polyethylene tubing before being installed, blocked, or braced.

3.11 USE OF DAMAGED, DEFECTIVE, OR NON-SPECIFIED CASTINGS AND FITTINGS

- A. All construction castings and pipe fittings that are determined to be damaged, defective or do not meet these specifications and are stored within the Work area must be marked for non-use and removed and replaced with fittings that conform to these Specifications.

3.12 DEPTH OF PIPE COVER

- A. Unless otherwise shown on the Plans or directed by the Commissioner, all water mains and services must be installed so a minimum pipe cover is achieved as shown in Table D.

TABLE D – MINIMUM DEPTH OF COVER FOR WATER MAINS

Size of Pipe	Depth of Cover
3/4 to 3-inches	5-ft 6-inches \pm 3-inches
4-inch	5-ft 6-inches \pm 3-inches
6-inch	5-ft 6-inches \pm 3-inches
8-inch	5-ft 3-inches \pm 3-inches
12-inch	5-ft \pm 2-inches
16-inch	5-ft \pm 2-inches
24-inch	4-ft 6-inches \pm 2-inches
30 to 42-inches	3-ft 6-inches (min) or as detailed on drawings
48-inches & Larger	3-ft (min) or as detailed on drawings

3.13 ABANDONMENT OF EXISTING WATER MAINS

- A. All openings on abandoned pipe or conduit are to be sealed with a concrete mortar plug of a minimum of one (1) foot in length within the pipe. Pipe 16-Inches in diameter and larger must be filled with fine graded aggregate or controlled low strength material (CLSM) flowable fill, as appropriate, or directed by the Commissioner. CLSM flowable material must meet standards specified in Section 31 23 10, “Excavation, Trenching and Backfilling”, paragraph 2.3, C of these specifications.

3.14 DISINFECTION OF PIPE AND FITTINGS

- A. Protect new and existing pipe and fittings from water, debris and foreign materials as specified in Section 31 23 10 – “Excavation, Trenching and Backfilling”.
- B. All new pipe, fittings, and valves must be disinfected in accordance with Section 33 13 00 – “Hydrostatic Testing and Disinfecting Water Mains”, and the requirements of the Bureau of Water Quality which may be contacted at 312.744.8190.
- C. Swab all pipe and fittings that will not be pressure tested or chlorinated with a chlorine solution during installation. Extra precautions must be taken to prevent debris or ground water from entering the section of water main to be swabbed. Incorporate untested section of water main into the flushing routine

when the work is necessitated, or part of, a water main replacement project. When connecting pipes to the existing city water system use normal operating pressure to visually inspect for leaks. If feasible, inspect for leaks prior to backfilling the excavation. Comply with all standards and requirements of the Bureau of Water Quality.

3.15 WATER MAIN SUPPORT SYSTEMS

- A. Support and anchor all piping in proper position and alignment with due allowance for expansion and contraction.
- B. The type, location, and arrangement of hangers and supports must be as shown on the drawings, or as directed by the Commissioner. Pipe supports and hardware must be appropriate to meet installation conditions, anticipated loading, and fabricated from corrosion resistant materials described in paragraph 2.7 - Pipe Support and Hangers, of this specification. All support systems whether pre-manufactured or field fabricated must have a minimum load safety factor of three (3) times the anticipated loading. Corrosion protective coatings damaged during installation of the pipe support system must be repaired per the manufacturer's requirements, or as directed by the Commissioner to maintain corrosion protection.

3.16 SEPARATION BETWEEN WATER AND SEWER MAINS

- A. When a water main crosses above a sewer main and the vertical separation is between 18 and 6-Inches, as measured between the bottom of the water main and crown of sewer pipe, the sewer must be constructed of ductile iron pipe (or PVC pipe as directed by the Commissioner) with rubber gasketed joints to a distance one foot beyond the wall of the trench excavation. Flexible transition coupling must be used to join the ductile iron pipe to the sewer pipe and be encased in bentonite as shown on the drawings. This sewer separation work (between 18 and 6-Inches) shall be approved by the Commissioner prior to commencing and completing this work.
- B. When a water main crosses below a sewer main, the sewer pipe must be constructed of ductile iron pipe with rubber gasket joints for a perpendicular distance of 10 feet on each side of the center line of the water main, and an 18-Inch vertical separation must be maintained. Flexible transition couplings must be used to join the ductile iron pipe to the sewer pipe.

END OF SECTION 33 11 13

Section 33 11 15

THRUST RESTRAINT FOR WATER MAIN PIPING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes the requirements for providing thrust restraint for the installation of water mains and services as shown on the Drawings and specified here.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 33 11 13 – Ductile Iron Water Pipe and Fittings.

1.3 Design Requirements

- A. Calculated thrust restraint must be based on the frictional force and bearing resistance between the pipe and the surrounding soil, with an allowance made for the polyethylene wrap on ductile iron pipe installations.

1.4 REFERENCES

- A. ANSI B1.1 - Unified Inch Screw Threads.
- B. American Society for Testing and Materials (ASTM), latest edition:
 - 1. ASTM A193 – Steel and Stainless Steel Bolting Materials
 - 2. ASTM A194 – Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both
 - 3. ASTM A325 - Heat Treated Structural Steel Bolts.
 - 4. ASTM A449 – Quenched and Tempered Steel Bolts and Nuts
 - 5. ASTM A536 - Ductile Iron Castings.
 - 6. ASTM A563 – Carbon and Alloy Steel Nuts
 - 7. ASTM A615 – Standard Specification for Deformed and plain Billet Steel Bars for Concrete Reinforcement.
- C. IDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.

PART 2 - PRODUCTS

2.1 DUCTILE IRON PIPE RESTRAINT

- A. Mechanical joint thrust restraint glands must be used unless otherwise

directed. Where such glands cannot be used to provide sufficient thrust restraint, concrete thrust blocks must be used, unless directed by the Commissioner.

2.2 CONCRETE THRUST BLOCK RESTRAINT

- A. All concrete used in the construction of thrust blocks must be Class SI of the SSRBC.
- B. All reinforcing steel used in the construction of thrust blocks must conform to the requirements of ASTM A615.

2.3 TIE ROD PIPE RESTRAINT

- A. Where the use of tie rods to restrain thrust is approved by the Commissioner, they must meet the following ASTM Designations:

<u>Tie Rod Diameter</u>	<u>Rods</u>	<u>Nuts</u>	<u>Washers</u>
Up to 1-1/2"	A449	A563 Grade D	A325
Over 1-1/2"	A193	A194 Grade 2H	A325

- B. Tie rod threads must be the Unified Coarse Thread Series conforming to ANSI B1.1 for rods 1-inch in diameter and smaller and 8-inch pitch thread series for larger diameters. Nuts must be hexagonal. Harness tie rod nuts must have a standard chamfer on the back face with finished spherical bearing surface. The nuts must seat in steel plate washers having similar finished concave spherical seats. Where the use of mechanical joint retainer glands are called for on the Plans or approved by the Commissioner, they must conform to ASTM A536. All special castings must be made of good quality ductile iron of such character and so adapted in chemical composition to produce spheroidal graphite structure. The iron must be of such character to provide superior mechanical properties of strength and ductility; the iron must be soft enough to satisfactorily allow drilling and cutting.
- C. The minimum physical properties will be as follows:
 1. Tensile strength- 60,000 pounds per square inch.
 2. Yield strength- 42,000 pounds per square inch.
 3. 2-Inch Elongation.-10%.

- D. In addition to the standard required tests, the following requirements must be met: Keel Block Tests as detailed in ASTM A536-Standard 0.50-Inch diameter tensile test bars must be machined from keel block coupons cast from each heat and of the same hardness range as the special castings. Minimum test requirements are as specified above.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install all joint anchorage in accordance with the requirements of Section 33 11 13- Ductile Iron Water Pipe and Fittings. Install all joint anchorage for concrete pipe and fittings in accordance with manufacturer's installation instructions unless directed otherwise by the Commissioner.

3.2 DUCTILE IRON PIPE

- A. All fittings and conditions, which result in tangential forces on the piping, must be provided with thrust restraints, unless otherwise specified or approved by the Commissioner.

3.3 CONCRETE PIPE

- A. Whenever the harnessing of pipe joints by itself does not provide sufficient thrust restraint, the Contractor must provide additional thrust restraint as required. The Contractor must provide anchorage against thrust for water mains and appurtenances wherever the deflection of the pipeline exceeds six (6) degrees. The anchorage must be accomplished by placing concrete thrust blocks adjacent to the fittings to be anchored. All anchorage must be designed to withstand working pressure plus surge pressure. The Contractor must submit to the Commissioner complete design calculations and plans for all thrust restraints bearing the seal of a Structural Engineer licensed in the State of Illinois.

END OF SECTION 33 11 15

SECTION 33 12 16

WATER MAIN CONTROL VALVES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes requirements for the installation of gate valves, resilient wedge valves, and butterfly valves.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 33 13 00 – Hydrostatic Testing and Disinfecting Water Mains.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:
 - 1. ASTM A48 - Gray Iron Castings.
 - 2. ASTM A126 - Gray Iron Castings for Valves, Flanges.
 - 3. ASTM A436 - Austenitic Gray Iron Castings.
 - 4. ASTM A439 - Austenitic Ductile Iron Castings.
 - 5. ASTM B584 - Copper Alloy Sand Castings for General Application.
- B. AWWA C110 - Ductile Iron and Gray Iron Fittings, latest edition.
- C. AWWA C111 - Rubber Gasket Joints for Ductile Iron, latest edition.
- D. AWWA C500 - Metal-seated Gate Valves for Water Supply Service, latest edition.
- E. AWWA C504 - Rubber Seated Butterfly Valves, latest edition.
- F. AWWA C509 - Resilient Seated Gate Valves, latest edition.
- G. AWWA C550 - Standard for Protective Epoxy Interior Coatings for Valves and Hydrants, latest edition.
- H. Federal Specification FF-B-575C - Bolts; Hex and Square, latest edition.
- I. Federal Specification FF-N-836E - Nut; Square, Hex, Cap, latest edition.

1.4 SUBMITTALS

- A. Contractor must provide an affidavit stating that all Butterfly Valves, valve operators, and torque overload protectors comply with all applicable provisions shown on the drawings and as specified in this specification.
- B. Provide manufacturer's catalog cuts and/or certified drawings of all valves, valve operators, and torque overload protectors to be furnished. The manufacturer's catalog cuts and/or certified drawings shall indicate and provide all necessary information regarding dimensions, materials used, internal and external coatings specified herein, and other pertinent or unique item(s) or valve operation (clockwise to open) in conformance to requirements stated in these specifications.
- C. All submittals must be reviewed and approved by the Commissioner prior to installation.

1.5 QUALITY ASSURANCE

- A. Each valve must be hydrostatically tested at the manufacturer's shops and proven hydraulically tight at all pressures up to 200-pounds per square inch.
- B. For gate valves, the following tests are required:
 - 1. The first test consists of applying a 200-pound per square inch hydrostatic pressure between the discs through an opening in the bonnet casting.
 - 2. The second test consists of applying a 200-pound per square inch hydrostatic pressure against the outside of each disc in the manner prescribed below:
 - a. The valves must be plugged or capped on both ends. The caps or plugs must be drilled and tapped to accept the pressure test piping.
 - b. With the pressure test piping in place, open the gates of the valve, the test-piping valve, and remove the plug in the bonnet. Fill the valve with water. When a discharge occurs at the outlet side, close the water supply line and insert the bonnet plug.
 - c. Close the gates of the valves, open test-piping valve, and apply a 200-pound per square inch hydrostatic pressure on the inlet side.
 - d. Hold test pressure for one (1) minute. During this time no water should discharge from the outlet end of the test piping.

If no leak occurs, release pressure, reverse the test piping, and repeat the test procedures for the other gate. If a leak occurs, repair and / or replace the valve as directed by the Commissioner. Repeat the test procedures.

3. An affidavit must be furnished from the manufacturer to attest to the fact that each of the valves furnished under this Contract were proven hydrostatically tight in accordance with the specified test procedures.
- C. Valves that do not meet the requirements of this Section will be rejected and removed by the Contractor, and replaced with valves that conform to this Section, within the time period allowed by the Commissioner. Gate valve removal and replacement will be considered incidental to the installation of the valves and no additional payment will be allowed.
- D. **The Work performed for installing valves must be performed by a plumber licensed in the State of Illinois or the City. The Work may include, but not be limited to, setting the valve; cutting and joining all pipe; installing test taps, fittings, adapters, joint gaskets, and continuity wedges; and tightening all gland nuts and bolts, as applicable for the installation.**

PART 2 - PRODUCTS

2.1 GATE VALVES

- A. All gate valves are to be Chicago Standard Gate Valves of the size shown on the drawings that are designed, manufactured, tested, and inspected in accordance with AWWA C500, and in accordance with the exceptions noted here. All valves are to be delivered fully assembled.
- B. The following characters must be cast in ½-inch letters on the bonnet of each valve:
 - Chicago
 - Year of Manufacture
 - Manufacturer's Name
- C. Gate valves must be of mechanical joint type double disk and in the following sizes: 4-Inch, 6-Inch, 8-Inch, 12-Inch, and 16-Inch. Larger size valves must be of a butterfly style.
- D. Material used must meet the requirements as to physical and chemical properties, as specified in this Section.
- E. Valves found to contain defects such as blowholes, shrinkage or slag holes, cold shuts, or cracks will be rejected.

- F. The thickness of metal in castings, whose standard thickness is less than 0.8-Inch, must not be more than 0.08-inch less than the standard thickness. The deficiency in thickness of castings, whose standard thickness is 0.8- inch or more, must not exceed 10% of the standard thickness. The above allowable deficiencies in thickness, however, must not extend over more than one-half of the area of the casting.
- G. After being cleaned and tested, every assembled valve and all metallic parts must be coated inside and outside with a fusion bonded two-part epoxy coating in compliance with AWWA C550 standards. The outside must have a topcoat of two-part polyurethane similar in color to “Black” or approved equal.
- H. The brass castings must comply with ASTM B584, Copper Alloy UNS No. C83600.
- I. The bronze in the valve stem and in the stem nut must be manganese bronze, complying with ASTM B584, Copper Alloy UNS No. C86700. Stem seals are to be double o-rings complying with ASTM D2000 and ASTM 568A
- J. The gaskets used between the flanges must be fully faced, 1/32-inch thick and made of heavy-duty, asbestos-free, fiber composition, suitable for water service.
- K. Bolts and nuts must be made of cast iron or steel. Heads of seal plate bolts must conform to the dimensions shown on the Drawings (an alternate of hex or square head bolt is acceptable) while all other requirements of seal plate bolts must conform to Federal Specification FF-B-575C and nuts must conform to FF-N-836E. Heads of bolts must be unfinished and nuts must be semi-finished. Both bolts and nuts must be hot dipped galvanized as specified in the applicable Federal Specification.
- L. The valves herein specified must be furnished complete with mechanical joint accessories. The mechanical joint accessories must consist of mechanical joint thrust restraint glands, rubber gaskets, and tee head bolts and hex nuts, all conforming to AWWA C110. Dimensions and tolerances for mechanical joints must conform to table 1 of AWWA C110.
- M. It will be the manufacturer's responsibility to provide the patterns and gauges necessary to perform the work to be done hereunder. The Department will not furnish these items.
- N. The Department reserves the right to make at any time such tests as it may deem proper to determine that the materials used are proper for the Work and that the valves are of good mechanical construction. The manufacturer must give the authorized inspectors of the Department free access to all places where valves are being made. At the Department's request, the manufacturer must furnish properly prepared standard test

specimens of the materials used and must provide facilities for testing them.

- O. All valves must open by turning the operating stem clockwise.
- P. Operating nuts must be 2 ½-Inches square at the base of the nut.

2.2 RESILIENT SEATED WEDGE GATE VALVES

- A. The Contractor must furnish and install resilient-seated gate valves that are designed, manufactured, tested, and inspected in accordance with AWWA C509, with following exceptions, deletions, or additions:
 - 1. Exceptions for Section 4.4.7. Valves are to be supplied with 2 ½-inch square operating stem wrench nuts.
 - 2. Exception for Section 4.4.7.2. All valves must open by turning the operating stem clockwise as viewed from top of the valve.
- B. Resilient seated wedge gate valves must be of the mechanical joint type supplied complete with joint thrust restraint glands, vulcanized natural or synthetic rubber gaskets, and tee head bolts and hex nuts, all conforming to AWWA C110. Dimensions and tolerances for mechanical joints must conform to Table 1 of AWWA C110.
- C. All valves must provide an unobstructed waterway of full size when open. Gates or stems must not extend into the waterway. Valves are to be supplied in sizes between 4 and 12-Inches as noted on the drawings.
 - 1. The bronze in the valve stem and in the stem nut must be manganese bronze, complying with ASTM B584, Copper Alloy UNS No. C86700. Stem seals are to be double o-rings complying with ASTM D2000 and ASTM 568A.
 - 2. After being cleaned and tested, every assembled valve and all metallic parts must be coated inside and outside with a fusion bonded two-part epoxy coating in compliance with AWWA C550 standards. The outside must have a topcoat of two-part polyurethane in manufacturer's standard "Red" color or approved equal.

2.3 BUTTERFLY VALVES

- A. Butterfly valves, as specified here, must be designed, manufactured, tested, and inspected in accordance with AWWA C504, Class 150B and with the requirements of this Section as listed hereafter:
 - 1. Body Type: Short bodied mechanical joint, as specified.
 - 2. Maximum Non-shock Shut-off Pressure: 100psi.

3. All valves must have flow through discs.
4. Each valve furnished must be subjected to the performance, leakage and hydrostatic tests described in Section 5.1 of AWWA C504. Both sides of the valve must be tested.
5. A minimum of two (2) weeks prior to the test dates, the manufacturer must notify the Commissioner in writing when the shop testing of the valve will occur.
6. The manufacturer must submit to the Commissioner records of all tests performed to verify valve components are in conformance with ASTM Standards and records of reports describing the procedures and results of the tests for each model of actuator, including the torque rating of each model of actuator. The manufacturer must submit to the Commissioner all records associated with tests conducted under Section 5.1 of AWWA C504.
7. Shaft seals must be either split V type packing or "O" ring seals. Shaft seals consisting of a stuffing box with pull down packing are not acceptable.
8. The shaft seal area must not be exposed to the environment. Should the valve design utilize an open packing bonnet area, that area must be enclosed with a 304 series type 18-8 stainless steel, minimum 1/4-Inch thick removable shroud. The shroud must be fully sealed and rated for buried service. An access cover must be provided on the shroud with a minimum opening of 6-Inches x 8-Inches.
9. The valve shaft must be 304 or 316 stainless steel.
10. The valve body must be made of cast iron conforming to ASTM A126, Class B or ASTM A48, Class 40 alloy cast iron ASTM A436, Type 1 and 2 or ASTM A439, type D2 with maximum of 0.003% lead. The valve disc must be ductile iron conforming to ASTM A536, and it must have a seating edge of 304 or 316 stainless steel. The seating edge may be installed in the valve body if the rubber seat is applied to the valve disc. The valve seats for 24-inch and larger butterfly valves must be capable of adjustment or replacement at the installation site without having to excavate the valve.
11. Valve discs must be secured to shafts by means of solid, smooth-sided stainless steel or monel taper pins or dowel pins having a circular cross section. Each taper pin or dowel pin must be extended through the shaft and mechanically secured in place. The use of bolts, setscrews, knurled or fluted dowel pins, flat sided taper pins, expansion pins, roll pins, tension pins, spring pins, or other devices in lieu of the pins specified herein will not be acceptable.

12. The valves and valve operators must be rated for buried service, except electric actuators.
13. Valve operators must conform to AWWA C504 for Class 150B. Manual operators must be Limitorque worm gear, self-locking type designed to hold the valve in any intermediate position without creeping or fluttering. Operators must be equipped with torque overload protection to prevent over travel of the disc in the open and closed position. Spur gear must be furnished with an operator to increase the number of turns and reduce operating torque. A separate limit stop device must also be installed in accordance with “Torque Overload Protection”, described below. Operators must provide position indication on the housing of the operator. Valves must open with a clockwise rotation of the nut. The valve and valve operator must be rated for bi-directional flow.
14. Valve operators must be equipped with a Chicago standard style hub nut. The hub nut must be attached to the input shaft of the operator by means of a shear pin. The shear pin must be sized such that it fails when 250 foot-pounds of input torque is applied to the hub nut. Three (3) additional shear pins must be furnished as replacement part for each valve ordered.
15. Corrosion resistant nameplates, as described in Section 6.1 of AWWA C504, must be permanently attached to both the valve and valve operator. There must be two (2) valve nameplates. One must be affixed to the valve body and the other must be affixed to the valve operator in a prominent location. In addition to the normal valve data, the plate must also include the number of turns required to operate the valve and the direction to open (clockwise to open). There must be one (1) operator nameplate affixed to the valve operator. The minimum number of turns to close the valve must be no less than 2 turns per inch (5 turns per centimeter) of valve size in order to minimize water hammer.
16. The manufacturer must provide all nuts, bolts, gaskets, and glands required to make connections.
17. Corrosion Protection and Lubrication: The entire housing must be coated inside and outside with fusion bonded two-part epoxy coating in compliance with AWWA C550 standards. The outside must have a topcoat of two-part polyurethane in manufacturer’s standard “Red” color or approved equal.
18. The operating mechanism must be permanently lubricated and sealed to withstand 50-feet of water head.

19. There must be no water-retaining external cavities.

B. Torque Overload Protection

1. Contractor must furnish torque overload protection devices. The device must be installed on top of the Chicago standard hub nut on butterfly valve operators and in conformance to the following requirements.
2. Purpose: The over torque protector must prevent butterfly valve and operator from damage due to excessive operating torque.
3. Operation: The device must transmit applied torque in either direction only up to a preset amount and automatically disengage if greater torque is applied. It must automatically reset if the applied torque is below the preset amount.
4. Description: The device must be of overall rugged and of durable construction suitable for long-term reliable operation and suitable for buried service.
5. The upper end must have an integral 2 ½-Inch square operating nut and the lower end must have a matching socket. The socket must have one (1) 2-Inch square head set screw in each of two (2) adjacent faces.
6. The operating mechanism must employ spring-loaded tapered rollers engaged in matching tapered detents. A ball bearing type design will not be accepted.
7. The manufacturer's identification must be cast in 3/8-inch or larger letters on an upper surface.
8. Service Life: The device must have a minimum life of one-thousand (1000) trips from rated capacity.
9. Trip Torque Set Point: The device must be factory set to trip at 200 foot-pounds of applied torque.
10. Trip Torque Adjustment: Trip torque must be adjustable from 10% to 100% of rated capacity without disassembling the unit. The adjustment means must be sealed and concealed to prevent tampering.
11. The device must be coated with fusion bonded two-part epoxy coating in compliance with AWWA C550 standards.

2.4 QUARTER TURN AWWA ELECTRIC VALVE ACTUATORS (OPEN-CLOSE SERVICE)

- A. When shown on the Plans, specified, or as directed by the Commissioner, the Contractor must furnish electric valve actuators in conformance with the following requirements.
1. The electric valve actuator must include the motor, actuator unit gearing, position limit switches, torque switches, declutch lever, and hand wheel, as self-contained unit. The actuator must meet the latest revision of the applicable AWWA specification. The actuator must be of sufficient capacity to operate the attached butterfly valve in a modulating action against 100-pounds per square inch pressure.
 2. The motor must be rated for continuous duty, specifically designed for valve actuator service, and must be of high starting torque, totally enclosed, non-ventilated construction. Motor insulation must be a minimum NEMA Class F, with a maximum continuous temperature rating of 311° Fahrenheit (rise plus ambient) for the duty cycle specified. Provide optional insulation classes where specified or where service conditions warrant.
 3. The motor must be of sufficient size to open or close the valve at the maximum torque. The motor must be capable of operating at plus or minus 10% of specified voltage. The motor duty rating must be sufficient for one (1) complete cycle (open-close-open, or reverse) without exceeding its temperature rating. Motor bearings must be of the anti-friction type, and permanently lubricated.
 4. The motor must be an independent sub-assembly such that the power gearing must not be an integral part of the motor assembly, to allow for motor or gear changes dictated by system operation changes. The motor must be equipped with internal thermal contact, to protect against motor overload, and 120-volt heaters. The motor must be designed to operate on 230/460 VAC.
 5. The actuator must be a multiple reduction unit with power gearing consisting of spur or helical and worm gearing. There must be a self-locking worm gear set in the drive train to maintain valve position. The spur or helical gearing and worm gear must be of hardened alloy steel, and the worm gear must be alloy bronze. All power gearing must be accurately cut; non-metallic, aluminum, or cast gearing must not be allowed. Anti-friction bearings with caged balls or rollers must be used throughout.
 6. All rotating power train components must be immersed in grease with provisions for inspection and re-lubrication without disassembly. Lubricants must be suitable for ambient conditions between 20° F and 150° F. Adequate seals must be provided on all shafting.

7. The actuator must have a built-in device, which allows the motor to reach full speed before engaging the valve load when required by unseating applications.
8. A metallic hand wheel must be provided for manual operation, with an arrow to indicate "open" rotation. The hand wheel must not rotate during motor operation. A fused motor must not prevent manual operation. When in manual operating mode, the actuator must remain in this mode until the motor is energized, at which time the actuator will automatically return to electric operation. Changing from motor operation to manual operation must be accomplished by a positive, padlockable declutching lever, which mechanically disengages the motor and related gearing. It must be impossible for simultaneous manual and motor operation to occur. Friction type declutching mechanisms are not acceptable.
9. Position limit switches and associated gearing must be an integral part of the valve actuator. Limit switch gearing must be of the intermittent type, made of bronze or stainless steel, lubricated, and totally enclosed to prevent dirt and foreign matter from entering the gear train. Limit switch contacts must be heavy duty and silver-plated with wiping action. Where specified, the actuator must have sixteen (16) contacts, four (4) contact/four (4) rotor types, all of the same basic design. As an alternative, a limit switch assembly may be directly coupled to the valve stem, eliminating the need for intermittent gearing, and eight (8) single pole, double throw (SPDT) or eight (8) double pole, double throw, (DPDT) contacts. Contacts must be convertible from normally open, to normally closed, or reverse.
10. Switches must be adjustable, allowing for trip points from fully open to fully closed positions of valve travel. They must not be subject to breakage or slippage due to over-travel.
11. Switch design must permit visible verification of switch position without disassembly.
12. Each valve actuator must be equipped with a switch that will interrupt the control circuit in both the opening and closing directions when valve torque overload occurs. Contacts must be silver-plated. The torque switch must have graduated dials for both open and close directions of travel, and each must be independently adjustable. The torque switch must include a positive means to limit adjustability so as not to exceed the actuator output torque capability. The activating spring back must be of the Belleville spring design.
13. The position limit switch and torque switch contact must be rated 600 volts per NEMA standard ICS 2-125, heavy duty.

14. The control compartment must be provided with a 120-volt space heater.
15. The valve and operator must be aligned in such a manner that when installed, the manual hand wheel is in a horizontal plane.
16. The operating time must be two (2) minutes for 90 °- valve travels.

PART 3 - EXECUTION

3.1 FIELD TESTING

- A. All valves will be tested as specified in Section 33 13 00 - Hydrostatic Testing and Disinfecting Water Mains.

3.2 SETTING OF VALVES

- A. Valves must be carefully installed in their proper positions, free from all distortion and strain, with mechanical or flanged joints, and must be packed and left in satisfactory operating condition.

3.3 SETTING OF VALVE BOXES

- A. Valve boxes must be installed where shown on the drawings, or where ordered by the Commissioner, and must be set vertical and concentric with the valve box. Any valve box which has been moved from its original position by direct or indirect actions of the Contractor, so as to prevent the operation of the valve key extension, must be reset and/or replaced as applicable, by the Contractor. This work will be considered incidental to the construction and not considered for additional payment. Any valve key extension or stem, which has been damaged so that it is inoperable, must also be replaced, and will also be considered incidental to the construction and no additional payment will be allowed.

3.4 INSPECTION MANHOLES

- A. Butterfly valves must be installed so that the side that allows adjustments and replacement of the rubber seat is accessible through the inspection manhole. For valves with seat rings on the disc, the valve must be installed so that when the valve is closed, the seat rings are on the same side as the inspection manhole.

END OF SECTION 33 12 16

SECTION 33 12 19

FIRE HYDRANTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes requirements for supplying materials for and the installation of fire hydrants, as shown on the drawings and specified here.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:
 - 1. ASTM A108 - Standard Quality Carbon Steel Bars.
 - 2. ASTM A126 - Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 3. ASTM A153 - Hot Dip Zinc Coating for Iron and Steel Hardware.
 - 4. ASTM A307 - Carbon Steel Bolts and Studs.
 - 5. ASTM A536 - Ductile Iron Castings.
 - 6. ASTM B62 - Composition Bronze or Ounce Metal Castings.
 - 7. ASTM B584 - Copper Alloy Sand Castings.
 - 8. ASTM B633 - Electrodeposited Zinc Coatings on Iron and Steel.
 - 9. ASTM C700 - Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated.
 - 10. ASTM D395 - Test Methods for Rubber Property Compression Set.
 - 11. ASTM D412 - Test Methods for Rubber and Elastomers.
 - 12. ASTM D2000 - Classification of Rubber Products in Automotive Applications.
 - 13. ASTM D2240 - Durometer Test for Rubber Hardness.
- B. AWWA C502 - Dry Barrel Fire Hydrants, latest edition.
- C. Federal Specification FF-B-575C - Bolts; Hexagon and Square, latest edition.
- D. Federal Specification RR-C 271D - Chains and Attachments, latest edition.

1.3 SUBMITTALS

- A. Provide an affidavit from the manufacturer to attest to the fact that all hydrants furnished under this Contract were tested and proven hydrostatically tight and mechanically sound in accordance with the specified test procedures.

1.4 QUALITY ASSURANCE

- A. After each hydrant is completely assembled, it must be mechanically and hydrostatically tested in conformance with AWWA C502, Sec 5.1.

- B. **The Work performed for the hydrant installation must be performed by a plumber licensed in the State of Illinois or the City. The Work may include, but not be limited to, setting hydrants; joining all pipe, fittings, and valves; installation of joint gaskets and continuity wedges; and tightening of all gland nuts and bolts, as applicable for the installation.**

PART 2 - PRODUCTS

2.1 GENERAL

- A. The hydrants must be of the City of Chicago standard design with mechanical joint bottom. The completed hydrants must be delivered finished, painted, and fully assembled.

2.2 FIRE HYDRANTS

- A. The standpipe must include the manufacturer's name, year of manufacturing, and the letters "C.W.W." in letters 1-Inch high. This lettering must be positioned approximately 1 foot below the top flange.
- B. Materials from which the various parts of the hydrants are constructed must be of the kind designated on the details. Each kind of material used must meet the requirements as to physical and chemical properties hereafter specified. Test bars required to established quality grade or strength under the ASTM standards must be made and machined by the manufacturer as part of the work.
- C. 3/4-Inch x 2-3/4-Inch unfinished hex head machine bolts and 3/4-Inch American Standard regular hot press hex nuts must conform to Federal Specification FF-B-575C, Class B Steel, Class 1 fit or, hex head bolts and hex nuts must conform to ASTM A307 Grade A. All nuts and bolts to be hot dipped galvanized conforming to ASTM A153 or must be coated by the rust proof electrozinc process ASTM B633, Type G.S., or SS Type 18-8SS, ANSI Type 302, 303, or 304.
- D. Iron castings must conform to ASTM A126 Class B. The thickness of metal castings, whose standard thickness is less than 0.8-Inch, must not be more than 0.08-Inch less than the standard thickness. The deficiency in thickness of castings, whose standard thickness is 0.8-Inch or more, must not exceed 10% of the standard thickness. The above allowable deficiencies in thickness must not extend over more than one-half of the area of any casting. The diameter of the castings must not vary from the standard dimensions by more than 0.08-Inch.

- E. All bronze castings, with the exception of the stem nut, stem screw, and valve seats must conform to ASTM B62 for Leaded Red Brass Copper Alloy UNS No. C83600. The valve seat must conform to ASTM B584 for Leaded Manganese Bronze, Copper Alloy UNS No. C86700. The stem nut and stem screw must conform to ASTM B584 for Silicon Brass, Copper Alloy UNS No. C87600 with the following mechanical properties:
1. Minimum Tensile Strength - 45,000-psi
 2. Minimum Yield Strength - 25,000 psi
 3. Minimum Elongation - 16% of length
 4. Brinell Hardness - 110
- F. The stem nut and stem screw must be stamped SI for identification purposes.
- G. Wrench nuts made of ductile iron must be marked "D.I." on the flange portion opposite the arrow indicating the direction of turn to open.
- H. Ductile iron castings must comply with compositions and physical properties in accordance with ASTM A536 Grade 65-45-12.
- I. The City will furnish neoprene-seating valves if requested by the Contractor. The Contractor's charges for transporting the neoprene seating valves must be considered incidental to the construction and no additional payment will be allowed.
- J. Full face gasket of suitable material, 1/16-inch thick, 8 1/2-inches X 13 1/2-inches, with eight (8) 7/8-inch diameter holes on an 11 3/4-inch bolt circle must be provided for the hydrant flange gaskets.
- K. Steel hydrant chain must comply with Federal Specification RR-C-271D (1), Type II, Class 2, with an approximate weight of 25-pounds per 100 feet, and have a hot galvanized coating. This chain, approximately 26-Inches long, must be connected to hydrant cap hooks and fastened at its center to the hydrant by means of the 1/2-Inch X 1-Inch cap screw with chain angle and "S" hook of 1/2-Inch mild steel stock "S" hook and cap hooks which engage the chain, must be securely welded in the closed position or fastened in a suitable manner to hold the hooks securely in a closed position.
- L. Where the Plans call for finish and drilling, all such work must accurately comply with the dimensions shown, so that all parts are interchangeable from one hydrant to another. It will be the manufacturer's responsibility to provide the patterns and gauges necessary to perform the work specified.
- M. Where machining tolerances are not indicated on the drawings, the following must be used where applicable:

1. If dimension is in decimals, tolerance is ± 0.005 -Inch.
 2. If dimension is in inches, tolerance is $\pm 1/64$ -Inch.
- N. Appropriate lubricant must be applied to threads on hydrant bottom, 1/2-Inch X 1-Inch cap screw and valve seat before assembly.
- O. Operating stem must be of cold rolled steel, ASTM A108 Grade 1018. Stem must be coated, excluding bottom 3-7/8-Inch of the section below shoulder including threads, with a bituminous coating.
- P. Rubber Gaskets must comply with ASTM D2000; Type SC-715B, as follows:
1. Shore A Durometer Hardness - 70 ± 5 ASTM D2240.
 2. Tensile Strength - 1500-psi minimum ASTM D412.
 3. Compression Set - 35% maximum ASTM D395.
- Q. The City reserves the right to make at any time such tests as it may deem proper to determine that the materials used are proper for the work and that the hydrants are of good mechanical construction. The Contractor must give the authorized inspectors of the City free access to all places where hydrants are being made. At the City's request the manufacturer must furnish properly prepared standard test specimens of the materials used and must provide facilities for testing them.
- R. Fire Hydrants that do not meet the requirements of this Specification will be rejected and, when so ordered by the City, the Contractor must remove all inferior hydrants not meeting the Specification and replace rejected items within the time limits as specified. The removal and replacement of the hydrants will be considered incidental to the construction and no additional payment will be allowed.

2.3 PAINT

- A. All ferrous metal parts of the hydrant, inside and outside, must be thoroughly cleaned before coating. Coatings used on interior surfaces of the hydrant that are in contact with potable water must be suitable for contact with drinking water. Prepare hydrant surfaces and apply paint in accordance with paint manufacturer's recommendations. Do not paint exposed hydrant nozzle threads or other useable threads.
- B. Primer must be red oxide primer; acceptable products are W. C. Richards Metal primer #WRFA-13-127; or Benjamin Moore Universal Metal Primer # M07, or approved equal.

- C. Top coat must be alkyd high-gloss enamel; acceptable Manufacturers / Products are Benjamin Moore Impervo #C13320 (Brilliant Red), or Sherwin Williams Industrial Enamel Safety Red #617-4064.
- D. Paint for color coding flange must be as follows:
 - 1. White colored pigment; acceptable products are Seymour Stripe #16-652 Spray (White), Rustoleum High Performance Acrylic 5200 System (#5292 Gloss White), or Sherwin Williams PM 200 AES Pure White #5178-99993, or approved equal.
 - 2. Yellow colored pigment; acceptable products are Benjamin Moore Impervo #C133 Alkyd High-Gloss Metal and Wood Enamel (Safety Yellow), or Sherwin Williams Industrial Enamel Safety Yellow #617-4072, #617-8000, or #617-50320, or approved equal.
 - 3. Blue colored pigment: accept products are Seymour Stripe #16-653 Spray (Precaution Blue), or Rustoleum High Performance Acrylic 5200 System (#5225 Safety Blue), or approved equal.
- E. Shop Coating of Fire Hydrants.
 - 1. Exterior ferrous surfaces of the hydrant must be painted with a coat of primer to two feet below the top flange.
 - 2. Exterior ferrous surfaces of the hydrant must be given a topcoat of alkyd high-gloss enamel to two feet below the top flange.
 - 3. All exterior ferrous surfaces below the ground line not coated with primer and topcoat must be shop coated with two (2) coats of asphaltic coating, each a minimum of 1 mil thick. The first coat must be allowed to dry thoroughly before applying the second coat.

2.4 HYDRANT DRAIN

- A. Hydrant drains must be constructed of 6-Inch diameter, extra strength, perforated clay pipe, conforming to ASTM C700, with mortared bell and spigot type joints.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install fire hydrants and hydrant drain with drainage bedding, and connect to hydrant drain outlet as detailed on the drawings.

- B. Securely connect fire hydrant to the water main using mechanical joint thrust restraint glands or other restrained joint fittings as shown on the drawings.
- C. Pressure test the fire hydrant installation with full line pressure to the fire hydrant without blocking behind the fire hydrant.
- D. Hydrant leads must be 8-Inches in diameter, or as otherwise specified or shown on the Plans.
- E. Spool pieces are not allowed for the vertical adjustment of hydrants. If a vertical adjustment is required due to the depth of the water main, an offset must be utilized prior to installing the hydrant.

3.2 COLOR CODING HYDRANT FLANGES

- A. Contractor must color code the vertical edge of the hydrants top flange, (located approximately 6-Inches from the centerline of the nozzle cap), on all installed hydrants in accordance with the Department's "Color Code for Fire Hydrants".

END OF SECTION 33 12 19

SECTION 33 13 00

HYDROSTATIC TESTING AND DISINFECTING WATER MAINS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes requirements for hydrostatic testing and disinfecting water mains as shown on the drawings and specified here.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 33 11 13 – Ductile Iron Water Pipe and Fittings.
- B. Section 33 12 16 – Water Main Control Valves.

1.3 REFERENCES

- A. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances, latest edition.
- B. AWWA C651 - Disinfecting Water Mains, latest edition.
- C. AWWA C509 - Resilient Seated Gate Valves for Water Supply Service, latest edition.

1.4 SUBMITTALS

- A. Prior to starting work, furnish the Commissioner a detailed outline of the proposed sequence of operation. Include the manner of filling and flushing the water main, the method of disposing of the water flushed from the main, the hydrostatic testing procedure, the disinfecting procedure, relevant safety procedures and other relevant procedures to be used. Include the name of the Contractor that will be disinfecting the water main.
- B. All submittals will be subject to review by the Water Quality Surveillance Section (WQSS) of the Department.

1.5 QUALITY ASSURANCE

- A. Hydrostatic testing of water mains must be performed in accordance with AWWA C600 and the Department's requirements specified herein. The disinfection of water mains must be performed in accordance with IEPA Regulations, AWWA C651, and the Department's requirements specified herein.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PRESSURE TESTING AND FLUSHING WATER MAINS

- A. All flushing and pressure testing of water mains must meet the requirements of AWWA Specification C600.

3.2 TEST SECTIONS

- A. New water pipe must be tested in sections isolated from the existing city water system. All existing valves must be tested to determine if they are water tight when in the closed position. If valves are not found to be water tight, they must be repaired or replaced before proceeding with the testing and chlorination procedure.

3.3 INITIAL FILLING

- A. Each valved section of pipeline must be slowly filled with water. The test sections may be filled through the isolation valves via the test taps if they are available. Before applying the specified test pressure, all air must be expelled completely from the pipeline section to be tested. When venting air from the pipeline, it is important to limit the pipeline fill rate to avoid excessive surge pressures when the water reaches the air venting opening(s). When the pipeline has been filled, do not permit water to backflow into existing water mains.

3.4 PRELIMINARY FLUSHING

- A. All new water mains, extensions, connections, and hydrant branches must be flushed prior to the hydrostatic testing so that water flows clear from all hydrants and test taps. The flushing operation must continue uninterrupted until the water flows clear. Flushing operations may be extended longer when directed by the Commissioner.

3.5 HYDROSTATIC TESTING

- A. Setup

Water-pressure testing is the only method allowed for performing hydrostatic tests. Compressed-air testing methods are not permitted. Ensure that all air has been expelled after the preliminary flushing. Use a suitable pump connected to the existing water main system to apply the test pressure. Allow the pipeline to stabilize at the test pressure before conducting the hydrostatic test.

B. Testing

The test must subject the water main to a minimum hydrostatic pressure of 100 psi for a minimum period of two (2) hours. The minimum hydrostatic pressure is to be maintained at the highest point of the pipe in the test section. The test pressure may not vary by more than ±5 psi for the duration of the test. Test pressure is to be maintained within this tolerance by adding makeup water into the pipeline through the pressure test pump. The amount of makeup water added must be accurately measured in gallons (accurate to two decimal places) by suitable methods.

C. Allowable Makeup Water

The amount of makeup water added during the test must not exceed the amount calculated using the following equations:

$$L = \frac{S \times D \times T \times \sqrt{P}}{148000} \quad \text{Equation 1}$$

- L = allowable makeup water, gallons
- S = length of pipe tested, feet
- D = nominal diameter of pipe tested, inches
- T = duration of the test, hours
- P = average test pressure, pounds per square inch (gauge)

When testing against closed metal-seated valves, additional makeup water is allowed per valve, as follows:

$$L_v = D \times T \times .0078 \quad \text{Equation 2}$$

- L_v = allowable makeup water per metal-seated valve, gallons
- D = nominal diameter of valve, inches
- T = duration of the test, hours

For a 1,000' section of pipe tested for 2 hours at 100 psi against one closed metal-seated valve, the allowable makeup water is equal to:

Table 1
Allowable Makeup Water per 1,000 feet of Pipe, gallons
Tested at 100 psi for 2 hours

Nominal Pipe Diameter									
8"	12"	16"	24"	30"	36"	42"	48"	54"	60"
1.21	1.81	2.41	3.62	4.52	5.43	6.33	7.24	8.14	9.04

D. Visual Examination

Any and all exposed pipe, fittings, valves, hydrants, and joints must be examined carefully during the pressure test. Any damaged or defective pipe, fittings, valves, hydrants, or joints that are discovered during or following the pressure test must be repaired or replaced with reliable material. All visible leaks are to be repaired regardless of the allowance used for testing.

E. Acceptance

Hydrostatic testing is to be repeated until all visible leaks are repaired and the amount of makeup water used is below the allowable amount. After all visible leaks have been repaired, acceptance will be determined on the basis of allowable makeup water only. If any test of a new pipeline discloses a small amount of makeup water greater than that specified above, repairs or replacements are to be accomplished in accordance with the contract documents or directed by the Commissioner.

3.6 SECONDARY FLUSHING

- A. After each test section has satisfactorily passed the hydrostatic pressure test, a secondary flushing must be performed. The secondary flushing must be performed before the pipeline is disinfected. The Contractor must give a minimum forty-eight (48) hour notice to the Commissioner before performing the secondary flushing procedure.
- B. For water mains the test section must be flushed at a minimum velocity of 2.5 feet per second until the water flows clear. Flushing operations may be extended longer when directed by the Commissioner.

3.7 DISINFECTING WATER MAINS

- A. After the secondary flushing has been completed and the water flows clear from the pipeline being tested, the water main must be disinfected. The disinfection procedure must be performed by a Contractor qualified to conduct such work. The Water Quality Surveillance Section (WQSS) of the Department of Water Management will observe the disinfection procedure.

3.8 FINAL FLUSHING

After completion of the chlorination process, the chlorination water must be thoroughly flushed from all pipelines. The water main must be flushed until the water flows clear and has representative distribution system chlorine residual as determined by the WQSS of the Department.

3.9 SAMPLING

When the WQSS of the Department has determined that the pipeline is ready to be sampled, the samples are to be collected under the direction of the WQSS. The samples are tested for bacterial content before the pipeline can be approved for service.

3.10 APPROVAL

Final approval of the water main rests with the WQSS of the Department.

3.11 DISPOSAL OF FLUSHING WATER

For all types of flushing, limit flow rates to existing City sewers as specified in Section 01 11 00 – Summary of Work of this specification.

3.12 SAFETY

The Contractor must have sufficient equipment to properly carry out the hydrostatic testing and disinfecting operations and have the necessary safety equipment on hand; including a Chlorine Institute Emergency Kit "A" and self contained breathing apparatus. Failure to provide such equipment will be cause for not allowing the disinfection operation to be performed.

3.13 CONTRACTOR RESPONSIBILITY

The Contractor must have overall responsibility for hydrostatic testing, disinfecting, and sampling. The Contractor must provide all the necessary personnel to: assist in the disinfection operation; perform the final flushing operation; and assist the WQSS of the Department in the water sampling. The Contractor must be responsible for guaranteeing that sufficient and necessary sanitary precautions are taken during construction to ensure approval of the main for service.

3.14 DISINFECTION PROCEDURES WHEN CUTTING INTO OR REPAIRING EXISTING MAINS

Swab pipe and fittings that will not be pressure tested or chlorinated with chlorine solution during installation and use extra precaution to prevent soil and debris from entering the pipe. Incorporate untested pipe into the flushing routine when possible. When connecting new pipe to the existing water system, use operating pressure to visually inspect for leaks. When feasible, perform inspection prior to backfilling. Comply with all standards and requirements of the WQSS of the Department.

END OF SECTION 33 13 00

SECTION 33 31 13

SEWER MAIN PIPE AND FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section includes requirements for the installation of sewer mains, service piping and accessories, adjustment of sewer pipes, house drains, manholes, catch basins, inlets and associated appurtenances specified here, shown on the Drawings, or directed by the Commissioner.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 31 23 19 - Dewatering Excavations.
- B. Section 31 23 10 - Excavation, Trenching and Backfilling.
- C. Section 03 30 00 - Cast In Place Concrete.
- D. Section 33 39 13 - Sewer Manholes, Catch Basins, Frames and Covers.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:
 - 1. ASTM A74 - Specification for Cast Iron Soil Pipe and Fittings
 - 2. ASTM C12 - Practice for Installing Vitrified Clay Pipe Lines
 - 3. ASTM C14 - Specification for Concrete Sewer, Storm Drain and Culvert Pipe.
 - 4. ASTM C76 - Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
 - 5. ASTM A48 - Gray Iron Castings.
 - 6. ASTM C32 - Sewer and Manhole Brick (Made from Clay or Shale).
 - 7. ASTM C361 - Standard Specification for Reinforced Concrete Low-Head Pressure Pipe
 - 8. ASTM C425 - Specification for Compression Joints for Vitrified Clay Pipe and Fittings.
 - 9. ASTM C443 / AASHTO M198 - Specification for Joints for Circular Concrete Sewer and Culvert Pipe, using Rubber Gaskets.
 - 10. ASTM C506 - Specification for Reinforced Concrete Arch Culvert, Storm Drain and Sewer Pipe.
 - 11. ASTM C507 - Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe.
 - 12. ASTM C564 - Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
 - 13. ASTM C700 – Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated.

- 14. ASTM C 1173 – Standard Specifications for Flexible Transition Couplings for Underground Piping.
- 15. ASTM D1784 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
- B. AWWA C151 - Ductile Iron Pipe, Centrifugally Cast for Water, latest edition.
- C. ANSI A21.11 – Rubber Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings, latest edition.
- D. AWWA C104 – Cement Mortar Lining for Ductile Iron Pipe and Fittings, latest edition.
- E. AWWA C110 - Ductile-Iron and Gray-Iron Fittings, latest edition.
- F. AWWA C150 - Thickness Design of Ductile-Iron Pipe, latest edition.
- G. AWWA C151 - Ductile Iron Pipe, Centrifugally Cast, latest edition.
- H. IEPA Standard Specifications for Water & Sewer Construction in Illinois, latest edition.

1.4 SUBMITTALS

- A. Reference City of Chicago, Department of Procurement, Book I -“Terms and Conditions for Construction” for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.
- B. The Contractor must give notice, in writing to the Commissioner, sufficiently in advance of the intention to commence the purchase and/or manufacture of the pipe for use under this contract.
- C. Before starting fabrication of the pipe and fittings, the Contractor must submit fully dimensioned drawings or catalogs to the Commissioner showing the pipe, joints and fittings to be used in the Work in full detail.
- D. Submit a copy of sewage bypass plan to the Commissioner.
- E. The Contractor must submit to the Commissioner certified copies of all test reports.
- F. The Contractor must provide the Commissioner with a notarized statement that all tests have been made and met as specified here, unless waived by the Commissioner.

1.5 QUALITY ASSURANCE

- A. The contractor must furnish all facilities, personnel, and materials to conduct tests required as applicable to the type of pipe being supplied. The cost of all plant tests required as proof of the acceptability of the material will be considered incidental to the Work and no additional payment will be allowed.

- B. The Work performed on joining all pipe and fittings, must be performed by a licensed drain layer in the City of Chicago. This Work must include, but not be limited to joining all pipe and fittings, coring sewer pipe sections, installing joint gaskets, assembling all joints, installing continuity wedges, and tightening all gland nuts and bolts, as applicable for the installation.
- C. All pipe and fittings must be inspected for soundness and damage due to handling, immediately before being laid and any not conforming to these requirements of this Section is rejected and must be immediately removed from the site.

PART 2 – PRODUCTS

2.1 PIPE AND FITTINGS

A. VITRIFIED CLAY PIPE

- 1. Vitrified clay pipe and fittings must be extra strength clay bell and spigot pipe conforming to the requirements of ASTM C700.

B. CONCRETE PIPE

- 1. Non-reinforced concrete pipe and fittings must conform to the requirements of ASTM C14, Class 1, 2 or 3 as noted on the Construction Drawings.

C. REINFORCED CONCRETE PIPE

- 1. Circular reinforced concrete pipe and fittings must conform to the requirements of ASTM C76, Class III, IV or V, Wall B or Wall C with circular reinforcement. For pipe thirty (30) inches or more in diameter, the length of the unit must not be less than six (6) feet. Elliptical section reinforced concrete pipe and fittings must conform to ASTM C507, minimum class HE-III or HE-IV. Arch section reinforced concrete pipe and fittings must conform to ASTM C506, minimum class A-III or A-IV.
- 2. Preformed tapered holes of the proper dimensions as shown on the Plans for the connection of drains and future drain connections must be provided during the manufacture of the pipe. Tapered holes must be so formed that the drain connection will enter the sewer at an angle of approximately 90 degrees with the axis of the sewer. Whenever the diameter of a preformed tapered hole is equal to or exceeds 50 percent of the diameter of the pipe, additional reinforcement steel satisfactory to the Commissioner must be placed around the hole.
- 3. Selection of Pipe Class for Reinforced Concrete Pipe must comply with Tables 1, 2 or 3 of this Section.

TABLE 1
Required Pipe Class by Diameter and Type for Circular Pipe

PIPE SIZE (INCHES)	TYPE 1 ¹	TYPE 2 ²	TYPE 3 ³	TYPE 4 ⁴	TYPE 5 ⁵	TYPE 6 ⁶	TYPE 7
24	IV	III	IV	V	V	V	V
27	IV	III	IV	V	V	V	V
30	III	III	IV	V	V	V	V
36	III	III	IV	IV	V	V	V
42	III	III	IV	IV	V	V	V
48	III	III	IV	IV	V	V	V
54	III	III	IV	IV	V	V	V
60	III	III	IV	IV	V	V	V
66	III	III	III	IV	IV	V	V
72	III	III	III	IV	IV	V	V
78	III	III	III	IV	IV	V	V
84	III	III	III	IV	IV	V	V
90	III	III	III	IV	IV	V	V
96	III	III	III	IV	IV	V	V
102	III	III	III	IV	IV	V	V
108	III	III	III	IV	IV	V	V

TABLE 2
Required Pipe Class by Size and Type for Elliptical Pipe

Equiv. Round Dia. (inches)	Span (inches)	Rise (inches)	Type 1 ¹	Type 2 ²	Type 3 ³
24	30	19	HE-IV	HE-III	HE-III
27	34	22	HE-III	HE-III	HE-III
30	38	24	HE-III	HE-III	HE-III
36	45	29	HE-III	HE-III	HE-III
42	53	34	HE-III	HE-III	HE-III
48	60	38	HE-III	HE-III	HE-III
54	68	43	HE-III	HE-III	HE-III
60	76	48	HE-III	HE-III	HE-III
66	83	53	HE-III	HE-III	HE-III
72	91	58	HE-III	HE-III	HE-III

TABLE 3
Required Pipe Class By Size and Type for Elliptical Pipe

Equiv. Round Pipe Size (inches)	Span (inches)	Rise (inches)	Type 1 ¹	Type 2 ²	Type 3 ³
24	28 1/2	18	A-IV	A-III	A-III
27	36 1/4	22 1/2	A-III	A-III	A-III
30	36 1/4	22 1/2	A-III	A-III	A-III
36	43 3/4	26 5/8	A-III	A-III	A-III
42	51 1/8	31 5/16	A-III	A-III	A-III
48	58 1/2	36	A-III	A-III	A-III
54	65	40	A-III	A-III	A-III
60	73	45	A-III	A-III	A-III
66	88	54	A-III	A-III	A-III
72	88	54	A-III	A-III	A-III

Notes For Tables 1, 2 & 3:

1. Type 1 – Depth: 3-feet and <
2. Type 2 – Depth: >3-feet and <10-feet.
3. Type 3 – Depth: 10-feet and <15-feet.
4. Type 4 – Depth: 15-feet and <20-feet.
5. Type 5 – Depth: 20-feet and <25 feet.
6. Type 6 – Depth: 25-feet and <30 feet.
7. Type 7 – Depth: 30–feet and >.

D. DUCTILE IRON PIPE

1. Ductile iron pipe must conform to the requirements of AWWA C151, Class 52 and with the additions or substitutions specified in this Section. Fittings must be gray or ductile iron conforming to ASTM C110.
2. Bells must be designed to provide a watertight joint without any leakage and be capable of withstanding pressures exceeding those that will rupture pipe of this class and thickness without requiring additional jointing material.
3. All pipe must be manufactured so that where a cut is made at any point along the barrel, the cut end will fit properly into a standard mechanical joint bell and be drip tight at hydrostatic test pressure.
4. Exterior of pipe and fittings must be coated with a petroleum asphaltic material in conformance with AWWA C110, Section 10-10. Interior of pipe must be cement mortar or ceramic lined in accordance with AWWA C104.

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1. Sewer brick and mortar must conform to the requirements of Section 33 39 13 – Sewer Manholes, Catch Basins, Frames and Covers.

2.2 PIPE JOINTS

A. VITRIFIED CLAY PIPE

1. Vitrified clay pipe joints must be resilient, compression-type joints conforming to ASTM C425. Joints may be provided in one of the following ways:
 - a. Joints made of polyurethane must have an integral compression ring formed as part of the factory made joint.
 - b. Where rubber gaskets are used, they must be continuous precision molded gaskets manufactured from a compound containing a basic polymer of not less than 50% by volume of isoprene and must contain no vulcanized vegetable oil, reclaimed rubber or dry deleterious substance.

B. CONCRETE PIPE

1. Reinforced and non-reinforced concrete pipe joints must be flexible rubber gasket joint type conforming to ASTM C361, ASTM C443 and AASHTO M198.

C. DUCTILE IRON PIPE

1. Pipe joints must be push-on type joints with rubber gaskets unless otherwise shown on the Drawings, specified, or directed by the Commissioner. Push-on type joints must conform to AWWA C111.

D. PVC JOINTED PIPE

1. For vitrified clay pipe size 12-Inch in diameter or smaller, Contractor may substitute a polyvinyl chloride (PVC) sleeve with a polyurethane jointing material for the joint in 2.2.A. PVC collar conforming to ASTM D1784, Class 12454-B must be installed on the extra strength clay pipe at the factory. The finished joint must meet or surpass all applicable material and performance tests specified for clay pipe joints under ASTM C425.

E. JOINING PIPE OF DISSIMILAR MATERIALS

- 1 For pipes 15-Inches and smaller in diameter, connect pipe of dissimilar material together with manufactured flexible transition couplings specifically made for this purpose, conforming to ASTM C 1173. Transition couplings are to be molded from synthetic elastomeric materials fitted with attached adjustable stainless steel band type clamps to stabilize and seal the joint. Acceptable products are "Band Seal Couplings made by Naylor Inc., "Mission Couplings" made by Mission Rubber Co., or "Fernco Couplings" made by Fernco Systems, Inc.
2. For sewer pipes larger than 15-Inches in diameter, transitions between different pipe materials must be as directed by the Bureau of Sewers.

2.3 POLYETHYLENE ENCASUREMENT FOR CAST OR DUCTILE IRON PIPE

- A. For cast iron and ductile iron pipe, polyethylene encasement material must be 4-mil, cross-laminated, high-density polyethylene tubing. The tubing must comply with AWWA C105.

2.4 SEWER CLEANOUTS

- A. At grade cleanouts must be cast iron pipe and have an adjustable sleeve-type housing, a threaded brass plug with countersunk slot and cast iron frame and cover.

2.5 CAST-IN-PLACE CONCRETE

- A. Cast in Place Concrete must conform to the requirement of Section 03 30 00 – Cast-In-Place Concrete.

2.6 PIPE BEDDING

- A. Pipe bedding must conform to requirements set forth in Section 31 23 10 – Excavation, Trenching, and Backfill, of these specifications.

PART 3 - EXECUTION

3.1 GENERAL

- A. All pipe, fittings, and appurtenances must be installed in accordance with the manufacturer's recommendations and requirements.
- B. All pipe, fittings, and accessories must be delivered, unloaded, strung, and laid as specified here.

3.2 TRANSPORTATION AND DELIVERY OF PIPE, FITTINGS AND STRUCTURES

- A. Every precaution must be taken to prevent damage to the pipe during transportation and delivery. Extreme care must be taken in loading and unloading the pipe and fittings. Such work must be done with the pipe under complete control at all times. Under no conditions may the pipe be dropped, bumped, dragged, pushed, or moved in any way that will cause damage to the pipe.
- B. If in the process of transportation, handling, or installation, any pipe or fitting is damaged, such pipe or fitting must be replaced by the Contractor and be considered incidental to the construction and no additional payment will be allowed.
- C. The Contractor must prevent the pipe from rolling. The procedures used to prevent rolling must be approved by the Commissioner.

3.3 SEWAGE DIVERSION

- A. The Contractor must include in his construction procedure adequate means for pumping and diverting all sewage flow around the work area to keep the trench free of water and sewage until all structures, pipe, and connections have been completed. During heavy rains, the Contractor must anticipate additional flow from surface runoff and in existing sewers. The Contractor must be prepared to handle the increased flow under these conditions and protect the new work from damage while keeping all excavations as dry as possible and existing sewers in operation. Any additional pumping needed during times of heavy rainfall will be considered incidental to the cost of the by-pass pumping and will not be considered for additional payment.
- B. No open pumping or discharge of water will be allowed onto City streets. All discharge flows must be discharged via pumping through a closed system of pipelines to an approved discharge point. **It is part of the work of this section for the Contractor to submit a bypass pumping plan for the review and comment of the Department of Water Management, Sewer Section, before starting any work.** The Contractor must provide all temporary flumes or pipe lines and pumping equipment required for the proper diversion of sewage and removal of drainage from the work. Contractor must remove any temporarily-installed dams or bulkheads after completion of the work.
- C. Whenever the Contractor, at the downstream end of his Contract, removes an existing bulkhead which was placed as part of a previous contract, he must install a screen suitable for the purpose of preventing his construction debris from floating into the completed portions of the sewer system. As his work progresses, he must also clean the completed portions of the sewer by

removing rails, jacks, lumber, sandbags and all other construction equipment, excess material and debris.

- D. The Contractor must place and maintain all temporary dams, flumes, bulkheads or other structures necessary to prevent water from adjacent sections of the sewer system from entering the work under this Contract in such a manner as to injure it, and must completely remove all such temporary structures from the completed portion of the work as rapidly as practicable. The Contractor must not place a dam, flume or bulkhead in any sewer without first obtaining the approval of the Commissioner. The Contractor must ascertain the possibility of sewage backing up into basements and causing damage and he will be held responsible for any such damage.
- E. The City does not assume responsibility for providing the Contractor with an outlet for any storm water or sewage which must be disposed of during the construction work under this Contract. Until the acceptance of the work, the Contractor will, if so ordered by the Commissioner, keep the entire work pumped free of water and sewage and before the acceptance of any part of the work, must clean the entire length of such finished part of the work to the satisfaction of the Commissioner.
- F. Water must not be allowed to flow over or stand on the invert in such a manner as to cause scouring of the concrete surface.
- G. Water pumped from trenches or other excavations must be routed to settling basins before entering the City of Chicago sewer system. The settling basins must be 5 feet by 10 feet with three compartments or baffles having a minimum depth of 2 feet. Discharge from the settling basin must be by gravity to the catch basin.

3.4 STORAGE OF CONCRETE PIPE AND STRUCTURES

- A. In order to minimize inconvenience to adjacent property owners, the Contractor must not store pipe or structures on the job site for a distance of more than 600 feet ahead of the trench excavation. Stacking of concrete pipe is not allowed.

3.5 PREPARATION FOR LAYING PIPE

- A. Materials, coatings, and linings must be as specified and as shown. Installation must be in accordance with standards as recommended by the pipe manufacturer, and as specified here.
- B. Proper and suitable tools and appliances for the safe and convenient cutting, handling, and laying of the pipe and fittings must be used.

- C. Before laying, all pipe and fittings must be thoroughly examined for defects and no piece may be installed which is known to be defective. If defects are discovered after pipe or fittings have been installed, the Contractor must remove the defective pipe or fitting and replace it with a sound one in a satisfactory manner.
- D. The pipe and fittings must be thoroughly cleaned before they are laid and must be kept clean until they are accepted in the finished work. Care must be exercised to avoid leaving bits of wood, dirt, rock and other foreign particles in the pipe. If any such materials are discovered before the final acceptance of the work, they must be removed and the pipe and fittings replaced, if necessary. All pipes must be kept absolutely clean during construction and must be stopped off with night plugs at the end of each day's work.
- E. Excavate pipe trenches as specified in Section 31 23 10 – Excavation, Trenching and Backfilling. Hand trim bottom of trench to six (6) inches below bottom of pipe.
- F. Place and compact pipe bedding as specified in Section 31 23 10 Excavation, Trenching and Backfilling.
- G. Keep trench bottom free from excess water. Groundwater or water from other sources must be removed as per Section 31 23 19 – Dewatering Excavations. If the trench bottom is unsuitable for the pipes foundation, the kind of stabilization to be utilized will be ordered in writing.
- H. If, in the opinion of the Commissioner, the Contractor has failed to obtain an acceptably dry trench bottom using conventional methods of dewatering, the Commissioner may order the Contractor to excavate below the intended grade and to place sufficient sub-grade material as may be suitable over the trench bottom in accordance with Section 31 23 10 – Excavation, Trenching and Backfilling.

3.6 LAYING PIPE

- A. Lay pipe to line and grade in prepared bedding as indicated on the Drawings. The pipe must be properly secured against movement and pipe joints must be made in the excavation as required. Pipe must have compacted bearing along its entire length. When completed, the sewer must have a smooth and uniform invert.
- B. The pipe laying must begin at the downstream end of the pipe. Install pipe so that bells and grooves are on the upstream end. Install vitrified clay pipe in accordance with the requirements of ASTM C12.
- C. Prevent dirt, rock and other foreign particles from getting into the open end of the pipe and any pipe joints.

- D. Clean interior of pipe of cement, dirt and extraneous material as the work progresses.
- E. Lateral and service connections are to be made with manufactured wye fittings or preformed tapered holes or field cored holes. Openings for service connections are to be at an elevation between seven (7) feet and eight (8) feet below the ground grade.

3.7 DRAIN CONNECTIONS

- A. Each slant, tapered hole or wye branch and new drain connection must be the same size as the existing drain or sewer unless otherwise shown on the Plans or ordered by the Commissioner.
- B. If existing cast-iron drains are encountered which must be connected to the new sewers, the Contractor must furnish and place cast-iron pipe and fittings as required or as ordered by the Commissioner.
- C. That portion of each drain connection and drain stack between the barrel of the sewer and the side of the trench must be encased and supported on a concrete or masonry pier as shown on the Plans, except that 8-inch drain connections from catch basins where such catch basins are located within the lines of the sewer trench must be supported on trench backfill. Drain connections constructed outside the neat lines of the sewer trench must be placed on a minimum of six (6) inches of granular embedment as described in Section 31 23 10 – Excavation, Trenching and Backfilling.
- D. Drain stacks for future drain connections must have socket ends closed by suitable stoppers mortared in place.
 - E. The Contractor must examine all house drains, catch basin outlets and other existing drains or sewers to be connected to the new sewers, and if any such drain is found defective, as determined by the Commissioner, the Contractor must remove and relay the defective portions in accordance with the Specifications.

3.8 PIPE JOINTS

- A. Pipe joints must be made secure and watertight.
- B. Employ appropriate equipment to draw the sections of the pipe tightly together.
- C. Apply lubricant to rubber gaskets immediately before joining pipe sections.
- D. Joints of bell-and-spigot pipe and tongue and groove pipe must be filled with cement mortar so as to make a strong and watertight joint. Finish joints smooth on inside of pipe with cement mortar.

- E. Inside joint recesses of pipe shall be filled with cement mortar prior to closure of the joint. After closure is made, the joint must be pointed inside of the pipe and excess mortar removed.
- F. Inspect each joint for proper assembly prior to backfilling.
- G. Mortar joints used for connections to existing sewer pipes or house drains may be used only when connections cannot be made using gasketed joints as specified or the appropriate pipe adaptor as supplied or recommended by the pipe manufacturer, or as directed otherwise by the Commissioner.
 - 1. When mortar joints are required, they must be constructed to the following standards:
 - 2. Center spigot of pipe in the socket using a packing gasket of twisted impregnated oakum of proper thickness and sufficient length to pass around the pipe and lap the top.
 - 3. After the pipe has been placed, caulk the gasket into the annular space and fill the remainder of the space with Portland cement mortar beveled off with the outside of the socket.
 - 4. Mortar for pipe joints or fittings must be made of one (1) part Portland Cement and one (1) part sand conforming to applicable requirements of Section 03 30 00 – Cast In Place Concrete.
 - 5. Only a sufficient amount of mortar may be prepared for use within forty-five (45) minutes of application. Any mortar that has begun to set must not be used.
 - 6. As each joint is completed, thoroughly clean the inside of the pipe to remove all excess joint material.

3.9 CLEAN OUTS

- A. Risers must be the same size as the pipe, and must consist of a wye or 1/8 bend extended to another 1/8 bend to the cleanout housing.

3.10 TEMPORARY BULKHEADS

- A. At ends of constructed sections where adjoining mains or structures have not been completed and are not ready to be connected, construct temporary bulkheads.

3.11 SHORT TUNNEL CONSTRUCTION

- A. Pipes to be placed in short tunnels must be jointed prior to being pulled into position. Pipe must be pushed or pulled into position in a manner arranged to keep joints tight and to prevent deflection.

3.12 ENCASING DUCTILE IRON PIPE IN POLYETHYLENE

- A. Encase all cast and ductile iron pipe and fittings encased in polyethylene tubing.

3.13 SEPARATION BETWEEN WATER AND SEWER MAINS

- A. When a sewer main crosses below water main and the vertical separation is between 18 and 6-Inches, as measured between the bottom of the water main and crown of sewer pipe, the sewer must be constructed of ductile iron pipe with rubber gasketed joints to a distance one foot beyond the wall of the trench excavation. Flexible transition coupling must be used to join the ductile iron pipe to the sewer pipe and be encased in betonite as shown on the drawings.
- B. When a sewer main crosses above a water main, the sewer pipe must be constructed of ductile iron pipe with rubber gasket joints for a perpendicular distance of 10 feet on either side of the centerline of the water main pipe, and an 18-Inch vertical separation must be maintained. Flexible transition coupling must be used to join the ductile iron pipe to the sewer pipe.

END OF SECTION 33 31 13

SECTION 33 39 13

SEWER MANHOLES, CATCH BASINS, INLETS AND SPECIAL STRUCTURES

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section includes the requirements for constructing and/or adjusting of sewer manholes, catch basins, inlets, junction chambers, tumbling basins, and other structures constructed of cast-in-place or precast concrete, or masonry structures shown on the drawings and specified here.

1.2 WORK OF THIS SECTION SPECIFIED ELSEWHERE

- A. Section 05 10 00 - Structural and Miscellaneous Steel.
- B. Section 31 23 10 - Excavation, Trenching and Backfilling.
- C. Section 31 23 19 - Dewatering Excavations.
- D. Section 03 30 00 - Cast-In-Place Concrete.
- E. Section 33 05 22 - Repairing, Adjusting, Cleaning and Abandoning Sewer Pipe and Structures.
- F. Section 33 31 13 - Installation of Sewer Main Pipe and Fittings.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM), latest edition:

- 1. ASTM A48 - Standard Specification for Gray Iron Castings.
- 2. ASTM A185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete Reinforcement.
- 3. ASTM A197 - Standard Specification for Cupola Malleable Iron.
- 4. ASTM A536 - Standard Specification for Ductile Iron Castings.
- 5. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- 6. ASTM C32 - Standard Specification for Sewer and Manhole Brick.
- 7. ASTM C55 - Standard Specification for Concrete Building Brick.
- 8. ASTM C139 - Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes.
- 9. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes Using Rubber Gaskets.
- 10. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
- 11. ASTM C857 – Standard Practice for Minimum Structural Design Loading for Underground Pre-cast Concrete Utility Structures.
- 12. ASTM C858 – Standard Specifications for Underground Precast Concrete Utility Structures.

13. ASTM C990 - Standard Specification for Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants.
 - B. IDOT Standard Specification for Road and Bridge Construction (SSRBC), latest edition.
 - C. American Association of State Highway Transportation Officials, Standard Specifications for Highway (AASHTO), latest edition.

1.4 SUBMITTALS

- A. Refer to Book I for submittal requirements and procedures for Shop Drawings, Product Data, Records and Samples.
- B. Shop Drawings: When not indicated on the Contract Drawings in sufficient detail or definition, submit detailed drawings of cast-in-place and precast concrete utility structures and related metal work.
- C. Product Data: Submit manufacturers' product data for standard manufactured precast concrete sections and structures, for metal gratings and covers, and for other, related miscellaneous metal items.
- D. Certification: Submit certification or other acceptable evidence that covers and grates to be provided for roadways and parking areas meet proof-testing requirements for AASHTO H2O traffic loading.

PART 2 - PRODUCTS

2.1 PRECAST CONCRETE STRUCTURES

- A. Precast concrete base and riser sections furnished for manholes, valve basins, catch basins and other structures must conform to ASTM C478.
- B. Furnish riser sections in various heights, including an offset tapered section, as detailed on the Drawings, or as directed by the Commissioner.
- C. Precast reinforced concrete flat slab tops for manholes must conform to ASTM C857, and be designed to accommodate a minimum AASHTO loading of H 20, unless directed otherwise by the Commissioner.

2.2 JOINT SEALANTS

- A. Rubber gaskets must conform to ASTM C443.
- B. Preformed butyl rubber flexible rope type gaskets must conform to ASTM C990.

2.3 ADJUSTING RINGS

- A. Adjusting rings are to be precast concrete with sufficient steel reinforcing to prevent cracking in normal handling and use.
- B. Mating Faces: Must be smooth, parallel, free from cracks, chips, spalls or casting irregularities which interfere with creating a watertight mating surface between the adjusting ring and top of the utility structure.
 - 1. Provide grooves in faces to contain extrudible preformed gasket material when applicable.

2.4 CASTINGS

- A. Iron castings are to be ductile iron castings conforming to ASTM A536, Grade 60-40-18, or gray iron conforming to ASTM A48, free from blowholes, shrinkage, cracks and other defects.
- B. Allowance for shrinkage must be made in the patterns to meet the specified thickness. Frames and lids are to seat at all points.
- C. Malleable castings are to conform to ASTM A197.
- D. All castings are to be made accurately to dimensions shown on the plans, and planed, filed, or ground where otherwise necessary to secure flat and true surfaces.

2.5 STEPS

- A. Aluminum alloy WP 6061 or WP 6063 conforming to ASTM B361. Coat the portion of aluminum step embedded in concrete and the portion extending two (2) inches beyond embedment with bituminous paint.

2.6 CAST-IN-PLACE CONCRETE

- A. Concrete in accordance with Section 03 30 00 – Cast-In-Place Concrete.

2.7 CONCRETE AND MASONRY BLOCKS AND BRICKS

- A. Precast concrete brick must conform to ASTM C55 quality designated Grade N-1.
- B. Sewer brick must conform to the qualifications for “brick for sewers or drainage structures”, Grades SS or SM, as established in Table I of the current ASTM C32, except where modified here.

1. Brick must be uniform, sound, hard burned, of compact texture, free from lime and cracks with a clear ringing sound when struck, whole and with edges full and square, and of standard dimensions.
2. Brick, when thoroughly dried and immersed in water for twenty-four (24) hours, must not absorb more than 15% by weight of water.
3. If in any load of brick more than 10% are inferior, the whole load is rejected.
4. If in any load of brick less than 10% are inferior, the brick is accepted provided the Contractor pulls out all inferior bricks, and immediately removes them from the Site of the Work.

2.8 MORTAR

- A. Mortar for brickwork is to be composed of one (1) part Portland cement and two (2) parts screened sand.
 1. Portland cement must conform to the requirements of Section 1001 of the SSRBC.
 2. Sand must be Class A quality and Gradation FA-9 as specified in Article 1003.02 of the SSRBC.
- B. The cement and sand must be proportioned by volume and thoroughly mixed in a tight box.
- C. After the initial mixing, water is to be added gradually and the ingredients mixed until the mortar is of proper consistency. The amount of water must be no more than necessary to produce a workable, plastic mortar.
- D. Prepare only a sufficient amount of mortar for immediate use and any mortar that has begun to set must not be retempered or used in any way in the Work

2.9 REINFORCING STEEL

- A. Reinforcing steel is to meet the requirements of ASTM A615, Grade 60 and A185 for wire fabric.

PART 3 - EXECUTION

3.1 GENERAL

- A. Excavate, backfill and compact in accordance with Section 31 23 10 - Excavation, Trenching and Backfilling.
- B. All brick must be thoroughly wetted immediately before being laid.
- C. Old brickwork must be thoroughly cleaned and wetted before new work is jointed thereto.
- D. No masonry work is to be done when the temperature is below 33° F unless otherwise approved, and then only under conditions for protecting it from frost.

3.2 PRE-CAST STRUCTURE INSTALLATION

- A. Carefully place precast sections for all structures on prepared bedding so as to fully and uniformly support the structure and allow pipes to be laid to proper grade.
- B. All lift holes on precast sections must be completely filled with mortar, smoothed on both inside and outside surfaces.
- C. Seal joints between riser sections with approved mastic sealant or rubber gaskets, or as directed by the Commissioner.
- D. Place one adjusting ring (only) on manhole top. Select thickness of adjusting ring to bring completed structure to required elevation.
- E. Seal joints between adjusting rings and frames with approved mastic sealant before backfilling structures.
- F. Install manhole frame and cover.

3.3 MASONRY STRUCTURE INSTALLATION

- A. Install precast concrete or cast in place base as shown on the Drawings.
- B. Thoroughly wet all brick immediately before laying.
- C. Lay brick courses to the line, straight and parallel, breaking joints with those in adjacent courses.
- D. Lay brick radially as headers in a full bed of mortar with joints not exceeding 3/8-Inch in thickness.

E. Fill joints with mortar. Interior joints must be trowel-struck.

END OF SECTION 33 39 13

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APPENDIX C

Illinois Department of Transportation (IDOT)

**INDEX FOR SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS
(January 1, 2019)**

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2019

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction
(Adopted 4-1-16) (Revised 1-1-19)

SUPPLEMENTAL SPECIFICATIONS

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586 Sand Backfill for Vaulted Abutments	37
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The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Recurring Special Provisions

<u>Check Sheet #</u>		<u>Page No.</u>
1	<input checked="" type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts	75
2	<input checked="" type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts)	78
3	<input checked="" type="checkbox"/> EEO	79
4	<input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts	89
5	<input type="checkbox"/> Required Provisions - State Contracts	94
6	<input type="checkbox"/> Asbestos Bearing Pad Removal	100
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal	101
8	<input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads	102
9	<input type="checkbox"/> Construction Layout Stakes Except for Bridges	103
10	<input type="checkbox"/> Construction Layout Stakes	106
11	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing	109
12	<input type="checkbox"/> Subsealing of Concrete Pavements	111
13	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction	115
14	<input type="checkbox"/> Pavement and Shoulder Resurfacing	117
15	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal	118
16	<input type="checkbox"/> Polymer Concrete	120
17	<input type="checkbox"/> PVC Pipeliner	122
18	<input type="checkbox"/> Bicycle Racks	123
19	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals	125
20	<input type="checkbox"/> Work Zone Public Information Signs	127
21	<input type="checkbox"/> Nighttime Inspection of Roadway Lighting	128
22	<input type="checkbox"/> English Substitution of Metric Bolts	129
23	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete	130
24	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant	131
25	<input checked="" type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures	139
26	<input type="checkbox"/> Digital Terrain Modeling for Earthwork Calculations	155
27	<input type="checkbox"/> Reserved	157
28	<input type="checkbox"/> Preventive Maintenance - Bituminous Surface Treatment	158
29	<input type="checkbox"/> Reserved	164
30	<input type="checkbox"/> Reserved	165
31	<input type="checkbox"/> Reserved	166
32	<input type="checkbox"/> Temporary Raised Pavement Markers	167
33	<input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam	168
34	<input type="checkbox"/> Portland Cement Concrete Inlay or Overlay	171
35	<input type="checkbox"/> Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	175

The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Local Roads And Streets Recurring Special Provisions

<u>Check Sheet #</u>		<u>Page No.</u>
LRS 1	Reserved	179
LRS 2	<input type="checkbox"/> Furnished Excavation	180
LRS 3	<input checked="" type="checkbox"/> Work Zone Traffic Control Surveillance	181
LRS 4	<input checked="" type="checkbox"/> Flaggers in Work Zones	182
LRS 5	<input checked="" type="checkbox"/> Contract Claims	183
LRS 6	<input checked="" type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals	184
LRS 7	<input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals	190
LRS 8	Reserved	196
LRS 9	<input type="checkbox"/> Bituminous Surface Treatments	197
LRS 10	Reserved	198
LRS 11	<input type="checkbox"/> Employment Practices	199
LRS 12	<input type="checkbox"/> Wages of Employees on Public Works	201
LRS 13	<input type="checkbox"/> Selection of Labor	203
LRS 14	<input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks	204
LRS 15	<input type="checkbox"/> Partial Payments	207
LRS 16	<input type="checkbox"/> Protests on Local Lettings	208
LRS 17	<input checked="" type="checkbox"/> Substance Abuse Prevention Program	209
LRS 18	<input type="checkbox"/> Multigrade Cold Mix Asphalt	210

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APPENDIX D

ILLINOIS DEPARTMENT OF TRANSPORTATION

BDE Special Provisions Check List and applicable Special Provisions

BDE SPECIAL PROVISIONS
For the August 2, 2019 and September 20, 2019 Lettings

The following special provisions indicated by a "check mark" are applicable to this contract and will be included by the Project Coordination and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

File Name	#		Special Provision Title	Effective	Revised
80099	1	<input type="checkbox"/>	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
80274	2	<input type="checkbox"/>	Aggregate Subgrade Improvement	April 1, 2012	April 1, 2016
80192	3	<input type="checkbox"/>	Automated Flagger Assistance Device	Jan. 1, 2008	
80173	4	<input type="checkbox"/>	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2017
80241	5	<input type="checkbox"/>	Bridge Demolition Debris	July 1, 2009	
50261	6	<input type="checkbox"/>	Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481	7	<input type="checkbox"/>	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491	8	<input type="checkbox"/>	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531	9	<input type="checkbox"/>	Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80404	10	<input type="checkbox"/>	Coarse Aggregate Quality for Micro-Surfacing and Cape Seals	Jan. 1, 2019	
80384	11	<input checked="" type="checkbox"/>	Compensable Delay Costs	June 2, 2017	April 1, 2019
80198	12	<input type="checkbox"/>	Completion Date (via calendar days)	April 1, 2008	
80199	13	<input type="checkbox"/>	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293	14	<input type="checkbox"/>	Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	July 1, 2016
80311	15	<input type="checkbox"/>	Concrete End Sections for Pipe Culverts	Jan. 1, 2013	April 1, 2016
80277	16	<input type="checkbox"/>	Concrete Mix Design – Department Provided	Jan. 1, 2012	April 1, 2016
80261	17	<input checked="" type="checkbox"/>	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
80387	18	<input type="checkbox"/>	Contrast Preformed Plastic Pavement Marking	Nov. 1, 2017	
80029	19	<input checked="" type="checkbox"/>	Disadvantaged Business Enterprise Participation (LR80029)	Aug. 26, 2016	
80402	20	<input checked="" type="checkbox"/>	Disposal Fees	Nov. 1, 2018	
80378	21	<input checked="" type="checkbox"/>	Dowel Bar Inserter	Jan. 1, 2017	Jan. 1, 2018
80405	22	<input type="checkbox"/>	Elastomeric Bearings	Jan. 1, 2019	
*	80415	<input type="checkbox"/>	Emulsified Asphalts	Aug. 1, 2019	
80388	24	<input checked="" type="checkbox"/>	Equipment Parking and Storage	Nov. 1, 2017	
80229	25	<input type="checkbox"/>	Fuel Cost Adjustment	April 1, 2009	Aug. 1, 2017
80304	26	<input type="checkbox"/>	Grooving for Recessed Pavement Markings	Nov. 1, 2012	Nov. 1, 2017
80246	27	<input checked="" type="checkbox"/>	Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	Aug. 1, 2018
80398	28	<input type="checkbox"/>	Hot-Mix Asphalt – Longitudinal Joint Sealant	Aug. 1, 2018	Jan. 1, 2019
80406	29	<input type="checkbox"/>	Hot-Mix Asphalt – Mixture Design Verification and Production (Modified for I-FIT Projects)	Jan. 1, 2019	
80399	30	<input checked="" type="checkbox"/>	Hot-Mix Asphalt – Oscillatory Roller	Aug. 1, 2018	Nov. 1, 2018
80347	31	<input type="checkbox"/>	Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	Aug. 1, 2018
80383	32	<input type="checkbox"/>	Hot-Mix Asphalt – Quality Control for Performance	April 1, 2017	Jan. 1, 2019
80392	33	<input checked="" type="checkbox"/>	Lights on Barricades	Jan. 1, 2018	
80336	34	<input type="checkbox"/>	Longitudinal Joint and Crack Patching	April 1, 2014	April 1, 2016
80411	35	<input type="checkbox"/>	Luminaires, LED	April 1, 2019	
80393	36	<input checked="" type="checkbox"/>	Manholes, Valve Vaults, and Flat Slab Tops	Jan. 1, 2018	March 1, 2019
80400	37	<input checked="" type="checkbox"/>	Mast Arm Assembly and Pole	Aug. 1, 2018	
80045	38	<input type="checkbox"/>	Material Transfer Device	June 15, 1999	Aug. 1, 2014
80394	39	<input type="checkbox"/>	Metal Flared End Section for Pipe Culverts	Jan. 1, 2018	April 1, 2018
80165	40	<input type="checkbox"/>	Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
*	80412	<input type="checkbox"/>	Obstruction Warning Luminaires, LED	Aug. 1, 2019	
80349	42	<input type="checkbox"/>	Pavement Marking Blackout Tape	Nov. 1, 2014	April 1, 2016
80371	43	<input type="checkbox"/>	Pavement Marking Removal	July 1, 2016	
80390	44	<input checked="" type="checkbox"/>	Payments to Subcontractors	Nov. 2, 2017	
80389	45	<input checked="" type="checkbox"/>	Portland Cement Concrete	Nov. 1, 2017	

80359	46	<input checked="" type="checkbox"/>	Portland Cement Concrete Bridge Deck Curing	April 1, 2015	Nov. 1, 2017
80300	47	<input type="checkbox"/>	Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	April 1, 2016
80328	48	<input checked="" type="checkbox"/>	Progress Payments	Nov. 2, 2013	
3426I	49	<input type="checkbox"/>	Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
* 80157	50	<input type="checkbox"/>	Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80306	51	<input type="checkbox"/>	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	Jan. 1, 2019
80407	52	<input checked="" type="checkbox"/>	Removal and Disposal of Regulated Substances	Jan. 1, 2019	
80395	53	<input type="checkbox"/>	Sloped Metal End Section for Pipe Culverts	Jan. 1, 2018	
80340	54	<input type="checkbox"/>	Speed Display Trailer	April 2, 2014	Jan. 1, 2017
80127	55	<input checked="" type="checkbox"/>	Steel Cost Adjustment	April 2, 2004	Aug. 1, 2017
80408	56	<input type="checkbox"/>	Steel Plate Beam Guardrail Manufacturing	Jan. 1, 2019	
* 80413	57	<input type="checkbox"/>	Structural Timber	Aug. 1, 2019	
80397	58	<input checked="" type="checkbox"/>	Subcontractor and DBE Payment Reporting	April 2, 2018	
80391	59	<input checked="" type="checkbox"/>	Subcontractor Mobilization Payments	Nov. 2, 2017	April 1, 2019
* 80317	60	<input type="checkbox"/>	Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	Aug. 1, 2019
80298	61	<input type="checkbox"/>	Temporary Pavement Marking	April 1, 2012	April 1, 2017
20338	62	<input checked="" type="checkbox"/>	Training Special Provisions	Oct. 15, 1975	
80403	63	<input type="checkbox"/>	Traffic Barrier Terminal, Type 1 Special	Nov. 1, 2018	
80409	64	<input checked="" type="checkbox"/>	Traffic Control Devices - Cones	Jan. 1, 2019	
80410	65	<input type="checkbox"/>	Traffic Spotters	Jan. 1, 2019	
80318	66	<input type="checkbox"/>	Traversable Pipe Grate for Concrete End Sections	Jan. 1, 2013	Jan. 1, 2018
80288	67	<input checked="" type="checkbox"/>	Warm Mix Asphalt	Jan. 1, 2012	April 1, 2016
80302	68	<input checked="" type="checkbox"/>	Weekly DBE Trucking Reports	June 2, 2012	April 2, 2015
* 80414	69	<input type="checkbox"/>	Wood Fence Sight Screen	Aug. 1, 2019	
80071	70	<input type="checkbox"/>	Working Days	Jan. 1, 2002	

The following special provisions are in the 2019 Supplemental Specifications and Recurring Special Provisions.

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location(s)</u>	<u>Effective</u>	<u>Revised</u>
80382	Adjusting Frames and Grates	Articles 602.02(s) and (t), 1043.04, and 1043.05	April 1, 2017	
80366	Butt Joints	Article 406.08(c)	July 1, 2016	
80386	Calcium Aluminate Cement for Class PP-5 Concrete Patching	Article 1001.01(e)	Nov. 1, 2017	
80396	Class A and B Patching	Articles 442.06(a)(1) and (2)	Jan. 1, 2018	Nov. 1, 2018
80377	Portable Changeable Message Signs	Articles 701.20(h) and 1106.02(i)	Nov. 1, 2016	April 1, 2017
80385	Portland Cement Concrete Sidewalk	Article 424.12	Aug. 1, 2017	

The following special provisions have been deleted from use.

<u>File Name</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80376	Hot-Mix Asphalt – Tack Coat	Nov. 1, 2016	
80401	Portland Cement Concrete Pavement Connector for Bridge Approach Slab	Aug. 1, 2018	

The following special provisions require additional information from the designer. The additional information needs to be submitted as a separate document. The Project Coordination and Implementation section will then include the information in the applicable special provision.

- Bridge Demolition Debris
- Building Removal - Case I
- Building Removal – Case II
- Building Removal - Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

COMPENSABLE DELAY COSTS (BDE)

Effective: June 2, 2017

Revise Article 107.40(b) of the Standard Specifications to read:

“(b) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from conflicts with facilities not meeting the above definition; or if a conflict with a utility in an unanticipated location does not cause a shutdown of the work or a documentable reduction in the rate of progress exceeding the limits set herein. The provisions of Article 104.03 notwithstanding, compensation for delays caused by a utility in an unanticipated location will be paid according to the provisions of this Article governing minor and major delays or reduced rate of production which are defined as follows.

- (1) Minor Delay. A minor delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two hours, but not to exceed two weeks.
- (2) Major Delay. A major delay occurs when the work in conflict with the utility in an unanticipated location is completely stopped for more than two weeks.
- (3) Reduced Rate of Production Delay. A reduced rate of production delay occurs when the rate of production on the work in conflict with the utility in an unanticipated location decreases by more than 25 percent and lasts longer than seven calendar days.”

Revise Article 107.40(c) of the Standard Specifications to read:

“(c) Payment. Payment for Minor, Major, and Reduced Rate of Production Delays will be made as follows.

- (1) Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.04(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.04(b)(4).

- (2) Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to two weeks plus the cost of move-out to either the Contractor's yard or another job and the cost to re-mobilize, whichever is less.

Rental equipment may be paid for longer than two weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

- (3) Reduced Rate of Production Delay. The Contractor will be compensated for the reduced productivity for labor and equipment time in excess of the 25 percent threshold for that portion of the delay in excess of seven calendar days. Determination of compensation will be in accordance with Article 104.02, except labor and material additives will not be permitted.

Payment for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be determined according to Article 109.13."

Revise Article 108.04(b) of the Standard Specifications to read:

"(b) No working day will be charged under the following conditions.

- (1) When adverse weather prevents work on the controlling item.
- (2) When job conditions due to recent weather prevent work on the controlling item.
- (3) When conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; delay by the Department in making the site available; or delay in furnishing any items required to be furnished to the Contractor by the Department prevents work on the controlling item.
- (4) When delays caused by utility or railroad adjustments prevent work on the controlling item.
- (5) When strikes, lock-outs, extraordinary delays in transportation, or inability to procure critical materials prevent work on the controlling item, as long as these delays are not due to any fault of the Contractor.
- (6) When any condition over which the Contractor has no control prevents work on the controlling item."

Revise Article 109.09(f) of the Standard Specifications to read:

- "(f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Section 108. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, undocumented loss of efficiency, home office overhead and unabsorbed overhead

other than as allowed by Article 109.13, lost opportunity, preparation of claim expenses and other consequential indirect costs regardless of method of calculation.

The above Basis of Payment is an essential element of the contract and the claim cost recovery of the Contractor shall be so limited.”

Add the following to Section 109 of the Standard Specifications.

“**109.13 Payment for Contract Delay.** Compensation for escalated material costs, escalated labor costs, extended project overhead, and extended traffic control will be allowed when such costs result from a delay meeting the criteria in the following table.

Contract Type	Cause of Delay	Length of Delay
Working Days	Article 108.04(b)(3) or Article 108.04(b)(4)	No working days have been charged for two consecutive weeks.
Completion Date	Article 108.08(b)(1) or Article 108.08(b)(7)	The Contractor has been granted a minimum two week extension of contract time, according to Article 108.08.

Payment for each of the various costs will be according to the following.

- (a) Escalated Material and/or Labor Costs. When the delay causes work, which would have otherwise been completed, to be done after material and/or labor costs have increased, such increases will be paid. Payment for escalated material costs will be limited to the increased costs substantiated by documentation furnished by the Contractor. Payment for escalated labor costs will be limited to those items in Article 109.04(b)(1) and (2), except the 35 percent and 10 percent additives will not be permitted.
- (b) Extended Project Overhead. For the duration of the delay, payment for extended project overhead will be paid as follows.
 - (1) Direct Jobsite and Offsite Overhead. Payment for documented direct jobsite overhead and documented direct offsite overhead, including onsite supervisory and administrative personnel, will be allowed according to the following table.

Original Contract Amount	Supervisory and Administrative Personnel
Up to \$5,000,000	One Project Superintendent
Over \$ 5,000,000 - up to \$25,000,000	One Project Manager, One Project Superintendent or Engineer, and One Clerk
Over \$25,000,000 - up to \$50,000,000	One Project Manager, One Project Superintendent, One Engineer, and

	One Clerk
Over \$50,000,000	One Project Manager, Two Project Superintendents, One Engineer, and One Clerk

- (2) Home Office and Unabsorbed Overhead. Payment for home office and unabsorbed overhead will be calculated as 8 percent of the total delay cost.
- (c) Extended Traffic Control. Traffic control required for an extended period of time due to the delay will be paid. For working day contracts the payment will be made according to Article 109.04. For completion date contracts, an adjustment will be determined as follows.

Extended Traffic Control occurs between April 1 and November 30:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times (\% / 100 \times \text{CUP} / \text{OCT})$$

Extended Traffic Control occurs between December 1 and March 31:

$$\text{ETCP Adjustment (\$)} = \text{TE} \times 1.5 (\% / 100 \times \text{CUP} / \text{OCT})$$

Where: TE = Duration of approved time extension in calendar days.
 % = Percent maintenance for the traffic control, % (see table below).
 CUP = Contract unit price for the traffic control pay item in place during the delay.
 OCT = Original contract time in calendar days.

Original Contract Amount	Percent Maintenance
Up to \$2,000,000	65%
\$2,000,000 to \$10,000,000	75%
\$10,000,000 to \$20,000,000	85%
Over \$20,000,000	90%

When an ETCP adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
BUREAU OF LOCAL ROADS AND STREETS

SPECIAL PROVISION FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION FOR
LOCAL LETTINGS

Issued: August 26, 2016

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION FOR LOCAL LETTINGS

FEDERAL OBLIGATION. The Illinois Department of Transportation (Department), as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. When applicable this Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal-aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disqualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a

good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform _____% of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents that enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at:

<http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index>

BIDDING PROCEDURES. Compliance with this Special Provision is required prior to the award of the contract and the failure of the low bidder to comply will render the bid not responsive.

In order to assure the timely award of the contract, the low bidder shall submit:

- (a) The bidder shall submit a DBE Utilization Plan on completed Department forms SBE 2025 and 2026.
 - (1) The final Utilization Plan must be submitted within five calendar days after the date of the letting in accordance with subsection (a)(2) of Bidding Procedure

(2) To meet the five day requirement, the bidder may send the Utilization Plan electronically by scanning and sending to the following email address:

The subject line must include the contract number and the Letting date. The Utilization Plan should be sent as one .pdf file, rather than multiple files and emails for the same Item Number. It is the responsibility of the bidder to obtain confirmation of email or fax delivery.

Alternatively, the Utilization Plan may be sent to the local public agency (LPA) by certified mail or delivery service within the five calendar day period. If a question arises concerning the mailing date of a Utilization Plan, the mailing date will be established by the U.S. Postal Service postmark on the certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service when the Utilization Plan is received by the Department. It is the responsibility of the bidder to ensure the postmark or receipt date is affixed within the five days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Utilization Plan is to be submitted to:

LPA Address:

The LPA will not accept a Utilization Plan if it does not meet the five day submittal requirement and the bid will be declared not responsive. In the event the bid is declared not responsive due to a failure to submit a Utilization Plan or failure to comply with the bidding procedures set forth herein, the LPA may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The LPA reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration.

- (b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number, and telefax number of a responsible official of the bidder designated for purposes of notification of Utilization Plan approval or disapproval under the procedures of this Special Provision.
- (c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. For bidding purposes, submission of the completed SBE 2025 forms, signed by the DBEs and scanned or faxed to the bidder will be acceptable as long as the original is available and provided upon request. All elements of information indicated on the said form shall be provided, including but not limited to the following:

- (1) The names and addresses of DBE firms that will participate in the contract;
- (2) A description, including pay item numbers, of the work each DBE will perform;
- (3) The dollar amount of the participation of each DBE firm participating. The dollar amount of participation for identified work shall specifically state the quantity, unit price, and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;
- (4) DBE Participation Commitment Statements, form SBE 2025, signed by the bidder and each participating DBE firm documenting the commitment to use the DBE subcontractors whose participation is submitted to meet the contract goal;
- (5) If the bidder is a joint venture comprised of DBE companies and non-DBE companies, the Utilization Plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s); and,
- (6) If the contract goal is not met, evidence of good faith efforts; the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan submitted by the apparent successful bidder is approved. All information submitted by the bidder must be complete, accurate and adequately document that enough DBE participation has been obtained or document that good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. The Utilization Plan will not be approved by the Department if the Utilization Plan does not document sufficient DBE participation to meet the contract goal unless the apparent successful bidder documented in the Utilization Plan that it made a good faith effort to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts, in other words, efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.
- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.
 - (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.
 - (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
 - (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
 - b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with subsection (c)(6) of the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor

quote submitted to a bidder when non-DBE subcontractor was selected over a DBE for work on the contract.

- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
 - (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
 - (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines that the apparent successful bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification shall include a statement of reasons for the determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period in order to cure the deficiency.
- (c) The bidder may request administrative reconsideration of a determination adverse to the bidder within the five working days after the receipt of the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217) 785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The determination shall become final if a request is not made and delivered. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will

be sent a written decision within ten working days after receipt of the request for consideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

- (a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.
- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the prime Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
 - (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
 - (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement.

(e) DBE as a material supplier:

- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) NO AMENDMENT. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.
- (b) CHANGES TO WORK. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, then a new Request for Approval of Subcontractor shall not be required. However, the Contractor must document efforts to assure that the

existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.

- (c) SUBCONTRACT. The Contractor must provide DBE subcontracts to IDOT upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) ALTERNATIVE WORK METHODS. In addition to the above requirements for reductions in the condition of award, additional requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) That the replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or
 - (2) That the DBE is aware that its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
 - (3) That the DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.
- (e) TERMINATION AND REPLACEMENT PROCEDURES. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that

the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (3) The listed DBE subcontractor fails or refuses to meet the prime Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) You have determined that the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides to you written notice of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime Contractor can self-perform the work for which the DBE contractor was engaged or

so that the prime Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated, or fails to complete its work on the Contract for any reason the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department shall provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

- (f) PAYMENT RECORDS. The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the LPA and Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than thirty calendar days after payment has been made by the LPA to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the LPA may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.
- (g) ENFORCEMENT. The LPA reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) RECONSIDERATION. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

DISPOSAL FEES (BDE)

Effective: November 1, 2018

Replace Articles 109.04(b)(5) – 109.04(b)(8) of the Standard Specifications with the following:

- “(5) Disposal Fees. When the extra work performed includes paying for disposal fees at a clean construction and demolition debris facility, an uncontaminated soil fill operation or a landfill, the Contractor shall receive, as administrative costs, an amount equal to five percent of the first \$10,000 and one percent of any amount over \$10,000 of the total approved costs of such fees.
- (6) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor’s stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements at the cost of force account work shall be detailed as follows.

- a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.
 - b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - c. Quantities of materials, prices and extensions.
 - d. Transportation of materials.
 - e. Cost of property damage, liability and workmen’s compensation insurance premiums, unemployment insurance contributions, and social security tax.
- (8) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being \$100.

(9) All statements of the cost of force account work shall be furnished to the Engineer not later than 60 days after receipt of the Central Bureau of Construction form "Extra Work Daily Report". If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery."

80402

DOWEL BAR INSERTER (BDE)

Effective: January 1, 2017

Revised: January 1, 2018

Add the following to Article 420.03 of the Standard Specifications.

“(l) Mechanical Dowel Bar Inserter1103.20”

Revise the first paragraph of Article 420.05(b)(1) of the Supplemental Specifications to read:

“Preformed or Drilled Holes. If applicable, the tie bars shall be installed after the dowel bars have been tested with the MIT Scan-2 device according to Article 420.05(c)(2)b.2. The tie bars shall be installed with a nonshrink grout or chemical adhesive providing a minimum pull-out strength as follows.”

Revise Article 420.05(c) of the Standard Specifications to read:

“(c) Transverse Contraction Joints. Transverse contraction joints shall consist of planes of weakness created by sawing grooves in the surface of the pavement and shall include load transfer devices consisting of dowel bars. Transverse contraction joints shall be according to the following.”

Revise Article 420.05(c)(2) of the Standard Specifications to read:

“(2) Dowel Bars. Dowel Bars shall be installed parallel to the centerline of the pavement and parallel to the proposed pavement surface. Installation shall be according to one of the following methods.

- a. Dowel Bar Assemblies. The assembly shall act as a rigid unit with each component securely held in position relative to the other members of the assembly. The entire assembly shall be held securely in place by means of nails which shall penetrate the stabilized subbase. At least ten nails shall be used for each 10, 11, or 12 ft (3, 3.3, or 3.6 m) section of assembly.

Metal stakes shall be used instead of nails, with soil or granular subbase. The stakes shall loop over or attach to the top parallel spacer bar of the assembly and penetrate the subgrade or subbase at least 12 in. (300 mm).

At the location of each dowel bar assembly, the subgrade or subbase shall be reshaped and re-tamped when necessary.

Prior to placing concrete, any deviation of the dowel bars from the correct horizontal or vertical alignment (horizontal skew or vertical tilt) greater than 3/8 in. in 12 in (9 mm in 300 mm) shall be corrected and a light coating of oil shall be uniformly applied to all dowel bars.

Care shall be exercised in depositing the concrete at the dowel bar assemblies so the horizontal and vertical alignment will be retained.

- b. Dowel Bar Insertion. The dowel bars may be placed in the pavement slab with a mechanical dowel bar inserter (DBI) attached to a formless paver for pavements ≥ 7.0 in. (175 mm) in thickness. A light coating of oil shall be uniformly applied to all dowel bars.

The DBI shall insert the dowel bars with vibration into the plastic concrete after the concrete has been struck off and consolidated without deformation of the slab. After the bars have been inserted, the concrete shall be refinished and no voids shall exist around the dowel bars. The forward movement of the paver shall not be interrupted by the inserting of the dowel bars.

The location of each row of dowel bars shall be marked in a manner to facilitate where to insert the bars, and where to saw the transverse joint.

1. Placement Tolerances for Dowel Bars. The DBI shall place the dowel bars in the concrete pavement within the following tolerances.

- (a.) Longitudinal Translation (Mislocation). Longitudinal translation (mislocation) shall be defined as the position of the center of the dowel bar along the longitudinal axis, in relation to the sawed joint.

The quality control tolerance for longitudinal translation shall not exceed 2.0 in (50 mm). If this tolerance is exceeded, adjustments shall be made to the paving operation.

Any joint having two or more dowel bars with an embedment length less than 4.0 in. (100 mm) within 12 in. (300 mm) of the same wheelpath will be considered unacceptable. The left and right wheelpaths shall be determined by excluding the middle 2.5 ft (0.8 m) of the pavement lane, and by excluding the outer 1.0 ft (0.3 m) measured from each pavement lane edge. Any joint having an average dowel bar embedment length less than 5.25 in. (130 mm) will also be considered unacceptable. Embedment length shall be defined as the length of dowel bar embedded on the short side of the sawed joint. An unacceptable joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

- (b.) Horizontal Translation (Mislocation). Horizontal translation (mislocation) shall be defined as the difference in the actual dowel bar location parallel to the longitudinal or edge joint from its theoretical position as shown on the plans.

The quality control tolerance for horizontal translation shall not exceed 2.0 in. (50 mm). If this tolerance is exceeded, adjustments shall be made to the paving operation.

Any joint having a dowel bar with a translation greater than 4.0 in. (100 mm) will be considered unacceptable, but may remain in place unless the Engineer determines the joint will not function. If the joint is unable to remain in place, the joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(c.) Vertical Translation (Mislocation). Vertical translation (mislocation) shall be defined as the difference in the vertical position of the dowel bar relative to the theoretical midpoint of the slab.

The quality control tolerance for vertical translation shall be as shown in the following table. If these tolerances are exceeded, adjustments shall be made to the paving operation.

Pavement Thickness	Dowel Bar Diameter	Vertical Translation Tolerance Above Midpoint	Vertical Translation Tolerance Below Midpoint
≥7 in. to <8 in. (≥175 mm to <200 mm)	1.25 in. (31 mm)	0.25 in. (6 mm)	0.5 in. (13 mm)
≥8 in. to <9 in. (≥200 mm to <225 mm)	1.50 in. (38 mm)	0.25 in. (6 mm)	0.5 in. (13 mm)
≥9 in. to <10 in. (≥225 mm to <250 mm)	1.50 in. (38 mm)	0.75 in. (19 mm)	0.75 in. (19 mm)
≥10 in. (≥250 mm)	1.50 in. (38 mm)	0.75 in. (19 mm)	1.0 in. (25 mm)

Any joint having a dowel bar with top concrete cover less than T/3, where T is slab thickness, will be considered unacceptable. Any joint having 2 or more dowel bars with bottom concrete cover less than 2.0 in. (50 mm) will also be considered unacceptable. An unacceptable joint shall be replaced with a minimum of 6 ft (1.8 m) of pavement according to Section 442 for Class B patches.

(d.) Vertical Tilt or Horizontal Skew (Misalignment). Vertical tilt or horizontal skew (misalignment) shall be defined as the difference in position of the dowel bar ends with respect to each other. Vertical tilt is measured in the vertical axis whereas horizontal skew is measured in the horizontal axis. Misalignment shall be measured in terms of a joint score. The joint score shall be defined as the degree of misalignment evaluated for a single

transverse joint for each lane of pavement. The joint score shall be determined as follows:

$$Joint\ Score = \left(1 + \left(\frac{x}{x-n} \right) \sum_{i=1}^{x-n} W_i \right)$$

where:

W_i = weighting factor (Table 1) for dowel i

x = number of dowels in a single joint

n = number of dowels excluded from the joint score calculation due to measurement interference

Single Dowel Misalignment – The degree of misalignment applicable to a single dowel bar, calculated as:

$$Single\ Dowel\ Misalignment = \sqrt{(Horizontal\ Skew)^2 + (Vertical\ Tilt)^2}$$

Table 1. Weighting Factors in Joint Score Determination	
Single Dowel Bar Misalignment (SDM)	W, Weighting Factor
SDM ≤ 0.6 in. (15 mm)	0
0.6 in. (15 mm) < SDM ≤ 0.8 in. (20 mm)	2
0.8 in. (20 mm) < SDM ≤ 1 in. (25 mm)	4
1 in. (25 mm) < SDM ≤ 1.5 in. (38 mm)	5
1.5 in. (38 mm) < SDM	10

The quality control tolerance for vertical tilt or horizontal skew shall not exceed 0.6 in. (15 mm). If the tolerance is exceeded for either one, adjustments shall be made to the paving operation.

Any joint having a dowel bar with a vertical tilt or horizontal skew greater than 1.5 in. (38 mm) shall be cut. If more than one dowel bar is required to be cut in the joint, the joint will be considered unacceptable and shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

Single dowel bar misalignment shall be controlled to provide the joint scores shown in the following table.

Number of Dowel Bars in the Joint	Maximum Joint Score
< 5	4
≥ 5 but ≤ 9	8
> 9	12

A joint score greater than the specified maximum will be considered locked. Three consecutive joints with a score greater than the specified maximum total score will all be considered unacceptable.

Three consecutive locked joints shall be corrected by selecting one joint and cutting a dowel bar. Preference shall be given to cutting a dowel bar within the middle 2.5 ft (0.8 m) of the pavement lane to avoid the wheelpaths. If none of the three locked joints will have a joint score less than or equal to the specified maximum after selecting one dowel bar to cut, one of the joints shall be replaced with a minimum of 6 ft (1.8 m) of pavement centered over the joint according to Section 442 for Class B patches.

(e.) For unacceptable work, the Contractor may propose alternative repairs for consideration by the Engineer.

2. Testing of Dowel Bar Placement. The placement of the dowel bars shall be tested within 24 hours of paving with a calibrated MIT Scan-2 device according to "Use of Magnetic Tomography Technology to Evaluate Dowel Placement" (Publication No. FHWA-IF-06-006) by the Federal Highway Administration.

A trained operator shall perform the testing, and all testing shall be performed in the presence of the Engineer. The device shall be calibrated to the type and size dowel bar used in the work according to the manufacturer's instructions. Calibration documentation shall be provided to the Engineer prior to construction. The device shall be recalibrated and/or validate readings as required by the Engineer. The device may be utilized as a process control and make necessary adjustments to ensure the dowel bars are placed in the correct location.

(a.) Test Section. Prior to start of production paving, a test section consisting of 30 transverse joints shall be constructed. The test section may be performed on the actual pavement, but production paving shall not begin until an acceptable test section has been constructed. The test section will be considered acceptable when all of the following are met:

- (1.) 90 percent of the dowel bars meet the quality control tolerance for longitudinal, horizontal, or vertical translation (mislocation);
- (2.) 90 percent of the dowel bars meet the quality control tolerance for vertical tilt or horizontal skew deviation (misalignment); and
- (3.) none of the joints are considered unacceptable prior to a corrective measure for mislocation or misalignment.

If the test section fails, another test section consisting of 30 joints shall be constructed.

The test section requirement may be waived by the Engineer if the Contractor has constructed an acceptable test section and successfully used the DBI on a Department contract within the same calendar year.

- (b.) Production Paving. After the test section is approved, production paving may begin. The mislocation and misalignment of each dowel bar for the first ten joints constructed, and every tenth joint thereafter, shall be tested.

If two consecutive days of paving result in 5 percent or more of the joints on each day being unacceptable prior to a corrective measure, production paving shall be discontinued and a new test section shall be constructed.

If any joint is found to be unacceptable prior to a corrective measure, testing of additional joints on each side of the unacceptable joint shall be performed until acceptable joints are found.

- (c.) Test Report. Test reports shall be provided to the Engineer within two working days of completing each day's testing. The test report shall include the following.

(1.) Contract number, placement date, county-route-section, direction of traffic, scan date, Contractor, and name of individual performing the tests.

(2.) Provide the standard report generated from the on-board printer of the imaging technology used for every dowel and joint measured.

(3.) For every dowel measured, provide the joint identification number, lane number and station, dowel bar number or x-location, direction of testing and reference joint location/edge location, longitudinal translation, horizontal translation, vertical translation, vertical tilt, and horizontal skew.

(4.) Identify each dowel bar with a maximum longitudinal, horizontal, or vertical translation that has been exceeded. Identify each dowel bar with a maximum vertical tilt or horizontal skew deviation that has been exceeded.

(5.) Joint Score Details: Provide the joint identification number, lane number, station, and calculated joint score for each joint.

- (6.) Locked Joint Identification: Identify each joint where the maximum joint score is exceeded.
- (d.) Exclusions. Exclude the following from dowel bar mislocation and misalignment measurements.
 - (1.) Transverse construction joints (headers).
 - (2.) Dowel bars within 24 in. (610 mm) of metallic manholes, inlets, metallic castings, or other nearby or underlying steel reinforced objects.
 - (3.) The outside dowel bar when tie bars are installed with mechanical equipment in fresh concrete. For tie bar installations involving preformed or drilled holes, installation of the tie bar shall be performed after testing with the MIT Scan-2 device.
 - (4.) Joints located directly under high voltage power lines.
 - (5.) Subject to the approval of the Engineer, any other contributors to magnetic interference.
- (e.) Deficiency Deduction. When the Contractor has cut 25 dowel bars to correct unacceptable joints, the Contractor shall be liable and shall pay to the Department a deficiency deduction of \$500.00 for the cost of the bars. Thereafter, an additional deficiency deduction of \$20.00 for each additional bar cut will be assessed."

Add the following to Section 1103 of the Standard Specifications.

“1103.20 Mechanical Dowel Bar Inserter. The mechanical dowel bar inserter (DBI) shall be self-contained and supported on the formless paver with the ability to move separately from the paver. The DBI shall be equipped with insertion forks along with any other devices necessary for finishing the concrete the full width of the pavement. The insertion forks shall have the ability to vibrate at a minimum frequency of 3000 VPM.”

80378

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

“701.11 Equipment Parking and Storage. During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010

Revised: August 1, 2018

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

“Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

- a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.
- b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced 10 ft (3 m) apart longitudinally along the unconfined pavement edge and centered at the random density test location.

When a longitudinal joint sealant (LJS) is applied, longitudinal joint density testing will not be required on the joint(s) sealed.”

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

“Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4% ^{1/}	91.0%
IL-9.5	Ndesign = 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0	Ndesign = 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L	Ndesign < 90	93.0 ^{2/} – 97.4%	90.0%

SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%”
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80246

HOT-MIX ASPHALT – OSCILLATORY ROLLER (BDE)

Effective: August 1, 2018
 Revised: November 1, 2018

Add the following to Article 406.03 of the Standard Specifications:

“(j) Oscillatory Roller1101.01”

Revise Table 1 and Note 3/ of Table 1 in Article 406.07(a) of the Standard Specifications to read:

“TABLE 1 - MINIMUM ROLLER REQUIREMENTS FOR HMA				
	Breakdown Roller (one of the following)	Intermediate Roller	Final Roller (one or more of the following)	Density Requirement
Level Binder: (When the density requirements of Article 406.05(c) do not apply.)	P ^{3/}	--	V _S , P ^{3/} , T _B , T _F , 3W, O _T	To the satisfaction of the Engineer.
Binder and Surface ^{1/} Level Binder ^{1/} : (When the density requirements of Article 406.05(c) apply.)	V _D , P ^{3/} , T _B , 3W, O _T , O _B	P ^{3/} , O _T , O _B	V _S , T _B , T _F , O _T	As specified in Articles: 1030.05(d)(3), (d)(4), and (d)(7).
IL-4.75 and SMA ^{4/ 5/}	T _B , 3W, O _T	--	T _F , 3W, O _T	
Bridge Decks ^{2/}	T _B	--	T _F	As specified in Articles 582.05 and 582.06.

3/ A vibratory roller (V_D) or oscillatory roller (O_T or O_B) may be used in lieu of the pneumatic-tired roller on mixtures containing polymer modified asphalt binder.”

Add the following to EQUIPMENT DEFINITION in Article 406.07(a) contained in the Errata of the Supplemental Specifications:

“O_T - Oscillatory roller, tangential impact mode. Maximum speed is 3.0 mph (4.8 km/h) or 264 ft/min (80 m/min).

O_B - Oscillatory roller, tangential and vertical impact mode, operated at a speed to produce not less than 10 vertical impacts/ft (30 impacts/m).”

Add the following to Article 1101.01 of the Standard Specifications:

“(h) Oscillatory Roller. The oscillatory roller shall be self-propelled and provide a smooth operation when starting, stopping, or reversing directions. The oscillatory roller shall be able to operate in a mode that will provide tangential impact force with or without vertical impact force by using at least one drum. The oscillatory roller shall be equipped with water tanks and sprinkling devices, or other approved methods, which shall be used to wet the drums to prevent material pickup. The drum(s) amplitude and frequency of the tangential and vertical impact force shall be approximately the same in each direction and meet the following requirements:

- (1) The minimum diameter of the drum(s) shall be 42 in. (1070 mm)48 in. (1200 mm);
- (2) The minimum length of the drum(s) shall be 57 in. (1480 mm)66 in. (1650 mm);
- (3) The minimum unit static force on the drum(s) shall be 125 lb/in. (22 N/m); and
- (4) The minimum force on the oscillatory drum shall be 18,000 lb (80 kN).”; and
- (5) Self-adjusting eccentrics, and reversible eccentrics on non-driven drum(s).”

LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

“701.16 Lights. Lights shall be used on devices as required in the plans, the traffic control plan, and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-I107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.”

Delete the fourth sentence of the first paragraph of Article 701.17(c)(2) of the Standard Specifications.

Revise the first paragraph of Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and Class SI concrete has been placed, the work shall be protected by a barricade for at least 72 hours.”

80392

MANHOLES, VALVE VAULTS, AND FLAT SLAB TOPS (BDE)

Effective: January 1, 2018
 Revised: March 1, 2019

Description. In addition to those manufactured according to the current standards included in this contract, manholes, valve vaults, and flat slab tops manufactured prior to March 1, 2019, according to the previous Highway Standards listed below will be accepted on this contract:

Product	Previous Standards		
Precast Manhole Type A, 4' (1.22 m) Diameter	602401-05	602401-04	602401-03
Precast Manhole Type A, 5' (1.52 m) Diameter	602402-01	602402	602401-03
Precast Manhole Type A, 6' (1.83 m) Diameter	602406-09	602406-08	602406-07
Precast Manhole Type A, 7' (2.13 m) Diameter	602411-07	602411-06	602411-05
Precast Manhole Type A, 8' (2.44 m) Diameter	602416-07	602416-06	602416-05
Precast Manhole Type A, 9' (2.74 m) Diameter	602421-07	602421-06	602421-05
Precast Manhole Type A, 10' (3.05 m) Diameter	602426-01	602426	
Precast Valve Vault Type A, 4' (1.22 m) Diameter	602501-04	602501-03	602501-02
Precast Valve Vault Type A, 5' (1.52 m) Diameter	602506-01	602506	602501-02
Precast Reinforced Concrete Flat Slab Top	602601-05	602601-04	

The following revisions to the Standard Specifications shall apply to manholes, valve vaults, and flat slab tops manufactured according to the current standards included in this contract:

Revise Article 602.02(g) of the Standard Specifications to read:

“(g) Structural Steel (Note 4).....1006.04

Note 4. All components of the manhole joint splice shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.”

Add the following to Article 602.02 of the Standard Specifications:

“(s) Anchor Bolts and Rods (Note 5).....1006.09

Note 5. The threaded rods for the manhole joint splice shall be according to the requirements of ASTM F 1554, Grade 55, (Grade 380).”

Revise the second paragraph of Article 1042.10 of the Standard Specifications to read:

“Catch basin Types A, B, C, and D; Manhole Type A; Inlet Types A and B; Drainage Structures Types 1, 2, 3, 4, 5, and 6; Valve Vault Type A; and reinforced concrete flat slab top (Highway Standard 602601) shall be manufactured according to AASHTO M 199 (M 199M), except as shown on the plans. Additionally, catch basins, inlets, and drainage structures shall have a minimum concrete compressive strength of 4500 psi (31,000 kPa) at 28 days and manholes,

valve vaults, and reinforced concrete flat slab tops shall have a minimum concrete compressive strength of 5000 psi (34,500 kPa) at 28 days.”

80393

MAST ARM ASSEMBLY AND POLE (BDE)

Effective: August 1, 2018

Revise the first sentence of Article 1077.03(b) of the Standard Specifications to read:

“Anchor rods shall be according to Article 1006.09, Grade 105, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and threaded a minimum of 2 in. (50 mm) with matching hex head nut at the other end.”

80400

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: November 2, 2017

Add the following to the end of the fourth paragraph of Article 109.11 of the Standard Specifications:

“If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.”

80390

PORTLAND CEMENT CONCRETE (BDE)

Effective: November 1, 2017

Revise the Air Content % of Class PP Concrete in Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA		
Class of Conc.	Use	Air Content %
PP	Pavement Patching Bridge Deck Patching (10)	
	PP-1	4.0 - 8.0"
	PP-2	
	PP-3	
	PP-4	
	PP-5	

Revise Note (4) at the end of Table 1 Classes of Concrete and Mix Design Criteria in Article 1020.04 of the Standard Specifications to read:

"(4) For all classes of concrete, the maximum slump may be increased to 7 in (175 mm) when a high range water-reducing admixture is used. For Class SC, the maximum slump may be increased to 8 in. (200 mm). For Class PS, the maximum slump may be increased to 8 1/2 in. (215 mm) if the high range water-reducing admixture is the polycarboxylate type."

80389

PORTLAND CEMENT CONCRETE BRIDGE DECK CURING (BDE)

Effective: April 1, 2015

Revised: November 1, 2017

Revise the following two entries in the table in Article 1020.13 of the Standard Specifications to read:

"INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION"			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
Superstructure (Approach Slab)	1020.13(a)(5)(6) ^{19/}	3	1020.13(d)(1)(2) ^{17/}
Deck	1020.13(a)(5)(6) ^{19/}	7	1020.13(d)(1)(2) ^{17/}

Add the following footnote to the end of the Index Table of Curing and Protection of Concrete Construction in Article 1020.13 of the Standard Specifications:

"19/ The cellulose polyethylene or synthetic fiber with polymer polyethylene blanket method shall not be used on latex modified concrete."

Revise Article 1020.13(a)(5) of the Standard Specifications to read:

"(5) Wetted Cotton Mat Method. After the surface of concrete has been textured or finished, it shall be covered immediately with dry or damp cotton mats. Cotton mats in poor condition will not be allowed. The cotton mats shall be placed in a manner which will not create indentations greater than 1/4 in. (6 mm) in the concrete surface. Minor marring of the surface is tolerable and is secondary to the importance of timely curing. The cotton mats shall then be wetted immediately and thoroughly soaked with a gentle spray of water. Thereafter, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets. The cotton mats shall be kept saturated with water.

- a. Bridge Decks. For bridge decks, a foot bridge shall be used to place and wet the cotton mats. The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without indentations to the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 4 ft (1.2 m) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

For areas inaccessible to the cotton mats, curing shall be according to Article 1020.13(a)(3)."

Add the following to Article 1020.13(a) of the Standard Specifications.

“(6) Cellulose Polyethylene Blanket Method and Synthetic Fiber with Polymer Polyethylene Blanket Method. After the surface of concrete has been textured or finished, it shall be covered immediately with a cellulose polyethylene or synthetic fiber with polymer polyethylene blanket. Damaged blankets will not be allowed. The blankets shall be installed with the white perforated polyethylene side facing up. Adjoining blankets shall overlap a minimum of 8 in. (200 mm). Any air bubbles trapped during placement shall be removed. The blankets fiber side shall be wetted immediately prior to placement or as the blanket is being placed, and the polyethylene side shall be thoroughly soaked with a gentle spray of water immediately after placement. Thereafter, the blankets shall be kept saturated with water. For bridge decks, the blankets shall be placed and kept wet according to Article 1020.13(a)(5)a.”

Revise the first paragraph of Article 1022.03 of the Standard Specifications to read:

“1022.03 Waterproof Paper Blankets, White Polyethylene Sheeting, Burlap-Polyethylene Blankets, Cellulose Polyethylene Blankets, and Synthetic Fiber with Polymer Polyethylene Blankets. These materials shall be white and according to ASTM C 171.

The cellulose polyethylene blanket shall consist of a perforated white polyethylene sheeting with cellulose fiber backing and shall be limited to single use only. The cellulose polyethylene blankets shall be delivered to the jobsite unused and in the manufacturer’s unopened packaging until ready for installation. Each roll shall be clearly labeled with product name, manufacturer, and manufacturer’s certification of compliance with ASTM C 171.

The synthetic fiber with polymer polyethylene blanket shall consist of a perforated white polyethylene sheeting with absorbent synthetic fibers and super absorbent polymer backing, and shall be limited to single use only. The synthetic fiber with polymer polyethylene blankets shall be delivered to the jobsite unused and in the manufacturer’s unopened packaging until ready for installation. Each roll shall be clearly labeled on the product with product name, manufacturer, and manufacturer’s certification of compliance with ASTM C 171.”

PROGRESS PAYMENTS (BDE)

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE)

Effective: January 1, 2019

Revise Section 669 of the Standard Specifications to read:

“SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

669.01 Description. This work shall consist of the transportation and proper disposal of contaminated soil and groundwater. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities.

669.02 Equipment. The Contractor shall notify the Engineer of the delivery of all excavation, storage, and transportation equipment to a work area location. The equipment shall comply with OSHA and American Petroleum Institute (API) guidelines and shall be furnished in a clean condition. Clean condition means the equipment does not contain any residual material classified as a non-special waste, non-hazardous special waste, or hazardous waste. Residual materials include, but are not limited to, petroleum products, chemical products, sludges, or any other material present in or on equipment.

Before beginning any associated soil or groundwater management activity, the Contractor shall provide the Engineer with the opportunity to visually inspect and approve the equipment. If the equipment contains any contaminated residual material, decontamination shall be performed on the equipment as appropriate to the regulated substance and degree of contamination present according to OSHA and API guidelines. All cleaning fluids used shall be treated as the contaminant unless laboratory testing proves otherwise.

669.03 Pre-construction Submittals. Prior to beginning this work, or working in areas with regulated substances, the Contractor shall submit a Regulated Substance Pre-Construction Plan (RSPCP) to the Engineer for review and approval using form BDE 2730. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

As part of the RSPCP, the qualifications of Contractor(s) or firm(s) performing the following work shall be listed.

- (a) On-Site Monitoring. Qualification for on-site monitoring of regulated substance work and on-site monitoring of UST removal requires either pre-qualification in Hazardous Waste by the Department or demonstration of acceptable project experience in remediation and special waste operations for contaminated sites in accordance with applicable Federal, State, or local regulatory requirements.

Qualification for each individual performing on-site monitoring requires a minimum of one-year of experience in similar activities as those required for the project.

(b) Underground Storage Tank. Qualification for underground storage tank (UST) work requires licensing and certification with the Office of the State Fire Marshall (OSFM) and possession of all permits required to perform the work. A copy of the permit shall be provided to the Engineer prior to tank removal.

The qualified Contractor(s) or firm(s) shall also document it does not have any current or former ties with any of the properties contained within, adjoining, or potentially affecting the work.

The Engineer will require up to 30 calendar days for review of the RSPCP. The review may involve rejection or revision and resubmittal; in which case, an additional 30 days will be required for each subsequent review. Work shall not commence until the RSPCP has been approved by the Engineer. After approval, the RSPCP shall be revised as necessary to reflect changed conditions in the field.

CONSTRUCTION REQUIREMENTS

669.04 Contaminated Soil and/or Groundwater Monitoring. Prior to beginning excavation, the Contractor shall mark the limits of removal for approval by the Engineer. Once excavation begins, the work and work area involving regulated substances shall be monitored by qualified personnel. The qualified personnel shall be on-site continuously during excavation and loading of material containing regulated substances. The qualified personnel shall be equipped with either a photoionization detector (PID) (minimum 10.6eV lamp), or a flame ionization detector (FID), and other equipment, as appropriate, to monitor for potential contaminants associated with volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs). The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily, and as field and weather conditions change. Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. PID or FID readings may be used as the basis of increasing the limits of removal with the approval of the Engineer but shall in no case be used to decrease the limits.

The qualified personnel shall document field activities using form BDE 2732 (Regulated Substances Monitoring Daily Record) including the name(s) of personnel conducting the monitoring, weather conditions, PID or FID calibration records, a list of equipment used on-site, a narrative of activities completed, photo log sheets, manifests and landfill tickets, monitoring results, how regulated substances were managed and other pertinent information.

Samples will be collected in accordance with the RSPCP. Samples shall be analyzed for the contaminants of concern (COCs), including pH, based on the property's land use history, the encountered abnormality and/or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Ill. Adm. Code 1100.605. The analytical results shall serve to document the level of contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, collection location and depth, and any other relevant observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846; "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039; and "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", EPA 600/R-95/131, August 1995. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective.

669.05 Contaminated Soil and/or Groundwater Management and Disposal. The management and disposal of contaminated soil and/or groundwater shall be according to the following:

- (a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:
 - (1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
 - (2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO) within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an USFO within an MSA County excluding Chicago or within

the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

- (4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.
 - (5) When the Engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.
- (b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.
- (1) The pH of the soil is less than 6.25 or greater than 9.0.
 - (2) The soil exhibited PID or FID readings in excess of background levels.
- (c) Soil Analytical Results Exceed Most Stringent MAC but Do Not Exceed Tiered Approach to Corrective Action Objectives (TACO) Residential. When the soil analytical results indicate that detected levels exceed the most stringent MAC but do not exceed TACO Tier 1 Soil Remediation Objectives for Residential Properties pursuant to 35 IAC 742 Appendix B Table A, the excavated soil can be utilized within the right-of-way or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO.
- (d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. The groundwater shall be containerized and trucked to an off-site treatment facility or may be discharged to a sanitary sewer or combined sewer when permitted by the local sewer authority. Groundwater discharged to a sewer shall be pre-treated to remove particulates and measured with a calibrated flow meter to comply with applicable discharge limits. A copy of the permit shall be provided to the Engineer prior to discharging groundwater to the sewer.

All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is

prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer.

The Contractor shall use due care when transferring contaminated material from the area of origin to the transporter. Should releases of contaminated material to the environment occur (i.e., spillage onto the ground, etc.), the Contractor shall clean-up spilled material and place in the appropriate storage containers as previously specified. Clean-up shall include, but not be limited to, sampling beneath the material staging area to determine complete removal of the spilled material.

The Contractor shall be responsible for transporting and disposing all material classified as a non-special waste, special waste, or hazardous waste from the job site to an appropriately permitted landfill facility. The transporter and the vehicles used for transportation shall comply with all federal, state, and local rules and regulations governing the transportation of non-special waste, special waste, or hazardous waste.

All equipment used by the Contractor to haul contaminated material to the landfill facility shall be lined with a 6 mil (150 micron) polyethylene liner and securely covered during transportation. The Contractor shall obtain all documentation including any permits and/or licenses required to transport the contaminated material to the disposal facility.

The Contractor shall provide engineered barriers, when required, and shall include materials sufficient to completely line excavation surfaces, including sloped surfaces, bottoms, and sidewall faces, within the areas designated for protection.

The Engineer shall coordinate with the Contractor on the completion of all documentation. The Contractor shall make all arrangements for collection and analysis of landfill acceptance testing. The Contractor shall coordinate for waste disposal approval with the disposal facility. After the Contractor completes these activities and upon receipt of authorization from the Engineer, the Contractor shall initiate the disposal process.

The Contractor shall provide the Engineer with all transport-related documentation within two days of transport or receipt of said document(s). The Engineer shall maintain the file for all such documentation. For management of special or hazardous waste, the Contractor shall provide the Engineer with documentation the Contractor (or subcontractor, if a subcontractor is used for transportation) is operating with a valid Illinois special waste transporter permit at least two weeks before transporting the first load of contaminated material.

The Contractor shall schedule and arrange the transport and disposal of each load of contaminated material produced. The Contractor shall make all transport and disposal arrangements so no contaminated material remains within the project area at the close of business each day. Exceptions to this specification require prior approval from the Engineer within 24 hours of close of business. The Contractor shall be responsible for all other pre-disposal/transport preparations necessary daily to accomplish management activities.

Any waste generated as a special or hazardous waste from a non-fixed facility shall be manifested off-site using the Department's county generator number. An authorized representative of the Department shall sign all manifests for the disposal of the contaminated material and confirm the Contractor's transported volume. Any waste generated as a non-special waste may be managed off-site without a manifest, a special waste transporter, or a generator number.

The Contractor shall select a landfill mandated by definition of the contaminant within the State of Illinois. The Department will review and approve or reject the facility proposed by the Contractor to use as a landfill. The Contractor shall verify whether the selected disposal facility is compliant with those applicable standards as mandated by definition of the contaminant and whether the disposal facility is presently, has previously been, or has never been, on the United States Environmental Protection Agency (U.S. EPA) National Priorities List or the Resource Conservation and Recovery Act (RCRA) List of Violating Facilities. The Contractor shall be responsible for coordinating permits with the IEPA. The use of a Contractor selected landfill shall in no manner delay the construction schedule or alter the Contractor's responsibilities as set forth.

669.06 Non-Special Waste Certification. An authorized representative of the Department shall sign and date all non-special waste certifications. The Contractor shall be responsible for providing the Engineer with the required information that will allow the Engineer to certify the waste is not a special waste.

(a) Definition. A waste is considered a non-special waste as long as it is not:

- (1) a potentially infectious medical waste;
- (2) a hazardous waste as defined in 35 IAC 721;
- (3) an industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 IAC 811.107;
- (4) a regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR 61.141;
- (5) a material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;

- (6) a material subject to the waste analysis and recordkeeping requirements of 35 IAC 728.107 under land disposal restrictions of 35 IAC 728;
 - (7) a waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or
 - (8) an empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of, or otherwise handled.
- (b) Certification Information. All information used to determine the waste is not a special waste shall be attached to the certification. The information shall include but not be limited to:
- (1) the means by which the generator has determined the waste is not a hazardous waste;
 - (2) the means by which the generator has determined the waste is not a liquid;
 - (3) if the waste undergoes testing, the analytic results obtained from testing, signed and dated by the person responsible for completing the analysis;
 - (4) if the waste does not undergo testing, an explanation as to why no testing is needed;
 - (5) a description of the process generating the waste; and
 - (6) relevant material safety data sheets.

669.07 Temporary Staging. The Contractor shall excavate and dispose of all waste material as mandated by the contaminants without temporary staging. If circumstances require temporary staging, he/she shall request in writing, approval from the Engineer.

When approved, the Contractor shall prepare a secure location within the project area capable of housing containerized waste materials. The Contractor shall contain all waste material in leak-proof storage containers such as lined roll-off boxes or 55 gal (208 L) drums, or stored in bulk fashion on storage pads. The design and construction of such storage pad(s) for bulk materials shall be subject to approval by the Engineer. The Contractor shall place the staged storage containers on an all-weather gravel-packed, asphalt, or concrete surface. The Contractor shall maintain a clearance both above and beside the storage units to provide maneuverability during loading and unloading. The Contractor shall provide any assistance or equipment requested by the Engineer for authorized personnel to inspect and/or sample contents of each storage container. All containers and their contents shall remain intact and undisturbed by unauthorized persons until the manner of disposal is determined. The Contractor shall keep the storage containers covered, except when access is requested by authorized personnel of the Department. The Engineer shall authorize any additional material added to the contents of any storage container before being filled.

The Contractor shall ensure the staging area is enclosed (by a fence or other structure) to ensure direct access to the area is restricted, and he/she shall procure and place all required regulatory identification signs applicable to an area containing the waste material. The Contractor shall be responsible for all activities associated with the storage containers including, but not limited to, the procurement, transport, and labeling of the containers. The Contractor shall clearly mark all containers in permanent marker or paint with the date of waste generation, location and/or area of waste generation, and type of waste (e.g., decontamination water, contaminated clothing, etc.). The Contractor shall place these identifying markings on an exterior side surface of the container. The Contractor shall separately containerize each contaminated medium, i.e. contaminated clothing is placed in a separate container from decontamination water. Containers used to store liquids shall not be filled in excess of 80 percent of the rated capacity. The Contractor shall not use a storage container if visual inspection of the container reveals the presence of free liquids or other substances that could classify the material as a hazardous waste in the container.

The Department will not be responsible for any additional costs incurred, if mismanagement of the staging area, storage containers, or their contents by the Contractor results in excess cost expenditure for disposal or other material management requirements.

669.08 Underground Storage Tank Removal. For the purposes of this section, an underground storage tank (UST) includes the underground storage tank, piping, electrical controls, pump island, vent pipes and appurtenances.

Prior to removing an UST, the Engineer shall determine whether the Department is considered an "owner" or "operator" of the UST as defined by the UST regulations (41 Ill. Adm. Code Part 176). Ownership of the UST refers to the Department's owning title to the UST during storage, use or dispensing of regulated substances. The Department may be considered an "operator" of the UST if it has control of, or has responsibility for, the daily operation of the UST. The Department may however voluntarily undertake actions to remove an UST from the ground without being deemed an "operator" of the UST.

In the event the Department is deemed not to be the "owner" or "operator" of the UST, the OSFM removal permit shall reflect who was the past "owner" or "operator" of the UST. If the "owner" or "operator" cannot be determined from past UST registration documents from OSFM, then the OSFM removal permit will state the "owner" or "operator" of the UST is the Department. The Department's Office of Chief Counsel (OCC) will review all UST removal permits prior to submitting any removal permit to the OSFM. If the Department is not the "owner" or "operator" of the UST then it will not register the UST or pay any registration fee.

The Contractor shall be responsible for obtaining all permits required for removing the UST, notification to the OSFM, using an OSFM certified tank contractor, removal and disposal of the UST and its contents, and preparation and submittal of the OSFM Site Assessment Report in accordance with 41 Ill. Adm. Code Part 176.330.

The Contractor shall contact the Engineer and the OSFM's office at least 72 hours prior to removal to confirm the OSFM inspector's presence during the UST removal. Removal, transport,

and disposal of the UST shall be according to the applicable portions of the latest revision of the "American Petroleum Institute (API) Recommended Practice 1604".

The Contractor shall collect and analyze tank content (sludge) for disposal purposes. The Contractor shall remove as much of the regulated substance from the UST system as necessary to prevent further release into the environment. All contents within the tank shall be removed, transported and disposed of, or recycled. The tank shall be removed and rendered empty according to IEPA definition.

The Contractor shall collect soil samples from the bottom and sidewalls of the excavated area in accordance with 35 Ill. Adm. Code Part 734.210(h) after the required backfill has been removed during the initial response action, to determine the level of contamination remaining in the ground, regardless if a release is confirmed or not by the OSFM on-site inspector.

In the event the UST is designated a leaking underground storage tank (LUST) by the OSFM's inspector, or confirmation by analytical results, the Contractor shall notify the Engineer and the DESU. Upon confirmation of a release of contaminants from the UST and notifications to the Engineer and DESU, the Contractor shall report the release to the Illinois Emergency Management Agency (IEMA) (e.g., by telephone or electronic mail) and provide them with whatever information is available ("owner" or "operator" shall be stated as the past registered "owner" or "operator", or the IDOT District in which the UST is located and the DESU Manager);

The Contractor shall perform the following initial response actions if a release is indicated by the OSFM inspector:

- (a) Take immediate action to prevent any further release of the regulated substance to the environment, which may include removing, at the Engineer's discretion, and disposing of up to 4 ft (1.2 m) of the contaminated material, as measured from the outside dimension of the tank
- (b) Identify and mitigate fire, explosion and vapor hazards;
- (c) Visually inspect any above ground releases or exposed below ground releases and prevent further migration of the released substance into surrounding soils and groundwater; and
- (d) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors and free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements).

The UST excavation shall be backfilled according to applicable portions of Sections 205, 208, and 550 with a material that will compact and develop stability. The material shall be approved prior to placement. All uncontaminated concrete and soil removed during tank extraction may be used to backfill the excavation, at the discretion of the Engineer.

After backfilling the excavation, the site shall be graded and cleaned.

669.09 Regulated Substance Final Construction Report. Not later than 90 days after completing this work, the Contractor shall submit a Regulated Substance Final Construction Report (RSFCR) to the Engineer using form BDE 2733 and required attachments. The form shall be signed by an Illinois licensed Professional Engineer or Professional Geologist.

669.10 Method of Measurement. Non-special waste, special waste, and hazardous waste soil will be measured for payment according to Article 202.07(b) when performing earth excavation, Article 502.12(b) when excavating for structures, or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench.

Groundwater containerized and transported off-site for management, storage, and disposal will be measured for payment in gallons (liters).

Backfill plugs will be measured in cubic yards (cubic meters) in place, except the quantity for which payment will be made shall not exceed the volume of the trench, as computed by using the maximum width of trench permitted by the Specifications and the actual depth of the trench, with a deduction for the volume of the pipe.

Engineered Barriers will be measured for payment in square yards (square meters).

669.11 Basis of Payment. The work of preparing, submitting and administering a Regulated Substances Pre-Construction Plan will be paid for at the contract lump sum price for REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN.

On-site monitoring of regulated substances, including completion of form BDE 2732 for each day of work, will be paid for at the contract unit price per calendar day, or fraction thereof, for ON-SITE MONITORING OF REGULATED SUBSTANCES.

The installation of engineered barriers will be paid for at the contract unit price per square yard (square meter) for ENGINEERED BARRIER.

The work of removing a UST, soil excavation, soil and content sampling, and the excavated soil, UST content, and UST disposal will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL.

The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL.

The transportation and disposal of groundwater from an excavation determined to be contaminated will be paid for at the contract unit price per gallon (liter) for SPECIAL WASTE GROUNDWATER DISPOSAL or HAZARDOUS WASTE GROUNDWATER DISPOSAL. When groundwater is discharged to a sanitary or combined sewer by permit, the cost will be paid for according to Article 109.05.

Backfill plugs will be paid for at the contract unit price per cubic yard (cubic meter) for BACKFILL PLUGS.

Payment for temporary staging, if required, will be paid for according to Article 109.04.

Payment for accumulated stormwater removal and disposal will be according to Article 109.04. Payment will only be allowed if appropriate stormwater and erosion control methods were used.

Payment for decontamination, labor, material, and equipment for monitoring areas beyond the specified areas, with the Engineer's prior written approval, will be according to Article 109.04.

The sampling and testing associated with this work will be paid for as follows.

- (a) BETX Soil/Groundwater Analysis. When the contaminants of concern are gasoline only, soil or groundwater samples shall be analyzed for benzene, ethylbenzene, toluene, and xylenes (BETX). The analysis will be paid for at the contract unit price per each for BETX SOIL ANALYSIS and/or BETX GROUNDWATER ANALYSIS using EPA Method 8021B.
- (b) BETX-PNAS Soil/Groundwater Analysis. When the contaminants of concern are middle distillate and heavy ends, soil or groundwater samples shall be analyzed for BETX and polynuclear aromatics (PNAS). The analysis will be paid for at the contract unit price per each for BETX-PNAS SOIL ANALYSIS and/or BETX-PNAS GROUNDWATER ANALYSIS using EPA Method 8021B for BETX and EPA Method 8310 for PNAS.
- (c) Priority Pollutants Soil Analysis. When the contaminants of concern are used oils, soil samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, and priority pollutants metals. The analysis will be paid for at the contract unit price per each for PRIORITY POLLUTANTS SOIL ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, and using an ICP instrument and EPA Methods 6010B and 7471A for metals.
- (d) Priority Pollutant Groundwater Analysis. When the contaminants of concern are used oils, non-petroleum material, or unknowns, groundwater samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, and priority pollutants metals. The analysis will be paid for at the contract unit price per each for PRIORITY POLLUTANTS GROUNDWATER ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs, and EPA Methods 6010B and 7470A for metals.
- (e) Target Compound List (TCL) Soil Analysis. When the contaminants of concern are unknowns or non-petroleum material, soil samples shall be analyzed for priority pollutant VOCs, priority pollutants SVOCs, priority pollutants metals, pesticides, and Resource Conservation and Recovery Act (RCRA) metals by the toxicity characteristic leaching procedure (TCLP). The analysis will be paid for at the contract unit price per each for TCL SOIL ANALYSIS using EPA Method 8260B for VOCs, EPA Method 8270C for SVOCs,

EPA Method 8081 for pesticides, and ICP instrument and EPA Methods 6010B, 7471A, 1311 (extraction), 6010B, and 7470A for metals.

- (f) Soil Disposal Analysis. When the waste material for disposal requires sampling for disposal acceptance, the samples shall be analyzed for TCLP VOCs, SVOCs, RCRA metals, pH, ignitability, and paint filter test. The analysis will be paid for at the contract unit price per each for SOIL DISPOSAL ANALYSIS using EPA Methods 1311 (extraction), 8260B for VOCs, 8270C for SVOCs, 6010B and 7470A for RCRA metals, 9045C for pH, 1030 for ignitability, and 9095A for paint filter.

The work of preparing, submitting and administering a Regulated Substances Final Construction Report will be paid for at the contract lump sum price REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT.”

80407

STEEL COST ADJUSTMENT (BDE)

Effective: April 2, 2004

Revised: August 1, 2017

Description. Steel cost adjustments will be made to provide additional compensation to the Contractor, or a credit to the Department, for fluctuations in steel prices when optioned by the Contractor. The bidder shall indicate with their bid whether or not this special provision will be part of the contract. Failure to indicate "Yes" for any item of work will make that item of steel exempt from steel cost adjustment.

Types of Steel Products. An adjustment will be made for fluctuations in the cost of steel used in the manufacture of the following items:

- Metal Piling (excluding temporary sheet piling)
- Structural Steel
- Reinforcing Steel

Other steel materials such as dowel bars, tie bars, mesh reinforcement, guardrail, steel traffic signal and light poles, towers and mast arms, metal railings (excluding wire fence), and frames and grates will be subject to a steel cost adjustment when the pay items they are used in have a contract value of \$10,000 or greater.

The adjustments shall apply to the above items when they are part of the original proposed construction, or added as extra work and paid for by agreed unit prices. The adjustments shall not apply when the item is added as extra work and paid for at a lump sum price or by force account.

Documentation. Sufficient documentation shall be furnished to the Engineer to verify the following:

- (a) The dates and quantity of steel, in lb (kg), shipped from the mill to the fabricator.
- (b) The quantity of steel, in lb (kg), incorporated into the various items of work covered by this special provision. The Department reserves the right to verify submitted quantities.

Method of Adjustment. Steel cost adjustments will be computed as follows:

$$SCA = Q \times D$$

Where: SCA = steel cost adjustment, in dollars
Q = quantity of steel incorporated into the work, in lb (kg)
D = price factor, in dollars per lb (kg)

$$D = MPI_M - MPI_L$$

Where: MPI_M = The Materials Cost Index for steel as published by the Engineering News-Record for the month the steel is shipped from the mill. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

MPI_L = The Materials Cost Index for steel as published by the Engineering News-Record for the month prior to the letting for work paid for at the contract price; or for the month the agreed unit price letter is submitted by the Contractor for extra work paid for by agreed unit price,. The indices will be converted from dollars per 100 lb to dollars per lb (kg).

The unit weights (masses) of steel that will be used to calculate the steel cost adjustment for the various items are shown in the attached table.

No steel cost adjustment will be made for any products manufactured from steel having a mill shipping date prior to the letting date.

If the Contractor fails to provide the required documentation, the method of adjustment will be calculated as described above; however, the MPI_M will be based on the date the steel arrives at the job site. In this case, an adjustment will only be made when there is a decrease in steel costs.

Basis of Payment. Steel cost adjustments may be positive or negative but will only be made when there is a difference between the MPI_L and MPI_M in excess of five percent, as calculated by:

$$\text{Percent Difference} = \{(MPI_L - MPI_M) \div MPI_L\} \times 100$$

Steel cost adjustments will be calculated by the Engineer and will be paid or deducted when all other contract requirements for the items of work are satisfied. Adjustments will only be made for fluctuations in the cost of the steel as described herein. No adjustment will be made for changes in the cost of manufacturing, fabrication, shipping, storage, etc.

The adjustments shall not apply during contract time subject to liquidated damages for completion of the entire contract.

Attachment

Item	Unit Mass (Weight)
Metal Piling (excluding temporary sheet piling) Furnishing Metal Pile Shells 12 in. (305 mm), 0.179 in. (3.80 mm) wall thickness) Furnishing Metal Pile Shells 12 in. (305 mm), 0.250 in. (6.35 mm) wall thickness) Furnishing Metal Pile Shells 14 in. (356 mm), 0.250 in. (6.35 mm) wall thickness) Other piling	23 b/ft (34 kg/m) 32 b/ft (48 kg/m) 37 b/ft (55 kg/m) See plans
Structural Steel	See plans for weights (masses)
Reinforcing Steel	See plans for weights (masses)
Dowel Bars and Tie Bars	6 lb (3 kg) each
Mesh Reinforcement	63 lb/100 sq ft (310 kg/sq m)
Guardrail Steel Plate Beam Guardrail, Type A w/steel posts Steel Plate Beam Guardrail, Type B w/steel posts Steel Plate Beam Guardrail, Types A and B w/wood posts Steel Plate Beam Guardrail, Type 2 Steel Plate Beam Guardrail, Type 6 Traffic Barrier Terminal, Type 1 Special (Tangent) Traffic Barrier Terminal, Type 1 Special (Flared)	20 lb/ft (30 kg/m) 30 lb/ft (45 kg/m) 8 lb/ft (12 kg/m) 305 lb (140 kg) each 1260 lb (570 kg) each 730 lb (330 kg) each 410 lb (185 kg) each
Steel Traffic Signal and Light Poles, Towers and Mast Arms Traffic Signal Post Light Pole, Tenon Mount and Twin Mount, 30 - 40 ft (9 - 12 m) Light Pole, Tenon Mount and Twin Mount, 45 - 55 ft (13.5 - 16.5 m) Light Pole w/Mast Arm, 30 - 50 ft (9 - 15.2 m) Light Pole w/Mast Arm, 55 - 60 ft (16.5 - 18 m) Light Tower w/Luminaire Mount, 80 - 110 ft (24 - 33.5 m) Light Tower w/Luminaire Mount, 120 - 140 ft (36.5 - 42.5 m) Light Tower w/Luminaire Mount, 150 - 160 ft (45.5 - 48.5 m)	11 lb/ft (16 kg/m) 14 lb/ft (21 kg/m) 21 lb/ft (31 kg/m) 13 lb/ft (19 kg/m) 19 lb/ft (28 kg/m) 31 lb/ft (46 kg/m) 65 lb/ft (97 kg/m) 80 lb/ft (119 kg/m)
Metal Railings (excluding wire fence) Steel Railing, Type SM Steel Railing, Type S-1 Steel Railing, Type T-1 Steel Bridge Rail	64 lb/ft (95 kg/m) 39 lb/ft (58 kg/m) 53 lb/ft (79 kg/m) 52 lb/ft (77 kg/m)
Frames and Grates Frame Lids and Grates	250 lb (115 kg) 150 lb (70 kg)

80127

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)

Effective: November 2, 2017

Revised: April 1, 2019

Replace the second paragraph of Article 109.12 of the Standard Specifications with the following:

“This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form BC 260A submitted for the approval of the subcontractor’s work.

Value of Subcontract Reported on Form BC 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%”

80391

TRAINING SPECIAL PROVISIONS (BDE) This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be . In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT The unit of measurement is in hours.

BASIS OF PAYMENT This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

20338

TRAFFIC CONTROL DEVICES - CONES (BDE)

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

80409

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012

Revised: April 1, 2016

Description. This work shall consist of designing, producing and constructing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA) at the Contractor's option. Work shall be according to Sections 406, 407, 408, 1030, and 1102 of the Standard Specifications, except as modified herein. In addition, any references to HMA in the Standard Specifications, or the special provisions shall be construed to include WMA.

WMA is an asphalt mixture which can be produced at temperatures lower than allowed for HMA utilizing approved WMA technologies. WMA technologies are defined as the use of additives or processes which allow a reduction in the temperatures at which HMA mixes are produced and placed. WMA is produced by the use of additives, a water foaming process, or combination of both. Additives include minerals, chemicals or organics incorporated into the asphalt binder stream in a dedicated delivery system. The process of foaming injects water into the asphalt binder stream, just prior to incorporation of the asphalt binder with the aggregate.

Approved WMA technologies may also be used in HMA provided all the requirements specified herein, with the exception of temperature, are met. However, asphalt mixtures produced at temperatures in excess of 275 °F (135 °C) will not be considered WMA when determining the grade reduction of the virgin asphalt binder grade.

Equipment.

Revise the first paragraph of Article 1102.01 of the Standard Specifications to read:

"1102.01 Hot-Mix Asphalt Plant. The hot-mix asphalt (HMA) plant shall be the batch-type, continuous-type, or dryer drum plant. The plants shall be evaluated for prequalification rating and approval to produce HMA according to the current Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot-Mix Asphalt Plants and Equipment". Once approved, the Contractor shall notify the Bureau of Materials and Physical Research to obtain approval of all plant modifications. The plants shall not be used to produce mixtures concurrently for more than one project or for private work unless permission is granted in writing by the Engineer. The plant units shall be so designed, coordinated and operated that they will function properly and produce HMA having uniform temperatures and compositions within the tolerances specified. The plant units shall meet the following requirements."

Add the following to Article 1102.01(a) of the Standard Specifications.

"(11) Equipment for Warm Mix Technologies.

- a. Foaming. Metering equipment for foamed asphalt shall have an accuracy of ± 2 percent of the actual water metered. The foaming control system shall be electronically interfaced with the asphalt binder meter.

- b. Additives. Additives shall be introduced into the plant according to the supplier's recommendations and shall be approved by the Engineer. The system for introducing the WMA additive shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes."

Mix Design Verification.

Add the following to Article 1030.04 of the Standard Specifications.

"(e) Warm Mix Technologies.

- (1) Foaming. WMA mix design verification will not be required when foaming technology is used alone (without WMA additives). However, the foaming technology shall only be used on HMA designs previously approved by the Department.
- (2) Additives. WMA mix designs utilizing additives shall be submitted to the Engineer for mix design verification."

Construction Requirements.

Revise the second paragraph of Article 406.06(b)(1) of the Standard Specifications to read:

"The HMA shall be delivered at a temperature of 250 to 350 °F (120 to 175 °C).
WMA shall be delivered at a minimum temperature of 215 °F (102 °C)."

Basis of Payment.

This work will be paid at the contract unit price bid for the HMA pay items involved. Anti-strip will not be paid for separately, but shall be considered as included in the cost of the work.

80288

WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012

| Revised: April 2, 2015

| The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

| The report shall be submitted to the Engineer on Department form "SBE 723" within ten business days following the reporting period. The reporting period shall be Monday through Sunday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

80302

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APPENDIX E

Illinois Department of Transportation (IDOT)

DISTRICT – 1 SPECIAL PROVISIONS

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SPECIAL PROVISIONS CHECK LIST

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Designer: _____ **FAP:** _____
Contract No.: _____ **Section:** _____
County: _____

√	Dir	File Name	Spec Title	Spec Dates
	DES\	1048945R.DOC	Maintenance of Roadways	E 9/30/85 R 11/1/96
	DES\	1078948R.DOC	Tollway Permit and Bond	E 01/13/89
	DES\	1080301.doc	Restriction on Working Days After a Completion Date	E 01/21/03 R 01/01/07
	DES\	1086587r.doc	Failure to Complete the Work on Time	E 09/30/85 R 01/01/07
	DES\	1088949R.DOC	Completion Date Plus Working Days	E 09/30/85 R 01/01/07
	DES\	1088951R.DOC	Incentive Payment Plan	E 10/01/95 R 01/01/07
	DES\	2080101.doc	RAP For Non-Porous Embankment and Backfill	E 04/01/01 R 01/01/07
	DES\	4020211.doc	Aggregate Surface Course for Temporary Access	E 04/01/01 R 01/02/07
	DES\	4408955R.DOC	Pavement Removal, Special	E 01/13/89 R 01/01/07
	DES\	5028956R.DOC	Rock Excavation for Structures, Special	E 09/30/85 R 01/01/07
	DES\	5038957R.DOC	Rustication Finish For Retaining Walls	E 05/01/90 R 01/01/07
	DES\	5501234R.DOC	Storm Sewer Adjacent to or Crossing Water Main	E 02/01/96 R 01/01/07
	DES\	5508960R.DOC	Storm Sewers & Sewer Connections to City of Chicago Sewers	E 09/30/85 R 01/01/07
	DES\	6008961R.DOC	Slotted Drain	E 09/30/85 R 01/01/07
	DES\	6028962R.DOC	Cleaning Existing Drainage Structures	E 09/30/85 R 12/01/11
	DES\	6068964R.DOC	Concrete Curb, Type B (Modified)	E 09/30/85 R 01/01/07
	DES\	6068965R.doc	Stabilized Median Surface	E 09/30/85 R 03/02/17
	DES\	6370499.doc	Aggregate For Concrete Barrier (D-1)	E 03/11/04 R 01/24/08
	DES\	7016789.DOC	Traffic Control & Protection (Arterials)	E 02/01/96 R 03/01/11
	DES\	9018967R.DOC	Traffic Control Plan	E 09/30/85 R 01/01/07
X	DES\	Adjustments-Reconstructs.doc	Adjustments and Reconstructions	E 03/15/11
	DES\	AGG SUBGR IMPROVEMENT(D1).doc	Aggregate Subgrade Improvement (D1)	E 02/22/12 R 04/01/16
	DES\	Bit Coated Agg Slopewall.doc	Bituminous Coated Aggregate Slopewall	E 01/01/07
	DES\	CA Backfill Trench Backfill Bedding (D1).doc	Coarse Aggregate For Backfill, Trench Backfill And Bedding (D-1)	E 11/01/11 R 11/01/13
	DES\	Cofferdam (Type 1) (InStream Wetland Work)(D-1).docx	Cofferdam (Type 1) (In-Stream/Wetland Work) (D-1)	E 01/01/19 R
	DES\	Conc Noise Abate Wall(D1).docx	Concrete Noise Abatement Walls (Absorptive & Reflective)(Dist 1)	E 09/05/08 R 12/18/18
	DES\	Construction Layout Special For Resurfacing With ADA and Stand Alone ADA (D-1).docx	Construction Layout Special For Resurfacing With Ada And Stand Alone Ada (D1)	E 01/01/17 R 04/17/17
	DES\	CTA Flag Coordination.doc	CTA Flagging And Coordination	E 05/14/98 R 08/27/09
	DES\	Detectable Warnings (Special) in City of Chicago (D-1).docx	Detectable Warnings (Special) In City Of Chicago	E 07/20/17
X	DES\	Drain Inlet Prot Undr Traff(D1).doc	Drainage And Inlet Protection Under Traffic (D-1)	E 04/01/11 R 04/02/11
	DES\	Embankment I.doc	Embankment I	E 03/01/11 R 11/01/13
	DES\	Embankment II.doc	Embankment II	E 03/01/11 R 11/01/13
	DES\	ENG FIELD OFF TY A (SP).doc	Engineer's Field Office Type A (Special)	E 12/01/11 R 05/01/13
X	DES\	Friction Agg(D-1).doc	Friction Aggregate (D-1)	E 01/01/11 R 04/26/16
	DES\	Grade Shape Shldr.doc	Grading And Shaping Shoulders	E 12/28/01 R 01/01/07
X	DES\	GTR Modified Binder(D-1).doc	Ground Tire Rubber (Gtr) Modified Asphalt Binder (D-1)	E 06/29/06 R 04/01/16
X	DES\	HMA Mix Des Reqmts(D-1).doc	Hma Mixture Design Requirements (D-1)	E 01/01/13 R 01/01/18
	DES\	Hot in Place Recycle.doc	Pavement Rehabilitation by Hot In-Place Recycling	E 07/11/03 R 05/05/14
	DES\	LightwtCellularConcFill(D1).docx	Lightweight Cellular Concrete Fill (D-1)	E 11/11/01 R 06/18/18
	DES\	Pub Conv Sfty(D1).doc	Public Convenience and Safety (D-1)	E 05/01/12 R 07/15/12

SPECIAL PROVISIONS CHECK LIST

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Designer: _____ **FAP:** _____
Contract No.: _____ **Section:** _____
County: _____

X	DES\	RAP-RAS(D1).doc	Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS) (D-1)	E 11/01/12 R 01/01/18
	DES\	Slipform Paving (D-1).doc	Slipform Paving (D-1)	E 11/01/14
	DES\	Status Utility (D-1).doc	Status Of Utilities (D-1)	E 06/01/2016
	DES\	TEMP PVMT.doc	Temporary Pavement	E 03/01/03 R 04/10/08
	DES\	WINTERIZED TEMP ACCESS 3-5-12.doc	Winterized Temporary Access	E 01/01/12 R 03/05/12

Bureau of Electrical Special Provisions

	ELE\	810.02-UNDERGROUND RACEWAYS.doc	Underground Raceways	E 3/1/2015
	ELE\	Combination Controller 2018.doc	Combination Lighting Controller	E 2/1/2015 R 4/1/2018
	ELE\	Elec Serv Disc lgt sig 2012.doc	Electric Service Disconnect, Lighting And Traffic Signal	E: 1/1/2012
	ELE\	Fiber Optic Cable SM 2013 v2.doc	Fiber Optic Cable	E 3/15/2013
	ELE\	Fiber Optic Cable SM Micro 2018 v1.doc	Fiber Optic Cable	E 2/1/18
	ELE\	Fiber Optic Cable Splice 2014 v1.doc	Fiber Optic Cable	E 6/1/2014
	ELE\	General Electrical Provisions 2016 V3.doc	General Electrical Requirements GPS	E 6/1/2016
	ELE\	Highmast Luminaire LED 2017 v2.docx	Luminaire, Highmast, LED	E 4/1/17
	ELE\	HPS Underpass 2012.doc	Underpass Luminaire, Hps, Stainless Steel Housing	E 1/1/2012
	ELE\	Innerduct v4 2014.doc	Wire and Cable	E 10/1/2014
	ELE\	Junction Box Embedded 2012.doc	Junction Box Embedded in Structure	E 1/1/2012
	ELE\	Light Tower 2016 Galvanized AA SHTO exception v2.doc	LIGHT TOWER	E 4/1/2016
	ELE\	Lighting Controller SCADA 2012.doc	Lighting Controller, Radio Control, Duplex, Console Type	E 1/1/2012
	ELE\	Lighting Maint 2017.doc	Maintenance of Lighting Systems	E 3/1/2017
	ELE\	Luminaire 2012.doc	Luminaire	E 1/1/2012
	ELE\	Luminaire LED 2017 v2.docx	Luminaire, LED	E 1/1/17 R 4/1/18
	ELE\	Luminaire safety cable 2012.DOC	Luminaire Safety Cable Assembly	E 1/1/2012
	ELE\	Microduct 2018.doc	Underground Conduit, Multi-Duct, 16mm Microducts	E 1/1/18
	ELE\	Microduct 2018 v2.doc	Underground Conduit, Multi-Duct, 16mm Microducts	E 10/1/18
	ELE\	Protect Underpass LightingSystem 2012.doc	Protect & Maintain Underpass Luminaires	E 1/1/2012
	ELE\	Raceway Exposed 2012.DOC	Exposed Raceways	E 1/1/2012
	ELE\	Service Connection 2012.doc	Electric Utility Service Connection (ComEd)	E 1/1/2012
	ELE\	Service Install 2012.doc	Electric Service Installation	E 1/1/2012
	ELE\	Temp light SingleLaneStg 2012.doc	Temporary Lighting For Single Lane Staging	E 01/01/2012
	ELE\	Temp pole install 2012.DOC	Temporary Wood Pole, Install Only	E 1/1/2012
	ELE\	Underpass Luminaire LED 2018 v2.docx	Luminaire, Underpass, LED	E 1/1/17 R 8/1/18
	ELE\	Unit Duct 2012.DOC	Unit Duct	E 1/01/2012
	ELE\	Wire Cable 2012.doc	Wire and Cable	E 1/1/2012

Guide Bridge Special Provisions

	GBS\	gbsp04.doc	Polymer Modified Portland Cement Mortar	E 6/7/94 R 04/01/16
	GBS\	gbsp12.doc	Drainage System	E 6/10/94 R 6/24/15

ADJUSTMENTS AND RECONSTRUCTIONS

Effective: March 15, 2011

Revise the first paragraph of Article 602.04 to read:

“602.04 Concrete. Cast-in-place concrete for structures shall be constructed of Class SI concrete according to the applicable portions of Section 503. Cast-in-place concrete for pavement patching around adjustments and reconstructions shall be constructed of Class PP-1 concrete, unless otherwise noted in the plans, according to the applicable portions of Section 1020.”

Revise the third, fourth and fifth sentences of the second paragraph of Article 602.11(c) to read:

“Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.05 to read:

“603.05 Replacement of Existing Flexible Pavement. After the castings have been adjusted, the surrounding space shall be filled with Class PP-1 concrete, unless otherwise noted in the plans, to the elevation of the surface of the base course or binder course. HMA surface or binder course material shall not be allowed. The pavement may be opened to traffic according to Article 701.17(e)(3)b.”

Revise Article 603.06 to read:

“603.06 Replacement of Existing Rigid Pavement. After the castings have been adjusted, the pavement and HMA that was removed, shall be replaced with Class PP-1 concrete, unless otherwise noted in the plans, not less than 9 in. (225 mm) thick. The pavement may be opened to traffic according to Article 701.17(e)(3)b.

The surface of the Class PP concrete shall be constructed flush with the adjacent surface.”

Revise the first sentence of Article 603.07 to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.”

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)

Effective: April 1, 2011
 Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1)1030
- “(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)”

Revise Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b.

When castings are under traffic before the final surfacing operation has been started, properly sized temporary ramps shall be placed around the drainage and/or utility castings according to the following methods.

- (a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.
- (b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

Dimension	Requirement
Inside Opening	Outside dimensions of casting + 1 in. (25 mm)

Thickness at inside edge	Height of casting \pm 1/4 in. (6 mm)
Thickness at outside edge	1/4 in. (6 mm) max.
Width, measured from inside opening to outside edge	8 1/2 in. (215 mm) min

Placement shall be according to the manufacturer's specifications.

Temporary ramps for castings shall remain in place until surfacing operations are undertaken within the immediate area of the structure. Prior to placing the surface course, the temporary ramp shall be removed. Excess material shall be disposed of according to Article 202.03."

FRICITION AGGREGATE (D-1)

Effective: January 1, 2011

Revised: April 29, 2016

Revise Article 1004.03(a) of the Standard Specifications to read:

“1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA). The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> ^{5/} : Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{1/} Crushed Concrete
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete ^{3/}

Use	Mixture	Aggregates Allowed	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> ^{5/} : Crushed Gravel Carbonate Crushed Stone (other than Limestone) ^{2/} Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag ^{4/} Crushed Concrete ^{3/}	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
75% Limestone	Crushed Slag (ACBF) or Crushed Sandstone		
HMA High ESAL	E Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} : Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u> <i>Up to...</i>	<i>With...</i>

Use	Mixture	Aggregates Allowed	
		50% Dolomite ^{2/}	Any Mixture E aggregate
		75% Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone
		75% Crushed Gravel ^{2/} or Crushed Concrete ^{3/}	Crushed Sandstone, Crystalline Crushed Stone, Crushed Slag (ACBF), or Crushed Steel Slag
HMA High ESAL	F Surface IL-9.5 SMA Ndesign 80 Surface	<u>Allowed Alone or in Combination</u> ^{5/ 6/} :	
		Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag No Limestone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel ^{2/} , Crushed Concrete ^{3/} , or Dolomite ^{2/}	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

- 1/ Crushed steel slag allowed in shoulder surface only.
- 2/ Carbonate crushed stone (limestone) and/or crushed gravel shall not be used in SMA Ndesign 80. In SMA Ndesign 50, carbonate crushed stone shall not be blended with any of the other aggregates allowed alone in Ndesign 50 SMA binder or Ndesign 50 SMA surface.
- 3/ Crushed concrete will not be permitted in SMA mixes.
- 4/ Crushed steel slag shall not be used as leveling binder.
- 5/ When combinations of aggregates are used, the blend percent measurements shall be by volume."
- 6/ Combining different types of aggregate will not be permitted in SMA Ndesign 80."

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)

Effective: June 26, 2006

Revised: April 1, 2016

Add the following to the end of article 1032.05 of the Standard Specifications:

“(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

Test	Asphalt Grade GTR 70-28	Asphalt Grade GTR 64-28
Flash Point (C.O.C.), AASHTO T 48, °F (°C), min.	450 (232)	450 (232)
Rotational Viscosity, AASHTO T 316 @ 275 °F (135 °C), Poises, Pa·s, max.	30 (3)	30 (3)
Softening Point, AASHTO T 53, °F (°C), min.	135 (57)	130 (54)
Elastic Recovery, ASTM D 6084, Procedure A (sieve waived) @ 77 °F, (25 °C), aged, ss, 100 mm elongation, 5 cm/min., cut immediately, %, min.	65	65

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, a 50 g sample of the GTR shall conform to the following gradation requirements:

Sieve Size	Percent Passing
No. 16 (1.18 mm)	100
No. 30 (600 μm)	95 ± 5
No. 50 (300 μm)	> 20

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

“A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the

temperature of the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent.”

Revise 1030.02(c) of the Standard Specifications to read:

“(c) RAP Materials (Note 5)1031”

Add the following note to 1030.02 of the Standard Specifications:

Note 5. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013

Revised: January 1, 2018

1) Design Composition and Volumetric Requirements

Revise the table in Article 406.06(d) of the Standard Specifications to read:

"MINIMUM COMPACTED LIFT THICKNESS	
Mixture Composition	Thickness, in. (mm)
IL-4.75	3/4 (19)
SMA-9.5, IL-9.5, IL-9.5L	1 1/2 (38)
SMA-12.5	2 (50)
IL-19.0, IL-19.0L	2 1/4 (57)"

Revise the table in Article 1004.03(c) of the Standard Specifications to read:

"Use	Size/Application	Gradation No.
Class A-1, 2, & 3	3/8 in. (10 mm) Seal	CA 16
Class A-1	1/2 in. (13 mm) Seal	CA 15
Class A-2 & 3	Cover	CA 14
HMA High ESAL	IL-19.0 IL-9.5	CA 11 ^{1/} CA 16, CA 13 ^{3/}
HMA Low ESAL	IL-19.0L IL-9.5L Stabilized Subbase or Shoulders	CA 11 ^{1/} CA 16
SMA ^{2/}	1/2 in. (12.5mm) Binder & Surface IL 9.5 Surface	CA13 ^{3/} , CA14 or CA16 CA16, CA 13 ^{3/}

1/ CA 16 or CA 13 may be blended with the gradations listed.

2/ The coarse aggregates used shall be capable of being combined with stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation and mineral filler to meet the approved mix design and the mix requirements noted herein.

3/ CA 13 shall be 100 percent passing the 1/2 in. (12.5mm) sieve.

Revise Article 1004.03(e) of the Supplemental Specifications to read:

"(e) Absorption. For SMA the coarse aggregate shall also have water absorption ≤ 2.0 percent."

Revise the last paragraph of Article 1102.01 (a) (5) of the Standard Specifications to read:

“IL-4.75 and Stone Matrix Asphalt (SMA) mixtures which contain aggregate having absorptions greater than or equal to 2.0 percent, or which contain steel slag sand, shall have minimum surge bin storage plus haul time of 1.5 hours.”

Revise the nomenclature table in Article 1030.01 of the Standard Specifications to read:

“High ESAL	IL-19.0 binder; IL-9.5 surface; IL-4.75; SMA-12.5, SMA-9.5
Low ESAL	IL-19.0L binder; IL-9.5L surface; Stabilized Subbase (HMA) ^{1/} ; HMA Shoulders ^{2/}

1/ Uses 19.0L binder mix.

2/ Uses 19.0L for lower lifts and 9.5L for surface lift.”

Revise Article 1030.02 of the Standard Specifications and Supplemental Specifications to read:

“**1030.02 Materials.** Materials shall be according to the following.

Item.....	Article/Section
(a) Coarse Aggregate	1004.03
(b) Fine Aggregate	1003.03
(c) RAP Material	1031
(d) Mineral Filler	1011
(e) Hydrated Lime	1012.01
(f) Slaked Quicklime (Note 1)	
(g) Performance Graded Asphalt Binder (Note 2)	1032
(h) Fibers (Note 3)	
(i) Warm Mix Asphalt (WMA) Technologies (Note 4)	

Note 1. Slaked quicklime shall be according to ASTM C 5.

Note 2. The asphalt binder shall be an SBS PG 76-28 when the SMA is used on a full-depth asphalt pavement and SBS PG 76-22 when used as an overlay, except where modified herein. The asphalt binder shall be an Elvaloy or SBS PG 76-22 for IL-4.75, except where modified herein. The elastic recovery shall be a minimum of 80.

Note 3. A stabilizing additive such as cellulose or mineral fiber shall be added to the SMA mixture according to Illinois Modified AASHTO M 325. The stabilizing additive shall meet the Fiber Quality Requirements listed in Illinois Modified AASHTO M 325. Prior to approval and use of fibers, the Contractor shall submit a notarized certification by the producer of these materials stating they meet these requirements. Reclaimed Asphalt Shingles (RAS) may be used in Stone Matrix Asphalt (SMA) mixtures designed with an SBA polymer modifier as a fiber additive if the mix design with RAS included meets AASHTO T305 requirements. The RAS shall be from a certified source that

produces either Type I or Type 2. Material shall meet requirements noted herein and the actual dosage rate will be determined by the Engineer.

Note 4. Warm mix additives or foaming processes shall be selected from the current Bureau of Materials and Physical Research Approved List, "Warm Mix Asphalt Technologies".

Revise Article 1030.04(a)(1) of the Standard Specifications and the Supplemental Specifications to read:

“(1) High ESAL Mixtures. The Job Mix Formula (JMF) shall fall within the following limits.

High ESAL, MIXTURE COMPOSITION (% PASSING) ^{1/}										
Sieve Size	IL-19.0 mm		SMA ^{4/} IL-12.5 mm		SMA ^{4/} IL-9.5 mm		IL-9.5 mm		IL-4.75 mm	
	min	max	min	max	min	max	min	max	min	max
1 1/2 in. (37.5 mm)										
1 in. (25 mm)		100								
3/4 in. (19 mm)	90	100		100						
1/2 in. (12.5 mm)	75	89	80	100		100		100		100
3/8 in. (9.5 mm)				65	90	100	90	100		100
#4 (4.75 mm)	40	60	20	30	36	50	34	69	90	100
#8 (2.36 mm)	20	42	16	24 ^{5/}	16	32 ^{5/}	34 ^{6/}	52 ^{2/}	70	90
#16 (1.18 mm)	15	30					10	32	50	65
#30 (600 μm)			12	16	12	18				
#50 (300 μm)	6	15					4	15	15	30
#100 (150 μm)	4	9					3	10	10	18
#200 (75 μm)	3	6	7.0	9.0 ^{3/}	7.5	9.5 ^{3/}	4	6	7	9 ^{3/}
Ratio Dust/Asphalt Binder		1.0		1.5		1.5		1.0		1.0

- 1/ Based on percent of total aggregate weight.
- 2/ The mixture composition shall not exceed 44 percent passing the #8 (2.36 mm) sieve for surface courses with Ndesign = 90.
- 3/ Additional minus No. 200 (0.075 mm) material required by the mix design shall be mineral filler, unless otherwise approved by the Engineer.
- 4/ The maximum percent passing the #635 (20 μm) sieve shall be ≤ 3 percent.

- 5/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted above the percentage stated on the table.
- 6/ When establishing the Adjusted Job Mix Formula (AJMF) the percent passing the #8 (2.36 mm) sieve shall not be adjusted below 34 percent.

Revise Article 1030.04(b)(1) of the Standard Specifications to read:

“(1) High ESAL Mixtures. The target value for the air voids of the HMA shall be 4.0 percent and for IL-4.75 it shall be 3.5 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix, and shall conform to the following requirements.

VOLUMETRIC REQUIREMENTS High ESAL				
Ndesign	Voids in the Mineral Aggregate (VMA), % minimum			Voids Filled with Asphalt Binder (VFA), %
	IL-19.0	IL-9.5	IL-4.75 ^{1/}	
50	13.5	15.0	18.5	65 – 78 ^{2/}
70				
90				

1/ Maximum Draindown for IL-4.75 shall be 0.3 percent

2/ VFA for IL-4.75 shall be 72-85 percent”

Replace Article 1030.04(b)(3) of the Standard Specifications with the following:

“(3) SMA Mixtures.

Volumetric Requirements SMA ^{1/}			
Ndesign	Design Air Voids Target %	Voids in the Mineral Aggregate (VMA), % min.	Voids Filled with Asphalt (VFA), %
80 ^{4/}	3.5	17.0 ^{2/}	75 - 83
		16.0 ^{3/}	

1/ Maximum draindown shall be 0.3 percent. The draindown shall be determined at the JMF asphalt binder content at the mixing temperature plus 30 °F.

2/ Applies when specific gravity of coarse aggregate is ≥ 2.760.

- 3/ Applies when specific gravity of coarse aggregate is < 2.760.
- 4/ Blending of different types of aggregate will not be permitted.
For surface course, the coarse aggregate can be crushed steel slag, crystalline crushed stone or crushed sandstone. For binder course, coarse aggregate shall be crushed stone (dolomite), crushed gravel, crystalline crushed stone, or crushed sandstone.

Add to the end of Article 1030.05 (d) (2) a. of the Standard Specifications:

“During production, the Contractor shall test SMA mixtures for draindown according to AASHTO T305 at a frequency of 1 per day of production.”

Delete last sentence of the second paragraph of Article 1102.01(a) (4) b. 2.

Add to the end of Article 1102.01 (a) (4) b. 2.:

“As an option, collected dust (baghouse) may be used in lieu of manufactured mineral filler according to the following:

- (a.) Sufficient collected dust (baghouse) is available for production of the SMA mix for the entire project.
- (b.) A mix design was prepared based on collected dust (baghouse).

2) Design Verification and Production

Revise Article 1030.04 (d) of the Standard Specifications to read:

“(d) Verification Testing. High ESAL, IL-4.75, and SMA mix designs submitted for verification will be tested to ensure that the resulting mix designs will pass the required criteria for the Hamburg Wheel Test (IL mod AASHTO T-324) and the Tensile Strength Test (IL mod AASHTO T-283). The Department will perform a verification test on gyratory specimens compacted by the Contractor. If the mix fails the Department’s verification test, the Contractor shall make the necessary changes to the mix and resubmit compacted specimens to the Department for verification. If the mix fails again, the mix design will be rejected.

All new and renewal mix designs will be required to be tested, prior to submittal for Department verification and shall meet the following requirements:

- (1)Hamburg Wheel Test criteria. The maximum allowable rut depth shall be 0.5 in. (12.5 mm). The minimum number of wheel passes at the 0.5 in. (12.5 mm) rut depth criteria shall be based on the high temperature binder grade of the mix as specified in the mix requirements table of the plans.

Illinois Modified AASHTO T 324 Requirements ^{1/}

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG 70 -XX (or higher)	20,000	12.5
PG 64 -XX (or lower)	10,000	12.5

- 1/ When produced at temperatures of 275 ± 5 °F (135 ± 3 °C) or less, loose Warm Mix Asphalt shall be oven aged at 270 ± 5 °F (132 ± 3 °C) for two hours prior to gyratory compaction of Hamburg Wheel specimens.

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.
For IL 4.75mm Designs (N-50) the maximum rut depth is 9.0mm at 15,000 repetitions.

- (2) Tensile Strength Criteria. The minimum allowable conditioned tensile strength shall be 60 psi (415 kPa) for non-polymer modified performance graded (PG) asphalt binder and 80 psi (550 kPa) for polymer modified PG asphalt binder. The maximum allowable unconditioned tensile strength shall be 200 psi (1380 kPa).”

Production Testing. Revise first paragraph of Article 1030.06(a) of the Standard Specifications to read:

“(a) High ESAL, IL-4.75, WMA, and SMA Mixtures. For each contract, a 300 ton (275 metric tons) test strip, except for SMA mixtures it will be 400 ton (363 metric ton), will be required at the beginning of HMA production for each mixture at the beginning of each construction year according to the Manual of Test Procedures for Materials “Hot Mix Asphalt Test Strip Procedures”. At the request of the Producer, the Engineer may waive the test strip if previous construction during the current construction year has demonstrated the constructability of the mix using Department test results.”

Add the following after the sixth paragraph in Article 1030.06 (a) of the Standard Specifications:

“The Hamburg Wheel test shall also be conducted on all HMA mixtures from a sample taken within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day’s production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.
If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

Method of Measurement:

Add the following after the fourth paragraph of Article 406.13 (b):

“The plan quantities of SMA mixtures shall be adjusted using the actual approved binder and surface Mix Design’s G_{mb}.”

Basis of Payment.

Replace the fourth paragraph of Article 406.14 of the Standard Specifications with the following:

“Stone matrix asphalt will be paid for at the contract unit price per ton (metric ton) for POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, of the mixture composition and N_{design} specified; and POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, STONE MATRIX ASPHALT, of the mixture composition and N_{design} specified.”

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)

Effective: November 1, 2012

Revise: January 1, 2018

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting from cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve. RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
 - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
 - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. Additional processed RAP (FRAP) shall be stockpiled in a separate working pile, as designated in the QC Plan, and only added to the sealed stockpile when test results for the working pile are complete and are found to meet tolerances specified herein for the original sealed FRAP stockpile. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and FRAP) shall be identified by signs indicating the type as listed below (i.e. “Non- Quality, FRAP -#4 or Type 2 RAS”, etc...).

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be processed prior to testing and sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the FRAP will be used in.
- (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, HMA (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 in. (75 mm) single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or HMA (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP or FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.

However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of Type 1 RAS with Type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written

approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. FRAP and RAS testing shall be according to the following.

(a) FRAP Testing. When used in HMA, the FRAP shall be sampled and tested either during processing or after stockpiling. It shall also be sampled during HMA production.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) Incoming Material. For testing as incoming material, washed extraction samples shall be run at a minimum frequency of one sample per 2000 tons (1800 metric tons) or once per week, whichever comes first.

(3) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample of FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Sources". The Contractor shall also sample as incoming material at the HMA plant.

(1) During Stockpiling. Washed extraction and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than

1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

- (2) Incoming Material. For testing as incoming material at the HMA plant, washed extraction shall be run at the minimum frequency of one sample per 250 tons (227 metric tons). A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). The incoming material test results shall meet the tolerances specified herein.

The Contractor shall obtain and make available all test results from start of the initial stockpile sampled and tested at the shingle processing facility in accordance with the facility's QC Plan.

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

- (a) Evaluation of FRAP Test Results. All test results shall be compiled to include asphalt binder content, gradation and, when applicable (for slag), G_{mm} . A five test average of results from the original pile will be used in the mix designs. Individual extraction test results run thereafter, shall be compared to the average used for the mix design, and will be accepted if within the tolerances listed below.

Parameter	FRAP
No. 4 (4.75 mm)	$\pm 6 \%$
No. 8 (2.36 mm)	$\pm 5 \%$
No. 30 (600 μm)	$\pm 5 \%$
No. 200 (75 μm)	$\pm 2.0 \%$
Asphalt Binder	$\pm 0.3 \%$
G_{mm}	± 0.03 ^{1/}

1/ For stockpile with slag or steel slag present as determined in the current Manual of Test Procedures Appendix B 21, "Determination of Reclaimed Asphalt Pavement Aggregate Bulk Specific Gravity".

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the FRAP stockpile shall not be

used in Hot-Mix Asphalt unless the FRAP representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

The Contractor shall maintain a representative moving average of five tests to be used for Hot-Mix Asphalt production.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)" or Illinois Modified AASHTO T-164-11, Test Method A.

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. A five test average of results from the original pile will be used in the mix designs. Individual test results run thereafter, when compared to the average used for the mix design, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.5 %
Asphalt Binder Content	± 2.0 %

If any individual sieve and/or asphalt binder content tests are out of the above tolerances when compared to the average used for the mix design, the RAS shall not be used in Hot-Mix Asphalt unless the RAS representing those tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

- (c) Quality Assurance by the Engineer. The Engineer may witness the sampling and splitting conduct assurance tests on split samples taken by the Contractor for quality control testing a minimum of once a month.

The overall testing frequency will be performed over the entire range of Contractor samples for asphalt binder content and gradation. The Engineer may select any or all split samples for assurance testing. The test results will be made available to the Contractor as soon as they become available.

The Engineer will notify the Contractor of observed deficiencies.

Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits.

Test Parameter	Acceptable Limits of Precision

% Passing: ^{1/}	FRAP	RAS
1/2 in.	5.0%	
No. 4	5.0%	
No. 8	3.0%	4.0%
No. 30	2.0%	4.0%
No. 200	2.2%	4.0%
Asphalt Binder Content	0.3%	3.0%
G _{mm}	0.030	

1/ Based on washed extraction.

In the event comparisons are outside the above acceptable limits of precision, the Engineer will immediately investigate.

- (d) Acceptance by the Engineer. Acceptable of the material will be based on the validation of the Contractor's quality control by the assurance process.

1031.05 Quality Designation of Aggregate in RAP and FRAP.

- (a) RAP. The aggregate quality of the RAP for homogeneous, conglomerate, and conglomerate "D" quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
- (3) RAP from Class I, HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
- (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

- (b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to

the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of "B" quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

1031.06 Use of FRAP and/or RAS in HMA. The use of FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

- (a) FRAP. The use of FRAP in HMA shall be as follows.
- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all FRAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
 - (2) Steel Slag Stockpiles. FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
 - (3) Use in HMA Surface Mixtures (High and Low ESAL). FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
 - (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
 - (5) Use in Shoulders and Subbase. FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, Restricted FRAP, conglomerate, or conglomerate DQ.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.

When FRAP is used alone or FRAP is used in conjunction with RAS, the percent of virgin asphalt binder replacement (ABR) shall not exceed the amounts indicated in the table below for a given N Design.

Max Asphalt Binder Replacement for FRAP with RAS Combination

HMA Mixtures ^{1/ 2/ 4/}	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified ^{3/}
Ndesign			
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
4.75 mm N-50			40
SMA N-80			30

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the percent asphalt binder replacement shall not exceed 50 % of the total asphalt binder in the mixture.
- 2/ When the binder replacement exceeds 15 % for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 % binder replacement using a virgin asphalt binder grade of PG64-22 will be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 %, the required virgin asphalt binder grade shall be PG64-28.
- 3/ When the ABR for SMA or IL-4.75 is 15 % or less, the required virgin asphalt binder shall be SBS PG76-22 and the elastic recovery shall be a minimum of 80. When the ABR for SMA or IL-4.75 exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28 and the elastic recovery shall be a minimum of 80.
- 4/ When FRAP or RAS is used alone, the maximum percent asphalt binder replacement designated on the table shall be reduced by 10 %.

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

(a) FRAP and/or RAS. FRAP and /or RAS mix designs shall be submitted for verification. If additional FRAP or RAS stockpiles are tested and found to be within tolerance, as defined under "Evaluation of Tests" herein, and meet all requirements herein, the additional FRAP or RAS stockpiles may be used in the original design at the percent previously verified.

(b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP and RAS stone specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) or Reclaimed Asphalt Pavement (RAP) and

Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

1031.08 HMA Production. HMA production utilizing FRAP and/or RAS shall be as follows.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS and FRAP feed system to remove or reduce oversized material. .

If during mix production, corrective actions fail to maintain FRAP, RAS or QC/QA test results within control tolerances or the requirements listed herein the Contractor shall cease production of the mixture containing FRAP or RAS and conduct an investigation that may require a new mix design.

- (a) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (b) HMA Plant Requirements. HMA plants utilizing FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAS and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

- h. Aggregate RAS and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS and FRAP are printed in wet condition.)
 - i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
 - j. Accumulated mixture tonnage.
 - k. Dust Removed (accumulated to the nearest 0.1 ton (0.1 metric ton))
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
 - b. HMA mix number assigned by the Department.
 - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
 - d. Mineral filler weight to the nearest pound (kilogram).
 - f. RAS and FRAP weight to the nearest pound (kilogram).
 - g. Virgin asphalt binder weight to the nearest pound (kilogram).
 - h. Residual asphalt binder in the RAS and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.

The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".
- (b) Gradation. The RAP material shall meet the gradation requirements for CA 6 according to Article 1004.01(c), except the requirements for the minus No. 200 (75 µm) sieve shall not apply. The sample for the RAP material shall be air dried to constant weight prior to being tested for gradation."

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APPENDIX F
Chicago Department of Transportation (CDOT)
Special Provisions

CHICAGO DEPARTMENT OF TRANSPORTATION (CDOT)

SPECIAL PROVISIONS

Substitution of Warm Mix Asphalt for Hot Mix Asphalt (CDOT)

Effective: April 1, 2015

Revised: March 1, 2016

Description. Work under this item shall consist of designing, producing and placing Warm Mix Asphalt (WMA) in lieu of Hot Mix Asphalt (HMA). Work shall be performed according to sections 406, 1030, and 1102 of the Standard Specifications for Road and Bridge Construction and the IDOT Warm Mix Asphalt (BDE) except as herein modified.

General Requirements. The use of WMA technology shall be required for placements occurring between November 1 and May 1.

Equipment. The use of a foaming technology shall not be allowed. Warm Mix Asphalt additives shall be incorporated at the plant and according to Article 1102.01(a)(10) of the Standard Specifications.

Mix Design. Contractor shall perform a verification of their existing approved mix design with the warm mix additive incorporated at the manufacturers recommended dosage. The verification testing, at optimum AC, shall be comprised of one G_{mb} and one G_{mm} sample. The voids shall be within 0.5% of the design value. A Hamburg test (AASHTO T 324) will be required and shall be in accordance with the "HMA Mix Design Requirements (D-1)" Special Provision. One wheel shall be required; an average is acceptable. The volumetric and Hamburg results shall be submitted to the Commissioner for approval. The Commissioner reserves the right to perform their own verification testing using blended aggregate supplied by the contractor.

Construction Requirements.

Add the following paragraph to Article 1030.06(a) of the Standard Specifications:

"If a test strip has already been performed and approved on the design, used as HMA, then a new test strip shall not be required on the design used as WMA. If a nuclear correlation was performed and approved on the design, used as HMA, a new correlation shall not be required on the design used as WMA unless the Commissioner determines a new correlation is necessary."

Basis of Payment.

All costs associated with this special provision shall be considered incidental to the contract unit price of the HMA mixes involved.

PAVING SPECIAL PROVISION FOR WMA/HMA/SMA MATERIALS

Effective: April 1, 2016

Description. Work under this item shall consist of all construction activities associated with the milling and paving of Warm Mix Asphalt (WMA)/Hot Mix Asphalt (HMA)/Stone Matrix Asphalt (SMA) materials. Work shall be performed according to the IDOT Standard Specifications for Road and Bridge Construction (SSRBC), except as herein modified. This Special Provision addresses the proper techniques for longitudinal joint construction, compaction, segregation control, mixture transportation, smoothness, and tack coat preparation and application.

General Requirements. Must meet equipment requirements for Illinois Department of Transportation Prequalification in Work Category 3 – Hot Mix Asphalt (HMA) Plant Mix, requiring an approved HMA plant, an approved HMA spreading and finishing machine and compaction equipment.

Construction Requirements.

Article 406.05(a) Preparation. Insert the following paragraph after the third paragraph.

“All loose material shall be removed from the surface to be paved. Any material not well adhered to the underlying strata shall be removed prior to application of tack coat.”

Article 406.05(b)(1) Tack Coat for Brick, Concrete or HMA Bases. Replace the first sentence with the following:

“The pavement shall be cleaned to the engineer’s satisfaction and free of dirt, dust, debris, organic matter, and other deleterious materials prior to application of tack coat. The contractor shall notify the Engineer that the pavement is ready for inspection prior to tack coat application. The contractor shall provide sufficient notice to the Engineer to allow for inspection and testing at the Engineer’s discretion.”

Article 406.05(b) Tack or Prime Coat. Delete the first sentence of the second paragraph and replace it with the following:

“Residual asphalt rate shall be tested sufficiently to ensure proper application. For CDOT projects, the minimum frequency of testing shall be one test per lift for every 5,000 Tons placed, or every 5th paving day, whichever occurs first. If failing results are encountered, each application shall be tested until passing results are found. Payment deduction will be enforced for all pavement affected by failing results. A failing test applies to all areas from the beginning of the job or the most recent passing result. Payment for areas with less than required tack coat shall be:

$$\% \text{ Payment} = (\text{Tack Coat Applied})/(\text{Tack Coat Required}) \times 100\%$$

The reduction will be applied to the payment for the HMA lift immediately above the insufficient tack coat.”

Article 406.06(e) Spreading and Finishing. Insert the following paragraphs after the second sentence in the last paragraph:

“The stringline shall be painted on the pavement or base in a manner that provides a clear, well defined path for the paver operator to follow. The paver operator shall operate the paver in such a manner that the stringline guide is clearly visible. The stringline shall be used for every lift. Additional care must be taken where curved streets are being paved to ensure a good guideline through the curves.

All paving shall be performed with an operating vibratory screed. The vibrator must be functional for the entire width of the screed and shall be active during all paving.

The use of the grade reference device is required for all mainline pavement. Any pavement obstructions which restrict its use must be reported to the Engineer immediately.

The paver screed shall be operated such that the end gate shoe is in contact with or within ½” of the pavement surface while paving to properly form the pavement edge and minimize the need for raking at the joints.”

Article 406.06(f) Segregation Control. Insert the following paragraph after the third paragraph:

“The Engineer will inspect the pavement for evidence of segregated mix producing “fat” spots. “Fat” spots are defined as localized areas of high AC content and may appear to the eye as small areas of flushing. For any HMA lift, a 1 ton deduction in quantity will be applied for each fat spot exceeding 1’ x 1’. Removal and replacement may be required by the Engineer in the case of excessively large areas.

CDOT HMA Workmanship Inspection forms will document fat spots and other forms of segregation and will be required for payment and project close-out.”

Article 406.06(g)(1) Transverse Joints. Insert the following sentence after the last paragraph:

“A transverse construction joint shall be established any time the paving operation is halted for 20 minutes or more.”

Article 406.06(g)(2) Construction Joints. Insert the following paragraph after the last paragraph:

“The contractor shall continuously monitor the constructed longitudinal joints for straightness. Using the 16’ rolling straight edge (required to be provided by the contractor per Article 406.11), the Engineer will assess a 1 ton quantity deduction for each instance where a 2” or greater deviation in the longitudinal joint is found within the length of the straightedge. No more than 1 deduction will be assessed in any 16’ length. Joint straightness deductions will be reported as part of the CDOT Daily HMA Workmanship Inspection form and are required for payments and for project close-out.”

Article 406.07(a) Rollers. Revise Table 1 note /3 to read:

“A vibratory roller (V_D) may be used in lieu of the pneumatic-tired roller.”

Article 406.07(c) Density. Insert the following paragraph after the first paragraph:

“All cores for acceptance of HMA shall be cut within 24 hours of paving and all test results shall be transmitted to the Engineer with 24 hours of coring. No further paving shall be permitted until all results are submitted to the Engineer.”

Article 406.11 Surface Tests. Revise the second sentence of the first paragraph to read:

“Surface variations of the mainline pavement shall not exceed 3/8 in. (5 mm).”

Article 406.11 Surface Tests. Insert the following paragraph after the last paragraph:

“The Engineer will test smoothness daily, preferably during paving to allow for the possibility of rolling out some defects and minimize the need for additional traffic control. Each paved lane will be tested, at a minimum in the wheel path closest to the centerline of the roadway. The Engineer may, at their discretion, allow exclusion of penalty in areas extending 10’ from the radius of a street return and 5’ from an embedded drainage or utility structure, as well as test sections. All smoothness inspection shall be reported on the CDOT Daily HMA Workmanship Inspection form and are required for payments and for project close-out.”

Article 1030.05(d)(3) Required Field Tests. Add the following sentence to the end of the second paragraph:

“The lowest acceptable R-squared for a correlation in the Standard Test Method for Correlating Nuclear Gauge Densities shall be 0.87.”

Article 1030.08 Transportation. Insert the following paragraph after the first paragraph:

“Diesel shall be prohibited from use as a cleaner or release agent on the box, gate, pan and other areas of HMA contact. The detection of diesel in these areas is grounds for rejection of the load, even if it has already been dumped into the hopper of the paver. Trucks rejected from the job site will not be allowed back on CDOT projects until inspected and accepted by the Engineer.”

Article 1030.08 Transportation. Insert the following paragraph after the last paragraph:

“Trucks with tarps that do not fully cover the truck bed shall be prohibited from the project. All trucks shall be equipped with a suitable spread pan to allow the HMA to be dumped into the paver hopper with minimal spillage.”

Article 1101.01(g) Rollers. Add to the last paragraph the following:

“The Engineer will confirm the recommended frequency and amplitude have been verified daily by QC with a reed tachometer and properly documented on the appropriate QC forms and density reports.”

CITY OF CHICAGO
BUREAU OF STREETS
SPECIAL PROVISION
FOR
JOINTING P.C. CONCRETE PAVEMENT AND P.C. CONCRETE BASE

EFFECTIVE MAY 1, 1981

TRANSVERSE JOINTS. The number and (or) locations of new and existing structures vary in practically every street block of similar length, width and configuration within a project. Although each block must be dealt with individually, the appearance of the general transverse joining scheme and the treatment of structures is to be as uniform as possible for the entire project.

After all structure castings have been adjusted to the finished pavement grade and the concrete pavement has been poured, transverse contraction joints must be cut or formed in the pavement using acceptable methods and at a time specified by the Engineer.

The primary transverse contraction joints must be located in line with the center of (1) designated city sewer manhole structure castings, and (2) city sewer catch basin structure castings that are transversely opposite to each other. The transverse joints established at these city sewer structures and the expansion joints that define the street intersections must be control joints. However, at no time may these control joints be closer than 10' to one another. If this occurs, in one case, due to the proximity of two existing structure castings to one another, one structure casting must be designated for the control joint and other structure casting must be isolated. In the other case, when a structure casing (e.g., Sewer Manhole) is less than 10' from an expansion joint, the structure casting must be isolated.

All other transverse joints must be divided between control joints and have a maximum spacing interval of 20'. The minimum allowable distance between transverse joints must be 10'.

STRUCTURE ISOLATION. The isolation of structures (Catch basins, Manholes, City and Public Utility Vaults, etc.) will be permitted only when necessary as based on criteria contained herein and then only at the direction of the Commissioner. The side(s) of any necessary isolation box(es) will be made part of the transverse and/or longitudinal joining scheme when possible and practical.

TREATMENT OF STRUCTURES AND TRANSVERSE JOINT LOCATION ADJUSTMENT.

Following are various conditions that will be encountered and procedures to be used for construction:

Structure Castings (e.g., Sewer Manhole) Intersected by Longitudinal Joints.

When a longitudinal joint either bisects a structure casting or intersects within 6" of the center of the casting, do not isolate the structure.

In the above case where the structure casting is not bisected, the longitudinal joint must start deviating from its normal position at the intersection with the nearest transverse joints on either side of the structure and must then extend as a straight line to the center of the structure casting.

When a longitudinal joint intersects a structure casting but neither bisects it, nor intersects within 6 inches of its center, the structure must be isolated.

If it is a control structure (e.g., Sewer Manhole) the position of the transverse control joint that normally bisects it must be adjusted longitudinally to form one of the standard structure isolation box. This transverse control joint must be located 12" from the upper external casting edge in the direction that provides joint spacing between the next immediate control points that meet criteria set forth earlier.

Structure Casting (e.g., Sewer Manhole) that must be isolated and is Transversely Opposite a Pair of Catch basins.

When a sewer manhole structure transversely opposite a pair of catch basins must be isolated, the position of the catch basins is to be adjusted longitudinally so that the transverse control that bisects them will form a side of the standard structure isolation box.

When there is latitude in the drainage design scheme that permits the choice of adjusting the position of this transverse control joint 12" to either side of the upper external casting edge, the movement must be in the direction that provides joint spacing between the next immediate control joints that meets criteria set forth earlier.

Structure Casting Within a Panel.

When any joint on any external casing edge is not closer than 12" but no further than 18" from a joint (longitudinal and/or transverse) the structure is to be isolated and the transverse and/or longitudinal joint is to form a side of the standard isolation box.

When a longitudinal joint does not intersect any part of the structure casting but the distance between said joint and the upper external casting edge is less than 12", one of the following treatments is to be selected based on the various controlling criteria and conditions:

Do not isolate. Adjust the position of the transverse joint longitudinally to bisect structure casting. Adjust panel spacing between control joint that meets criteria set forth earlier.

Isolate structure casing and adjust the position of the transverse joint longitudinally to form a side of the Standard Isolation Box. The movement must be in the direction that provides joint spacing between the next immediate control joints that meets criteria set forth earlier.

Isolate structure according to the Standard Details without adjusting transverse joint location.

When the upper external casting edge is over 18" from any joint, either transverse or longitudinal, the structure must not be isolated but the concrete is to be placed against and

around the structure casting.

When a structure must be isolated and the distance between the side of the Standard Isolation Box and an immovable joint is 18" or less, extend the adjacent sides of the box to intersect said joint making it a side of the box. If this distance is more than 18" isolate the structure according to the Standard Detail for Isolation of Structure Castings.

Structure Casting Isolation in Gutter Line.

When a structure casting (e.g., Sewer Catch basin) in the gutter line must be isolated, and it is a control structure, the transverse joint at this location is to form one side of the isolation box. If the location of the catch basin can be adjusted longitudinally, it must be moved in the direction that provides the most advantageous position to any structures or isolation boxes opposite it in pavement and optimum joint spacing between the next immediate control points.

STATE OF ILLINOIS CITY OF CHICAGO

LORI E. LIGHTFOOT, MAYOR

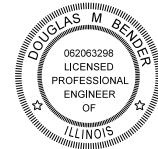
DEPARTMENT OF TRANSPORTATION
GIA BIAGI, COMMISSIONER

DIVISION OF ENGINEERING
OSWALDO CHAVES, DEPUTY COMMISSIONER

CONTRACT PLANS FOR E SOUTH WATER STREET VIADUCT REPLACEMENT PROJECT

FEDERAL PROJECT NO.: R5U5(892)
SECTION NO.: 11-E1517-00-BR
IDOT JOB NO.: C-88-012-18
CDOT JOB NO.: E-1-517
SPECIFICATION NO.: 561863
ROUTE NO.: MS 3030

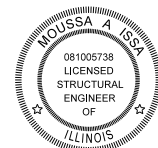
CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
DATE MAY 14 2019
APPROVED: Vincent Milojkovic
PROJECT MANAGER
APPROVED: Eric D. Bennett
CHIEF ENGINEER, DIVISION OF ENGINEERING
APPROVED: Frank...
DEPUTY COMMISSIONER, DIVISION OF ENGINEERING
APPROVED: ...
COMMISSIONER



Douglas M. Bender
NAME: DOUGLAS M BENDER, PE
EXPIRES: 11/30/2019
SHT NO. 1-13, 26-31, 38-55, 71-75



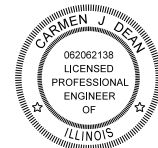
Arsalan Khan
NAME: ARSALAN M KHAN, SE
EXPIRES: 11/30/2020
SHT NO. 92-126, 135-141



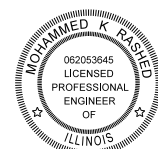
LOWER E SOUTH WATER STREET
FUNCTIONAL CLASS: LOCAL STREET, URBAN
ADT: 3200 (2018) 4000 (2040)
POSTED SPEED LIMIT: 30 MPH
DESIGN SPEED: 30 MPH

INTERMEDIATE E SOUTH WATER STREET
FUNCTIONAL CLASS: LOCAL STREET, URBAN
ADT: 4500 (2018) 5000 (2040)
POSTED SPEED LIMIT: 30 MPH
DESIGN SPEED: 30 MPH

Moussa A. Issa
NAME: MOUSSA A ISSA, SE
EXPIRES: 11/30/2020
SHT NO. 127-134



Carmen J. Dean
NAME: CARMEN J DEAN, PE
EXPIRES: 11/30/2019
SHT NO. 14-25, 32-37, 68-70

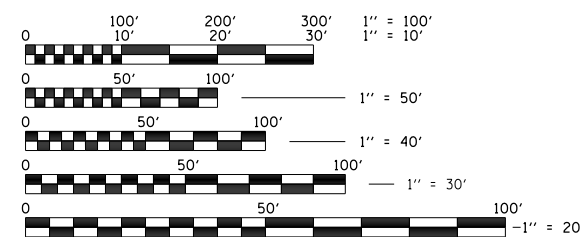


Mohammed K. Rashed
NAME: MOHAMMED K RASHED, PE
EXPIRES: 11/30/2019
SHT NO. 76-91




Carl L. Gutowski
NAME: CARL L GUTOWSKI, PE
EXPIRES: 11/30/2019
SHT NO. 56-67

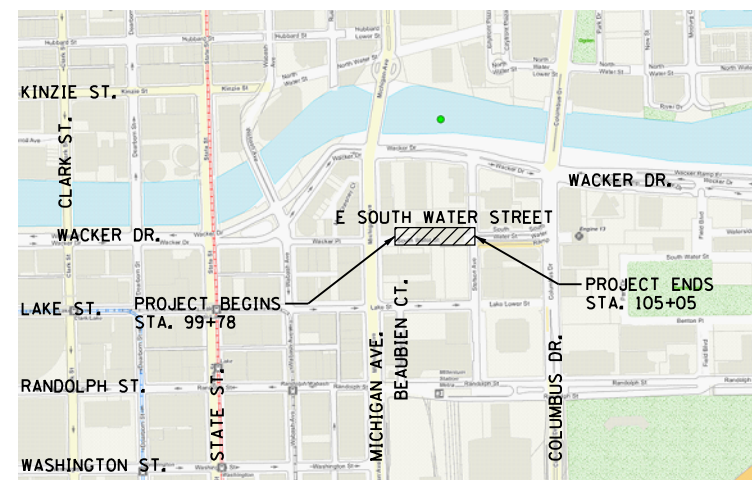
PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL TELEPHONE D.I.G.G.E.R. AT 312-744-7000 FOR UNDERGROUND UTILITY LOCATIONS.



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

 THIS CERTIFIES THAT THESE DRAWINGS HAVE BEEN REVIEWED TO THE BEST OF MY KNOWLEDGE AND THAT I BELIEVE THEY ARE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), AND ALL CODES, AND BUILDING ORDINANCES OF THE CITY OF CHICAGO, STATE OF ILLINOIS.
Douglas M. Bender
LICENSED ARCHITECT / LICENSED ENGINEER

DEPARTMENT OF PROCUREMENT SERVICES
JAMIE RHEE, CHIEF PROCUREMENT OFFICER



LOCATION MAP

NOT TO SCALE

GROSS AND NET LENGTH = 527 FEET = 0.10 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PASSED: 6/11/19 2019
Stephen M. ...
DISTRICT 1 ENGINEER OF LOCAL ROADS & STREETS
RELEASED FOR BID BASED ON LIMITED REVIEW JUNE 17 2019
Anthony J. ...
REGION 1 ENGINEER

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

INDEX OF SHEETS

GENERAL NOTES

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3	GENERAL NOTES - DEPARTMENT OF WATER MANAGEMENT
4-10	SUMMARY OF QUANTITIES
11-12	TYPICAL SECTIONS
13	ALIGNMENT PLAN, BENCHMARKS, AND CONTROL POINTS
14-25	MAINTENANCE OF TRAFFIC PLANS
26-27	REMOVAL PLANS
28-31	ROADWAY PLAN AND PROFILE
32-36	DRAINAGE PLANS
37	DRAINAGE STRUCTURE EXCAVATION DETAIL
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701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701606-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-07	TRAFFIC CONTROL DEVICES
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IDOT DISTRICT ONE STANDARDS

TC21	DETOUR SIGNING FOR CLOSING STATE HIGHWAYS
TC24	CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS

- ANY REFERENCE TO "STANDARD SPECIFICATIONS" IN THE PLANS OR SPECIAL PROVISIONS MEANS THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS," ADOPTED APRIL 1, 2016.
- ALL ADA RAMP CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST VERSION OF THE "CHICAGO DEPARTMENT OF TRANSPORTATION ADA CONSTRUCTION STANDARDS" AVAILABLE ON THE CITY'S INTERNET WEB SITE.
- ALL DIMENSIONS SHOWN ON THE PLANS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO THE CHICAGO CITY DATUM, WHICH IS 579.88 FEET ABOVE MEAN SEA LEVEL, NEW YORK, 1935 ADJUSTMENT.
- CRUSHED STONE FURNISHED AND PLACED UNDER THE ITEM CRUSHED STONE (TEMPORARY USE) SHALL, AS FAR AS POSSIBLE, BE RE-USED AT LOCATIONS DIRECTED BY THE COMMISSIONER.
- THE INFORMATION SHOWN IN THIS PLAN SET CONCERNING TYPE AND LOCATION OF PRIVATE AND PUBLIC UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION.
- THE CONTRACTOR AND ALL OTHER PARTIES INVOLVED IN THE CONSTRUCTION OPERATIONS WITHIN THE PROJECT LIMITS SHALL BE RESPONSIBLE FOR CONTACTING DIGGER AT (312) 744 7000 72 HOURS PRIOR TO CONSTRUCTION OPERATIONS SO THAT EXISTING UTILITIES AND THEIR APPURTENANCES MAY BE LOCATED. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE STANDARD SPECIFICATIONS.
- UTILITY ADJUSTMENT AND RELOCATION SHALL BE THE RESPONSIBILITY OF THE OWNERS EXCEPT AS NOTED ON THE PLANS, IN GENERAL NOTES AND IN SPECIFICATIONS.
- SAWING OF EXISTING CONCRETE DRIVEWAY, ALLEY PAVEMENT, CURB, CURB & GUTTER OR SIDEWALKS WHEN REQUIRED FOR REMOVAL OR CONSTRUCTION WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS FOR SUCH REMOVAL OF CONSTRUCTION.
- ANY DEWATERING AND/OR SHEETING AND SHORING AND/OR OTHER APPROVED CONSTRUCTION METHODS REQUIRED TO INSTALL SEWER BID ITEMS AS PLANNED AND UNDER THE CONDITIONS NECESSARY TO DO THIS WORK AS SPECIFIED, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL TO THE UNIT PRICE OF THE ITEM TO BE CONSTRUCTED.
- WHEN SAND IS THE EXCESS MATERIAL EXCAVATED WITHIN THE LIMITS OF THIS IMPROVEMENT IT SHALL BE USED FOR TRENCH BACKFILL WHEN SO DIRECTED BY THE COMMISSIONER. THE COST OF MOVING AND PLACING IT SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE VARIOUS SEWER ITEMS OF THE CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY REMOVE MATERIAL REJECTED WHEN SO ORDERED BY THE COMMISSIONER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND UTILITIES AND THEIR APPURTENANCES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING THE CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTORS EXPENSE. ONLY PERSONNEL AUTHORIZED BY THE COMMISSIONER SHALL PERFORM THIS WORK.
- PROPOSED P.C. CONCRETE BASE COURSE OR P.C. CONCRETE PAVEMENT SHALL NOT BE OPENED TO VEHICULAR OR CONSTRUCTION TRAFFIC UNTIL AFTER THE SPECIFIED CURING PERIOD AS DEFINED IN ARTICLE 701.17(c)(5) OF THE SSRBC AND UNTIL THE JOINTS HAVE BEEN SEALED.

- THE TRENCH BACKFILL QUANTITY SHOWN IN THE PLANS HAS BEEN CALCULATED ACCORDING TO THE STATE OF ILLINOIS TRENCH BACKFILL TABLE AND ALSO AS SPECIFIED IN ARTICLES 208.03 AND 550.04 OF THE SSRBC. AS STATED IN ARTICLE 550.07 OF THE STANDARD SPECIFICATION, NO ALLOWANCE HAS BEEN MADE IN THIS VOLUME FOR SLOPED OR BENCHED WALLS. THE VOLUME OF TRENCH BACKFILL SHOWN IN THE PLANS WILL BE THE BASIS OF THE MAXIMUM PAYMENT TO THE CONTRACTOR. WHERE SAND EXCAVATED FROM THE SITE IS USED AS SPECIFIED, THESE VOLUMES WILL BE REDUCED AS DETERMINED BY THE FIELD MEASUREMENTS AND VOLUME CALCULATIONS OF THE COMMISSIONER.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES DURING THE CONSTRUCTION OPERATIONS. ADJACENT BUSINESS PROPERTY OWNERS SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS WHICH MAY AFFECT THEIR DAILY SCHEDULE. THE CONTRACTOR SHALL COORDINATE WORK THROUGH THE RESIDENT ENGINEER TO AVOID ANY UNDUE INCONVENIENCE TO LOCAL BUSINESSES.
- THE CONTRACTOR SHALL USE WHATEVER CARE IS NECESSARY DURING ANY CONSTRUCTION OPERATION NEAR TREES WHICH ARE NOT MARKED FOR REMOVAL SO AS TO BE CERTAIN NOT TO CAUSE ANY INJURY TO THE ROOTS OF TRUNKS THEREOF. ANY SUCH TREES INJURED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE EXPOSED SUBGRADE AND THE BOTTOM OF EXCAVATIONS SHOULD BE OBSERVED BY AN EXPERIENCED SOIL ENGINEER TO AID IN LOCATING ANY UNSUITABLE AREAS THAT MAY NEED IMPROVEMENT. MATERIALS IDENTIFIED AS UNSUITABLE BY THE COMMISSIONER SHALL BE REMOVED TO THE DEPTH SPECIFIED BY THE COMMISSIONER AND REPLACED BY POROUS GRANULAR BACKFILL.
- THE CONTRACTOR SHALL CHECK THE ELEVATIONS AT THE PROPERTY LINE BEFORE SETTING THE TOP OF CURB ELEVATIONS AND IF NECESSARY, SHALL ADJUST THE TOP OF CURB AND/OR GUTTER ELEVATION TO MEET ADJACENT PROPERTY LINE ELEVATIONS WITH THE APPROVAL OF THE COMMISSIONER.
- THE CONTRACTOR IS ADVISED THAT CERTAIN CONSTRUCTION OPERATIONS WILL REQUIRE COORDINATION WITH AGENCIES OF THE CITY OF CHICAGO SCHEDULED TO PERFORM WORK WITHIN THE LIMITS OF THE PROJECT CONCURRENTLY WITH THE CONTRACTOR. THE CONTRACTOR SHALL COOPERATE TO THE FULLEST EXTENT WITH THESE AGENCIES IN COMPLIANCE WITH SECTION 105 OF THE SSRBC.
- IT IS CALLED TO THE CONTRACTOR'S ATTENTION THAT HE MAY BE REQUIRED TO PAY INSPECTION FEES TO THE VARIOUS DEPARTMENTS OF THE CITY OF CHICAGO AS NOTED IN ARTICLES IX(A) AND X(A) THRU J) OF THE TERMS AND CONDITIONS FOR CONSTRUCTION (CITY SPECIFICATION BOOK 1).
- THE CONTRACTOR SHALL USE EXTREME CARE IN PROSECUTING WORK OUTSIDE THE LIMIT OF RECONSTRUCTION AS SHOWN ON THE PLANS, SO AS NOT TO DAMAGE, DEFACE, OR OTHERWISE DISTURB ADJACENT IMPROVED AREAS. ANY CORRECTIVE WORK DONE OUTSIDE THE LIMITS OF WORK THAT IS NECESSARY TO RESTORE ADJACENT AREAS TO EXISTING CONDITIONS WILL BE MADE AT THE EXPENSE OF THE CONTRACTOR.
- WHEN THE NEW STREET RETURNS ARE TO MEET EXISTING UNIMPROVED STREETS. THE CONTRACTOR SHALL EFFECT A REASONABLE TRANSITION BETWEEN THE NEW CONSTRUCTION AND THE EXISTING CONDITIONS ADJACENT THERETO. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICES FOR THE VARIOUS ITEMS WHICH MAY BE NECESSARY TO ACCOMPLISH THIS TRANSITION.
- ALL WORK IN THE PUBLIC WAY REQUIRES A PERMIT FROM THE DEPARTMENT OF TRANSPORTATION, DIVISION OF INFRASTRUCTURE MANAGEMENT, CONSTRUCTION COMPLIANCE SECTION.
- ALL TEMPORARY, REGULATORY, WARNING AND GUIDE SIGNS WITHIN THE PROPOSED IMPROVEMENT SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE COMMISSIONER.
- ONE-HALF INCH (1/2") THICK EXPANSION JOINTS SHALL BE PLACED BETWEEN THE SIDEWALK, AND ALL STRUCTURES SUCH AS LIGHT STANDARDS, TRAFFIC SIGNAL FOUNDATIONS AND MANHOLES WHICH EXTEND THROUGH THE SIDEWALK.
- FOR PORTLAND CEMENT CONCRETE PAVEMENT JOINTING AND COMBINATION CONCRETE CURB AND GUTTER JOINTING DETAILS, REFER TO THE LATEST DETAIL CONSTRUCTION STANDARDS OF THE DIVISION OF ENGINEERING, CHICAGO DEPARTMENT OF TRANSPORTATION.
- ALL WORN, DAMAGED OR OBSOLETE FRAMES AND LIDS OF EXISTING STRUCTURES OF ANY KIND WITHIN THE LIMITS OF THIS PROJECT SHALL BE REPLACED AS DIRECTED BY THE ENGINEER.
- WHEN EXISTING DRAINAGE FACILITIES ARE DISTURBED, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY OUTLETS AND CONNECTIONS FOR ALL PRIVATE AND PUBLIC DRAINS, SEWERS OR CATCH BASINS. THE CONTRACTOR SHALL PROVIDE THE FACILITIES TO TAKE IN ALL STORM WATER WHICH SHALL BE RECEIVED BY THESE DRAINS AND SEWERS AND DISCHARGE THE SAME. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AN EFFICIENT PUMPING PLANT, IF NECESSARY, AND A TEMPORARY OUTLET AND BE PREPARED AT ALL TIMES TO DISPOSE OF THE WATER FROM TEMPORARY CONNECTIONS UNTIL SUCH TIME AS THE PERMANENT CONNECTIONS WITH THE SEWERS ARE BUILT AND IN SERVICE. ALL PUMPING SHALL ENTER A SETTLING BASIN SYSTEM, APPROVED BY THE COMMISSIONER, BEFORE PASSING INTO THE EXISTING DRAINAGE SYSTEM. THIS WORK SHALL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO REMOVING CATCH BASINS AND STORM SEWER REMOVAL 8".
- THE CONTRACTOR SHALL MAINTAIN THE SURFACE DRAINAGE OF THE ROAD DURING CONSTRUCTION OF THIS PROJECT.
- FOR ANY EXCAVATION DEEPER THAN 12 FEET BELOW EXISTING GRADE, THE CONTRACTOR IS REQUIRED TO SUBMIT THE FOLLOWING FOR PRIOR REVIEW BY THE DEPARTMENT: (A) EARTH RETENTION SYSTEM DESIGN DRAWING AND (B) CALCULATIONS SUPPORTING EARTH RETENTION SYSTEM DESIGN. THIS WORK AS SPECIFIED HERE IN WILL NOT BE PAID FOR SEPARATELY BUT MUST BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE OF THE ITEMS TO BE CONSTRUCTED IN THE EXCAVATION.

STANDARD SYMBOLS

<p>— RIGHT OF WAY</p> <p>--- EXISTING CENTERLINE</p> <p>--- PROPOSED CENTERLINE</p> <p>--- 9-1-1 FIBER OPTIC CABLE</p> <p>--- EXISTING WATER DISTRIBUTION</p> <p>--- PROPOSED WATER DISTRIBUTION</p> <p>--- PEOPLES GAS LIGHT AND COKE</p> <p>--- CITY ELECTRIC</p> <p>--- COMMONWEALTH EDISON</p> <p>--- SBC TELEPHONE</p> <p>--- EXISTING SEWER</p> <p>--- PROPOSED SEWER</p> <p>--- EXISTING BUILDING LINE</p> <p>--- TEMPORARY EASEMENT</p>	<p>--- PAVEMENT REMOVAL</p> <p>--- SIDEWALK REMOVAL</p> <p>--- MEDIAN REMOVAL</p> <p>--- COMBINATION CURB AND GUTTER REMOVAL</p> <p>--- STORM SEWER ABANDONED</p> <p>--- FIRE HYDRANT, EXISTING</p> <p>--- FIRE HYDRANT, PROPOSED</p> <p>--- LIGHT STANDARD, EXISTING</p> <p>--- EXISTING BUFFALO BOX, WATER</p> <p>--- PROPOSED BUFFALO BOX, WATER</p> <p>--- BUFFALO BOX, GAS</p> <p>--- TELEPHONE POLE, EXISTING</p> <p>--- POWER POLE, EXISTING</p> <p>--- TRAFFIC CONTROL BOX, EXISTING</p> <p>--- TRAFFIC CONTROL BOX, PROPOSED</p> <p>--- SIGNAL POLE WITH MAST ARM, EXISTING</p> <p>--- SIGNAL POLE WITH MAST ARM, PROPOSED</p> <p>--- STREET LIGHTING CONTROL BOX</p>	<p>--- PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH</p> <p>--- FULL DEPTH PAVEMENT</p> <p>--- CONCRETE MEDIAN SURFACE, 4 INCH</p> <p>--- EXISTING TRAFFIC SIGN</p> <p>--- PROPOSED TRAFFIC SIGN</p>	<p>--- INLET, EXISTING</p> <p>--- INLET, PROPOSED</p> <p>--- CATCH BASIN, EXISTING</p> <p>--- CATCH BASIN, PROPOSED</p> <p>--- MANHOLE, EXISTING</p> <p>--- MANHOLE, TYPE B, PROPOSED</p> <p>--- IRRIGATION PUMP</p> <p>--- IRRIGATION CONTROLLER</p> <p>--- BACKFLOW PREVENTER (RPZ), 2-1/2 INCH</p> <p>--- WATER VALVE VAULT, EXISTING</p> <p>--- WATER METER AND VALVE IN VAULT, 2-1/2 INCH, PROPOSED</p> <p>--- CITY ELECTRIC MANHOLE, EXISTING</p> <p>--- CITY ELECTRIC MANHOLE, PROPOSED</p> <p>--- TELEPHONE VAULT OR HANDHOLE, EXISTING</p> <p>--- FRAMES AND GRATES TO BE ADJUSTED</p> <p>--- RECONSTRUCT</p> <p>--- REMOVE INLET</p> <p>--- REMOVE CATCH BASIN, MAINTAIN FLOW</p> <p>--- FILL CATCH BASIN</p> <p>--- REMOVE MANHOLE</p> <p>--- REMOVE TREE</p> <p>--- REMOVE EXISTING LIGHT POLE AND FOUNDATION</p> <p>--- 6" DECIDUOUS TREE, EXISTING (WITH DIAMETER)</p> <p>--- PROPOSED TREE</p> <p>--- BUSH OR SHRUB, EXISTING</p>	<p>--- PARKING METER</p> <p>--- SOIL BORING</p> <p>--- 10.00 EX. EXISTING ELEVATION</p> <p>--- 10.00 PROPOSED ELEVATION</p> <p>--- SUMMIT</p> <p>--- DIRECTION OF FLOW</p> <p>--- HORIZONTAL ALIGNMENT TIE</p> <p>--- 12.0 ORDINANCE GRADE</p> <p>--- TC 37.66 ELEVATION AT TOP OF CURB AT POINT INDICATED</p> <p>--- FL 37.20 ELEVATION OF FLOWLINE OF GUTTER AT POINT INDICATED</p> <p>--- +75.28'R STATION, OFFSET</p> <p>--- INV. 16.4 "INV. 16.4" INDICATES THE APPROXIMATE ELEVATION OF THE FLOWLINE OF THE EXISTING SEWER</p>
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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = ES	DESIGNED - JN	REVISED -
	DRAWN - JN	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - DB	REVISED -
PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

E SOUTH WATER STREET GENERAL NOTES	
SCALE: NTS	SHEET 1 OF 1 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	2
DRAWING NO. G-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES – CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT**

1. PRIOR TO START OF CONSTRUCTION, A PERMIT IS REQUIRED FROM THE SEWER UNIT OF THE DEPARTMENT OF WATER MANAGEMENT FOR ANY UNDERGROUND SEWER WORK INCLUDING ADJUSTMENTS OF SEWER STRUCTURES AND REMOVAL/REPLACEMENT OF FRAMES AND LIDS. PERMIT MUST BE OBTAINED BY DRAIN-LAYER CURRENTLY LICENSED WITH THE SEWER UNIT OF THE DEPARTMENT OF WATER MANAGEMENT.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE ADEQUATE PROTECTION OF THE EXISTING SEWERS, DRAIN CONNECTIONS, SEWER STRUCTURES, AND BENCH MONUMENTS DURING CONSTRUCTION OPERATIONS AND USE OF HEAVY EQUIPMENT IN THE LIMITS OF THE PROJECT.
3. THE CONTRACTOR MUST LOCATE AND PROMPTLY AND PROPERLY CONNECT TO THE NEW SEWERS ALL LIVE HOUSE DRAINS, CATCH BASIN DRAINS AND OTHER EXISTING LATERALS, DRAINS AND SEWERS, OF WHATEVER NATURE, WHICH ARE CONNECTED TO THE EXISTING SEWERS BEING REPAIRED.
4. EXISTING CATCH BASIN LATERALS TO BE REUSED MUST BE RODDED AND FLUSHED IN THE PRESENCE OF THE SEWER UNIT OF THE DWM INSPECTOR. A NEW CONNECTION TO THE MAIN SEWER IS REQUIRED IF THE EXISTING CATCH BASIN LATERAL IS NOT APPROVED BY THE SEWER INSPECTOR.
5. WHEN A SEWER STRUCTURE IS ABANDONED, ALL PIPE OPENINGS MUST BE PLUGGED, STRUCTURES FILLED WITH TRENCH BACKFILL, LIDS AND FRAMES REMOVED AND SURFACE RESTORED AS PER THE SEWER UNIT OF THE DEPARTMENT OF WATER MANAGEMENT STANDARDS AND SPECIFICATIONS.
6. THE CONTRACTOR IS REQUIRED TO REPLACE ANY BROKEN FRAMES AND LIDS OF SEWER STRUCTURES WITH STANDARD FRAMES AND LIDS OF THE DWM. IN ADJUSTMENT OR RECONSTRUCTION OF SEWER STRUCTURES, ANY NON-STANDARD FRAMES AND LIDS MUST BE REPLACED WITH STANDARD FRAMES AND LIDS.
7. THE FRAMES AND LIDS OF SEWER STRUCTURES TO BE ABANDONED, REMOVED, OR FILLED MUST BE SALVAGED AND THE DWM NOTIFIED FOR PICK UP.
8. IN LOCATIONS WHERE THE MAIN SEWER IS NOT BEING REPLACED AND THE EXISTING DRAINAGE FACILITIES ARE DISTURBED OR DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO RESTORE AND REPLACE THE DAMAGED FACILITIES AT HIS/HER EXPENSE TO THE SATISFACTION OF THE SEWER UNIT OF THE DEPARTMENT OF WATER MANAGEMENT.
9. IN CASE OF ANY DAMAGE TO THE CITY'S SEWER SYSTEM, PRIVATE AND PUBLIC DRAIN CONNECTIONS, AND/OR BENCH MONUMENTS, THE CONTRACTOR MUST CONTACT THE SEWER UNIT OF THE DEPARTMENT OF WATER MANAGEMENT IMMEDIATELY AT PHONE NUMBER (312) 744-8117 OR 312 747-7893. THE CONTRACTOR MUST, AT HIS/HER COST, REPLACE THE AFFECTED SEWERS, DRAIN CONNECTIONS, SEWER STRUCTURES AND/OR BENCH MONUMENTS AS NECESSARY. THE SEWER FLOWS MUST BE MAINTAINED AT ALL TIMES.
10. ON WORK COMPLETION, THE CONTRACTOR MUST PROVIDE THE SEWER UNIT OF THE DWM, FOR REVIEW AND ACCEPTANCE, A POST-CONSTRUCTION VIDEO TAPED INSPECTION OF THE SEWER MAINS.
11. AS-BUILT PLANS OF NEW OR REPLACED SEWERS IN THE PUBLIC WAY MUST BE SUBMITTED TO THE DWM SEWER DESIGN SECTION WITHIN 30 DAYS AFTER COMPLETION OF THE PROJECT. THE AS-BUILT PLANS MUST BE SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED LAND SURVEYOR AND BE SUBMITTED WITH THE APPROPRIATE TRANSMITTAL FORM AVAILABLE FROM THE RESIDENT ENGINEER. PLAN AND PROFILE DRAWINGS OF THE SEWERS AND SEWER STRUCTURES MUST BE SUBMITTED ON A COMPACT DISK IN PDF FORMAT. ALL ELECTRONIC FILES MUST BE SUBMITTED ON A COMPACT DISK IN TIFF FORMAT. ALL ELECTRONIC FILES MUST BE SUBMITTED IN A FILE FOLDER WITH ONE FILE NAME REFLECTING THE ADDRESSES OF THE PROJECT, WITH STREET NAME FIRST: (E.G. JACKSON ST. 300-500S.) A HARD COPY COPY OF THE AS-BUILT PLANS MUST ALSO BE SUBMITTED.
12. REFER TO SEWER UNIT OF THE DWM "DETAIL SPECIFICATIONS FOR SEWER CONSTRUCTION, BOOK 3" FOR COMPLETE REQUIREMENTS.
13. PRE-CONSTRUCTION VIDEO TAPED INSPECTION IS REQUIRED PRIOR TO ISSUANCE OF SEWER PERMIT. ALL LIVE LATERALS SHALL BE LOCATED FOR FUTURE CONNECTION TO THE PROPOSED SEWER.
14. THE CONTRACTOR SHALL INSTALL 3" VORTEX RESTRICTORS ON ALL CATCH BASINS. THE COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "CATCH BASIN, TYPE A, 4 FT. DIA. (CITY OF CHICAGO)".

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = ES	DESIGNED - JN	REVISED -
	DRAWN - JN	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - DB	REVISED -
PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
GENERAL NOTES - DEPARTMENT OF WATER MANAGEMENT**

SCALE: NTS SHEET 1 OF 1 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	3
DRAWING NO. G-02		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
1	20200100	EARTH EXCAVATION	CU YD	334
2	20800150	TRENCH BACKFILL	CU YD	60
3	20900110	POROUS GRANULAR BACKFILL	CU YD	35
4	28000510	INLET FILTERS	EACH	24
5	CDOT3110010	SAND CUSHION, VARIABLE DEPTH	CU YD	123
6	31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	3,199
7	35300400	PORTLAND CEMENT CONCRETE BASE COURSE 9"	SQ YD	2,718
8	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	8,460
9	40600535	LEVELING BINDER (HAND METHOD), N70	TON	4
10	40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	4
11	40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	112
12	40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	234
13	CDOT4240010	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	5,319
14	CDOT4240030	PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH	SQ FT	2,588
15	CDOT4240055	LINEAR DETECTABLE WARNING TILES (CAST IRON)	SQ FT	48
16	CDOT4240065	RADIAL DETECTABLE WARNING TILES (CAST IRON)	SQ FT	180
17	44000100	PAVEMENT REMOVAL	SQ YD	2,775
18	44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SQ YD	89
19	44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	2,530
20	44000600	SIDEWALK REMOVAL	SQ FT	7,441

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = ES
PLOT SCALE = 40.0000' / in.
PLOT DATE = 5/17/2019

DESIGNED - JN	REVISIONS
DRAWN - JN	REVISIONS
CHECKED - DB	REVISIONS
DATE -	REVISIONS

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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

SCALE: NTS SHEET 1 OF 7 SHEETS

E SOUTH WATER STREET
SUMMARY OF QUANTITIES

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	4
DRAWING NO. S00-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
21	44003100	MEDIAN REMOVAL	SQ FT	3,307
22	CDOT5010010	REMOVAL OF EXISTING STRUCTURES	L SUM	1
23	CDOT5010030	CONCRETE REMOVAL	CU YD	28.2
24	50157300	PROTECTIVE SHIELD	SQ YD	21
25	50200100	STRUCTURE EXCAVATION	CU YD	255
26	CDOT5030010	DRAINAGE SCUPPER, DS-12	EACH	10
27	CDOT5030020	HIGH PERFORMANCE CONCRETE STRUCTURES	CU YD	244.6
28	CDOT5030030	HIGH PERFORMANCE CONCRETE SUPERSTRUCTURES	CU YD	2,038.0
29	CDOT5030070	LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK	SQ YD	2,683
30	50300255	CONCRETE SUPERSTRUCTURE	CU YD	20.5
31	50300260	BRIDGE DECK GROOVING	SQ YD	2,433
32	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	616,740
33	50800530	MECHANICAL SPLICERS	EACH	252
34	50900105	ALUMINUM RAILING, TYPE L	FOOT	136
35	51500100	NAME PLATES	EACH	1
36	52000110	PREFORMED JOINT STRIP SEAL	FOOT	274
37	52000325	NEOPRENE EXPANSION JOINT 2 1/2"	FOOT	20
38	52100530	ANCHOR BOLTS, 1 1/4"	EACH	240
39	52100540	ANCHOR BOLTS, 1 1/2"	EACH	208
40	52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1,253

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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PLOT DATE = 10/23/2019	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
SUMMARY OF QUANTITIES

SCALE: NTS SHEET 2 OF 7 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	1
DRAWING NO. S00-02		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
41	55100300	STORM SEWER REMOVAL 8"	FOOT	80
42	CDOT5870010	PROTECTIVE CONCRETE SEALER	SQ YD	4,926
43	CDOT6020010	CATCH BASINS, TYPE A, 4 FT DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	10
44	CDOT6020020	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	3
45	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	35
46	CDOT6050020	REMOVING CATCH BASINS	EACH	9
47	CDOT6060020	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12	FOOT	2,585
48	60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SQ FT	3,372
49	66400505	CHAIN LINK FENCE, 8'	FOOT	216
50	66409600	CHAIN LINK GATES, 8' X 16' DOUBLE	EACH	1
51	66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	982
52	66900205	SPECIAL WASTE DISPOSAL	CU YD	20
53	66900210	HAZARDOUS WASTE DISPOSAL	CU YD	20
54	66900400	SPECIAL WASTE GROUNDWATER DISPOSAL	GALLON	1,000
55	66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1
56	66900530	SOIL DISPOSAL ANALYSIS	EACH	1
57	66900575	VOCS GROUNDWATER ANALYSIS	EACH	1
58	66900605	RCRA METALS GROUNDWATER ANALYSIS	EACH	1
59	CDOT6700010	ENGINEER'S FIELD OFFICE	CAL MO	18
60	67100100	MOBILIZATION	L SUM	1

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12 TH FLOOR
CHICAGO, ILLINOIS 60606

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PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
SUMMARY OF QUANTITIES**

SCALE: NTS SHEET 3 OF 7 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	6
DRAWING NO. S00-03		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
61	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DAY	140
62	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1,163
63	70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	673
64	70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	175
65	70400100	TEMPORARY CONCRETE BARRIER	FOOT	866
66	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1,720
67	70600235	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	3
68	70600320	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	5
69	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	786
70	78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	744
71	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	812
72	78008270	POLYUREA PAVEMENT MARKING TYPE I - LINE 24"	FOOT	383
73	X5210015	ELASTOMERIC BEARING ASSEMBLY, TYPE I (SPECIAL)	EACH	4
74	X5210130	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 300K	EACH	4
75	X5210190	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 600K	EACH	16
76	X5210330	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 400K	EACH	4
77	X5210345	HIGH LOAD MULTI-ROTATIONAL BEARINGS, FIXED - 550K	EACH	4
78	X5210770	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 200K	EACH	2
79	X5210780	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 250K	EACH	17
80	X5210790	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 300K	EACH	7

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 SUMMARY OF QUANTITIES**

SCALE: NTS SHEET 4 OF 7 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	7
DRAWING NO. 500-04		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
81	*****	HIGH LOAD MULTI-ROTATIONAL BEARINGS, NON-GUIDED EXPANSION, 400K	EACH	2
82	X6640300	CHAIN LINK FENCE REMOVAL	FOOT	212
83	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
84	Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	117
85	Z0013798	CONSTRUCTION LAYOUT	L SUM	1
86	Z0018800	DRAINAGE SYSTEM	L SUM	1
87	Z0021904	SILICONE JOINT SEALER, 1"	FOOT	801
88	Z0031200	JACKING AND CRIBBING	EACH	4
89	Z0076600	TRAINEES	HOURL	500
90	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	190
91	*****	REMOVE SIGN PANEL AND SALVAGE	EACH	25
92	*****	REMOVE SIGN ASSEMBLY AND SALVAGE	EACH	23
93	*****	SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - SINGLE SIDED	SQ FT	178
94	*****	SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - SINGLE SIDED	SQ FT	30
95	*****	SIGN PANEL - TYPE 1 - RETROREFLECTIVE - TYPE A - DOUBLE SIDED	SQ FT	34
96	*****	SIGN PANEL - TYPE 1 - NON RETROREFLECTIVE - TYPE A - DOUBLE SIDED	SQ FT	56
97	*****	FURNISH AND INSTALL POLE AND BASE	EACH	30
98	*****	DRILL AND GROUT BARS (EPOXY COATED)	EACH	1,291
99	*****	ADJUST FRAME AND LID	EACH	3
100	*****	CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP	EACH	3

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 SUMMARY OF QUANTITIES**

SCALE: NTS SHEET 5 OF 7 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	8
DRAWING NO. 500-05		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

ITEM NO.	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY
101	*****	ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX	FOOT	200
102	*****	ELECTRIC CABLE IN CONDUIT, 1/C #10	FOOT	10,200
103	*****	ELECTRIC CABLE IN CONDUIT, 1/C #4	FOOT	200
104	*****	GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 2"	FOOT	250
105	*****	GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3"	FOOT	3,100
106	*****	GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3/4"	FOOT	3,400
107	*****	INTERCEPT EXISTING CONDUIT	EACH	12
108	*****	JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12"X10"X6"	EACH	15
109	*****	LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, & ARM	EACH	2
110	*****	LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF	EACH	2
111	*****	LUMINAIRE, LED, VIADUCT	EACH	100
112	*****	MAINTAIN LIGHTING SYSTEM	L SUM	1
113	*****	MANHOLE 3'X4'X4' W/24" F&L	EACH	6
114	*****	MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8' ANODIZED	EACH	2
115	*****	POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED	EACH	2
116	*****	REMOVE ANCHOR BASE POLE	EACH	2
117	*****	REMOVE CONDUIT ATTACHED TO STRUCTURE	FOOT	6,200
118	*****	REMOVE CONTROLLER ONLY	EACH	3
119	*****	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	6,500
120	*****	REMOVE JUNCTION BOX	EACH	7

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 CHICAGO, ILLINOIS 60606

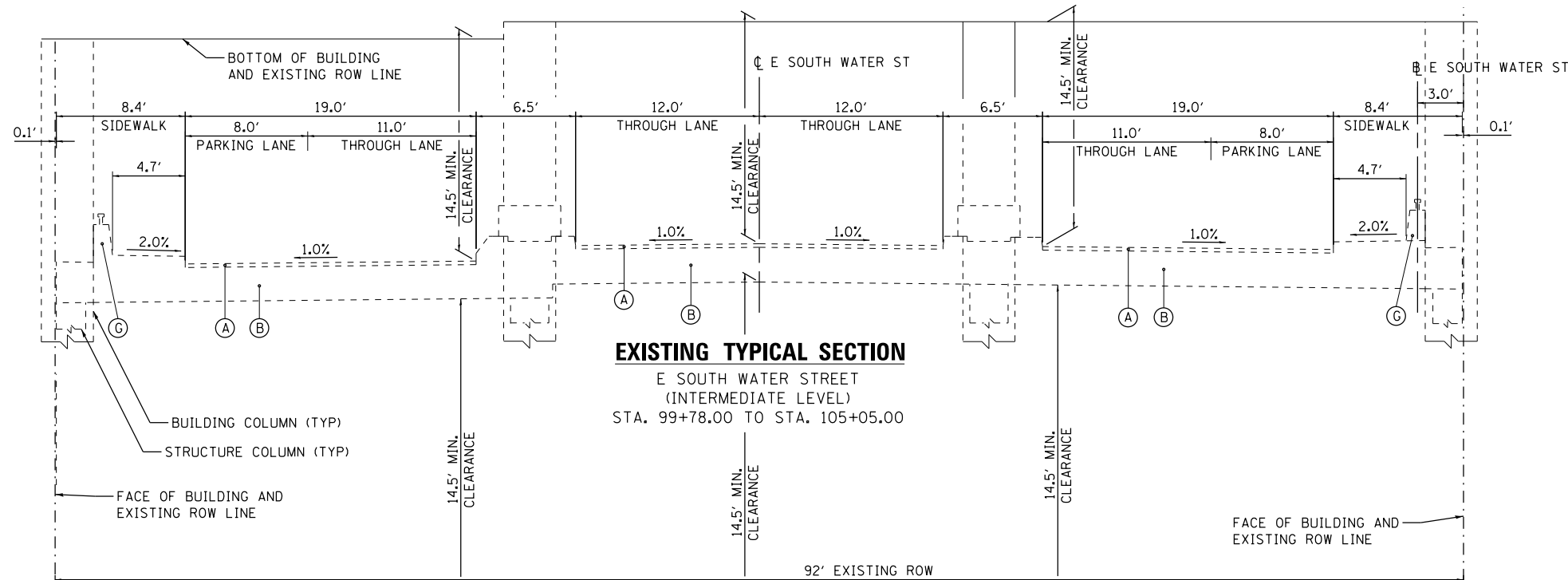
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 SUMMARY OF QUANTITIES**

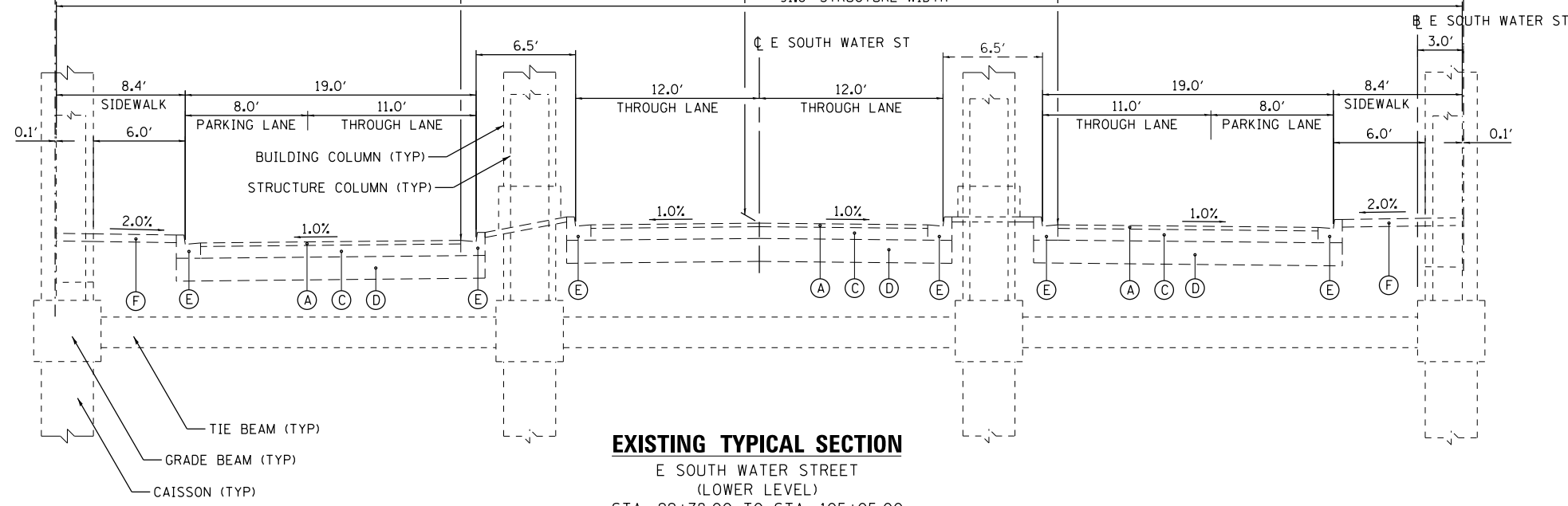
SCALE: NTS SHEET 6 OF 7 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	9
DRAWING NO. 500-06		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



EXISTING TYPICAL SECTION
E SOUTH WATER STREET
(INTERMEDIATE LEVEL)
STA. 99+78.00 TO STA. 105+05.00

- EXISTING CONDITION**
- (A) BITUMINOUS CONCRETE SURFACE/CONCRETE PAVEMENT
 - (B) REINFORCED CONCRETE SLAB
 - (C) PCC PAVEMENT
 - (D) STABILIZED SUBBASE
 - (E) CURB AND GUTTER, TYPE B-V.12
 - (F) PCC SIDEWALK
 - (G) PARAPET



EXISTING TYPICAL SECTION
E SOUTH WATER STREET
(LOWER LEVEL)
STA. 99+78.00 TO STA. 105+05.00

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LOCHNER
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225 WEST WASHINGTON STREET
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CHICAGO, ILLINOIS 60606

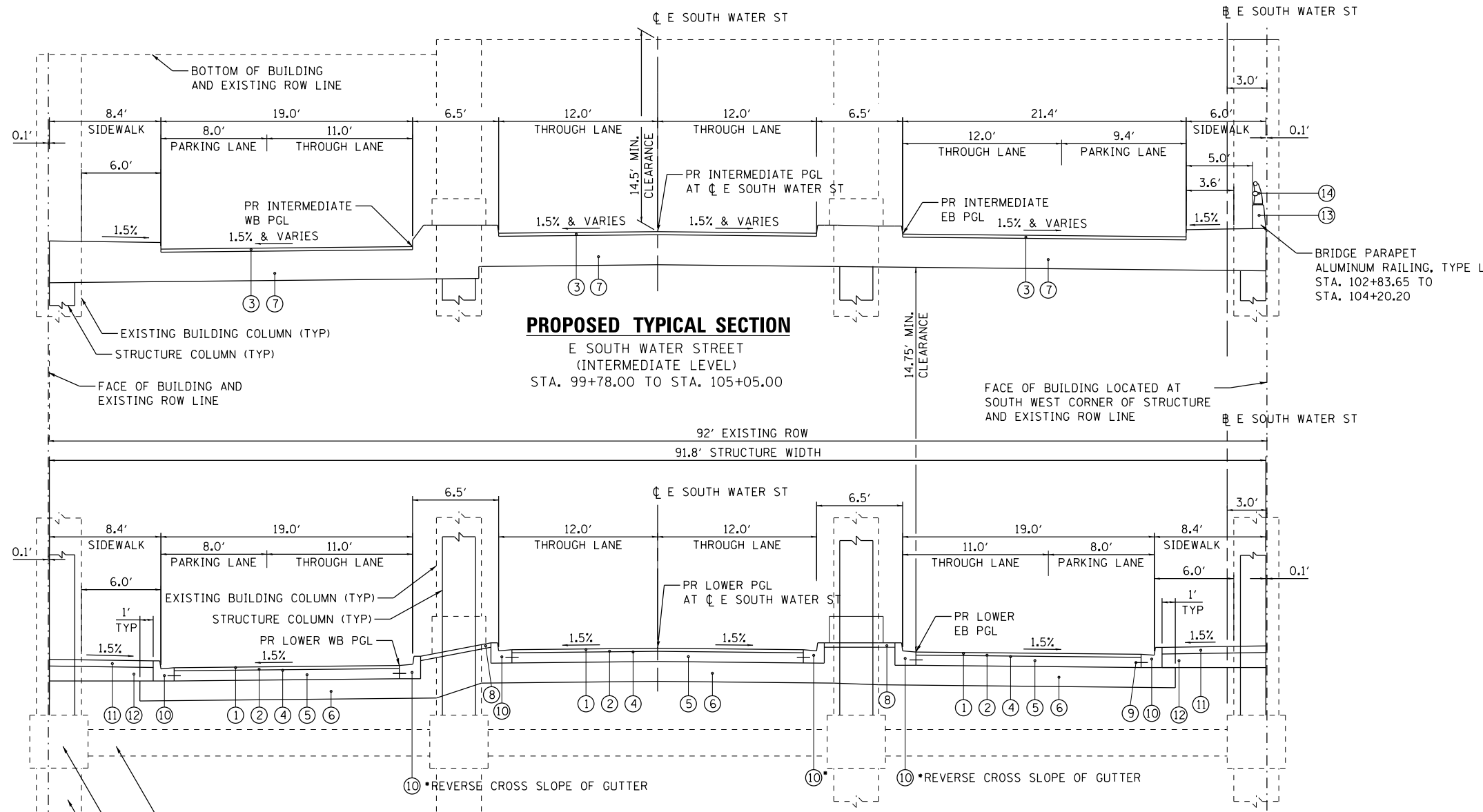
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PLOT SCALE = 10.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
TYPICAL SECTIONS**

SCALE: NTS SHEET 1 OF 1 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	11
DRAWING NO. TYP-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



- PROPOSED CONDITION**
- ① HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1.5"
 - ② POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50, 0.75"
 - ③ LATEX CONCRETE OVERLAY FOR NEW BRIDGE DECK
 - ④ BITUMINOUS MATERIALS (TACK COAT)
 - ⑤ PORTLAND CEMENT CONCRETE BASE COURSE, 9"
 - ⑥ SUB-BASE GRANULAR MATERIAL, TYPE B 6" (TYP.)
INSTALLED AS DIRECTED BY THE ENGINEER
 - ⑦ REINFORCED CONCRETE SLAB (STRUCTURAL PLANS)
 - ⑧ CONCRETE MEDIAN SURFACE, 4 INCH
 - ⑨ DRILL AND GROUT BARS (EPOXY COATED)
 - ⑩ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12
 - ⑪ PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
 - ⑫ SAND CUSHION, VARIABLE DEPTH
 - ⑬ BRIDGE PARAPET (STRUCTURAL PLANS)
 - ⑭ ALUMINUM RAILING, TYPE L (STRUCTURAL PLANS)

NOTES:

1. AS INDICATED ON THE ROADWAY PLANS, TYPICALLY AT LEAST 6' OF PROPOSED SIDEWALK WIDTH MUST HAVE A CROSS SLOPE OF 1:64 OR LESS, UNLESS OTHERWISE APPROVED BY THE COMMISSIONER.
2. UTILITY LOCATIONS SHOWN ARE FOR GENERAL INFORMATION ONLY, ARE NOT TO SCALE, AND DO NOT REPRESENT THE TRUE BURIED LOCATION.
3. TYPICAL SECTIONS ARE FOR GRAPHICAL REPRESENTATION ONLY. TYPICAL SECTIONS ARE NOT DRAWN TO SCALE.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
MIXTURE TYPE	PERCENT AIR VOIDS	Ndes
PAVEMENT RESURFACING AND WIDENING		
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 (IL 9.5mm)	4% @ 70 Gyr.	1.5"
POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	3.5% @ 50 Gyr.	0.75"
LEVELING BINDER (MACHINE METHOD), N70 (IL 9.5mm)	4% @ 70 Gyr.	1"
LEVELING BINDER (HAND METHOD), N70 (IL 9.5mm)	4% @ 70 Gyr.	1"

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SY/IN. EXCEPT POLYMERIZED LEVELING BINDER AT 110 LBS/SY/IN.

THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.

FOR USE OF RECYCLED MATERIALS SEE SPECIAL PROVISIONS.

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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 TYPICAL SECTIONS**
 SCALE: NTS SHEET 1 OF 1 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	12
DRAWING NO. TYP-02		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

MAINTENANCE OF TRAFFIC GENERAL NOTES

PRE-STAGE

INTERMEDIATE LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, AND PART OF PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, AND PART OF PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- MAINTAIN TRAFFIC ON EXISTING PAVEMENT.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

LOWER LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, AND PART OF PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, AND PART OF PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- MAINTAIN TRAFFIC ON EXISTING PAVEMENT.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

STAGE 1

INTERMEDIATE LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, MEDIAN AND PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, MEDIAN AND PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- CLOSE EASTBOUND SOUTH WATER STREET FROM WEST END OF THE BRIDGE TO STETSON AVE FOR ALL TRAFFIC.
- MAINTAIN SOUTH WATER STREET TRAFFIC WEST OF THE BRIDGE TO ALLOW FOR PASSENGER CAR ONLY ACCESS TO THE ILLINOIS CENTER BUILDING PARKING GARAGE.
- MAINTAIN WESTBOUND TRAFFIC ON SOUTH WATER STREET FOR CTA BUS AND PASSENGER CAR ONLY.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

LOWER LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, MEDIAN, COLUMNS AND PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, MEDIAN, COLUMNS AND PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- CLOSE WESTBOUND SOUTH WATER STREET TO ALL TRAFFIC.
- MAINTAIN EASTBOUND SOUTH WATER STREET TO ALL TRAFFIC.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

STAGE 2

INTERMEDIATE LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, MEDIAN AND PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, MEDIAN AND PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- CLOSE EASTBOUND SOUTH WATER STREET FROM STETSON AVE TO JUST WEST OF THE BRIDGE FOR ALL TRAFFIC.
- MAINTAIN SOUTH WATER STREET TRAFFIC WEST OF THE BRIDGE TO ALLOW FOR PASSENGER CAR ONLY ACCESS TO THE ILLINOIS CENTER BUILDING PARKING GARAGE.
- MAINTAIN WESTBOUND TRAFFIC ON SOUTH WATER STREET FOR CTA BUS AND PASSENGER CAR ONLY.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

LOWER LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, MEDIAN, COLUMNS AND PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, MEDIAN, COLUMNS AND PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- CLOSE WESTBOUND OF SOUTH WATER STREET FOR ALL TRAFFIC.
- MAINTAIN EASTBOUND OF SOUTH WATER STREET FOR ALL TRAFFIC.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

STAGE 3

INTERMEDIATE LEVEL

CONSTRUCTION:

- REMOVE EXISTING MEDIAN AND PART OF PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED MEDIAN AND PART OF PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- MAINTAIN EASTBOUND TRAFFIC ON SOUTH WATER STREET FOR CTA BUS AND PASSENGER CAR ONLY.
- MAINTAIN WESTBOUND TRAFFIC ON SOUTH WATER STREET FOR CTA BUS AND PASSENGER CAR ONLY.
- MAINTAIN SOUTH WATER STREET TRAFFIC WEST OF THE BRIDGE TO ALLOW FOR PASSENGER CAR ONLY ACCESS TO THE ILLINOIS CENTER BUILDING PARKING GARAGE.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

LOWER LEVEL

CONSTRUCTION:

- REMOVE EXISTING SIDEWALK, CURB AND GUTER, MEDIAN AND PART OF PAVEMENT AS SHOWN ON THE PLANS.
- CONSTRUCT PROPOSED SIDEWALK, CURB AND GUTER, MEDIAN, COLUMNS AND PART OF PAVEMENT AS SHOWN ON THE PLANS.

TRAFFIC CONTROL:

- MAINTAIN EASTBOUND SOUTH WATER STREET TO ALL TRAFFIC.
- MAINTAIN WESTBOUND SOUTH WATER STREET TO ALL TRAFFIC.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

DETOUR

UPPER LEVEL

DURING PRE-STAGE

TRAFFIC CONTROL:

- MAINTAIN TRAFFIC ON EXISTING PAVEMENT.

DETOUR DIRECTION:

- NO DETOUR LAYOUT.

DURING STAGE 1 AND 2

TRAFFIC CONTROL:

- AT SOUTH WATER STREET/MICHIGAN AVENUE INTERSECTION:
CLOSE EASTBOUND SOUTH WATER STREET TO STETSON AVENUE FOR ALL TRAFFIC.

DETOUR DIRECTION:

- AT SOUTH WATER STREET/MICHIGAN AVENUE INTERSECTION:
DETOUR SOUTHBOUND TRAFFIC ON MICHIGAN AVENUE TO EASTBOUND RANDOLPH STREET TO NORTHBOUND COLUMBUS DR (INTERMEDIATE LEVEL). DETOUR NORTHBOUND TRAFFIC ON MICHIGAN AVENUE TO EASTBOUND WACKER DR TO SOUTHBOUND COLUMBUS DR. DETOUR EASTBOUND SOUTH WATER STREET (WEST LEG OF INTERSECTION) TO SOUTHBOUND OR NORTHBOUND MICHIGAN AVENUE.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

DURING STAGE 3

TRAFFIC CONTROL:

- AT SOUTH WATER STREET/MICHIGAN AVENUE INTERSECTION:
CLOSE EASTBOUND SOUTH WATER STREET TO STETSON AVENUE FOR WB TRUCK TRAFFIC ONLY.

DETOUR DIRECTION:

- AT SOUTH WATER STREET/MICHIGAN AVENUE INTERSECTION:
EB TRUCK TRAFFIC FROM SOUTHBOUND MICHIGAN AVENUE TO EASTBOUND RANDOLPH STREET TO NORTHBOUND COLUMBUS DRIVE (INTERMEDIATE LEVEL). EB TRUCK TRAFFIC FROM NORTHBOUND MICHIGAN AVENUE TO EASTBOUND WACKER DR TO SOUTHBOUND COLUMBUS DRIVE. DETOUR EB TRUCK TRAFFIC FROM EASTBOUND SOUTH WATER STREET (WEST LEG OF INTERSECTION) TO SOUTHBOUND OR NORTHBOUND MICHIGAN AVENUE.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

INTERMEDIATE LEVEL

DURING PRE-STAGE

TRAFFIC CONTROL:

- MAINTAIN TRAFFIC ON EXISTING PAVEMENT.

DETOUR DIRECTION:

- NO DETOUR LAYOUT.

DURING STAGE 1 AND 2

TRAFFIC CONTROL:

- AT SOUTH WATER STREET/STETSON AVENUE INTERSECTION:
CLOSE WESTBOUND SOUTH WATER STREET TO MICHIGAN AVENUE FOR WB TRUCK TRAFFIC ONLY.

DETOUR DIRECTION:

- AT SOUTH WATER STREET/STETSON AVENUE INTERSECTION:
DETOUR WB TRUCK TRAFFIC FROM SOUTHBOUND STETSON AVENUE TO EASTBOUND SOUTH WATER STREET TO SOUTHBOUND COLUMBUS DRIVE TO WESTBOUND RANDOLPH STREET TO NORTHBOUND MICHIGAN AVENUE. DETOUR WB TRUCK TRAFFIC FROM NORTHBOUND STETSON AVENUE TO EASTBOUND SOUTH WATER STREET TO SOUTHBOUND COLUMBUS DRIVE TO WESTBOUND RANDOLPH STREET TO NORTHBOUND MICHIGAN AVENUE. DETOUR WB TRUCK TRAFFIC FROM WESTBOUND SOUTH WATER STREET TO NORTHBOUND STETSON AVENUE TO EASTBOUND WACKER DR TO SOUTHBOUND COLUMBUS DRIVE TO WESTBOUND RANDOLPH STREET TO NORTHBOUND MICHIGAN AVENUE.
- AT SOUTH WATER STREET/COLUMBUS DRIVE INTERSECTION:
PROVIDE DETOUR LAYOUT FOR WESTBOUND SOUTH WATER STREET (LOWER LEVEL).
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

DURING STAGE 3

TRAFFIC CONTROL:

- AT SOUTH WATER STREET/STETSON AVENUE INTERSECTION:
CLOSE WESTBOUND SOUTH WATER STREET TO MICHIGAN AVENUE FOR WB TRUCK TRAFFIC ONLY.

DETOUR DIRECTION:

- AT SOUTH WATER STREET/STETSON AVENUE INTERSECTION:
MAINTAIN STAGE 1 AND 2 WB TRUCK DETOUR SIGNAGE.
- REMOVE ENTIRE SIGNAGE SEQUENCE FOR WESTBOUND SOUTH WATER STREET (LOWER LEVEL) DETOUR.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

LOWER LEVEL

DURING PRE-STAGE

TRAFFIC CONTROL:

- MAINTAIN TRAFFIC ON EXISTING PAVEMENT.

DETOUR DIRECTION:

- NO DETOUR LAYOUT.

DURING STAGE 1 AND 2

TRAFFIC CONTROL:

- AT SOUTH WATER STREET/STETSON AVENUE INTERSECTION:
CLOSE WESTBOUND SOUTH WATER STREET TO MICHIGAN AVENUE FOR ALL TRAFFIC.

DETOUR DIRECTION:

- AT SOUTH WATER STREET/BEAUBIEN CT INTERSECTION:
MAINTAIN ALL EASTBOUND TRAFFIC ON SOUTH WATER STREET.
- AT SOUTH WATER STREET/STETSON AVENUE INTERSECTION:
DETOUR SOUTHBOUND TRAFFIC ON STETSON AVENUE TO EASTBOUND SOUTH WATER STREET RAMP. DETOUR WESTBOUND SOUTH WATER STREET TRAFFIC TO NORTHBOUND STETSON AVENUE TO EASTBOUND WACKER DR TO U-TURN.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

DURING STAGE 3

TRAFFIC CONTROL:

- MAINTAIN EASTBOUND AND WESTBOUND ACCESS TO SOUTH WATER STREET FOR ALL TRAFFIC.

DETOUR DIRECTION:

- NO DETOUR LAYOUT.

CTA BUS DETOUR

CTA BUS ROUTE #4

BUS STOP CLOSURE:

- DURING ALL CONSTRUCTION STAGING, ONE BUS STOP WILL BE CLOSED AS SHOWN ON THE PLANS.

CTA BUS ROUTE #124 DETOUR

SERVICE CLOSURE:

- THE #124 BUS ROUTE WILL BE AFFECTED DURING STAGE 1 AND 2.
- TEMPORARY ROUTE CLOSURE BEGINS EASTBOUND ON SOUTH WATER STREET AT MICHIGAN AVENUE TO COLUMBUS DRIVE; AND WESTBOUND ON SOUTH WATER STREET AT COLUMBUS DRIVE TO MICHIGAN AVENUE TO SOUTHBOUND MICHIGAN AVENUE TO RANDOLPH STREET.
- DURING STAGE 1 AND 2, PARTIAL ROUTE CLOSURE, THREE BUS STOPS WILL BE CLOSED AND ONE BUS STOP WILL BE RELOCATED. S WATER STREET BUS STOPS (#2532 AND #15682) WILL REMAIN CLOSED UNTIL COMPLETION OF STAGE 3.

PROPOSED DETOUR DIRECTION:

- THE #124 PROPOSED DETOUR BUS ROUTE BEGINS EASTBOUND ON SOUTH WATER ST TO SOUTHBOUND MICHIGAN AVENUE TO EASTBOUND RANDOLPH STREET TO NORTHBOUND COLUMBUS DRIVE AND WESTBOUND ON SOUTH WATER STREET FROM COLUMBUS DRIVE TO SOUTHBOUND MICHIGAN AVENUE TO RANDOLPH STREET.
- PROVIDE CTA BUS DETOUR AND CTA BUS STOP LOCATIONS AS SHOWN ON THE PLANS.

PEDESTRIANS AND SIDEWALKS

INTERMEDIATE LEVEL

TRAFFIC CONTROL:

- MAINTAIN SIDEWALK ACCESS ON AT LEAST ONE SIDE OF SOUTH WATER ST DURING ALL CONSTRUCTION STAGING.
- MAINTAIN PEDESTRIAN ACCESS TO BOTH THE MICHIGAN PLAZA AND 2 ILLINOIS CENTER BUILDING DURING ALL CONSTRUCTION STAGING.
- PROVIDE SIDEWALKS FOR PEDESTRIAN ACCESS FROM ALL EMERGENCY EXITS OF ADJACENT BUILDINGS DURING ALL CONSTRUCTION STAGING.
- PROVIDE TEMPORARY SCAFFOLDING AND STAIRS THROUGHOUT THE EXISTING BRIDGE REMOVAL DURING ALL CONSTRUCTION STAGING.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

LOWER LEVEL

TRAFFIC CONTROL:

- MAINTAIN SIDEWALK ACCESS ON AT LEAST ONE SIDE OF SOUTH WATER ST DURING ALL CONSTRUCTION STAGING.
- PROVIDE SIDEWALKS FOR PEDESTRIAN ACCESS FROM ALL EMERGENCY EXITS OF ADJACENT BUILDINGS DURING ALL CONSTRUCTION STAGING.
- PROVIDE TEMPORARY SCAFFOLDING AND STAIRS THROUGHOUT THE EXISTING BRIDGE REMOVAL DURING ALL CONSTRUCTION STAGING.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

EMERGENCY VEHICLES

TRAFFIC CONTROL:

- ALL TRUCK TRAFFIC WILL BE DETOURED ON THE INTERMEDIATE LEVEL OF SOUTH WATER STREET DURING CONSTRUCTION STAGE 1, 2 AND 3.
- EMERGENCY VEHICLES WILL BE PERMITTED ON THE INTERMEDIATE LEVEL OF SOUTH WATER STREET DURING ALL CONSTRUCTION STAGING.
- THERE IS A CHICAGO FIRE DEPARTMENT STATION ON COLUMBUS DRIVE AT THE INTERSECTION WITH SOUTH WATER STREET ON THE UPPER LEVEL. TO ACCESS MICHIGAN AVENUE, EMERGENCY VEHICLE TRAFFIC USED THE RAMP WESTBOUND DOWN TO THE INTERMEDIATE LEVEL OF SOUTH WATER STREET AND THEN THROUGH THE CONSTRUCTION AREA TO MICHIGAN AVENUE. THIS ROUTE WILL BE MAINTAINED DURING ALL CONSTRUCTION STAGING.
- PROVIDE TRAFFIC CONTROL AND PROTECTION AS SHOWN ON THE PLANS.

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
MAINTENANCE OF TRAFFIC - GENERAL NOTES**

SCALE: N.T.S. SHEET 1 OF 12 SHEETS

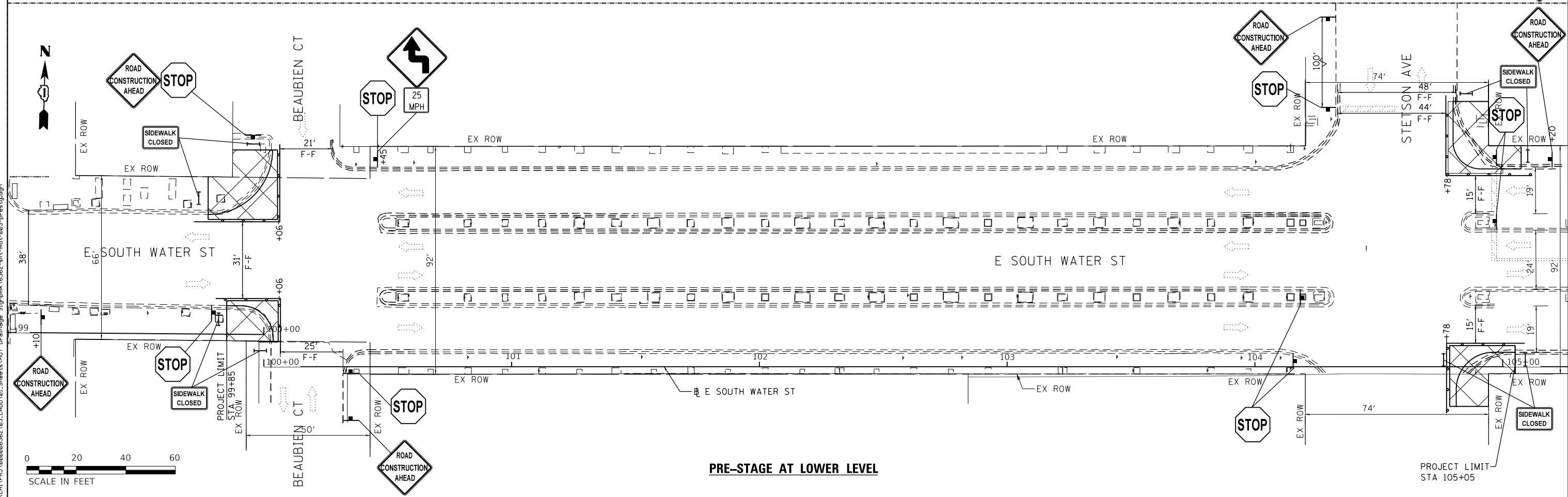
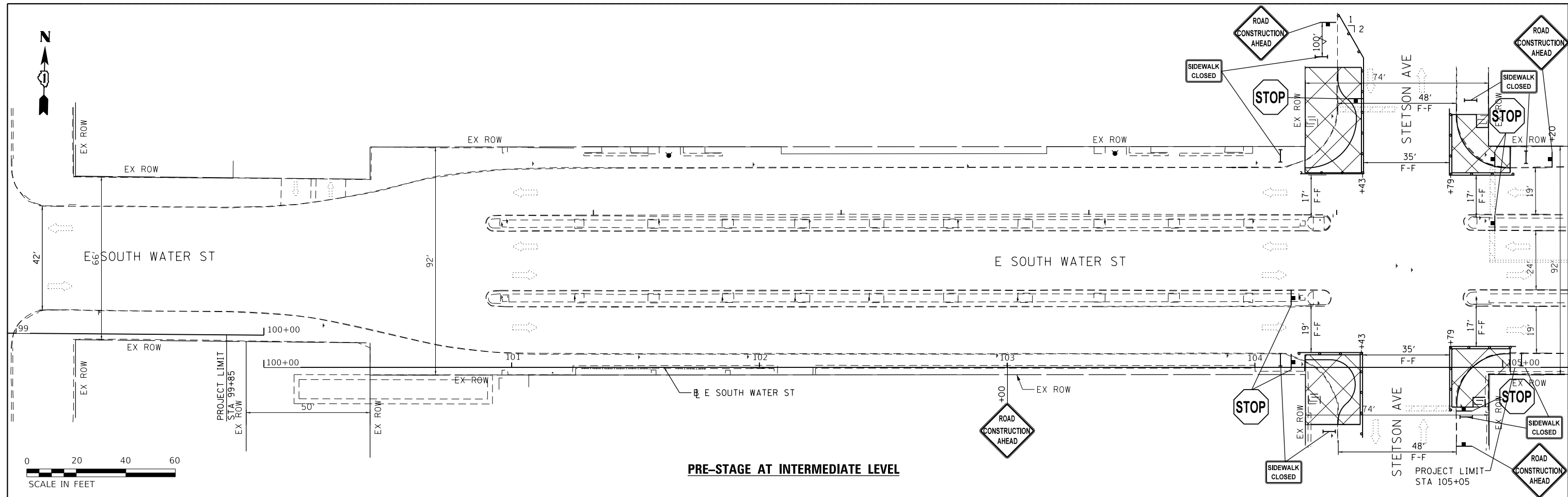
MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	14
DRAWING NO. MOT-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

MODEL: J:\CHN\PR\000006362\03_CADD\01_Sheets\MOT_Drainage_Signpmk\6362-ah-t-mot-001-note.dgn



1327 W WASHINGTON BLVD
SUITE 105
CHICAGO, IL 60607
ardmoreroederick.com

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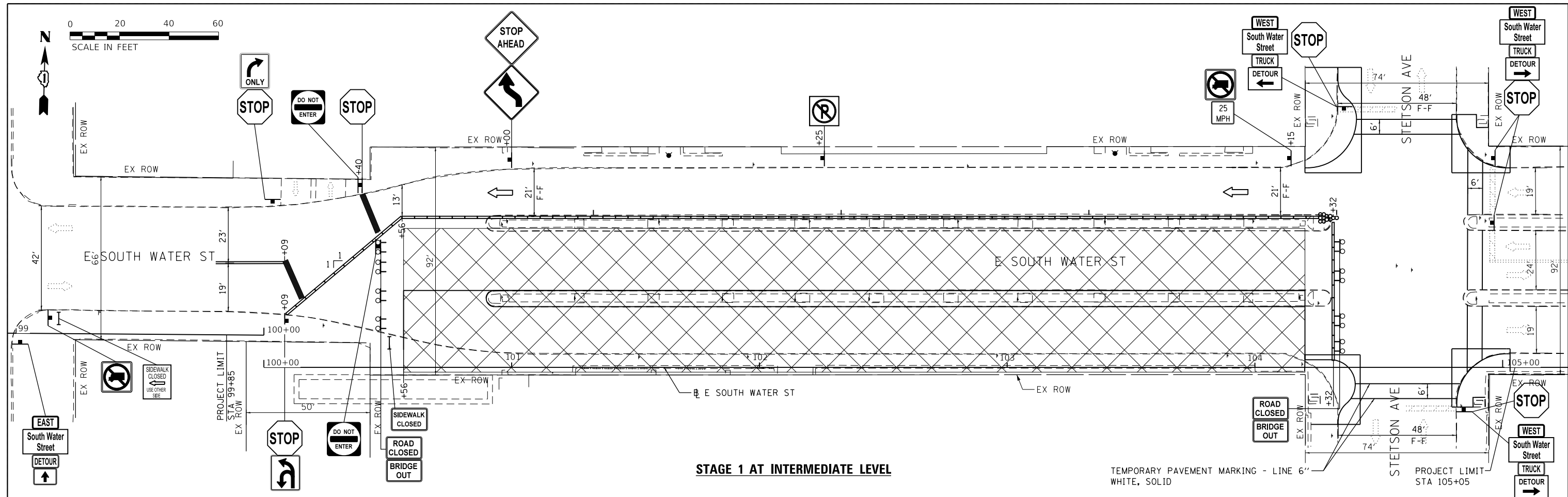
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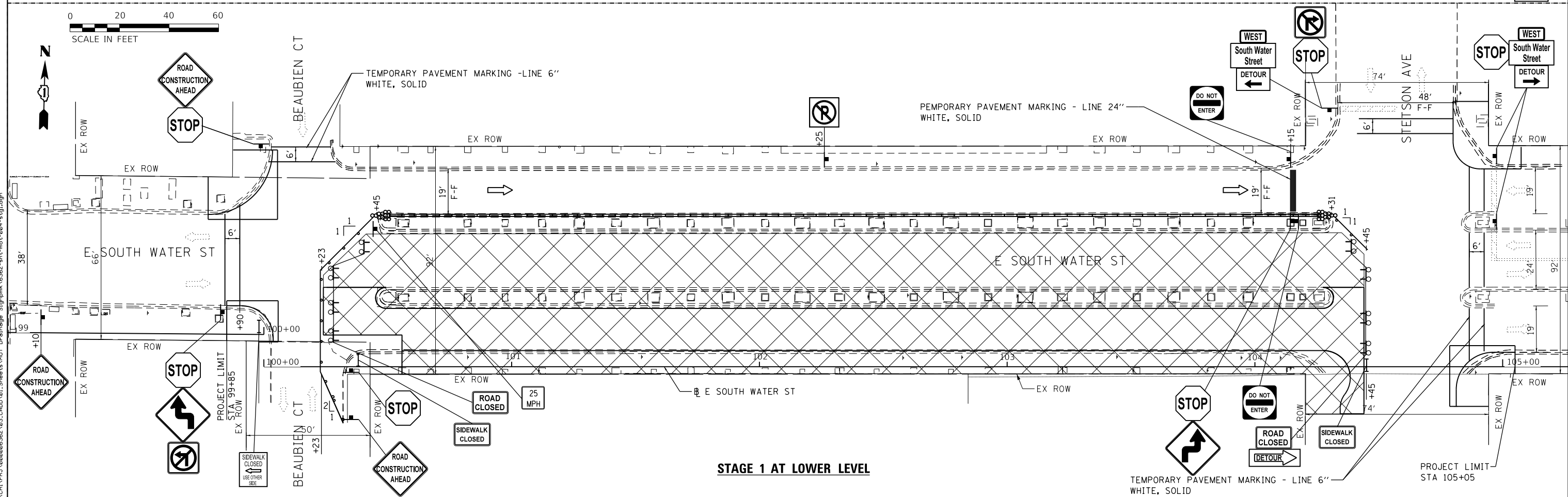
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 MAINTENANCE OF TRAFFIC - PRE STAGE**
 SCALE: 1" = 20' SHEET 3 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	16
DRAWING NO. MOT-03		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



STAGE 1 AT INTERMEDIATE LEVEL



STAGE 1 AT LOWER LEVEL

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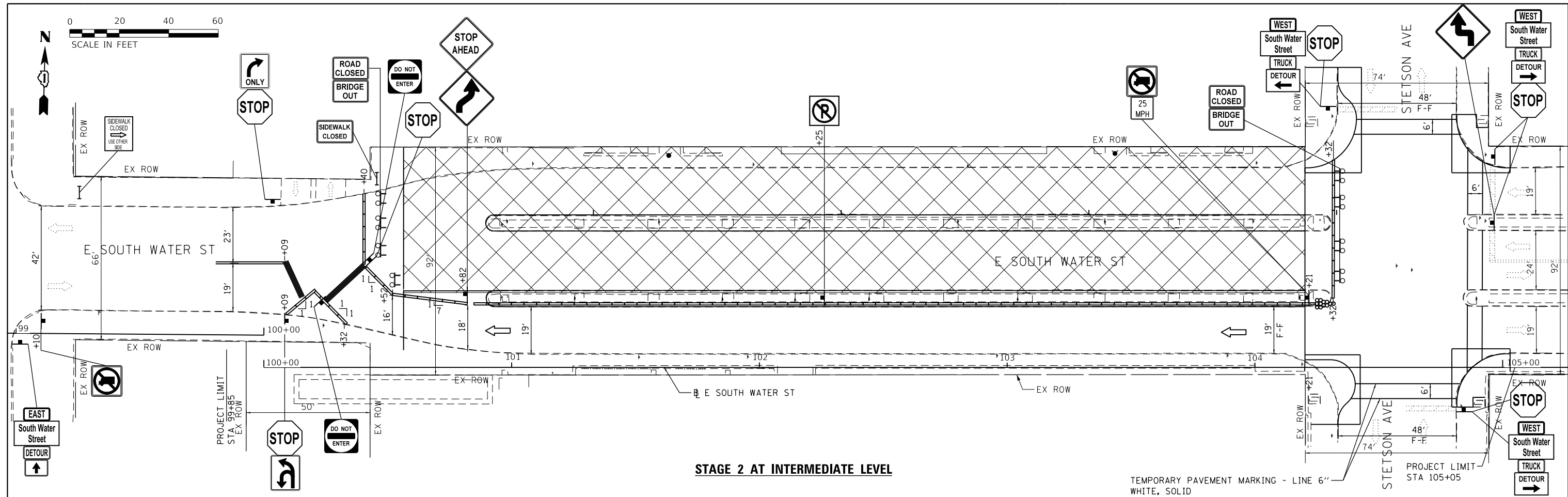
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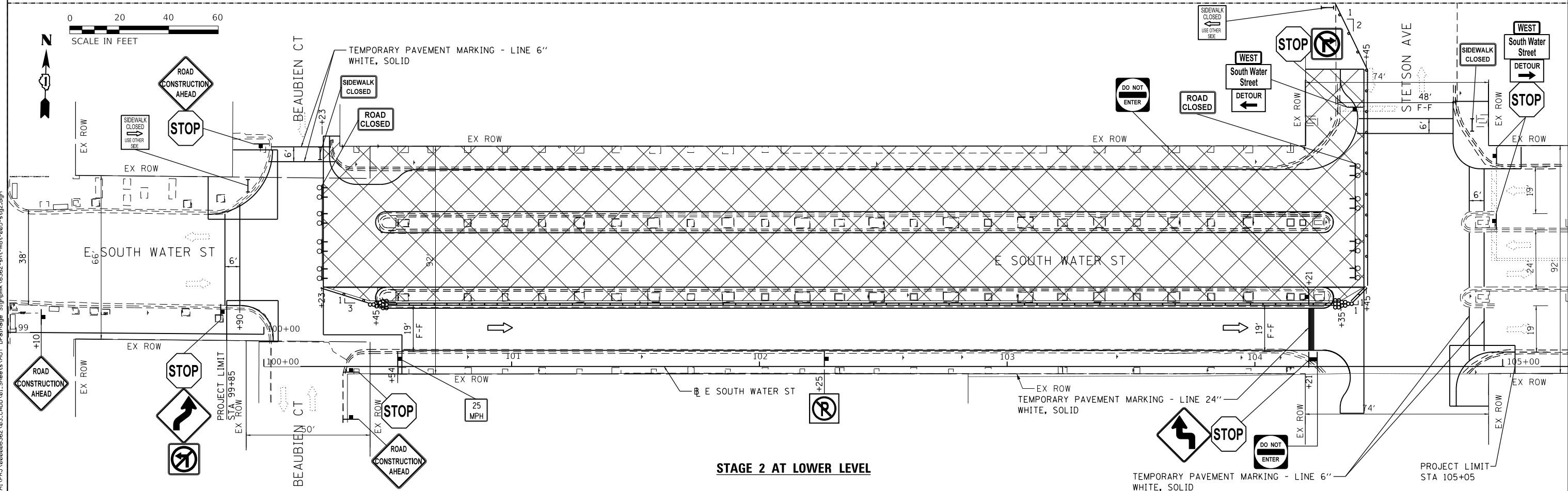
**E SOUTH WATER STREET
MAINTENANCE OF TRAFFIC - STAGE 1**

SCALE: 1" = 20' SHEET 4 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	17
DRAWING NO. MOT-04		CONTRACT NO. M-6000367)		
ILLINOIS FED. AID PROJECT				



STAGE 2 AT INTERMEDIATE LEVEL



STAGE 2 AT LOWER LEVEL

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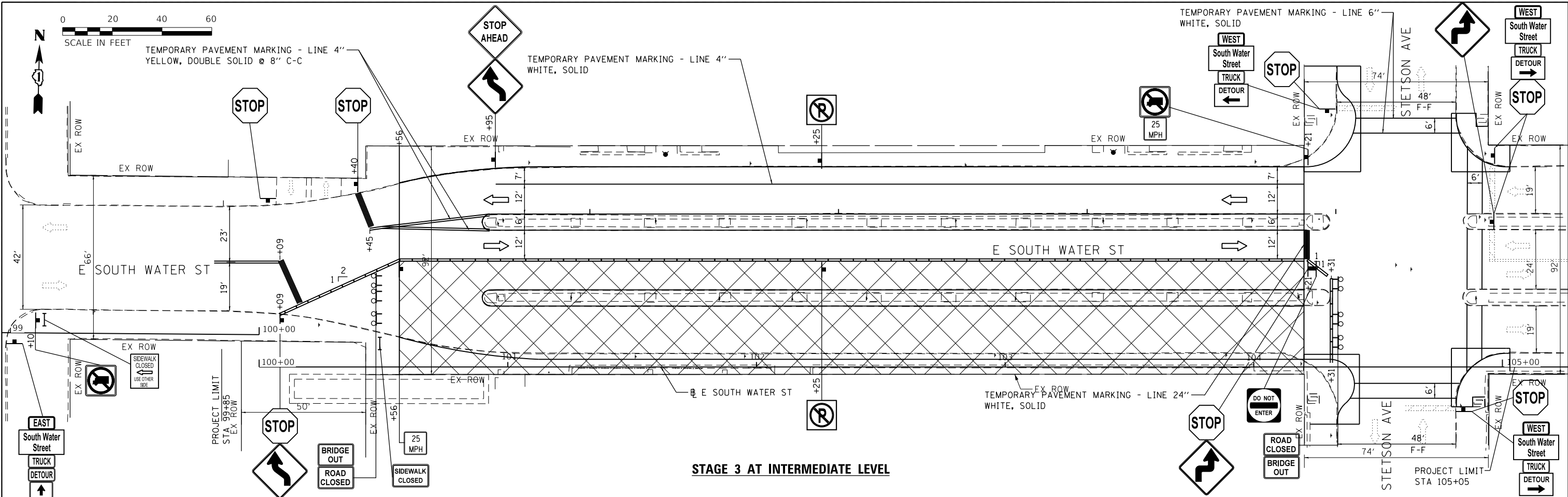
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 DIVISION OF ENGINEERING**

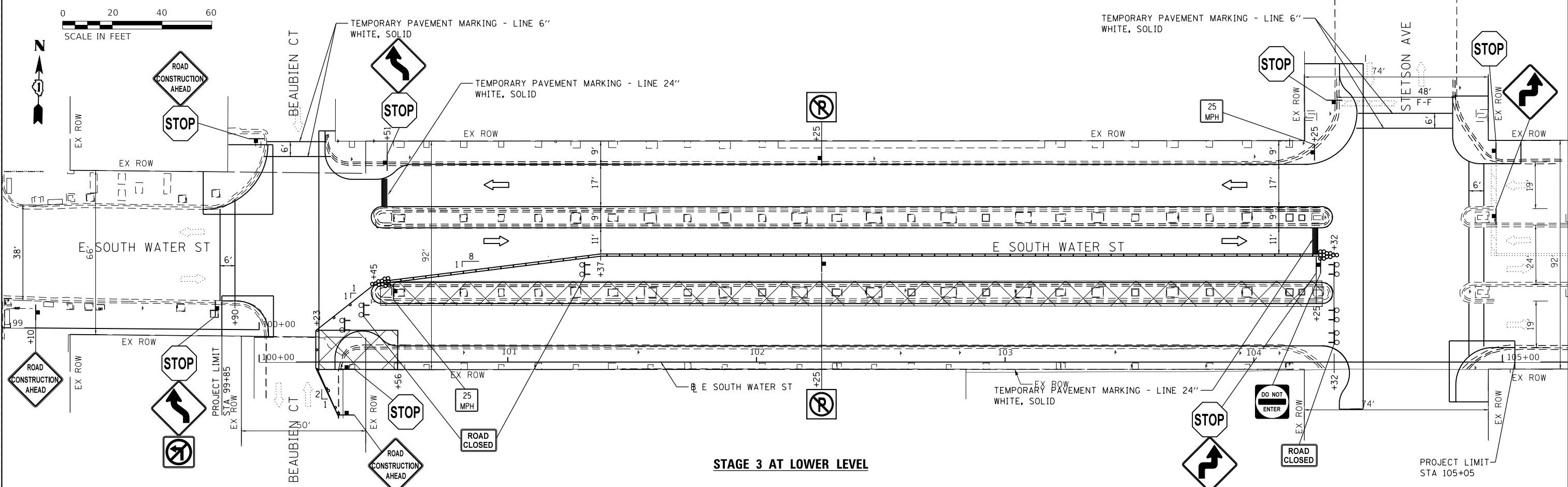
SCALE: 1" = 20'
 SHEET 5 OF 12 SHEETS

**E SOUTH WATER STREET
 MAINTENANCE OF TRAFFIC - STAGE 2**

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	18
DRAWING NO. MOT-05		CONTRACT NO. M-6000367)		
ILLINOIS FED. AID PROJECT				



STAGE 3 AT INTERMEDIATE LEVEL



STAGE 3 AT LOWER LEVEL

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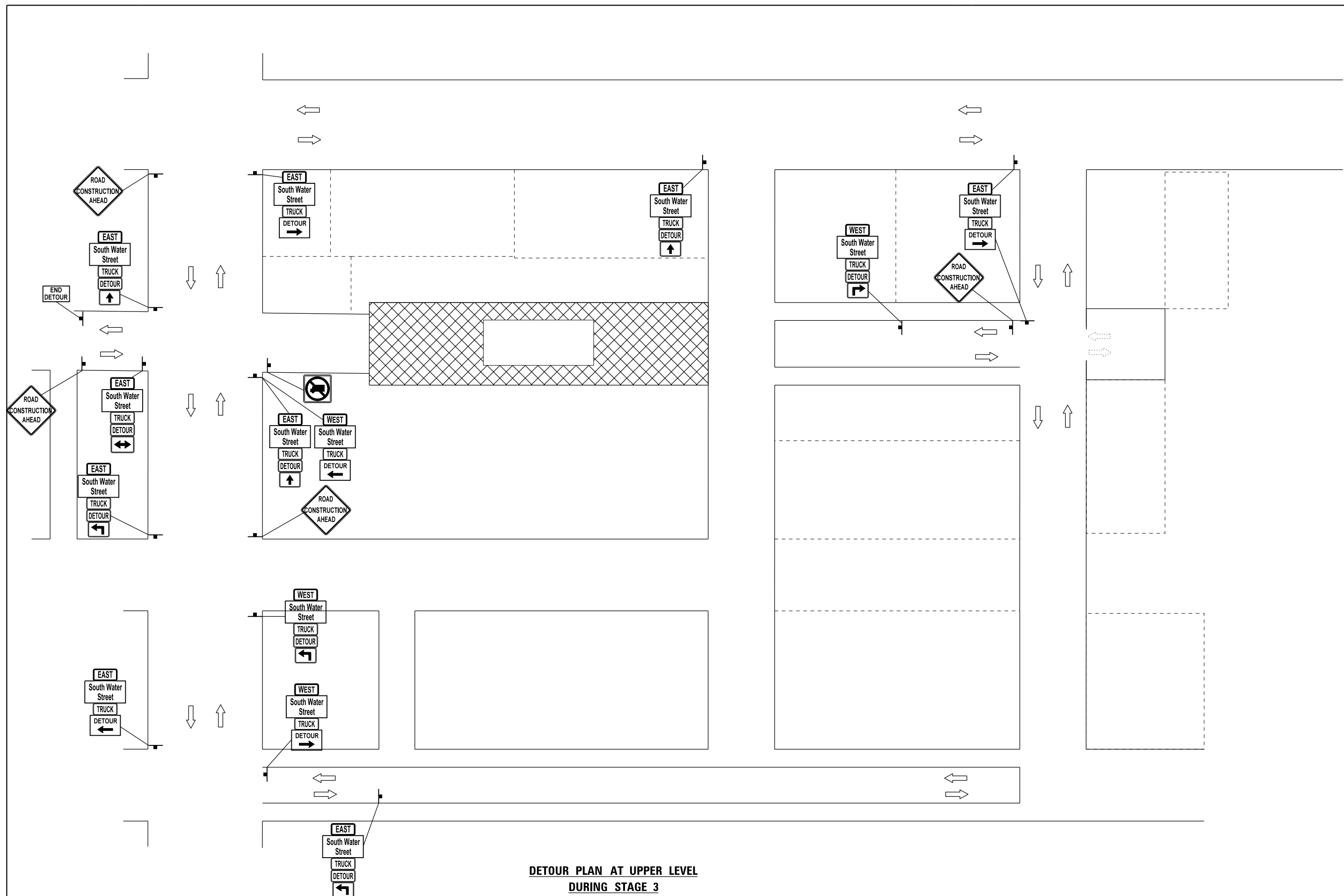
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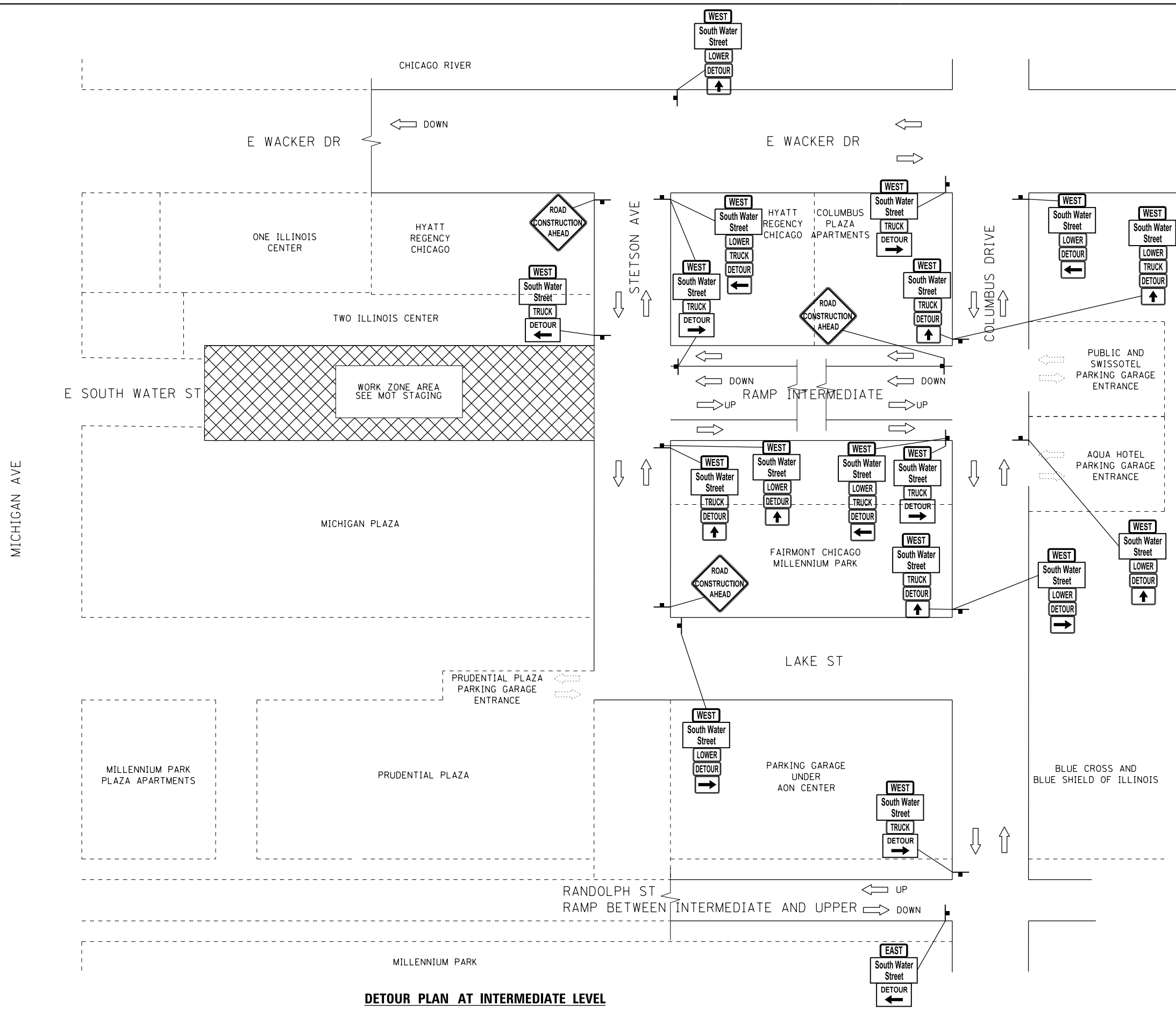
E SOUTH WATER STREET
 MAINTENANCE OF TRAFFIC - STAGE 3

SCALE: 1" = 20'

SHEET 6 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	19
DRAWING NO. MOT-06		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				





**DETOUR PLAN AT INTERMEDIATE LEVEL
DURING STAGE 1 AND 2**

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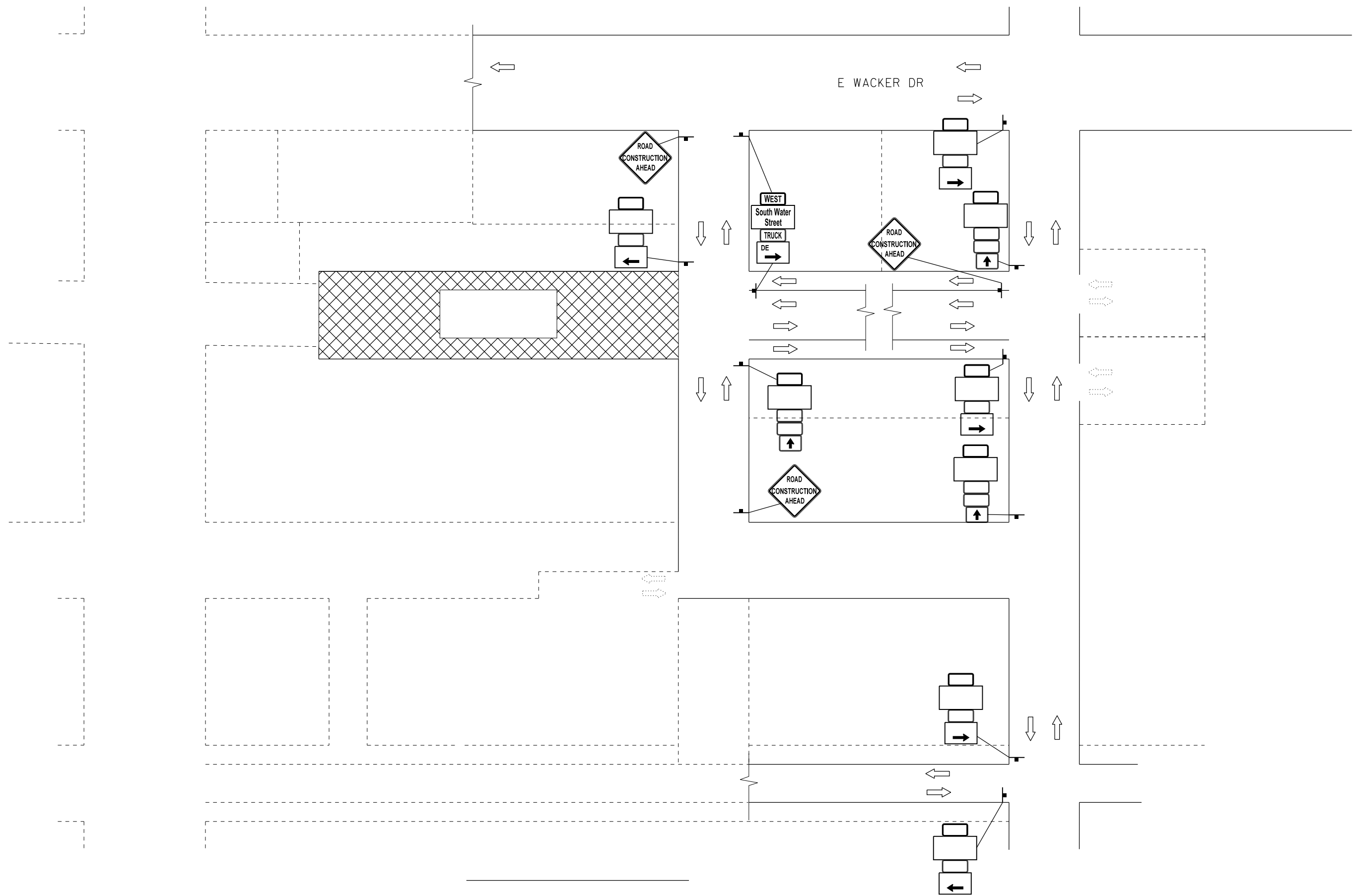
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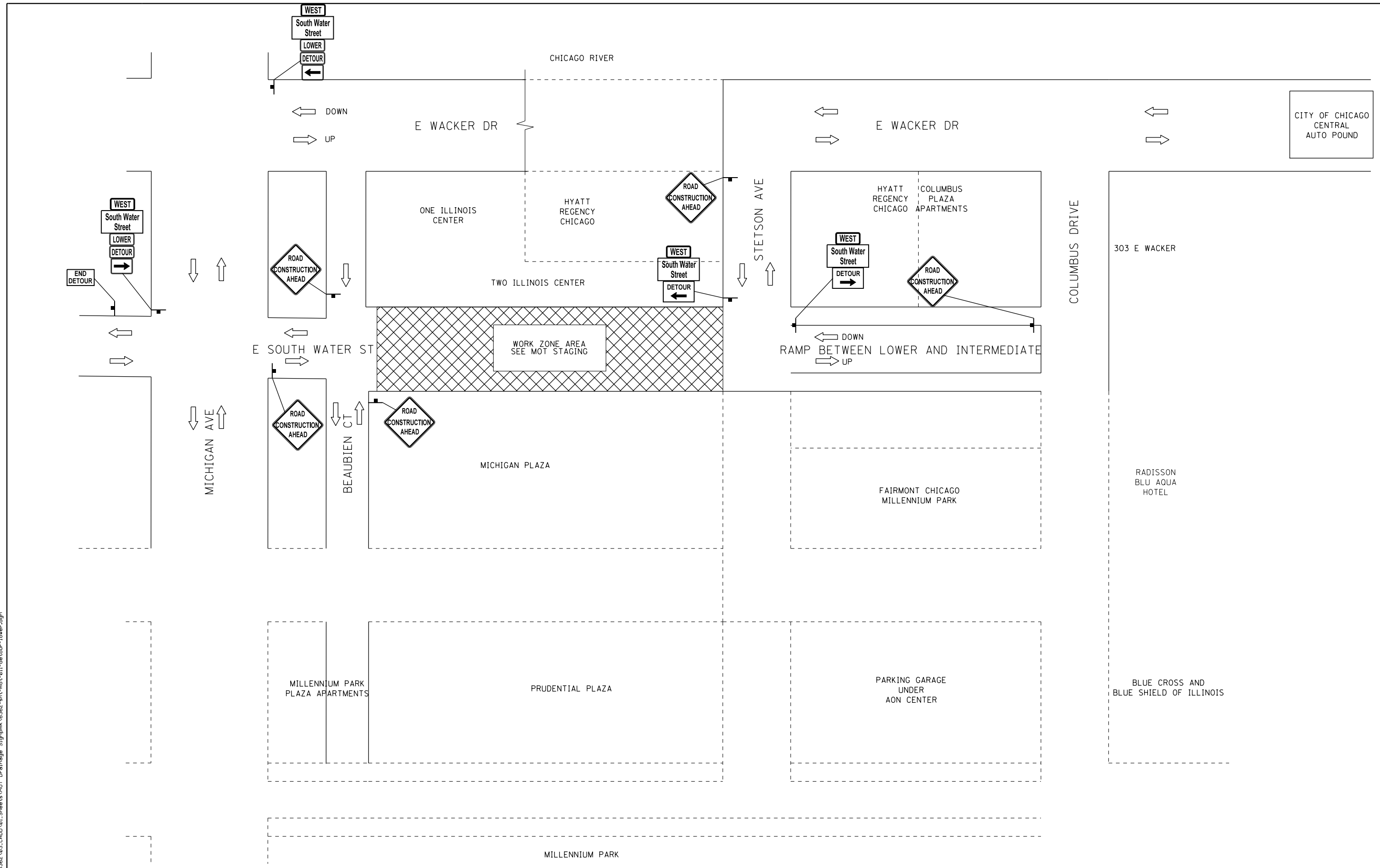
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
DETOUR PLAN - INTERMEDIATE - DURING STAGE 1 AND 2**
 SCALE: N.T.S. SHEET 9 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	22
DRAWING NO. MOT-09		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				





CITY OF CHICAGO
CENTRAL
AUTO POUND

**DETOUR PLAN AT LOWER LEVEL
DURING STAGE 1 AND 2**

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
DETOUR PLAN - LOWER LEVEL - DURING STAGE 1 AND 2**

SCALE: N.T.S. SHEET 11 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	24
DRAWING NO. MOT-11		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

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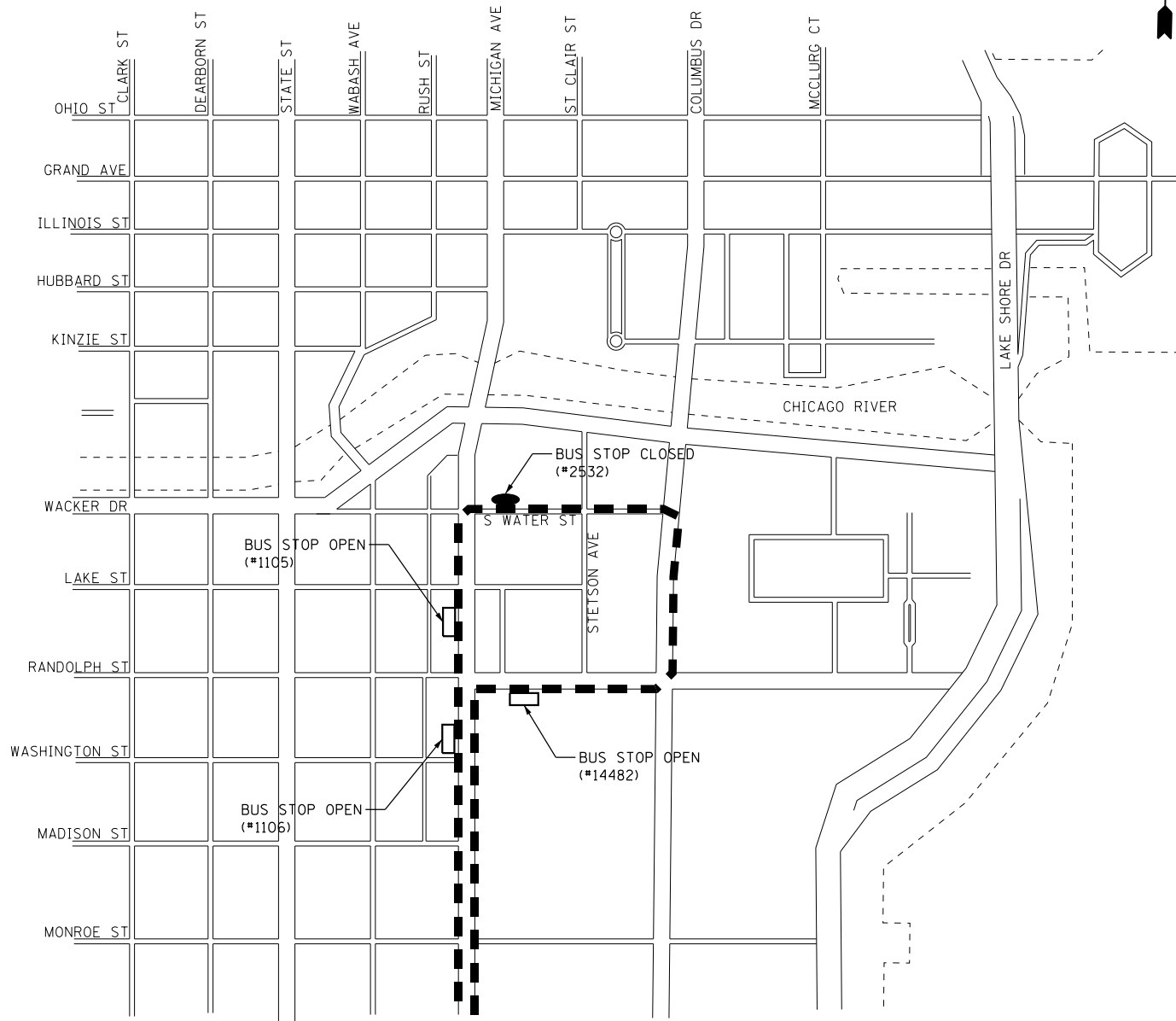


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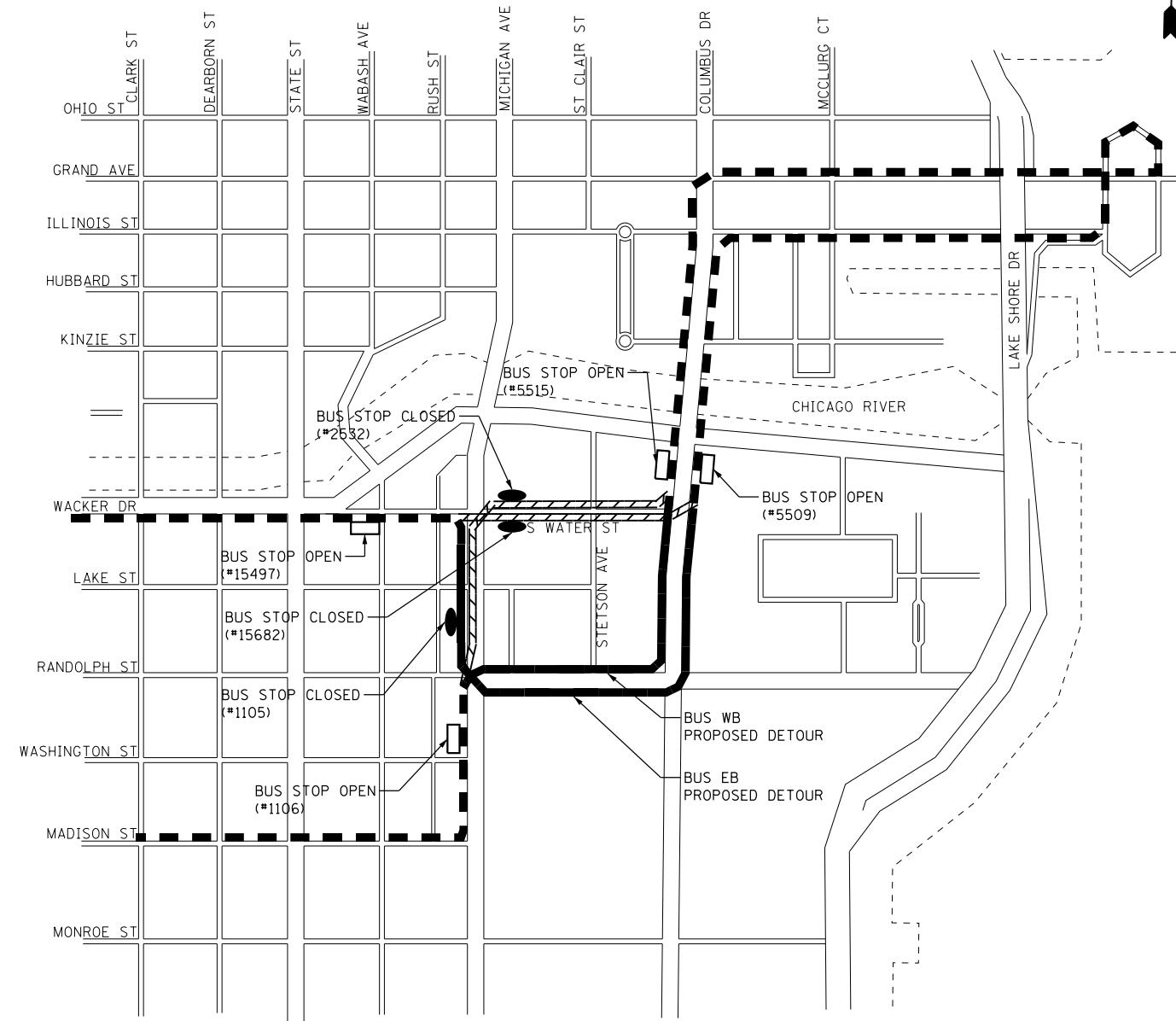
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CTA BUS ROUTE #4 PROPOSED BUS STOP CLOSURE



CTA BUS ROUTE #124 PROPOSED DETOUR

LEGEND

- CTA BUS REGULAR ROUTE
- CTA BUS CLOSED TO SERVICE
- CTA BUS PROPOSED DETOUR
- CTA BUS STOP OPEN
- CTA BUS STOP CLOSED



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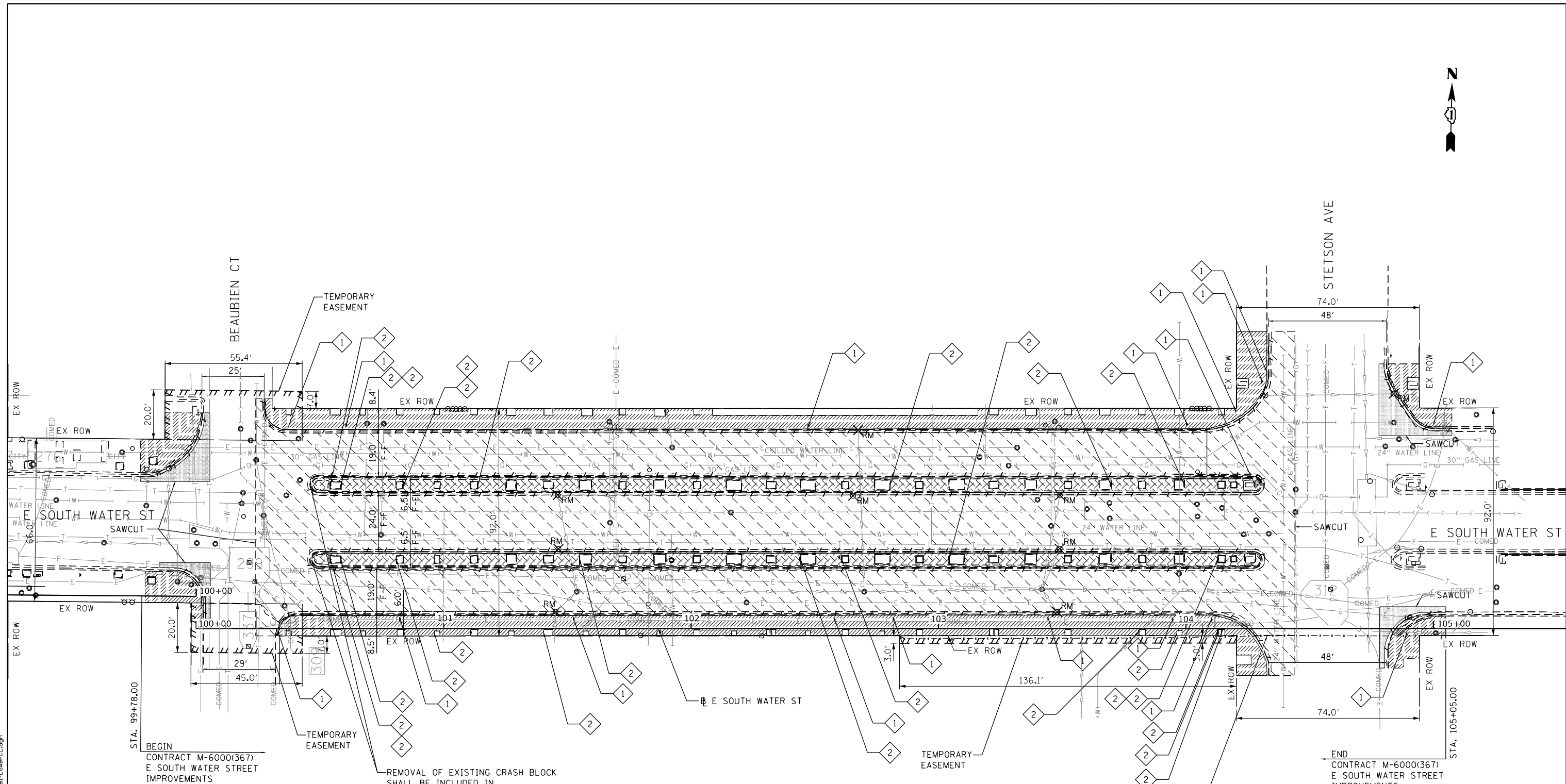
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 MAINTENANCE OF TRAFFIC - CTA BUS DETOUR**

SCALE: N.T.S. SHEET 12 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	25
DRAWING NO. MOT-12		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



LOWER LEVEL REMOVAL PLAN

LEGEND

- PAVEMENT REMOVAL
- SIDEWALK REMOVAL
- MEDIAN REMOVAL
- HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
- COMBINATION CURB AND GUTTER REMOVAL
- REMOVE AND SALVAGE SIGN PANEL AND POST ASSEMBLY
- REMOVE AND SALVAGE SIGN PANEL
- REMOVE CATCH BASIN

BEGIN
CONTRACT M-6000(367)
E SOUTH WATER STREET
IMPROVEMENTS

REMOVAL OF EXISTING CRASH BLOCK
SHALL BE INCLUDED IN
THE COST OF MEDIAN REMOVAL

TEMPORARY EASEMENT

CHAIN LINK FENCE
REMOVE AND REPLACE
FROM STA 102+83, 3'RT
TO STA 104+95, 3'RT

END
CONTRACT M-6000(367)
E SOUTH WATER STREET
IMPROVEMENTS



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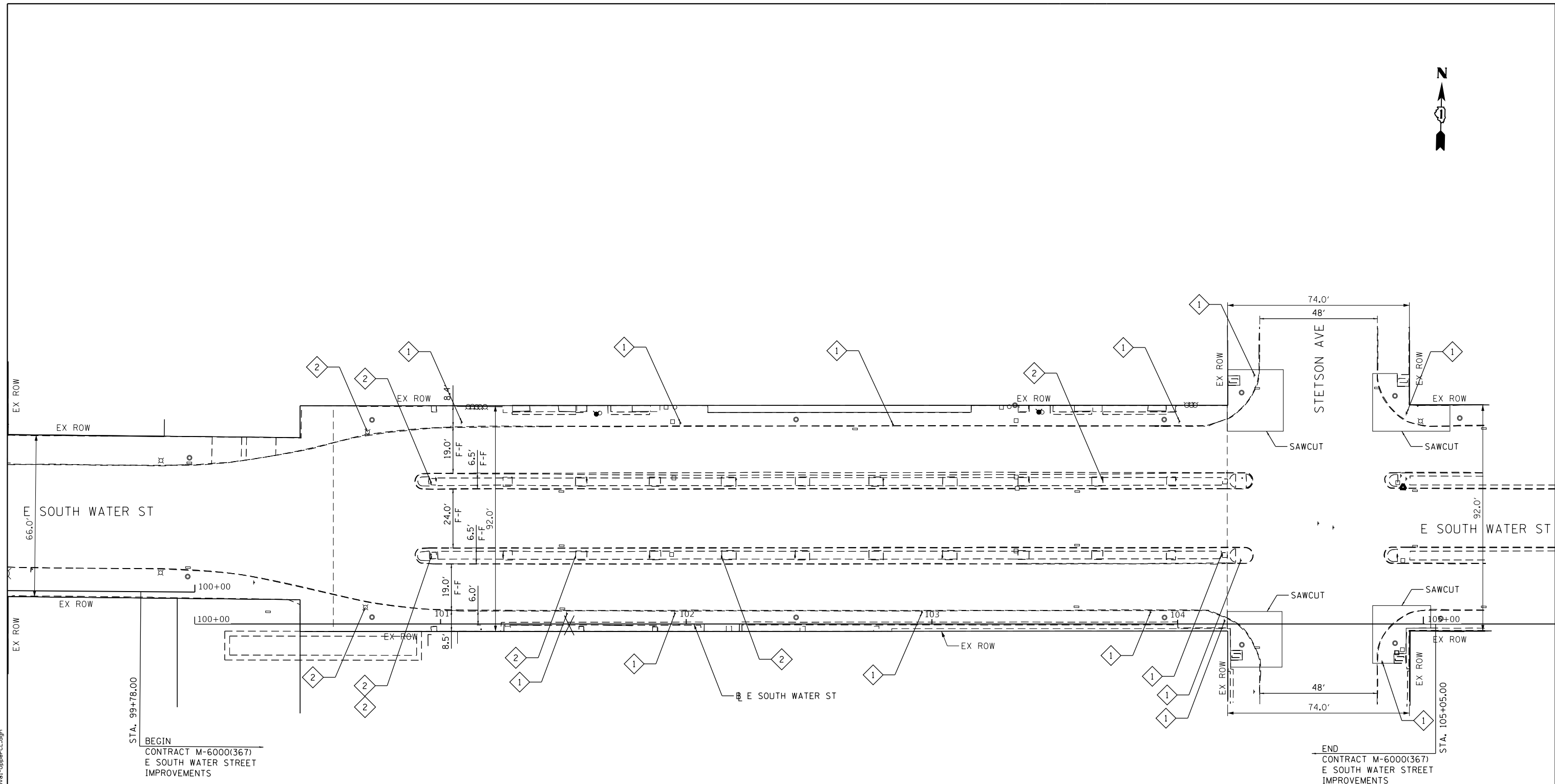
LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
LOWER LEVEL REMOVAL PLAN**
SCALE: 1" = 20' SHEET 1 OF 2 SHEETS

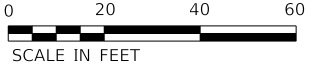
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3030	11-E1517-00-BR	COOK	141	26
DRAWING NO. C-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



INTERMEDIATE LEVEL REMOVAL PLAN

LEGEND

- 1 REMOVE AND SALVAGE SIGN PANEL AND POST ASSEMBLY
- 2 REMOVE AND SALVAGE SIGN PANEL



MODEL: Default
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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

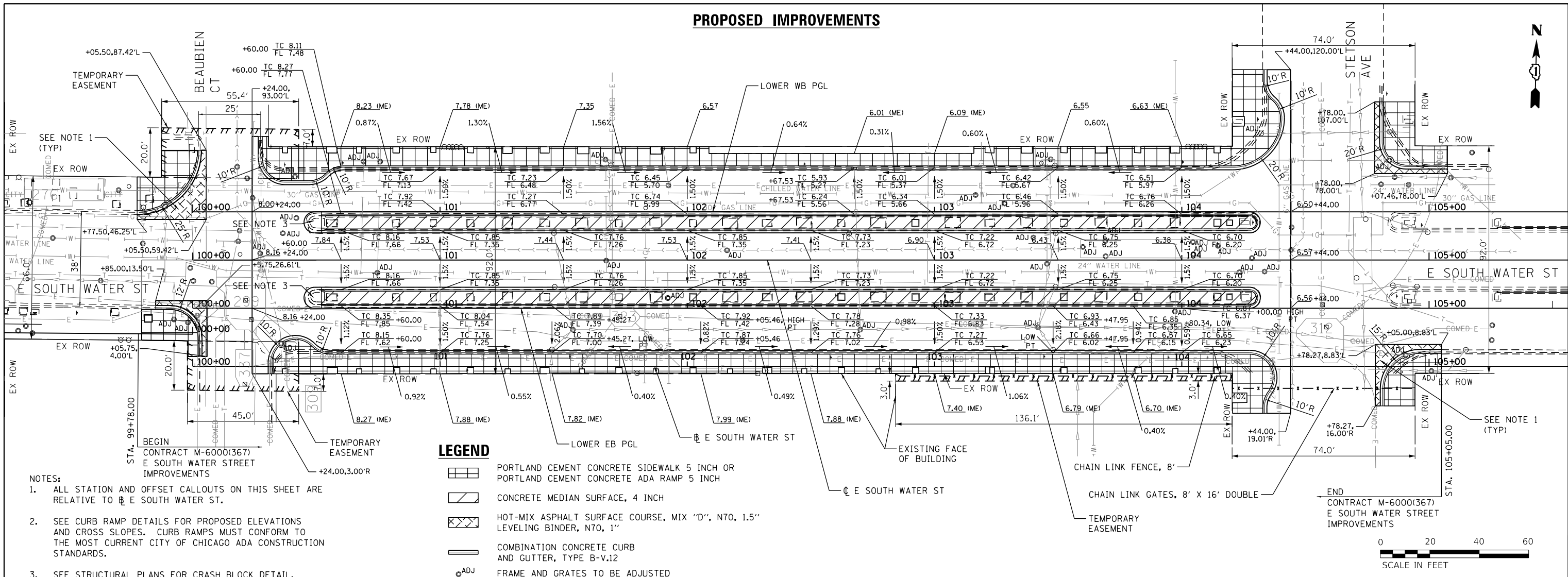
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	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
INTERMEDIATE LEVEL REMOVAL PLAN
 SCALE: 1" = 20' SHEET 2 OF 2 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	27
DRAWING NO. C-02		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

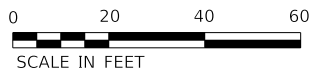
PROPOSED IMPROVEMENTS



- NOTES:**
- ALL STATION AND OFFSET CALLOUTS ON THIS SHEET ARE RELATIVE TO E SOUTH WATER ST.
 - SEE CURB RAMP DETAILS FOR PROPOSED ELEVATIONS AND CROSS SLOPES. CURB RAMP MUST CONFORM TO THE MOST CURRENT CITY OF CHICAGO ADA CONSTRUCTION STANDARDS.
 - SEE STRUCTURAL PLANS FOR CRASH BLOCK DETAIL.

LEGEND

	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH OR PORTLAND CEMENT CONCRETE ADA RAMP 5 INCH
	CONCRETE MEDIAN SURFACE, 4 INCH
	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70, 1.5" LEVELING BINDER, N70, 1"
	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-V.12
	FRAME AND GRATES TO BE ADJUSTED

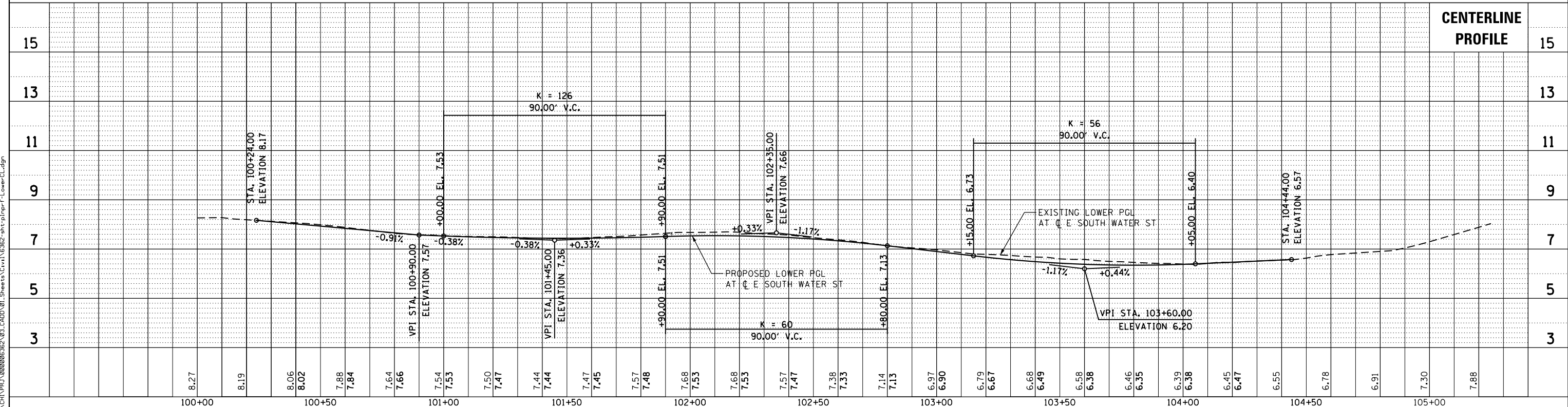


PLAN

DATE	
BY	
CHECKED	
APPROVED	
NO.	
FILE NAME	

PROFILE

DATE	
BY	
CHECKED	
APPROVED	
NO.	
FILE NAME	



LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender	DESIGNED - JN	REVISED -
	DRAWN - JN	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - DB	REVISED -
PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 LOWER PLAN AND CENTERLINE PROFILE**
 SCALE: 1" = 20' SHEET 1 OF 4 SHEETS STA. 99+78.00 TO STA. 105+05.00

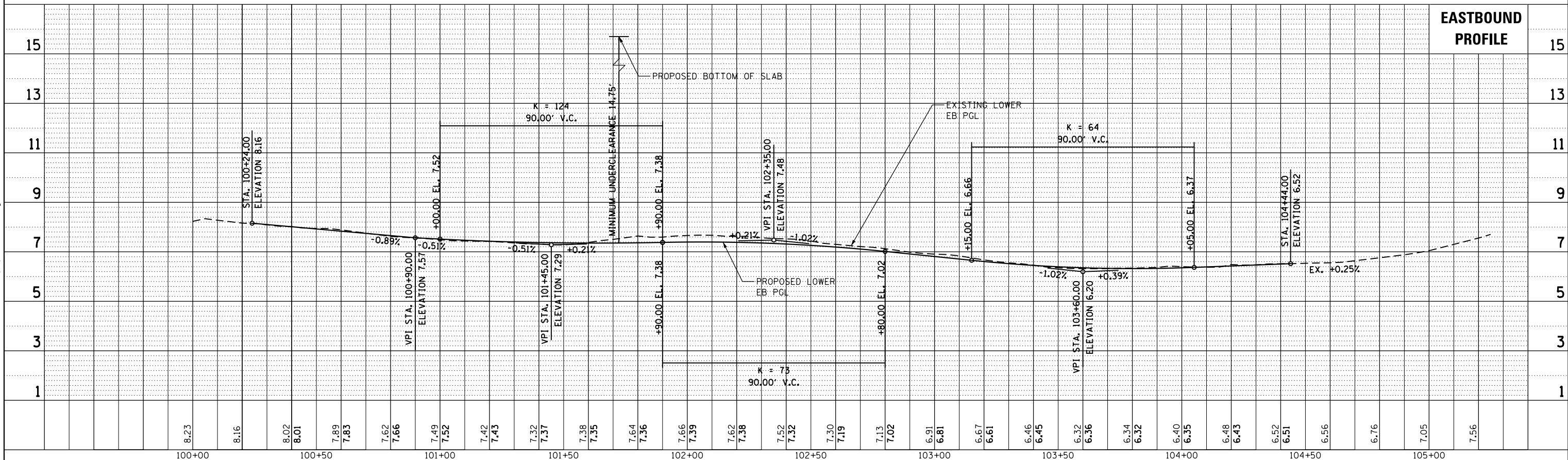
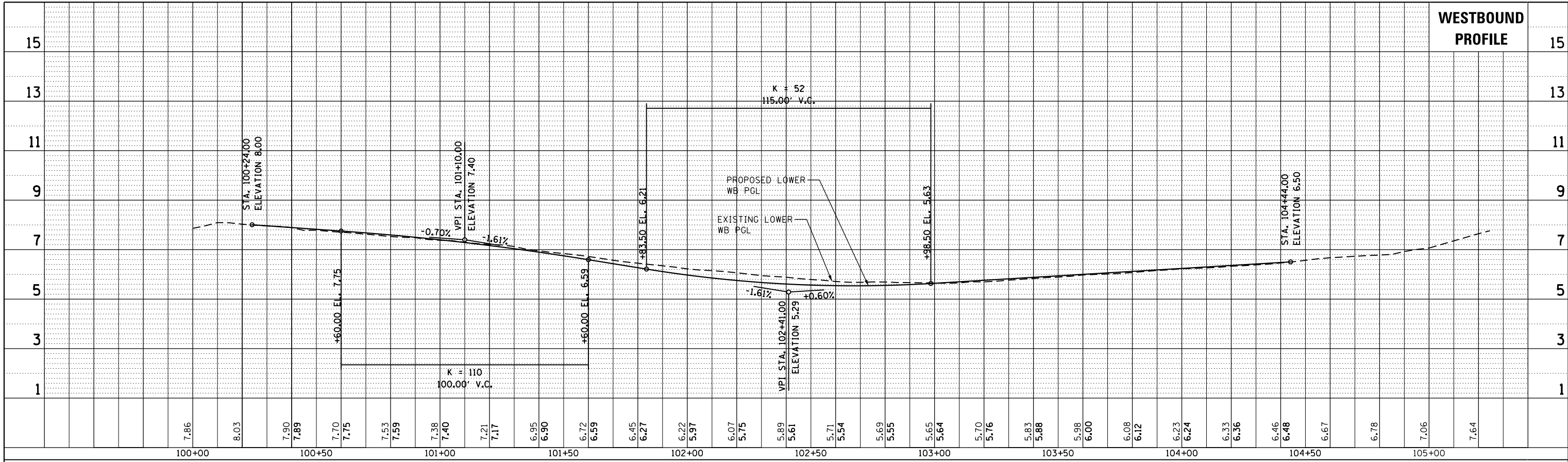
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3030	11-E1517-00-BR	COOK	141	28
DRAWING NO. C-03		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

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	NOTE BOOK		
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	CARD FILE NAME		

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	STRUCTURE		
	NOTATIONS		
	CHKD		

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME	= dbender
PLOT SCALE	= 40.0000' / in.
PLOT DATE	= 5/17/2019

DESIGNED	- DB
DRAWN	- JN
CHECKED	- DB
DATE	-




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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

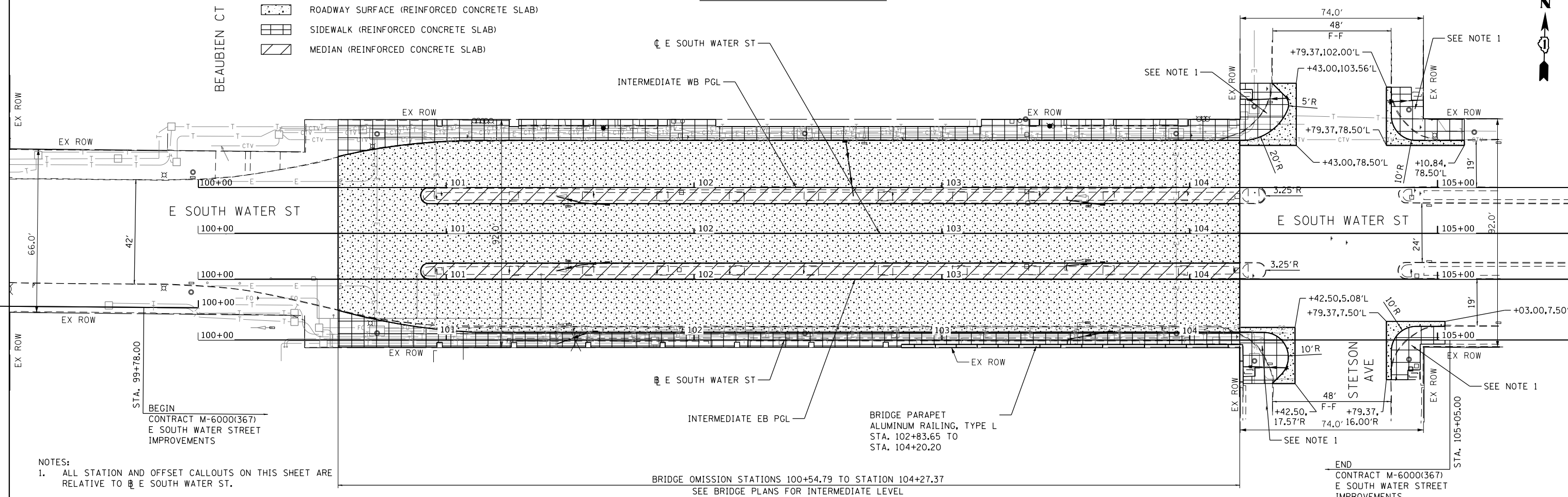
**E SOUTH WATER STREET
 LOWER LEVEL WESTBOUND AND EASTBOUND PROFILES**
 SCALE: 1" = 20'
 SHEET 2 OF 4 SHEETS
 STA. 99+78.00 TO STA. 105+05.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	29
DRAWING NO. C-04		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

LEGEND

-  ROADWAY SURFACE (REINFORCED CONCRETE SLAB)
-  SIDEWALK (REINFORCED CONCRETE SLAB)
-  MEDIAN (REINFORCED CONCRETE SLAB)

PROPOSED IMPROVEMENTS



- NOTES:
- ALL STATION AND OFFSET CALLOUTS ON THIS SHEET ARE RELATIVE TO \square E SOUTH WATER ST.
 - SEE CURB RAMP DETAILS FOR PROPOSED ELEVATIONS AND CROSS SLOPES. CURB RAMP MUST CONFORM TO THE MOST CURRENT CITY OF CHICAGO ADA CONSTRUCTION STANDARDS.

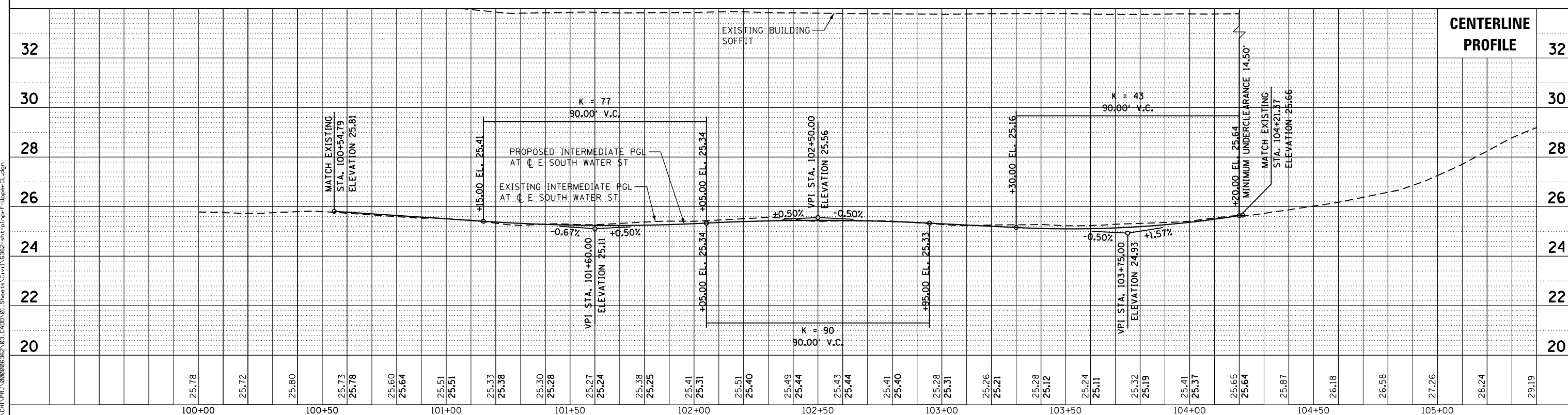
BRIDGE OMISSION STATIONS 100+54.79 TO STATION 104+27.37
SEE BRIDGE PLANS FOR INTERMEDIATE LEVEL

BEGIN
CONTRACT M-6000(367)
E SOUTH WATER STREET
IMPROVEMENTS

END
CONTRACT M-6000(367)
E SOUTH WATER STREET
IMPROVEMENTS

DATE	
BY	
PLAN	
NO.	
DATE	
BY	
PROFILE	
NO.	

DATE	
BY	
PROFILE	
NO.	



LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME - dbender	DESIGNED - DB	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

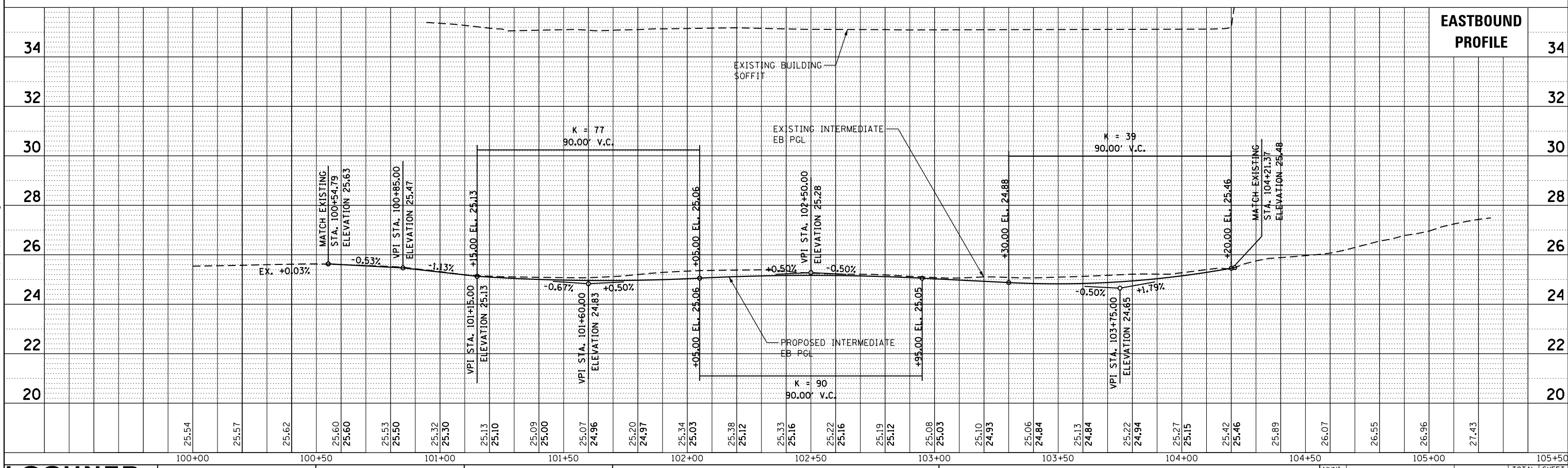
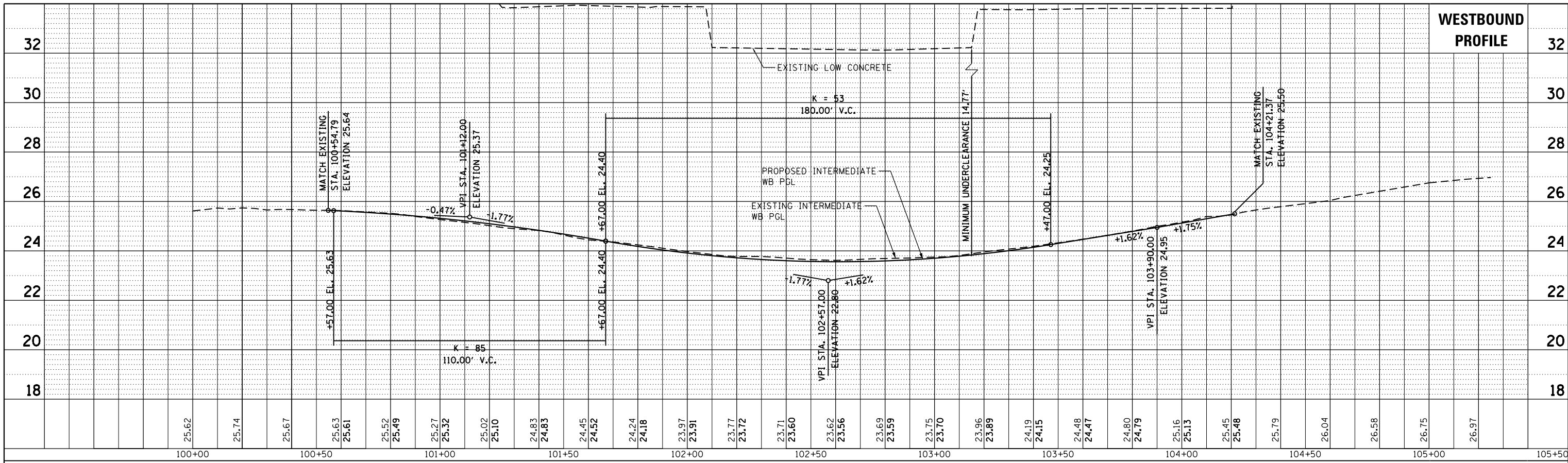
**E SOUTH WATER STREET
INTERMEDIATE LEVEL PLAN AND CENTERLINE PROFILE**
SCALE: 1" = 20' SHEET 3 OF 4 SHEETS STA. 99+78.00 TO STA. 105+05.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	30
DRAWING NO. C-05		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender
 DRAWN - JN
 CHECKED - DB
 DATE - 5/17/2019

DESIGNED - DB
 REVISIONS:
 REVISIONS:
 REVISIONS:
 REVISIONS:

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
INTERMEDIATE LEVEL WESTBOUND AND EASTBOUND PROFILES
 SCALE: 1" = 20' SHEET 4 OF 4 SHEETS STA. 99+78.00 TO STA. 105+05.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	31
DRAWING NO. C-06		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

DRAINAGE STRUCTURE SCHEDULE - LOWER LEVEL

LOCATION			STRUCTURE NO.	CODE NO.	STRUCTURE TYPE	UNIT	QUANTITY	FRAME & GRATE TYPE	RIM * ELEVATION	INVERT ELEVATION (N)	INVERT ELEVATION (S)	INVERT ELEVATION (W)	INVERT ELEVATION (E)	INVERT ELEVATION (NE)	INVERT ELEVATION (SE)	INVERT ELEVATION (SW)	INVERT ELEVATION (NW)	28000510 INLET FILTERS (EACH)
STATION	OFFSET (FT)	LT/RT																
101+46.00	54.00	LT	CB 1	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	7.25	2.20	2.05 (EX)							1
101+46.00	32.00	LT	CB 2	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	7.25		2.20		2.05 (EX)					1
101+46.00	7.00	LT	CB 3	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	7.15		2.00			1.85 (EX)				1
102+68.00	80.00	LT	CB 4	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	5.25		0.36 (EX)							1
102+65.00	54.00	LT	CB 5	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	7.05	2.50					2.40 (EX)			1
103+49.00	54.00	LT	CB 6	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.25	1.55			1.55			1.35 (EX)		1
103+49.00	32.00	LT	CB 7	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.25				1.55		1.55	1.35 (EX)		1
103+49.00	7.00	LT	CB 8	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.15				1.55		1.55		1.35± (EX)	1
104+34.50	116.00	LT	CB 9	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	5.63		1.25							1
104+80.00	94.80	LT	CB 10	CDOT6020010	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.15			MEET EX						1
							10											
103+80.00	54.00	LT	INLET 1	CDOT6020020	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.15			1.75						1
103+80.00	32.00	LT	INLET 2	CDOT6020020	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.15			1.75						1
103+80.00	6.00	LT	INLET 3	CDOT6020020	INLETS, TYPE A, TYPE 1 FRAME, OPEN LID (CITY OF CHICAGO)	EACH	1	OPEN LID	6.25			1.75						1
							3											
101+54.00	15.00	LT	EX MH 1	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	1	CLOSED LID	7.30				1.30 (EX)			1.75± (EX)	1.80± (EX)	
102+70.00	15.00	LT	EX MH 2	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	1	CLOSED LID	7.10	0.00± (EX)		-1.25 (EX)	-1.25 (EX)					
103+42.00	15.00	LT	EX MH 3	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	1	CLOSED LID	6.35	1.25± (EX)		-2.80 (EX)	-2.80 (EX)	1.10± (EX)	1.25± (EX)			
104+32.00	94.20	LT	EX CB	60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	1	CLOSED LID	6.55	1.10 (PR)			0.60± (EX)					
							4											
101+46.00	54.00	LT	CB 1	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
101+46.00	32.00	LT	CB 2	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
101+46.00	7.00	LT	CB 3	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
102+68.00	80.00	LT	CB 4	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
102+65.00	54.00	LT	CB 5	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
103+49.00	54.00	LT	CB 6	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
103+49.00	32.00	LT	CB 7	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
103+49.00	7.00	LT	CB 8	CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
104+84.00	94.80	LT		CDOT6050020	REMOVING CATCH BASINS	EACH	1	OPEN LID										
							9											13

* RIM ELEVATION SHOULD MEET PROPOSED ELEVATION OF GUTTER LINE OR TOP OF PAVEMENT SURFACE.

DRAINAGE PIPE SCHEDULE - LOWER LEVEL

PIPE NO.	CODE NO.	PIPE TYPE	UNIT	QUANTITY	FROM STRUCTURE	TO STRUCTURE	PIPE DIAMETER (INCH)	SLOPE	20800150 TRENCH BACKFILL (CO YD)
P 1	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	10	DOWNSPOUT, STA 101+44.00, OS 58.00' LT	CB 1	8	0.54%	
P 2	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	10	CB 2	EX 8" VCP TRUNK LINE	8	0.54%	
P 3	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	15	DOWNSPOUT, STA 101+44.00, OS 2.00' RT	CB 3	8	0.54%	
P 4	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	10	DOWNSPOUT, STA 102+64.00, OS 58.00' LT	CB 5	8	0.54%	
P 5	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	10	DOWNSPOUT, STA 103+50.00, OS 58.00' LT	CB 6	8	0.54%	
P 6	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	30	INLET 1	CB 6	8	0.54%	20
P 7	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	10	DOWNSPOUT, STA 103+50.00, OS 28.00' LT	CB 7	8	0.54%	
P 8	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	30	INLET 2	CB 7	8	0.54%	20
P 9	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	15	DOWNSPOUT, STA 103+50.00, OS 2.00' RT	CB 8	8	0.54%	
P 10	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	30	INLET 3	CB 8	8	0.54%	20
P 11	*****	STORM SEWERS, TYPE 2, 8-INCH (DUCTILE IRON PIPE)	FOOT	20	CB 9	EX CB	8	0.54%	
				190					
P 1	55100300	STORM SEWER REMOVAL 8"	FOOT	10	DOWNSPOUT, STA 101+44.00, OS 58.00' LT	CB 1	8		
P 2	55100300	STORM SEWER REMOVAL 8"	FOOT	10	CB 2	EX 8" VCP TRUNK LINE	8		
P 3	55100300	STORM SEWER REMOVAL 8"	FOOT	15	DOWNSPOUT, STA 101+44.00, OS 2.00' RT	CB 3	8		
P 4	55100300	STORM SEWER REMOVAL 8"	FOOT	10	DOWNSPOUT, STA 102+64.00, OS 58.00' LT	CB 5	8		
P 5	55100300	STORM SEWER REMOVAL 8"	FOOT	10	DOWNSPOUT, STA 103+50.00, OS 58.00' LT	CB 6	8		
P 7	55100300	STORM SEWER REMOVAL 8"	FOOT	10	DOWNSPOUT, STA 103+50.00, OS 28.00' LT	CB 7	8		
P 9	55100300	STORM SEWER REMOVAL 8"	FOOT	15	DOWNSPOUT, STA 103+50.00, OS 2.00' RT	CB 8	8		
				80					60

** DOWNSPOUT LOCATIONS SHOULD MEET INTERMEDIATE LEVEL DRAINAGE SYSTEM, SEE STRUCTURE SHEETS FOR INTERMEDIATE LEVEL DOWNSPOUT LOCATIONS.

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USER NAME = ES	DESIGNED - JL	REVISED -
DRAWN - JL	REVISIONS -	
CHECKED - CD	REVISIONS -	
DATE -	REVISIONS -	

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
DRAINAGE SCHEDULE - LOWER LEVEL**

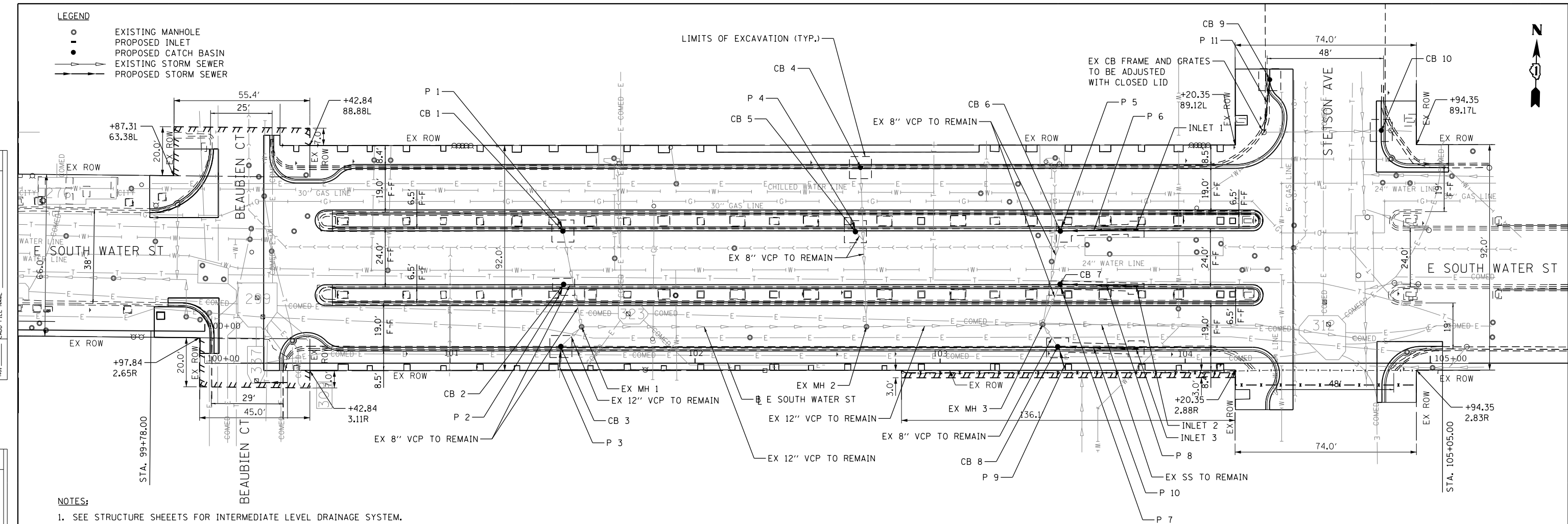
MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	32
DRAWING NO. C-13		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

SCALE: N.T.S. SHEET 1 OF 5 SHEETS

- LEGEND**
- EXISTING MANHOLE
 - PROPOSED INLET
 - PROPOSED CATCH BASIN
 - EXISTING STORM SEWER
 - PROPOSED STORM SEWER

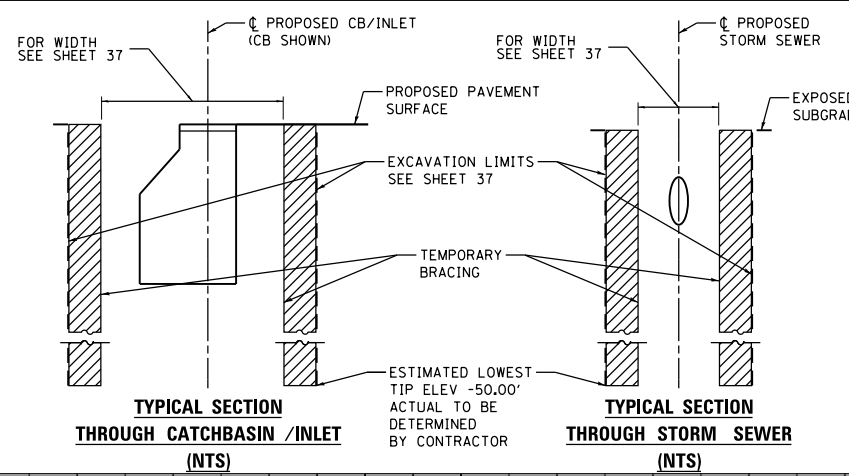
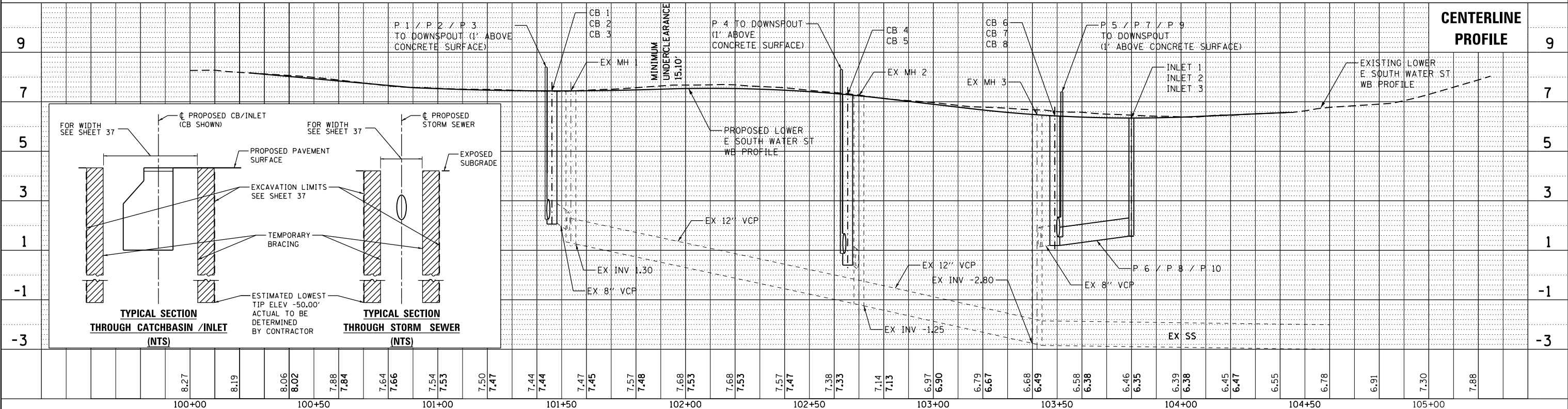
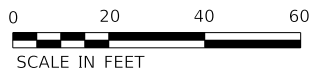
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NOTE BOOK NO.	ALIGNED CHECKED
	CAD FILE NAME

DATE	
BY	
PROFILE	SURVEYED PLOTTED
NOTE BOOK NO.	GRADES CHECKED
	STRUCTURE NOTATIONS CHKO



- NOTES:**
- SEE STRUCTURE SHEETS FOR INTERMEDIATE LEVEL DRAINAGE SYSTEM.
 - SEE REMOVAL PLAN SHEETS FOR DRAINAGE REMOVAL.
 - SEE DRAINAGE STRUCTURE EXCAVATION DETAIL ON SHEET 37 FOR MORE INFORMATION ON THE INSTALLATION OF PROPOSED DRAINAGE ITEMS.

PROPOSED DRAINAGE PLAN AT LOWER LEVEL



100+00	100+50	101+00	101+50	102+00	102+50	103+00	103+50	104+00	104+50	105+00																
8.27	8.19	8.06 8.02	7.88 7.84	7.64 7.66	7.54 7.53	7.50 7.47	7.44 7.44	7.47 7.45	7.57 7.48	7.68 7.53	7.68 7.53	7.57 7.47	7.38 7.33	7.14 7.13	6.97 6.90	6.79 6.67	6.68 6.49	6.58 6.38	6.46 6.35	6.39 6.38	6.45 6.47	6.55	6.78	6.91	7.30	7.88



1327 W WASHINGTON BLVD SUITE 105 CHICAGO, IL 60607	USER NAME = dbender	DESIGNED - JL	REVISIED -
ardmoreroederick.com	PLOT SCALE = 40.0000' / in.	DRAWN - JL	REVISIED -
	PLOT DATE = 5/17/2019	CHECKED - CD	REVISIED -
		DATE -	REVISIED -

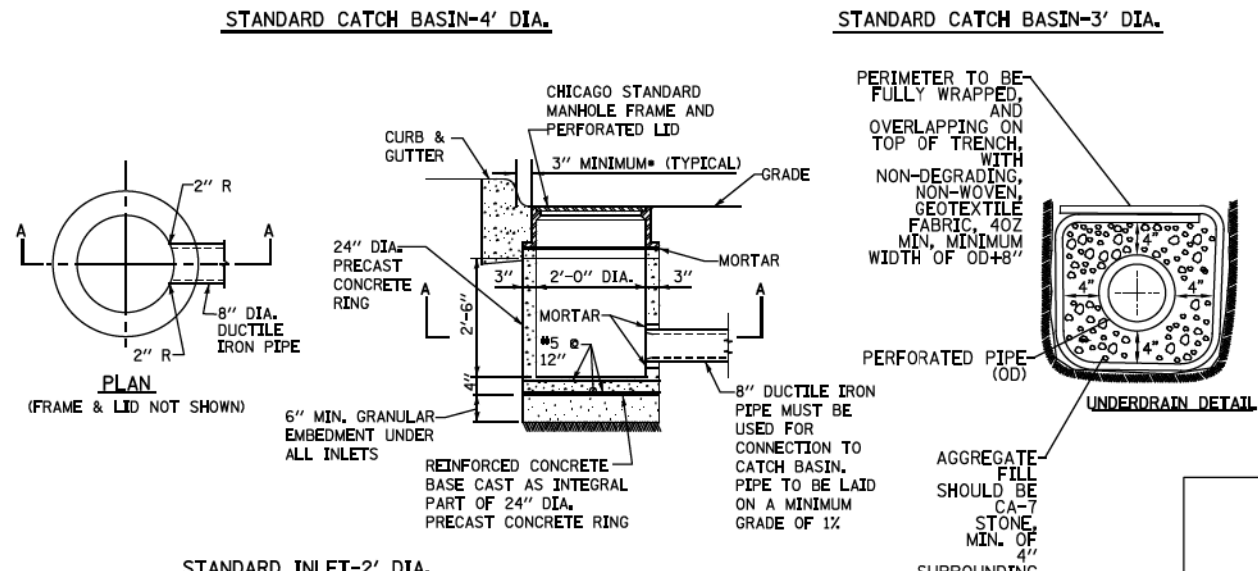
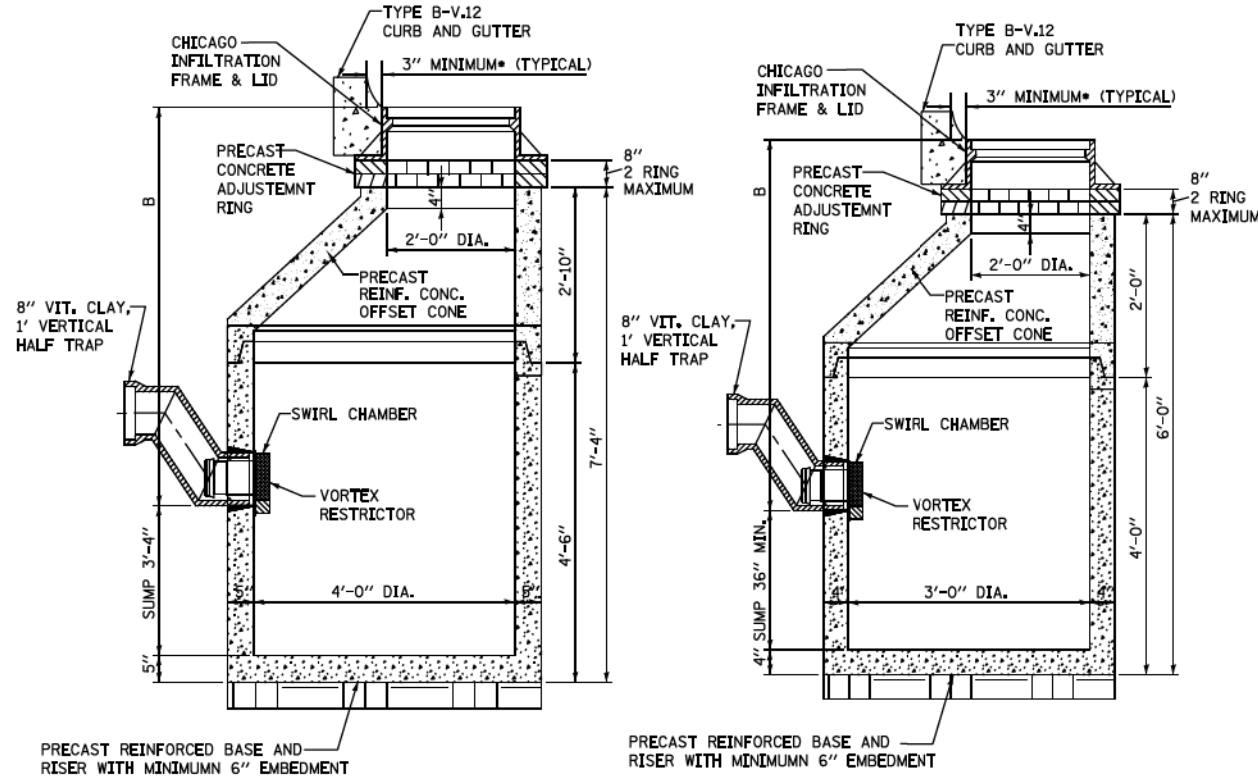
**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
DRAINAGE PLAN AND PROFILE - LOWER LEVEL**

SCALE: 1" = 20' SHEET 2 OF 5 SHEETS STA. 99+78.00 TO STA. 105+05.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	129	33
DRAWING NO. C-14		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

STANDARD DRAINAGE STRUCTURES FOR PUBLIC STREETS



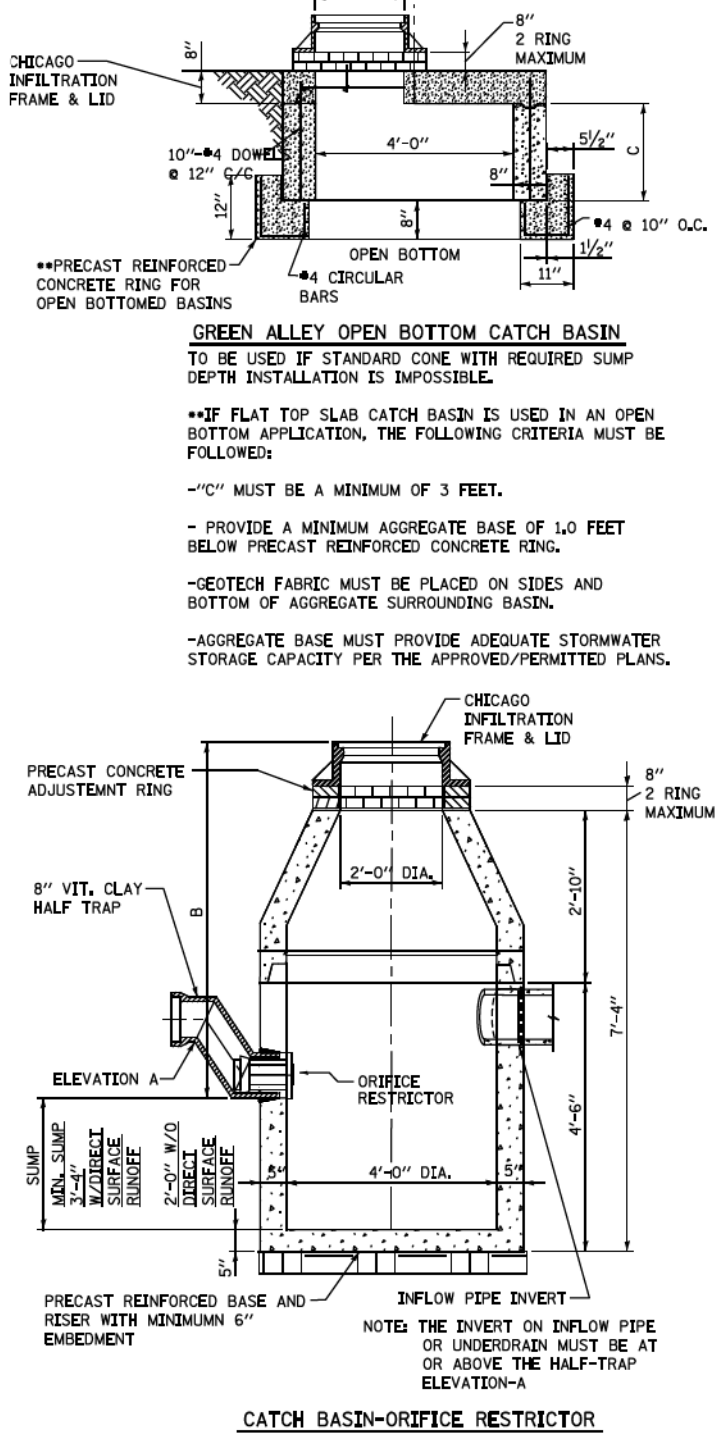
NOTE:
INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM SEWER ENGINEER OR FIELD INSPECTOR.

FOR TRENCH BACKFILL, USE FA-6 SAND, CRUSHED CONCRETE SAND, OR STONE SAND.

FOR GRANULAR EMBEDMENT, USE CA-11, CRUSHED GRAVEL, CRUSHED STONE, OR CRUSHED CONCRETE.

*OUTER EDGE OF FRAME TO FACE OF CURB

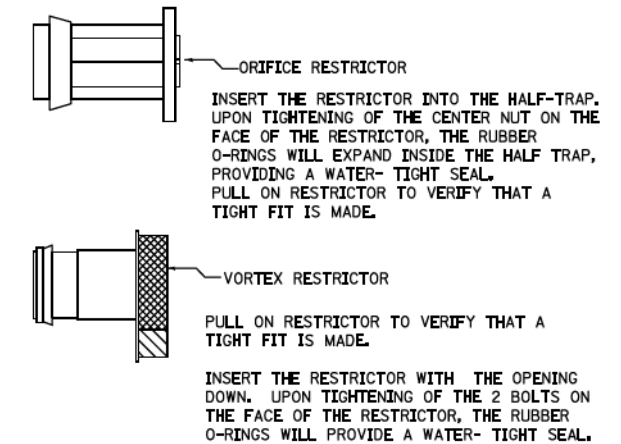
STANDARD DRAINAGE STRUCTURES FOR PUBLIC ALLEYS



NOTES:

- FOR ANY DRAIN TILE CONNECTION, THE WATER TABLE MUST BE AT LEAST 3.5 FEET BELOW ELEVATION A.
- PVC UNDERDRAINS MUST BE 4" MINIMUM DIAMETER, (6" RECOMMENDED) AND MUST BE WRAPPED IN GEOTECH FABRIC.

DRAINAGE STRUCTURES RESTRICTORS



GENERAL NOTES:

- CATCH BASIN TO CATCH BASIN CONNECTIONS ARE ALLOWED IN PRIVATE SITES & ALLEYS. ONLY THE DOWNSTREAM CATCH BASIN IS REQUIRED TO HAVE A HALF-TRAP.
- IF B < 4 FEET, THEN USE A DUCTILE IRON PIPE HALF TRAP AND FLAT TOP SLAB CATCH BASIN AS NECESSARY.
- INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM FIELD INSPECTOR.

RESTRICTOR NOTES:

THE DWM'S RAIN BLOCKER RESTRICTOR PROGRAM MUST BE MAINTAINED WITH ANY ROADWAY IMPROVEMENT.

THE DESIGN OF ANY ROADWAY IMPROVEMENT MUST CONSIDER LIMITING THE NUMBER OF CATCH BASINS TO THE EXTENT PRACTICAL. THE NUMBER OF EXISTING STRUCTURES SHOULD NOT BE INCREASED.

THE RESTRICTORS CAN BE OBTAINED FROM DWM CENTRAL DISTRICT AT 3901 S. ASHLAND AVE. THE CONTRACTOR SHOULD ARRANGE FOR PICK UP BY CONTACTING 312-747-1177 (7AM TO 3PM, M-F)

FLOW RESTRICTORS MUST BE INSTALLED IN ALL CATCH BASINS OUTSIDE OF THE CENTRAL BUSINESS DISTRICT. RESTRICTORS MUST NOT BE INSTALLED IN CATCH BASINS IN CLOSE PROXIMITY TO VIADUCT AREAS, BUS STOPS, OR EMERGENCY ENTRANCES. THE DWM MUST APPROVE THE NON-INSTALLATION OR REMOVAL OF ANY RESTRICTOR. REQUIREMENTS FOR RESTRICTOR INSTALLATION ARE AS FOLLOWS:

- ARTERIAL STREETS: 3-INCH ORIFICE RESTRICTOR
- BUS ROUTES: 3-INCH ORIFICE RESTRICTOR
- RESIDENTIAL STREETS: 3-INCH VORTEX RESTRICTOR
- ALLEYS: 3-INCH ORIFICE RESTRICTOR IN THE LAST CB.
- CLOSED LIDS ARE REQUIRED ON ALL MANHOLES EXCEPT AT INTERSECTIONS WHERE A PERFORATED LID SHALL BE USED.

STANDARD REVISIONS	
DATE	DESCRIPTION
12/28/15	APPROVED

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO				DRAWN	SCALE
DEPARTMENT OF WATER MANAGEMENT					
BUREAU OF ENGINEERING SERVICES				A.18	OF
DRAINAGE STRUCTURE DETAILS					
				PN	

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C:\DWG\Details\12/28/2015 10:21:08 AM



1327 W WASHINGTON BLVD
SUITE 105
CHICAGO, IL 60607
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PLOT DATE = 5/17/2019

USER NAME = ES
DESIGNED - JL
DRAWN - JL
CHECKED - CD
DATE -

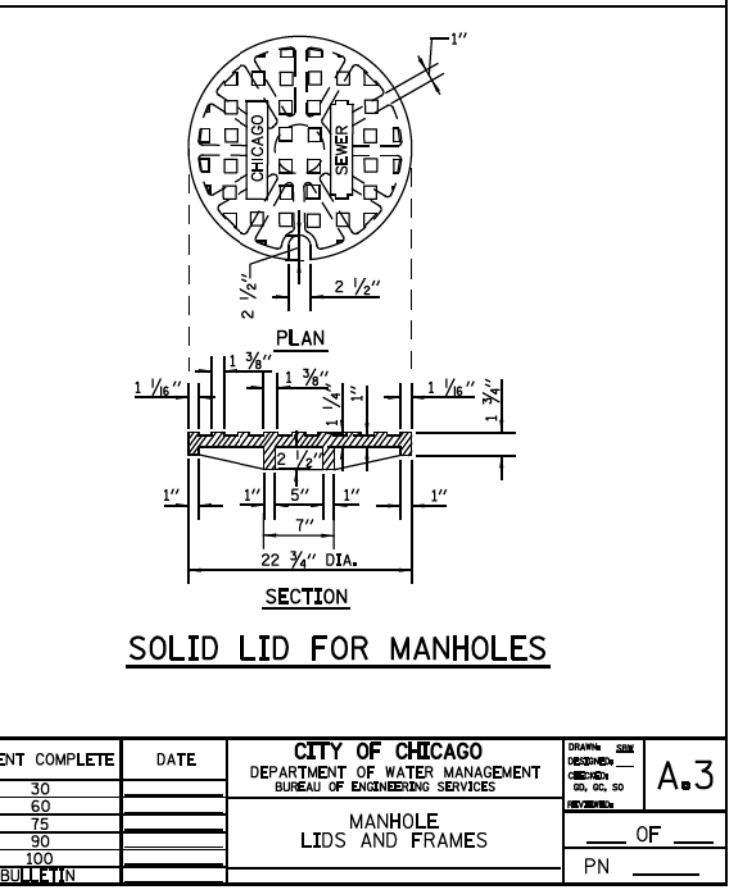
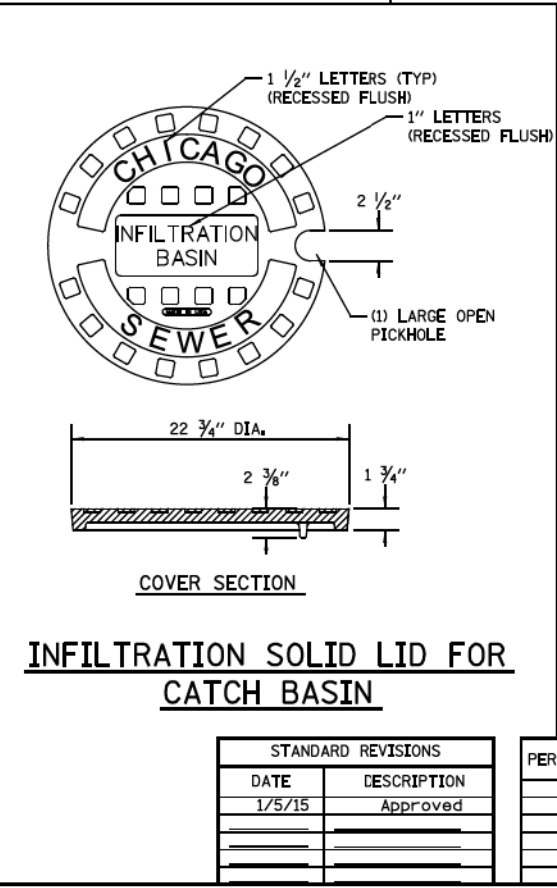
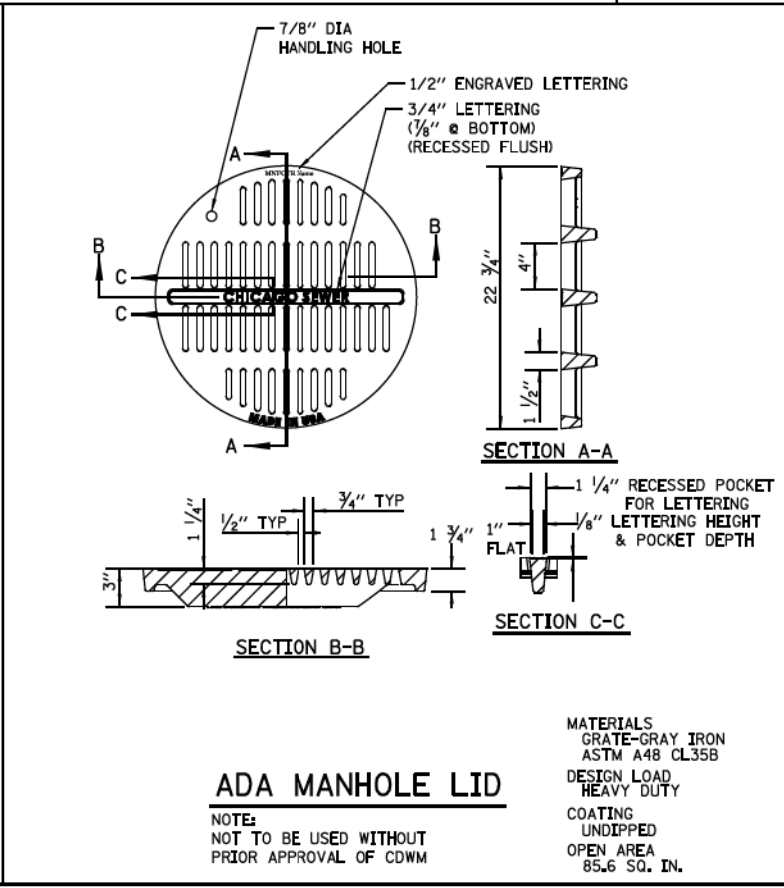
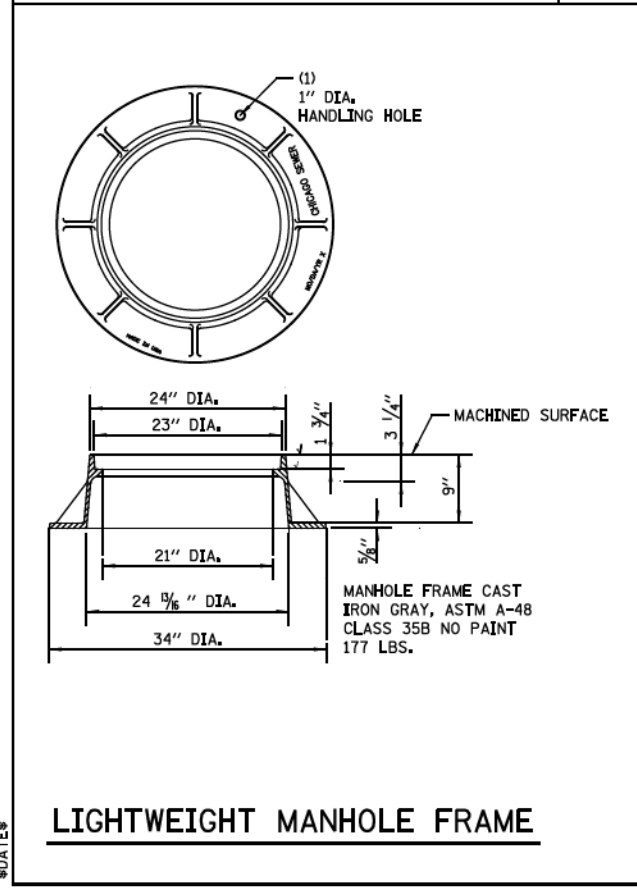
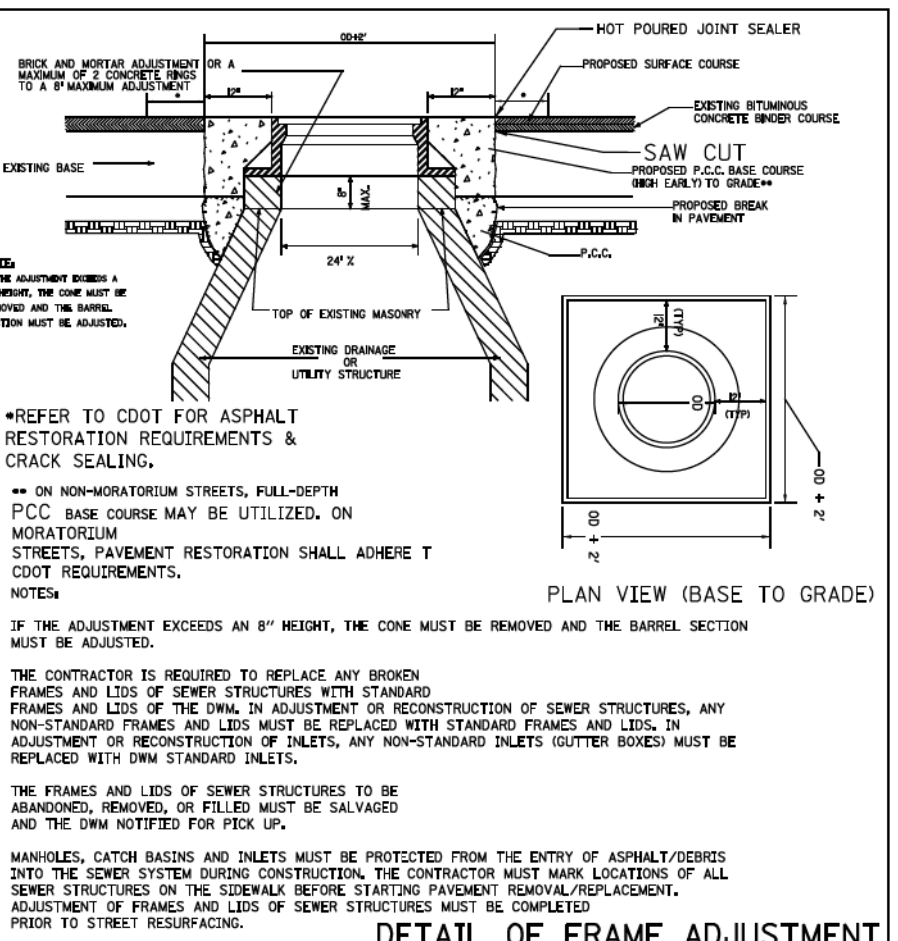
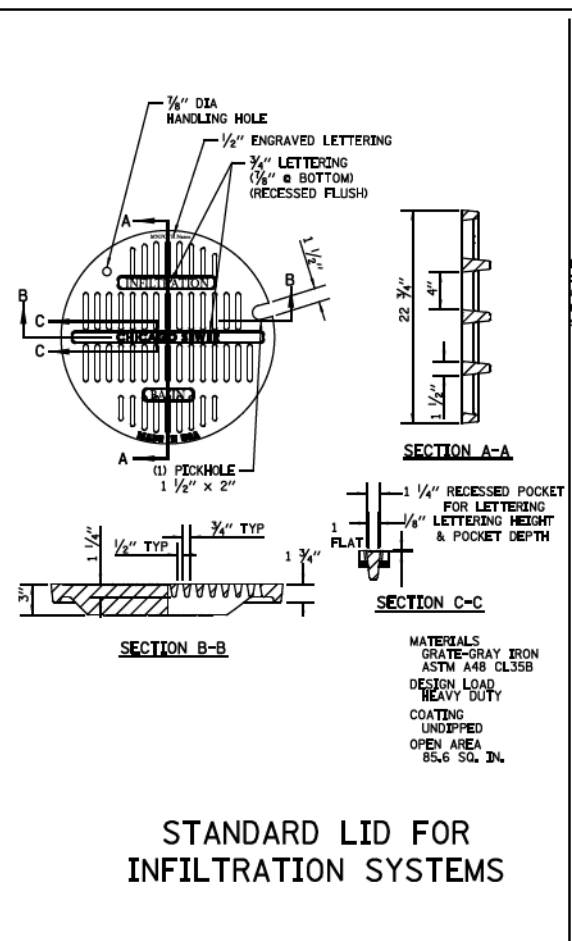
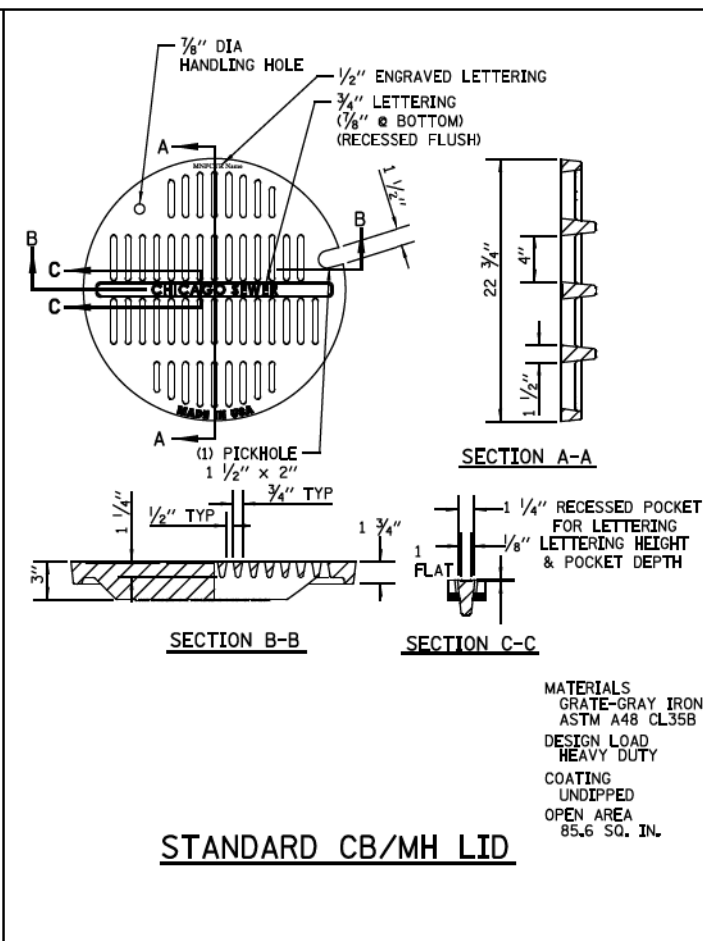
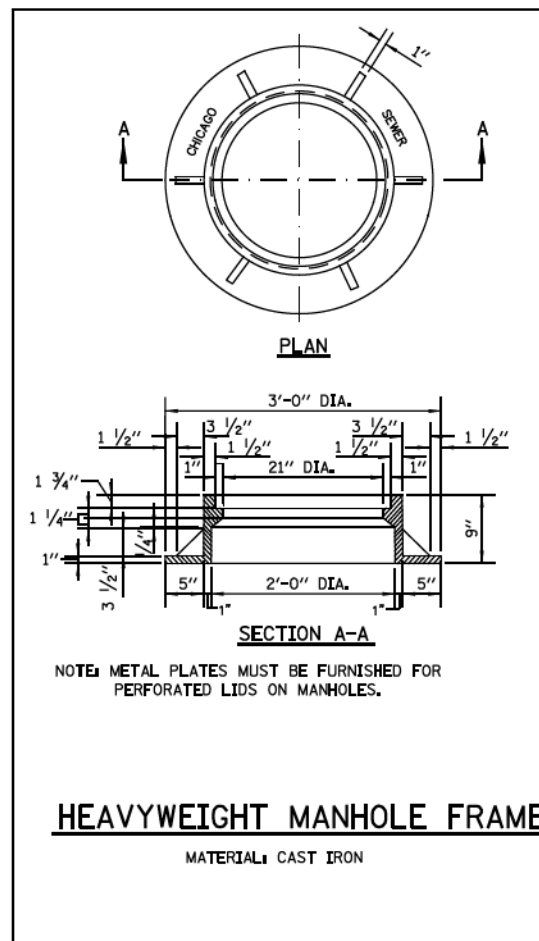
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REVISED -
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
DRAINAGE DETAILS

SCALE: N.T.S. SHEET 3 OF 5 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	34
DRAWING NO. C-15		CONTRACT NO. M-6000367)		
ILLINOIS FED. AID PROJECT				



STANDARD REVISIONS	
DATE	DESCRIPTION
1/5/15	Approved

PERCENT COMPLETE	DATE
30	
60	
75	
90	
100	
BULLETIN	

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES

MANHOLE LIDS AND FRAMES

DRAWN: []
CHECKED: []
DATE: []

A.3
OF []
PN []

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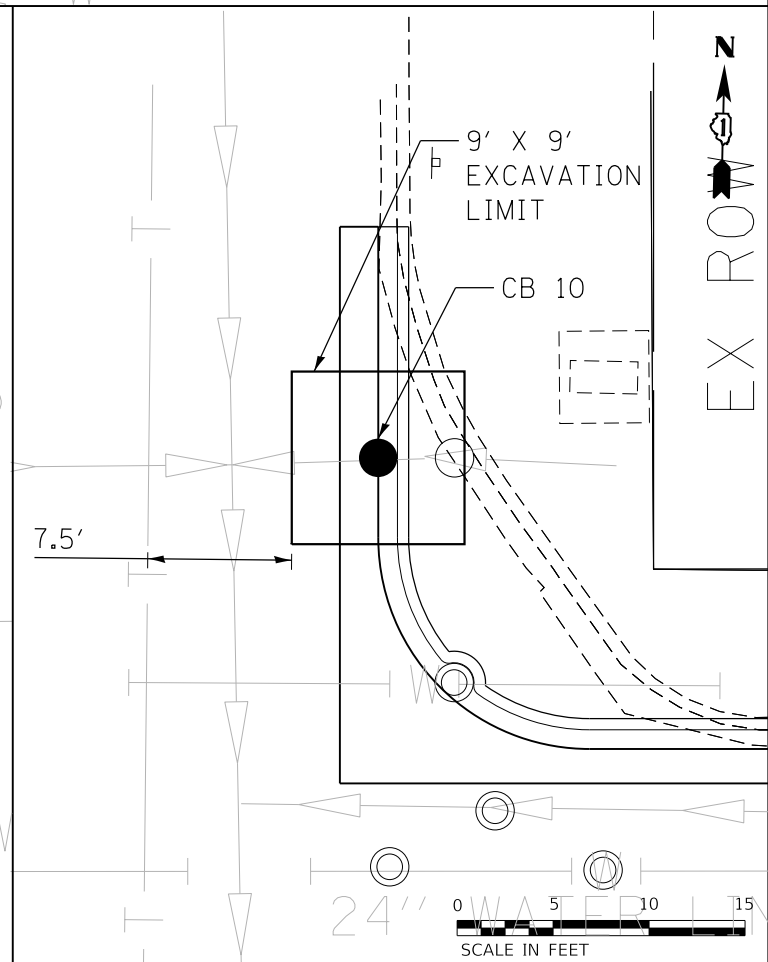
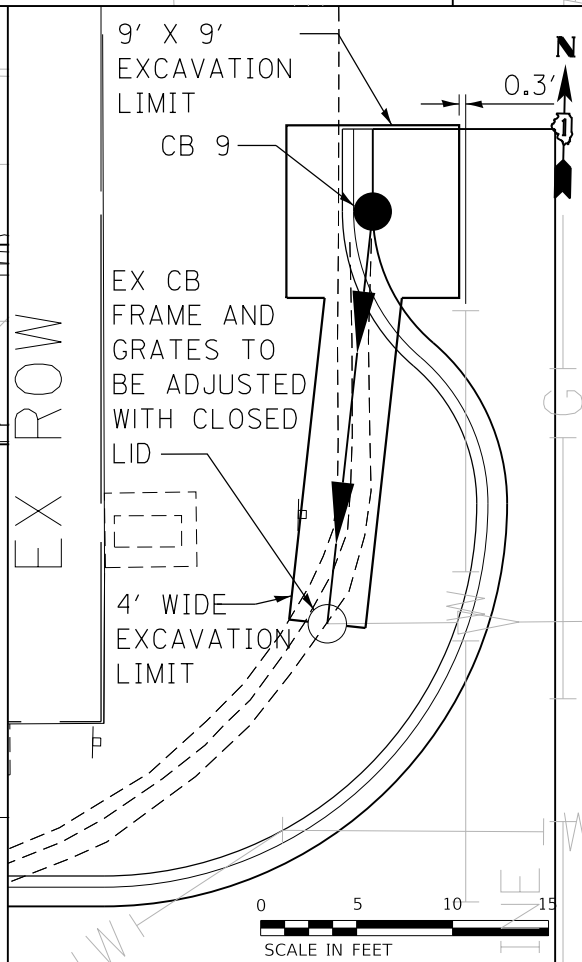
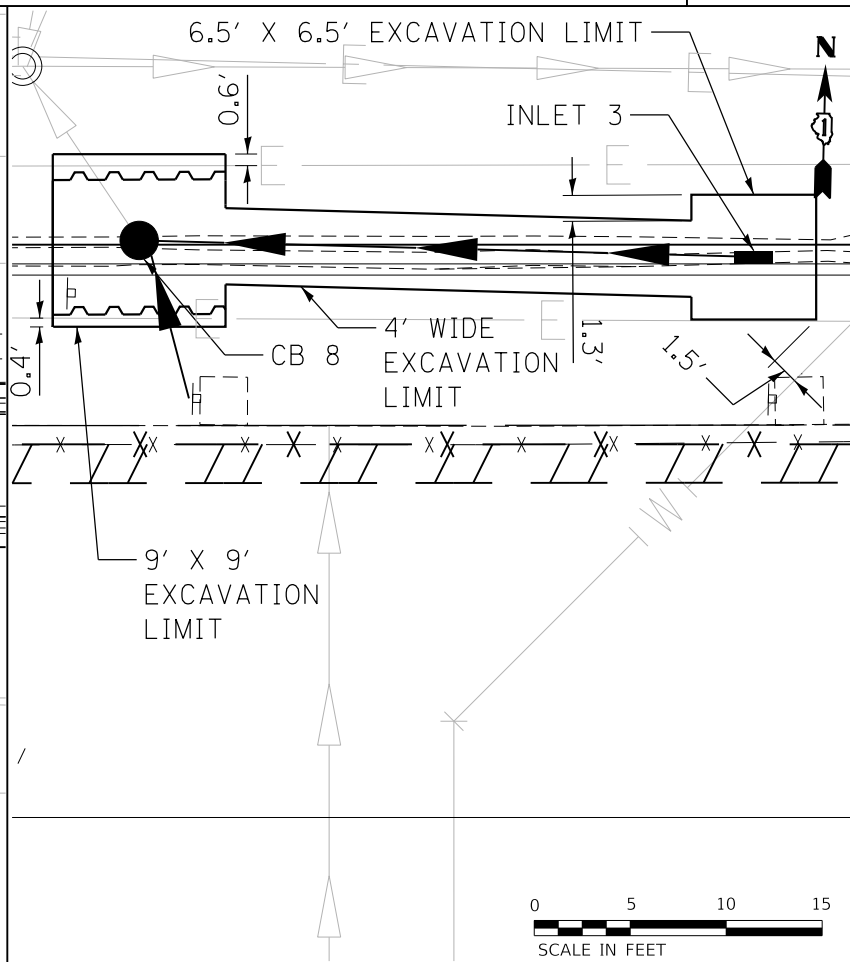
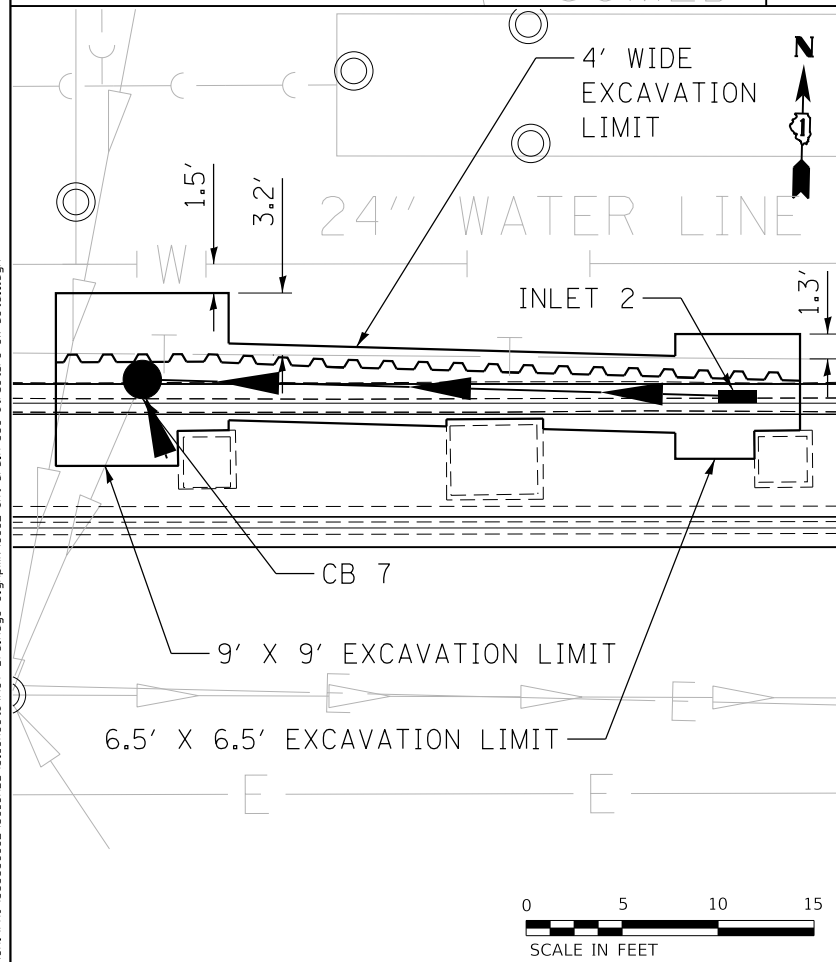
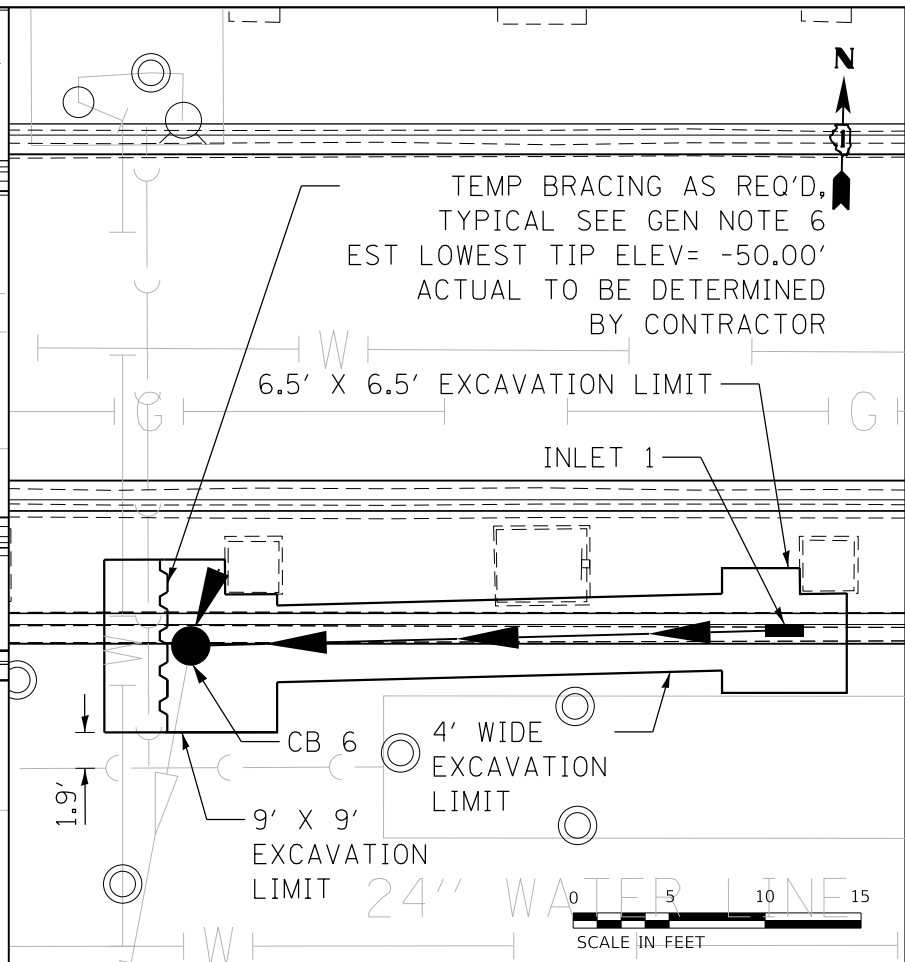
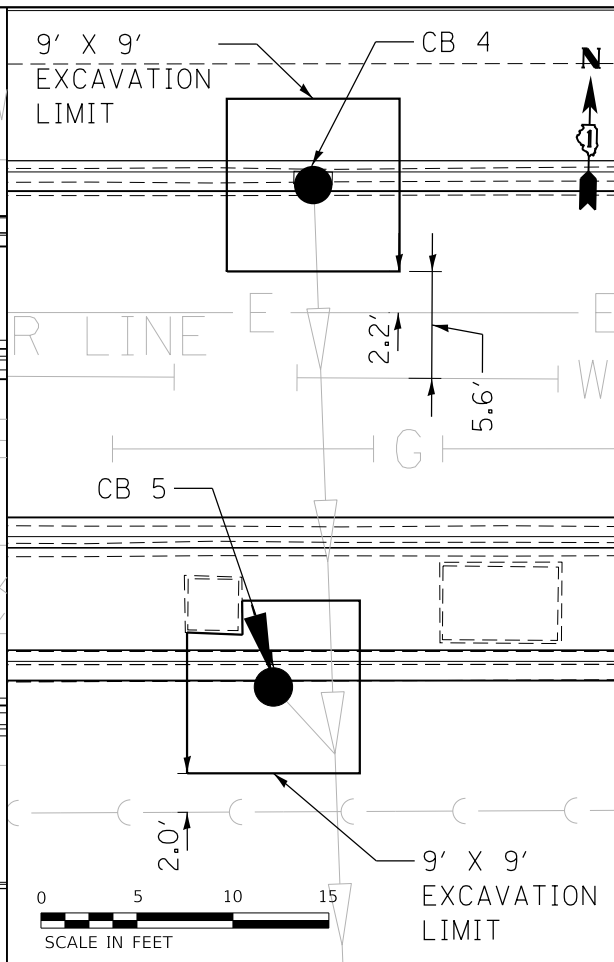
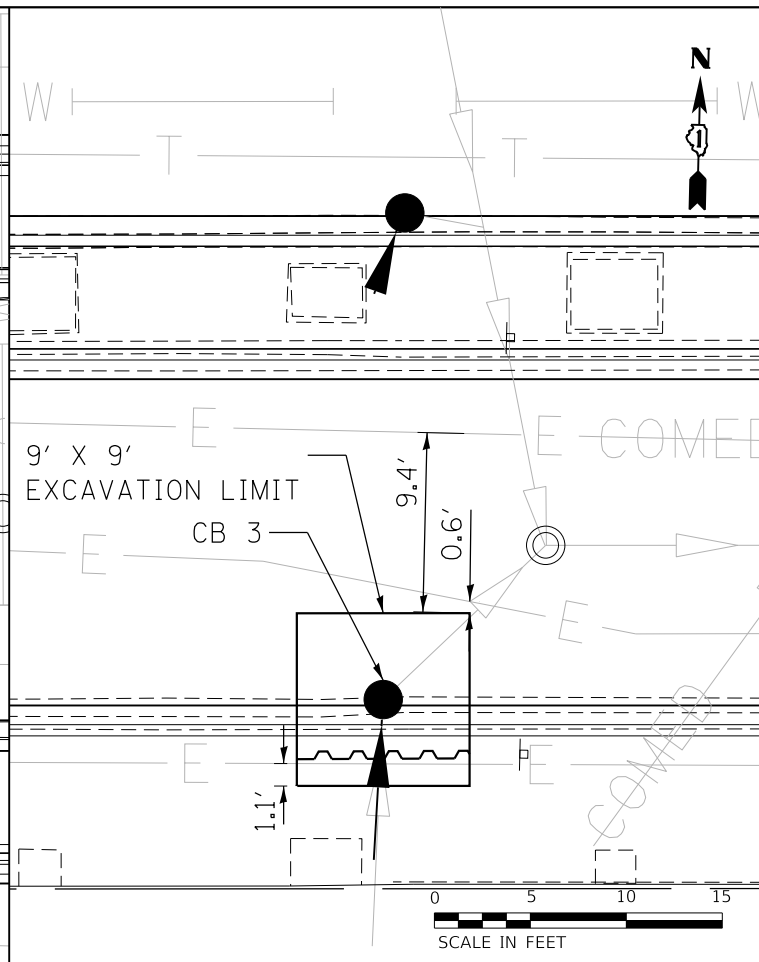
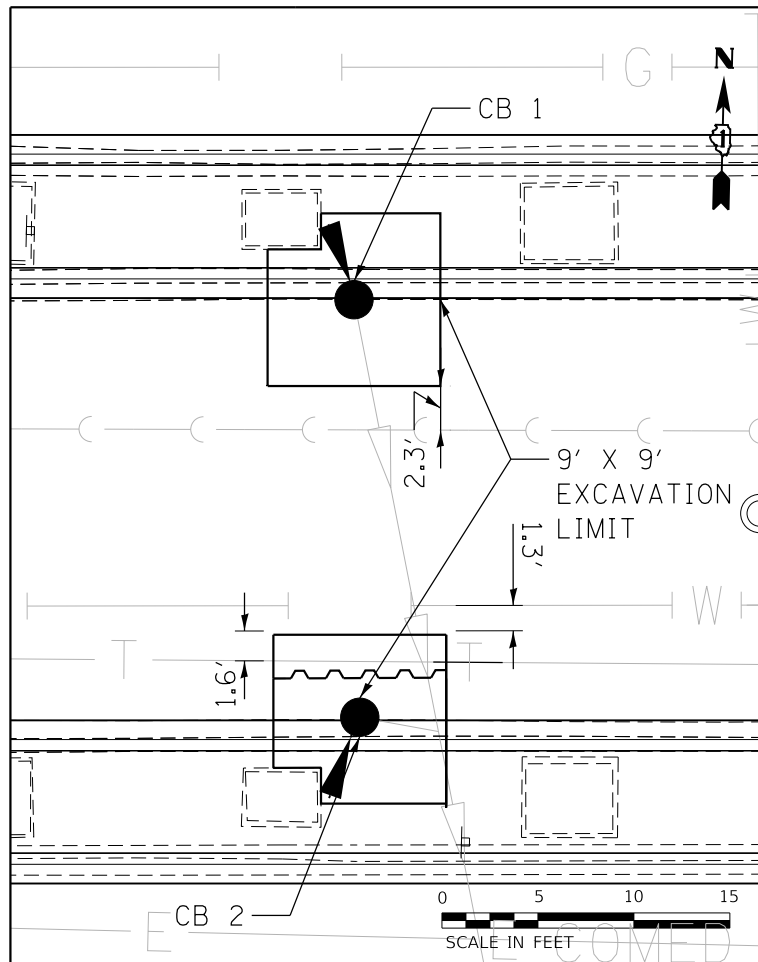
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PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 DRAINAGE DETAILS**

SCALE: N.T.S. SHEET 5 OF 5 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	36
DRAWING NO. C-17		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



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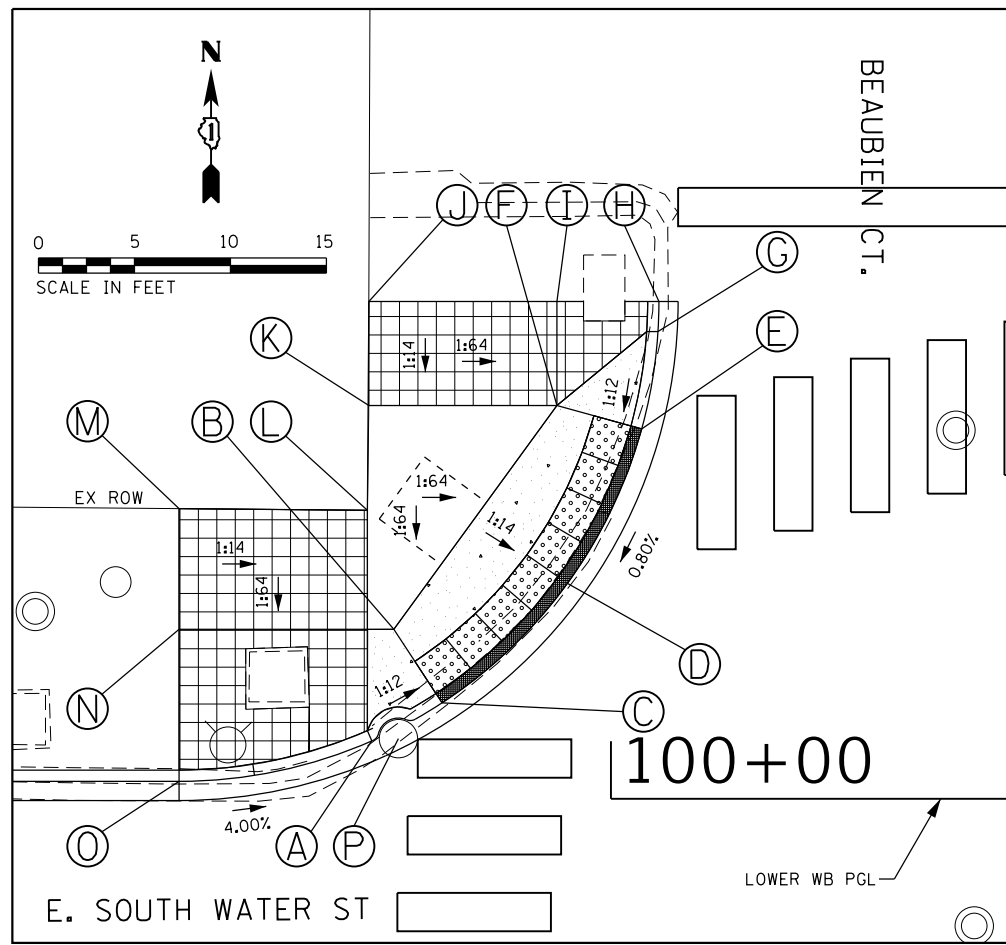
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 REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 DRAINAGE STRUCTURE EXCAVATION DETAIL - LOWER LEVEL**
 SCALE: 1" = 10' SHEET 1 OF 1 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	37
DRAWING NO. C-14		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

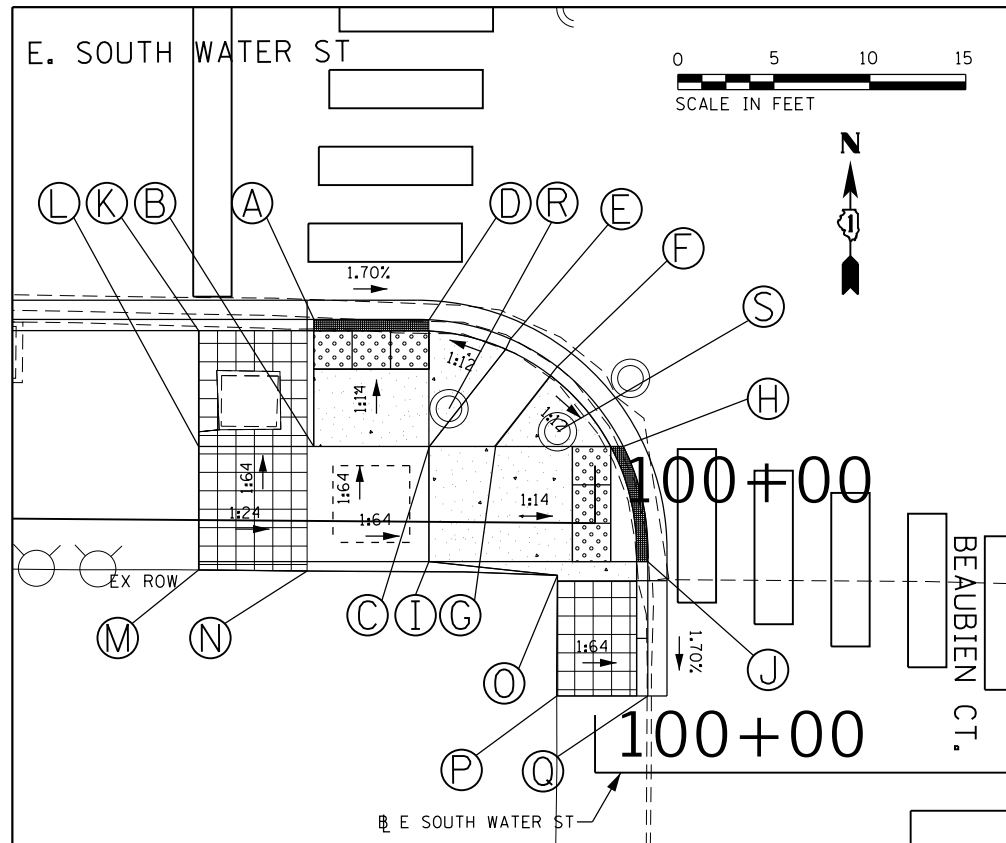


POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	99+87.54	3.04L	8.15	7.85	-	
B	99+88.69	8.83L	-	-	8.45	
C	99+91.20	5.00L	7.96	7.95	-	
D	99+97.73	11.23L	8.01	8.00	-	
E	100+01.60	19.27L	8.11	8.10	-	
F	99+97.18	20.49L	-	-	8.55	
G	100+02.45	24.34L	8.70	8.14	-	
H	100+02.50	25.91L	8.85	8.15	-	MEET EX
I	99+97.18	25.91L	-	-	8.90	MEET EX
J	99+87.39	25.91L	-	-	9.00	MEET EX
K	99+87.39	20.49L	-	-	8.65	
L	99+87.39	15.03L	-	-	8.55	
M	99+77.50	15.12L	-	-	9.25	MEET EX
N	99+77.50	8.83L	-	-	9.15	MEET EX
O	99+77.50	0.91L	8.90	8.35	-	MEET EX
P	99+88.93	3.31L	-	-	RIM 7.81	EX RIM 7.81

OFFSET FROM LOWER WB PGL

LEGEND:

- POINT (A SET OF POINTS PER CORNER)
- STATION
- OFFSET
- TOP OF CURB ELEVATION
- FLOW LINE ELEVATION
- SIDEWALK/GROUND ELEVATION
- SLOPE DIRECTION
- SLOPE IN PERCENT
- SLOPE IN RISE:RUN
- CONCRETE SIDEWALK
- CONCRETE CURB RAMP
- DETECTABLE WARNING TILES
- DEPRESSED CURB
- MOUNTABLE CURB



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	99+85.33	10.50L	8.55	8.15	-	
B	99+85.33	3.88L	-	-	8.70	
C	99+91.33	3.93L	-	-	8.65	
D	99+91.33	10.53L	8.06	8.05	-	
E	99+95.58	9.55L	8.30	7.95	-	
F	99+98.01	8.13L	8.20	7.85	-	
G	99+94.75	3.95L	-	-	8.50	
H	100+01.48	16.99L	7.76	7.75	-	
I	99+91.33	2.07R	-	-	8.55	
J	100+02.75	10.99L	7.66	7.65	-	
K	99+79.33	9.87L	8.75	8.25	-	MEET EX
L	99+79.33	3.83L	-	-	8.90	MEET EX
M	99+79.33	2.60R	-	-	9.00	MEET EX
N	99+84.98	2.60R	-	-	8.65	
O	99+98.01	2.74R	-	-	8.15	
P	99+98.01	9.02R	-	-	8.20	MEET EX
Q	100+02.75	3.99L	8.15	7.55	-	MEET EX
R	99+92.37	5.90L	-	-	RIM 8.40	EX RIM 8.96
S	99+98.01	4.74L	-	-	RIM 8.20	EX RIM 8.75

• 60300105 FRAMES AND GRATES TO BE ADJUSTED

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = ES
 DESIGNED - JL
 DRAWN - JL
 CHECKED - DB
 DATE -
 PLOT SCALE = 10.0000' / 1" IN.
 PLOT DATE = 5/17/2019

REVISOR -
 REVISION -
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 REVISION -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

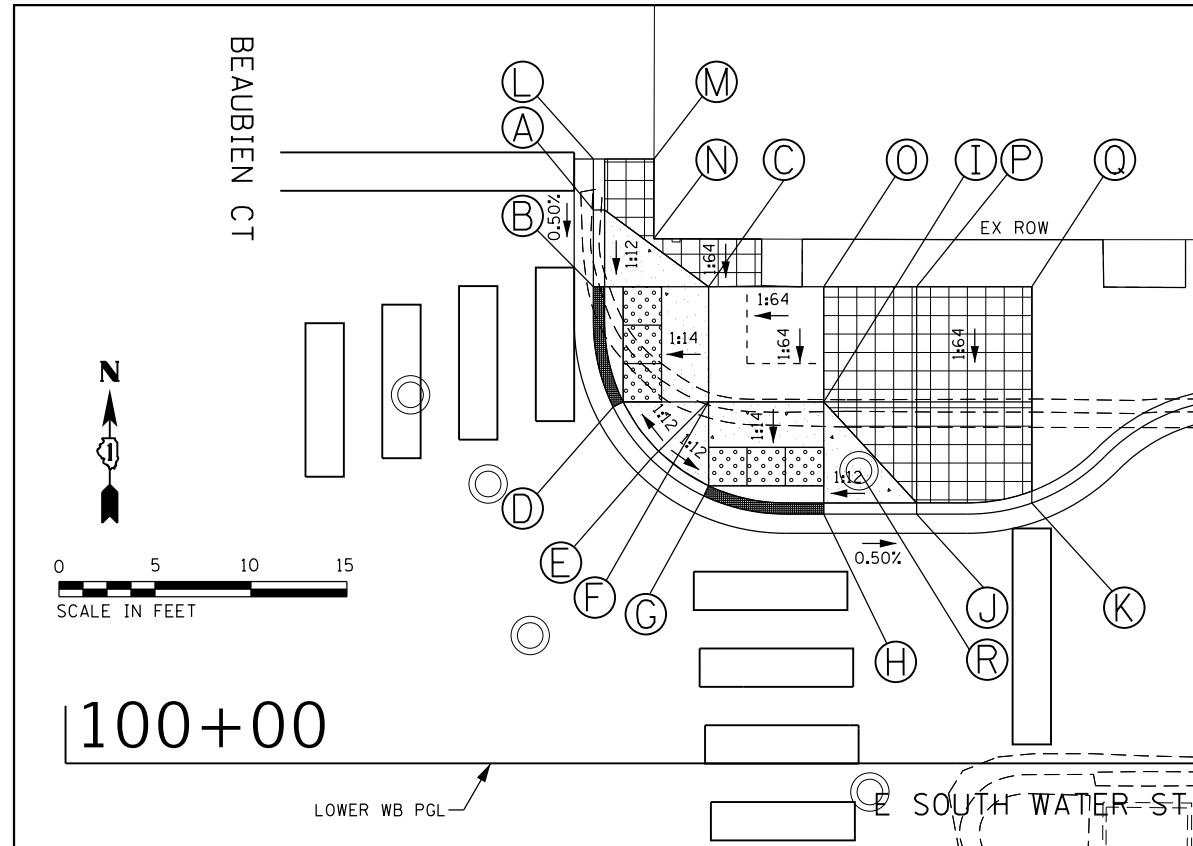
**E SOUTH WATER STREET
 CURB RAMP DETAILS - LOWER LEVEL**

SCALE: 1" = 10' SHEET 1 OF 6 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	38
DRAWING NO. C-07		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

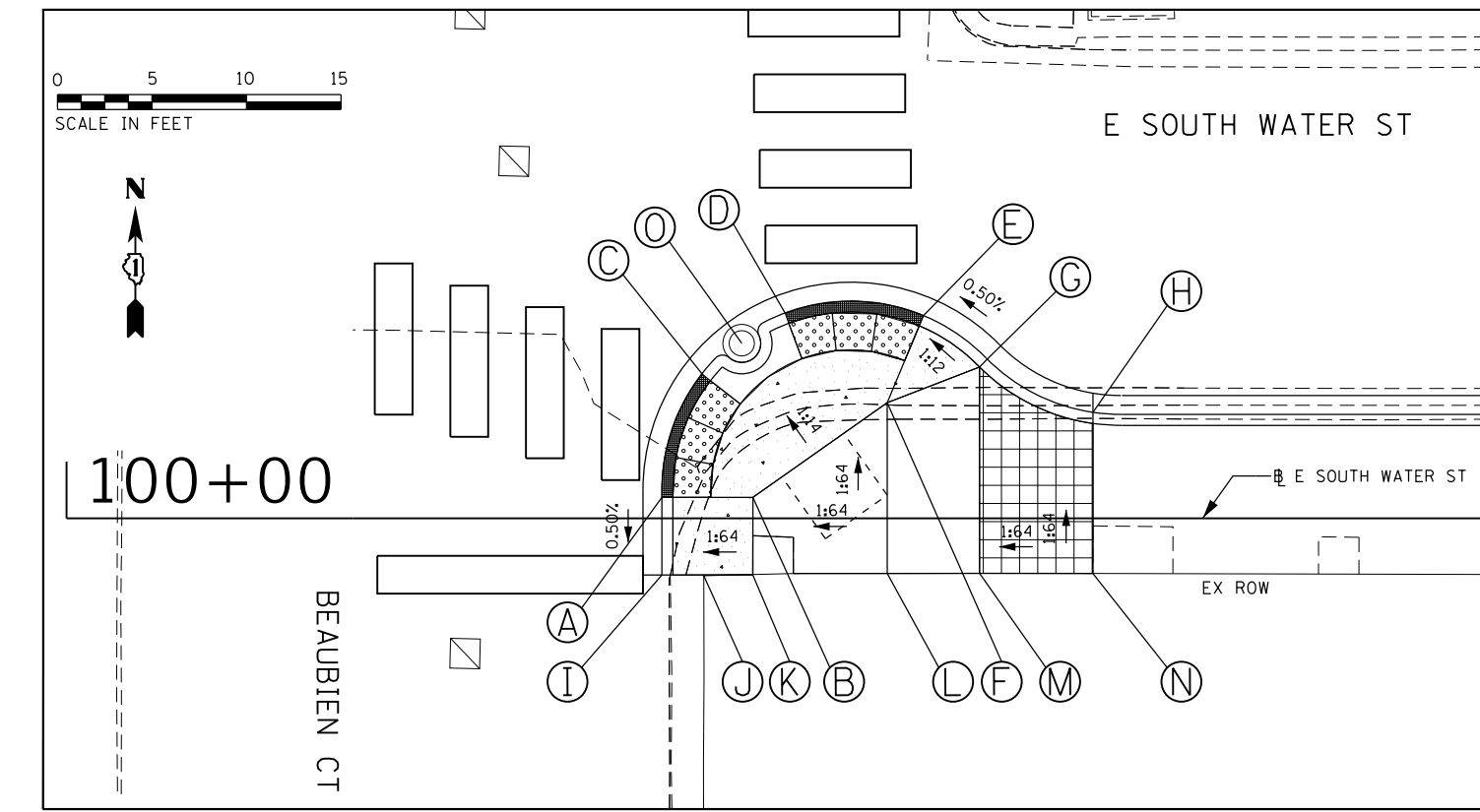
LEGEND:

- Ⓐ POINT
(A SET OF POINTS PER CORNER)
165+85.72
STATION
24.67' LT
OFFSET
TC 37.74
TOP OF CURB ELEVATION
FL 37.49
FLOW LINE ELEVATION
EL 37.85
SIDEWALK/GROUND ELEVATION
- 0.69% SLOPE DIRECTION
SLOPE IN PERCENT
- 1:14 SLOPE DIRECTION
SLOPE IN RISE:RUN
- [Grid Pattern] CONCRETE SIDEWALK
- [Stippled Pattern] CONCRETE CURB RAMP
- [Dotted Pattern] DETECTABLE
WARNING TILES
- [Thick Line] DEPRESSED CURB
- [Thin Line] MOUNTABLE CURB



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	100+27.50	28.83L	8.15	7.98	-	
B	100+27.50	24.83L	7.96	7.95	-	
C	100+33.50	24.83L	-	-	8.30	
D	100+28.53	18.57L	7.93	7.92	-	
E	100+30.49	15.86L	8.15	7.90	-	
F	100+33.50	18.83L	-	-	8.15	
G	100+33.25	13.92L	7.86	7.85	-	
H	100+39.50	12.99L	7.82	7.81	-	
I	100+39.50	18.83L	-	-	8.15	
J	100+44.34	12.99L	8.15	7.78	-	
K	100+50.34	13.56L	8.25	7.75	-	
L	100+27.50	31.49L	8.10	8.00	-	MEET EX
M	100+30.66	31.49L	-	-	8.30	MEET EX
N	100+30.66	27.33L	-	-	8.30	
O	100+39.50	24.83L	-	-	8.30	
P	100+44.34	24.83L	-	-	8.30	
Q	100+50.34	24.83L	-	-	8.35	
R	100+41.34	15.24L	-	-	RIM 8.00	EX RIM 7.80

• OFFSET FROM LOWER WB PGL



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	100+31.50	1.11L	7.52	7.51	-	
B	100+36.31	1.11L	-	-	7.90	
C	100+33.61	7.64L	7.57	7.56	-	
D	100+38.01	10.87L	7.58	7.57	-	
E	100+45.34	10.73L	7.63	7.62	-	
F	100+43.42	6.12L	-	-	7.9	
G	100+48.64	8.50L	7.97	7.64	-	
H	100+54.31	5.61L	8.13	7.67	-	
I	100+31.50	3.00R	7.94	7.49	-	MEET EX
J	100+33.72	3.04R	-	-	7.94	MEET EX
K	100+36.31	3.00R	-	-	8.00	
L	100+43.42	2.92R	-	-	8.15	
M	100+48.31	2.91R	-	-	8.25	
N	100+54.31	2.92R	-	-	8.35	
O	100+35.73	9.26L	-	-	RIM 7.56	EX RIM 7.89

• 60300105 FRAMES AND GRATES TO BE ADJUSTED

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

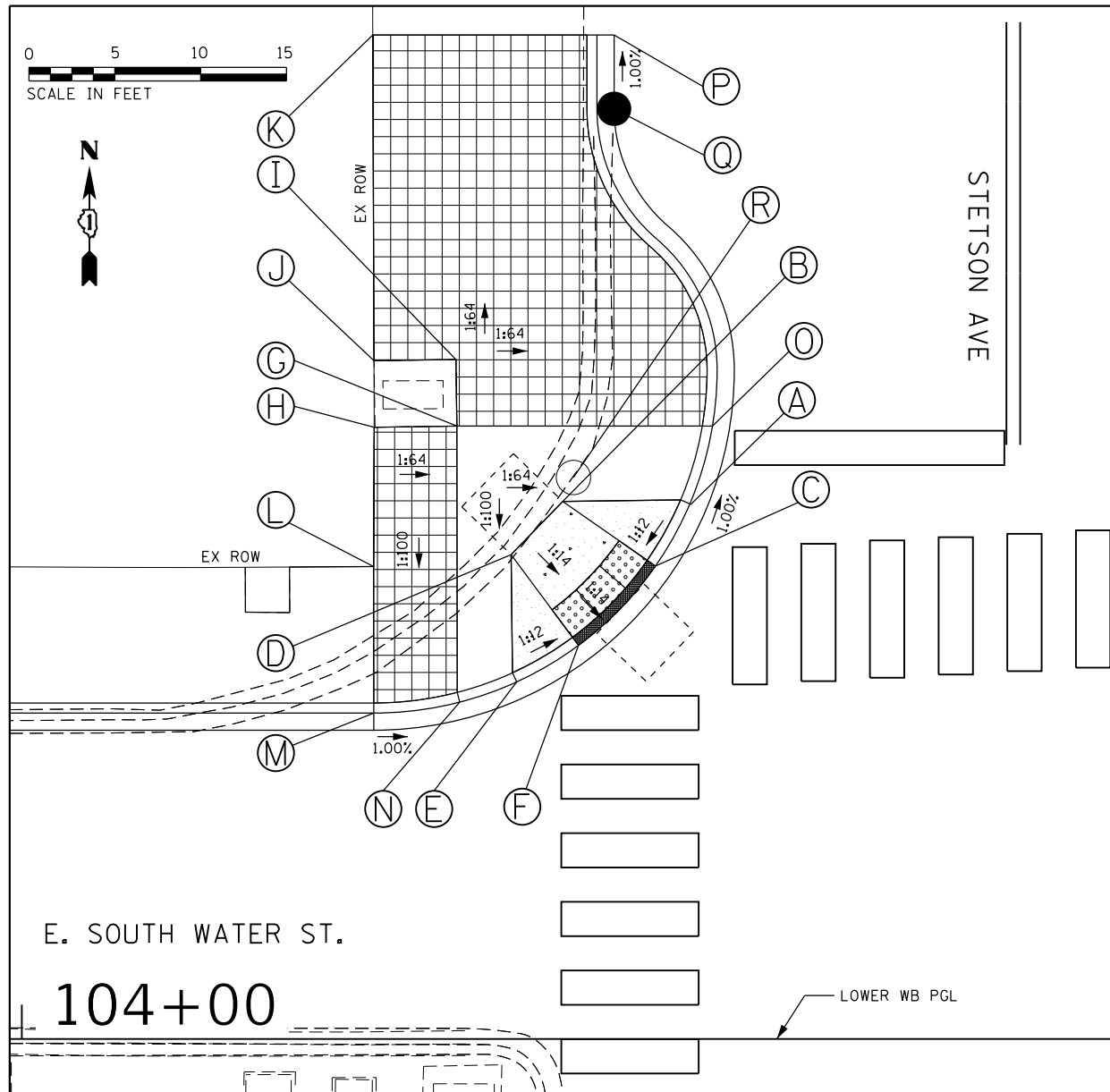
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 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 5/17/2019

DESIGNED - JL
 DRAWN - JL
 CHECKED - DB
 DATE -
 REVISED -
 REVISED -
 REVISED -
 REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CURB RAMP DETAILS - LOWER LEVEL**
 SCALE: 1" = 10'
 SHEET 2 OF 6 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	39
DRAWING NO. C-08		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+38.91	31.17L	6.40	5.90	-	
B	104+31.51	31.31L	-	-	6.55	
C	104+36.91	27.55L	5.945	5.94	-	
D	104+28.50	28.21L	-	-	6.55	
E	104+25.51	20.80L	6.45	6.01	-	
F	104+32.42	22.93L	5.975	5.97	-	
G	104+25.34	35.70L	-	-	6.65	
H	104+20.53	35.63L	-	-	6.70	
I	104+25.34	39.58L	-	-	6.57	
J	104+20.53	39.51L	-	-	6.65	
K	104+20.44	58.49L	-	-	6.30	
L	104+20.53	27.52L	-	-	6.65	MEET EX
M	104+20.53	18.99L	6.60	6.10	-	
N	104+25.51	19.62L	6.55	6.05	-	
O	104+40.23	35.70L	6.35	5.85	-	
P	104+34.50	58.49L	6.10	5.60	-	MEET EX
Q	104+34.50	54.18L	-	-	5.63	CATCH BASIN
R	104+32.00	34.20L	-	-	RIM 6.55	WITH CLOSED LID

OFFSET FROM LOWER WB PGL

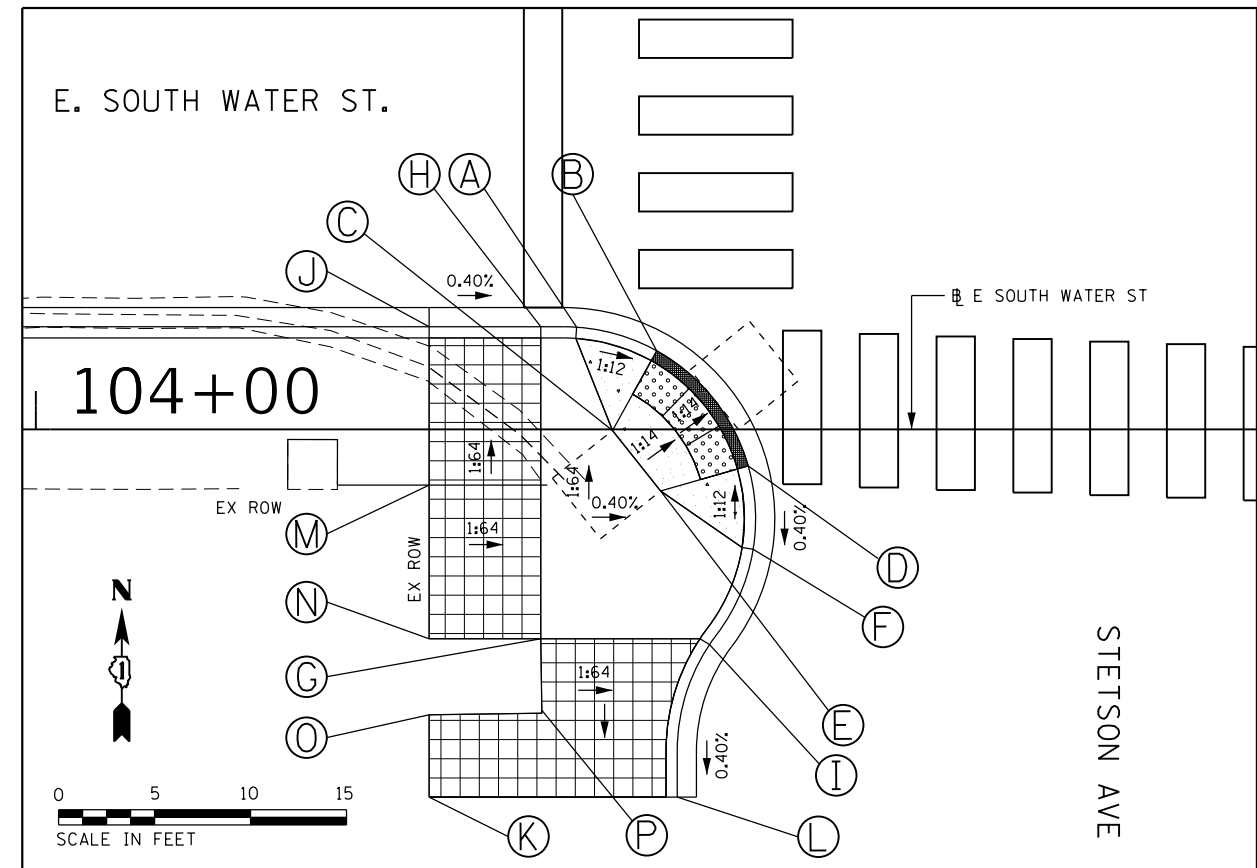
• 60300105 FRAMES AND GRATES TO BE ADJUSTED

LEGEND:

- (A) POINT (A SET OF POINTS PER CORNER)
- 165+85.72 STATION
- 24.67' LT OFFSET
- TC 37.74 TOP OF CURB ELEVATION
- FL 37.49 FLOW LINE ELEVATION
- EL 37.85 SIDEWALK/GROUND ELEVATION
- 0.69% SLOPE DIRECTION SLOPE IN PERCENT
- 1:14 SLOPE DIRECTION SLOPE IN RISE:RUN
- [Grid Pattern] CONCRETE SIDEWALK
- [Stippled Pattern] CONCRETE CURB RAMP
- [Dotted Pattern] DETECTABLE WARNING TILES
- [Thick Line] DEPRESSED CURB
- [Thin Line] MOUNTABLE CURB
- CATCH BASIN

E. SOUTH WATER ST.
104+00

POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+28.17	5.48L	6.48	6.11	-	
B	104+32.35	4.25L	6.105	6.10	-	
C	104+30.13	0.09L	-	-	6.50	
D	104+37.11	1.75R	6.055	6.05	-	
E	104+32.55	3.06R	-	-	6.45	
F	104+37.37	6.09R	6.45	6.03	-	
G	104+26.31	10.76R	-	-	6.65	
H	104+26.31	5.50L	6.50	6.12	-	
I	104+35.10	11.06R	6.50	6.00	-	
J	104+20.49	5.50L	6.60	6.15	-	
K	104+20.49	19.01R	-	-	-	MEET EX
L	104+33.42	19.01R	-	-	-	MEET EX
M	104+20.49	2.75R	-	-	6.70	
N	104+20.49	10.76R	-	-	6.75	
O	104+20.49	14.72R	-	-	-	MEET EX
P	104+26.31	14.63R	-	-	-	MEET EX



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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

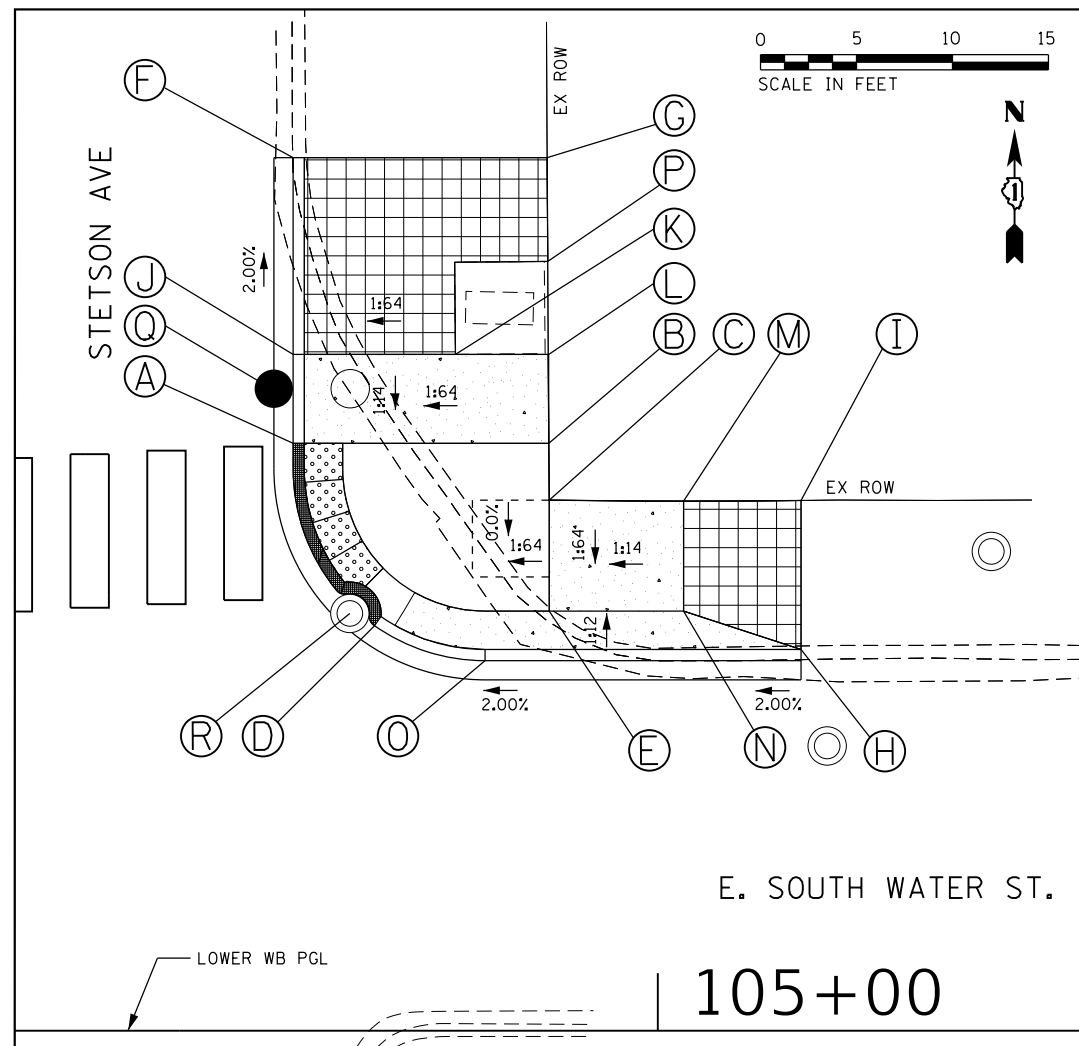
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 DATE -
 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 5/17/2019

REVISIONS
 REVISED -
 REVISED -
 REVISED -
 REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CURB RAMP DETAILS - LOWER LEVEL**
 SCALE: 1" = 10'
 SHEET 3 OF 6 SHEETS

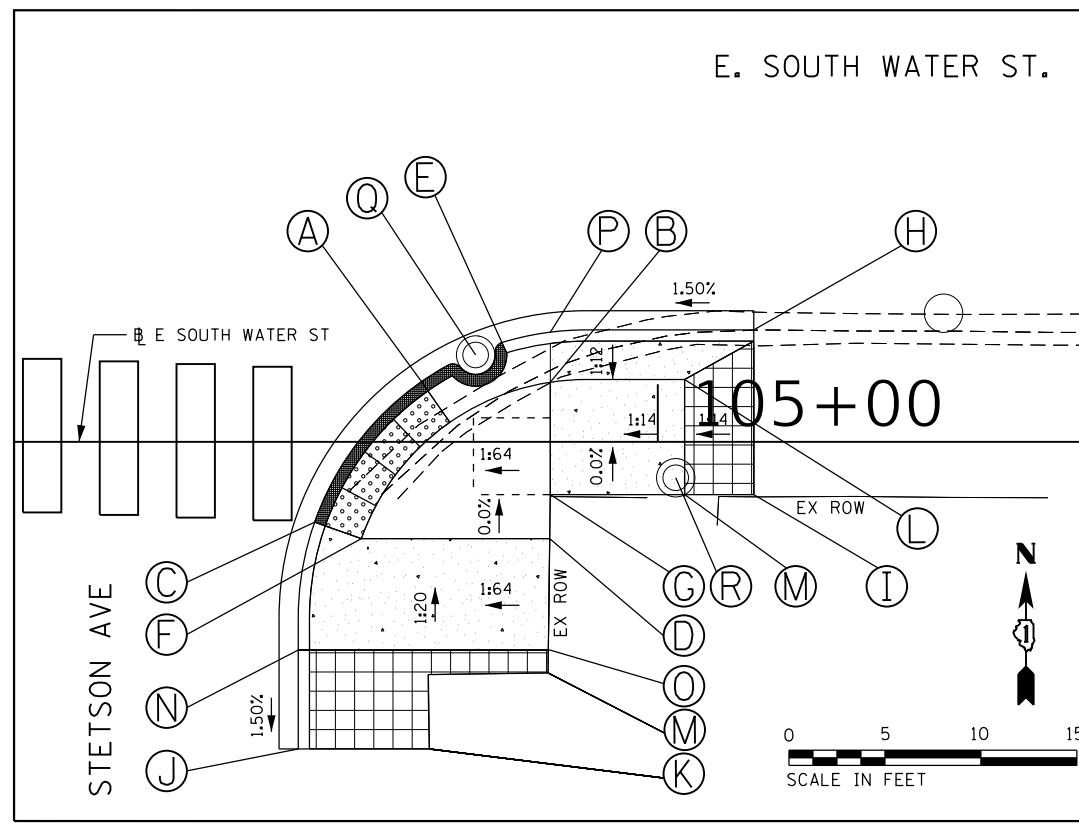
MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	40
DRAWING NO. C-09		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+81.00	30.60L	6.275	6.27	-	
B	104+94.32	30.60L	-	-	6.56	
C	104+94.34	27.64L	-	-	6.56	
D	104+85.19	21.14L	6.455	6.45	-	
E	104+94.34	21.86L	-	-	6.56	
F	104+81.00	45.494L	6.38	5.92	-	MEET EX
G	104+94.34	45.49L	-	-	6.75	MEET EX
H	105+07.46	19.86L	7.39	6.98	-	MEET EX
I	105+07.46	27.63L	-	-	7.56	MEET EX
J	104+81.00	35.24L	6.58	6.12	-	
K	104+89.46	35.24L	-	-	6.70	
L	104+94.34	35.24L	-	-	6.75	
M	105+01.34	27.59L	-	-	7.12	
N	105+01.34	21.86L	-	-	7.02	
O	104+91.00	19.28L	7.00	6.63	-	
P	104+94.34	40.08L	-	-	6.75	
Q	104+79.99	33.45L	-	-	6.15	CATCH BASIN
R	104+83.96	21.74L	-	-	RIM 6.40	EX RIM 6.35

LEGEND:

- POINT (A SET OF POINTS PER CORNER)
- 165+85.72
24.67' LT
TC 37.74
FL 37.49
EL 37.85
- STATION
- OFFSET
- TOP OF CURB ELEVATION
- FLOW LINE ELEVATION
- SIDEWALK/GROUND ELEVATION
- SLOPE DIRECTION
- 0.69% SLOPE IN PERCENT
- SLOPE DIRECTION
- 1:14 SLOPE IN RISE:RUN
- CONCRETE SIDEWALK
- CONCRETE CURB RAMP
- DETECTABLE WARNING TILES
- DEPRESSED CURB
- MOUNTABLE CURB
- CATCH BASIN



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+87.69	3.14L	6.475	6.47	-	
B	104+94.40	3.11L	-	-	6.62	
C	104+82.12	4.19R	6.35	6.355	-	
D	104+94.40	5.04R	-	-	6.75	
E	104+91.88	5.17L	6.505	6.50	-	
F	104+82.12	5.04R	-	-	6.50	
G	104+94.40	2.75R	-	-	6.75	
H	105+05.00	5.83L	7.31	6.71	-	MEET EX
I	105+05.00	2.75R	-	-	7.60	MEET EX
J	104+81.38	16.00R	-	-	-	MEET EX
K	104+88.09	16.00R	-	-	-	MEET EX
L	105+01.40	3.25L	-	-	7.12	
M	105+01.40	2.75R	-	-	6.92	
N	104+81.38	10.85R	6.73	6.23	-	
O	104+94.40	10.85R	-	-	6.90	
P	104+94.40	5.71L	6.88	6.54	-	
Q	104+90.51	4.53L	-	-	RIM 6.48	EX RIM 6.29
R	105+00.93	1.87R	-	-	RIM 7.22	EX RIM 7.33

• 60300105 FRAMES AND GRATES TO BE ADJUSTED

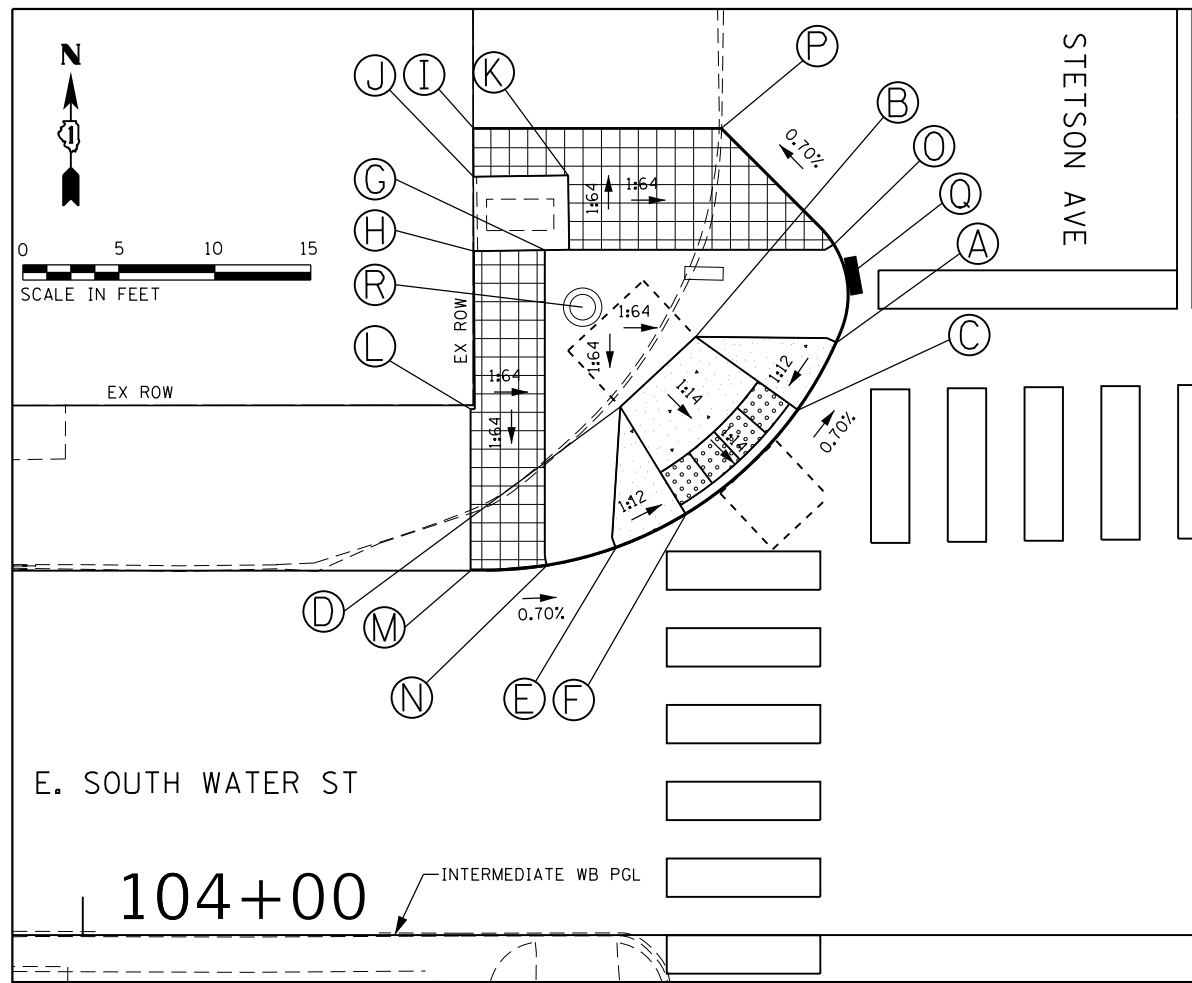
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LOCHNER H. W. LOCHNER, INC. 225 WEST WASHINGTON STREET 12 TH FLOOR CHICAGO, ILLINOIS 60606	USER NAME = ES	DESIGNED - JL	REVISED -
	PLOT SCALE = 10.0000' / in.	DRAWN - JL	REVISED -
	PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
		DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
CURB RAMP DETAILS - LOWER LEVEL**
 SCALE: 1" = 10' SHEET 4 OF 6 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	41
DRAWING NO. C-10		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

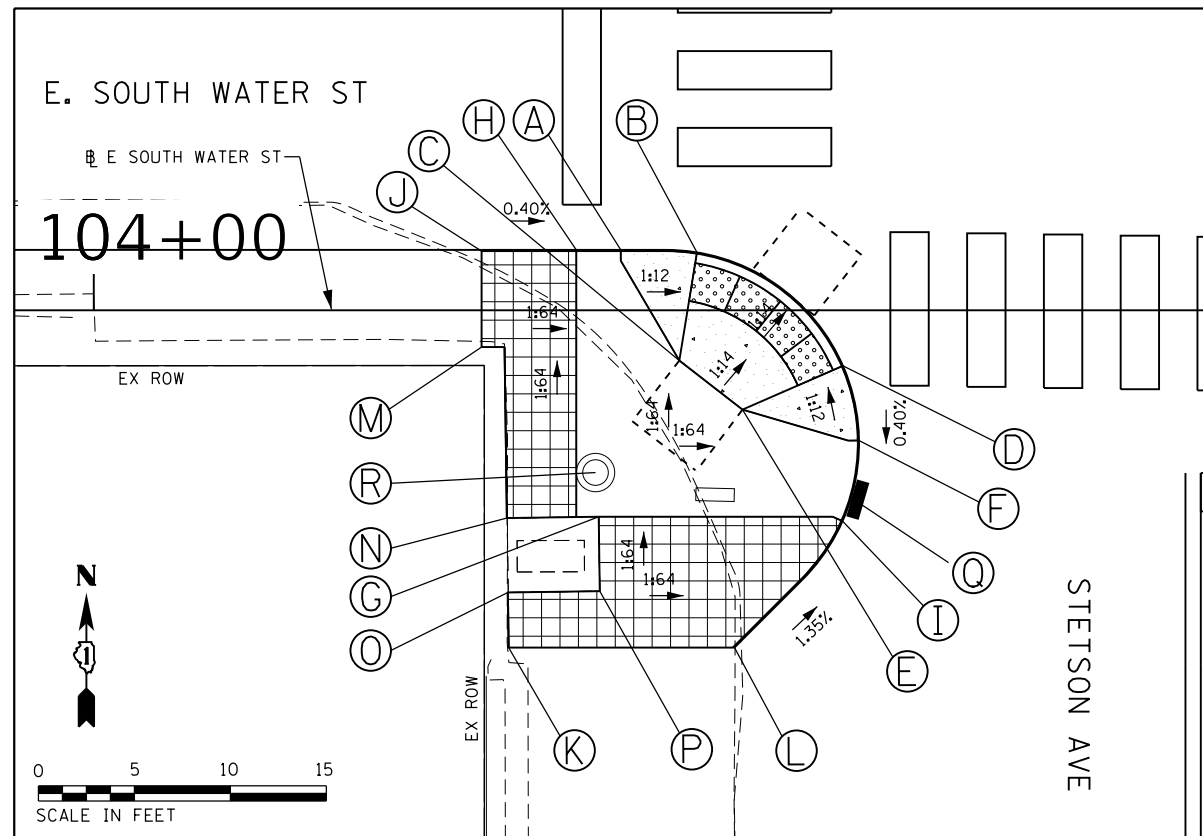


POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+39.28	30.88L	25.55	25.13	-	
B	104+31.93	31.17L	-	-	25.65	
C	104+37.27	27.36L	25.165	25.16	-	
D	104+28.00	27.52L	-	-	25.70	
E	104+27.77	20.17L	25.65	25.25	-	
F	104+31.42	21.92L	25.225	25.22	-	
G	104+24.07	35.69L	-	-	25.85	
H	104+20.38	35.64L	-	-	25.90	HIGH PT
I	104+20.35	42.18L	-	-	25.72	MEET EX
J	104+20.35	39.51L	-	-	25.80	
K	104+25.29	39.59L	-	-	25.74	
L	104+20.20	27.41L	-	-	25.86	
M	104+20.20	23.99L	25.81	25.31	-	MEET EX
N	104+24.16	19.24L	25.78	25.28	-	
O	104+39.15	34.00L	25.60	25.10	-	
P	104+34.00	42.76L	25.61	25.06	-	MEET EX, LOW PT
Q	104+39.82	34.29L	-	-	25.11	INLET
R	104+26.04	32.72L	-	-	RIM 25.80	EX RIM 25.82

OFFSET FROM INTERMEDIATE WB PGL

LEGEND:

- POINT (A SET OF POINTS PER CORNER)
- 165+85.72
24.67' LT
TC 37.74
FL 37.49
EL 37.85
- STATION
- OFFSET
- TOP OF CURB ELEVATION
- FLOW LINE ELEVATION
- SIDEWALK/GROUND ELEVATION
- SLOPE DIRECTION
- SLOPE IN PERCENT
- SLOPE DIRECTION
- SLOPE IN RISE:RUN
- CONCRETE SIDEWALK
- CONCRETE CURB RAMP
- DETECTABLE WARNING TILES
- DEPRESSED CURB
- MOUNTABLE CURB
- INLET



POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+27.50	3.15L	25.62	25.20	-	
B	104+31.42	3.01L	25.185	25.18	-	
C	104+30.49	2.62R	-	-	25.65	
D	104+39.02	2.89R	25.135	25.13	-	
E	104+33.94	10.76R	-	-	25.65	
F	104+38.98	2.89R	25.55	25.11	-	
G	104+26.38	10.76R	-	-	25.85	
H	104+25.14	3.15L	25.62	25.20	-	
I	104+39.01	10.98R	25.58	25.13	-	
J	104+20.20	3.15L	25.72	25.22	-	MEET EX
K	104+21.61	17.57R	-	-	25.93	MEET EX
L	104+33.29	17.57R	25.75	25.25	-	MEET EX
M	104+20.20	1.92R	-	-	25.83	
N	104+21.57	10.82R	-	-	25.90	
O	104+21.57	14.70R	-	-	25.95	HIGH PT
P	104+26.36	14.63R	-	-	25.88	
Q	104+39.49	9.77R	-	-	25.10	INLET, LOW PT
R	104+26.14	8.45R	-	-	RIM 25.80	EX RIM 25.98

• 60300105 FRAMES AND GRATES TO BE ADJUSTED

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = ES
DESIGNED - JL
DRAWN - JL
CHECKED - DB
DATE -
PLOT SCALE = 10.0000' / in.
PLOT DATE = 5/17/2019

REVISOR -
REVISOR -
REVISOR -
REVISOR -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
CURB RAMP DETAILS - INTERMEDIATE LEVEL**

SCALE: 1" = 10' SHEET 5 OF 6 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	42
DRAWING NO. C-11	CONTRACT NO. M-6000(367)			
ILLINOIS FED. AID PROJECT				

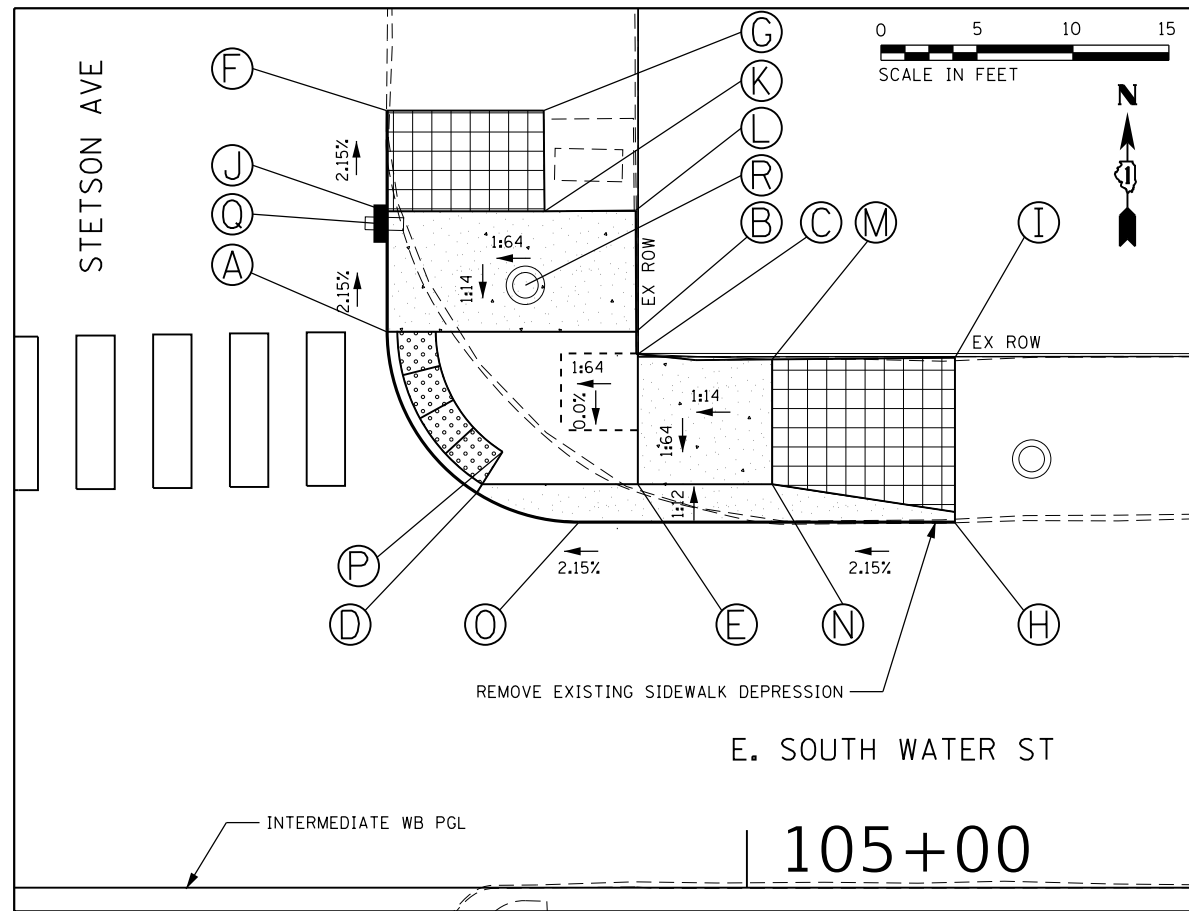
LEGEND:

- Ⓐ POINT
(A SET OF POINTS PER CORNER)
165+85.72
STATION
24.67' LT
OFFSET
TC 37.74
TOP OF CURB ELEVATION
FL 37.49
FLOW LINE ELEVATION
EL 37.85
SIDEWALK/GROUND ELEVATION
- SLOPE DIRECTION
0.69%
SLOPE IN PERCENT
- SLOPE DIRECTION
1:14
SLOPE IN RISE:RUN
- ▬ CONCRETE SIDEWALK
- ▬ CONCRETE CURB RAMP
- ▬ DETECTABLE WARNING TILES
- ▬ DEPRESSED CURB
- ▬ MOUNTABLE CURB
- INLET

POINT DESCRIPTION

POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+81.23	29.02L	25.725	25.72	-	
B	104+92.23	28.97L	-	-	25.95	
C	104+92.23	27.81L	-	-	25.95	
D	104+85.91	20.55L	25.935	25.93	-	
E	104+94.32	31.02L	-	-	25.95	
F	104+81.23	40.49L	26.00	25.47	-	MEET EX, LOW PT
G	104+89.41	40.49L	-	-	26.10	MEET EX
H	105+10.84	19.02L	26.84	26.47	-	MEET EX
I	104+81.23	27.61L	-	-	27.01	MEET EX, HIGH PT
J	104+81.23	35.24L	26.08	25.58	-	
K	104+89.41	35.24L	-	-	26.22	
L	104+92.33	35.28L	-	-	26.28	
M	105+01.32	27.53L	-	-	26.77	
N	105+01.32	21.02L	-	-	26.43	
O	104+91.37	18.99L	26.22	25.97	-	
P	104+87.27	22.72L	-	-	25.94	
Q	104+81.21	34.60L	-	-	25.59	INLET
R	104+88.46	31.38L	-	-	RIM 26.05 EX RIM 26.62	

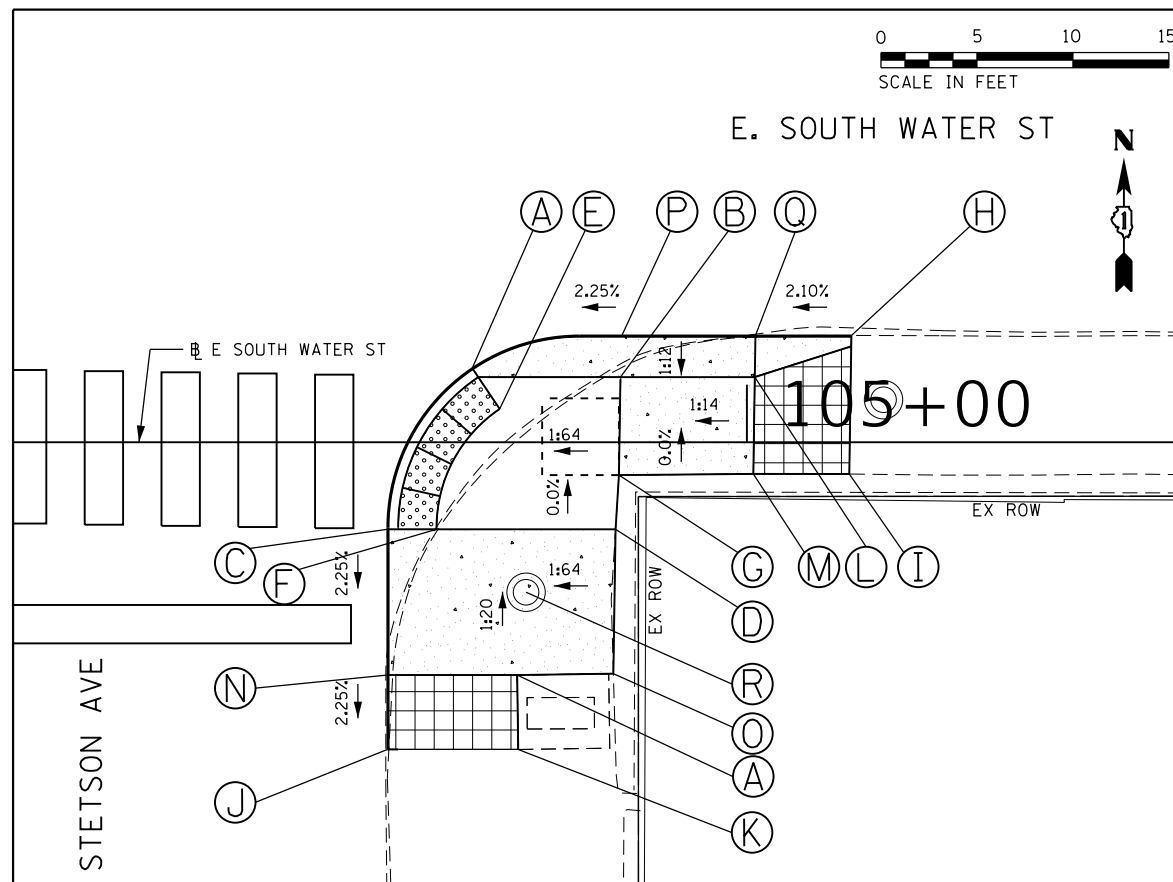
OFFSET FROM INTERMEDIATE WB PGL



POINT DESCRIPTION

POINT	STATION	OFFSET	ELEVATION			REMARK
			TOP OF CURB	GUTTER FLOWLINE	SIDEWALK, ALLEY, OR RAMP	
A	104+85.69	3.86L	26.395	26.39	-	
B	104+93.38	3.28L	-	-	26.40	
C	104+81.27	4.54R	26.185	26.18	-	
D	104+93.16	4.54R	-	-	26.40	
E	104+87.12	1.74L	-	-	26.40	
F	104+83.83	4.57R	-	-	26.22	
G	104+93.38	1.71R	-	-	26.40	
H	105+05.44	5.56L	27.37	26.87	-	MEET EX
I	105+05.34	1.65R	-	-	27.40	MEET EX, HIGH PT
J	104+81.37	16.01R	26.42	25.92	-	MEET EX, LOW PT
K	104+88.09	16.01R	-	-	26.50	MEET EX
L	105+00.36	3.39L	-	-	26.86	
M	105+00.36	1.65R	-	-	26.86	
N	104+81.37	12.13R	26.51	26.01	-	
O	104+93.00	12.06R	-	-	26.69	
P	104+93.38	5.56L	26.80	26.64	-	MEET EX JT
Q	105+00.36	5.56L	27.07	26.74	-	
R	104+88.50	7.81R	-	-	RIM 26.45 EX RIM 26.74	

60300105 FRAMES AND GRATES TO BE ADJUSTED



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LOCHNER

H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = ES	DESIGNED - JL	REVISED -
PLOT SCALE = 10.0000' / 1"	DRAWN - JL	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CURB RAMP DETAILS - INTERMEDIATE LEVEL**

SCALE: 1" = 10' SHEET 6 OF 6 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	43
DRAWING NO. C-12		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

CITY OF CHICAGO DEPARTMENT OF TRANSPORTATION

APPENDIX B REQUIREMENTS FOR OPENINGS, CONSTRUCTION AND REPAIR IN THE PUBLIC WAY

ADA STANDARDS



Department of Transportation

REVISION		REVISION	
1.	DATE - 02/20/2007	5.	DATE - 08/10/2012
2.	DATE - 11/15/2007	6.	DATE - 01/01/14
3.	DATE - 11/14/2008		
4.	DATE - 11/02/2009		



APPENDIX B - ADA STANDARDS TABLE OF CONTENTS

SECTION 1 - PLAN SHEETS

SHEET#	SHEET NAME
B-1-1	TYPICAL CORNER RAMP LAYOUTS
B-1-2	2 PERPENDICULAR RAMP AT CORNER
B-1-3	2 PERPENDICULAR RAMP AT CORNER WITH RAMP IN CURB RADIUS
B-1-4	PERPENDICULAR RAMP AT CORNER IN CURB RADIUS WITH SINGLE CROSSING
B-1-5	PERPENDICULAR RAMP AT CORNER IN CURB RADIUS WITH DETECTABLE WARNING SETBACK GREATER THAN 5'
B-1-6	COMBINATION RAMP AT CORNER (PARALLEL AND PERPENDICULAR RAMP)
B-1-7	BLENDED TRANSITION AT CORNER
B-1-8	BLENDED TRANSITION AT CORNER WITH SINGLE CROSSING
B-1-9	FLUSH TRANSITION AT CORNER
B-1-10	SHARED (DIAGONAL) PERPENDICULAR RAMP AT CORNER
B-1-11	RAMP AT CORNER WITH DIFFERENT SIDEWALK WIDTHS
B-1-12	PERPENDICULAR RAMP AT CORNER WITH LARGE CURB RADIUS
B-1-13	BLENDED TRANSITION AT CORNER WITH LARGE CURB RADIUS
B-1-14	RAMP THAT DO NOT ALIGN WITH CROSSWALK
B-1-15	PERPENDICULAR RAMP AT MID-BLOCK LOCATION
B-1-16	PARALLEL RAMP AT MID-BLOCK LOCATION
B-1-17	PARALLEL RAMP (ONE DIRECTION) AT MID-BLOCK LOCATION
B-1-18	COMBINATION RAMP (PARALLEL AND PERPENDICULAR RAMP) AT MID-BLOCK LOCATION
B-1-19	MEDIAN PASS-THROUGH
B-1-20	MEDIAN PASS-THROUGH WITH RAMP
B-1-21	ON-GRADE RAMP AT BRIDGE OR OVERPASS

SECTION 2 - ALLEY AND DRIVEWAY SHEETS

SHEET#	SHEET NAME
B-2-1	ALLEY RETURN PLAN VIEW
B-2-2	ALLEY RETURN SECTIONS
B-2-3	DRIVEWAY CONSTRUCTION PLAN VIEWS
B-2-4	DRIVEWAY CONSTRUCTION SECTIONS
B-2-5	ALLEY & DRIVEWAY DETAIL FOR REDUCED WIDTH PEDESTRIAN ACCESS ROUTE

SECTION 3 - NOTES

SHEET#	SHEET NAME
B-3-1	CONVERSION CHARTS
B-3-2	GENERAL NOTES
B-3-3	GENERAL NOTES (CONTINUED)
B-3-4	ADA COMPLIANCE AND TRANSITION GUIDELINES
B-3-5	SEAL

SECTION 4 - DETAILS

SHEET#	SHEET NAME
B-4-1	DETECTABLE WARNING UNIT SIZES
B-4-2	DETECTABLE WARNING DETAILS
B-4-3	CURB & GUTTER DETAILS



DATE	REVISION
02/20/07	REVISION 1
11/15/07	REVISION 2
11/14/08	REVISION 3
11/02/08	REVISION 4
08/10/12	REVISION 5

CITY OF CHICAGO
TABLE OF CONTENTS

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DRAWN BY: CDOT
CHECKED BY: LGM

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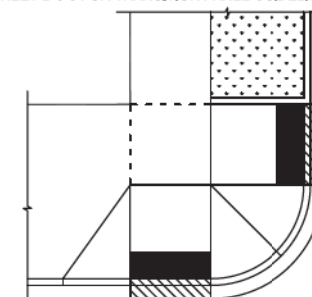
CURB RAMP LAYOUT B-1-2 IS PREFERRED WHEREVER POSSIBLE. WHERE RAMP ARE LOCATED IN THE CORNER RADIUS, LAYOUT B-1-3 SHALL BE USED.

CURB RAMP PLACEMENT SHALL BE COORDINATED AS REQUIRED TO ALLOW FOR A 4' MINIMUM WIDTH SIDEWALK AROUND EACH CORNER OF INTERSECTION, SIDEWALK NOT TO BE OBSTRUCTED BY CURB RAMP OR OTHER BARRIERS AND SHALL HAVE A CROSS SLOPE OF 1:84 MAXIMUM.

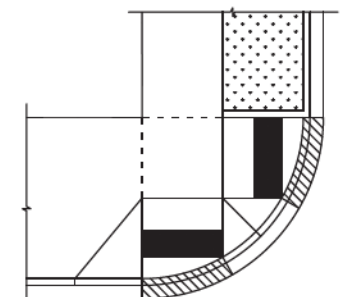
THE BLENDED TRANSITION LAYOUT B-1-7 (AND SIMILAR) MAY BE USED WHERE TWO RAMP ARE NOT POSSIBLE DUE TO GEOMETRIC CONSTRAINTS, SUCH AS LIMITED SIDEWALK WIDTH OR GRADE ELEVATIONS. THE BLENDED TRANSITION SHALL NOT BE USED IF ACCESS TO AN EXISTING FACILITY WOULD BE REDUCED.

THE SHARED PERPENDICULAR RAMP AT CORNER LAYOUT B-1-10 IS NOT PREFERRED AND MAY ONLY BE USED WITH PERMISSION FROM THE COMMISSIONER.

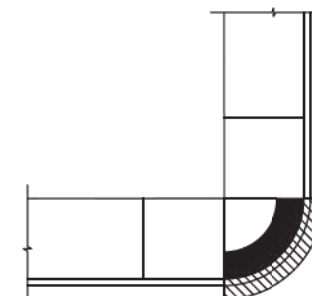
SEE SHEET B-3-3 FOR TRANSITION PANEL GUIDELINES.



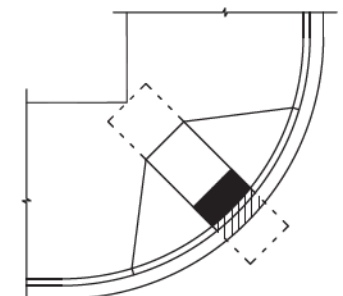
SHEET B-1-2: 2 PERPENDICULAR RAMP



SHEET B-1-3: 2 RAMP IN RADIUS



SHEET B-1-7: BLENDED TRANSITION



SHEET B-1-10: SHARED PERPENDICULAR RAMP AT CORNER



DATE	REVISION
02/20/07	REVISION 1
11/15/07	REVISION 2
11/14/08	REVISION 3
11/02/08	REVISION 4
08/10/12	REVISION 5

CITY OF CHICAGO
TYPICAL CORNER RAMP LAYOUTS
SHEET B-1-1

SCALE: NOT TO SCALE
DATE: 10/23/2006
DRAWN BY: CDOT
CHECKED BY: LGM

MODEL: Default
FILE NAME: I:\CH\PRJ\000006362\03_CADD\01_Sheets\ADA_Standards\03_ada01.dgn

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = ES
DESIGNED - JN
DRAWN - JN
CHECKED - DB
DATE -
PLOT SCALE = 40.0000' / in.
PLOT DATE = 5/17/2019

DESIGNED - JN
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DATE -

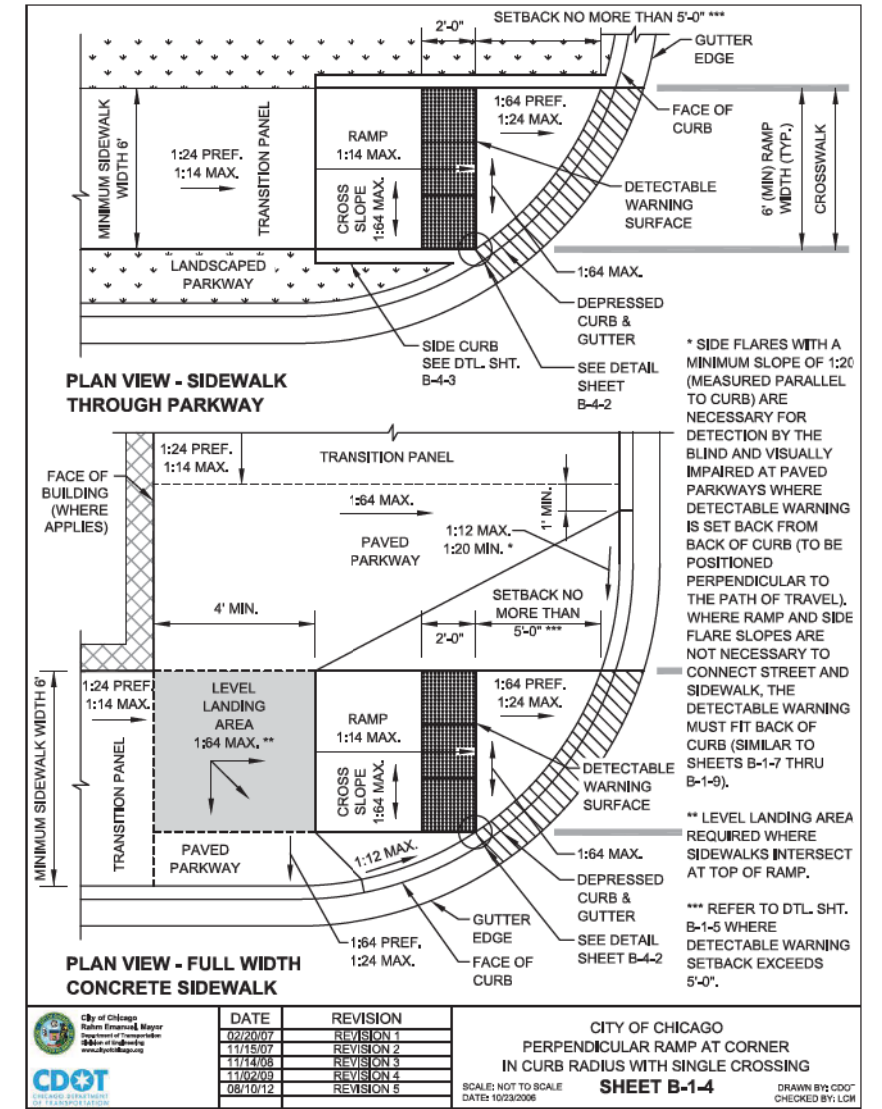
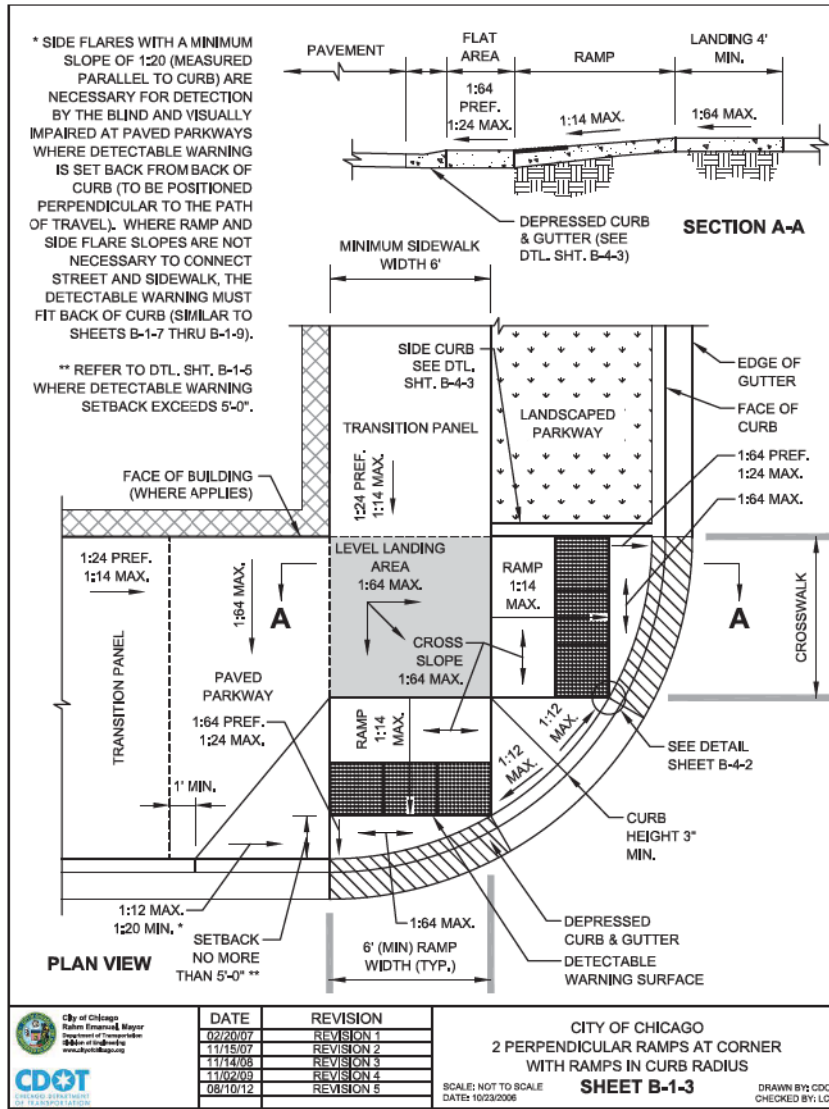
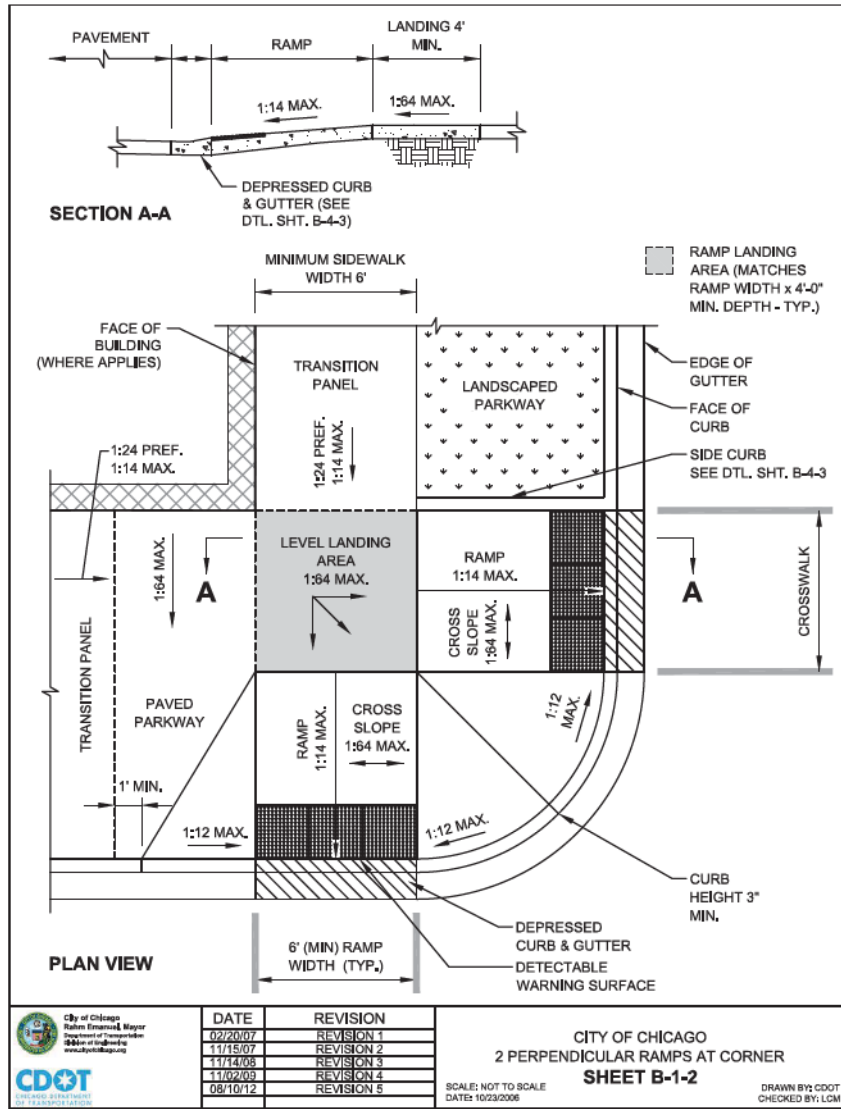
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
ADA STANDARDS

SCALE: NTS SHEET 1 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	44
DRAWING NO. C-18		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



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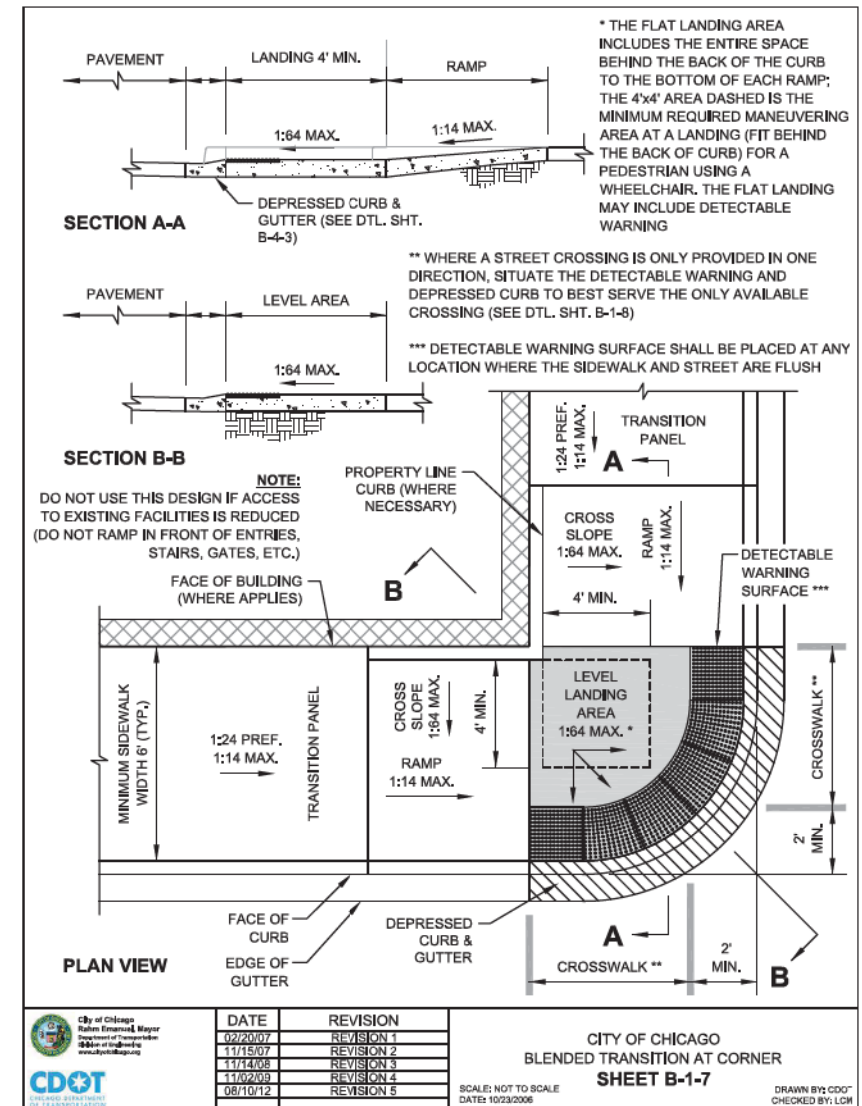
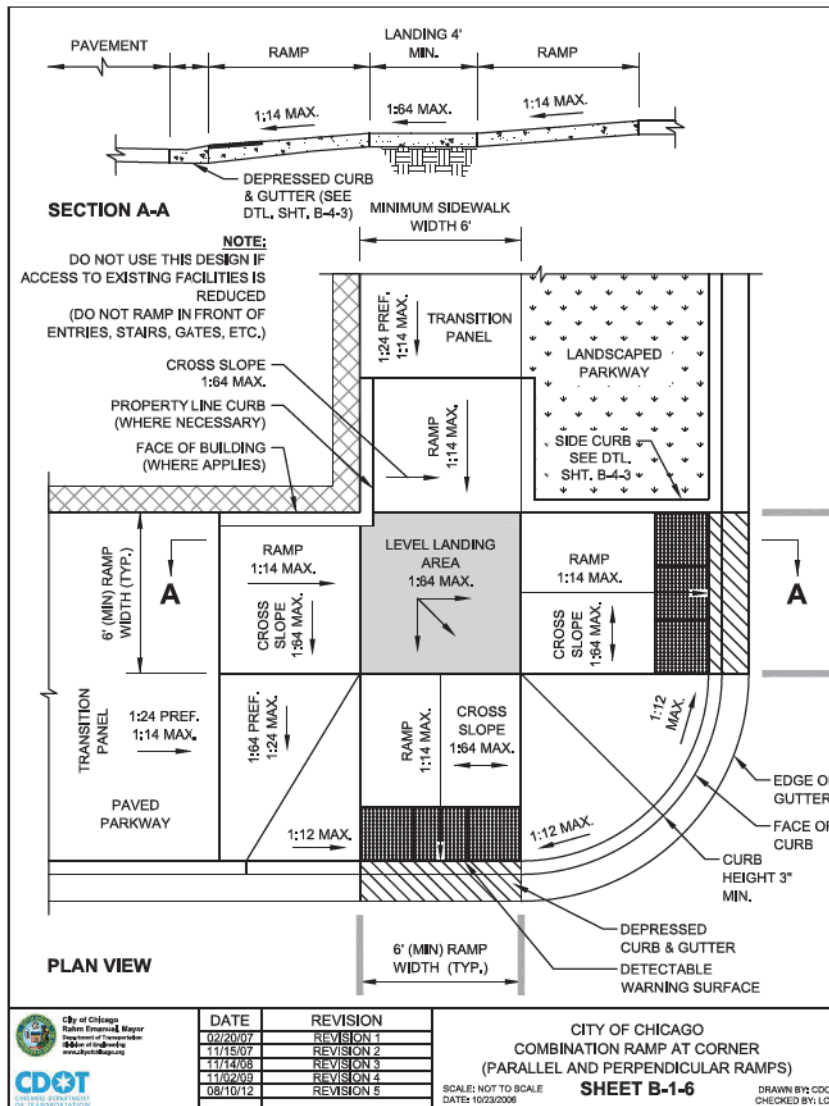
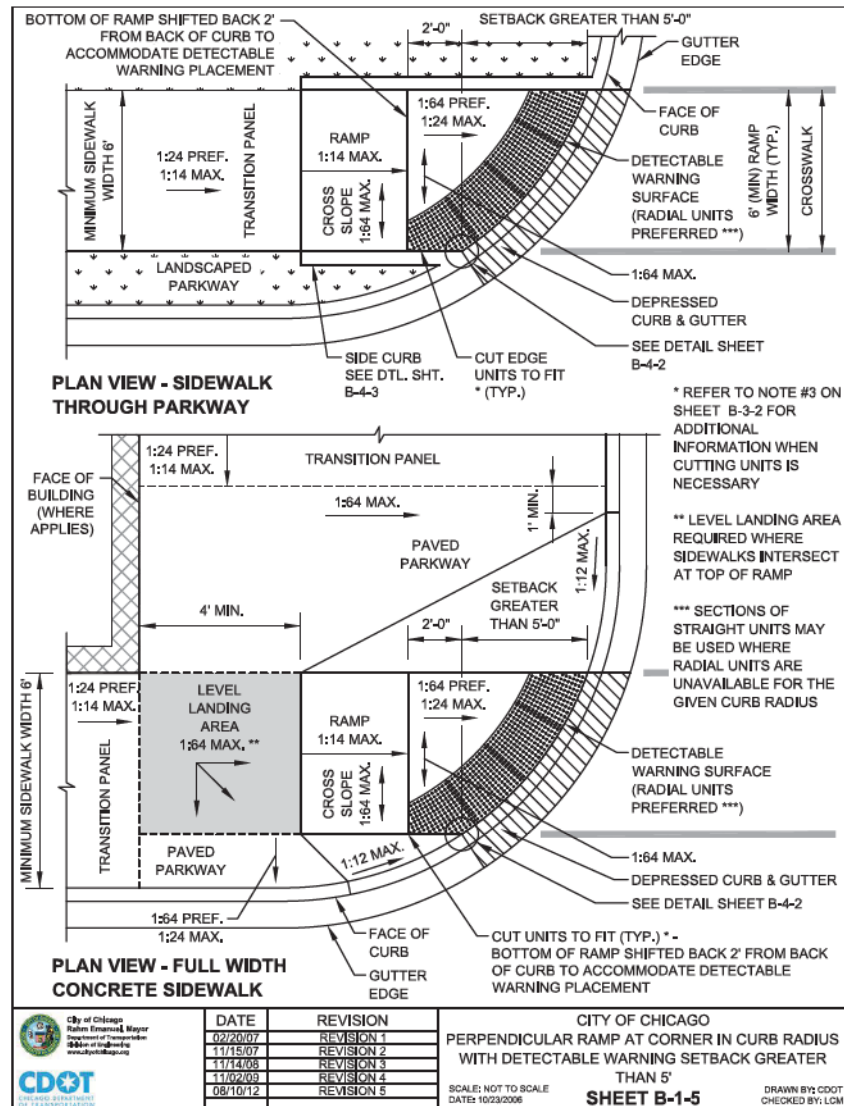
LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME	DESIGNED	REVISED
ES	JN	-
	JN	-
	DB	-
	-	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
ADA STANDARDS**
SCALE: NTS SHEET 2 OF 12 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	45
DRAWING NO. C-19		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



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 DATE: 5/17/2019

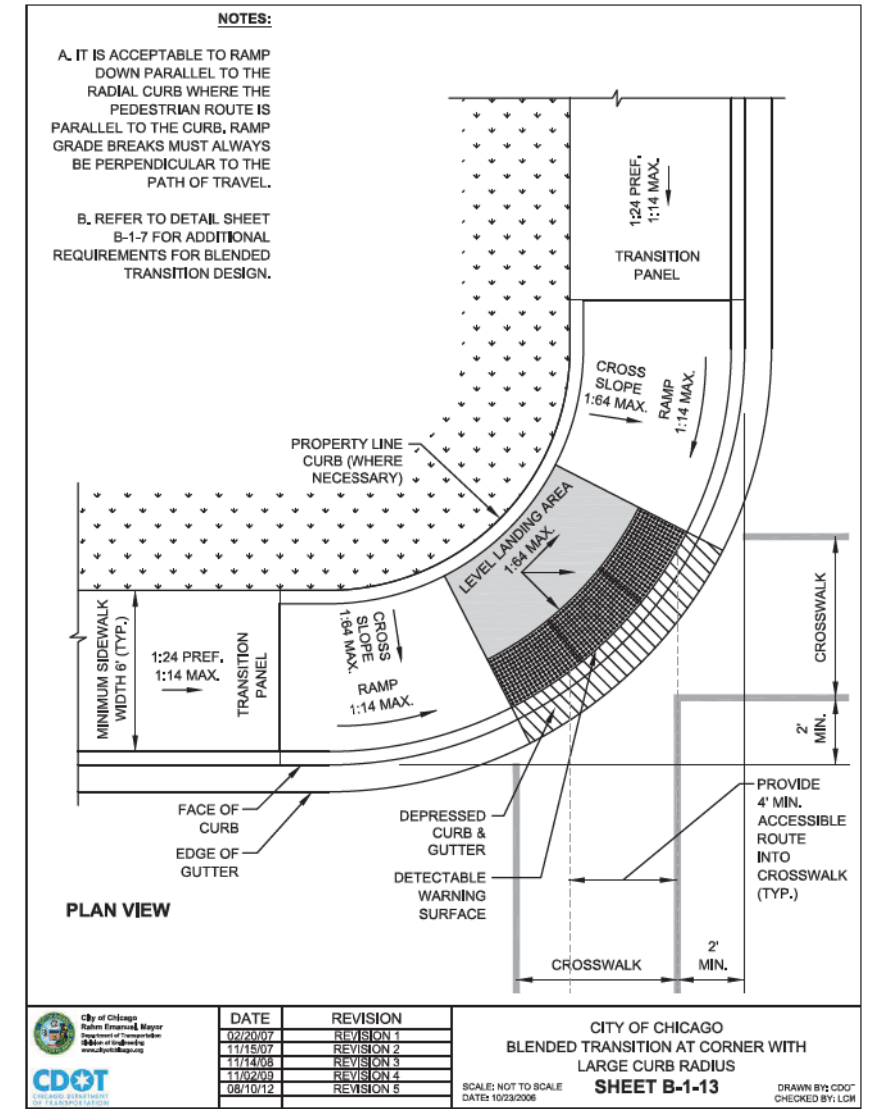
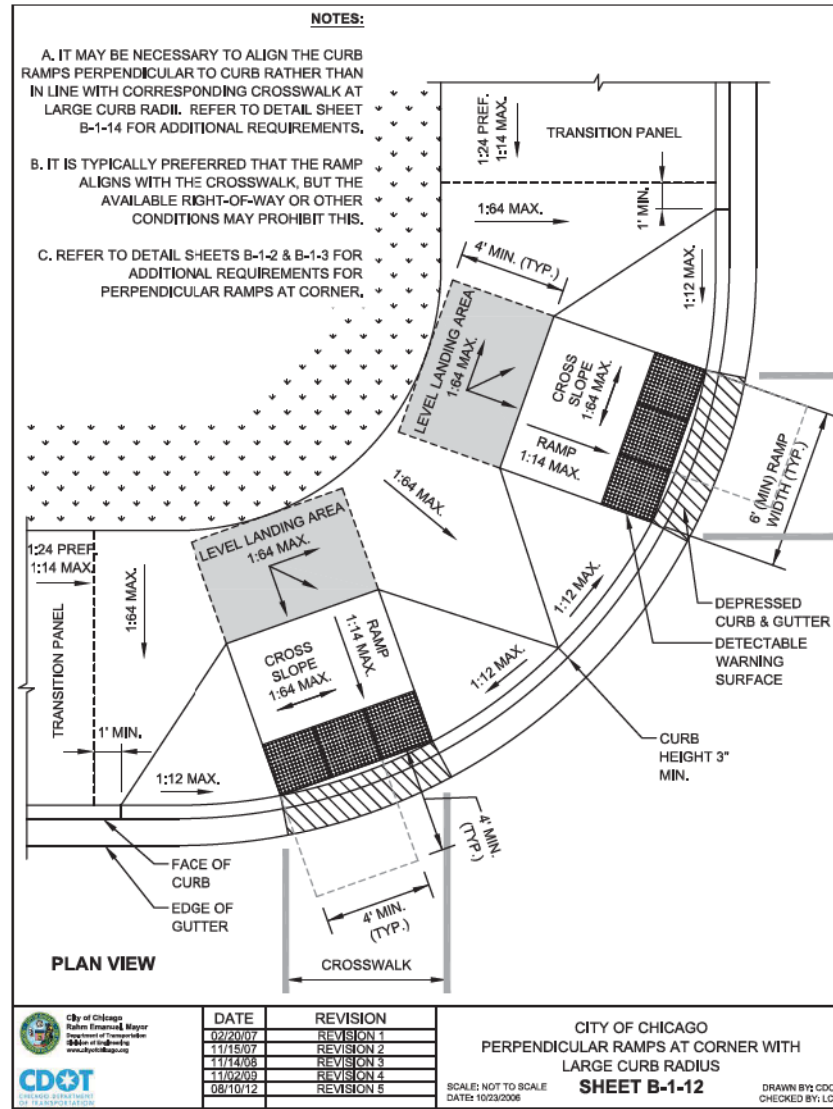
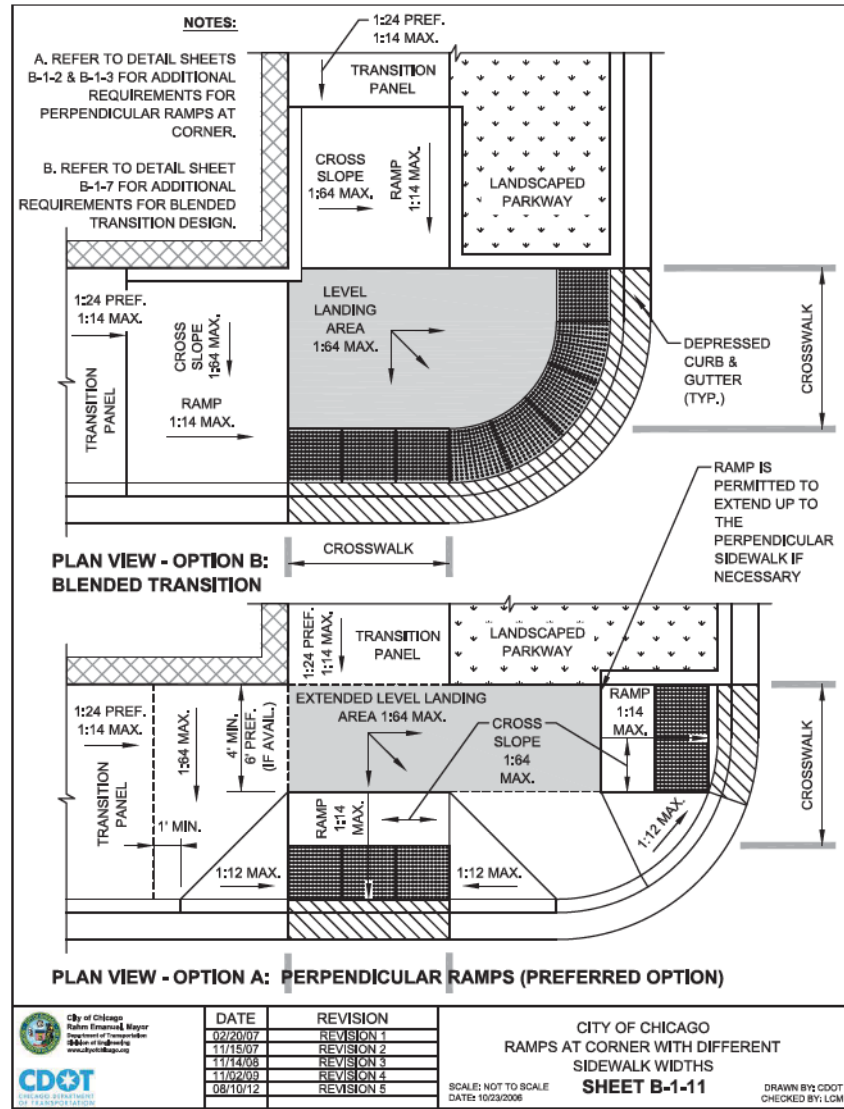
LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = ES	DESIGNED - JN	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
ADA STANDARDS
 SCALE: NTS SHEET 3 OF 12 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	46
DRAWING NO. C-20		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

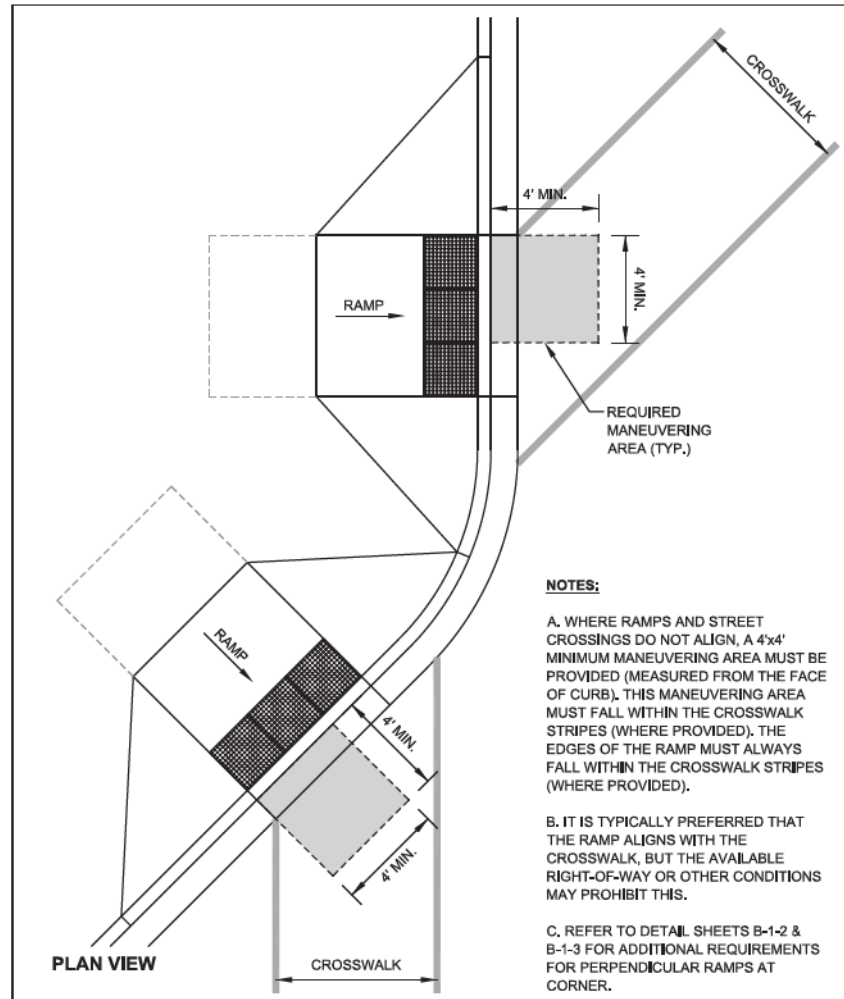
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PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
ADA STANDARDS**

SCALE: NTS SHEET 5 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	48
DRAWING NO. C-22		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



NOTES:

A. WHERE RAMPS AND STREET CROSSINGS DO NOT ALIGN, A 4'x4' MINIMUM MANEUVERING AREA MUST BE PROVIDED (MEASURED FROM THE FACE OF CURB). THIS MANEUVERING AREA MUST FALL WITHIN THE CROSSWALK STRIPES (WHERE PROVIDED). THE EDGES OF THE RAMP MUST ALWAYS FALL WITHIN THE CROSSWALK STRIPES (WHERE PROVIDED).

B. IT IS TYPICALLY PREFERRED THAT THE RAMP ALIGNS WITH THE CROSSWALK, BUT THE AVAILABLE RIGHT-OF-WAY OR OTHER CONDITIONS MAY PROHIBIT THIS.

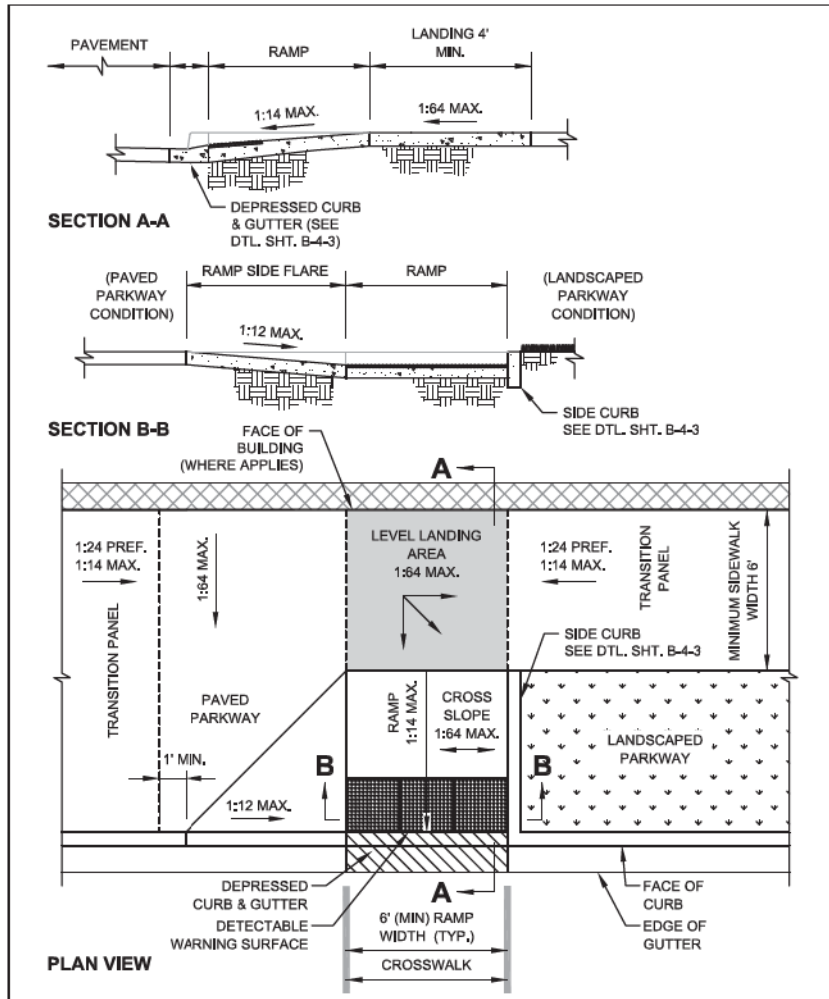
C. REFER TO DETAIL SHEETS B-1-2 & B-1-3 FOR ADDITIONAL REQUIREMENTS FOR PERPENDICULAR RAMPS AT CORNER.

 City of Chicago Public Works & Mayor Department of Transportation 225 West Washington Street Chicago, IL 60606	DATE	REVISION
	02/20/07	REVISION 1
	11/15/07	REVISION 2
	11/14/09	REVISION 3
	08/10/12	REVISION 5

CITY OF CHICAGO
RAMPS THAT DO NOT ALIGN WITH CROSSWALK
SHEET B-1-14

SCALE: NOT TO SCALE
DATE: 10/23/2006

DRAWN BY: CDOT
CHECKED BY: LGM

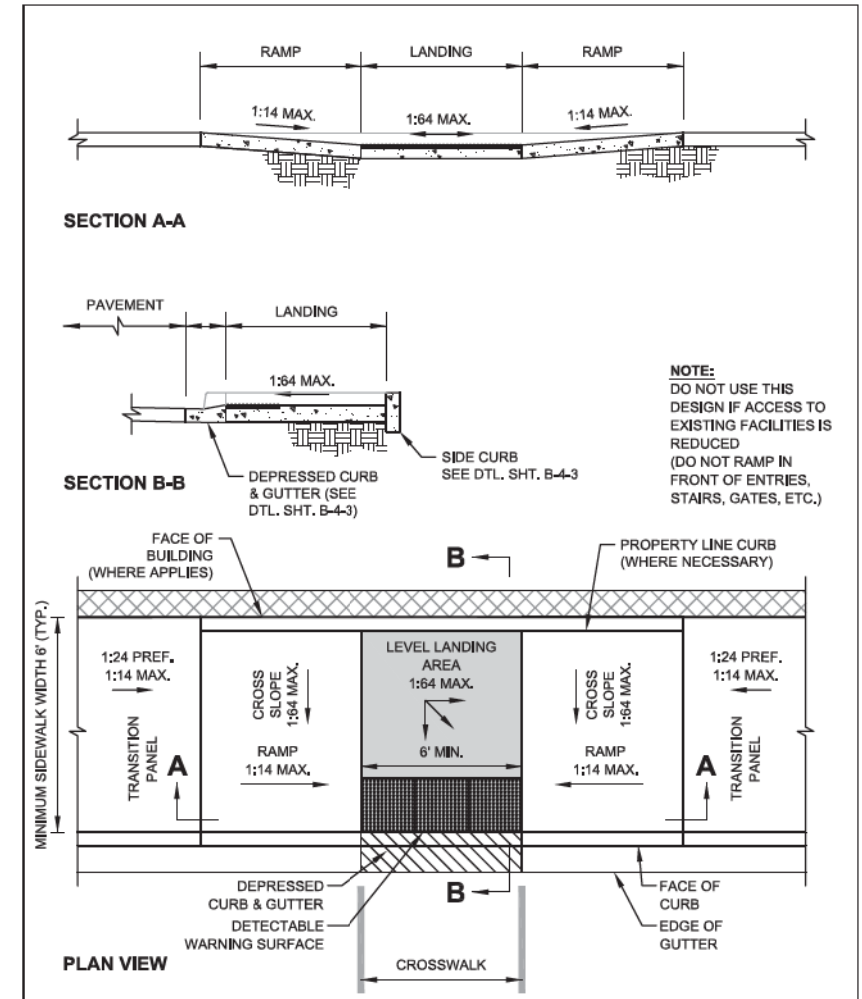


 City of Chicago Public Works & Mayor Department of Transportation 225 West Washington Street Chicago, IL 60606	DATE	REVISION
	02/20/07	REVISION 1
	11/15/07	REVISION 2
	11/14/09	REVISION 3
	08/10/12	REVISION 5

CITY OF CHICAGO
PERPENDICULAR RAMP AT MID-BLOCK LOCATION
SHEET B-1-15

SCALE: NOT TO SCALE
DATE: 10/23/2006

DRAWN BY: CDOT
CHECKED BY: LGM



 City of Chicago Public Works & Mayor Department of Transportation 225 West Washington Street Chicago, IL 60606	DATE	REVISION
	02/20/07	REVISION 1
	11/15/07	REVISION 2
	11/14/09	REVISION 3
	08/10/12	REVISION 5

CITY OF CHICAGO
PARALLEL RAMP AT MID-BLOCK LOCATION
SHEET B-1-16

SCALE: NOT TO SCALE
DATE: 10/23/2006

DRAWN BY: CDOT
CHECKED BY: LGM

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LOCHNER
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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

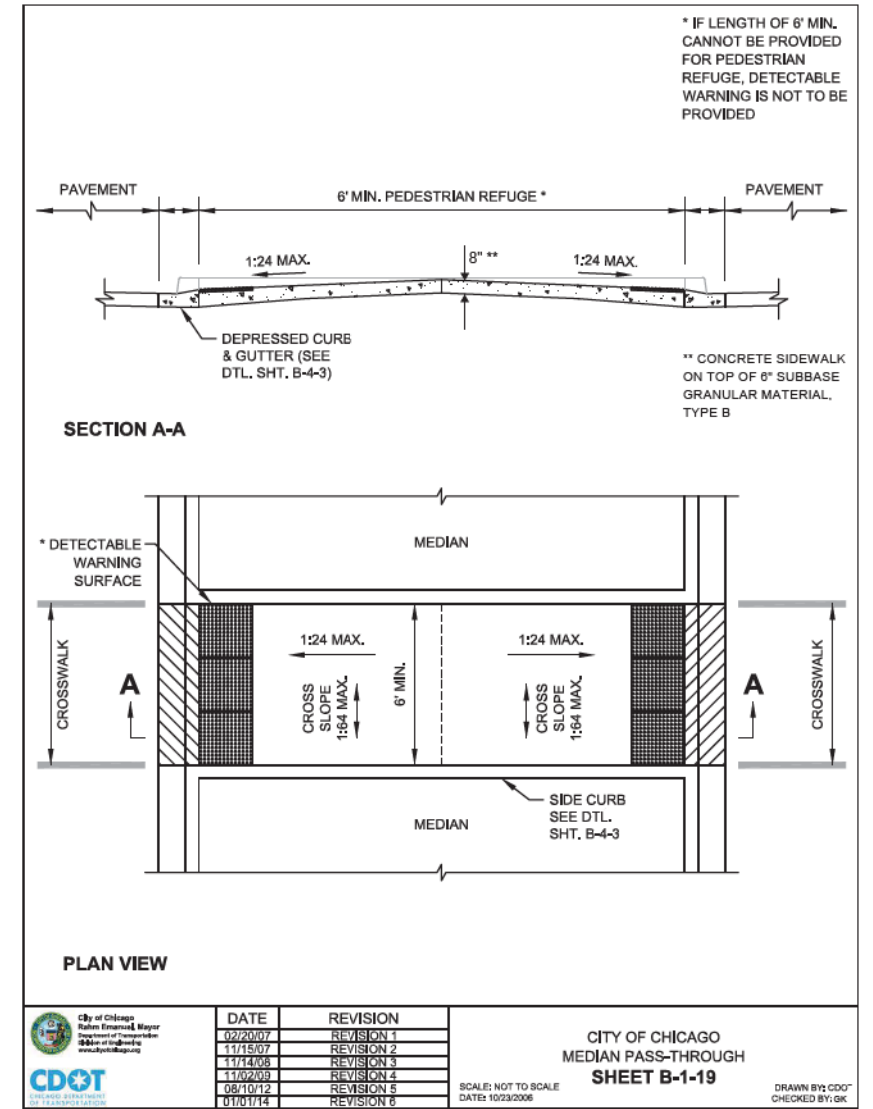
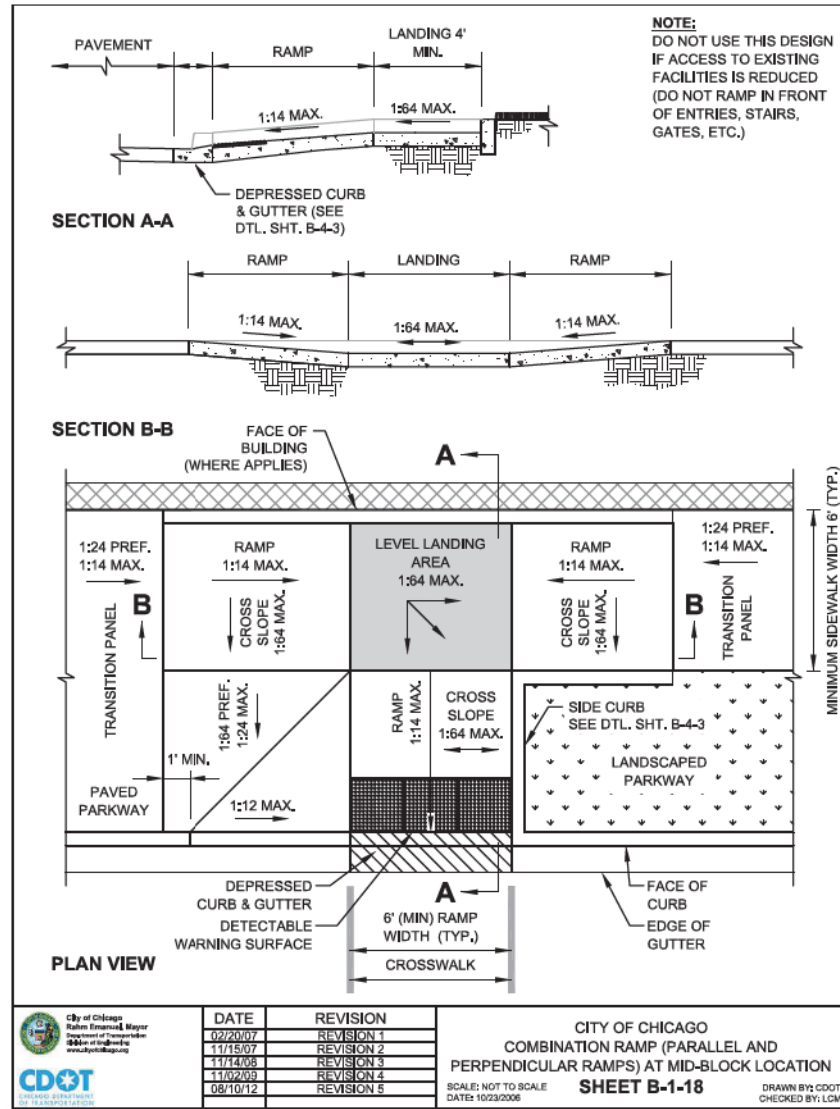
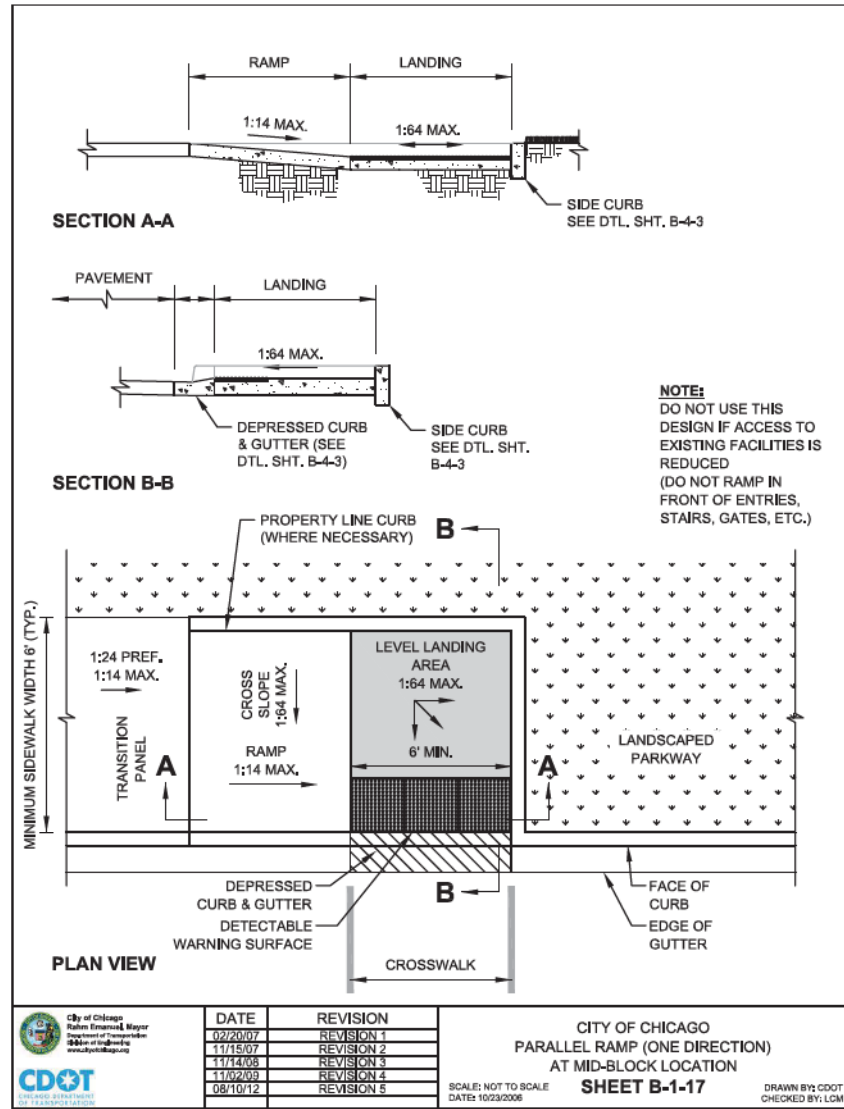
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 ADA STANDARDS**

SCALE: NTS SHEET 6 OF 12 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	49
DRAWING NO. C-23		CONTRACT NO. M-6000(367)		

ILLINOIS FED. AID PROJECT



MODEL: Default
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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

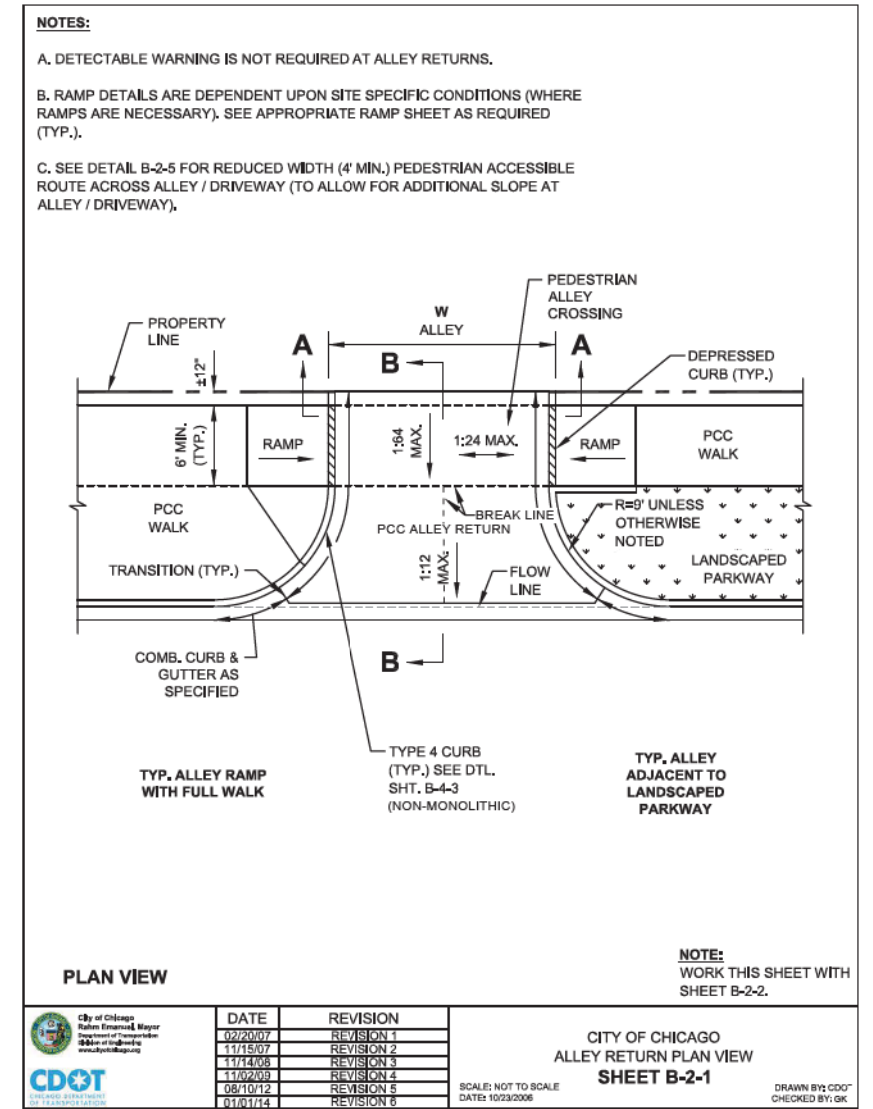
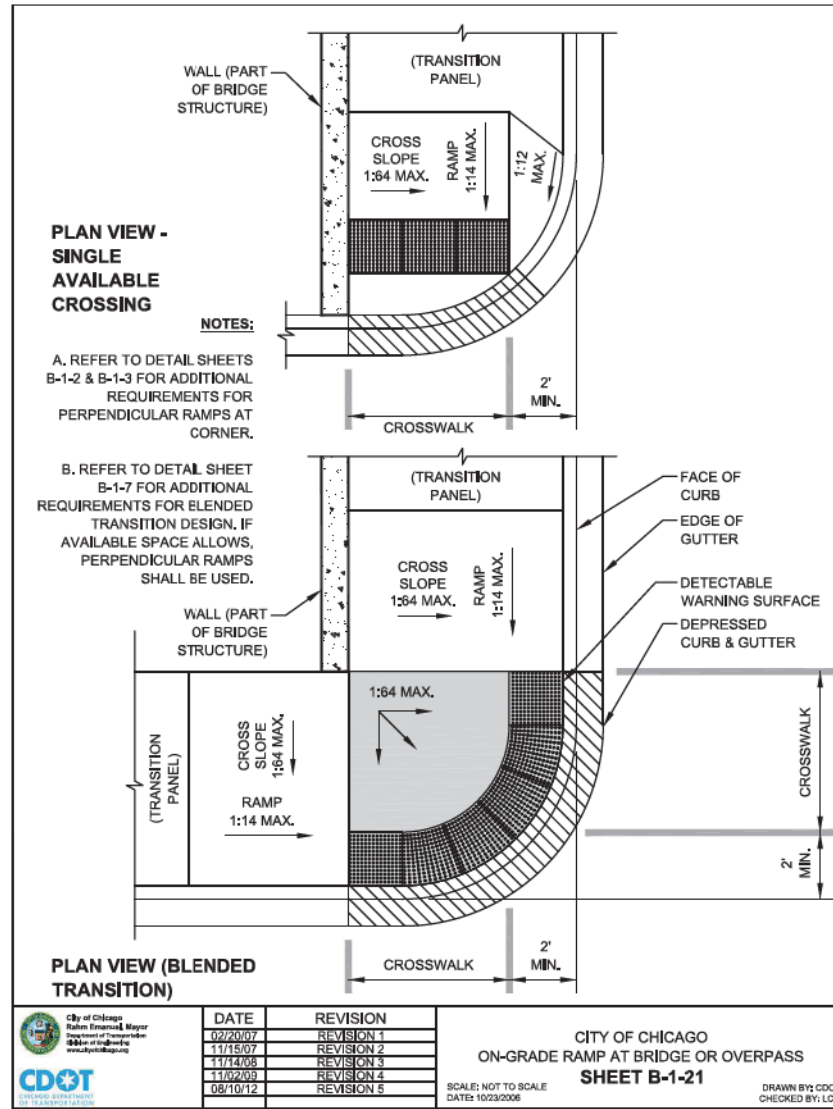
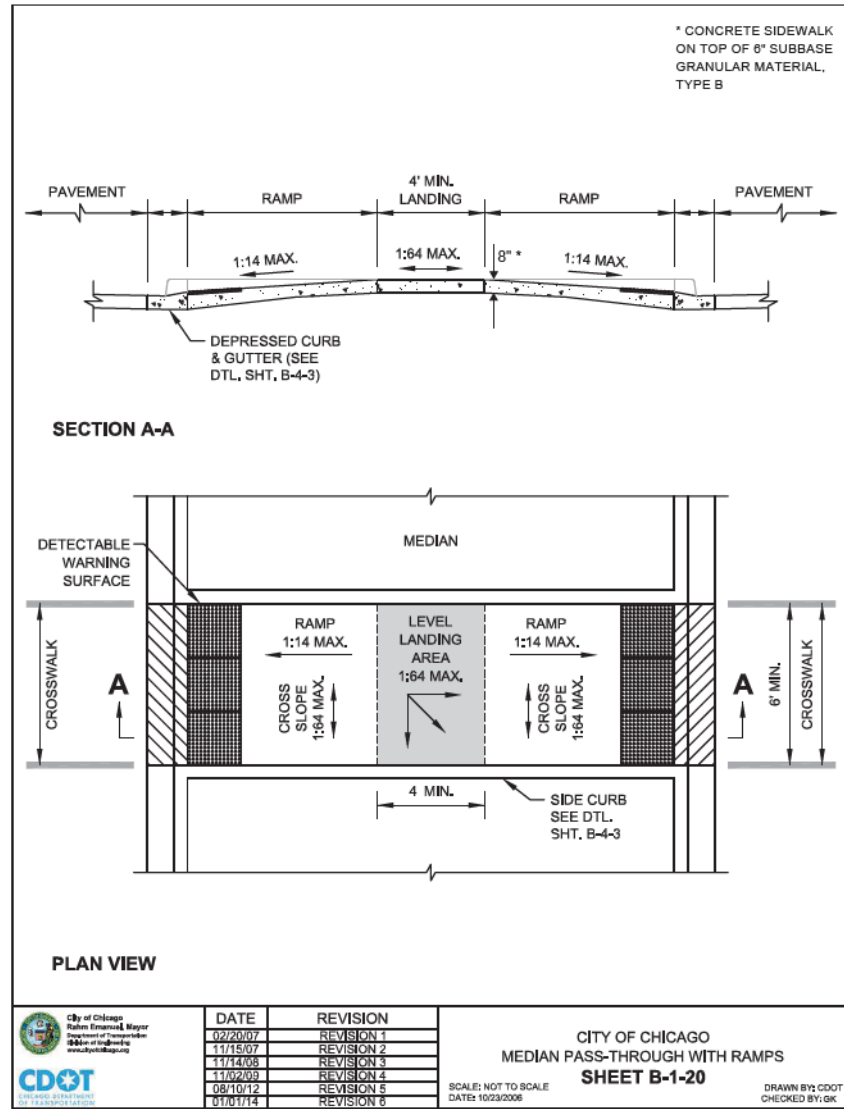
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PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
ADA STANDARDS**

SCALE: NTS SHEET 7 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	50
DRAWING NO. C-24		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



MODEL: Default
FILE NAME: I:\CH\PRJ\000006362\03_CADD\01_Sheets\ADA_Standards\B-1.dwg

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

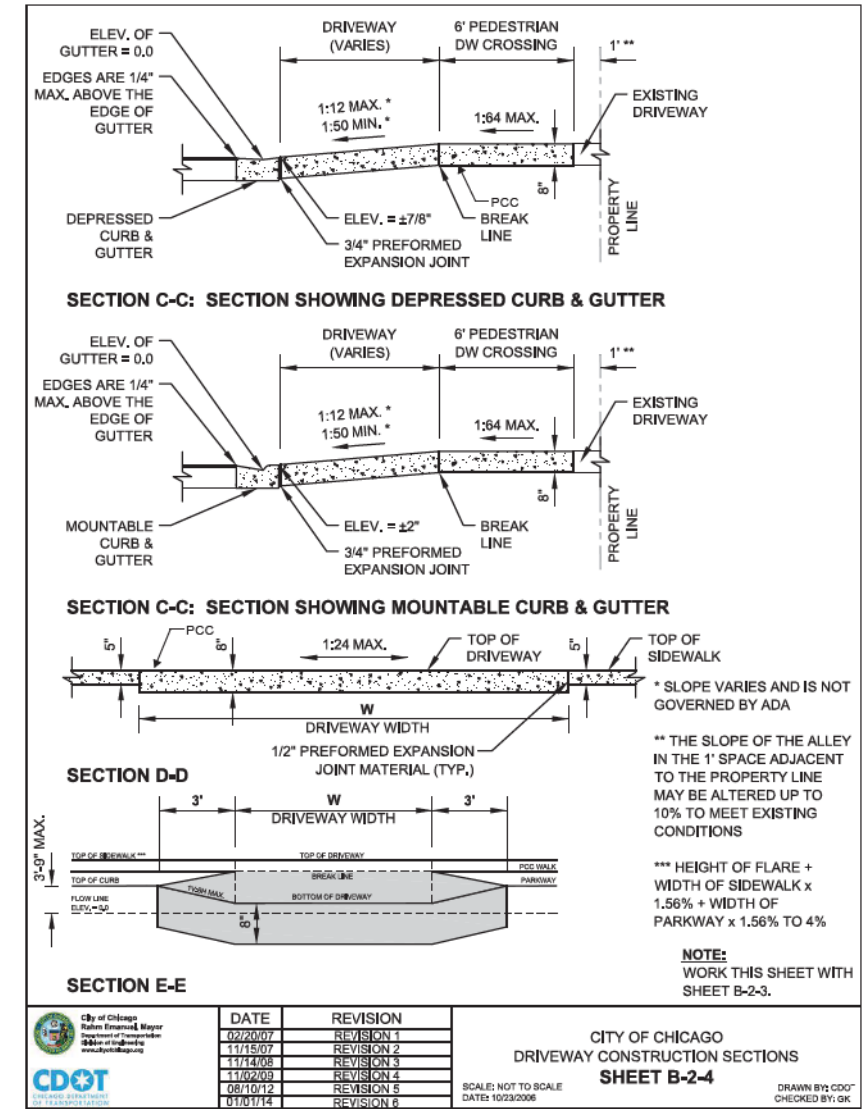
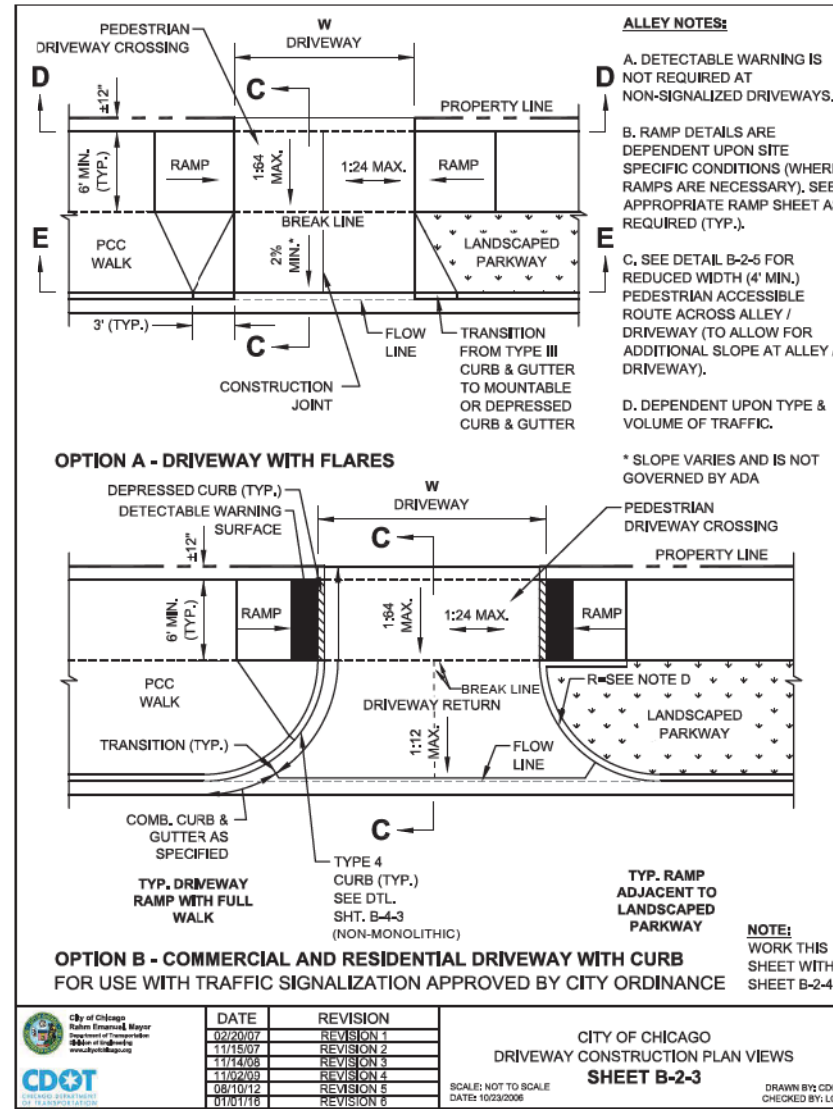
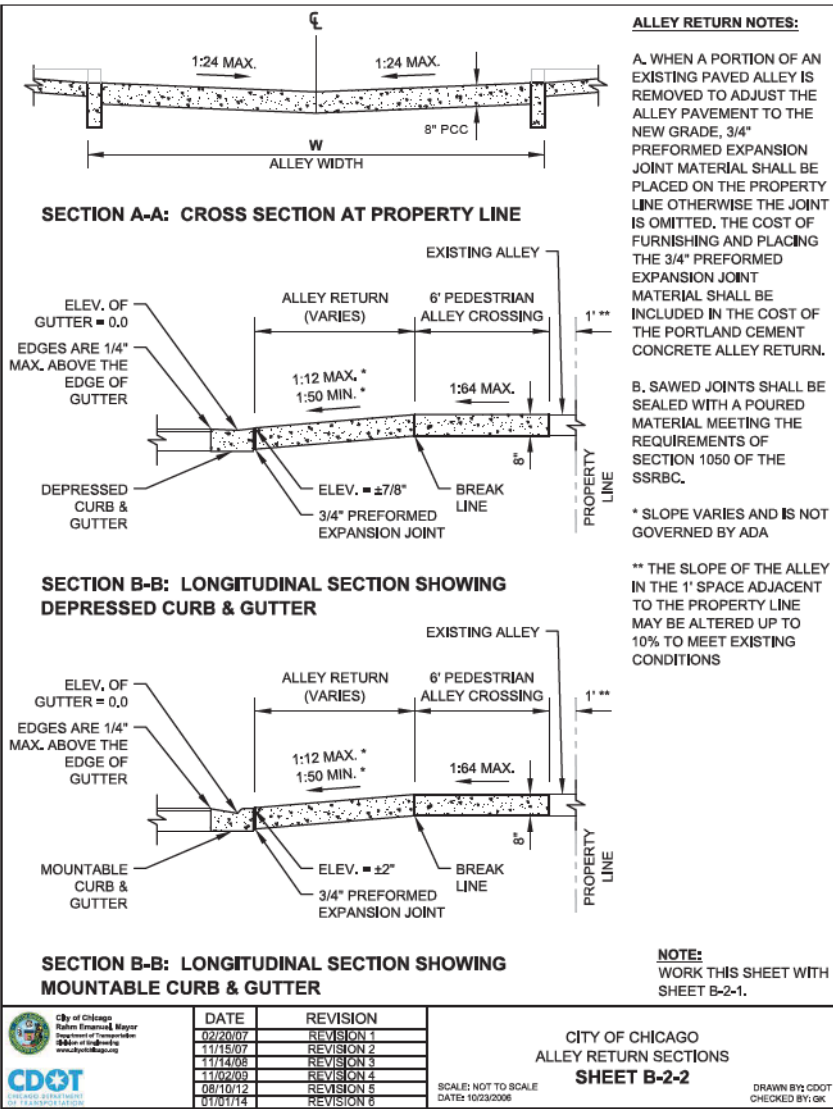
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PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

SCALE: NTS SHEET 8 OF 12 SHEETS

**E SOUTH WATER STREET
ADA STANDARDS**

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	51
DRAWING NO. C-25		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

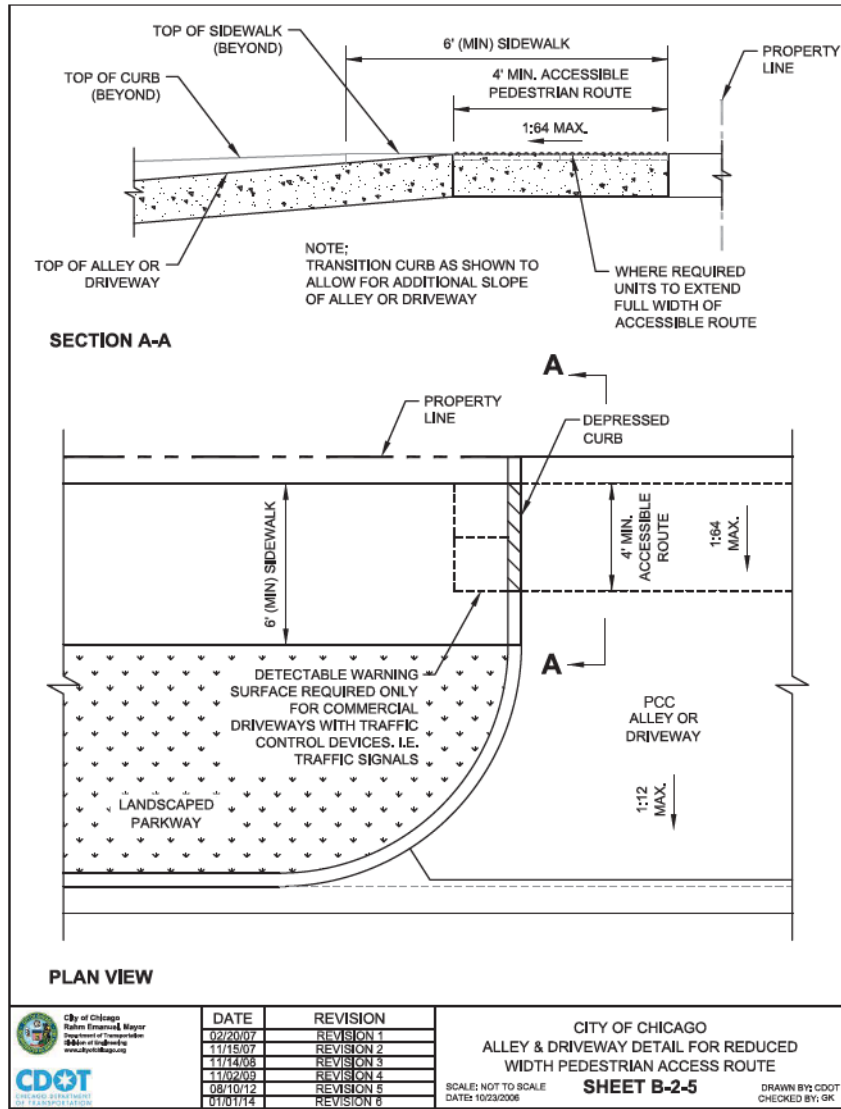
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PLOT DATE = 5/17/2019	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
ADA STANDARDS**

SCALE: NTS SHEET 9 OF 12 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	52
DRAWING NO. C-26		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



SLOPE CONVERSION CHART

% SLOPE	SLOPE RATIO	INCHES PER FOOT	DECIMAL FEET PER FOOT
16.67%	1:6	2"	0.167'
10%	1:10	1 1/4"	0.104'
8.33%	1:12	1"	0.083'
7.14%	1:14	7/8"	0.073'
5%	1:20	5/8"	0.052'
4.17%	1:24	1/2"	0.042'
2%	1:50	1/4"	0.021'
1.56%	1:64	3/16"	0.016'

DATE	REVISION
02/20/07	REVISION 1
11/15/07	REVISION 2
11/14/08	REVISION 3
11/02/09	REVISION 4
08/10/12	REVISION 5

CITY OF CHICAGO
CONVERSION CHARTS
SHEET B-3-1
SCALE: NOT TO SCALE DATE: 10/23/2006
DRAWN BY: CDOT CHECKED BY: LGM

- GENERAL NOTES:**
1. THE DETECTABLE WARNING USED SHALL BE CHOSEN FROM THE CHICAGO DEPARTMENT OF TRANSPORTATION LIST OF APPROVED DETECTABLE WARNING PRODUCTS (AVAILABLE ON THE CITY OF CHICAGO WEBSITE). IT IS NOT ACCEPTABLE TO INSTALL TWO DIFFERENT DETECTABLE WARNING PRODUCTS ADJACENT TO ONE ANOTHER AT ANY LOCATION, IN THE CENTRAL BUSINESS DISTRICT, GRANITE OR OTHER SPECIALTY PAVING MATERIALS MAY BE SUBMITTED TO THE COMMISSIONER FOR APPROVAL.
 2. THE DETECTABLE WARNING MUST BE INSTALLED A MAXIMUM OF 8" OR LESS FROM FACE OF CURB (SEE DETAIL SHEET B-4-2).
 3. THE DETECTABLE WARNING MUST COVER FULL WIDTH OF RAMP EXCLUDING SIDE FLARES FOR A MINIMUM UNOBSTRUCTED DEPTH OF 24". THE DETECTABLE WARNING LOCATED ON THE SURFACES OF RAMPS IS TYPICALLY ORIENTED PERPENDICULAR TO THE RUN OF THE RAMP UNLESS SPECIAL CIRCUMSTANCES OCCUR (SEE DETAIL SHEET B-1-5). THE DETECTABLE WARNING MUST BE PROVIDED FOR A MINIMUM DEPTH OF 24" FOR THE ENTIRE LENGTH OF THE SIDEWALK WHERE THE SIDEWALK IS FLUSH WITH THE STREET (DEPRESSED CURB OR FLUSH TRANSITION). IF IT IS NECESSARY TO CUT A UNIT(S) IN THE PROVISION OF A COMPLIANT RAMP OR SIDEWALK WITH 24" MINIMUM DEPTH OF DETECTABLE WARNING, THE UNITS SHALL BE CUT IN A NEAT AND WORKMAN LIKE MANNER PER MANUFACTURER'S REQUIREMENTS WITH A MINIMUM OF THREE PINS OR ANCHOR POINTS (WHERE APPLICABLE). THE UNITS SHALL BE ARRANGED SO THAT THE CUT UNITS ARE LARGE ENOUGH TO BE PROPERLY AND ADEQUATELY SECURED. CUT UNITS SHALL NOT BE USED UNLESS ALL OTHER DESIGN OPTIONS HAVE BEEN EXHAUSTED. THE USE OF SALVAGE PIECES FROM UNITS THAT ARE CUT WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE COMMISSIONER. CUT UNIT SALVAGE PIECES NOT APPROVED FOR USE MUST BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
 4. WHERE APPLICABLE, A COMBINATION OF STRAIGHT AND RADIAL DETECTABLE WARNING UNITS MAY BE USED ON COMPOUND AND LARGE RADII. CONTRACTOR MUST MAKE THIS DETERMINATION AND VERIFY IN FIELD.
 5. THE DETECTABLE WARNING MUST CONTRAST WITH ADJACENT PAVEMENT. IF LIGHT COLORED PAVEMENT IS USED THE DETECTABLE WARNING COLOR SHALL BE RED. IF A DARK COLORED PAVEMENT IS USED THE DETECTABLE WARNING COLOR SHALL BE YELLOW. CONTRACTOR TO VERIFY THAT PROPER CONTRAST IS OBTAINED.
 6. PRIOR TO PLACING CONCRETE FOR DEPRESSED CURBS, RAMPS, OR SIDEWALKS THE CONTRACTOR SHALL VERIFY THAT LAYOUT OR DESIGN COMPLIES WITH THE REQUIREMENTS OF THE CDOT ADA STANDARDS.
 7. RAMP WIDTH MUST BE A MINIMUM OF 6'-0" AND IN INCREMENTS OF 1'-0", EXCEPT WHEN USING THE PERPENDICULAR RAMP AT CORNER (OR OTHER SPECIAL CDOT APPROVED CONDITIONS), WHICH HAS A MINIMUM WIDTH OF 4'-0".
 8. THE MAXIMUM ALLOWABLE RAMP RUNNING SLOPE IS 1:14, MEASURED AT ANY PORTION OF THE RAMP. IF POSSIBLE, A MORE GRADUAL SLOPE SHALL BE USED, GRADE BREAKS AT THE TOP AND BOTTOM OF RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF RAMP RUN.
 9. THE MAXIMUM ALLOWABLE RAMP CROSS SLOPE IS 1:64, MEASURED AT ANY PORTION OF THE RAMP. IF POSSIBLE, A MORE GRADUAL SLOPE SHALL BE USED.
 10. THE MAXIMUM ALLOWABLE RAMP LANDING SLOPE IS 1:64, MEASURED AT ANY LOCATION AND IN ANY DIRECTION ON THE LANDING. THE RAMP LANDING WIDTH SHALL MATCH THE FULL WIDTH OF THE RAMP FOR A MINIMUM UNOBSTRUCTED DEPTH OF 4'-0". RAMP LANDINGS SHALL BE PROVIDED AT THE TOP AND/OR BOTTOM OF RAMPS WHERE TURNING IS REQUIRED.
 11. RAMP SIDE FLARES SHALL BE INSTALLED AT ANY LOCATION WHERE THE SURFACE ADJACENT TO THE RAMP SURFACE IS INTENDED FOR PEDESTRIAN USE. TRIPPING HAZARDS, INCLUDING STEPS, DROP-OFFS, OR CURBS SHALL NOT BE LOCATED WITHIN THE LIMITS OF THE SIDEWALK. RAMP SIDE FLARES ARE NOT REQUIRED WHERE THE SURFACE ADJACENT TO THE RAMP SURFACE IS LANDSCAPED OR IS OCCUPIED BY A BARRIER THAT BLOCKS PEDESTRIAN ACCESS. EXCEPTIONS TO THIS RULE MAY BE SUBMITTED TO THE COMMISSIONER FOR APPROVAL.
- | DATE | REVISION |
|----------|------------|
| 02/20/07 | REVISION 1 |
| 11/15/07 | REVISION 2 |
| 11/14/08 | REVISION 3 |
| 11/02/09 | REVISION 4 |
| 08/10/12 | REVISION 5 |
- CITY OF CHICAGO
GENERAL NOTES
SHEET B-3-2
SCALE: NOT TO SCALE DATE: 10/23/2006
DRAWN BY: CDOT CHECKED BY: LGM

MODEL: Default
FILE NAME: I:\CHN\PR\000006362\03_CADD\01_Sheets\ADA_Standards.dwg

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = ES	DESIGNED - JN	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
ADA STANDARDS**
SCALE: NTS SHEET 10 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	53
DRAWING NO. C-27		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

STRAIGHT DETECTABLE WARNING UNITS

RADIAL DETECTABLE WARNING UNITS

DETECTABLE WARNING UNIT SIZES

- VERIFY ALL DIMENSIONS WITH THE PRODUCT MANUFACTURER.
- IF USING RADIAL UNITS, VERIFY THAT THE CURB RADIUS MATCHES AVAILABLE UNIT RADII WITH THE PRODUCT MANUFACTURER.
- APPROVED LIST OF DETECTABLE WARNING PRODUCTS CAN BE FOUND ON CDOT'S WEBSITE (www.cdot.state.il.us).

DATE	REVISION
02/20/07	REVISION 1
11/15/07	REVISION 2
11/14/08	REVISION 3
11/02/09	REVISION 4
08/10/12	REVISION 5

CITY OF CHICAGO
DETECTABLE WARNING UNIT SIZES
SHEET B-4-1

SCALE: NOT TO SCALE
DATE: 10/23/2006
DRAWN BY: CDOT
CHECKED BY: LGM

GENERAL NOTE:
THE ROWS OF DOMES IN THE DETECTABLE WARNING MATERIAL MUST BE ALIGNED WITH THE PATH OF WHEELCHAIR TRAVEL WHICH IS REQUIRED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BOTTOM OF THE RAMP TO PERMIT TRACKING BETWEEN DOME ROWS. ON BLENDED TRANSITIONS OR FLUSH TRANSITIONS, WHERE RADIAL UNITS ARE SITUATED ABOUT THE CURB RADIUS, DOME ORIENTATION IS NOT SIGNIFICANT.

UNIT PATTERN & DOME DETAIL

TYPICAL DETECTABLE WARNING PLACEMENT

DETECTABLE WARNING PLACEMENT ON A RADIUS

DETECTABLE WARNING UNIT SECTION

DETECTABLE WARNING UNIT SIZES

- VERIFY ALL DIMENSIONS WITH THE PRODUCT MANUFACTURER.
- IF USING RADIAL UNITS, VERIFY THAT THE CURB RADIUS MATCHES AVAILABLE UNIT RADII WITH THE PRODUCT MANUFACTURER.
- APPROVED LIST OF DETECTABLE WARNING PRODUCTS CAN BE FOUND ON CDOT'S WEBSITE (www.cdot.state.il.us).

DATE	REVISION
02/20/07	REVISION 1
11/15/07	REVISION 2
11/14/08	REVISION 3
11/02/09	REVISION 4
08/10/12	REVISION 5

CITY OF CHICAGO
DETECTABLE WARNING UNIT DETAILS
SHEET B-4-2

SCALE: NOT TO SCALE
DATE: 10/23/2006
DRAWN BY: CDOT
CHECKED BY: LGM

GENERAL NOTE:
THE ROWS OF DOMES IN THE DETECTABLE WARNING MATERIAL MUST BE ALIGNED WITH THE PATH OF WHEELCHAIR TRAVEL WHICH IS REQUIRED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BOTTOM OF THE RAMP TO PERMIT TRACKING BETWEEN DOME ROWS. ON BLENDED TRANSITIONS OR FLUSH TRANSITIONS, WHERE RADIAL UNITS ARE SITUATED ABOUT THE CURB RADIUS, DOME ORIENTATION IS NOT SIGNIFICANT.

SIDE CURB - SECTION

DEPRESSED CURB & GUTTER AT ALLEY/DRIVEWAY APRON (TYPE 4 OR B CURB)

DEPRESSED CURB & GUTTER AT BOTTOM OF TYPICAL CURB RAMP

DETECTABLE WARNING UNIT SIZES

- VERIFY ALL DIMENSIONS WITH THE PRODUCT MANUFACTURER.
- IF USING RADIAL UNITS, VERIFY THAT THE CURB RADIUS MATCHES AVAILABLE UNIT RADII WITH THE PRODUCT MANUFACTURER.
- APPROVED LIST OF DETECTABLE WARNING PRODUCTS CAN BE FOUND ON CDOT'S WEBSITE (www.cdot.state.il.us).

DATE	REVISION
02/20/07	REVISION 1
11/15/07	REVISION 2
11/14/08	REVISION 3
11/02/09	REVISION 4
08/10/12	REVISION 5

CITY OF CHICAGO
CURB & GUTTER DETAILS
SHEET B-4-3

SCALE: NOT TO SCALE
DATE: 10/23/2006
DRAWN BY: CDOT
CHECKED BY: LGM

MODEL: Default
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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = ES	DESIGNED - JN	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - JN	REVISED -
PLOT DATE = 5/17/2019	CHECKED - DB	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

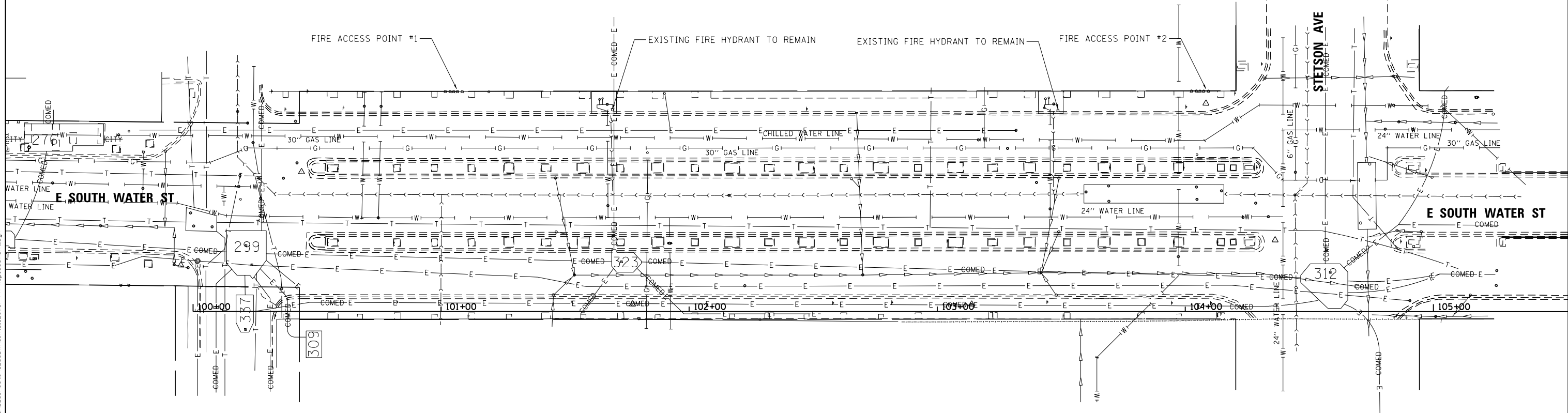
**E SOUTH WATER STREET
ADA STANDARDS**

SCALE: NTS SHEET 12 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	55
DRAWING NO. C-29		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

NOTES:

1. THE CONTRACTOR SHALL CONTACT THE FORCE ACCOUNT CONSTRUCTION MANAGER AT FACM@CTR.WATER.NET TWO WEEKS PRIOR TO THE ANTICIPATED START OF THE CONSTRUCTION DATE SUCH THAT A RESIDENT ENGINEER CAN BE ASSIGNED TO THIS PROJECT. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN ADDITIONAL EXPENSES TO THE PROPOSED PROJECT TO VERIFY THAT ALL WORK CONFORMS TO DWM STANDARDS.
2. THE CONTRACTOR MUST SUBMIT TO THE DWM COPIES OF THE SHOP DRAWING FOR ALL MATERIAL TO BE USED. ALL MATERIALS MUST BE APPROVED BY THE DWM PRIOR TO STARTING CONSTRUCTION.
3. ALL VALVE OPERATIONS ARE TO BE COMPLETED BY THE DWM.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS FOR THIS PROJECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WATER SERVICES AND FIRE PROTECTION DURING CONSTRUCTION.
6. SEE DEPARTMENT OF WATER MANAGEMENT SPECIAL PROVISIONS LOCATED IN APPENDIX A OF BOOK 3 SPECIAL PROVISIONS FOR THIS CONTRACT.
7. ACCESS TO AT LEAST ONE OF THE LOWER LEVEL FIRE ACCESS POINTS FOR 233 N. MICHIGAN (FIRE ACCESS POINTS 1 AND 2) SHALL BE MAINTAINED AT ALL TIMES AS A BACKUP TO THE PRIMARY FIRE ACCESS POINT 3 (INTERMEDIATE LEVEL).



LOWER LEVEL FIRE HYDRANT REPLACEMENT PLAN

BILL OF MATERIAL			
CODE NO.	DESCRIPTION	UNIT	QUANTITY
*****	HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED	EACH	2
*****	TEMPORARY SPRINKLER STANDPIPE EXTENSION	L SUM	1

MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\W-M-CADD-DWM\CADD-Sheets\3208DWM_ah.L.Lower.FH.Replacement.dgn

TranSmart | EJM
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott	DESIGNED - CLG	REVISED -
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	DATE -	REVISED -

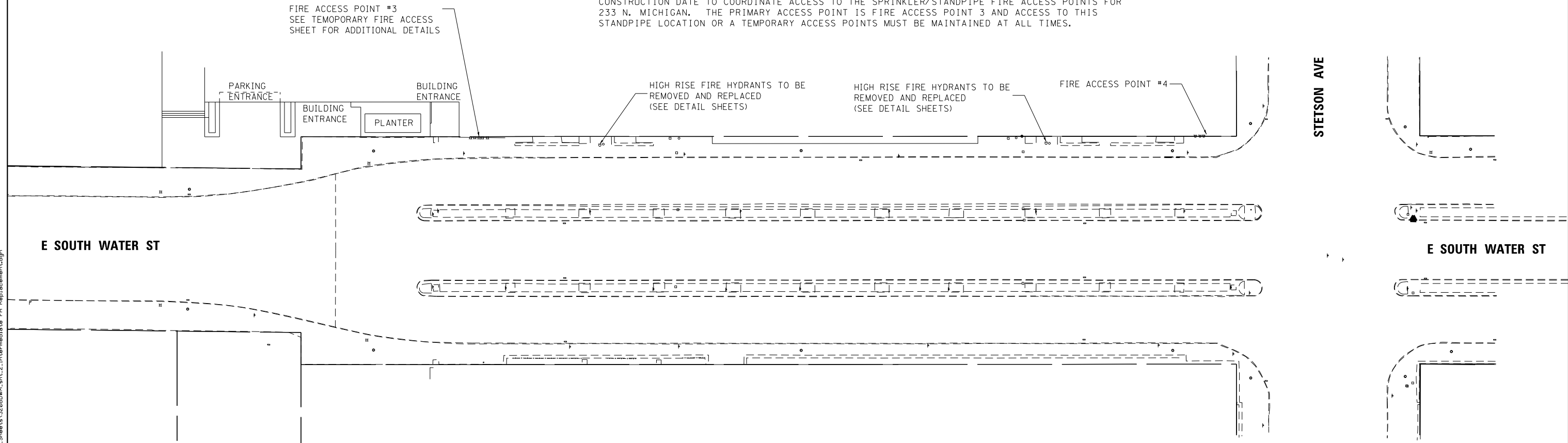
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
LOWER LEVEL FIRE HYDRANT REPLACEMENT
 SCALE: 1" = 20' SHEET 1 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	56
DRAWING NO. W-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

NOTES:

1. THE CONTRACTOR SHALL CONTACT THE FORCE ACCOUNT CONSTRUCTION MANAGER AT FACM@CTRWATER.NET TWO WEEKS PRIOR TO THE ANTICIPATED START OF THE CONSTRUCTION DATE SUCH THAT A RESIDENT ENGINEER CAN BE ASSIGNED TO THIS PROJECT. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN ADDITIONAL EXPENSES TO THE PROPOSED PROJECT TO VERIFY THAT ALL WORK CONFORMS TO DWM STANDARDS.
2. THE CONTRACTOR MUST SUBMIT TO THE DWM COPIES OF THE SHOP DRAWING FOR ALL MATERIAL TO BE USED. ALL MATERIALS MUST BE APPROVED BY THE DWM PRIOR TO STARTING CONSTRUCTION.
3. ALL VALVE OPERATIONS ARE TO BE COMPLETED BY THE DWM.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS FOR THIS PROJECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WATER SERVICES AND FIRE PROTECTION DURING CONSTRUCTION.
6. SEE DEPARTMENT OF WATER MANAGEMENT SPECIAL PROVISIONS LOCATED IN APPENDIX A OF BOOK 3 SPECIAL PROVISIONS FOR THIS CONTRACT.
7. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER MANAGEMENT, BUREAU OF FIRE PROTECTION, AND THE BUILDING OWNER (233 N. MICHIGAN) TWO WEEKS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION DATE TO COORDINATE ACCESS TO THE SPRINKLER/STANDPIPE FIRE ACCESS POINTS FOR 233 N. MICHIGAN. THE PRIMARY ACCESS POINT IS FIRE ACCESS POINT 3 AND ACCESS TO THIS STANDPIPE LOCATION OR A TEMPORARY ACCESS POINTS MUST BE MAINTAINED AT ALL TIMES.



INTERMEDIATE LEVEL FIRE HYDRANT REPLACEMENT PLAN

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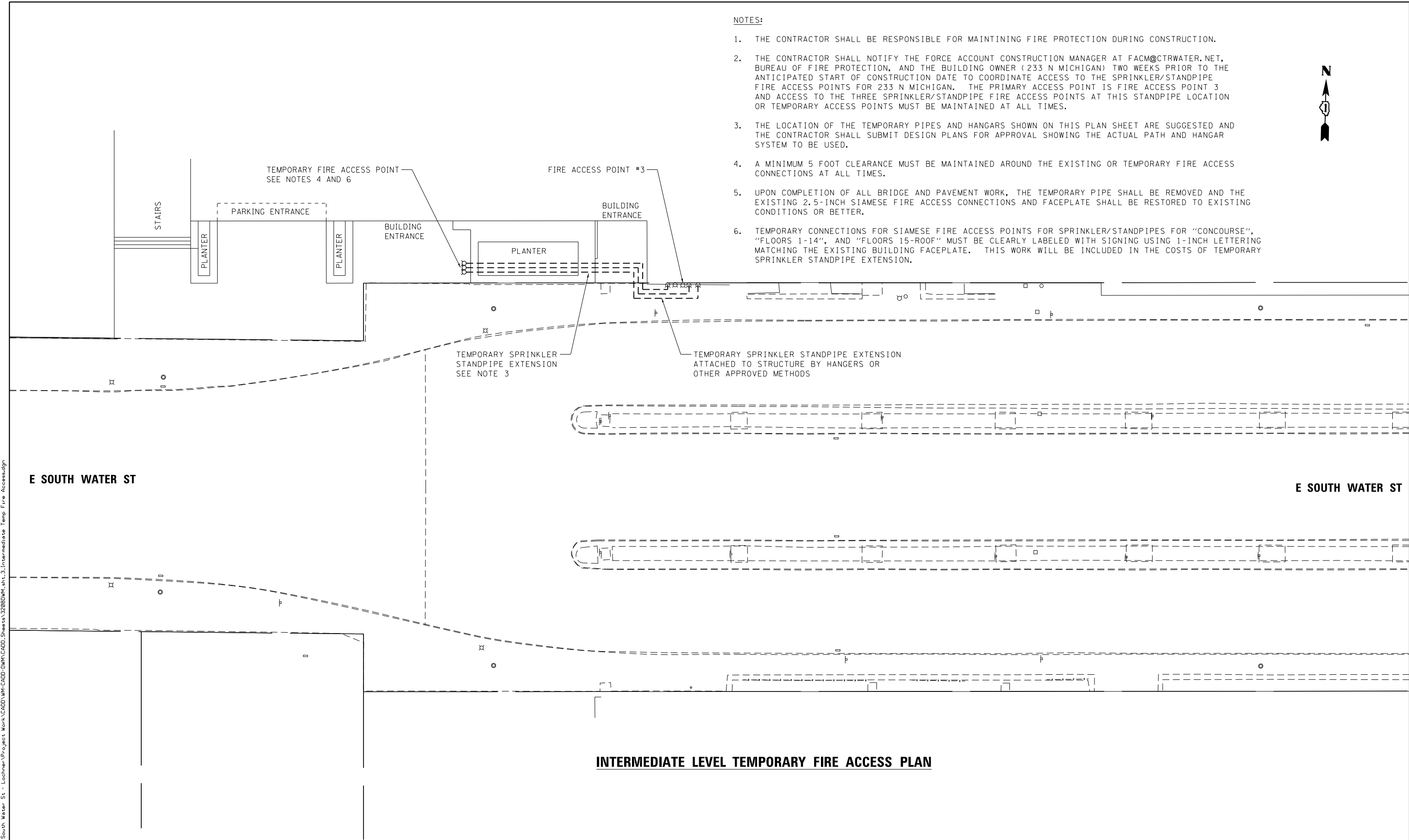
TranSmart/EJM
 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - CLG	REVISED -
	DRAWN - PAS	REVISED -
PLOT SCALE : 20.0000' / in.	CHECKED - RPI	REVISED -
PLOT DATE : 12/5/2018	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
INTERMEDIATE LEVEL FIRE HYDRANT REPLACEMENT
 SCALE: 1" = 20' SHEET 2 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	57
DRAWING NO. W-02		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE PROTECTION DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL NOTIFY THE FORCE ACCOUNT CONSTRUCTION MANAGER AT FACM@CTRWATER.NET, BUREAU OF FIRE PROTECTION, AND THE BUILDING OWNER (233 N MICHIGAN) TWO WEEKS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION DATE TO COORDINATE ACCESS TO THE SPRINKLER/STANDPIPE FIRE ACCESS POINTS FOR 233 N MICHIGAN. THE PRIMARY ACCESS POINT IS FIRE ACCESS POINT 3 AND ACCESS TO THE THREE SPRINKLER/STANDPIPE FIRE ACCESS POINTS AT THIS STANDPIPE LOCATION OR TEMPORARY ACCESS POINTS MUST BE MAINTAINED AT ALL TIMES.
3. THE LOCATION OF THE TEMPORARY PIPES AND HANGARS SHOWN ON THIS PLAN SHEET ARE SUGGESTED AND THE CONTRACTOR SHALL SUBMIT DESIGN PLANS FOR APPROVAL SHOWING THE ACTUAL PATH AND HANGAR SYSTEM TO BE USED.
4. A MINIMUM 5 FOOT CLEARANCE MUST BE MAINTAINED AROUND THE EXISTING OR TEMPORARY FIRE ACCESS CONNECTIONS AT ALL TIMES.
5. UPON COMPLETION OF ALL BRIDGE AND PAVEMENT WORK, THE TEMPORARY PIPE SHALL BE REMOVED AND THE EXISTING 2.5-INCH SIAMESE FIRE ACCESS CONNECTIONS AND FACEPLATE SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.
6. TEMPORARY CONNECTIONS FOR SIAMESE FIRE ACCESS POINTS FOR SPRINKLER/STANDPIPES FOR "CONCOURSE", "FLOORS 1-14", AND "FLOORS 15-ROOF" MUST BE CLEARLY LABELED WITH SIGNING USING 1-INCH LETTERING MATCHING THE EXISTING BUILDING FACEPLATE. THIS WORK WILL BE INCLUDED IN THE COSTS OF TEMPORARY SPRINKLER STANDPIPE EXTENSION.



INTERMEDIATE LEVEL TEMPORARY FIRE ACCESS PLAN

MODEL: Default
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 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - CLG	REVISED -
PLOT SCALE : 10.0000' / in.	DRAWN - PAS	REVISED -
PLOT DATE : 12/5/2018	CHECKED - RPI	REVISED -
	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
INTERMEDIATE LEVEL TEMPORARY FIRE ACCESS PLAN
 SCALE: 1" = 10' SHEET 3 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	58
DRAWING NO. W-03		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

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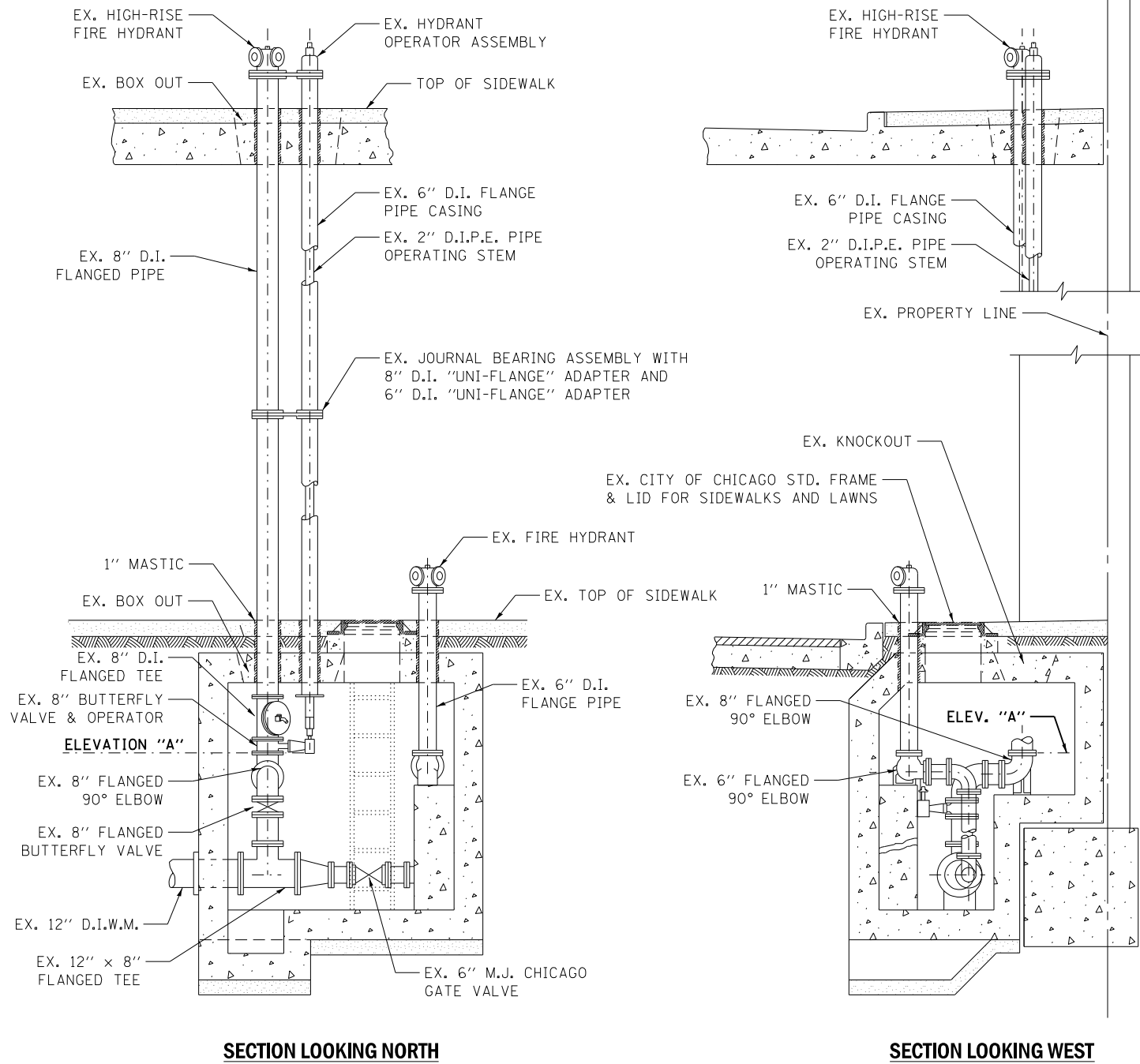
TranSmart/EJM
 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - CLG	REVISED -
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PLOT DATE : 12/5/2018	CHECKED - RPI	REVISED -
	DATE -	REVISED -

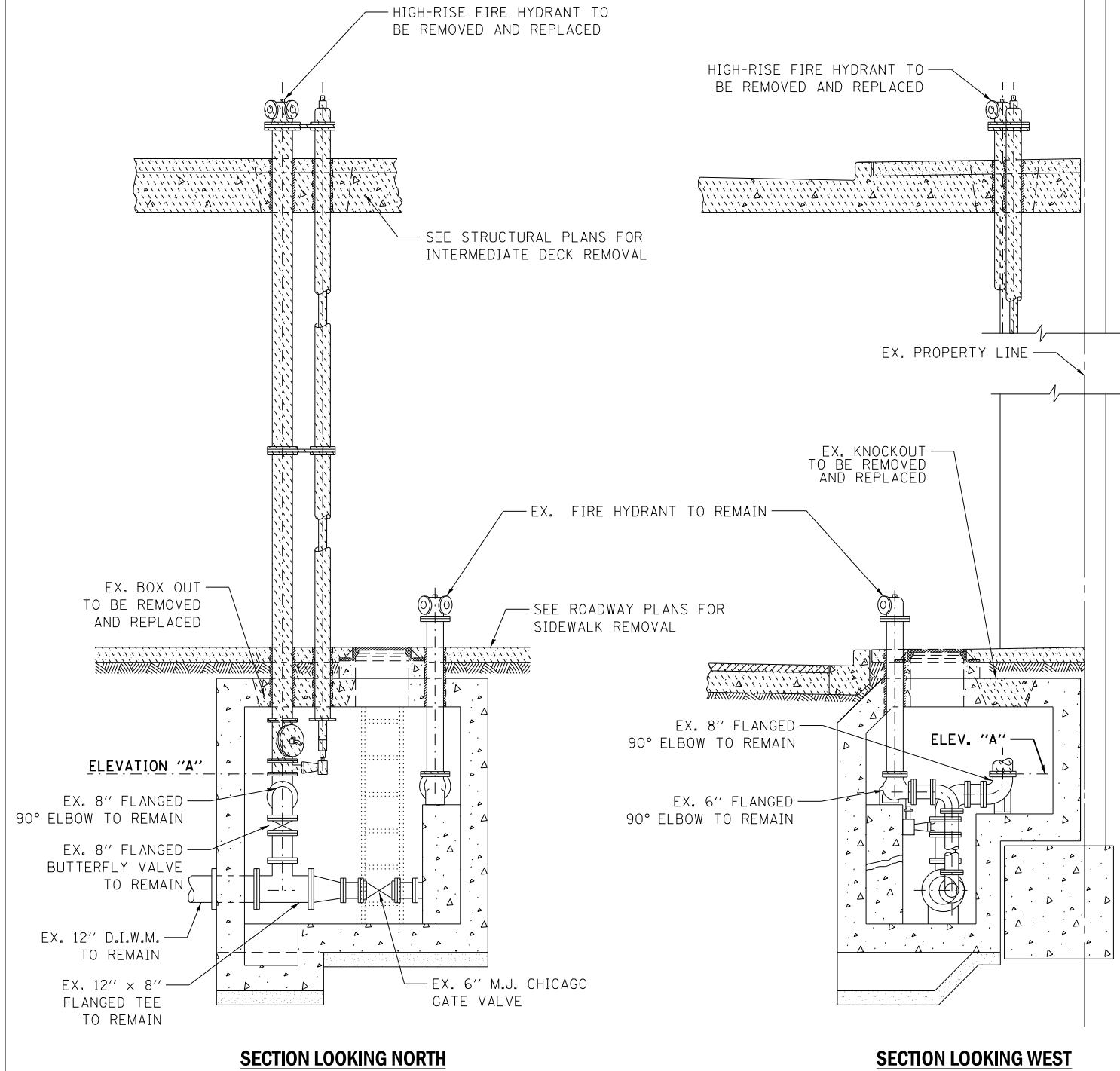
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 FIRE HYDRANT REMOVAL DETAILS**
 SCALE: N.T.S. SHEET 4 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	59
DRAWING NO. W-04		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

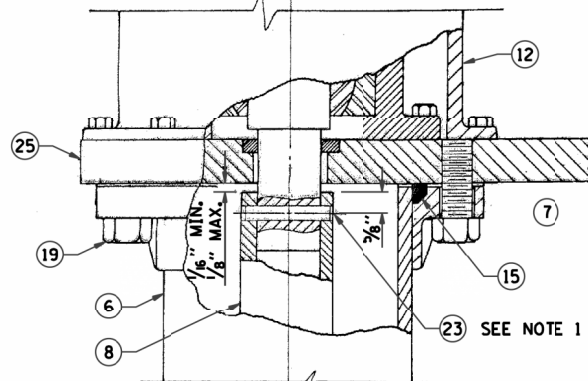


EXISTING HIGH RISE HYDRANT CONDITIONS

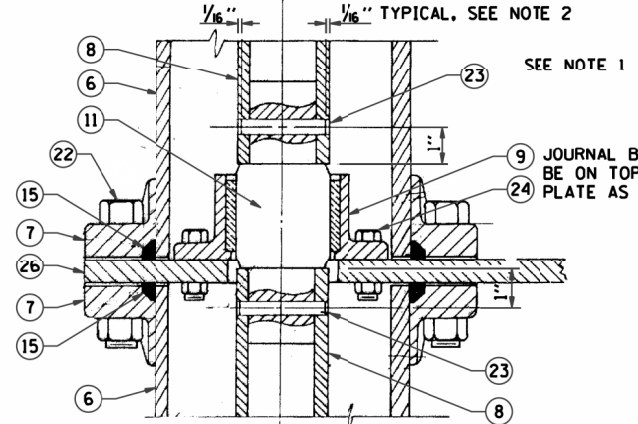


EXISTING HIGH RISE HYDRANT REMOVAL DETAIL

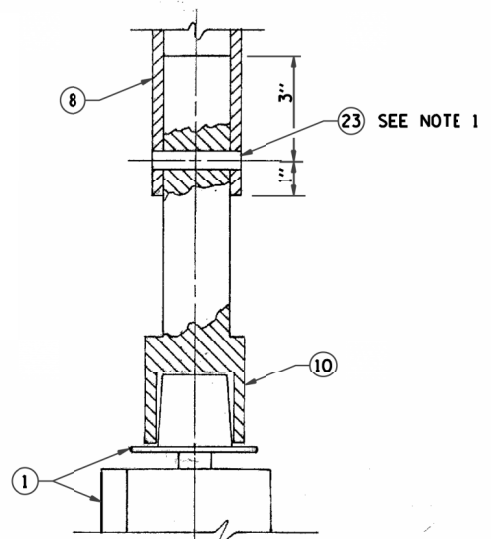
- NOTES:
- HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED SHALL INCLUDE ALL EQUIPMENT ABOVE ELEVATION A.



DETAIL "A"



DETAIL "B"



DETAIL "C"

OPERATING STEM DETAILS
SEE NOTE 4

BILL OF MATERIAL
TYPICAL HIGH RISE HYDRANT ASSEMBLY
LONG VERSION (50' - THREE SECTIONS)

ITEM	QUANTITY	DESCRIPTION
1	1	8" BUTTERFLY VALVE W/ OPERATOR
2	1	8" D.I.M.J. SLEEVE (LONG PATTERN)
3	-	OMIT
4	60'	8" D.I. PIPE
5	4	8" D.I. "UNI-FLANGE" ADAPTER, SERIES 400
6	50'	6" D.I. PIPE
7	5	6" D.I. "UNI-FLANGE" ADAPTER, SERIES 400
8	50'	2" SCHEDULE 80 GALV. STEEL PIPE
9	2	JOURNAL BEARING ASSEMBLY
10	1	SHAFT ADAPTER
11	2	COUPLING
12	1	HYDRANT OPERATOR ASSEMBLY
13	1	4 1/2" HYDRANT TOP ASSEMBLY
14	5	8" "UNI-FLANGE" GASKET
15	5	6" "UNI-FLANGE" GASKET
16	-	OMIT
17	-	OMIT
18	24	3/4" x 4" TEE HD BOLT W/ NUT
19	8	3/4" x 1 3/4" HEX HD BOLT
20	8	3/4" x 4 3/4" HEX HD BOLT W/ NUT
21	16	3/4" x 3 1/2" HEX HD BOLT W/ NUT
22	32	3/4" x 4 1/4" HEX HD BOLT W/ NUT
23	6	SPLIT PIN 1/2" x 2 1/4" LONG
24	6	1/2" x 1 5/8" HEX HD BOLT W/ NUT
25	1	OPERATOR PLATE
26	2	CONNECTING PLATE
27	-	OMIT
28	2	8" M.J. RETAINER GLAND W/ ACCESSORIES
29	2	8" M.J. GASKET
30	1	3/4" BRASS CORP. COCK W/ TAILPIECE

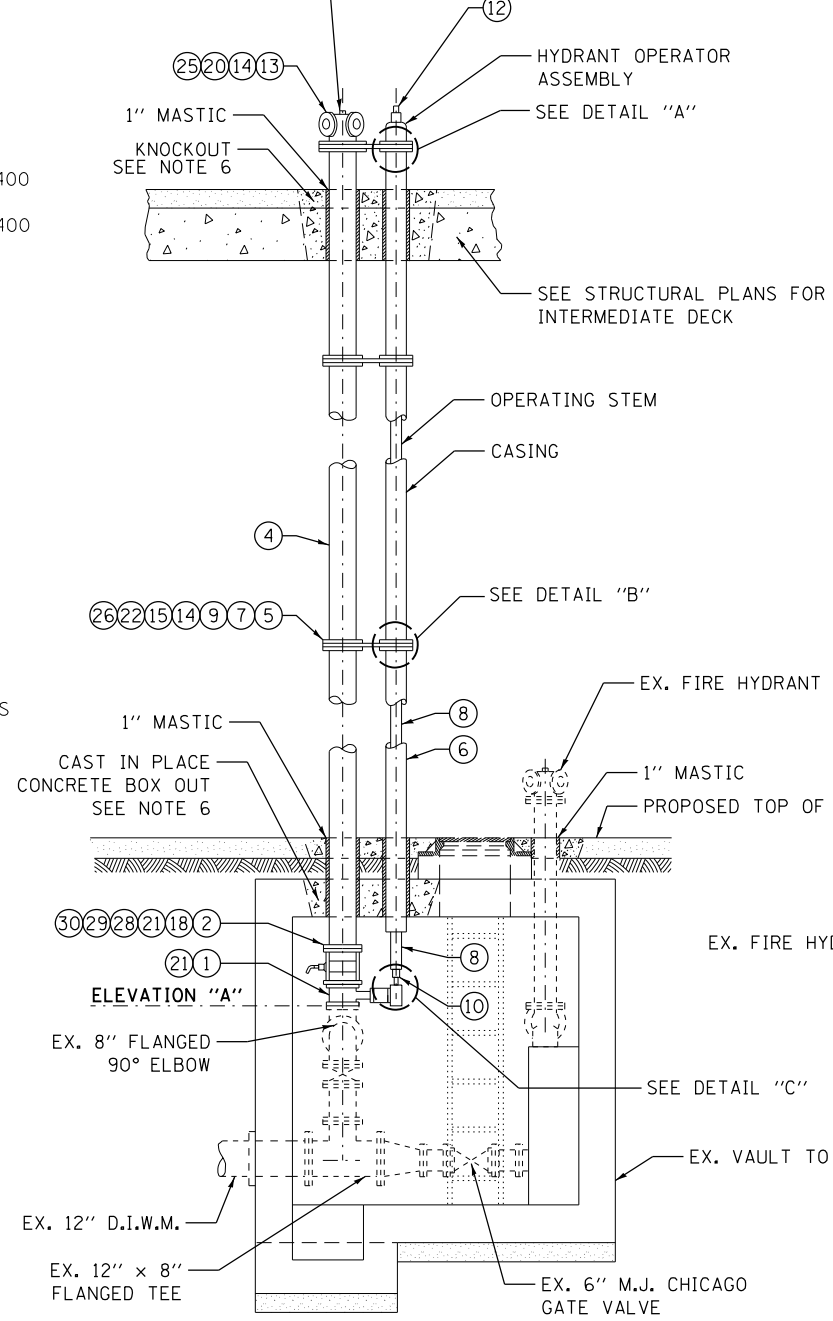
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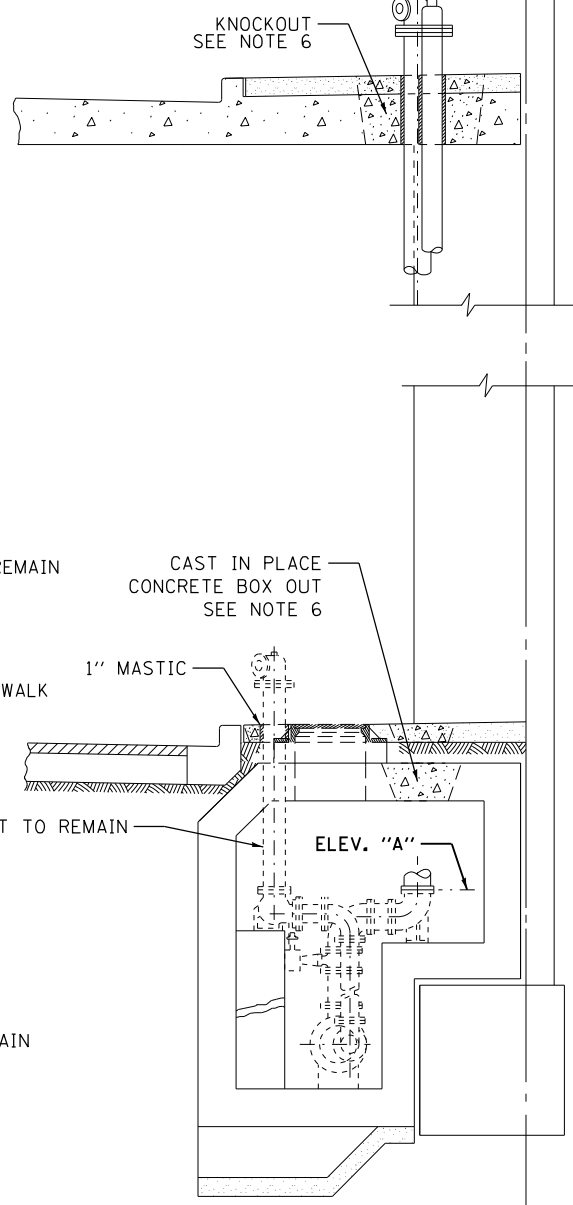
1. DRILL 1/2" DIA. HOLE AT RIGHT ANGLES TO THE CENTERLINE OF THE OPERATING STEM AND COUPLING.
2. SPLIT PIN MUST BE CENTERED TO AS TO BEAR EVENLY ON THE WALLS OF THE OPERATING STEM.
3. IF ANY OF THE HIGH RISE HYDRANT COMPONENTS ARE OUT OF STOCK, THE COMPONENTS MAY BE FABRICATED OF MATERIALS OTHER THAN THOSE SPECIFIED, IF APPROVED BY THE ENGINEERING DIVISION.
4. THE HIGH RISE HYDRANT OPERATING STEM DETAILS SHOWN ARE IN POSITION *A*. IN THIS POSITION, THE OPERATING STEM IS TO THE LEFT OF THE STANDPIPE WHEN VIEWING THE HYDRANT INSTALLATION FROM THE FRONT. THE HYDRANTS WILL BE INSTALLED WITH THE OPERATING STEM TO THE RIGHT OF THE STANDPIPE. THIS IS KNOWN AS POSITION *B* AND IT REQUIRES THE USE OF ALTERNATE OPERATOR AND CONNECTING PLATES. SEE SHEET DWM DETAIL D-4 SHEET CW-037 FOR FURTHER DETAILS.
5. HIGH-RISE FIRE HYDRANTS TO BE REMOVED AND REPLACED SHALL INCLUDE ALL EQUIPMENT ABOVE ELEVATION A.
6. CAST IN PLACE CONCRETE BOX OUT AND KNOCKOUT SHALL BE INCLUDED IN THE COST OF HIGH-RISE FIRE HYDRANT TO BE REMOVED AND REPLACED.

HIGH-RISE FIRE HYDRANT TO BE REMOVED AND REPLACED



SECTION LOOKING NORTH

HIGH-RISE FIRE HYDRANT TO BE REMOVED AND REPLACED



SECTION LOOKING WEST

HIGH RISE HYDRANT INSTALLATION DETAIL

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TranSmart/EJM
411 South Wells Street Suite 1100
Chicago, Illinois 60607

USER NAME : pscott
PLOT SCALE : 1:8000' / 1"
PLOT DATE : 12/5/2018

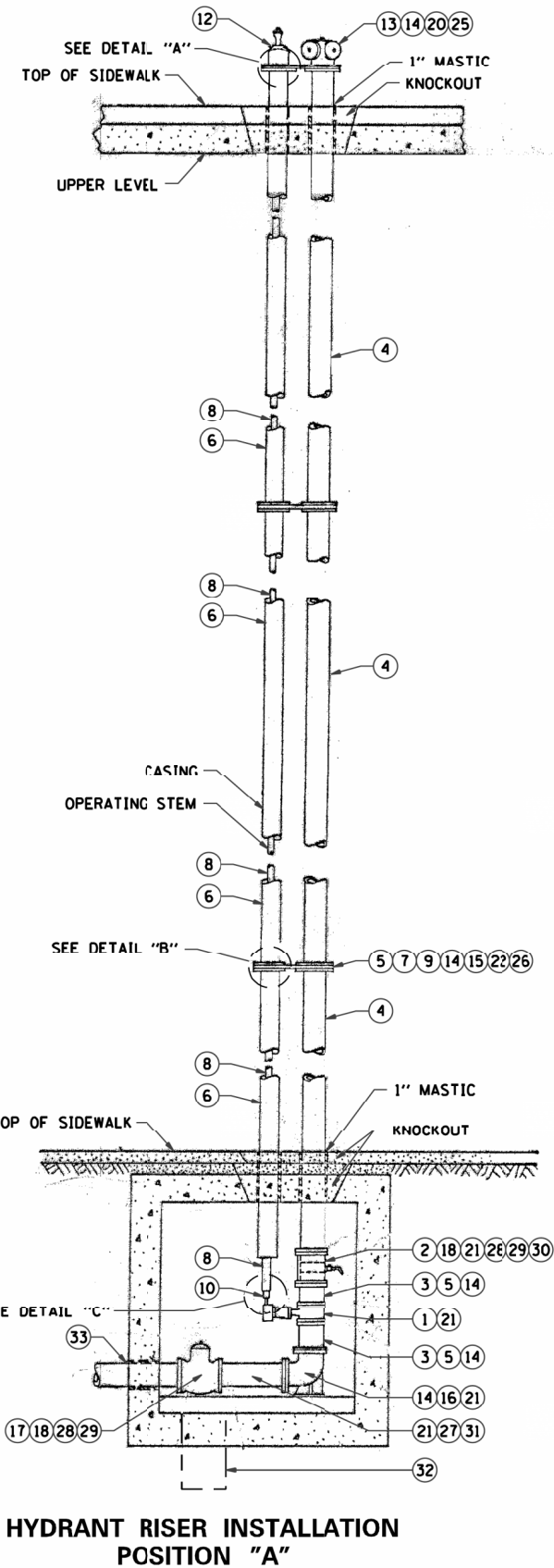
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DRAWN - PAS
CHECKED - RPI
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

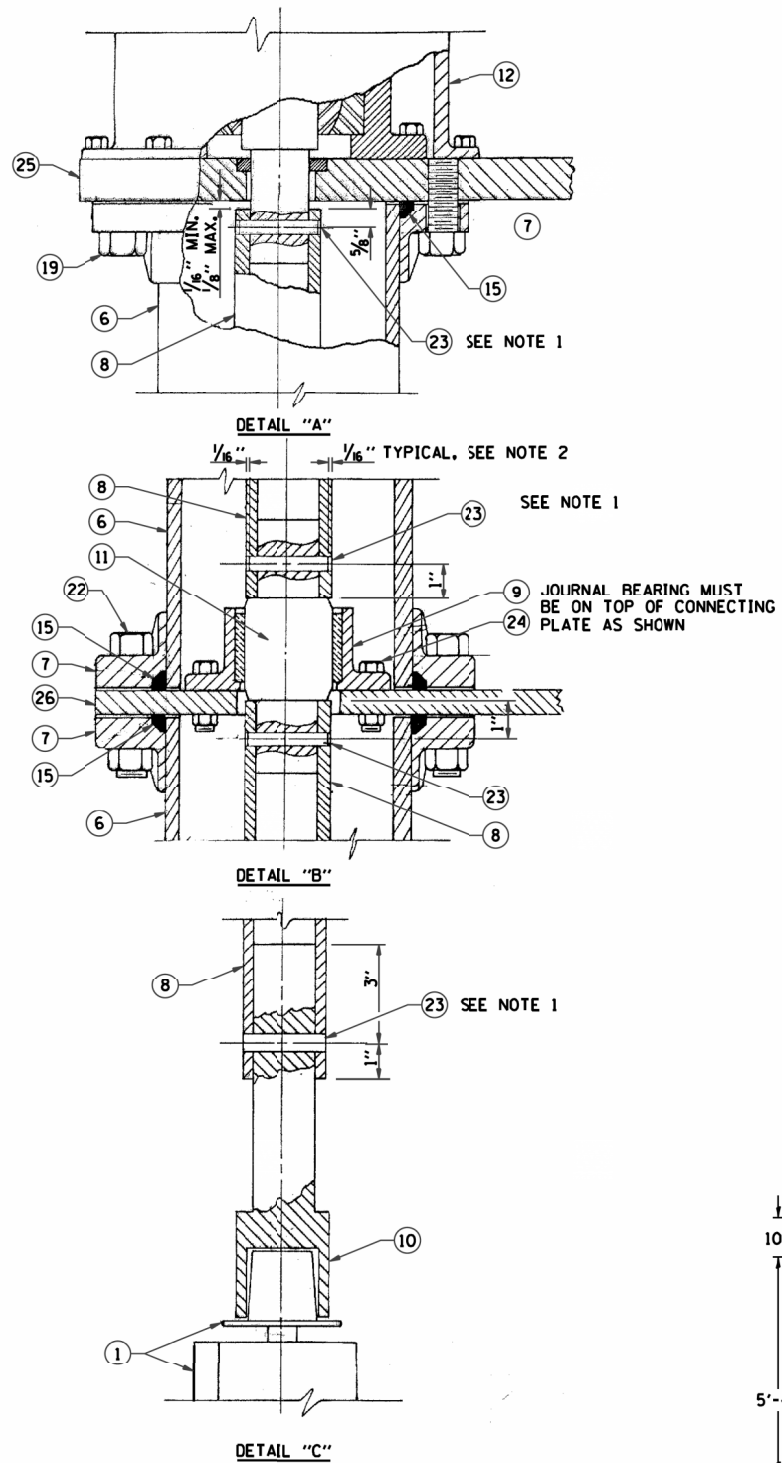
E SOUTH WATER STREET
FIRE HYDRANT INSTALLATION DETAILS
SCALE: N.T.S. SHEET 5 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	60
DRAWING NO. W-05		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



HYDRANT RISER INSTALLATION POSITION "A"

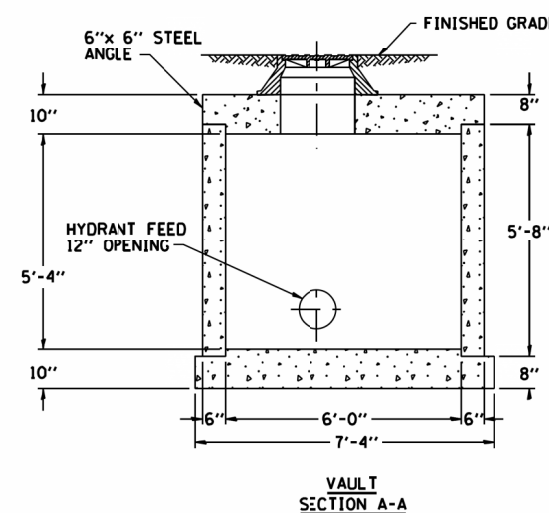
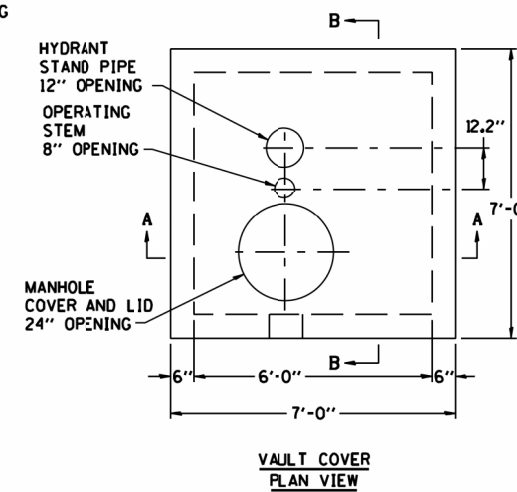
REV: 10.13



OPERATING STEM DETAILS

NOTES:

1. DRILL 1/2" DIA. HOLE AT RIGHT ANGLES TO THE CENTERLINE OF THE OPERATING STEM AND COUPLING.
 2. SPLIT PIN MUST BE CENTERED SO AS TO BEAR EVENLY ON THE WALLS OF THE OPERATING STEM.
 3. IF ANY OF THE HIGH RISE HYDRANT COMPONENTS ARE OUT OF STOCK, THE COMPONENTS MAY BE FABRICATED OF MATERIALS OTHER THAN THOSE SPECIFIED, IF APPROVED BY THE ENGINEERING DIVISION.
 4. THIS IS A DRAWING OF A TYPICAL HIGH RISE HYDRANT INSTALLATION AND IS TO BE USED ONLY AS A GUIDELINE FOR THE PREPARATION OF THE ACTUAL DESIGN. THE ACTUAL DESIGN AND BILL OF MATERIAL WILL VARY IN ACCORDANCE WITH THE SPECIFIC APPLICATION.
 5. THE HIGH RISE HYDRANT INSTALLATION SHOWN IS IN POSITION "A". IN THIS POSITION, THE OPERATING STEM IS TO THE LEFT OF THE STANDPIPE WHEN VIEWING THE HYDRANT INSTALLATION FROM THE FRONT. THIS IS THE STANDARD POSITION FOR HIGH RISE HYDRANT INSTALLATIONS.
- IT IS POSSIBLE TO INSTALL THE HYDRANT WITH THE OPERATING STEM TO THE RIGHT OF THE STANDPIPE. THIS IS KNOWN AS POSITION "B" AND IT REQUIRES THE USE OF ALTERNATE OPERATOR AND CONNECTING PLATES. SEE SHEET CW-037 FOR FURTHER DETAILS.



TYPICAL HIGH RISE HYDRANT INSTALLATION

HIGH RISE HYDRANT STANDARD DRAWINGS

DRAWING DESCRIPTION	SHEET NO.
TYPICAL HIGH RISE HYDRANT INSTALLATION	CW-031
OPERATOR PLATE	CW-032
OPERATING STEM	CW-032
THRUST BEARING COVER	CW-032
STEM NUT	CW-032
STEM NUT HOUSING	CW-033
UPPER PLATE	CW-033
HYDRANT WRENCH NUT	CW-033
4 1/2" HYDRANT TOP	CW-033
HYDRANT OPERATOR ASSEMBLY	CW-034
HYDRANT TOP ASSEMBLY	CW-035
JOURNAL BEARING HOUSING	CW-035
JOURNAL BEARING	CW-035
CONNECTING PLATE	CW-035
JOURNAL BEARING ASSEMBLY	CW-036
COUPLING	CW-036
SHAFT ADAPTER	CW-036
THRUST BEARING ASSEMBLY	CW-036
BUTTERFLY VALVE	CW-037
ALTERNATE OPERATOR PLATE (POS. "B")	CW-037
ALTERNATE CONNECTING PLATE (POS. "B")	CW-037
STANDARD & ALTERNATE INSTALLATIONS (POSITIONS "A" & "B")	CW-037

**BILL OF MATERIAL
TYPICAL HIGH RISE HYDRANT ASSEMBLY
LONG VERSION (50' - THREE SECTIONS)**

ITEM	QUANTITY	DESCRIPTION
1	1	8" BUTTERFLY VALVE W/ OPERATOR
2	1	8" D.I.M.J. SLEEVE (LONG PATTERN)
3	2	8" D.I. PIPE NIPPLE (1' LENGTH)
4	60'	8" D.I. PIPE
5	8	8" D.I. "UNI-FLANGE" ADAPTER, SERIES 400
6	50'	6" D.I. PIPE
7	5	6" D.I. "UNI-FLANGE" ADAPTER, SERIES 400
8	50'	2" SCHEDULE 80 GALV. STEEL PIPE
9	2	JOURNAL BEARING ASSEMBLY
10	1	SHAFT ADAPTER
11	2	COUPLING
12	1	HYDRANT OPERATOR ASSEMBLY
13	1	4 1/2" HYDRANT TOP ASSEMBLY
14	8	8" "UNI-FLANGE" GASKET
15	5	6" "UNI-FLANGE" GASKET
16	1	8" D.I. FLANGED CHAIR CASTING
17	1	8" M.J. GATE VALVE
18	24	3/4" x 4" TEE HD BOLT W/ NUT
19	8	3/4" x 1 3/4" HEX HD BOLT
20	8	3/4" x 4 3/4" HEX HD BOLT W/ NUT
21	32	3/4" x 3 1/2" HEX HD BOLT W/ NUT
22	32	3/4" x 4 1/4" HEX HD BOLT W/ NUT
23	6	SPLIT PIN 1/2" x 2 1/4" LONG
24	6	1/2" x 1 3/8" HEX HD BOLT W/ NUT
25	1	OPERATOR PLATE
26	2	CONNECTING PLATE
27	1	8" FLANGE P.E. CONN. PIECE
28	4	8" M.J. RETAINER GLAND W/ ACCESSORIES
29	4	8" M.J. GASKET
30	1	3/4" BRASS CORP. COCK W/ TAILPIECE
31	1	8" 125 LB. FLANGE GASKET
32	1	18" CAST DIA. IRON SUMP PIT W/ LID. SEE SHEET CW-030
33	1	PLACE LINK-SEAL AT UNDERGROUND PIPE ENTRANCE TO VAULT

MODEL: Default
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 TRANSMART/EJM

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 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

USER NAME	: pscott
DESIGNED	- CLG
DRAWN	- PAS
CHECKED	- RPI
DATE	-
PLOT SCALE	: 1:8000 / 1"
PLOT DATE	: 12/5/2018

REVIS	-
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REVIS	-

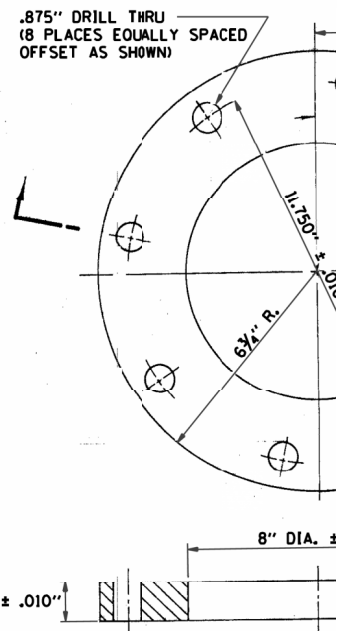
**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

SCALE	: N.T.S.
SHEET	: 6 OF 12 SHEETS

**E SOUTH WATER STREET
DWM DETAIL D-4 SHEET CW-031**

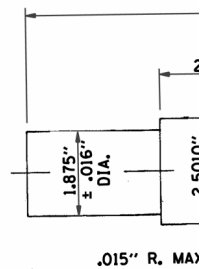
MUNI. STREET	SECTION	COUNT*	TOTAL SHEETS	SHEET NO.
3030	11-E197-00-BR	COOK	141	61
DRAWING NO. W-06		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

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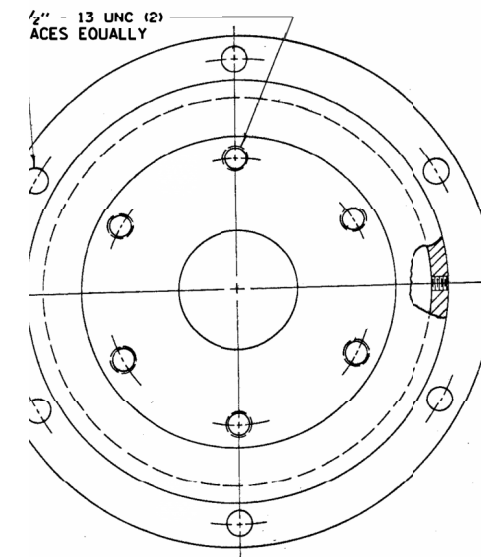
1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
 FRACTIONAL DIMENSIONS $\pm \frac{1}{64}$ "
 DECIMAL DIMENSIONS $\pm .005$ "
2. ALL MACHINED SURFACES TO BE 125 R.M.S. OR BETTER.
3. POS. "A" AS SHOWN; FOR POS. "B" SEE SHEET D-5



NOTES:

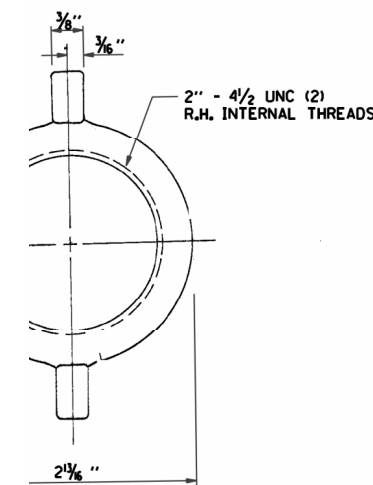
1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
 FRACTIONAL DIMENSIONS $\pm \frac{1}{64}$ "
 DECIMAL DIMENSIONS $\pm .010$ "
2. ALL MACHINED SURFACES TO BE 125 R.M.S. OR BETTER.
3. REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS

REV: 10.13



RING COVER

IRON ASTM A536 (65-45-12)



NUT

IRON ASTM A536 (65-45-12)

D-4
 SHT. 2 OF 7

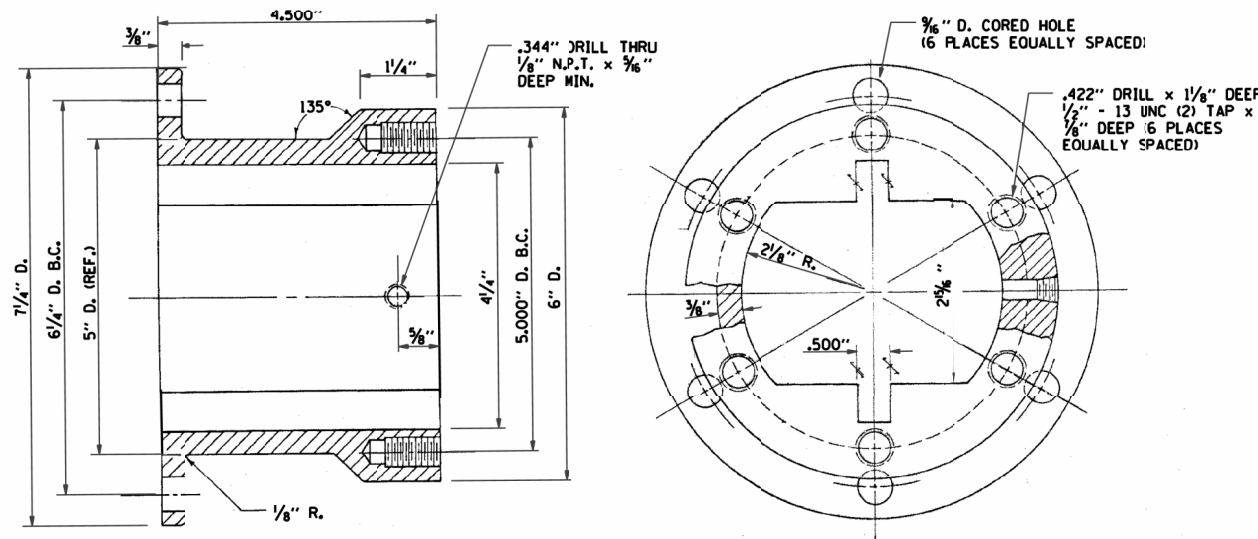
TranSmart/EJM
 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - CLG	REVISED -
PLOT SCALE : 1.0000' / 1"	DRAWN - PAS	REVISED -
PLOT DATE : 12/5/2018	CHECKED - RPI	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 DWM DETAIL D-4 SHEET CW-032**
 SCALE: N.T.S. SHEET 7 OF 12 SHEETS

MUNI. STREET	SECTION	COUNT*	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	62
DRAWING NO. W-07		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

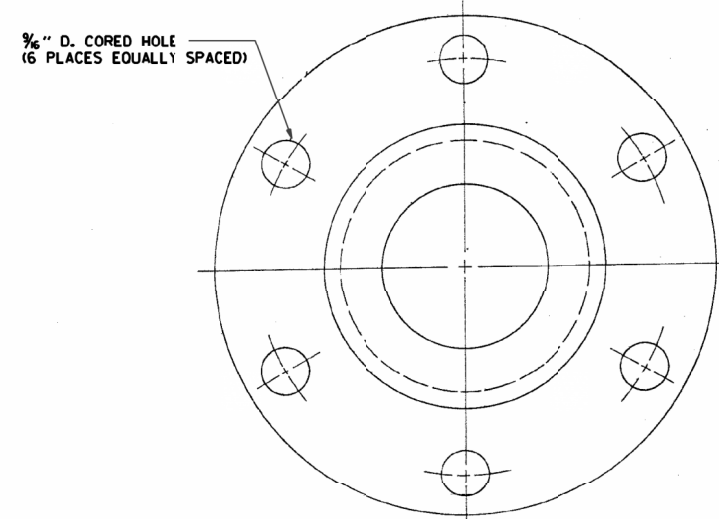


NOTES:

1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONAL DIMENSIONS UNDER 1" IS + 1/16", -0.
FRACTIONAL DIMENSIONS 1" AND OVER IS ± 1/16".
DECIMAL DIMENSIONS ± .010".
2. ALL CORNER RADII TO BE 1/16" R. MAX.
3. ALL MACHINED SURFACES TO BE 125 R.M.S.
4. REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS.

STEM NUT HOUSING

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12)

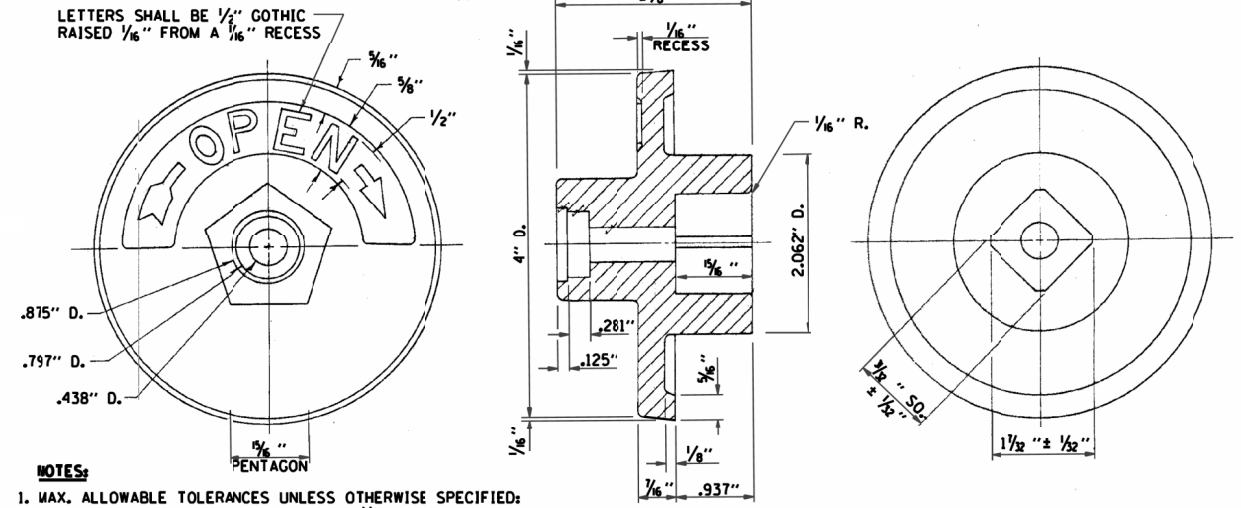


NOTES:

1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONAL DIMENSIONS UNDER 1" IS + 1/16", -0.
FRACTIONAL DIMENSIONS 1" AND OVER IS ± 1/16".
DECIMAL DIMENSIONS ± .010".
2. ALL CORNER RADII TO BE 1/16" R. MAX.
3. ALL MACHINED SURFACES TO BE 125 R.M.S.

UPPER PLATE

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12)

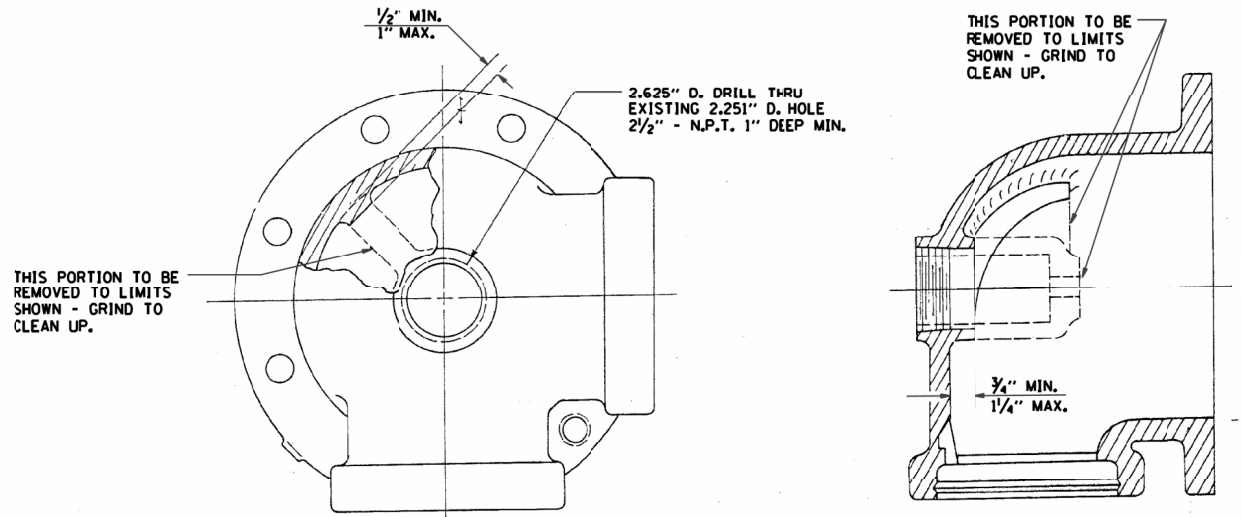


NOTES:

1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONAL DIMENSIONS UNDER 1" IS + 1/16", -0.
FRACTIONAL DIMENSIONS 1" AND OVER IS ± 1/16".
DECIMAL DIMENSIONS ± .005".
2. ALL CORNER RADII TO BE 1/16" R. MAX.
3. ALL MACHINED SURFACES TO BE 125 R.M.S.
4. THIS COMPONENT IS MADE FROM A STANDARD HYDRANT WRENCH NUT.

HYDRANT WRENCH NUT

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12)



NOTES:

1. MATERIAL REMOVAL MAY BE ACCOMPLISHED BY CUTTING, BURNING, OR GRINDING.
2. THIS COMPONENT IS MADE FROM A STANDARD 4 1/2" HYDRANT TOP

4 / " HYDRANT TOP

MATERIAL: CAST IRON ASTM A125 CLASS B

REV:10.13

TYPICAL HIGH RISE HYDRANT INSTALLATION

D-4
SHT. 3 OF 7

MODEL: Default
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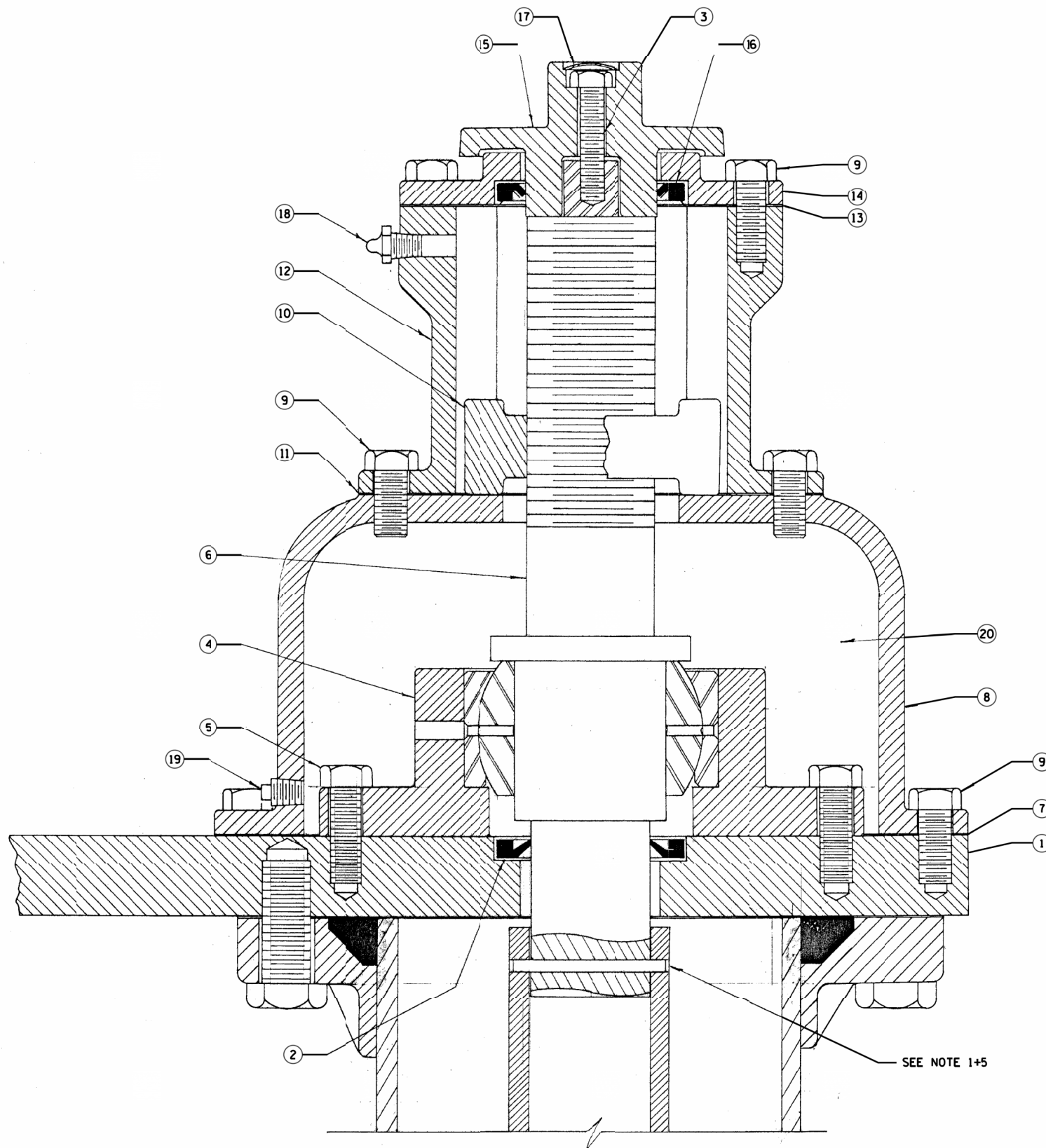
TranSmart/EJM
411 South Wells Street Suite 1100
Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - CLG	REVISED -
PLOT SCALE : 1.0000' / in.	DRAWN - PAS	REVISED -
PLOT DATE : 12/5/2018	CHECKED - RPI	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
DWM DETAIL D-4 SHEET CW-033**
SCALE: N.T.S. SHEET 8 OF 12 SHEETS

MUNI STREET	SECTION	COUNT*	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	63
DRAWING NO. W-08		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



HYDRANT OPERATOR ASSEMBLY

TYPICAL HIGH RISE HYDRANT INSTALLATION

STOCK

ITEM NO.	DESCRIP
1	OPERATOR PLATE (POS. "A" SHOWN)
2	GREASE SEAL (I.D. 1.875" O.D. 3.0")
3	GREASE SEAL (I.D. 2.062" O.D. 3.0")
4	THRUST BEARING ASSEMBLY
5	1/2" - 13 UMC (2) x 1 1/4" HEX. HEAD
6	OPERATOR STEM
7	GASKET - 1 1/4" O.D. x 9" I.D. x 10 3/4" DIA. B.C. NEOPRENE OR EQUIV.
8	THRUST BEARING COVER
9	1/2" - 13 UMC (2) x 1" HEX. HEAD
10	STEM NUT
11	GASKET - 7/4" O.D. x 4 1/4" I.D. x 6 - 1/4" DIA. B.C. NEOPRENE OR EQUIV.
12	STEM NUT HOUSING
13	GASKET - 6" O.D. x 4 1/4" I.D. x 5" DIA. B.C. NEOPRENE OR EQUIV.
14	HIPPER PLATE
15	HYDRANT WRENCH NUT
16	3/8" - 16 UMC (2) x 1 1/8" HEX. HEAD
17	7/8" STD. FROST PLUG - (CARBON)
18	1/8" N.P.T. GREASE FITTING (McMA)
19	STD. 1/8" N.P.T. PLUG (GALVANIZED)
20	GREASE - "LUBRICATE" AERO LOW

NOTES:

- SPLIT PIN-HOLES ARE TO BE DRILLED
- GREASE SEALS (ITEMS 2+3) ARE PROVIDED
- OPERATOR MUST BE ASSEMBLED IN POSITION "A" SHOWN, POSITION "B" IS FOR PIN PLACEMENT SEE SHEET C
- FOR PIN PLACEMENT SEE SHEET C
- FOR PIN PLACEMENT SEE SHEET C

REV:10.13

MODEL: Default
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TranSmart/EJM
411 South Wells Street Suite 1100
Chicago, Illinois 60607

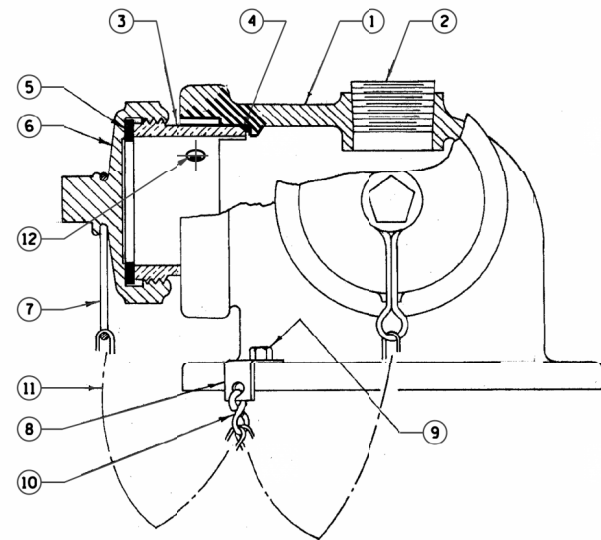
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PLOT DATE : 12/5/2018	CHECKED - RPI	REVISED -
	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

SCALE: N.T.S. SHEET 9 OF 12 SHEETS

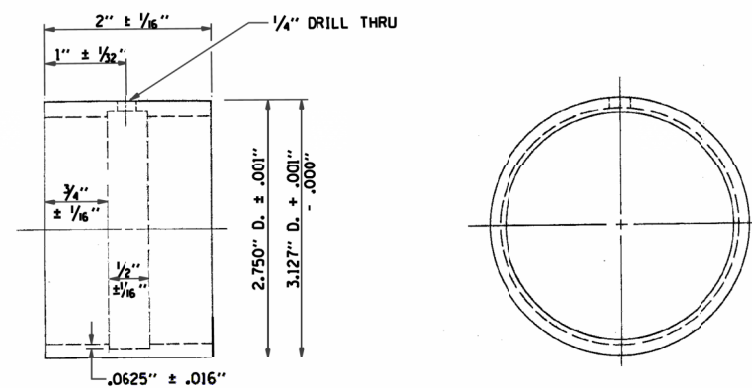
E SOUTH WATER STREET
DWM DETAIL D-4 SHEET CW-034

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	64
DRAWING NO. W-09		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



ITEM	DESCRIPTION	QUANTITY
1	1/2" HYDRANT TOP	1
2	1/2" N.P.T. #125 SOCKET HD. PLUG (GALV. IRON)	1
3	NOZZLE	2
4	"O" RING	AS REQ'D.
5	RUBBER WASHER	2
6	HYDRANT CAP	2
7	CAP HOOK	2
8	CHAIN ANGLE	1
9	1/2" - 13 UNC (2) x 1" HEX HD. CAP SCREW	1
10	"S" HOOK	1
11	CAP CHAIN	AS REQ'D.
12	LOCKING SCREW	2

HYDRANT TOP ASSEMBLY

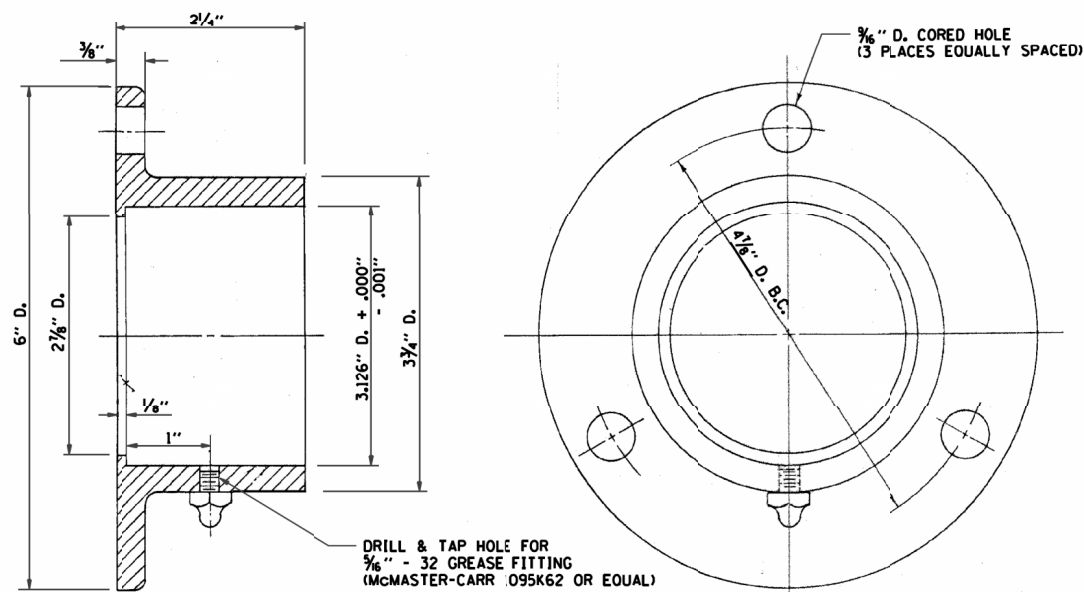


JOURNAL BEARING

NOTES:

- TWO MAY BE MADE FROM (FORMER BERRY BEARING # H-5789) BY CUTTING IN HALF.
- SURFACES TO BE 63 R.M.S. OR BETTER.

MATERIAL: BRONZE

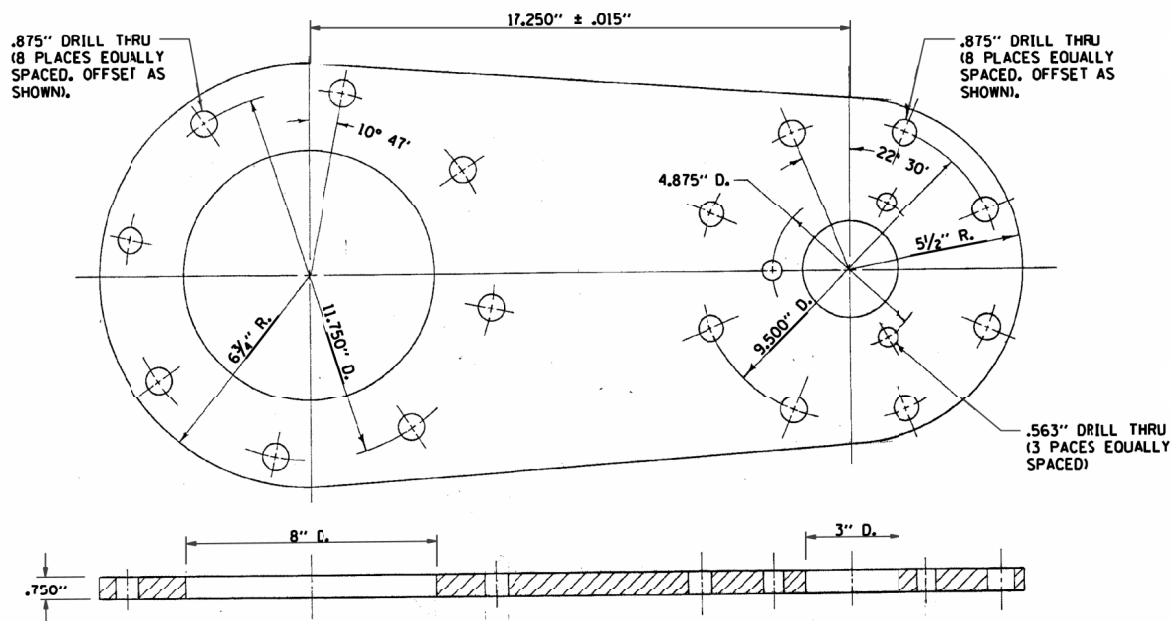


JOURNAL BEARING HOUSING

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12)

NOTES:

- MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONAL DIMENSIONS UNDER 1" IS $\pm 1/16"$, -0.
FRACTIONAL DIMENSIONS 1" AND OVER IS $\pm 1/8"$.
DECIMAL DIMENSIONS $\pm .010"$.
- ALL CORNER RADII TO BE $1/8"$ R. MAX.
- ALL MACHINED SURFACES TO BE 125 R.M.S.
- REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS.



CONNECTING PLATE

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12) OR HOT-ROLLED STEEL A151 C1020

NOTES:

- MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONAL DIMENSIONS $\pm 1/16"$.
DECIMAL DIMENSIONS $\pm .010"$.
- ALL MACHINED SURFACES TO BE 125 R.M.S.
- POS. "A" SHOWN, FOR POS. "B" SEE SHEET CW-037

REV:10.13

TYPICAL HIGH RISE HYDRANT INSTALLATION

D-4
SHT. 5 OF 7

MODEL: Default
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TranSmart/EJM
411 South Wells Street Suite 1100
Chicago, Illinois 60607

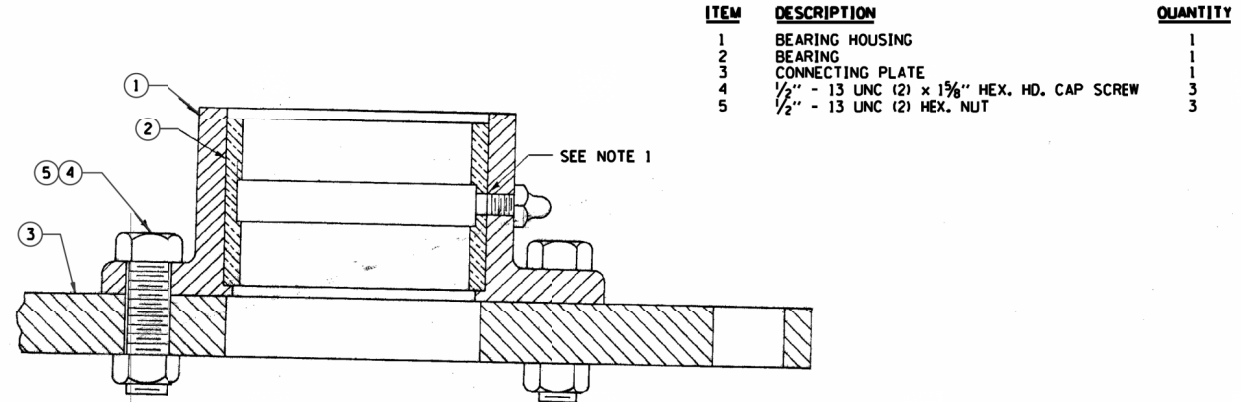
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PLOT DATE : 12/5/2018	CHECKED - RPI	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
DWM DETAIL D-4 SHEET CW-035**

SCALE: N.T.S. SHEET 10 OF 12 SHEETS

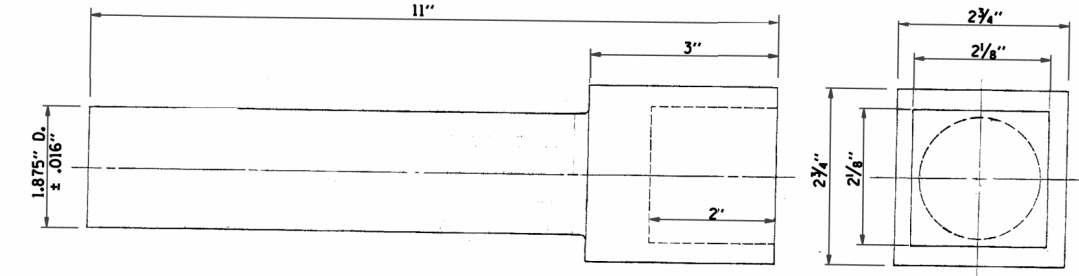
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3030	11-E1517-00-BR	COOK	141	65
DRAWING NO. W-10		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



ITEM	DESCRIPTION	QUANTITY
1	BEARING HOUSING	1
2	BEARING	1
3	CONNECTING PLATE	1
4	1/2" - 13 UNC (2) x 1 5/8" HEX. HD. CAP SCREW	3
5	1/2" - 13 UNC (2) HEX. NUT	3

JOURNAL BEARING ASSEMBLY

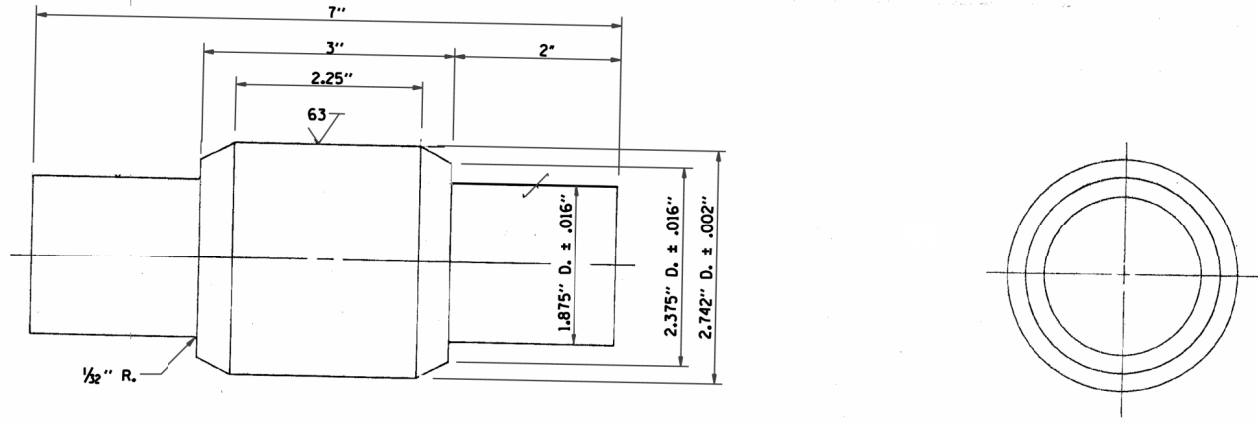
NOTES:
 1. ALIGN DRILL HOLE IN BEARING (2) WITH GREASE FITTING HOLE IN HOUSING (1) BEFORE PRESSING BEARING INTO PLACE.



SHAFT ADAPTER

NOTES:
 1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
 FRACTIONAL DIMENSIONS ± 1/16"
 DECIMAL DIMENSIONS ± 0.10"
 2. ALL MACHINED SURFACES TO BE 125 R.M.S.
 3. REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS.

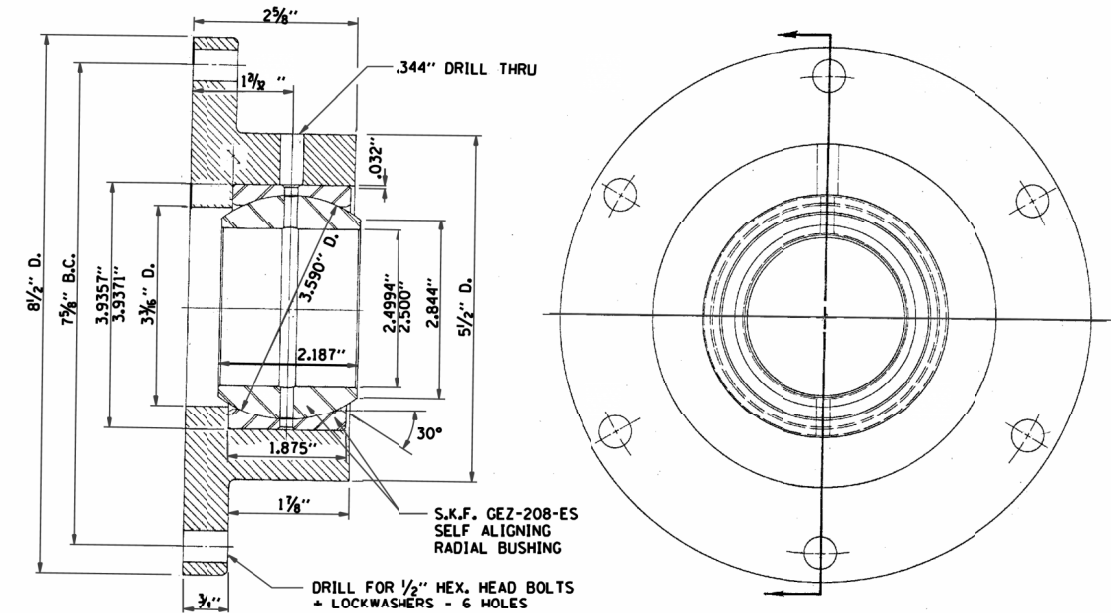
MATERIAL: STAINLESS STEEL 18-8 TYPE 304



COUPLING

NOTES:
 1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED IS ± 1/16"
 2. ALL MACHINED SURFACES TO BE 125 R.M.S.
 3. REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS.

MATERIAL: STAINLESS STEEL 18-8 TYPE 304



THRUST BEARING ASSEMBLY

NOTES:
 1. MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED:
 FRACTIONAL DIMENSIONS ± 1/16"
 DECIMAL DIMENSIONS ± 0.10"
 2. ALL MACHINED SURFACES TO BE 125 R.M.S.
 3. REMOVE ALL BURRS AND BREAK ALL SHARP CORNERS.
 4. THRUST BEARING IS TO BE PRESS FIT INTO HOUSING.

HOUSING MATERIAL: 1020 CARBON STEEL

REV:10.13

TYPICAL HIGH RISE HYDRANT INSTALLATION

D-4
 SHT. 6 OF 7

MODEL: Default
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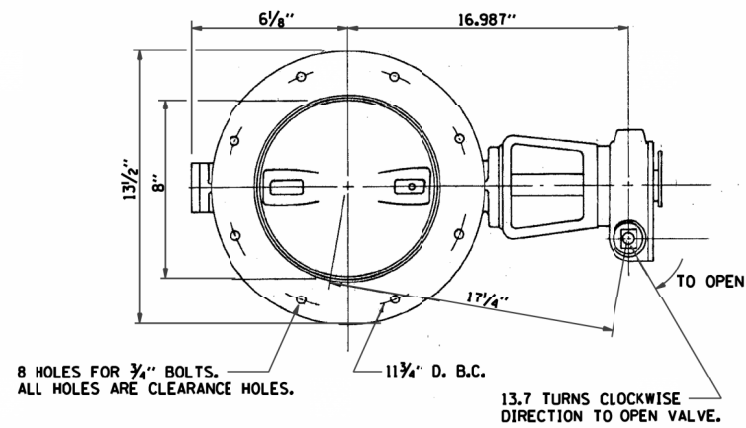
TranSmart/EJM
 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

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	DATE -	REVISED -

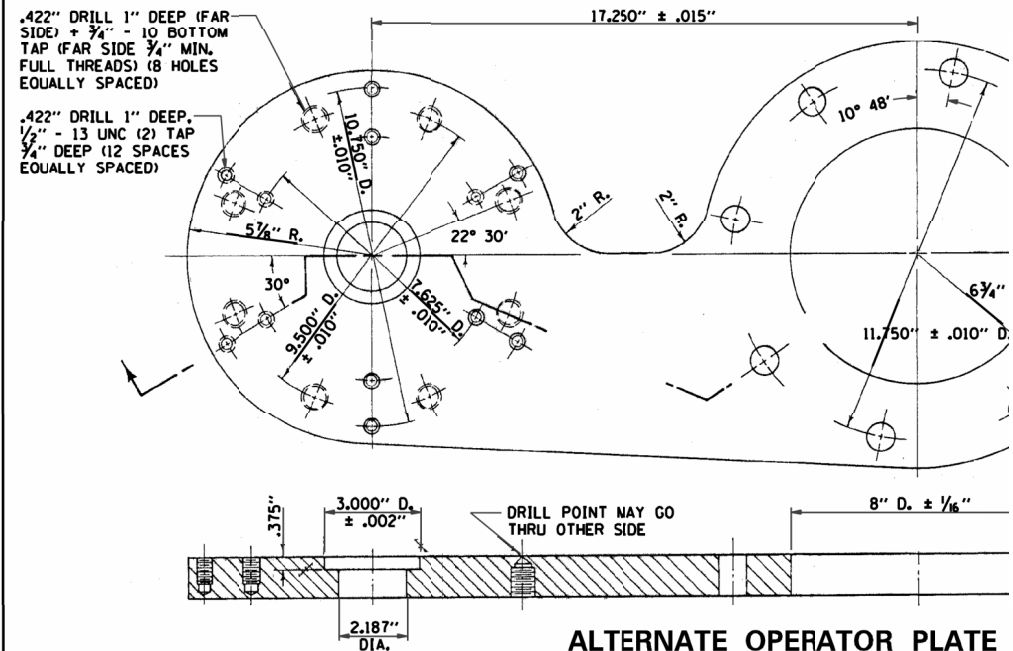
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 DWM DETAIL D-4 SHEET CW-036**
 SCALE: N.T.S. SHEET 11 OF 12 SHEETS

MUNI STREET	SECTION	COUNT*	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	66
DRAWING NO. W-1		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



BUTTERFLY VALVE

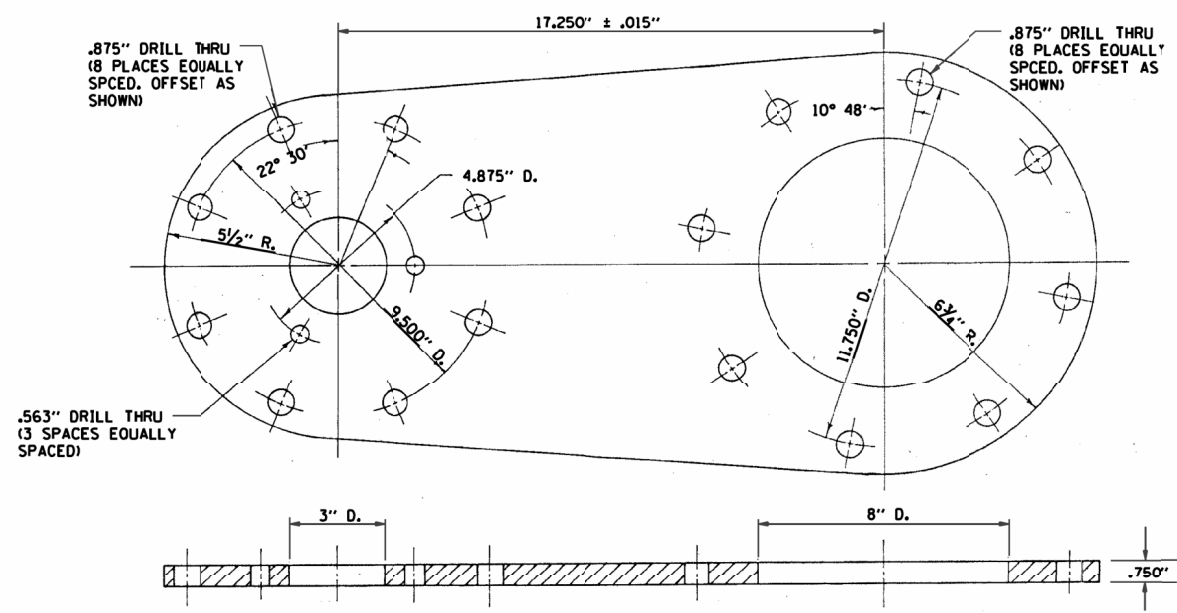


ALTERNATE OPERATOR PLATE (POSITION "B")

NOTES:

- MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONAL DIMENSIONS + 1/16", - 0". DECIMAL DIMENSIONS ± .005".
- ALL MACHINED SURFACES TO BE 125 R.M.S.
- POS. "B" SHOWN; FOR POS. "A", SEE SHEET CW-032

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12) OR HOT-ROLLED STEEL AISI C1020

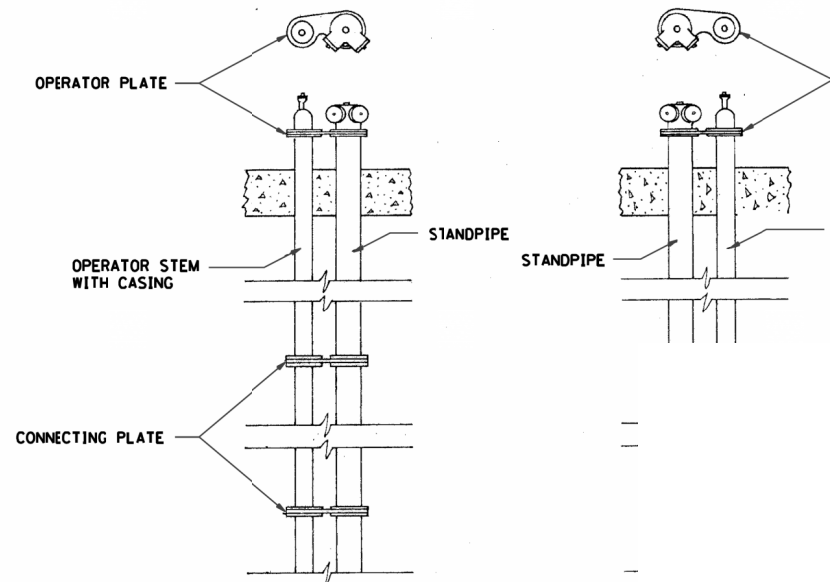


ALTERNATE CONNECTING PLATE (POSITION "B")

NOTES:

- MAX. ALLOWABLE TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONAL DIMENSIONS ± 1/16". DECIMAL DIMENSIONS ± .010".
- ALL MACHINED SURFACES TO BE 125 R.M.S.
- POS. "B" SHOWN; FOR POS. "A", SEE SHEET CW-035

MATERIAL: CAST DUCTILE IRON ASTM A536 (65-45-12) OR HOT-ROLLED STEEL AISI C1020



STANDARD INSTALLATION (POSITION "A")

ALTERNATE (I)

HIGH RISE HYDRANT INSTA

REV:10.13

TYPICAL HIGH RISE HYDRANT INSTALLATION

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TranSmart/EJM
 411 South Wells Street Suite 1100
 Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - CLG	REVISED -
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	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

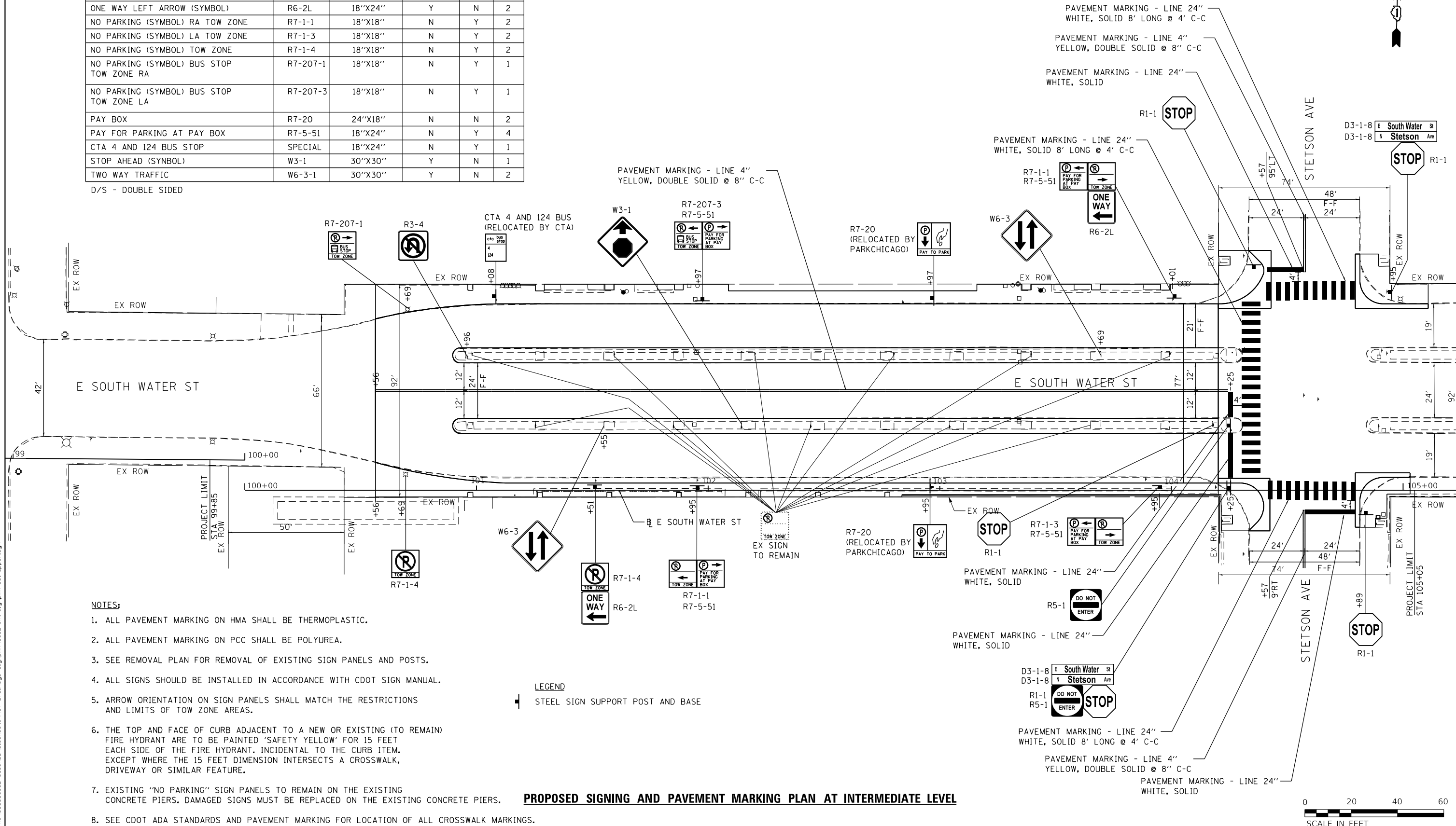
**E SOUTH WATER STREET
 DWM DETAIL D-4 SHEET CW-037**

SCALE: N.T.S. SHEET 12 OF 12 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	67
DRAWING NO. W-12		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

SIGNS	CODE	SIZE	REFLECTIVE	D/S	QTY
STREET NAME SIGN	D3-1-8	VARIABLES X 8"	Y	Y	4
STOP	R1-1	30"X30"	Y	N	5
NO U TURN (SYMBOL)	R3-4-1	24"X24"	Y	N	1
DO NOT ENTER	R5-1	30"X30"	Y	N	2
ONE WAY LEFT ARROW (SYMBOL)	R6-2L	18"X24"	Y	N	2
NO PARKING (SYMBOL) RA TOW ZONE	R7-1-1	18"X18"	N	Y	2
NO PARKING (SYMBOL) LA TOW ZONE	R7-1-3	18"X18"	N	Y	2
NO PARKING (SYMBOL) TOW ZONE	R7-1-4	18"X18"	N	Y	2
NO PARKING (SYMBOL) BUS STOP TOW ZONE RA	R7-207-1	18"X18"	N	Y	1
NO PARKING (SYMBOL) BUS STOP TOW ZONE LA	R7-207-3	18"X18"	N	Y	1
PAY BOX	R7-20	24"X18"	N	N	2
PAY FOR PARKING AT PAY BOX	R7-5-51	18"X24"	N	Y	4
CTA 4 AND 124 BUS STOP	SPECIAL	18"X24"	N	Y	1
STOP AHEAD (SYMBOL)	W3-1	30"X30"	Y	N	1
TWO WAY TRAFFIC	W6-3-1	30"X30"	Y	N	2

D/S - DOUBLE SIDED



NOTES:

1. ALL PAVEMENT MARKING ON HMA SHALL BE THERMOPLASTIC.
2. ALL PAVEMENT MARKING ON PCC SHALL BE POLYUREA.
3. SEE REMOVAL PLAN FOR REMOVAL OF EXISTING SIGN PANELS AND POSTS.
4. ALL SIGNS SHOULD BE INSTALLED IN ACCORDANCE WITH CDOT SIGN MANUAL.
5. ARROW ORIENTATION ON SIGN PANELS SHALL MATCH THE RESTRICTIONS AND LIMITS OF TOW ZONE AREAS.
6. THE TOP AND FACE OF CURB ADJACENT TO A NEW OR EXISTING (TO REMAIN) FIRE HYDRANT ARE TO BE PAINTED 'SAFETY YELLOW' FOR 15 FEET EACH SIDE OF THE FIRE HYDRANT. INCIDENTAL TO THE CURB ITEM, EXCEPT WHERE THE 15 FEET DIMENSION INTERSECTS A CROSSWALK, DRIVEWAY OR SIMILAR FEATURE.
7. EXISTING "NO PARKING" SIGN PANELS TO REMAIN ON THE EXISTING CONCRETE PIERS. DAMAGED SIGNS MUST BE REPLACED ON THE EXISTING CONCRETE PIERS.
8. SEE CDOT ADA STANDARDS AND PAVEMENT MARKING FOR LOCATION OF ALL CROSSWALK MARKINGS.

LEGEND
 ┆ STEEL SIGN SUPPORT POST AND BASE

PROPOSED SIGNING AND PAVEMENT MARKING PLAN AT INTERMEDIATE LEVEL



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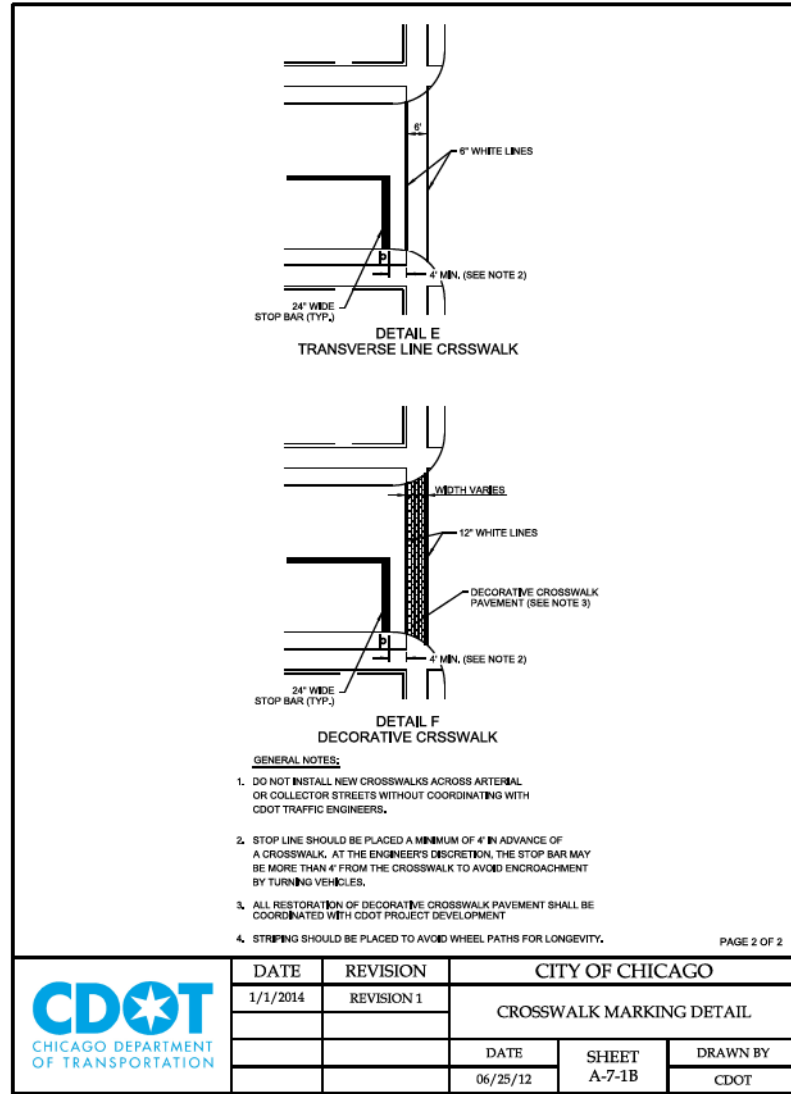
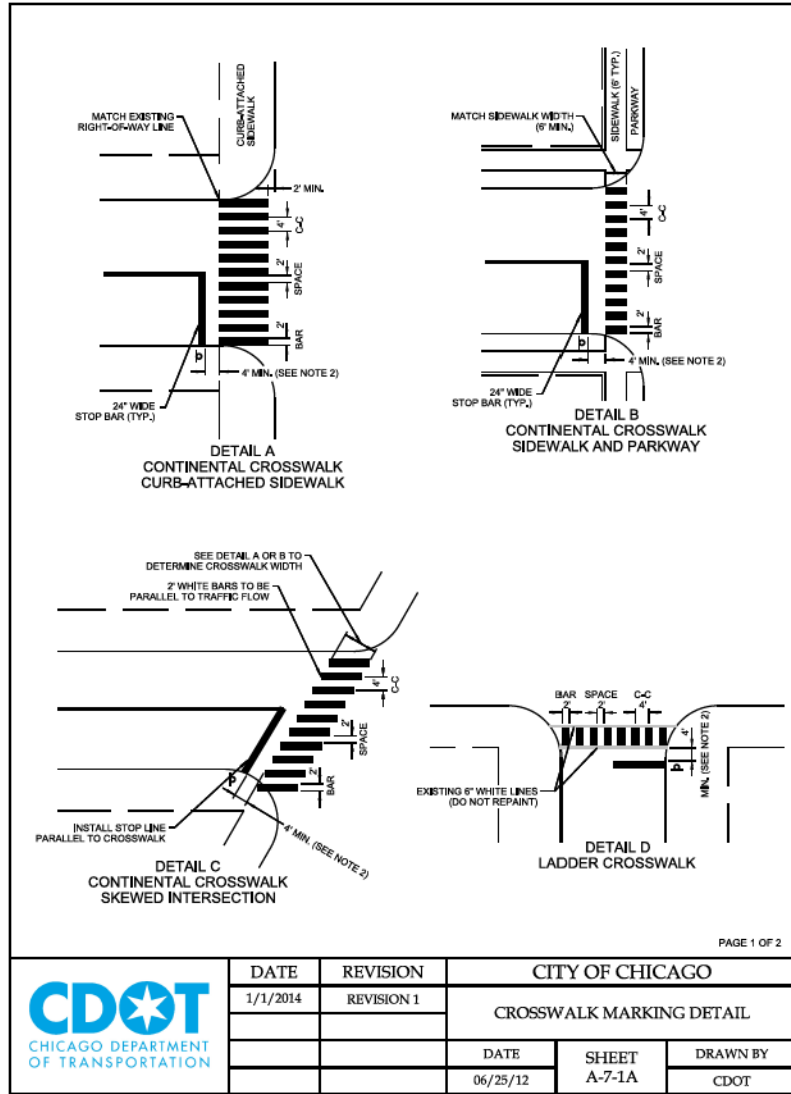
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DRAWN - JL	REVISIONS -	
CHECKED - CD	REVISIONS -	
DATE -	REVISIONS -	

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 SIGNING AND PAVEMENT MARKING PLAN - INTERMEDIATE LEVEL**

SCALE: 1" = 20' SHEET 1 OF 3 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	68
DRAWING NO. SGN-01		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



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CHECKED - CD
DATE -
PLOT SCALE = 48.0000' / in.
PLOT DATE = 5/17/2019

DESIGNED - JL
DRAWN - JL
CHECKED - CD
DATE -

REVISED -
REVISED -
REVISED -
REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

SCALE: N.T.S. SHEET 3 OF 3 SHEETS

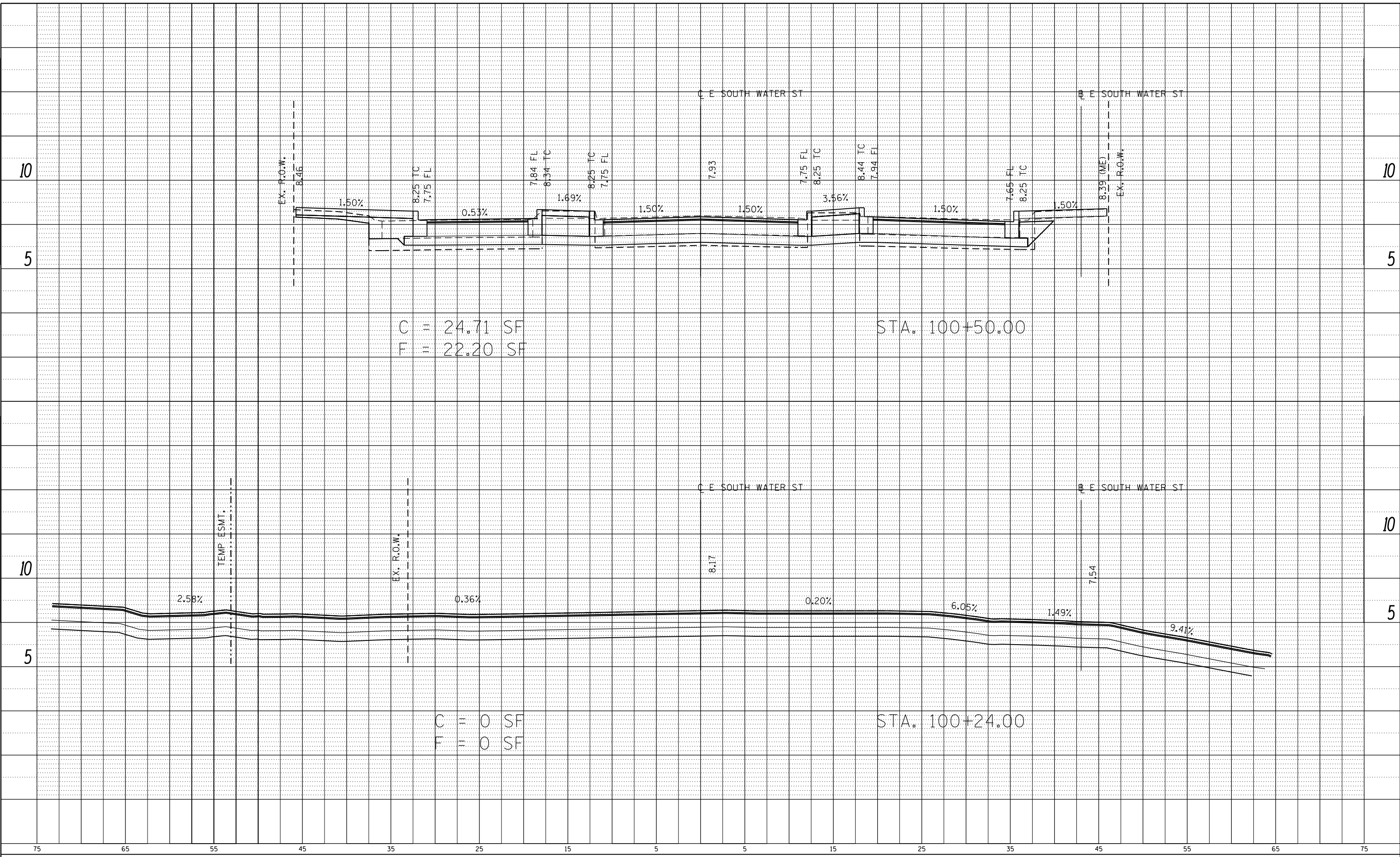
E SOUTH WATER STREET
PAVEMENT MARKING DETAILS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	70
DRAWING NO. #MOT-001-SIG		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK		
	NO.		
	CARD FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
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	NOTATION		
	CHKD		

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C = 24.71 SF
 F = 22.20 SF

STA. 100+50.00

C = 0 SF
 F = 0 SF

STA. 100+24.00

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender
 PLOT SCALE = 10.0000' / 1"
 PLOT DATE = 5/17/2019

DESIGNED - DB
 DRAWN - RFE
 CHECKED - DB
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

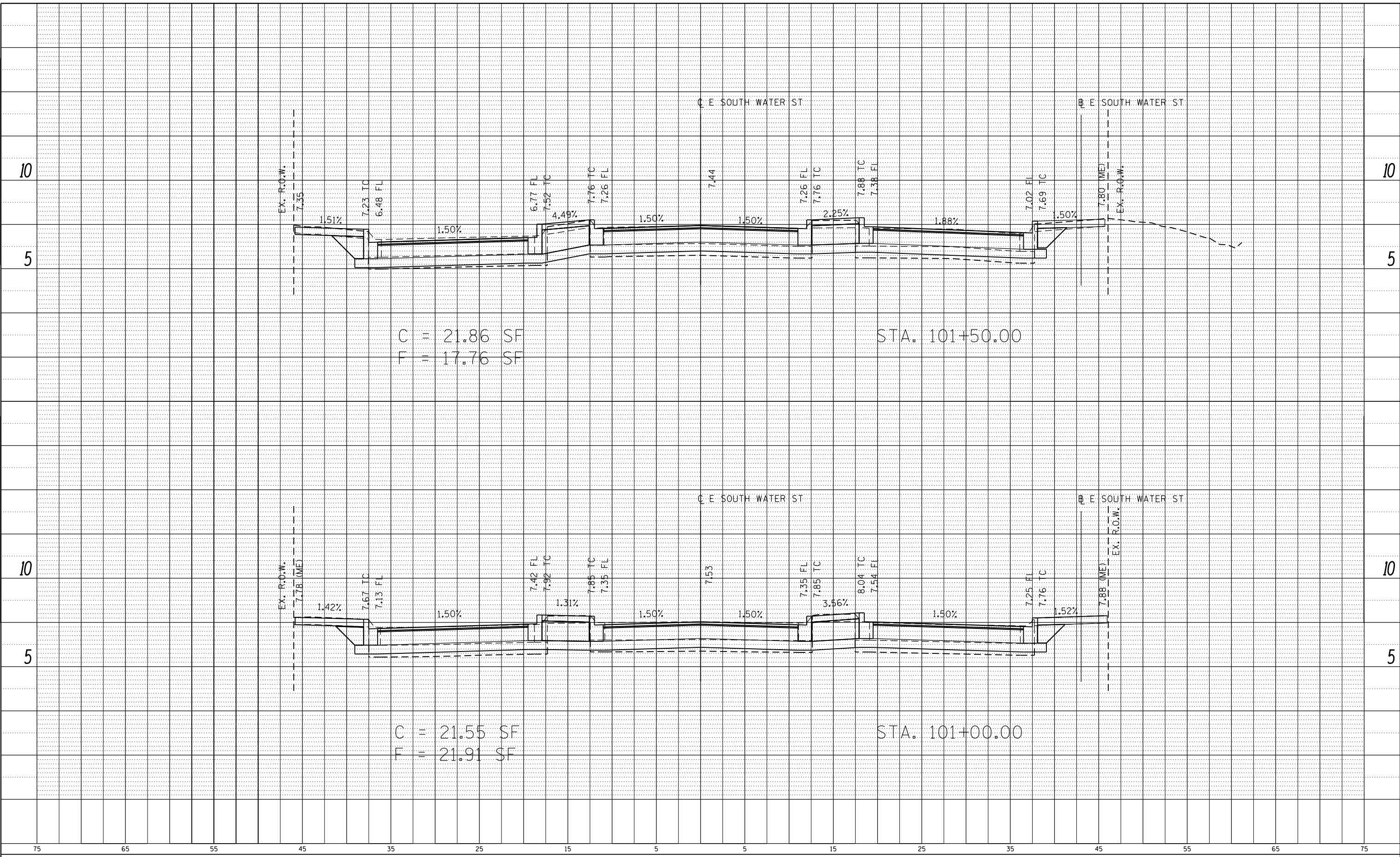
**E SOUTH WATER STREET
 CROSS SECTIONS**
 SCALE: 1" = 5'
 SHEET 1 OF 5 SHEETS
 STA. 100+24.00 TO STA. 100+50.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	71
DRAWING NO.		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATION CHKD		
	NOTE BOOK NO.		
	CARD FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATION CHKD		
	NOTE BOOK NO.		
	CARD FILE NAME		

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME	= dbender
PLOT SCALE	= 10.0000' / in.
PLOT DATE	= 5/17/2019

DESIGNED	- DB	REVISED	-
DRAWN	- RFE	REVISED	-
CHECKED	- DB	REVISED	-
DATE	-	REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CROSS SECTIONS**

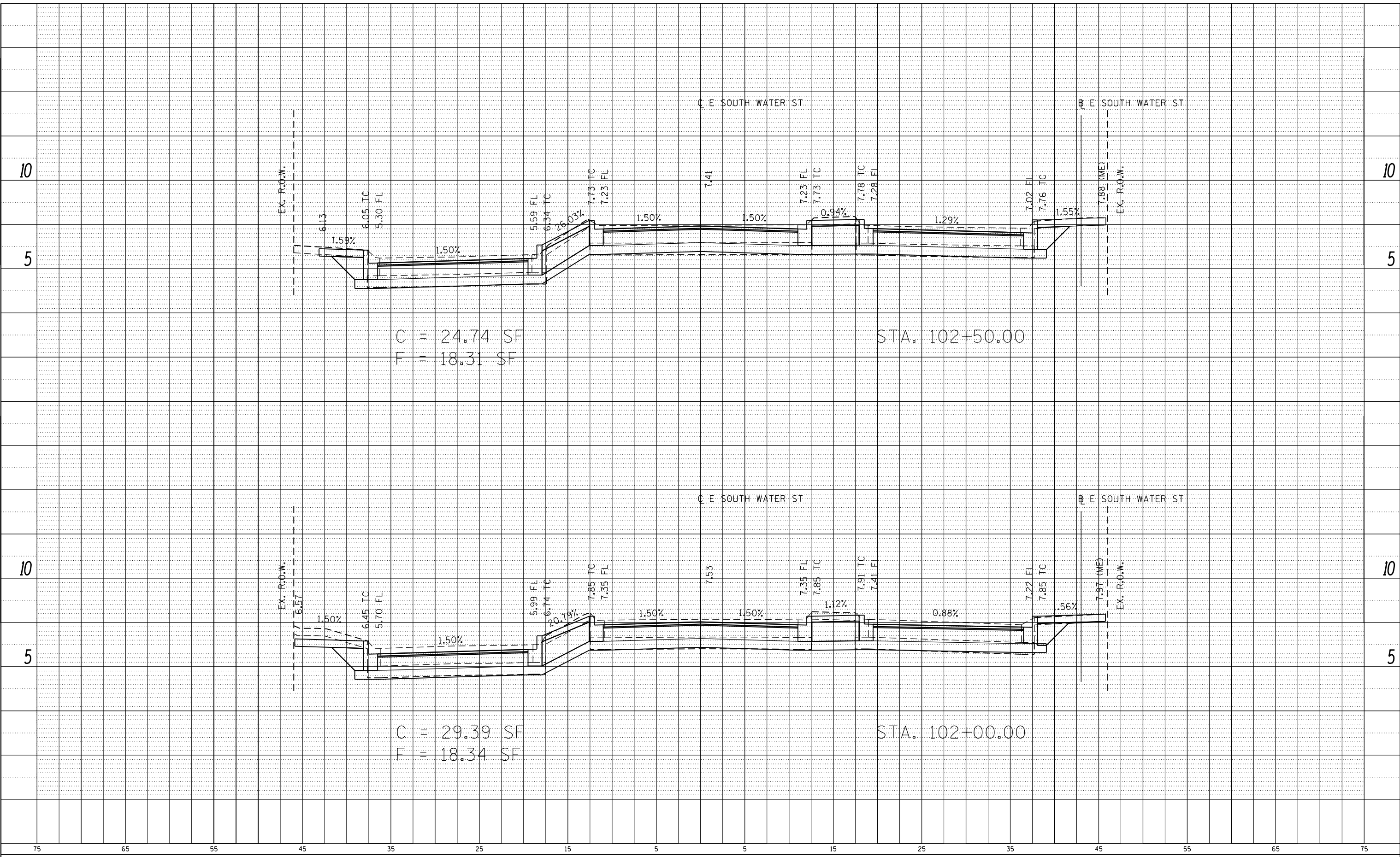
SCALE: 1" = 5' SHEET 2 OF 5 SHEETS STA. 101+00.00 TO STA. 101+50.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	72
DRAWING NO.	CONTRACT NO. M-6000(367)			
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	ALIGNED		
	CHECKED		
	CAD FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES		
	CHECKED		
	STRUCTURE		
	NOTATION		
	CHKD		
	NO.		

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C = 24.74 SF
 F = 18.31 SF

STA. 102+50.00

C = 29.39 SF
 F = 18.34 SF

STA. 102+00.00

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender
 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 5/17/2019

DESIGNED	-	DB	REVISED	-
DRAWN	-	RFE	REVISED	-
CHECKED	-	DB	REVISED	-
DATE	-		REVISED	-

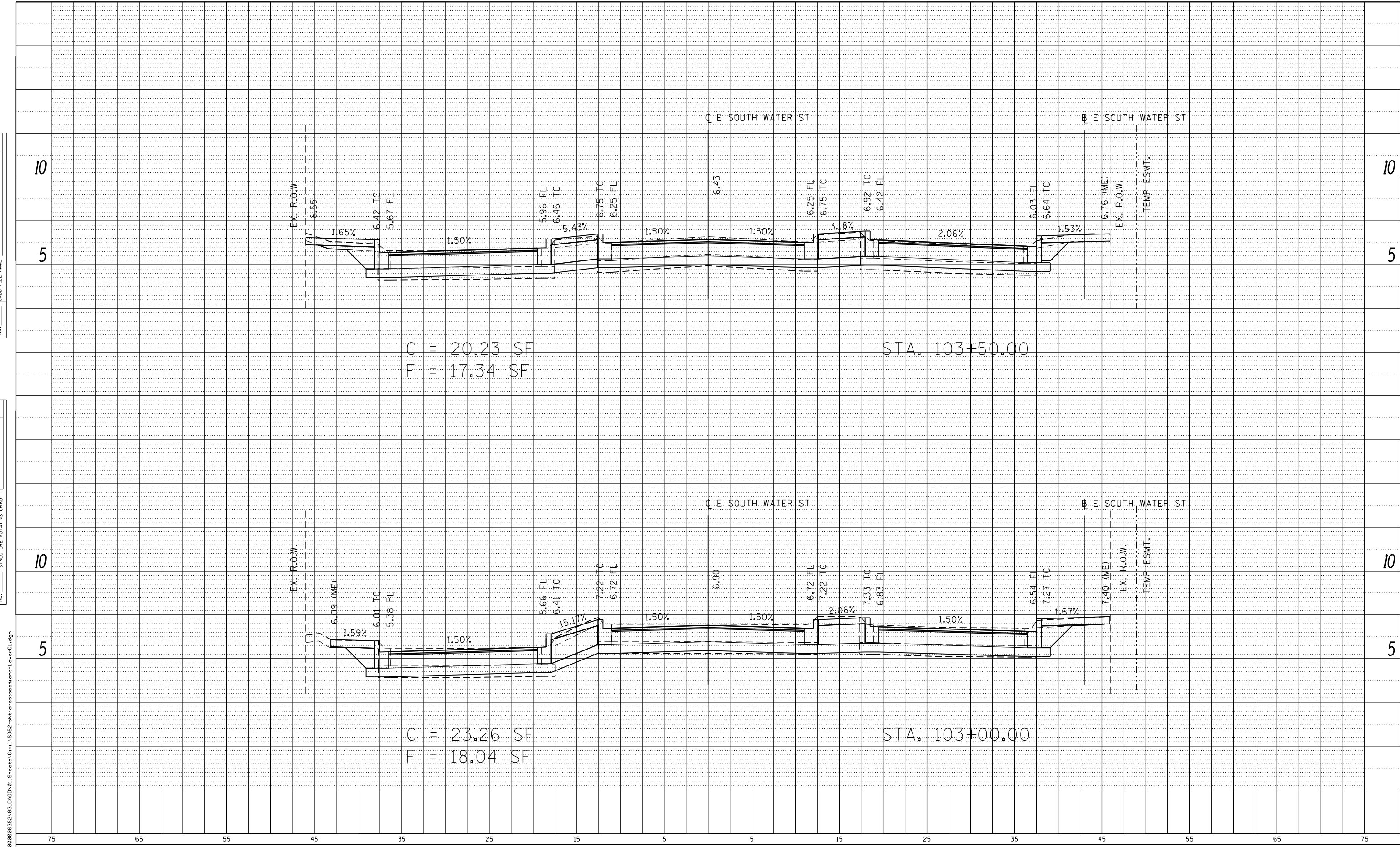
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CROSS SECTIONS**
 SCALE: 1" = 5' SHEET 3 OF 5 SHEETS STA. 102+00.00 TO STA. 102+50.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	73
DRAWING NO.		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	ALIGNED		
	CHECKED		
	NO.		
	FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRABS		
	CHECKED		
	NO.		
	STRUCTURE		
	NOTATION		
	CHKD		



LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender
 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 5/17/2019

DESIGNED -	DB	REVISED -	
DRAWN -	RFE	REVISED -	
CHECKED -	DB	REVISED -	
DATE -		REVISED -	

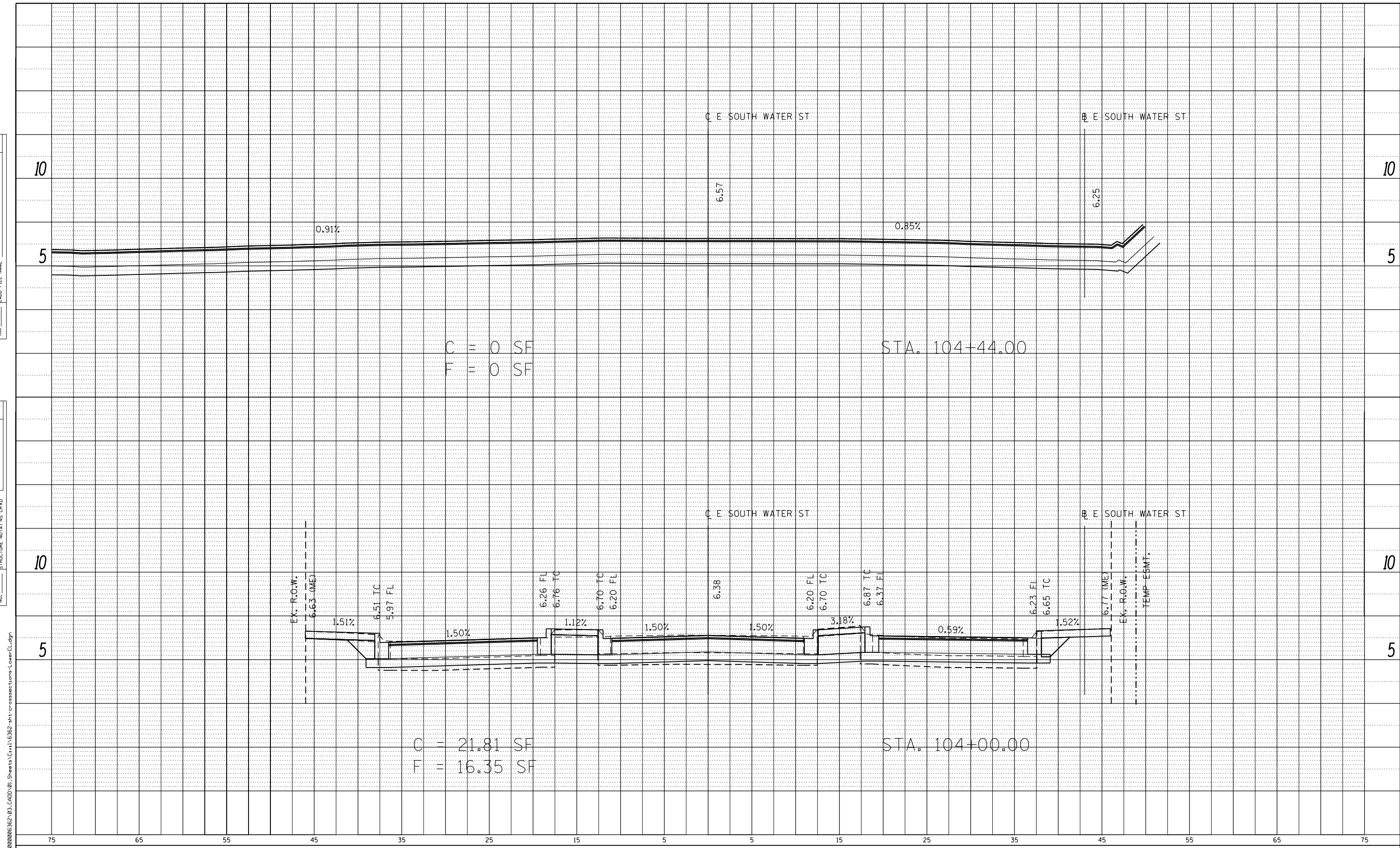
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CROSS SECTIONS**
 SCALE: 1" = 5' SHEET 4 OF 5 SHEETS STA. 103+00.00 TO STA. 103+50.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	74
DRAWING NO.		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK		
	NO.		
	CAD FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK		
	NO.		
	STRUCTURE		
	NOTATION		
	CHKD		



LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender
 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 5/17/2019

DESIGNED	-	DB	REVISED	-
DRAWN	-	RFE	REVISED	-
CHECKED	-	DB	REVISED	-
DATE	-		REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 CROSS SECTIONS**
 SCALE: 1" = 5' SHEET 5 OF 5 SHEETS STA. 104+00.00 TO STA. 104+44.00

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	75
DRAWING NO.		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

LIGHTING LEGEND

	EXISTING 100 WATT HPS VIADUCT LUMINAIRE
	PROPOSED LED VIADUCT LUMINAIRE, 120V
	EXISTING CONDUIT
	PROPOSED 3/4" GALVANIZED RIGID STEEL CONDUIT ATTACHED TO STRUCTURE, UNLESS OTHERWISE NOTED
	PROPOSED 2-1/2" #6, 1/C #8
	EXISTING 2-1/2" #6, 1/C #8
	PROPOSED 24" UNISTRUT CONCRETE DECK INSERT UNLESS OTHERWISE NOTED
	EXISTING JUNCTION BOX ATTACHED TO STRUCTURE
	PROPOSED JUNCTION BOX ATTACHED TO STRUCTURE (12" X 10" X 6" STAINLESS STEEL, NEMA 4X, UNLESS NOTED)
	PROPOSED CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP
	EXISTING UNDERPASS CONTROLLER
	EXISTING MANHOLE TO REMAIN
	PROPOSED MANHOLE INSTALLED IN BRIDGE STRUCTURE
	EXISTING LIGHT POLE ATTACHED TO STRUCTURE (HPS)
	EXISTING LIGHT POLE ATTACHED TO STRUCTURE (LED)
	PROPOSED LIGHT POLE ATTACHED TO STRUCTURE (LED)
	CIRCUIT 1: 2-1/2" #10, 1/C #10 COMMON GROUND WITH CIRCUIT 2
	CIRCUIT 2: 2-1/2" #10, 1/C #10 COMMON GROUND WITH CIRCUIT 1
	CIRCUIT 3: 2-1/2" #10, 1/C #10 COMMON GROUND WITH CIRCUIT 4
	CIRCUIT 4: 2-1/2" #10, 1/C #10 COMMON GROUND WITH CIRCUIT 3

ABBREVIATIONS

ATS	ATTACHED TO STRUCTURE
BRKR	BREAKER
CKT	CIRCUIT
GRD	GROUND
GRS	GALVANIZED RIGID STEEL
HPS	HIGH PRESSURE SODIUM
JB	JUNCTION BOX
LED	LIGHT EMITTING DIODE
LTFMC	LIQUID TIGHT FLEXIBLE METALLIC CONDUIT
MLO	MAIN LUGS ONLY
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
PA	PUBLIC ADDRESS
SS	STAINLESS STEEL
VA	VOLT-AMPERE

LIGHTING GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF CHICAGO ELECTRICAL CODE AND THE STANDARDS OF APPLICABLE ORGANIZATIONS LISTED IN ARTICLE 101.01 OF THE STANDARD SPECIFICATIONS.
- CONDUIT RUNS, POLE BASES, MANHOLES, AND JUNCTION BOX LOCATIONS ARE DIAGRAMMATICALLY SHOWN ON THE PLANS. FINAL LOCATIONS WILL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE ENGINEER.
- THE ITEM "REMOVE ELECTRIC CABLE FROM CONDUIT" WILL BE USED FOR REMOVAL OF CABLE FROM EXISTING CONDUIT TO REMAIN IN USE. REMOVAL OF CABLE FROM CONDUIT TO BE REMOVED IS INCLUDED IN THE PRICE OF OTHER PAY ITEMS. REFER TO SPECIAL PROVISIONS.
- PROPOSED CONDUIT FROM JUNCTION BOX TO UNDERPASS LUMINAIRE SHALL BE 3/4" LIQUID TIGHT FLEX CONDUIT AS PER CITY OF CHICAGO DEO DRAWINGS 861 AND 869.
- THE COST OF GALVANIZED, RIGID STEEL LB JUNCTION BOX IS INCLUDED IN THE COST OF GALVANIZED, RIGID STEEL CONDUIT ATTACHED TO STRUCTURE 3/4".
- THE COST OF THE CONCRETE INSERTS SHALL BE INCLUDED IN THE COST OF CONDUIT ATTACHED TO STRUCTURE.

BILL OF MATERIALS

Description	Unit	Quantity
ADJUST FRAME AND LID	EACH	3
CONTROLLER, UNDERPASS LIGHTING, WALL MOUNTED, 1 PHASE, 100 AMP	EACH	3
ELECTRIC CABLE IN CONDUIT 2#6 & 1#8, TRIPLEX	FOOT	200
ELECTRIC CABLE IN CONDUIT, 1/C #10	FOOT	10200
ELECTRIC CABLE IN CONDUIT, 1/C #4	FOOT	200
GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 2"	FOOT	250
GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3"	FOOT	3100
GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE 3/4"	FOOT	3400
INTERCEPT EXISTING CONDUIT	EACH	12
JUNCTION BOX ATTACHED TO STRUCTURE, STAINLESS STEEL, 12"x10"x6"	EACH	15
LUMINAIRE, LED, 240V, ARTERIAL ACORN, TYPE III, & ARM	EACH	2
LUMINAIRE, LED, 240V, ARTERIAL, CUT-OFF	EACH	2
LUMINAIRE, LED, VIADUCT	EACH	100
MAINTAIN LIGHTING SYSTEM	LSUM	1
MANHOLE 3'X4'X4' W/24" F&L	EACH	6
MAST ARM, ALUMINUM, DAVIT, 6" ARTERIAL, 8' ANODIZED	EACH	2
POLE, ALUMINUM, DAVIT, ARTERIAL, 35' MH, ANODIZED	EACH	2
REMOVE ANCHOR BASE POLE	EACH	2
REMOVE CONDUIT ATTACHED TO STRUCTURE	FOOT	6200
REMOVE CONTROLLER ONLY	EACH	3
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	6500
REMOVE JUNCTION BOX	EACH	7
REMOVE LUMINAIRE	EACH	2
REMOVE MAST ARM	EACH	2
REMOVE VIADUCT LUMINAIRE	EACH	236

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
LIGHTING LEGEND, ABBREVIATIONS, AND GENERAL NOTES	E-01
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TEMPORARY LIGHTING PLAN STAGE 1	E-03
TEMPORARY LIGHTING PLAN STAGE 2	E-04
UNDERPASS LIGHTING REMOVAL PLAN INTERMEDIATE LEVEL	E-05
UNDERPASS LIGHTING REMOVAL PLAN LOWER LEVEL	E-06
PROPOSED UNDERPASS LIGHTING PLAN INTERMEDIATE LEVEL	E-07
PROPOSED UNDERPASS LIGHTING PLAN LOWER LEVEL	E-08
ELECTRICAL REMOVAL PLAN INTERMEDIATE LEVEL	E-09
PROPOSED ELECTRICAL PLAN INTERMEDIATE LEVEL	E-10
PROPOSED ELECTRICAL PLAN LOWER LEVEL	E-11
UNDERPASS LIGHTING CONTROLLER & SINGLE LINE WIRING DIAGRAM	E-12
UNDERPASS LIGHTING CONTROLLER & LUMINAIRE MOUNTING DETAIL	E-13
MANHOLE DETAIL	E-14
UNDERPASS STANDARD DRAWINGS	E-15
LIGHTPOLE STANDARD DRAWINGS	E-16

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
LIGHTING LEGEND, ABBREVIATIONS, AND GENERAL NOTES

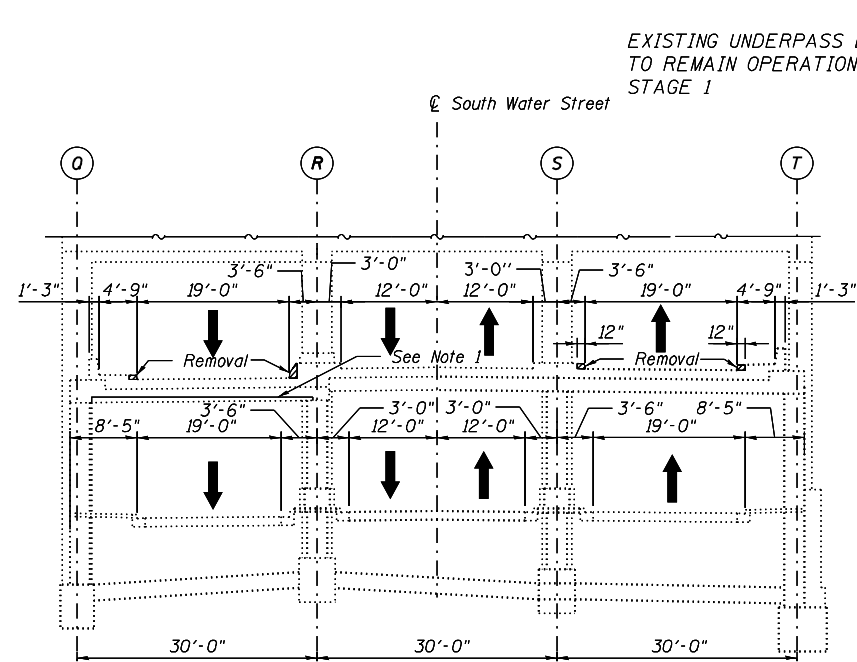
SCALE: N.T.S. SHEET 1 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	76
DRAWING NO. E-01	CONTRACT NO. M-6000(367)			
ILLINOIS FED. AID PROJECT				

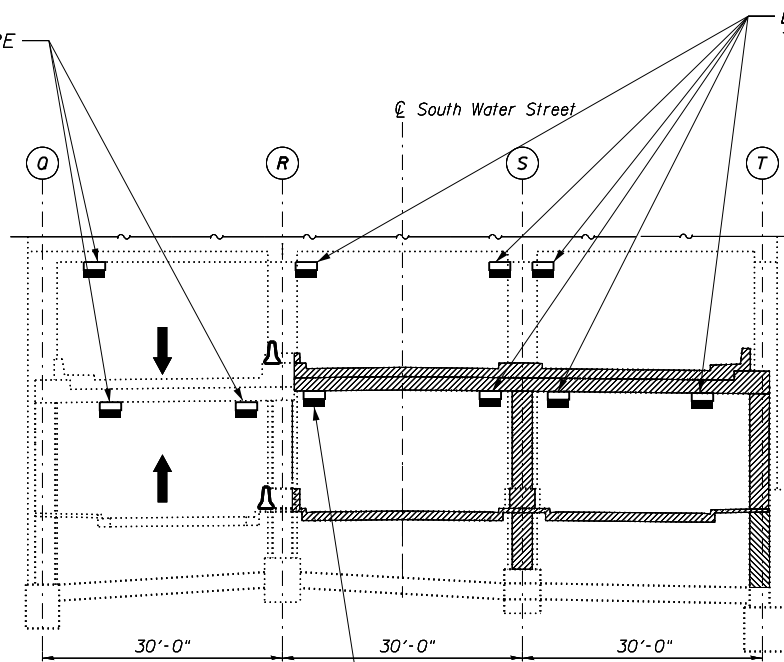
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TranSmart/EJM
 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

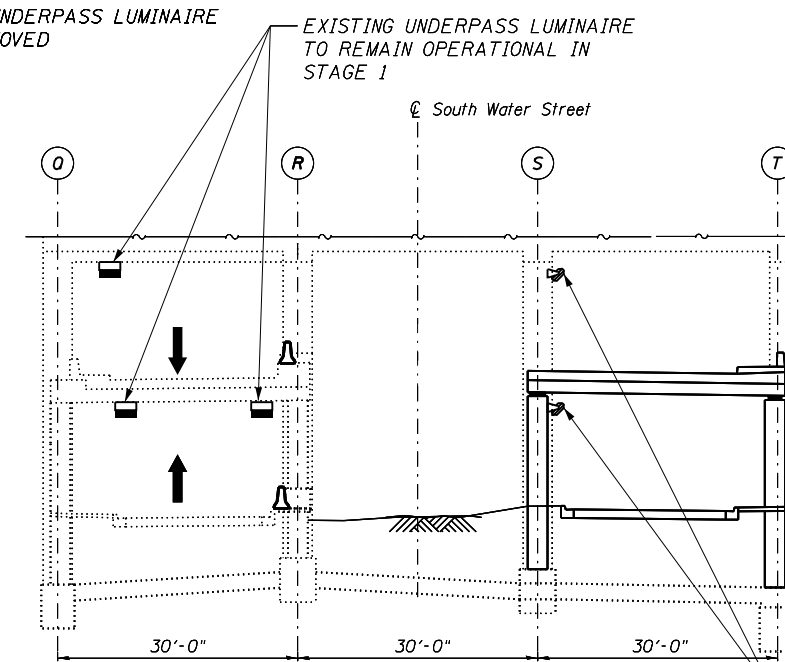
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PLOT DATE = 3/1/2019	DATE -	REVISED -



EXISTING CROSS SECTION AND PRE-STAGE REMOVAL & REPAIRS

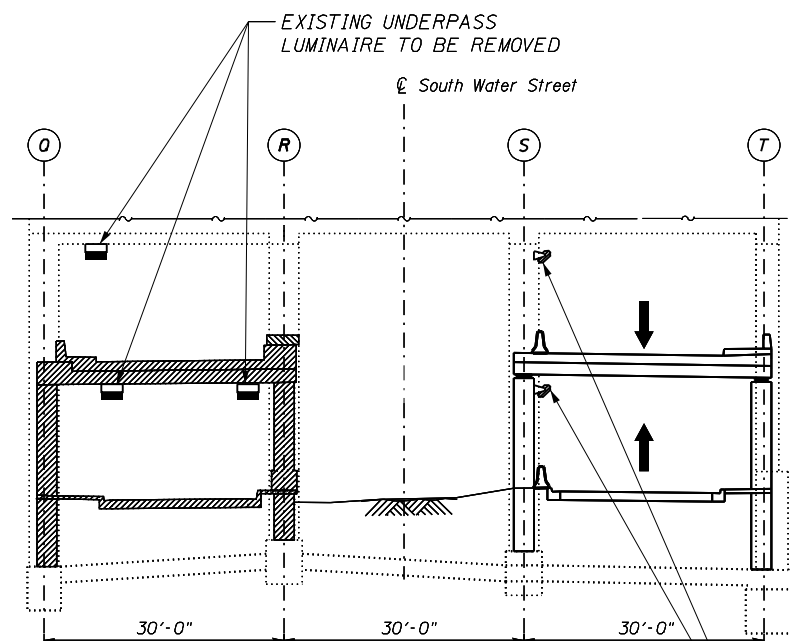


STAGE 1 DEMOLITION

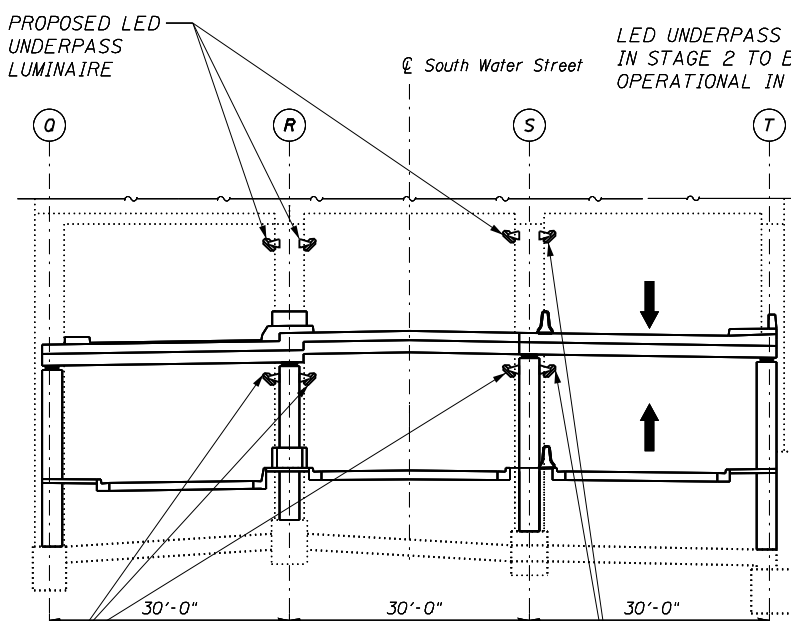


STAGE 1 CONSTRUCTION

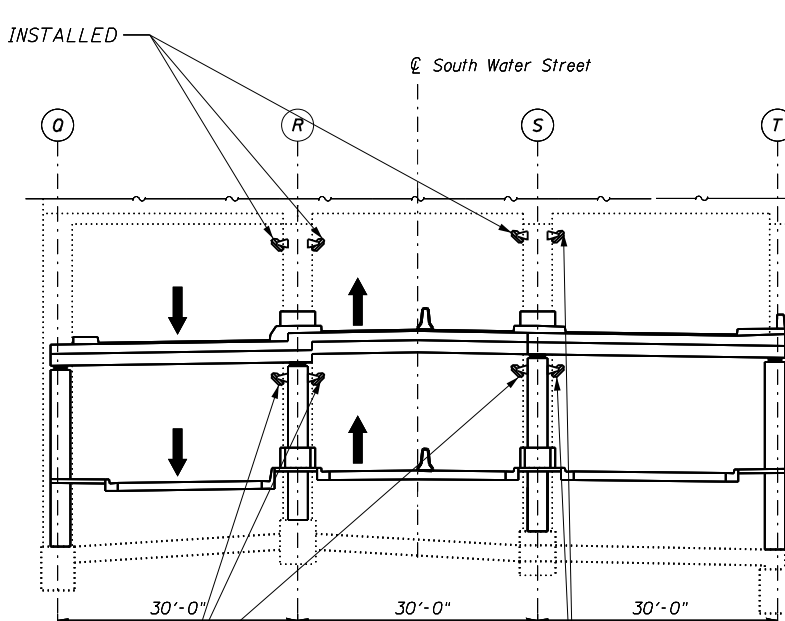
LEGEND:



STAGE 2 DEMOLITION



STAGE 2 CONSTRUCTION



STAGE 3 CONSTRUCTION

LED UNDERPASS LUMINAIRE INSTALLED IN STAGE 1 TO BE FULLY OPERATIONAL IN STAGE 2

LED UNDERPASS LUMINAIRE INSTALLED IN STAGE 1 TO BE FULLY OPERATIONAL IN STAGE 2

LED UNDERPASS LUMINAIRE INSTALLED IN STAGE 1 TO BE FULLY OPERATIONAL IN STAGE 3

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TranSmart/EJM
 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME : pscott	DESIGNED - NRJ	REVISED -
PLOT SCALE : 24.0000' / in.	DRAWN - NRJ	REVISED -
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

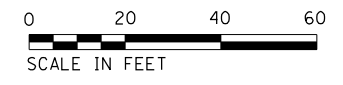
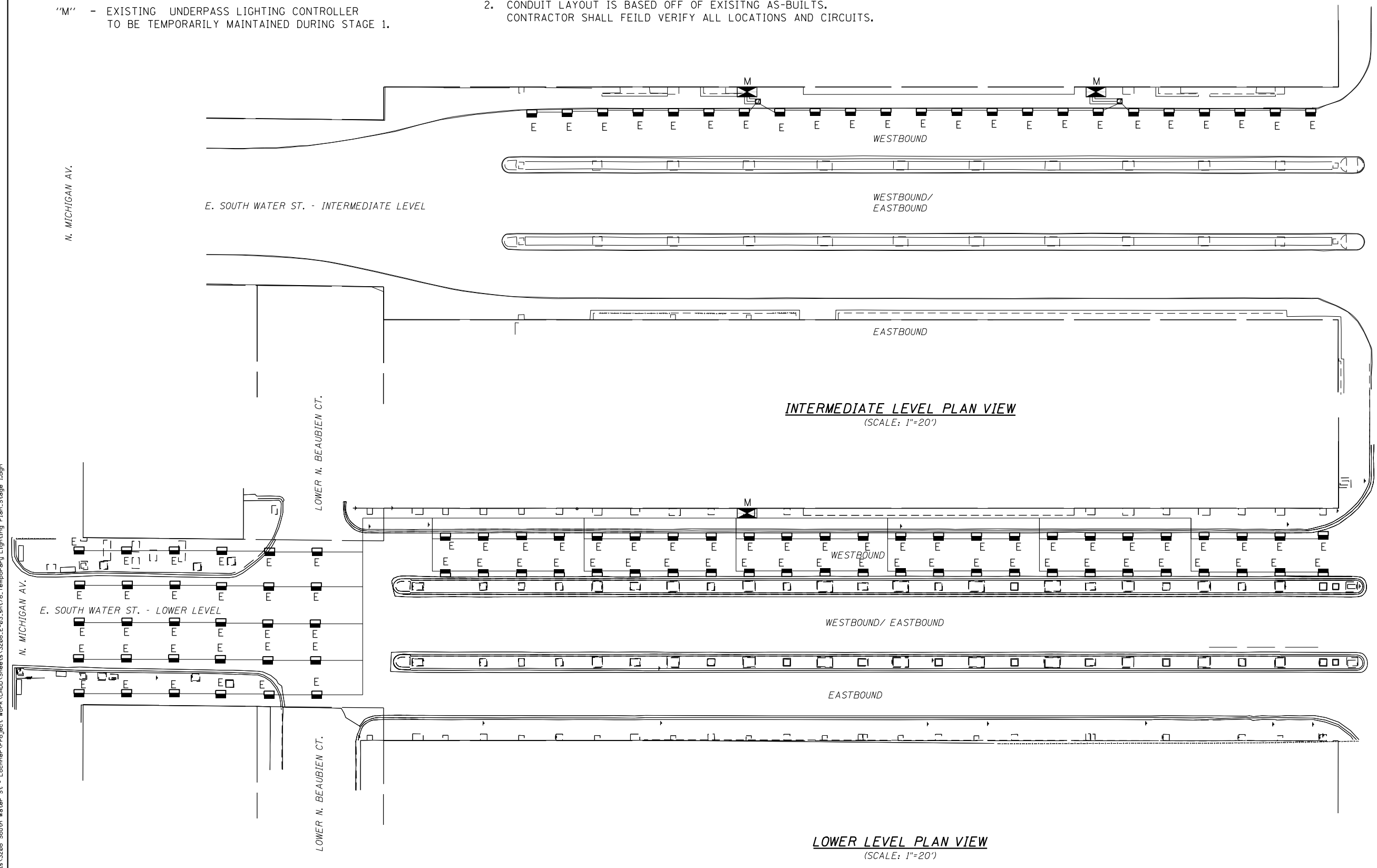
E SOUTH WATER STREET TEMPORARY LIGHTING DETAIL		MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: N.T.S.		3030	11-E1517-00-BR	COOK	141	77
SHEET 2 OF 16 SHEETS		DRAWING NO. E-02		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT						

CONSTRUCTION NOTES:

- "E" - EXISTING UNDERPASS LUMINAIRES TO REMAIN FULLY OPERATIONAL IN STAGE 1.
- "M" - EXISTING UNDERPASS LIGHTING CONTROLLER TO BE TEMPORARILY MAINTAINED DURING STAGE 1.

GENERAL NOTES:

1. SEE SHEET E-01 FOR LIGHTING LEGEND.
2. CONDUIT LAYOUT IS BASED OFF OF EXISTING AS-BUILTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND CIRCUITS.



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 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott	DESIGNED - NRJ	REVISED -
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PLOT DATE = 12/5/2018	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 TEMPORARY LIGHTING PLAN STAGE 1**

SCALE: 1"=20' SHEET 3 OF 16 SHEETS

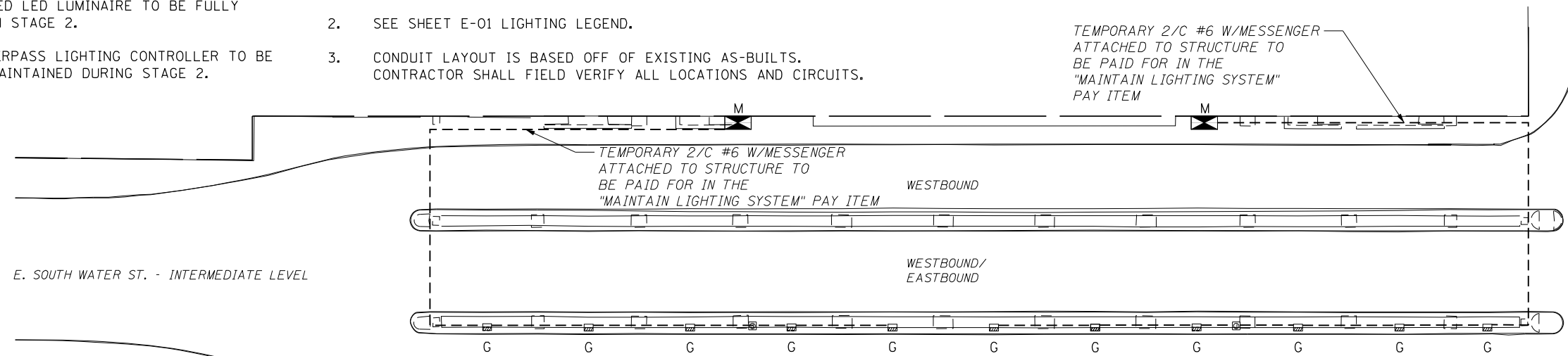
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3030	11-E1517-00-BR	COOK	141	78
DRAWING NO. E-03		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

CONSTRUCTION NOTES:

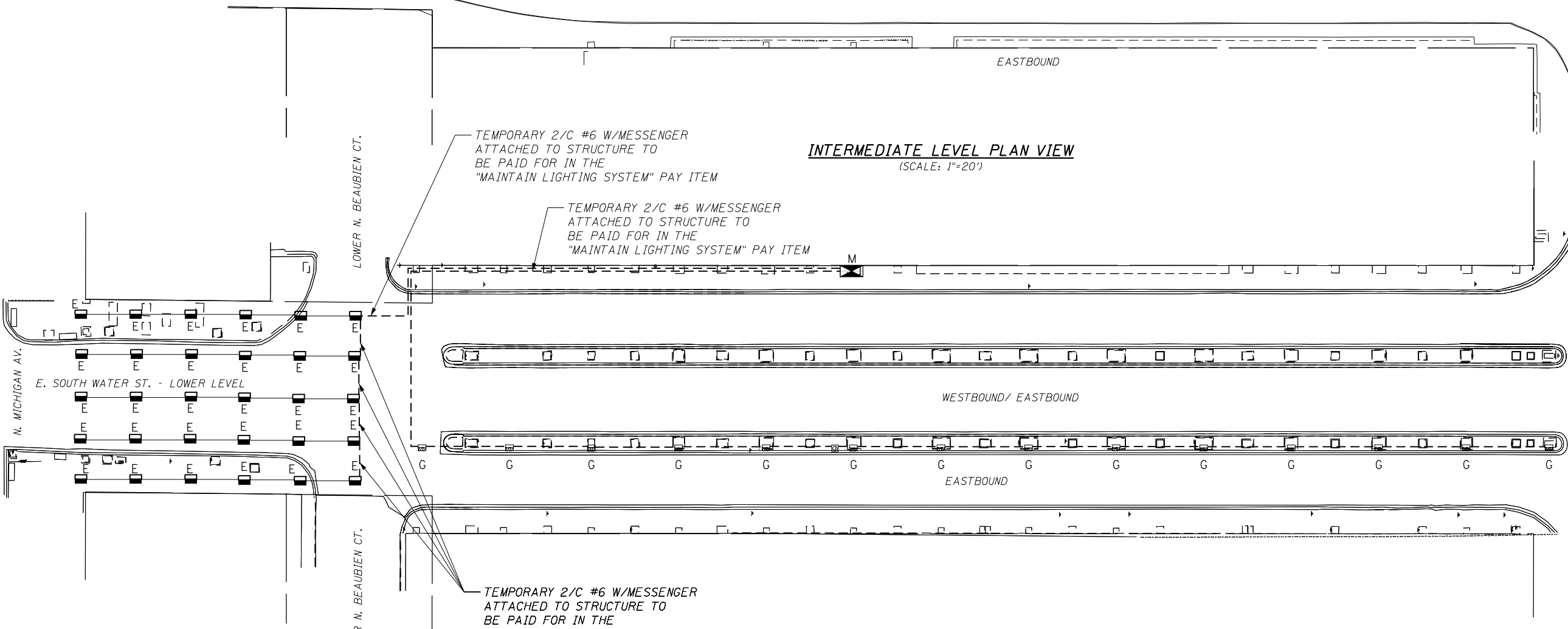
- "E" - EXISTING LUMINAIRE TO REMAIN.
- "G" - NEWLY INSTALLED LED LUMINAIRE TO BE FULLY OPERATIONAL IN STAGE 2.
- "M" - EXISTING UNDERPASS LIGHTING CONTROLLER TO BE TEMPORARILY MAINTAINED DURING STAGE 2.

GENERAL NOTES:

1. TEMPORARY CABLE SHALL BE PAID FOR IN THE "MAINTAIN LIGHTING SYSTEM" PAY ITEM.
2. SEE SHEET E-01 LIGHTING LEGEND.
3. CONDUIT LAYOUT IS BASED OFF OF EXISTING AS-BUILTS. CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND CIRCUITS.



INTERMEDIATE LEVEL PLAN VIEW
(SCALE: 1"=20')



LOWER LEVEL PLAN VIEW
(SCALE: 1"=20')



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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = M.Todden	DESIGNED - NRJ	REVISED -
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	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

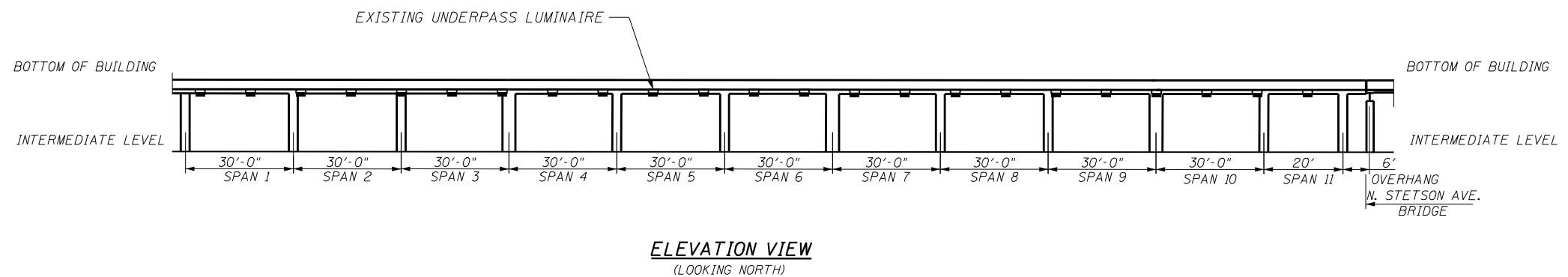
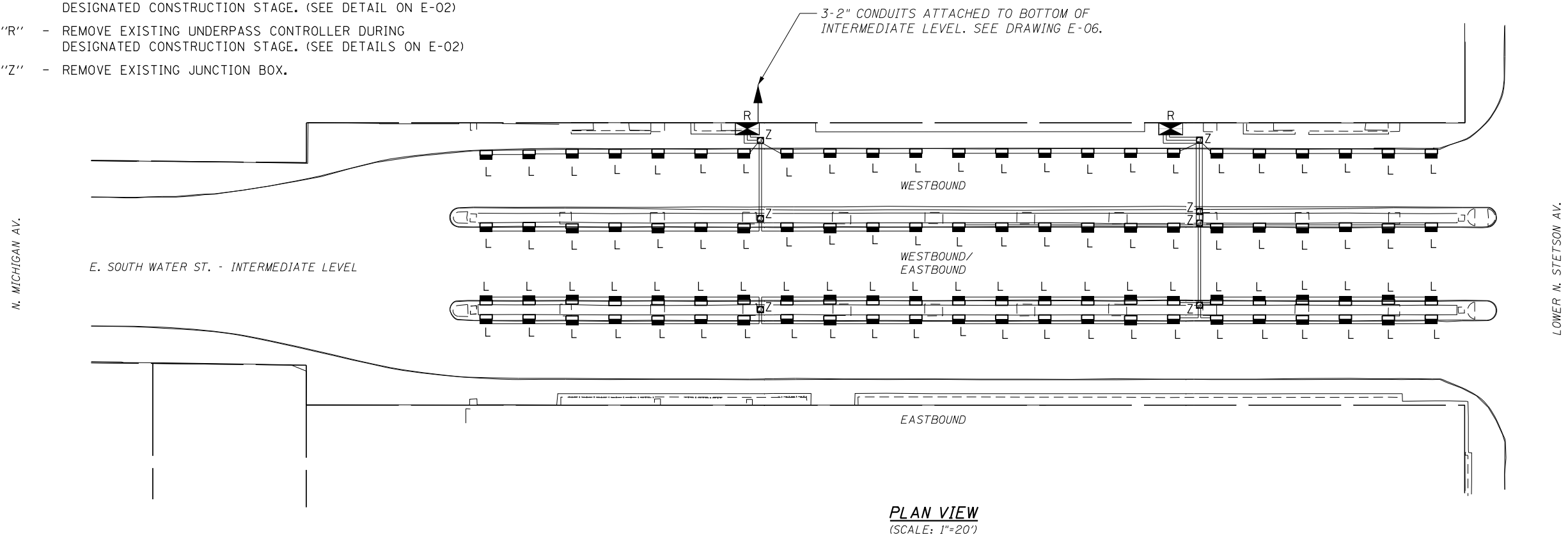
**E SOUTH WATER STREET
 TEMPORARY LIGHTING PLAN STAGE 2**

SCALE: 1"=20' SHEET 4 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	79
DRAWING NO. E-04		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

CONSTRUCTION NOTES:

- "L" - REMOVE EXISTING UNDERPASS LUMINAIRE DURING DESIGNATED CONSTRUCTION STAGE. (SEE DETAIL ON E-02)
- "R" - REMOVE EXISTING UNDERPASS CONTROLLER DURING DESIGNATED CONSTRUCTION STAGE. (SEE DETAILS ON E-02)
- "Z" - REMOVE EXISTING JUNCTION BOX.



GENERAL NOTES:

1. SEE SHEET E-01 FOR LIGHTING LEGEND.



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208 E-05.ahx
 80_Underpass Lighting Removal Plan_Intermediate Level.dgn

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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott
 PLOT SCALE = 48.0000' / in.
 PLOT DATE = 12/5/2018

DESIGNED - NRJ	REVISED -
DRAWN - NRJ	REVISED -
CHECKED - MKR	REVISED -
DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

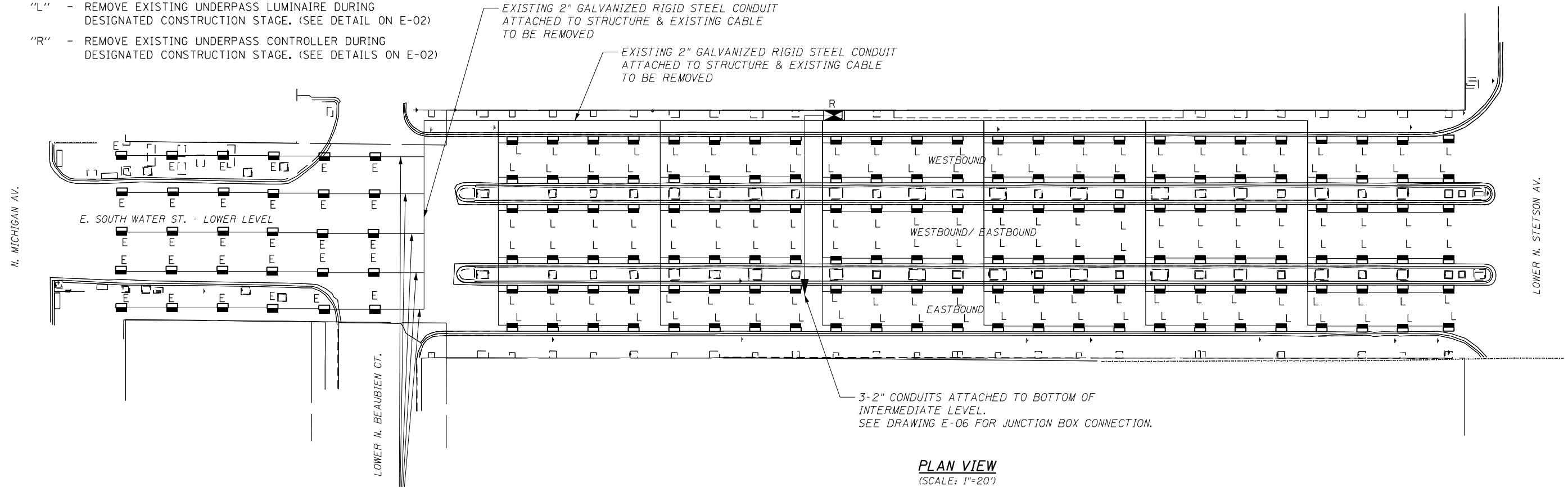
**E SOUTH WATER STREET
 UNDERPASS LIGHTING REMOVAL PLAN INTERMEDIATE LEVEL**

SCALE: 1"=20' SHEET 5 OF 16 SHEETS

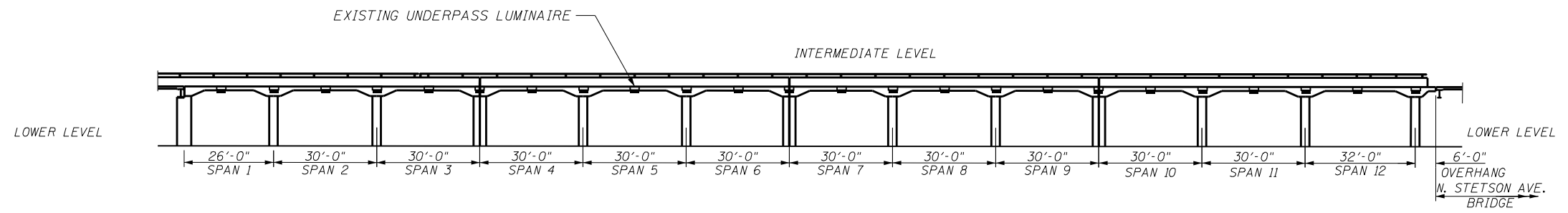
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DRAWING NO. E-05		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

CONSTRUCTION NOTES:

- "E" - EXISTING LUMINAIRE TO REMAIN.
- "L" - REMOVE EXISTING UNDERPASS LUMINAIRE DURING DESIGNATED CONSTRUCTION STAGE. (SEE DETAIL ON E-02)
- "R" - REMOVE EXISTING UNDERPASS CONTROLLER DURING DESIGNATED CONSTRUCTION STAGE. (SEE DETAILS ON E-02)



PLAN VIEW
(SCALE: 1"=20')



ELEVATION VIEW
(LOOKING NORTH)

GENERAL NOTES:

1. SEE SHEET E-01 FOR LIGHTING LEGEND.



MODEL: Default
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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott
 PLOT SCALE = 40.0000' / in.
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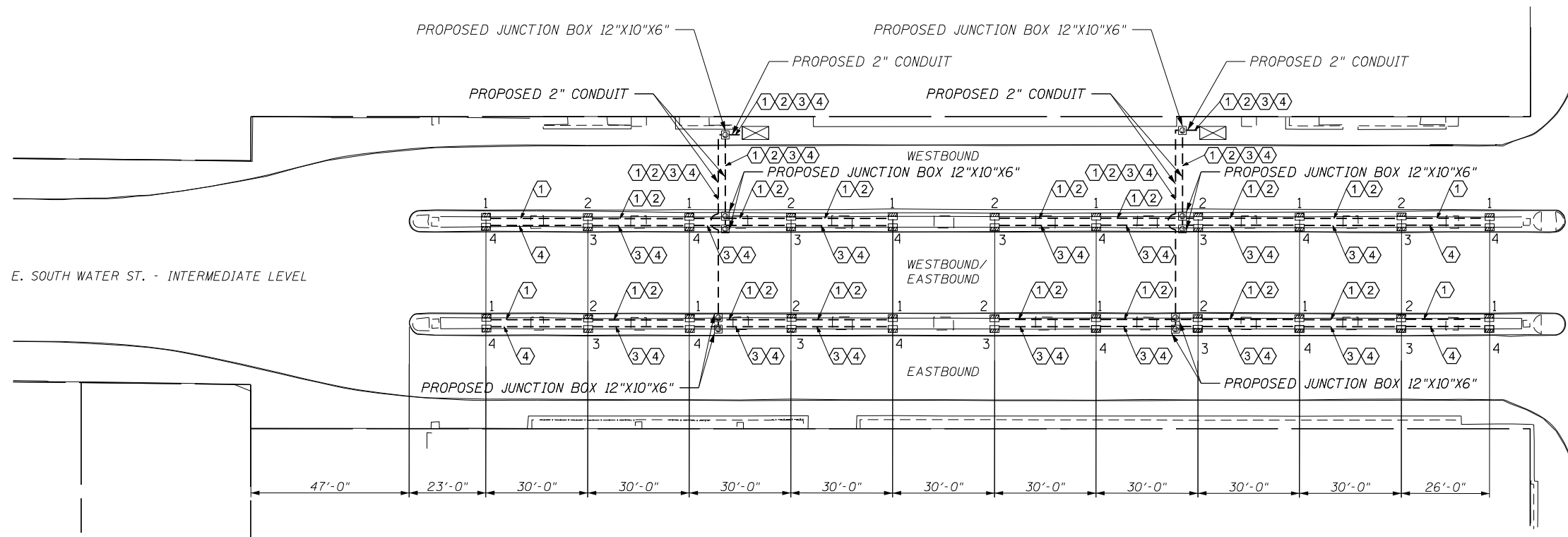
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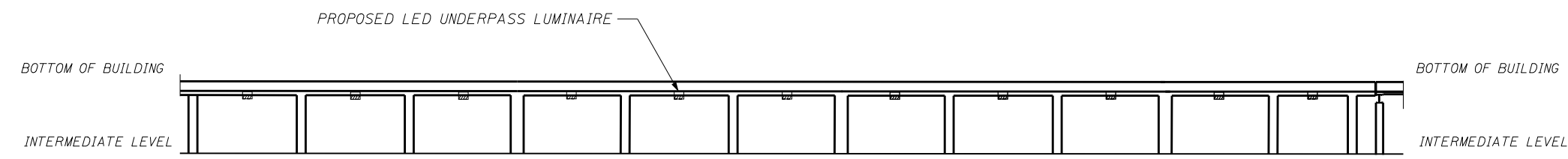
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
UNDERPASS LIGHTING REMOVAL PLAN LOWER LEVEL
 SCALE: 1"=20' SHEET 6 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	81
DRAWING NO. E-06		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



PLAN VIEW
(SCALE: 1"=20')



ELEVATION VIEW
(LOOKING NORTH)

GENERAL NOTES:

1. ALL CONDUIT IS TO BE 3/4" GALVANIZED, RIGID STEEL ATTACHED TO STRUCTURE UNLESS OTHERWISE NOTED.
2. SEE SHEET E-02 FOR PROPOSED CONSTRUCTION STAGING OF LED UNDERPASS LUMINAIRES.
3. SEE SHEET E-01 FOR LIGHTING LEGEND.



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208 E-07.ahx
 82.Underpass Lighting Plan_Intermediate Level.dgn

TranSmart/EJM
 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = MTodden	DESIGNED - NRJ	REVISED -
	DRAWN - NRJ	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - MKR	REVISED -
PLOT DATE = 3/1/2019	DATE -	REVISED -

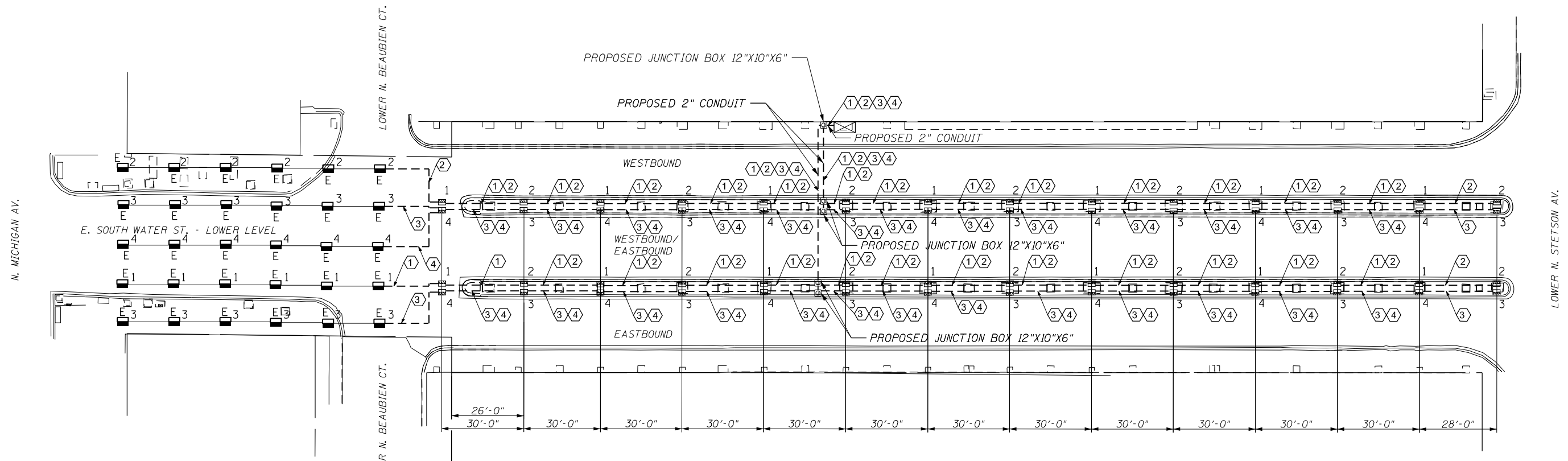
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 PROPOSED UNDERPASS LIGHTING PLAN INTERMEDIATE LEVEL**
 SCALE: 1"=20' SHEET 7 OF 16 SHEETS

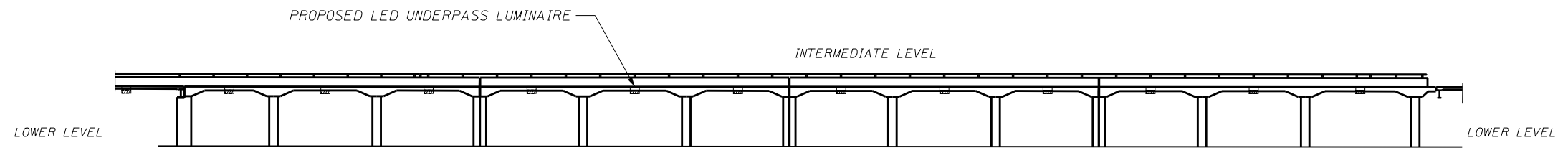
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3030	11-E1517-00-BR	COOK	141	82
DRAWING NO. E-07		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

CONSTRUCTION NOTES:

"E" - EXISTING LUMINAIRE TO REMAIN.



PLAN VIEW
(SCALE: 1"=20')



ELEVATION VIEW
(LOOKING NORTH)

GENERAL NOTES:

1. ALL CONDUIT IS TO BE 3/4" GALVANIZED, RIGID STEEL ATTACHED TO STRUCTURE UNLESS OTHERWISE NOTED.
2. SEE SHEET E-02 FOR PROPOSED CONSTRUCTION STAGING OF LED UNDERPASS LUMINAIRES.
3. SEE SHEET E-01 FOR LIGHTING LEGEND.



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208 E-08.sht
 83.Underpass Lighting Plan.Lower Level.dgn

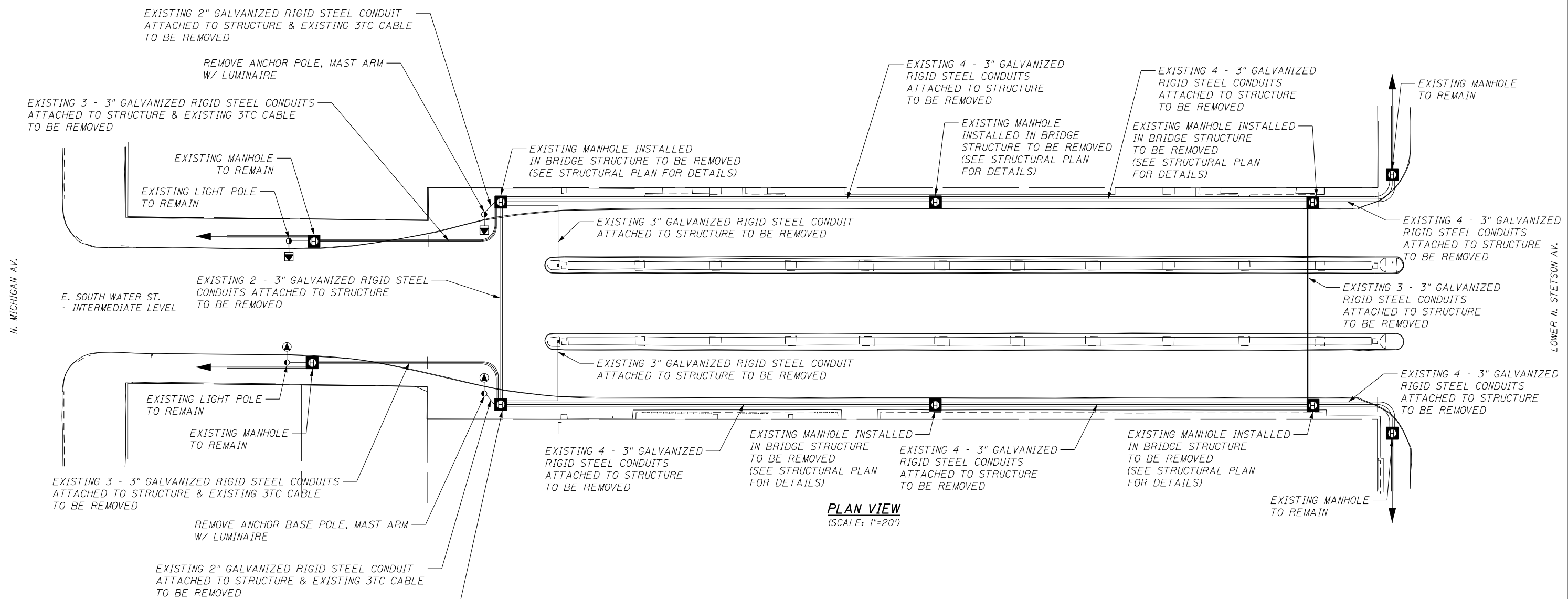
TranSmart/EJM
 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott	DESIGNED - NRJ	REVISED -
PLOT SCALE = 40.0000' / in.	DRAWN - NRJ	REVISED -
PLOT DATE = 12/5/2018	CHECKED - MKR	REVISED -
	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
PROPOSED UNDERPASS LIGHTING PLAN LOWER LEVEL
 SCALE: 1"=20' SHEET 8 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	83
DRAWING NO. E-08		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

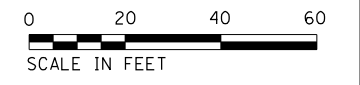


PLAN VIEW
(SCALE: 1"=20')

GENERAL NOTES:

- 1. SEE SHEET E-01 FOR LIGHTING LEGEND.

EXISTING MANHOLE INSTALLED
IN BRIDGE STRUCTURE
TO BE REMOVED
(SEE STRUCTURAL PLAN
FOR DETAILS)



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208 E-09_ah_84_Electrical Removal Plan.dgn

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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott	DESIGNED - NRJ	REVISED -
	DRAWN - NRJ	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - MKR	REVISED -
PLOT DATE = 12/5/2018	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 ELECTRICAL REMOVAL PLAN INTERMEDIATE LEVEL**

SCALE: 1"=20' SHEET 9 OF 16 SHEETS

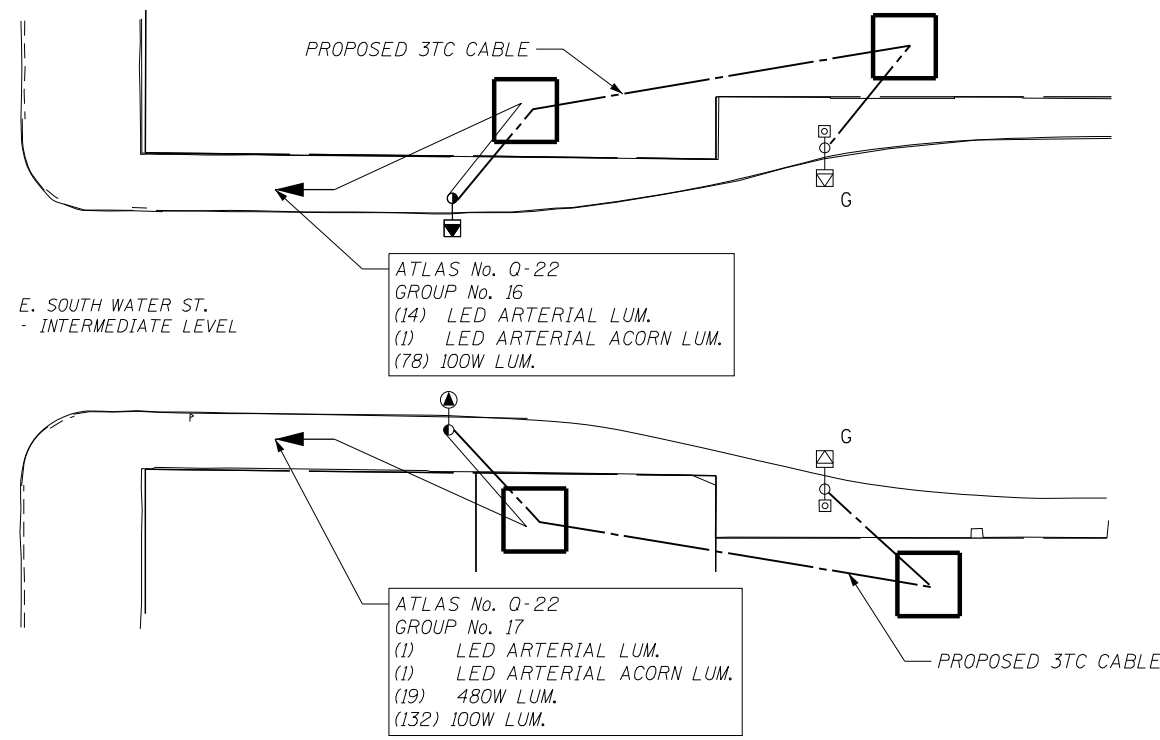
MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	84
DRAWING NO. E-09		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

CONSTRUCTION NOTES:

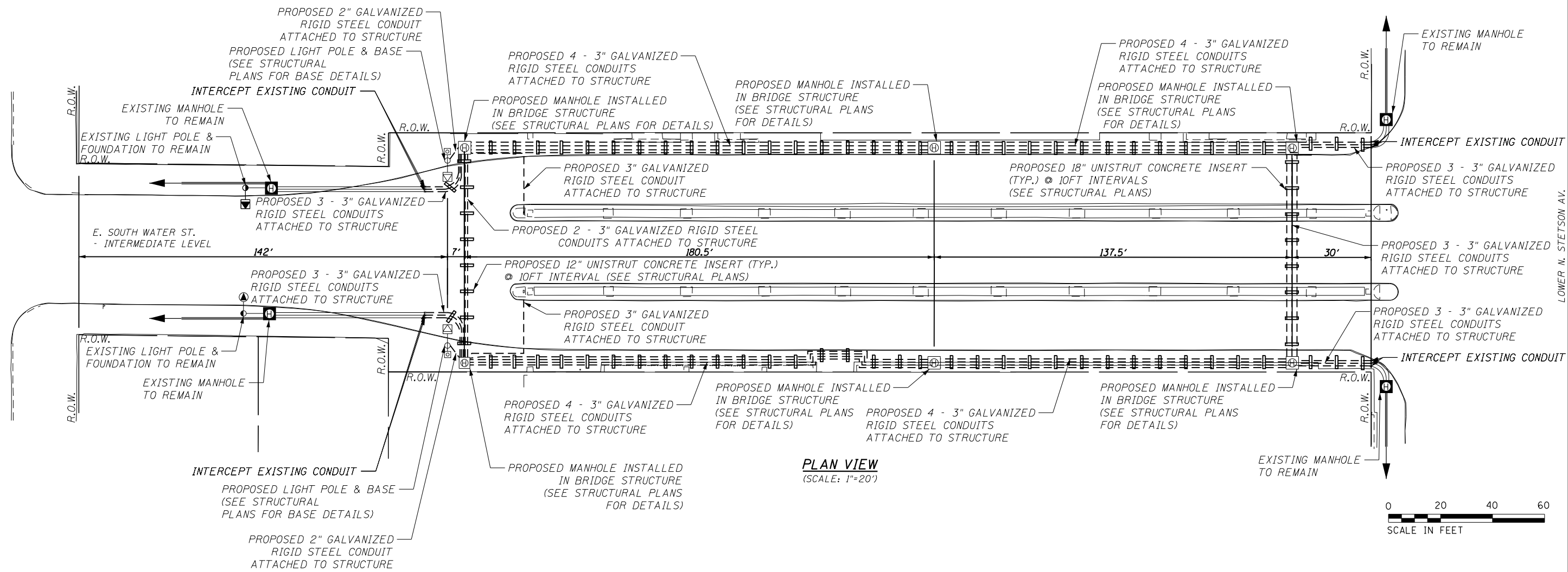
"G" - INSTALL POLE, STREET LIGHTING, ALUMINUM, 29.5' ARTERIAL WITH 8' DAVIT ARM, ANODIZED BLACK, AS PER DRAWING NO. 971, 948; INSTALL 240V LED CUTOFF STREET LUMINAIRE AND 240V LED ACORN LUMINAIRE (35' MOUNTING HEIGHT) ANODIZED BLACK.

GENERAL NOTES:

1. SEE SHEET E-01 FOR LIGHTING LEGEND.



STREET LIGHTING INSTALLATION PLAN
(SCALE: 1"=20')



PLAN VIEW
(SCALE: 1"=20')



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St. - Lochner\CADD\Sheets\3208 E-10.dwg
 PROJECT: 3208 South Water St. - Lochner\CADD\Sheets\3208 E-10.dwg
 USER: pscott

TranSmart/EJM
 EJM Engineering, Inc. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

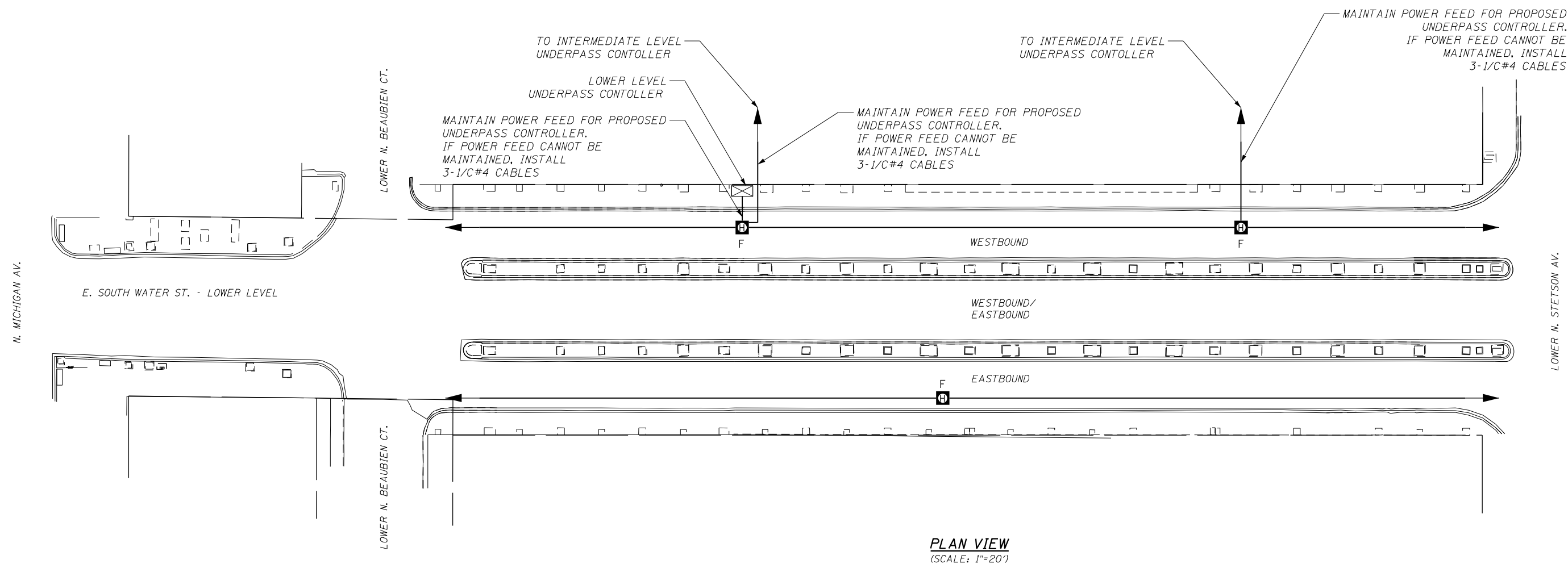
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PLOT SCALE - 40.0000' / in.	DRAWN - NRJ	REVISED -
PLOT DATE - 12/5/2018	CHECKED - MKR	REVISED -
	DATE -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
 PROPOSED ELECTRICAL PLAN INTERMEDIATE LEVEL**

SCALE: 1"=20' SHEET 10 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	85
DRAWING NO. E-10		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				



CONSTRUCTION NOTES:

"F" - ADJUST FRAME AND LID TO GRADE.

GENERAL NOTES:

1. SEE SHEET E-01 FOR LIGHTING LEGEND.



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208 E-11.sht 86.Electrical Plan.Lower_Level.dgn

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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607






USER NAME = pscott	DESIGNED - NRJ	REVISED -
DRAWN - NRJ	REVISIONS -	
PLOT SCALE = 40.0000' / in.	CHECKED - MKR	REVISED -
PLOT DATE = 12/5/2018	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

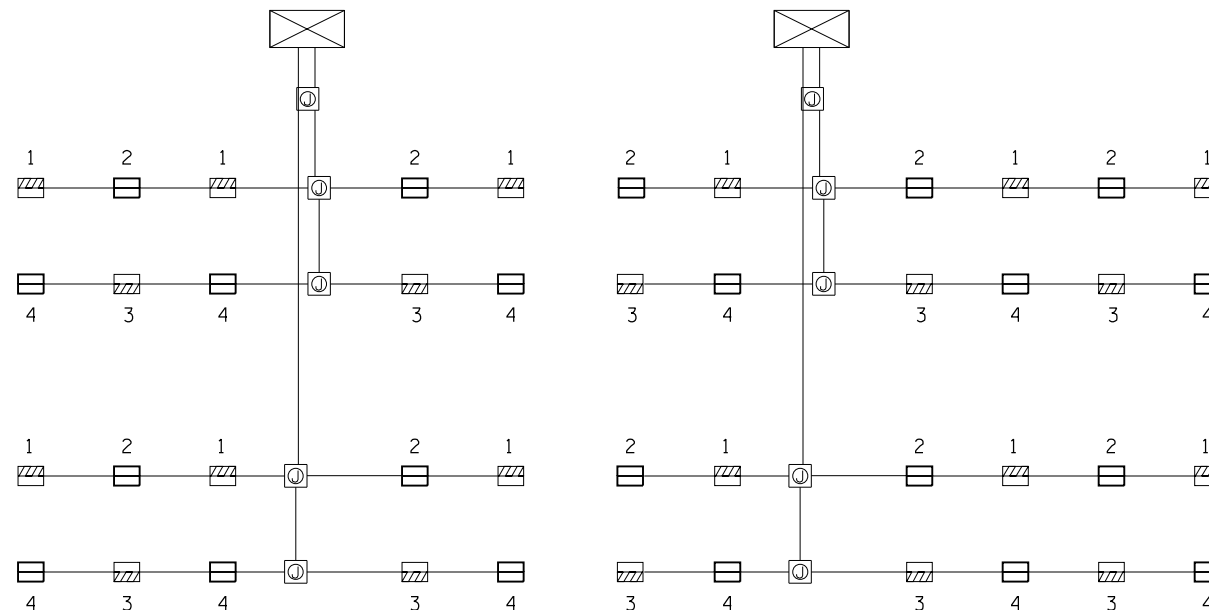
E SOUTH WATER STREET
PROPOSED ELECTRICAL PLAN LOWER LEVEL
 SCALE: 1"=20' SHEET 11 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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DRAWING NO. E-11		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

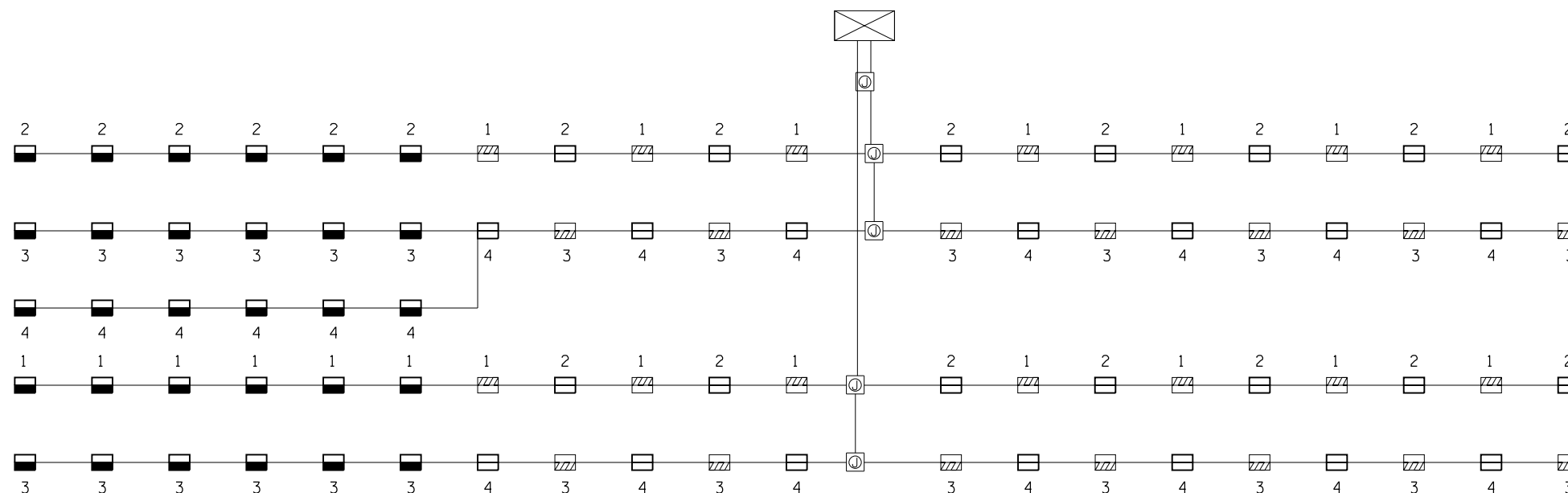
LEGEND:

-  PROPOSED LIGHTING CONTROLLER, WALL MOUNTED, 1 PHASE, 100 AMP
-  PROPOSED JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"
-  PROPOSED LED VIADUCT LUMINAIRE, 120V (RED PHASE)
-  PROPOSED LED VIADUCT LUMINAIRE, 120V (BLACK PHASE)
-  EXISTING HPS VIADUCT LUMINAIRE, 120V

INTERMEDIATE LEVEL



LOWER LEVEL



MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208.E-12.sht, B7_Underpass Lighting Controller & Wiring Diagram.dgn

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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott	DESIGNED - NRJ	REVISED -
DRAWN - NRJ	CHECKED - MKR	REVISED -
PLLOT SCALE = 40.0000' / in.	DATE -	REVISED -
PLLOT DATE = 12/5/2018		

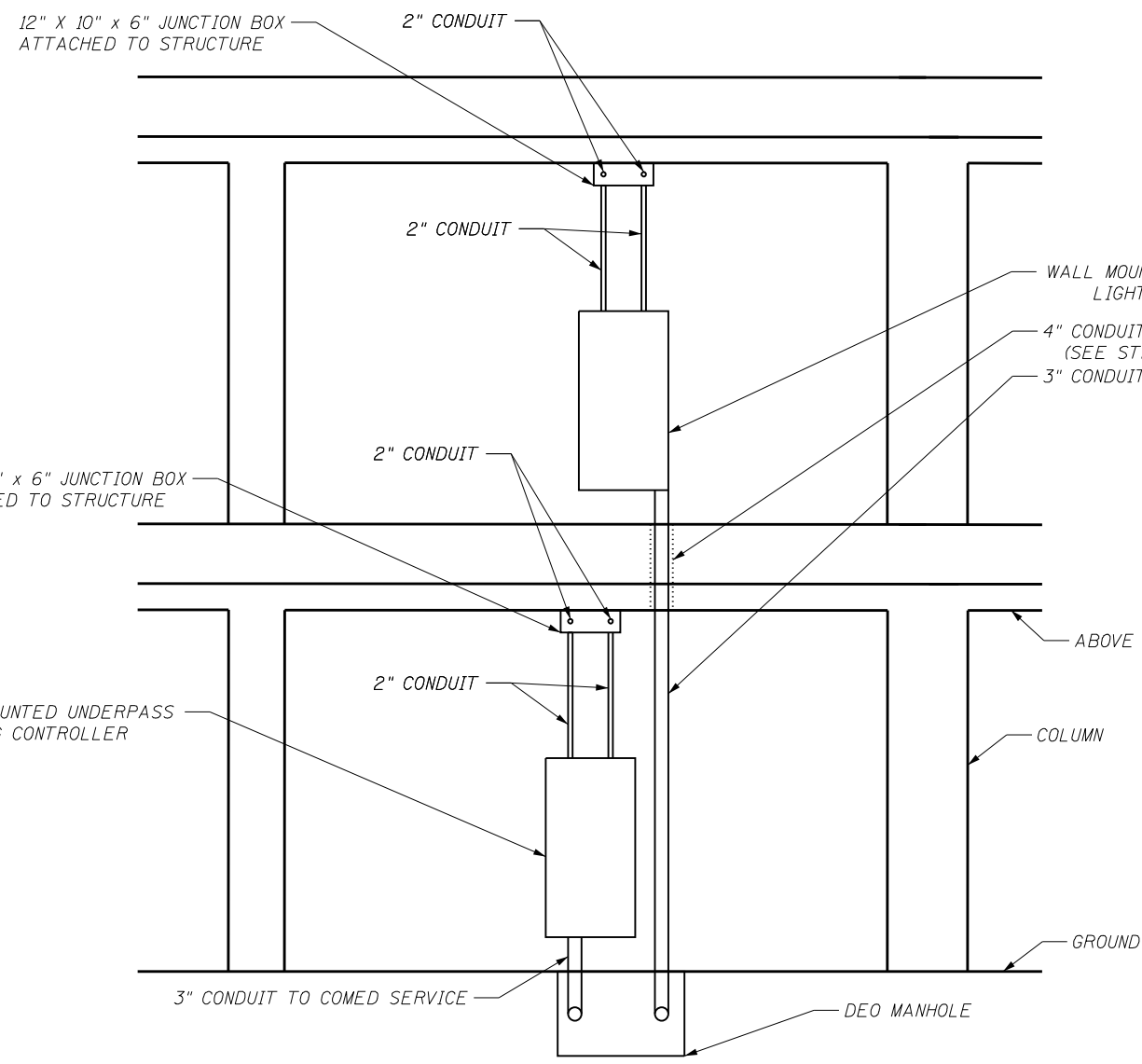
CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

E SOUTH WATER STREET
UNDERPASS LIGHTING CONTROLLER & SINGLE LINE WIRING DIAGRAM

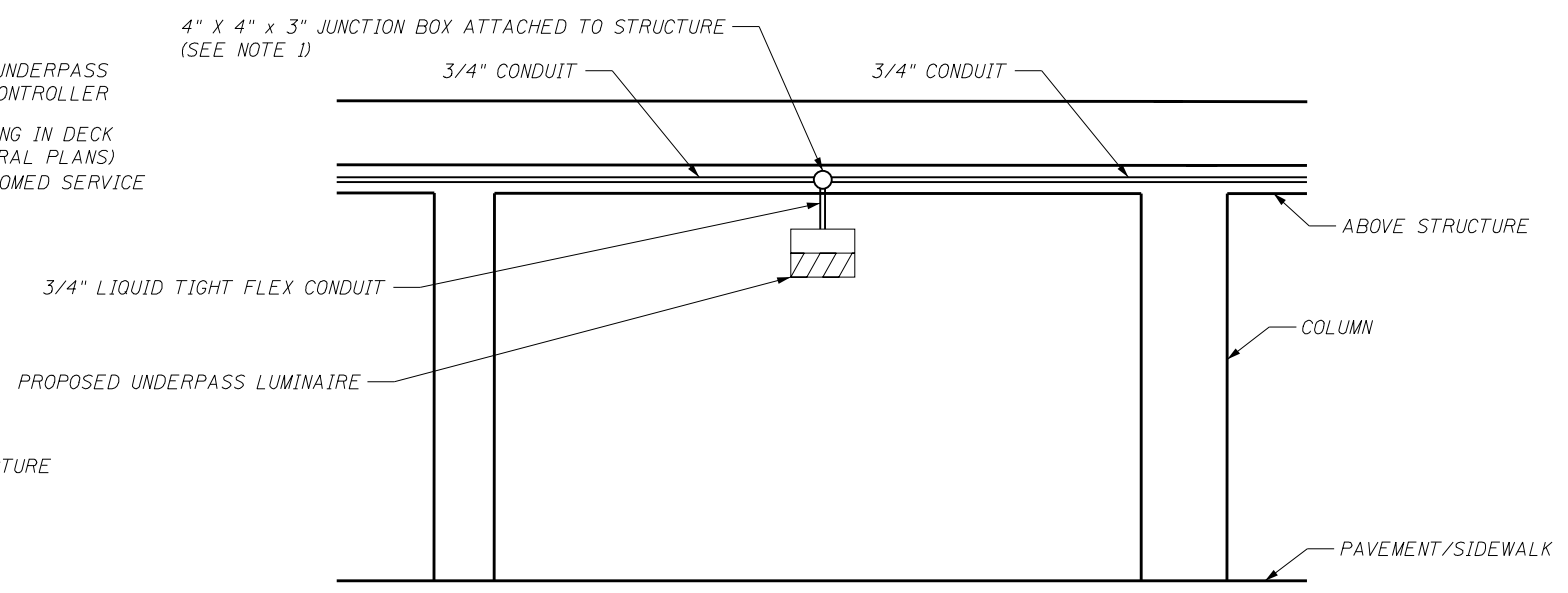
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3030	11-E1517-00-BR	COOK	141	87
DRAWING NO. E-12		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

SCALE: N.T.S. SHEET 12 OF 16 SHEETS

MODEL: Default
 FILE NAME: S:\Projects\3208 - South Water St - Lochner\Project Work\CADD\Sheets\3208.E-13.sht.88.Underpass Lighting Controller & Luminaire Mounting Detail.dgn



UNDERPASS LIGHTING CONTROLLER MOUNTING DETAIL
(NOT TO SCALE)



UNDERPASS LUMINAIRE MOUNTING DETAIL
(NOT TO SCALE)

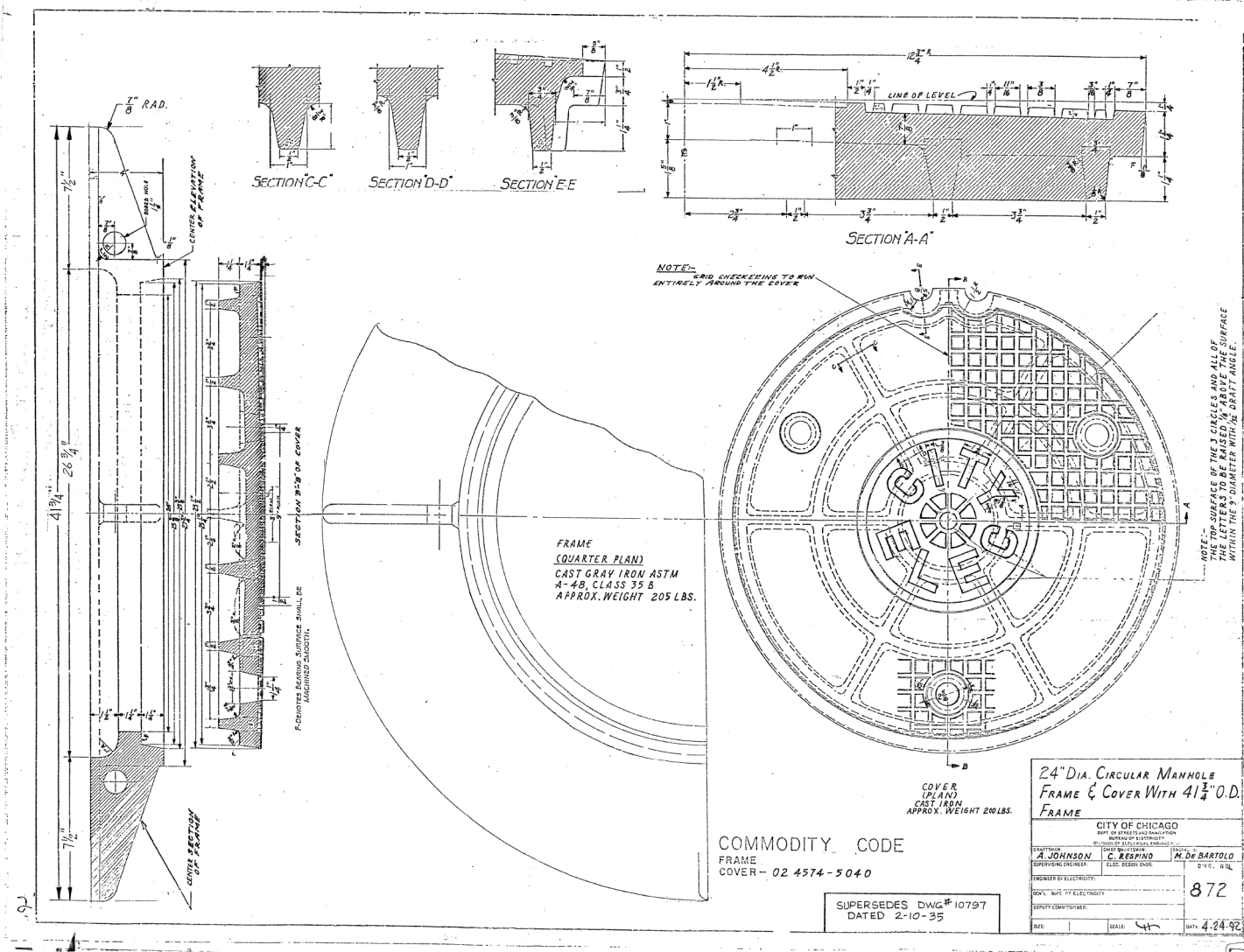
CONSTRUCTION NOTES:

1. 4"x4"x3" JUNCTION BOX TO BE INCLUDED IN LUMINAIRE PAY ITEM.

USER NAME = pscott	DESIGNED - NRJ	REVISED -
DRAWN - NRJ	CHECKED - MKR	REVISED -
PLT SCALE = 40.0000' / in.	DATE -	REVISED -
PLT DATE = 12/5/2018		

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	88
DRAWING NO. E-13		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

MODEL: Default
 FILE NAME: S:\Projects\3208 South Water St - Lochner\Project Work\CADD\Sheets\3208 E-14.sht 89 Manhole Detail.dgn



FOR INFORMATION ONLY

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 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

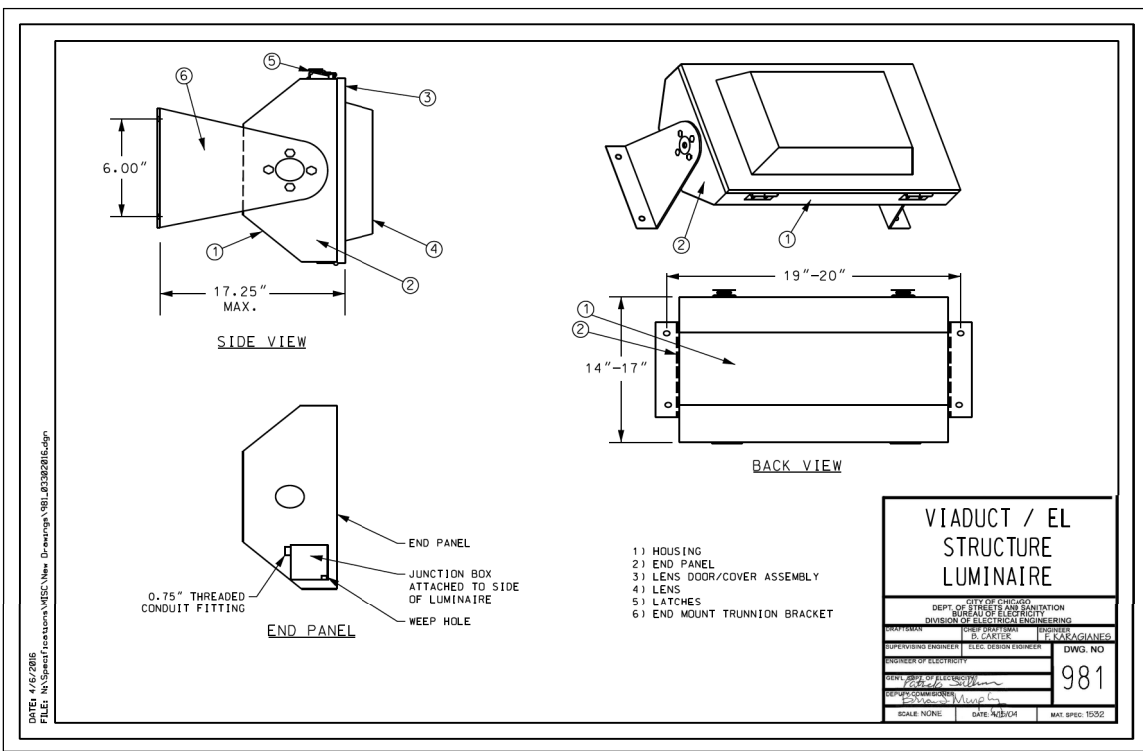
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PLOT DATE = 12/5/2018	CHECKED - MKR	REVISED -
	DATE -	REVISED -

CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING

E SOUTH WATER STREET
 MANHOLE DETAIL

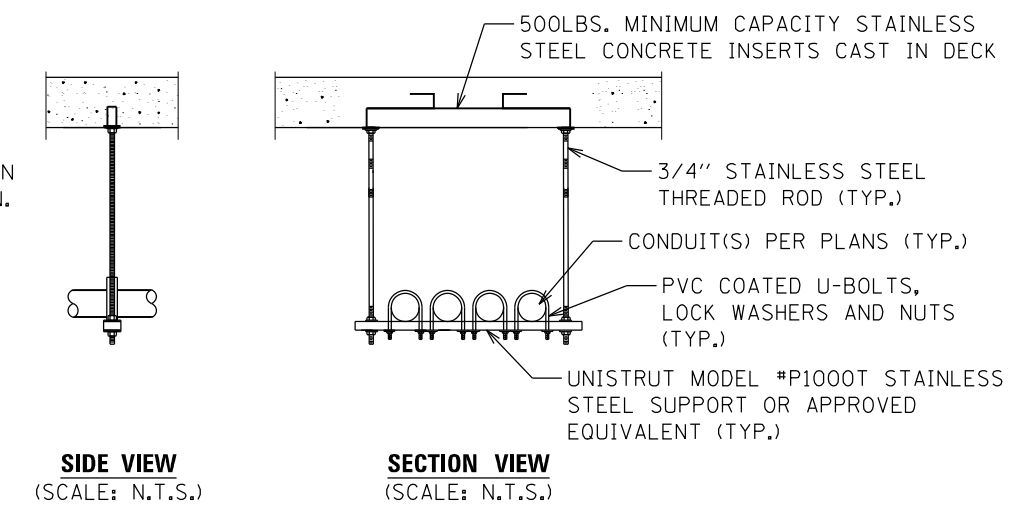
SCALE: N.T.S. SHEET 14 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	89
DRAWING NO. E-14		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

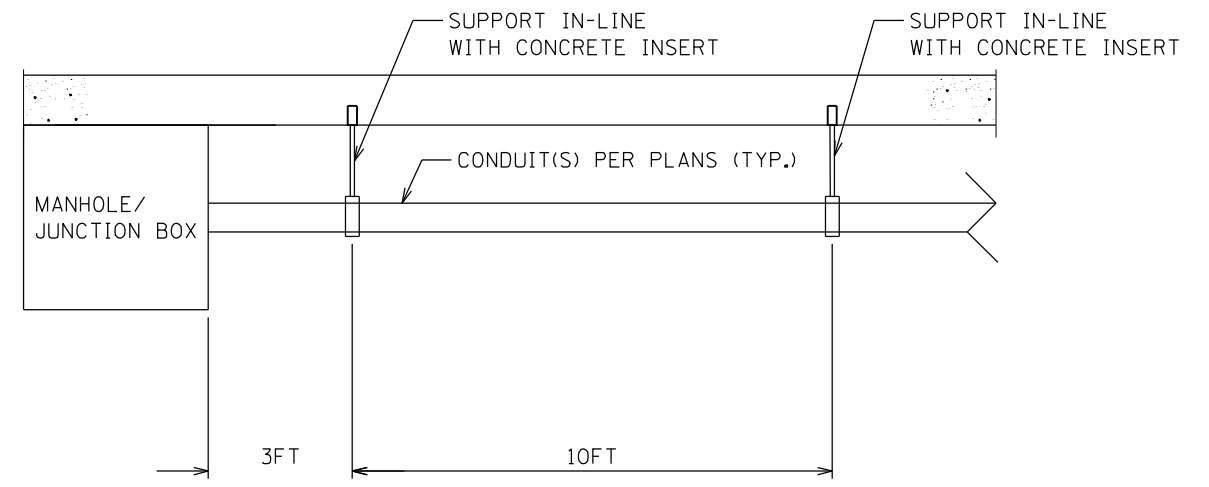
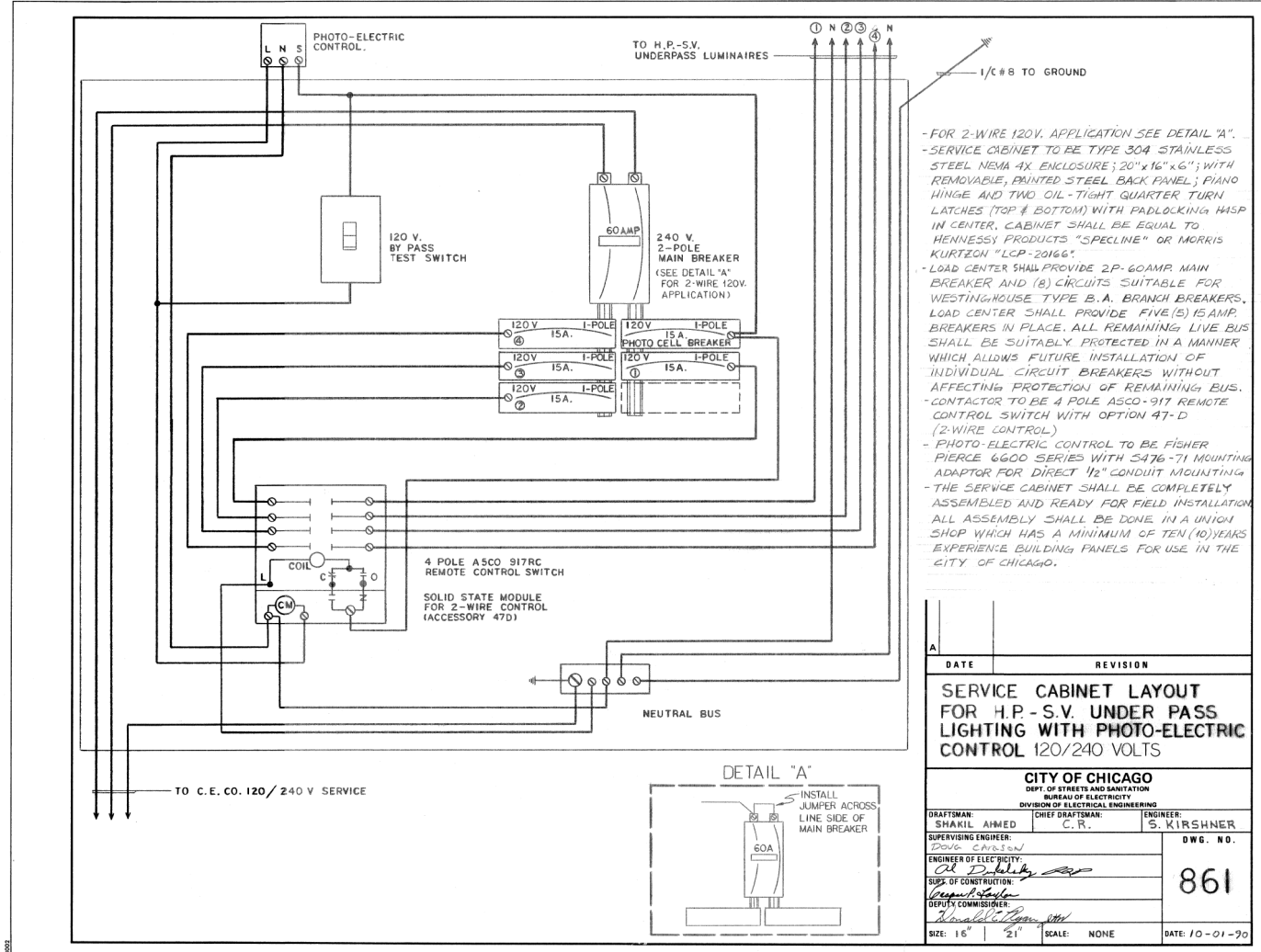


NOTES:

1. CONDUIT SHALL BE SUPPORTED AT A MAXIMUM INTERVAL OF 10' AND WITHIN 3' OF ANY JUNCTION BOX, COUPLING/FITTING OR CHANGE IN DIRECTION.
2. ALL HARDWARE SHALL BE STAINLESS STEEL.
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF THE CONCRETE INSERTS WITH THE BRIDGE CONTRACTOR.
4. THE COST OF THE CONCRETE INSERTS SHALL BE INCLUDED IN THE COST OF CONDUIT ATTACHED TO STRUCTURE.



CONDUIT HANGER ASSEMBLY DETAIL



CONDUIT SUPPORT DETAIL

MODEL: Default
FILE NAME: S:\Projects\3208 South Water St - Lochner\Project\K-CADD\Sheets\3208 E-15.sht 90 Underpass Standard Drawings.dgn

TranSmart/EJM
EJM Engineering, INC. DBA TranSmart/EJM CORP.
411 South Wells Street Suite 1000
Chicago, Illinois 60607

USER NAME: pscott	DESIGNED: - NRJ	REVISED: -
PLOT SCALE: = 40.0000' / in.	DRAWN: - NRJ	REVISED: -
PLOT DATE: 12/5/2018	CHECKED: - MKR	REVISED: -
	DATE: -	REVISED: -

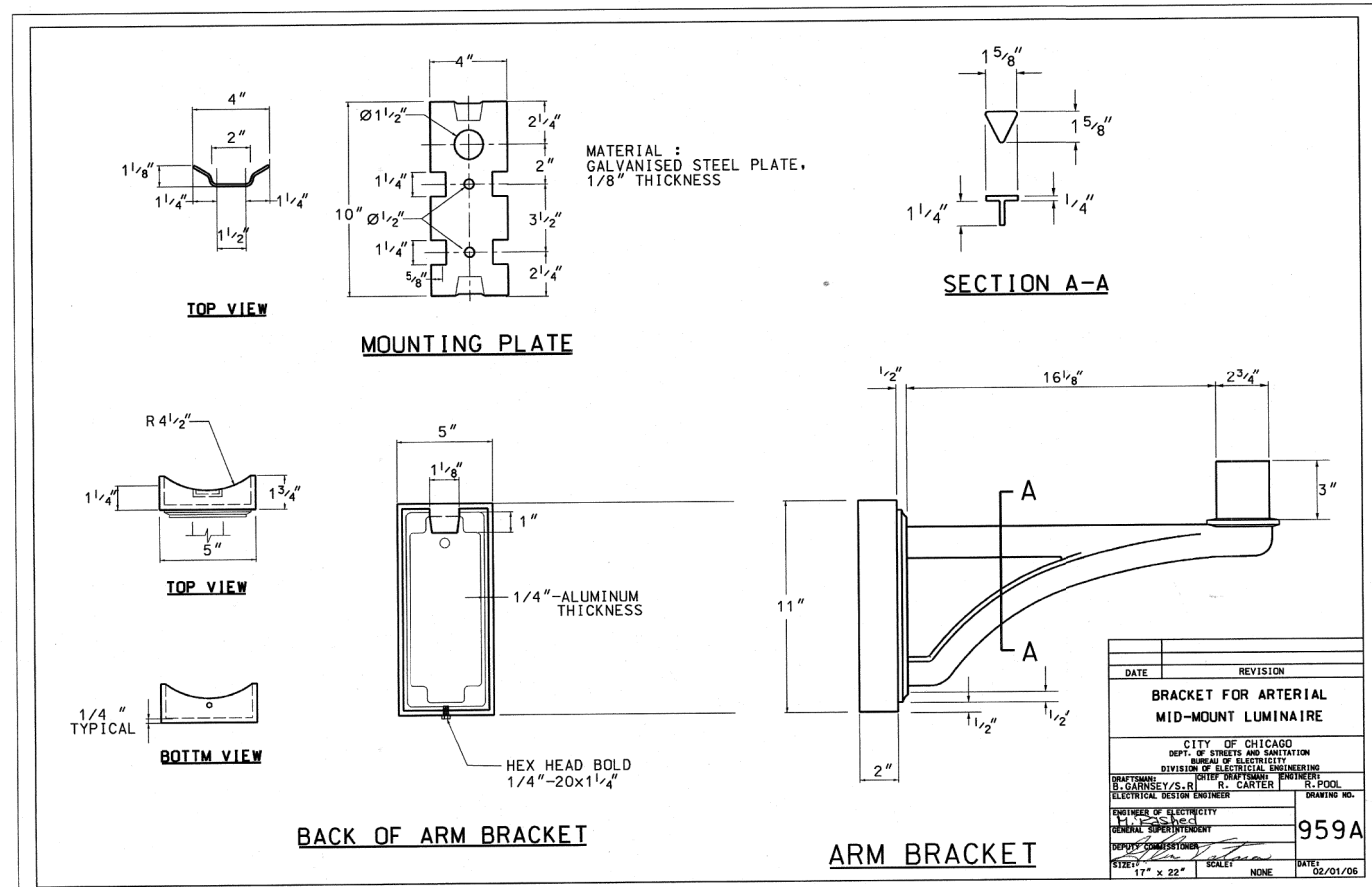
**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**E SOUTH WATER STREET
UNDERPASS STANDARD DRAWINGS**

SCALE: N.T.S. SHEET 15 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	90
DRAWING NO. E-15		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

MODEL: Default
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DATE	REVISION

BRACKET FOR ARTERIAL MID-MOUNT LUMINAIRE

CITY OF CHICAGO
 DEPT. OF STREETS AND SANITATION
 BUREAU OF ELECTRICAL ENGINEERING
 DIVISION OF ELECTRICAL ENGINEERING

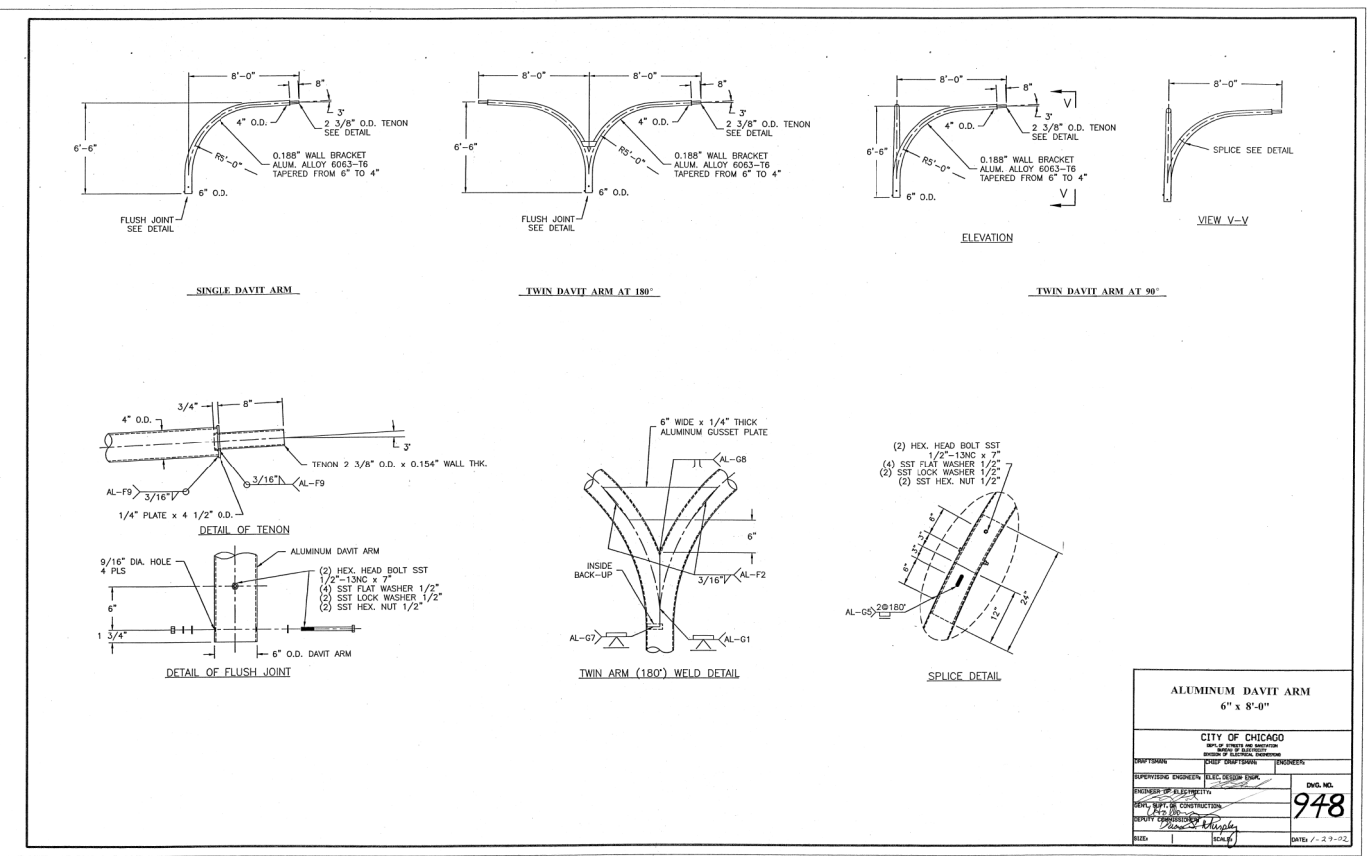
DESIGNED BY: R. CARTER
 DRAWN BY: R. POOL
 CHECKED BY: R. POOL
 ELECTRICAL DESIGN ENGINEER

ENGINEER OF ELECTRICITY
 141 1/2 S. WELLS ST.
 CHICAGO, ILL. 60607

DRAWING NO. **959A**

SCALE: NONE DATE: 02/01/08

15 INCH BOLT CIRCLE DETAIL



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 EJM Engineering, INC. DBA TranSmart/EJM CORP.
 411 South Wells Street Suite 1000
 Chicago, Illinois 60607

USER NAME = pscott
 DESIGNED - NRJ
 DRAWN - NRJ
 CHECKED - MKR
 DATE -

DESIGNED - NRJ
 DRAWN - NRJ
 CHECKED - MKR
 DATE -

DESIGNED - NRJ
 DRAWN - NRJ
 CHECKED - MKR
 DATE -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

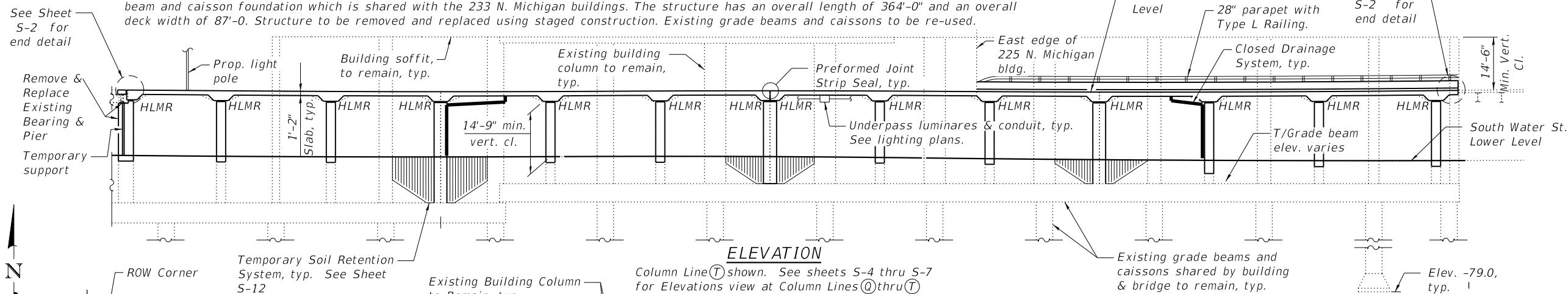
**E SOUTH WATER STREET
 LIGHTPOLE STANDARD DRAWINGS**

SCALE: N.T.S. SHEET 16 OF 16 SHEETS

MUNI STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	91
DRAWING NO. E-16		CONTRACT NO. M-6000(367)		
ILLINOIS FED. AID PROJECT				

Bench Mark: BM U3 Set at a cross cut on north concrete median east of Stetson Avenue on intermediate level. Elev. 27.48.

Existing Structure: S.N. 016-6146. Built in 1971 as East South Water Street for the Illinois Center Corporation as part of the Illinois Center Development. Roadway structure consists of 12 spans comprising 3 continuous rigid concrete spans supported by concrete columns and caps with a grade beam and caisson foundation which is shared with the 233 N. Michigan buildings. The structure has an overall length of 364'-0" and an overall deck width of 87'-0". Structure to be removed and replaced using staged construction. Existing grade beams and caissons to be re-used.



I certify that to the best of knowledge, information, and belief, this bridge is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the AASHTO LRFD Bridge Design Specifications

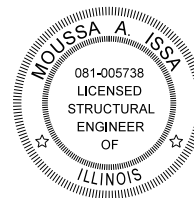


EXPIRES: 11-30-2020

H.W. Lochner, Inc.
Arsalan M. Khan, S.E.

Arsalan M. Khan

Date: 03/01/2019
applies to sheets:
S-1 To S-35 &
S-44 To S-50



EXPIRES: 11-30-2020

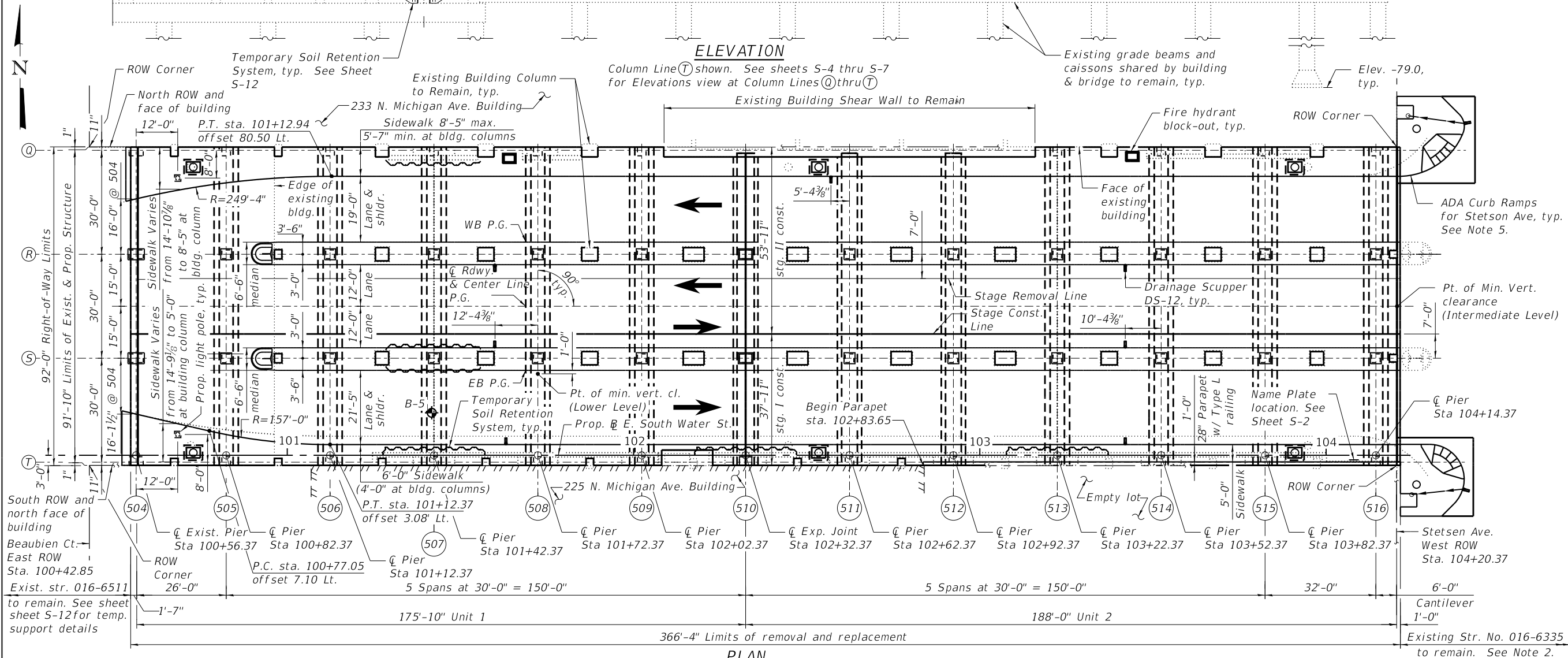
HBM Engineering, LLC.
Moussa A. Issa, S.E.
#081-005738

Moussa A. Issa

Date: 03/01/2019
applies to sheets:
S-36 To S-43

LEGEND

◆ Boring Location



SCOPE OF WORK

1. Install temporary earth retention system.
2. Shore existing adjacent steel superstructure at column line 504.
3. Remove existing structure from top of deck to the limits shown in the Elevation drawings using stage construction.
4. Cast new concrete columns.
5. Install new fixed HLMR bearings for existing steel structure at Pier 504.
6. Install HLMR bearings.
7. Cast new concrete girder, deck, sidewalks, medians and parapet with new expansion joint.
8. Pour latex-modified concrete overlay.
9. Construct new ADA sidewalk ramps on Stetson Avenue (Intermediate Level).

NOTES

1. See Sheet S-12 for temporary support.
2. See Sheets S-47 to S-49 for modification for ADA ramps in the Stetson Avenue intersection.
3. See Sheet S-3 for Profile Grade data.
4. See Final Cross Section on Sheet S-8 for roadway dimensions, and cross slopes on the lower level.
5. See Sheet S-11 for existing underground utilities and see Sheet S-9 for utilities attached to existing slab.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Specifications
7th Edition with 2015 & 2016 Interims

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.085g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.142g
Soil Site Class = D

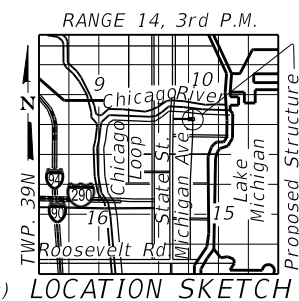
DESIGN STRESSES

New Construction

f'_c = 5,000 psi
 f_y = 60,000 psi (reinforcement)
 f_y = 50,000 psi (M270 Grade 50)

Existing Foundations

f'_c = 5,000 psi
 f_y = 60,000 psi (reinforcement)
 f_y = 40,000 psi (tie reinforcement)



GENERAL PLAN & ELEVATION
E. SOUTH WATER STREET OVER
E. SOUTH WATER STREET (LOWER LEVEL)
MUNI. STR. 3030-SEC.11-E1517-00-BR
COOK COUNTY
STATION 102+38.45
STRUCTURE NO. 016-6146

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 016-6146

SHEET S-1 OF S-50 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	92
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

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12 TH FLOOR
CHICAGO, ILLINOIS 60606

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
CHICAGO, ILLINOIS 60606

USER NAME	dbender	DESIGNED	MK	REVISED	-
CHECKED	AMK	REVISION	-	REVISION	-
PLOT SCALE	32:0" = 1"	DRAWN	ILMK	REVISION	-
PLOT DATE	5/17/2019	CHECKED	AMK	REVISION	-

GENERAL NOTES

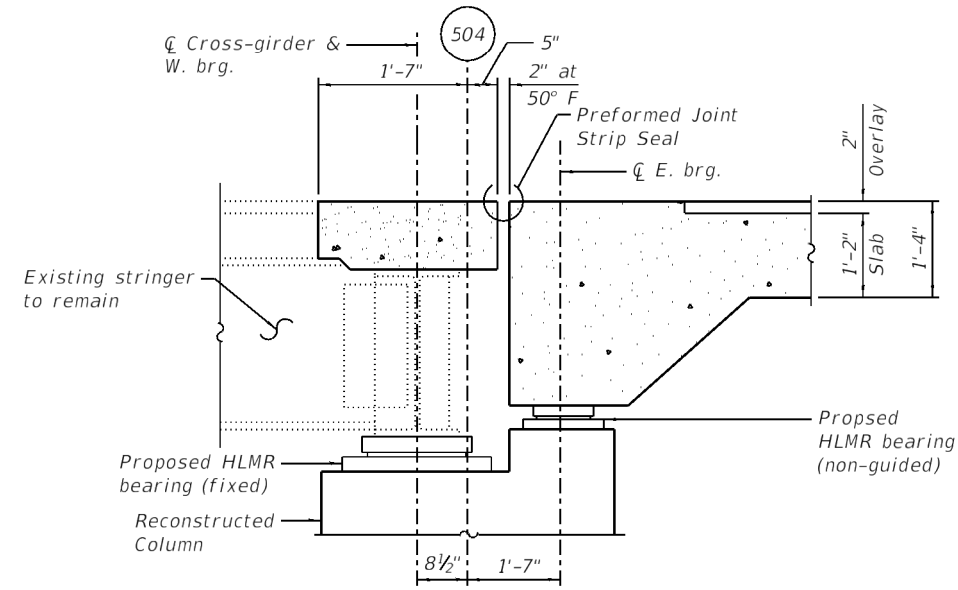
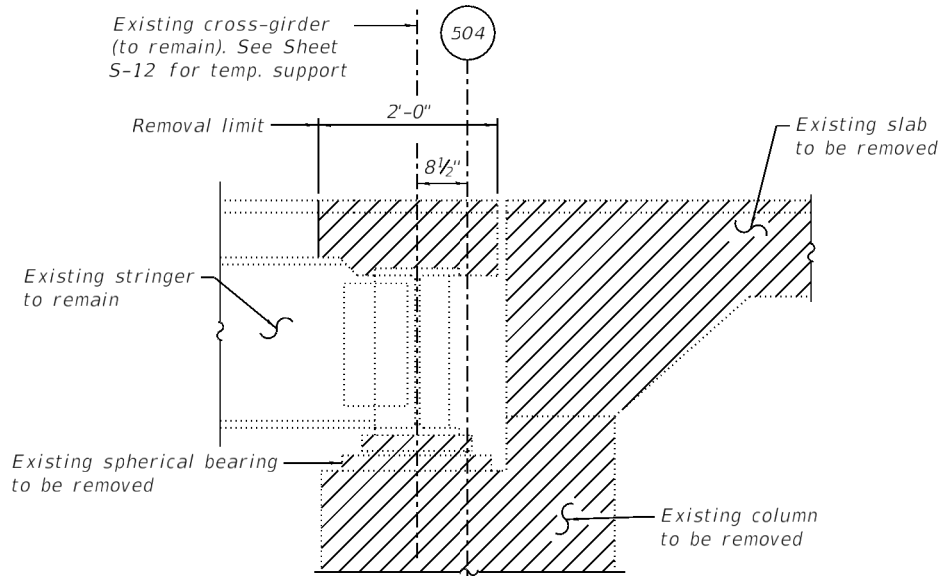
- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit place price bid for the work.
- The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflections.
- Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Removal of Existing Structure.

TOTAL BILL OF MATERIAL

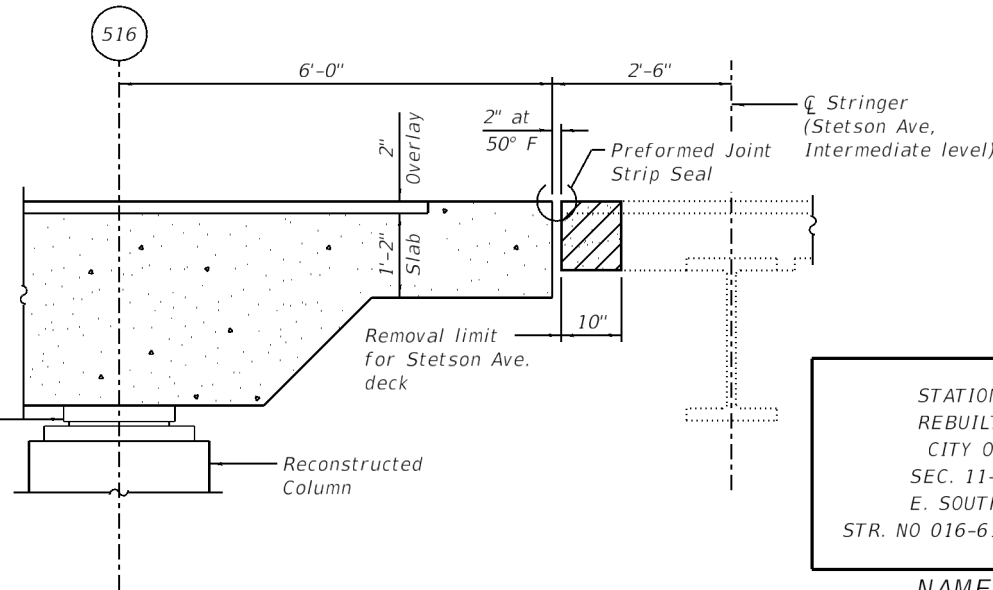
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Backfill	Cu Yd		35	35
Removal Of Existing Structures	L Sum	0.5	0.5	1
Concrete Removal	Cu Yd	28.2		28.2
Protective Shield	Sq Yd	21		21
Structure Excavation	Cu Yd		255	255
Drainage Scupper, DS-12	Each	10		10
High Performance Concrete Structures	Cu Yd		244.6	244.6
High Performance Concrete Superstructures	Cu Yd	2,038.0		2,038.0
Latex Concrete Overlay For New Bridge Deck	Sq Yd	2,683		2,683
Concrete Superstructure	Cu Yd	20.5		20.5
Bridge Deck Grooving	Sq Yd	2,433		2,433
Reinforcement Bars, Epoxy Coated	Pound	563,140	53,600	616,740
Mechanical Splicers	Each		252	252
Aluminum Railing, Type L	Foot	136		136
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	274		274
Neoprene Expansion Joint 2 1/2"	Foot	20		20
Anchor Bolts, 1 1/4"	Each		240	240
Anchor Bolts, 1 1/2"	Each		208	208
Temporary Soil Retention System	Sq Ft		1,253	1,253
Protective Concrete Sealer	Sq Yd	3,871	1,055	4,926
Elastomeric Bearing Assembly, Type I (Special)	Each		4	4
High Load Multi-Rotational Bearings, Guided Expansion, 300K	Each		4	4
High Load Multi-Rotational Bearings, Guided Expansion, 600K	Each		16	16
High Load Multi-Rotational Bearings, Fixed - 400K	Each		4	4
High Load Multi-Rotational Bearings, Fixed - 550K	Each		4	4
High Load Multi-Rotational Bearings, Non-Guided Expansion, 200K	Each		2	2
High Load Multi-Rotational Bearings, Non-Guided Expansion, 250K	Each		17	17
High Load Multi-Rotational Bearings, Non-Guided Expansion, 300K	Each		7	7
High Load Multi-Rotational Bearings, Non-Guided Expansion, 400K	Each		2	2
Drainage System	L Sum	1		1
Jacking And Cribbing	Each	4		4
Hot-Mix Asphalt Surface Removal (Deck)	Sq Yd	117		117
Silicone Joint Sealer, 1"	Foot	801		801
Monolithic Terrazzo Flooring	Sq Ft	1245		1245

INDEX OF SHEETS

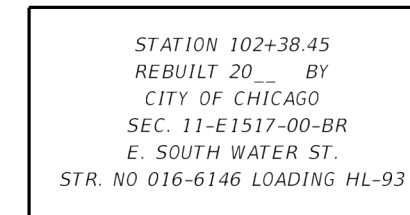
- S-1 General Plan and Elevation
- S-2 General Notes, Bill of Material, and Index of Sheets
- S-3 Profile Data
- S-4 Elevation - Column Line Q
- S-5 Elevation - Column Line R
- S-6 Elevation - Column Line S
- S-7 Elevation - Column Line T
- S-8 Construction Staging
- S-9 Utilities Attached to Existing Slab
- S-10 Temporary Concrete Barrier For Stage Construction
- S-11 Temporary Soil Retention System Details
- S-12 Jacking and Cribbing
- S-13 Top of Slab Elevations - 1
- S-14 Top of Slab Elevations - 2
- S-15 Top of Slab Elevations - 3
- S-16 Top of Slab Elevations - 4
- S-17 Top of Slab Elevations - 5
- S-18 Slab Plan - Unit 1
- S-19 Slab Plan - Unit 2
- S-20 Slab Cross-Section - 1
- S-21 Slab Cross-Section - 2
- S-22 Slab Cross-Section - 3
- S-23 Slab Details - 1
- S-24 Slab Details - 2
- S-25 Parapet Elevation and Details
- S-26 Sidewalk and Median Plan - Unit 1
- S-27 Sidewalk and Median Plan - Unit 2
- S-28 Median Elevation - Line R
- S-29 Sidewalk and Median Details
- S-30 Bar Bends and Superstructure Bill of Material - Unit 1
- S-31 Superstructure Bill of Material - Unit 2
- S-32 Aluminum Railing Type L
- S-33 Drainage Scupper, DS-12
- S-34 Drainage System
- S-35 Preformed Joint Strip Seal
- S-36 Column and Bearing Layout
- S-37 Non-guided Expansion Bearing Details
- S-38 Expansion Bearing Details
- S-39 Fixed Bearing Details
- S-40 Column Sections and Details
- S-41 Column Schedule and Mechanical Splicer Detail
- S-42 Column Bill of Material (Sheet 1 of 2)
- S-43 Column Bill of Material (Sheet 1 of 2)
- S-44 Existing General Plan and Elevation (SN 016-6146 & 6511)
- S-45 Existing General Plan and Elevation (SN 016-6335)
- S-46 Existing Foundation Plan - 2 Illinois Center Office Bldg.
- S-47 Sidewalk Modifications for ADA Ramps (Stetson)
- S-48 Scupper Relocation and Drainage System (Stetson)
- S-49 Expansion Joint Modifications at Sidewalk (Southwater)
- S-50 Soil Boring Log



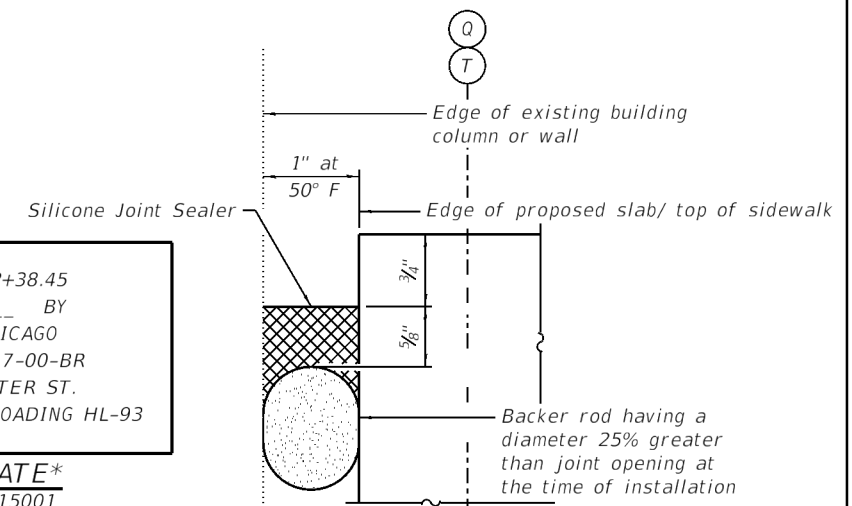
SECTION AT WEST END OF DECK



SECTION AT EAST END OF DECK



NAME PLATE*
See Std. 515001
* Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



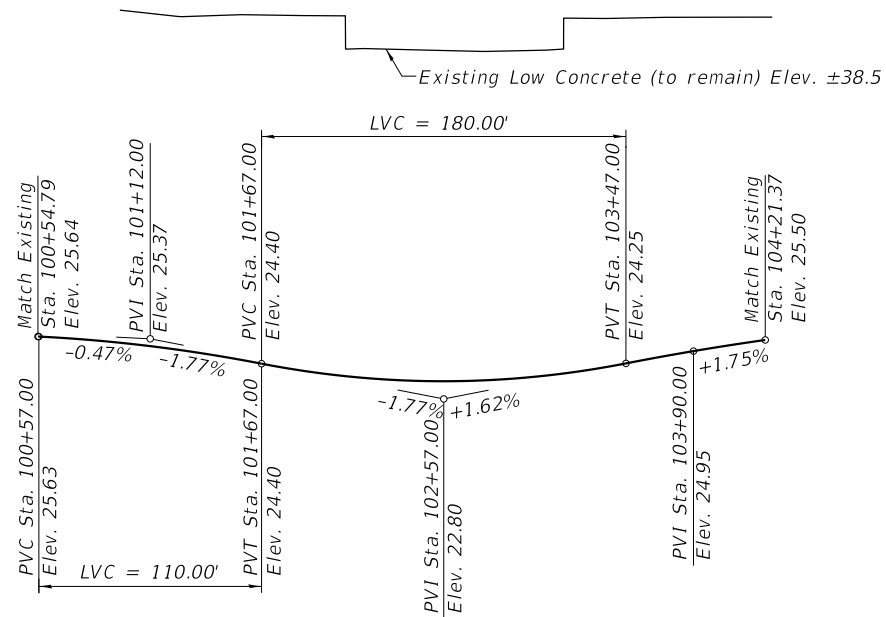
SECTION THRU SLAB/BUILDING INTERFACE

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LOCHNER

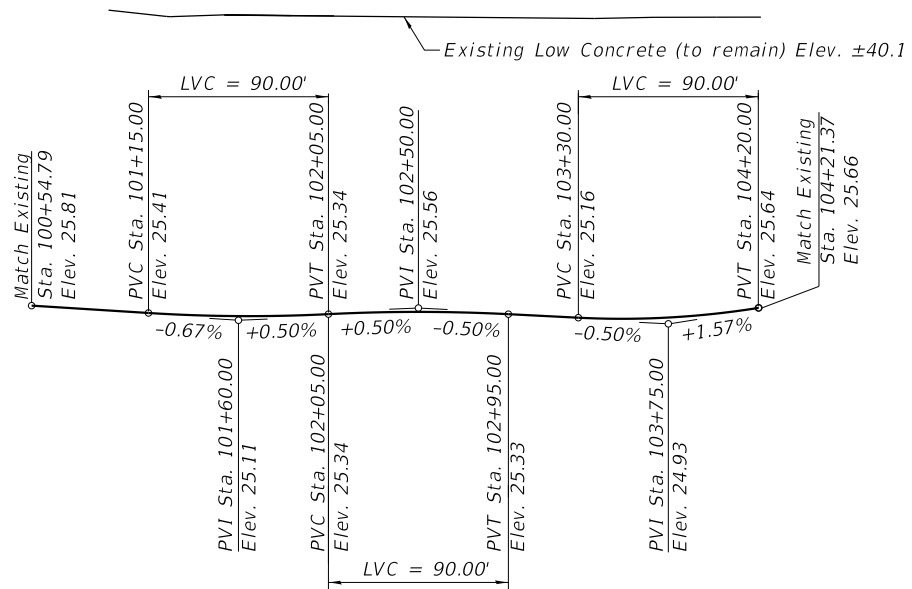
LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME	DESIGNED	CHECKED	DRAWN	DATE
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	REVISOR	REVISOR	REVISOR	REVISOR
	AMK	AMK		

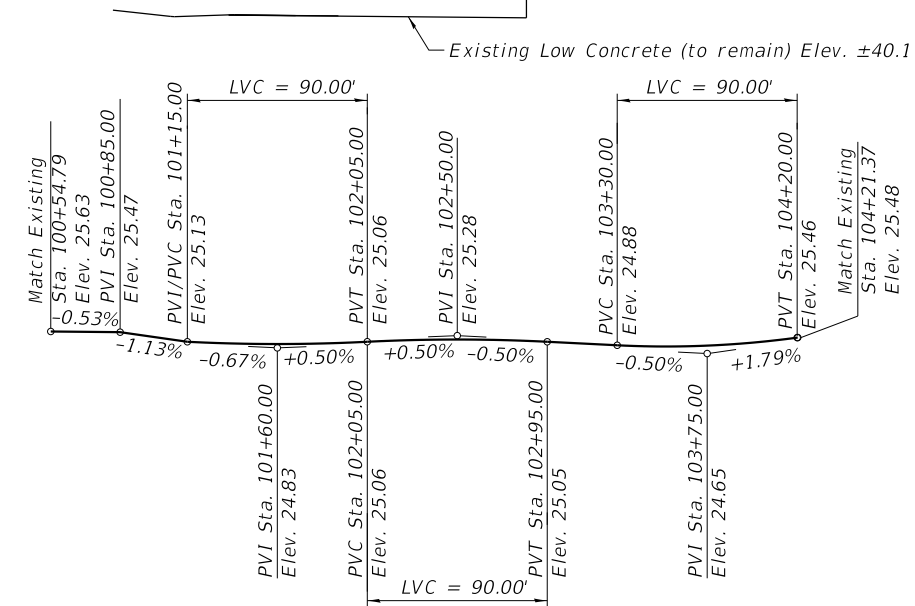
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CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



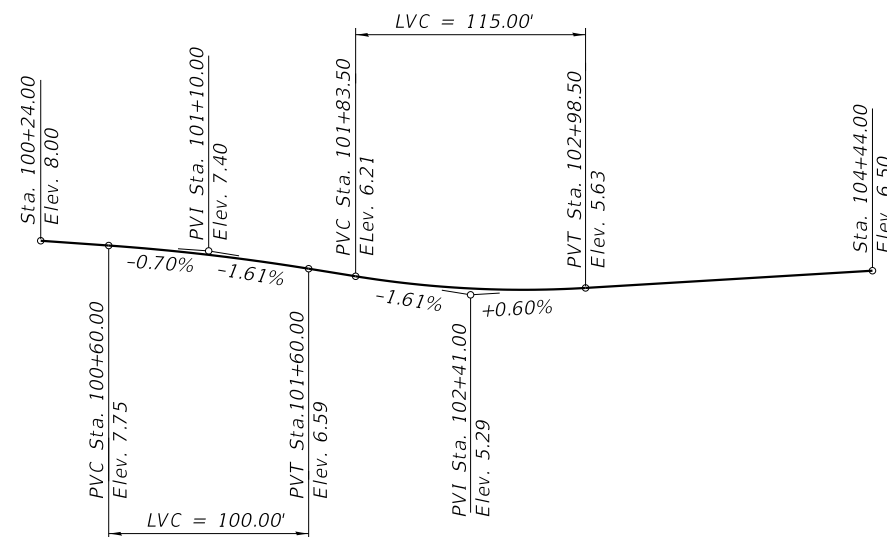
WESTBOUND PROFILE GRADE
South Water St. Intermediate Level



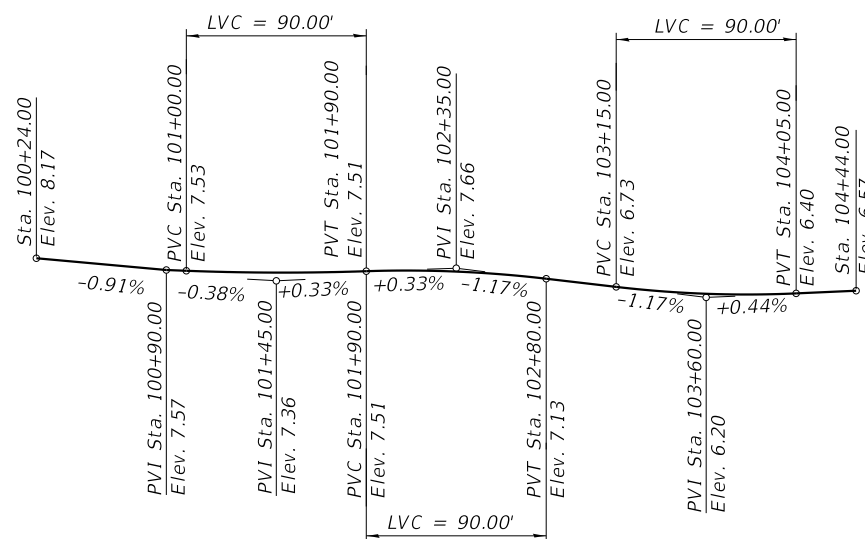
CENTERLINE PROFILE GRADE
South Water St. Intermediate Level



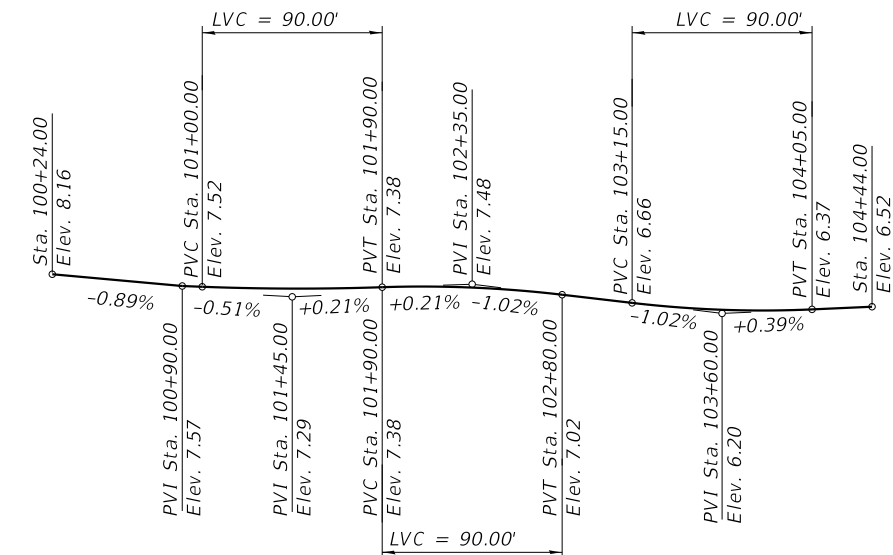
EASTBOUND PROFILE GRADE
South Water St. Intermediate Level



WESTBOUND PROFILE GRADE
South Water St. Lower Level



CENTERLINE PROFILE GRADE
South Water St. Lower Level



EASTBOUND PROFILE GRADE
South Water St. Lower Level

PROFILE GRADE LINE ELEVATION TABLE

Line	504	505	506	507	508	509	510	511	512	513	514	515	516
Station	100+56.37	100+82.37	101+12.37	101+42.37	101+72.37	102+02.37	102+32.37	102+62.37	102+92.37	103+22.37	103+52.37	103+82.37	104+14.37
Westbound PGL Intermediate Level	25.63	25.47	25.19	24.80	24.30	23.89	23.64	23.56	23.65	23.91	24.34	24.83	25.38
Westbound PGL Lower Level	7.77	7.57	7.26	6.86	6.40	5.95	5.66	5.54	5.60	5.78	5.95	6.13	6.32
Centerline PGL Intermediate Level	25.80	25.63	25.43	25.28	25.24	25.32	25.43	25.44	25.35	25.20	25.10	25.21	25.55
Centerline PGL Lower Level	7.88	7.64	7.49	7.44	7.46	7.54	7.50	7.31	6.99	6.64	6.41	6.34	6.44
Eastbound PGL Intermediate Level	25.62	25.48	25.16	25.00	24.96	25.04	25.15	25.16	25.07	24.92	24.83	24.96	25.36
Eastbound PGL Lower Level	7.87	7.64	7.46	7.38	7.36	7.40	7.35	7.18	6.89	6.59	6.39	6.33	6.41

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

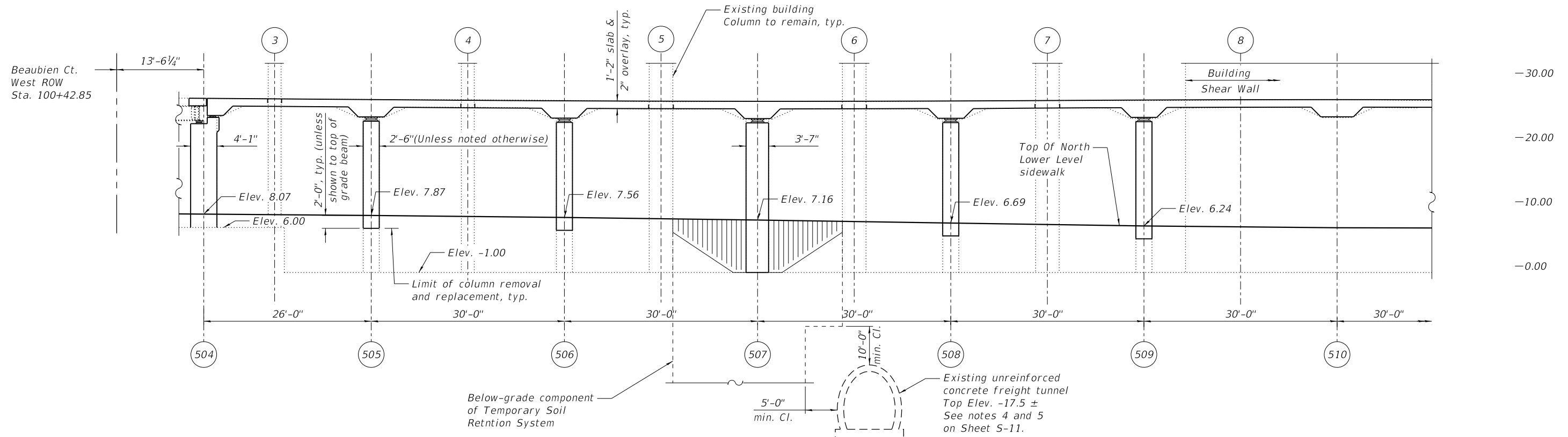
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

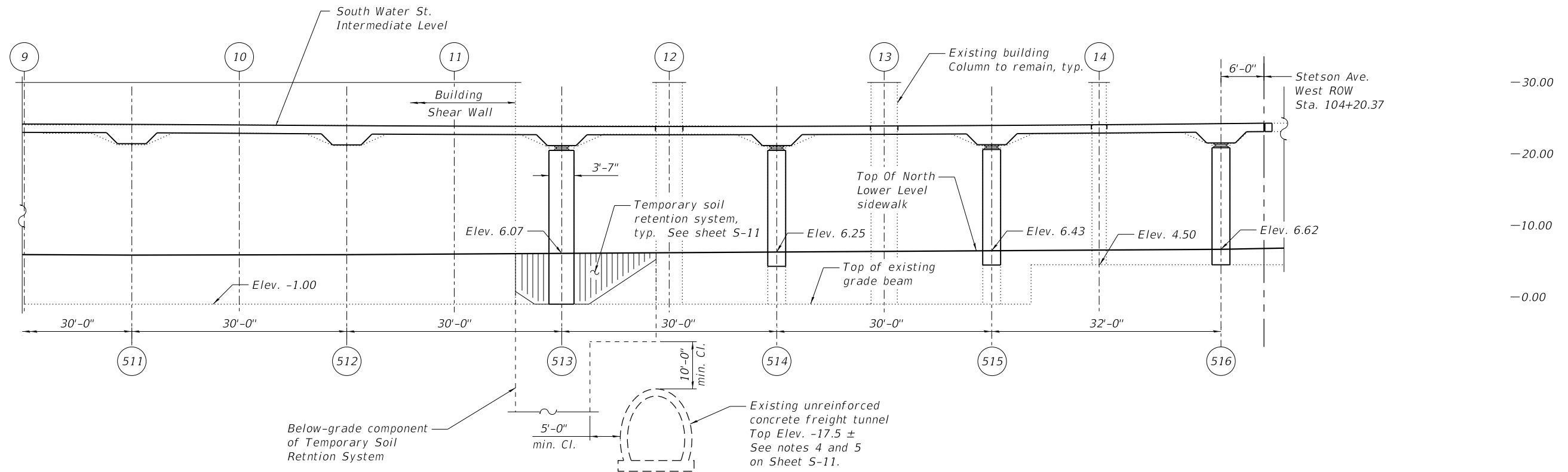
PROFILE DATA
STRUCTURE NO. 016-6146

SHEET S-3 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	94
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



ELEVATION - Q504 to Q510
Caissons omitted for clarity



ELEVATION - Q511 to Q516
Caissons omitted for clarity

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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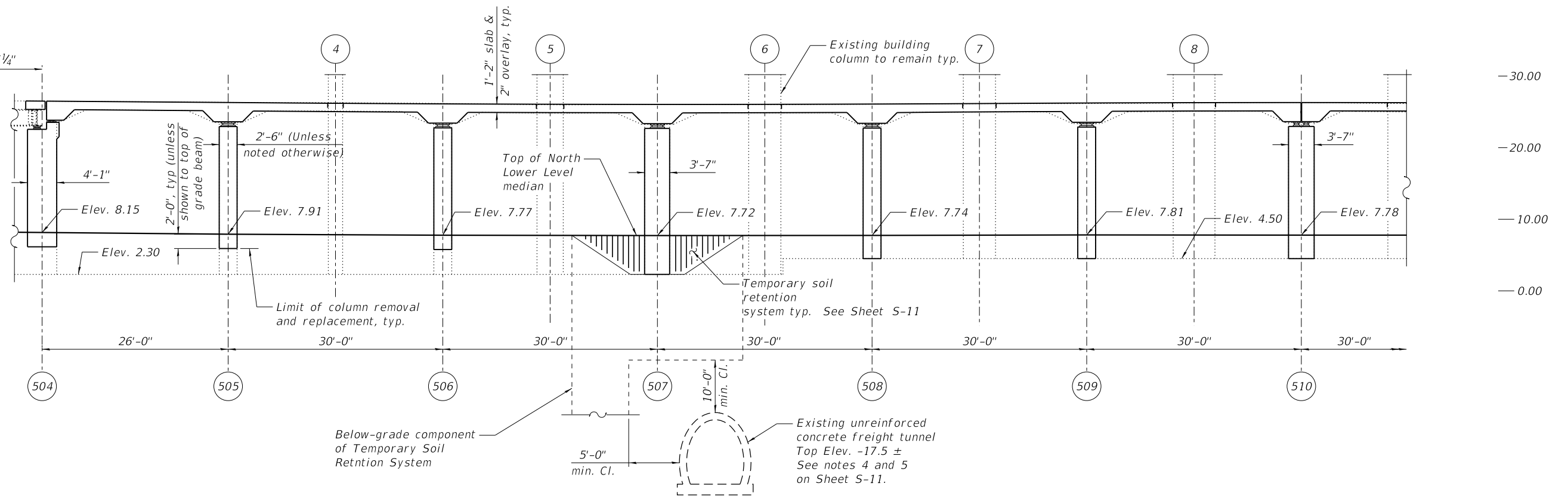
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**ELEVATION - COLUMN LINE Q
 STRUCTURE NO. 016-6146**

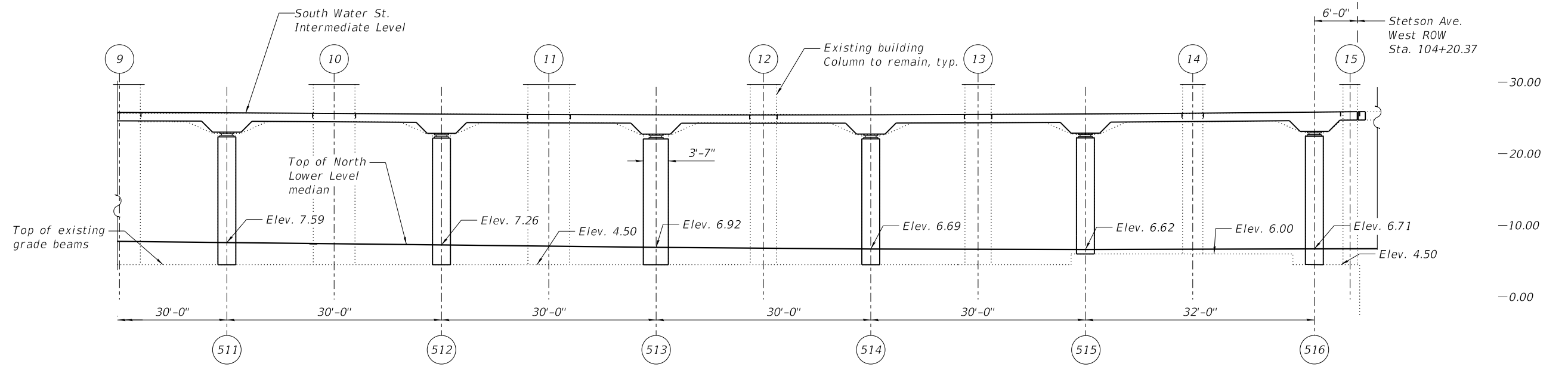
SHEET S-4 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. M-6000(367)				
ILLINOIS		FED. AID PROJECT		

Beaubien Ct.
West ROW
Sta. 100+42.85



ELEVATION - R504 to R510
Caissons omitted for clarity



ELEVATION - R511 to R516
Caissons omitted for clarity

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

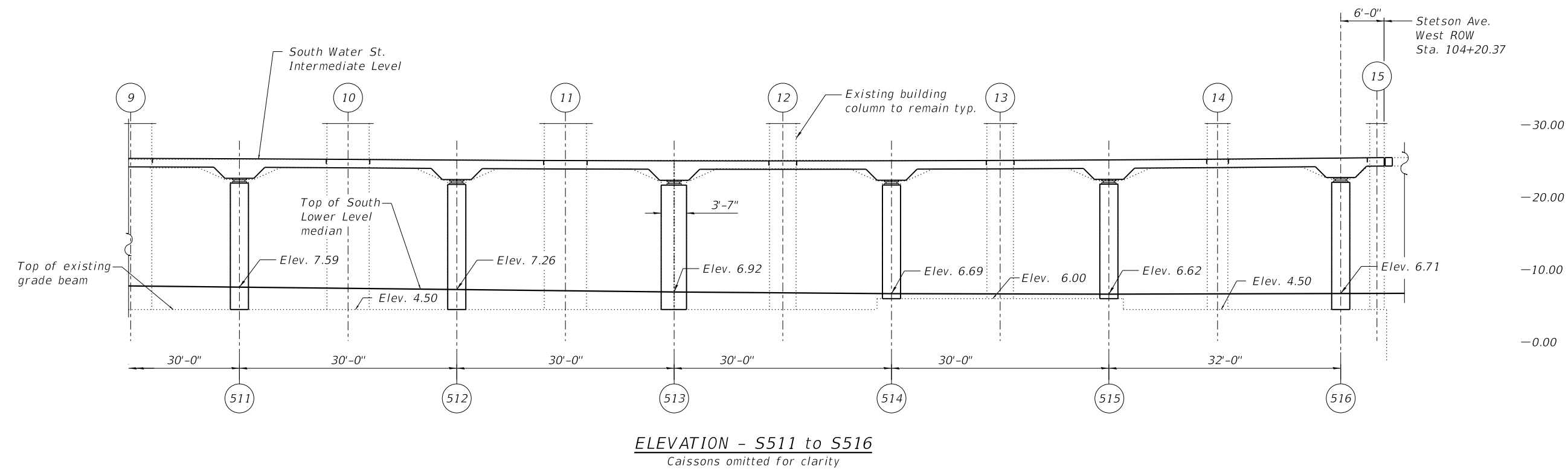
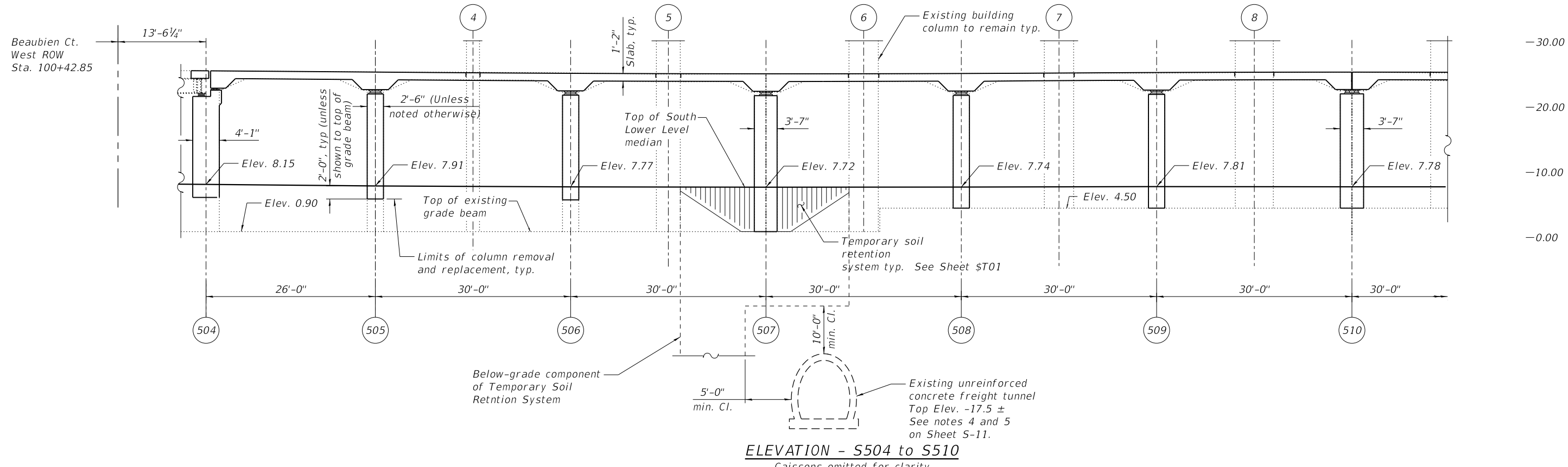
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**ELEVATION- COLUMN LINE R
STRUCTURE NO. 016-6146**

SHEET S-5 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



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H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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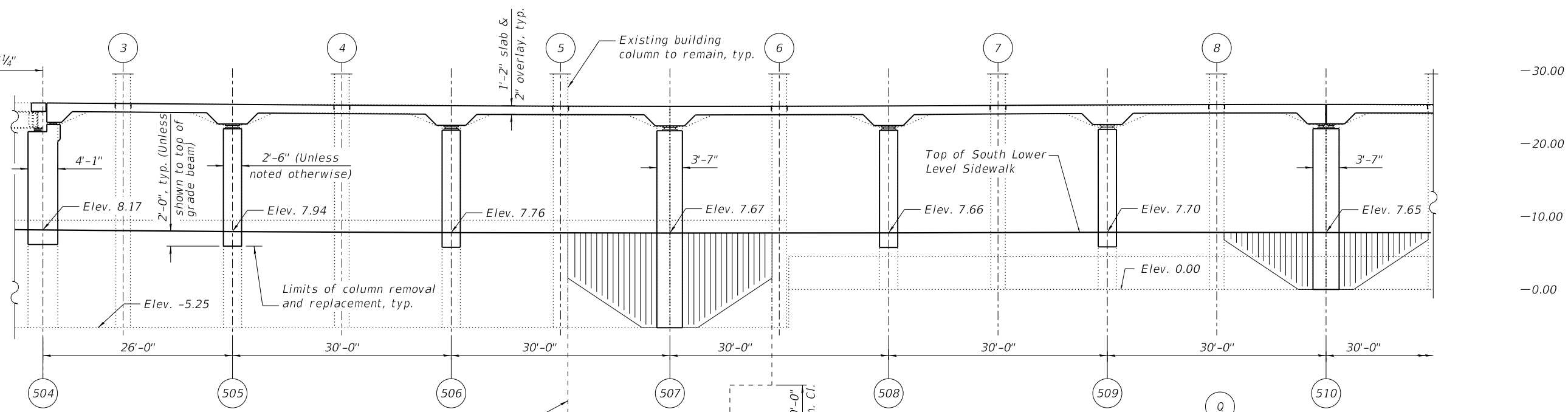
**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**ELEVATION - COLUMN LINE S
STRUCTURE NO. 016-6146**

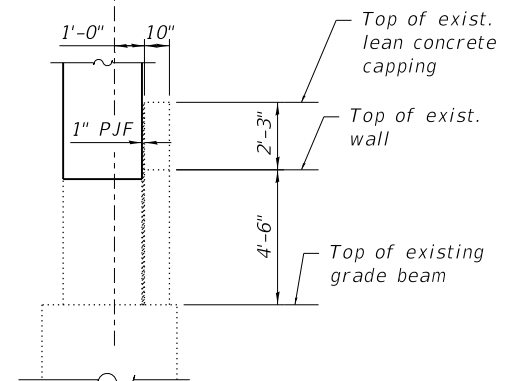
SHEET S-6 OF S-50 SHEETS

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CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

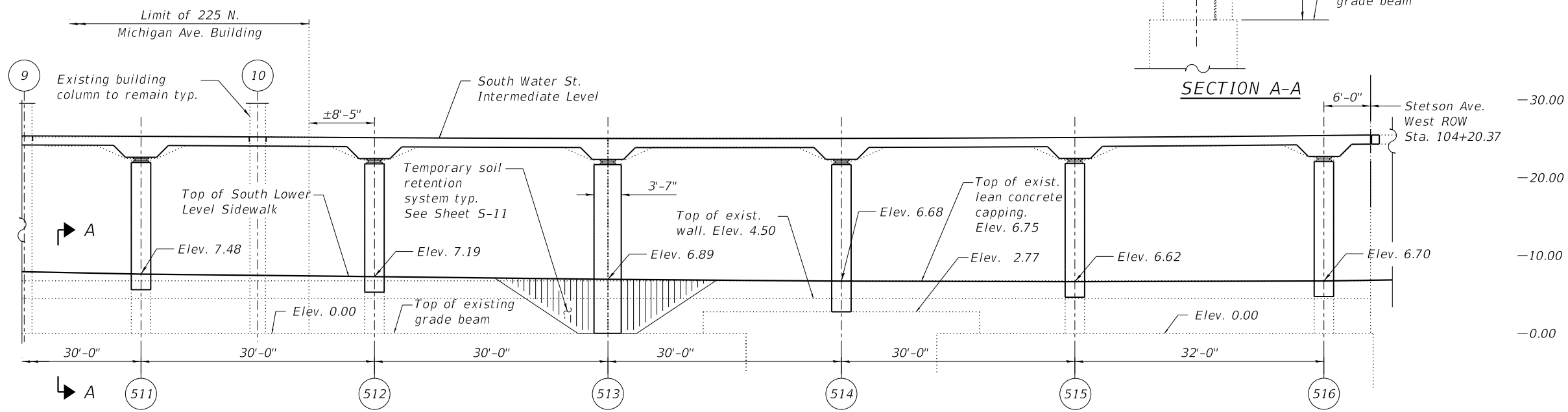
Beaubien Ct.
West ROW
Sta. 100+42.85



ELEVATION - T504 to T510
Caissons omitted for clarity



SECTION A-A



ELEVATION - T511 to T516
Caissons omitted for clarity

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

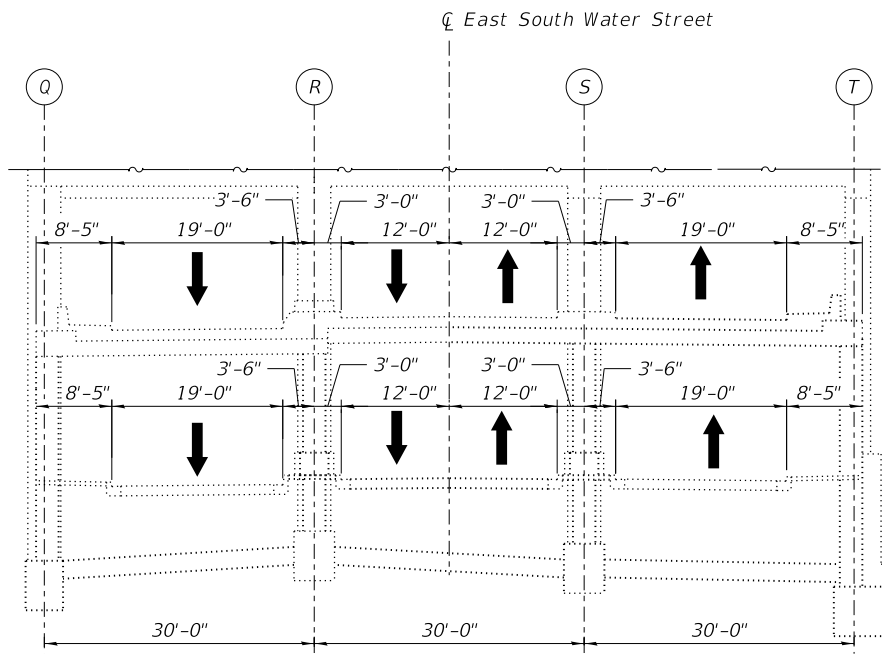
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

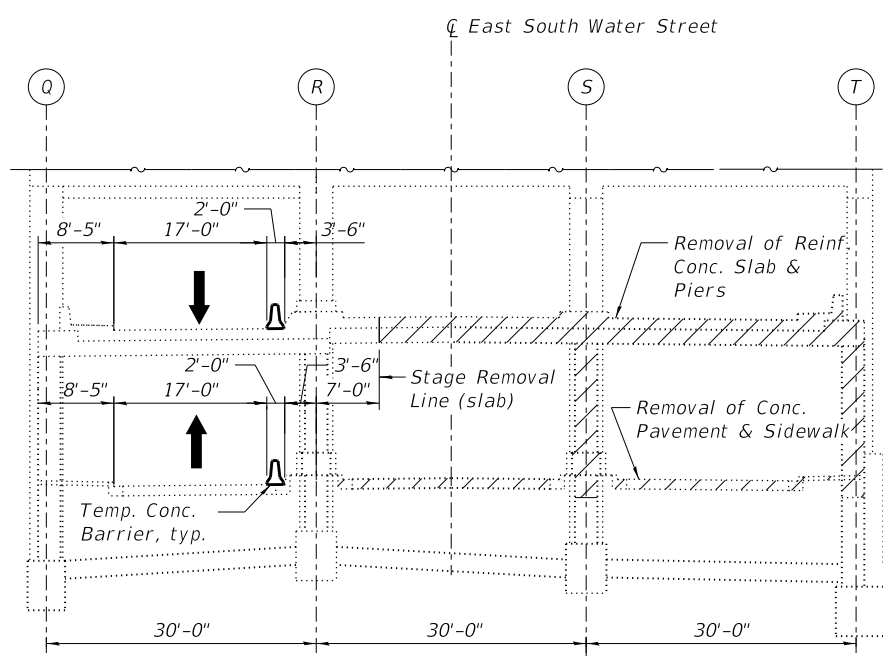
**ELEVATION - COLUMN LINE T
STRUCTURE NO. 016-6146**

SHEET S-7 OF S-50 SHEETS

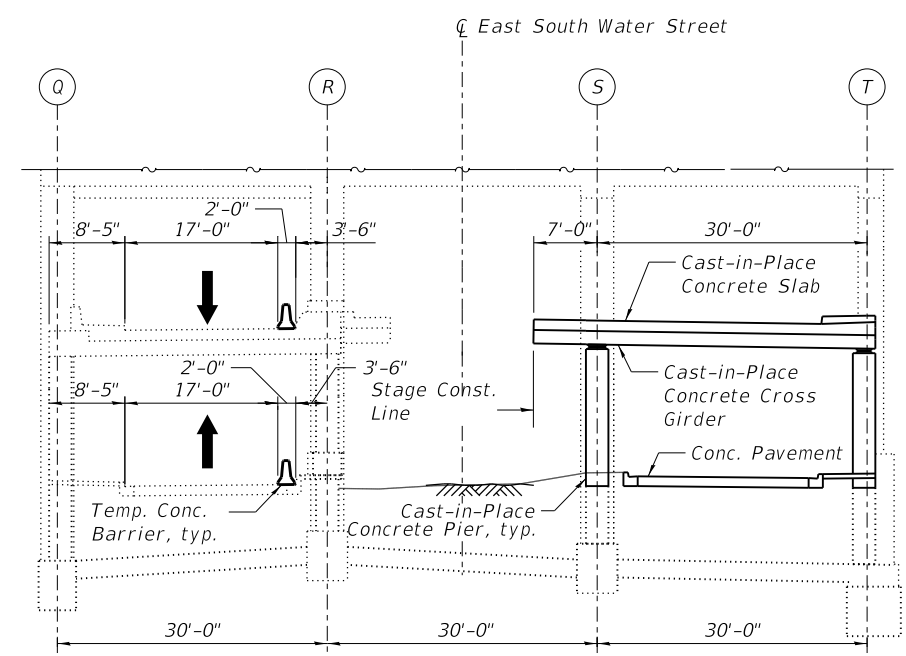
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CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



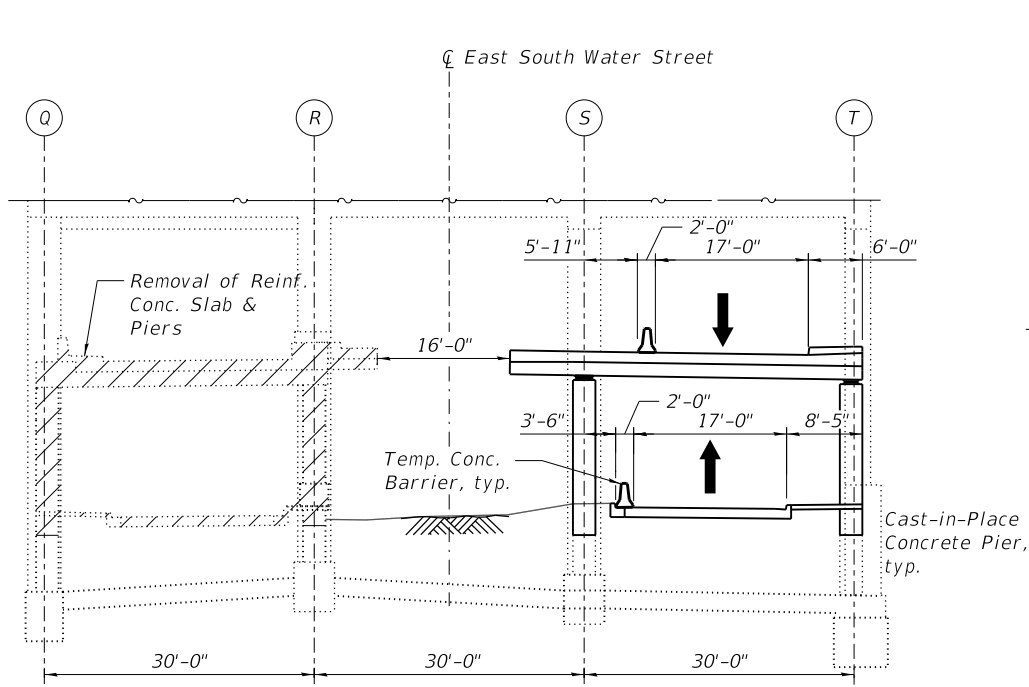
EXISTING CROSS SECTION AND PRE-STAGE REMOVAL
Looking East



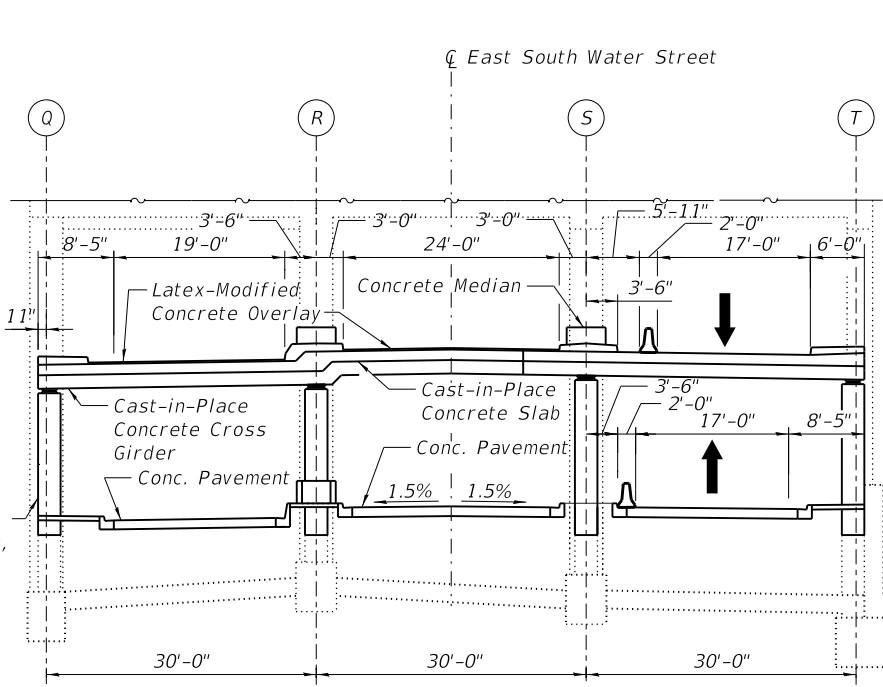
STAGE 1 DEMOLITION
Looking East



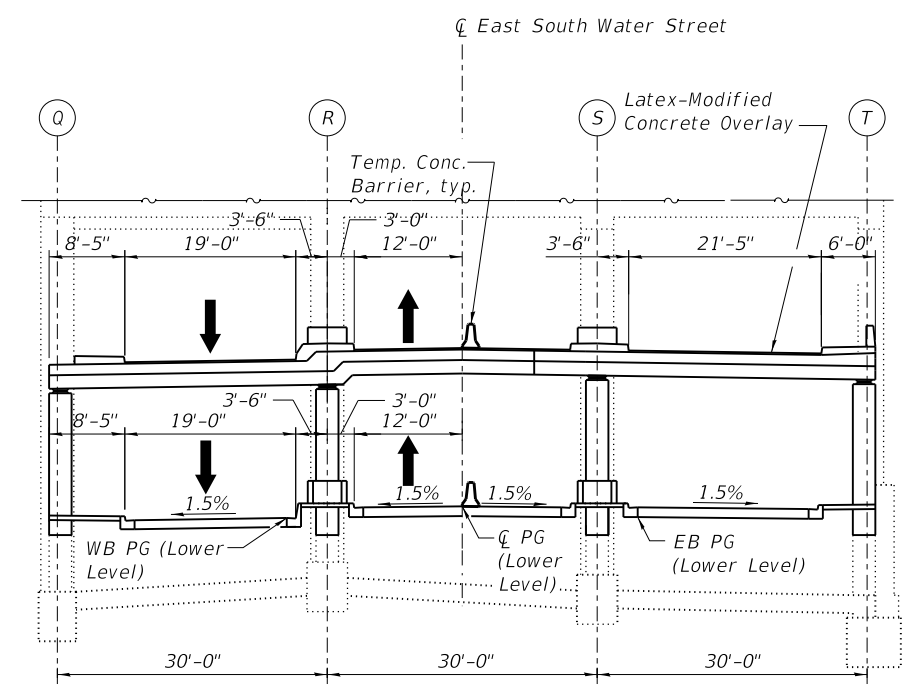
STAGE 1 CONSTRUCTION
Looking East



STAGE 2 DEMOLITION
Looking East

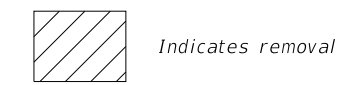


STAGE 2 CONSTRUCTION
Looking East



STAGE 3 CONSTRUCTION
Looking East

LEGEND



NOTES

- Emergency access to 225 N. Michigan Ave. Building to be maintained at all times.
- Roadway and sidewalk widths shown are typical, values vary at the west end of structure.

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

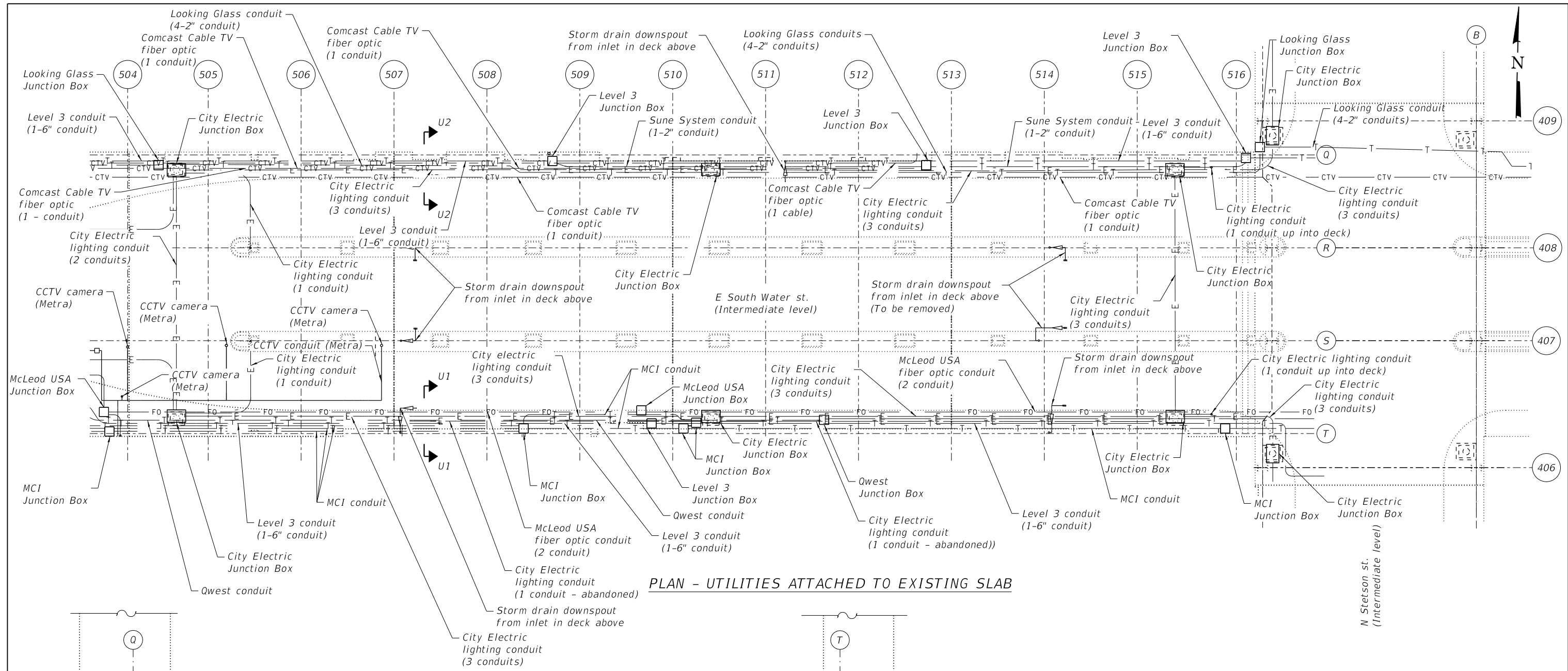
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

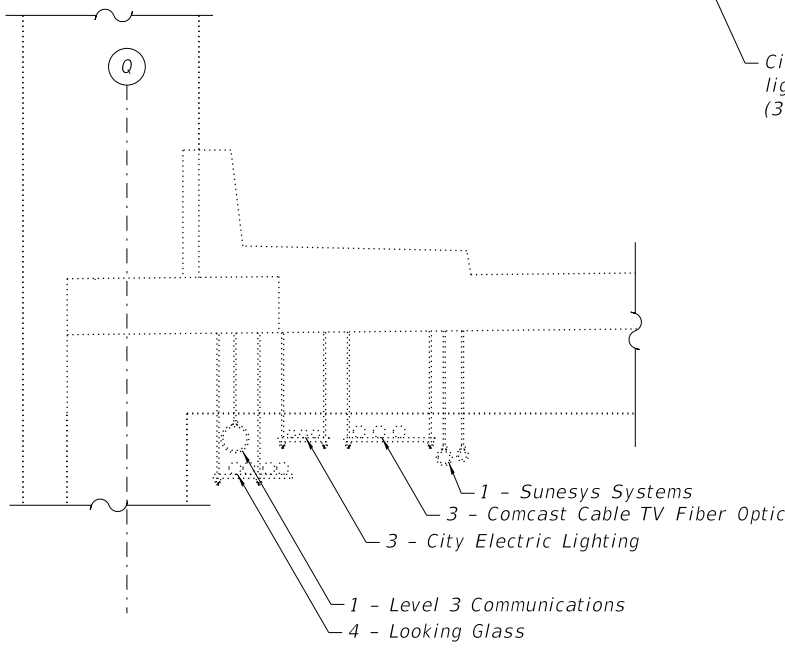
**CONSTRUCTION STAGING
 STRUCTURE NO. 016-6146**

SHEET S-8 OF S-50 SHEETS

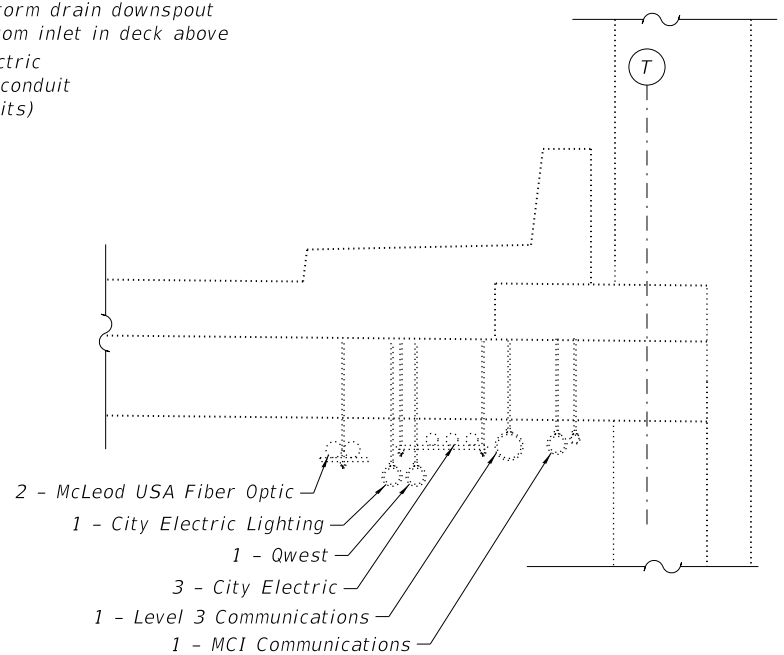
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CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	



PLAN - UTILITIES ATTACHED TO EXISTING SLAB



SECTION U2-U2



SECTION U1-U1

LEGEND

— CTV —	Cable TV
— E —	City Electric lighting
— T —	Telephone
— FO —	Fiber optic

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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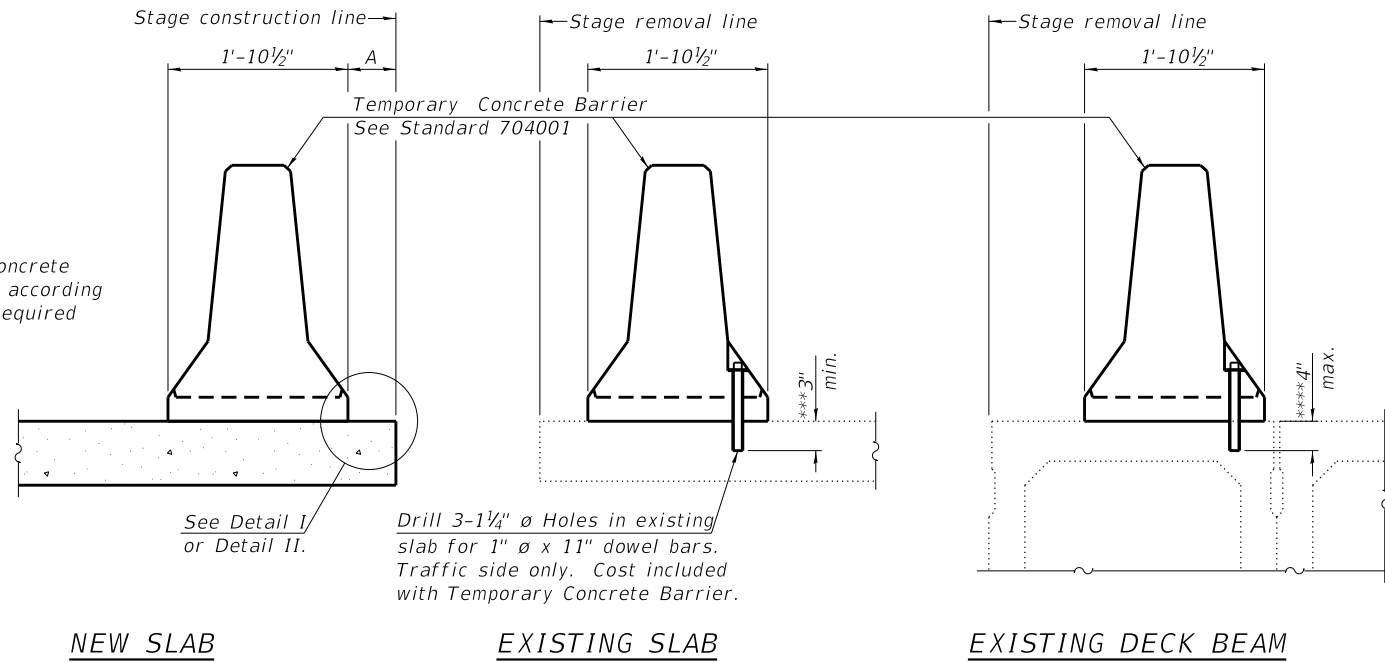
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**UTILITIES ATTACHED TO EXISTING SLAB
 STRUCTURE NO. 016-6146**

SHEET S-9 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	100
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

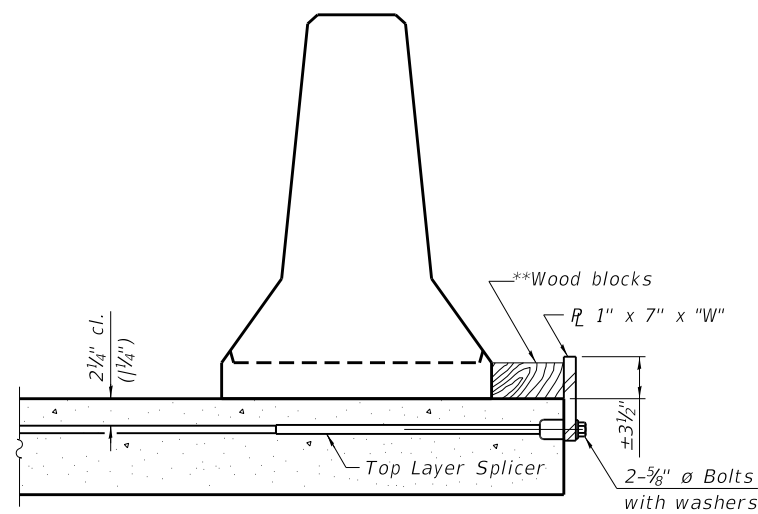
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel R_L to the top layer of couplers with 2- $\frac{5}{8}$ " \emptyset bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel R_L to the concrete slab or concrete wearing surface with 2- $\frac{5}{8}$ " \emptyset Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

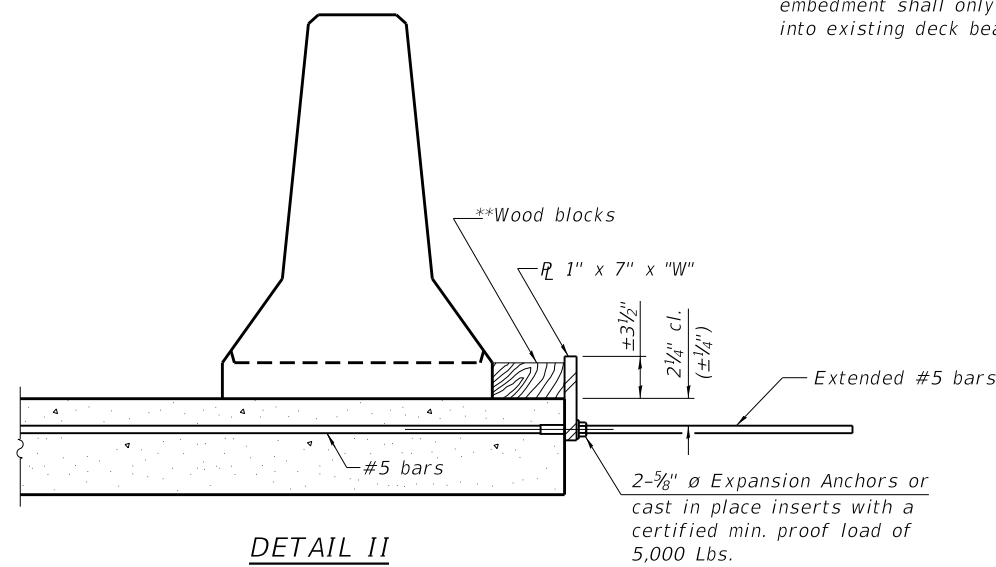
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

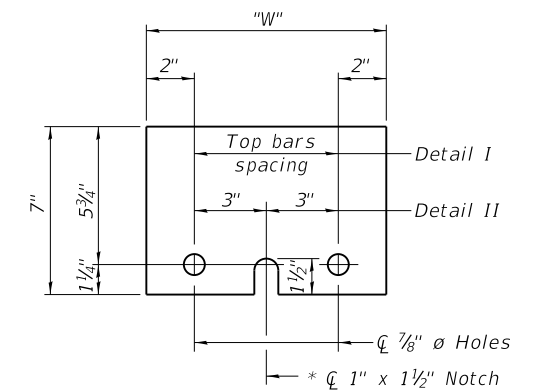
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER R 1" x 7" x "W"

* Required only with Detail II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

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R-27 7-1-10

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

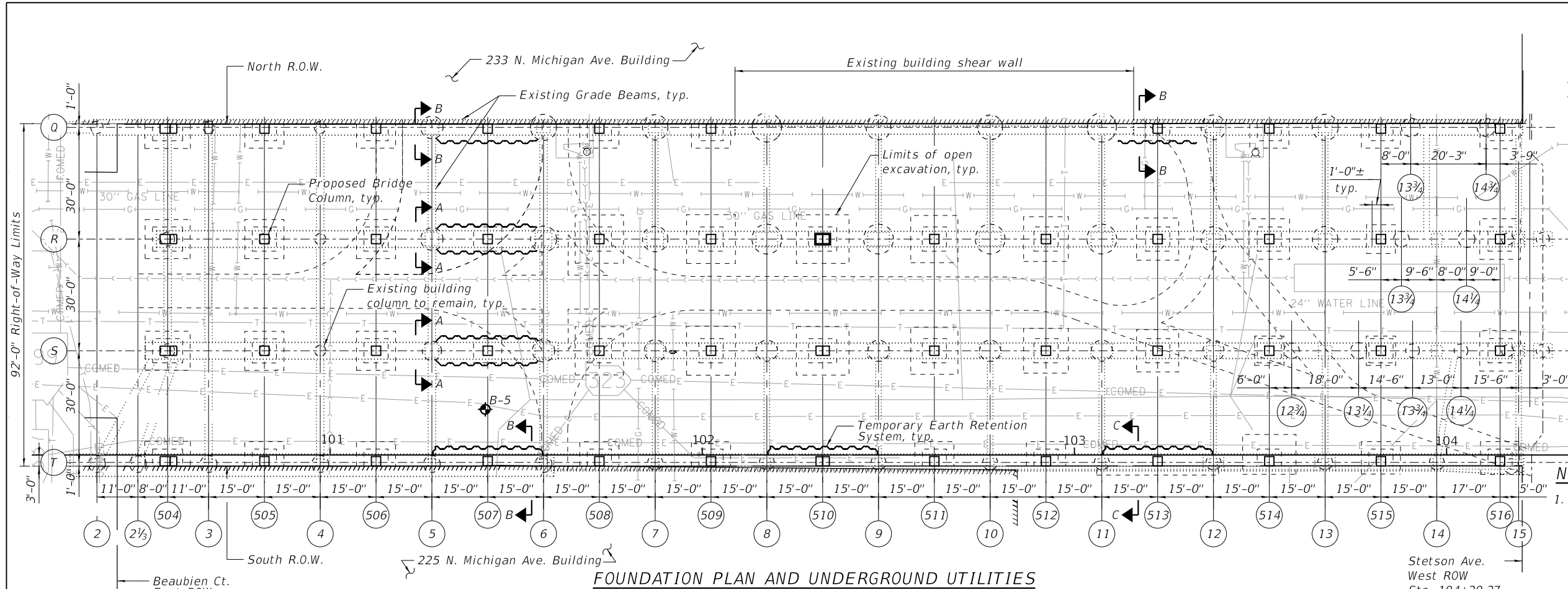
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PLOT DATE =	5/17/2019	CHECKED -	AMK	REVISED -	

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-6146**

SHEET S-10 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. M-6000(367)				
ILLINOIS		FED. AID PROJECT		



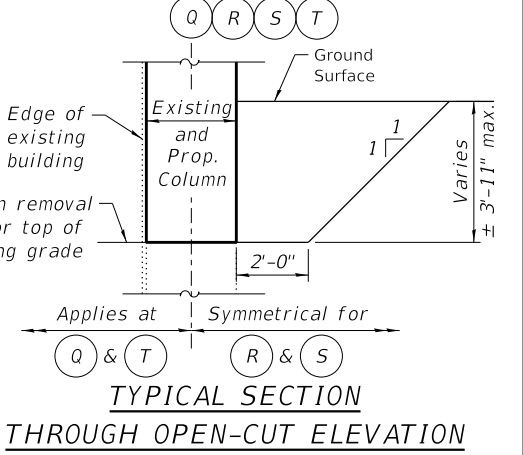
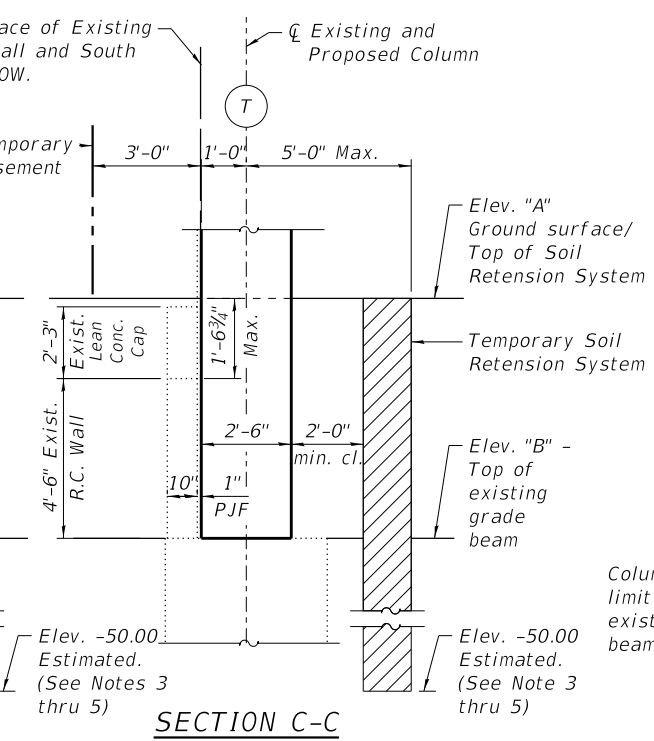
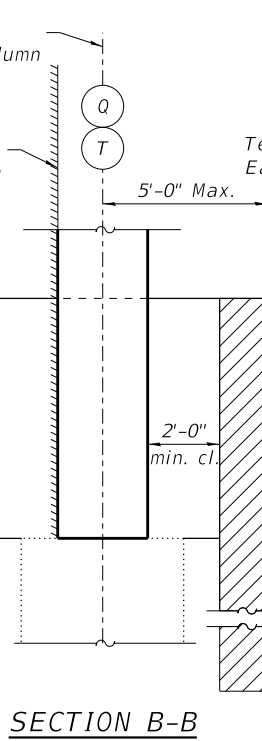
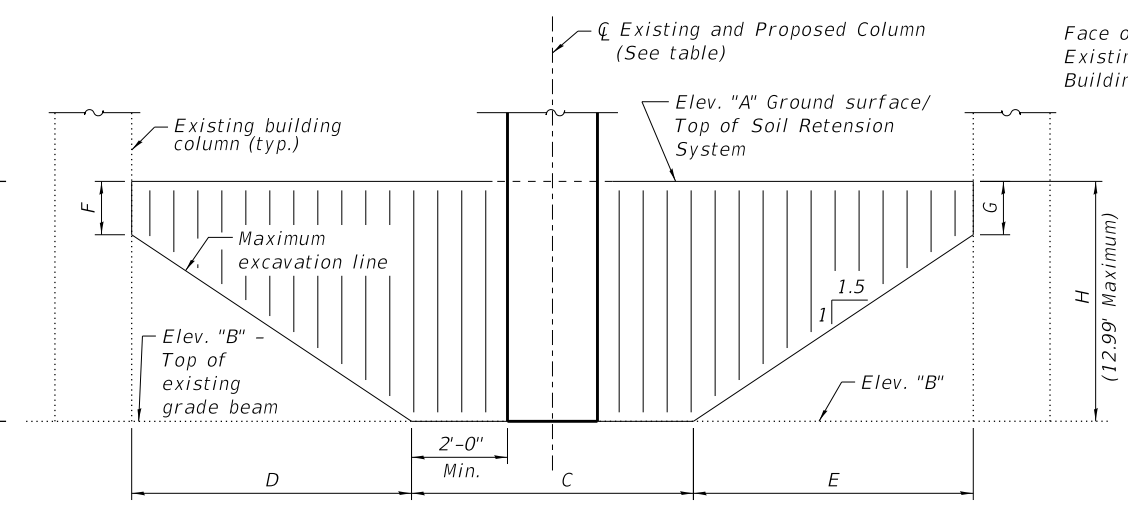
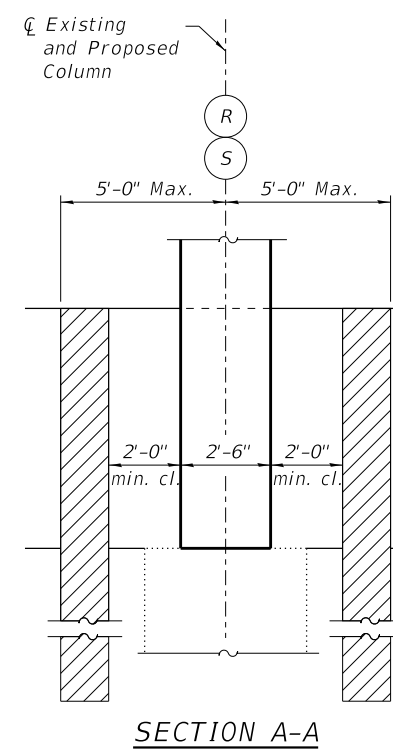
LEGEND

- G — Exist. Gas Line
- - - - - Exist. Sanitary Sewer
- W — Exist. Water
- T — Exist. Telephone
- E — Exist. Electric
- SS — Exist. Storm Sewer
- FO — Exist. Underground Fiber Optic
- CTV — Comcast Cable TV
- Fiber Optic
- - - - - Existing Freight Tunnel

NOTES

1. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
2. Existing Underground utilities and structures to remain in place unless noted otherwise.
3. The elevation shown is the worst-case tip elevation. Actual tip elevation to be determined by Contractor.
4. The horizontal and vertical dimensions of the tunnel are as established per the Chicago Freight Tunnel Atlas. Dimensions are not to be assumed or scaled from the plans and actual measurements shall be determined by field measurements and probes to be performed by the Contractor.
5. All below-grade components of the temporary soil retention system shall maintain a minimum horizontal clearance of 5'-0" from the sides and a minimum vertical clearance of 10'-0" from the top the freight tunnel.

COLUMN	Elev. "A"	Elev. "B"	C	D	E	F	G	H	AREA
Q507	7.16	-1.00	7.58	9.38	8.96	1.91	2.19	8.16	155.42
Q513	6.09	-1.00	7.58	2.57	8.96	5.38	1.12	7.09	106.53
R507	7.72	2.30	7.58	9.38	8.96	0.00	0.00	5.42	181.55
S507	7.72	0.90	7.58	9.38	8.96	0.57	0.85	6.82	241.37
T507	7.67	-5.25	7.58	10.21	10.21	6.18	6.18	12.99	294.22
T510	9.65	0.00	7.58	10.21	10.21	0.99	0.99	7.80	148.90
T513	6.89	0.00	7.58	10.21	10.21	0.13	0.13	6.94	124.82



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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

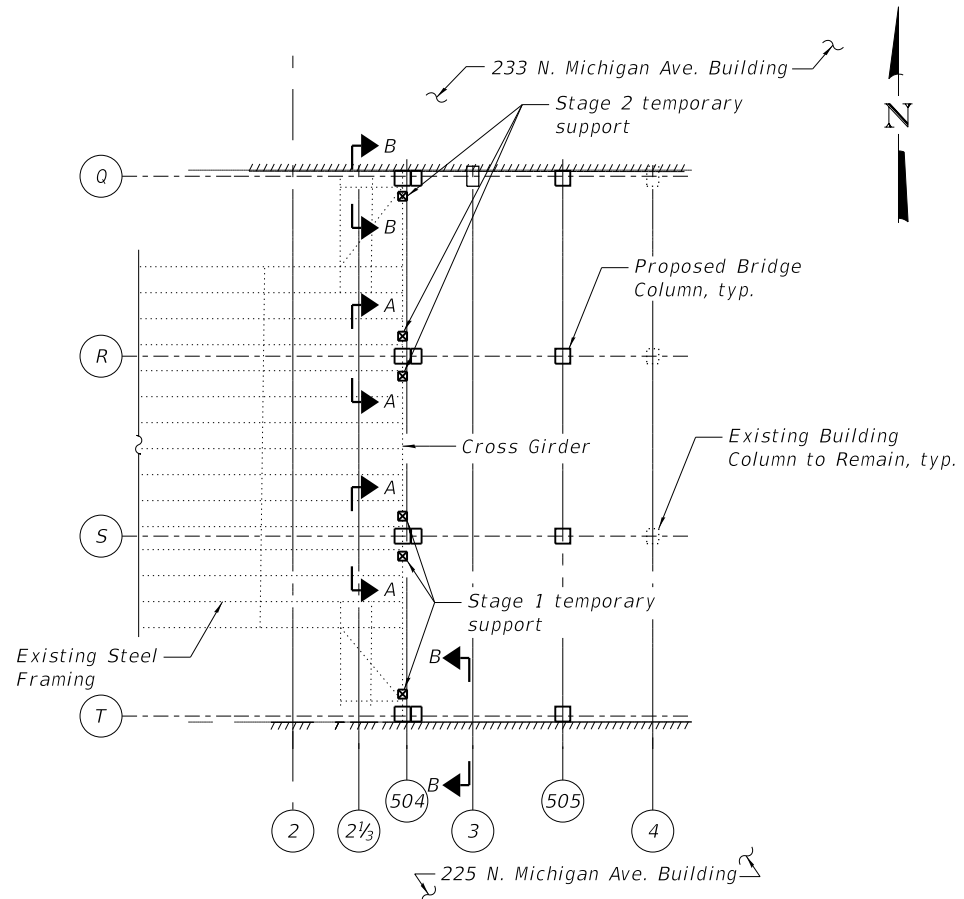
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PLOT DATE	5/17/2019	DRAWN	RAB/JCM	REVISED	
		CHECKED	AMK	REVISED	

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**TEMPORARY SOIL RETENTION SYSTEM DETAILS
 STRUCTURE NO. 016-6146**

SHEET S-11 OF S-50 SHEETS

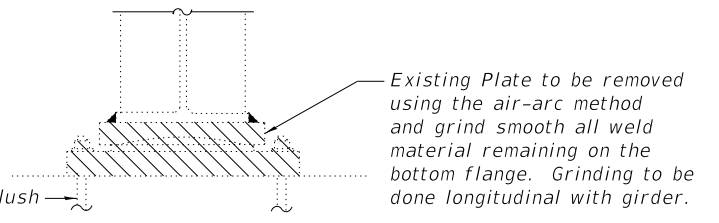
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CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	



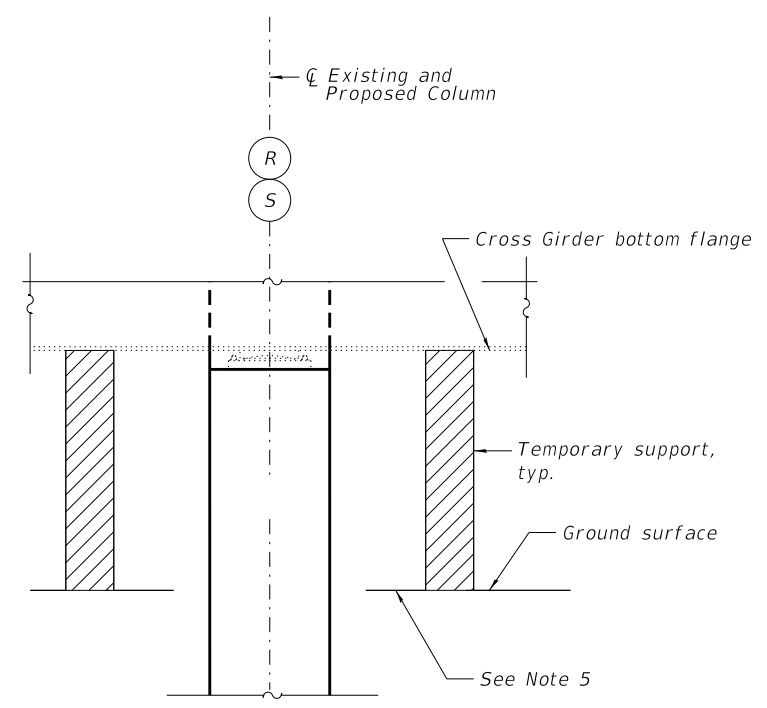
PLAN
(Concrete superstructure not show for clarity, See Note 5)

CROSS GIRDER BEARING REACTION TABLE AT TEMPORARY SUPPORTS *	
Line 504	
DL (k)	204
LL (k)	139
Imp. (k)	35
Total (k)	378

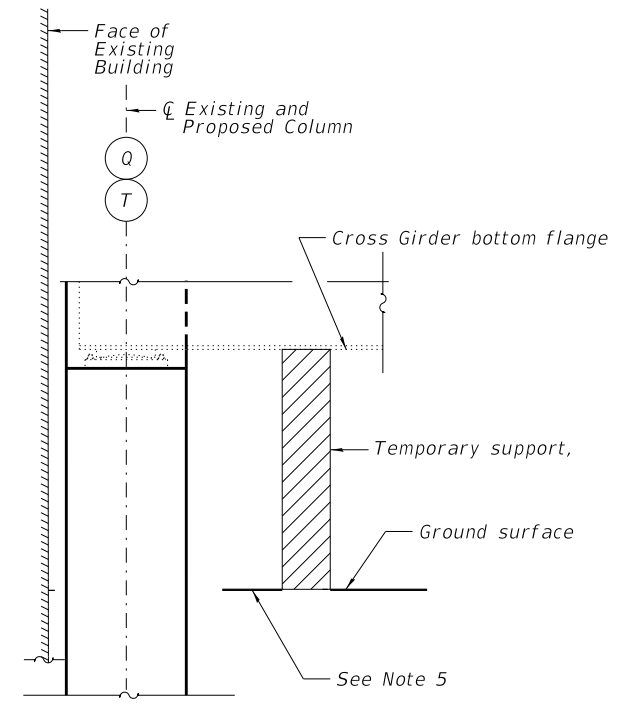
* See Special Provisions for Jacking and Cribbing.
Note: Reactions shown are the maximum per-column reactions for column line 504



EXISTING BEARING REMOVAL DETAIL



VIEW A-A



VIEW B-B

NOTES

1. Cost of removal of existing bearings attached to steel cross girder at line 504 and temporary supports shall be included in the cost of Jacking and Cribbing.
2. The existing structural steel coating contains lead and lead shim plates. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
3. The contractor shall install and protect the temporary supports to not negatively impact the MOT and/or the MOT schedule.
4. Work to be completed under traffic. See Special Provisions for Jacking and Cribbing.
5. Lower level curb and pavement not shown for clarity. Contractor to coordinate support installation with lower level roadway construction limits.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Jacking and Cribbing	Each	4

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

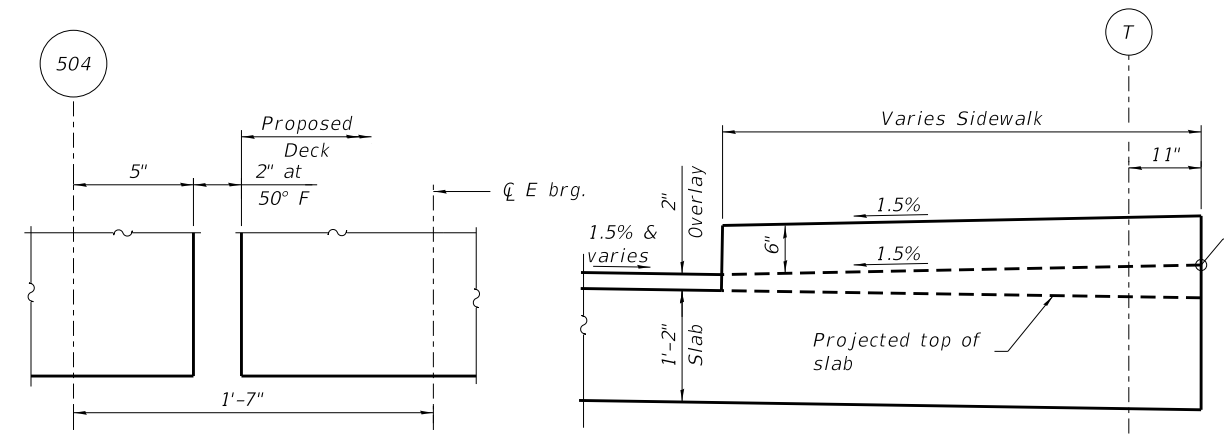
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**JACKING AND CRIBBING
 STRUCTURE NO. 016-6146**

SHEET S-12 OF S-50 SHEETS

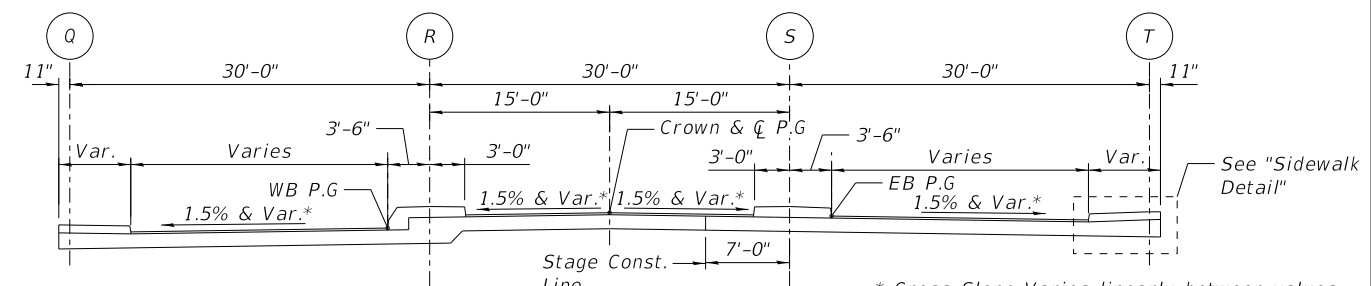
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3030	11 - E1517 - 00 - BR	COOK	141	103
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



DETAIL PLAN AT W. SLAB JOINT

SIDEWALK DETAIL

Detail at Line T Shown.
Line Q Similar, opposite hand.



CROSS-SECTION (Looking East)

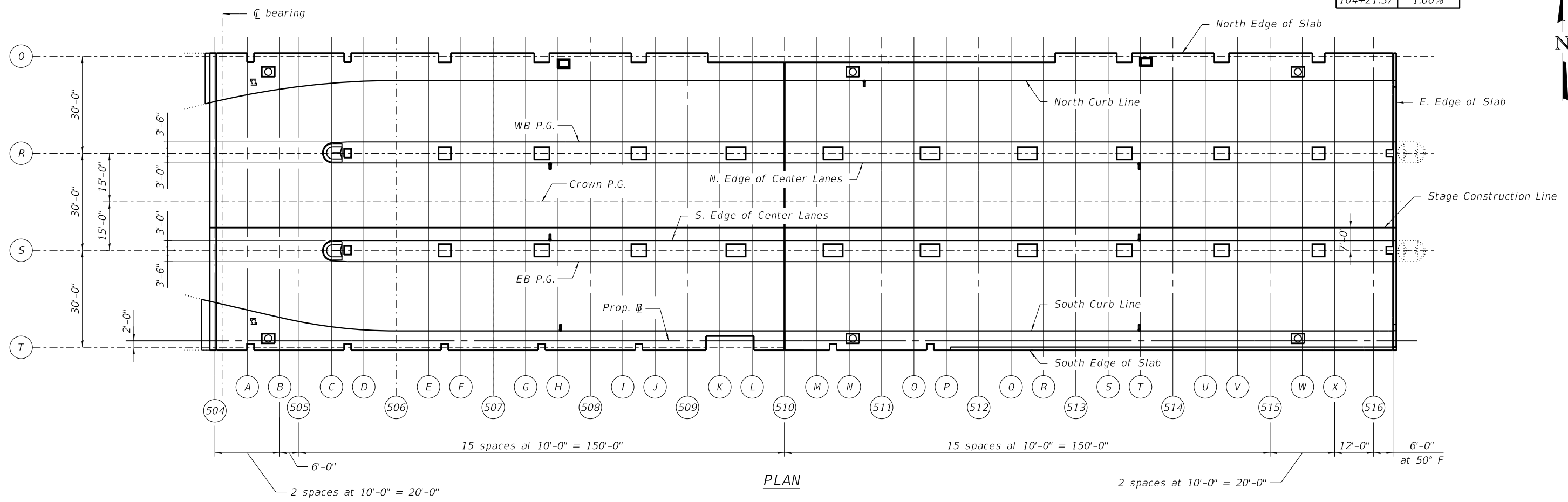
* Cross Slope Varies linearly between values at station shown in the tables below

LT CROSS- SLOPES

Station	X-Slope
100+54.79	0.92%
100+80.79	1.50%
103+91.37	1.50%
104+21.37	0.90%

RT CROSS- SLOPES

Station	X-Slope
100+54.79	0.97%
100+85.00	0.75%
101+15.00	1.50%
103+46.90	1.50%
103+84.14	1.32%
104+21.37	1.00%



PLAN

DEADLOAD DEFLECTION TABLE

(Includes wt. of concrete and latex overlay)

Location	504	Midspan 504/505	505	Midspan 505/506	506	Midspan 506/507	507	Midspan 507/508	508	Midspan 508/509	509	Midspan 509/510	510	Midspan 510/511	511	Midspan 511/512	512	Midspan 512/513	513	Midspan 513/514	514	Midspan 514/515	515	Midspan 515/516	516	∅ Joint
Column Line Q	-0"	-1/8"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	0"	-1/8"	0"	-0"	0"	-0"	-0"	-1/8"	-0"	-0"	-0"	-1/4"	-0"	1/8"
Mid-line Q-R	-0"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-0"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-0"	0"
Column Line R	-0"	-1/8"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-0"	-0"	-1/8"	-0"	-0"	-0"	-1/8"	-0"	1/8"
Mid-line R-S	-0"	-1/8"	-0"	-1/8"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/8"	-0"	0"
Column Line S	-0"	-1/8"	-0"	-0"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/4"	-0"	-1/4"	-0"	-0"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/4"	-0"	1/8"
Mid-line S-T	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/4"	-1/8"	-1/4"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/4"	-1/8"	1/8"
Column Line T	-0"	-1/8"	-0"	-1/8"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/4"	-0"	-1/4"	-0"	-0"	-0"	-1/8"	-0"	-1/8"	-0"	-0"	-0"	-1/4"	-0"	1/8"

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**TOP OF SLAB ELEVATIONS - 1
 STRUCTURE NO. 016-6146**

SHEET S-13 OF S-50 SHEETS

MUN. STREET	3030	SECTION	11 - E1517 - 00 - BR	COUNTY	COOK	TOTAL SHEETS	141	SHEET NO.	104
						CONTRACT NO. M-6000(367)			
						ILLINOIS FED. AID PROJECT			

SOUTH EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	2.92 RT	25.72	25.72
☉ Brg.	100+57.95	2.92 RT	25.71	25.71
A	100+66.37	0.92 RT	25.59	25.60
B	100+76.37	2.92 RT	25.53	25.53
505	100+82.37	2.92 RT	25.47	25.48
C	100+92.37	2.92 RT	25.31	25.31
D	101+02.37	2.92 RT	25.12	25.12
506	101+12.37	2.92 RT	24.94	24.94
E	101+22.37	2.92 RT	24.85	24.86
F	101+32.37	2.92 RT	24.80	24.81
507	101+42.37	2.92 RT	24.76	24.77
G	101+52.37	2.92 RT	24.74	24.75
H	101+62.37	2.92 RT	24.73	24.73
508	101+72.37	2.92 RT	24.73	24.73
I	101+82.37	2.92 RT	24.74	24.75
J	101+92.37	2.92 RT	24.77	24.77
509	102+02.37	2.92 RT	24.81	24.81
K	102+12.37	1.50 LT	24.84	24.85
L	102+22.37	1.50 LT	24.87	24.89
☉ E Brg.	102+31.45	2.92 RT	24.92	24.92
510	102+32.37	2.92 RT	24.92	24.92
☉ W Brg.	102+33.29	2.92 RT	24.92	24.92
M	102+42.37	2.92 RT	24.93	24.95
N	102+52.37	2.92 RT	24.94	24.95
511	102+62.37	2.92 RT	24.93	24.93
O	102+72.37	2.92 RT	24.91	24.91
P	102+82.37	2.92 RT	24.88	24.88
512	102+92.37	2.92 RT	24.83	24.84
Q	103+02.37	2.92 RT	24.78	24.79
R	103+12.37	2.92 RT	24.73	24.74
513	103+22.37	2.92 RT	24.68	24.68
S	103+32.37	2.92 RT	24.63	24.64
T	103+42.37	2.92 RT	24.60	24.61
514	103+52.37	2.92 RT	24.60	24.60
U	103+62.37	2.92 RT	24.63	24.63
V	103+72.37	2.92 RT	24.69	24.69
515	103+82.37	2.92 RT	24.77	24.77
W	103+92.37	2.92 RT	24.88	24.90
X	104+02.37	2.92 RT	25.02	25.04
516	104+14.37	2.92 RT	25.22	25.22
E. Edge of Slab	104+20.37	2.92 RT	25.34	25.32

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	11.88 LT	25.50	25.51
☉ Brg.	100+57.95	11.51 LT	25.49	25.50
A	100+66.37	9.57 LT	25.44	25.45
B	100+76.37	7.26 LT	25.38	25.38
505	100+82.37	5.97 LT	25.34	25.35
C	100+92.37	4.36 LT	25.20	25.21
D	101+02.37	3.40 LT	25.02	25.03
506	101+12.37	3.08 LT	24.85	24.86
E	101+22.37	3.08 LT	24.76	24.77
F	101+32.37	3.08 LT	24.71	24.72
507	101+42.37	3.08 LT	24.67	24.68
G	101+52.37	3.08 LT	24.65	24.66
H	101+62.37	3.08 LT	24.64	24.65
508	101+72.37	3.08 LT	24.64	24.64
I	101+82.37	3.08 LT	24.65	24.66
J	101+92.37	3.08 LT	24.68	24.68
509	102+02.37	3.08 LT	24.72	24.73
K	102+12.37	3.08 LT	24.77	24.77
L	102+22.37	3.08 LT	24.80	24.81
☉ E Brg.	102+31.45	3.08 LT	24.83	24.83
510	102+32.37	3.08 LT	24.83	24.83
☉ W Brg.	102+33.29	3.08 LT	24.83	24.84
M	102+42.37	3.08 LT	24.84	24.86
N	102+52.37	3.08 LT	24.85	24.86
511	102+62.37	3.08 LT	24.84	24.84
O	102+72.37	3.08 LT	24.82	24.82
P	102+82.37	3.08 LT	24.79	24.79
512	102+92.37	3.08 LT	24.74	24.75
Q	103+02.37	3.08 LT	24.69	24.70
R	103+12.37	3.08 LT	24.64	24.65
513	103+22.37	3.08 LT	24.59	24.60
S	103+32.37	3.08 LT	24.54	24.55
T	103+42.37	3.08 LT	24.51	24.52
514	103+52.37	3.08 LT	24.51	24.52
U	103+62.37	3.08 LT	24.54	24.55
V	103+72.37	3.08 LT	24.60	24.60
515	103+82.37	3.08 LT	24.68	24.68
W	103+92.37	3.08 LT	24.79	24.81
X	104+02.37	3.08 LT	24.93	24.95
516	104+14.37	3.08 LT	25.13	25.14
E. Edge of Slab	104+20.37	3.08 LT	25.25	25.24

E.B. P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	24.50 LT	25.62	25.62
☉ Brg.	100+57.95	24.50 LT	25.61	25.62
A	100+66.37	24.50 LT	25.57	25.58
B	100+76.37	24.50 LT	25.52	25.52
505	100+82.37	24.50 LT	25.48	25.49
C	100+92.37	24.50 LT	25.39	25.39
D	101+02.37	24.50 LT	25.27	25.28
506	101+12.37	24.50 LT	25.16	25.16
E	101+22.37	24.50 LT	25.08	25.09
F	101+32.37	24.50 LT	25.03	25.04
507	101+42.37	24.50 LT	25.00	25.00
G	101+52.37	24.50 LT	24.97	24.98
H	101+62.37	24.50 LT	24.96	24.97
508	101+72.37	24.50 LT	24.96	24.96
I	101+82.37	24.50 LT	24.98	24.98
J	101+92.37	24.50 LT	25.00	25.00
509	102+02.37	24.50 LT	25.04	25.05
K	102+12.37	24.50 LT	25.09	25.10
L	102+22.37	24.50 LT	25.13	25.14
☉ E Brg.	102+31.45	24.50 LT	25.15	25.15
510	102+32.37	24.50 LT	25.15	25.15
☉ W Brg.	102+33.29	24.50 LT	25.15	25.16
M	102+42.37	24.50 LT	25.16	25.18
N	102+52.37	24.50 LT	25.17	25.18
511	102+62.37	24.50 LT	25.16	25.16
O	102+72.37	24.50 LT	25.14	25.14
P	102+82.37	24.50 LT	25.11	25.11
512	102+92.37	24.50 LT	25.07	25.07
Q	103+02.37	24.50 LT	25.02	25.02
R	103+12.37	24.50 LT	24.97	24.97
513	103+22.37	24.50 LT	24.92	24.92
S	103+32.37	24.50 LT	24.87	24.87
T	103+42.37	24.50 LT	24.83	24.84
514	103+52.37	24.50 LT	24.83	24.83
U	103+62.37	24.50 LT	24.85	24.85
V	103+72.37	24.50 LT	24.89	24.89
515	103+82.37	24.50 LT	24.96	24.97
W	103+92.37	24.50 LT	25.06	25.07
X	104+02.37	24.50 LT	25.18	25.20
516	104+14.37	24.50 LT	25.36	25.36
E. Edge of Slab	104+20.37	24.50 LT	25.46	25.45

Note: All offsets are taken from the the Proposed E. South Water Street.

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME	= dbender	DESIGNED	- MK	REVISED	-
CHECKED	- AMK	REVISIONS	-	REVISIONS	-
PLOT SCALE	= 32:0.0000 " = 1 in.	DRAWN	- IL	REVISIONS	-
PLOT DATE	= 5/17/2019	CHECKED	- AMK	REVISIONS	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**TOP OF SLAB ELEVATIONS - 2
STRUCTURE NO. 016-6146**

SHEET S-14 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	105
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	35.00 LT	25.72	25.72
C Brg.	100+57.95	35.00 LT	25.71	25.71
A	100+66.37	35.00 LT	25.66	25.67
B	100+76.37	35.00 LT	25.60	25.60
505	100+82.37	35.00 LT	25.56	25.56
C	100+92.37	35.00 LT	25.49	25.49
D	101+02.37	35.00 LT	25.40	25.40
506	101+12.37	35.00 LT	25.31	25.31
E	101+22.37	35.00 LT	25.24	25.25
F	101+32.37	35.00 LT	25.19	25.19
507	101+42.37	35.00 LT	25.16	25.15
G	101+52.37	35.00 LT	25.13	25.13
H	101+62.37	35.00 LT	25.12	25.12
508	101+72.37	35.00 LT	25.12	25.12
I	101+82.37	35.00 LT	25.14	25.13
J	101+92.37	35.00 LT	25.16	25.16
509	102+02.37	35.00 LT	25.20	25.20
K	102+12.37	35.00 LT	25.25	25.26
L	102+22.37	35.00 LT	25.29	25.30
E Brg.	102+31.45	35.00 LT	25.31	25.31
510	102+32.37	35.00 LT	25.31	25.31
W Brg.	102+33.29	35.00 LT	25.31	25.31
M	102+42.37	35.00 LT	25.32	25.34
N	102+52.37	35.00 LT	25.33	25.34
511	102+62.37	35.00 LT	25.32	25.32
O	102+72.37	35.00 LT	25.30	25.29
P	102+82.37	35.00 LT	25.27	25.27
512	102+92.37	35.00 LT	25.23	25.22
Q	103+02.37	35.00 LT	25.18	25.18
R	103+12.37	35.00 LT	25.13	25.13
513	103+22.37	35.00 LT	25.08	25.07
S	103+32.37	35.00 LT	25.03	25.03
T	103+42.37	35.00 LT	24.99	24.99
514	103+52.37	35.00 LT	24.98	24.98
U	103+62.37	35.00 LT	25.00	25.00
V	103+72.37	35.00 LT	25.04	25.04
515	103+82.37	35.00 LT	25.10	25.10
W	103+92.37	35.00 LT	25.19	25.20
X	104+02.37	35.00 LT	25.30	25.32
516	104+14.37	35.00 LT	25.47	25.47
E. Edge of Slab	104+20.37	35.00 LT	25.56	25.55

Note: All offsets are taken from Proposed E. South Water Street.

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = dbender	DESIGNED - MK	REVISED -
PLOT SCALE = 32:0.0000' : 1 in.	CHECKED - AMK	REVISED -
PLOT DATE = 5/17/2019	DRAWN - IL	REVISED -
	CHECKED - AMK	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**TOP OF SLAB ELEVATIONS - 3
STRUCTURE NO. 016-6146**

SHEET S-15 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	106
CONTRACT NO. M-6000(367)				
			ILLINOIS	FED. AID PROJECT

S. EDGE OF CENTER LANES

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	31.00 LT	25.68	25.68
☐ Brg.	100+57.95	31.00 LT	25.68	25.68
A	100+66.37	31.00 LT	25.63	25.63
B	100+76.37	31.00 LT	25.57	25.57
505	100+82.37	31.00 LT	25.53	25.53
C	100+92.37	31.00 LT	25.45	25.45
D	101+02.37	31.00 LT	25.35	25.35
506	101+12.37	31.00 LT	25.25	25.25
E	101+22.37	31.00 LT	25.18	25.19
F	101+32.37	31.00 LT	25.13	25.14
507	101+42.37	31.00 LT	25.10	25.10
G	101+52.37	31.00 LT	25.07	25.07
H	101+62.37	31.00 LT	25.06	25.06
508	101+72.37	31.00 LT	25.06	25.06
I	101+82.37	31.00 LT	25.08	25.07
J	101+92.37	31.00 LT	25.10	25.10
509	102+02.37	31.00 LT	25.14	25.14
K	102+12.37	31.00 LT	25.19	25.20
L	102+22.37	31.00 LT	25.23	25.24
☐ E Brg.	102+31.45	31.00 LT	25.25	25.25
510	102+32.37	31.00 LT	25.25	25.25
☐ W Brg.	102+33.29	31.00 LT	25.25	25.25
M	102+42.37	31.00 LT	25.26	25.28
N	102+52.37	31.00 LT	25.27	25.28
511	102+62.37	31.00 LT	25.26	25.26
O	102+72.37	31.00 LT	25.24	25.24
P	102+82.37	31.00 LT	25.21	25.21
512	102+92.37	31.00 LT	25.17	25.17
Q	103+02.37	31.00 LT	25.12	25.12
R	103+12.37	31.00 LT	25.07	25.07
513	103+22.37	31.00 LT	25.02	25.01
S	103+32.37	31.00 LT	24.97	24.97
T	103+42.37	31.00 LT	24.93	24.94
514	103+52.37	31.00 LT	24.93	24.92
U	103+62.37	31.00 LT	24.94	24.94
V	103+72.37	31.00 LT	24.99	24.98
515	103+82.37	31.00 LT	25.05	25.05
W	103+92.37	31.00 LT	25.14	25.16
X	104+02.37	31.00 LT	25.26	25.28
516	104+14.37	31.00 LT	25.43	25.43
Edge of deck	104+20.37	31.00 LT	25.52	25.51

☐ P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	43.00 LT	25.80	25.80
☐ Brg.	100+57.95	43.00 LT	25.79	25.79
A	100+66.37	43.00 LT	25.73	25.74
B	100+76.37	43.00 LT	25.67	25.67
505	100+82.37	43.00 LT	25.63	25.63
C	100+92.37	43.00 LT	25.56	25.56
D	101+02.37	43.00 LT	25.49	25.50
506	101+12.37	43.00 LT	25.43	25.43
E	101+22.37	43.00 LT	25.36	25.37
F	101+32.37	43.00 LT	25.31	25.32
507	101+42.37	43.00 LT	25.28	25.28
G	101+52.37	43.00 LT	25.25	25.26
H	101+62.37	43.00 LT	25.24	25.24
508	101+72.37	43.00 LT	25.24	25.24
I	101+82.37	43.00 LT	25.26	25.26
J	101+92.37	43.00 LT	25.28	25.29
509	102+02.37	43.00 LT	25.32	25.33
K	102+12.37	43.00 LT	25.37	25.38
L	102+22.37	43.00 LT	25.41	25.42
☐ E Brg.	102+31.45	43.00 LT	25.43	25.43
510	102+32.37	43.00 LT	25.43	25.43
☐ W Brg.	102+33.29	43.00 LT	25.43	25.44
M	102+42.37	43.00 LT	25.44	25.46
N	102+52.37	43.00 LT	25.45	25.46
511	102+62.37	43.00 LT	25.44	25.44
O	102+72.37	43.00 LT	25.42	25.42
P	102+82.37	43.00 LT	25.39	25.39
512	102+92.37	43.00 LT	25.35	25.35
Q	103+02.37	43.00 LT	25.30	25.30
R	103+12.37	43.00 LT	25.25	25.25
513	103+22.37	43.00 LT	25.20	25.20
S	103+32.37	43.00 LT	25.15	25.15
T	103+42.37	43.00 LT	25.11	25.12
514	103+52.37	43.00 LT	25.10	25.11
U	103+62.37	43.00 LT	25.11	25.12
V	103+72.37	43.00 LT	25.15	25.15
515	103+82.37	43.00 LT	25.21	25.21
W	103+92.37	43.00 LT	25.29	25.30
X	104+02.37	43.00 LT	25.40	25.41
516	104+14.37	43.00 LT	25.55	25.56
E. Edge of Slab	104+20.37	43.00 LT	25.64	25.64

N. EDGE OF CENTER LANES

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
504	100+56.37	55.00 LT	25.68	25.69
☐ Brg.	100+57.95	55.00 LT	25.67	25.67
A	100+66.37	55.00 LT	25.59	25.60
B	100+76.37	55.00 LT	25.50	25.50
505	100+82.37	55.00 LT	25.45	25.45
C	100+92.37	55.00 LT	25.38	25.38
D	101+02.37	55.00 LT	25.31	25.32
506	101+12.37	55.00 LT	25.25	25.25
E	101+22.37	55.00 LT	25.18	25.19
F	101+32.37	55.00 LT	25.13	25.14
507	101+42.37	55.00 LT	25.10	25.10
G	101+52.37	55.00 LT	25.07	25.08
H	101+62.37	55.00 LT	25.06	25.06
508	101+72.37	55.00 LT	25.06	25.06
I	101+82.37	55.00 LT	25.08	25.08
J	101+92.37	55.00 LT	25.10	25.10
509	102+02.37	55.00 LT	25.14	25.14
K	102+12.37	55.00 LT	25.19	25.20
L	102+22.37	55.00 LT	25.23	25.24
☐ E Brg.	102+31.45	55.00 LT	25.25	25.25
510	102+32.37	55.00 LT	25.25	25.25
☐ W Brg.	102+33.29	55.00 LT	25.25	25.25
M	102+42.37	55.00 LT	25.26	25.28
N	102+52.37	55.00 LT	25.27	25.28
511	102+62.37	55.00 LT	25.26	25.26
O	102+72.37	55.00 LT	25.24	25.24
P	102+82.37	55.00 LT	25.21	25.21
512	102+92.37	55.00 LT	25.17	25.17
Q	103+02.37	55.00 LT	25.12	25.12
R	103+12.37	55.00 LT	25.07	25.07
513	103+22.37	55.00 LT	25.02	25.02
S	103+32.37	55.00 LT	24.97	24.97
T	103+42.37	55.00 LT	24.93	24.94
514	103+52.37	55.00 LT	24.92	24.92
U	103+62.37	55.00 LT	24.93	24.94
V	103+72.37	55.00 LT	24.97	24.97
515	103+82.37	55.00 LT	25.03	25.03
W	103+92.37	55.00 LT	25.11	25.12
X	104+02.37	55.00 LT	25.24	25.26
516	104+14.37	55.00 LT	25.43	25.43
E. Edge of Slab	104+20.37	55.00 LT	25.53	25.53

Note: All offsets are taken from the Proposed ☐ E. South Water Street.

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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		CHECKED	- AMK	REVISED	-
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PLOT DATE	= 5/17/2019	CHECKED	- AMK	REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**TOP OF SLAB ELEVATIONS - 4
STRUCTURE NO. 016-6146**

SHEET S-16 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	107
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	

W.B. P.G.

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, and E. Edge of Slab.

NORTH CURB LINE

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, and E. Edge of Slab.

NORTH EDGE OF SLAB

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, and E. Edge of Slab.

Note: All offsets are taken from the Proposed E. South Water Street

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME: dbender
DESIGNED: MK
CHECKED: AMK
REVISOR:
PLOT SCALE: 32:0.0000 "/in.
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CHECKED: AMK
REVISED:

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

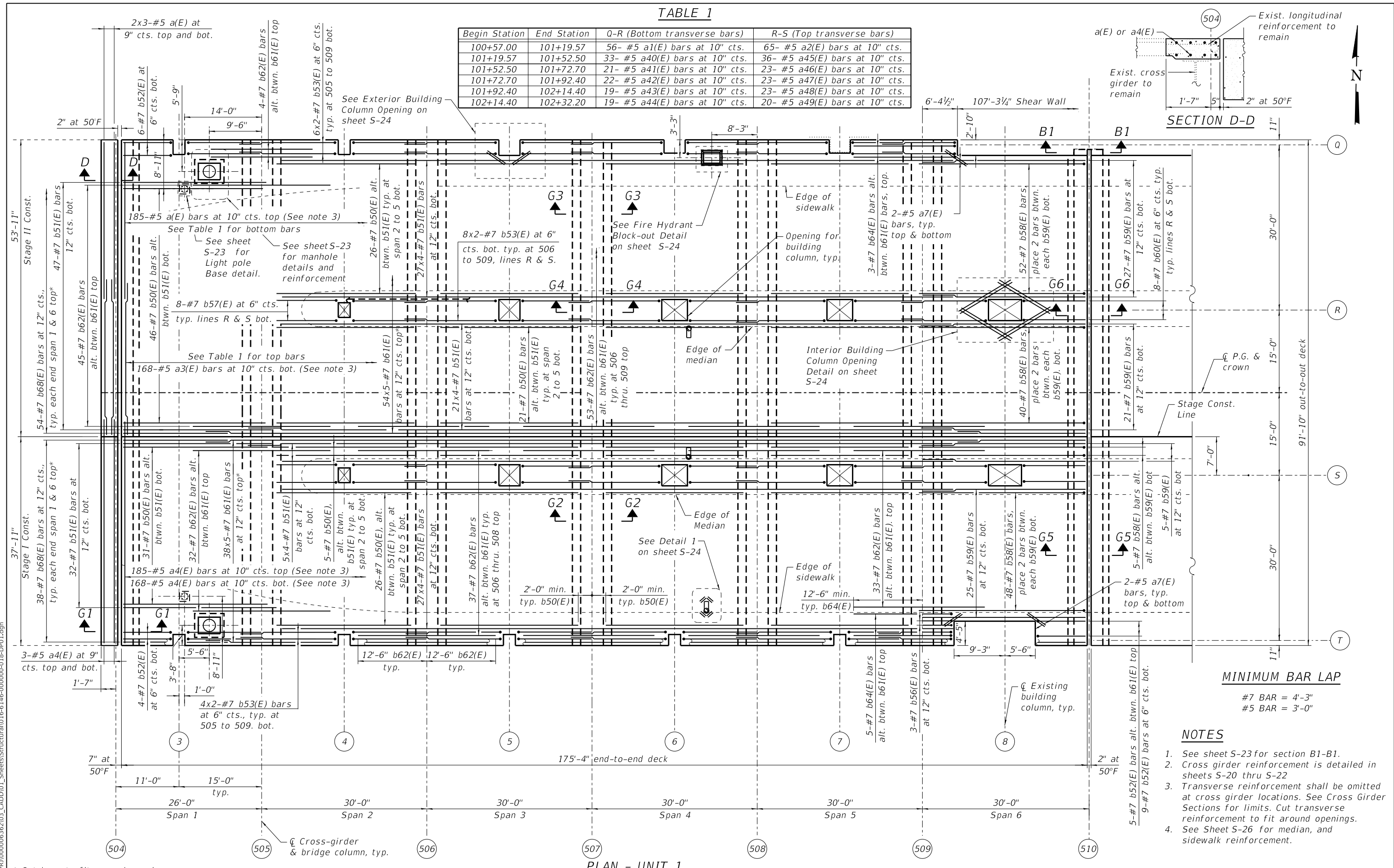
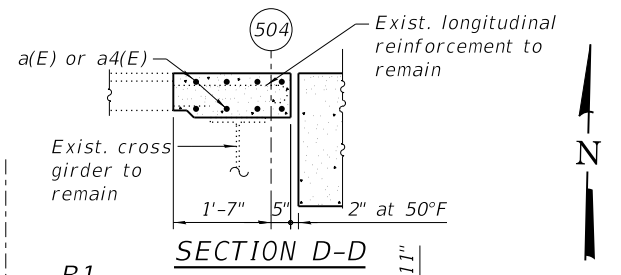
TOP OF SLAB ELEVATIONS - 5
STRUCTURE NO. 016-6146

SHEET S-17 OF S-50 SHEETS

MUNICIPALITY: CHICAGO
SECTION: 11 - E1517 - 00 - BR
COUNTY: COOK
TOTAL SHEETS: 141
SHEET NO.: 108
CONTRACT NO. M-6000(367)
ILLINOIS FED. AID PROJECT

TABLE 1

Begin Station	End Station	Q-R (Bottom transverse bars)	R-S (Top transverse bars)
100+57.00	101+19.57	56- #5 a1(E) bars at 10" cts.	65- #5 a2(E) bars at 10" cts.
101+19.57	101+52.50	33- #5 a40(E) bars at 10" cts.	36- #5 a45(E) bars at 10" cts.
101+52.50	101+72.70	21- #5 a41(E) bars at 10" cts.	23- #5 a46(E) bars at 10" cts.
101+72.70	101+92.40	22- #5 a42(E) bars at 10" cts.	23- #5 a47(E) bars at 10" cts.
101+92.40	102+14.40	19- #5 a43(E) bars at 10" cts.	23- #5 a48(E) bars at 10" cts.
102+14.40	102+32.20	19- #5 a44(E) bars at 10" cts.	20- #5 a49(E) bars at 10" cts.



MINIMUM BAR LAP

#7 BAR = 4'-3"
#5 BAR = 3'-0"

NOTES

1. See sheet S-23 for section B1-B1.
2. Cross girder reinforcement is detailed in sheets S-20 thru S-22
3. Transverse reinforcement shall be omitted at cross girder locations. See Cross Girder Sections for limits. Cut transverse reinforcement to fit around openings.
4. See Sheet S-26 for median, and sidewalk reinforcement.

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* Cut bars to fit around openings

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME	dbender	DESIGNED	MK	REVISED	-
CHECKED	AMK	REVISIONS	-	REVISIONS	-
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

SLAB PLAN - UNIT 1
STRUCTURE NO. 016-6146

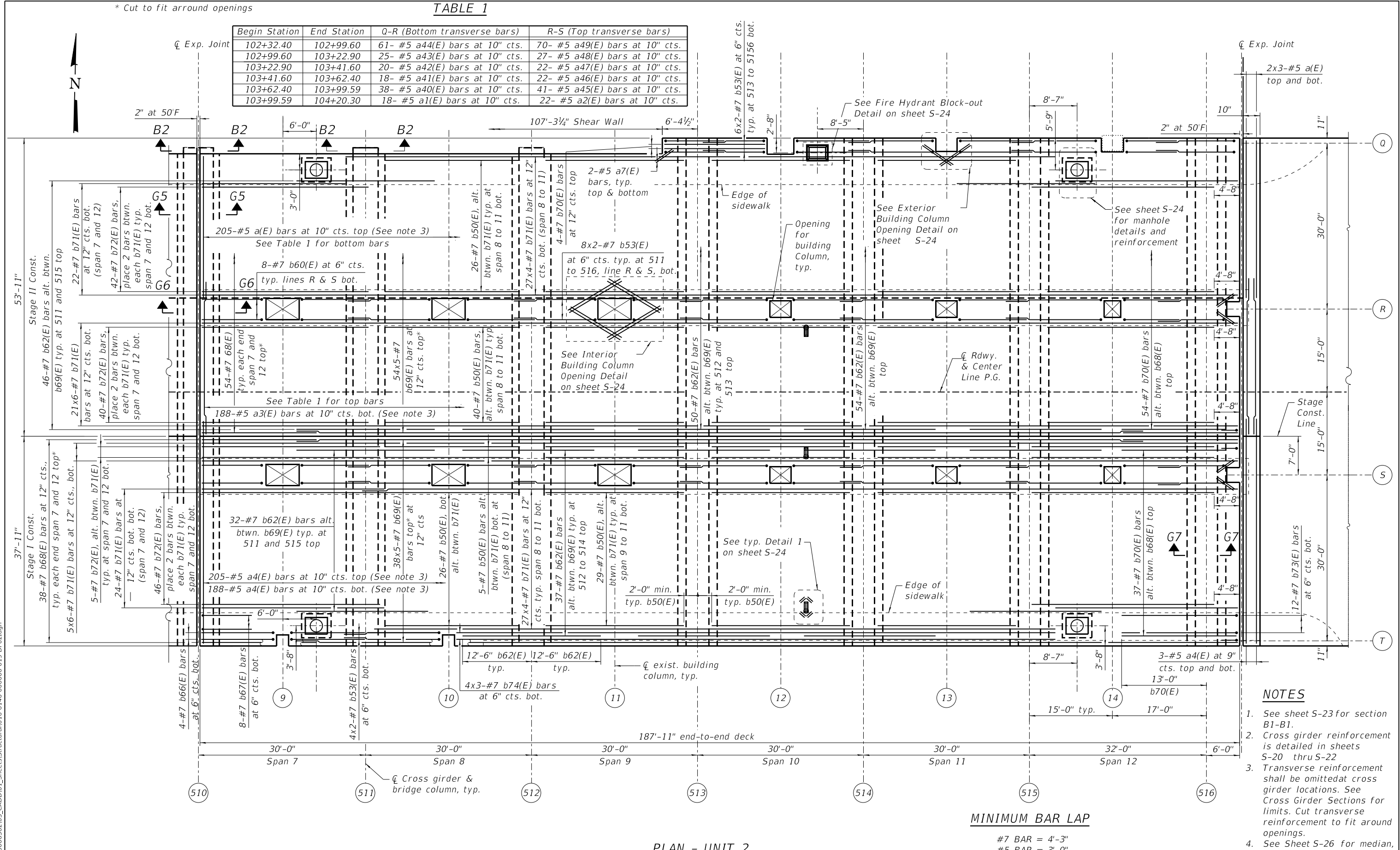
SHEET S-18 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	109
CONTRACT NO. M-6000(367)				
ILLINOIS		FED. AID PROJECT		

* Cut to fit around openings

TABLE 1

Begin Station	End Station	Q-R (Bottom transverse bars)	R-S (Top transverse bars)
102+32.40	102+99.60	61- #5 a44(E) bars at 10" cts.	70- #5 a49(E) bars at 10" cts.
102+99.60	103+22.90	25- #5 a43(E) bars at 10" cts.	27- #5 a48(E) bars at 10" cts.
103+22.90	103+41.60	20- #5 a42(E) bars at 10" cts.	22- #5 a47(E) bars at 10" cts.
103+41.60	103+62.40	18- #5 a41(E) bars at 10" cts.	22- #5 a46(E) bars at 10" cts.
103+62.40	103+99.59	38- #5 a40(E) bars at 10" cts.	41- #5 a45(E) bars at 10" cts.
103+99.59	104+20.30	18- #5 a1(E) bars at 10" cts.	22- #5 a2(E) bars at 10" cts.



PLAN - UNIT 2

MINIMUM BAR LAP

- #7 BAR = 4'-3"
- #5 BAR = 3'-0"

NOTES

- See sheet S-23 for section B1-B1.
- Cross girder reinforcement is detailed in sheets S-20 thru S-22.
- Transverse reinforcement shall be omitted at cross girder locations. See Cross Girder Sections for limits. Cut transverse reinforcement to fit around openings.
- See Sheet S-26 for median, and sidewalk reinforcement.

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER

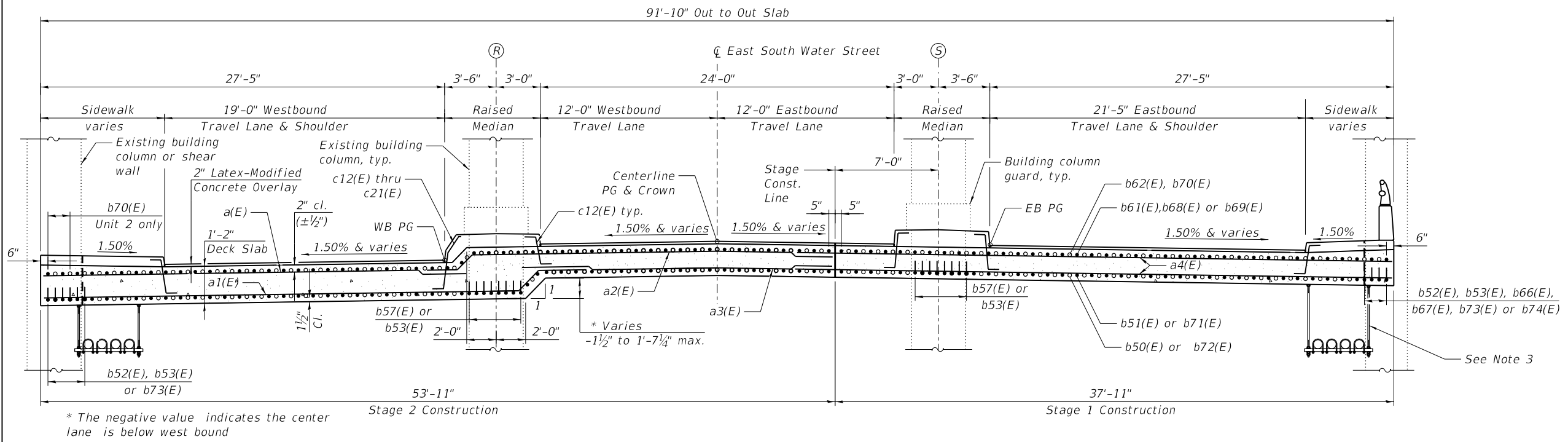
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CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING

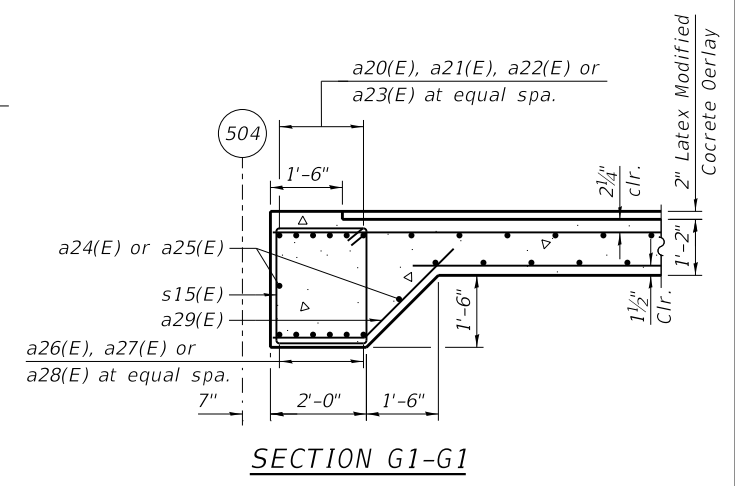
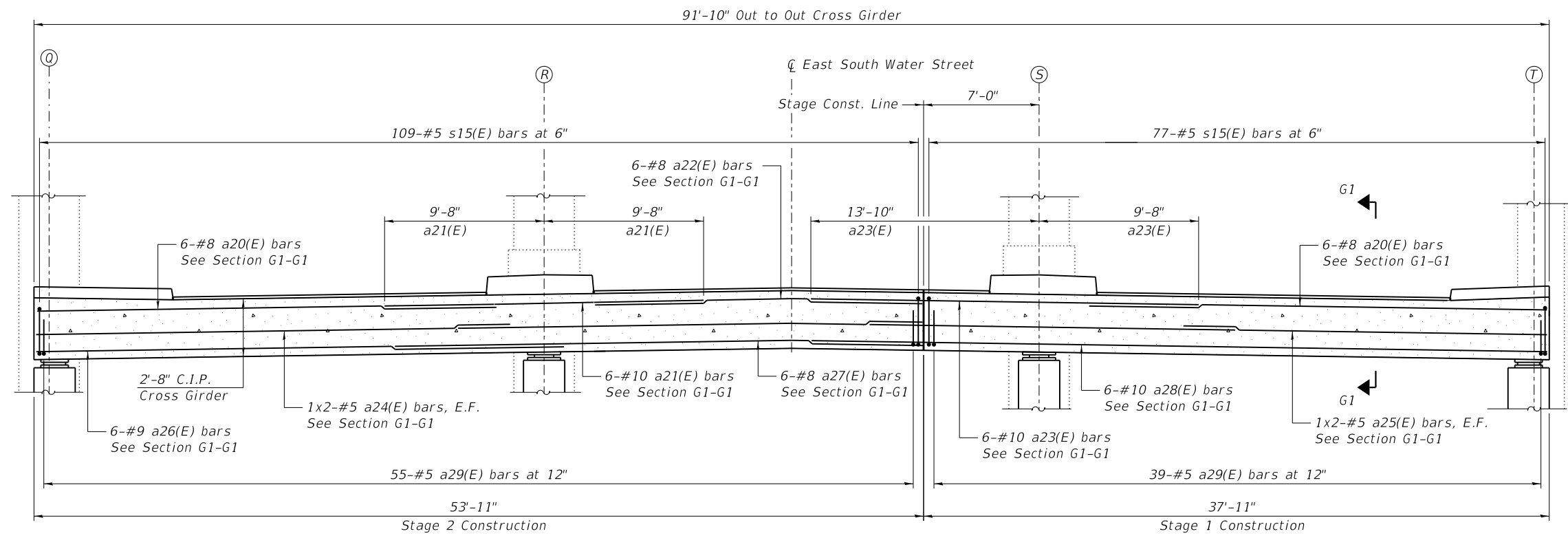
SLAB PLAN - UNIT 2
 STRUCTURE NO. 016-6146

SHEET S-19 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	110
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	



PROPOSED CROSS SECTION - INTERMEDIATE LEVEL
(Looking East, typ.)



SECTION G1-G1

- NOTES**
1. See Sheet S-4 for Stage Construction Details.
 2. See Sheet S-24 for bar details around man hole.
 3. See Electrical plans for Conduit Details

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

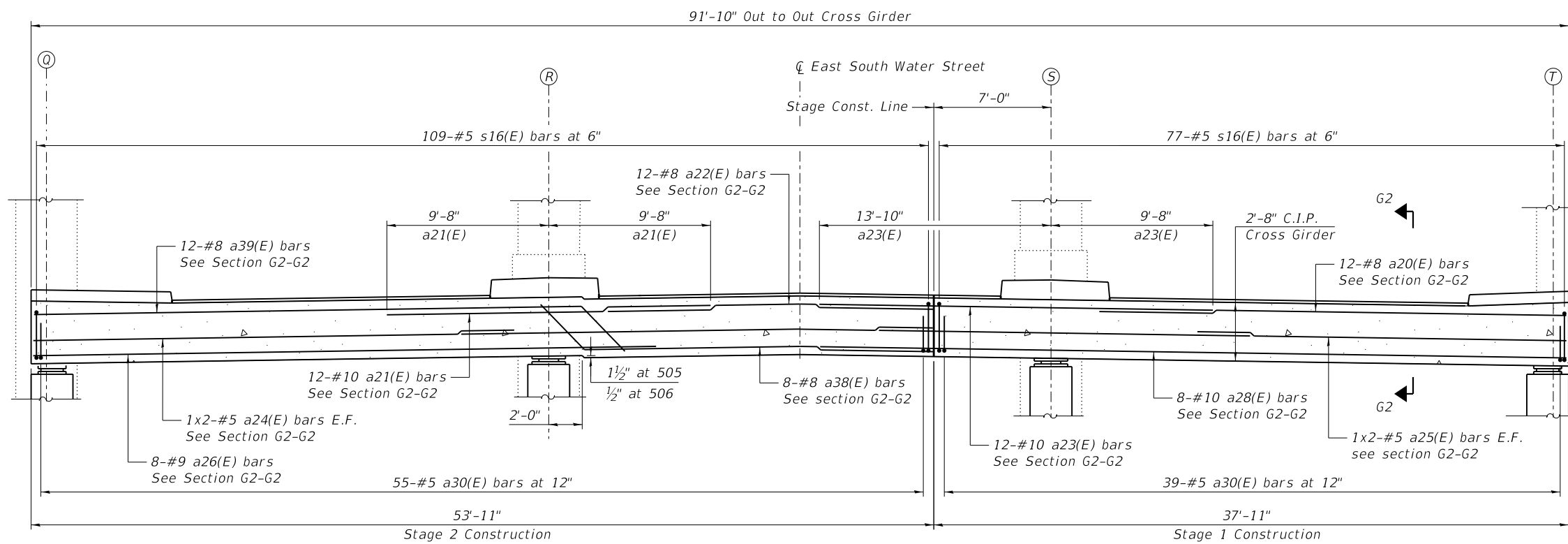
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

SLAB CROSS-SECTION - 1
STRUCTURE NO. 016-6146

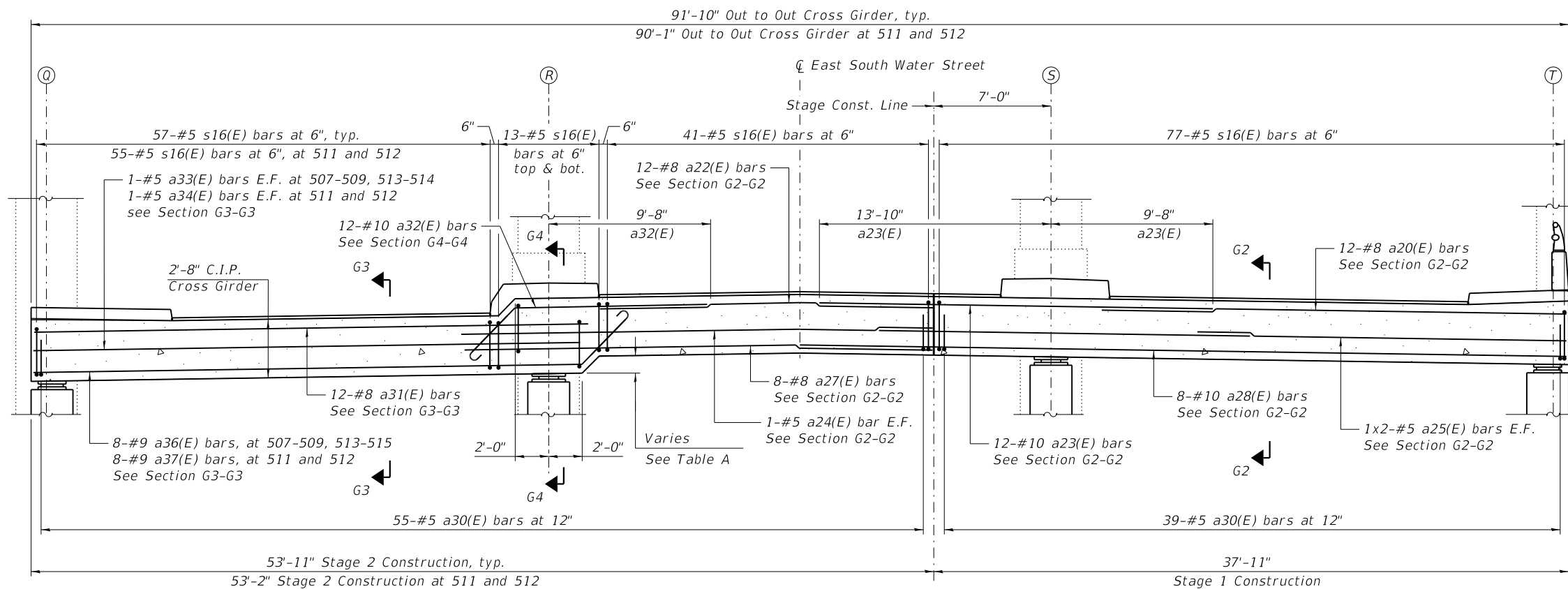
SHEET S-20 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	111
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	



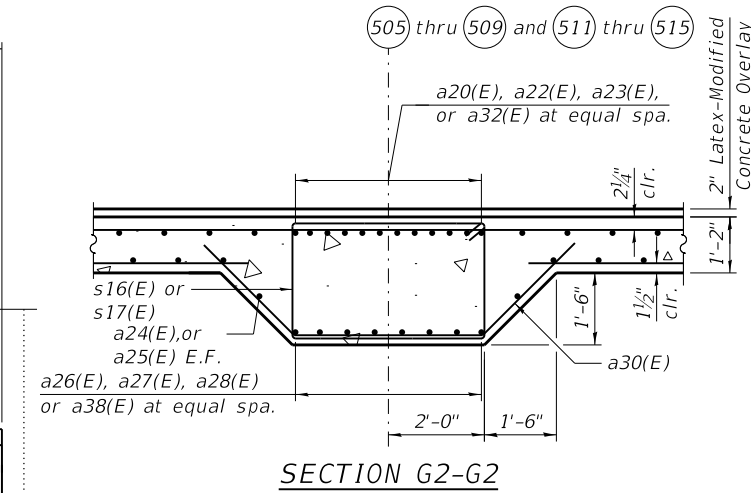
* Slab reinforcement not shown for clarity.

CROSS GIRDER ELEVATION
(Looking East, at 505 and 506)

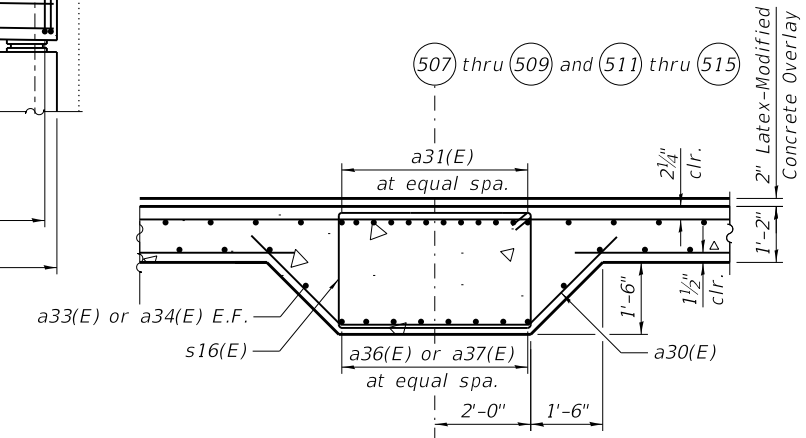


* Slab reinforcement not shown for clarity.

CROSS GIRDER ELEVATION
(Looking East, at 507 thru 509 and 511 thru 515)



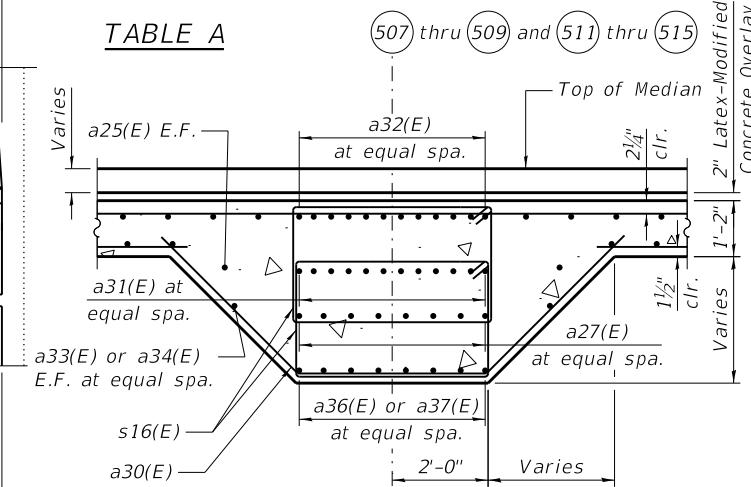
SECTION G2-G2



SECTION G3-G3

Girder	A
507	2 3/8"
508	7 1/8"
509	1'-0 7/8"
511	1'-7 1/4"
512	1'-5"
513	1'-0"
514	5 3/4"
515	1 1/4"

TABLE A



SECTION G4-G4

NOTES

1. See Sheet S-4 for Stage Construction Details.
2. For north bearing details at Cross Girders 511 and 512 see BRG. DETAIL "A" on Sheet S-23.

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

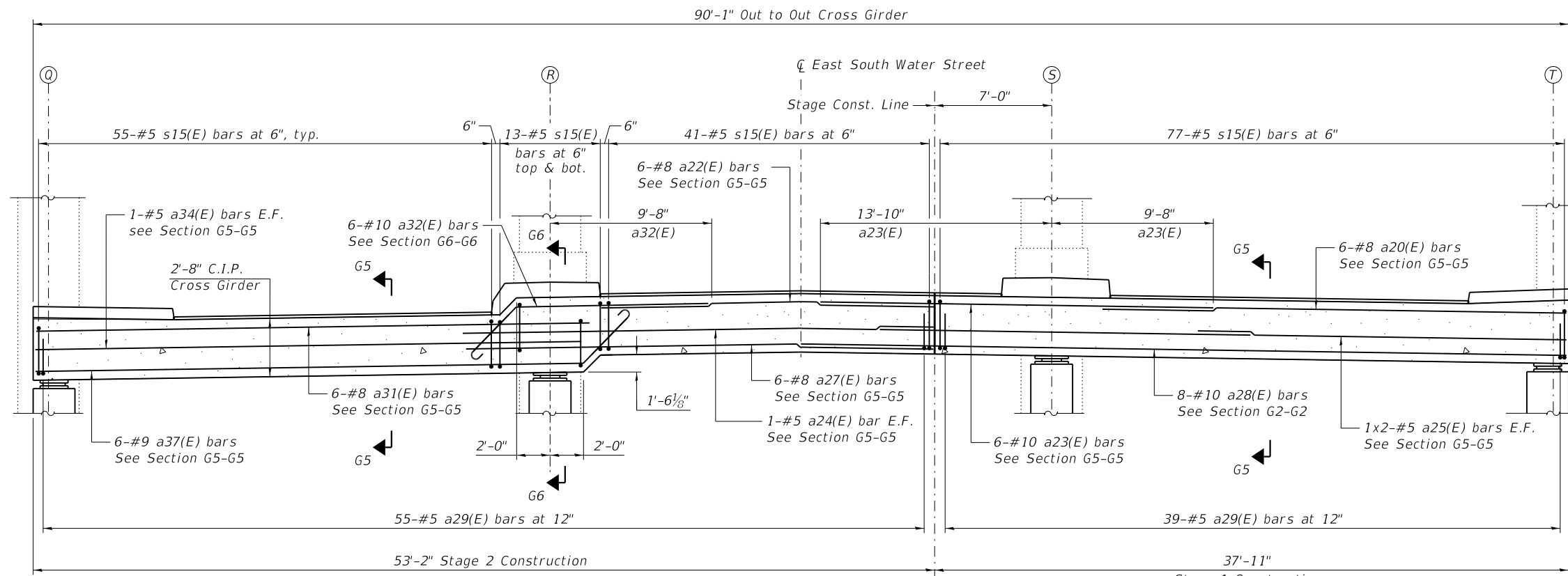
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

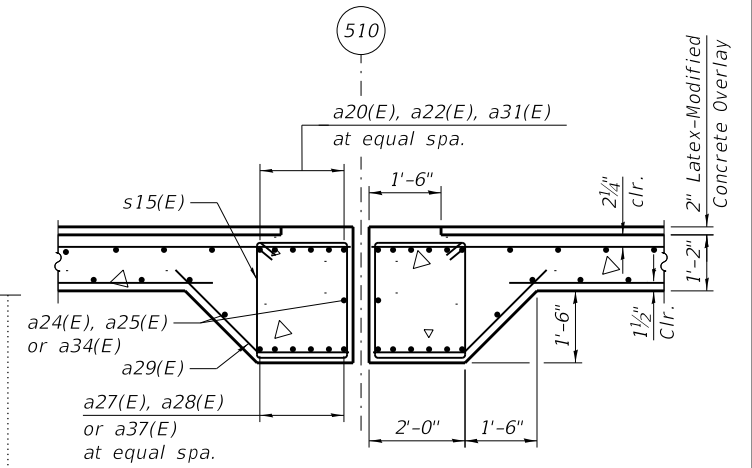
**SLAB CROSS-SECTION - 2
STRUCTURE NO. 016-6146**

SHEET S-21 OF S-50 SHEETS

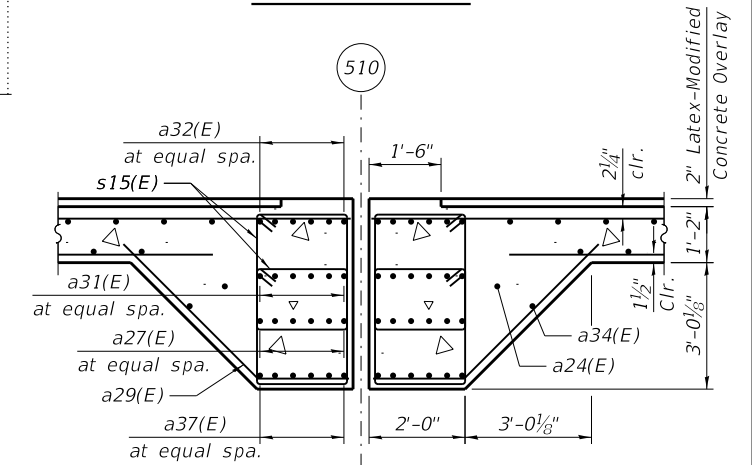
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CONTRACT NO. M-6000(367)				
ILLINOIS		FED. AID PROJECT		



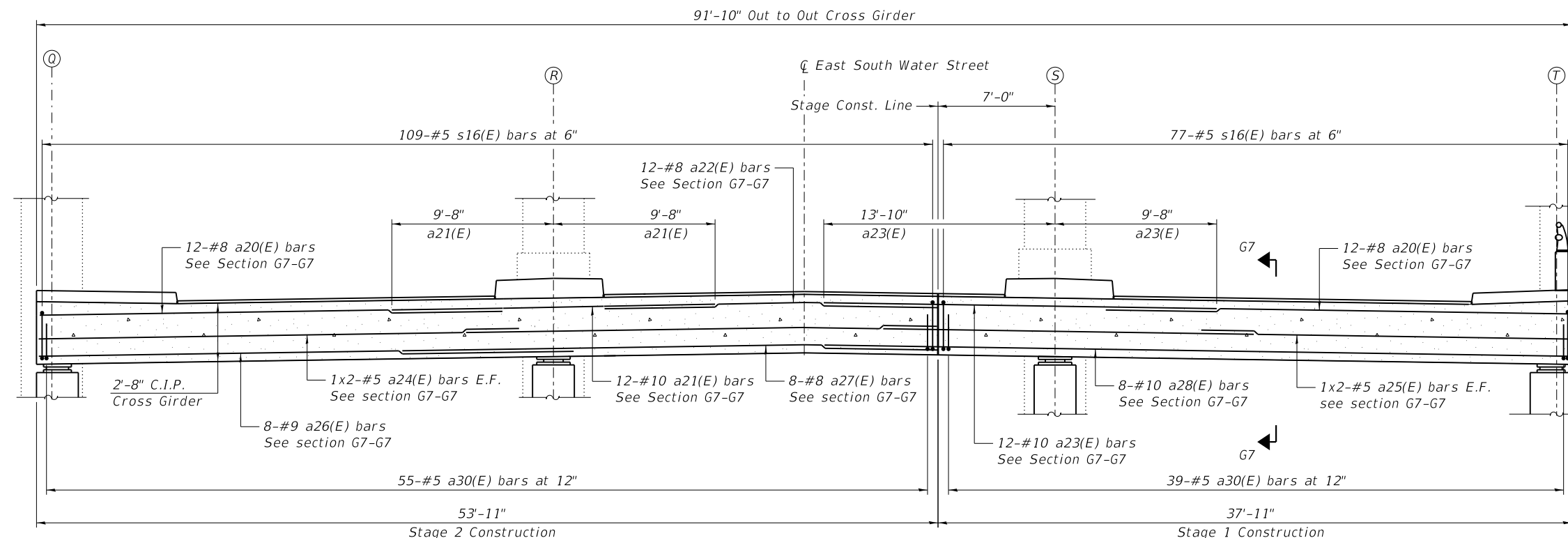
CROSS GIRDER ELEVATION
(Looking East, at 510)



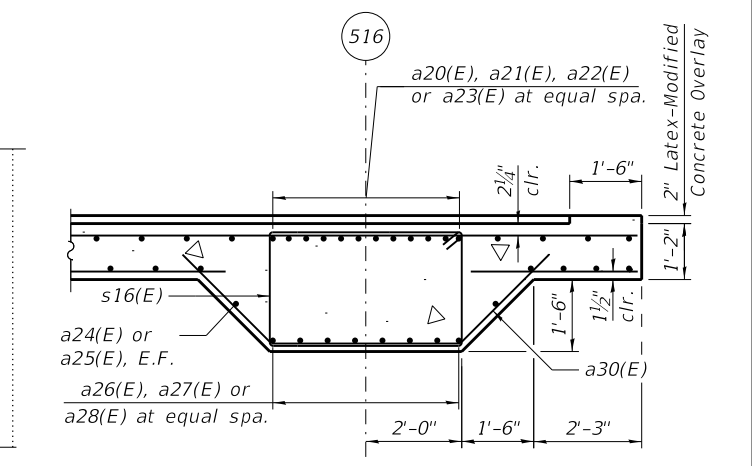
SECTION G5-G5



SECTION G6-G6



CROSS GIRDER ELEVATION
(Looking East, at 516)



SECTION G7-G7

NOTES

1. See Sheet S-4 for Stage Construction Details.
2. For north bearing details at Cross Girder 510 see BRG. DETAIL "A" on Sheet S-23.

* Slab reinforcement not shown for clarity.

* Slab reinforcement not shown for clarity.

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

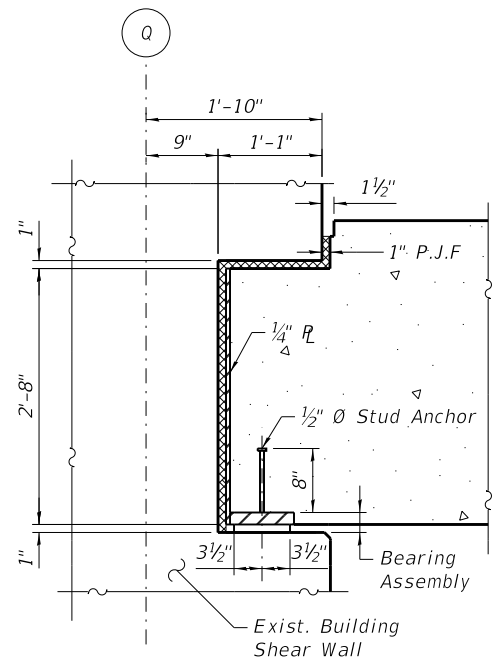
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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

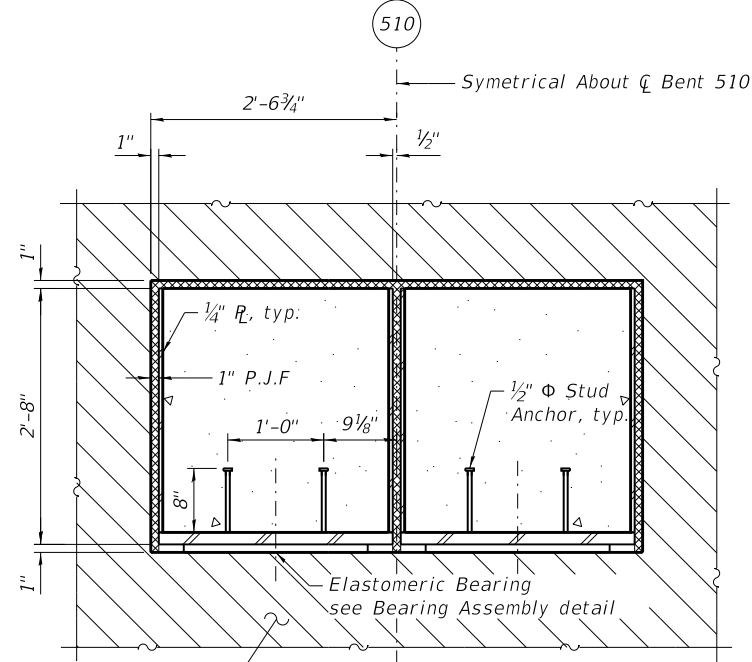
SLAB CROSS-SECTION - 3
STRUCTURE NO. 016-6146

SHEET S-22 OF S-50 SHEETS

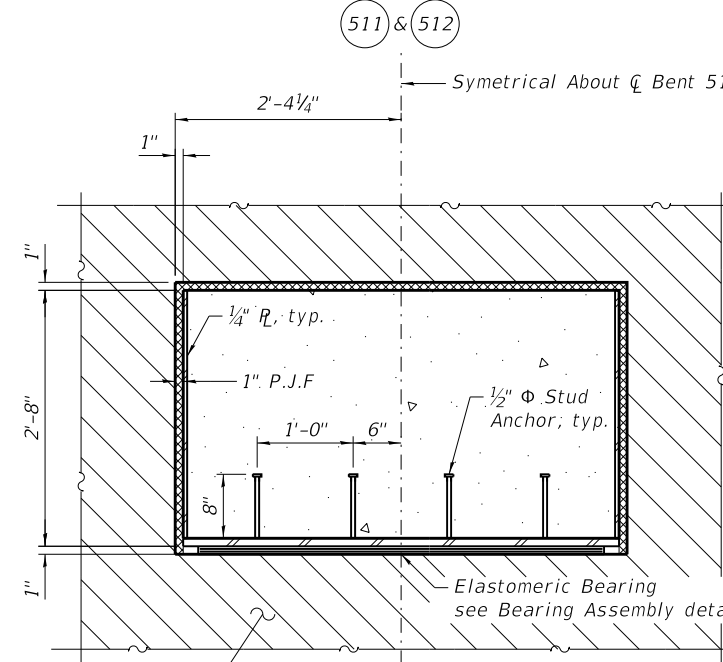
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ILLINOIS FED. AID PROJECT				



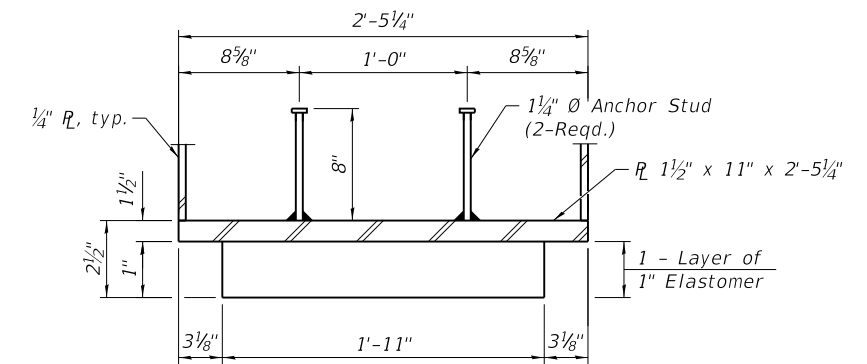
BRG. DETAIL "A"



SECTION B1-B1

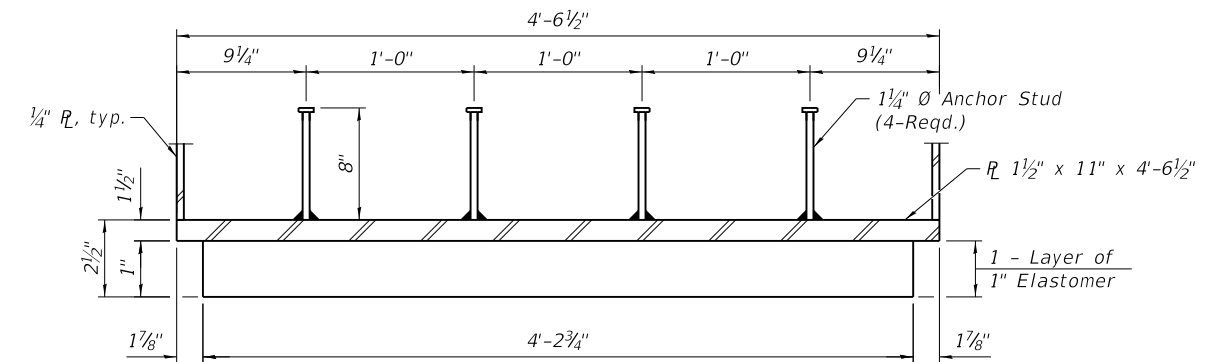


SECTION B2-B2



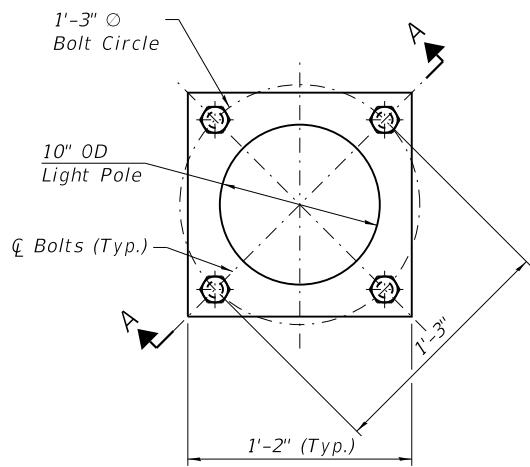
BEARING ASSEMBLY

(510) N. Bearing

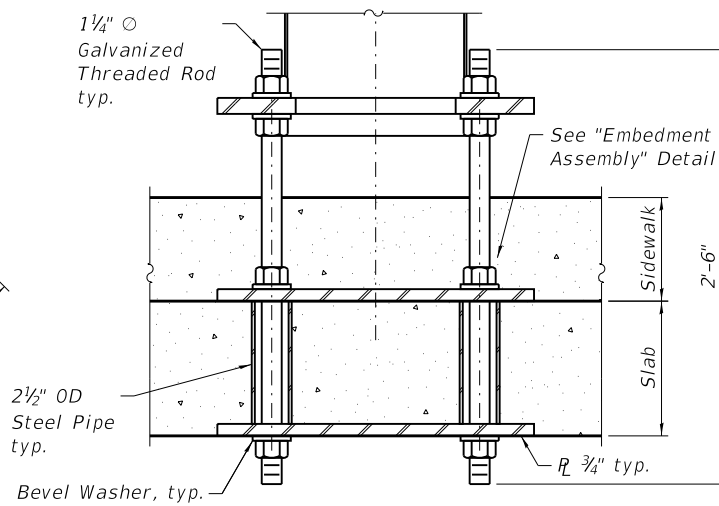


BEARING ASSEMBLY

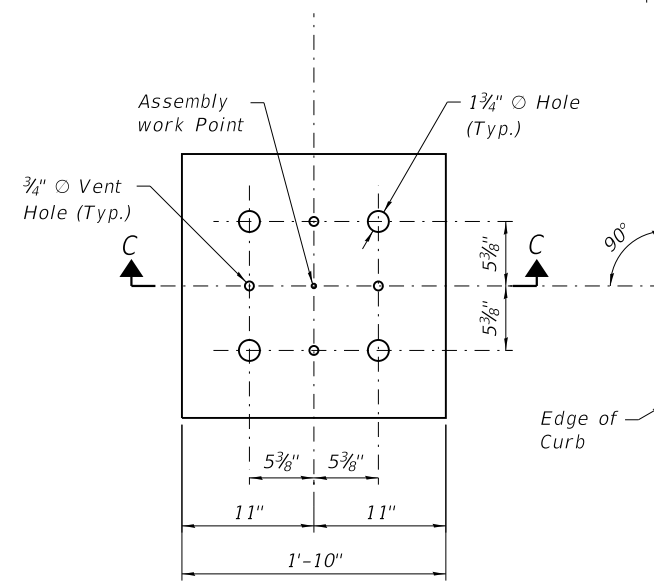
(511 & 512) N. Bearing



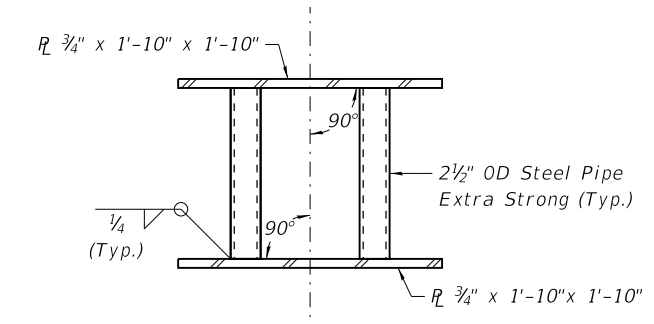
PLAN VIEW



SECTION A-A



PLAN



SECTION C-C

EMBEDMENT ASSEMBLY DETAIL

2 Required

note: The cost of the light pole connection and embedment assembly included with High Performance Concrete Superstructures.

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

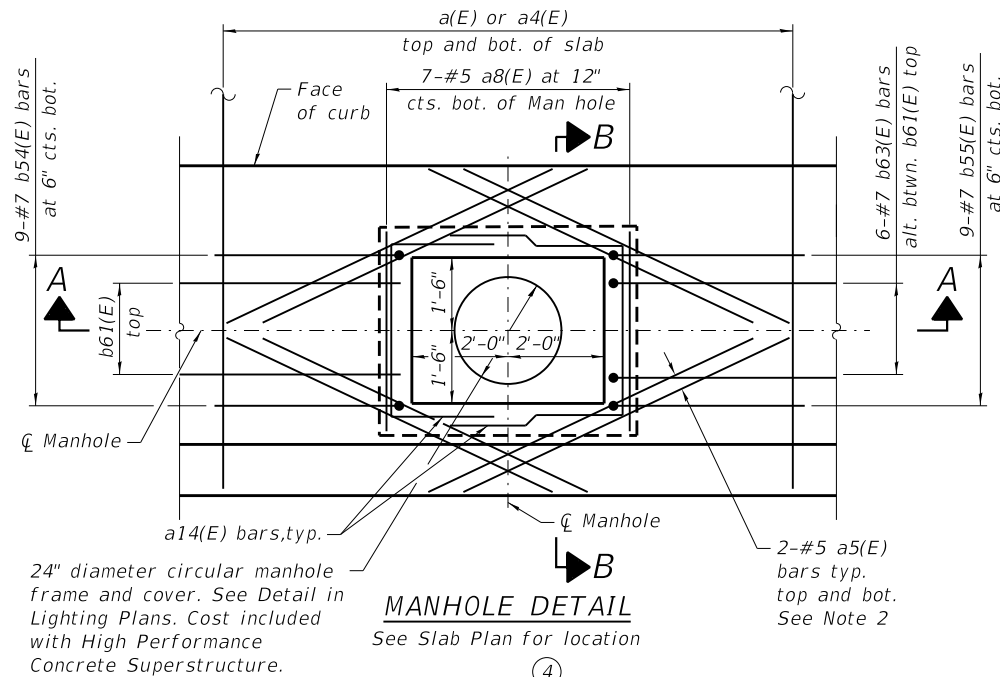
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

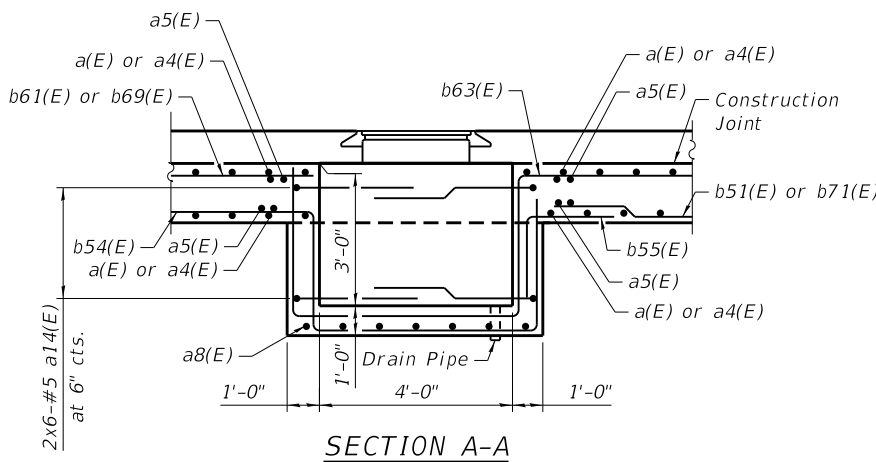
**SLAB DETAILS
 STRUCTURE NO. 016-6146**

SHEET S-23 OF S-50 SHEETS

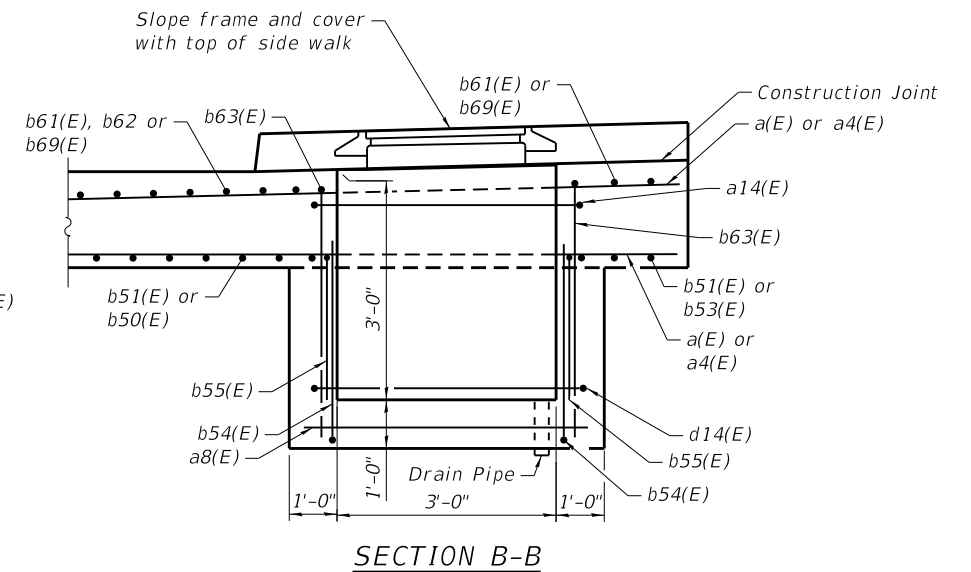
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ILLINOIS			FED. AID PROJECT	



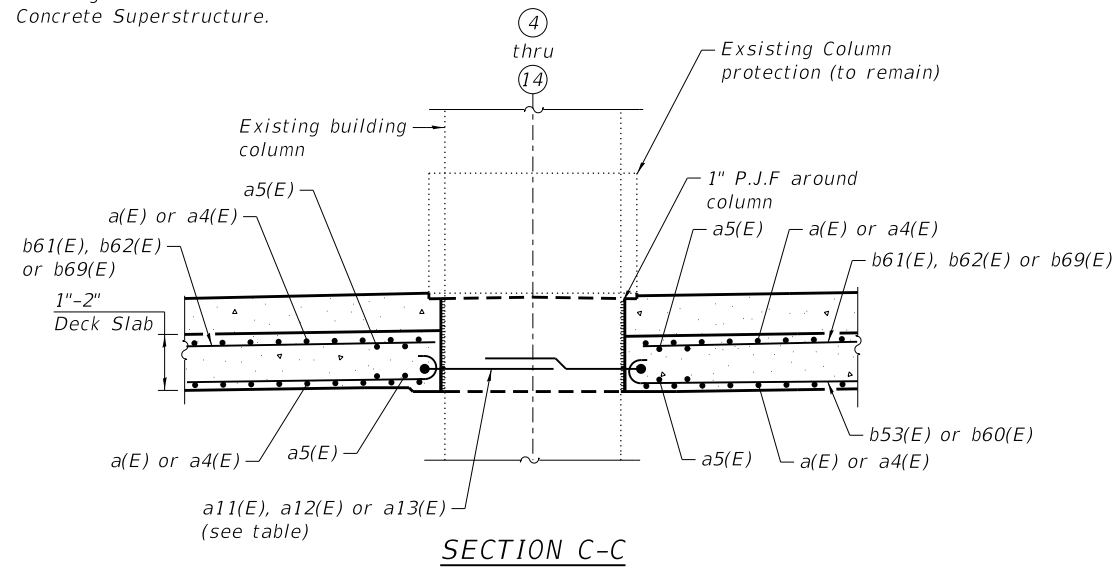
MANHOLE DETAIL
24" diameter circular manhole frame and cover. See Detail in Lighting Plans. Cost included with High Performance Concrete Superstructure. See Slab Plan for location



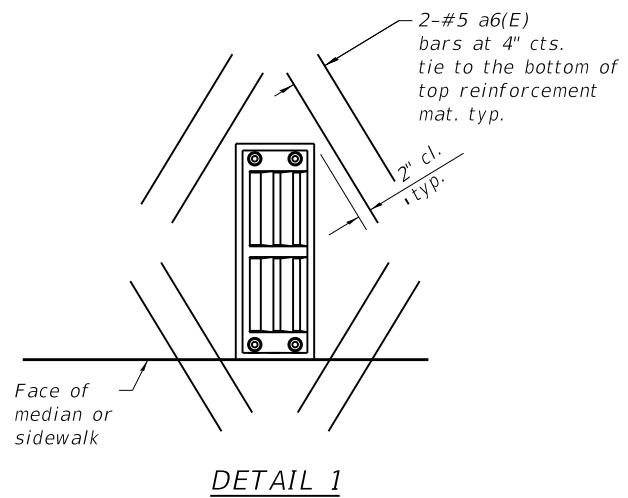
SECTION A-A



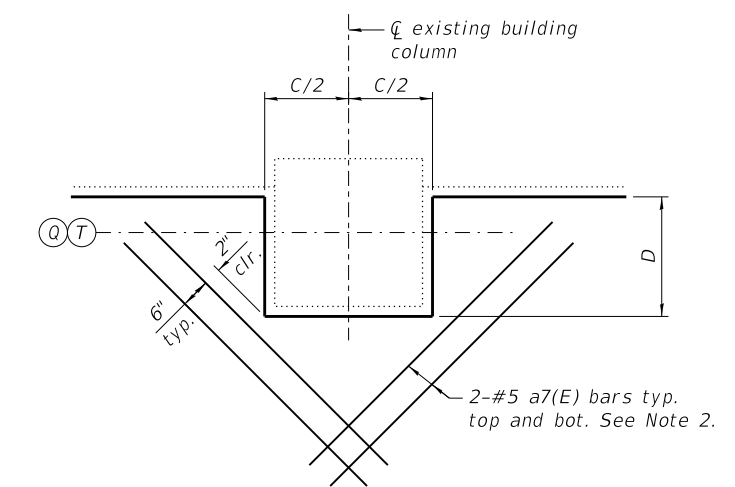
SECTION B-B



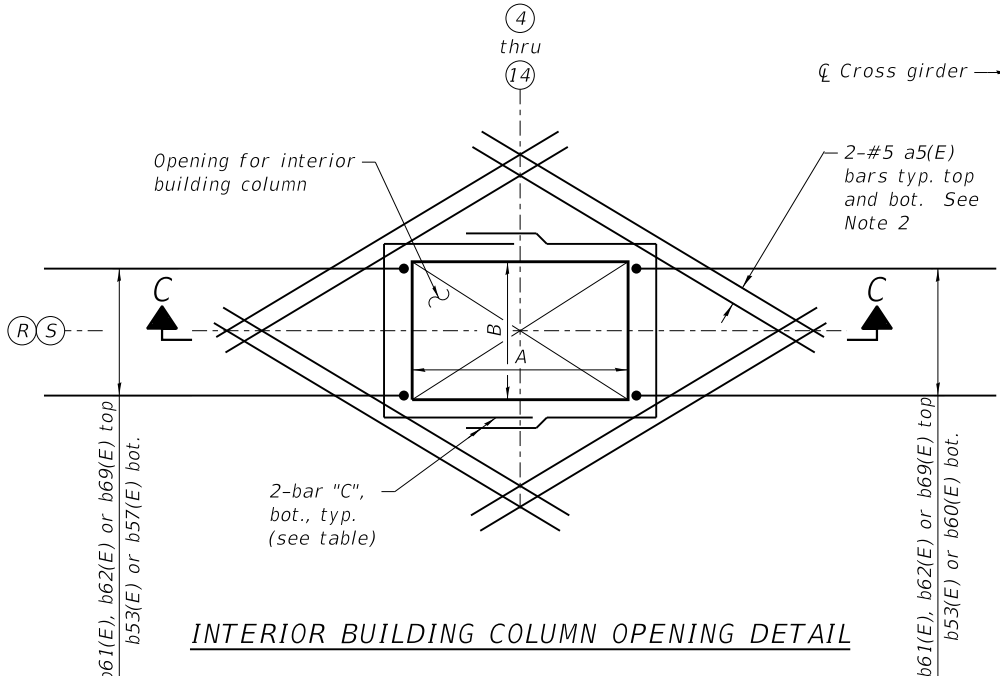
SECTION C-C



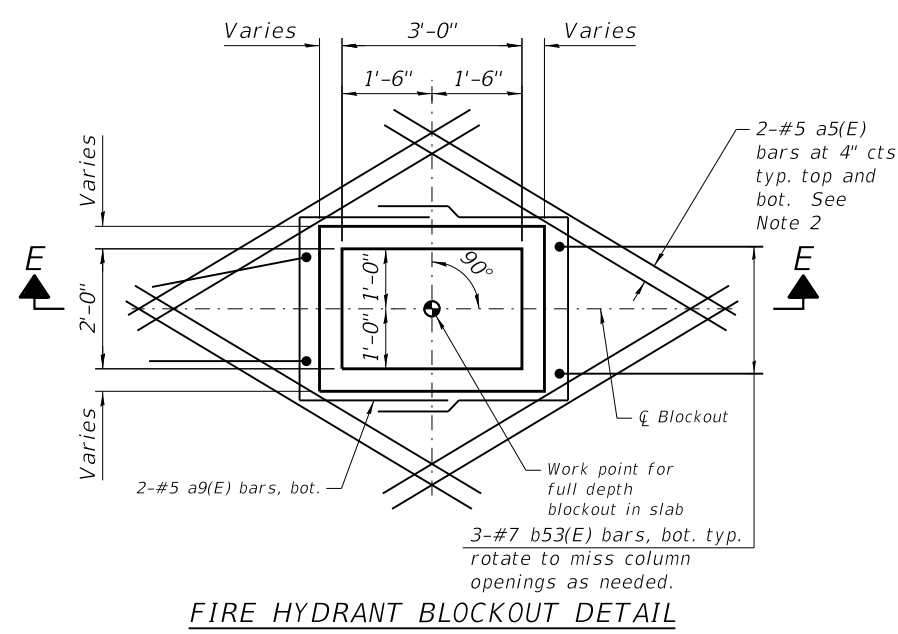
DETAIL 1



EXTERIOR BUILDING COLUMN OPENING DETAIL



INTERIOR BUILDING COLUMN OPENING DETAIL



FIRE HYDRANT BLOCKOUT DETAIL

DIMENSIONS "A" & "B" AND BAR "C"

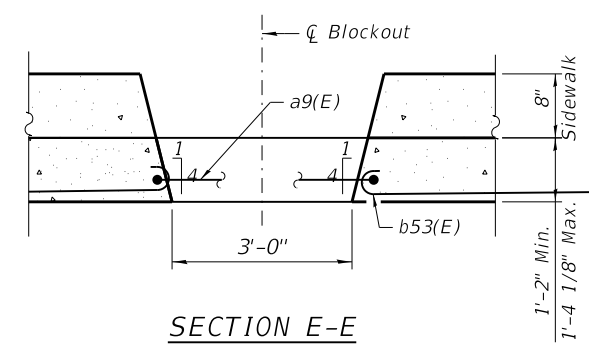
Location	"A"	"B"	Bar "C"
4	2'-2"	2'-8"	#5 a11(E)
6, 7, 12 & 13	4'-8"	3'-10"	#5 a12(E)
8, 9, 10, & 11	6'-0"	3'-10"	#5 a12(E)
5 & 14	3'-10"	3'-10"	#5 a12(E)
15	2'-2"	2'-2"	#5 a13(E)

Applies to Lines R & S

DIMENSIONS "C" & "D"

Location	"C"	"D"
T3-T7, T9&T10	2'-2"	2'-0"
Q3-Q4	2'-2"	2'-8"
Q5 & Q14	3'-10"	2'-10"
Q6, Q7, Q12 & Q13	4'-8"	2'-10"

- NOTES:**
- PJF denotes preformed joint filler.
 - Reinforcement placed at corners of column openings shall be tied to the bottom of the top reinforcement mat and to the top of the bottom reinforcement mat.



SECTION E-E

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12 TH FLOOR
CHICAGO, ILLINOIS 60606

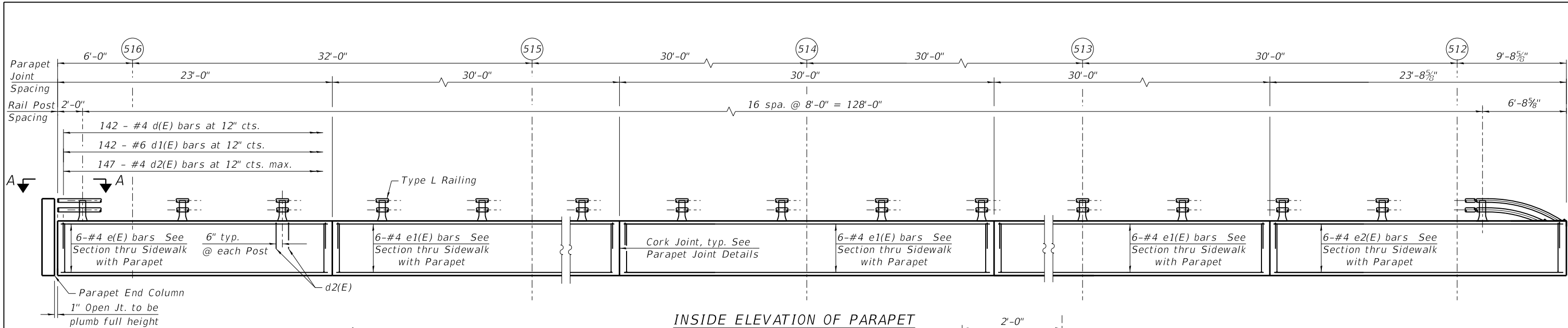
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H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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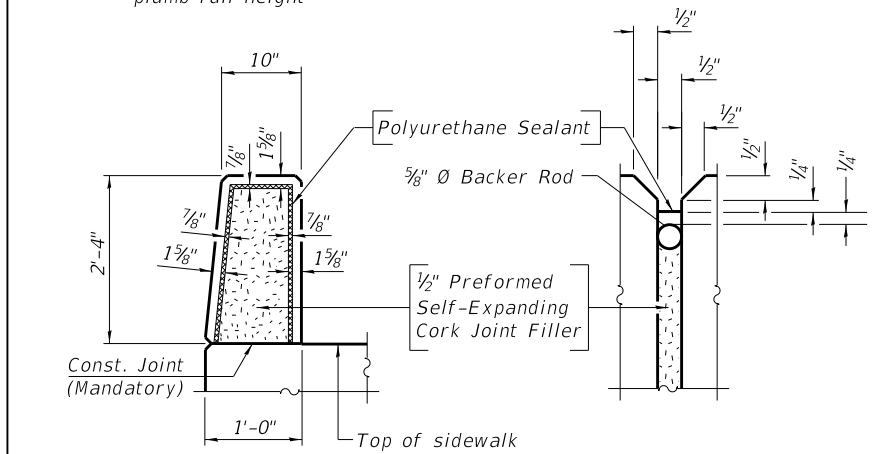
**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**SLAB DETAILS 2
STRUCTURE NO. 016-6146**
SHEET S-24 OF S-50 SHEETS

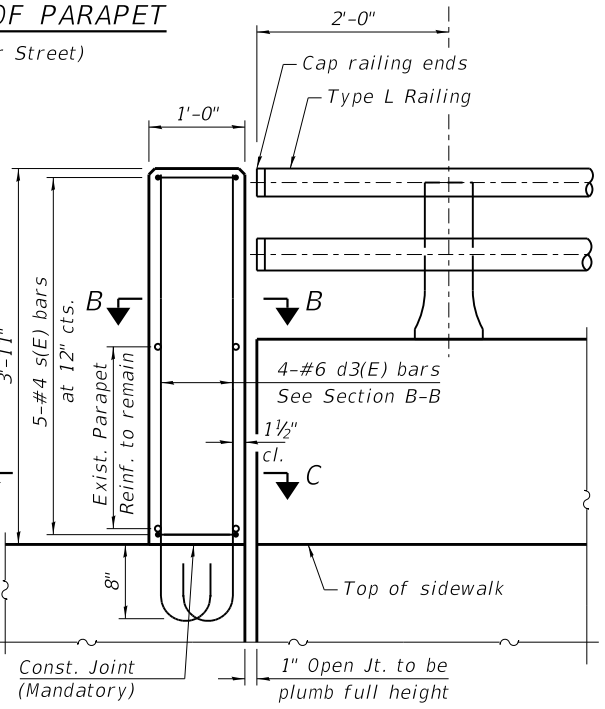
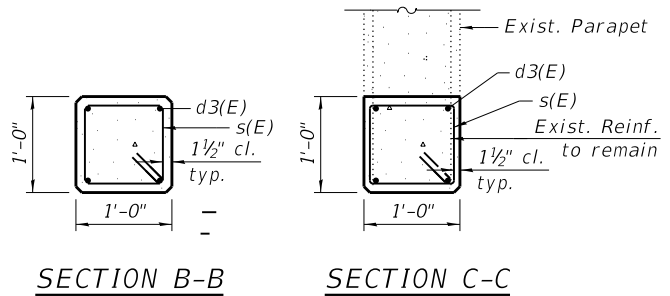
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CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



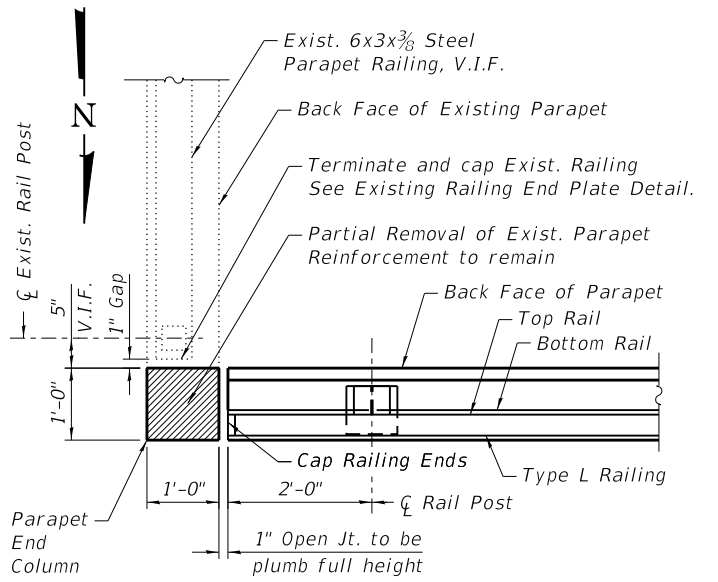
INSIDE ELEVATION OF PARAPET
(Looking South, Water Street)



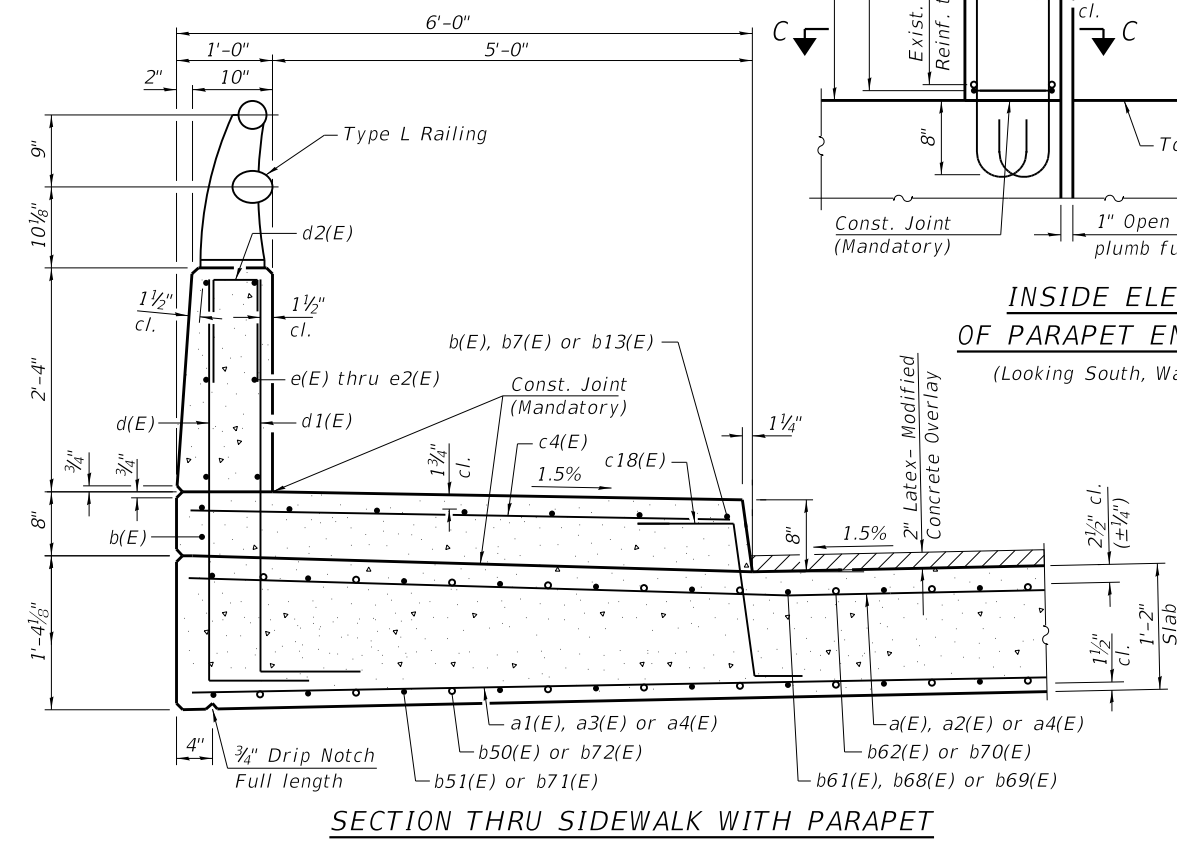
PARAPET JOINT DETAILS



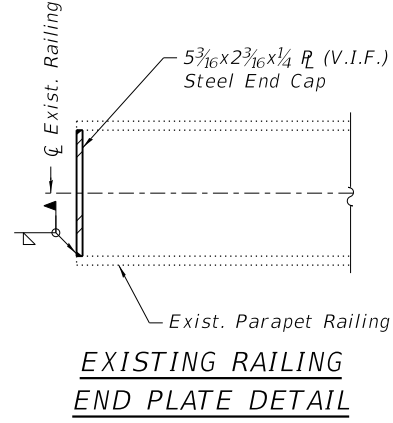
INSIDE ELEVATION OF PARAPET END COLUMN
(Looking South, Water Street)



VIEW A-A



SECTION THRU SIDEWALK WITH PARAPET



EXISTING RAILING END PLATE DETAIL

NOTES

- Slipforming of the parapet is not allowed.
- See sheet S-32 of S-50 for Type L Railing details.
- The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a 5/8" backer rod.
- The 1/2" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.
- Cost of Steel Railing End Cap included with Aluminum Railing, Type L. See sheet S-32 of S-50.

LEGEND

- Indicates removal
- V.I.F. Indicates Verify in field

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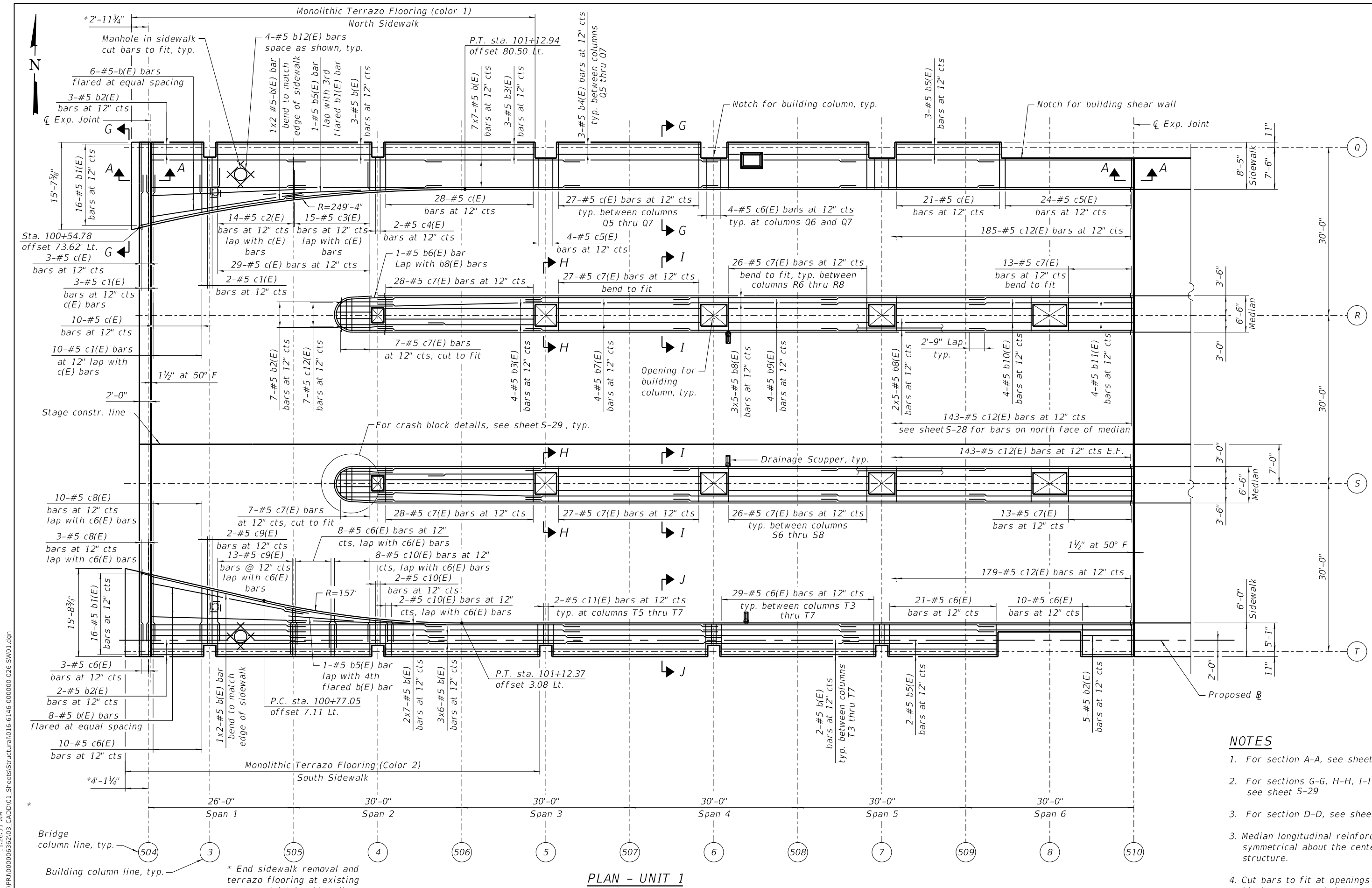
LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

PARAPET ELEVATION AND DETAILS
STRUCTURE NO. 016-6146

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	116
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



- NOTES**
1. For section A-A, see sheet S-35
 2. For sections G-G, H-H, I-I and J-J, see sheet S-29
 3. For section D-D, see sheet S-31
 3. Median longitudinal reinforcement is symmetrical about the center of the structure.
 4. Cut bars to fit at openings and blockouts as needed.

PLAN - UNIT 1

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 CHICAGO, ILLINOIS 60606

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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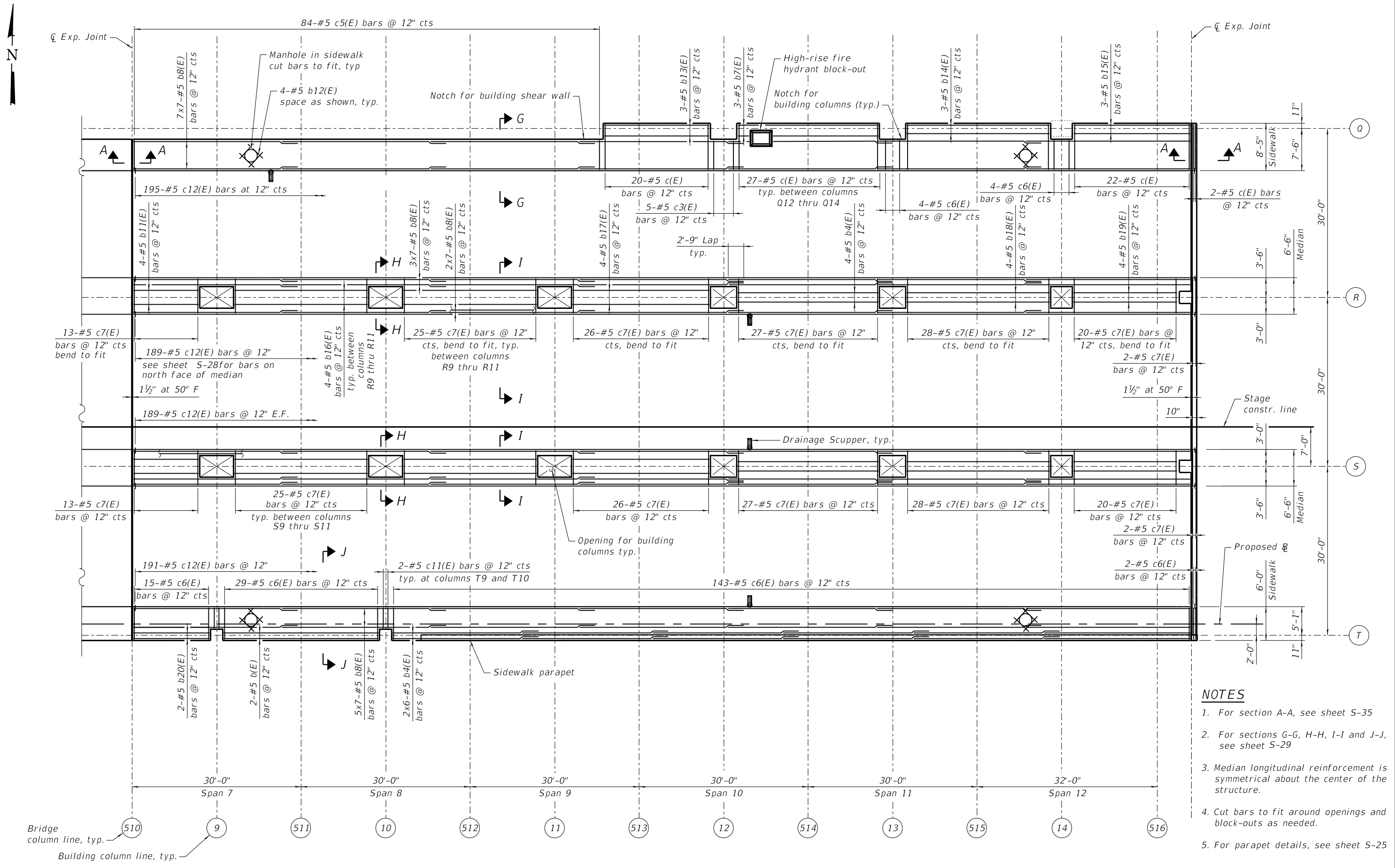
**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**SIDEWALK AND MEDIAN PLAN - UNIT 1
 STRUCTURE NO. 016-6146**

SHEET S-26 OF S-50 SHEETS

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ILLINOIS		FED. AID PROJECT		

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606



- NOTES**
1. For section A-A, see sheet S-35
 2. For sections G-G, H-H, I-I and J-J, see sheet S-29
 3. Median longitudinal reinforcement is symmetrical about the center of the structure.
 4. Cut bars to fit around openings and block-outs as needed.
 5. For parapet details, see sheet S-25

LOCHNER

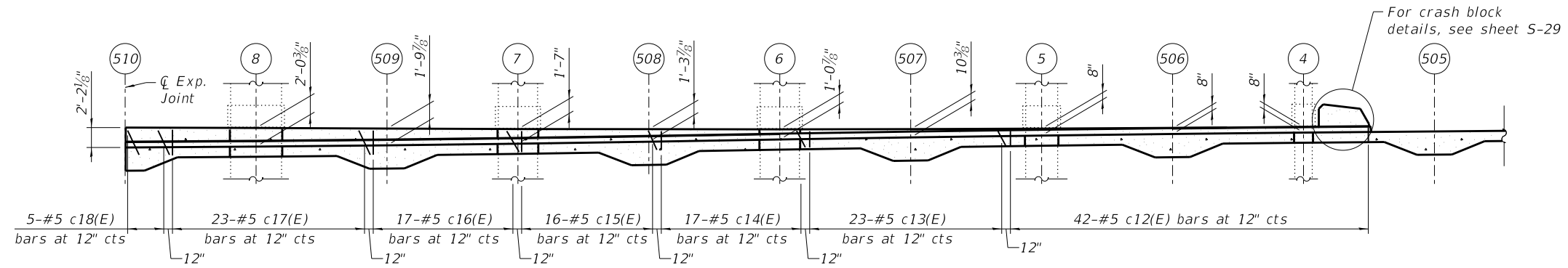
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**SIDEWALK AND MEDIAN PLAN - UNIT 2
 STRUCTURE NO. 016-6146**

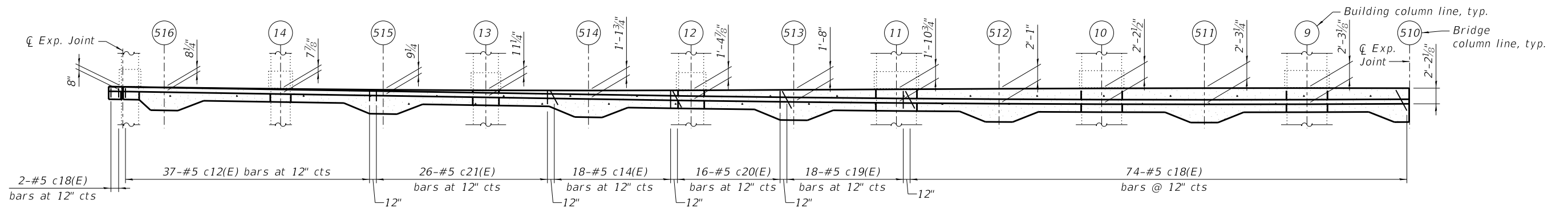
SHEET S-27 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. M-6000(367)				
ILLINOIS		FED. AID PROJECT		



ELEVATION - NORTH FACE OF MEDIAN R (UNIT 1)

Note: Slab and median longitudinal reinforcement not shown for clarity



ELEVATION - NORTH FACE OF MEDIAN R (UNIT 2)

Note: Slab and median longitudinal reinforcement not shown for clarity

NOTE

1. Rotate c13(E) thru c21(E) bars as necessary to maintain 1 3/4" to 2 3/4" clearance from the top face of the median.

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

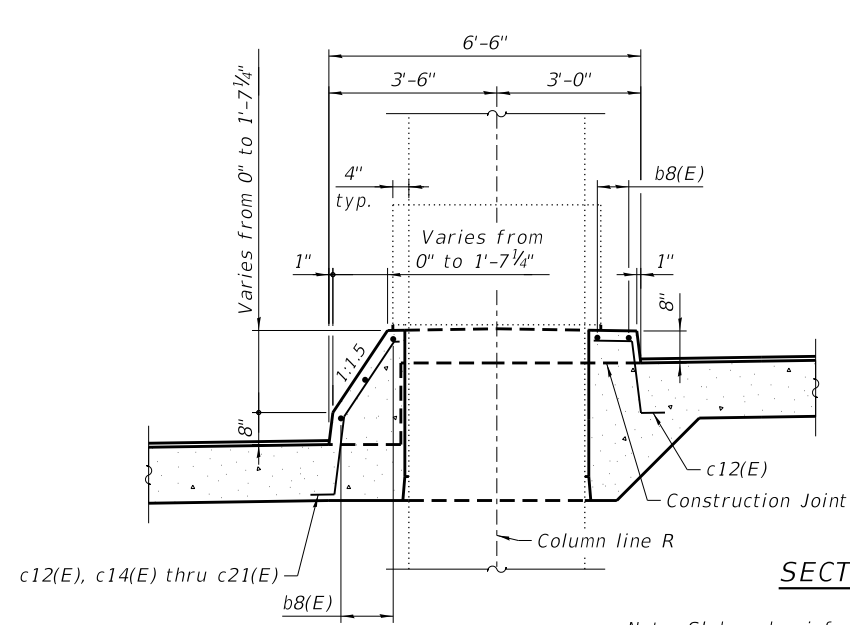
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**MEDIAN ELEVATIONS - LINE R
 STRUCTURE NO. 016-6146**

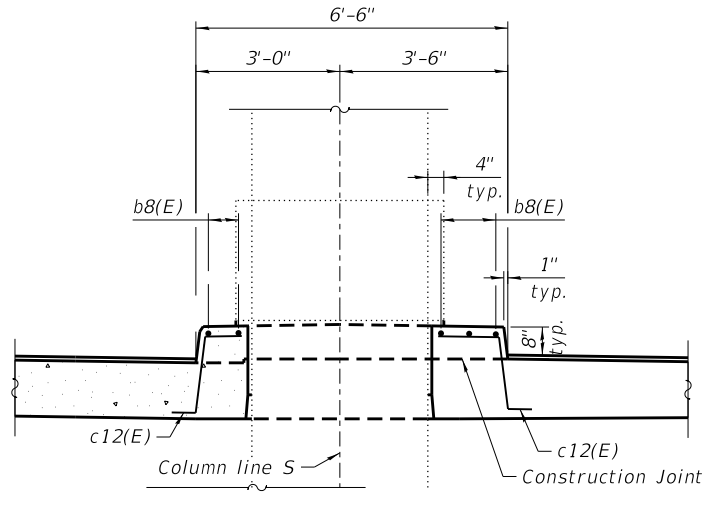
SHEET S-28 OF S-50 SHEETS

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ILLINOIS FED. AID PROJECT				



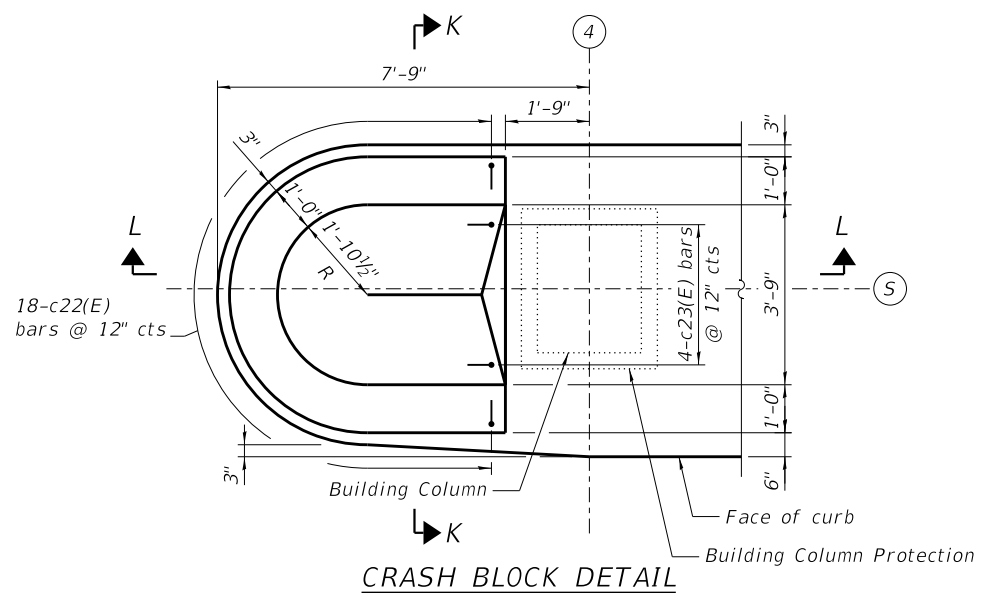
SECTION H-H

Note: Slab and reinforcement not shown for clarity.

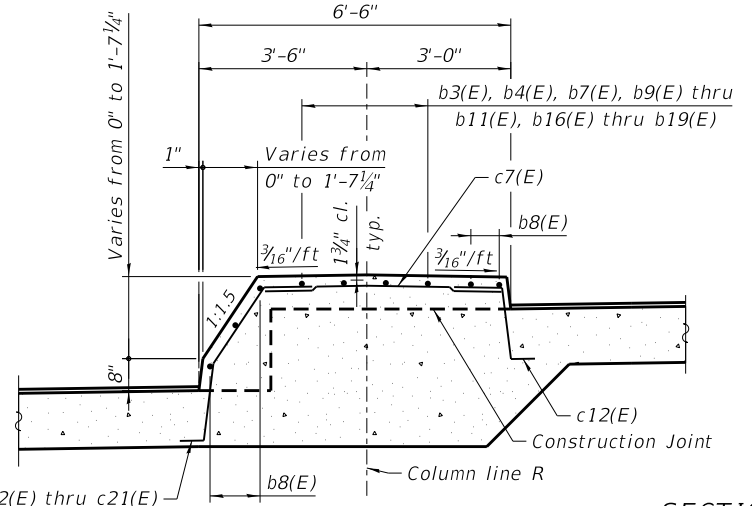


SECTION I-I

Note: Slab and reinforcement not shown for clarity.



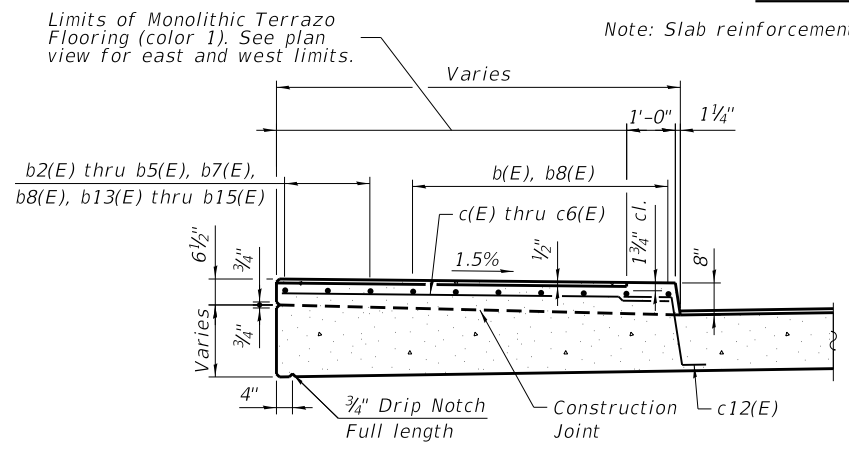
CRASH BLOCK DETAIL



SECTION K-K

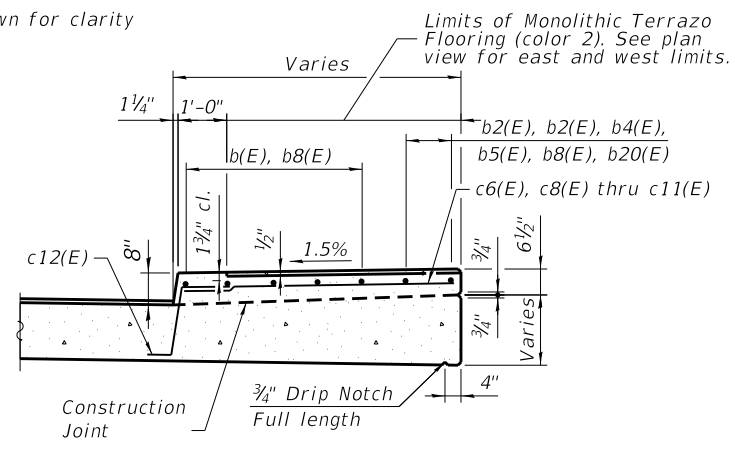
Note: Slab and median reinforcement not shown for clarity.

* Crash blocks shall also be installed at the lower level east of columns R4 and S4. Quantity included with "High Performance Concrete Structures".



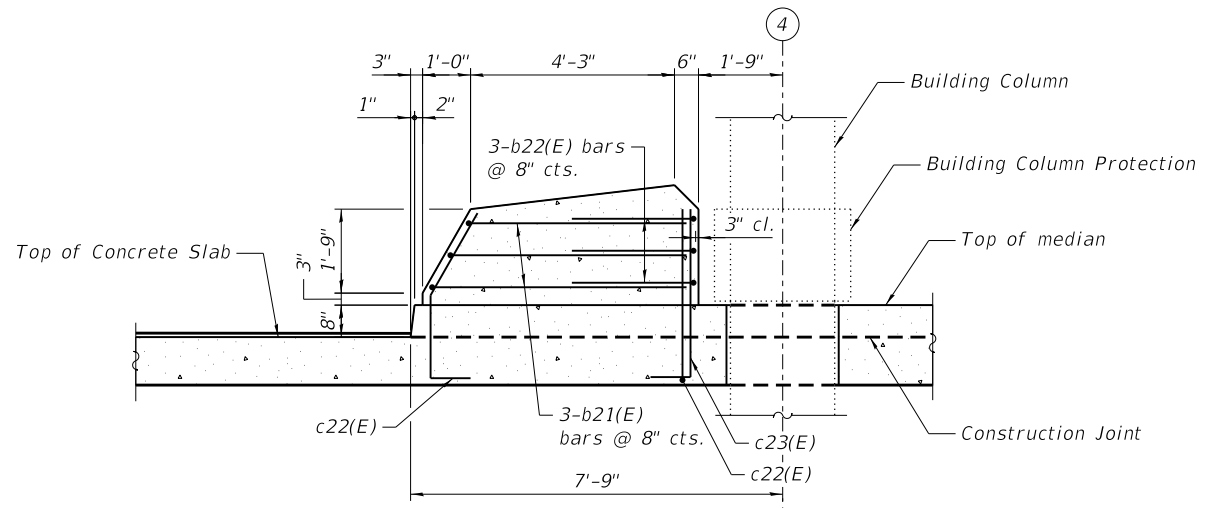
SECTION G-G

Note: Slab reinforcement not shown for clarity.



SECTION J-J

Note: Slab reinforcement not shown for clarity.



SECTION L-L

Note: Slab and median reinforcement not shown for clarity.

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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME = dbender	DESIGNED - JCM	REVISED -
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PLOT DATE = 5/17/2019	DRAWN - JCM	REVISED -
	CHECKED - AMK	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**SIDEWALK AND MEDIAN DETAILS
 STRUCTURE NO. 016-6146**

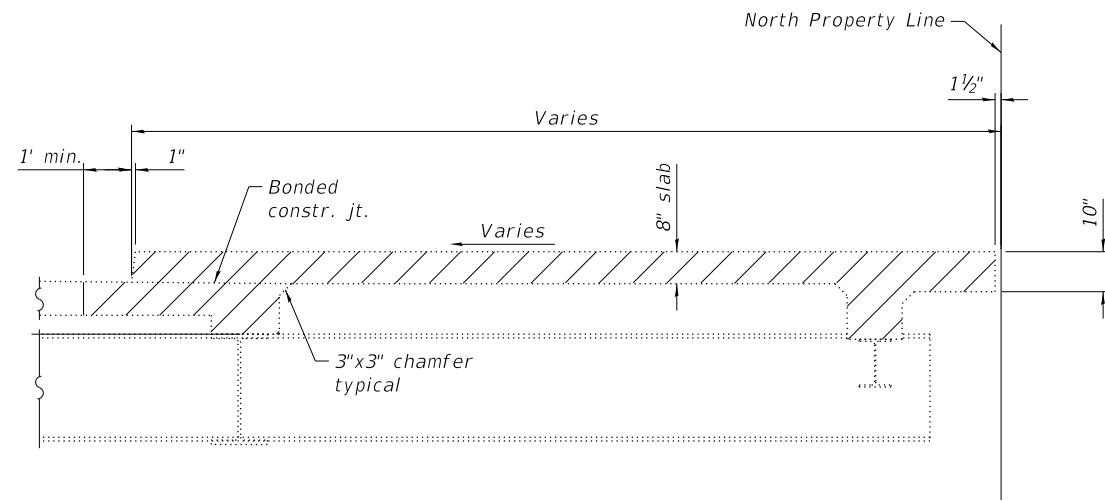
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3030	11 - E1517 - 00 - BR	COOK	141	120
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	

SHEET S-29 OF S-50 SHEETS

UNIT 2 - BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	217	#5	28'-7"	
a1(E)	18	#5	35'-9"	
a2(E)	22	#5	28'-0"	
a3(E)	188	#5	20'-10"	
a4(E)	399	#5	40'-9"	
a5(E)	256	#5	8'-0"	
a6(E)	24	#5	2'-0"	
a7(E)	75	#5	5'-0"	
a8(E)	28	#5	4'-8"	
a9(E)	4	#5	9'-8"	
a10(E)	0	#5	4'-5"	
a12(E)	24	#5	13'-6"	
a13(E)	4	#5	8'-0"	
a14(E)	48	#5	10'-8"	
a20(E)	90	#8	28'-0"	
a21(E)	12	#10	19'-4"	
a22(E)	78	#8	20'-3"	
a23(E)	78	#10	23'-6"	
a24(E)	16	#5	28'-3"	
a25(E)	28	#5	22'-0"	
a26(E)	8	#9	34'-8"	
a27(E)	54	#8	26'-11"	
a28(E)	54	#10	43'-0"	
a29(E)	94	#5	4'-5"	
a30(E)	564	#5	9'-0"	
a31(E)	66	#8	34'-7"	
a32(E)	66	#10	16'-5"	
a33(E)	6	#5	33'-9"	
a34(E)	6	#5	32'-0"	
a36(E)	24	#9	37'-2"	
a37(E)	22	#9	35'-5"	
a38(E)	0	#8	24'-11"	
a39(E)	0	#8	36'-10"	
a40(E)	38	#5	36'-3"	
a41(E)	18	#5	36'-8"	
a42(E)	20	#5	37'-2"	
a43(E)	25	#5	37'-8"	
a44(E)	61	#5	30'-1"	
a45(E)	41	#5	28'-4"	
a46(E)	22	#5	28'-9"	
a47(E)	22	#5	29'-3"	
a48(E)	27	#5	29'-9"	
a49(E)	70	#5	30'-1"	
b(E)	2	#5	27'-5"	
b1(E)	0	#5	1'-9"	
b2(E)	0	#5	9'-2"	
b3(E)	0	#5	26'-9"	
b4(E)	20	#5	25'-11"	
b5(E)	0	#5	19'-2"	
b6(E)	0	#5	24'-0"	
b7(E)	3	#5	25'-6"	
b8(E)	154	#5	29'-2"	
b9(E)	0	#5	25'-1"	
b10(E)	0	#5	24'-5"	
b11(E)	8	#5	11'-8"	
b12(E)	16	#5	4'-6"	
b13(E)	3	#5	18'-8"	
b14(E)	3	#5	25'-10"	
b15(E)	3	#5	20'-9"	
b16(E)	16	#5	23'-9"	
b17(E)	8	#5	24'-9"	
b18(E)	8	#5	26'-3"	
b19(E)	8	#5	18'-11"	
b20(E)	2	#5	13'-7"	
b21(E)	0	#5	11'-0"	
b22(E)	0	#5	11'-0"	
b23(E)	0	#5	10'-0"	
b24(E)	0	#5	9'-0"	

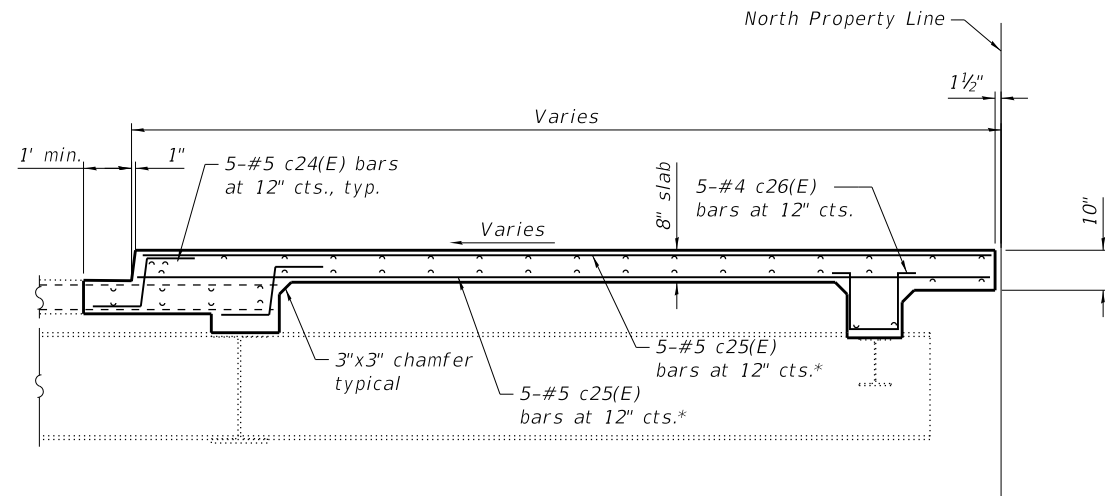
Bar	No.	Size	Length	Shape
b25(E)	0	#5	19'-4"	
b50(E)	397	#7	26'-0"	
b53(E)	254	#7	16'-10"	
b54(E)	36	#7	23'-8"	
b55(E)	36	#7	7'-4"	
b60(E)	16	#7	12'-5"	
b62(E)	421	#7	25'-0"	
b63(E)	24	#7	23'-10"	
b66(E)	4	#7	10'-0"	
b67(E)	8	#7	9'-4"	
b68(E)	184	#7	19'-0"	
b69(E)	460	#7	35'-1"	
b70(E)	95	#7	18'-10"	
b71(E)	464	#7	35'-10"	
b72(E)	266	#7	33'-0"	
b73(E)	12	#7	21'-6"	
b74(E)	12	#7	39'-8"	
c(E)	98	#5	8'-2"	
c1(E)	0	#5	9'-7"	
c2(E)	0	#5	6'-9"	
c3(E)	5	#5	5'-0"	
c4(E)	0	#5	6'-0"	
c5(E)	0	#5	5'-4"	
c6(E)	193	#5	5'-9"	
c7(E)	332	#5	6'-3"	
c8(E)	0	#5	11'-11"	
c9(E)	0	#5	10'-1"	
c10(E)	0	#5	4'-6"	
c11(E)	4	#5	3'-9"	
c12(E)	990	#5	3'-0"	
c13(E)	0	#5	3'-4"	
c14(E)	18	#5	3'-8"	
c15(E)	0	#5	4'-0"	
c16(E)	0	#5	4'-4"	
c17(E)	0	#5	4'-8"	
c18(E)	74	#5	4'-10"	
c19(E)	18	#5	4'-5"	
c20(E)	16	#5	4'-1"	
c21(E)	26	#5	4'-6"	
c22(E)	0	#5	4'-0"	
c23(E)	0	#5	4'-0"	
c24(E)	0	#5	3'-0"	
c25(E)	0	#5	15'-5"	
c26(E)	0	#4	4'-1"	
d(E)	142	#4	5'-0"	
d1(E)	142	#6	5'-0"	
d2(E)	147	#6	2'-0"	
d3(E)	4	#6	5'-2"	
e(E)	6	#4	22'-9"	
e1(E)	18	#4	29'-9"	
e2(E)	6	#4	23'-6"	
s(E)	5	#4	3'-9"	
s15(E)	199	#5	9'-1"	
s16(E)	1202	#5	13'-1"	
High Performance Conc. Superstructure Reinforcement Bars, Epoxy Coated		Cu. Yd.	1,063.2	
		Pound	290,470	



SECTION D-D

EXISTING

Note: Longitudinal rebar and steel beams to remain.
North sidewalk shown, south sidewalk similar.



SECTION D-D

PROPOSED

Note: North sidewalk shown, south sidewalk similar.
Spacing shown along curb.

*Cut to fit

NOTES

- See Sheet S-25 for bar details.

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME	= dbender
PLOT SCALE	= 8:0.0000 " / in.
PLOT DATE	= 5/17/2019

DESIGNED	- MK/JCM/MWM
CHECKED	- AMK
DRAWN	- MK/JCM/MWM
CHECKED	- AMK

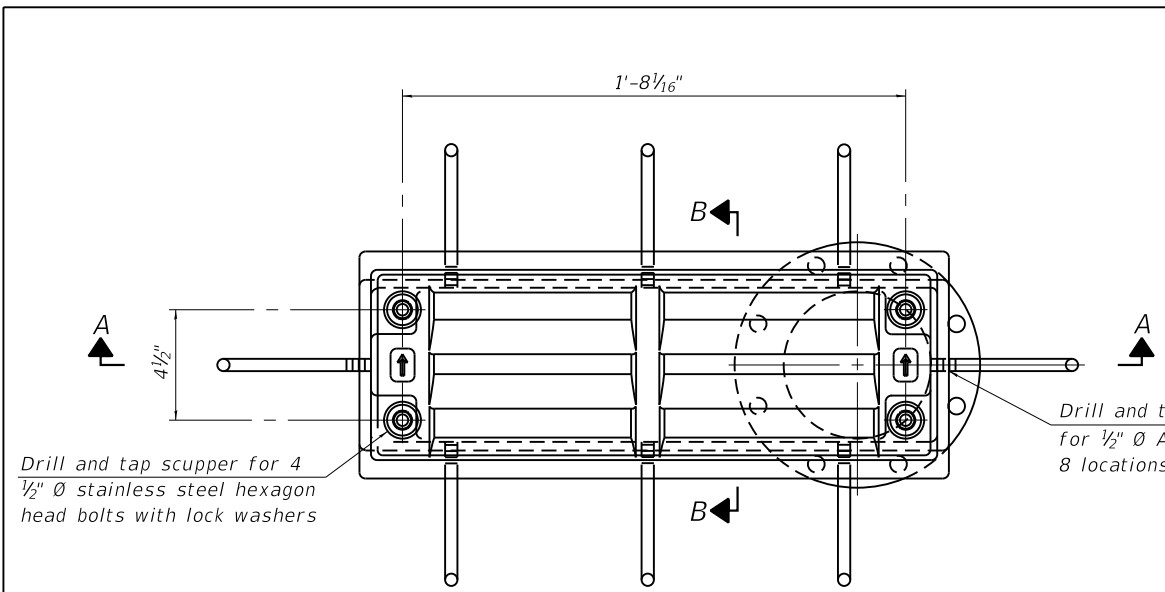
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REVISED	-
REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

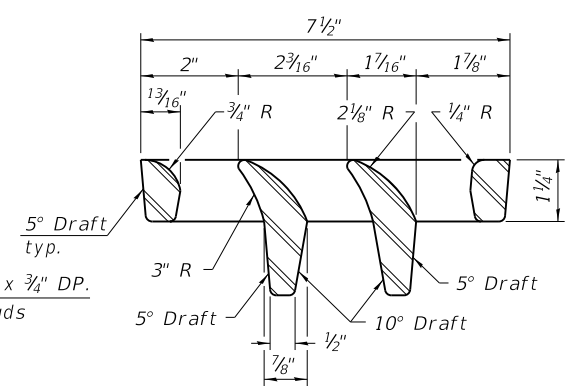
**BAR BENDS AND SUPERSTRUCTURE BILL OF MATERIAL - UNIT 2
STRUCTURE NO. 016-6146**

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	122
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

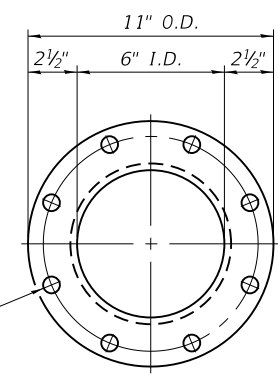
SHEET S-31 OF S-50 SHEETS



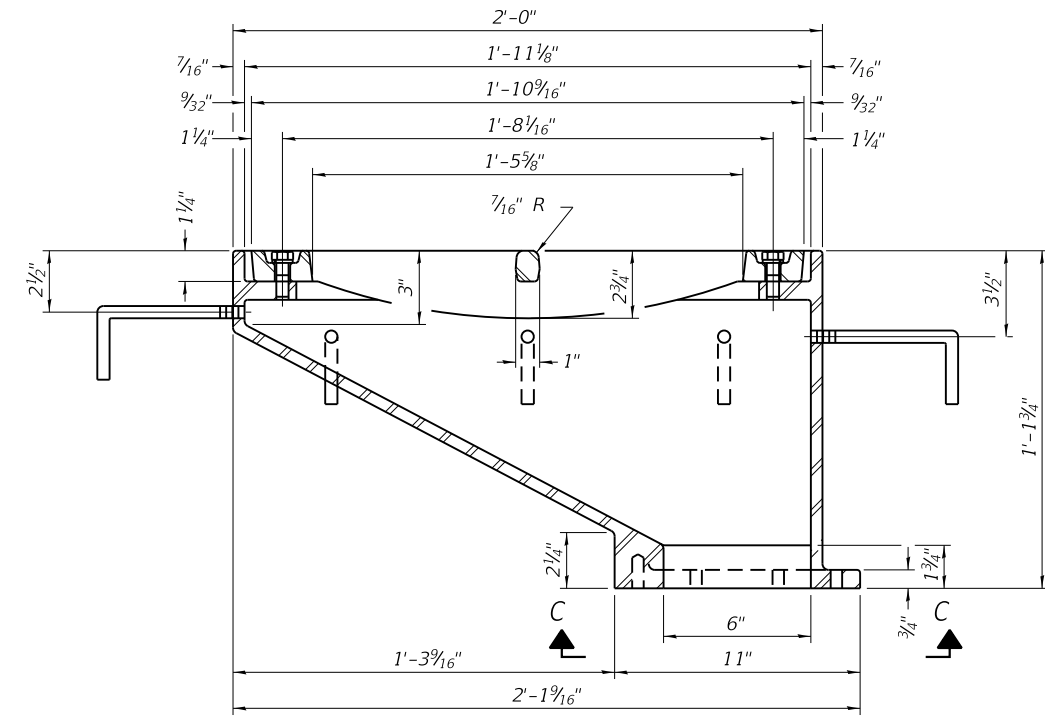
PLAN



VANE GRATE DETAIL

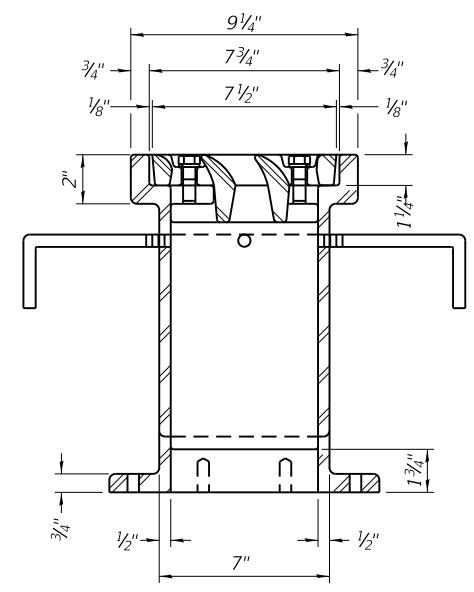


VIEW C-C

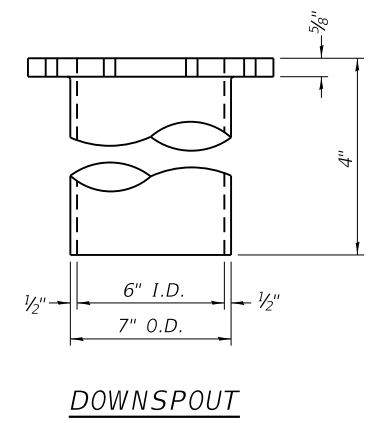


SECTION A-A

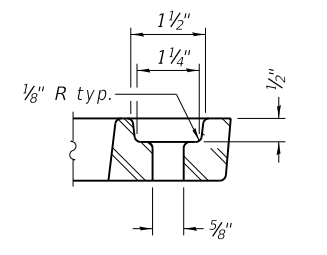
See sheet of for scupper location relative to parapet.



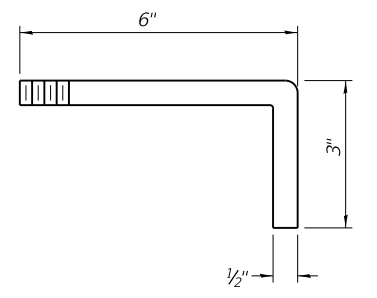
SECTION B-B



DOWNSPOUT



BOLT HOLE DETAIL



ANCHOR STUD DETAIL

Drill and tap 8 holes for 1/2"-13 bolts on a 9¹/₂" Ø bolt circle. (2 blind holes are 1¹/₄" deep, 6 thru holes)

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Concrete Sealer is not applied to the scupper.

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	10

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DS-12

2-17-2017

LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

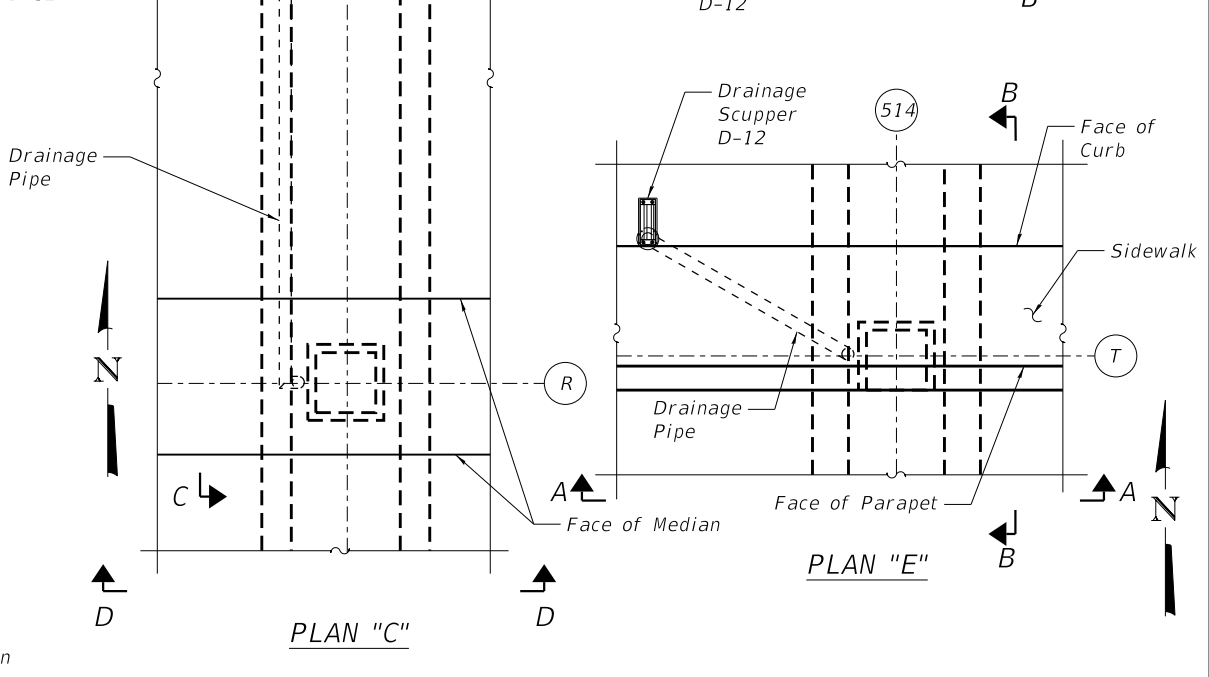
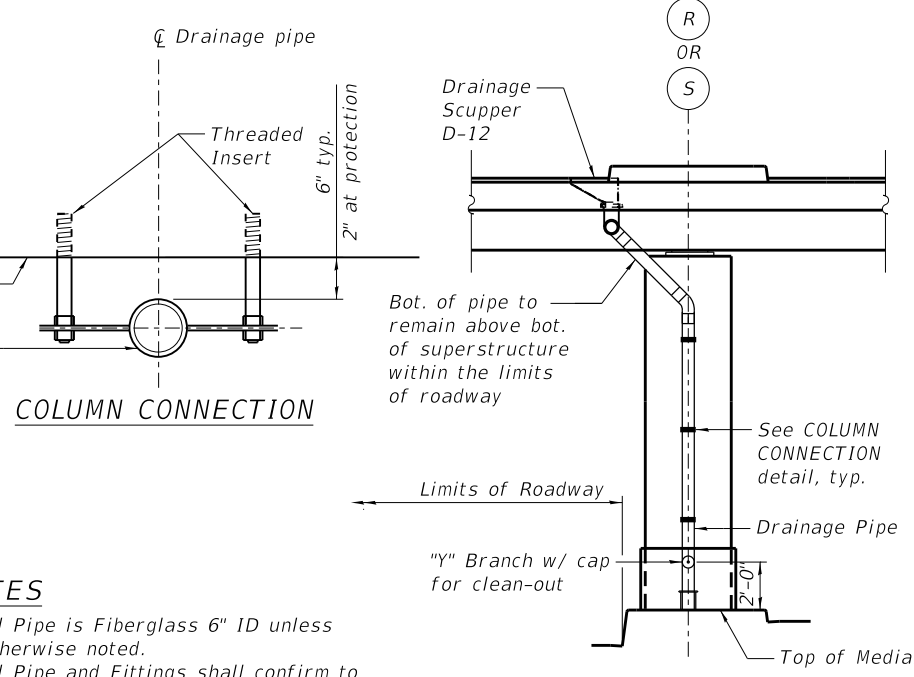
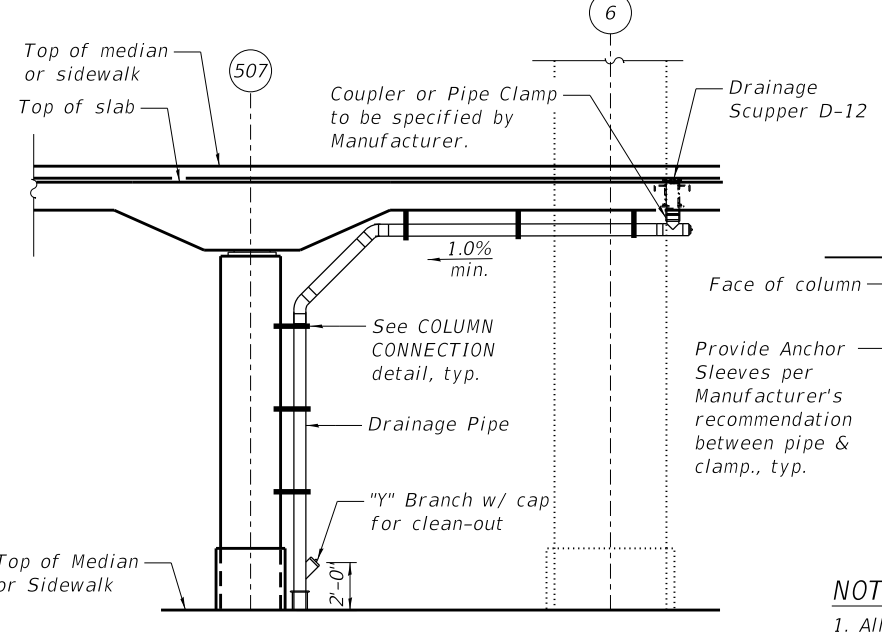
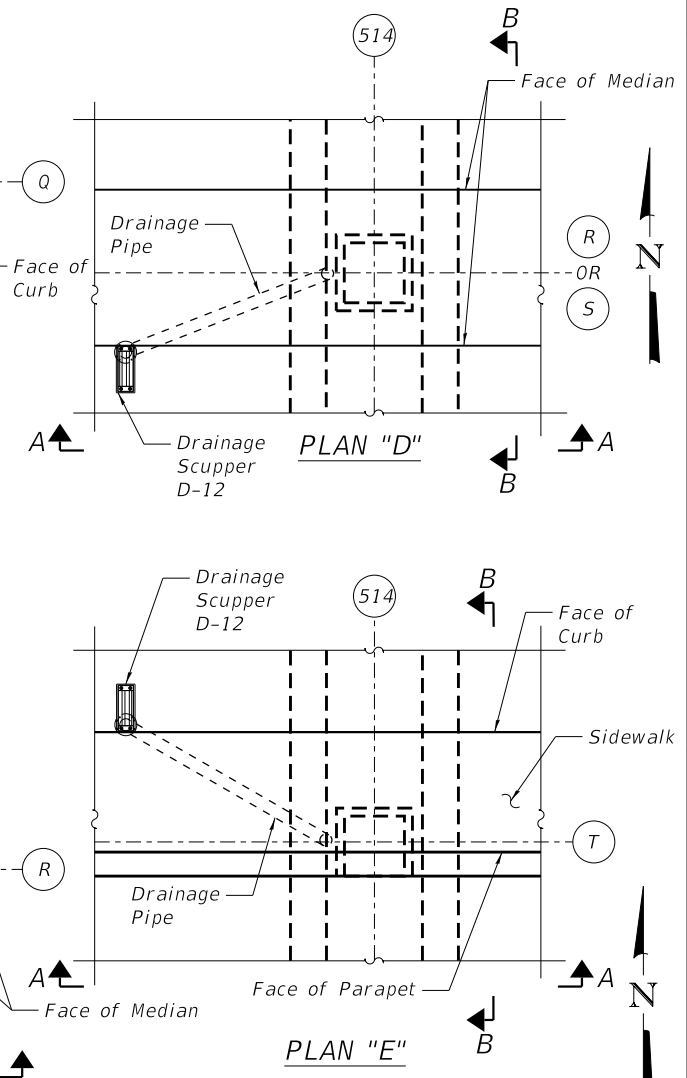
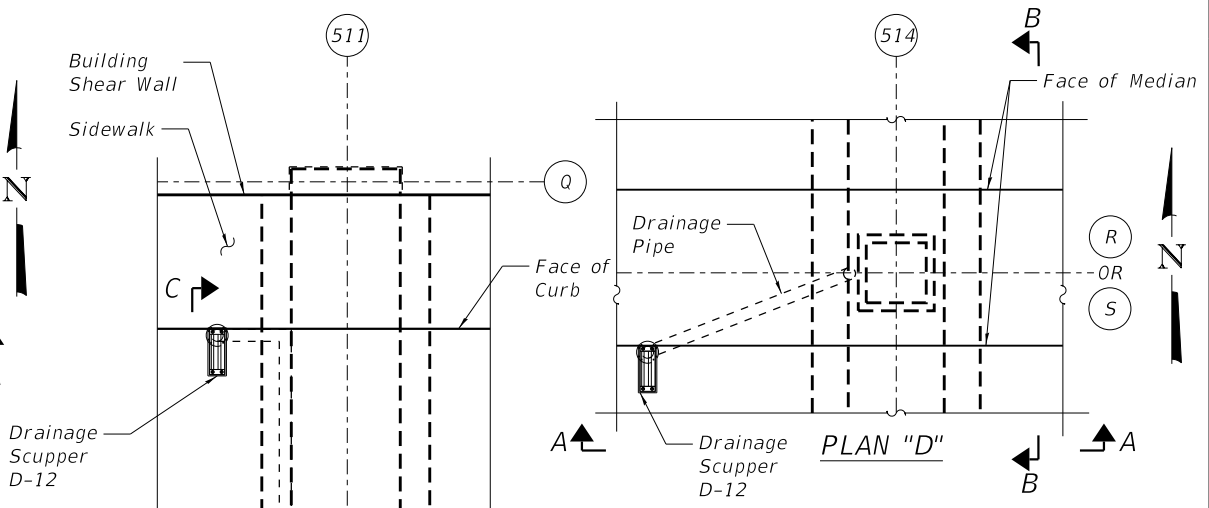
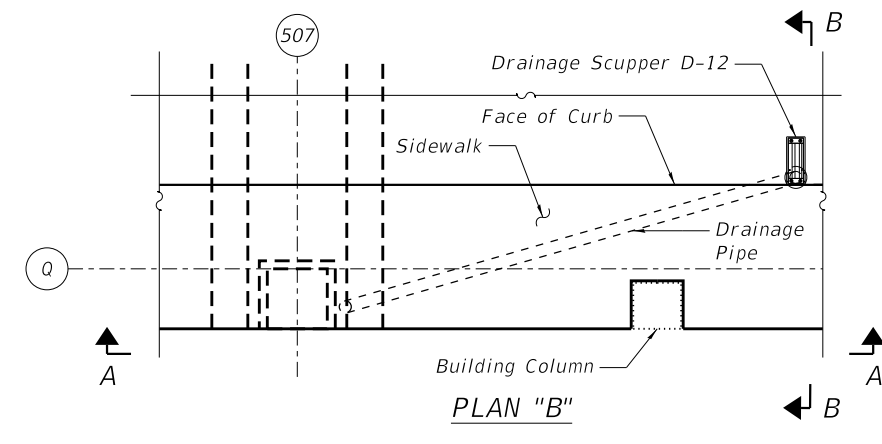
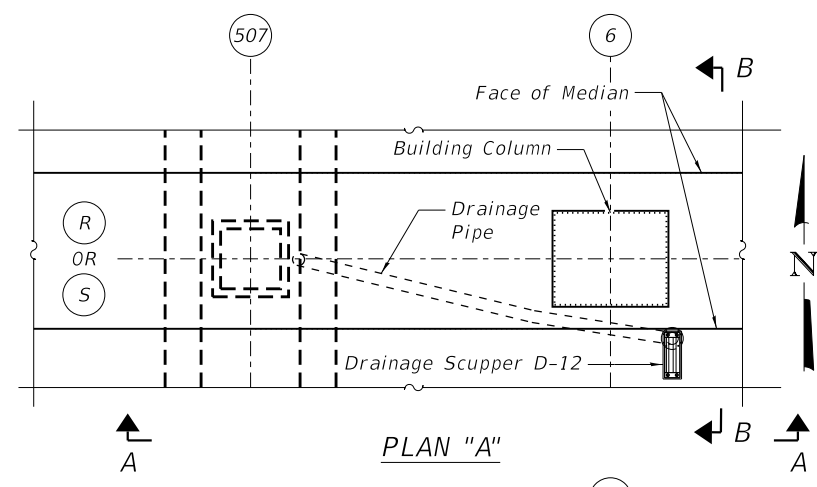
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PLOT DATE	=	5/17/2019						

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

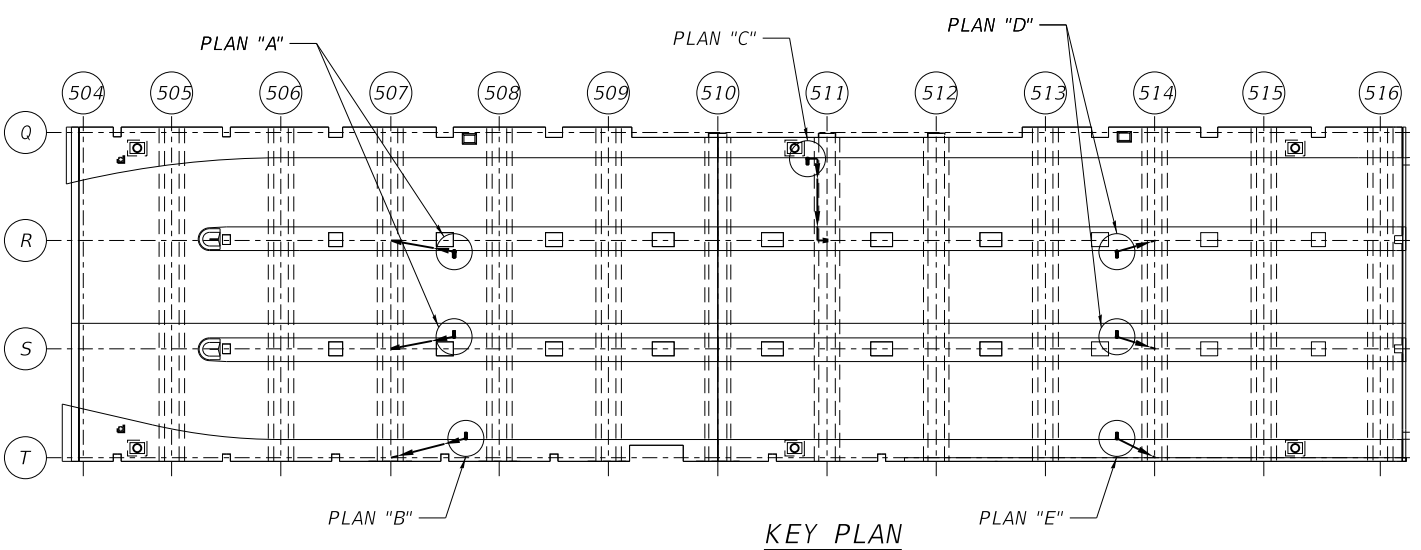
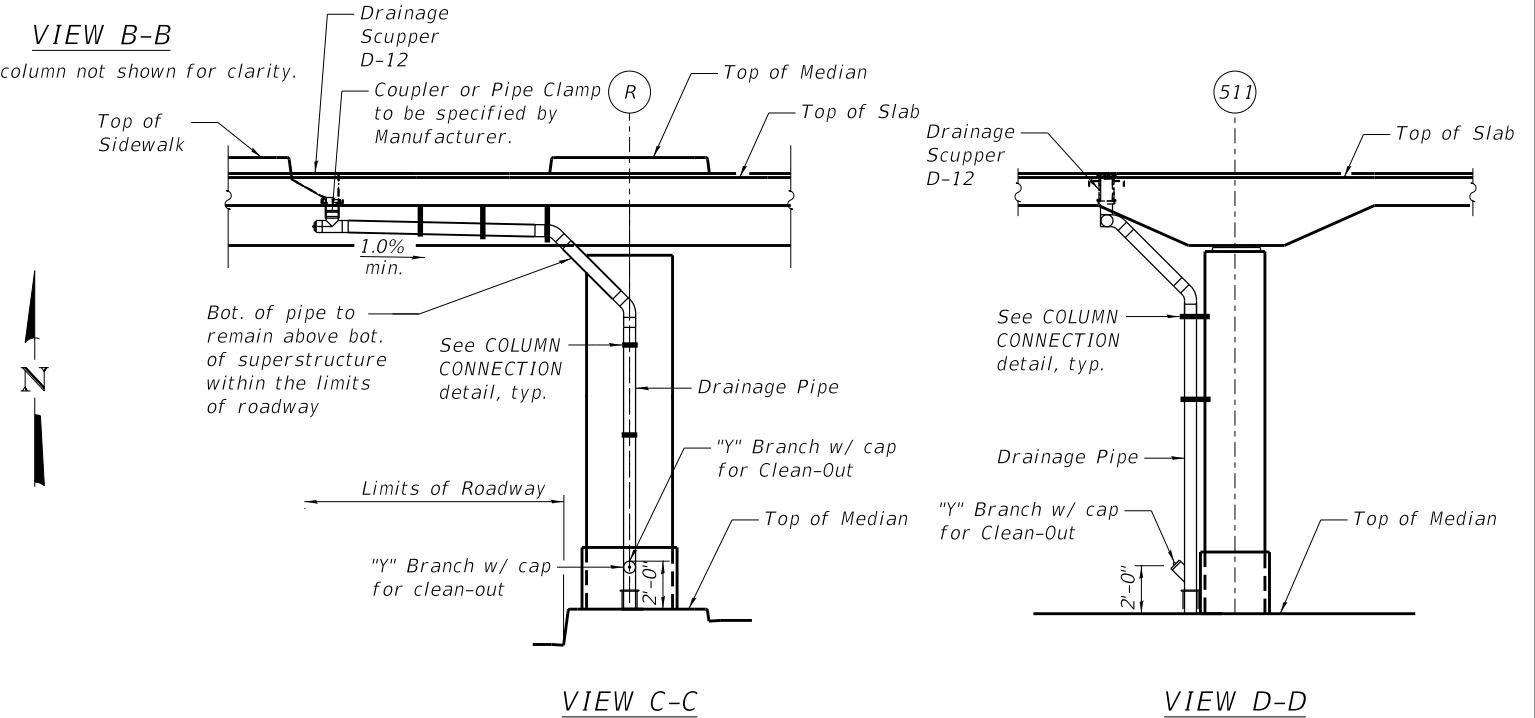
**DRAINAGE SCUPPER, DS-12
STRUCTURE NO. 016-6146**

SHEET S-33 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	124
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



- NOTES**
1. All Pipe is Fiberglass 6" ID unless otherwise noted.
 2. All Pipe and Fittings shall conform to ASTM 2996 RTRP.
 3. View A-A and View B-B is to be mirrored when necessary.
 4. Hangers, Straps, and Ties to conform to Manufacturer Specification.



LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

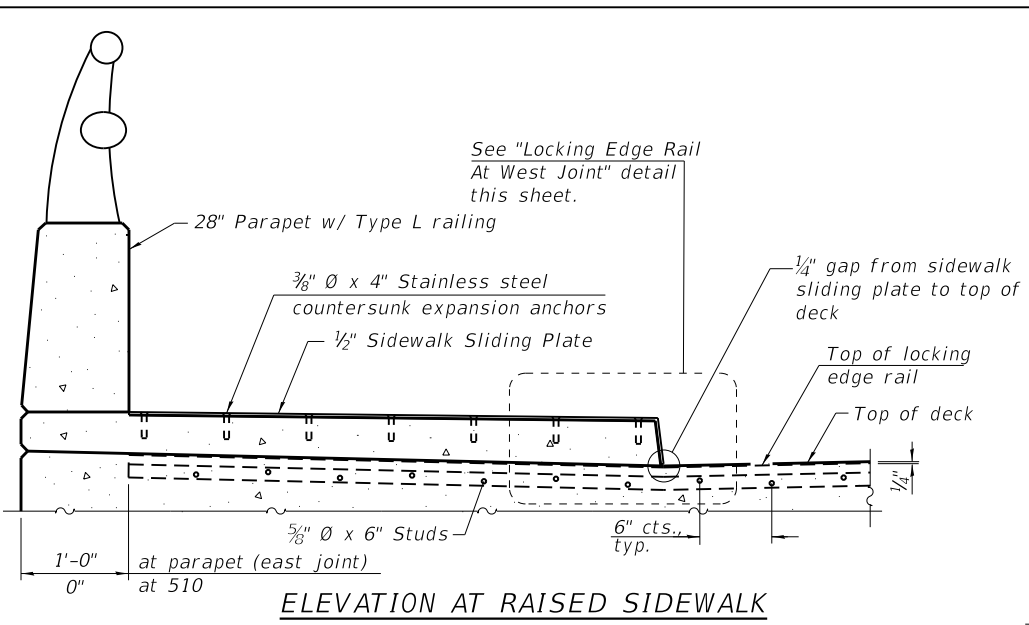
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

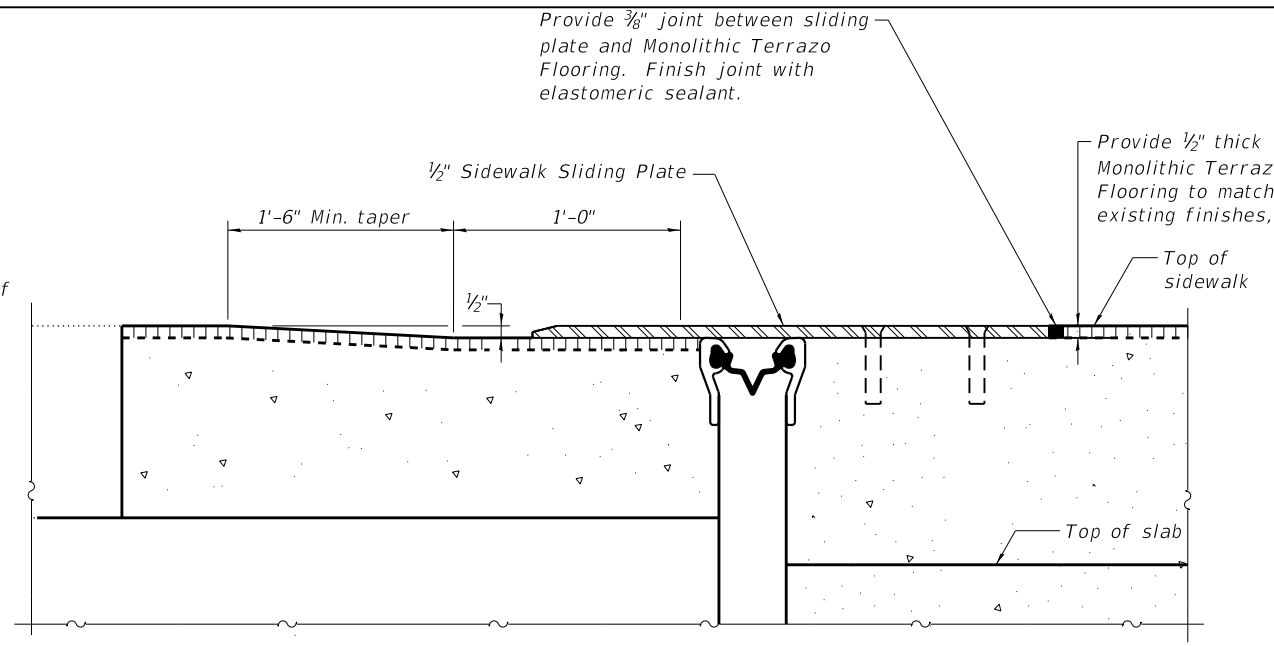
**DRAINAGE SYSTEM
STRUCTURE NO. 016-6146**
SHEET S-34 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	125
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

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ELEVATION AT RAISED SIDEWALK



MONOLITHIC TERRAZZO FLOORING AND JOINT DETAIL AT WEST JOINT

NOTES

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

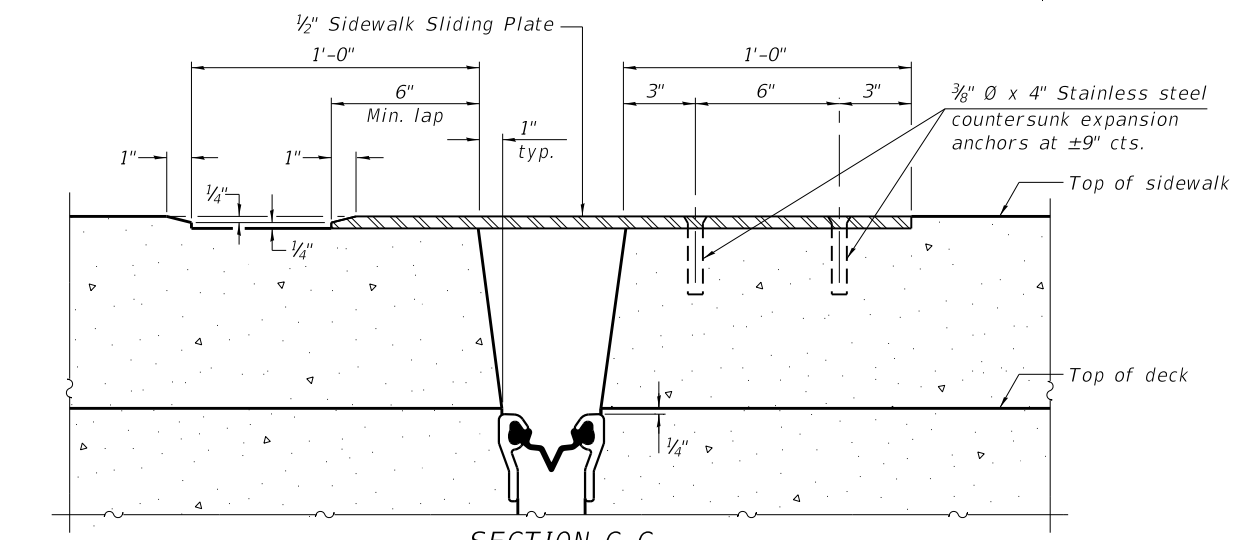
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

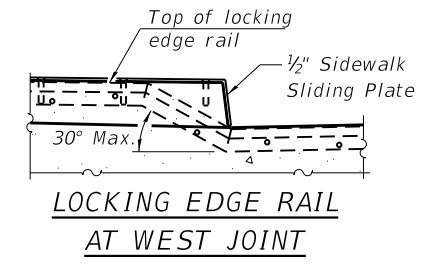
The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

Cost of parapet sliding plates, sidewalk sliding plates, embedded plates, anchorage studs, and expansion anchors included with Preformed Joint Strip Seal.

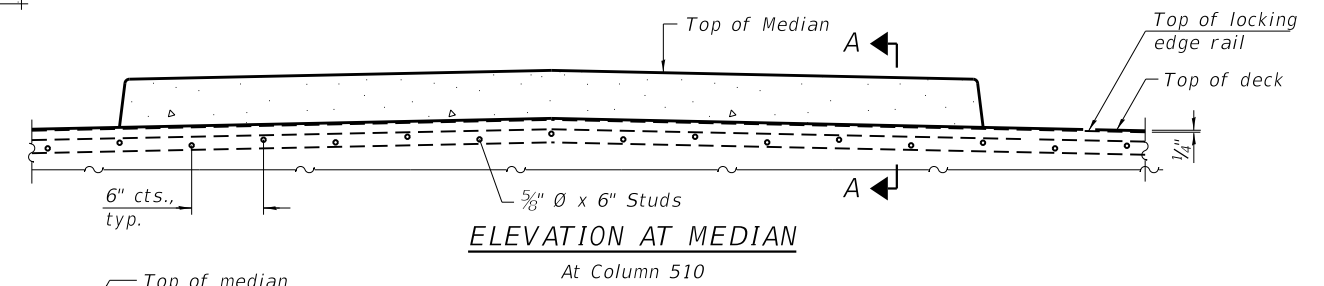
The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required.



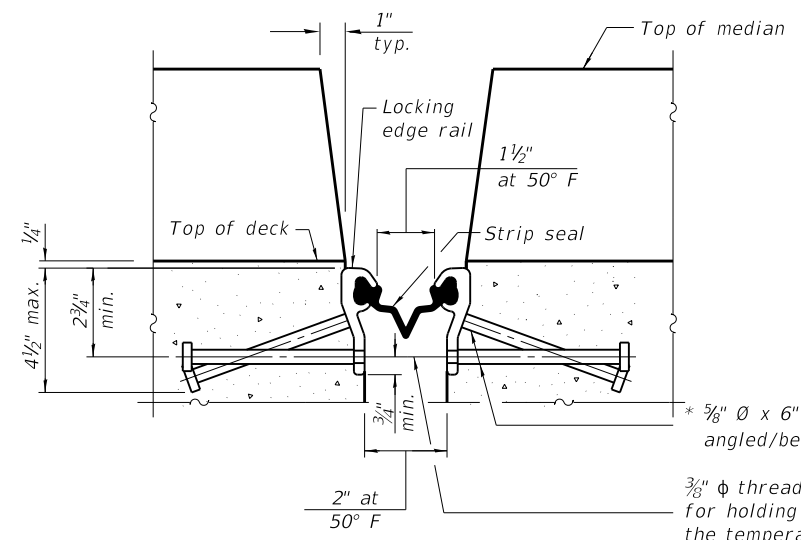
SECTION C-C



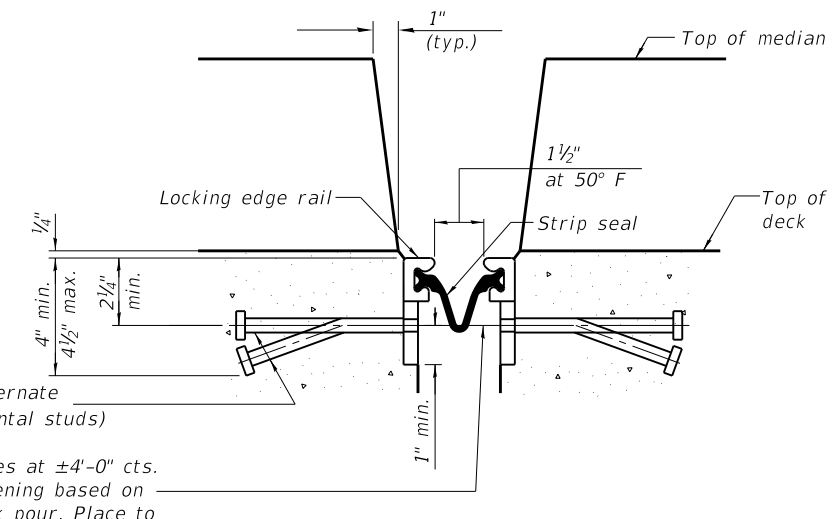
LOCKING EDGE RAIL AT WEST JOINT



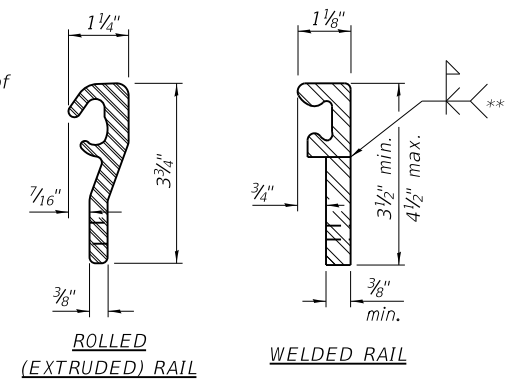
ELEVATION AT MEDIAN At Column 510



SHOWING ROLLED RAIL JOINT

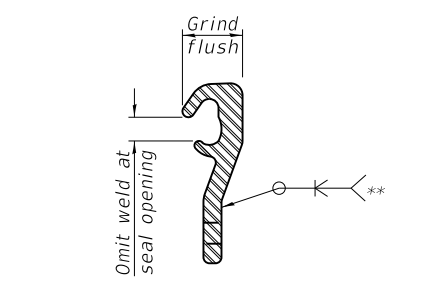


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	274

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

SECTION A-A

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

USER NAME = dbender	DESIGNED - MK	REVISED -
PLOT SCALE = 2:0" / in.	CHECKED - AMK	REVISED -
PLOT DATE = 5/17/2019	DRAWN - IL	REVISED -
	CHECKED - AMK	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

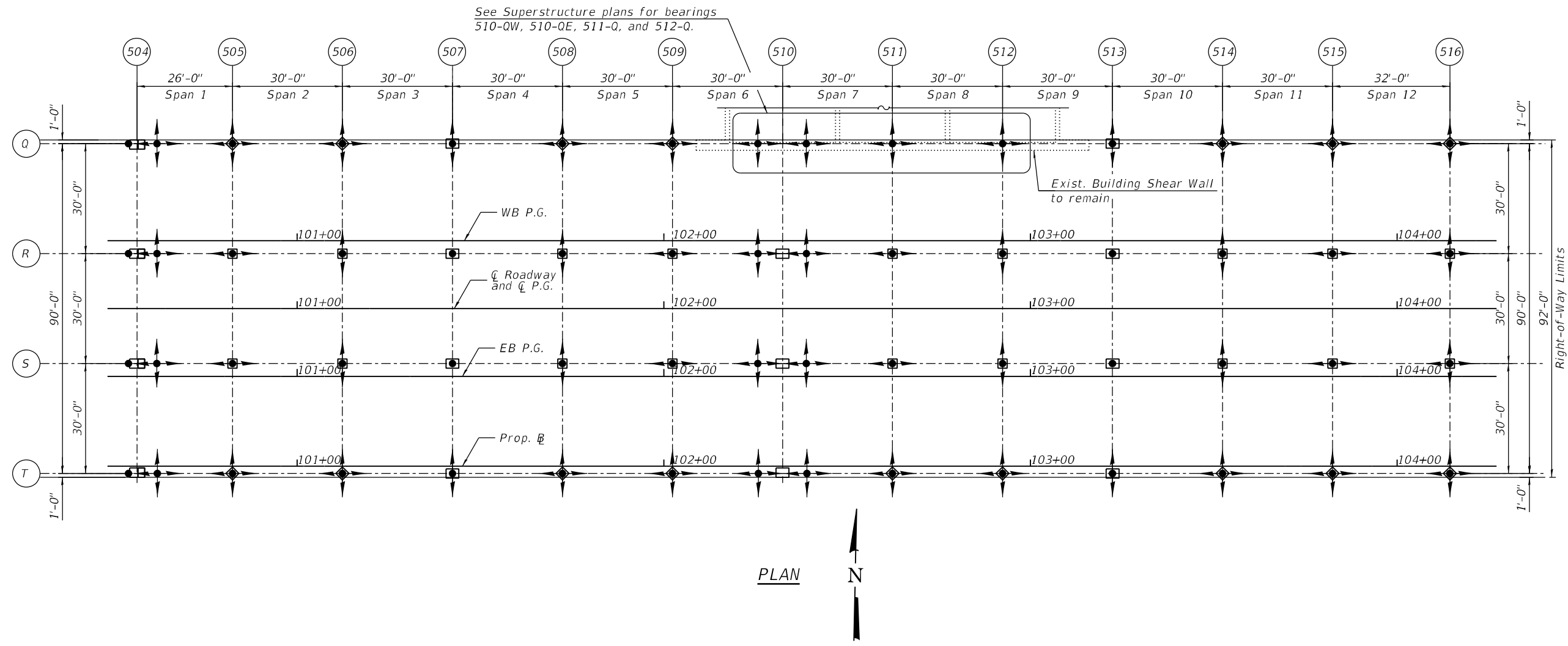
**PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-6146**

SHEET S-35 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	126

CONTRACT NO. M-6000(367)
ILLINOIS FED. AID PROJECT

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NOTES:

1. For non-guided expansion bearing details, guided expansion bearing details and fixed bearing details, see Sheets S-37 thru S-39, respectively.
2. For Column sections and details, see Sheet S-40.
3. For Column Schedule and combined Bill of Material, see Sheet S-41.
4. For individual column Bill of Material, see Sheets S-42 and S-43.

COLUMN LEGEND

- ☐ Column Type I
- ⊕ Column Type II
- ◇ Column Type III
- ⊞ Column Type IV

BEARING LEGEND

- Fixed Pot Bearing
- Guided Pot Bearing (Arrows indicate direction of sliding)
- ⊞ Non-Guided Pot Bearing (Arrows indicate direction of sliding)



USER NAME	Stoyanka	DESIGNED	SK	REVISED	-
CHECKED	LAB, MI	CHECKED	LAB, MI	REVISED	-
PLOT SCALE	32:0,00'"/ in.	DRAWN	SK	REVISED	-
PLOT DATE	7/24/2018	CHECKED	LAB, MI	REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**COLUMN AND BEARING LAYOUT
 STRUCTURE NO. 016-6146**

SHEET S-36 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	127
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	

NON-GUIDED EXPANSION POT BEARING DATA

BEARING TYPE	DESIGN PARAMETERS							POT OUTSIDE DIMENSION (INCHES)	THICKNESS OF TOP PLATE (INCHES) t-top	THICKNESS OF BOTTOM PLATE (INCHES) t-bot	HEIGHT "Th" (INCHES)	ANCHOR BOLT POSITION (INCHES)				PLATE DIMENSION (INCHES)					
	LOAD (KIPS)			MOVEMENTS								SUBSTRUCTURE		SUPERSTRUCTURE		BOTTOM		TOP			
	TOTAL	DL+SDL	DW	HORIZONTAL (TOTAL)	TRANSLATION RANGE (INCHES)		ROTATION (RAD)					"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"		
					LONG.	TRANSV.															
S1	200	86.74	5.27	40	1/2	1/2	0.02	10 1/2	1 3/8	1 3/8	6	1 1/4	15	4 5/8	9 5/8	5 5/8	6 3/8	14	24	16	17 1/2
S2	250	116.23	17.72	50	1/2	1/2	0.02	11 1/2	2 1/4	1 3/4	7	1 1/4	15	4 5/8	9 5/8	5 5/8	6 3/8	14	24	16	17 1/2
S3	250	109.70	21.74	50	1/2	1/2	0.02	11 1/2	2 1/4	1 5/8	6 7/8	1 1/4	15	5	9 1/2	5 5/8	5 5/8	24	15	16	16
S4	250	141.80	18.01	50	1/2	1/2	0.02	11 1/2	2 1/4	1 1/4	6 1/2	1 1/4	15	9 1/2	9 1/2	5 5/8	5 5/8	24	24	16	16
S5	300	150.86	20.09	60	1/2	3/8	0.02	12 1/4	2 3/8	1 1/4	6 5/8	1 1/4	15	9 1/2	9 1/2	5 5/8	5 5/8	24	24	16 1/2	16 1/2
S6	300	120.43	20.91	60	1/2	1/2	0.02	12 1/4	2 3/8	1 1/4	7 3/8	1 1/4	15	4 5/8	9 5/8	5 5/8	6 3/8	14	24	16	17 1/2
S7	400	198.72	35.53	80	1/2	1/2	0.02	14	2 3/4	1 3/8	7 1/2	1 1/2	18	9	9	7	7	24	24	20	20

For bearing type locations, see Sheet S-41.

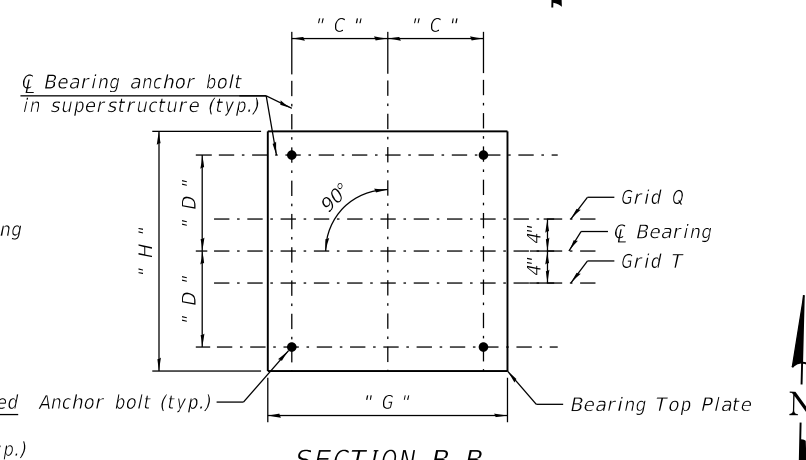
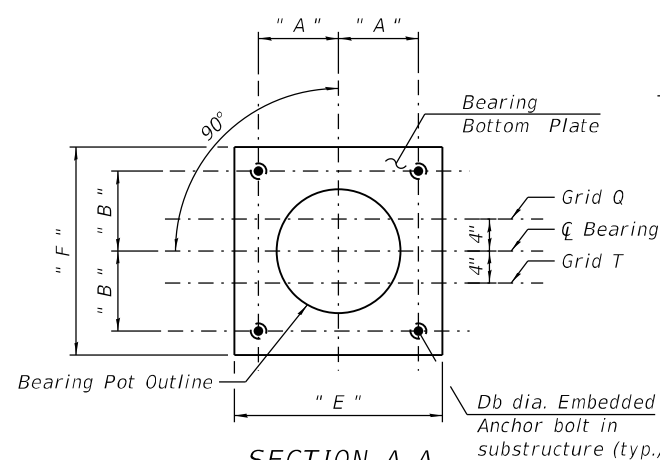
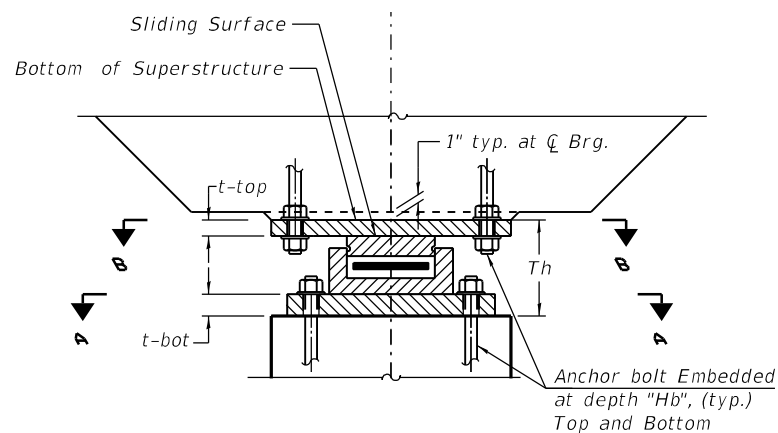
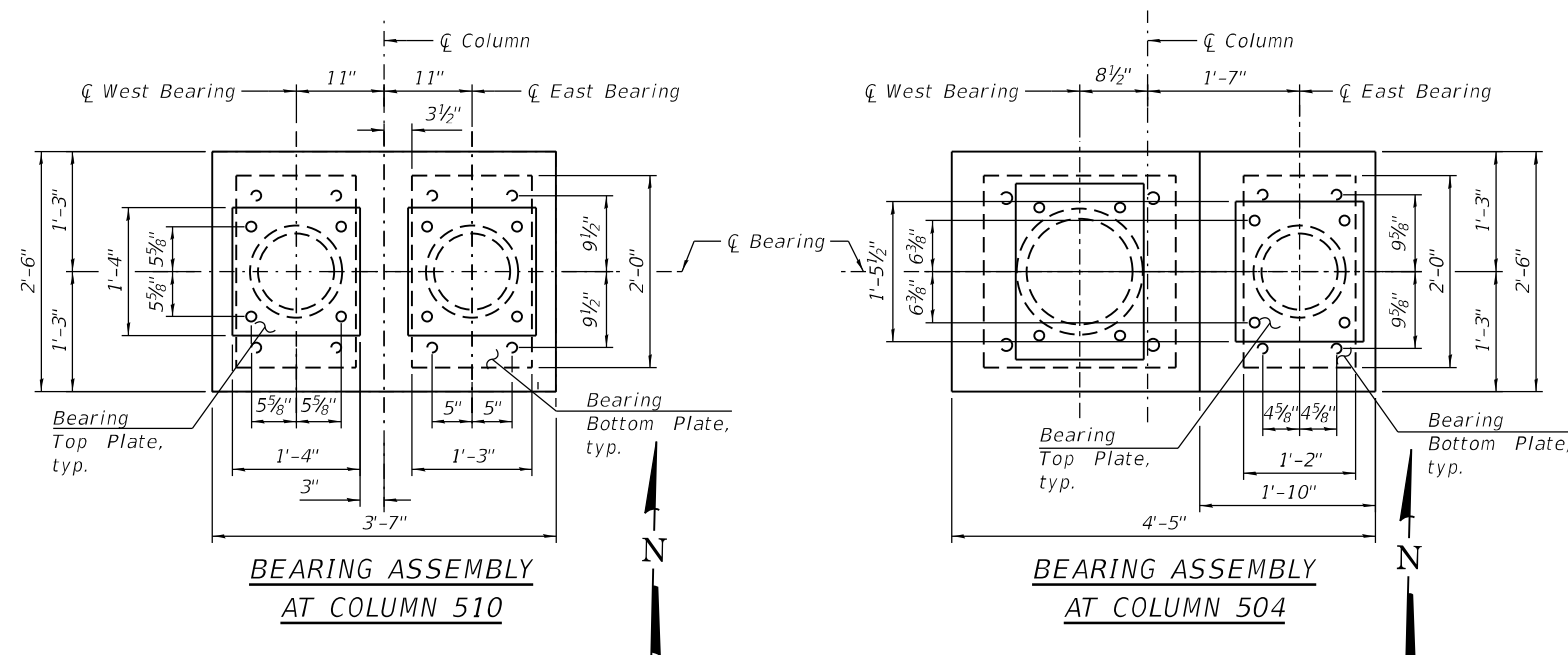
** Depth shown is minimum embedment depth

NOTES:

- For column and bearing layout, see Sheet S-36.
- All structural steel for the pot bearings shall conform to the requirements of AASHTO M270 Grade 50.
- Details shown are for illustrative purposes only. The Contractor shall be responsible for submitting calculations and shop drawings detailing the proposed bearing devices, including anchor bolts, to the Commissioner for approval.
- Bearing assemblies shall be designed and assembled to permit replacement by jacking the superstructure by 1/4" (maximum).
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus depth of the recess.
- All (embedded and separate) bearing plates, anchor bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.
- The Contractor shall be responsible for ensuring adequate clearance is provided between column reinforcement and anchor bolts.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Bearings shall be assembled at the plant, marked for identification and delivered to the site as a complete unit. The bearing shall have permanent match-marks to indicate the bearing location on the bridge and a direction arrow that points up-station. All marks shall be permanent and be visible after the bearing is installed and all components of the bearing, including anchor bolts, shall be provided by a single manufacturer.
- Top and bottom plates, and all required shim plates, shall be included in the cost of the High Load Multi-Rotational Bearings, Non-Guided Expansion.
- Column elevations are based upon the pot bearing assembly heights shown in the "Non-Guided Expansion Pot Bearing Data" table. Final bearing heights must be coordinated with column elevations during construction.
- Initial position of expansion bearings top assemblies shall be symmetrical above the bottom assemblies.
- Any temporary devices restraining movement shall be removed after casting the deck segment.
- The 1/8" PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

BILL OF MATERIAL

S.P.	PAY ITEM NUMBER	ITEM	UNIT	QUANTITY
	52100530	Anchor Bolts, 1 1/4"	EACH	208
	52100540	Anchor Bolts, 1 1/2"	EACH	16
*	X5210770	High Load Multi-Rotational Bearings, Non-Guided Expansion, 200 K	EACH	2
*	X5210780	High Load Multi-Rotational Bearings, Non-Guided Expansion, 250 K	EACH	17
*	X5210790	High Load Multi-Rotational Bearings, Non-Guided Expansion, 300 K	EACH	7
*		High Load Multi-Rotational Bearings, Non-Guided Expansion, 400 K	EACH	2



NON-GUIDED EXPANSION BEARING ASSEMBLY

**SECTION A-A
BOTTOM ASSEMBLY**

**SECTION B-B
TOP ASSEMBLY**

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CHECKED	LAB, MI	REVISIONS	-	REVISIONS	-
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**NON-GUIDED EXPANSION BEARING DETAILS
STRUCTURE NO. 016-6146**

SHEET S-37 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	128

CONTRACT NO. M-6003(367)

ILLINOIS FED. AID PROJECT

GUIDED EXPANSION POT BEARING DATA

BEARING TYPE	DESIGN PARAMETERS								POT OUTSIDE DIMENSION (INCHES)	THICKNESS OF TOP PLATE (INCHES) t-top	THICKNESS OF BOTTOM PLATE (INCHES) t-bot	HEIGHT "Th" (INCHES)	ANCHOR BOLT POSITION (INCHES)						PLATE DIMENSION (INCHES)			
	LOAD (KIPS)			HORIZONTAL (TOTAL)	MOVEMENTS		GUIDED DIRECTION	DIAMETER** DEPTH "Db" "Hb"					SUBSTRUCTURE		SUPERSTRUCTURE		BOTTOM		TOP			
	TOTAL	DL+SDL	DW		TRANSLATION RANGE (INCHES)	ROTATION (RAD)							"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"		
	VERTICAL		LONG.		TRANSV.																	
G1	300	145.30	17.45	60	-	$\frac{3}{8}$	0.02	N-S	12	$2\frac{1}{8}$	$1\frac{3}{8}$	$8\frac{1}{8}$	$1\frac{1}{2}$	15	$9\frac{5}{8}$	$9\frac{5}{8}$	5	$6\frac{1}{2}$	24	24	$17\frac{1}{2}$	$17\frac{1}{2}$
G2A	600	303.26	67.51	120	$\frac{1}{2}$	-	0.02	E-W	17	$3\frac{3}{8}$	$1\frac{1}{8}$	$10\frac{1}{2}$	$1\frac{1}{2}$	18	$7\frac{1}{2}$	$9\frac{3}{16}$	$9\frac{5}{8}$	$8\frac{3}{8}$	24	24	$25\frac{3}{4}$	$22\frac{3}{4}$
G2B	600	303.26	67.51	120	-	$\frac{1}{8}$	0.02	N-S	17	$3\frac{3}{8}$	$1\frac{1}{8}$	$10\frac{1}{2}$	$1\frac{1}{2}$	18	$7\frac{1}{2}$	$9\frac{3}{16}$	$9\frac{5}{8}$	$8\frac{3}{8}$	24	24	$25\frac{3}{4}$	$22\frac{3}{4}$

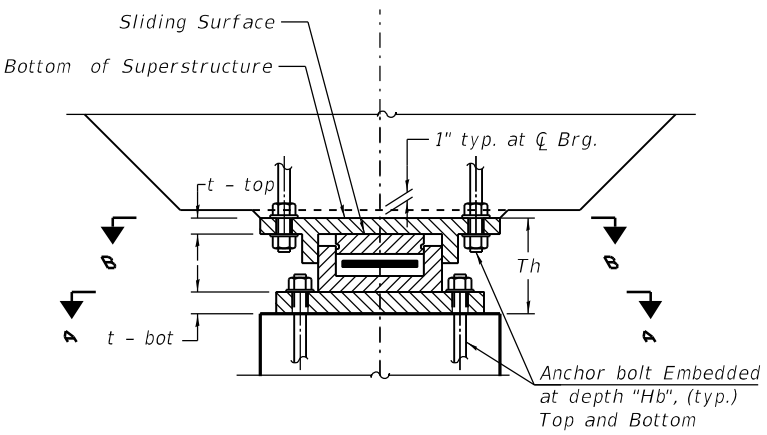
For bearing type locations, see Sheet S-41.
 ** Depth shown is minimum embedment depth

NOTES:

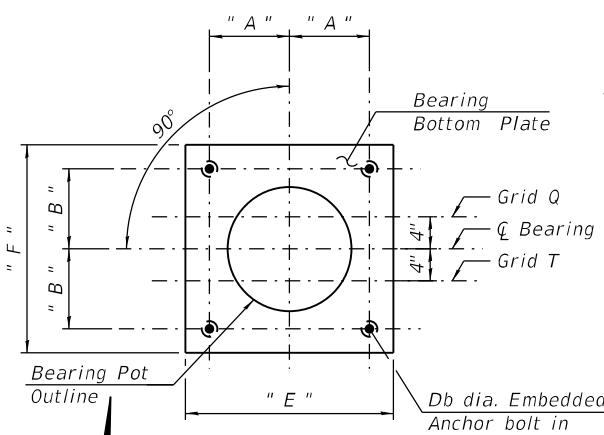
- For guided direction of bearings, and column and bearing layout, see Sheet S-36.
- All structural steel for the pot bearings shall conform to the requirements of AASHTO M270 Grade 50.
- Details shown are for illustrative purposes only. The Contractor shall be responsible for submitting calculations and shop drawings detailing the proposed bearing devices, including anchor bolts, to the Commissioner for approval.
- Bearing assemblies shall be designed and assembled to permit replacement by jacking the superstructure by $\frac{1}{4}$ " (maximum).
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus depth of the recess.
- All (embedded and separate) bearing plates, anchor bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.
- The Contractor shall be responsible for ensuring adequate clearance is provided between column reinforcement and anchor bolts.
- Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Bearings shall be assembled at the plant, marked for identification and delivered to the site as a complete unit. The bearing shall have permanent match-marks to indicate the bearing location on the bridge and a direction arrow that points up-station. All marks shall be permanent and be visible after the bearing is installed and all components of the bearing, including anchor bolts, shall be provided by a single manufacturer.
- Top and bottom plates, and all required shim plates, shall be included in the cost of the High Load Multi-Rotational Bearings, Guided Expansion.
- Center-guided bearings will not be permitted.
- Column elevations are based upon the pot bearing assembly heights shown in the "Guided Expansion Pot Bearing Data" table. Final bearing heights must be coordinated with column elevations during construction.
- Initial position of expansion bearings top assemblies shall be symmetrical above the bottom assemblies.
- Any temporary devices restraining movement shall be removed after casting the deck segment.
- The $\frac{1}{8}$ " PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

BILL OF MATERIAL

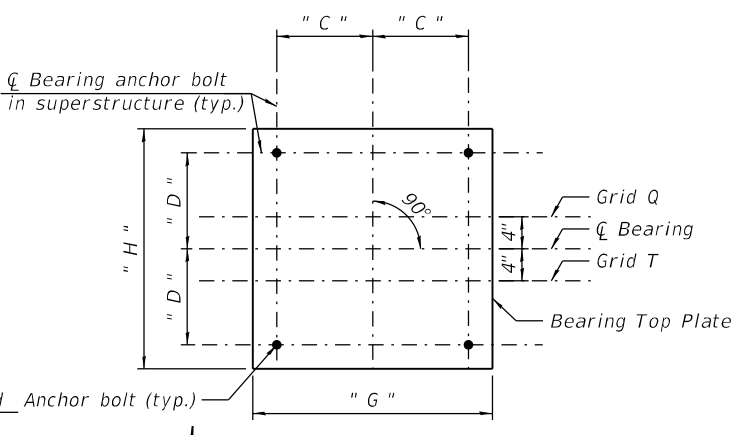
S.P.	PAY ITEM NUMBER	ITEM	UNIT	QUANTITY
	52100530	Anchor Bolts, $1\frac{1}{2}$ "	EACH	32
	52100540	Anchor Bolts, $1\frac{1}{2}$ "	EACH	128
*	X5210130	High Load Multi-Rotational Bearings, Guided Expansion, 300 K	EACH	4
*	X5210190	High Load Multi-Rotational Bearings, Guided Expansion, 600 K	EACH	16



GUIDED EXPANSION BEARING ASSEMBLY



SECTION A-A
BOTTOM ASSEMBLY



SECTION B-B
TOP ASSEMBLY

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CHECKED	LAB, MI	REVISIONS	-	REVISED	-
PLOT SCALE	2:0.0000 "/ in.	DRAWN	SK	REVISED	-
PLOT DATE	7/24/2018	CHECKED	LAB, MI	REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

GUIDED EXPANSION BEARING DETAILS
STRUCTURE NO. 016-6146

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	129
CONTRACT NO. M-6003(367)				
ILLINOIS			FED. AID PROJECT	

FIXED POT BEARING DATA

BEARING TYPE	DESIGN PARAMETERS				POT OUTSIDE DIMENSION (INCHES)	THICKNESS OF TOP PLATE (INCHES) t-top	THICKNESS OF BOTTOM PLATE (INCHES) t-bot	HEIGHT "Th" (INCHES)	ANCHOR BOLT POSITION (INCHES)				PLATE DIMENSION (INCHES)						
	LOAD (KIPS)			MOVEMENTS					DIAMETER "Db"	**DEPTH "Hb"	SUBSTRUCTURE		SUPERSTRUCTURE		BOTTOM		TOP		
	TOTAL	DL+SDL	DW								ROTATION (RAD)	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
F1	400	204.00	0.00	80	0.02	15 ³ / ₄	3	1	8 ⁷ / ₈	1 ¹ / ₂	18	9 ³ / ₁₆	9 ³ / ₁₆	5 ¹ / ₁₆	8	24	24	16	22
F2	550	283.18	59.44	110	0.02	18 ¹ / ₄	3 ¹ / ₄	1	9 ⁵ / ₈	1 ¹ / ₂	18	7 ¹ / ₂	9 ⁵ / ₈	9 ⁵ / ₈	8 ⁸ / ₈	24	24	24	24

For bearing type locations, see Sheet S-41.

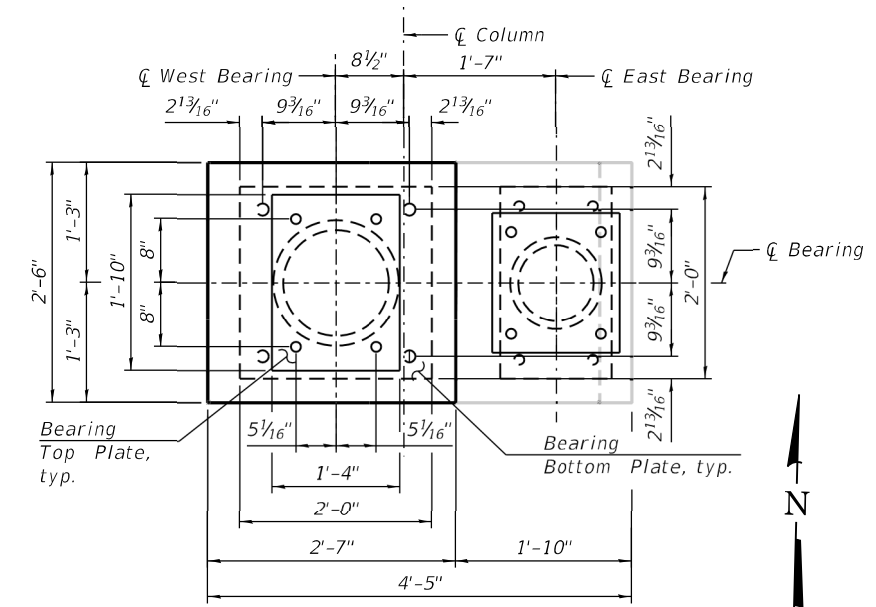
** Depth shown is minimum embedment depth

NOTES:

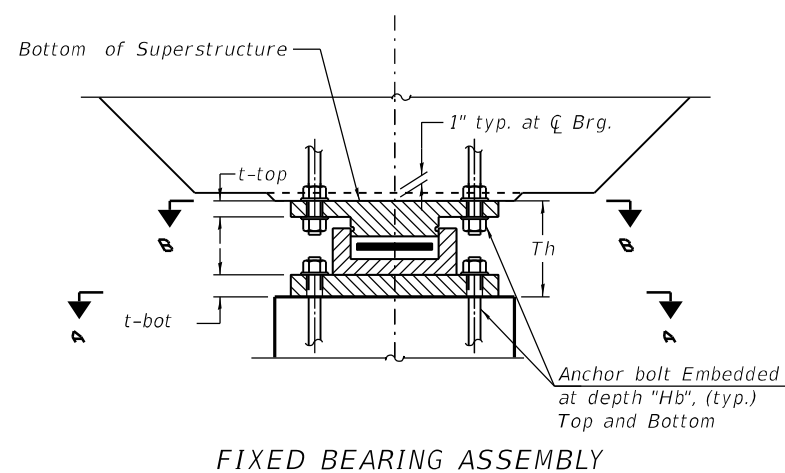
- For column and bearing layout, see Sheet S-36.
- All structural steel for the pot bearings shall conform to the requirements of AASHTO M270 Grade 50.
- Details shown are for illustrative purposes only. The Contractor shall be responsible for submitting calculations and shop drawings detailing the proposed bearing devices, including anchor bolts, to the Commissioner for approval.
- Bearing assemblies shall be designed and assembled to permit replacement by jacking the superstructure by 1/4" (maximum).
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus depth of the recess.
- All (embedded and separate) bearing plates, anchor bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.
- The Contractor shall be responsible for ensuring adequate clearance is provided between column reinforcement and anchor bolts.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Bearings shall be assembled at the plant, marked for identification and delivered to the site as a complete unit. The bearing shall have permanent match-marks to indicate the bearing location on the bridge and a direction arrow that points up-station. All marks shall be permanent and be visible after the bearing is installed and all components of the bearing, including anchor bolts, shall be provided by a single manufacturer.
- Top and bottom plates, and all required shim plates, shall be included in the cost of the High Load Multi-Rotational Bearings, Fixed.
- Column elevations are based upon the pot bearing assembly heights shown in the "Fixed Pot Bearing Data" table. Final bearing heights must be coordinated with column elevations during construction.

BILL OF MATERIAL

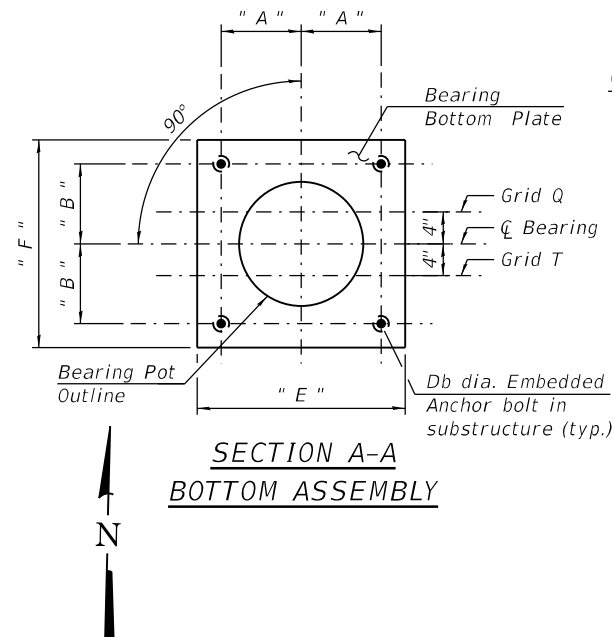
S.P.	PAY ITEM NUMBER	ITEM	UNIT	QUANTITY
	52100540	Anchor Bolts, 1 ¹ / _{2"}	EACH	64
*	X5210330	High Load Multi-Rotational Bearings, Fixed, 400 K	EACH	4
*	X5210345	High Load Multi-Rotational Bearings, Fixed, 550 K	EACH	4



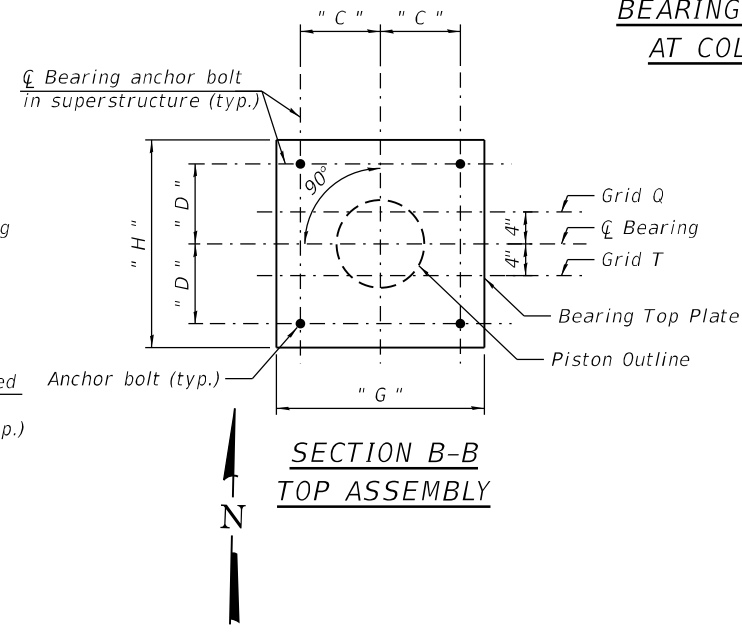
**BEARING ASSEMBLY
AT COLUMN 504**



FIXED BEARING ASSEMBLY



**SECTION A-A
BOTTOM ASSEMBLY**



**SECTION B-B
TOP ASSEMBLY**

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CHECKED	LAB, MI	REVISIONS		REVISED	-
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**FIXED BEARING DETAILS
STRUCTURE NO. 016-6146**

SHEET S-39 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	130
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	

NOTES:

1. For Column Schedule and Bar Diagrams, see Sheet S-41.
2. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
3. Concrete Sealer shall be applied to all exposed surfaces of the columns.

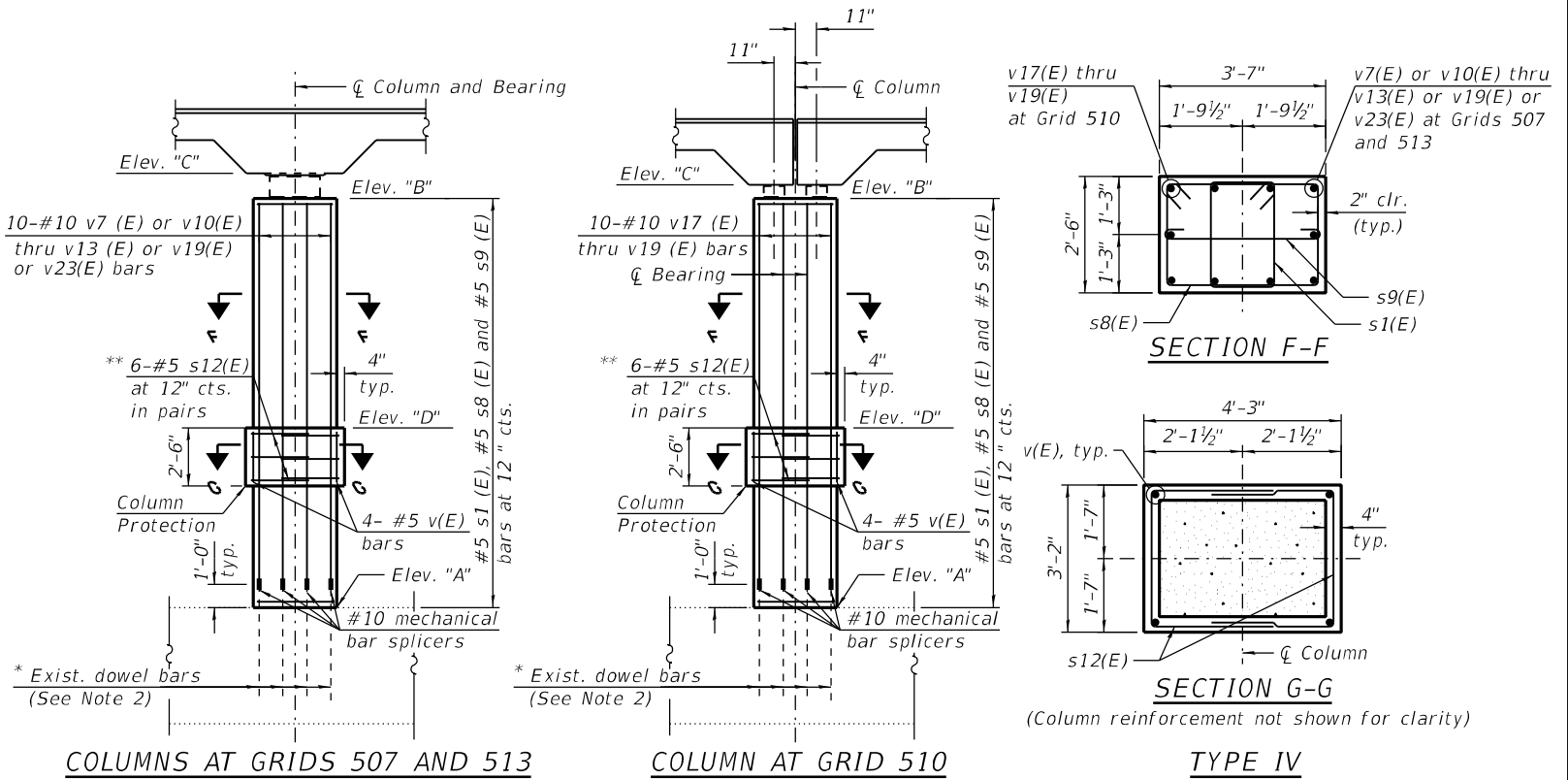
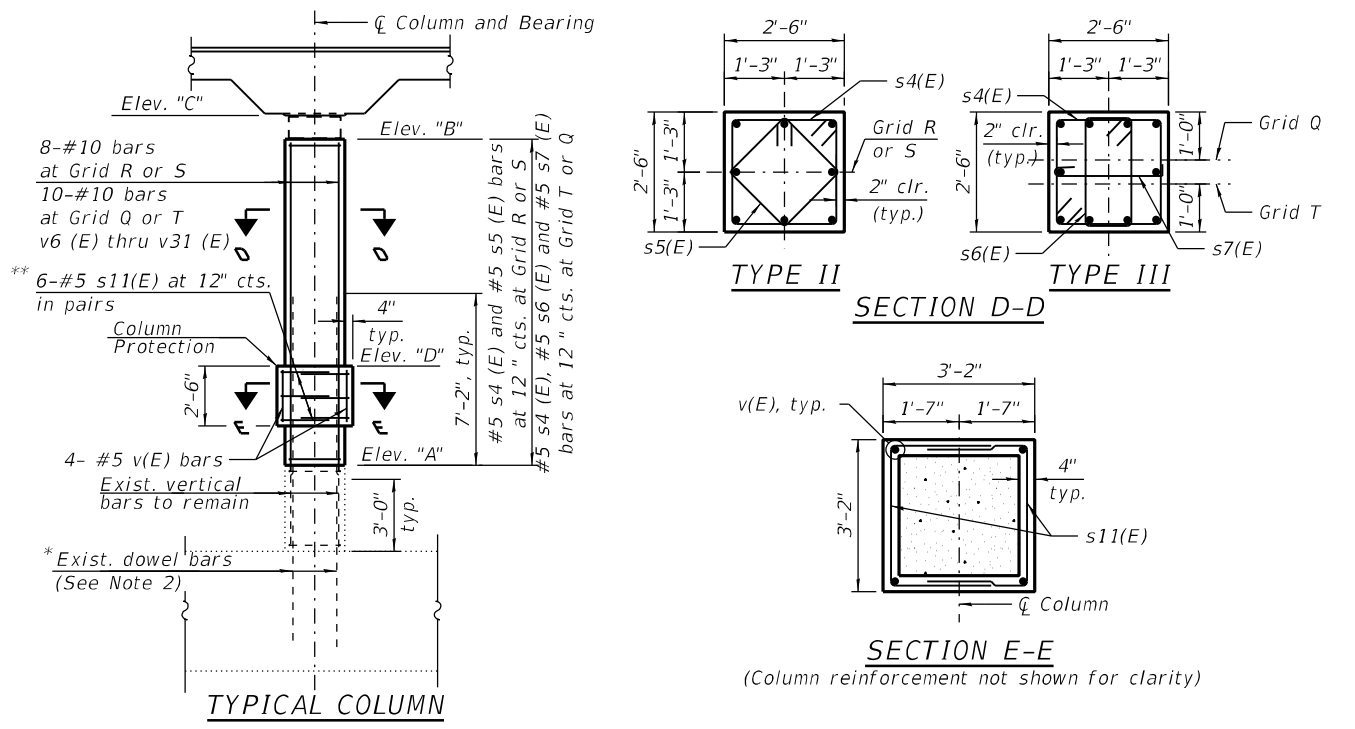
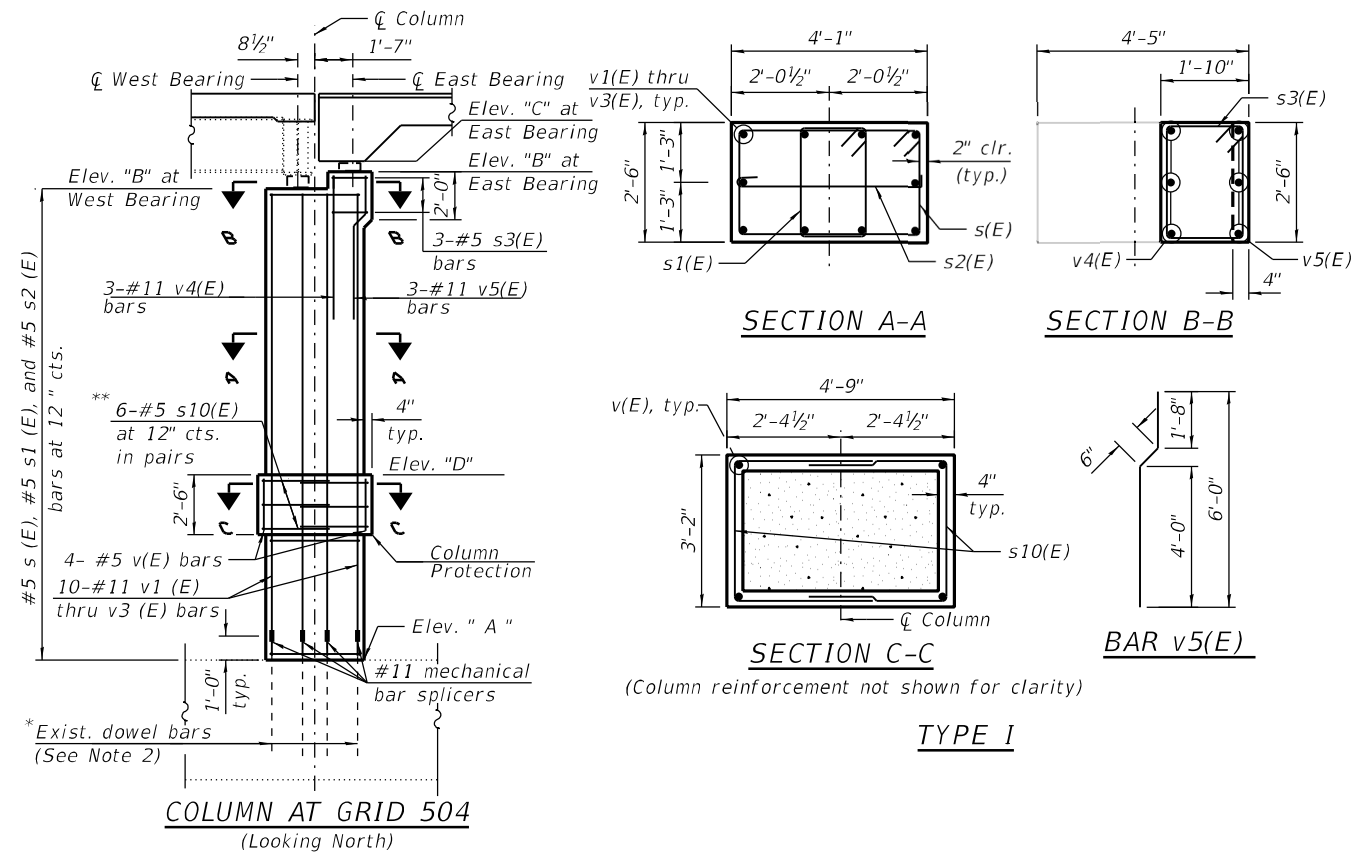
* Where mechanical splicers are specified, cut existing dowel bars 1'-0" above top of grade beam. At all other columns, existing vertical reinforcement shall remain for a length of 7'-2" for #10 bars and 8'-8" for #11 bars above Elev. A, as shown in Typical Column section.

** Column Protection only at Grid Lines S and R.

Elev. "A" - Bottom of Column Elevation
 Elev. "B" - Top of Column Elevation
 Elev. "C" - Top of Bearing Elevation
 Elev. "D" - Top of Column Protection at Grids S and R

MINIMUM BAR LAP

#5	3'-0"
#10	7'-2"
#11	8'-8"



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 7/24/2018



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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

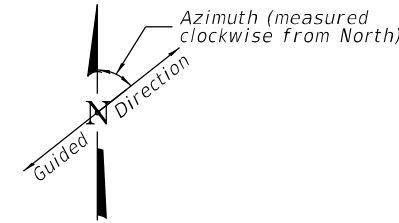
**COLUMN SECTIONS AND DETAILS
 STRUCTURE NO. 016-6146**

SHEET S-40 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	131
CONTRACT NO. M-6003(367)				
ILLINOIS		FED. AID PROJECT		

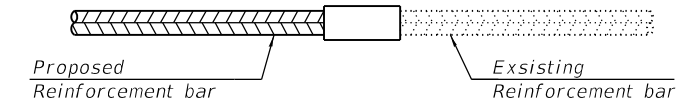
COLUMN SCHEDULE

BENT LINE	COLUMN TYPE	STATION	OFFSET (LEFT -) (RIGHT +) (FT)	BOTTOM OF COLUMN ELEV. "A" (FT)	TOP OF COLUMN ELEV. "B" (FT)	COLUMN HEIGHT (FT)	BEARING TYPE	QUANTITY	TOP OF BEARING ELEV. "C" (FT)	T/COLUMN PROTECTION ELEV. "D" (FT)	AZIMUTH OF GUIDED DIRECTION (DEG)	MECHANICAL SPLICERS
504 - TW	I	100+55.66	+45.01	6.17	21.77	15.60	F1	1	22.51	-	-	-
504 - SW	I	100+55.66	+18.50	6.15	22.07	15.92	F1	1	22.81	9.85	-	-
504 - RW	I	100+55.66	-18.50	6.15	22.07	15.92	F1	1	22.81	9.85	-	-
504 - QW	I	100+55.66	-44.99	6.00	21.77	15.77	F1	1	22.51	-	-	Yes
504 - TE	I	100+57.83	+45.01	6.17	21.95	15.78	S1	1	22.45	-	-	-
504 - SE	I	100+57.83	+18.50	6.15	22.15	16.00	S2	1	22.73	9.85	-	-
504 - RE	I	100+57.83	-18.50	6.15	22.16	16.01	S2	1	22.74	9.85	-	-
504 - QE	I	100+57.83	-44.99	6.00	21.95	15.95	S1	1	22.45	-	-	Yes
505 - T	III	100+82.37	+45.01	5.94	21.83	15.89	S4	1	22.37	-	-	-
505 - S	II	100+82.37	+18.50	5.91	21.72	15.81	G2A	1	22.59	9.64	90	-
505 - R	II	100+82.37	-18.50	5.91	21.74	15.83	G2A	1	22.61	9.64	90	-
505 - Q	III	100+82.37	-44.99	5.87	21.62	15.75	S4	1	22.16	-	-	-
506 - T	III	101+12.37	+45.01	5.76	21.33	15.57	S4	1	21.87	-	-	-
506 - S	II	101+12.37	+18.50	5.77	21.43	15.66	G2B	1	22.30	9.45	0	-
506 - R	II	101+12.37	-18.50	5.77	21.45	15.68	G2B	1	22.32	9.45	0	-
506 - Q	III	101+12.37	-44.99	5.56	21.34	15.78	S4	1	21.88	-	-	-
507 - T	IV	101+42.37	+45.01	-5.25	21.01	26.26	G1	1	21.69	-	0	Yes
507 - S	IV	101+42.37	+18.50	0.90	21.31	20.41	F2	1	22.13	9.42	-	Yes
507 - R	IV	101+42.37	-18.50	2.30	21.11	18.81	F2	1	21.93	9.42	-	Yes
507 - Q	IV	101+42.37	-44.99	-1.00	20.81	21.81	G1	1	21.49	-	0	Yes
508 - T	III	101+72.37	+45.01	5.66	21.11	15.45	S4	1	21.65	-	-	-
508 - S	II	101+72.37	+18.50	4.50	21.23	16.73	G2B	1	22.10	9.59	0	Yes
508 - R	II	101+72.37	-18.50	4.50	20.57	16.07	G2B	1	21.44	9.59	0	Yes
508 - Q	III	101+72.37	-44.99	4.69	20.45	15.76	S4	1	20.99	-	-	-
509 - T	III	102+02.37	+45.01	5.70	21.16	15.46	S5	1	21.73	-	-	-
509 - S	II	102+02.37	+18.50	4.50	21.31	16.81	G2A	1	22.18	9.72	90	Yes
509 - R	II	102+02.37	-18.50	4.50	20.15	15.65	G2A	1	21.02	9.72	90	Yes
509 - Q	III	102+02.37	-44.99	4.24	20.01	15.77	S5	1	20.58	-	-	-
510 - TW	IV	102+30.58	+45.01	0.00	21.27	21.27	S3	1	21.84	-	-	Yes
510 - SW	IV	102+30.58	+18.50	4.50	21.72	17.22	S3	1	22.29	9.64	-	Yes
510 - RW	IV	102+30.58	-18.50	4.50	20.17	15.67	S6	1	20.78	9.64	-	Yes
510 - TE	IV	102+34.16	+45.01	0.00	21.27	21.27	S3	1	21.84	-	-	Yes
510 - SE	IV	102+34.16	+18.50	4.50	21.72	17.22	S3	1	22.29	9.64	-	Yes
510 - RE	IV	102+34.16	-18.50	4.50	20.16	15.66	S6	1	20.77	9.64	-	Yes
511 - T	III	102+62.37	+45.01	5.48	21.28	15.80	S5	1	21.85	-	-	-
511 - S	II	102+62.37	+18.50	4.50	21.43	16.93	G2A	1	22.30	9.38	90	Yes
511 - R	II	102+62.37	-18.50	4.50	19.83	15.33	G2A	1	20.70	9.38	90	Yes
512 - T	III	102+92.37	+45.01	5.19	21.22	16.03	S4	1	21.76	-	-	-
512 - S	II	102+92.37	+18.50	4.50	21.33	16.83	G2B	1	22.20	9.11	0	Yes
512 - R	II	102+92.37	-18.50	4.50	19.92	15.42	G2B	1	20.79	9.11	0	Yes
513 - T	IV	103+22.37	+45.01	0.00	20.93	20.93	G1	1	21.61	-	0	Yes
513 - S	IV	103+22.37	+18.50	4.50	21.23	16.73	F2	1	22.05	8.84	-	Yes
513 - R	IV	103+22.37	-18.50	4.50	20.23	15.73	F2	1	21.05	8.84	-	Yes
513 - Q	IV	103+22.37	-44.99	-1.00	19.92	20.92	G1	1	20.60	-	0	Yes
514 - T	III	103+52.37	+45.01	2.77	20.99	18.22	S4	1	21.53	-	-	Yes
514 - S	II	103+52.37	+18.50	6.00	21.09	15.09	G2B	1	21.96	8.57	0	Yes
514 - R	II	103+52.37	-18.50	4.50	20.61	16.11	G2B	1	21.48	8.57	0	Yes
514 - Q	III	103+52.37	-44.99	4.25	20.49	16.24	S4	1	21.03	-	-	-
515 - T	III	103+82.37	+45.01	4.62	21.13	16.51	S5	1	21.70	-	-	-
515 - S	II	103+82.37	+18.50	6.00	21.22	15.22	G2A	1	22.09	8.42	90	Yes
515 - R	II	103+82.37	-18.50	6.00	21.09	15.09	G2A	1	21.96	8.42	90	Yes
515 - Q	III	103+82.37	-44.99	4.43	20.95	16.52	S5	1	21.52	-	-	-
516 - T	III	104+14.37	+45.01	4.70	21.62	16.92	S4	1	22.16	-	-	-
516 - S	II	104+14.37	+18.50	4.50	21.86	17.36	S7	1	22.48	8.46	-	Yes
516 - R	II	104+14.37	-18.50	4.50	21.88	17.38	S7	1	22.50	8.46	-	Yes
516 - Q	III	104+14.37	-44.99	4.50	21.65	17.15	S4	1	22.19	-	-	Yes



COMBINED COLUMNS BILL OF MATERIAL

PAY ITEM NUMBER	ITEM	UNIT	TOTAL
CDOT5030020	High Performance Concrete Structures	Cu Yd	240.7
50800205	Reinforcement Bars, Epoxy Coated	Pound	53,600
50800530	Mechanical Splacers	Each	252
CDOT5870010	Protective Concrete Sealer	Sq Ft	9,489

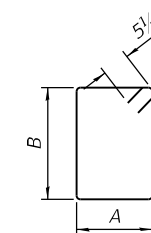


STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
504 - Q	#11	10
507 - T	#10	10
507 - S	#10	10
507 - R	#10	10
507 - Q	#10	10
508 - S	#10	8
508 - R	#10	8
509 - S	#10	8
509 - R	#10	8
510 - T	#10	10
510 - S	#10	10
510 - R	#10	10
511 - S	#10	8
511 - R	#10	8
512 - S	#10	8
512 - R	#10	8
513 - T	#10	10
513 - S	#10	10
513 R	#10	10
513 Q	#10	10
514 T	#10	10
514 S	#10	8
514 R	#10	8
515 S	#10	8
515 R	#10	8
516 S	#10	8
516 R	#10	8
516 Q	#10	10

TABLE 1

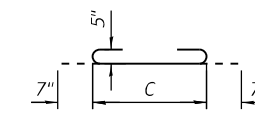
BAR	A	B
s(E)	3'-9"	2'-2"
s1(E)	1'-4"	2'-2"
s3(E)	1'-6"	2'-2"
s4(E)	2'-2"	2'-2"
s5(E)	1'-6"	1'-6"
s6(E)	10 1/2"	2'-2"
s8(E)	3'-3"	2'-2"



BARS s(E) or s1(E) or s3(E) or s4(E) or s5(E) or s6(E) or s8(E)

TABLE 2

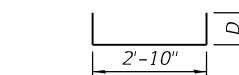
BAR	C
s2(E)	3'-9"
s7(E)	2'-2"
s9(E)	3'-3"



BARS s2(E) or s7(E) or s9(E)

TABLE 3

BAR	D
s10(E)	3'-8"
s11(E)	2'-8"
s12(E)	3'-2"



BARS s10(E) or s11(E) or s12(E)

NOTES:

1. Stations are given to centerline of bearings. Offsets are to grid lines.
2. For individual column Bill of Material, see Sheets S-42 and S-43.
3. Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
4. All reinforcement shall be lapped and tied to the splicer bars.
5. Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
6. See approved list of bar splicer assemblies and mechanical splacers for alternatives.

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USER NAME	Stoyanka	DESIGNED	SK	REVISED	-
		CHECKED	LAB, MI	REVISED	-
PLOT SCALE	8:0.0000 "/ in.	DRAWN	SK	REVISED	-
PLOT DATE	7/24/2018	CHECKED	LAB, MI	REVISED	-

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

COLUMN SCHEDULE
STRUCTURE NO. 016-6146

SHEET S-41 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	132

CONTRACT NO. M-6000(367)
ILLINOIS FED. AID PROJECT

COLUMNS BILL OF MATERIAL

BARS	SIZE	LENGTH	SHAPE	NUMBER OF BARS PER COLUMN																											
				504-T	504-S	504-R	504-Q	505-T	505-S	505-R	505-Q	506-T	506-S	506-R	506-Q	507-T	507-S	507-R	507-Q	508-T	508-S	508-R	508-Q	509-T	509-S	509-R	509-Q	510-T	510-S	510-R	
				15.60 Ft	15.92 Ft	15.92 Ft	15.77 Ft	15.89 Ft	15.81 Ft	15.83 Ft	15.75 Ft	15.57 Ft	15.66 Ft	15.68 Ft	15.78 Ft	26.26 Ft	20.41 Ft	18.81 Ft	21.81 Ft	15.45 Ft	16.73 Ft	16.07 Ft	15.76 Ft	15.46 Ft	16.81 Ft	15.65 Ft	15.77 Ft	21.27 Ft	17.22 Ft	15.66 Ft	
s (E)	#5	12'-9"	□	17	17	17	17																								
s1 (E)	#5	7'-11"	□	17	17	17	17																								
s2 (E)	#5	4'-11"	□	17	17	17	17							27	22	20	23										22	18	17		
s3 (E)	#5	8'-3"	□	3	3	3	3																								
s4 (E)	#5	9'-7"	□					17	17	17	17	17	17	17	17	17				17	18	17	17	17	18	17	17				
s5 (E)	#5	6'-11"	□					17	17	17										17	18	17	17	18	17	17					
s6 (E)	#5	7'-0"	□					17			17	17							17	18	17	17	18	17	17						
s7 (E)	#5	3'-4"	□					17			17	17							17			17	17		17						
s8 (E)	#5	11'-9"	□																								22	18	17		
s9 (E)	#5	4'-5"	□																							22	18	17			
s10 (E)	#5	10'-2"	□		6	6																									
s11 (E)	#5	8'-2"	□						6	6			6	6						6	6			6	6						
s12 (E)	#5	9'-2"	□																								6	6			
v (E)	#5	2'-2"	▬		4	4			4	4			4	4						4	4			4	4		4	4			
v1 (E)	#11	15'-4"	▬	10																											
v2 (E)	#11	15'-8"	▬		10	10																									
v3 (E)	#11	14'-6"	▬				10																								
v4 (E)	#11	6'-0"	▬	3	3	3	3																								
v5 (E)	#11	6'-2"	▬	3	3	3	3																								
v6 (E)	#10	15'-3"	▬									10																			
v7 (E)	#10	15'-5"	▬										8	8							8										
v8 (E)	#10	15'-6"	▬																												
v9 (E)	#10	15'-7"	▬					10		8	8	10										10		8		10					
v10 (E)	#10	25'-0"	▬																												
v11 (E)	#10	19'-2"	▬												10																
v12 (E)	#10	17'-6"	▬																												
v13 (E)	#10	20'-6"	▬																												
v14 (E)	#10	15'-2"	▬																												
v15 (E)	#10	14'-10"	▬																												
v16 (E)	#10	14'-4"	▬																												
v17 (E)	#10	20'-0"	▬																												
v18 (E)	#10	15'-11"	▬																												
v19 (E)	#10	14'-4"	▬																												
High Performance Concrete Structures	Cu Yd			6.2	6.3	6.3	6.2	4.1	4.1	4.1	4.0	4.0	4.0	4.0	4.1	9.1	7.2	6.6	7.6	4.0	4.3	4.1	4.0	4.0	4.3	4.0	4.1	7.3	6.0	5.4	
Reinforcement Bars, Epoxy Coated	Pound			1500	1590	1590	1450	1030	890	890	1030	1010	890	890	1030	1770	1460	1330	1470	1010	910	870	1030	1010	910	850	1030	1430	1210	1120	
Mechanical Splicers	Each			-	-	-	10	-	-	-	-	-	-	-	10	10	10	10	-	8	8	-	-	8	8	-	10	10	10		
Protective Concrete Sealer	Sq Ft			216	229	229	218	165	172	172	164	162	170	171	164	328	265	245	274	161	181	175	164	161	182	170	164	268	227	208	

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PLOT DATE	7/24/2018	CHECKED	LAB, MI	REVISED	-

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**COLUMNS BILL OF MATERIAL (SHEET 1 OF 2)
 STRUCTURE NO. 016-6146**

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	133
CONTRACT NO. M-6000(367)				
SHEET S-42 OF S-50 SHEETS			ILLINOIS FED. AID PROJECT	

COLUMNS BILL OF MATERIAL

BARS	SIZE	LENGTH	SHAPE	NUMBER OF BARS PER COLUMN																					
				511-T	511-S	511-R	512-T	512-S	512-R	513-T	513-S	513-R	513-Q	514-T	514-S	514-R	514-Q	515-T	515-S	515-R	515-Q	516-T	516-S	516-R	516-Q
				15.80 Ft	16.93 Ft	15.33 Ft	16.03 Ft	16.83 Ft	15.42 Ft	20.93 Ft	16.73 Ft	15.73 Ft	20.92 Ft	18.22 Ft	15.09 Ft	16.11 Ft	16.24 Ft	16.51 Ft	15.22 Ft	15.09 Ft	16.52 Ft	16.92 Ft	17.36 Ft	17.38 Ft	17.15 Ft
s1 (E)	#5	7'-11"	□							22	18	17	22												
s4 (E)	#5	9'-7"	□	17	18	16	17	18	17					19	16	17	17	18	16	16	18	18	18	18	
s5 (E)	#5	6'-11"	□		18	16		18	17						16	17			16	16		18	18		
s6 (E)	#5	7'-0"	□	17			17							19			17	18			18	18		18	
s7 (E)	#5	3'-4"	□	17			17							19			17	18			18	18		18	
s8 (E)	#5	11'-9"	□							22	18	17	22												
s9 (E)	#5	4'-5"	□							22	18	17	22												
s11 (E)	#5	8'-2"	□		6	6		6	6						6	6			6	6		6	6		
s12 (E)	#5	9'-2"	□								6	6													
v (E)	#5	2'-2"	□		4	4		4	4		4	4			4	4			4	4		4	4		
v7 (E)	#10	15'-5"	□								10														
v8 (E)	#10	15'-6"	□	10																					
v9 (E)	#10	15'-7"	□				8																		
v18 (E)	#10	15'-11"	□													10									
v19 (E)	#10	14'-5"	□									10													
v20 (E)	#10	15'-8"	□		8		10																		
v21 (E)	#10	14'-1"	□			8																			
v22 (E)	#10	14'-2"	□					8																	
v23 (E)	#10	19'-8"	□						10			10													
v24 (E)	#10	16'-11"	□										10												
v25 (E)	#10	13'-10"	□											8					8						
v26 (E)	#10	14'-10"	□												8										
v27 (E)	#10	16'-3"	□													10				10					
v28 (E)	#10	13'-11"	□														8								
v29 (E)	#10	16'-8"	□																	10					
v30 (E)	#10	16'-1"	□																		8	8			
v31 (E)	#10	16'-10"	□																					10	
High Performance Concrete Structures			Cu Yd	4.1	4.3	3.9	4.1	4.3	4.0	7.3	5.9	5.6	7.3	4.6	3.9	4.1	4.2	4.2	3.9	3.9	4.2	4.3	4.4	4.4	4.4
Reinforcement Bars, Epoxy Coated			Pound	1030	910	820	1030	910	850	1410	1190	1120	1410	1130	820	870	1040	1080	820	820	1080	1100	930	930	1100
Mechanical Splicers			Each	-	8	8	-	8	8	10	10	10	10	10	8	8	-	-	8	8	-	-	8	8	10
Protective Concrete Sealer			Sq Ft	164	183	167	167	182	168	263	220	208	263	188	165	175	169	171	166	165	171	175	187	188	178

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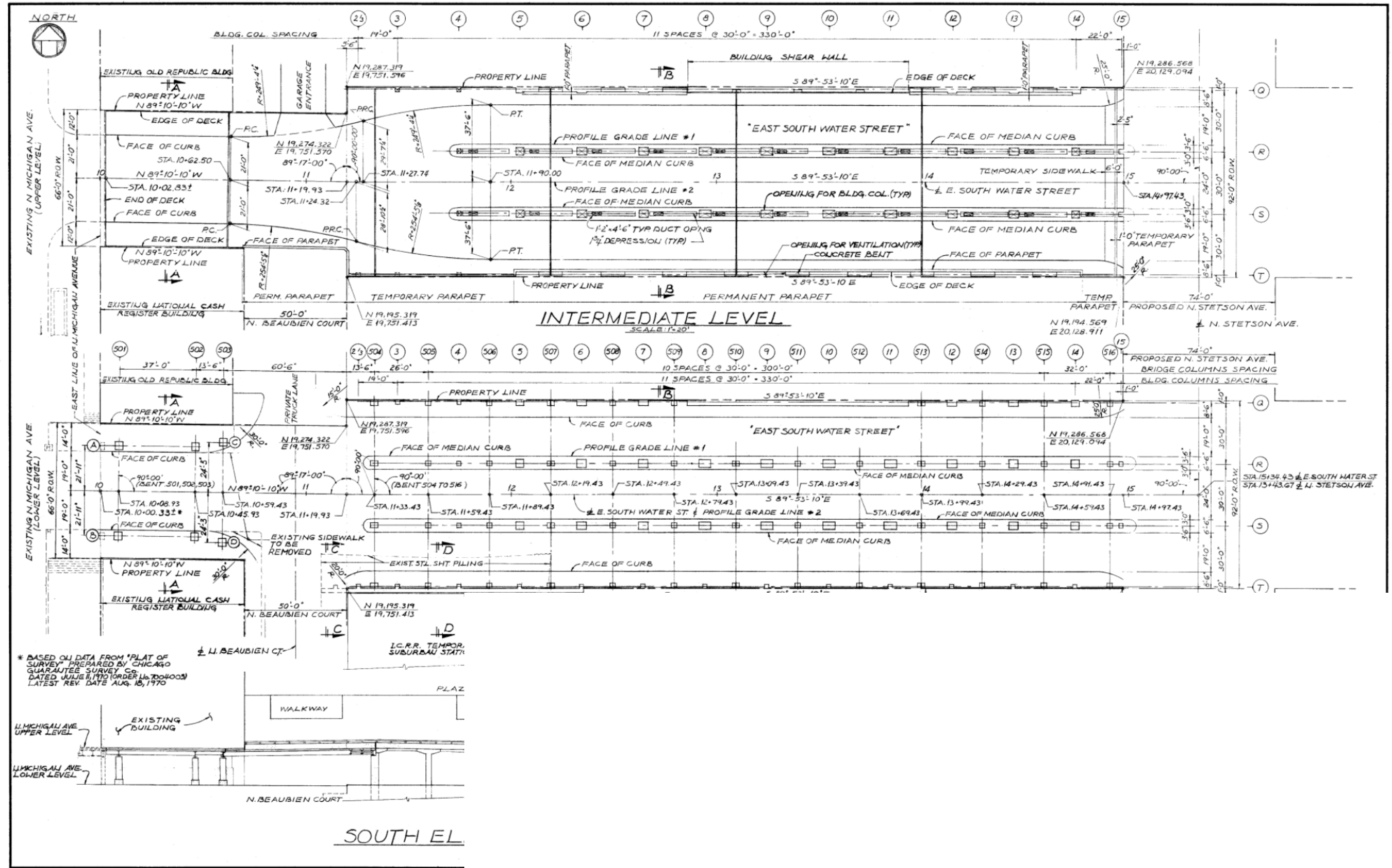
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**COLUMNS BILL OF MATERIAL (SHEET 2 OF 2)
 STRUCTURE NO. 016-6146**

SHEET S-43 OF S-50 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	134
			CONTRACT NO. M-6000(367)	
		ILLINOIS	FED. AID PROJECT	



* BASED ON DATA FROM "PLAT OF SURVEY" PREPARED BY CHICAGO GUARANTEE SURVEY CO. DATED JULIE 11, 1970 (ORDER 16, 204,000) LATEST REV. DATE AUG. 13, 1970

FOR INFORMATION ONLY

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 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

LOCHNER

USER NAME	dbender	DESIGNED	BM	REVISED	-
PLOT SCALE	32.0' : 1" / in.	CHECKED	AMK	REVISED	-
PLOT DATE	5/17/2019	DRAWN	ILMK	REVISED	-
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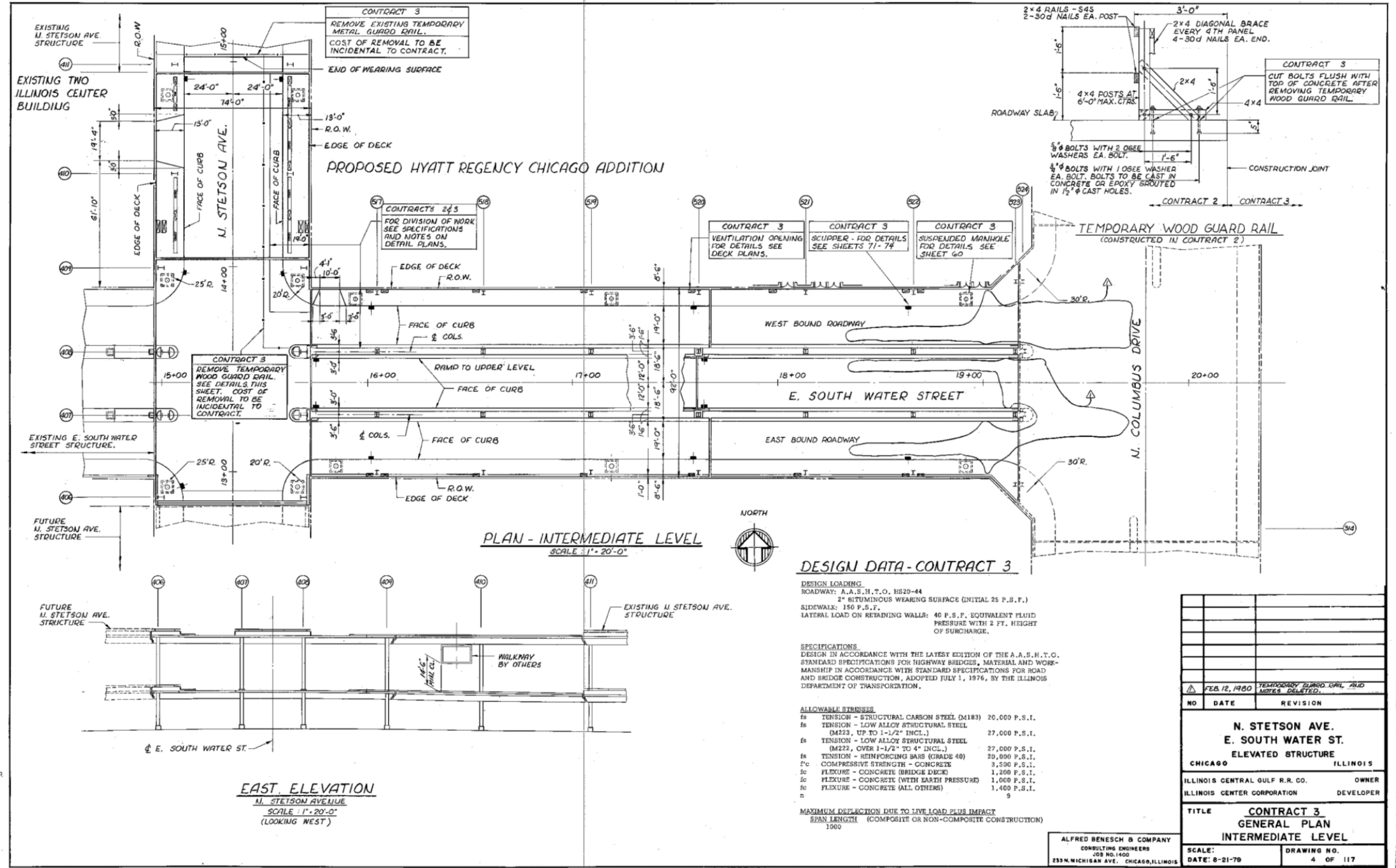
CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING

EXISTING GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 016-6146 & 016-6511

SHEET 5-44 OF 5-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	135

CONTRACT NO. M-6000(367)
 ILLINOIS FED. AID PROJECT



PLAN - INTERMEDIATE LEVEL
SCALE: 1" = 20'-0"

EAST ELEVATION
N. STETSON AVENUE
SCALE: 1" = 20'-0"
(LOOKING WEST)

DESIGN DATA - CONTRACT 3

DESIGN LOADING
ROADWAY: A.A.S.H.T.O. HS20-44
2" BITUMINOUS WEARING SURFACE (INITIAL 25 P.S.F.)
SIDEWALK: 150 P.S.F.
LATERAL LOAD ON RETAINING WALLS: 40 P.S.F. EQUIVALENT FLUID PRESSURE WITH 2 FT. HEIGHT OF SURCHARGE.

SPECIFICATIONS
DESIGN IN ACCORDANCE WITH THE LATEST EDITION OF THE A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JULY 1, 1976, BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

ALLOWABLE STRESSES

f_s	TENSION - STRUCTURAL CARBON STEEL (M183)	20,000 P.S.I.
f_s	TENSION - LOW ALLOY STRUCTURAL STEEL (M222, UP TO 1-1/2" INCL.)	27,000 P.S.I.
f_s	TENSION - LOW ALLOY STRUCTURAL STEEL (M222, OVER 1-1/2" TO 4" INCL.)	27,000 P.S.I.
f_s	TENSION - REINFORCING BARS (GRADE 40)	20,000 P.S.I.
f'_c	COMPRESSIVE STRENGTH - CONCRETE	3,500 P.S.I.
f_c	FLEXURE - CONCRETE (BRIDGE DECK)	1,200 P.S.I.
f_c	FLEXURE - CONCRETE (WITH EARTH PRESSURE)	1,000 P.S.I.
f_c	FLEXURE - CONCRETE (ALL OTHERS)	1,400 P.S.I.
n		9

MAXIMUM DEFLECTION DUE TO LIVE LOAD PLUS IMPACT
SPAN LENGTH (COMPOSITE OR NON-COMPOSITE CONSTRUCTION)
1000

FEB. 12, 1980		TEMPORARY GUARD RAIL AND NOTES DELETED.
NO	DATE	REVISION
<p align="center">N. STETSON AVE. E. SOUTH WATER ST. ELEVATED STRUCTURE</p> <p align="center">CHICAGO ILLINOIS</p> <p>ILLINOIS CENTRAL GULF R.R. CO. OWNER ILLINOIS CENTER CORPORATION DEVELOPER</p> <p align="center">TITLE CONTRACT 3 GENERAL PLAN INTERMEDIATE LEVEL</p> <p>SCALE: DATE: 8-21-79 DRAWING NO. 66014 SHEET NO. 4 OF 117</p>		

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB NO. 1400
233 N. MICHIGAN AVE., CHICAGO, ILLINOIS

MODEL: Default 11:27:50 AM
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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

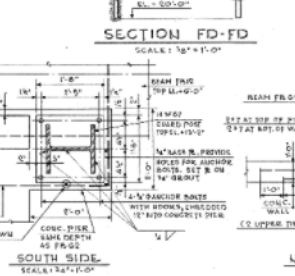
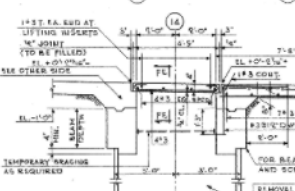
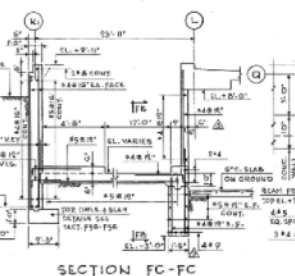
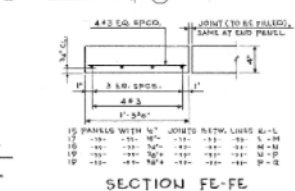
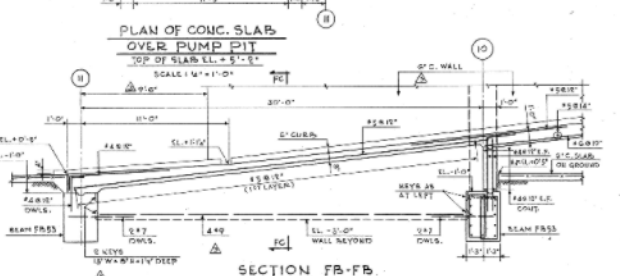
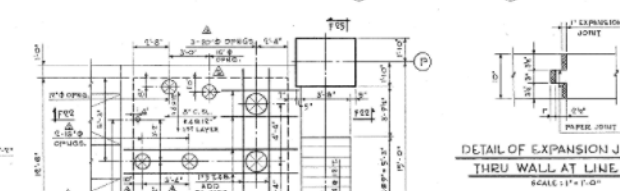
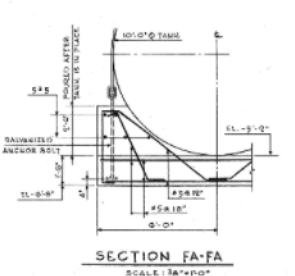
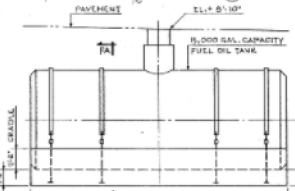
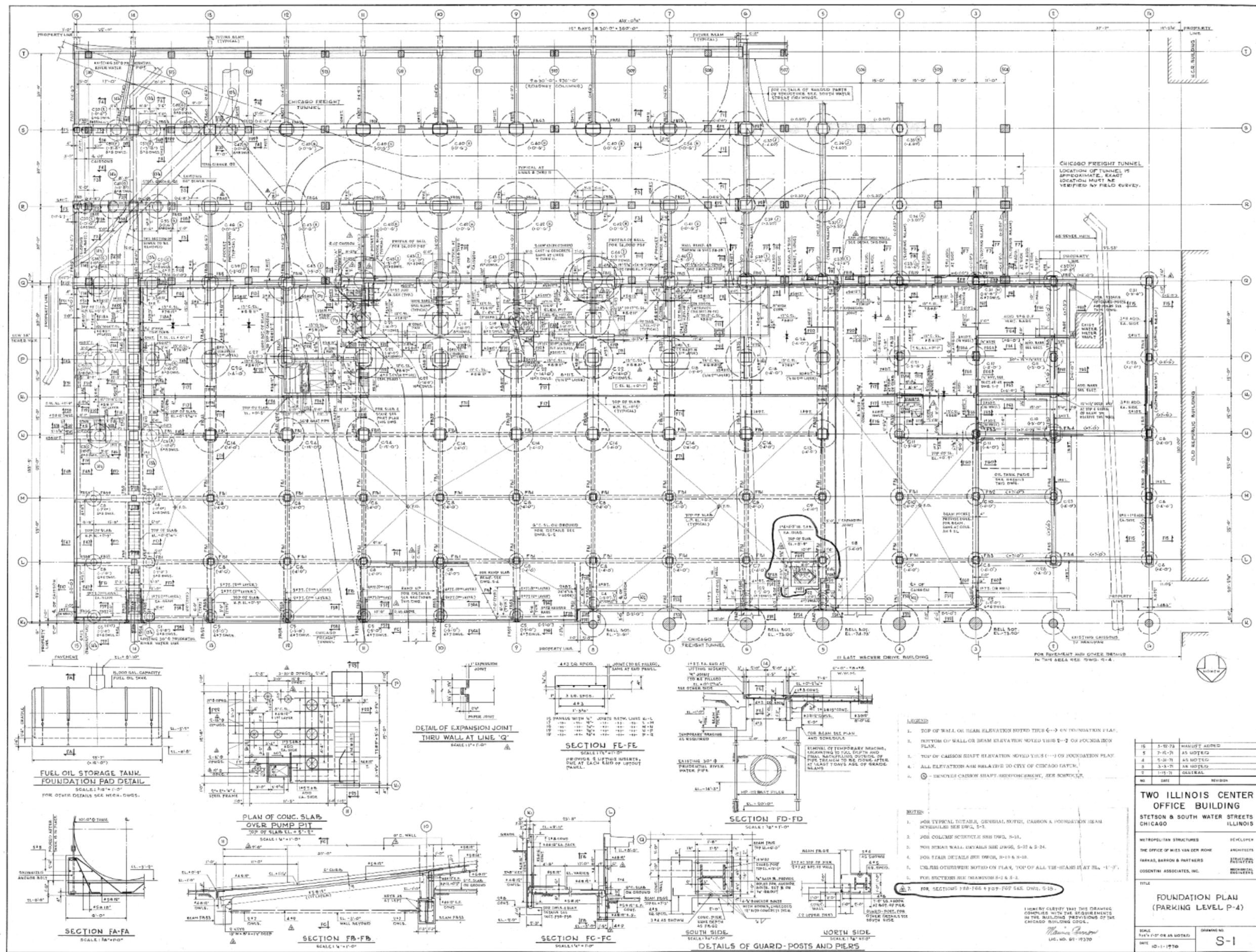
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

**EXISTING GENERAL PLAN AND ELEVATION
STRUCTURE NO. 016-6335**

SHEET S-45 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	136
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	



- LEGEND**
- TOP OF WALL OR BEAM ELEVATION NOTED THIS (---) ON FOUNDATION PLAN.
 - BOTTOM OF WALL OR BEAM ELEVATION NOTED THIS (---) ON FOUNDATION PLAN.
 - TOP OF CAISSON DIAFT ELEVATION NOTED THIS (---) ON FOUNDATION PLAN.
 - ALL ELEVATIONS ARE RELATIVE TO CITY OF CHICAGO DATUM.
 - DENOTES CAISSON SHAFT REINFORCEMENT, SEE SCHEDULE.
- NOTE:**
- FOR TYPICAL DETAILS, GENERAL NOTES, CAISSON & FOUNDATION BEAM SCHEDULES SEE DWG. S-1.
 - FOR COLUMN REINFORCEMENT SEE DWG. S-31.
 - FOR BEAM WALL DETAILS SEE DWGS. S-22 & S-24.
 - FOR STAIR DETAILS SEE DWG. S-15 & S-16.
 - CHUBB OSTEEN NOTES ON PLAN, TOP OF ALL THE BEAMS IS AT EL. -1'-0".
 - FOR SECTIONS SEE DRAWINGS S-2 & S-3.
 - FOR SECTIONS 1-8-106 & 1-8-107 SEE DWG. S-10.

NO.	DATE	REVISION
15	3-10-73	MAINT. ADD'D
5	7-15-71	AS NOTED
4	5-28-71	AS NOTED
3	3-18-71	AS NOTED
2	1-15-71	GENERAL
NO.	DATE	REVISION

TWO ILLINOIS CENTER OFFICE BUILDING
STETSON & SOUTH WATER STREETS
CHICAGO
ILLINOIS

METROPOLITAN STRUCTURES DEVELOPER
THE OFFICE OF WILES VAN DER BEEK ARCHITECTS ARCHITECTS
FARRAS, BARRON & PARTNERS ARCHITECTS
COSENTINI ASSOCIATES, INC. STRUCTURAL ENGINEERS

FOUNDATION PLAN (PARKING LEVEL P-4)

SCALE: 1/4" = 1'-0" OR AS NOTED
DATE: 10-11-1970

DRAWING NO. **S-1**

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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CHECKED	: AMK	CHECKED	: AMK	REVISED	:
PLOT SCALE	: 3/20" = 1' in.	DRAWN	: ILMK	REVISED	:
PLOT DATE	: 5/17/2019	CHECKED	: AMK	REVISED	:

CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

EXISTING FOUNDATION PLAN
ILLINOIS CENTER OFFICE BLDG.

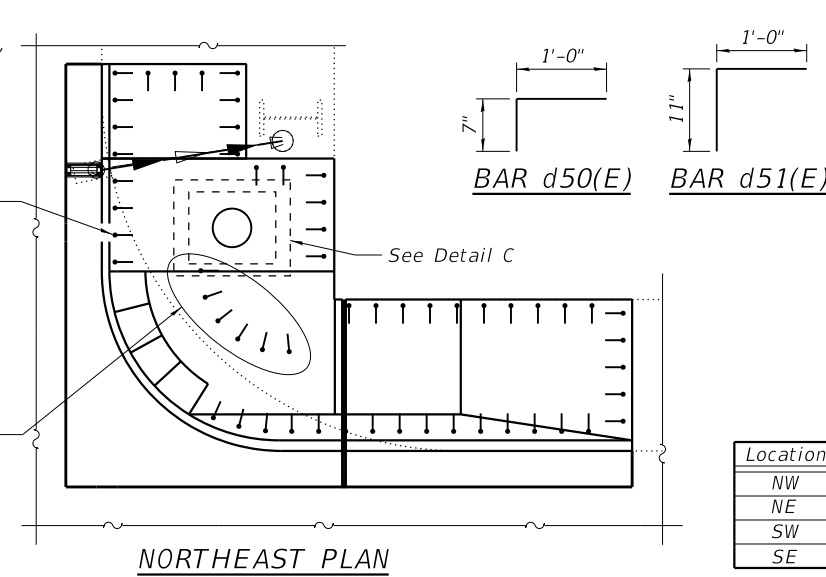
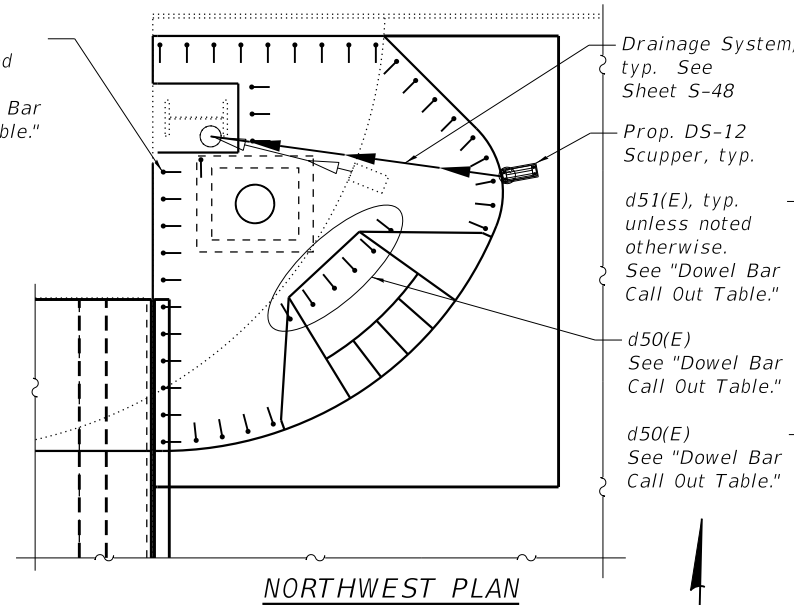
SHEET 5-46 OF 5-50 SHEETS

MUNI. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11-E1517-00-BR	COOK	141	137

CONTRACT NO. M-6000(367)
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY

d51(E), typ. unless noted otherwise. See "Dowel Bar Call Out Table."



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a50(E)	72	#6	6'-0"	—
d50(E)	24	#4	1'-7"	└
d51(E)	166	#4	1'-11"	└
Concrete Superstructure		Cu. Yd.	20.5	
Reinforcement Bars, Epoxy Coated		Pound	9,220	

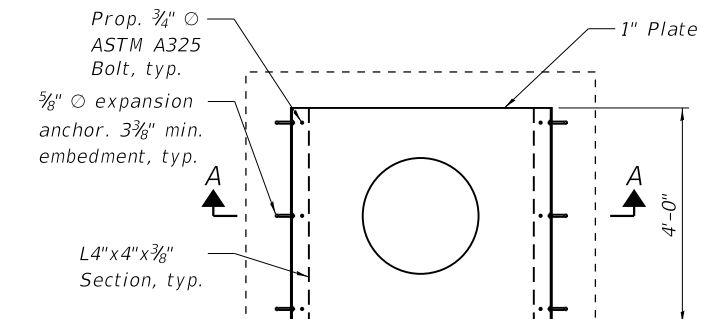
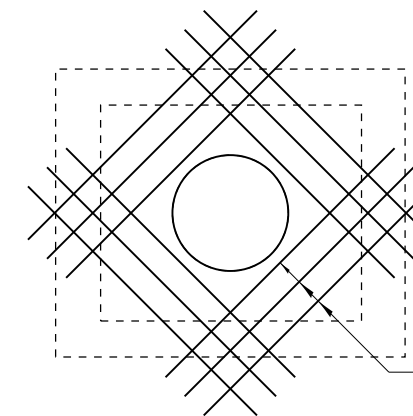
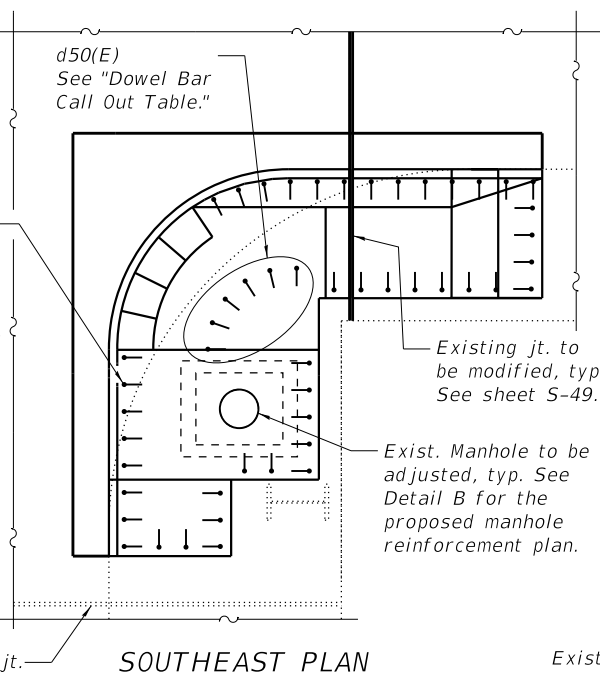
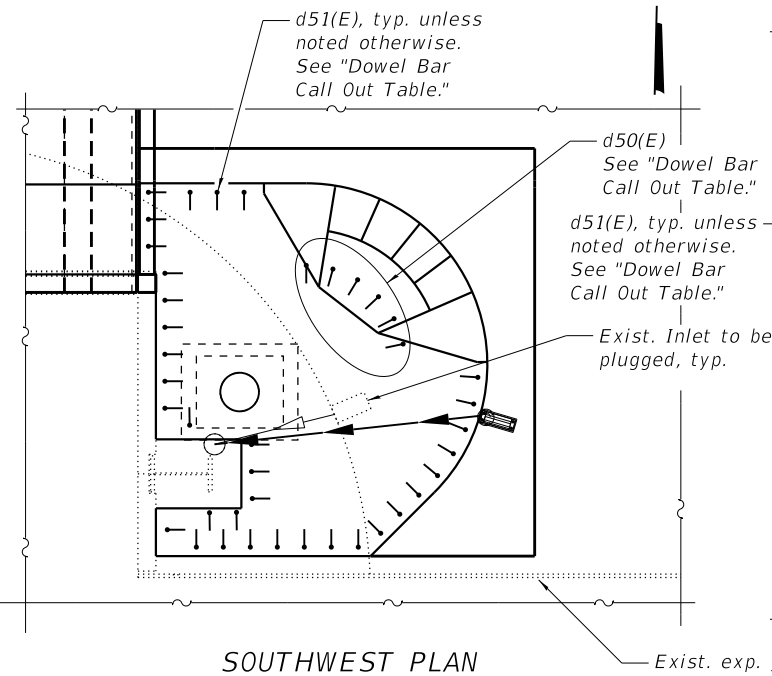
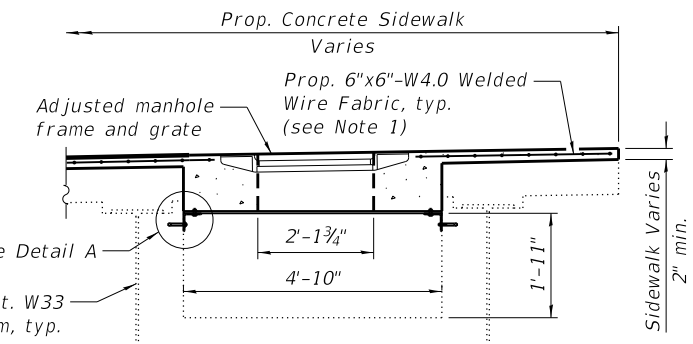
NOTES:

1. Welded wire fabric shall be in accordance with Article 1006.10 of the Standard Specifications. Cut to fit as needed at the manhole opening. Cost included with the Concrete Superstructure.
2. See the "Curb Ramp Details - Intermediate Level" sheet in the Roadway Plans for the proposed ramp elevations and layout.
3. The existing manhole frame and grate shall be salvaged during sidewalk removal. The salvaged frame and grate shall be installed in the new concrete. See the "Curb Ramp Details - Intermediate Level" Sheet for elevation and quantity.
4. The thickness of the existing bridge sidewalk varies, with an 8" minimum thickness. The sidewalk removal depth shall not exceed 8".

DOWEL BAR CALL OUT TABLE

Location	Along Depressed Curb	Along Back Curb
NW	6-#4 d51(E) at 18" cts.	37-#4 d50(E) at 18" cts.
NE	6-#4 d51(E) at 18" cts.	51-#4 d50(E) at 18" cts.
SW	6-#4 d51(E) at 18" cts.	34-#4 d50(E) at 18" cts.
SE	6-#4 d51(E) at 18" cts.	44-#4 d50(E) at 18" cts.

d50(E) & d51(E) placed as shown in Plan & Section A-A. Bend in field to fit as needed.

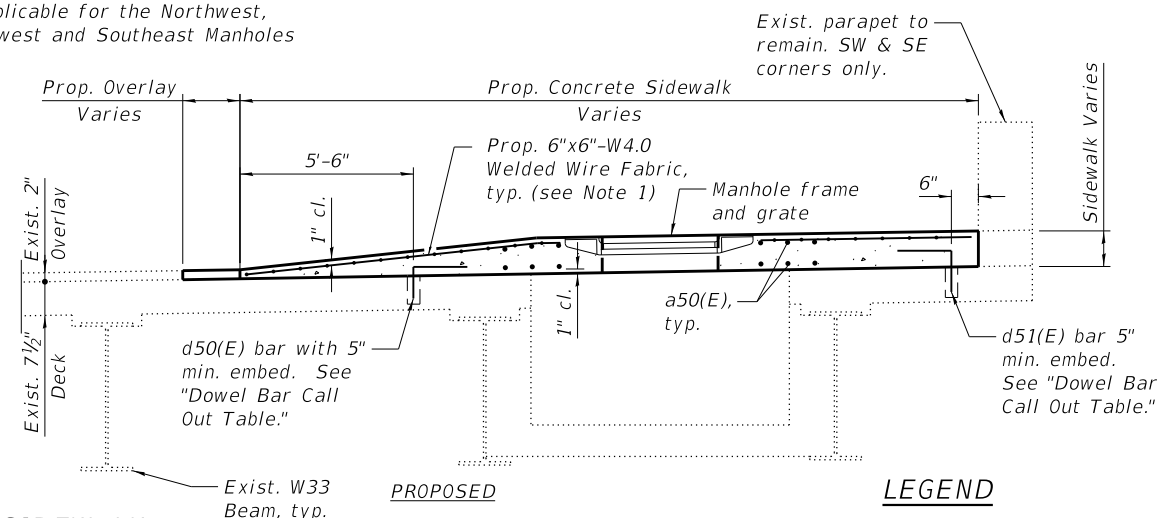
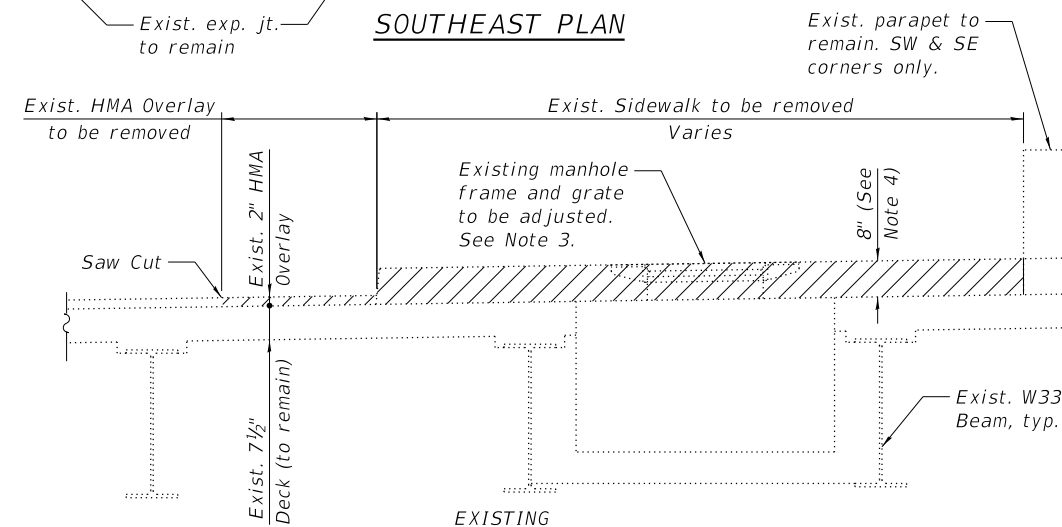
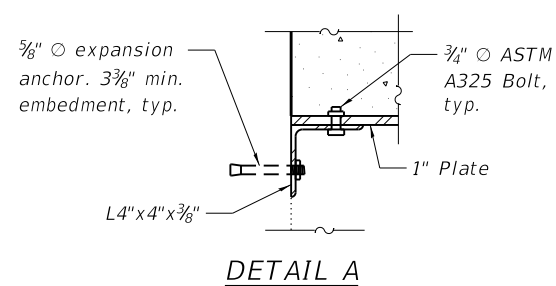


DETAIL B - REINFORCEMENT AT MANHOLE OPENING

Applicable for the Northwest, Southwest and Southeast Manholes

DETAIL C

Applies to manhole in Northeast corner



LEGEND



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H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

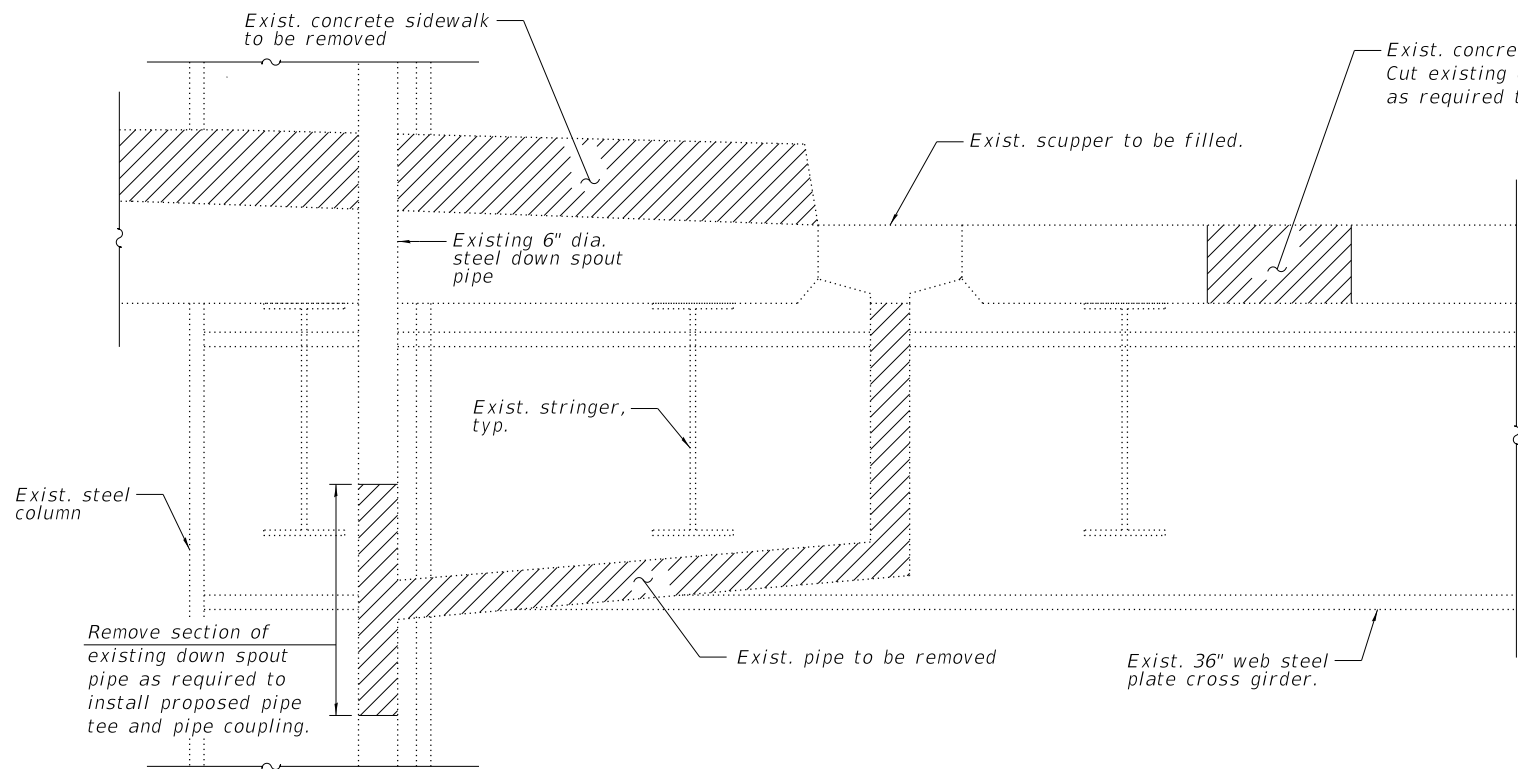
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**CHICAGO DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING**

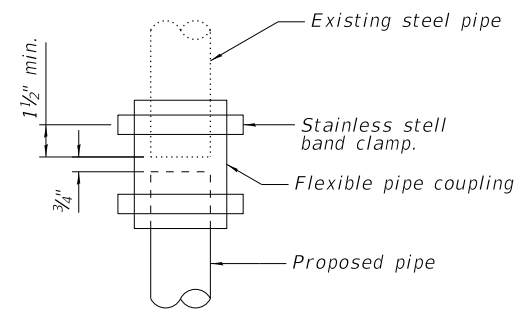
**SIDEWALK MODIFICATIONS FOR ADA RAMP (STETSON AVE)
STRUCTURE NO. 016-6335**

SHEET S-47 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	138
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				



TYPICAL EXISTING DRAINAGE SYSTEM ELEVATION

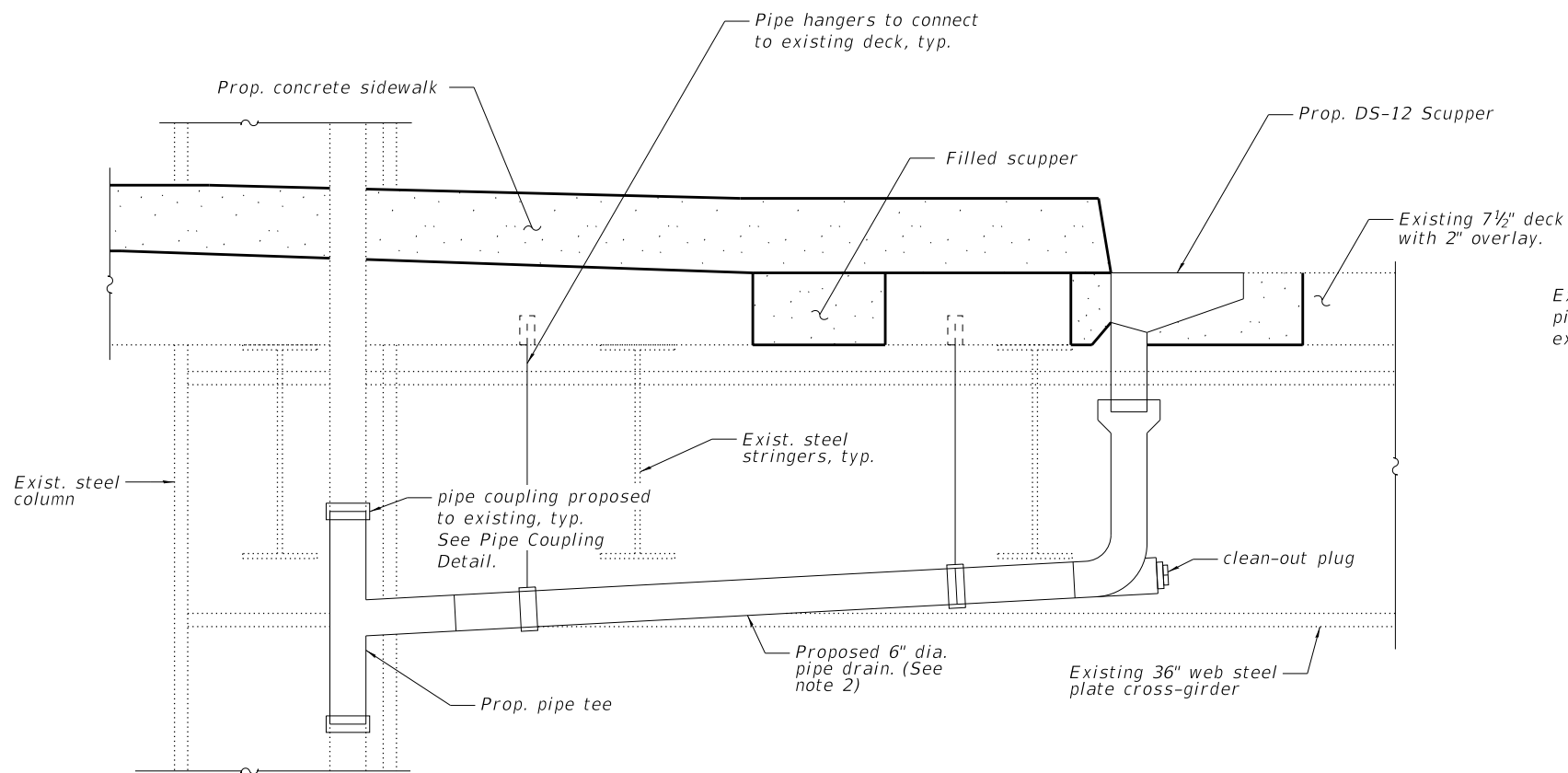


PIPE COUPLING DETAIL

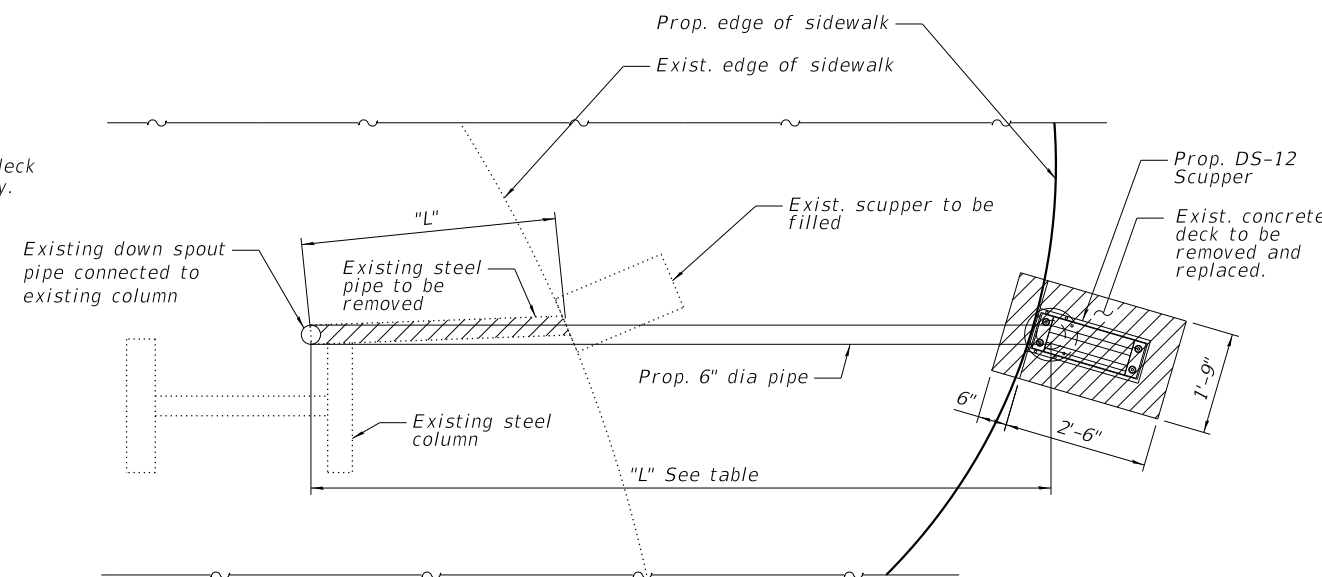
- NOTES:**
- Bend pipes as needed to fit in field
 - No portion of the proposed drainage system shall extend below the bottom of the existing steel cross-girders above the proposed traveled way of the Lower Level.

DIMENSION "L"

Corner	Existing	Proposed
Northwest	9'-0" ±	16'-6" ±
Northeast	10'-0" ±	10'-6" ±
Southwest	7'-6" ±	16'-0" ±



TYPICAL PROPOSED DRAINAGE SYSTEM ELEVATION



DRAINAGE SYSTEM PLAN

LEGEND



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LOCHNER
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 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

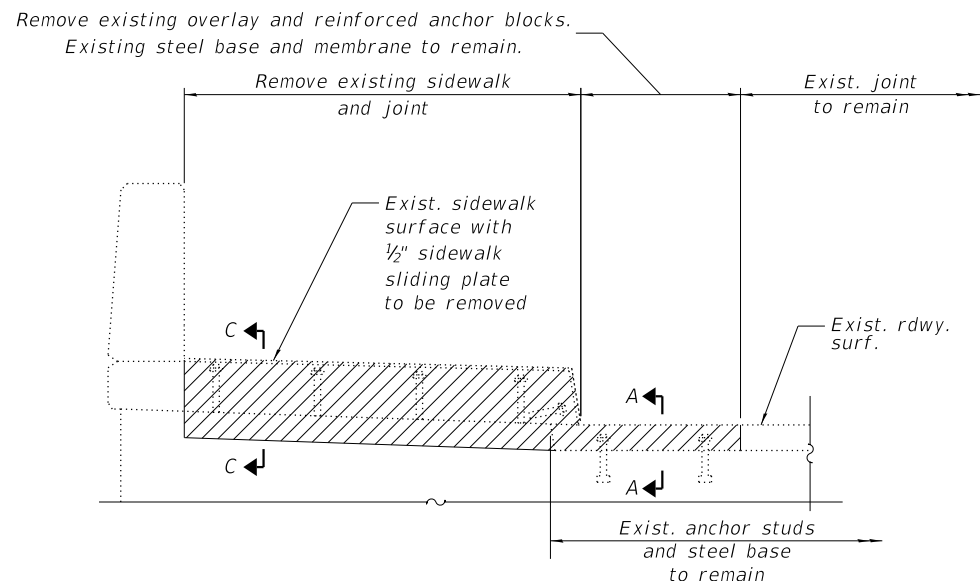
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**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

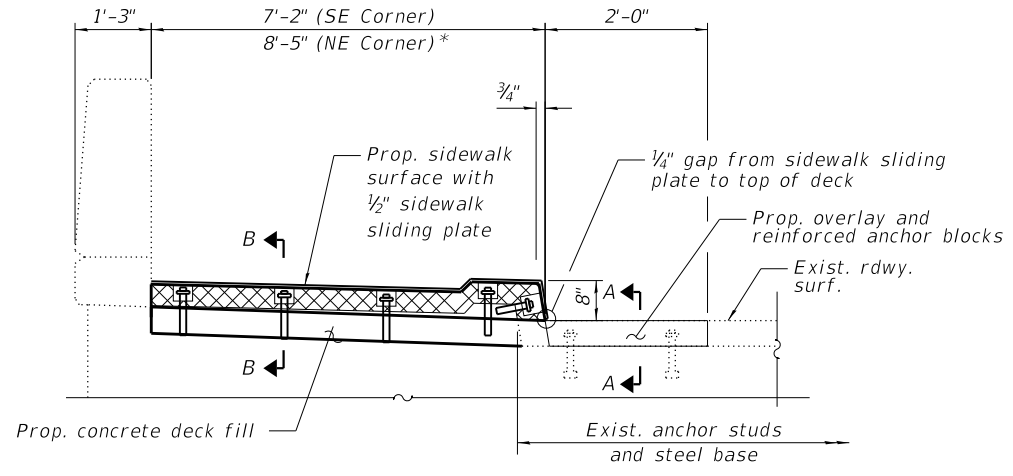
**SCUPPER RELOCATION AND DRAINAGE SYSTEM (STETSON)
 STRUCTURE NO. 016-6355**

SHEET S-48 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	139
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

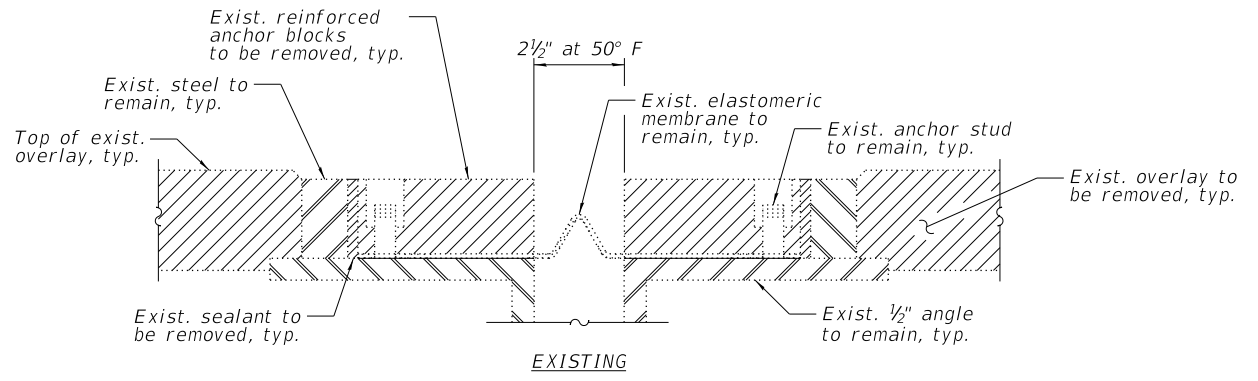


EXISTING SECTION AT RAISED SIDEWALK

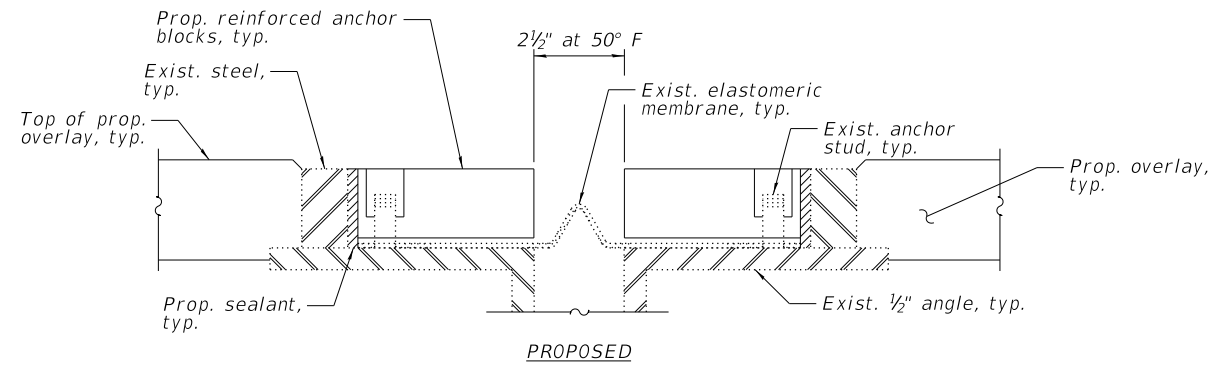


PROPOSED SECTION AT RAISED SIDEWALK

*No existing parapet at NE corner. Removal and replacement limit to outside edge of deck.



EXISTING



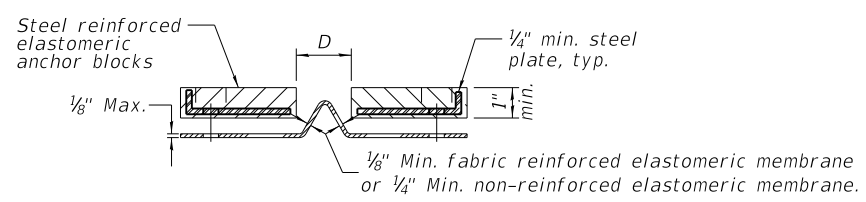
PROPOSED

**SECTION A-A
NEOPRENE EXPANSION JOINT SECTION AT DECK**

Joint Size	"C" at 50° F	"D" at 50° F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

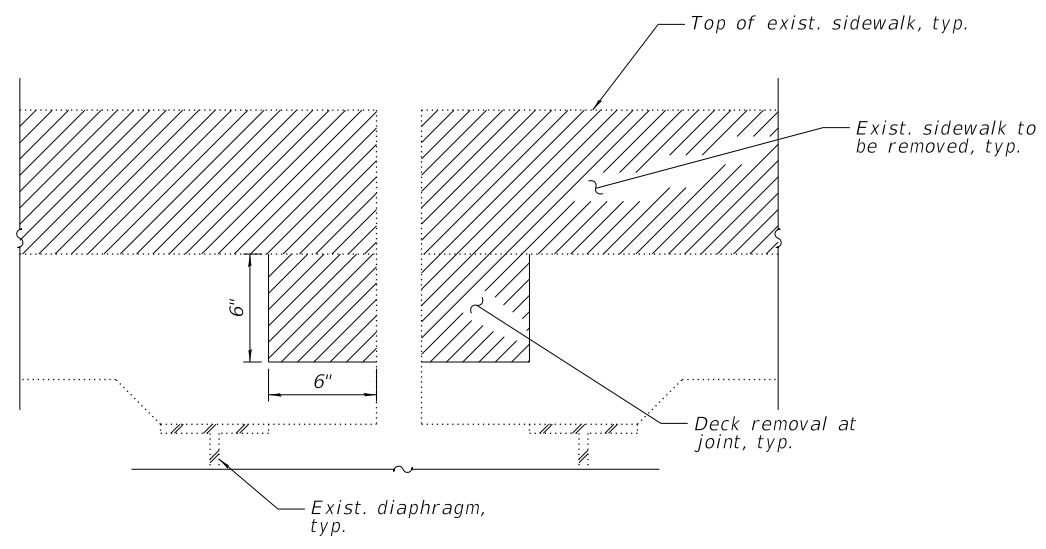
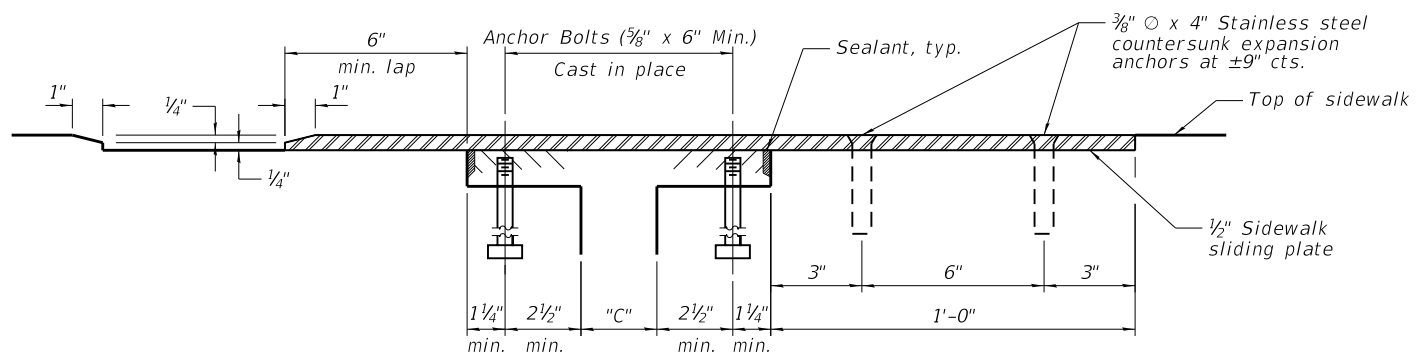
NOTES:

1. The existing membrane shall be rolled back after the anchor blocks have been removed. The new membrane shall be spliced with the existing with a 2'-0" minimum lap.
2. The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.
3. Cost of sidewalk sliding plates, anchorage studs, and expansion anchors shall be included with Neoprene.
4. Install anchor blocks as indicated.
5. Maximum spacing of anchor bolts shall be 9" centers.
6. Cost of the removal of existing joint reinforced anchor blocks included with concrete removal.
7. See the "Curb Ramp Details - Intermediate Level" sheet in the Roadway Plans for proposed ramp elevations and layout.



SECTION B-B

NEOPRENE EXPANSION JOINT SECTION AT SIDEWALK



SECTION C-C

REMOVAL SECTION AT SIDEWALK

LEGEND



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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

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	CHECKED - AMK	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**EXPANSION JOINT MODIFICATIONS AT SIDEWALK (SOUTHWATER)
 STRUCTURE NO. 016-6146**

SHEET S-49 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	140
CONTRACT NO. M-6000(367)				
ILLINOIS FED. AID PROJECT				

LOG OF BORING NO. B-5

CLIENT Lochner			BORING LOCATION Station 11+46 Offset: 31.1' Right			
PROJECT LOCATION South Water Street (CDOT E-1-517) Chicago, Illinois			PROJECT DESCRIPTION Geotechnical Investigation For South Water Street (CDOT E-1-517) Chicago, Illinois			
DEPTH (ft.) BELOW GROUND SURFACE	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE	SAMPLE RECOVERY	DESCRIPTION OF MATERIAL	UNCONFINED COMPRESSIVE STRENGTH TONS/FT. ²
						CALIBRATED PENETROMETER TONS/FT. ²
						1 2 3 4 5 6+
						WATER CONTENT %
						STANDARD "N" PENETRATION (BLOWS/FT.)
					GROUND SURFACE ELEVATION +7.1 CCD	10 20 30 40 50 60+
					3.0" ASPHALT, 9.0" CONCRETE	
	1	GP			Poorly Graded SAND with GRAVEL-brown (GP) Fill	
5.0						
	2	GP				
10.0						
	3	GP			SAND, GRAVEL & STONE (Fill)	
15.0						
	4	GP			Spoon refusal @ -16.0'	
					END OF BORING	
20.0						

WATER LEVEL OBSERVATIONS		 <p>Geo Services, Inc. Geotechnical, Environmental & Civil Engineering 805 Amherst Court, Suite 204 Naperville, Illinois 60565 (630) 355-2838</p>	BORING STARTED April 21, 2014	
Water Level While Drilling Dry ▼			BORING COMPLETED April 21, 2014	
Water Level After Boring Dry ▼			RIG Geo Probe	FOREMAN RJ
			DRAWN RWC	APPROVED AJP
		GSI JOB No. 13163 SHEET 1 OF 1		

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LOCHNER
 H. W. LOCHNER, INC.
 225 WEST WASHINGTON STREET
 12 TH FLOOR
 CHICAGO, ILLINOIS 60606

USER NAME : dbender	DESIGNED -	REVISED -
PLOT SCALE : 2:0.0000 " / in.	CHECKED -	REVISED -
PLOT DATE : 5/17/2019	DRAWN -	REVISED -
	CHECKED -	REVISED -

**CHICAGO DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING**

**SOIL BORING LOG
 STRUCTURE NO. 016-6146**

SHEET S-50 OF S-50 SHEETS

MUN. STREET	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3030	11 - E1517 - 00 - BR	COOK	141	141
CONTRACT NO. M-6000(367)				
		ILLINOIS	FED. AID PROJECT	