



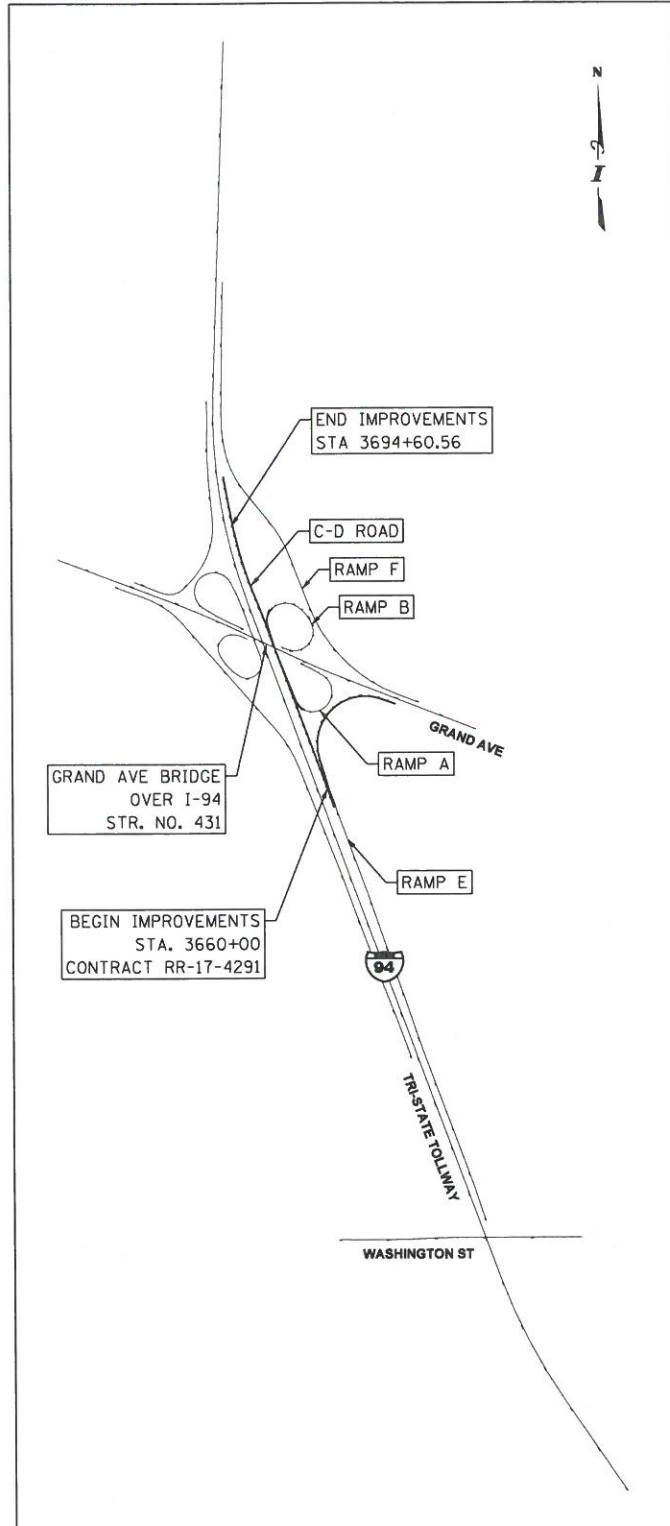
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

CONTRACT NO. RR-17-4291

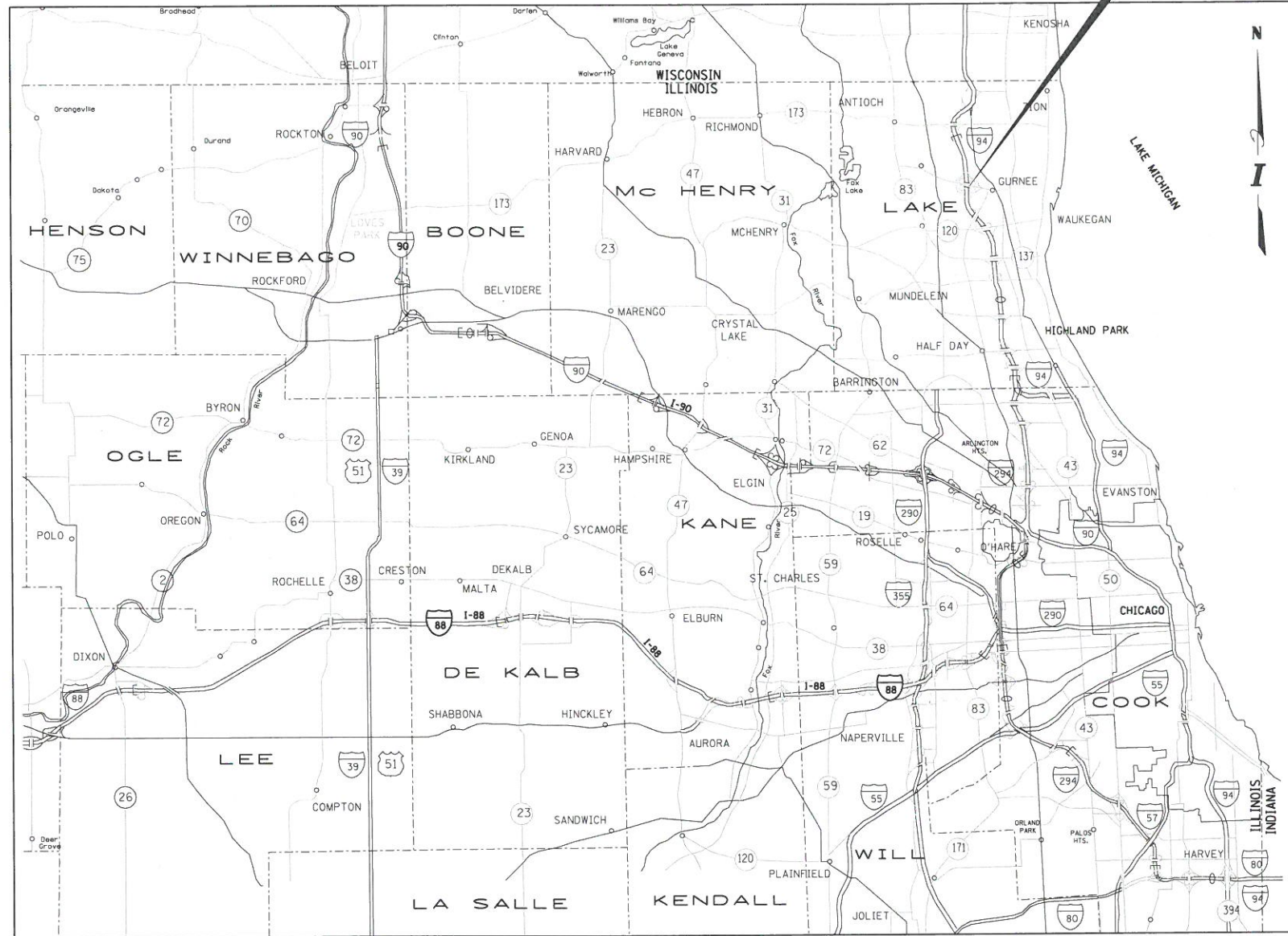
TRI-STATE TOLLWAY (I-94) AT GRAND AVE (IL 132) INTERCHANGE IMPROVEMENTS

MILE POST 8.75 TO MILE POST 8.25 (I-94)
STATION 3660+00 TO STATION 3694+60.56

CONTRACT RR-17-4291
PROJECT SITE LOCATION
SEE CONSTRUCTION AREA MAP



CONSTRUCTION AREA MAP
N.T.S.



LOCATION MAP

SINGH & ASSOCIATES, INC.
LORA L. SUPENCHECK
062-061307
LICENSED PROFESSIONAL ENGINEER
EXP. DATE: 11/30/2017
Lora L. Supenchek 3/30/17
SIGNATURE AND SEAL APPLY TO SHEETS 1-107, 146-228

SINGH & ASSOCIATES, INC.
RASHESHKUMAR D. PATEL
062-064617
LICENSED PROFESSIONAL ENGINEER
OF ILLINOIS
EXP. DATE: 11/30/2017
Rasheskumar D. Patel 3/30/17
SIGNATURE AND SEAL APPLY TO SHEETS 109-136

STATE OF ILLINOIS
EWA K. MROCZEK
081-006067
LICENSED STRUCTURAL ENGINEER
CHICAGO, IL
EXP. DATE: 11/30/2018
Ewa K. Mroczek 3/30/17
SIGNATURE AND SEAL APPLY TO SHEETS 108, 137-145

DESIGN SECTION ENGINEER:

SINGH
SINGH & ASSOCIATES, INC.
CONSULTING ENGINEERS
230 WEST MONROE ST
SUITE 1400
CHICAGO, IL 60606

COLLINS ENGINEERS
123 N. Wacker Dr.
Suite 900
Chicago, IL 60606
Tel: (312) 704-9300
Fax: (312) 704-9320
www.collinsengr.com
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000993

INDEX OF DRAWINGS

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001006	DECIMAL OF AN INCH AND OF A FOOT
280001 - 07	TEMPORARY EROSION CONTROL SYSTEMS
285001 - 02	FABRIC FORMED CONCRETE REVETMENT MATS
420001 - 08	PAVEMENT JOINTS
602001 - 02	CATCH BASIN, TYPE A
602106 - 01	DRAINAGE STRUCTURES, TYPES 4.5, & 6
602401 - 03	MANHOLE, TYPE A
602406 - 07	MANHOLE, TYPE A, 6' DIAMETER
602411 - 05	MANHOLE, TYPE A, 7' DIAMETER
602601 - 04	PRECAST REINFORCED FLAT SLAB TOP
602701 - 02	MANHOLE STEPS
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701901 - 06	TRAFFIC CONTROL DEVICES
704001 - 08	TEMPORARY CONCRETE BARRIER
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 INDEX OF DRAWINGS AND LIST OF STANDARDS
 SHT NO. IND-1
 DRAWING NO. 2 OF 228

GENERAL NOTES

1. GENERAL SAFETY PROVISIONS: TO PROVIDE ILLINOIS TOLLWAY AND CROSSROAD PATRONS SAFE TRAVEL CONDITIONS DURING THIS CONSTRUCTION PROJECT, AND TO PROVIDE SAFE WORKING CONDITIONS FOR ALL EMPLOYEES, BOTH OF THE ILLINOIS TOLLWAY AND PRIVATE CONTRACTOR, THE RULES, REGULATIONS, AND CONDITIONS STATED BELOW WILL PREVAIL FOR THE DURATION OF THIS CONTRACT.
2. THE CONTRACTOR SHALL BE MADE AWARE THAT ALL CONSTRUCTION VEHICLES SHALL BE LIMITED TO 15 FEET ABOVE EXISTING GRADE WHILE CROSSING UNDER COMMONWEALTH EDISON'S TRANSMISSION LINES.
3. DISTRIBUTORS: ALL DISTRIBUTORS FOR ASPHALT PAVING OPERATIONS SHALL BE EQUIPPED WITH SHIELDS TO PREVENT DAMAGES TO MOTORISTS' VEHICLES AND TO ADJACENT HIGHWAY APPURTENANCES.
4. FENCE: EXISTING FENCE THAT HAS TO BE DISCONNECTED AND / OR REMOVED FOR THE CONTRACTOR'S OPERATION SHALL BE RECONNECTED AND / OR REPLACED BY THE CONTRACTOR IN KIND AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY. TEMPORARY FENCE SHOULD BE INSTALLED IF EXISTING FENCE IS TO BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 664 OF THE STANDARD SPECIFICATIONS. ANY ROW-OF-WAY MARKERS DISTURBED BY THE CONTRACTOR'S OPERATION SHOULD BE REESTABLISHED BY A REGISTERED LAND SURVEYOR AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.
5. THE SCALE SHOWN ON THE DRAWINGS APPLIES ONLY TO FULL SIZE PLANS AND NOT TO THE REDUCED SIZE PLANS.
6. ALL ELEVATIONS ARE BASED ON UNITED STATES COAST AND GEODETIC SURVEY DATUM. BENCHMARKS FOR THE PROJECT ARE DESCRIBED IN THE PLANS.
7. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, THE PROPOSED CONCRETE TRUCK WASHOUT LOCATIONS. RUNOFF FROM WASH AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE STORM SEWER OR DITCH SYSTEMS.
8. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ADJACENT TRAFFIC LANES OPEN TO TRAFFIC FROM DEBRIS BEING BLOWN OR OTHERWISE REMOVED FROM THE CONSTRUCTION AREAS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING DEBRIS OFF OF THE ADJACENT TRAVELED LANE SURFACE.
9. INCIDENTAL ITEMS ARE LISTED IN THE CONTRACT DOCUMENTS SPECIAL PROVISION 110.
10. VERIFICATION OF DIMENSIONS: IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

11. ANY ROADWAY APPURTENANCES INCLUDING BUT NOT LIMITED TO ALL VIDEO EQUIPMENT, COMMUNICATIONS EQUIPMENT, ALL FRAMES AND GRATES, SIGNS, FENCES, ENERGY ATTENUATORS, AND DELINEATORS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS/HER EXPENSE.
12. THE CONTRACTOR'S OPERATIONS AND TEMPORARY STORAGE ACTIVITIES SHALL BE LIMITED TO THE WORK AREA AND/OR CONSTRUCTION LIMITS. ANY ADDITIONAL STAGING AREAS ADJACENT TO THE PROJECT ARE SUBJECT TO PRIOR APPROVAL BY THE APPROPRIATE AGENCY. NO ADDITIONAL COMPENSATIONS WILL BE ALLOWED TO THE CONTRACTOR FOR COMPLIANCE WITH THE ABOVE REQUIREMENTS.
13. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS AND WRITTEN AUTHORIZATION FROM ALL GOVERNING AGENCIES FOR CONSTRUCTION ABOVE, ADJACENT TO AND ON ROADWAYS UNDER THEIR JURISDICTION.
14. ALL AREAS THAT HAVE BEEN DISTURBED BY THE CONTRACTOR'S OPERATIONS, IN ADDITION TO THE AREAS IDENTIFIED IN ARTICLE 104.06 OF THE TOLLWAY SUPPLEMENTAL SPECIFICATION, SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND TEMPORARY EROSION CONTROL MEASURES INSTALLED AS SOON AS PRACTICAL AFTER COMPLETION OF THE WORK. RESTORATION OF DISTURBED AREAS SHALL INCLUDE FURNISHING AND PLACING A MINIMUM OF 6" OF TOPSOIL, SEEDING, EROSION CONTROL BLANKET, AND/OR EMBANKMENT AS DIRECTED BY THE ENGINEER. ALL WORK SHALL BE IN ACCORDANCE WITH TOLLWAY SUPPLEMENTAL SPECIFICATIONS AND IDOT STANDARD SPECIFICATIONS.
15. ANY MATERIALS DEEMED SALVAGEABLE BY THE TOLLWAY SHALL BE DELIVERED TO THE MAINTENANCE YARD DESIGNATED IN S.P. 114.

GENERAL NOTES - DRAINAGE

1. DRAINAGE STRUCTURE ELEVATIONS: DRAINAGE STRUCTURE GRADES SHALL BE VERIFIED IN THE FIELD PRIOR TO FABRICATION AND INSTALLATION OF DRAINAGE ITEMS. GRADES OR SEWER LINES WERE DETERMINED FROM AVAILABLE PLANS AND SURVEY. THE INVERTS OF THE PROPOSED SEWERS CONNECTING TO EXISTING DRAINAGE STRUCTURES MAY REQUIRE REVISIONS TO MEET EXISTING FIELD CONDITIONS. ANY ADJUSTMENTS SHALL BE AS DIRECTED BY THE ENGINEER.
2. LENGTHS AND SIZES OF EXISTING STORM SEWERS AS SHOWN ON THE PLANS SHALL BE VERIFIED IN THE FIELD PRIOR TO INSTALLATION OF PROPOSED DRAINAGE ITEMS. INVERTS AND GRADES OF EXISTING SEWER LINES WERE SURVEYED OR EXTRACTED FROM AVAILABLE PLANS. DRAINAGE ITEMS CONNECTION TO EXISTING SEWERS OR STRUCTURES MAY REQUIRE REVISIONS TO MEET EXISTING FIELD CONDITIONS. ANY ADJUSTMENTS SHALL BE AS DIRECTED BY THE ENGINEER.
3. TOP OF GRATE ELEVATIONS FOR DRAINAGE STRUCTURES LOCATED WITHIN THE CURB AND GUTTERS ARE AT THE FLOW LINE OF THE GUTTER, OTHERWISE, TOP OF THE GRATE ELEVATIONS ARE TO THE CENTER OF THE FRAME OR GRATE.
4. THE CONTRACTOR SHALL MAINTAIN DRAINAGE FLOW AT ALL TIMES DURING CONSTRUCTION.

GENERAL NOTES - UTILITIES

1. THE CONTRACTOR SHALL USE ALL NECESSARY PRECAUTIONS AND PROTECTIVE MEASURES REQUIRED TO MAINTAIN EXISTING UTILITIES, SEWERS AND APPURTENANCES THAT MUST BE KEPT IN OPERATION. IN PARTICULAR, THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT THE UNDERMINING OF UTILITIES AND SEWERS WHICH ARE STILL IN SERVICE.
2. THE UTILITY INFORMATION SHOWN ON THE CROSS SECTIONS ARE FROM THE BEST AVAILABLE INFORMATION PROVIDED. ACTUAL HORIZONTAL AND VERTICAL LOCATIONS MAY VARY. THE DEPTHS OF THE UTILITIES SHOWN ARE ASSUMED DEPTHS AND SHOULD NOT BE CONSIDERED ACCURATE UNLESS NOTED OTHERWISE.

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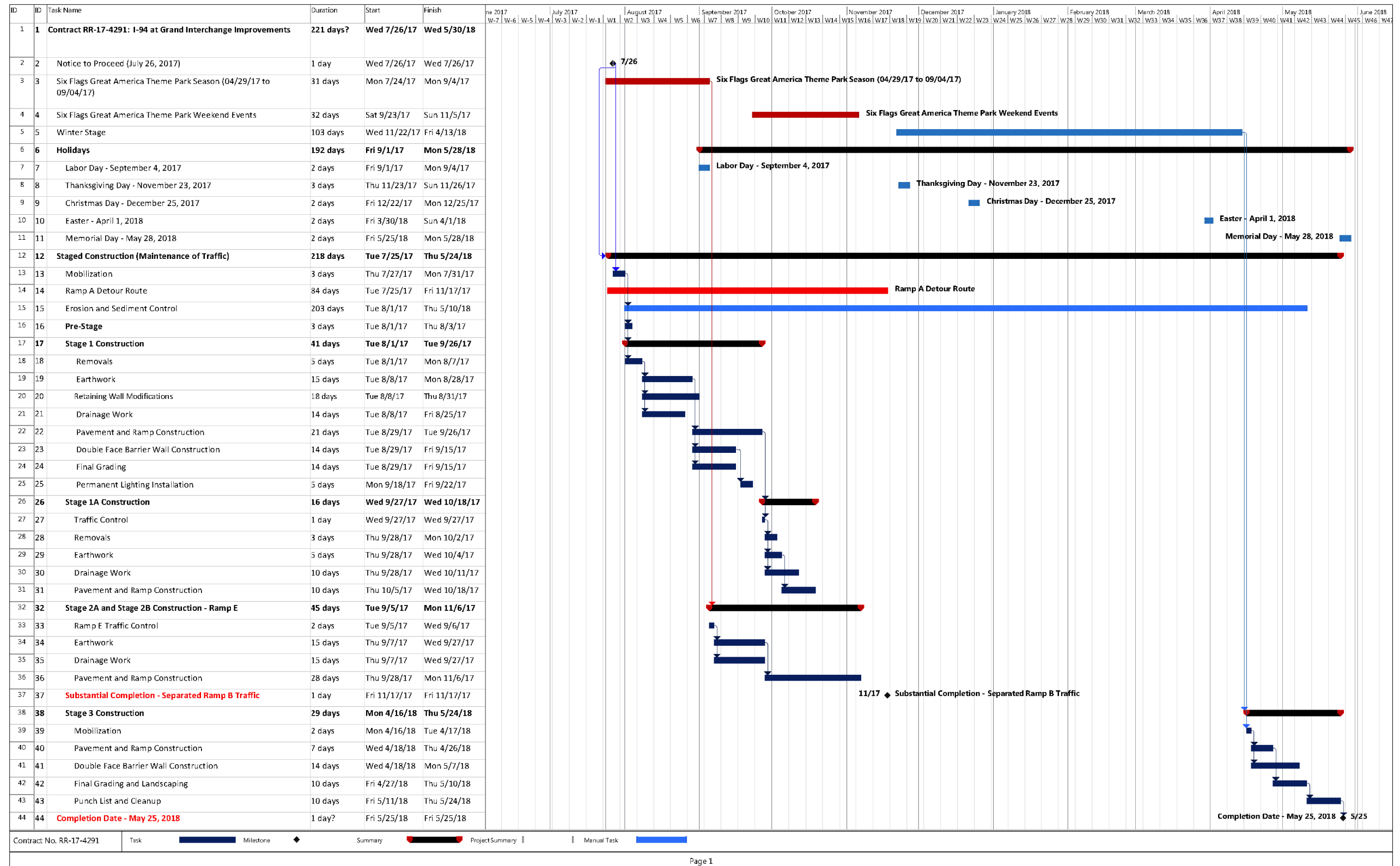
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CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 GENERAL NOTES

SHT NO. GN-1
 DRAWING NO.
 3 OF 228



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NOTES:

- THIS IS ONLY A SUGGESTED PROJECT SCHEDULE AND IS NOT TO BE CONSIDERED THE PROGRESS SCHEDULE AS REQUIRED IN TOLLWAY SUPPLEMENTAL SPECIFICATIONS ARTICLE 108.02. THE INTENT OF THIS SUGGESTED PROGRESS SCHEDULE IS TO ILLUSTRATE THE WORK CAN REASONABLY BE PERFORMED WITHIN THE SUGGESTED SCHEDULE DURATION.
- IF ANY DISCREPANCIES EXIST BETWEEN THIS SUGGESTED PROGRESS SCHEDULE AND THE SPECIFICATIONS, SPECIAL PROVISIONS OR OTHER CONTRACT DRAWINGS, THE SPECIFICATIONS, SPECIAL PROVISIONS OR OTHER CONTRACT DRAWINGS SHALL GOVERN.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MANPOWER AND EQUIPMENT TO MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

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 CHECKED BY LS DATE 03/23/2017



REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 SUGGESTED PROGRESS SCHEDULE

SHT NO. GP-1
 DRAWING NO. 4 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	31	
	20200100	EARTH EXCAVATION	CU YD	13,558	
	20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	1,506	
	20800150	TRENCH BACKFILL	CU YD	350	
	21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	5,600	
	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	227	
	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	681	
	25100630	EROSION CONTROL BLANKET	SQ YD	10,685	
	25100635	HEAVY DUTY EROSION CONTROL BLANKET	SQ YD	24,971	
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	750	
	28200200	FILTER FABRIC	SQ YD	804	
	28500400	ARTICULATED BLOCK REVETMENT MAT	SQ YD	574	
	42001300	PROTECTIVE COAT	SQ YD	10,245	
	44000100	PAVEMENT REMOVAL	SQ YD	4,014	
	44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	364	
	44001980	CONCRETE BARRIER REMOVAL	FOOT	336	
	44004250	PAVED SHOULDER REMOVAL	SQ YD	4,465	
	50102400	CONCRETE REMOVAL	CU YD	54.0	
	50104400	CONCRETE HEADWALL REMOVAL	EACH	2	
	50104650	SLOPE WALL REMOVAL	SQ YD	267	
	50300225	CONCRETE STRUCTURES	CU YD	55.0	
	50300300	PROTECTIVE COAT	SQ YD	75	

LEGEND

- INDICATES SPECIAL PROVISION
- INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATIONS
- INDICATES IDOT RECURRING SPECIAL PROVISION
- BDE INDICATES IDOT BDE SPECIAL PROVISION
- GBSP INDICATES IDOT GUIDE BRIDGE SPECIAL PROVISION
- D1 INDICATES DISTRICT 1 S.P.

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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. S00-1
 I-94 AT GRAND AVENUE DRAWING NO.
 SUMMARY OF QUANTITIES 5 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
	50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	8,420	
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	26,710	
	52200020	TEMPORARY SOIL RETENTION SYSTEM	SO FT	3,960	
	54002020	EXPANSION BOLTS 3/4 INCH	EACH	16	
	54248510	CONCRETE COLLAR	CU YD	2.0	
	550A0050	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	368	
	550A0070	STORM SEWERS, CLASS A, TYPE 1 15"	FOOT	303	
	550A0090	STORM SEWERS, CLASS A, TYPE 1 18"	FOOT	121	
	550A0120	STORM SEWERS, CLASS A, TYPE 1 24"	FOOT	362	
	550A0130	STORM SEWERS, CLASS A, TYPE 1 27"	FOOT	22	
	550A0140	STORM SEWERS, CLASS A, TYPE 1 30"	FOOT	61	
	550A0160	STORM SEWERS, CLASS A, TYPE 1 36"	FOOT	37	
	550A0180	STORM SEWERS, CLASS A, TYPE 1 42"	FOOT	22	
	550A0450	STORM SEWERS, CLASS A, TYPE 2 36"	FOOT	111	
	550A4000	STORM SEWERS, CLASS A, TYPE 1 EQUIVALENT ROUND-SIZE 18"	FOOT	242	
	550A4100	STORM SEWERS, CLASS A, TYPE 1 EQUIVALENT ROUND-SIZE 24"	FOOT	593	
	550A4500	STORM SEWERS, CLASS A, TYPE 1 EQUIVALENT ROUND-SIZE 36"	FOOT	214	
	55100700	STORM SEWER REMOVAL 15"	FOOT	132	
	55100900	STORM SEWER REMOVAL 18"	FOOT	371	
	55101200	STORM SEWER REMOVAL 24"	FOOT	380	
	55101300	STORM SEWER REMOVAL 27"	FOOT	14	
	58700300	CONCRETE SEALER	SO FT	3,289	

LEGEND

- INDICATES SPECIAL PROVISION
- INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATIONS
- INDICATES IDOT RECURRING SPECIAL PROVISION
- BDE INDICATES IDOT BDE SPECIAL PROVISION
- GBSP INDICATES IDOT GUIDE BRIDGE SPECIAL PROVISION
- D1 INDICATES DISTRICT 1 S.P.

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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. S0Q-2
 I-94 AT GRAND AVENUE DRAWING NO.
 SUMMARY OF QUANTITIES 6 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
	60212300	CATCH BASINS, TYPE D, 4' -DIAMETER, TYPE 8 GRATE	EACH	1	
	60223800	MANHOLES, TYPE A, 6' -DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	2	
	60224446	MANHOLES, TYPE A, 7' -DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	4	
	60500040	REMOVING MANHOLES	EACH	1	
	60500050	REMOVING CATCH BASINS	EACH	5	
	60602800	CONCRETE GUTTER, TYPE B	FOOT	77	
	60218400	MANHOLES, TYPE A, 4' -DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	
	63200310	GUARDRAIL REMOVAL	FOOT	200	
	64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	5,436	
	70106800	CHANGEABLE MESSAGE SIGN	CAL MO	20	
BDE	70300904	PAVEMENT MARKING TAPE, TYPE IV 4"	FOOT	38,608	
BDE	70300908	PAVEMENT MARKING TAPE, TYPE IV 8"	FOOT	646	
	70600280	IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3	EACH	4	
	70600290	IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3	EACH	1	
	70600370	IMPACT ATTENUATORS, RELOCATE (SEVERE USE, NARROW), TEST LEVEL 3	EACH	2	
	72400320	REMOVE SIGN PANEL - TYPE 2	SQ FT	83	
	72400330	REMOVE SIGN PANEL - TYPE 3	SQ FT	793	
	72400500	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	EACH	8	
	72400730	RELOCATE SIGN PANEL - TYPE 3	SQ FT	112	
	73000100	WOOD SIGN SUPPORT	FOOT	42	
	73600200	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	EACH	1	
	73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	1	

LEGEND

- INDICATES SPECIAL PROVISION
- INDICATES TOLLWAY SUPPLEMENTAL SPECIFICATIONS
- INDICATES IDOT RECURRING SPECIAL PROVISION
- BDE INDICATES IDOT BDE SPECIAL PROVISION
- GBSP INDICATES IDOT GUIDE BRIDGE SPECIAL PROVISION
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. SOQ-3
 I-94 AT GRAND AVENUE DRAWING NO.
 SUMMARY OF QUANTITIES 7 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	175	
	81800400	AERIAL CABLE, 4-1/C NO. 2 WITH MESSENGER WIRE	FOOT	3,705	
	83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	10	
	89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	100	
	89502380	REMOVE EXISTING HANDHOLE	EACH	5	
•	Z0016702	DETOUR SIGNING	L SUM	1	
•	Z0040530	PIPE UNDERDRAIN REMOVAL	FOOT	3,726	
•	X0323992	HELICAL GROUND ANCHORS	EACH	29	
•	X0324761	DRAINAGE SYSTEM (SPECIAL)	L SUM	1	
•	X6015000	REMOVE CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	9	
•	JIA20082	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 1 1/2" CALIPER, BALLED AND BURLAPPED	EACH	33	
•	J1209030	POROUS GRANULAR EMBANKMENT	CU YD	5,000	
•	J1211110	TOPSOIL EXCAVATION AND PLACEMENT	CU YD	1,578	
•	J1213006	EXPLORATION TRENCH, UTILITIES (VACUUM EXCAVATION)	FOOT	100	
•	J1251010	EROSION CONTROL BLANKET, BIODEGRADABLE NETTING	SQ YD	35,517	
•	J1312022	STABILIZED SUBBASE - WMA, 3"	SQ YD	9,426	
•	J1406107	ASPHALT TACK COAT	POUND	587	
•	J1420010	PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED)	SQ YD	7,855	
•	J1440022	SHOULDER RUMBLE STRIP REMOVAL	SQ YD	5,436	
•	J1481070	AGGREGATE SHOULDERS SPECIAL, TYPE C	TON	18	
•	J1481130	AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4"	SQ YD	1,947	
•	J1482104	WARM-MIX ASPHALT SHOULDERS (6 IN.)	SQ YD	7,680	

LEGEND

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- BDE INDICATES IDOT BDE SPECIAL PROVISION
- GBSP INDICATES IDOT GUIDE BRIDGE SPECIAL PROVISION
- D1 INDICATES DISTRICT 1 S.P.

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CONTRACT NO. RR-17-4291 SHT NO. SOQ-4
 I-94 AT GRAND AVENUE SUMMARY OF QUANTITIES DRAWING NO. 8 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
•	J1485010	TEMPORARY PAVEMENT, CLASS 1	SQ YD	280	
•	J1501040	SLOPED HEADWALL REMOVAL	EACH	12	
•	J1551036	STORM SEWER REMOVAL, EQUIVALENT ROUND-SIZE 36"	FOOT	223	
•	J1601300	PIPE UNDERDRAINS, 6" (SPECIAL)	FOOT	500	
•	J1601305	PIPE UNDERDRAINS, 8" (SPECIAL)	FOOT	30	
•	J1601320	PIPE UNDERDRAINS, FABRIC LINED TRENCH 6"	FOOT	5,255	
•	J1601325	PIPE UNDERDRAINS, FABRIC LINED TRENCH 8"	FOOT	318	
•	J1602104	OUTLET CONTROL STRUCTURE TYPE 4 (CHECK DAM)	EACH	1	
•	J1602184	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 20A FRAME AND GRATE	EACH	3	
•	J1602740	DRAINAGE STRUCTURES, TYPE 4 WITH TWO TYPE 20A FRAME AND GRATE	EACH	6	
•	J1602745	DRAINAGE STRUCTURES, TYPE 5 WITH TWO TYPE 22A FRAME AND GRATE	EACH	6	
•	J1606020	GUTTER, TYPE G-3	FOOT	350	
•	J1630002	GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	50	
•	J1631110	TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT	EACH	1	
•	J1631135	TRAFFIC BARRIER TERMINAL, TYPE T6B	EACH	1	
•	J1635010	ROADWAY DELINEATORS	EACH	47	
•	J1637006	CONCRETE BARRIER, SINGLE FACE, REINFORCED, SPECIAL, 42 INCH	FOOT	184	
•	J1637014	CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT	FOOT	1,710	
•	J1637017	CONCRETE BARRIER BASE (SPECIAL)	FOOT	474	
•	J1637036	CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL)	FOOT	184	
•	J1637056	CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7'	FOOT	1,236	
•	J1680020	HEADWALL TYPE III, 36", 1:4	EACH	2	

LEGEND

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- GBSP INDICATES IDOT GUIDE BRIDGE SPECIAL PROVISION
- D1 INDICATES DISTRICT 1 S.P.

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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. S00-5
 I-94 AT GRAND AVENUE SUMMARY OF QUANTITIES DRAWING NO. 9 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
•	J1680025	HEADWALL TYPE III, 36", 1:6	EACH	1	
•	J1680030	HEADWALL TYPE III, 18", 1:10	EACH	1	
•	J1680038	HEADWALL TYPE IV, 18", 1:4	EACH	4	
•	J1680039	HEADWALL TYPE IV, 24", 1:4	EACH	6	
•	J1680070	HEADWALL TYPE III, 36", 1:3	EACH	1	
•	J1680128	SLOPED HEADWALL TYPE III, 8", 1:3	EACH	1	
•	J1680130	SLOPED HEADWALL TYPE III, 6", 1:4	EACH	12	
•	J1680131	SLOPED HEADWALL TYPE III, 12", 1:4	EACH	3	
•	J1680135	SLOPED HEADWALL TYPE III, 24", 1:4	EACH	1	
•	J1680140	SLOPED HEADWALL TYPE III, 6", 1:6	EACH	5	
•	J1680143	SLOPED HEADWALL TYPE III, 18", 1:6	EACH	1	
•	J1680146	SLOPED HEADWALL TYPE III, 27", 1:6	EACH	1	
•	J1680202	SLOPED HEADWALL TYPE III, 18", 1:4 (SPECIAL)	EACH	1	
•	J1680203	SLOPED HEADWALL TYPE III, 24", 1:4 (SPECIAL)	EACH	3	
•	J1680204	SLOPED HEADWALL TYPE III, 30", 1:4 (SPECIAL)	EACH	1	
•	J1704000	TEMPORARY CONCRETE BARRIER	FOOT	4,350	
•	J1704005	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	2,463	
•	J1728010	TELESCOPING STEEL SIGN SUPPORT, BARRIER ASSEMBLY	EACH	2	
•	J1780300	LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	21,304	
•	J1780320	LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8"	FOOT	6,909	
•	J1780380	LATE SEASON TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	164	
•	J1781010	RAISED PAVEMENT LANE MARKER REFLECTOR	EACH	193	

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- D1 INDICATES DISTRICT 1 S.P.

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CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 SUMMARY OF QUANTITIES

SHT NO. SOQ-6
 DRAWING NO.
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SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
•	J1782012	GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B	EACH	2	
•	J1782020	CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C	EACH	597	
•	J1811280	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., STAINLESS STEEL	FOOT	15	
••	JS107361	APPLY DUST SUPPRESSION AGENTS	UNIT	374	
••	JS120100	TRAILER MOUNTED FULL MATRIX PORTABLE CHANGEABLE MESSAGE SIGNS	EACH	4	
••	JS250220	SEEDING, CLASS 2E	ACRE	2.3	
••	JS250314	SEEDING, CLASS 4B	ACRE	1.0	
••	JS250318	SEEDING, CLASS 4F	ACRE	4.8	
••	JS280020	MANAGEMENT OF EROSION AND SEDIMENT CONTROL	CAL MO	11	
••	JS280050	SILT FENCE	FOOT	6,433	
••	JS280051	RE-ERECT SILT FENCE	FOOT	3,218	
••	JS280070	STABILIZED CONSTRUCTION ENTRANCE	SQ YD	750	
••	JS280120	TREE PROTECTION	FOOT	1,142	
••	JS280140	TEMPORARY RIPRAP	TON	326	
••	JS280151	SAME-DAY STABILIZATION	SQ YD	17,759	
••	JS280210	FILTER FABRIC INLET PROTECTION, BASKET TYPE	EACH	27	
••	JS280230	TEMPORARY DITCH CHECK, URETHANE FOAM / GEOTEXTILE	EACH	10	
••	JS670C00	FIELD OFFICE, TYPE B	CAL MO	12	
••	JS671010	MOBILIZATION, TOLLWAY	L SUM	1	
•	JS701010	MAINTENANCE OF TRAFFIC	L SUM	1	
••	JS733B30	OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL) (30 FT)	FOOT	30	
••	JS733B50	OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL) (50 FT)	FOOT	50	

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- D1 INDICATES DISTRICT 1 S.P.

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NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 SUMMARY OF QUANTITIES

SHT NO. SOQ-7
 DRAWING NO.
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SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
••	JS734B10	FOUNDATION FOR OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE	CU YD	72.0	
••	JS810879	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 4" DIA.	FOOT	365	
••	JS811051	CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., PVC COATED GALVANIZED STEEL	FOOT	251	
••	JS812040	CONDUIT EMBEDDED IN STRUCTURE, 4" DIA., PVC OR COILABLE NONMETALLIC CONDUIT	FOOT	1,550	
••	JS813001	JUNCTION BOX, STAINLESS STEEL, EMBEDDED IN STRUCTURE, 20" X 12" X 8"	EACH	3	
••	JS813053	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	EACH	4	
••	JS813083	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 18" X 18" X 8"	EACH	2	
••	JS814002	HEAVY-DUTY HANDHOLE, TOLLWAY	EACH	2	
••	JS816076	UNIT DUCT, WITH 4-1/C NO. 2 AND 1/C NO. 4 GROUND, 600V (XLP-TYPE USE), 2" DIA. CNC	FOOT	9,475	
••	JS817211	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	1,131	
••	JS821001	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	7	
••	JS821002	UNDERPASS LUMINAIRE, 150 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	3	
••	JS821003	TEMPORARY LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	4	
••	JS830012	WALL MOUNTED LIGHT POLE, ALUMINUM, 50 FT., 6 FT. MAST ARM	EACH	7	
••	JS830025	TEMPORARY WOOD POLE, 40 FT., CLASS 4	EACH	4	
••	JS830030	TEMPORARY WOOD POLE, 60 FT., CLASS 4	EACH	8	
••	JS830031	TEMPORARY WOOD POLE, 60 FT., CLASS 4, 15 FT. MAST ARM	EACH	4	
••	JS836001	LIGHT POLE FOUNDATION (ROADWAY) STEEL HELIX (7 FT) OR CONCRETE	EACH	10	
••	JS836005	LIGHT POLE FOUNDATION (ROADWAY) MEDIAN, TYPE 1	EACH	3	
••	JS836006	LIGHT POLE FOUNDATION (ROADWAY) MEDIAN, TYPE 2	EACH	4	
••	JS842080	REMOVAL OF EXISTING LIGHTING UNIT, SALVAGE	EACH	7	
••	JS842100	REMOVAL OF UNDERPASS LUMINAIRE	EACH	3	

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- D1 INDICATES DISTRICT 1 S.P.

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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. SOQ-8
 I-94 AT GRAND AVENUE SUMMARY OF QUANTITIES DRAWING NO. 12 OF 228

SPECIAL PROVISION	PAY ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RECORD QUANTITY
••	JS842110	POLE FOUNDATION REMOVED, METAL	EACH	17	
••	JS846001	MAINTAIN LIGHTING SYSTEM	L SUM	1	
•	JT130714	REAIMING MVDS UNITS	EACH	3	
•	JT154008	UNFORESEEN ADDITIONAL MAINTENANCE OF TRAFFIC	UNIT	25,000	
•	JT154045	CONTRACT ALLOWANCE FOR COLD WEATHER PAVEMENT MARKINGS	UNIT	15,000	
•	JT155001	CONTRACTOR'S QUALITY PROGRAM	L SUM	1	
•	JT211A11	SUBGRADE AGGREGATE 12 IN.	CU YD	3,771	
•	JT301001	GRANULAR SUBBASE	CU YD	70	
•	JT420100	WARRANTY FOR CONCRETE PAVEMENT	L SUM	1	
•	JT525125	BONDED PREFORMED JOINT SEAL, 2 IN.	FOOT	60	
•	JT544036	CULVERT TO BE CLEANED, 36" DIAMETER	FOOT	525	
•	JT544042	CULVERT TO BE CLEANED, 42" DIAMETER	FOOT	217	
•	JT701030	SUPPLEMENTAL BARRICADE	EACH/DAY	30	
•	JT701031	SUPPLEMENTAL SIGNING	SO FT	100	
•	JT701032	SUPPLEMENTAL FLASHING ARROW BOARD (PER DAY)	EACH/DAY	30	
•	JT701035	SUPPLEMENTAL MAINTENANCE OF TRAFFIC	DAY	30	
•	JT701050	TEMPORARY INFORMATION SIGNING-GROUND MOUNT, 24 SO FT IN AREA OR LESS	SO FT	24	
•	JT720110	SIGN INSTALLATION, TYPE 2	SO FT	242	
•	JT720120	SIGN INSTALLATION, TYPE 3	SO FT	1,179	
•	JT726020	MILEPOST MARKER ASSEMBLY, BARRIER WALL MOUNTED	EACH	1	
•	JT726040	REMOVE AND REINSTALL MILEPOST MARKER	EACH	2	
•	JT780300	MULTI-POLYMER PAVEMENT MARKING - LINE 4"	FOOT	15,185	

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- D1 INDICATES DISTRICT 1 S.P.

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NO.	DATE DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. SOQ-9
 I-94 AT GRAND AVENUE SUMMARY OF QUANTITIES DRAWING NO. 13 OF 228

STATION	STATION	EXCAVATION (CU YD) 20200100	UNSUITABLE (CU YD) 20201200	ADJUST FOR SHRINKAGE (15%) (CU YD)	FILL (CU YD)	EARTHWORK BALANCE (CU YD)	TOPSOIL EXC. & PLACEMENT JI211110
100+25.00	100+50.00	39	4	29	13	16	4
100+50.00	100+75.00	41	5	31	14	17	4
100+75.00	101+00.00	43	5	32	17	15	4
101+00.00	101+25.00	40	4	30	17	13	4
101+25.00	101+50.00	33	4	25	17	8	4
101+50.00	101+75.00	31	3	23	17	6	4
101+75.00	102+00.47	31	3	23	12	11	4
102+00.47	102+25.00	30	3	23	6	17	3
102+25.00	102+50.00	45	5	34	5	29	5
102+50.00	102+75.00	71	8	53	5	48	7
102+75.00	103+00.05	109	12	82	5	77	8
103+00.05	103+25.00	133	15	100	4	96	9
103+25.00	103+50.00	154	17	116	1	115	9
103+50.00	103+75.00	185	21	139	0	139	10
103+75.00	104+00.00	209	23	157	1	156	10
104+00.00	104+17.76	164	18	123	6	117	6
104+17.76	104+42.25	245	27	184	16	168	9
104+42.25	104+50.00	80	9	60	6	54	3
104+50.00	104+75.00	273	30	205	23	182	11
104+75.00	105+00.00	297	33	223	29	194	13
105+00.00	105+25.00	315	35	236	36	200	16
105+25.00	105+50.00	327	36	245	50	195	18
105+50.00	105+75.00	340	38	255	60	195	19
105+75.00	106+00.00	339	38	254	36	218	22
106+00.00	106+25.00	322	36	242	21	221	28
106+25.00	106+50.00	302	34	227	24	203	31
106+50.00	106+75.00	301	33	226	16	210	36
106+75.00	107+00.00	324	36	243	38	205	40
107+00.00	107+25.00	394	44	296	91	205	44
107+25.00	107+50.00	409	45	307	73	234	36
107+50.00	107+75.00	287	32	215	20	195	23
107+75.00	108+00.00	147	16	110	18	92	17
108+00.00	108+25.00	88	10	66	17	49	13
108+25.00	108+50.00	74	8	56	16	40	9
108+50.00	108+68.15	49	5	37	6	31	4
108+68.15	108+82.50	46	5	35	0	35	3
108+82.50	109+00.00	58	6	44	0	44	3
109+00.00	109+14.87	41	5	31	5	26	3
109+14.87	109+25.00	22	2	17	9	8	2
109+25.00	109+50.00	39	4	29	38	-9	5
109+50.00	109+69.99	20	2	15	43	-28	5
109+69.99	109+75.00	4	0	3	12	-9	1
109+75.00	110+00.00	17	2	13	69	-56	6
110+00.00	110+25.00	14	2	11	79	-69	6

STATION	STATION	EXCAVATION (CU YD) 20200100	UNSUITABLE (CU YD) 20201200	ADJUST FOR SHRINKAGE (15%) (CU YD)	FILL (CU YD)	EARTHWORK BALANCE (CU YD)	TOPSOIL EXC. & PLACEMENT JI211110
110+25.00	110+50.00	14	2	11	78	-68	6
110+50.00	110+75.00	19	2	14	81	-67	11
110+75.00	111+00.00	64	7	48	109	-61	18
111+00.00	111+25.00	121	13	91	98	-7	21
111+25.00	111+50.00	119	13	89	62	27	16
111+50.00	111+75.00	103	11	77	61	16	10
111+75.00	112+00.00	112	12	84	57	27	10
112+00.00	112+25.00	112	12	84	53	31	10
112+25.00	112+50.00	113	13	85	48	37	10
112+50.00	112+75.00	113	13	85	41	44	10
112+75.00	113+00.00	101	11	76	41	35	9
113+00.00	113+25.00	87	10	65	42	23	8
113+25.00	113+50.00	78	9	59	42	17	8
113+50.00	113+75.00	42	5	32	35	-4	6
113+75.00	114+00.00	15	2	11	19	-8	4
114+00.00	114+25.00	25	3	19	4	15	4
114+25.00	114+50.00	39	4	29	0	29	2
114+50.00	114+75.00	47	5	35	0	35	0
114+75.00	115+00.00	45	5	34	0	34	0
115+00.00	115+25.00	48	5	36	0	36	0
115+25.00	115+50.00	52	6	39	0	39	0
115+50.00	115+75.00	54	6	41	0	41	0
115+75.00	116+00.00	53	6	40	0	40	0
116+00.00	116+25.00	51	6	38	0	38	0
116+25.00	116+50.00	58	6	44	0	44	2
116+50.00	116+75.00	52	6	39	0	39	2
116+75.00	117+00.00	28	3	21	0	21	2
117+00.00	117+20.00	26	3	20	1	19	3
117+20.00	117+40.00	36	4	27	6	21	5
117+40.00	117+60.00	45	5	34	13	21	6
117+60.00	117+80.00	51	6	38	19	19	8
117+80.00	118+00.00	43	5	32	23	9	8
118+00.00	118+20.00	36	4	27	24	3	7
118+20.00	118+40.00	32	4	24	21	3	6
118+40.00	118+60.00	34	4	26	15	11	5
118+60.00	118+80.00	54	6	41	10	31	6
118+80.00	118+96.09	70	8	53	6	47	6
118+96.09	119+07.59	58	6	44	4	40	5
119+07.59	119+20.00	65	7	49	4	45	5
119+20.00	119+40.00	125	14	94	2	92	12
119+40.00	119+60.00	149	17	112	0	112	17
119+60.00	119+80.00	165	18	124	6	118	23
119+80.00	120+00.00	210	23	158	38	120	29
120+00.00	120+20.00	259	29	194	65	129	31

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CONTRACT NO. RR-17-4291
 EARTHWORK SCHEDULE

SHT NO. EW-1
 DRAWING NO. 15 OF 228

STATION	STATION	EXCAVATION (CU YD) 20200100	UNSUITABLE (CU YD) 20201200	ADJUST FOR SHRINKAGE (15%) (CU YD)	FILL (CU YD)	EARTHWORK BALANCE (CU YD)	TOPSOIL EXC. & PLACEMENT JI211110
120+20.00	120+40.00	159	18	119	64	55	19
120+40.00	120+60.00	41	5	31	67	-36	7
120+60.00	120+80.00	56	6	42	66	-24	9
120+80.00	121+00.00	69	8	52	55	-3	10
121+00.00	121+20.00	64	7	48	49	-1	8
121+20.00	121+40.00	42	5	32	48	-17	7
121+40.00	121+60.00	15	2	11	49	-38	5
121+60.00	121+80.00	14	2	11	49	-39	4
121+80.00	122+00.00	15	2	11	25	-14	5
122+00.00	122+20.00	16	2	12	33	-21	5
122+20.00	122+40.00	15	2	11	62	-51	6
122+40.00	122+60.00	16	2	12	55	-43	7
122+60.00	122+80.00	17	2	13	49	-36	7
122+80.00	123+00.00	17	2	13	43	-30	7
123+00.00	123+20.00	54	6	41	40	1	8
123+20.00	123+40.00	87	10	65	38	27	9
123+40.00	123+60.00	78	9	59	38	21	9
123+60.00	123+80.00	76	8	57	36	21	11
123+80.00	124+00.00	73	8	55	34	21	13
124+00.00	124+20.00	69	8	52	34	18	13
124+20.00	124+40.00	67	7	50	33	17	13
124+40.00	124+60.00	42	5	32	36	-5	10
124+60.00	124+80.00	19	2	14	64	-50	4
124+80.00	125+20.00	83	9	62	116	-54	12
125+20.00	125+40.00	74	8	56	29	27	12
125+40.00	125+60.00	54	6	41	30	11	11
125+60.00	125+80.00	22	2	17	31	-15	9
125+80.00	126+00.00	21	2	16	30	-14	8
126+00.00	126+20.00	22	2	17	28	-12	9
126+20.00	126+40.00	48	5	36	24	12	11
126+40.00	126+60.00	62	7	47	18	29	12
126+60.00	126+80.00	48	5	36	18	18	11
126+80.00	127+00.00	46	5	35	15	20	10
127+00.00	127+20.00	41	5	31	14	17	10
127+20.00	127+40.00	33	4	25	21	4	9
127+40.00	127+60.00	30	3	23	21	2	8
127+60.00	127+80.00	30	3	23	17	6	9
127+80.00	128+00.00	30	3	23	17	6	9
128+00.00	128+20.00	30	3	23	15	8	9
128+20.00	128+40.00	30	3	23	16	7	9
128+40.00	128+60.00	31	3	23	18	5	9
128+60.00	128+80.00	33	4	25	18	7	9
128+80.00	129+00.00	36	4	27	17	10	10
129+00.00	129+20.00	41	5	31	16	15	10

STATION	STATION	EXCAVATION (CU YD) 20200100	UNSUITABLE (CU YD) 20201200	ADJUST FOR SHRINKAGE (15%) (CU YD)	FILL (CU YD)	EARTHWORK BALANCE (CU YD)	TOPSOIL EXC. & PLACEMENT JI211110
129+20.00	129+40.00	47	5	35	14	21	10
129+40.00	129+60.00	57	6	43	13	30	11
129+60.00	129+80.00	67	7	50	12	38	11
129+80.00	130+00.00	73	8	55	12	43	11
130+00.00	130+20.00	79	9	59	12	47	12
130+20.00	130+40.00	84	9	63	11	52	12
130+40.00	130+60.00	89	10	67	11	56	12
130+60.00	130+80.00	94	10	71	12	59	13
130+80.00	131+00.00	98	11	74	13	61	13
131+00.00	131+20.00	100	11	75	12	63	13
131+20.00	131+40.00	99	11	74	13	61	13
131+40.00	131+60.00	95	11	71	13	58	13
131+60.00	131+80.00	90	10	68	13	55	12
131+80.00	132+00.00	86	10	65	13	52	12
132+00.00	132+20.00	85	9	64	12	52	12
132+20.00	132+40.00	83	9	62	11	51	12
132+40.00	132+60.00	80	9	60	11	49	12
132+60.00	132+80.00	75	8	56	10	46	12
132+80.00	133+00.00	68	8	51	8	43	12
133+00.00	133+20.00	60	7	45	6	39	12
133+20.00	133+40.00	50	6	38	3	35	12
133+40.00	133+60.00	43	5	32	1	31	11
133+60.00	133+80.00	37	4	28	0	28	11
133+80.00	134+00.00	33	4	25	0	25	10
134+00.00	134+20.00	32	4	24	0	24	10
134+20.00	134+40.00	33	4	25	0	25	10
	TOTALS	13,558	1,506	10,169	3,951	6,218	1,578

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DRAWN BY CEY DATE 03/23/2017
 CHECKED BY LLS DATE 03/23/2017



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-17-4291

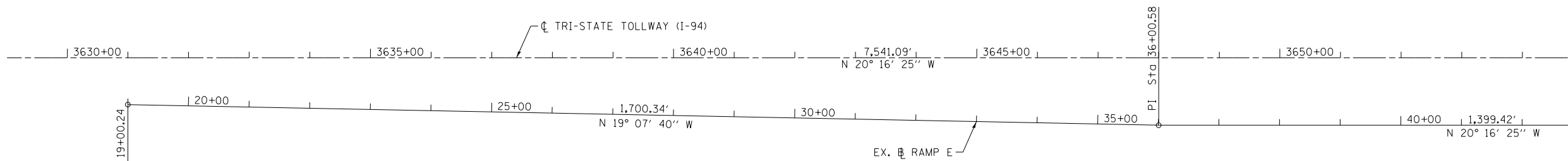
EARTHWORK SCHEDULE

SHT NO. EW-2

DRAWING NO.
16 OF 228

TRI-STATE TOLLWAY (I-94) COORDINATE DATA:

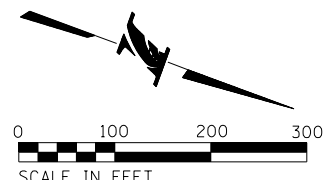
POT STA. 3605+72.70 N 2,075,008.72 E 1,090,966.38 (NOT ILLUSTRATED)
 POT STA. 3740+00.00 N 2,087,924.68 E 1,088,125.20 (NOT ILLUSTRATED)
 (FOR CURVE DATA, SEE SHEET ATB-3)



RAMP E COORDINATE DATA:

POT STA. 19+00.24 N 2,077,406.25 E 1,090,163.21
 PI STA. 36+00.58 N 2,079,012.71 E 1,089,606.04
 BEGIN NEW RAMP E ALIGNMENT
 POT STA. 46+00.00 N 2,079,950.22 E 1,089,259.74
 PI STA. 48+00.58 N 2,080,138.37 E 1,089,190.24
 POT STA. 63+97.86 N 2,081,017.68 E 1,089,893.84

MATCHLINE STA. 3655+00
 SEE SHEET ATB-2



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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 ALIGNMENT PLAN AND BENCHMARKS

SHT NO. ATB-1
 DRAWING NO.
 17 OF 228

RAMP B CURVE DATA:

<p>PROP. CURVE 5703-PR-GRDB-1 PI STA. = 19+80.73 N 2,081,950.16 E 1,088,524.62 $\Delta = 66^\circ 45' 38''$ (RT) D = 33' 07' 08" R = 173.00' T = 113.99' L = 201.58' E = 34.18' e = 7.7% T.R. = 32' S.E. RUN = 122' TRANS IN = STA. 18+32 TO STA. 19+22 P.C. STA. = 18+66.74 N 2,081,841.20 E 1,088,558.08 P.T. STA. = 20+59.67 N 2,082,023.91 E 1,088,611.53 DESIGN SPEED = 25 MPH</p>	<p>EXIST. CURVE 5703-PR-GRDB-2 PI STA. = 22+27.46 N 2,082,126.87 E 1,088,732.88 $\Delta = 73^\circ 01' 02''$ (RT) D = 26' 38' 57" R = 215.00' T = 159.14' L = 273.99' E = 52.49' e = 8.0% P.C. STA. = 20+68.32 N 2,082,023.91 E 1,088,611.53 P.T. STA. = 23+42.31 N 2,082,040.88 E 1,088,866.79 DESIGN SPEED = 28 MPH</p>	<p>EXIST. CURVE 5703-PR-GRDB-3 PI STA. = 24+72.90 N 2,081,970.33 E 1,088,976.68 $\Delta = 36^\circ 09' 33''$ (RT) D = 14' 19' 26" R = 400.00' T = 130.58' L = 252.44' E = 20.78' e = 6.8% P.C. STA. = 23+42.31 N 2,082,040.88 E 1,088,866.79 P.T. STA. = 25+94.75 N 2,081,848.53 E 1,089,023.76 DESIGN SPEED = 28 MPH</p>	<p>EXIST. CURVE 5703-PR-GRDB-4 PI STA. = 30+73.41 N 2,081,402.08 E 1,089,196.37 $\Delta = 134^\circ 38' 47''$ (RT) D = 28' 38' 52" R = 200.00' T = 478.66' L = 470.00' E = 318.76' e = 8.0% P.C. STA. = 25+94.75 N 2,081,848.53 E 1,089,023.76 P.T. STA. = 30+64.76 N 2,081,593.02 E 1,088,757.44 DESIGN SPEED = 28 MPH</p>	<p>EXIST. CURVE 5703-PR-GRDB-5 PI STA. = 30+96.34 N 2,081,605.61 E 1,088,728.48 $\Delta = 1^\circ 53' 41''$ (RT) D = 2' 59' 59" R = 1,909.96' T = 31.58' L = 63.16' E = 0.26' e = NC P.C. STA. = 30+64.76 N 2,081,593.02 E 1,088,757.44 P.T. STA. = 31+27.92 N 2,081,619.16 E 1,088,699.95 DESIGN SPEED = 28 MPH</p>
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RAMP E CURVE DATA:

PROP. CURVE 5703-PR-GRDE-1
 PI STA. = 61+17.22
 N 2,081,398.65 E 1,088,809.12
 $\Delta = 126^\circ 10' 39''$ (RT)
 D = 11' 27' 33"
 R = 500.00'
 T = 985.07'
 L = 1,101.11'
 E = 604.70'
 e = 8.0%
 T.R. = 62'
 S.E. RUN = 247'
 TRANS IN = STA. 49+47 TO STA. 51+82
 P.C. STA. = 51+32.15
 N 2,080,455.74 E 1,089,094.26
 P.T. STA. = 62+33.26
 N 2,081,072.23 E 1,089,738.54
 DESIGN SPEED = 40 MPH

WBCD COORDINATE DATA:

POT STA. 98+00.00 N 2,079,946.06 E 1,089,248.48
 PI STA. 109+69.99 N 2,081,043.57 E 1,088,843.08
 PI STA. 114+36.20 N 2,081,479.73 E 1,088,678.40
 PI STA. 119+09.03 N 2,081,923.26 E 1,088,514.57

BENCH MARK NO. 1 ELEV. 731.59

DESCRIPTION:
 "X" ON TOP OF EAST BOLT OF SIGN POST
 FOUNDATION (GRAND AVE) (IL 132 WEST)
 EXIT SIGN

GRAND (IL 132) COORDINATE DATA:

POT STA. 36+20.98 N 2,081,831.76 E 1,088,163.72
 POT STA. 64+00.00 N 2,080,754.80 E 1,090,724.01
 (FOR CURVE DATA, SEE SHEET ATB-3)

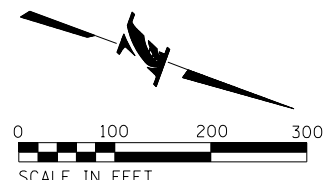
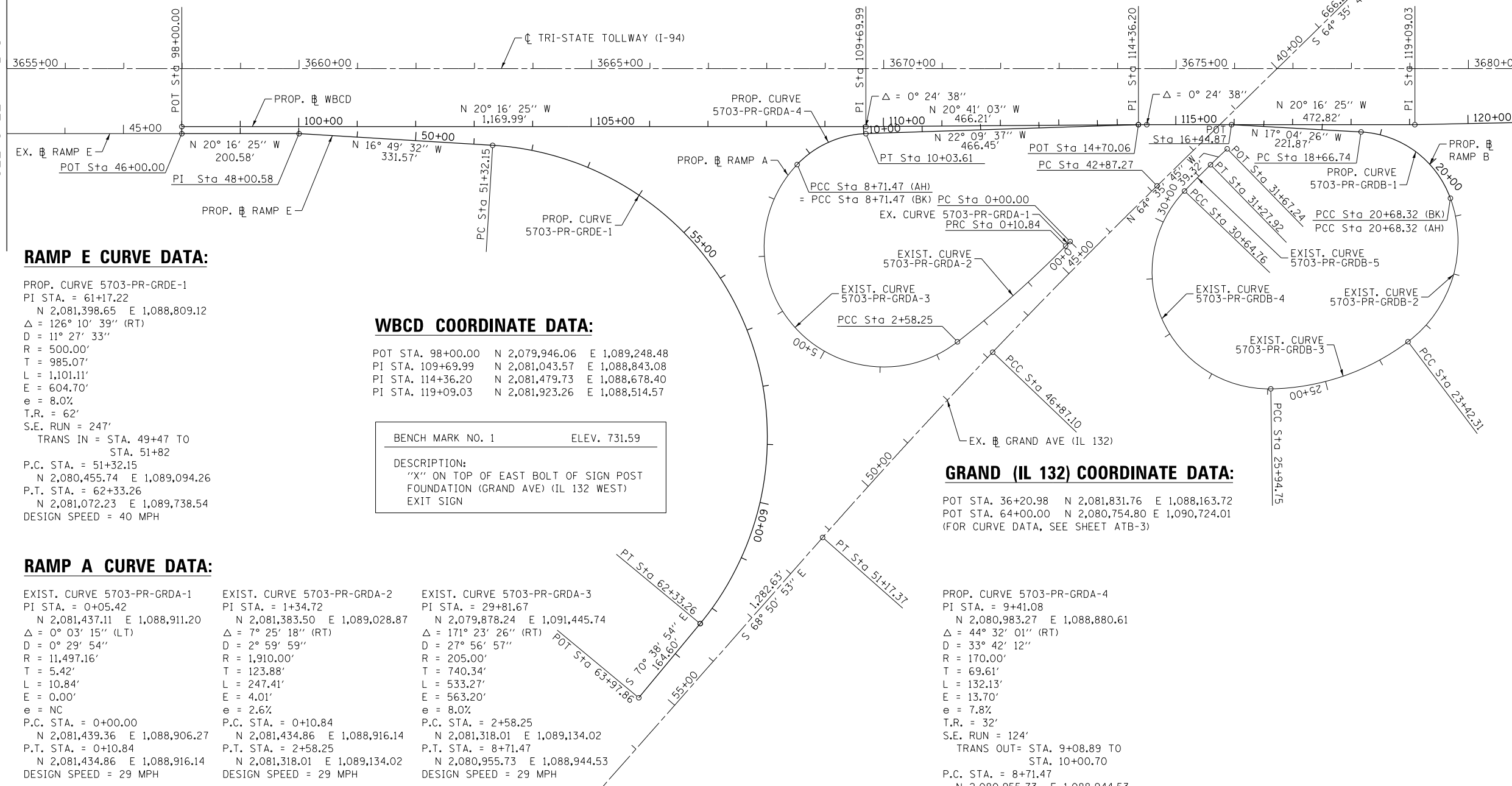
RAMP A CURVE DATA:

<p>EXIST. CURVE 5703-PR-GRDA-1 PI STA. = 0+05.42 N 2,081,437.11 E 1,088,911.20 $\Delta = 0^\circ 03' 15''$ (LT) D = 0' 29' 54" R = 11,497.16' T = 5.42' L = 10.84' E = 0.00' e = NC P.C. STA. = 0+00.00 N 2,081,439.36 E 1,088,906.27 P.T. STA. = 0+10.84 N 2,081,434.86 E 1,088,916.14 DESIGN SPEED = 29 MPH</p>	<p>EXIST. CURVE 5703-PR-GRDA-2 PI STA. = 1+34.72 N 2,081,383.50 E 1,089,028.87 $\Delta = 7^\circ 25' 18''$ (RT) D = 2' 59' 59" R = 1,910.00' T = 123.88' L = 247.41' E = 4.01' e = 2.6% P.C. STA. = 0+10.84 N 2,081,434.86 E 1,088,916.14 P.T. STA. = 2+58.25 N 2,081,318.01 E 1,089,134.02 DESIGN SPEED = 29 MPH</p>	<p>EXIST. CURVE 5703-PR-GRDA-3 PI STA. = 29+81.67 N 2,079,878.24 E 1,091,445.74 $\Delta = 171^\circ 23' 26''$ (RT) D = 27' 56' 57" R = 205.00' T = 740.34' L = 533.27' E = 563.20' e = 8.0% P.C. STA. = 2+58.25 N 2,081,318.01 E 1,089,134.02 P.T. STA. = 8+71.47 N 2,080,955.73 E 1,088,944.53 DESIGN SPEED = 29 MPH</p>
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PROP. CURVE 5703-PR-GRDA-4
 PI STA. = 9+41.08
 N 2,080,983.27 E 1,088,880.61
 $\Delta = 44^\circ 32' 01''$ (RT)
 D = 33' 42' 12"
 R = 170.00'
 T = 69.61'
 L = 132.13'
 E = 13.70'
 e = 7.8%
 T.R. = 32'
 S.E. RUN = 124'
 TRANS OUT = STA. 9+08.89 TO STA. 10+00.70
 P.C. STA. = 8+71.47
 N 2,080,955.73 E 1,088,944.53
 P.T. STA. = 10+03.61
 N 2,081,047.73 E 1,088,854.35
 DESIGN SPEED = 25 MPH

MATCHLINE STA. 3655+00
SEE SHEET ATB-1

MATCHLINE STA. 3681+00
SEE SHEET ATB-3



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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

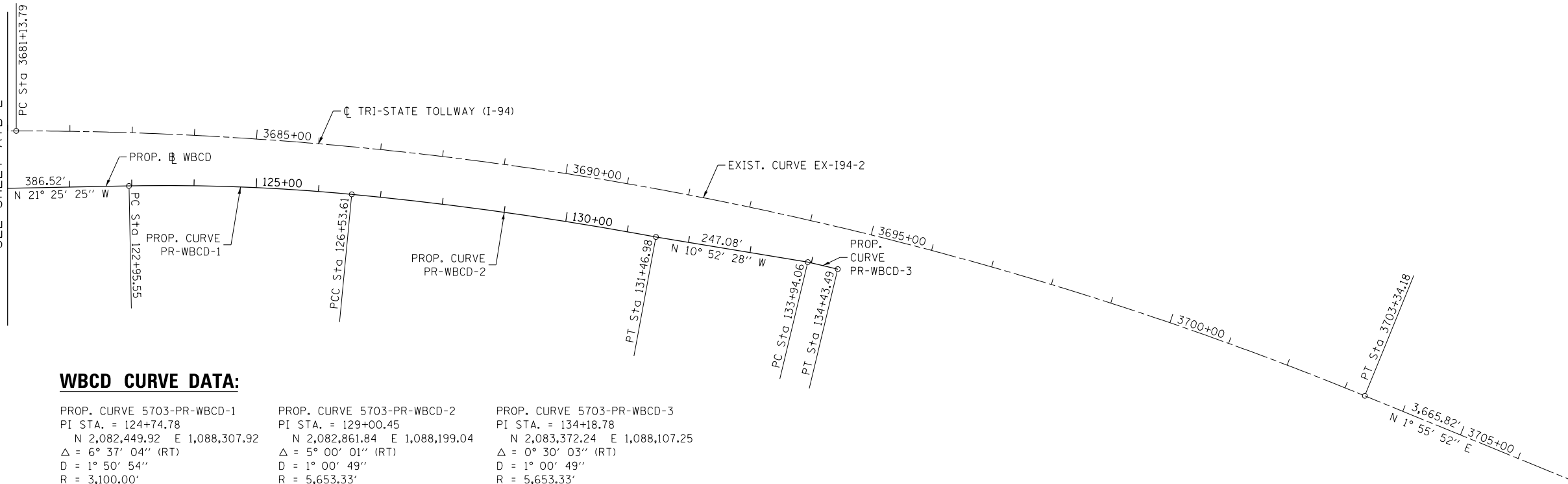


REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 ALIGNMENT PLAN AND BENCHMARKS

SHT NO. ATB-2
 DRAWING NO. 18 OF 228

MATCHLINE STA. 3681+00
SEE SHEET ATB-2



WBCD CURVE DATA:

PROP. CURVE 5703-PR-WBCD-1
 PI STA. = 124+74.78
 N 2,082,449.92 E 1,088,307.92
 $\Delta = 6^\circ 37' 04''$ (RT)
 D = 1° 50' 54"
 R = 3,100.00'
 T = 179.23'
 L = 358.06'
 E = 5.18'
 e = 3.33% (MATCH ML)
 T.R. = 46'
 S.E. RUN = 100'
 P.C. STA. = 122+95.55
 N 2,082,283.07 E 1,088,373.39
 P.C.C. STA. = 126+53.61
 N 2,082,623.20 E 1,088,262.12
 DESIGN SPEED = 60 MPH

PROP. CURVE 5703-PR-WBCD-2
 PI STA. = 129+00.45
 N 2,082,861.84 E 1,088,199.04
 $\Delta = 5^\circ 00' 01''$ (RT)
 D = 1° 00' 49"
 R = 5,653.33'
 T = 246.84'
 L = 493.37'
 E = 5.39'
 e = 3.33% (MATCH ML)
 T.R. = N/A
 S.E. RUN = N/A
 P.C.C. STA. = 126+53.61
 N 2,082,623.20 E 1,088,262.12
 P.T. STA. = 131+46.98
 N 2,083,105.08 E 1,088,157.00
 DESIGN SPEED = 70 MPH

PROP. CURVE 5703-PR-WBCD-3
 PI STA. = 134+18.78
 N 2,083,372.24 E 1,088,107.25
 $\Delta = 0^\circ 30' 03''$ (RT)
 D = 1° 00' 49"
 R = 5,653.33'
 T = 24.71'
 L = 49.42'
 E = 0.05'
 e = 3.33% (MATCH ML)
 T.R. = N/A
 S.E. RUN = N/A
 P.C. STA. = 133+94.06
 N 2,083,347.73 E 1,088,110.39
 P.T. STA. = 134+43.49
 N 2,083,396.78 E 1,088,104.32
 DESIGN SPEED = 70 MPH

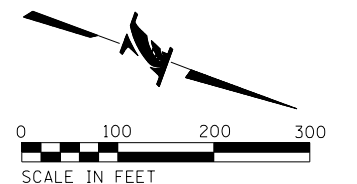
GRAND (IL 132) CURVE DATA:

EXIST. CURVE EX-GRD-2
 PI STA. = 44+87.21
 N 2,081,460.15 E 1,088,946.18
 $\Delta = 1^\circ 59' 57''$ (LT)
 D = 0° 30' 00"
 R = 11,459.16'
 T = 199.93'
 L = 399.83'
 E = 1.74'
 e = NC
 P.C. STA. = 42+87.27
 N 2,081,545.93 E 1,088,765.58
 P.T. STA. = 46+87.10
 N 2,081,380.73 E 1,089,129.67
 DESIGN SPEED = 45 MPH

EXIST. CURVE EX-GRD-3
 PI STA. = 49+02.26
 N 2,081,295.27 E 1,089,327.13
 $\Delta = 2^\circ 15' 10''$ (LT)
 D = 0° 31' 25"
 R = 10,942.58'
 T = 215.16'
 L = 430.27'
 E = 2.12'
 e = NC
 P.C. STA. = 46+87.10
 N 2,081,380.73 E 1,089,129.67
 P.T. STA. = 51+17.37
 N 2,081,217.63 E 1,089,527.79
 DESIGN SPEED = 45 MPH

TRI-STATE TOLLWAY (I-94) CURVE DATA:

EXIST. CURVE EX-I94-2
 PI STA. = 3692+38.09
 N 2,083,137.28 E 1,087,963.78
 $\Delta = 22^\circ 12' 17''$ (RT)
 D = 1° 00' 00"
 R = 5,729.33'
 T = 1,124.30'
 L = 2,220.38'
 E = 109.27'
 e = 3.33%
 T.R. = STA 3679+39.70 TO 3679+66.50
 S.E. RUN = STA 3679+66.50 TO 3681+53.60
 P.C. STA. = 3681+13.79
 N 2,082,082.63 E 1,088,353.36
 P.T. STA. = 3703+34.18
 N 2,084,260.94 E 1,088,001.67
 DESIGN SPEED = 70 MPH



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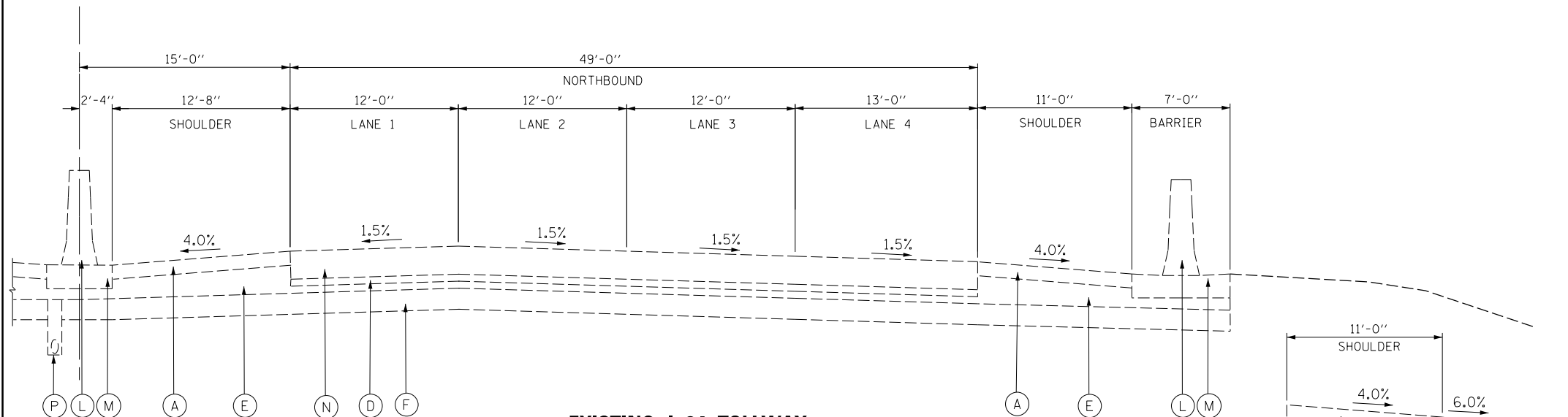


REVISIONS	
NO.	DESCRIPTION

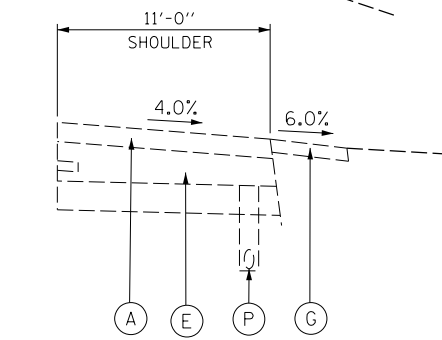
CONTRACT NO. RR-17-4291
 ALIGNMENT PLAN AND BENCHMARKS

SHT NO. ATB-3
 DRAWING NO. 19 OF 228

TRI-STATE
TOLLWAY (I-94)



EXISTING I-94 TOLLWAY
STA. 3663 + 26.10 TO STA. 3665 + 35.10

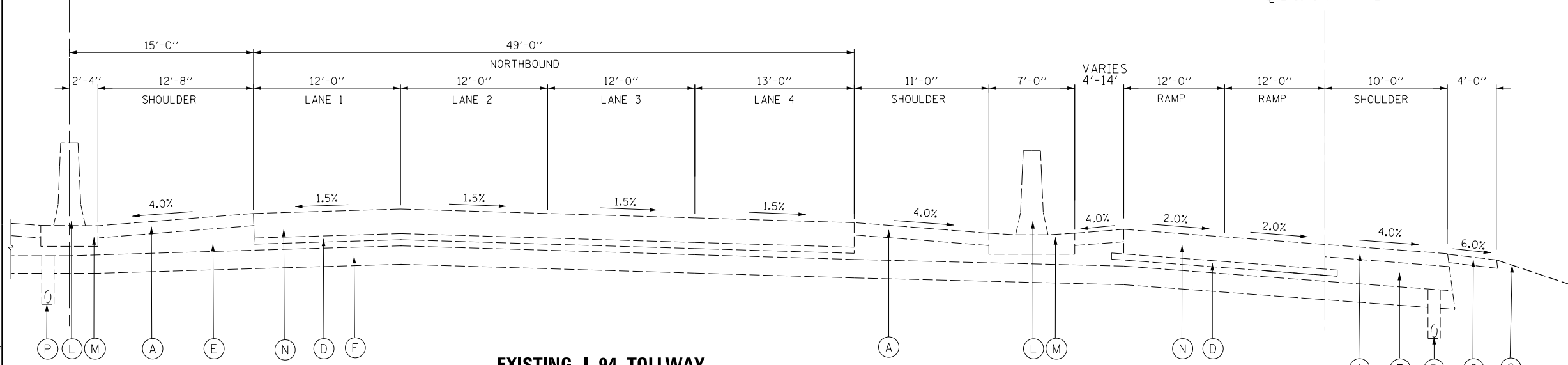


STA. 3665 + 35.10 TO STA. 3669 + 41.10

EXISTING LEGEND

- (A) HOT-MIX ASPHALT SHOULDERS, 6"
- (B) ASPHALT SHOULDER, 7" AND VARIES
- (C) ASPHALT OVERLAY, 2"
- (D) STABILIZED SUB-BASE, 3"
- (E) SUBGRADE AGGREGATE, CA-6, 3" AND VARIES
- (F) SUBGRADE AGGREGATE, PGE, 9"
- (G) AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B
- (H) AGGREGATE SHOULDERS SPECIAL, TYPE C
- (I) STEEL PLATE BEAM GUARDRAIL, TYPE A
- (J) GUTTER, TYPE G-2
- (K) GUTTER, TYPE G-3
- (L) CONCRETE BARRIER, DOUBLE FACE, 42"
- (M) CONCRETE BARRIER BASE
- (N) PORTLAND CEMENT CONCRETE PAVEMENT, 12" (JOINTED)
- (O) PORTLAND CEMENT CONCRETE PAVEMENT, 10" AND VARIES
- (P) PIPE UNDERDRAINS, 6"
- (Q) TRENCH DRAIN
- (R) TOP SOIL, 4"
- (S) TOP SOIL, 6"
- (T) CONCRETE SLOPE WALL
- (U) RETAINING WALL

TRI-STATE
TOLLWAY (I-94)



EXISTING I-94 TOLLWAY
STA. 3660 + 00.00 TO STA. 3663 + 26.10

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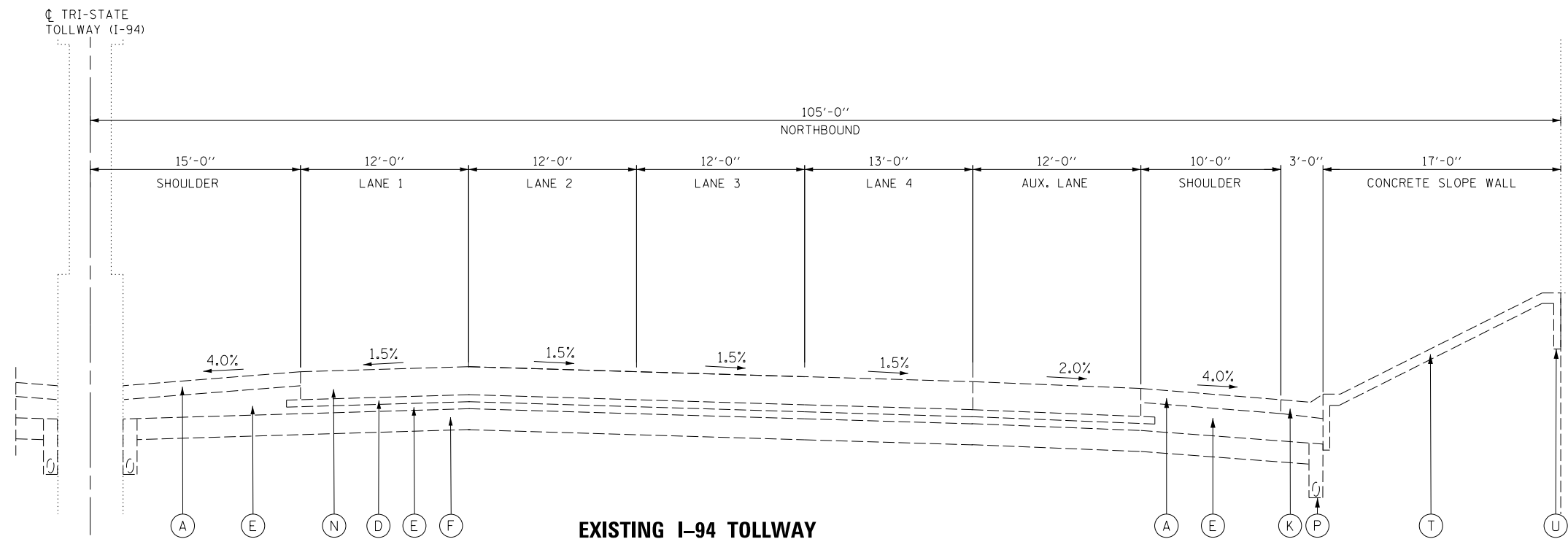
DRAWN BY VP DATE 03/23/2017
CHECKED BY LS DATE 03/23/2017



NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-17-4291
EXISTING TYPICAL SECTIONS

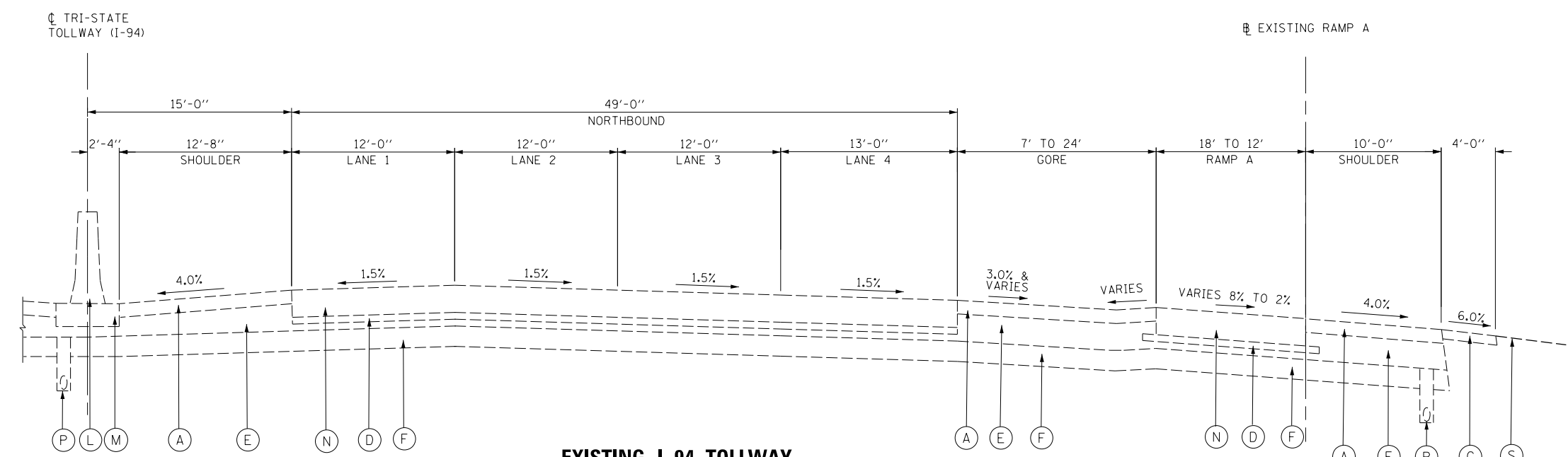
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DRAWING NO. 20 OF 228



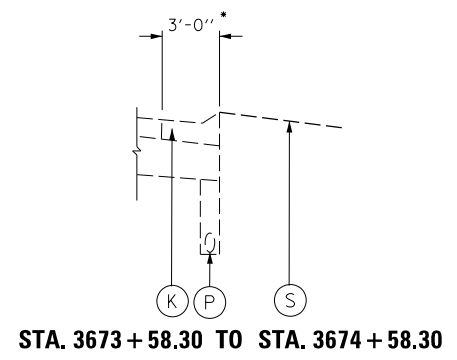
EXISTING I-94 TOLLWAY
STA. 3674 + 58.30 TO STA. 3676 + 52.82

EXISTING LEGEND

- (A) HOT-MIX ASPHALT SHOULDERS, 6"
- (B) ASPHALT SHOULDER, 7" AND VARIES
- (C) ASPHALT OVERLAY, 2"
- (D) STABILIZED SUB-BASE, 3"
- (E) SUBGRADE AGGREGATE, CA-6, 3" AND VARIES
- (F) SUBGRADE AGGREGATE, PGE, 9"
- (G) AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B
- (H) AGGREGATE SHOULDERS SPECIAL, TYPE C
- (I) STEEL PLATE BEAM GUARDRAIL, TYPE A
- (J) GUTTER, TYPE G-2
- (K) GUTTER, TYPE G-3
- (L) CONCRETE BARRIER, DOUBLE FACE, 42"
- (M) CONCRETE BARRIER BASE
- (N) PORTLAND CEMENT CONCRETE PAVEMENT, 12" (JOINTED)
- (O) PORTLAND CEMENT CONCRETE PAVEMENT, 10" AND VARIES
- (P) PIPE UNDERDRAINS, 6"
- (Q) TRENCH DRAIN
- (R) TOP SOIL, 4"
- (S) TOP SOIL, 6"
- (T) CONCRETE SLOPE WALL
- (U) RETAINING WALL



EXISTING I-94 TOLLWAY
STA. 3669 + 41.10 TO STA. 3674 + 58.30



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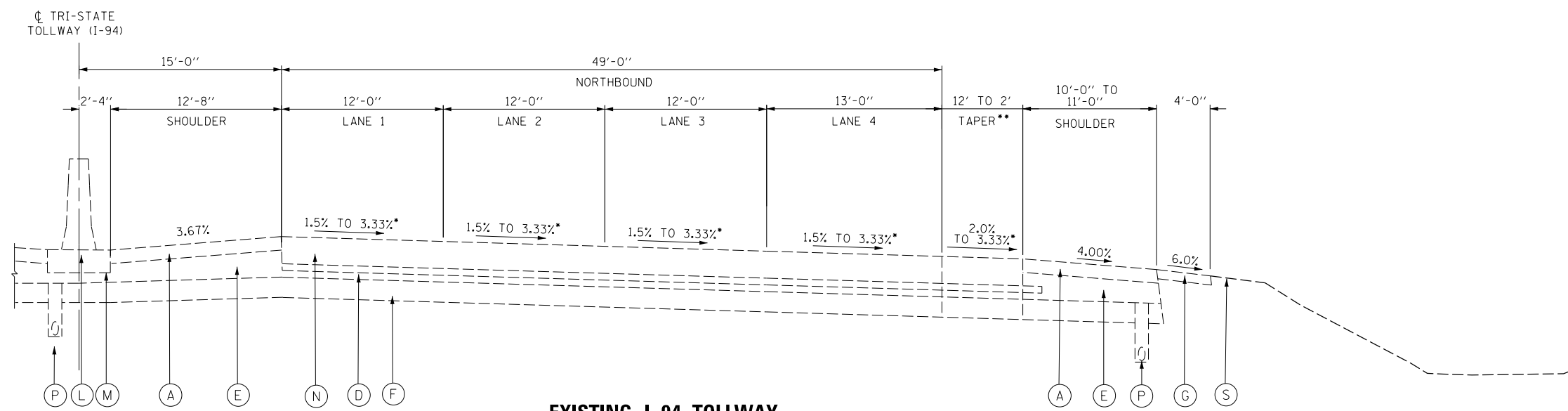
NO.		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 EXISTING TYPICAL SECTIONS

SHT NO. TYP-2
 DRAWING NO. 21 OF 228

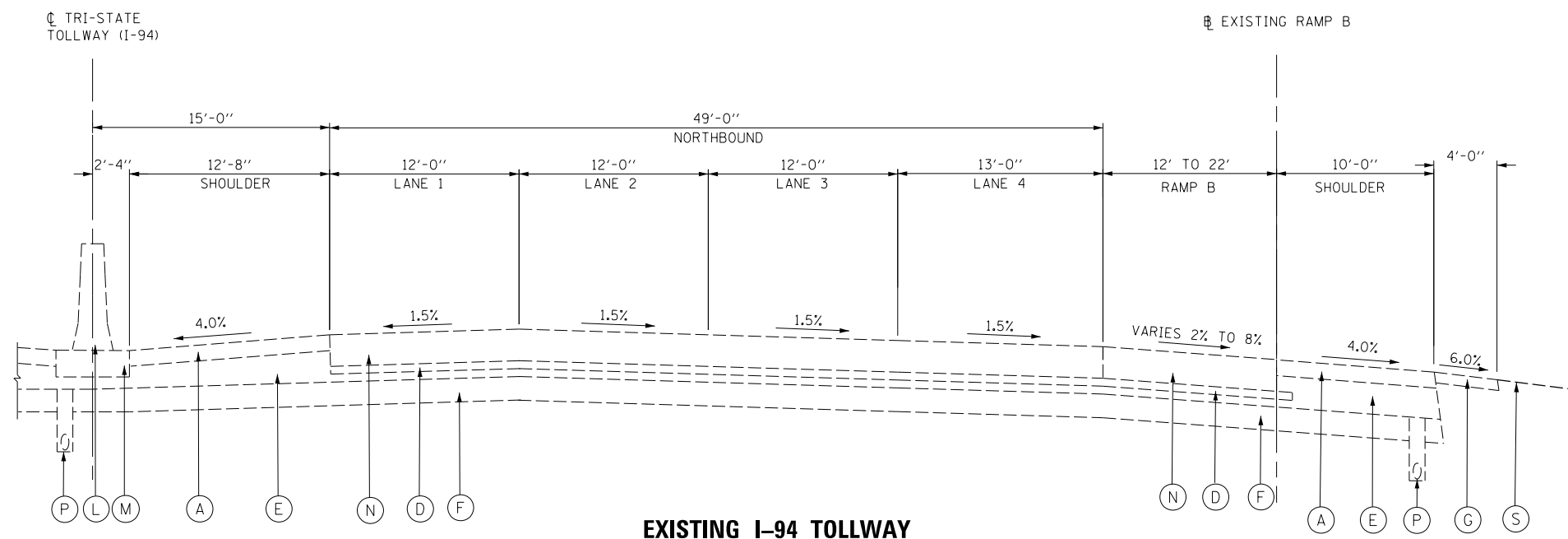
EXISTING LEGEND

- (A) HOT-MIX ASPHALT SHOULDERS, 6"
- (B) ASPHALT SHOULDER, 7" AND VARIES
- (C) ASPHALT OVERLAY, 2"
- (D) STABILIZED SUB-BASE, 3"
- (E) SUBGRADE AGGREGATE, CA-6, 3" AND VARIES
- (F) SUBGRADE AGGREGATE, PGE, 9"
- (G) AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B
- (H) AGGREGATE SHOULDERS SPECIAL, TYPE C
- (I) STEEL PLATE BEAM GUARDRAIL, TYPE A
- (J) GUTTER, TYPE G-2
- (K) GUTTER, TYPE G-3
- (L) CONCRETE BARRIER, DOUBLE FACE, 42"
- (M) CONCRETE BARRIER BASE
- (N) PORTLAND CEMENT CONCRETE PAVEMENT, 12" (JOINTED)
- (O) PORTLAND CEMENT CONCRETE PAVEMENT, 10" AND VARIES
- (P) PIPE UNDERDRAINS, 6"
- (Q) TRENCH DRAIN
- (R) TOP SOIL, 4"
- (S) TOP SOIL, 6"
- (T) CONCRETE SLOPE WALL
- (U) RETAINING WALL



EXISTING I-94 TOLLWAY
 STA. 3679 + 64.10 TO STA. 3694 + 60.56

** STA. 3679 + 64.10 TO STA. 3681 + 46.20
 * STA. 3681 + 53.60 TO STA. 3694 + 60.56 (3.33% SE)



EXISTING I-94 TOLLWAY
 STA. 3676 + 52.82 TO STA. 3679 + 64.10

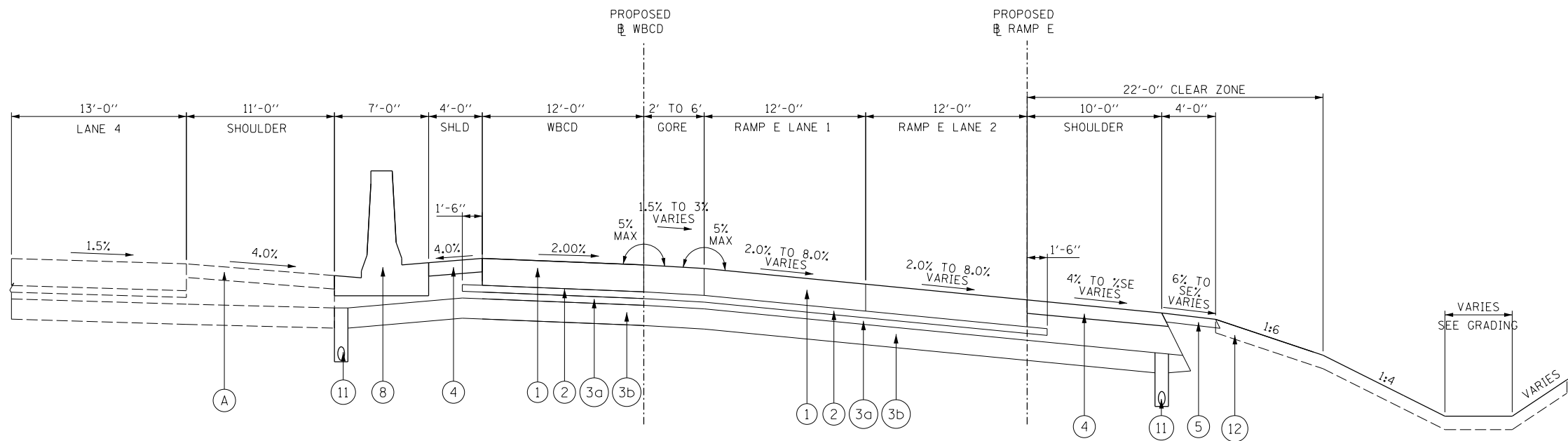
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NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-17-4291	SHT NO. TYP-3
EXISTING TYPICAL SECTIONS	DRAWING NO. 22 OF 228

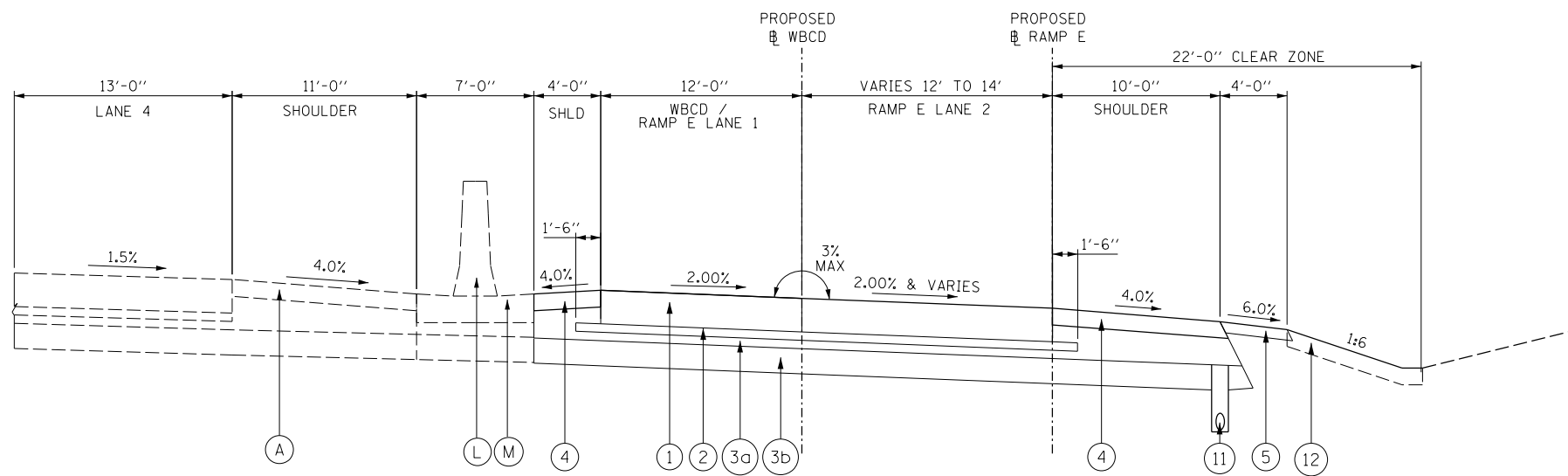


EXISTING I-94 TOLLWAY
STA. 3660 + 00.00 TO STA. 3663 + 26.10

PROPOSED WBCD
STA. 102 + 33.66 TO STA. 103 + 00.05

PROPOSED RAMP E
STA. 50 + 32.64 TO STA. 50 + 99.15

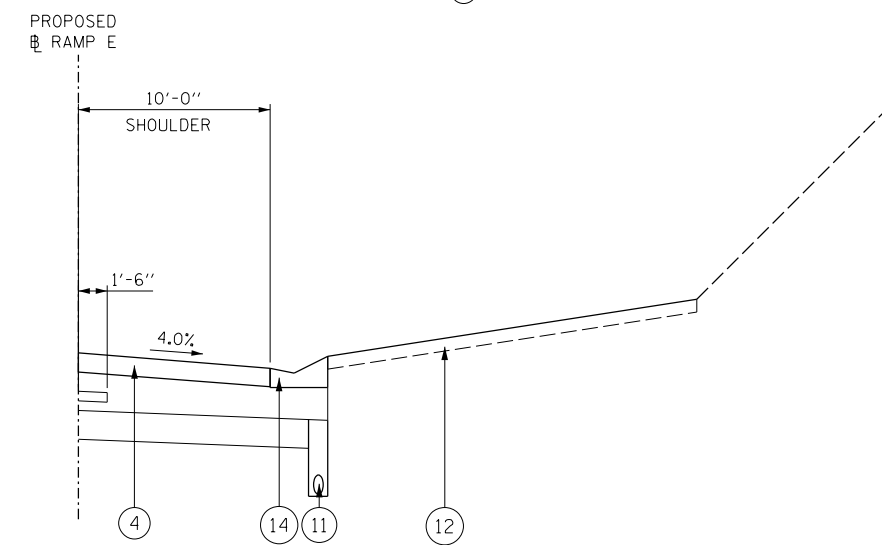
- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
- ② STABILIZED SUBBASE - WMA, 3" (JI312022)
- ③ SUBGRADE AGGREGATE 12 IN. (JT211A11)
- ③a 3" CA-6 AGGREGATE CAP (THICKNESS VARIES UNDER SHOULDER)
- ③b 9" PGE
- ④ WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
- ⑤ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
- ⑥ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
- ⑦ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
- ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7' (JI637056)
- ⑨ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006) (SEE STRUCTURE DRAWINGS)
CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL) (JI637036) (SEE STRUCTURE DRAWINGS)
- ⑩ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE (SPECIAL) (JI637017)
- ⑪ PIPE UNDERDRAINS, FABRIC LINED TRENCH 6" (JI601320)
- ⑫ TOPSOIL EXCAVATION AND PLACEMENT, 6" (JI211110)
- ⑬ LONGITUDINAL CONSTRUCTION JOINT WITH NO. 6 TIE BARS AT CTS. (INCLUDED IN COST OF JI420010)
- ⑭ GUTTER, TYPE G-3 (JI606020)



EXISTING I-94 TOLLWAY
STA. 3660 + 00.00 TO STA. 3663 + 26.10

PROPOSED WBCD
STA. 100 + 00.58 TO STA. 102 + 33.66

PROPOSED RAMP E
STA. 50 + 32.64 TO STA. 56 + 00.00



PROPOSED RAMP E
STA. 48 + 00.08 TO STA. 50 + 50.00

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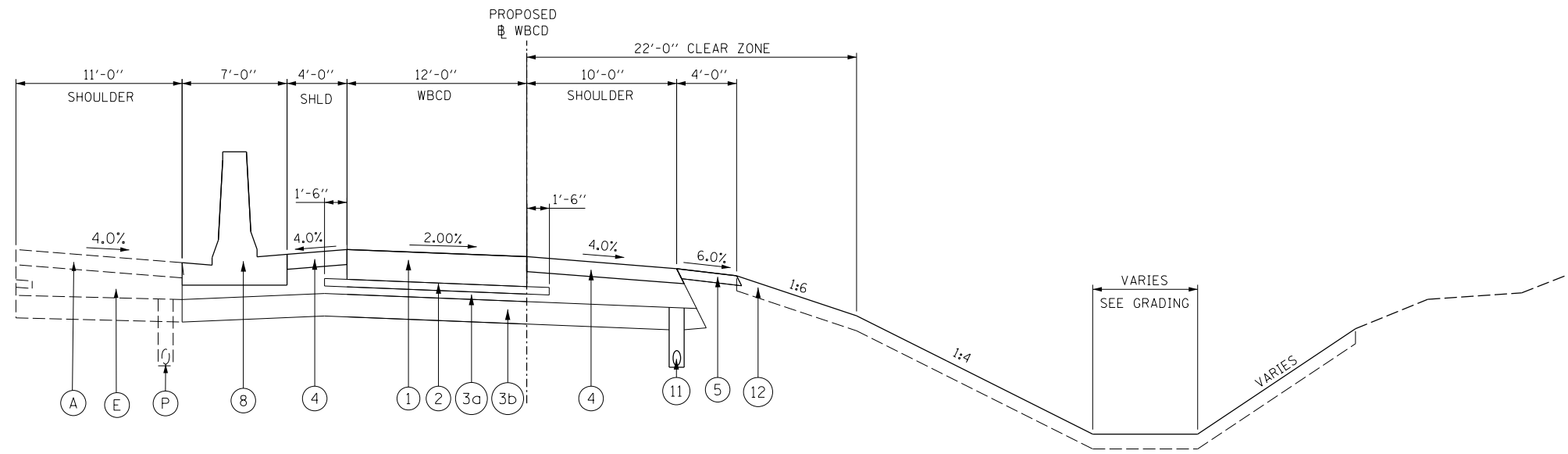
DRAWN BY VP DATE 03/23/2017
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NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
PROPOSED TYPICAL SECTIONS

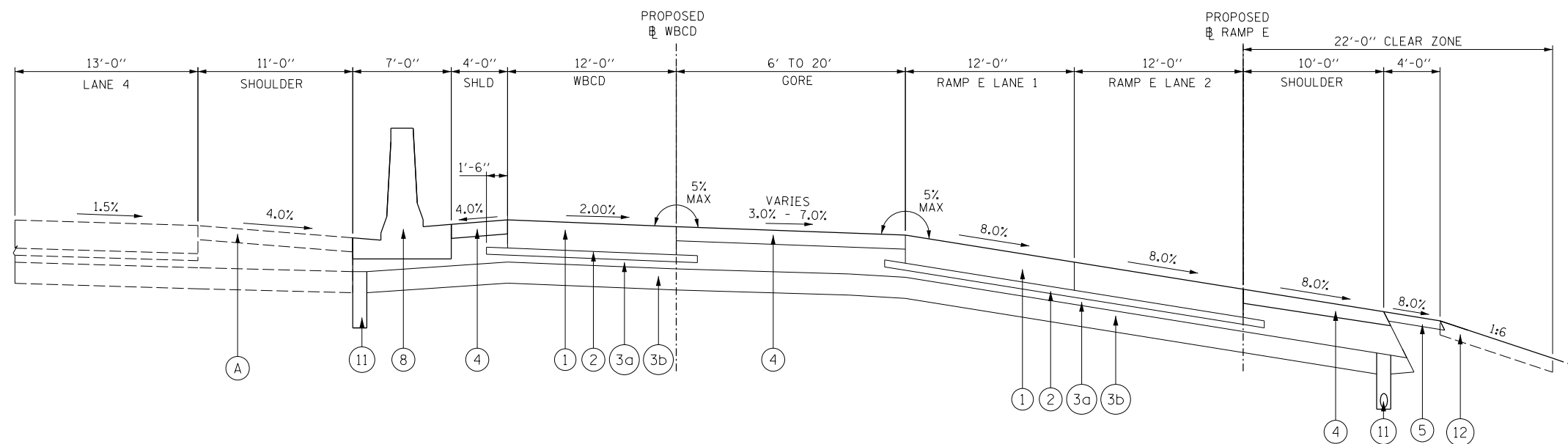
SHT NO. TYP-4
DRAWING NO. 23 OF 228



EXISTING I-94 TOLLWAY
STA. 3665 + 35.10 TO STA. 3669 + 41.10

PROPOSED WBCD
STA. 104 + 17.76 TO STA. 108 + 82.50

- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
- ② STABILIZED SUBBASE - WMA, 3" (JI312022)
- ③ SUBGRADE AGGREGATE 12 IN. (JT211A11)
- ③a 3" CA-6 AGGREGATE CAP (THICKNESS VARIES UNDER SHOULDER)
- ③b 9" PGE
- ④ WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
- ⑤ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
- ⑥ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
- ⑦ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
- ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7' (JI637056)
- ⑨ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006) (SEE STRUCTURE DRAWINGS)
CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL) (JI637036) (SEE STRUCTURE DRAWINGS)
- ⑩ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE (SPECIAL) (JI637017)
- ⑪ PIPE UNDERDRAINS, FABRIC LINED TRENCH 6" (JI601320)
- ⑫ TOPSOIL EXCAVATION AND PLACEMENT, 6" (JI211110)
- ⑬ LONGITUDINAL CONSTRUCTION JOINT WITH NO. 6 TIE BARS AT CTS. (INCLUDED IN COST OF JI420010)
- ⑭ GUTTER, TYPE G-3 (JI606020)



EXISTING I-94 TOLLWAY
STA. 3665 + 35.10 TO STA. 3669 + 41.10

PROPOSED WBCD
STA. 103 + 00.05 TO STA. 104 + 17.76

PROPOSED RAMP E
STA. 50 + 99.15 TO STA. 52 + 13.09

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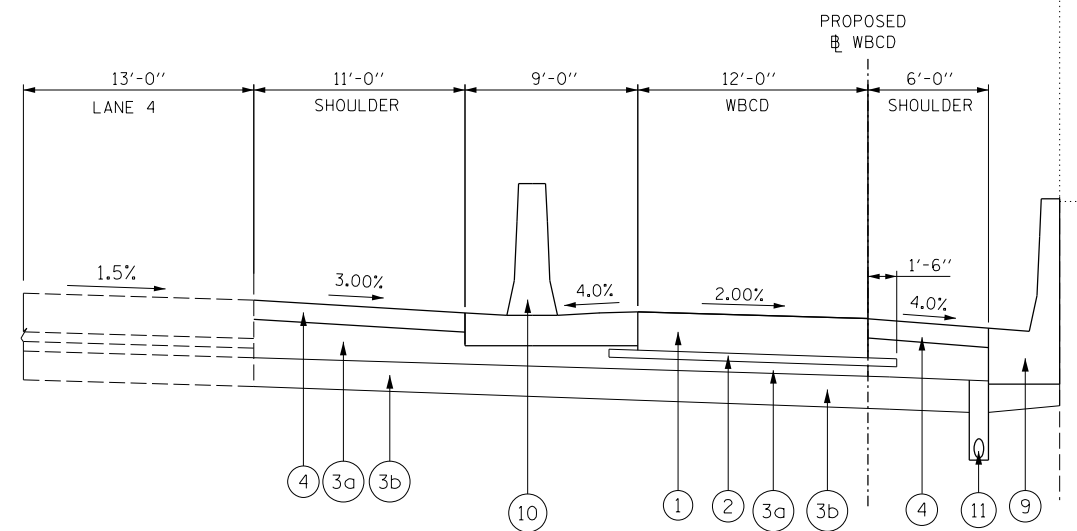
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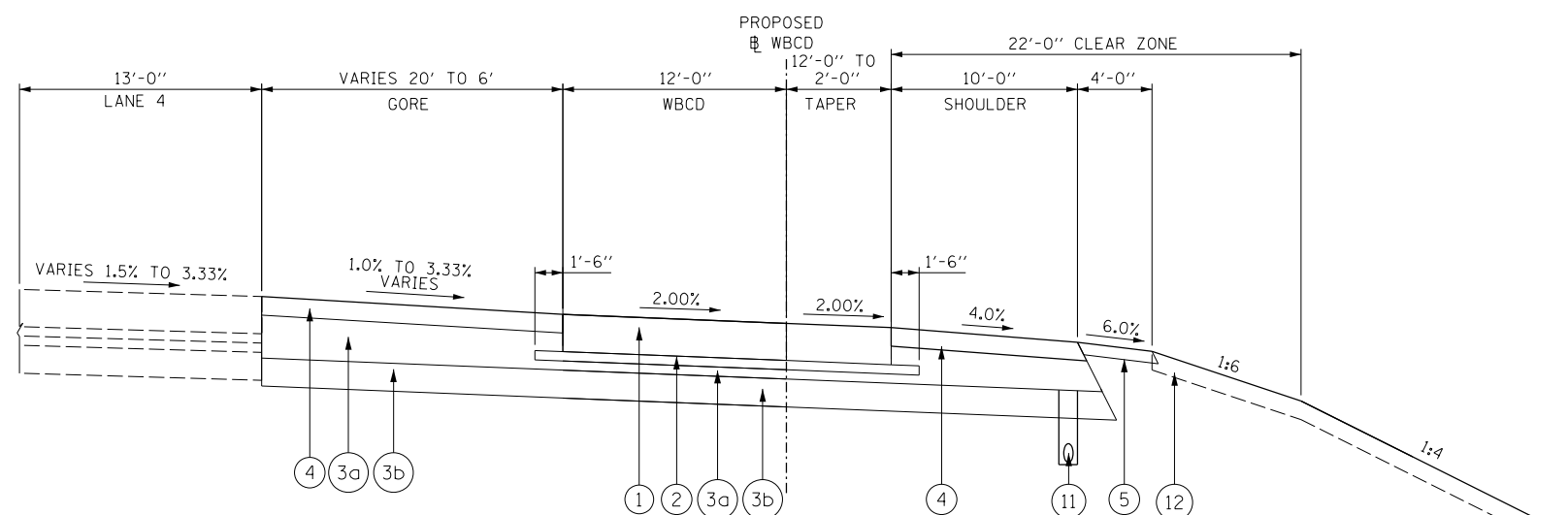
CONTRACT NO. RR-17-4291
PROPOSED TYPICAL SECTIONS

SHT NO. TYP-5
DRAWING NO. 24 OF 228



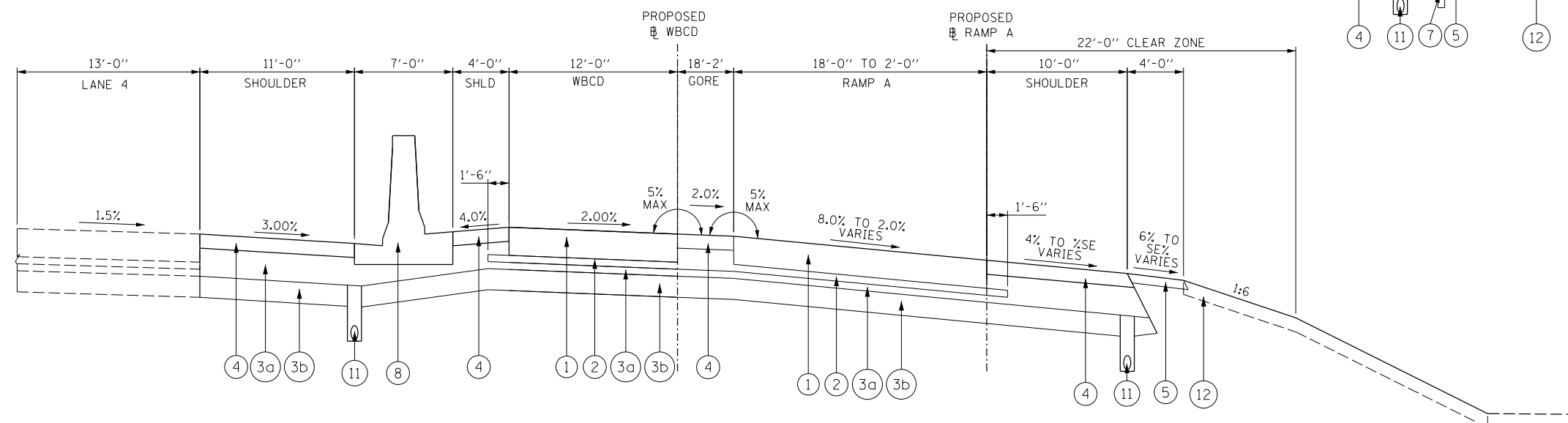
EXISTING I-94 TOLLWAY
STA. 3674 + 58.30 TO STA. 3676 + 52.82

PROPOSED WBCD
STA. 114 + 47.82 TO STA. 116 + 31.23



EXISTING I-94 TOLLWAY
STA. 3679 + 64.10 TO STA. 3694 + 60.56

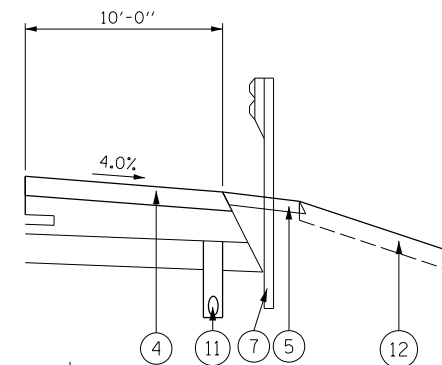
PROPOSED WBCD
STA. 118 + 96.09 TO STA. 123 + 66.84



EXISTING I-94 TOLLWAY
STA. 3669 + 41.10 TO STA. 3674 + 58.30

PROPOSED WBCD
STA. 108 + 82.50 TO STA. 114 + 47.82

PROPOSED RAMP A
STA. 9 + 23.16 TO STA. 13 + 92.43



- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
- ② STABILIZED SUBBASE - WMA, 3" (JI312022)
- ③ SUBGRADE AGGREGATE 12 IN. (JT211A11)
- ③a 3" CA-6 AGGREGATE CAP (THICKNESS VARIES UNDER SHOULDER)
- ③b 9" PGE
- ④ WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
- ⑤ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
- ⑥ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
- ⑦ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
- ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7' (JI637056)
- ⑨ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006) (SEE STRUCTURE DRAWINGS)
CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL) (JI637036) (SEE STRUCTURE DRAWINGS)
- ⑩ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE (SPECIAL) (JI637017)
- ⑪ PIPE UNDERDRAINS, FABRIC LINED TRENCH 6" (JI601320)
- ⑫ TOPSOIL EXCAVATION AND PLACEMENT, 6" (JI211110)
- ⑬ LONGITUDINAL CONSTRUCTION JOINT WITH NO. 6 TIE BARS AT CTS. (INCLUDED IN COST OF JI420010)
- ⑭ GUTTER, TYPE G-3 (JI606020)

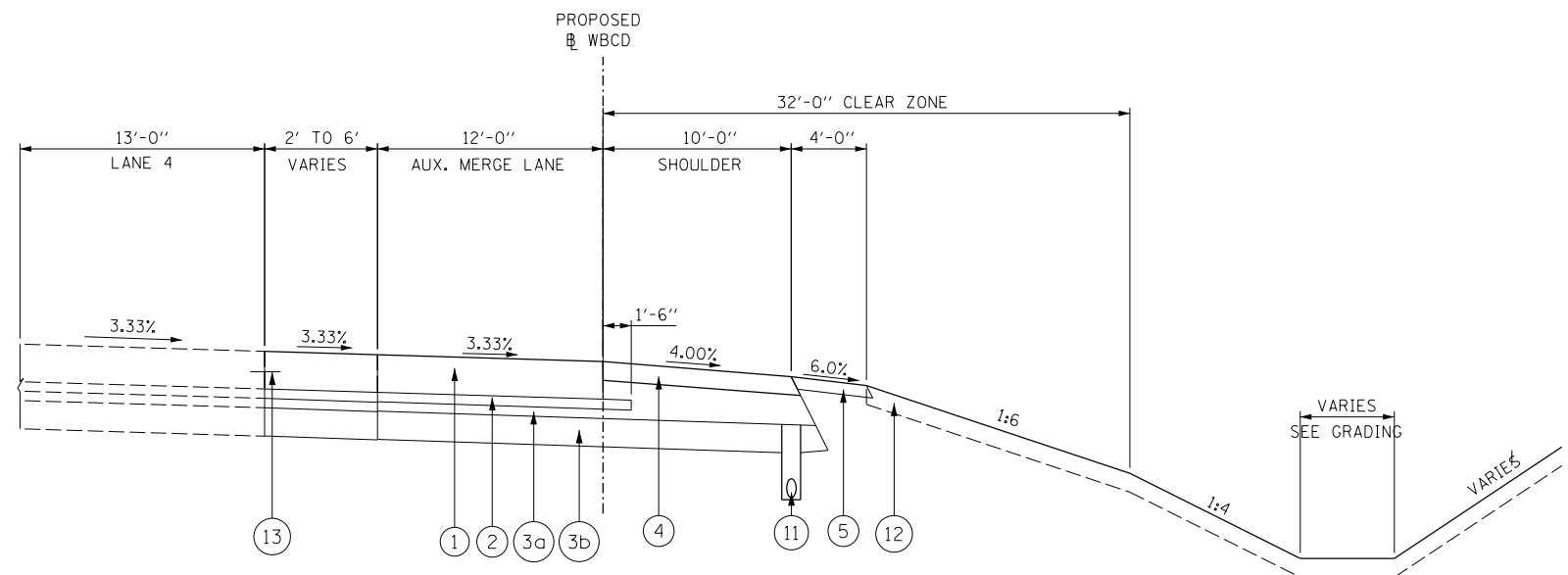
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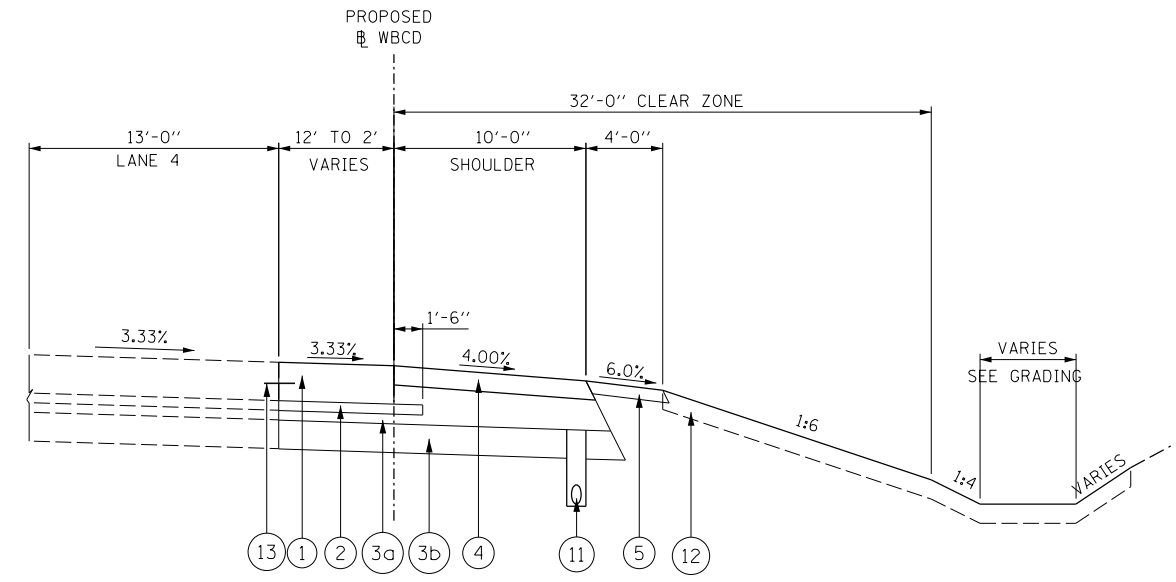
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NO.	DATE	DESCRIPTION	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. TYP-6
PROPOSED TYPICAL SECTIONS DRAWING NO. 25 OF 228



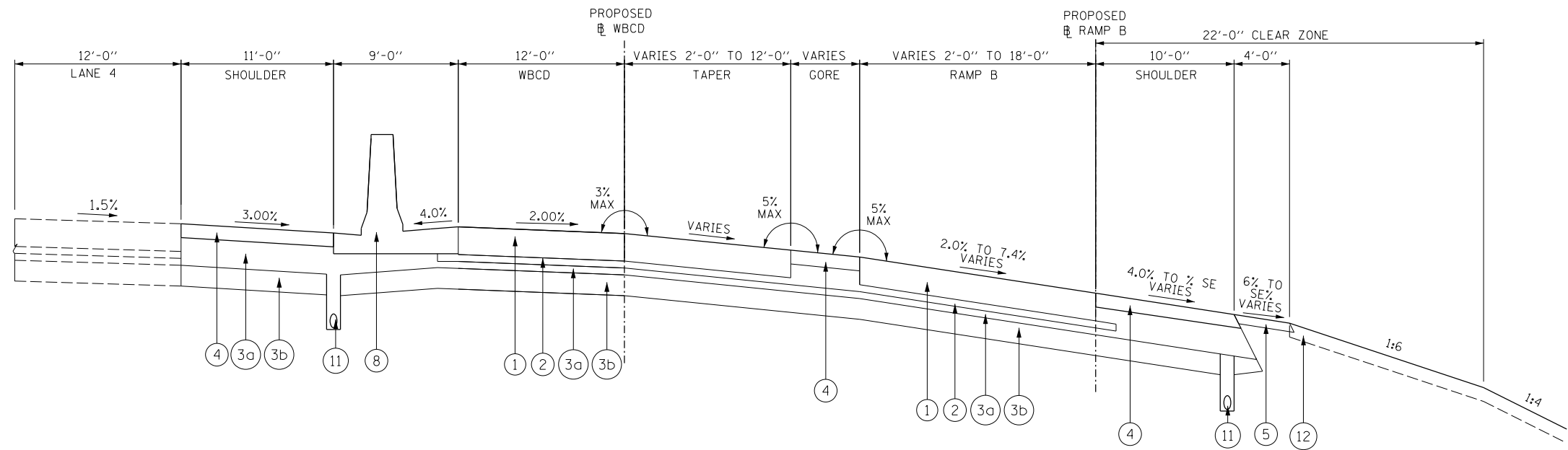
EXISTING I-94 TOLLWAY
STA. 3683+69.41 TO STA. 3691+60.56

PROPOSED WBCD
STA. 123+66.84 TO STA. 131+46.98



EXISTING I-94 TOLLWAY
STA. 3691+60.56 TO STA. 3694+60.56

PROPOSED WBCD
STA. 131+46.98 TO STA. 134+43.49



EXISTING I-94 TOLLWAY
STA. 3674+58.30 TO STA. 3679+64.10

PROPOSED WBCD
STA. 116+31.23 TO STA. 118+96.09

PROPOSED RAMP B
STA. 116+44.87 TO STA. 119+40.71

SEE SHEET TYP-6 FOR WBCD STA. 118+96.09 TO 123+66.84

- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
- ② STABILIZED SUBBASE - WMA, 3" (JI312022)
- ③ SUBGRADE AGGREGATE 12 IN. (JT211A11)
- ③a 3" CA-6 AGGREGATE CAP (THICKNESS VARIES UNDER SHOULDER)
- ③b 9" PGE
- ④ WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
- ⑤ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
- ⑥ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
- ⑦ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
- ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7' (JI637056)
- ⑨ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006)
(SEE STRUCTURE DRAWINGS)
CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL) (JI637036)
(SEE STRUCTURE DRAWINGS)
- ⑩ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE (SPECIAL) (JI637017)
- ⑪ PIPE UNDERDRAINS, FABRIC LINED TRENCH 6" (JI601320)
- ⑫ TOPSOIL EXCAVATION AND PLACEMENT, 6" (JI211110)
- ⑬ LONGITUDINAL CONSTRUCTION JOINT WITH NO. 6 TIE BARS AT CTS. (INCLUDED IN COST OF JI420010)
- ⑭ GUTTER, TYPE G-3 (JI606020)

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CONTRACT NO. RR-17-4291
PROPOSED TYPICAL SECTIONS
SHT NO. TYP-7
DRAWING NO. 26 OF 228

HOT MIX ASPHALT TABLE

LOCATION	OPERATIONS	PAY ITEM	DESIGNATION	UNIT	AC TYPE	VOIDS	MAX. RAP %	MAX. RAS %	TYPICAL THICKNESS	MIX TYPE	NOTES
AS SHOWN ON THE DRAWINGS	CONSTRUCTION OF NEW WMA SHOULDERS	JI482104	WMA SHOULDERS (6 IN.)	SQYD	PG 64-22 / 58-22 / 58-28	4% @ 70 GYR	10% RAP, 30% CAT. 2 FRAP, OR 35% CAT. 1 FRAP	5	1.75"	WARM MIX ASPHALT SURFACE COURSE, MIX D, N70	SEE RAP AND RAS SPECIAL PROVISIONS FOR ASPHALT GRADE REQUIREMENTS AND MAXIMUM BINDER REPLACEMENT PERCENTAGES.
					PG 64-22 / 58-22 / 58-28	4% / 3% @ 50 GYR	30% RAP, 40% CAT. 2 FRAP, OR 45% CAT. 1 FRAP	5	4.25"	WARM MIX ASPHALT BINDER COURSE, IL-19.0, N50	SEE RAP AND RAS SPECIAL PROVISIONS FOR ASPHALT GRADE REQUIREMENTS AND MAXIMUM BINDER REPLACEMENT PERCENTAGES.
	WMA STABILIZED SUBBASE UNDER NEW PCC PAVEMENT	JI312022	STABILIZED SUBBASE - WMA, (3")	SQYD	PG 58-22 / 58-28	2% @ 50 GYR	30% RAP, 40% CAT. 2 FRAP, OR 45% CAT. 1 FRAP	5	3.0"	WARM MIX ASPHALT BINDER COURSE, IL-19, N50	SEE RAP AND RAS SPECIAL PROVISIONS FOR ASPHALT GRADE REQUIREMENTS AND MAXIMUM BINDER REPLACEMENT PERCENTAGES.

ASPHALT MIXES FOR PAVEMENTS

- THE CLASSIFICATIONS FOR FRACTIONATED RECLAIMED ASPHALT PAVEMENT (FRAP) ARE DEFINED WITHIN THE SPECIAL PROVISION FOR RECLAIMED ASPHALT PAVEMENT.
- QUANTITIES ASPHALT MIXES ARE BASED ON THE DENSITY VALUE OF 112.0 LBS/SQ YD/IN

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NO.	DATE

CONTRACT NO. RR-17-4291 SHT NO. HMA-1
 HMA TABLE DRAWING NO. 27 OF 228

MAINTENANCE OF TRAFFIC GENERAL NOTES

1. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A PROPOSED CONSTRUCTION STAGING PLAN THIRTY (30) DAYS PRIOR TO IMPLEMENTATION AND MEET WITH THE TOLLWAY'S CONSTRUCTION MANAGER (CM) AND REPRESENTATIVES OF THE TOLLWAY AND IDOT TO ASCERTAIN THE EXACT SCHEDULE OF THE TRAFFIC STAGING AND ANY POSSIBLE REQUIRED CHANGES. ADDITIONAL MEETINGS WILL BE REQUIRED TEN (10) DAYS PRIOR TO IMPLEMENTATION TO FINALIZE ALL DETAILS.
2. THE TRAFFIC CONTROL PLANS SHALL SERVE AS A GUIDE FOR SAFE DIVERSION OF TRAFFIC DURING EXECUTION OF THIS CONTRACT. HOWEVER, THE CONTRACTOR MAY MODIFY THE TRAFFIC CONTROL PLANS TO MEET CONSTRUCTION NEEDS, BUT NOT AT THE EXPENSE OF PUBLIC SAFETY OR CONVENIENCE. ANY CHANGES TO THE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER AND TOLLWAY FOR APPROVAL. THE ENGINEER SHALL BE INFORMED IN WRITING A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANY CHANGE TO THE TRAFFIC CONTROL PLANS. NO ADDITIONAL COMPENSATION SHALL BE DUE TO THE CONTRACTOR IF A MODIFIED PLAN IS PROPOSED AND/OR IMPLEMENTED.
3. TRAFFIC CONDITIONS, ACCIDENTS, AND OTHER UNFORESEEN CIRCUMSTANCES MAY REQUIRE THE ENGINEER TO RESTRICT, MODIFY, OR REMOVE LANE CLOSURES. THE CONTRACTOR SHALL MAKE THE NECESSARY ADJUSTMENTS AS DIRECTED BY THE ENGINEER WITHOUT DELAY. THE CONTRACTOR SHALL RESPOND WITHIN 30 MINUTES FROM THE TIME OF NOTIFICATION BY THE ENGINEER TO ANY REQUEST MADE BY THE ENGINEER FOR CORRECTION, IMPROVEMENT, OR MODIFICATION OF THE MAINTENANCE OF TRAFFIC CONTROL DEVICES. FAILURE TO RESPOND WITHIN THE ABOVE TIME LIMIT WILL RESULT IN A PENALTY IN ACCORDANCE WITH SECTION 701 OF TOLLWAY SUPPLEMENTAL SPECIFICATIONS FOR WORK ZONE TRAFFIC CONTROL AND PROTECTION WHENEVER THE ENGINEER DETERMINES THAT THE CONTRACTOR OR HIS SUBCONTRACTOR HAS NOT COMPLIED.
4. ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED IN ACCORDANCE WITH SECTION 701 OF ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS FOR WORK ZONE TRAFFIC CONTROL AND PROTECTION.
5. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE ALL SIGNS AND SIGN SUPPORTS REQUIRED FOR TRAFFIC CONTROL AND PROTECTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BARRICADES, SIGNS, LIGHTS AND OTHER DEVICES INSTALLED ARE IN PLACE AND OPERATING 24 HOURS EACH DAY INCLUDING SUNDAYS AND HOLIDAYS DURING THE TIME CONSTRUCTION IS IN EFFECT.
7. ALL EXISTING GUIDE SIGNS, E.G. STREET NAME SIGNS, ADVANCE STREET NAME SIGNS, ROUTE MARKERS, ETC., SHALL BE MAINTAINED AND VISIBLE TO TRAFFIC DURING CONSTRUCTION OR AS OTHERWISE SHOWN ON THE PLANS.
8. ALL TRAFFIC CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO DRUMS, VERTICAL PANELS, AND TYPE II BARRICADES ADJACENT TO THE EDGE OF TRAVEL WAY SHOULD BE PROVIDED WITH MONODIRECTIONAL STEADY BURNING LIGHTS, UNLESS OTHERWISE NOTED. DRUMS, VERTICAL PANELS, AND TYPE II BARRICADES SHOULD BE PLACED AT 50-FOOT INTERVALS EXCEPT ON TAPERS AND LANE SHIFTS, WHERE THEY SHOULD BE PLACED AT 25-FOOT INTERVALS OR AS SPECIFIED IN THE PLANS.
9. ALL TRAFFIC CONTROL DEVICES USED FOR THE MAINTENANCE OF TRAFFIC, AS DETAILED ON THE PLANS, SHALL BE REFLECTORIZED PRIOR TO INSTALLATION AND CLEANED AS SPECIFIED IN THE MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS, OR AS DIRECTED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES SHALL BE IN GOOD CONDITION AND SHALL BE SUBJECT TO APPROVAL BY THE CONSTRUCTION MANAGER (CM).
10. REMOVAL OF EXISTING AND TEMPORARY PAVEMENT MARKINGS SHALL BE PAID FOR AS "WATERBLAST PAVEMENT MARKING REMOVAL WITH VACUUM RECOVERY (JT783005)".
11. DIRECTIONAL INDICATOR BARRICADES SHALL BE USED AT LANE CLOSURE TAPER LOCATIONS, OR AS DIRECTED BY THE ENGINEER.
12. THE CONTRACTOR SHALL INSTALL AND COVER ALL TEMPORARY SIGNING BEFORE EXISTING SIGNS ARE REMOVED. THE CONTRACTOR SHALL RELOCATE EXISTING SIGNS AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
13. THE CONTRACTOR SHALL INSTALL AND COVER ALL PERMANENT SIGNING BEFORE TEMPORARY SIGNS ARE REMOVED.

14. THE FOLLOWING SHALL APPLY TO CONSTRUCTION SIGNING:
 - (A) THE CONTRACTOR SHALL FURNISH ALL SIGNS.
 - B) THE CONSTRUCTION MANAGER SHALL APPROVE ALL TEMPORARY SIGN SUPPORTS. ALL SIGN ASSEMBLIES SHALL BE CERTIFIED BY THE CONTRACTOR AS MEETING THE APPLICABLE REQUIREMENTS OF NCHRP REPORT 350, TEST LEVEL 3.
 - C) ALL SIGNS SHALL BE BOLTED TO THE SIGN SUPPORTS, UNLESS OTHERWISE NOTED.
 - D) ALL SIGNS SHALL BE POST-MOUNTED UNLESS THE SIGNS ARE LOCATED ON THE PAVEMENT OR DEFINE A MOVING INTERMITTENT OPERATION. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THE SIGN SUPPORT BASES ARE PROPERLY WEIGHTED FOR EXISTING WIND CONDITIONS. THE TOLLWAY AND CONSTRUCTION MANAGER SHALL BE HELD HARMLESS FOR THE NEGLIGENCE ON THE PART OF THE CONTRACTOR WHEN ADHERING TO THIS DIRECTION.
 - E) ALL CONSTRUCTION WARNING SIGNS SHALL BE BLACK LEGEND ON ORANGE BACKGROUND WITH 48" X 48" DIMENSION.
 - F) ALL "ROAD CONSTRUCTION AHEAD" WARNING SIGNS AND OTHER SIGNS INDICATED ON THE PLANS SHALL BE EQUIPPED WITH TYPE A WARNING LIGHTS.
15. THE FOLLOWING IS A LIST OF MAINTENANCE OF TRAFFIC ASSOCIATED ITEMS FOR WHICH NOMINAL OR ESTIMATED QUANTITIES HAVE BEEN PROVIDED:
 - JT701030 - SUPPLEMENTAL BARRICADE
 - JT701031 - SUPPLEMENTAL SIGNING
 - JT701032 - SUPPLEMENTAL FLASHING ARROW BOARD (PER DAY)
 - JT701035 - SUPPLEMENTAL MAINTENANCE OF TRAFFIC
16. FOR DETAILS OF TOLLWAY STANDARD CONSTRUCTIONS SIGNS SEE STANDARD E1.
17. FOR DETAILS OF TOLLWAY STANDARD LANE AND SHOULDER CLOSURE, SEE STANDARDS E2 AND E3.
18. TEMPORARY LIGHTING MUST BE INSTALLED AND OPERATIONAL PRIOR TO THE OPENING OF STAGE 1 MAINTENANCE OF TRAFFIC.
19. ALL EQUIPMENT STORAGE MUST FOLLOW ARTICLE 701.13 OF THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS FOR WORK ZONE TRAFFIC CONTROL AND PROTECTION.
20. FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SANDBAGS PER BARRICADE.

CONSTRUCTION SEQUENCES AND TRAFFIC STAGING

PRE – STAGE:

TRAFFIC - ALL TRAFFIC REMAINS IN EXISTING CONFIGURATION FOR MAINLINE AND RAMPS. PROVIDE TEMPORARY NIGHT TIME LANE CLOSURES ON I-94 FOR WESTBOUND MEDIAN SHOULDER WORK AND OTHER WORK AS SPECIFIED HEREIN IN ACCORDANCE WITH STANDARD E2.

CONSTRUCTION - MILL THE I-94 WESTBOUND MEDIAN (STA. 3649+42 TO STA. 3703+78) SHOULDER RUMBLE STRIPS. OVERLAY THE MILLED SURFACE WITH WARM- MIX ASPHALT TO PREPARE FOR STAGE 1 THROUGH STAGE 2B LANE SHIFTS. REMOVE EXISTING PAVEMENT MARKINGS WHEN IN CONFLICT AND INSTALL TEMPORARY PAVEMENT MARKINGS TO PREPARE FOR STAGE 1 LANE SHIFTS. CONSTRUCT TEMPORARY PAVEMENT ON RAMP B TO PREPARE FOR STAGE 1 TRAFFIC SHIFT TO THE LEFT.

STAGE 1:

TRAFFIC - CLOSE I-94 WESTBOUND OUTSIDE SHOULDER AND SHIFT THE FOUR LANES OF TRAFFIC TO THE MEDIAN SHOULDER AND EXISTING INNER THREE LANES (LANES 1, 2 AND 3). NO TRUCKS WILL BE ALLOWED IN LANE 1 WHICH IS RUNNING ON MEDIAN SHOULDER.

INSTALL DETOUR SIGNING FOR GRAND AVENUE RAMP A CLOSURE. RE-STRIPE RAMP B FOR THE NEW TRAFFIC CONFIGURATION AND PROVIDE 16'-0" WIDE LANE.

CONSTRUCTION - INSTALL TEMPORARY CONCRETE BARRIERS WITH IMPACT ATTENUATORS TO ENCLOSE MAINLINE AND RAMP WORK ZONES. ANCHOR BARRIERS IF INDICATED IN THE TEMPORARY BARRIER SCHEDULE ON SHEET MOT-4. SAWCUT BETWEEN I-94 LANE 4 AND OUTSIDE SHOULDER PRIOR TO MAINLINE SHOULDER REMOVAL. INSTALL TEMPORARY LIGHTING AT RAMP B. REMOVE EXISTING LIGHT POLES AS SHOWN ON LIGHTING REMOVAL AND CONSTRUCT PERMANENT LIGHTING. REMOVE EXISTING AND INSTALL A NEW CANTILEVER SIGN STRUCTURE.

STAGE 1: (CONTINUED)

CONSTRUCTION - CONSTRUCT MAINLINE, WBCD ROAD PAVEMENT WITH SHOULDERS AND PERMANENT CONCRETE BARRIERS. CONSTRUCT DRAINAGE STRUCTURES AND SEWERS UNDER THE PAVEMENT AND START WORK ON OFF-SITE DRAINAGE IMPROVEMENTS. REMOVE EXISTING SLOPE WALL AND EMBANKMENT UNDER GRAND AVENUE BRIDGE AND CONSTRUCT SINGLE FACE CONCRETE BARRIER, GUARDRAIL AND INSTALL UNDERPASS LIGHTING. INSTALL TEMPORARY EROSION CONTROL MEASURES TO PROTECT DISTURBED AREAS. BEGIN GRAND AVENUE RETAINING WALL MODIFICATIONS.

STAGE 1A:

TRAFFIC - MAINLINE STRIPING FOR THE THROUGH AND MEDIAN SHOULDER LANES REMAINS FROM STAGE 1. RAMP A REMAINS CLOSED. RAMP B TRAFFIC IS SHIFTED TO THE NEWLY CONSTRUCTED PAVEMENT IN STAGE 1 AND THE 16 FEET WIDE RAMP B LANE IS PROVIDED.

CONSTRUCTION - INSTALL TEMPORARY CONCRETE BARRIERS WITH IMPACT ATTENUATORS TO ENCLOSE MAINLINE AND RAMP A WORK ZONE AREAS. ANCHOR BARRIERS IF INDICATED IN THE TEMPORARY BARRIER SCHEDULE ON SHEET MOT-4. CONSTRUCT MAINLINE AND RAMP B PAVEMENT WITH SHOULDERS, DRAINAGE STRUCTURES AND SEWERS AND INSTALL PERMANENT CONCRETE BARRIER. CONTINUE WORKING ON OFF-SITE DRAINAGE IMPROVEMENTS STARTED IN STAGE 1.

STAGE 2A:

TRAFFIC - MAINLINE STRIPING FOR THE THROUGH AND MEDIAN SHOULDER LANES AND RAMP B EXIT LANE REMAINS. RAMP A REMAINS CLOSED. CLOSE RAMP E LANE 2 TO TRAFFIC, SHIFT TRAFFIC ONTO EXISTING RAMP E LEFT SHOULDER AND PROVIDE LANE WIDTH OF 14 FEET. INSTALL ADDITIONAL ADVANCE SIGNING FOR RAMP E LANE SHIFT AND CLOSURE.

CONSTRUCTION - INSTALL TEMPORARY CONCRETE BARRIERS WITH IMPACT ATTENUATORS TO ENCLOSE RAMP E WORK ZONE. RECONSTRUCT RAMP E RIGHT SIDE (LANE 2) PAVEMENT WITH SHOULDER. REMOVE EXISTING AND INSTALL A NEW CANTILEVER SIGN STRUCTURE.

STAGE 2B:

TRAFFIC - MAINLINE STRIPING FOR THE THROUGH AND MEDIAN SHOULDER LANES AND RAMP B EXIT LANE REMAINS. RAMP A REMAINS CLOSED. CLOSE RAMP E LANE 1 TO TRAFFIC, SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED RAMP E PAVEMENT AND PROVIDE LANE WIDTH OF 12 FEET. INSTALL ADDITIONAL ADVANCE SIGNING FOR RAMP E LANE SHIFT AND CLOSURE.

CONSTRUCTION - INSTALL TEMPORARY CONCRETE BARRIERS WITH IMPACT ATTENUATORS TO ENCLOSE RAMP E WORK ZONE. RECONSTRUCT RAMP E LEFT SIDE (LANE 1) PAVEMENT WITH SHOULDER, CONSTRUCT WBCD ROAD PAVEMENT WITH SHOULDERS, RECONSTRUCT OUTSIDE MAINLINE SHOULDER AND INSTALL PERMANENT BARRIER. REMOVE TEMPORARY LIGHTING AND SWITCH ON PERMANENT LIGHTING.

WINTER – STAGE

TRAFFIC - ALL RAMP, MAINLINE AND WBCD ROAD LANES ARE FULLY OPEN TO TRAFFIC. NO MOT DEVICES SHALL REMAIN DURING WINTER STAGE PERIOD. INSTALL PERMANENT SIGNING. REMOVE ALL DETOUR ADVANCE SIGNING AND OPEN RAMP B TO TRAFFIC.

PRIOR TO WINTER STAGE, INSTALL TEMPORARY CONCRETE BARRIER, AT LOCATIONS WHERE PERMANENT BARRIER HAS NOT BEEN CONSTRUCTED, IN ORDER TO FULLY SEPARATE THE RAMP B TRAFFIC FROM THE MAINLINE. RAMP B IS ACCESSED FROM THE WBCD PAVEMENT. REMOVE TEMPORARY PAVEMENT MARKINGS AND INSTALL PERMANENT OR LATE SEASON PAVEMENT MARKINGS FOR THE WINTER STAGE PERIOD.

STAGE 3

TRAFFIC - CLOSE I-94 WESTBOUND OUTSIDE (LANE 4) TO TRAFFIC IN ACCORDANCE WITH STANDARD E2 AND AS SPECIFIED HEREIN. MAINTAIN THREE LANES OF TRAFFIC ON I-94 WITHIN EXISTING TRAFFIC CONFIGURATION. SHIFT WBCD ROAD TRAFFIC TO THE WBCD ROAD RIGHT SHOULDER.

CONSTRUCTION - INSTALL TEMPORARY CONCRETE BARRIERS WITH IMPACT ATTENUATORS TO ENCLOSE MAINLINE WORK ZONES. ANCHOR BARRIERS IF INDICATED IN THE TEMPORARY BARRIER SCHEDULE ON SHEET MOT-5. RECONSTRUCT REMAINING I-94 WESTBOUND OUTSIDE SHOULDER AND INSTALL PERMANENT CONCRETE BARRIER AT RAMP B. REMOVE TEMPORARY EROSION CONTROL AND INSTALL PERMANENT LANDSCAPING.

POST – STAGE

TRAFFIC - ALL TRAFFIC IS IN FINAL CONFIGURATION. UTILIZE TEMPORARY LANE CLOSURES AND NIGHT SHIFTS.

CONSTRUCTION - REMOVE TEMPORARY PAVEMENT MARKINGS AND INSTALL PERMANENT PAVEMENT MARKINGS. RESTORE RUMBLE STRIPS ON THE MAINLINE MEDIAN SHOULDER.

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CHECKED BY	LS	DATE	03/23/2017

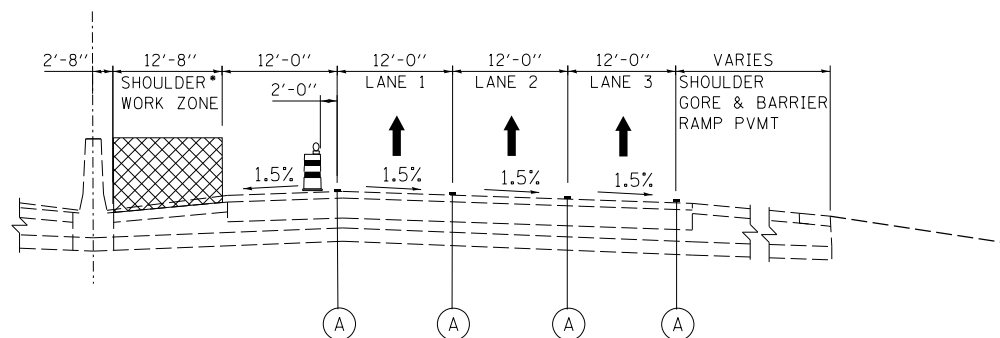


REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC GENERAL NOTES

SHT NO. MOT-1
DRAWING NO. 28 OF 228

EX. TRI-STATE
TOLLWAY (I-94)

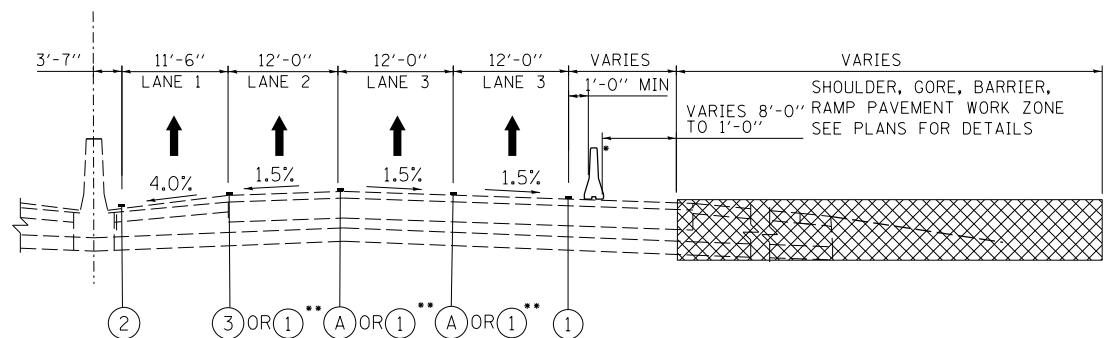


- MILL EXISTING MEDIAN RUMBLE STRIPS AND OVERLAY WITH WARM-MIX ASPHALT TO PREPARE FOR STAGE 1 LANE SHIFT.

PRE-STAGE 1

TRI-STATE TOLLWAY (I-94)
(TEMPORARY LANE CLOSURE DURING NIGHTTIME HOURS)
STA. 3649 + 42.00 TO STA. 3703 + 78.00

EX. TRI-STATE
TOLLWAY (I-94)

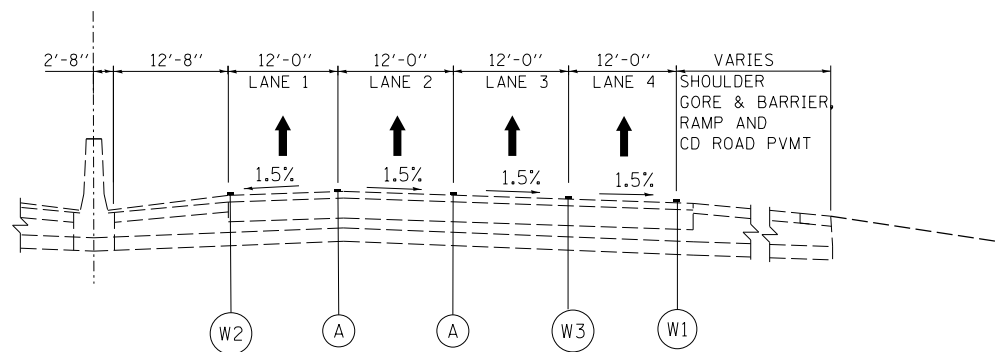


- PROVIDE DRUMS/BARRICADES OR CONCRETE BARRIER. SEE PLANS FOR LOCATIONS.
- AT EASTBOUND & WESTBOUND LANE SHIFTS

STAGE 1, 1A 2A AND 2B

TRI-STATE TOLLWAY (I-94)
STA. 3649 + 4200 TO STA. 3703 + 82.00

EX. TRI-STATE
TOLLWAY (I-94)



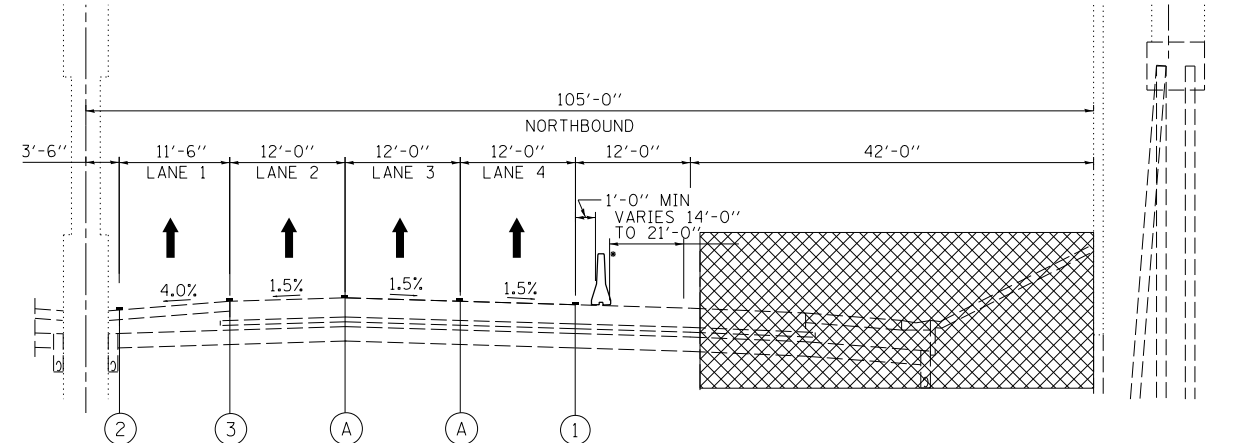
WINTER STAGE

TRI-STATE TOLLWAY (I-94)
STA. 3649 + 42.00 TO STA. 3703 + 78.00

NOTE:

- TEMPORARY CONCRETE BARRIERS TO BE PINNED TO PAVEMENT. SEE TEMPORARY BARRIER SCHEDULE ON SHEET MOT-5 FOR FREE STANDING AND ANCHORED BARRIER LOCATIONS.

EX. TRI-STATE
TOLLWAY (I-94)

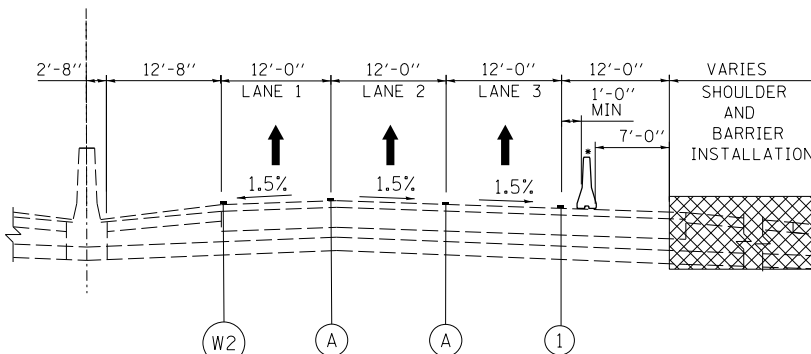


- PROVIDE DRUMS/BARRICADES OR CONCRETE BARRIER. SEE PLANS FOR LOCATIONS.

STAGE 1, 1A 2A AND 2B

TRI-STATE TOLLWAY (I-94)
STA. 3675 + 55.00 TO STA. 3685 + 41.00
(SECTION UNDER GRAND AVENUE BRIDGE)

EX. TRI-STATE
TOLLWAY (I-94)



- PROVIDE DRUMS/BARRICADES OR CONCRETE BARRIER. SEE PLANS FOR LOCATIONS.

STAGE 3

TRI-STATE TOLLWAY (I-94)
STA. 3665 + 00 TO STA. 3679 + 24

MOT LEGEND

	CONSTRUCTION WORK ZONE	①	PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
	TEMPORARY PAVEMENT, CLASS 1 (J1485010) WITH GRANULAR SUBBASE - 9" (JT301001)	②	PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
	DIRECTION OF TRAFFIC	③	PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
	TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT	W1	LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, WHITE) (J1780300)
	TEMPORARY CONCRETE BARRIER (J1704000) OR RELOCATE TEMPORARY CONCRETE BARRIER (J1704005)	W2	LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, YELLOW) (J1780300)
Ⓐ	EXISTING PAVEMENT MARKINGS	W3	LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (25' SKIP -25' DASH, WHITE) (J1780300)
Ⓑ	PROPOSED PERMANENT PAVEMENT MARKING		
Ⓒ	TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE		

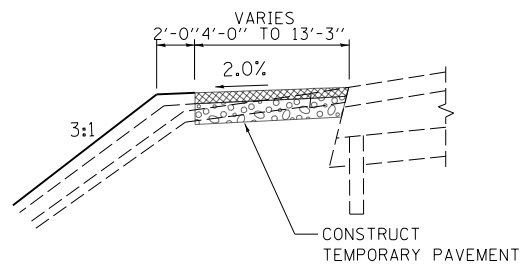
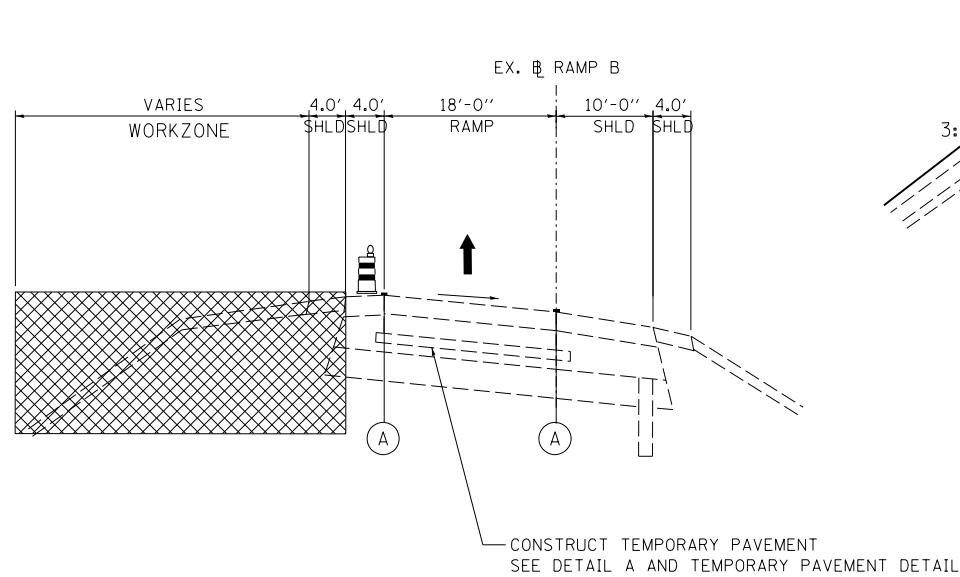
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CHECKED BY LS DATE 03/23/2017

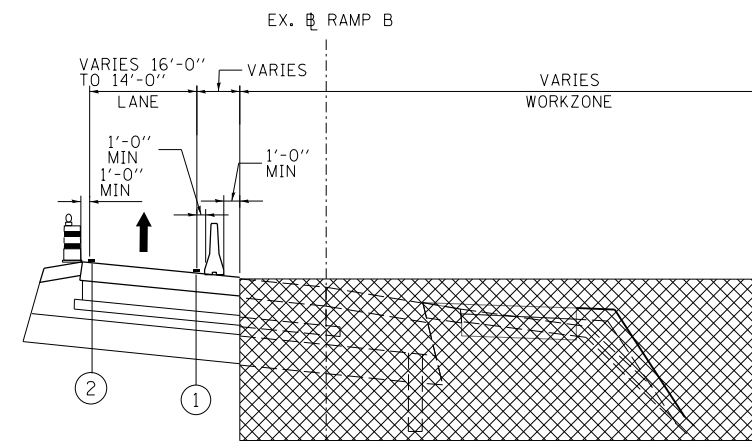


REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC TYPICAL SECTIONS
SHT NO. MOT-2
DRAWING NO. 29 OF 228

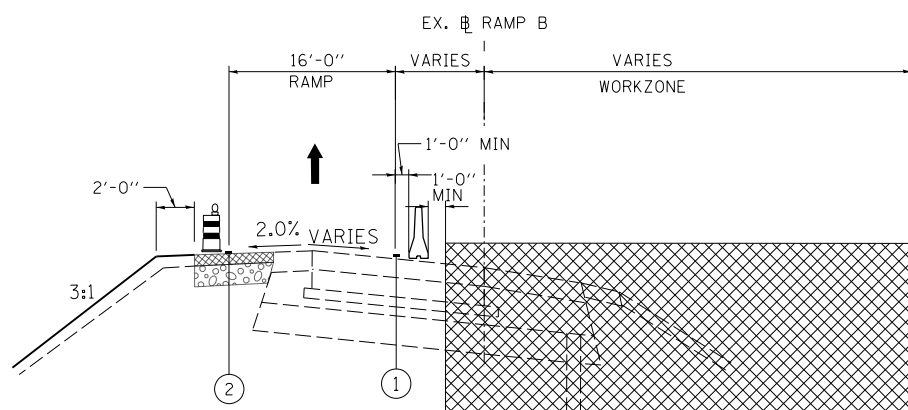


DETAIL A

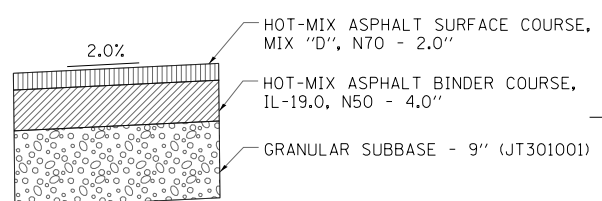


STAGE 1A, 2A AND 2B
GRAND AVENUE - RAMP B
STA. 18+50.00 TO STA. 19+68

PRE - STAGE
GRAND AVENUE - RAMP B
(TEMPORARY LANE CLOSURE DURING NIGHTTIME HOURS)
STA. 19+50 TO STA. 20+68



STAGE 1
GRAND AVENUE - RAMP B
STA. 18+50.00 TO STA. 19+68



• PAID AS TEMPORARY PAVEMENT, CLASS 1 (J1485010)

- ADJUST GROUND SLOPE TO MATCH INSTALLED TEMPORARY PAVEMENT ELEVATION.
- CONTRACTOR HAS THE OPTION TO USE PORTLAND CEMENT CLASS PV CONSISTING OF 10 INCH UNDOWELED CONCRETE FOR TEMPORARY PAVEMENT IN LIEU OF HOT-MIX ASPHALT. TO BE PAID AS TEMPORARY PAVEMENT, CLASS 1 (J1485010).

TEMPORARY PAVEMENT DETAIL

NOTE:

- TEMPORARY CONCRETE BARRIERS TO BE PINNED TO PAVEMENT. SEE TEMPORARY BARRIER SCHEDULE ON SHEET MOT-5 FOR FREE STANDING AND ANCHORED BARRIER LOCATIONS.

MOT LEGEND

- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT, CLASS 1 (J1485010) WITH GRANULAR SUBBASE - 9" (JT301001)
- DIRECTION OF TRAFFIC
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER (J1704000) OR RELOCATE TEMPORARY CONCRETE BARRIER (J1704005)
- EXISTING PAVEMENT MARKINGS
- PROPOSED PERMANENT PAVEMENT MARKING
- TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)

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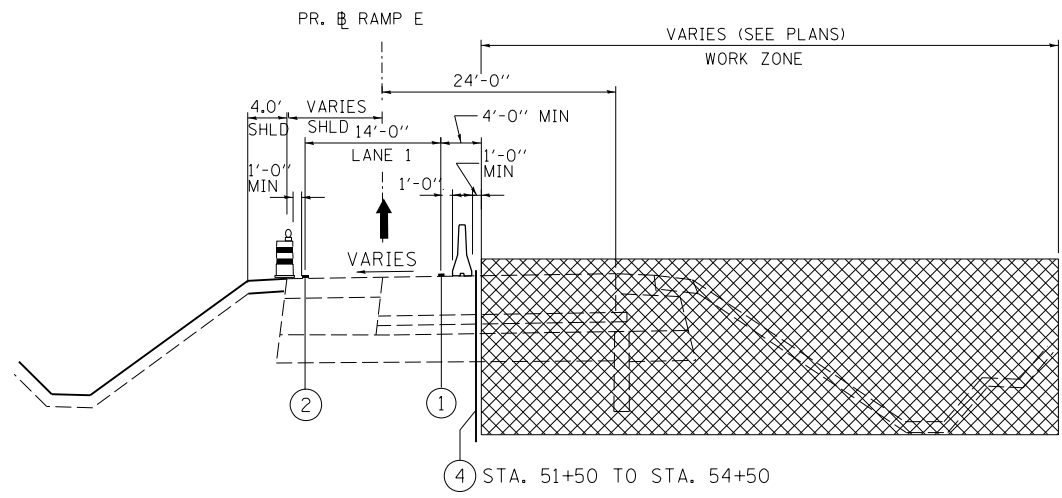
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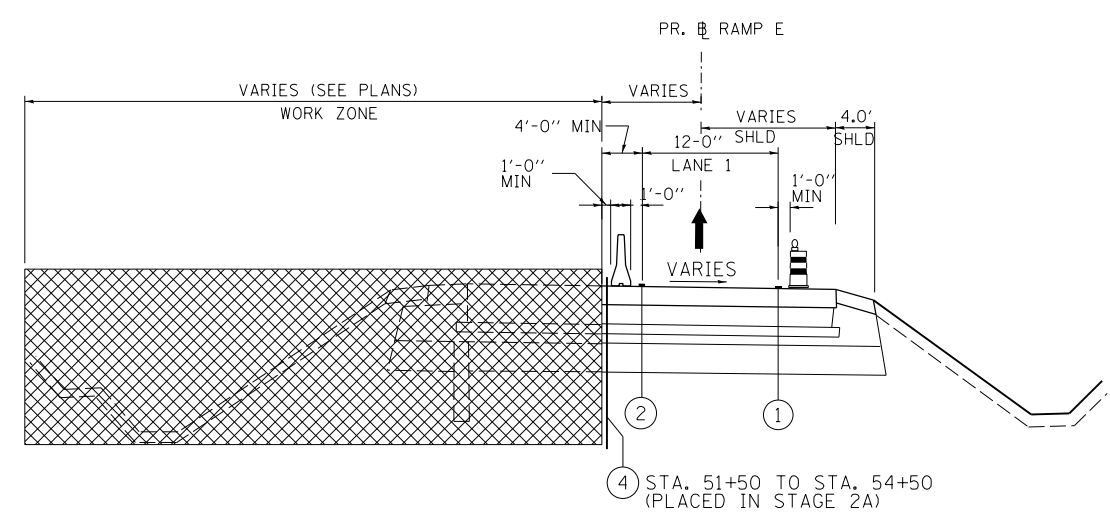
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 MAINTENANCE OF TRAFFIC
 TYPICAL SECTIONS

SHT NO. MOT-3
 DRAWING NO.
 30 OF 228



STAGE 2A
GRAND AVENUE – RAMP E
STA. 48 + 00.00 TO STA. 55 + 00.00



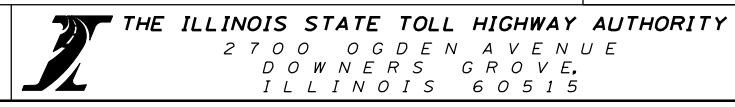
STAGE 2B
GRAND AVENUE – RAMP E
STA. 48 + 00.00 TO STA. 55 + 00.00

MOT LEGEND			
	CONSTRUCTION WORK ZONE	①	PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
	TEMPORARY PAVEMENT, CLASS 1 (J1485010) WITH GRANULAR SUBBASE - 9" (JT301001)	②	PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
	DIRECTION OF TRAFFIC	③	PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
	TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT	④	TEMPORARY SOIL RETENTION SYSTEM (52200020)
	TEMPORARY CONCRETE BARRIER (J1704000) OR RELOCATE TEMPORARY CONCRETE BARRIER (J1704005)		
(A)	EXISTING PAVEMENT MARKINGS		
(B)	PROPOSED PERMANENT PAVEMENT MARKING		
(C)	TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE		

1. TEMPORARY CONCRETE BARRIERS TO BE PINNED TO PAVEMENT. SEE TEMPORARY BARRIER SCHEDULE ON SHEET MOT-5 FOR FREE STANDING AND ANCHORED BARRIER LOCATIONS.

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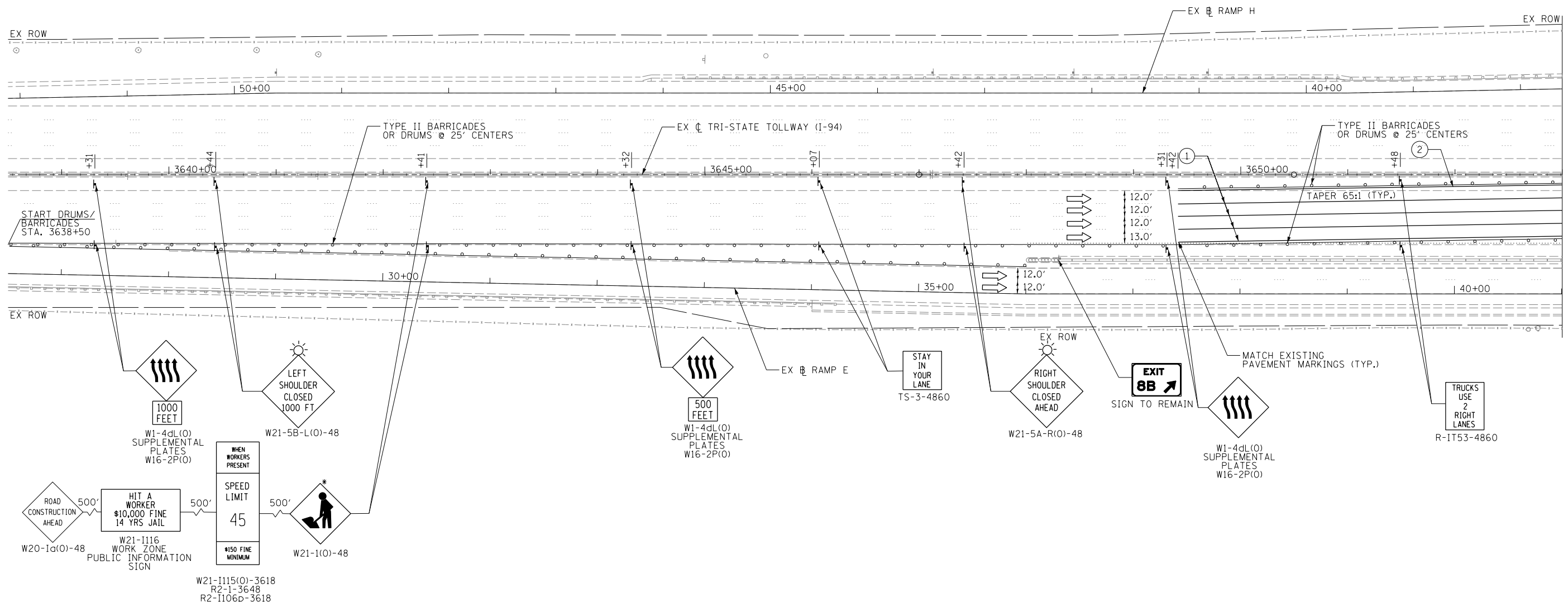
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 CHECKED BY LS DATE 03/23/2017



REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-17-4291
 MAINTENANCE OF TRAFFIC
 TYPICAL SECTIONS

SHT NO. MOT-4
 DRAWING NO. 31 OF 228



MATCHLINE STA. 3653+00
SEE SHEET MOT-7

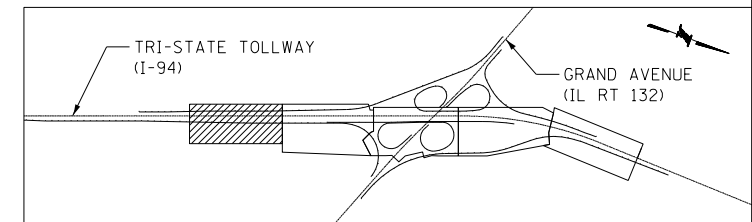
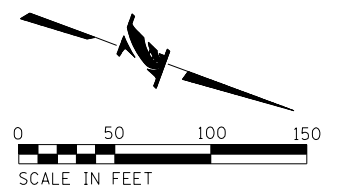
* THIS SIGN SHALL BE TAKEN DOWN OR COVERED WHEN WORKERS ARE NOT PRESENT

MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (J1704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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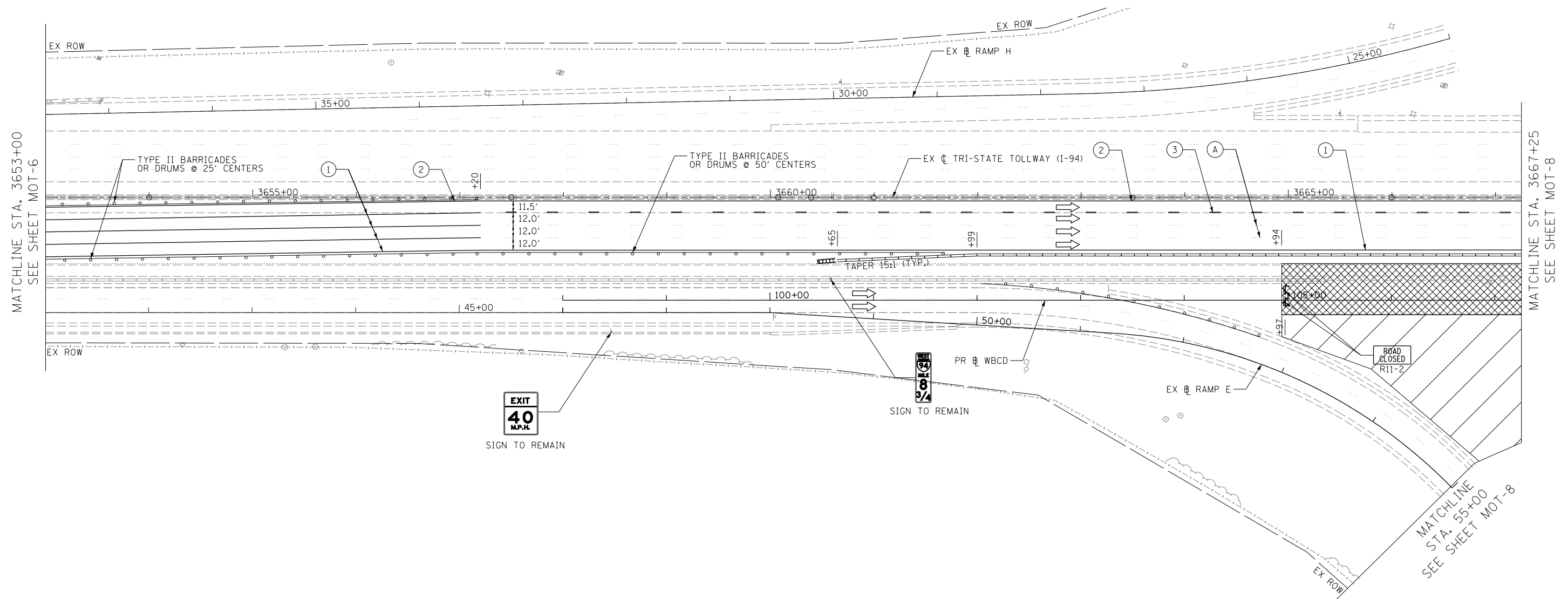


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
STAGE 1

SHT NO. MOT-6
DRAWING NO.
33 OF 228

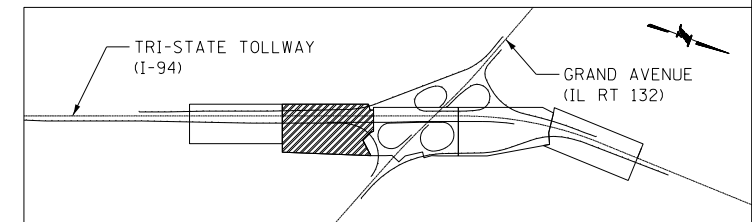
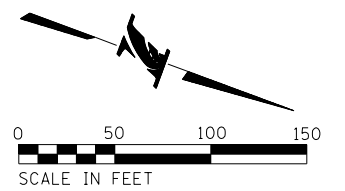


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- OR TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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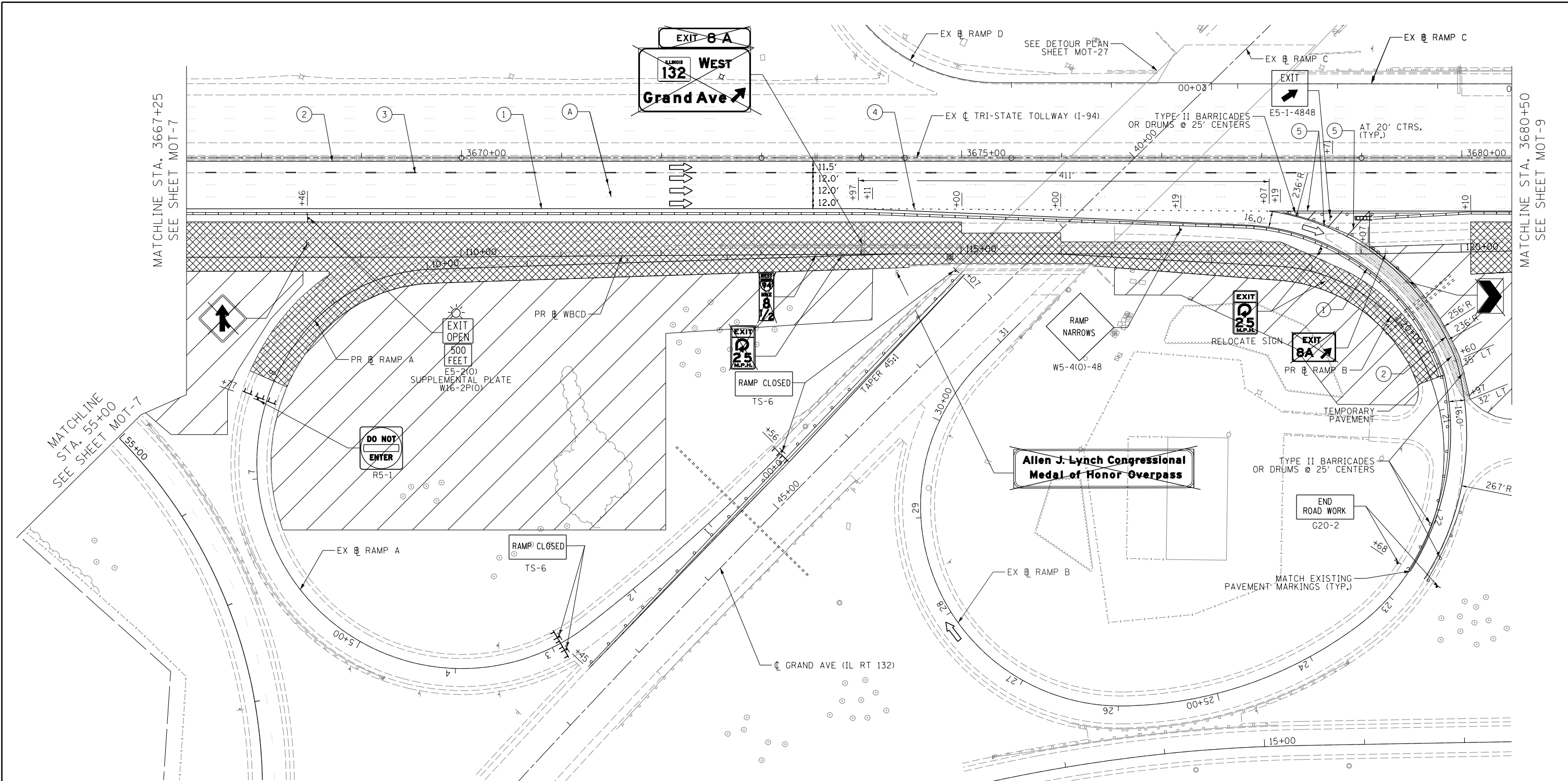


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 MAINTENANCE OF TRAFFIC
 STAGE 1

SHT NO. MOT-7
 DRAWING NO.
 34 OF 228

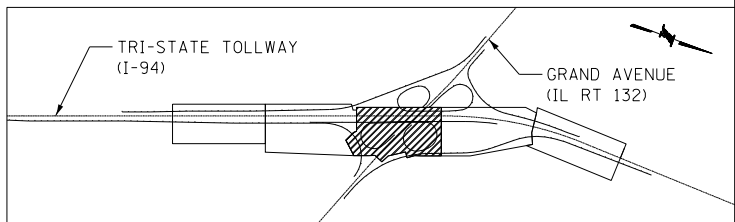
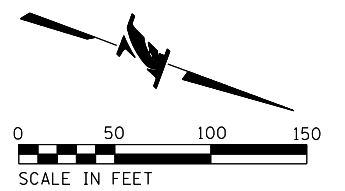


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- OR TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI1704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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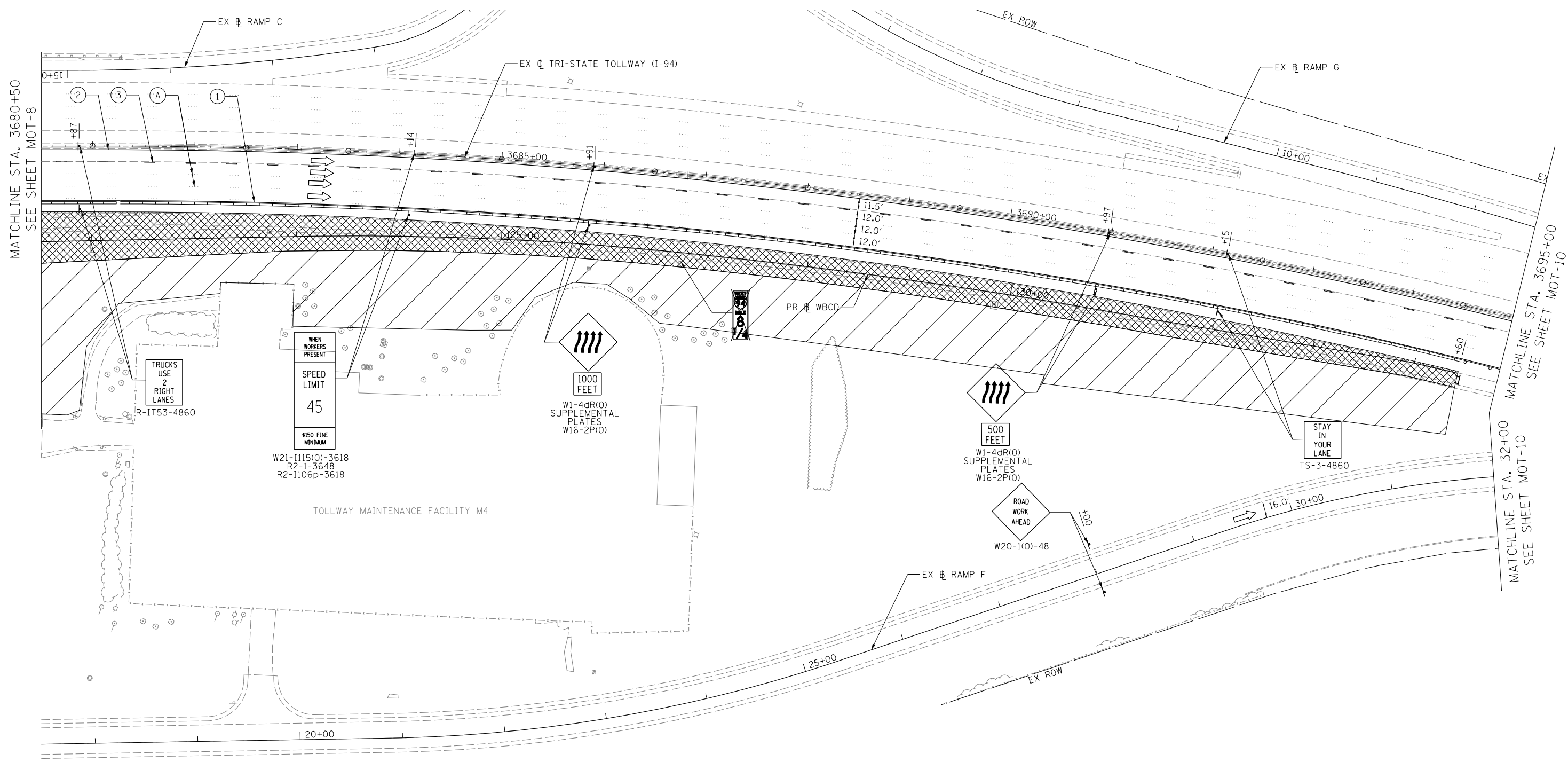
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-8
 MAINTENANCE OF TRAFFIC STAGE 1 DRAWING NO. 35 OF 228

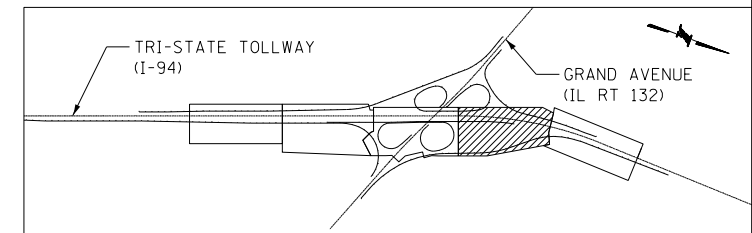
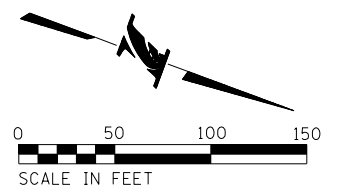


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



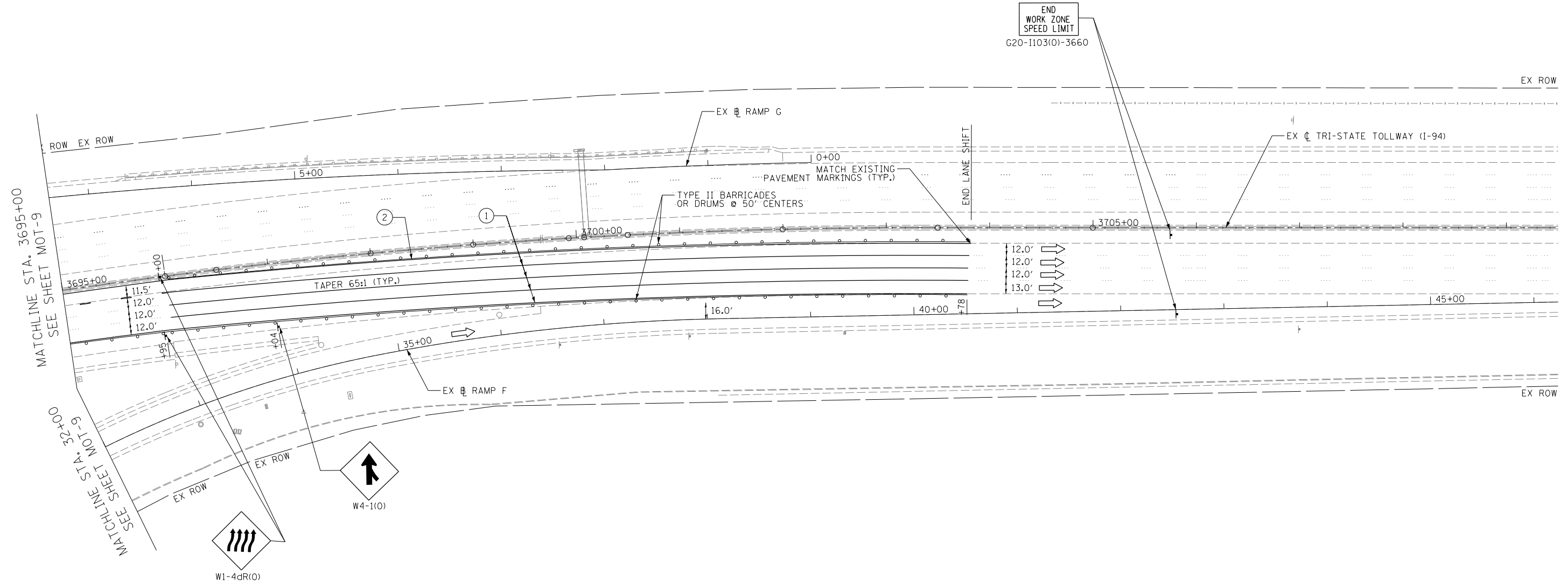
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 MAINTENANCE OF TRAFFIC
 STAGE 1
 SHT NO. MOT-9
 DRAWING NO.
 36 OF 228

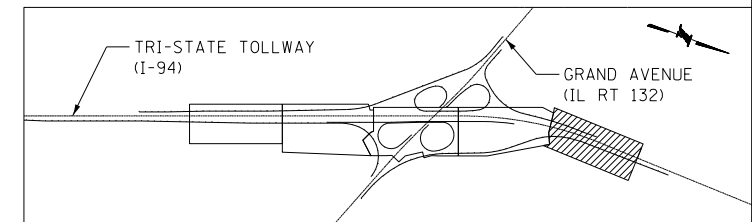
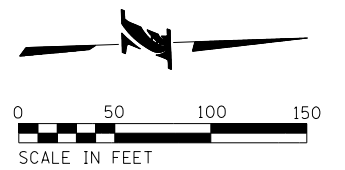


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- OR TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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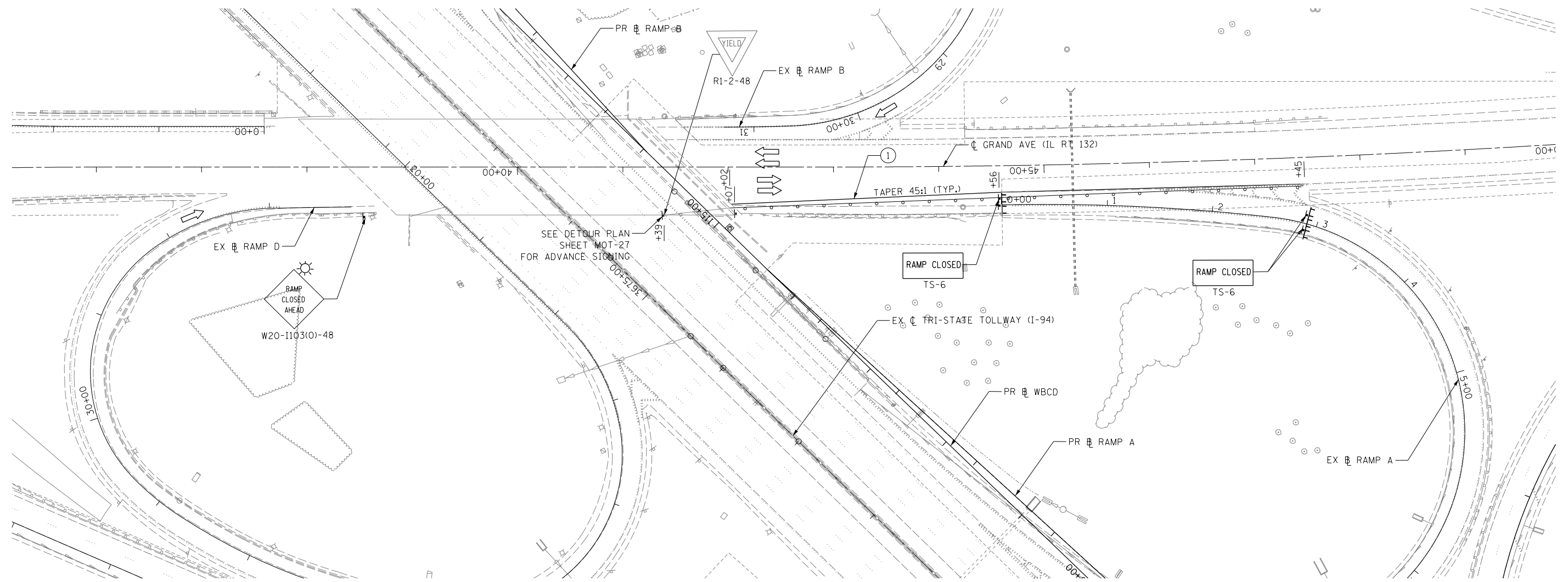


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 MAINTENANCE OF TRAFFIC
 STAGE 1

SHT NO. MOT-10
 DRAWING NO.
 37 OF 228

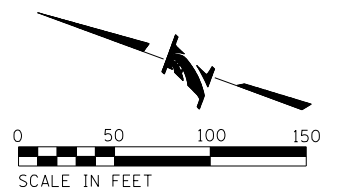


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI1704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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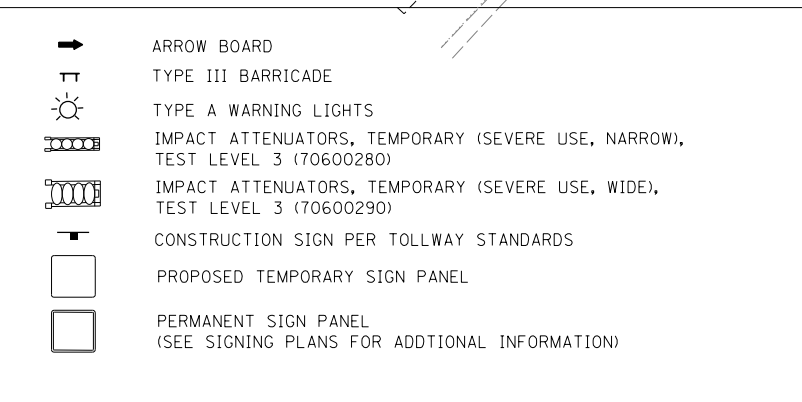
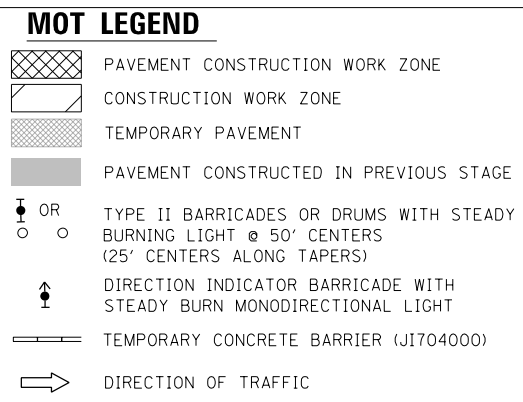
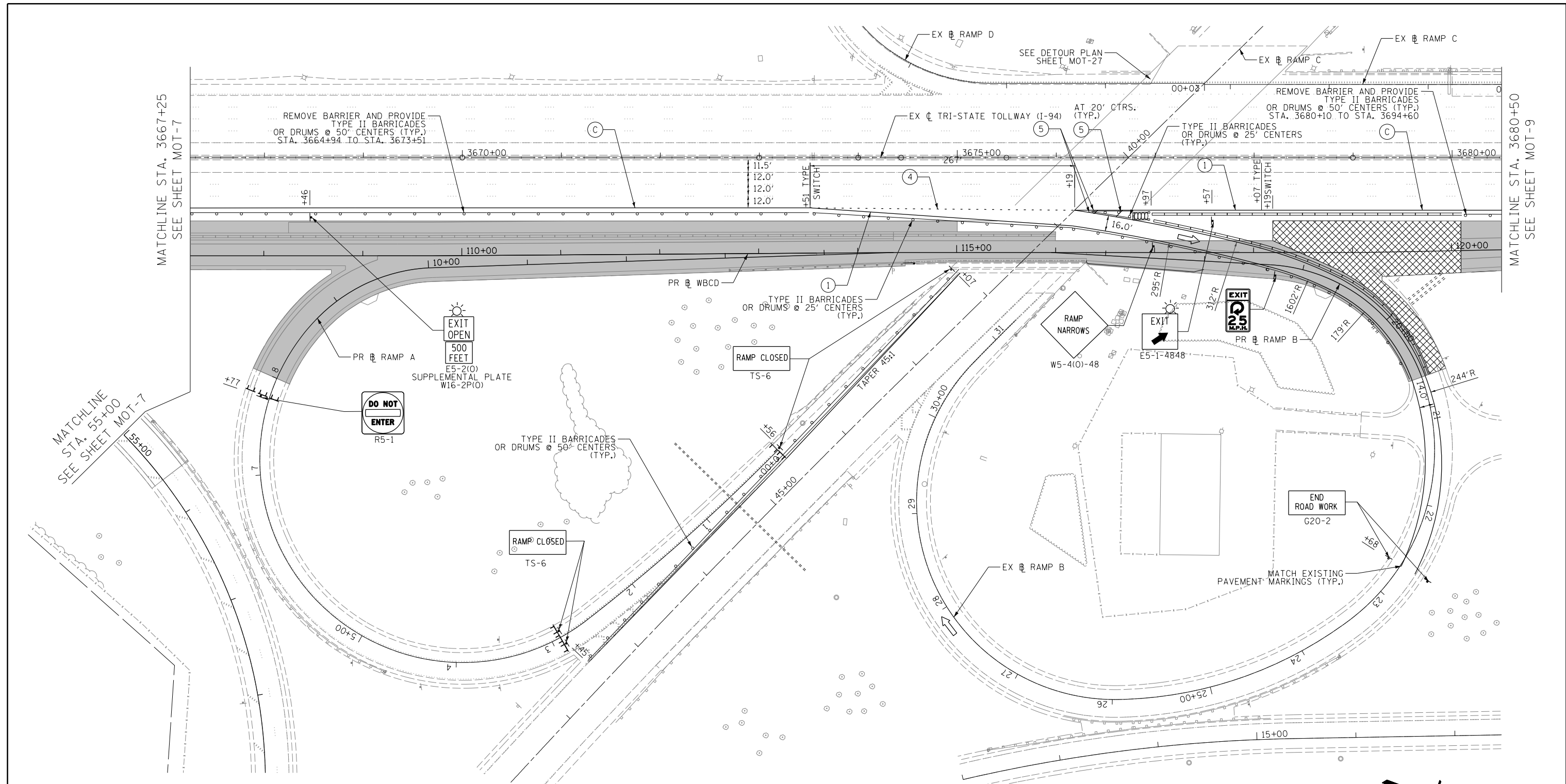


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

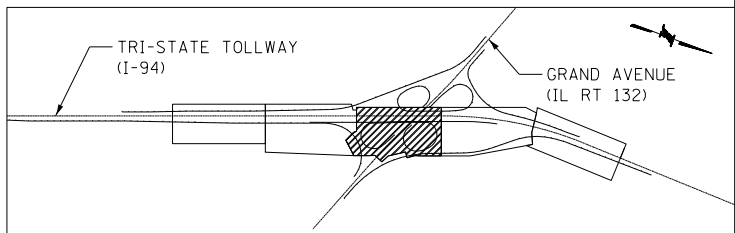
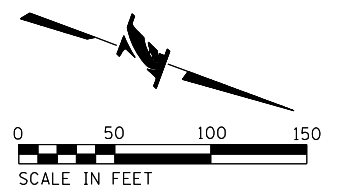
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 MAINTENANCE OF TRAFFIC
 GRAND AVE - STAGE 1, 1A, 2A AND 2B

SHT NO. MOT-11
 DRAWING NO.
 38 OF 228



- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



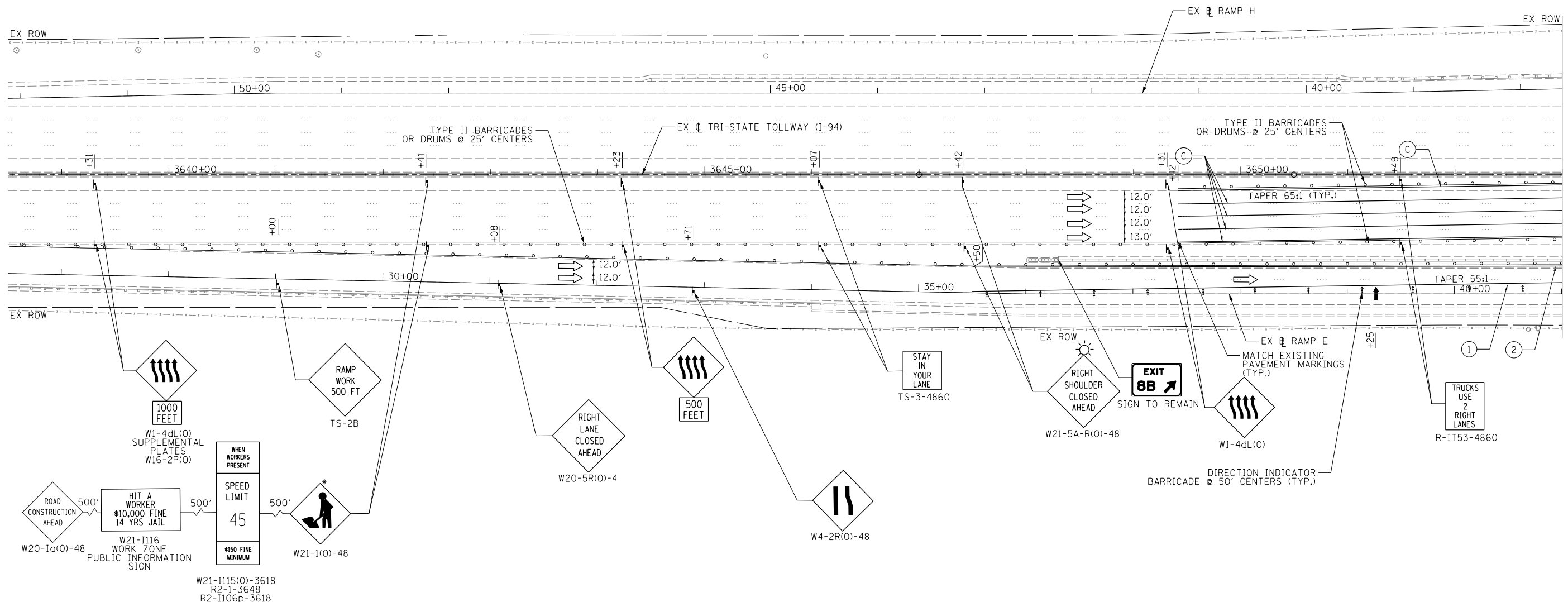
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-12
 MAINTENANCE OF TRAFFIC STAGE 1A DRAWING NO. 39 OF 228



MATCHLINE STA. 3653+00
SEE SHEET MOT-14

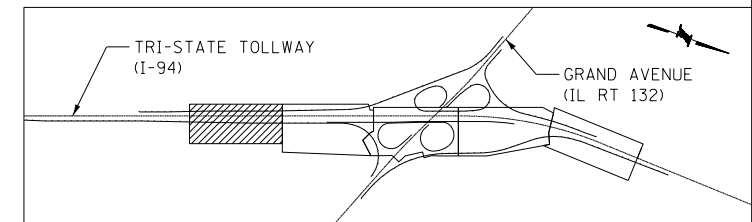
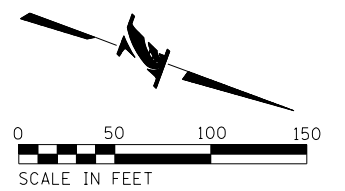
* THIS SIGN SHALL BE TAKEN DOWN OR COVERED WHEN WORKERS ARE NOT PRESENT

MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (J1704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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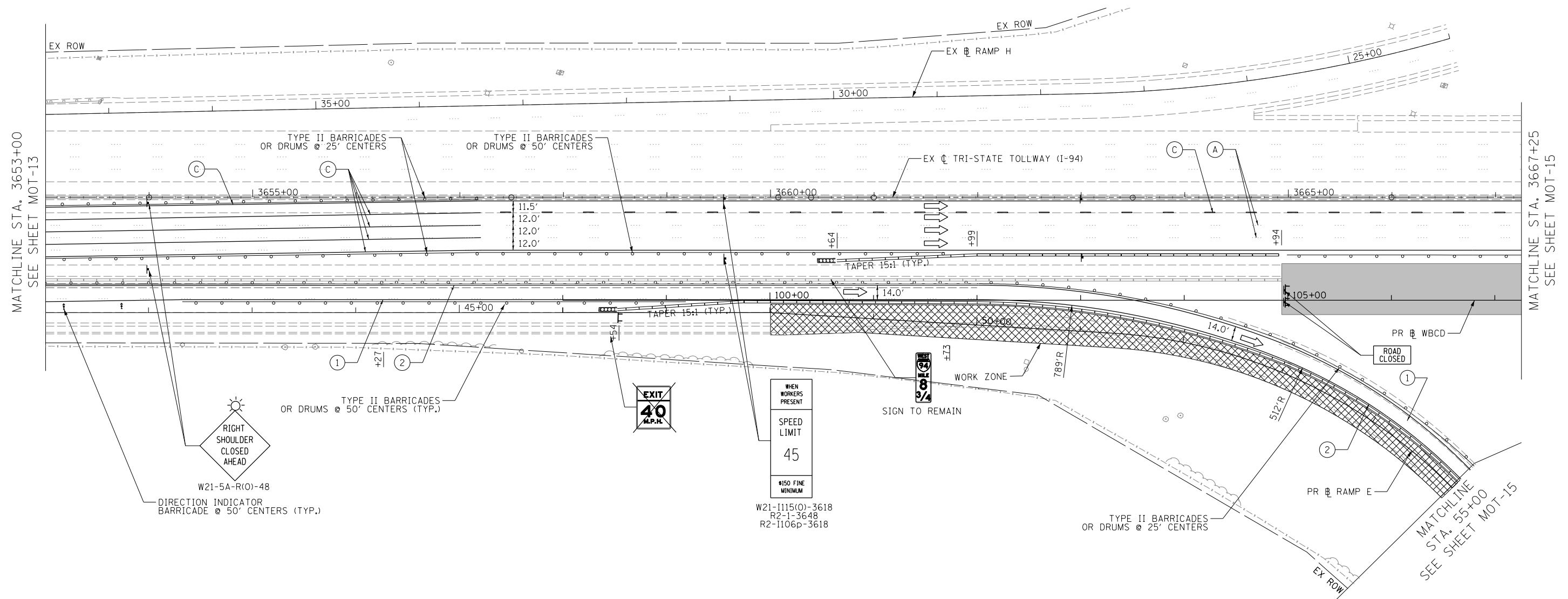
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-13
MAINTENANCE OF TRAFFIC STAGE 2A DRAWING NO. 40 OF 228

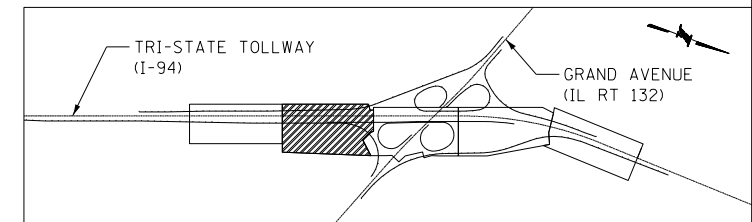
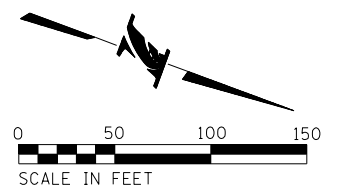


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



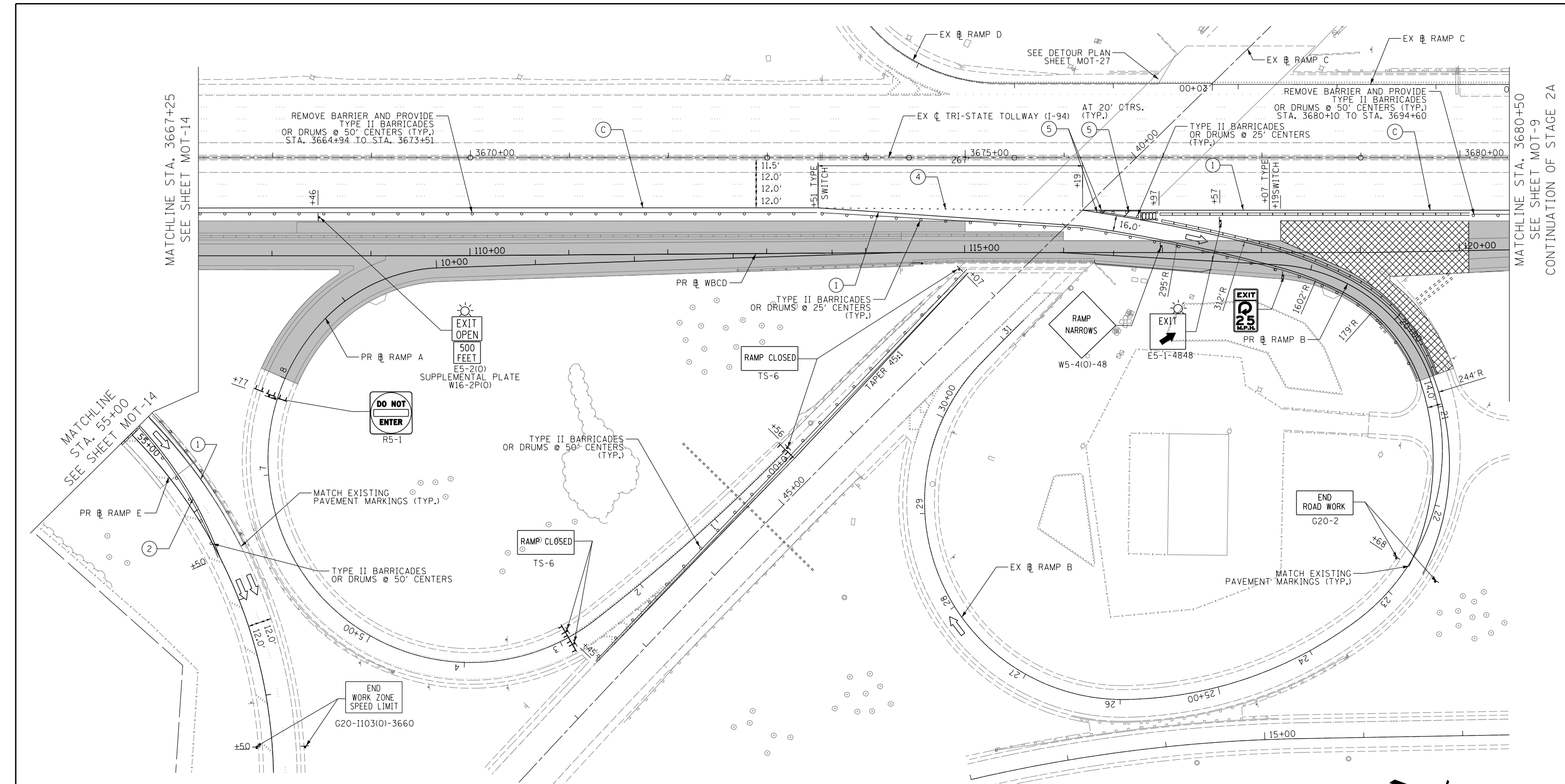
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-14
 MAINTENANCE OF TRAFFIC STAGE 2A DRAWING NO. 41 OF 228



MATCHLINE STA. 3667+25
SEE SHEET MOT-14

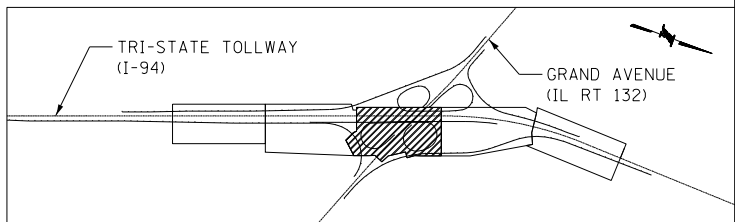
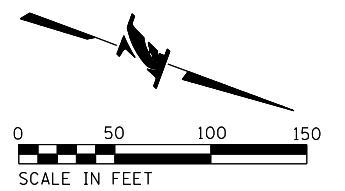
MATCHLINE STA. 3680+50
SEE SHEET MOT-9
CONTINUATION OF STAGE 2A

MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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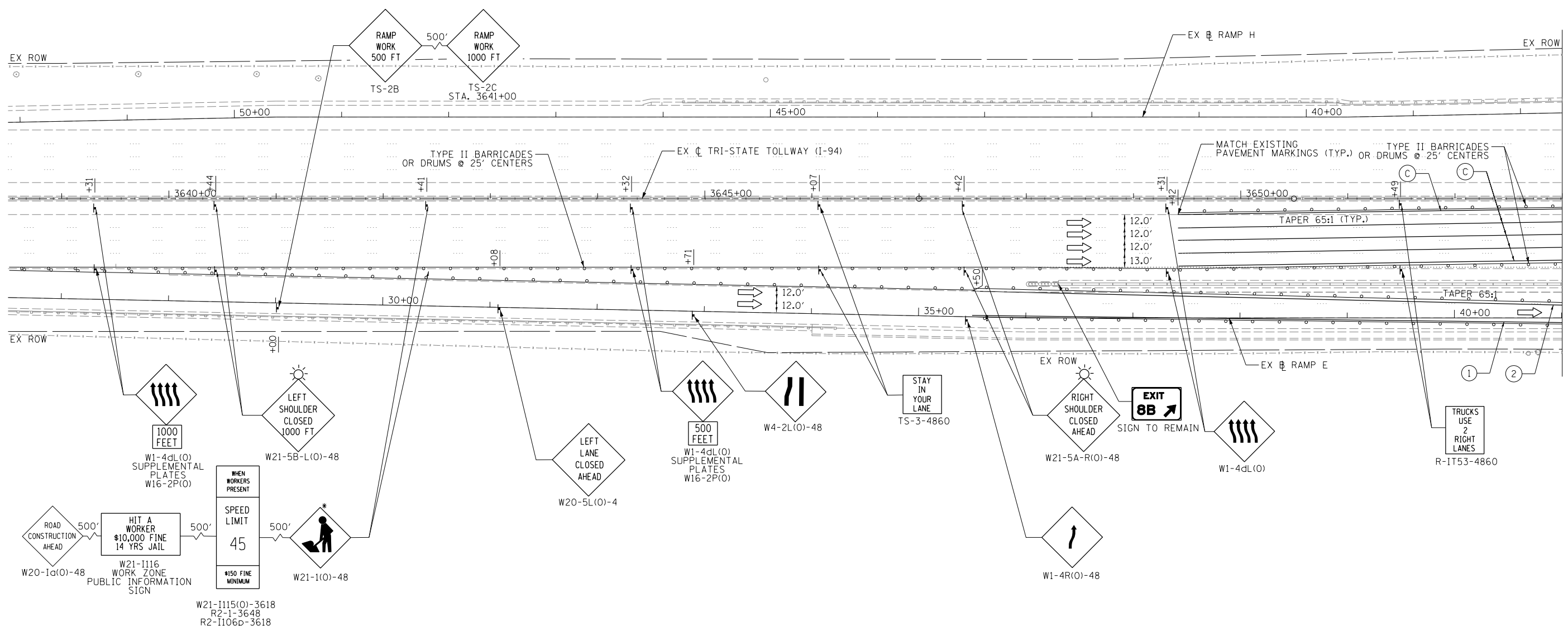


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-15
MAINTENANCE OF TRAFFIC STAGE 2A DRAWING NO. 42 OF 228

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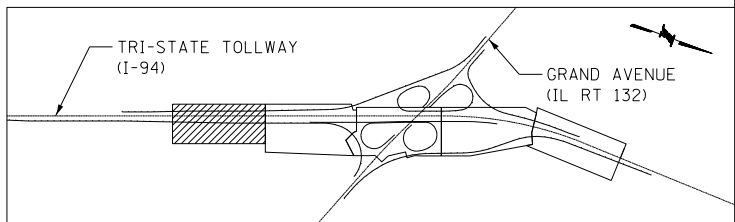
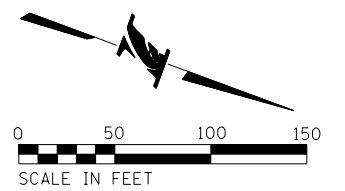


MATCHLINE STA. 3653+00
SEE SHEET MOT-17

* THIS SIGN SHALL BE TAKEN DOWN OR COVERED WHEN WORKERS ARE NOT PRESENT

MOT LEGEND

- | | | | | | |
|--|------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|
| | PAVEMENT CONSTRUCTION WORK ZONE | | ARROW BOARD | (A) | EXISTING PAVEMENT MARKING |
| | CONSTRUCTION WORK ZONE | | TYPE III BARRICADE | (B) | PROPOSED PERMANENT PAVEMENT MARKING |
| | TEMPORARY PAVEMENT | | TYPE A WARNING LIGHTS | (C) | TEMPORARY PAVEMENT MARKING ALREADY IN PLACE
INSTALLED IN PREVIOUS STAGE |
| | PAVEMENT CONSTRUCTED IN PREVIOUS STAGE | | IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW),
TEST LEVEL 3 (70600280) | (1) | PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904) |
| | TYPE II BARRICADES OR DRUMS WITH STEADY
BURNING LIGHT @ 50' CENTERS
(25' CENTERS ALONG TAPERS) | | IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE),
TEST LEVEL 3 (70600290) | (2) | PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904) |
| | DIRECTION INDICATOR BARRICADE WITH
STEADY BURN MONODIRECTIONAL LIGHT | | CONSTRUCTION SIGN PER TOLLWAY STANDARDS | (3) | PAVEMENT MARKING TAPE, TYPE IV - LINE 4"
(25' SKIP - 25' DASH, WHITE) (70300904) |
| | TEMPORARY CONCRETE BARRIER (J1704000) | | PROPOSED TEMPORARY SIGN PANEL | (4) | PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6" SKIP - 2' DASH, WHITE)
(70300904) |
| | DIRECTION OF TRAFFIC | | PERMANENT SIGN PANEL
(SEE SIGNING PLANS FOR ADDITIONAL INFORMATION) | (5) | PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908) |



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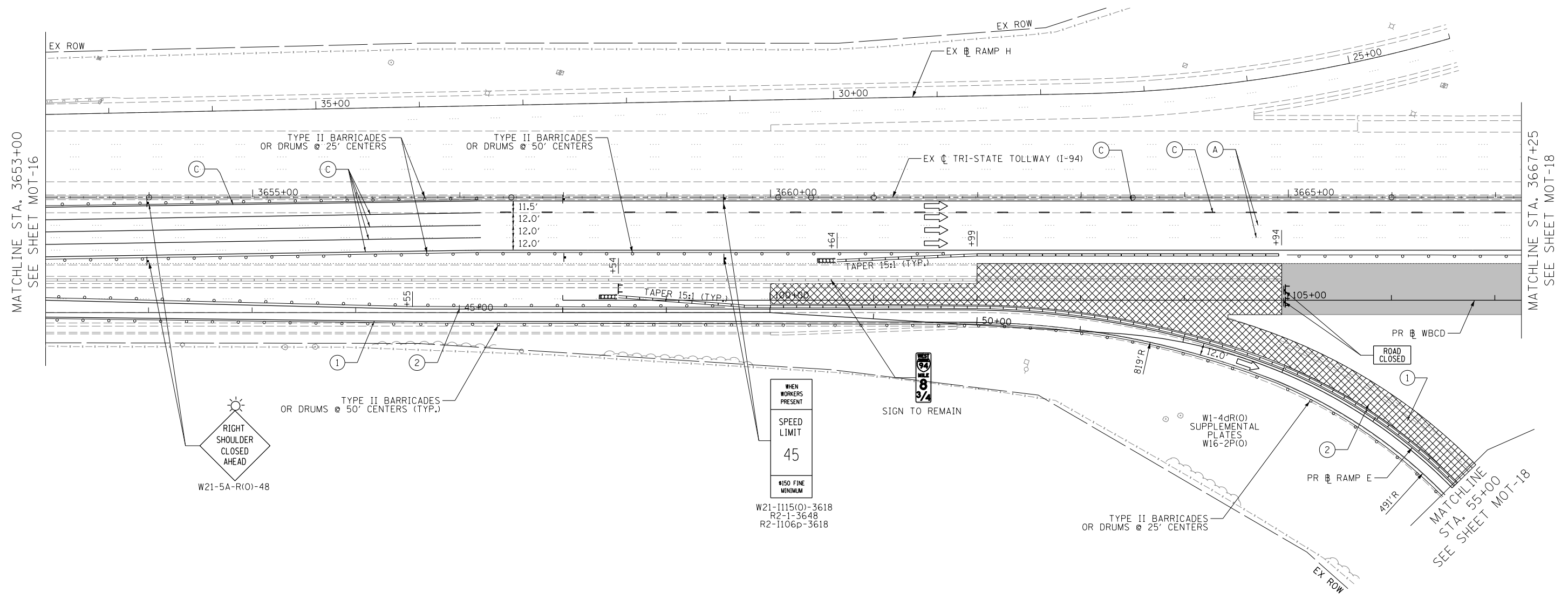
DRAWN BY VP DATE 03/23/2017
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SINGH
SINGH + ASSOCIATES INC.
CONSULTING ENGINEERS

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-16
MAINTENANCE OF TRAFFIC DRAWING NO. 43 OF 228
STAGE 2B

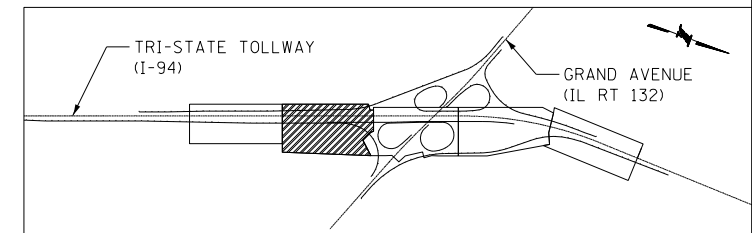
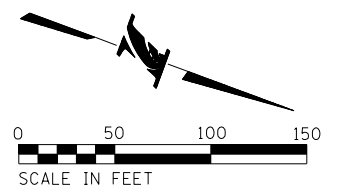


MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



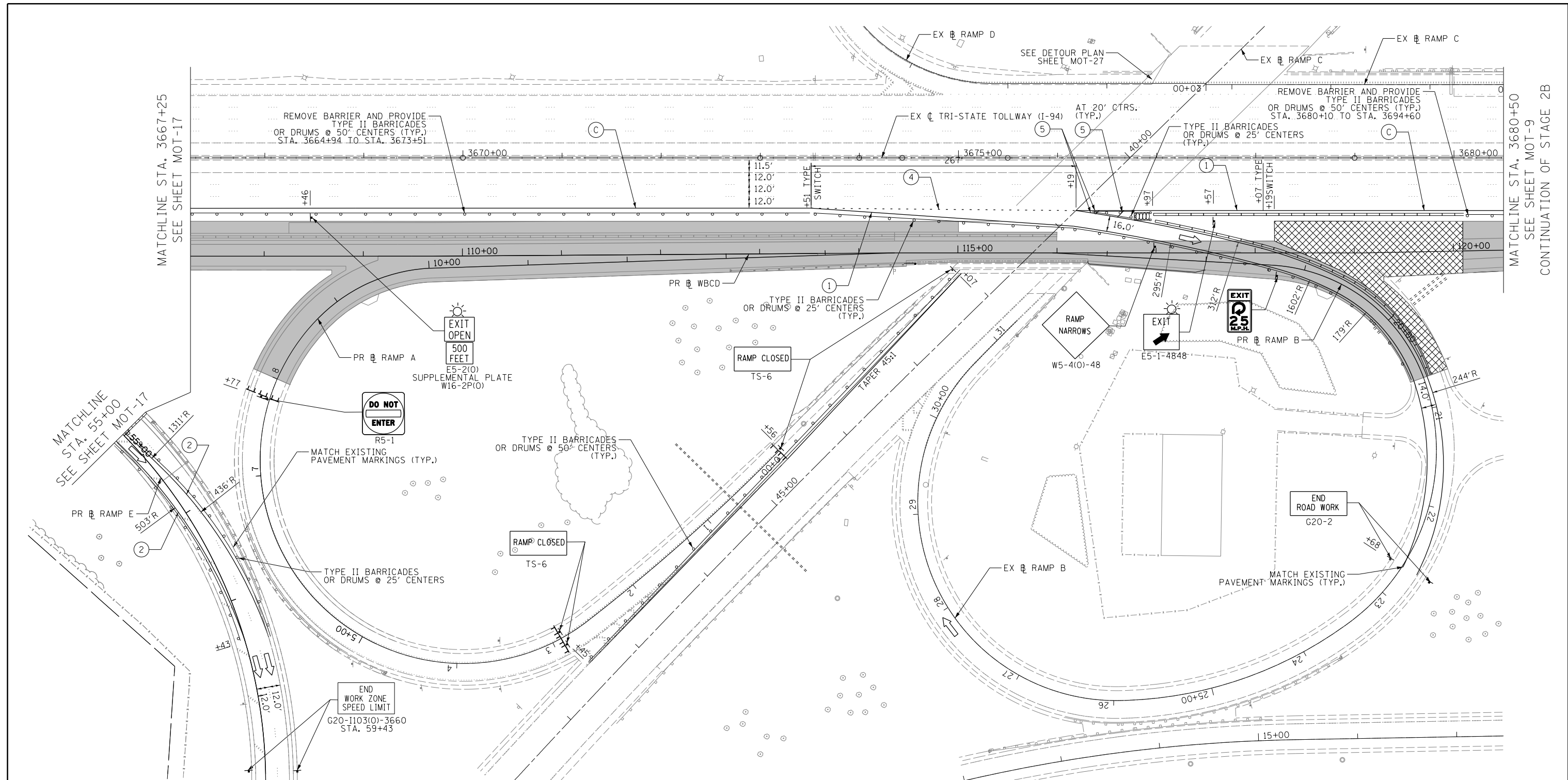
DRAWN BY VP DATE 03/23/2017
 CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-17
 MAINTENANCE OF TRAFFIC STAGE 2B DRAWING NO. 44 OF 228

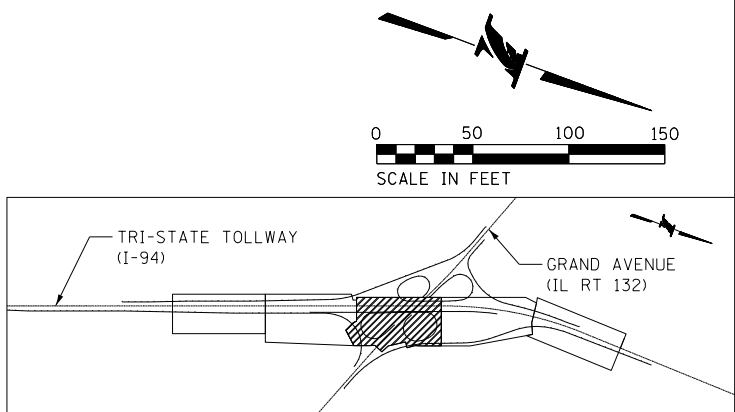


MATCHLINE STA. 3667+25
SEE SHEET MOT-17

MATCHLINE STA. 3680+50
SEE SHEET MOT-9
CONTINUATION OF STAGE 2B

- MOT LEGEND**
- PAVEMENT CONSTRUCTION WORK ZONE
 - CONSTRUCTION WORK ZONE
 - TEMPORARY PAVEMENT
 - PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
 - OR TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
 - DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
 - TEMPORARY CONCRETE BARRIER (JI1704000)
 - DIRECTION OF TRAFFIC
 - ARROW BOARD
 - TYPE III BARRICADE
 - TYPE A WARNING LIGHTS
 - IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
 - IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
 - CONSTRUCTION SIGN PER TOLLWAY STANDARDS
 - PROPOSED TEMPORARY SIGN PANEL
 - PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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SINGH + ASSOCIATES INC.
CONSULTING ENGINEERS

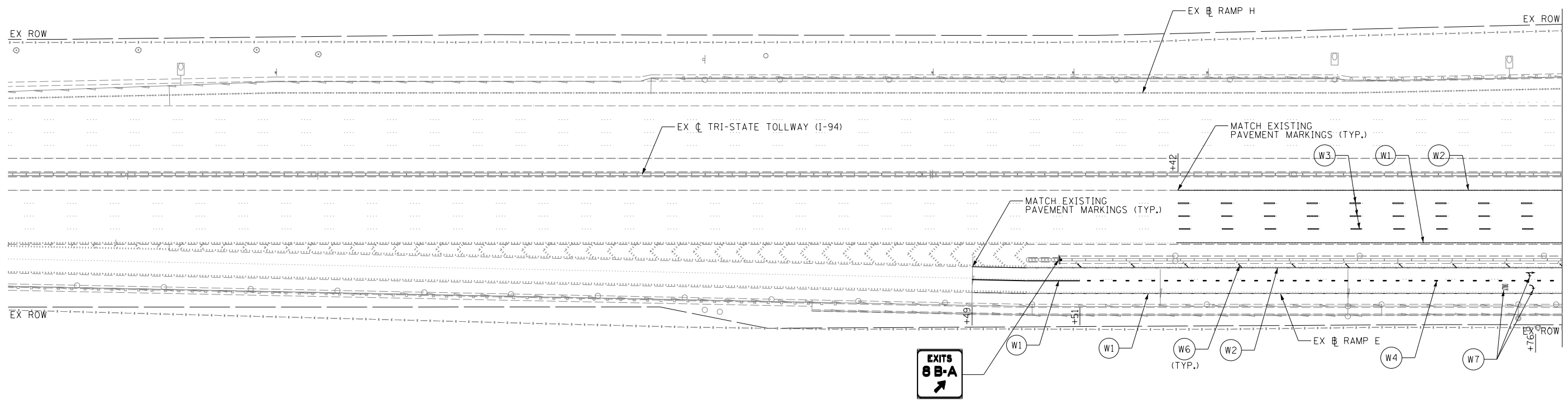
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
STAGE 2B

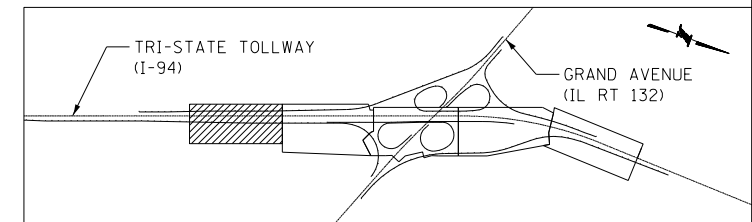
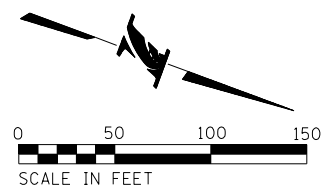
SHT NO. MOT-18
DRAWING NO.
45 OF 228

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MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- DIRECTION OF TRAFFIC
- EXISTING PAVEMENT MARKING
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, WHITE) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, YELLOW) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (25' SKIP -25' DASH, WHITE) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (6' SKIP - 2' DASH, WHITE) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, WHITE) (JI780320)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, YELLOW) (JI780320)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS (JI780380)



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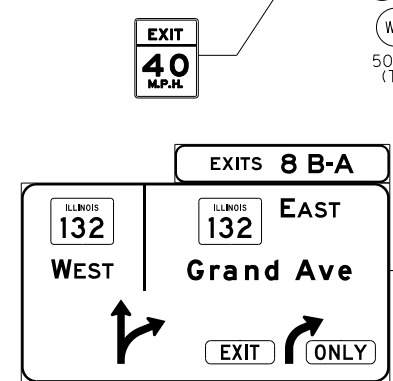
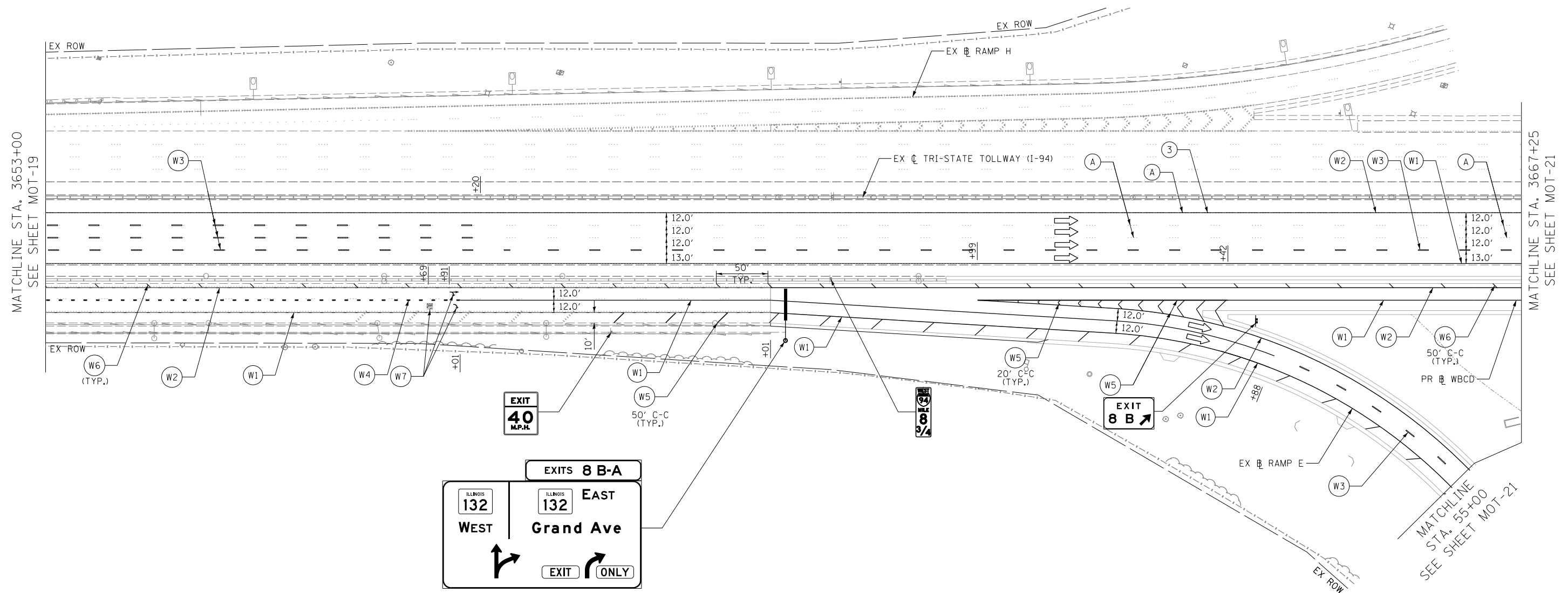


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-19
 MAINTENANCE OF TRAFFIC WINTER STAGE DRAWING NO. 46 OF 228

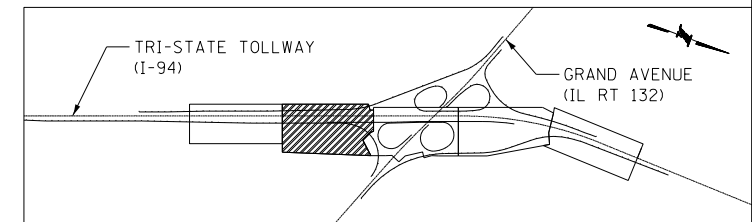
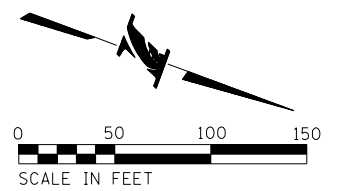
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MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- DIRECTION OF TRAFFIC
- EXISTING PAVEMENT MARKING

- (W1) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, WHITE) (JI780300)
- (W2) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, YELLOW) (JI780300)
- (W3) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (25' SKIP -25' DASH, WHITE) (JI780300)
- (W4) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (6' SKIP - 2' DASH, WHITE) (JI780300)
- (W5) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, WHITE) (JI780320)
- (W6) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, YELLOW) (JI780320)
- (W7) LATE SEASON TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS (JI780380)



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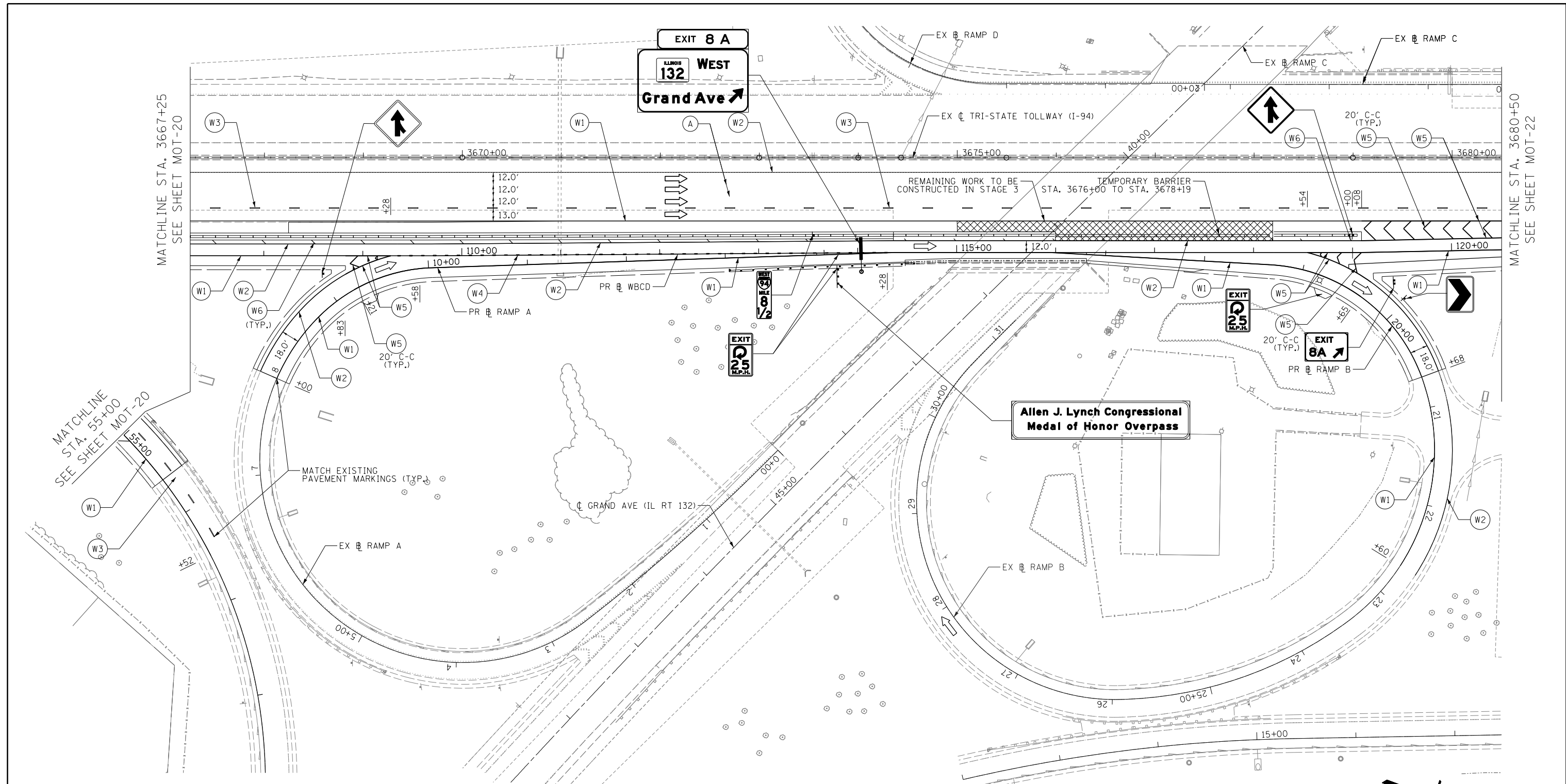
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

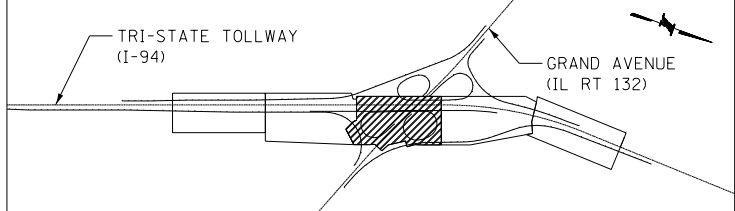
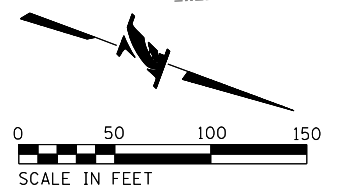
CONTRACT NO. RR-17-4291 SHT NO. MOT-20
 MAINTENANCE OF TRAFFIC WINTER STAGE DRAWING NO. 47 OF 228



MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- DIRECTION OF TRAFFIC
- EXISTING PAVEMENT MARKING

- (W1) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, WHITE) (JI780300)
- (W2) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, YELLOW) (JI780300)
- (W3) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (25' SKIP -25' DASH, WHITE) (JI780300)
- (W4) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (6' SKIP - 2' DASH, WHITE) (JI780300)
- (W5) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, WHITE) (JI780320)
- (W6) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, YELLOW) (JI780320)
- (W7) LATE SEASON TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS (JI780380)



DRAWN BY VP DATE 03/23/2017
 CHECKED BY LS DATE 03/23/2017

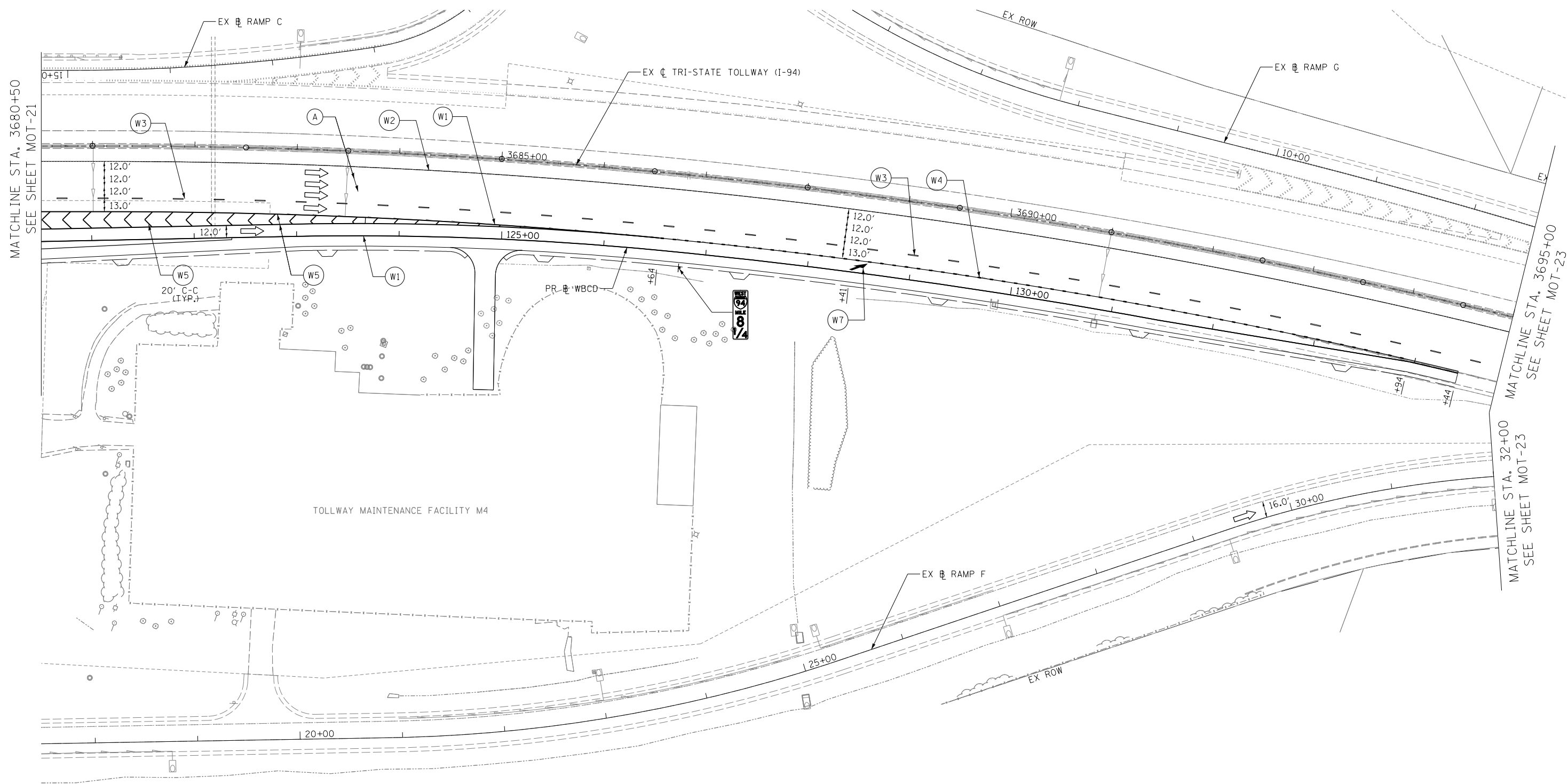


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-21
 MAINTENANCE OF TRAFFIC WINTER STAGE DRAWING NO. 48 OF 228

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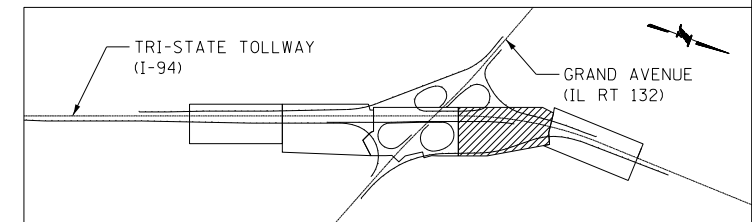
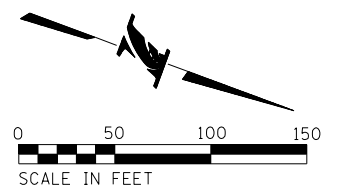
MATCHLINE STA. 3680+50
SEE SHEET MOT-21

MATCHLINE STA. 3695+00
SEE SHEET MOT-23

TOLLWAY MAINTENANCE FACILITY M4

MOT LEGEND

-  PAVEMENT CONSTRUCTION WORK ZONE
-  DIRECTION OF TRAFFIC
-  EXISTING PAVEMENT MARKING
-  (W1) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, WHITE) (JI780300)
-  (W2) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, YELLOW) (JI780300)
-  (W3) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (25' SKIP -25' DASH, WHITE) (JI780300)
-  (W4) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (6' SKIP - 2' DASH, WHITE) (JI780300)
-  (W5) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, WHITE) (JI780320)
-  (W6) LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, YELLOW) (JI780320)
-  (W7) LATE SEASON TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS (JI780380)



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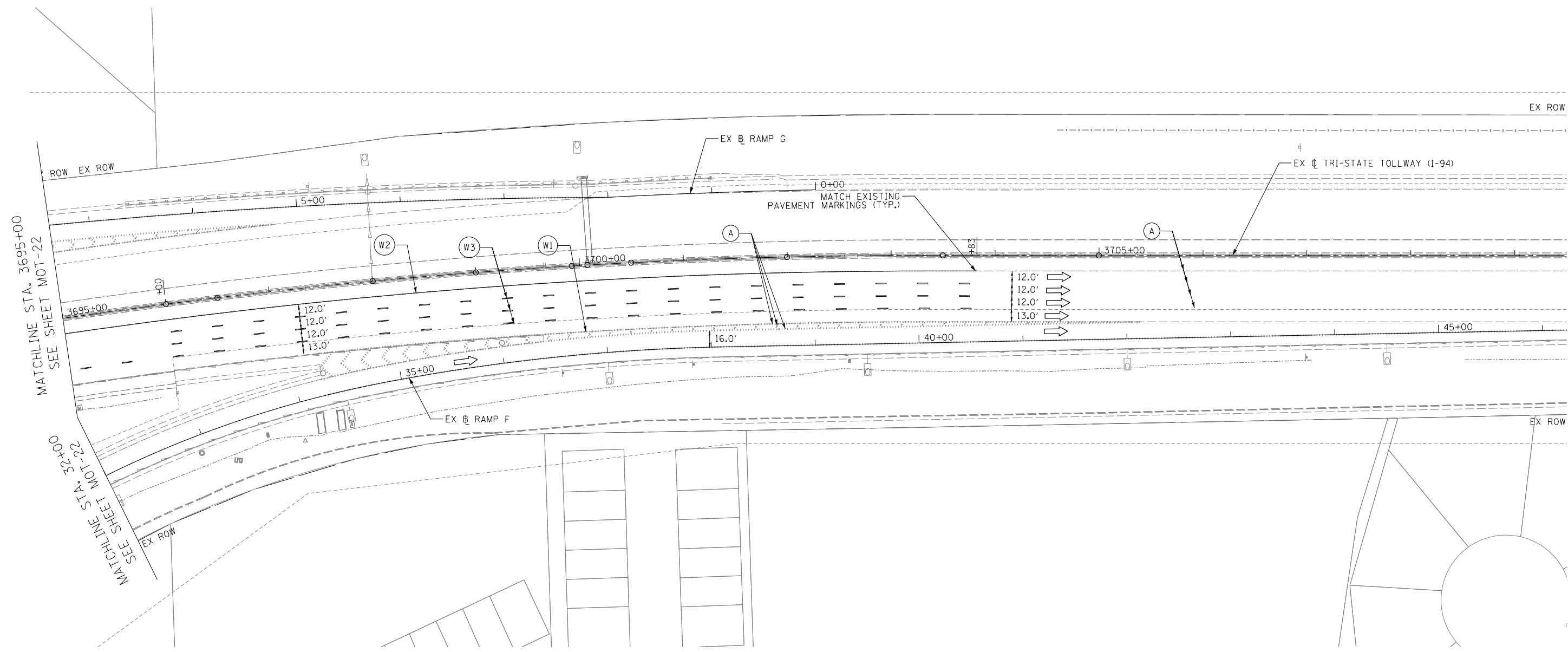


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-22
MAINTENANCE OF TRAFFIC WINTER STAGE DRAWING NO. 49 OF 228

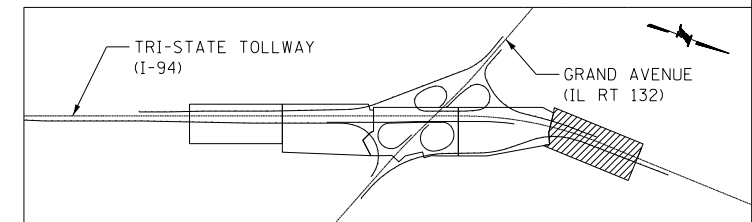
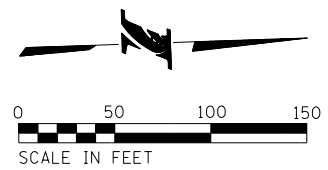
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MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- DIRECTION OF TRAFFIC
- EXISTING PAVEMENT MARKING

- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, WHITE) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (SOLID, YELLOW) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (25' SKIP -25' DASH, WHITE) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 4" (6' SKIP - 2' DASH, WHITE) (JI780300)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, WHITE) (JI780320)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LINE 8" (SOLID, YELLOW) (JI780320)
- LATE SEASON TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS (JI780380)



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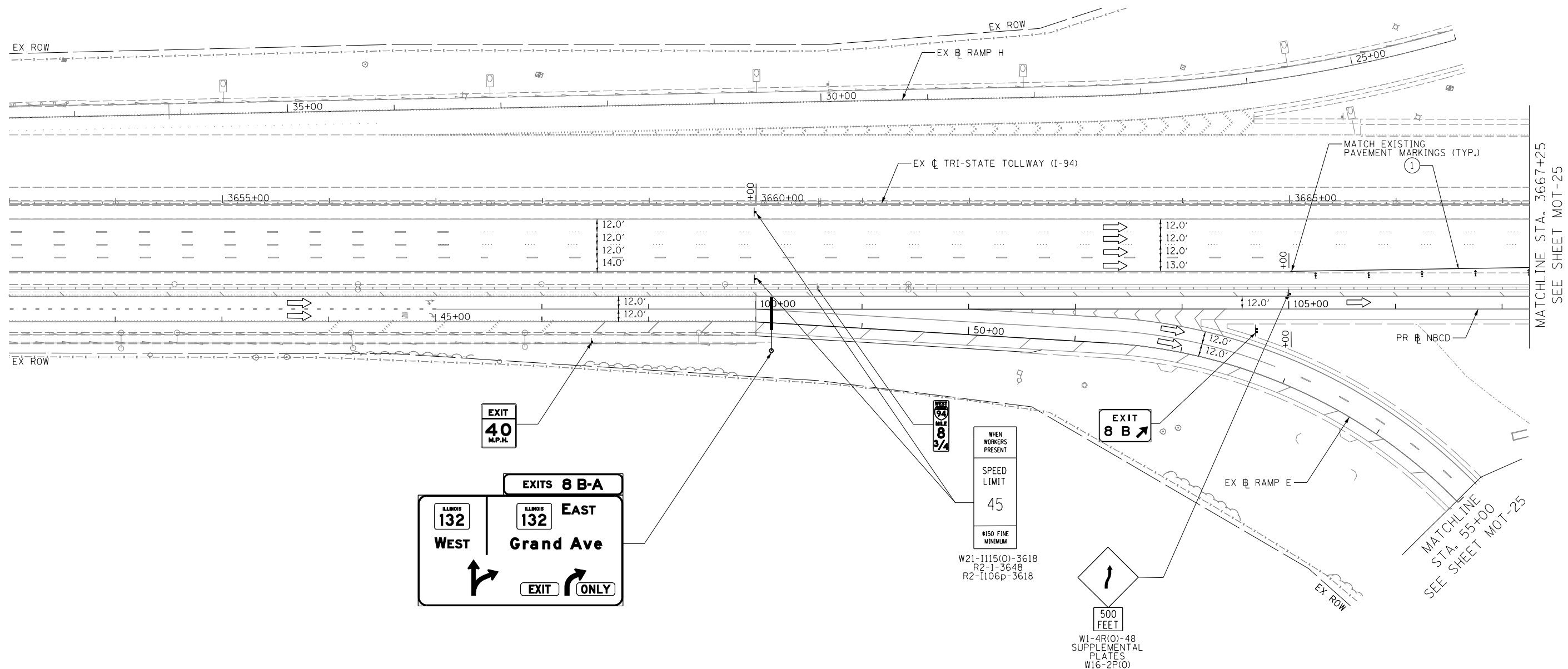


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-23
 MAINTENANCE OF TRAFFIC WINTER STAGE DRAWING NO. 50 OF 228

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MATCHLINE STA. 3667+25
SEE SHEET MOT-25

MATCHLINE STA. 55+00
SEE SHEET MOT-25

NOTE:

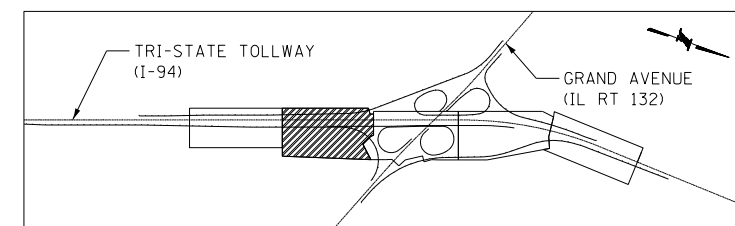
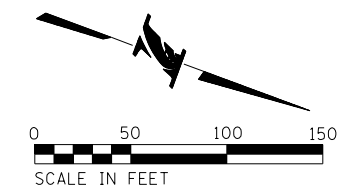
- ALL PAVEMENT MARKINGS NOT CALLED OUT ON THE PLANS ARE EITHER FINAL MULTI-POLYMER PAVEMENT MARKINGS OR TEMPORARY LATE SEASON PAVEMENT MARKINGS.

MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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2700 OGDEN AVENUE
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ILLINOIS 60515

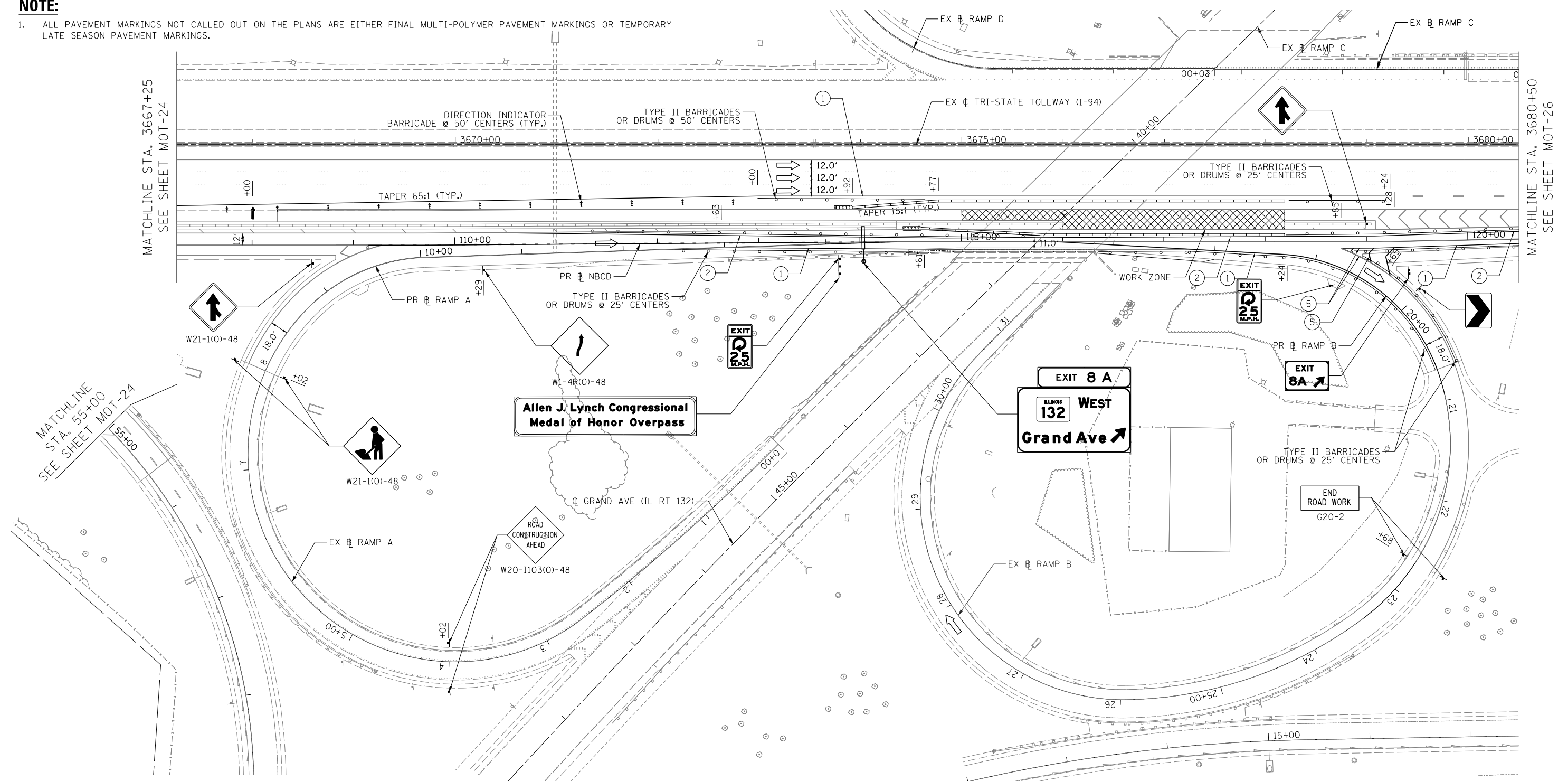
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
STAGE 3

SHT NO. MOT-24
DRAWING NO.
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NOTE:

1. ALL PAVEMENT MARKINGS NOT CALLED OUT ON THE PLANS ARE EITHER FINAL MULTI-POLYMER PAVEMENT MARKINGS OR TEMPORARY LATE SEASON PAVEMENT MARKINGS.



MATCHLINE STA. 3667+25
SEE SHEET MOT-24

MATCHLINE STA. 3680+50
SEE SHEET MOT-26

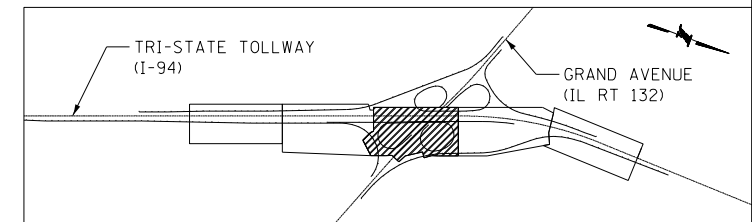
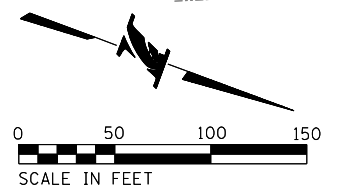
MATCHLINE STA. 55+00
SEE SHEET MOT-24

MOT LEGEND

	PAVEMENT CONSTRUCTION WORK ZONE
	CONSTRUCTION WORK ZONE
	TEMPORARY PAVEMENT
	PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
	TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
	DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
	TEMPORARY CONCRETE BARRIER (JI704000)
	DIRECTION OF TRAFFIC

	ARROW BOARD
	TYPE III BARRICADE
	TYPE A WARNING LIGHTS
	IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
	IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
	CONSTRUCTION SIGN PER TOLLWAY STANDARDS
	PROPOSED TEMPORARY SIGN PANEL
	PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP - 25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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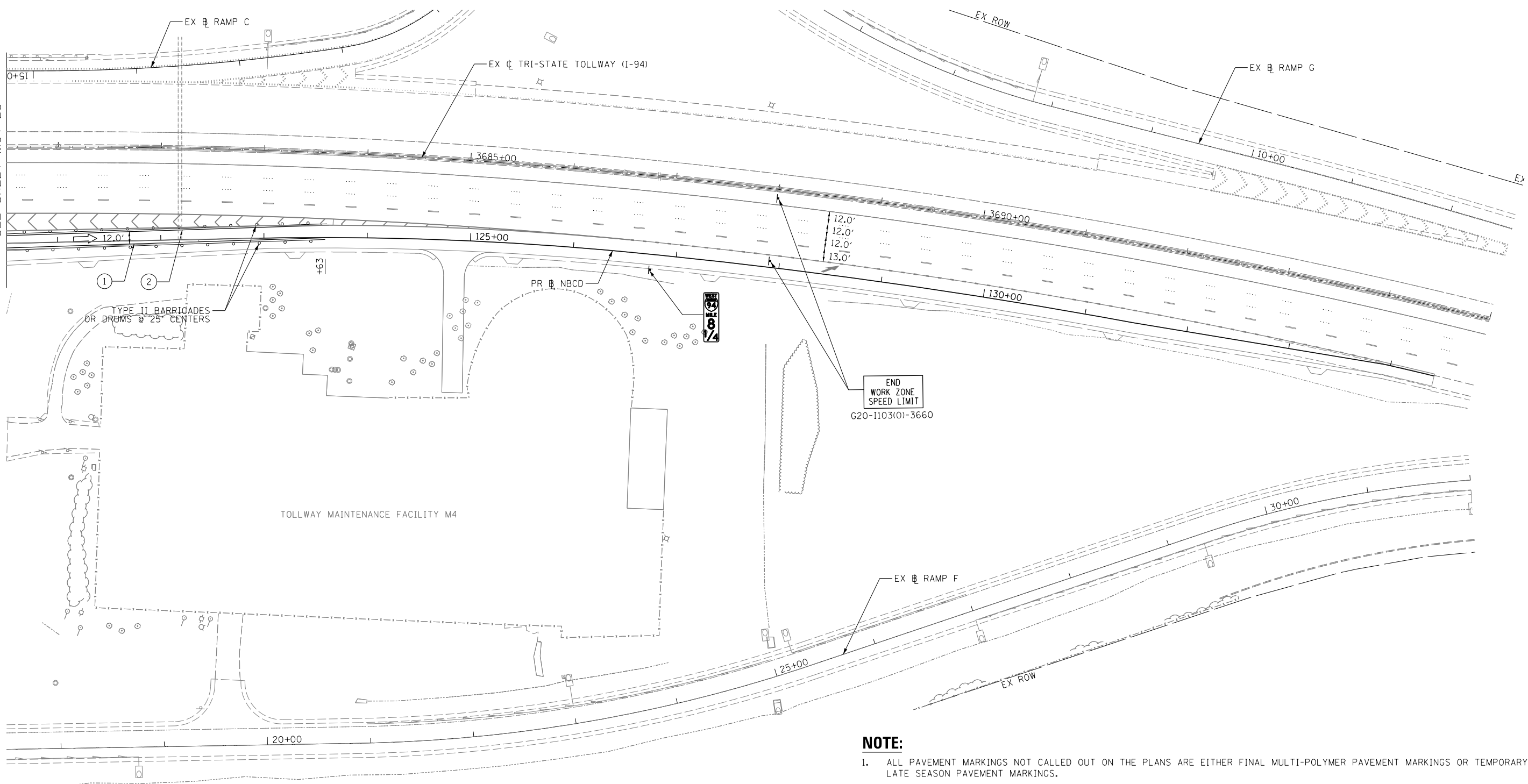


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
STAGE 3
SHT NO. MOT-25
DRAWING NO. 52 OF 228

MATCHLINE STA. 3680+50
SEE SHEET MOT-25



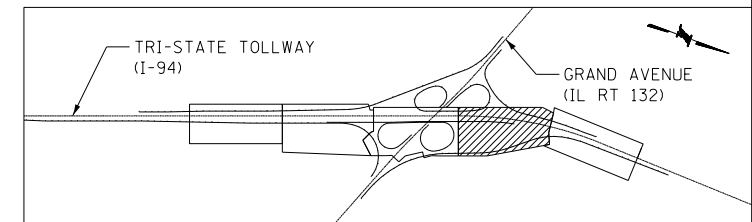
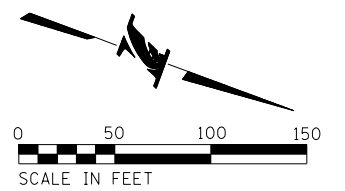
NOTE:
1. ALL PAVEMENT MARKINGS NOT CALLED OUT ON THE PLANS ARE EITHER FINAL MULTI-POLYMER PAVEMENT MARKINGS OR TEMPORARY LATE SEASON PAVEMENT MARKINGS.

MOT LEGEND

- PAVEMENT CONSTRUCTION WORK ZONE
- CONSTRUCTION WORK ZONE
- TEMPORARY PAVEMENT
- PAVEMENT CONSTRUCTED IN PREVIOUS STAGE
- OR TYPE II BARRICADES OR DRUMS WITH STEADY BURNING LIGHT @ 50' CENTERS (25' CENTERS ALONG TAPERS)
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER (JI1704000)
- DIRECTION OF TRAFFIC

- ARROW BOARD
- TYPE III BARRICADE
- TYPE A WARNING LIGHTS
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, NARROW), TEST LEVEL 3 (70600280)
- IMPACT ATTENUATORS, TEMPORARY (SEVERE USE, WIDE), TEST LEVEL 3 (70600290)
- CONSTRUCTION SIGN PER TOLLWAY STANDARDS
- PROPOSED TEMPORARY SIGN PANEL
- PERMANENT SIGN PANEL (SEE SIGNING PLANS FOR ADDITIONAL INFORMATION)

- (A) EXISTING PAVEMENT MARKING
- (B) PROPOSED PERMANENT PAVEMENT MARKING
- (C) TEMPORARY PAVEMENT MARKING ALREADY IN PLACE INSTALLED IN PREVIOUS STAGE
- (1) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, WHITE) (70300904)
- (2) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (SOLID, YELLOW) (70300904)
- (3) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (25' SKIP -25' DASH, WHITE) (70300904)
- (4) PAVEMENT MARKING TAPE, TYPE IV - LINE 4" (6' SKIP - 2' DASH, WHITE) (70300904)
- (5) PAVEMENT MARKING TAPE, TYPE IV - LINE 8" (SOLID, WHITE) (70300908)



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2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. MOT-26
MAINTENANCE OF TRAFFIC STAGE 3 DRAWING NO. 53 OF 228

NOTES:

1. THE CONTRACTOR IS INSTRUCTED TO COORDINATE ALL DETOUR SIGNING WITH SIGNING IN-PLACE FOR CONSTRUCTION ON ADJACENT IMPROVEMENTS.
2. ALL DETOURS SIGNING SHALL BE IN ACCORDANCE WITH IDOT DISTRICT ONE STANDARD, TC-21. "DETOUR SIGNING FOR CLOSING STATE HIGHWAYS", AND AS DIRECTED BY THE ENGINEER.
3. SIGNS AS SHOWN IN THIS DETOUR PLAN ARE INCLUDED IN THE CONTRACT UNIT PRICE PER LUMP SUM FOR "DETOUR SIGNING" (Z0016702) WHICH SHALL INCLUDE PLACEMENT, MAINTENANCE AND REMOVAL OF DETOUR SIGNING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD LOCATION OF ALL DETOUR SIGNING. THE CONTRACTOR MAY REQUEST THAT THE ENGINEER VERIFY THE POSITIONS OF ANY SIGNS.
5. ACTUAL LOCATIONS FOR SIGNING SHOWN ON THE DETOUR PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
6. ALL EXISTING SIGNING THAT IS NOT APPLICABLE WHEN THE DETOUR IS IN EFFECT SHALL BE COVERED BY THE CONTRACTOR IN A MATTER MEETING THE APPROVAL OF THE ENGINEER.
7. ALL DETOUR SIGNS INSTALLED ON ROADWAYS SHALL BE COVERED DURING HOURS THAT THE DETOUR IS NOT IN EFFECT.
8. IDOT FORM OPER 2410 SHOULD BE FILLED OUT BY THE CONTRACTOR A MINIMUM OF 3 WEEKS PRIOR TO THE STREET CLOSER FOR DETOUR ROUTES ASSOCIATED WITH IDOT ROUTES. THIS FORM SHOULD BE EMAILED TO dot.roadinfo@illinois.gov FOR IDOT DISTRICT 1 REVIEW.
9. THE CONTRACTOR SHALL ERECT CHANGEABLE MESSAGE SIGNS ON ROADWAYS OR RAMPS PROPOSED TO BE CLOSED 7 DAYS IN ADVANCE OF THE CLOSURE. THE MESSAGES TO BE AS SPECIFIED BY THE ENGINEER. CHANGEABLE MESSAGE SIGNS ARE TO BE INSTALLED IN EACH DIRECTION ALONG ROADWAYS PROPOSED TO BE CLOSED. CHANGEABLE MESSAGE SIGNS WILL PAID FOR AS "CHANGEABLE MESSAGE SIGN (70106800)"
10. THE TOTAL LENGTH OF ADVERSE TRAVEL UNDER THIS OPTION IS APPROXIMATELY 2.6 MILES.

① R11-2-4830 ON TYPE III BARRICADE

② W20-3-4848

③ W20-2-4848

④ W20-3-4848

⑤ M4-8-2412
M3-4-2412
M1-1
M5-1R-2115

⑥ M4-8-2412
M3-4-2412
M1-1
M6-1R-2115

⑦ M4-8-2412
M3-4-2412
M1-1
M6-3-2115

⑧ M4-8a

⑨ TS-4

LEGEND:

----- COMPLETELY CLOSED ROADWAY

———— SUGGESTED DETOUR ROUTE

↑ PROPOSED DETOUR SIGN

■ PORTABLE CHANGEABLE MESSAGE SIGN

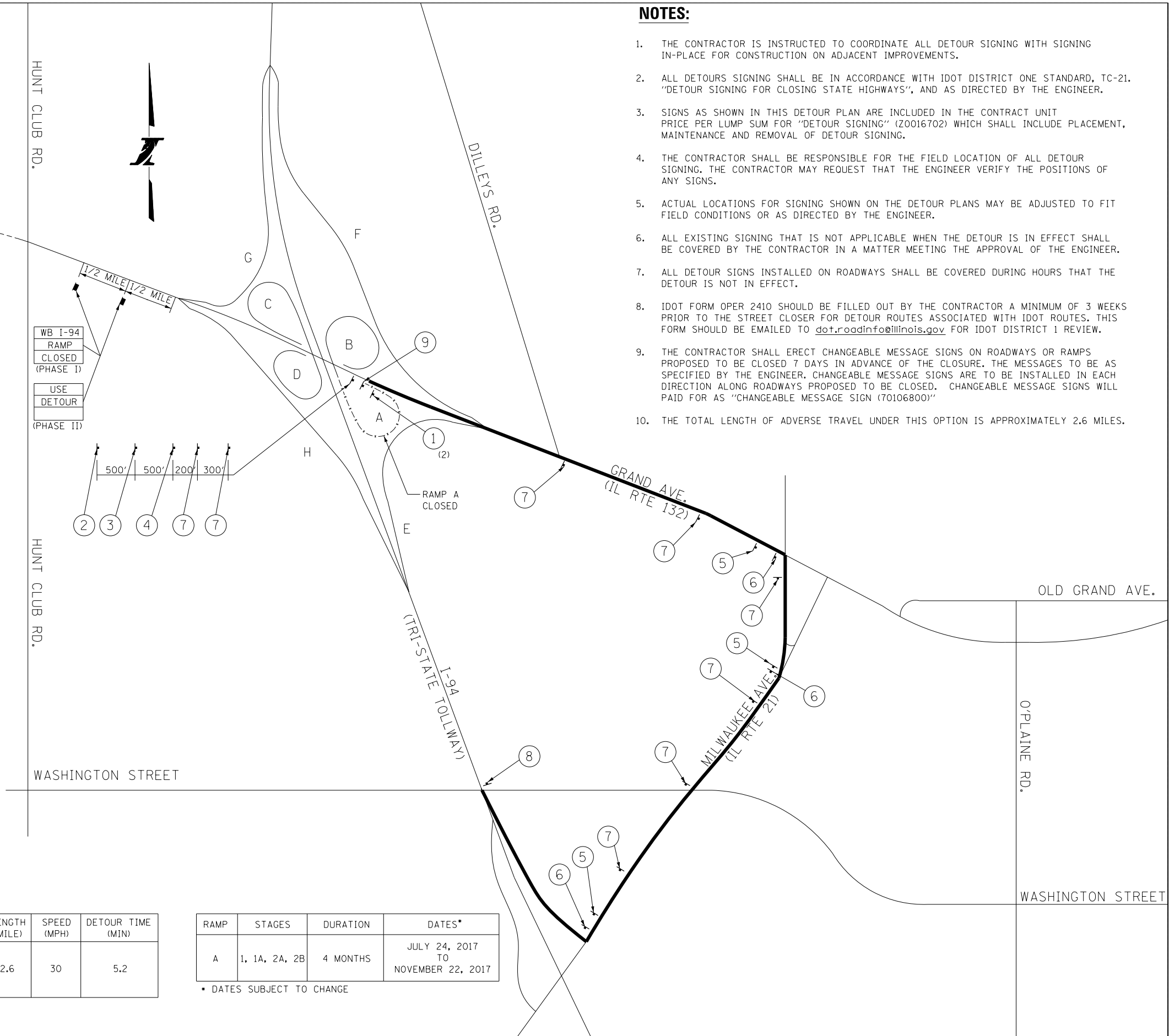
(2) TWO SIGNS AT LOCATION

DETOUR DATA

DETOURED RAMP	RAMP A	AM PEAK (2015)	PM PEAK (2015)	AADT (2015)	LENGTH (MILE)	SPEED (MPH)	DETOUR TIME (MIN)
AFFECTED FACILITY	GRAND AVE (IL 132)	70	100	1,040	2.6	30	5.2
	MILWAUKEE AVE (IL 21)	UNKNOWN	UNKNOWN	24,600			
	MILWAUKEE AVE (IL 21) TO NB I-94	215	350	2,950			

RAMP	STAGES	DURATION	DATES*
A	1, 1A, 2A, 2B	4 MONTHS	JULY 24, 2017 TO NOVEMBER 22, 2017

* DATES SUBJECT TO CHANGE



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DRAWN BY VP DATE 03/23/2017
CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
DETOUR PLAN
SHT NO. MOT-27
DRAWING NO. 54 OF 228

ROUTE MARKERS

FOR U.S. ROUTES
MI-40-2424

FOR ILLINOIS ROUTES
MI-50-2424

R.R. UNMARKED ROUTES
SPECIAL 24" x 18" VARIABLE
4" BLACK LETTERS ON WHITE
REFLECTIVE BACKGROUND

ARROWS SIGNS

M5-1L-2115

M5-1R-2115

M6-1-2115

M6-1-2115

M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

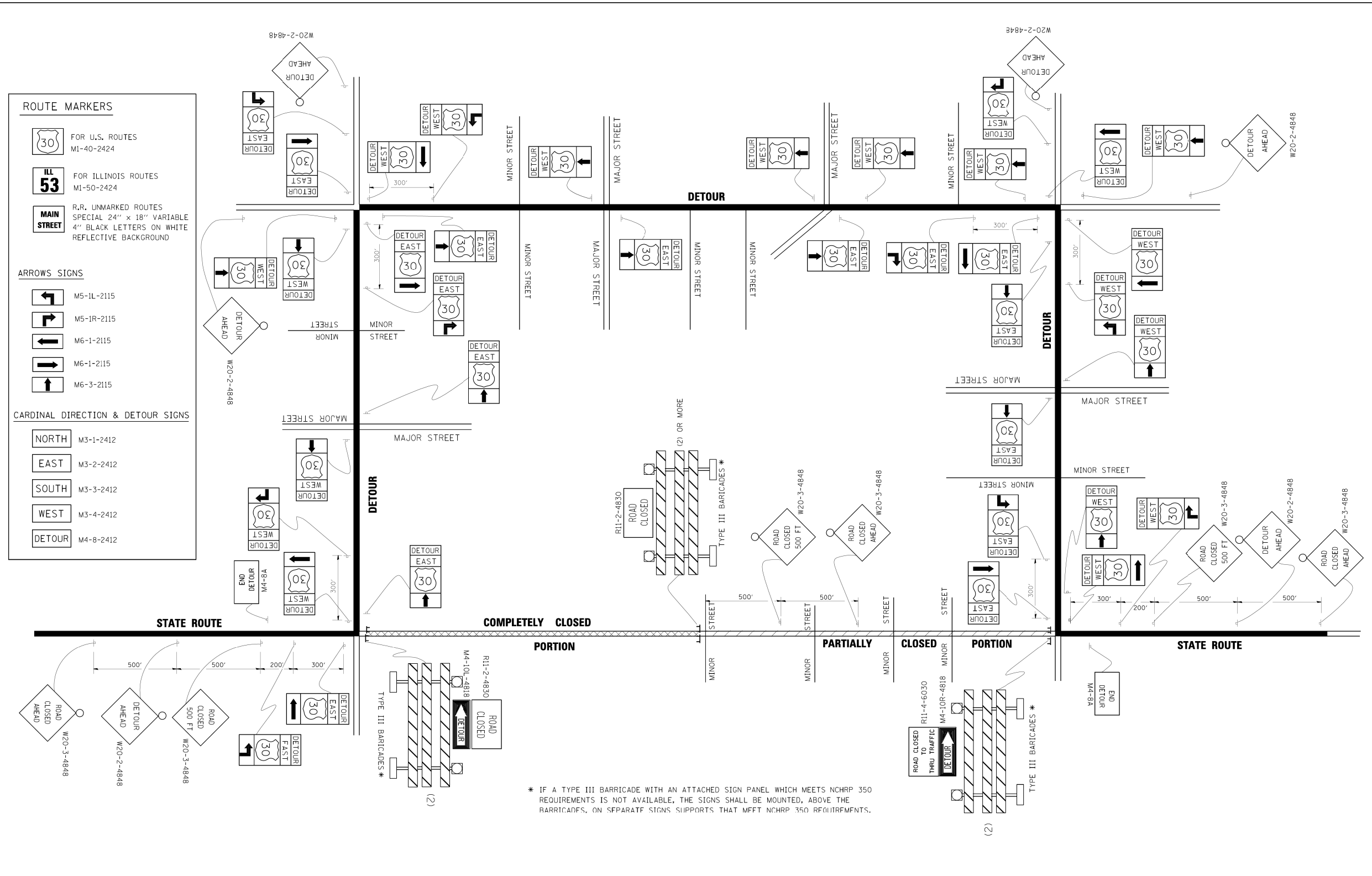
NORTH M3-1-2412

EAST M3-2-2412

SOUTH M3-3-2412

WEST M3-4-2412

DETOUR M4-8-2412



* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - 10-18-02
ca:\pwwork\p\1001\DRIVAKOSGN\d188315\1	21.dgn	DRAWN -	REVISED - R. BORO 09-14-09
	PLOT SCALE = 49,9999' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/14/2009	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETOUR SIGNING
FOR CLOSING STATE HIGHWAYS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-21			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		CONTRACT NO.		

DRAWN BY VP DATE 03/23/2017
CHECKED BY LS DATE 03/23/2017



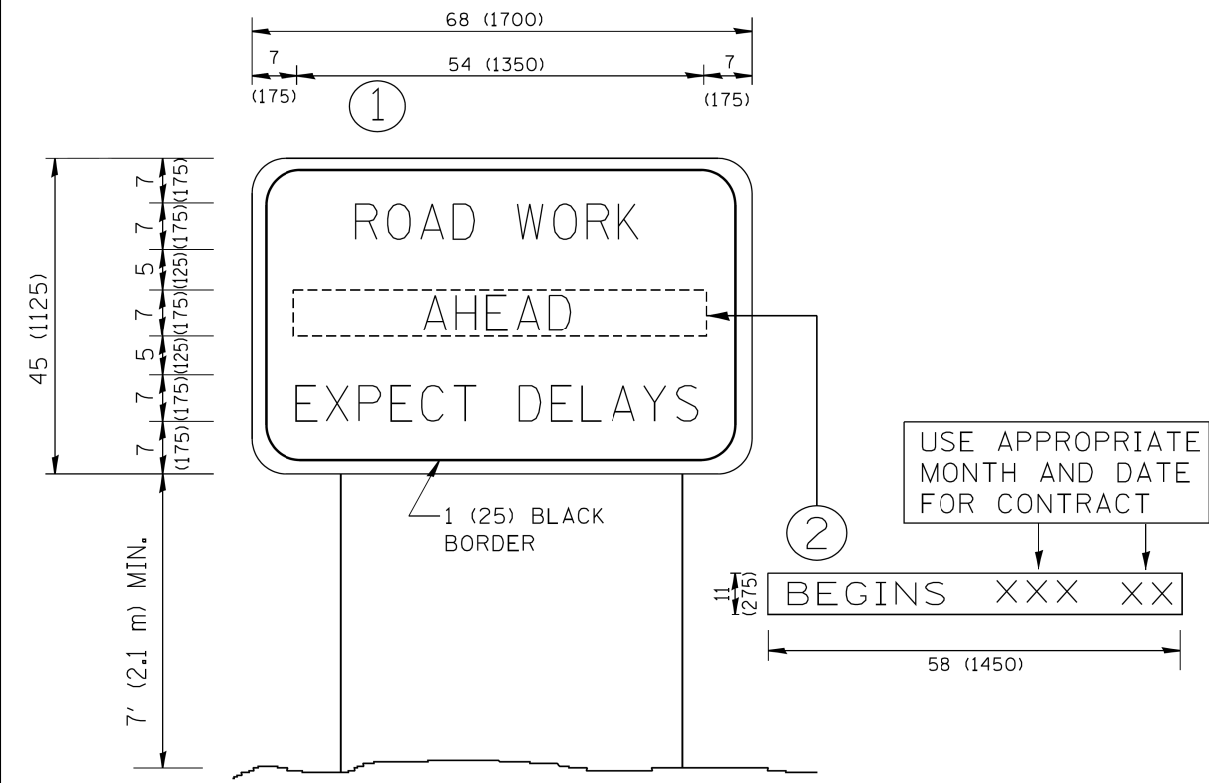
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
DETAILS

SHT NO. MOT-28
DRAWING NO.
55 OF 228

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NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = w:\dststd\22x34\to22.dgn	USER NAME = gaglionobt	DESIGNED - DRAWN -	REVISED - REVISED -	R. MIRS 09-15-97 R. MIRS 12-11-97	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ARTERIAL ROAD INFORMATION SIGN		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 58,000' / IN.	CHECKED -	REVISED -	T. RAMMACHER 02-02-99	SCALE: NONE		SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	TC-22		CONTRACT NO.	
PLOT DATE = 1/4/2008	DATE -	REVISED -	C. JUCIUS 01-31-07	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								

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DRAWN BY VP DATE 03/23/2017
CHECKED BY LS DATE 03/23/2017

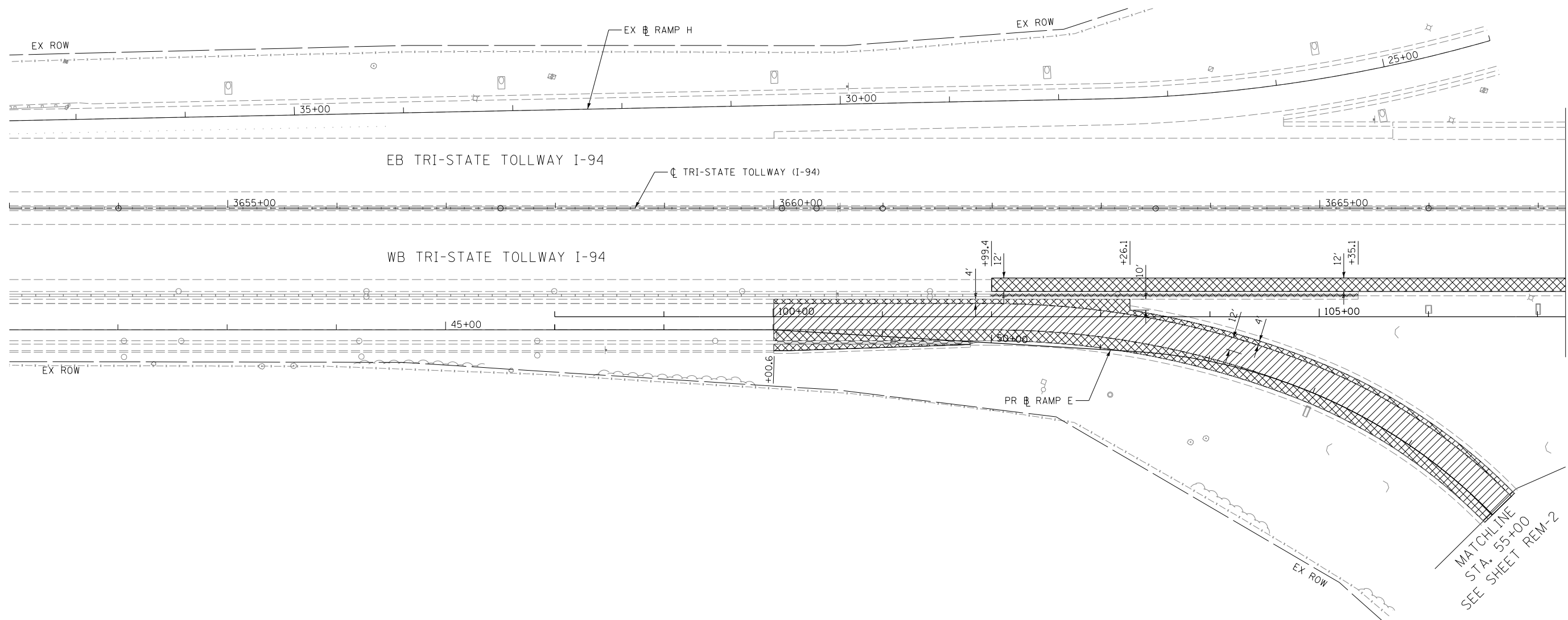


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
MAINTENANCE OF TRAFFIC
DETAILS

SHT NO. MOT-29
DRAWING NO.
56 OF 228



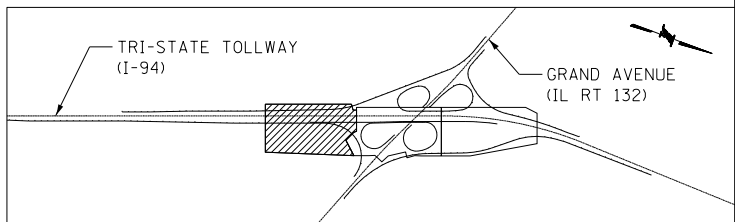
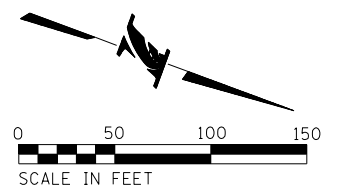
MATCHLINE STA. 3667+25
SEE SHEET REM-2

MATCHLINE STA. 55+00
SEE SHEET REM-2

LEGEND

- GUARDRAIL REMOVAL (63200310)
- COMBINATION CURB AND GUTTER REMOVAL (44000500)
- CONCRETE BARRIER REMOVAL (44001980)
- PAVED SHOULDER REMOVAL (44004250)
- PAVEMENT REMOVAL (44000100)

NOTE: AGGREGATE SHOULDER REMOVAL PAID FOR AS EARTH EXCAVATION (20200100)



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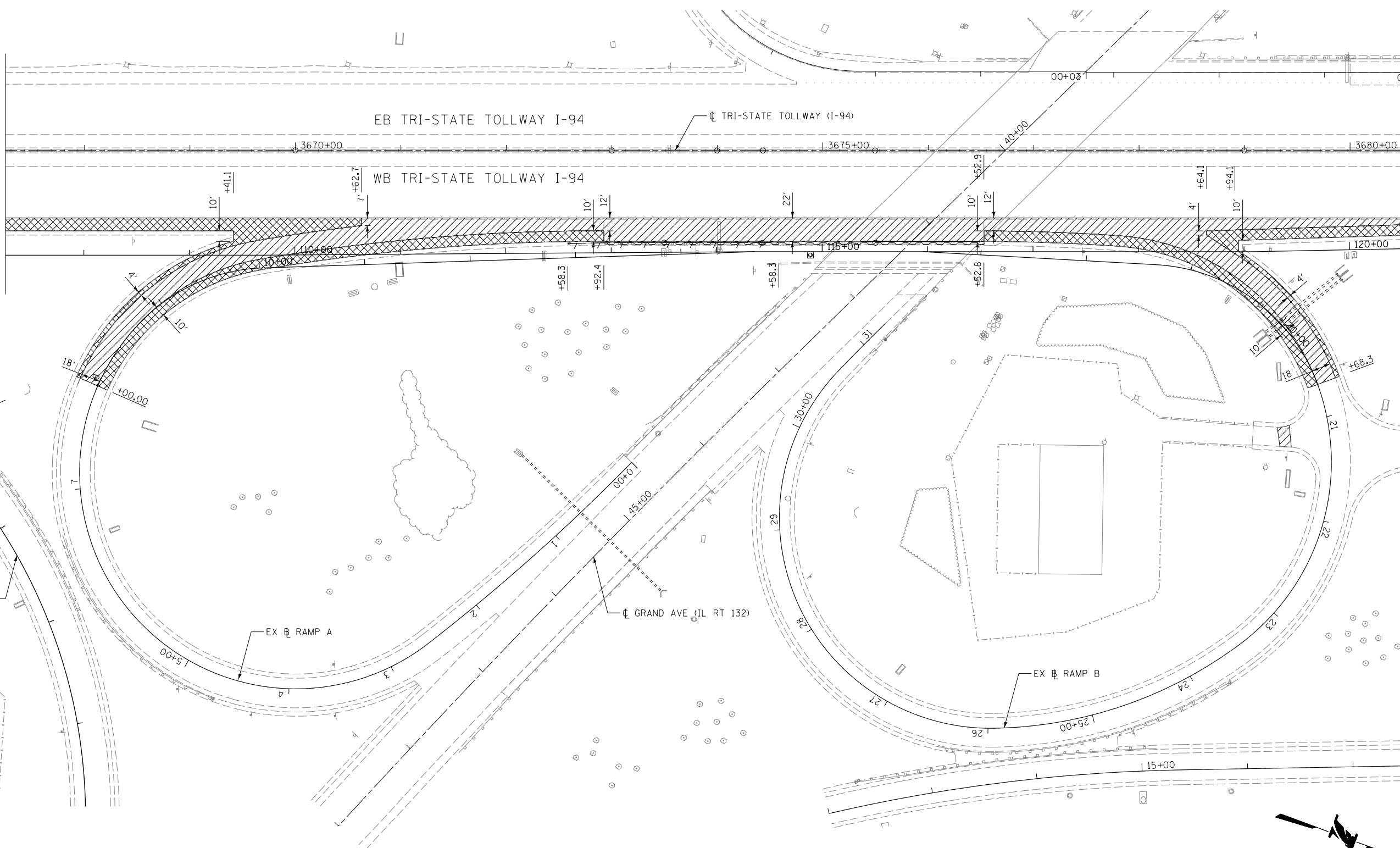
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE




CONTRACT NO. RR-17-4291 SHT NO. REM-1
 I-94 AT GRAND AVENUE DRAWING NO.
 REMOVAL PLAN 57 OF 228

MATCHLINE STA. 3667+25
SEE SHEET REM-1

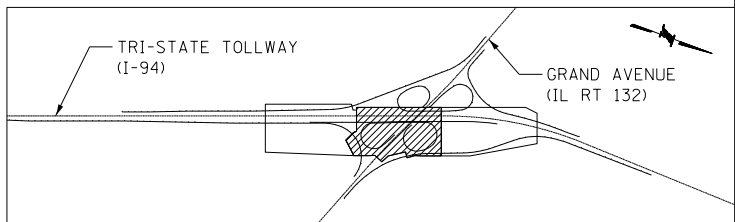
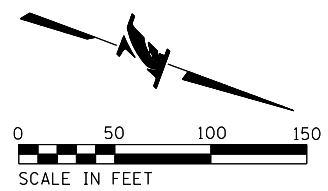
MATCHLINE STA. 3680+50
SEE SHEET REM-3



LEGEND

-  GUARDRAIL REMOVAL (63200310)
-  COMBINATION CURB AND GUTTER REMOVAL (44000500)
-  CONCRETE BARRIER REMOVAL (44001980)
-  PAVED SHOULDER REMOVAL (44004250)
-  PAVEMENT REMOVAL (44000100)

NOTE: AGGREGATE SHOULDER REMOVAL PAID FOR AS EARTH EXCAVATION (20200100)



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CHECKED BY LLS DATE 03/23/2017

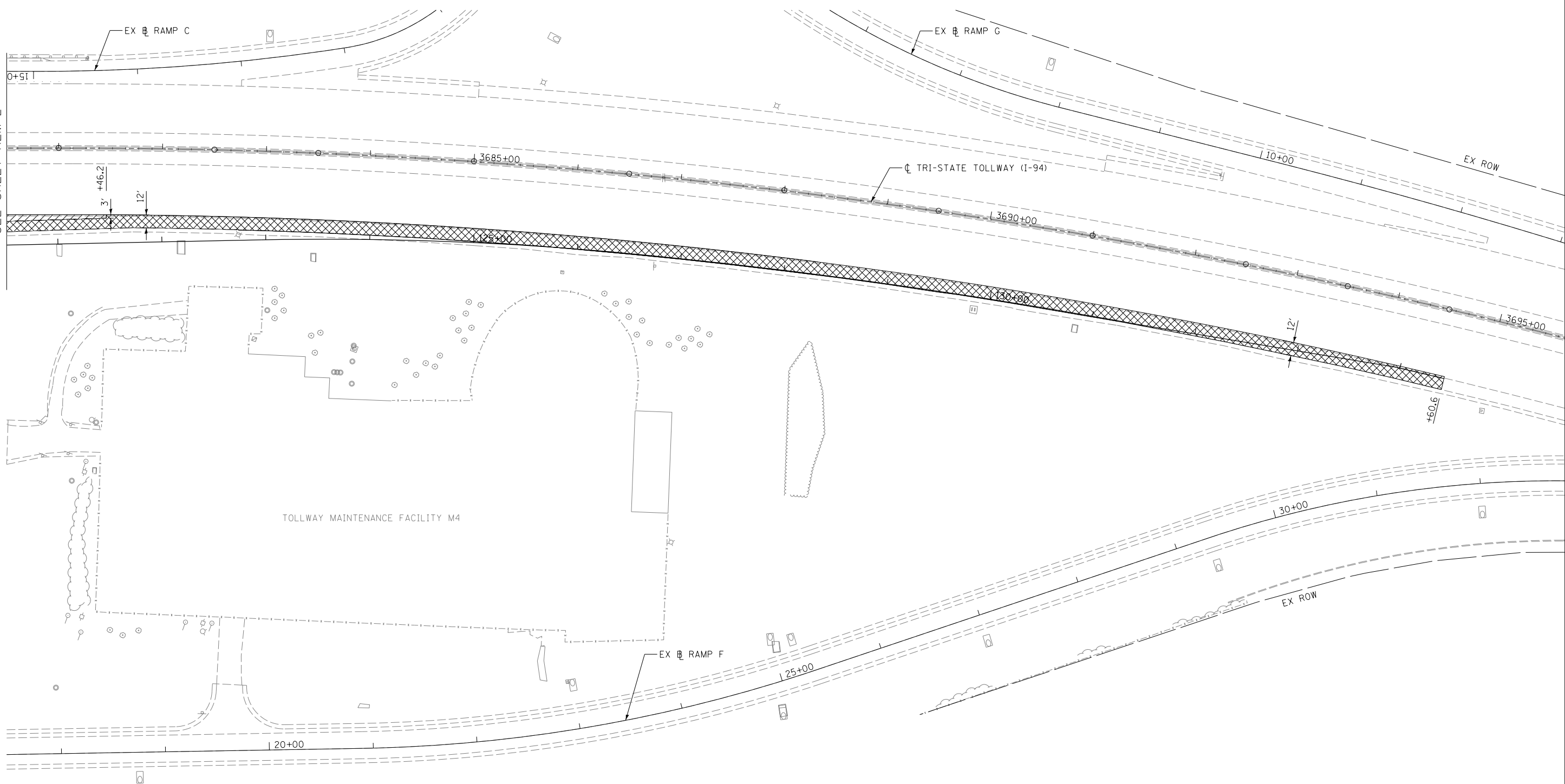


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

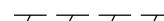



NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291 SHT NO. REM-2
I-94 AT GRAND AVENUE DRAWING NO. 58 OF 228
REMOVAL PLAN

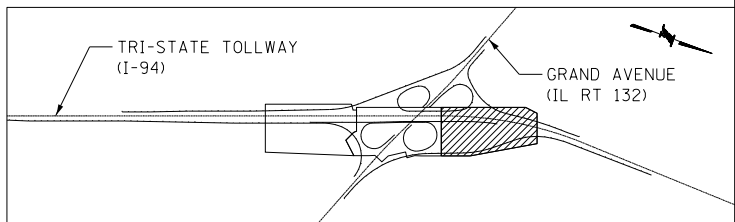
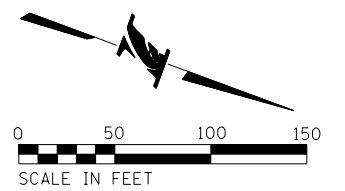
MATCHLINE STA. 3680+50
SEE SHEET REM-2



LEGEND

-  GUARDRAIL REMOVAL (63200310)
-  COMBINATION CURB AND GUTTER REMOVAL (44000500)
-  CONCRETE BARRIER REMOVAL (44001980)
-  PAVED SHOULDER REMOVAL (44004250)
-  PAVEMENT REMOVAL (44000100)

NOTE: AGGREGATE SHOULDER REMOVAL PAID FOR AS EARTH EXCAVATION (20200100)



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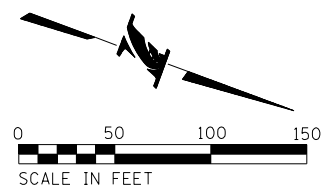
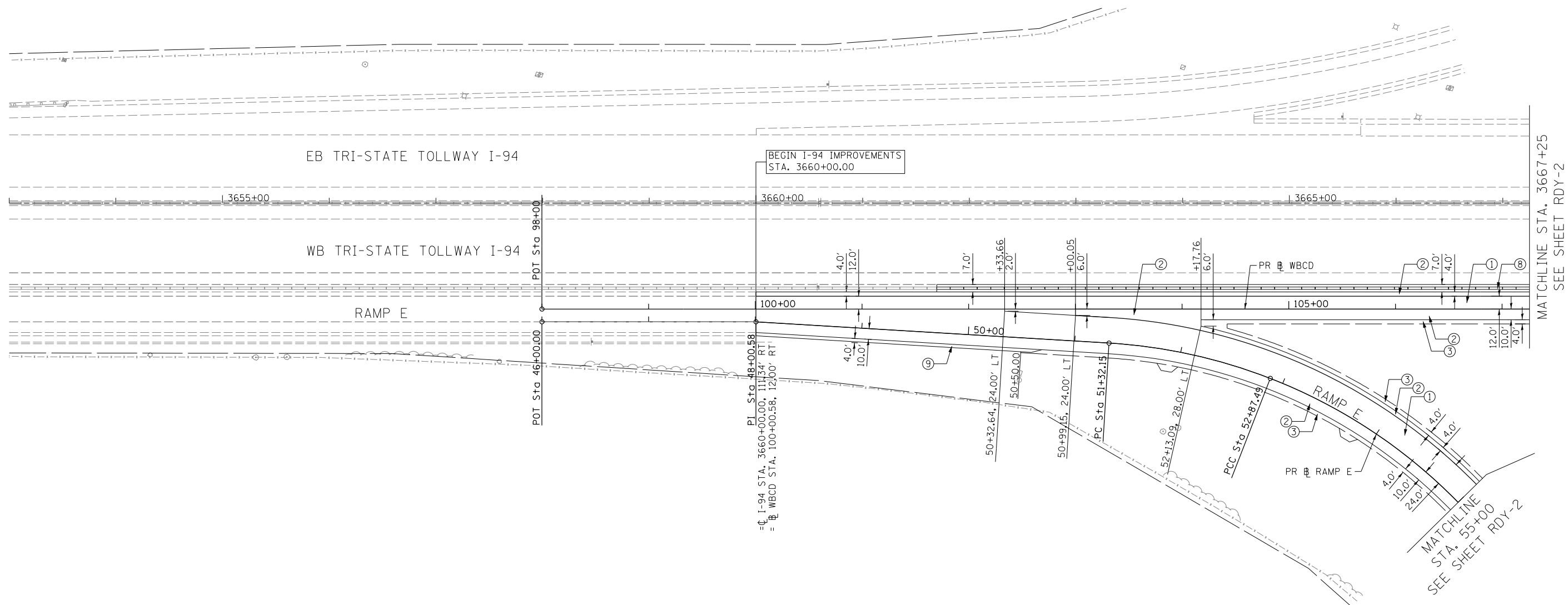
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CHECKED BY LLS DATE 03/23/2017



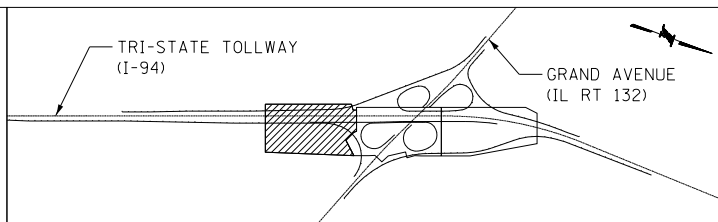
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291 SHT NO. REM-3
I-94 AT GRAND AVENUE DRAWING NO.
REMOVAL PLAN 59 OF 228



- LEGEND:**
- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
 - ② WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
 - ③ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
 - ④ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
 - ⑤ TRAFFIC BARRIER TERMINAL, TYPE T6B (JI631135)
 - ⑥ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
 - ⑦ TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT (JI631110)
 - ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
 - ⑨ GUTTER, TYPE G-3 (JI606020)
 - ⑩ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006)
 - ⑪ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)



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 CHECKED BY VP DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

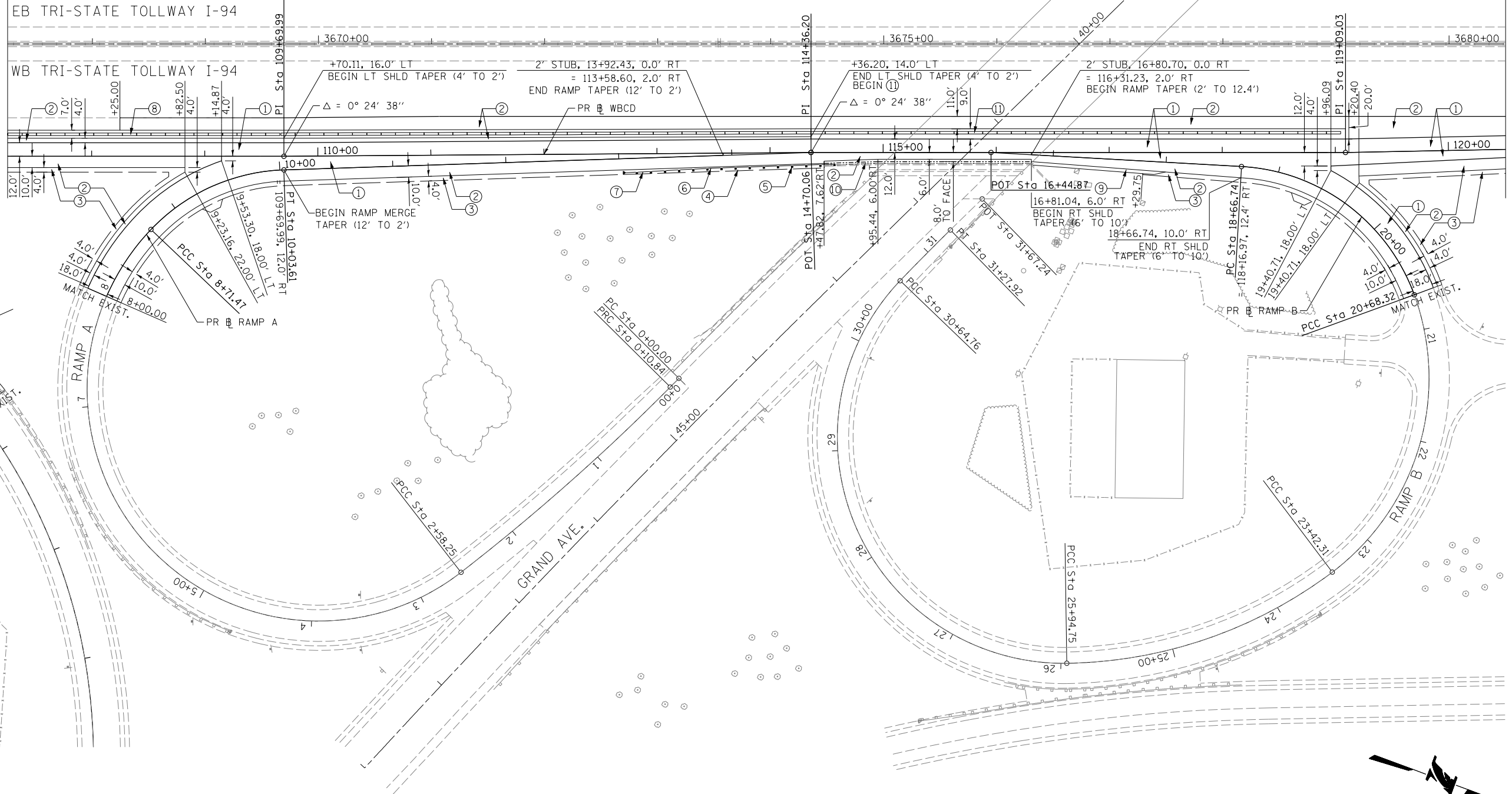
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. RDY-1
 ROADWAY PLAN DRAWING NO. 60 OF 228

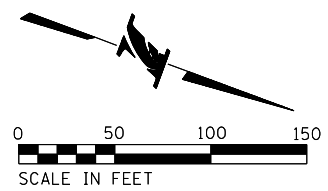
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MATCHLINE STA. 3667+25
SEE SHEET RDY-1

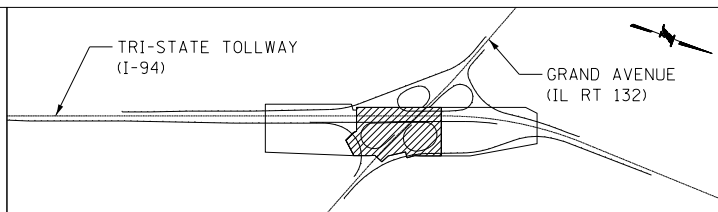
MATCHLINE STA. 3680+50
SEE SHEET RDY-3



MATCHLINE STA. 55+00
SEE SHEET RDY-1



- LEGEND:**
- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
STABILIZED SUBBASE - WMA, 3" (JI312022)
SUBGRADE AGGREGATE 12 IN. (JT211A11)
 - ② WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
 - ③ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
 - ④ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
 - ⑤ TRAFFIC BARRIER TERMINAL, TYPE T6B (JI631135)
 - ⑥ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
 - ⑦ TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT (JI631110)
 - ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7' (JI637056)
 - ⑨ GUTTER, TYPE G-3 (JI606020)
 - ⑩ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006)
(SEE STRUCTURE DRAWINGS)
CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER,
REINFORCED, 42 INCH (SPECIAL) (JI637036)
(SEE STRUCTURE DRAWINGS)
 - ⑪ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
CONCRETE BARRIER BASE (SPECIAL) (JI637017)



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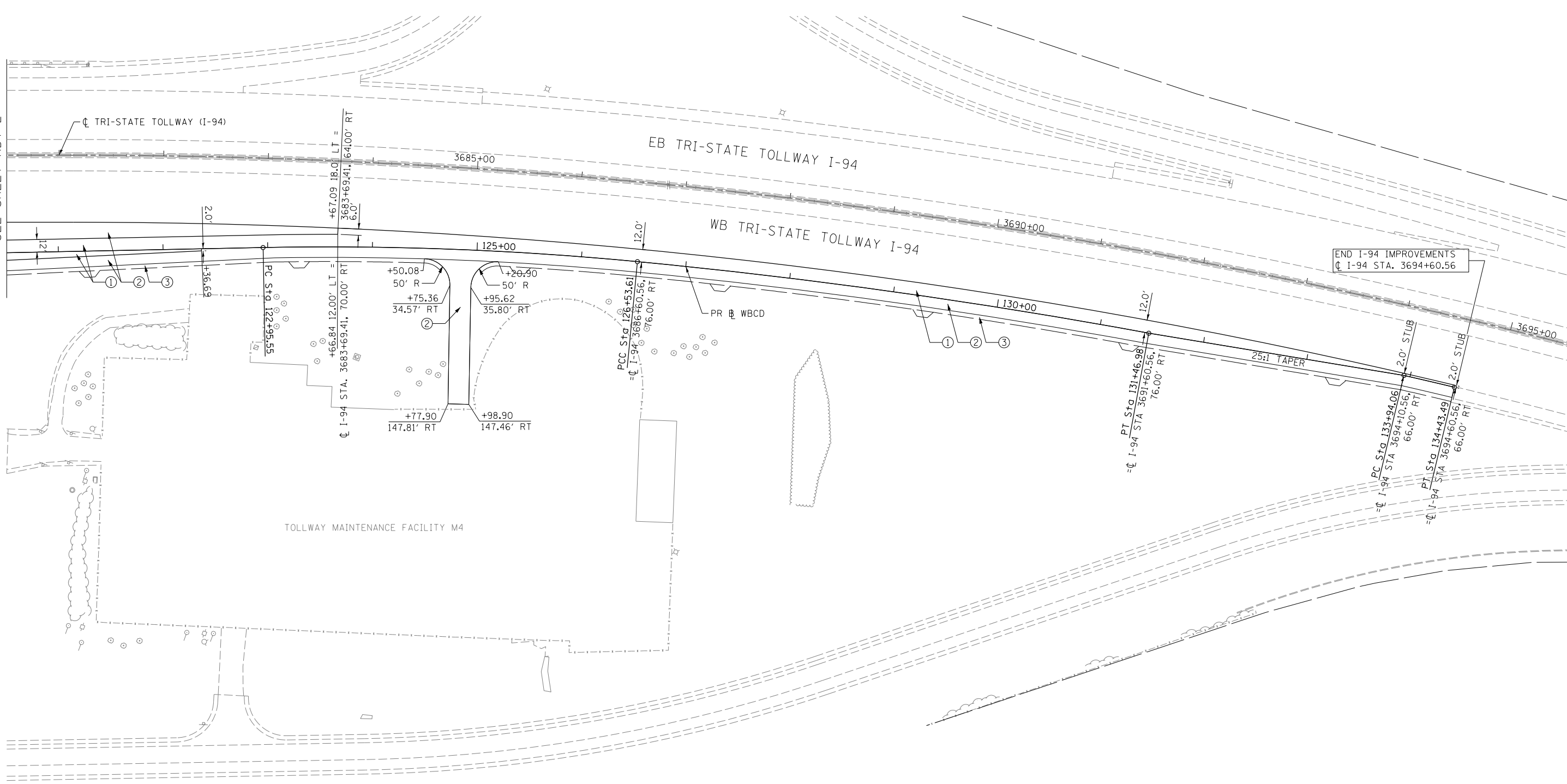
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
ROADWAY PLAN
SHT NO. RDY-2
DRAWING NO. 61 OF 228

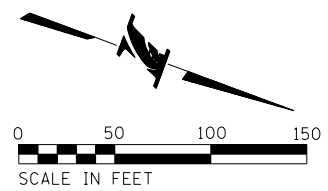
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MATCHLINE STA. 3680+50
SEE SHEET RDY-2



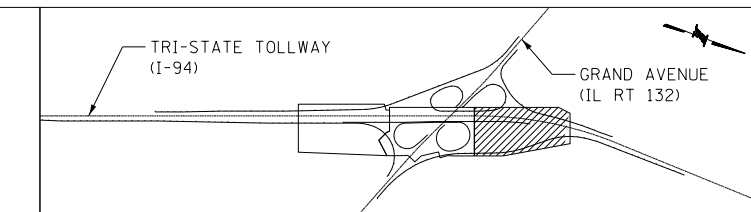
END I-94 IMPROVEMENTS
I-94 STA. 3694+60.56

TOLLWAY MAINTENANCE FACILITY M4



LEGEND:

- ① PORTLAND CEMENT CONCRETE PAVEMENT 12" (JOINTED) (JI420010)
- ② WARM-MIX ASPHALT SHOULDERS (6 IN.) (JI482104)
- ③ AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B 4" (JI481130)
- ④ AGGREGATE SHOULDERS SPECIAL, TYPE C (JI481070)
- ⑤ TRAFFIC BARRIER TERMINAL, TYPE T6B (JI631135)
- ⑥ GALVANIZED STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (JI630002)
- ⑦ TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT (JI631110)
- ⑧ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)
- ⑨ GUTTER, TYPE G-3 (JI606020)
- ⑩ CONCRETE BARRIER, SINGLE FACE, REINFORCED, 42 INCH (SPECIAL) (JI637006)
- ⑪ CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT (JI637014)



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CHECKED BY VP DATE 03/23/2017

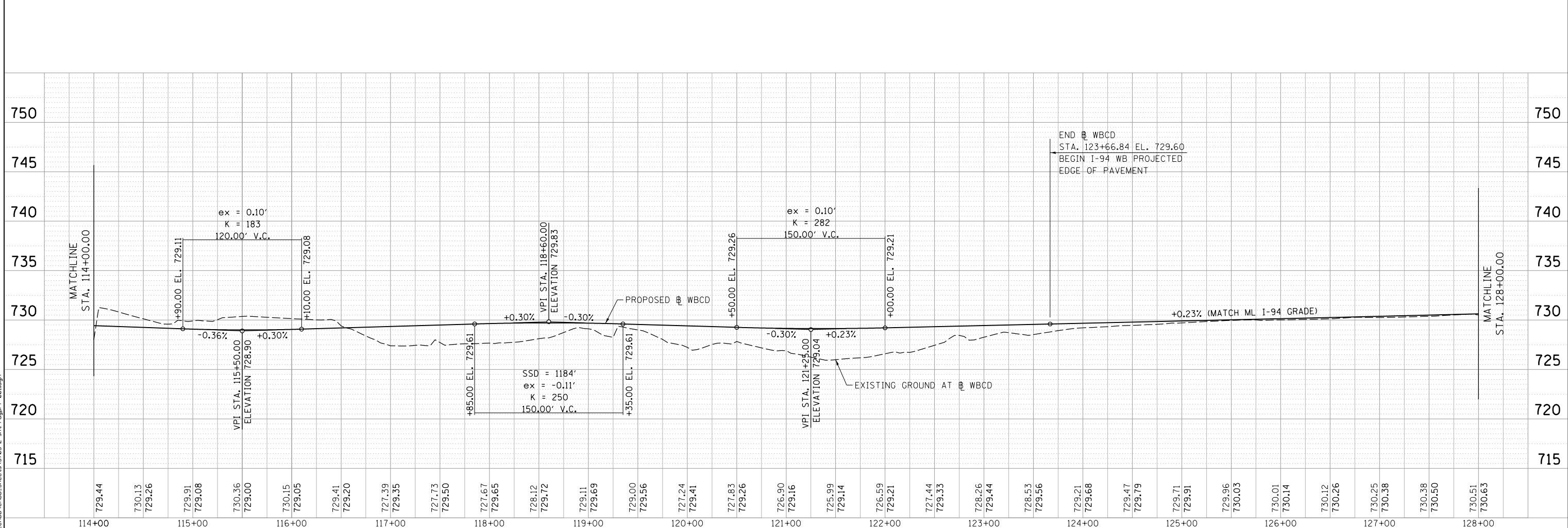
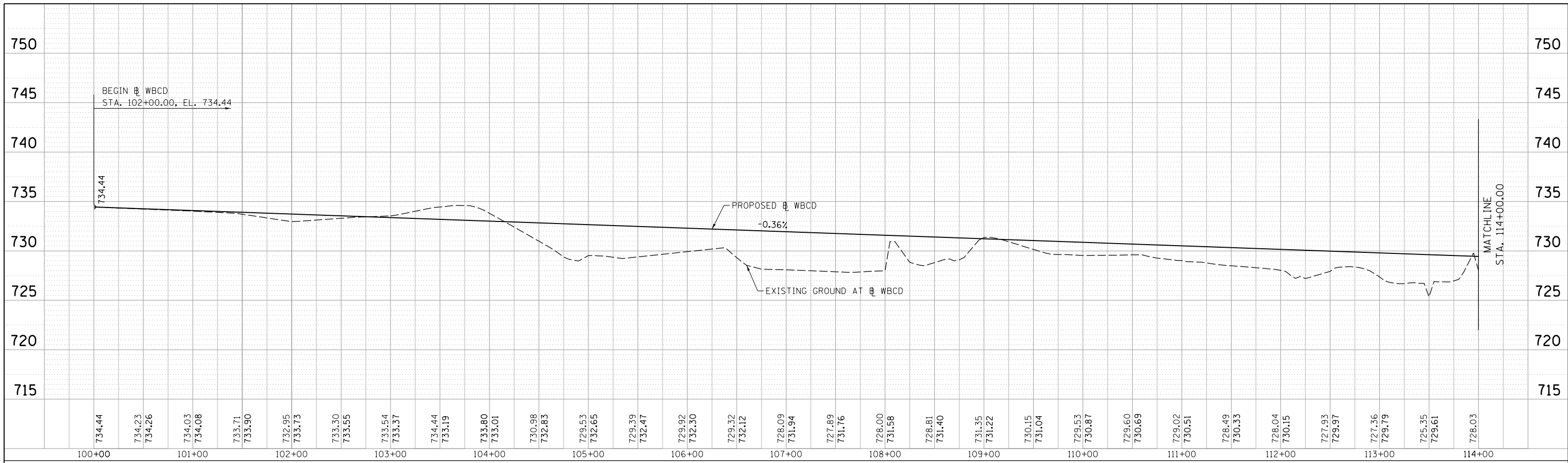


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
ROADWAY PLAN
SHT NO. RDY-3
DRAWING NO. 62 OF 228

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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

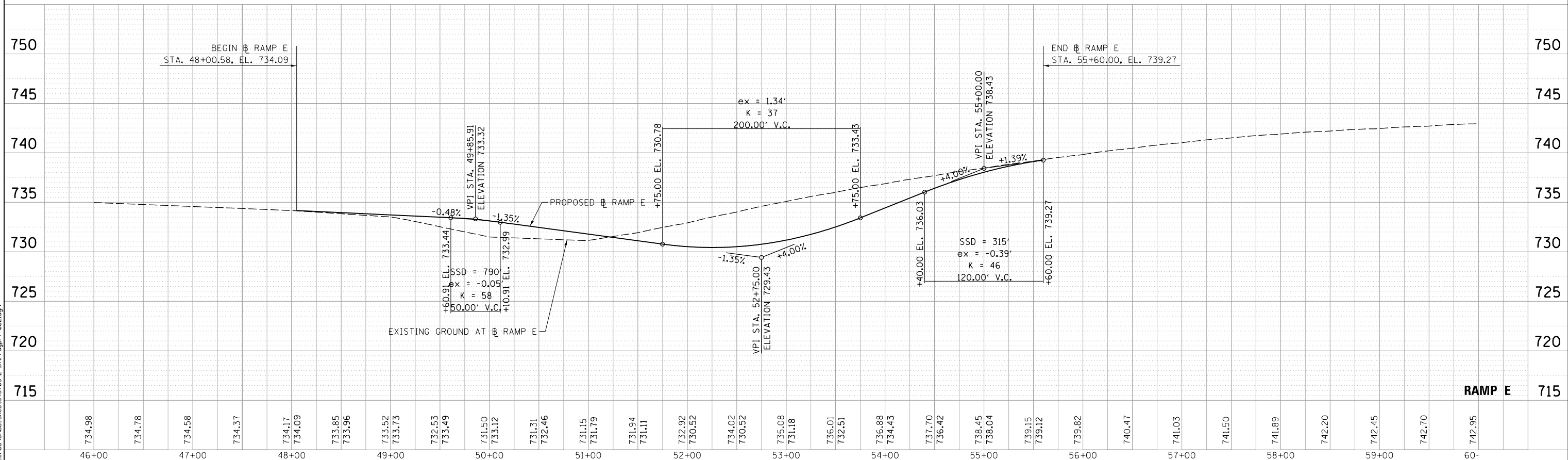
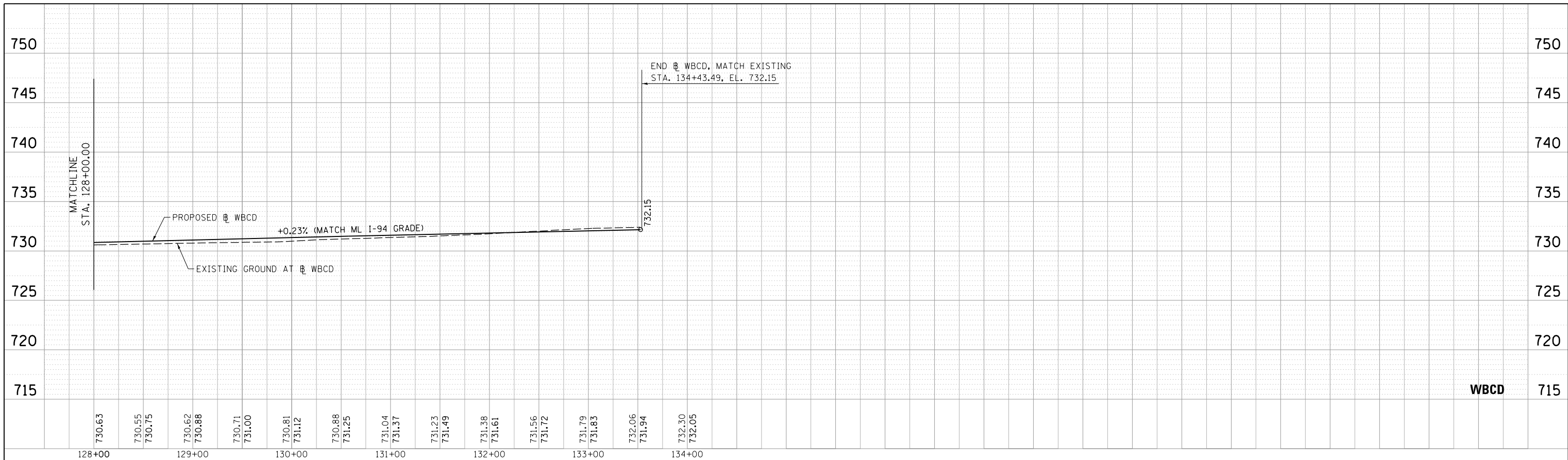


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 ROADWAY PROFILES
 WBCD ROAD

SHT NO. PRF-1
 DRAWING NO.
 63 OF 228

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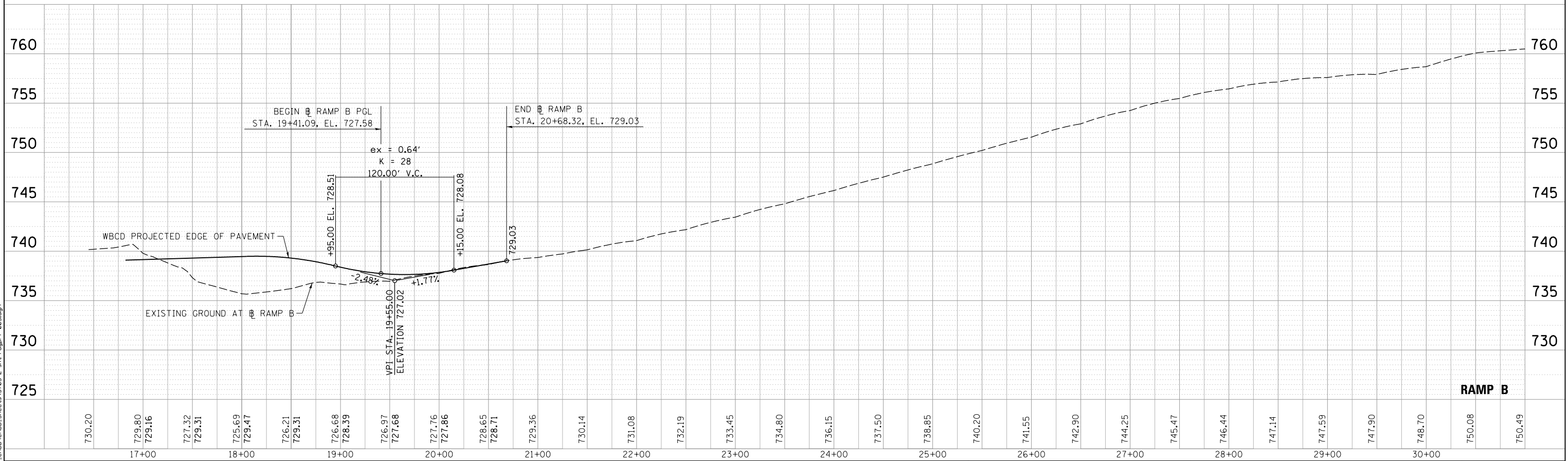
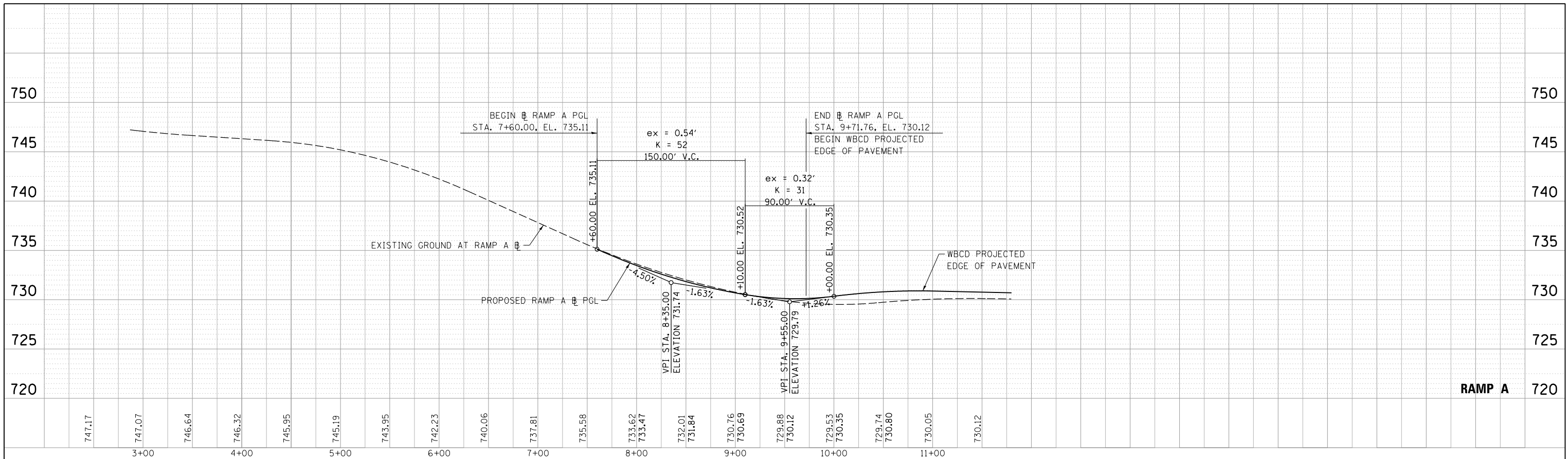
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DRAWN BY LLS DATE 03/23/2017
CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
ROADWAY PROFILES
WBCD ROAD / RAMP E
SHT NO. PRF-2
DRAWING NO.
64 OF 228



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DRAWN BY LLS DATE 03/23/2017
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. PRF-3
 ROADWAY PROFILES DRAWING NO. 65 OF 228
 RAMP A AND RAMP B

Description	Utility Company	Utility Company Address	Utility company Contact Person	Contact Person Telephone Number	Start Sta.	End Sta.	Parallel Util.	Transverse Util.	Clear Height	Vert. Depth	Reference Drawing	Notice of interference	Work Order Status			Utility to Relocate	Contractor to Relocate	Estimated Start of Utility Relocation	Estimated Completion of Utility Relocation	Special Requirements or Comments
													Date W.O. to Start	In Progress (E.T.C.)	Date Completed					
1 duct	AT&T	1000 Commerce Dr. 1st Floor Oak Brook, IL 60523	Janet Ahem/ Alex Bryant	Office (630) 573-6414/ Office (630) 573-6456 Cell (630)272-9010	3677+97		N	Y				None.								No conflict anticipated
1 duct	AT&T	1000 Commerce Dr. 1st Floor Oak Brook, IL 60523	Janet Ahem/ Alex Bryant	Office (630) 573-6414/ Office (630) 573-6456 Cell (630)272-9010	3678+93		N	Y				None.								No conflict anticipated
Steel pipe	Commonwealth Edison	One Lincoln Centre, Suite 600 Oakbrook Terrace, IL 60181	Angela S. Harrell Tim Tamason	(815) 477-5258	3677+06		N	Y				None.								No conflict anticipated
Steel pipe	Commonwealth Edison	One Lincoln Centre, Suite 600 Oakbrook Terrace, IL 60181	Angela S. Harrell Tim Tamason	(815) 477-5258	3677+43		N	Y				None.								No conflict anticipated
1 fiber	G4S ComEd Fiber Optic	565 Willow Centre Pkwy. Willowbrook, IL 60527	Douglas Gones	(630) 343-2826	3695+44		N	Y				None.								No conflict anticipated
1 fiber	G4S Tollway Fiber Optic	565 Willow Centre Pkwy. Willowbrook, IL 60527	Michael F. Wilson	Cell (815) 693-7060 Desk (630) 288-9148 Fax (630) 739-6346	3685+40		N	Y				None.								Watch and protect and possible pothole
2" galvanized steel conduit (electric service)	Lake County Division of Transportation	600 W. Winchester Road Libertyville, IL 60048	William C. Eidson	Phone (847) 377-7400 Fax (630) 984-5888	3677+84		N	Y				None.								No conflict anticipated
2" galvanized steel conduit (fiber optic)	Lake County Division of Transportation	600 W. Winchester Road Libertyville, IL 60048	William C. Eidson	Phone (847) 377-7400 Fax (630) 984-5888	3683+00		N	Y				None.								No conflict anticipated
Fiber optic cable	TDS Telecommunications Corporation	16924 West Victor Road New Berlin, WI 53151	Matthew Schulte	Office (262) 754-3063 Cell (262) 409-1177 Fax (262) 754-3124	3674+16		N	Y				None.								No conflict anticipated
	Comcast	688 Industrial Drive Elmhurst, IL 60126	Robert Shulter	(630) 600-6347	-		-	-				None.								No involvement
	Village of Gurnee	325 N. O'Plaine Road Gurnee, IL 60031	Scott Drabicki	(847) 599-7582	-		-	-				None.								No involvement
	Nicor Gas	1844 Ferry Rd. Naperville, IL 60563	Constance (Connie) Lane	Office (630) 388-3830 Cell (630) 399-0600	-		-	-				None.								No involvement
	North Shore Gas Company	3001 Grand Avenue Waukegan, IL 60085	Miguel Jacob	Office (847) 263-4619 Cell (224) 627-8516	-		-	-				None.								No involvement
	Windstream, KDL, Inc.	10 South Riverside Plaza Suite 1460 Chicago, IL 60606	Daniel Walter	(319) 790-6529	-		-	-				None.								No involvement

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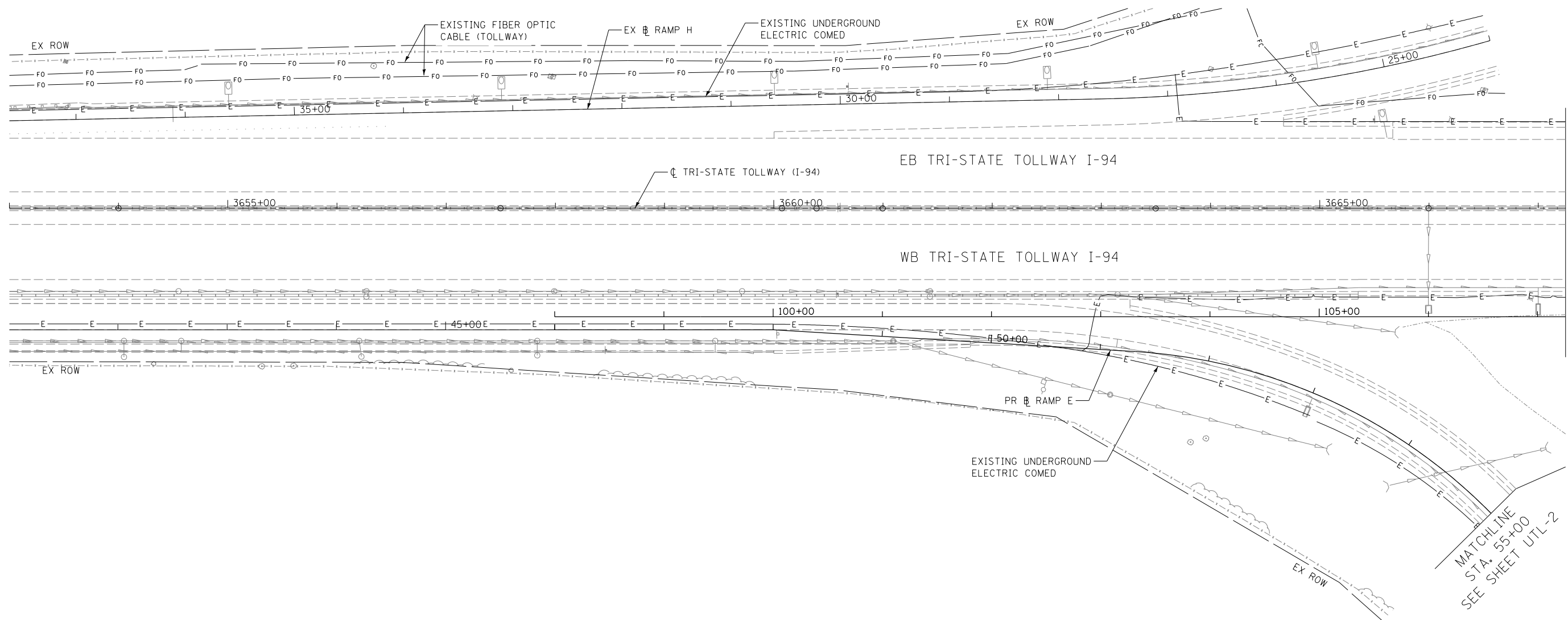
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 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 UTILITY MATRIX

SHT NO. UTX-1
 DRAWING NO.
 66 OF 228

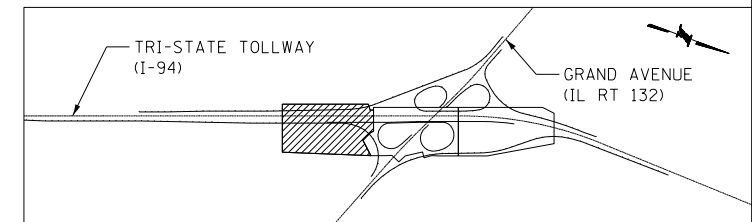
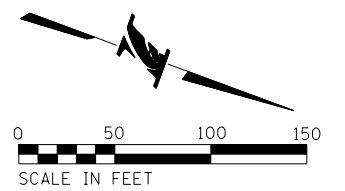


MATCHLINE STA. 3667+25
SEE SHEET UTL-2

MATCHLINE STA. 55+00
SEE SHEET UTL-2

LEGEND:

- | | | | |
|--------------|----------------|--------------|------------------------|
| —G— | GAS | —CTV— | CABLE TV |
| —T— | TELEPHONE | —FO— | FIBER OPTICS |
| —E— | ELECTRIC | - - -FO- - - | ABANDONED FIBER OPTICS |
| —A— | AERIAL LINES | - - -W- - - | ABANDONED WATER |
| - - -S- - - | SANITARY SEWER | —W— | WATER |
| - - -ST- - - | STORM SEWER | | |



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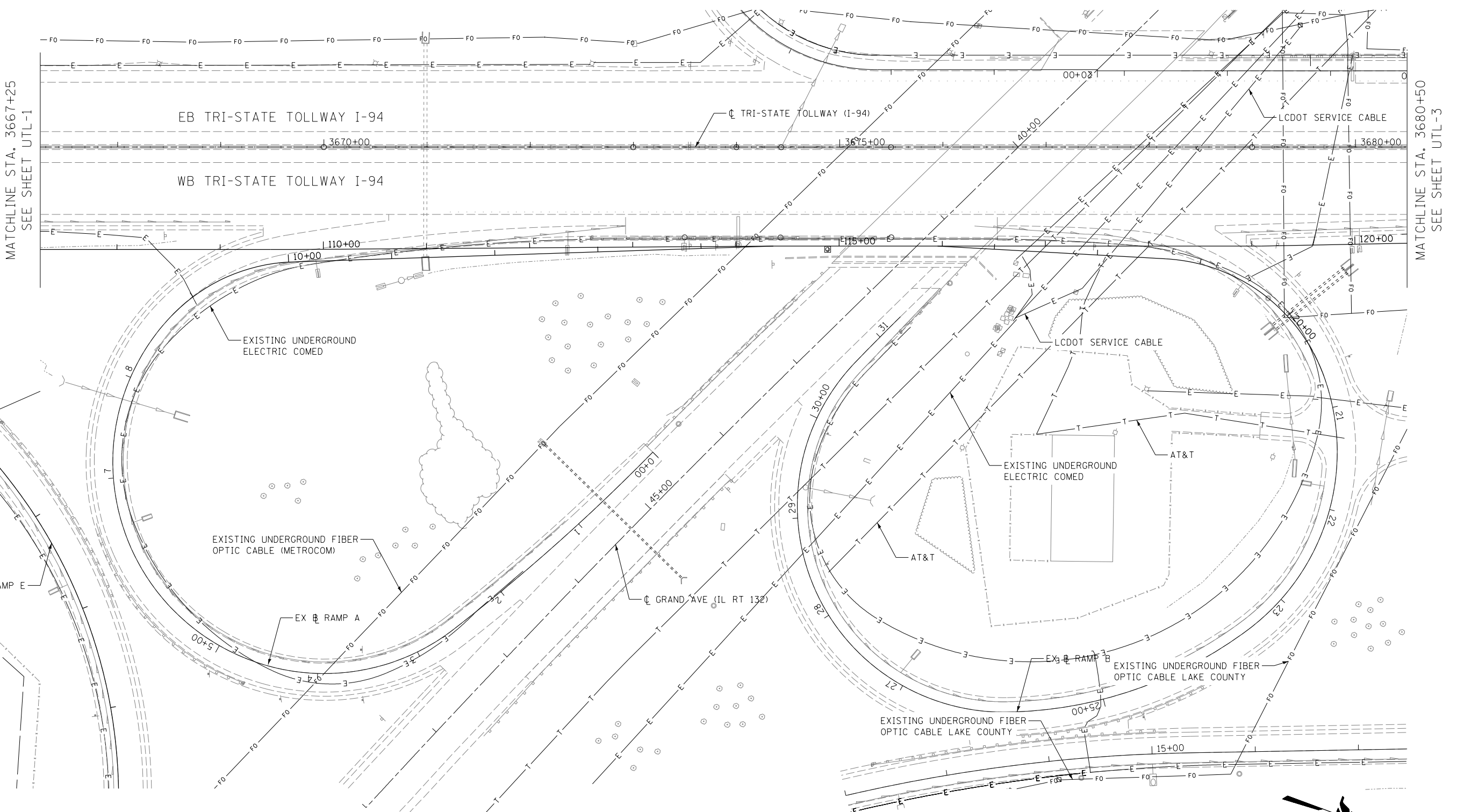


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		DESCRIPTION
NO.	DATE	

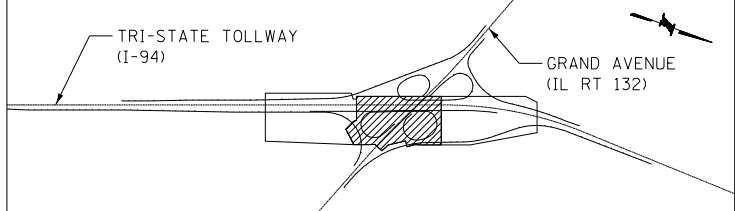
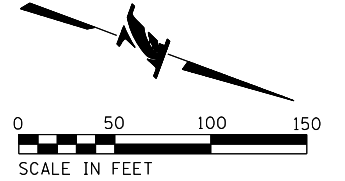
CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
UTILITY PLAN

SHT NO. UTL-1
DRAWING NO.
67 OF 228



LEGEND:

- | | | | |
|-----------|----------------|-------|------------------------|
| —(G)— | GAS | —CTV— | CABLE TV |
| —T— | TELEPHONE | —FO— | FIBER OPTICS |
| —E— | ELECTRIC | —FO— | ABANDONED FIBER OPTICS |
| —A— | AERIAL LINES | —W— | ABANDONED WATER |
| —S—S—S—S— | SANITARY SEWER | —W— | WATER |
| —S—S—S—S— | STORM SEWER | | |



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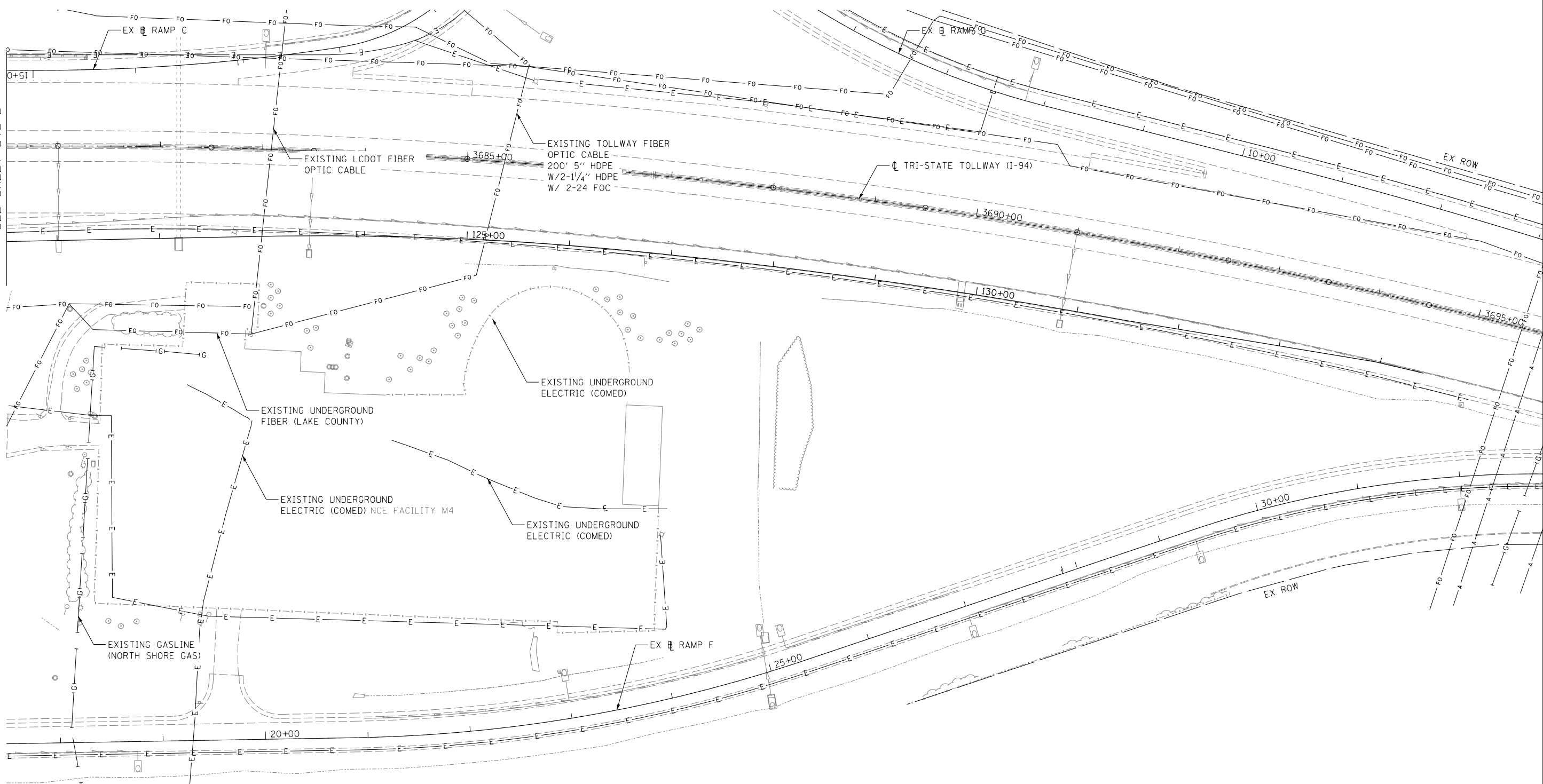


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

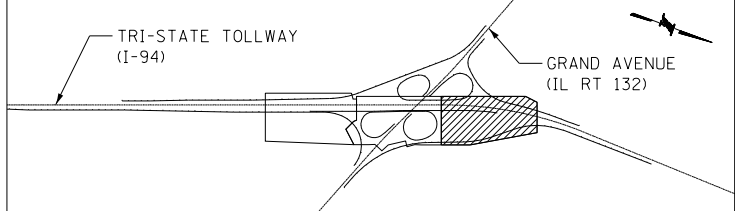
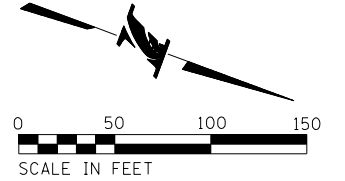
CONTRACT NO. RR-17-4291 SHT NO. UTL-2
 I-94 AT GRAND AVENUE DRAWING NO. 68 OF 228
 UTILITY PLAN

MATCHLINE STA. 3680+50
SEE SHEET UTL-2



LEGEND:

- | | | | |
|------|----------------|-------|------------------------|
| —G— | GAS | —CTV— | CABLE TV |
| —T— | TELEPHONE | —FO— | FIBER OPTICS |
| —E— | ELECTRIC | —FO— | ABANDONED FIBER OPTICS |
| —A— | AERIAL LINES | —W— | ABANDONED WATER |
| —S— | SANITARY SEWER | —W— | WATER |
| —SS— | STORM SEWER | | |



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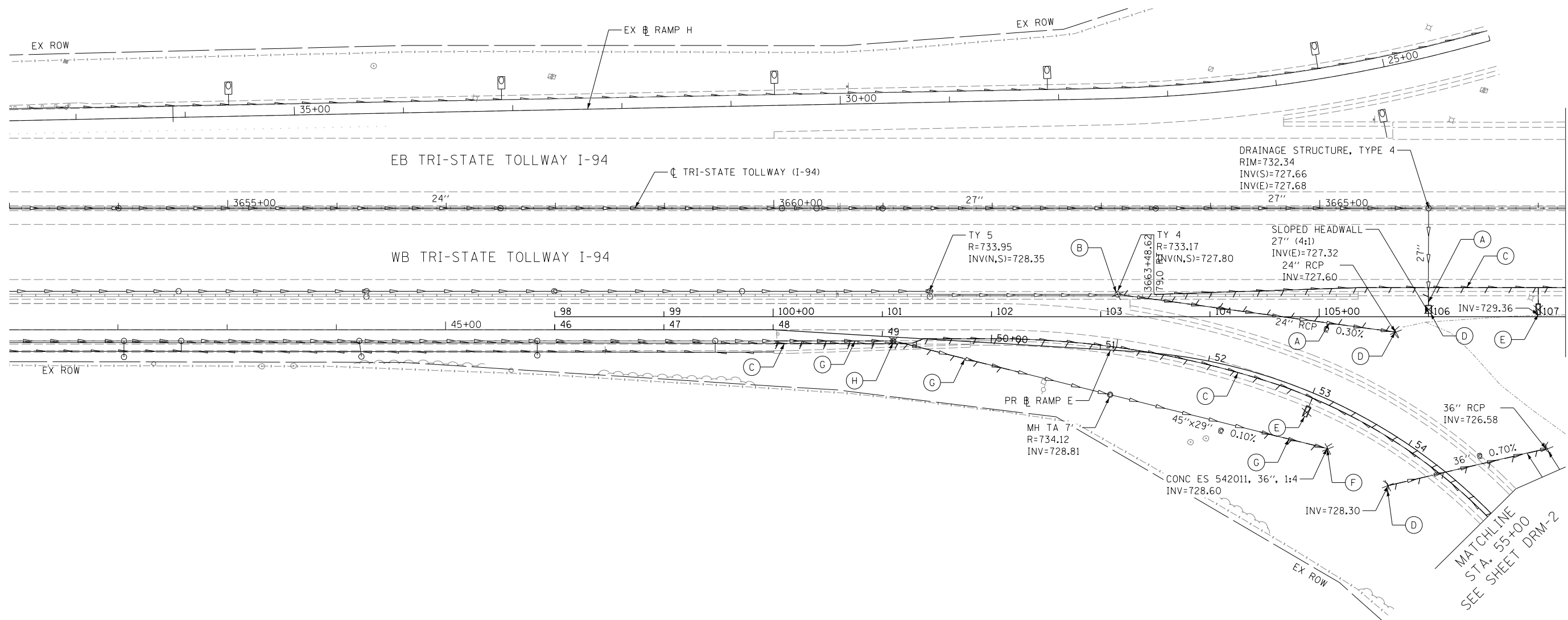


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
UTILITY PLAN

SHT NO. UTL-3
DRAWING NO.
69 OF 228



MATCHLINE STA. 3667+25
SEE SHEET DRM-2

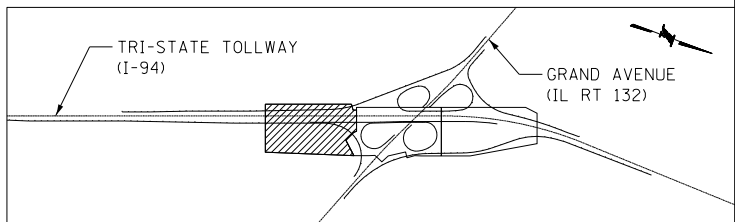
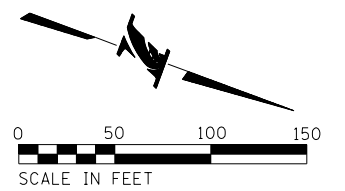
MATCHLINE
STA. 55+00
SEE SHEET DRM-2

LEGEND

- DITCH
- 6" UNDERDRAIN
- STORM SEWER
- HEADWALL
- SLOPED HEADWALL
- CATCH BASIN
- INLET
- MANHOLE
- SUMMIT
- DITCH FLOW

- LINEAR REMOVAL ITEMS
- REMOVAL ITEMS
- (A) STORM SEWER REMOVAL (5510...00)
- (B) REMOVING CATCH BASINS (60500050)
- (C) PIPE UNDERDRAIN REMOVAL (20040530)
- (D) SLOPED HEADWALL REMOVAL (J1501040)

- (E) REMOVE CONCRETE HEADWALLS FOR PIPE DRAINS (X6015000)
- (F) CONCRETE HEADWALL REMOVAL (50105220)
- (G) STORM SEWER REMOVAL, EQUIVALENT ROUND-SIZE 36" (J1551036)
- (H) REMOVING MANHOLES (60500040)



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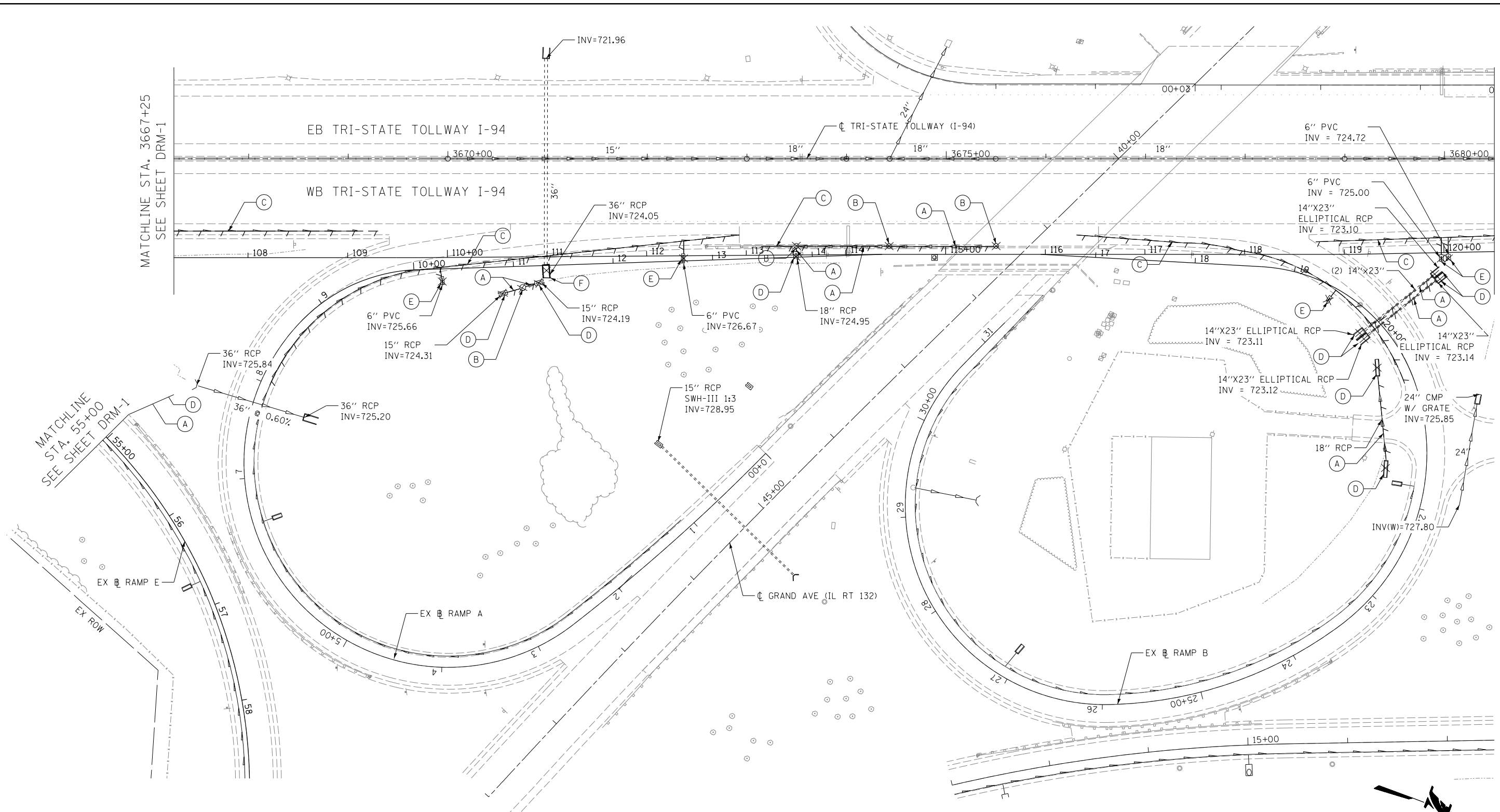


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. DRM-1
I-94 AT GRAND AVENUE DRAWING NO. 70 OF 228
DRAINAGE REMOVAL PLAN

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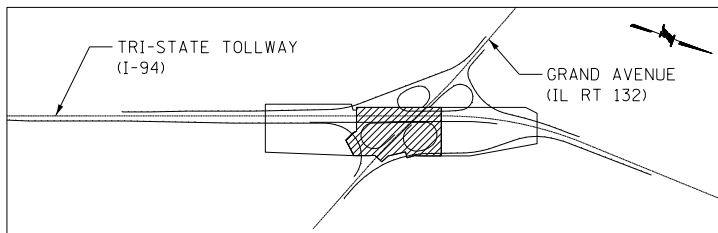
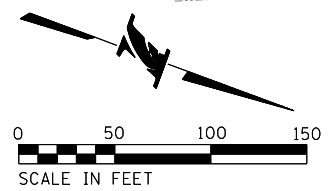


LEGEND

- DITCH
- 6" UNDERDRAIN
- STORM SEWER
- HEADWALL
- SLOPED HEADWALL
- CATCH BASIN
- INLET
- MANHOLE
- SUMMIT
- DITCH FLOW

- LINEAR REMOVAL ITEMS
- REMOVAL ITEMS
- (A) STORM SEWER REMOVAL (5510...00)
- (B) REMOVING CATCH BASINS (60500050)
- (C) PIPE UNDERDRAIN REMOVAL (20040530)
- (D) SLOPED HEADWALL REMOVAL (J1501040)

- (E) REMOVE CONCRETE HEADWALLS FOR PIPE DRAINS (X6015000)
- (F) CONCRETE HEADWALL REMOVAL (50105220)
- (G) STORM SEWER REMOVAL, EQUIVALENT ROUND-SIZE 36" (J1551036)
- (H) REMOVING MANHOLES (60500040)



DRAWN BY CEY DATE 03/23/2017
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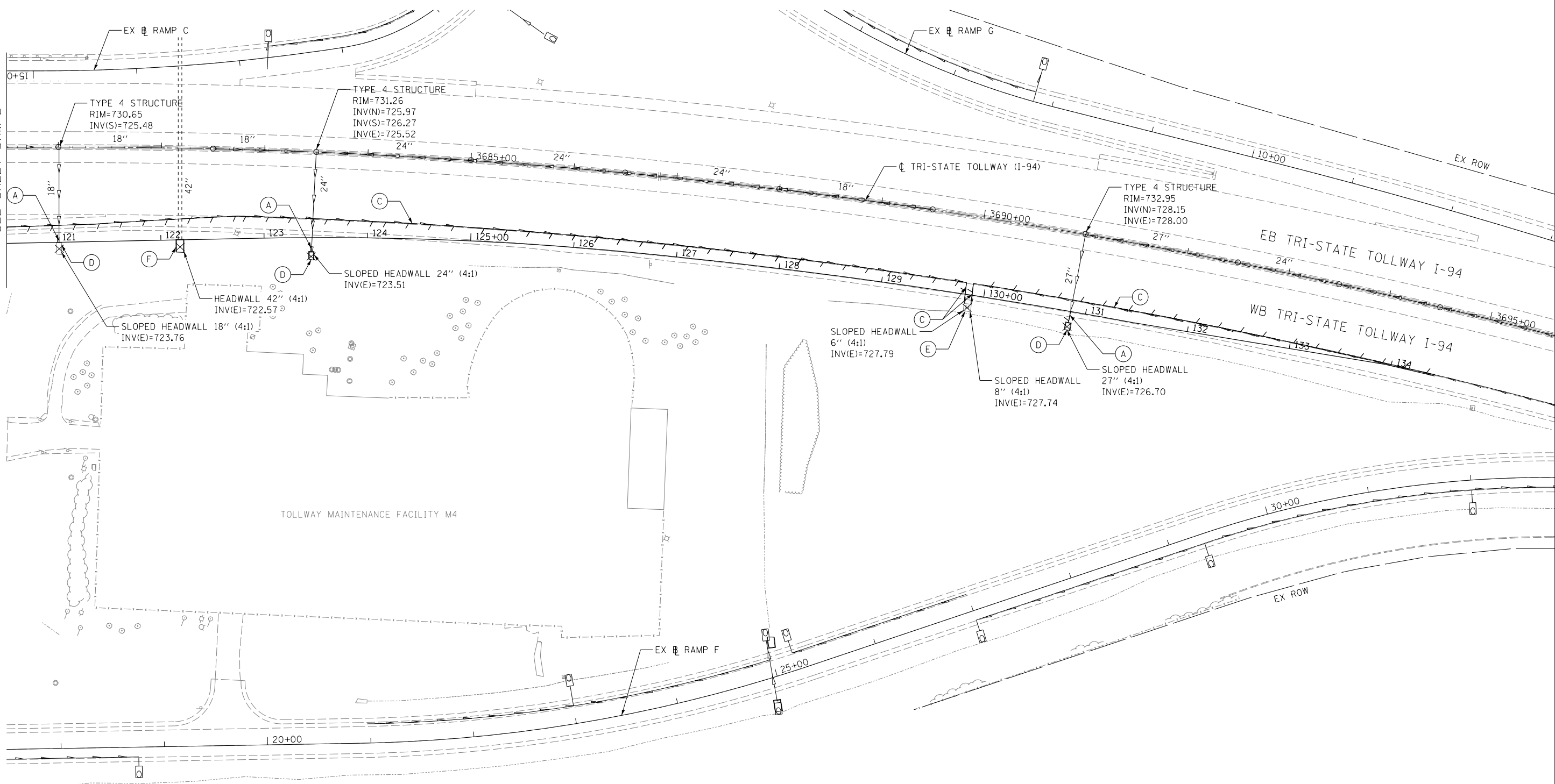
SINGH
 SINGH + ASSOCIATES INC.
 CONSULTING ENGINEERS

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. DRM-2
 I-94 AT GRAND AVENUE DRAWING NO. 71 OF 228
 DRAINAGE REMOVAL PLAN

MATCHLINE STA. 3680+50
SEE SHEET DRM-2

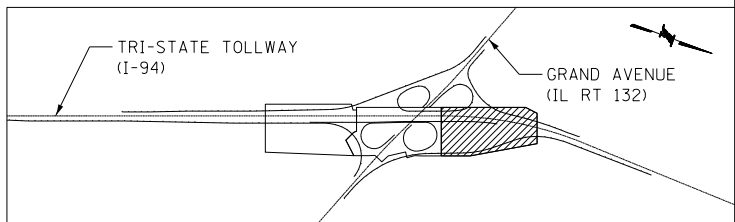
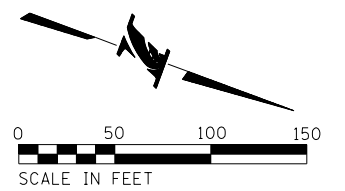


LEGEND

- DITCH
- 6" UNDERDRAIN
- STORM SEWER
- HEADWALL
- SLOPED HEADWALL
- CATCH BASIN
- INLET
- MANHOLE
- SUMMIT
- DITCH FLOW

- LINEAR REMOVAL ITEMS
- REMOVAL ITEMS
- (A) STORM SEWER REMOVAL (5510...00)
- (B) REMOVING CATCH BASINS (60500050)
- (C) PIPE UNDERDRAIN REMOVAL (20040530)
- (D) SLOPED HEADWALL REMOVAL (J1501040)

- (E) REMOVE CONCRETE HEADWALLS FOR PIPE DRAINS (X6015000)
- (F) CONCRETE HEADWALL REMOVAL (50105220)
- (G) STORM SEWER REMOVAL, EQUIVALENT ROUND-SIZE 36" (J1551036)
- (H) REMOVING MANHOLES (60500040)



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CHECKED BY VP DATE 03/23/2017



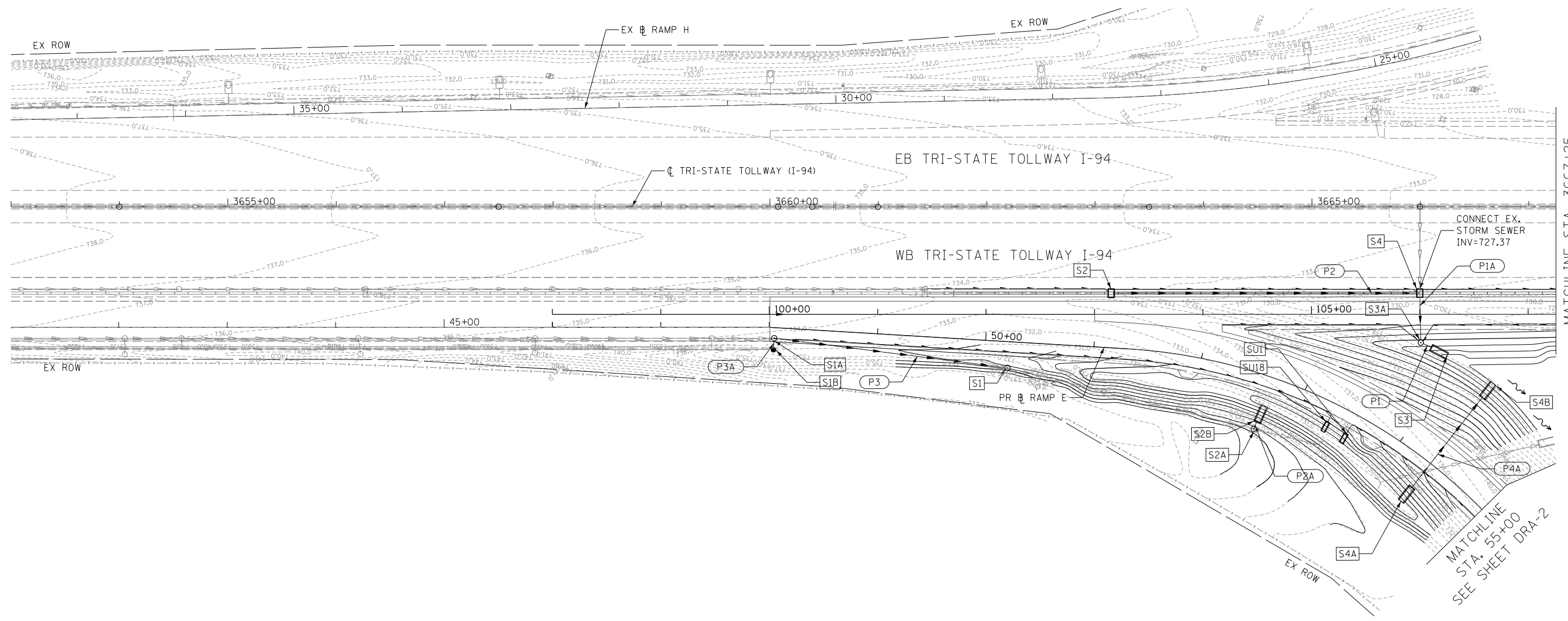
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
DRAINAGE REMOVAL PLAN

SHT NO. DRM-3
DRAWING NO.
72 OF 228

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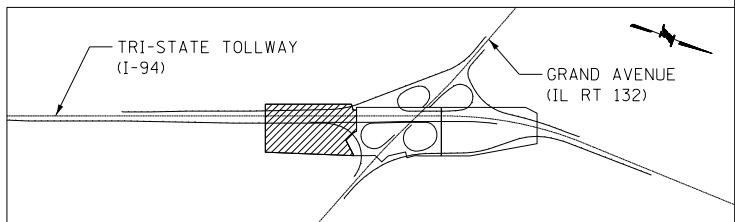
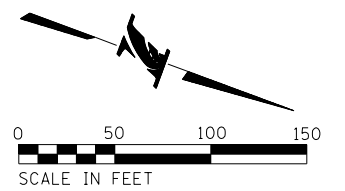


MATCHLINE STA. 3667+25
SEE SHEET DRA-2

MATCHLINE
STA. 55+00
SEE SHEET DRA-2

LEGEND

	EXISTING	PROPOSED	EXISTING	PROPOSED		
DITCH			SLOPED HEADWALL/ HEADWALL		STORM SEWER PIPE NUMBER	
6" UNDERDRAIN			CATCH BASIN		STORM STRUCTURE NUMBER	
STORM SEWER			INLET		UNDERDRAIN STRUCTURE NUMBER	
			MANHOLE			
			SUMMIT			
			DITCH FLOW			



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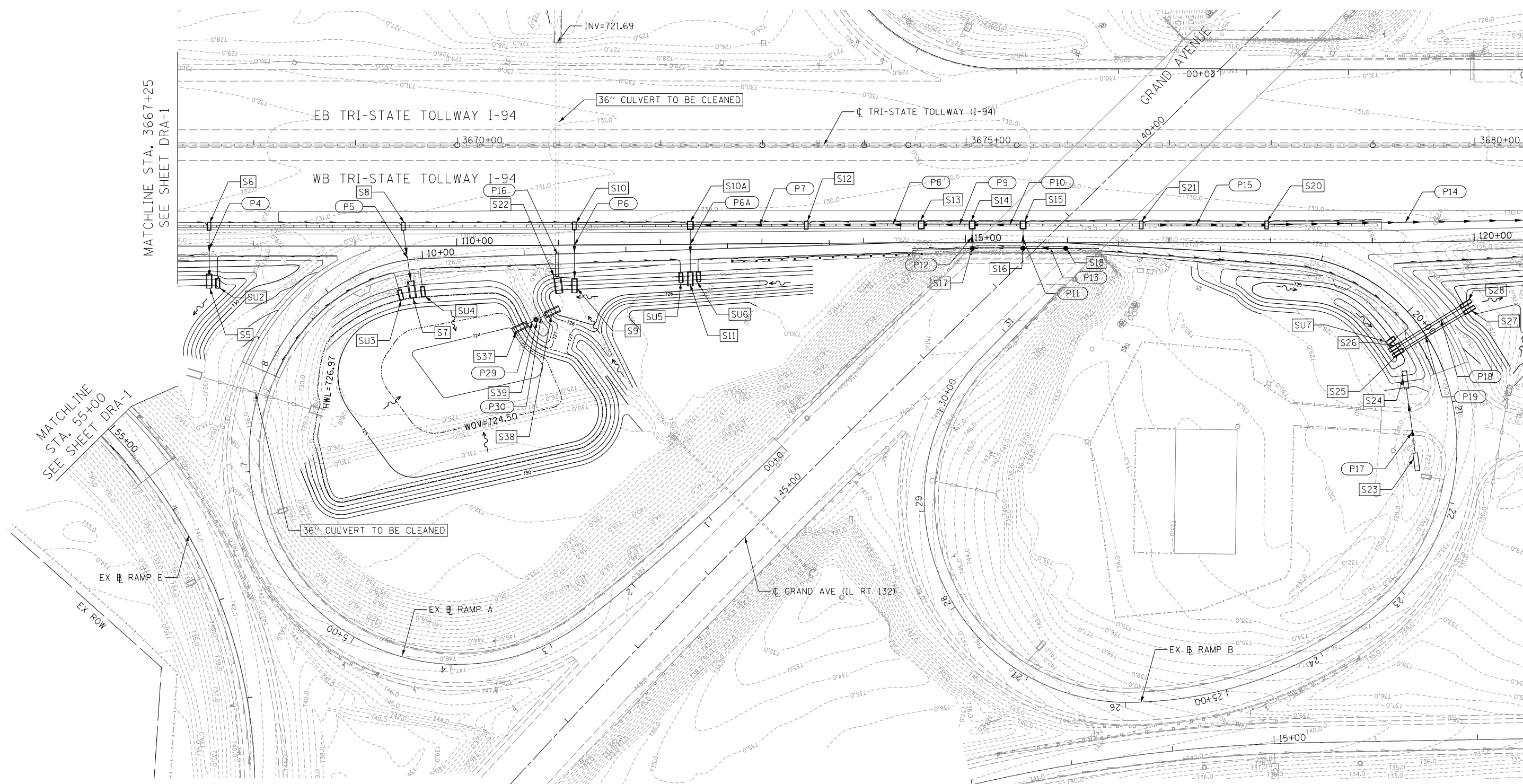
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. DRA-1
I-94 AT GRAND AVENUE DRAWING NO.
DRAINAGE PLAN 74 OF 228

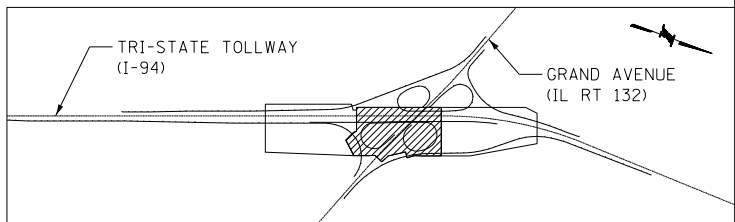
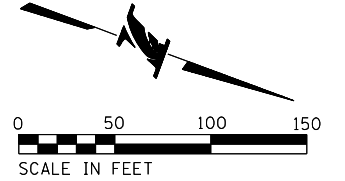
MATCHLINE STA. 3667+25
SEE SHEET DRA-1

MATCHLINE STA. 3680+50
SEE SHEET DRA-3



LEGEND

	EXISTING	PROPOSED	EXISTING	PROPOSED		
DITCH					STORM SEWER PIPE NUMBER	P100
6" UNDERDRAIN					STORM STRUCTURE NUMBER	S100
STORM SEWER					UNDERDRAIN STRUCTURE NUMBER	SU100



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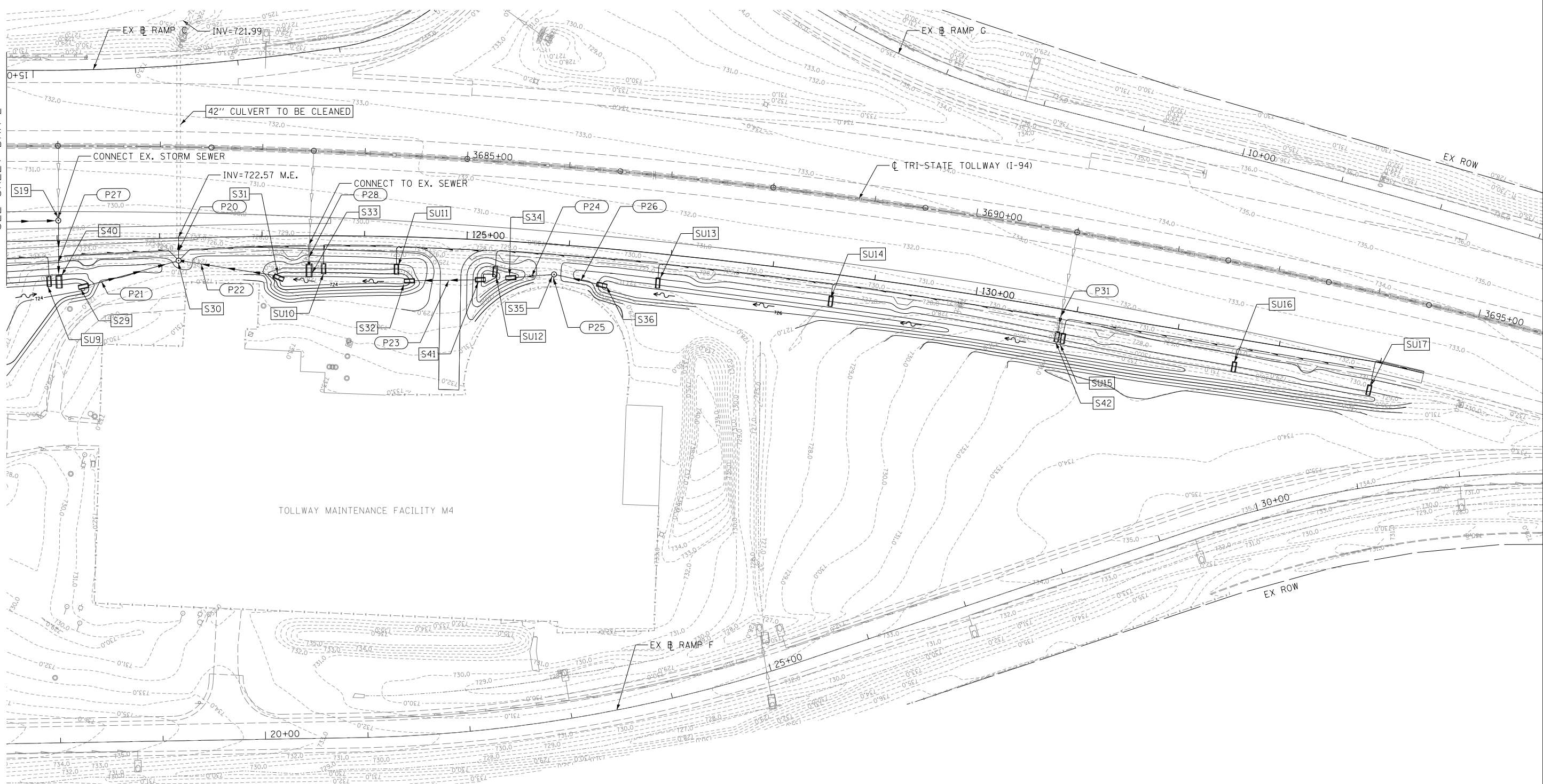


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291 SHT NO. DRA-2
 I-94 AT GRAND AVENUE DRAWING NO.
 DRAINAGE PLAN 75 OF 228

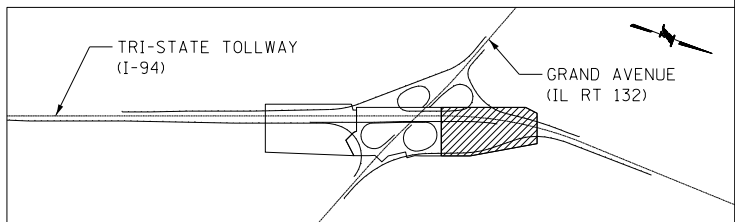
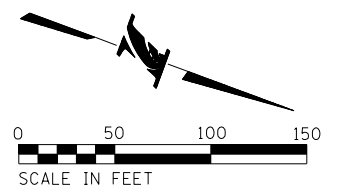
MATCHLINE STA. 3680+50
SEE SHEET DRA-2



TOLLWAY MAINTENANCE FACILITY M4

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED		EXISTING	PROPOSED
DITCH			SLOPED HEADWALL/ HEADWALL			STORM SEWER PIPE NUMBER		P100
6" UNDERDRAIN			CATCH BASIN			STORM STRUCTURE NUMBER		S100
STORM SEWER			INLET			UNDERDRAIN STRUCTURE NUMBER		SU100
			MANHOLE					
			SUMMIT					
			DITCH FLOW					



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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. DRA-3
I-94 AT GRAND AVENUE DRAWING NO. 76 OF 228
DRAINAGE PLAN

STORM SEWER SCHEDULE													
NO.	TYPE	MATERIAL	SIZE (IN)	SLOPE %	LENGTH (FT)	STA	OFFSET	LT/RT	STA2	OFFSET3	LT/RT4	TRENCH BACKFILL (CU YD)	PAY ITEM NO.
P1	SS-T1-A	RCP	30	0.67	22	106+20	40.6	RT	106+01	19.6	RT	0	550A0140
P1A	SS-T1-A	RCP	30	1.07	30	106+01	-23.0	LT	106+01	19.6	RT	0	550A0140
P2A	SS-T1-A	RCP	36	7.70	9	52+67	50.3	RT	52+67	27.3	RT	0	550A0160
P3A	SS-T1-A	RCP	15	1.60	5	48+05	18	RT	48+05	9.8	RT	1.5	550A0070
P2	SS-T1-A	RCP	24	0.30	281	103+16	-19.0	LT	106+01	-23.0	LT	30.1	550A0120
P3	SS-T1-A	RCP	29 x 45	0.40	214	48+05	19.0	RT	50+22	24.1	RT	35.6	550A4500
P4	SS-T1-A	RCP	12	1.00	49	107+57	-23.0	LT	107+57	39.0	RT	4.9	550A0050
P4A	SS-T2-A	RCP	36	1.00	111	54+35	45.0	RT	54+35	-99.0	LT	59	550A0450
P5	SS-T1-A	RCP	12	1.53	59	109+48	-23.0	LT	109+58	50.0	RT	6.5	550A0050
P6	SS-T1-A	RCP	12	1.60	58	111+16	-22.4	LT	111+16	43.7	RT	5.8	550A0050
P6A	SS-T1-A	RCP	19 x 30	1.50	46	112+30	-21.9	LT	112+30	40.7	RT	4.2	550A4100
P7	SS-T1-A	RCP	19 x 30	0.20	110	112+30	-21.9	LT	113+44	-21.4	LT	4.3	550A4100
P8	SS-T1-A	RCP	19 x 30	0.20	109	114+57	-21.0	LT	113+44	-21.4	LT	11.9	550A4100
P9	SS-T1-A	RCP	14 x 23	0.20	45	115+07	-21.0	LT	114+57	-21.0	LT	4.1	550A4000
P10	SS-T1-A	RCP	14 x 23	0.20	45	115+57	-21.0	LT	115+07	-21.0	LT	4.1	550A4000
P11	SS-T1-A	RCP	12	0.47	17	115+57	6.0	RT	115+57	-21.0	LT	2.2	550A0050
P12	SS-T1-A	RCP	12	1.00	17	115+07	6.0	RT	115+07	-21.0	LT	2.2	550A0050
P13	SS-T1-A	RCP	12	0.45	38	115+99	6.0	RT	115+57	6.0	RT	5	550A0050
P14	SS-T1-A	RCP	15	0.32	303	117+96	-21.0	LT	121+01	-19.4	LT	71.5	550A0070
P15	SS-T1-A	RCP	12	0.44	119	116+73	-21.0	LT	117+96	-21.0	LT	18.1	550A0050
P16	SS-T1-A	RCP	36	0.88	26	111+01	47.2	RT	110+98	7.6	RT	9.4	550A0160
P17	SS-T1-A	RCP	18	1.00	64	21+52	40.7	RT	20+73	40.1	RT	3	550A0090
P18	SS-T1-A	RCP	14 x 23	0.37	76	20+23	32.0	RT	20+23	53.0	LT	16.2	550A4000
P19	SS-T1-A	RCP	14 x 23	0.37	76	20+31	32.0	RT	20+31	53.0	LT	16.2	550A4000
P20	SS-T1-A	RCP	42	0.20	24	122+18	22.7	RT	122+18	-2.8	LT	11.4	550A0180
P21	SS-T1-A	RCP	19 x 30	0.44	84	121+20	48.0	RT	122+18	22.7	RT	0	550A4100
P22	SS-T1-A	RCP	19 x 30	0.64	89	122+18	22.7	RT	123+20	45.0	RT	0	550A4100
P23	SS-T1-A	RCP	19 x 30	0.20	78	125+20	38.0	RT	124+40	43.0	RT	6.3	550A4100
P24	SS-T1-A	RCP	19 x 30	0.40	46	125+40	36.0	RT	125+87	28.7	RT	0	550A4100
P25	SS-T1-A	RCP	12	0.50	7	125+87	28.7	RT	125+87	38.0	RT	0	550A0050
P26	SS-T1-A	RCP	19 x 30	0.40	46	125+87	28.7	RT	126+40	37.0	RT	0	550A4100
P27	SS-T1-A	RCP	18	1.53	57	121+01	-19.4	LT	121+01	47.0	RT	4.2	550A0090
P28	SS-T1-A	RCP	24	0.20	33	123+46	8.6	LT	123+46	42.0	RT	2.8	550A0120
P29	SS-T1-A	RCP	24	0.71	7	110+55	83.9	RT	110+77	73.1	RT	0	550A0120
P30	SS-T1-A	RCP	24	0.65	9	110+77	73.1	RT	111+00	62.1	RT	0	550A0120
P31	SS-T1-A	RCP	27	0.18	22	130+85	2.0	RT	130+85	39.0	RT	8.8	550A0130

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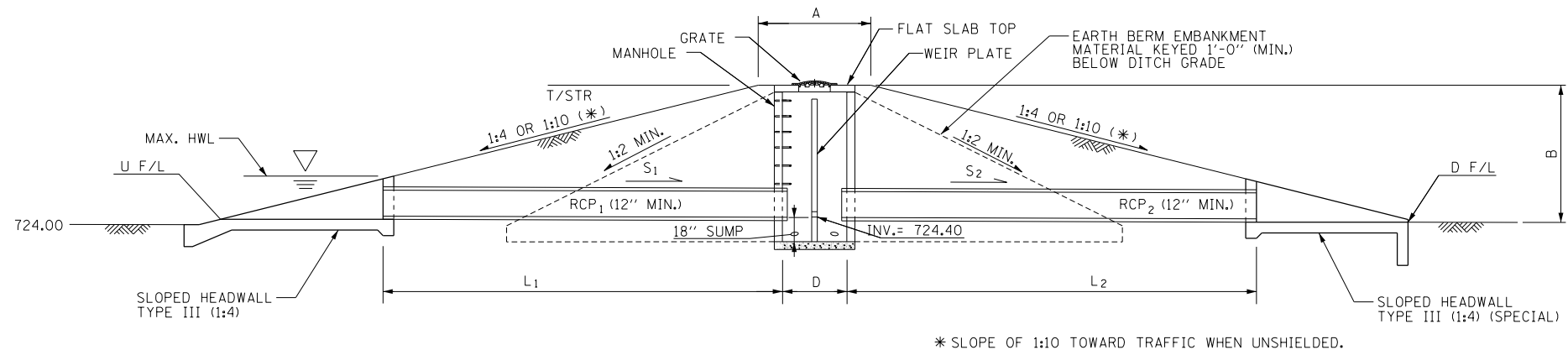
DRAWN BY CEY DATE 03/23/2017
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REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 DRAINAGE SCHEDULES

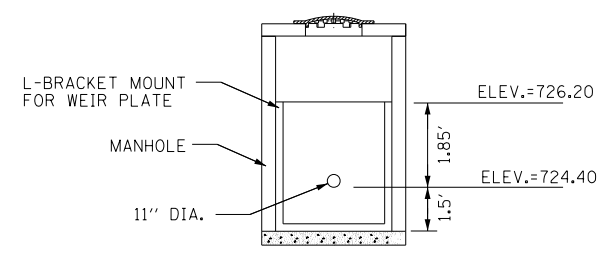
SHT NO. DRA-5
 DRAWING NO.
 78 OF 228



* SLOPE OF 1:10 TOWARD TRAFFIC WHEN UNSHIELDED.

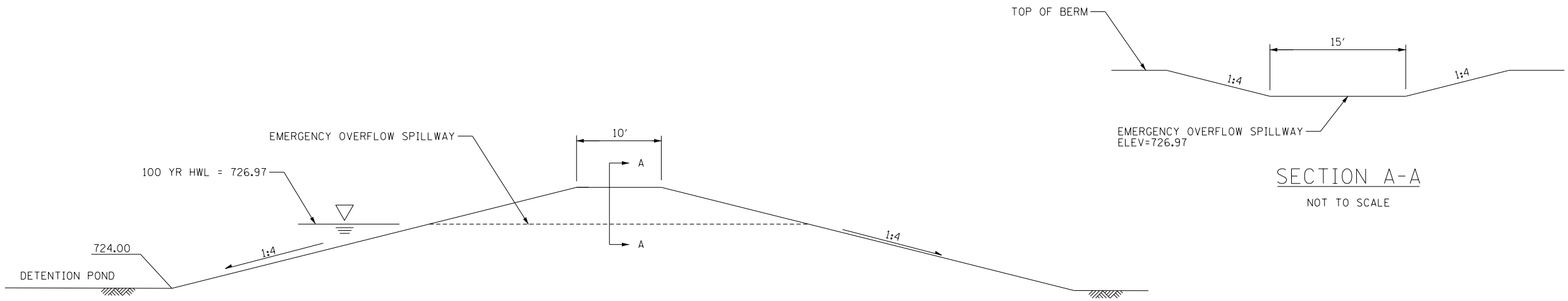
PROFILE VIEW

DESIGN ELEMENTS		VALUES
DRAINAGE AREA	X (ACRES)	20.063
STORAGE VOLUME	V (CU. YD.)	91.081
CHECK DAM TOP WIDTH	A (FEET)	10
CHECK DAM HEIGHT	B (FEET)	729.00
MANHOLE	D (DIAMETER)	6 FT
MANHOLE-GRATE	TYPE	TY 1 CLOSED LID
HORIZONTAL PIPE (RCP ₁)	P ₁ (DIAMETER)	24 IN
HORIZONTAL PIPE (RCP ₁)	L ₁ (FEET)	7
HORIZONTAL PIPE (RCP ₁)	S ₁ (SLOPE)	0.71%
HORIZONTAL PIPE (RCP ₂)	P ₂ (DIAMETER)	24 IN
HORIZONTAL PIPE (RCP ₂)	L ₂ (FEET)	9
HORIZONTAL PIPE (RCP ₂)	S ₂ (SLOPE) (%)	0.65%
WEIR PLATE-DETAIL	SHAPE	RECTANGLE
WEIR PLATE-RELEASE RATE	CFS	17.55 (100 YR)
HEADWALL TYPE III (1:10)	PIPE DIAMETER	-
SLOPED HEADWALL TYPE III (1:4)	PIPE DIAMETER	24 IN
HIGH WATER ELEVATION	HWL (FEET)	726.97
TOP OF STRUCTURE ELEVATION	T/STR (FEET)	729.00
UPSTREAM FLOWLINE	U F/L (FEET)	724.50
DOWNSTREAM FLOWLINE	D F/L (FEET)	724.34



WEIR PLATE DETAIL

OUTLET CONTROL STRUCTURE



DETENTION POND EMERGENCY OVERFLOW SPILLWAY DETAIL

SECTION A-A
NOT TO SCALE

NOTE:
ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT, (V:H).

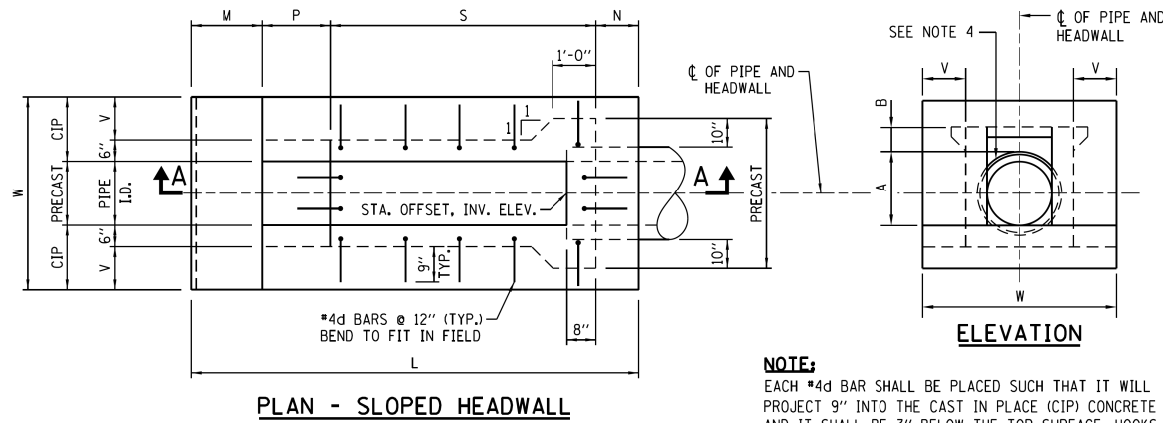
DRAWN BY CEY DATE 03/23/2017
CHECKED BY VP DATE 03/23/2017



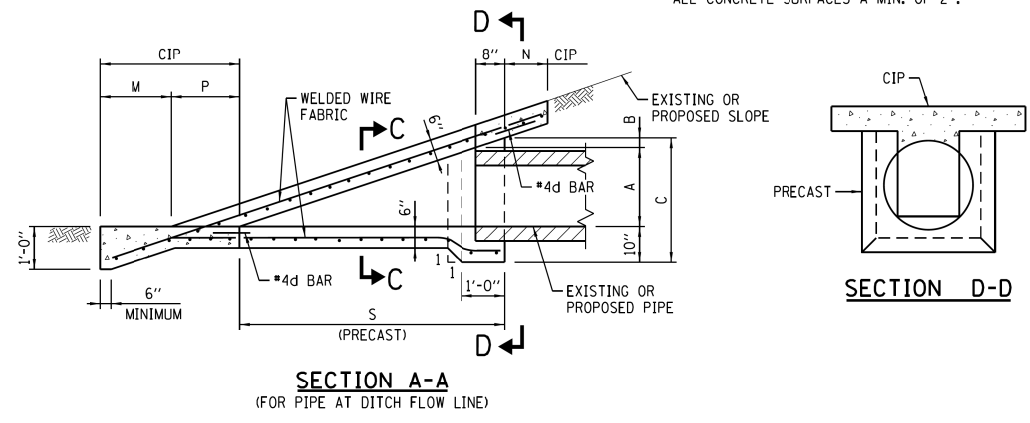
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-17-4291
OUTLET CONTROL STRUCTURE DETAILS
SHT NO. DRA-7
DRAWING NO. 80 OF 228



NOTE:
EACH #4d BAR SHALL BE PLACED SUCH THAT IT WILL PROJECT 9" INTO THE CAST IN PLACE (CIP) CONCRETE AND IT SHALL BE 3" BELOW THE TOP SURFACE. HOOKS IN THE PRECAST SECTION SHALL BE TIPPED TO CLEAR ALL CONCRETE SURFACES A MIN. OF 2".



DIMENSIONS AND QUANTITIES FOR ONE SLOPED HEADWALL TYPE III

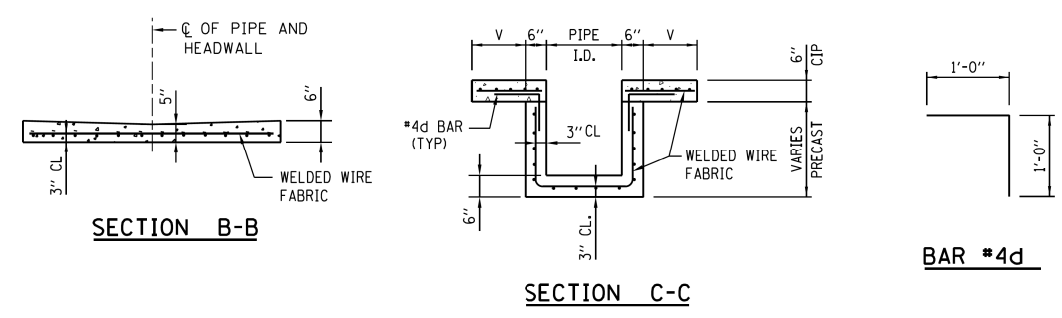
PIPE I.D.	DIMENSIONS										PRE CAST CONC. CU. YD.	CAST-IN-PLACE CONC. CU. YD.	WELDED WIRE FABRIC SQ. YD.	REINF. STEEL				
	A	B	C	N	M	P	S	L	V	W				MARK	SIZE	NO.	LENGTH	LBS.
6"	9"	2 3/4"	1'-9 3/4"	1'-0"	1'-8"	1'-6 3/4"	2'-11 1/4"	7'-2"	1'-0"	3'-6"	.15	.62	2.67	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2 3/4"	2'-4 1/4"	1'-0"	1'-8"	1'-6 3/4"	4'-6 3/4"	8'-9 1/2"	1'-0"	4'-0"	.34	.80	3.80	d12	#4	14	2'-0"	19
15"	1'-6 1/2"	2 3/4"	2'-7 1/4"	1'-0"	1'-8"	1'-6 3/4"	5'-3 3/4"	9'-6 1/2"	1'-0"	4'-3"	.45	.89	5.13	d15	#4	16	2'-0"	21
18"	1'-10"	2 3/4"	2'-10 3/4"	1'-0"	1'-8"	1'-6 3/4"	6'-2 1/4"	10'-5"	1'-0"	4'-6"	.61	1.0	5.65	d18	#4	18	2'-0"	24
21"	2'-1"	2 3/4"	3'-1 3/4"	1'-0"	1'-9"	1'-6 3/4"	6'-11 1/4"	11'-3"	1'-3"	5'-3"	.76	1.24	7.42	d21	#4	22	2'-0"	29
24"	2'-4 1/2"	2 3/4"	3'-5 1/4"	1'-0"	2'-0"	1'-6 3/4"	7'-9 3/4"	12'-4 1/2"	1'-6"	6'-0"	.95	1.54	8.80	d24	#4	24	2'-0"	32
27"	2'-7 1/2"	2 3/4"	3'-8 1/4"	1'-1 1/2"	2'-3"	1'-6 3/4"	8'-6 3/4"	13'-6"	1'-9"	6'-9"	1.14	1.87	12.35	d27	#4	24	2'-0"	32
30"	2'-11"	2 3/4"	3'-11 3/4"	1'-3"	2'-6"	1'-6 3/4"	9'-5 1/4"	14'-9"	2'-0"	7'-6"	1.38	2.24	15.08	d30	#4	26	2'-0"	35

PIPE I.D.	DIMENSIONS										PRE CAST CONC. CU. YD.	CAST-IN-PLACE CONC. CU. YD.	WELDED WIRE FABRIC SQ. YD.	REINF. STEEL				
	A	B	C	N	M	P	S	L	V	W				MARK	SIZE	NO.	LENGTH	LBS.
6"	9"	2"	1'-9"	1'-0"	1'-8"	2'-1"	3'-8"	8'-5"	1'-0"	3'-6"	.17	.70	3.27	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2"	2'-3 1/2"	1'-0"	1'-8"	2'-1"	5'-10"	10'-7"	1'-0"	4'-0"	.41	.92	4.58	d12	#4	16	2'-0"	21
15"	1'-6 1/2"	2"	2'-6 1/2"	1'-0"	1'-8"	2'-1"	6'-10"	11'-7"	1'-0"	4'-3"	.55	1.02	5.66	d15	#4	18	2'-0"	24
18"	1'-10"	2"	2'-10"	1'-0"	1'-8"	2'-1"	8'-0"	12'-11"	1'-0"	4'-6"	.74	1.15	7.57	d18	#4	22	2'-0"	29
21"	2'-1"	2"	3'-1"	1'-0"	1'-9"	2'-1"	9'-0"	13'-10"	1'-3"	5'-3"	.93	1.43	9.83	d21	#4	24	2'-0"	32
24"	2'-4 1/2"	2"	3'-4 1/2"	1'-0"	2'-0"	2'-1"	10'-2"	15'-3"	1'-6"	6'-0"	1.18	1.77	12.51	d24	#4	28	2'-0"	37
27"	2'-7 1/2"	2"	3'-7 1/2"	1'-1 1/2"	2'-3"	2'-1"	11'-2"	16'-7"	1'-9"	6'-9"	1.42	2.15	13.28	d27	#4	30	2'-0"	40
30"	2'-11"	2"	3'-11"	1'-3"	2'-6"	2'-1"	12'-4"	18'-2"	2'-0"	7'-6"	1.71	2.58	18.77	d30	#4	32	2'-0"	43

PIPE I.D.	DIMENSIONS										PRE CAST CONC. CU. YD.	CAST-IN-PLACE CONC. CU. YD.	WELDED WIRE FABRIC SQ. YD.	REINF. STEEL				
	A	B	C	N	M	P	S	L	V	W				MARK	SIZE	NO.	LENGTH	LBS.
6"	9"	1 1/2"	1'-8 1/2"	1'-0"	1'-8"	3'-0"	5'-3"	10'-11"	1'-0"	3'-6"	.23	.87	4.11	d6	#4	16	2'-0"	21
12"	1'-3 1/2"	1 1/2"	2'-3"	1'-0"	1'-8"	3'-0"	8'-6"	14'-2"	1'-0"	4'-0"	.57	1.15	7.27	d12	#4	22	2'-0"	29
15"	1'-6 1/2"	1 1/2"	2'-6"	1'-0"	1'-8"	3'-0"	10'-0"	15'-8"	1'-0"	4'-3"	.77	1.29	8.91	d15	#4	26	2'-0"	35
18"	1'-10"	1 1/2"	2'-9 1/2"	1'-0"	1'-8"	3'-0"	11'-9"	17'-5"	1'-0"	4'-6"	1.04	1.45	10.95	d18	#4	28	2'-0"	37
21"	2'-1"	1 1/2"	3'-0 1/2"	1'-0"	1'-9"	3'-0"	13'-3"	19'-0"	1'-3"	5'-3"	1.31	1.81	14.00	d21	#4	34	2'-0"	45
24"	2'-4 1/2"	1 1/2"	3'-4"	1'-0"	2'-0"	3'-0"	15'-0"	21'-0"	1'-6"	6'-0"	1.66	2.25	15.49	d24	#4	38	2'-0"	51
27"	2'-7 1/2"	1 1/2"	3'-7"	1'-1 1/2"	2'-3"	3'-0"	16'-6"	22'-10 1/2"	1'-9"	6'-9"	1.99	2.73	21.82	d27	#4	40	2'-0"	53
30"	2'-11"	1 1/2"	3'-10 1/2"	1'-3"	2'-6"	3'-0"	18'-3"	25'-0"	2'-0"	7'-6"	2.41	3.28	26.60	d30	#4	44	2'-0"	59

- NOTES:**
- THE CAST IN PLACE (CIP) SLOPED HEADWALL SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
 - CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
 - WELDED WIRE FABRIC SHALL BE EPOXY COATED 6x6-W4xW4, 58 LBS. PER 100 SQ.FT.
 - ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED.
 - BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
 - COVER FROM FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
 - PRECAST UNIT USE IS OPTIONAL. THE ENTIRE STRUCTURE MAY BE CAST IN PLACE.
 - AFTER THE PRECAST SLOPED HEADWALL HAS BEEN PLACED, THE SPACE BETWEEN THE HEADWALL AND PIPE SHALL BE COMPLETELY FILLED WITH AN APPROVED NON-SHRINK GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI. THE COST FOR FURNISHING AND PLACING THE GROUT SHALL BE INCIDENTAL TO SLOPED HEADWALLS.
 - THE SLOPED HEADWALL DETAILS SHOWN ON THIS DRAWING ARE FOR USE ONLY WITH PIPES HAVING DIAMETER OR SPAN OF 30" OR LESS.
 - QUANTITIES FOR CONCRETE, WELDED WIRE FABRIC, AND REINFORCING STEEL SHOWN IN THE SCHEDULES OF QUANTITIES ARE BASED ON A "V" DIMENSION OF 0'-0" AND A 1:2 SLOPE.
 - ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
 - I.D. DENOTES INSIDE DIAMETER OF PIPE. O.D. DENOTES OUTSIDE DIAMETER OF PIPE.

SLOPED HEADWALLS TYPE III (SPECIAL)



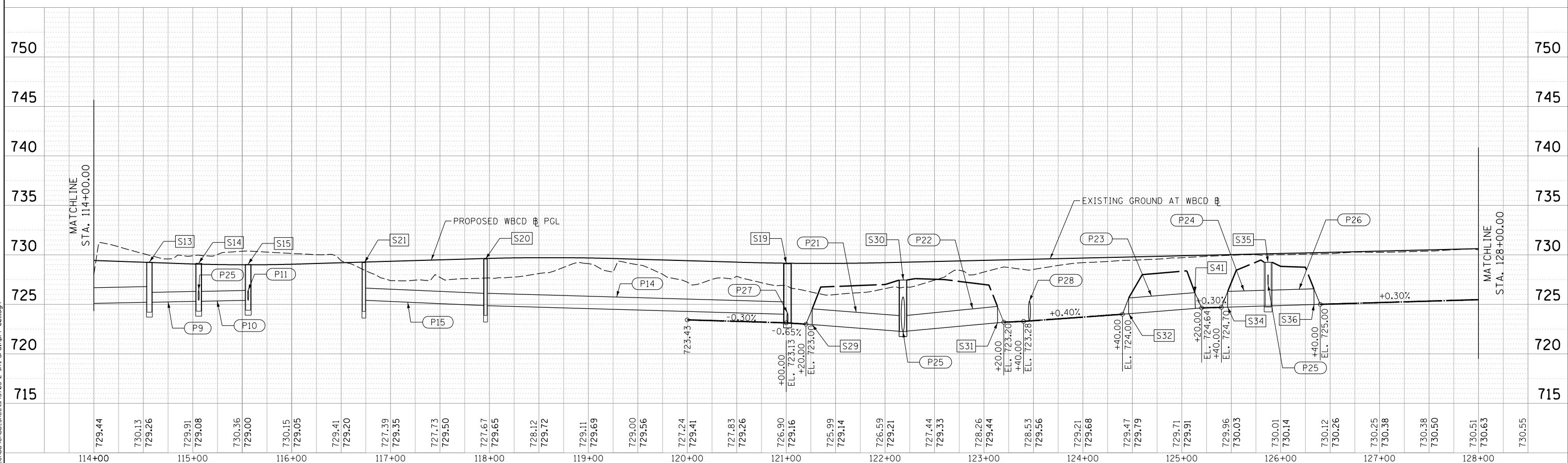
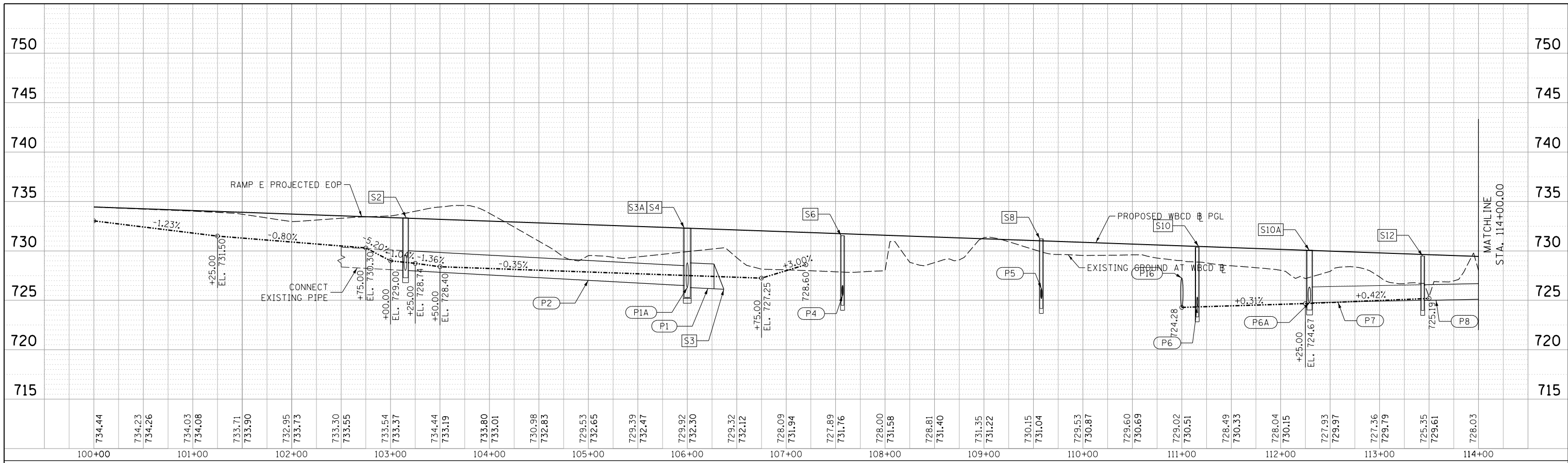
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CHECKED BY VP DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
SLOPED HEADWALLS TYPE III (SPECIAL)
SHT NO. DRA-8
DRAWING NO. 81 OF 228



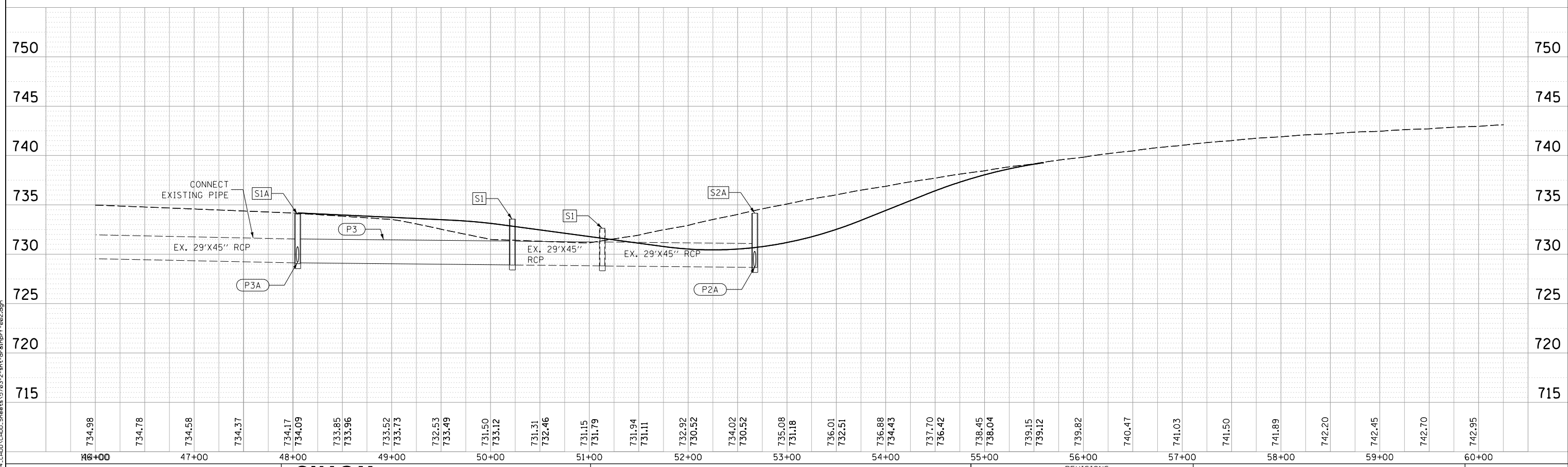
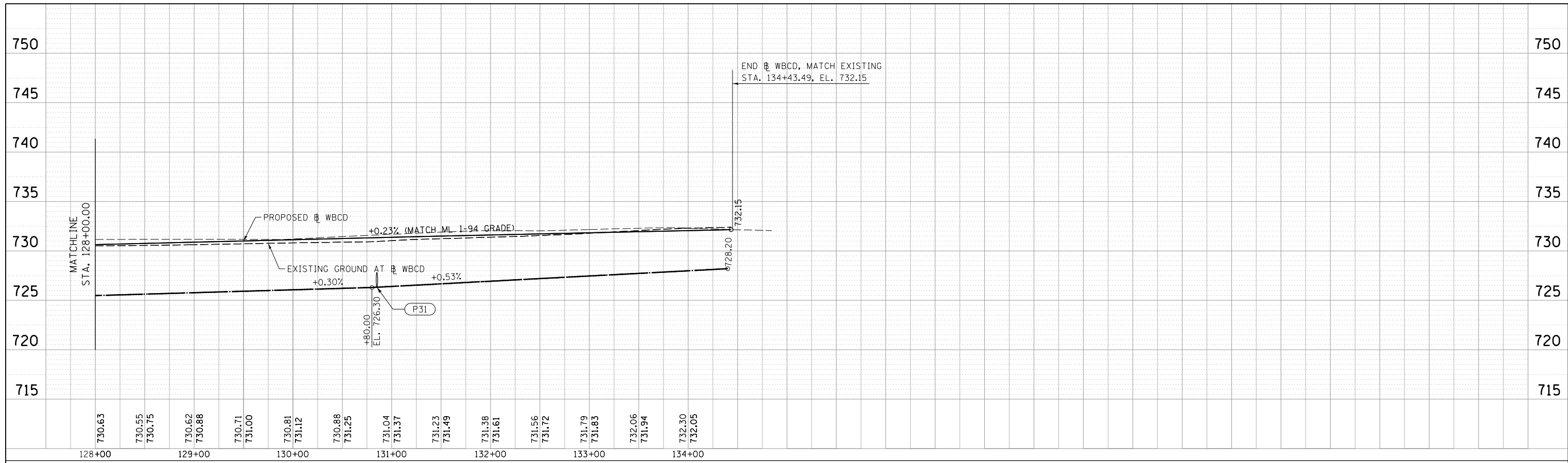
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 CHECKED BY VP DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 DRAINAGE PROFILES
 WBCD ROAD
 SHT NO. DRA-9
 DRAWING NO. 82 OF 228



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DRAWN BY CEY DATE 03/23/2017
CHECKED BY VP DATE 03/23/2017

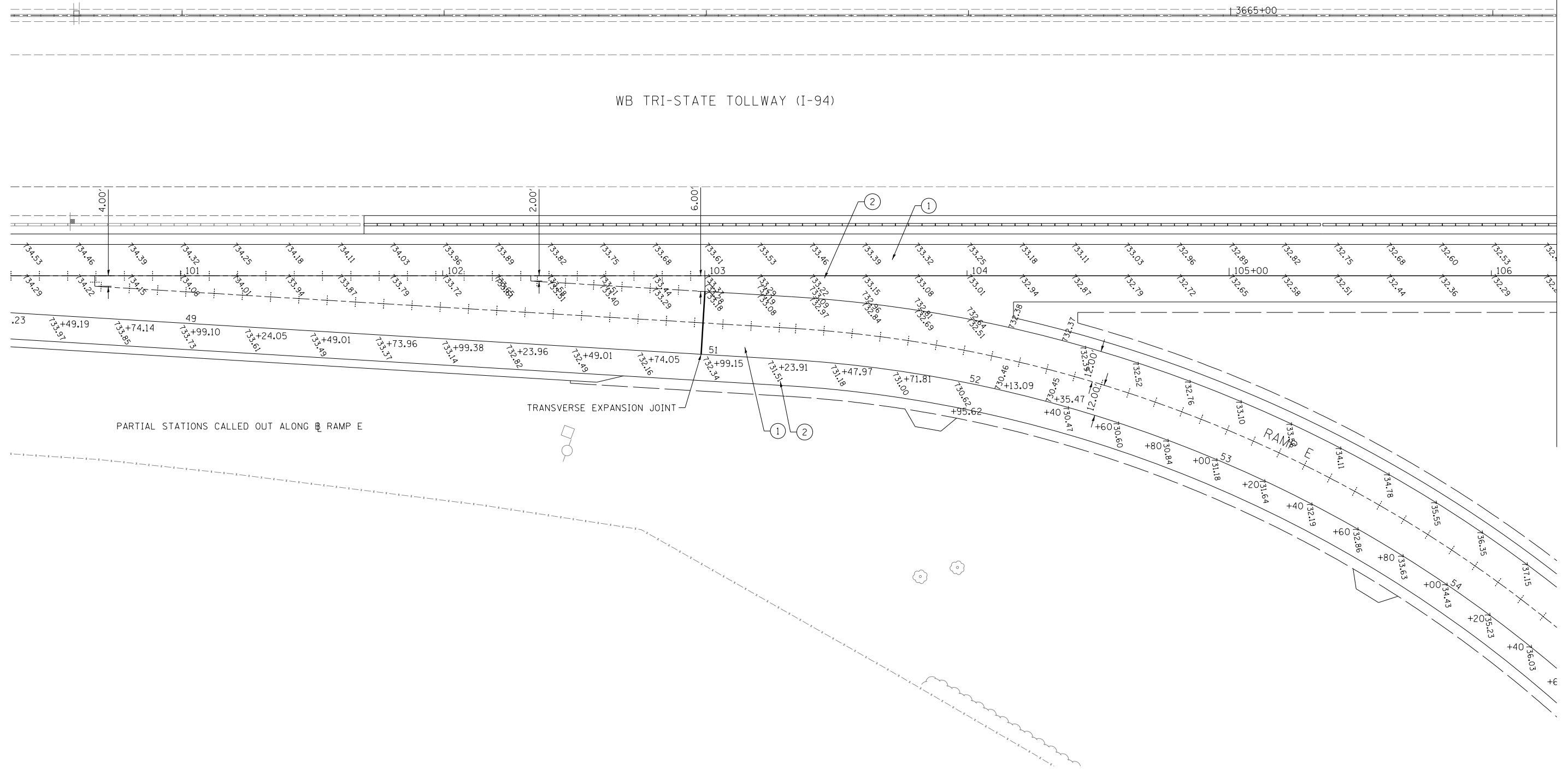


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
DRAINAGE PROFILES
WBCD ROAD
SHT NO. DRA-9
DRAWING NO. 83 OF 228

EB TRI-STATE TOLLWAY (I-94)

WB TRI-STATE TOLLWAY (I-94)



MATCHLINE STA. 106+25
SEE SHEET PJE-2

PARTIAL STATIONS CALLED OUT ALONG B RAMP E

LEGEND

- ① PCC PAVEMENT 12" (JOINTED) (JI420010)
- ② WARM-MIX ASPHALT SHOULDER (6 IN.) (JI482104)
SUBGRADE AGGREGATE 12 IN. (JT211A11)
- LONGITUDINAL CONSTRUCTION JOINT
- LONGITUDINAL KEYED JOINT

NOTES:

1. ELEVATIONS SHOWN ARE FINISHED SURFACE GRADES.
2. PAVEMENT ELEVATIONS SHOWN ON WB CD, RAMP E, RAMP A AND RAMP B ARE EVERY 20 FEET.
3. SEE TOLLWAY STANDARD A5-03 FOR PAVEMENT JOINTS.
4. SEE TOLLWAY STANDARD A14-02 FOR NB CD MAINLINE ENTRANCE DETAILS.
5. SEE TOLLWAY STANDARD A16-02 FOR RAMP B DETAILS.
6. SEE TOLLWAY STANDARD A17-02 FOR RAMP A DETAILS.
7. MATCH PROPOSED TRANSVERSE CONTRACTION JOINTS WITH MAINLINE TRANSVERSE JOINTS.

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DRAWN BY LLS DATE 03/23/2017
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REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291
PAVEMENT ELEVATION AND
JOINTING PLAN

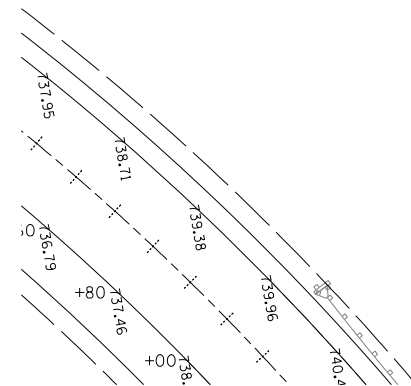
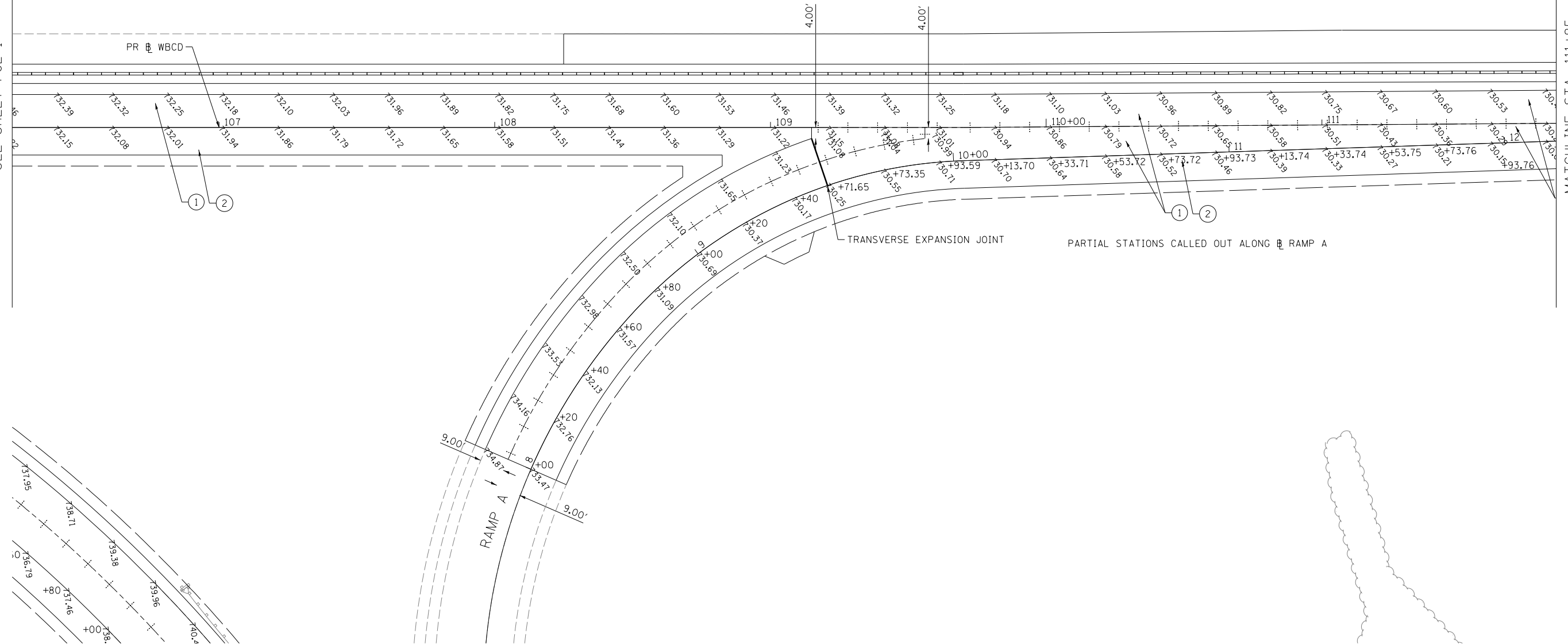
SHT NO. PJE-1
DRAWING NO.
84 OF 228

EB TRI-STATE TOLLWAY (I-94)

WB TRI-STATE TOLLWAY (I-94)

MATCHLINE STA. 106+25
SEE SHEET PJE-1

MATCHLINE STA. 111+85
SEE SHEET PJE-3

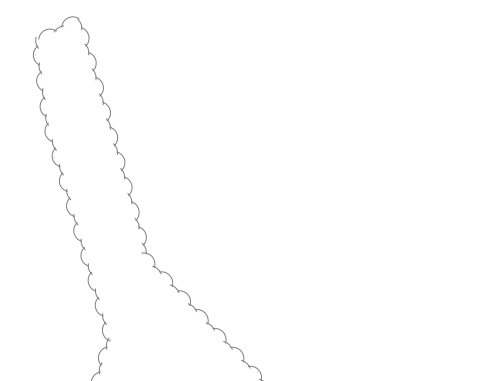


LEGEND

- ① PCC PAVEMENT 12" (JOINTED) (JI420010)
- ② WARM-MIX ASPHALT SHOULDER (6 IN.) (JI482104)
SUBGRADE AGGREGATE 12 IN. (JT211A11)
- LONGITUDINAL CONSTRUCTION JOINT
- - - LONGITUDINAL KEYED JOINT

NOTES:

1. ELEVATIONS SHOWN ARE FINISHED SURFACE GRADES.
2. PAVEMENT ELEVATIONS SHOWN ON WBCD, RAMP A AND RAMP B ARE EVERY 20 FEET.
3. SEE TOLLWAY STANDARD A5-03 FOR PAVEMENT JOINTS.
4. SEE TOLLWAY STANDARD A14-02 FOR NBCD MAINLINE ENTRANCE DETAILS.
5. SEE TOLLWAY STANDARD A16-02 FOR RAMP B DETAILS.
6. SEE TOLLWAY STANDARD A17-02 FOR RAMP A DETAILS.
7. MATCH PROPOSED TRANSVERSE CONTRACTION JOINTS WITH MAINLINE TRANSVERSE JOINTS.



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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
 PAVEMENT ELEVATION AND
 JOINTING PLAN

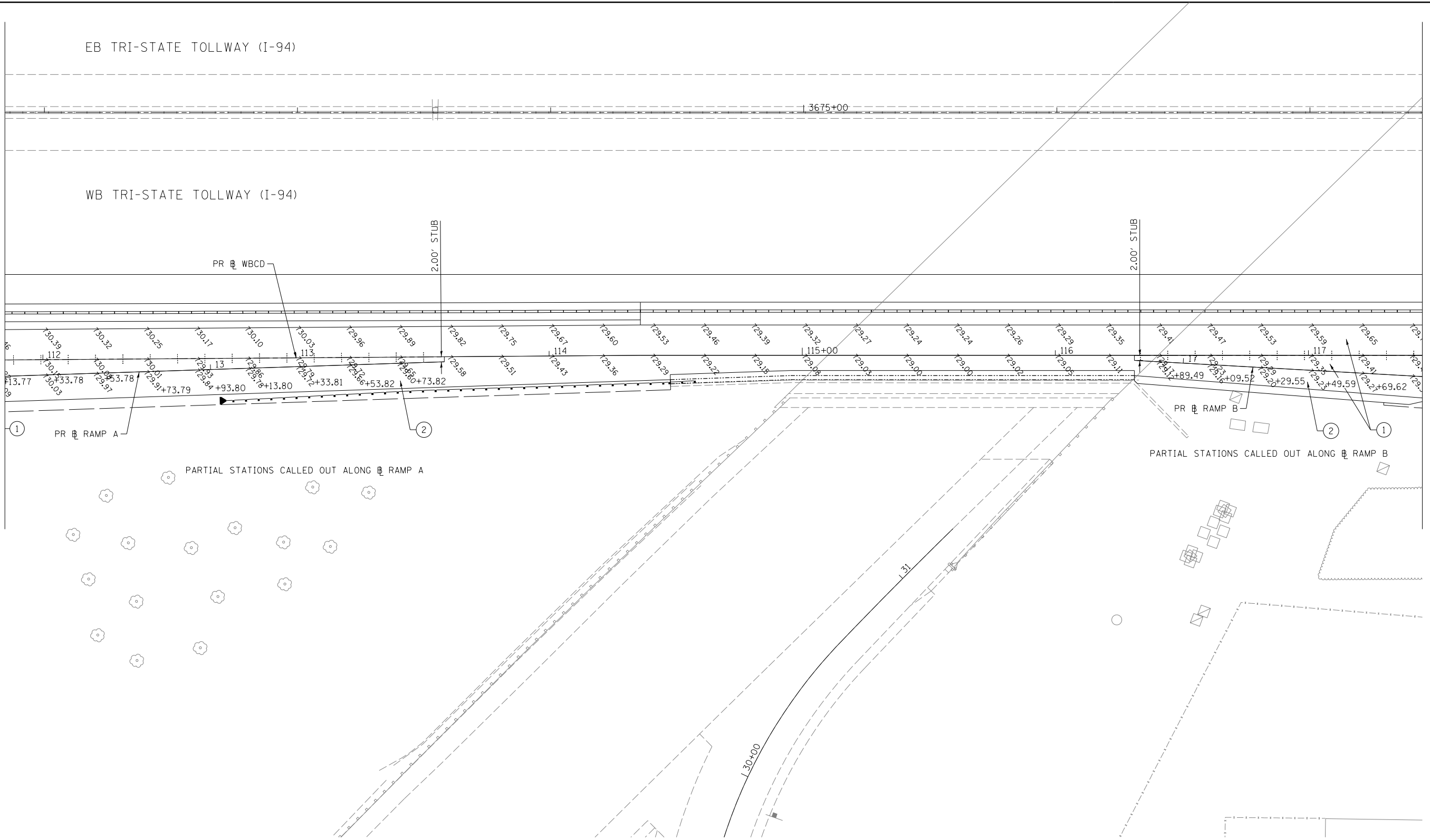
SHT NO. PJE-2
 DRAWING NO.
 85 OF 228

EB TRI-STATE TOLLWAY (I-94)

WB TRI-STATE TOLLWAY (I-94)

MATCHLINE STA. 111+85
SEE SHEET PJE-2

MATCHLINE STA. 117+45
SEE SHEET PJE-4

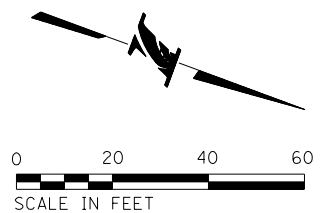


LEGEND

- ① PCC PAVEMENT 12" (JOINTED) (JI420010)
- ② WARM-MIX ASPHALT SHOULDER (6 IN.) (JI482104)
SUBGRADE AGGREGATE 12 IN. (JT211A11)
- LONGITUDINAL CONSTRUCTION JOINT
- LONGITUDINAL KEYED JOINT

NOTES:

1. ELEVATIONS SHOWN ARE FINISHED SURFACE GRADES.
2. PAVEMENT ELEVATIONS SHOWN ON WBCD, RAMP E, RAMP A AND RAMP B ARE EVERY 20 FEET.
3. SEE TOLLWAY STANDARD A5-03 FOR PAVEMENT JOINTS.
4. SEE TOLLWAY STANDARD A14-02 FOR NBCD MAINLINE ENTRANCE DETAILS.
5. SEE TOLLWAY STANDARD A16-02 FOR RAMP B DETAILS.
6. SEE TOLLWAY STANDARD A17-02 FOR RAMP A DETAILS.
7. MATCH PROPOSED TRANSVERSE CONTRACTION JOINTS WITH MAINLINE TRANSVERSE JOINTS.



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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-17-4291
 PAVEMENT ELEVATION AND
 JOINTING PLAN

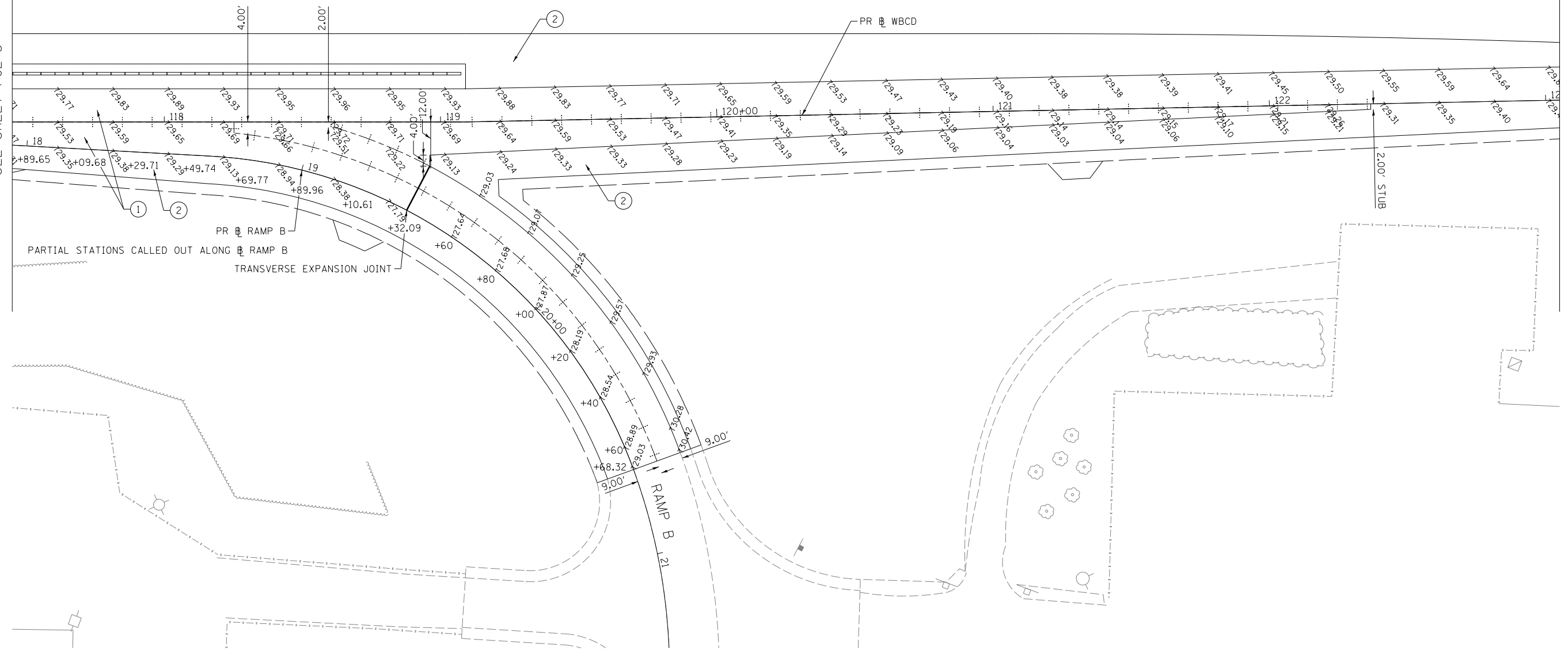
SHT NO. PJE-3
 DRAWING NO.
 86 OF 228

EB TRI-STATE TOLLWAY (I-94)

WB TRI-STATE TOLLWAY (I-94)

MATCHLINE STA. 117+45
SEE SHEET PJE-3

MATCHLINE STA. 123+05
SEE SHEET PJE-5

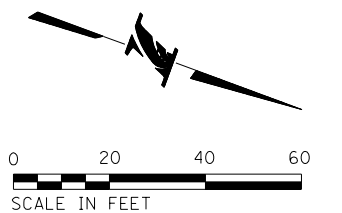


LEGEND

- ① PCC PAVEMENT 12" (JOINTED) (JI420010)
- ② WARM-MIX ASPHALT SHOULDER (6 IN.) (JI482104)
SUBGRADE AGGREGATE 12 IN. (JT211A11)
- LONGITUDINAL CONSTRUCTION JOINT
- LONGITUDINAL KEYED JOINT

NOTES:

1. ELEVATIONS SHOWN ARE FINISHED SURFACE GRADES.
2. PAVEMENT ELEVATIONS SHOWN ON WBCD, RAMP E, RAMP A AND RAMP B ARE EVERY 20 FEET.
3. SEE TOLLWAY STANDARD A5-03 FOR PAVEMENT JOINTS.
4. SEE TOLLWAY STANDARD A14-02 FOR NBCD MAINLINE ENTRANCE DETAILS.
5. SEE TOLLWAY STANDARD A16-02 FOR RAMP B DETAILS.
6. SEE TOLLWAY STANDARD A17-02 FOR RAMP A DETAILS.
7. MATCH PROPOSED TRANSVERSE CONTRACTION JOINTS WITH MAINLINE TRANSVERSE JOINTS.



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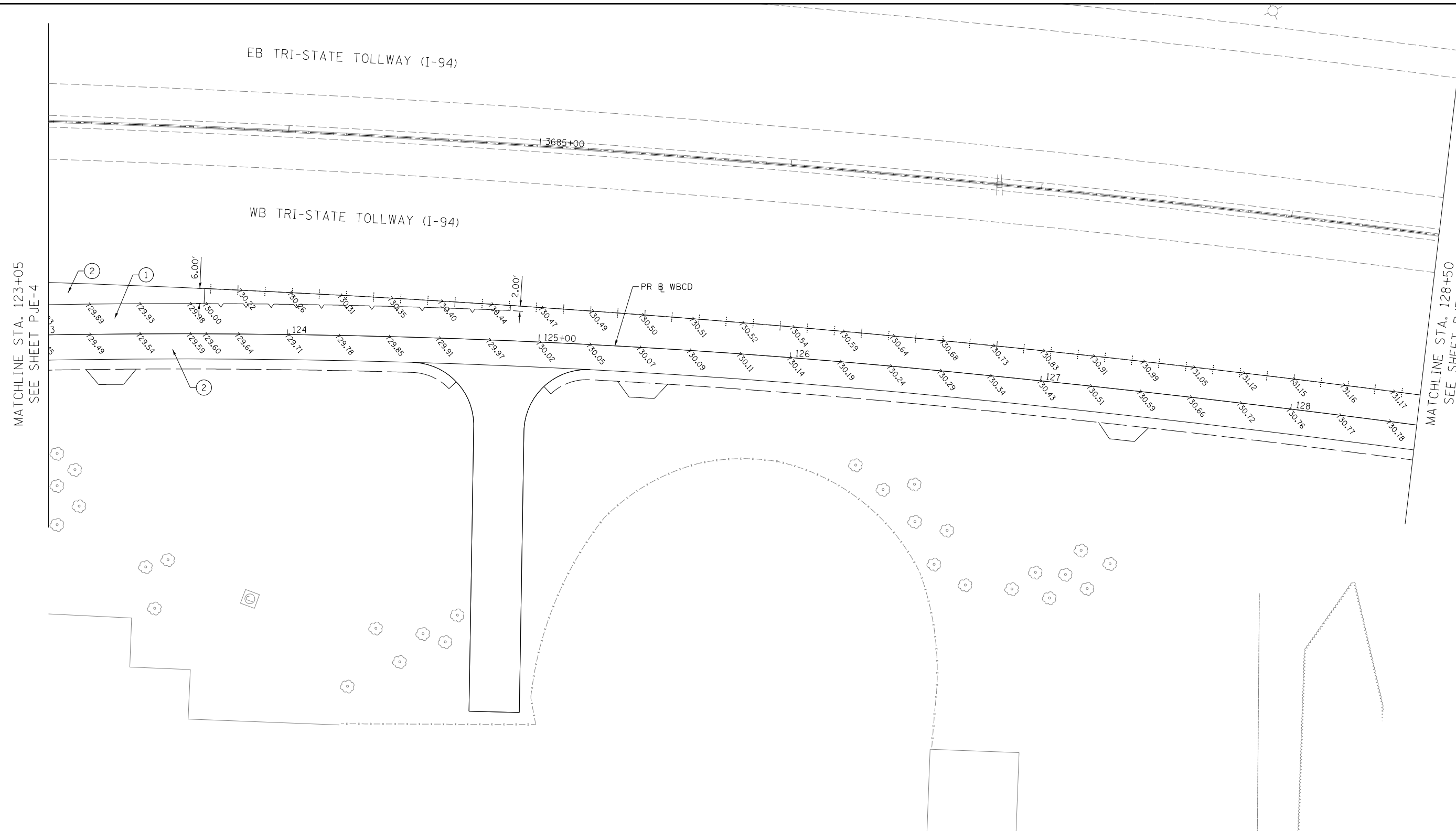
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

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NO.	DATE	

CONTRACT NO. RR-17-4291
 PAVEMENT ELEVATION AND
 JOINTING PLAN

SHT NO. PJE-4
 DRAWING NO.
 87 OF 228

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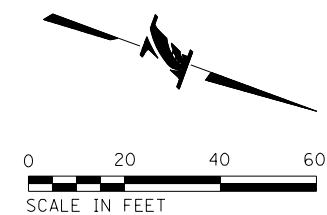


LEGEND

- ① PCC PAVEMENT 12" (JOINTED) (JI420010)
 - ② WARM-MIX ASPHALT SHOULDER (6 IN.) (JI482104)
SUBGRADE AGGREGATE 12 IN. (JT211A11)
- LONGITUDINAL CONSTRUCTION JOINT
 LONGITUDINAL KEYED JOINT

NOTES:

1. ELEVATIONS SHOWN ARE FINISHED SURFACE GRADES.
2. PAVEMENT ELEVATIONS SHOWN ON WBCD, RAMP E, RAMP A AND RAMP B ARE EVERY 20 FEET.
3. SEE TOLLWAY STANDARD A5-03 FOR PAVEMENT JOINTS.
4. SEE TOLLWAY STANDARD A14-02 FOR NBCD MAINLINE ENTRANCE DETAILS.
5. SEE TOLLWAY STANDARD A16-02 FOR RAMP B DETAILS.
6. SEE TOLLWAY STANDARD A17-02 FOR RAMP A DETAILS.
7. MATCH PROPOSED TRANSVERSE CONTRACTION JOINTS WITH MAINLINE TRANSVERSE JOINTS.



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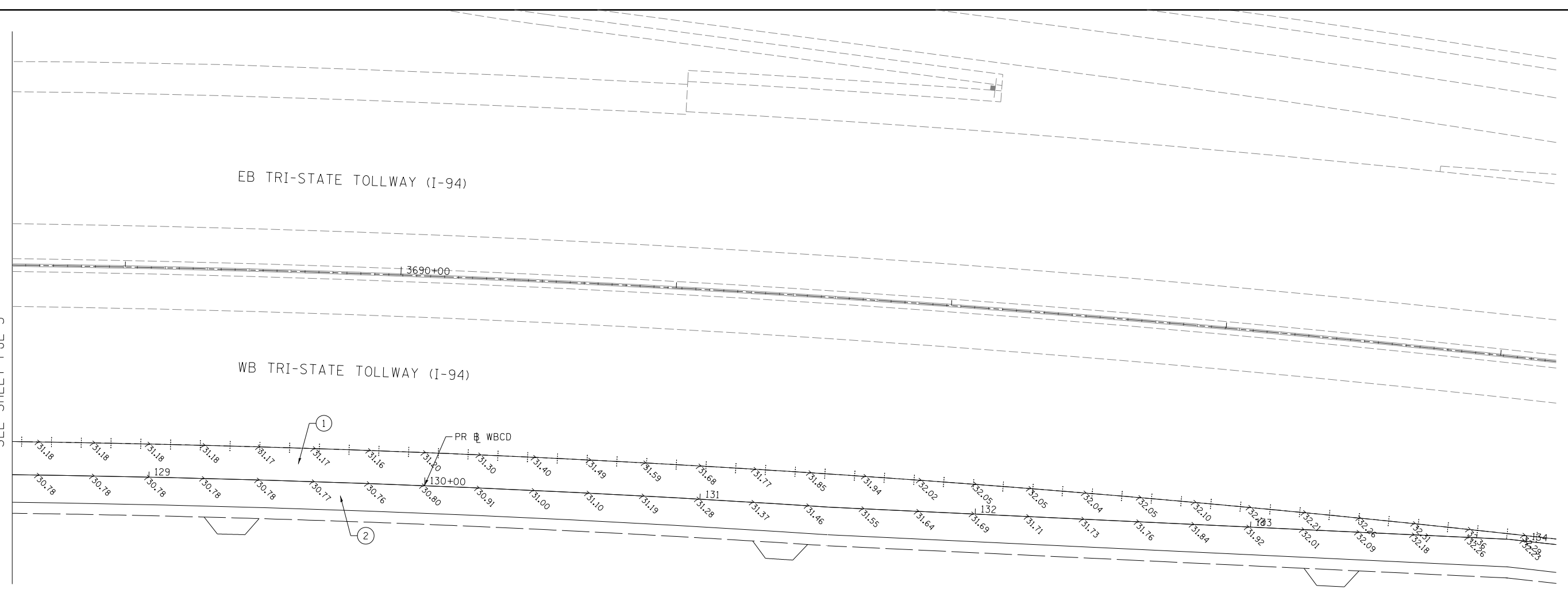
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CONTRACT NO. RR-17-4291
 PAVEMENT ELEVATION AND
 JOINTING PLAN

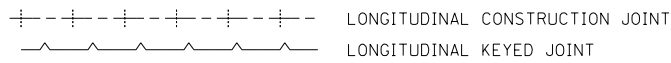
SHT NO. PJE-5
 DRAWING NO.
 88 OF 228

MATCHLINE STA. 128+50
SEE SHEET PJE-5



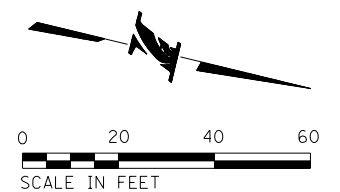
LEGEND

- ① PCC PAVEMENT 12" (JOINTED) (JI420010)
- ② WARM-MIX ASPHALT SHOULDER (6 IN.) (JI482104)
SUBGRADE AGGREGATE 12 IN. (JT211A11)



NOTES:

1. ELEVATIONS SHOWN ARE FINISHED SURFACE GRADES.
2. PAVEMENT ELEVATIONS SHOWN ON WBCD, RAMP E, RAMP A AND RAMP B ARE EVERY 20 FEET.
3. SEE TOLLWAY STANDARD A5-03 FOR PAVEMENT JOINTS.
4. SEE TOLLWAY STANDARD A14-02 FOR NBCD MAINLINE ENTRANCE DETAILS.
5. SEE TOLLWAY STANDARD A16-02 FOR RAMP B DETAILS.
6. SEE TOLLWAY STANDARD A17-02 FOR RAMP A DETAILS.
7. MATCH PROPOSED TRANSVERSE CONTRACTION JOINTS WITH MAINLINE TRANSVERSE JOINTS.



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CONTRACT NO. RR-17-4291
PAVEMENT ELEVATION AND
JOINTING PLAN

SHT NO. PJE-6
DRAWING NO.
89 OF 228

LANDSCAPING SCHEDULE

	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	NITROGEN FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	EROSION CONTROL BLANKET	HEAVY DUTY EROSION CONTROL BLANKET	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 1 % 3/4 CALIPER, BALLED AND BURLAPPED	SEEDING, CLASS 2E	SEEDING, CLASS 4B	SEEDING, CLASS 4F
	20100110	25000400	25000600	25100630	25100635	J1A20082	JS250220	JS250314	JS250318
	UNIT	POUND	POUND	SQ YD	SQ YD	EACH	ACRE	ACRE	ACRE
TOTAL FOR PROJECT	31	227	681	10,685	24,971	33	2.25	1.00	4.75

RATE OF APPLICATION

ITEM	RATE
NITROGEN FERTILIZER NUTRIENT	30 LBS / ACRE
POTASSIUM FERTILIZER NUTRIENT	90 LBS / ACRE

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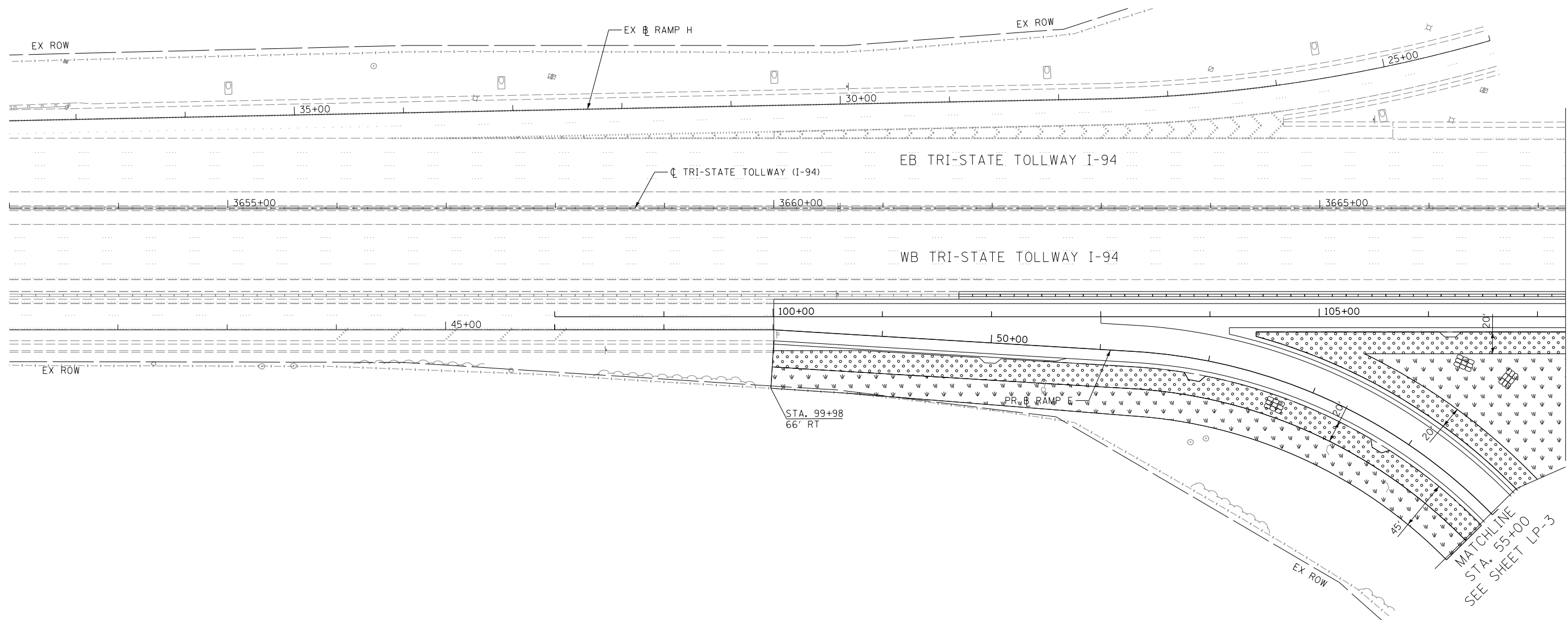
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CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 LANDSCAPE PLAN

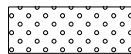
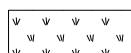
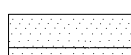
SHT NO. LP-1
 DRAWING NO.
 90 OF 228







MATCHLINE STA. 3667+25
SEE SHEET LP-3

MATCHLINE
STA. 55+00
SEE SHEET LP-3

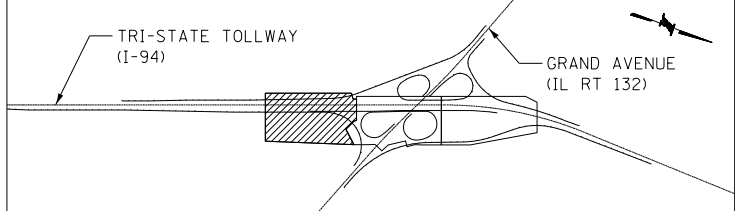
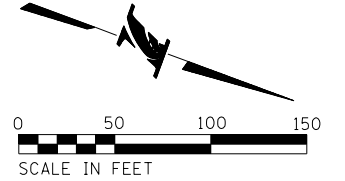
LEGEND

-  SEEDING, CLASS 2E (JS250220)
EROSION CONTROL BLANKET (25100630)
-  SEEDING, CLASS 4F (JS250318)
HEAVY DUTY EROSION CONTROL
BLANKET (25100635) ALONG DITCH BOTTOM
-  SEEDING, CLASS 4B (JS250314)
HEAVY DUTY EROSION CONTROL
BLANKET (25100635) ALONG DITCH BOTTOM

-  EXISTING TREE
-  TREE REMOVAL (M2010110)
-  TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE),
1 1/2" CALIPER, TREE FORM,
BALLED AND BURLAPPED (JIA20082)
-  PERMANENT EROSION CONTROL ITEM TO REMAIN,
ARTICULATED BLOCK REVETMENT MATS

NOTES

ALL DISTURBED AREAS WITH SLOPES 1:3 AND FLATTER SHALL RECEIVE CLASS 2E SEEDING WITHIN 20 FEET OF BACK OF CURB AND CLASS 4F SEEDING OUTSIDE OF 20 FEET FROM BACK OF CURB.



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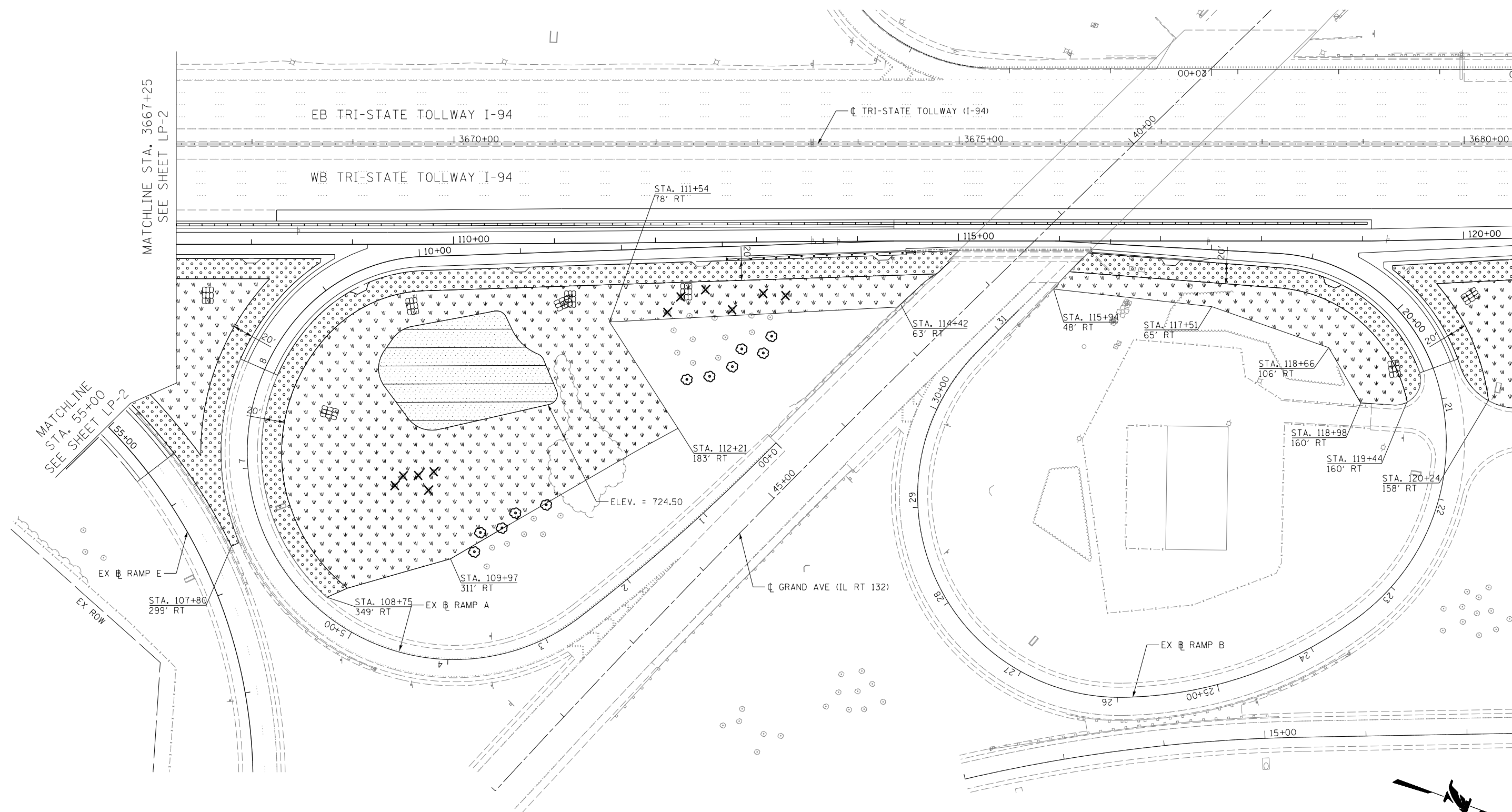
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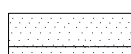




CONTRACT NO. RR-17-4291 SHT NO. LP-2
I-94 AT GRAND AVENUE DRAWING NO.
LANDSCAPE PLAN 91 OF 228

MATCHLINE STA. 3667+25
SEE SHEET LP-2

MATCHLINE STA. 3680+50
SEE SHEET LP-4

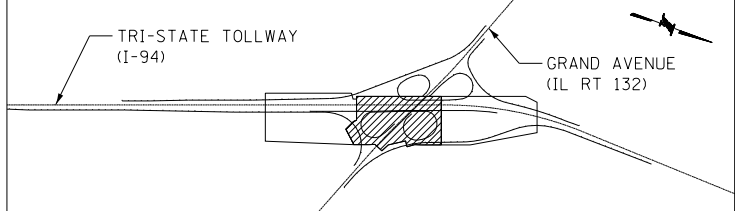
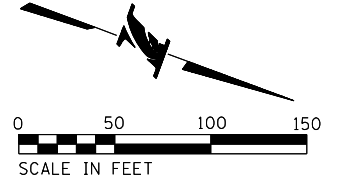


LEGEND

-  SEEDING, CLASS 2E (JS250220)
EROSION CONTROL BLANKET (25100630)
-  SEEDING, CLASS 4F (JS250318)
HEAVY DUTY EROSION CONTROL
BLANKET (25100635) ALONG DITCH BOTTOM
-  SEEDING, CLASS 4B (JS250314)
HEAVY DUTY EROSION CONTROL
BLANKET (25100635) ALONG DITCH BOTTOM
-  EXISTING TREE
-  TREE REMOVAL (M2010110)
-  TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE),
1 1/2" CALIPER, TREE FORM,
BALLED AND BURLAPPED (JIA20082)
-  PERMANENT EROSION CONTROL ITEM TO REMAIN,
ARTICULATED BLOCK REVETMENT MATS

NOTES

ALL DISTURBED AREAS WITH SLOPES 1:3 AND FLATTER SHALL RECEIVE CLASS 2E SEEDING WITHIN 20 FEET OF BACK OF CURB AND CLASS 4F SEEDING OUTSIDE OF 20 FEET FROM BACK OF CURB.



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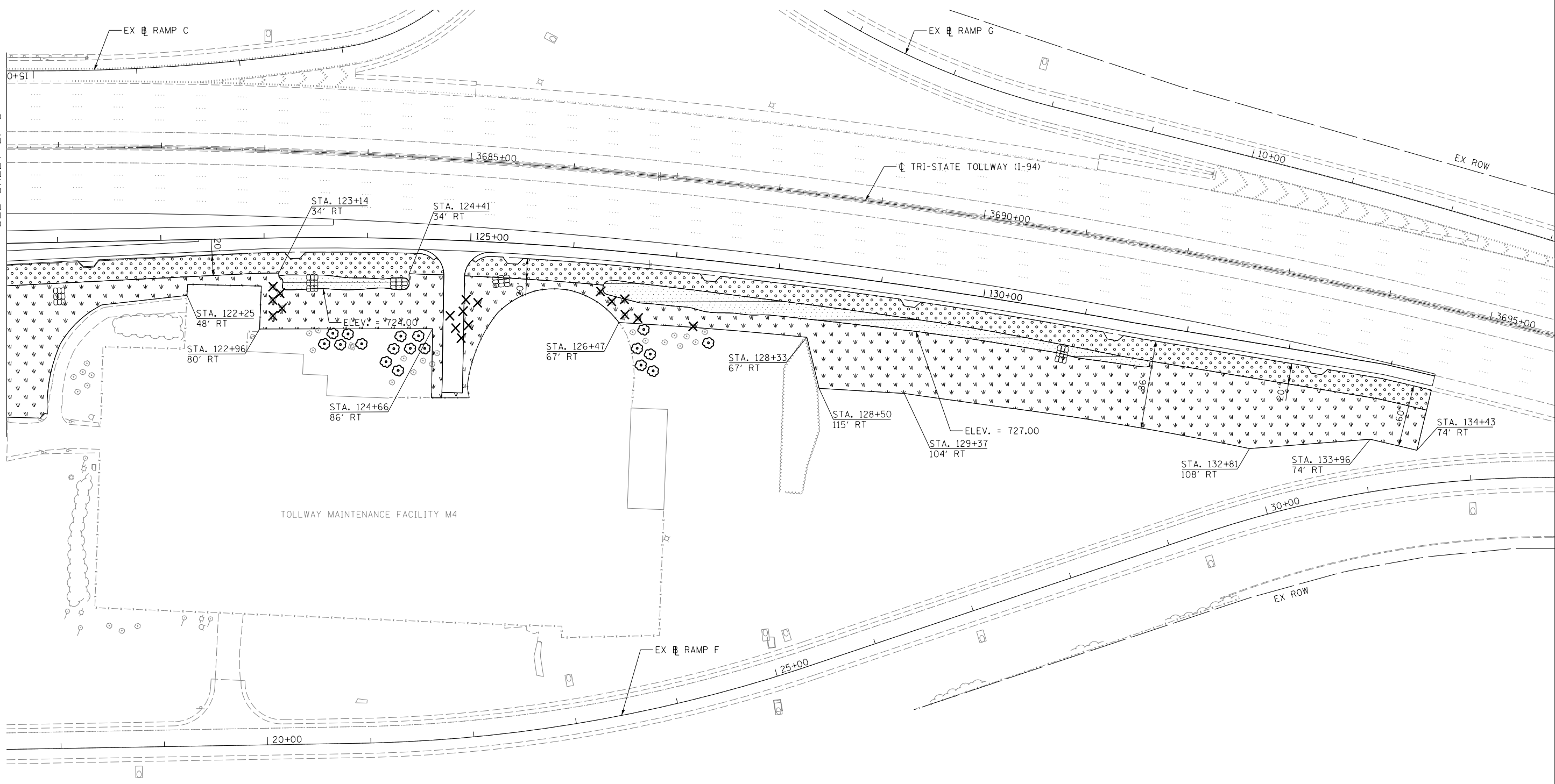


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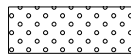

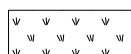

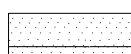


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NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291 SHT NO. LP-3
I-94 AT GRAND AVENUE DRAWING NO.
LANDSCAPE PLAN 92 OF 228

MATCHLINE STA. 3680+50
SEE SHEET LP-3

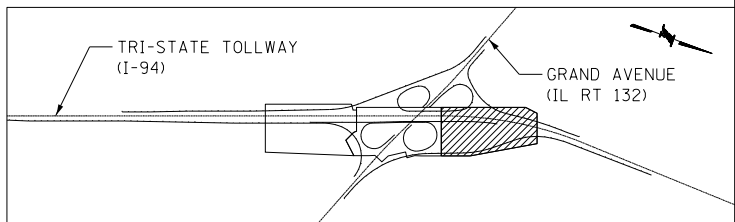
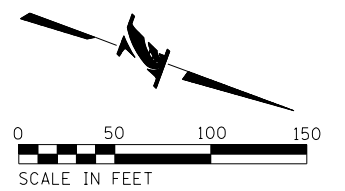


LEGEND

- | | | | |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|  | SEEDING, CLASS 2E (JS250220)
EROSION CONTROL BLANKET (25100630) |  | EXISTING TREE |
|  | SEEDING, CLASS 4F (JS250318)
HEAVY DUTY EROSION CONTROL
BLANKET (25100635) ALONG DITCH BOTTOM |  | TREE REMOVAL (M2010110) |
|  | SEEDING, CLASS 4B (JS250314)
HEAVY DUTY EROSION CONTROL
BLANKET (25100635) ALONG DITCH BOTTOM |  | TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE),
1 1/2" CALIPER, TREE FORM,
BALLED AND BURLAPPED (JIA20082) |
| | |  | PERMANENT EROSION CONTROL ITEM TO REMAIN,
ARTICULATED BLOCK REVETMENT MATS |

NOTES

ALL DISTURBED AREAS WITH SLOPES 1:3 AND FLATTER SHALL RECEIVE CLASS 2E SEEDING WITHIN 20 FEET OF BACK OF CURB AND CLASS 4F SEEDING OUTSIDE OF 20 FEET FROM BACK OF CURB.



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CONTRACT NO. RR-17-4291 SHT NO. LP-4
I-94 AT GRAND AVENUE DRAWING NO.
LANDSCAPE PLAN 93 OF 228

GENERAL NOTES – EROSION AND SEDIMENT CONTROLS

EROSION AND SEDIMENT CONTROL SCHEDULE

- FOR EROSION AND SEDIMENT CONTROL GENERAL NOTES SEE STANDARD DRAWING K1-06.
 - THE PERMANENT VEGETATIVE PLAN SHALL BE USED ON ALL DISTURBED AREAS WHENEVER POSSIBLE (ACCORDING TO GENERAL NOTE NUMBER 8 TOLLWAY STANDARD K1-05). A QUANTITY FOR TEMPORARY EROSION CONTROL BLANKET, BIODEGRADABLE NETTING (ITEM J1251010) HAS ALSO BEEN PROVIDED FOR ALL ANTICIPATED DISTURBED AREAS.
 - TEMPORARY EROSION CONTROL DEVICES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
 - THE CONTRACTOR SHALL CONFINE CONSTRUCTION ACTIVITIES WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS. ANY AREAS OUTSIDE THE SHOWN CONSTRUCTION LIMITS DISTURBED BY THE CONTRACTOR SHALL BE STABILIZED AS INDICATED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - ANY DEVIATION OF THE TEMPORARY EROSION CONTROL PLAN OR SCHEDULE BY THE CONTRACTOR SHALL BE AT THE DISCRETION OF THE ENGINEER.
 - SHOULD IT BE NECESSARY TO REMOVE ANY EROSION CONTROL DEVICES FOR CONSTRUCTION REASONS, THE CONTRACTOR SHALL FIRST OBTAIN PERMISSION AND SHALL REPAIR OR REPLACE THE REMOVED DEVICES THE SAME DAY. THE COST OF REMOVING AND REINSTALLING THE DEVICE SHALL BE INCLUDED IN THE CONTRACT.
 - ALL PERMANENT BERMS SHALL BE CONSTRUCTED TO THE LINES AND GRADES AS SHOWN ON THE PLANS.
 - THE CONTRACTOR SHALL INSTALL ALL TEMPORARY PERIMETER CONTROLS PRIOR TO ANY GRADING OPERATION. THIS INCLUDES, BUT IS NOT LIMITED TO TEMPORARY DITCHES AND SILT FENCES. LOCATIONS AND TREATMENTS OF EROSION CONTROL MEASURES ARE SHOWN ON THE PLAN SHEETS.
 - ALL SILT FENCES SHALL BE CLEANED OUT OF ALL SEDIMENT ACCUMULATION BEFORE THE WINTER SHUT DOWN DATES.
 - THE CONTRACTOR SHALL REFER TO SECTION 280.02 OF THE TOLLWAY SUPPLEMENTAL SPECIFICATION FOR CURRENT PENALTIES FOR NON-CONFORMANCE.
 - THE CONTRACTOR SHALL CONSTRUCT TEMPORARY DITCHES AND TEMPORARY CULVERTS TO MAINTAIN POSITIVE DRAINAGE. FOR ALL CASES, EROSION CONTROL MEASURES WILL STILL BE CONSTRUCTED PER PLAN OR AS DIRECTED BY THE ENGINEER.
 - SAME-DAY STABILIZATION HAS BEEN SPECIFIED FOR THOSE AREAS WHERE THERE IS LIMITED SPACE AVAILABLE FOR THE CONSTRUCTION OF SEDIMENT TRAPS OR OTHER SEDIMENT CONTROL MEASURES BETWEEN THE ROADWAY SIDE SLOPE AND THE ROW LINE. THE INTENT OF SAME-DAY STABILIZATION IS TO PREVENT THE MOVEMENT OF SOILS ONCE THEY ARE EXPOSED BY THE CONTRACTOR'S OPERATIONS. SAME-DAY STABILIZATION IS TO BE IMPLEMENTED AFTER THE INITIAL PERIMETER CONTROLS ARE IN PLACE AND CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS EACH DAY.
- THE PERMANENT LANDSCAPING SHALL BE IMPLEMENTED AS THE SAME-DAY STABILIZATION WHENEVER POSSIBLE. IF PERMANENT LANDSCAPING IS NOT POSSIBLE, ITEM JS280151 SHALL BE USED FOR SAME-DAY STABILIZATION THAT CONSISTS OF TEMPORARY EROSION CONTROL MEASURES.

				TEMPORARY EROSION CONTROL SEEDING	FILTER FABRIC	ARTICULATED BLOCK REVETMENT MAT	EROSION CONTROL BLANKET, BIODEGRADABLE NETTING	APPLY DUST SUPPRESSION AGENTS	MANAGEMENT OF EROSION AND SEDIMENT CONTROL	SILT FENCE	RE-ERECT SILT FENCE	STABILIZED CONSTRUCTION ENTRANCE	TREE PROTECTION	TEMPORARY RIP-RAP	SAME-DAY STABILIZATION	FILTER FABRIC INLET PROTECTION, BASKET TYPE	TEMPORARY DITCH CHECK, URETHANE FOAM / GEOTEXTILE	
				28000250	28200200	28500400	J1251010	JS107361	JS280020	JS280050	JS280051	JS280070	JS280120	JS280140	JS280151	JS280210	JS280230	
STAGE	SHEET NO.	STATION TO	STATION	POUND	SQ YD	SQ YD	SQ YD	UNIT	CAL. MO.	FOOT	FOOT	SQ YD	FOOT	TON	SQ YD	EACH	EACH	
INITIAL CONSTRUCTION	EC-2	3654+00	3667+25															
	EC-3	3667+25	3680+50										567					
	EC-4	3680+50	3695+65										475					
STAGE 1 AND STAGE 2	EC-2	3654+00	3667+25	114	36	36	5,492	58		1,378	689			34	2,746	2	2	
	EC-3	3667+25	3680+50	360	444	320	17,448	181		2,205	1,103			170	8,724	23	3	
	EC-4	3680+50	3695+65	219	273	178	10,577	110		2,094	1,047			102	5,289		4	
SOIL STOCKPILES										456	229							
SUBTOTAL					693	753	534	33,517	349		6,133	3,068		1,042	306	16,759	25	9
AT ENGINEER'S DISCRETION					57	50	40	2,000	25		300	150	750	100	20	1,000	2	1
TOTAL					750	803	574	35,517	374	11	6,433	3,218	750	1,142	326	17,759	27	10
RECORD QUANTITY																		

INSPECTION AND MAINTENANCE

- THE PRIMARY METHOD OF SAME-DAY STABILIZATION DURING GRADING OPERATIONS SHALL BE WITH STRAW MULCH. THE COST OF MULCH IS INCIDENTAL TO THE PAY ITEM JS280151 "SAME DAY STABILIZATION". OTHER TEMPORARY METHODS SHALL BE DIRECTED BY THE ENGINEER.
- IN EITHER CASE, AT THE END OF THE DAY, THE WORK ZONE MUST BE LEFT IN A CONDITION IN WHICH THE GRADING AREAS DISTURBED THAT DAY ARE STABILIZED AND MEASURES ARE IN PLACE TO CONTROL SEDIMENT LADEN WATER AND OFFSITE RUNOFF.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS OPERATIONS WITH THE WORK OF ANY SUB-CONTRACTORS TO ENSURE THAT STABILIZATION IS PERFORMED THE SAME DAY THAT DISTURBANCE OCCURS. THE PERFORMANCE AND FAILURE TO RESPOND IS OUTLINED IN THE STANDARD SPECIFICATIONS.
- A NOMINAL QUANTITY FOR ITEM JS280051 RE-ERECT SILT FENCE HAS BEEN PROVIDED. RE-ERECTION OF SILT FENCE SHALL BE AS APPROVED OR DIRECTED BY THE ENGINEER.
- REMOVING AND REINSTALLING INLET PROTECTION DEVICES TO ACCOMMODATE DRAINAGE STRUCTURE ADJUSTMENT IS INCLUDED IN THE COST OF THE INLET PROTECTION DEVICE.
- THE CONTRACTOR SHALL SUBMIT A DETAILED DUST CONTROL PLAN IN ACCORDANCE WITH SECTION 107.36 OF THE TOLLWAY SUPPLEMENTAL SPECIFICATION.
- AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, THE PROPOSED CONCRETE TRUCK WASHOUT LOCATIONS. RUNOFF FROM WASH AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE STORM SEWER OR DITCH SYSTEMS.
- A NOMINAL QUANTITY HAS BEEN PROVIDED FOR PLACING AND MAINTAINING STABILIZED CONSTRUCTION ENTRANCE(S) TO BE INSTALLED AT THE ENGINEER'S DISCRETION.

- NEW CONTROL MEASURES NEEDED OR CONTROLS NEEDING MODIFICATION AS A RESULT OF INSPECTIONS SHALL BE IMPLEMENTED PER ARTICLE 280.02 ISTHA SUPPLEMENTAL SPECIFICATIONS.
- ALL CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED IN GOOD WORKING ORDER BY THE GENERAL CONTRACTOR OR SUBCONTRACTOR. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF THE INSPECTION REPORT AND SHALL BE INCLUDED IN THE COST OF THE VARIOUS PAY ITEMS.
- THE CONTRACTOR AND ENGINEER MUST INSPECT DISTURBED AREAS, OUTSIDE STORAGE AREAS, AND EROSION AND SEDIMENT CONTROL MEASURES AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5 INCHES OR MORE OR EQUIVALENT SNOWFALL.
- SILT FENCE AND RECTANGULAR INLET PROTECTION - BUILT UP SEDIMENT SHALL BE REMOVED FROM FENCES WHEN IT HAS REACHED ONE HALF THE HEIGHT OF THE FENCE. FENCES WILL BE INSPECTED FOR DEPTH OF SEDIMENT AND TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND. REPAIR FENCES AND POSTS AS NECESSARY.
- DITCH CHECKS - INSPECT DITCH IF FLOW IS BEING IMPEDED BY SEDIMENT AND INSPECT DITCH CHECK FOR EVIDENCE OF WASH OUT. BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED ONE HALF THE HEIGHT OF THE DAM OR DITCH CHECK. INSPECT FOR DEPTH OF SEDIMENT, TO SEE IF THE DEVICE IS EMBEDDED INTO THE GROUND AND IF STAKES ARE FIRMLY INTO THE GROUND.
- PERMANENT SEEDING - INSPECT SEEDED AREAS FOR BARE SPOTS, WASH OUTS, AND HEALTHY GROWTH. REPAIR BARE SPOTS AND WASHOUTS AS NECESSARY. PROVIDE MULCH FOR RE-SEEDED AREAS.
- LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE - INSPECT FOR EVIDENCE OF OFF SITE SEDIMENT TRACKING. REMOVE SEDIMENT AS NECESSARY.
- FILTER FABRIC INLET PROTECTION - INSPECT FABRIC FOR TEARS AND REMOVE SEDIMENT WHEN FILTER IS ONE HALF FULL.

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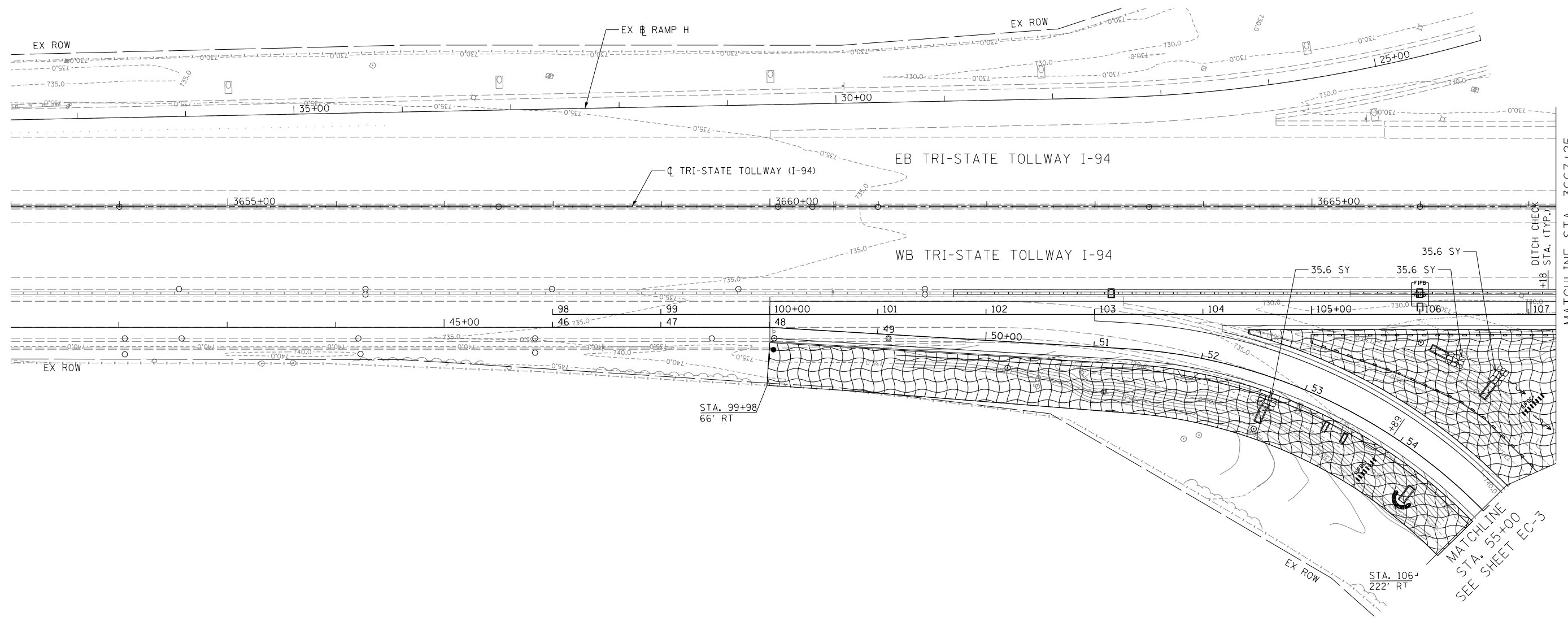
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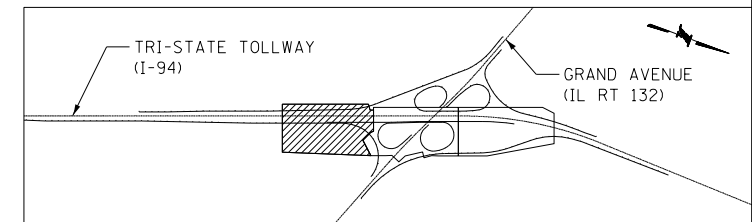
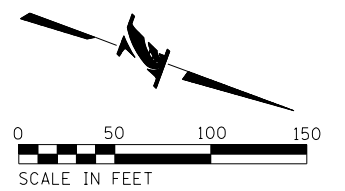
CONTRACT NO. RR-17-4291
 EROSION AND SEDIMENT CONTROL
 GENERAL NOTES

SHT NO. EC-1
 DRAWING NO.
 94 OF 228



LEGEND

- | | | | | | |
|--|----------------------------------------------------------------|--|-----------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------|
| | ARTICULATED BLOCK REVETMENT MAT (ACBRS) (28500400) (PERMANENT) | | INITIAL CONSTRUCTION ITEM | | EROSION CONTROL BLANKET, BIOGRADABLE NETTING (JI251010) WITH TEMPORARY EROSION CONTROL SEEDING (2800250) |
| | SILT FENCE (JS280050) (TEMPORARY) | | TREE PROTECTION (JS280120) | | DITCH FLOW |
| | FILTER FABRIC INLET PROTECTION, BASKET TYPE (JS280210) | | TEMPORARY DITCH CHECK (JS280230) URETHANE FOAM GEOTEXTILE | | |
| | | | CULVERT INLET PROTECTION - TEMPORARY RIPRAP (JS280140) | | |



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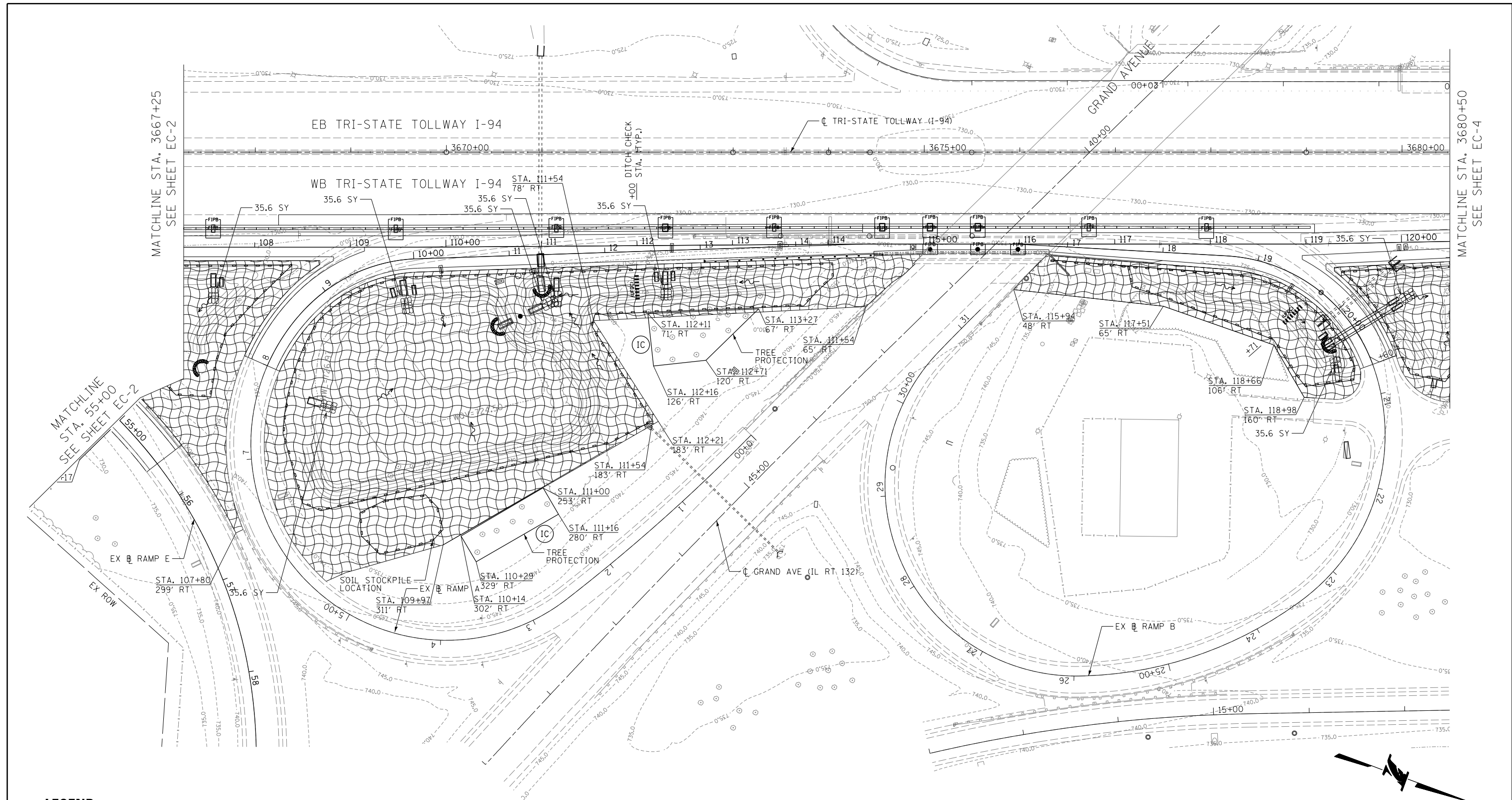
DRAWN BY EC DATE 03/23/2017
 CHECKED BY VP DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291 SHT NO. EC-2
 I-94 AT GRAND AVENUE DRAWING NO.
 EROSION CONTROL PLAN 95 OF 228

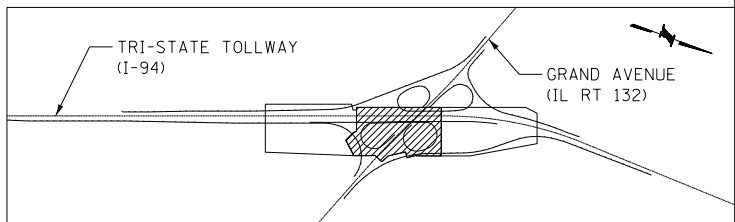
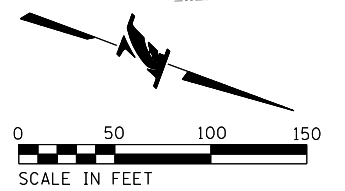


MATCHLINE STA. 3667+25
SEE SHEET EC-2

MATCHLINE STA. 3680+50
SEE SHEET EC-4

LEGEND

- | | | | | | |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|  | ARTICULATED BLOCK REVETMENT MAT (ACBRS) (28500400) (PERMANENT) |  | INITIAL CONSTRUCTION ITEM |  | EROSION CONTROL BLANKET, BIOGRADABLE NETTING (J1251010) WITH TEMPORARY EROSION CONTROL SEEDING (2800250) |
|  | SILT FENCE (JS280050) (TEMPORARY) |  | TREE PROTECTION (JS280120) |  | DITCH FLOW |
|  | FILTER FABRIC INLET PROTECTION, BASKET TYPE (JS280210) |  | TEMPORARY DITCH CHECK (JS280230) URETHANE FOAM GEOTEXTILE | | |
| | |  | CULVERT INLET PROTECTION - TEMPORARY RIPRAP (JS280140) | | |



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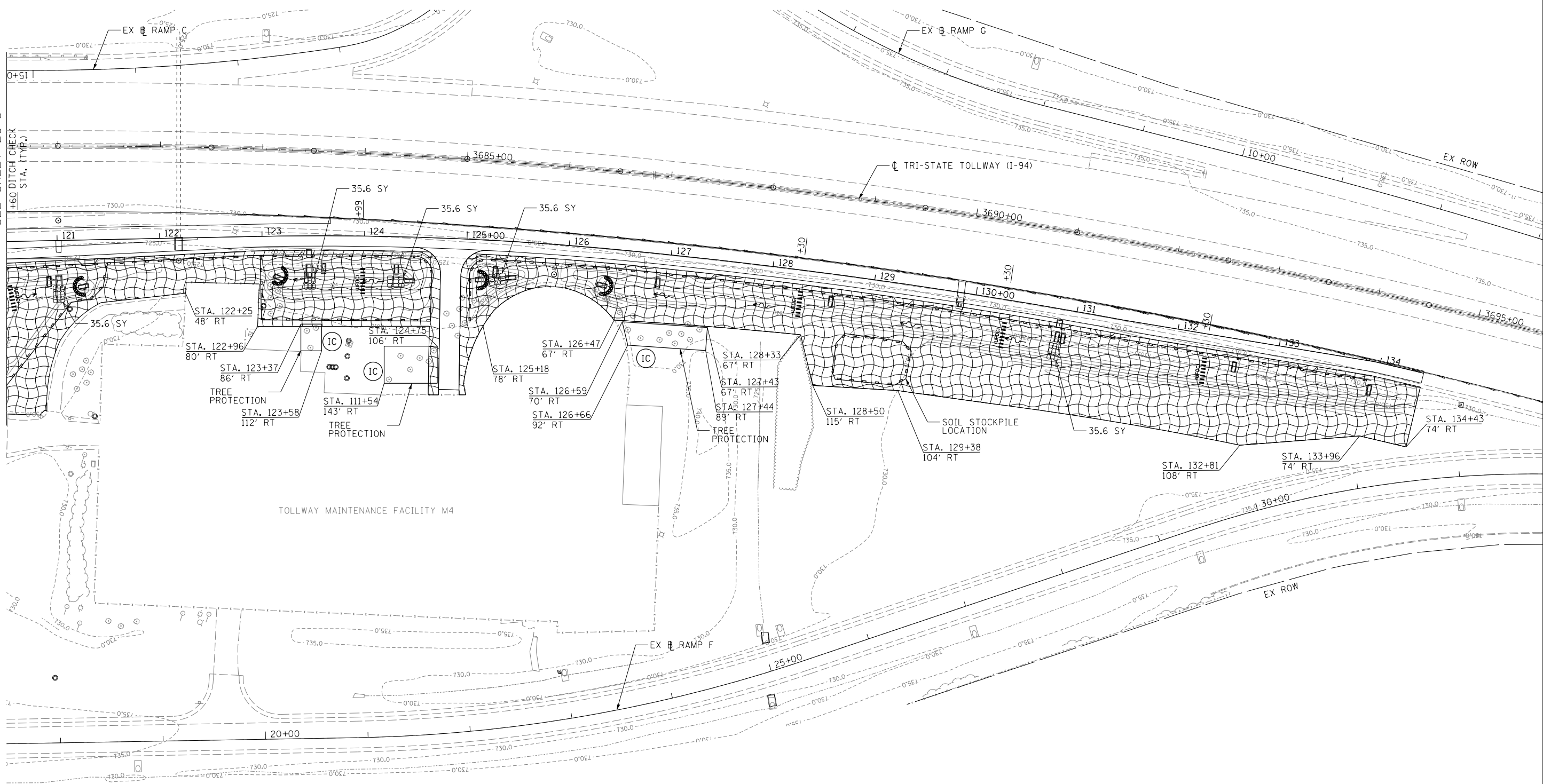


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291 SHT NO. EC-3
I-94 AT GRAND AVENUE DRAWING NO. 96 OF 228
EROSION CONTROL PLAN

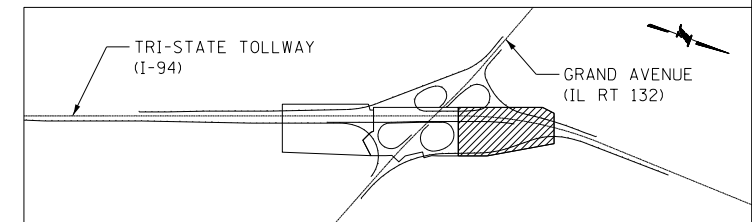
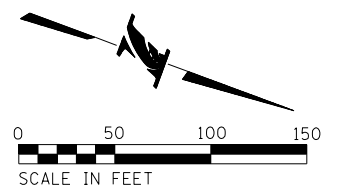
MATCHLINE STA. 3680+50
SEE SHEET EC-3



TOLLWAY MAINTENANCE FACILITY M4

LEGEND

- | | | | | | |
|--|----------------------------------------------------------------|--|-----------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------|
| | ARTICULATED BLOCK REVETMENT MAT (ACBRS) (28500400) (PERMANENT) | | INITIAL CONSTRUCTION ITEM | | EROSION CONTROL BLANKET, BIOGRADABLE NETTING (J1251010) WITH TEMPORARY EROSION CONTROL SEEDING (2800250) |
| | SILT FENCE (JS280050) (TEMPORARY) | | TREE PROTECTION (JS280120) | | DITCH FLOW |
| | FILTER FABRIC INLET PROTECTION, BASKET TYPE (JS280210) | | TEMPORARY DITCH CHECK (JS280230) URETHANE FOAM GEOTEXTILE | | |
| | | | CULVERT INLET PROTECTION - TEMPORARY RIPRAP (JS280140) | | |



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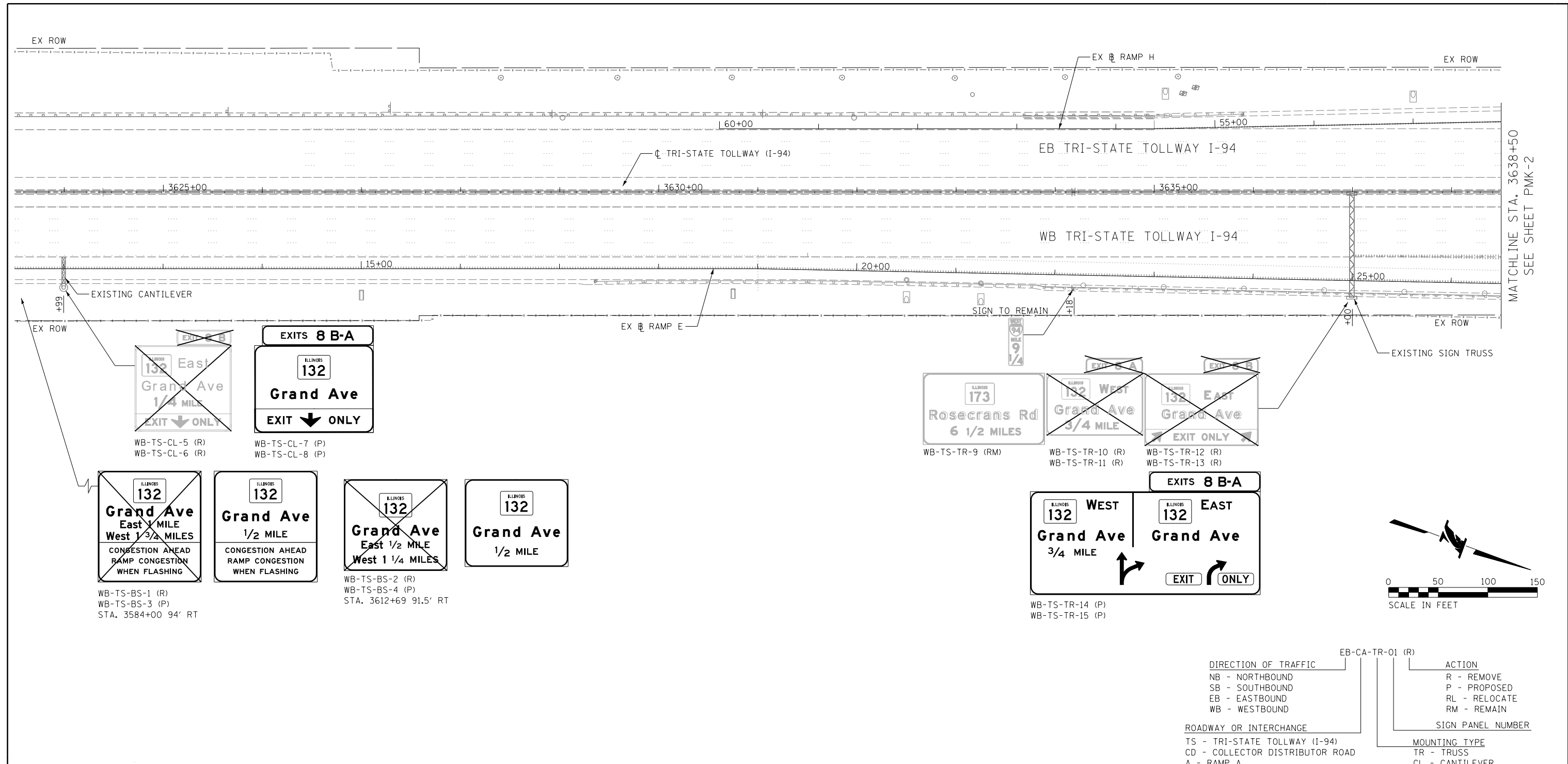
DRAWN BY EC DATE 03/23/2017
CHECKED BY VP DATE 03/23/2017



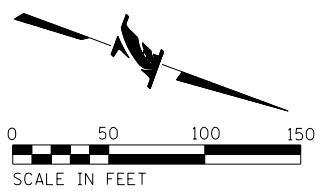
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291 SHT NO. EC-4
I-94 AT GRAND AVENUE DRAWING NO.
EROSION CONTROL PLAN 97 OF 228



MATCHLINE STA. 3638+50
SEE SHEET PMK-2

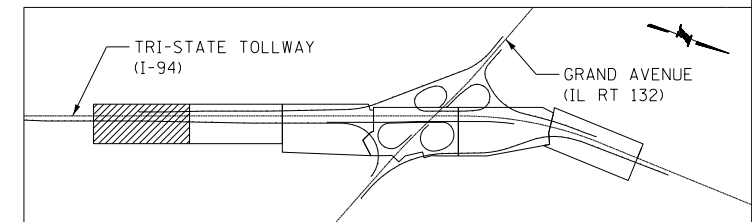


DIRECTION OF TRAFFIC		ACTION	
NB - NORTHBOUND	TR - TRUSS	R - REMOVE	
SB - SOUTHBOUND	CL - CANTILEVER	P - PROPOSED	
EB - EASTBOUND	WP - WOOD POST	RL - RELOCATE	
WB - WESTBOUND	TS - TELESCOPING STEEL	RM - REMAIN	
	BS - BREAKAWAY STEEL		
	LP - LIGHT POLE		
	BR - BRIDGE MOUNTED		
	BW - BARRIER/WALL MOUNTED		
	NW - NOISE WALL		
	MP - MILEPOST		
ROADWAY OR INTERCHANGE		SIGN PANEL NUMBER	
TS - TRI-STATE TOLLWAY (I-94)			
CD - COLLECTOR DISTRIBUTOR ROAD			
A - RAMP A			
B - RAMP B			

LEGEND

- | | |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| ① MULTI-POLYMER PAVEMENT MARKING - LINE 4" WHITE (JT780300) | Ⓐ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 5" GROOVE (JT780JA1) |
| ② MULTI-POLYMER PAVEMENT MARKING - LINE 4" YELLOW (JT780300) | Ⓑ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 7" GROOVE (JT780JC1) |
| ③ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 25' SKIP/ 25' DASH (JT780310) | Ⓒ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 11" GROOVE (JT780JE1) |
| ④ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 9' SKIP/ 3' DASH (JT780310) | Ⓓ ROADWAY DELINEATORS (JI635010) |
| ⑤ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, (JT780310) | Ⓔ RAISED PAVEMENT LANE MARKER REFLECTOR (JI781010) |
| ⑥ MULTI-POLYMER PAVEMENT MARKING - LINE 10" WHITE (JT780320) | Ⓕ GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B (JI782012) |
| ⑦ MULTI-POLYMER PAVEMENT MARKING - LINE 12" WHITE CHEVRON (JT780325) | Ⓖ CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C (JI782020) |
| ⑧ MULTI-POLYMER PAVEMENT MARKING - LETTERS (8FT) (JT780340) | |
| ⑨ MULTI-POLYMER PAVEMENT MARKING - SYMBOLS (LARGE) (JT780355) | |

- | | |
|--|----------------------------|
| | CANTILEVER STRUCTURE |
| | SIGN |
| | PROPOSED SIGN PANEL |
| | EXISTING SIGN PANEL |
| | REMOVE EXISTING SIGN PANEL |
| | SINGLE ROADWAY DELINEATOR |
| | DOUBLE ROADWAY DELINEATOR |



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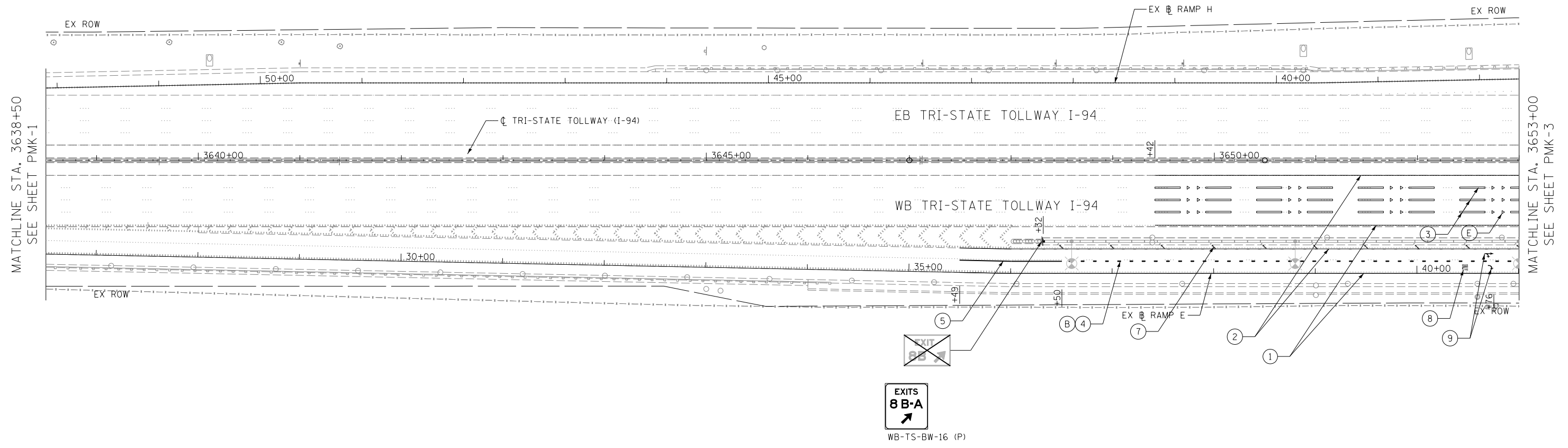
DRAWN BY EC DATE 03/23/2017
CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. PMK-1
I-94 AT GRAND AVENUE DRAWING NO.
PAVEMENT MARKING & SIGNING PLAN 98 OF 228



MATCHLINE STA. 3638+50
SEE SHEET PMK-1

MATCHLINE STA. 3653+00
SEE SHEET PMK-3

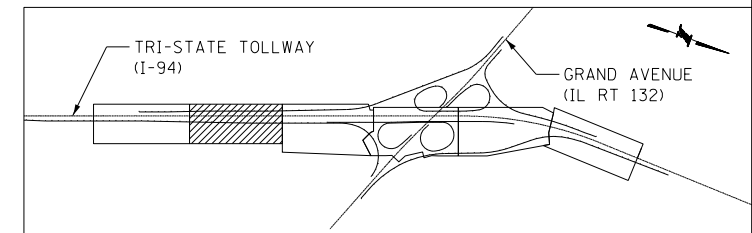
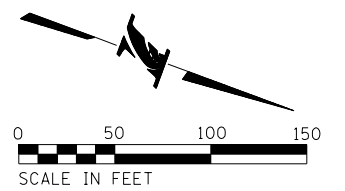
EXITS
8B-A
WB-TS-BW-16 (P)

LEGEND

- ① MULTI-POLYMER PAVEMENT MARKING - LINE 4" WHITE (JT780300)
- ② MULTI-POLYMER PAVEMENT MARKING - LINE 4" YELLOW (JT780300)
- ③ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 25' SKIP/ 25' DASH (JT780310)
- ④ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 9' SKIP/ 3' DASH (JT780310)
- ⑤ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, (JT780310)
- ⑥ MULTI-POLYMER PAVEMENT MARKING - LINE 10" WHITE (JT780320)
- ⑦ MULTI-POLYMER PAVEMENT MARKING - LINE 12" WHITE CHEVRON (JT780325)
- ⑧ MULTI-POLYMER PAVEMENT MARKING - LETTERS (8FT) (JT780340)
- ⑨ MULTI-POLYMER PAVEMENT MARKING - SYMBOLS (LARGE) (JT780355)

- Ⓐ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 5" GROOVE (JT780JA1)
- Ⓑ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 7" GROOVE (JT780JC1)
- Ⓒ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 11" GROOVE (JT780JE1)
- Ⓓ ROADWAY DELINEATORS (JI635010)
- Ⓔ RAISED PAVEMENT LANE MARKER REFLECTOR (JI781010)
- Ⓕ GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B (JI782012)
- Ⓖ CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C (JI782020)

- CANTILEVER STRUCTURE SIGN
- PROPOSED SIGN PANEL
- EXISTING SIGN PANEL
- REMOVE EXISTING SIGN PANEL
- SINGLE ROADWAY DELINEATOR
- DOUBLE ROADWAY DELINEATOR



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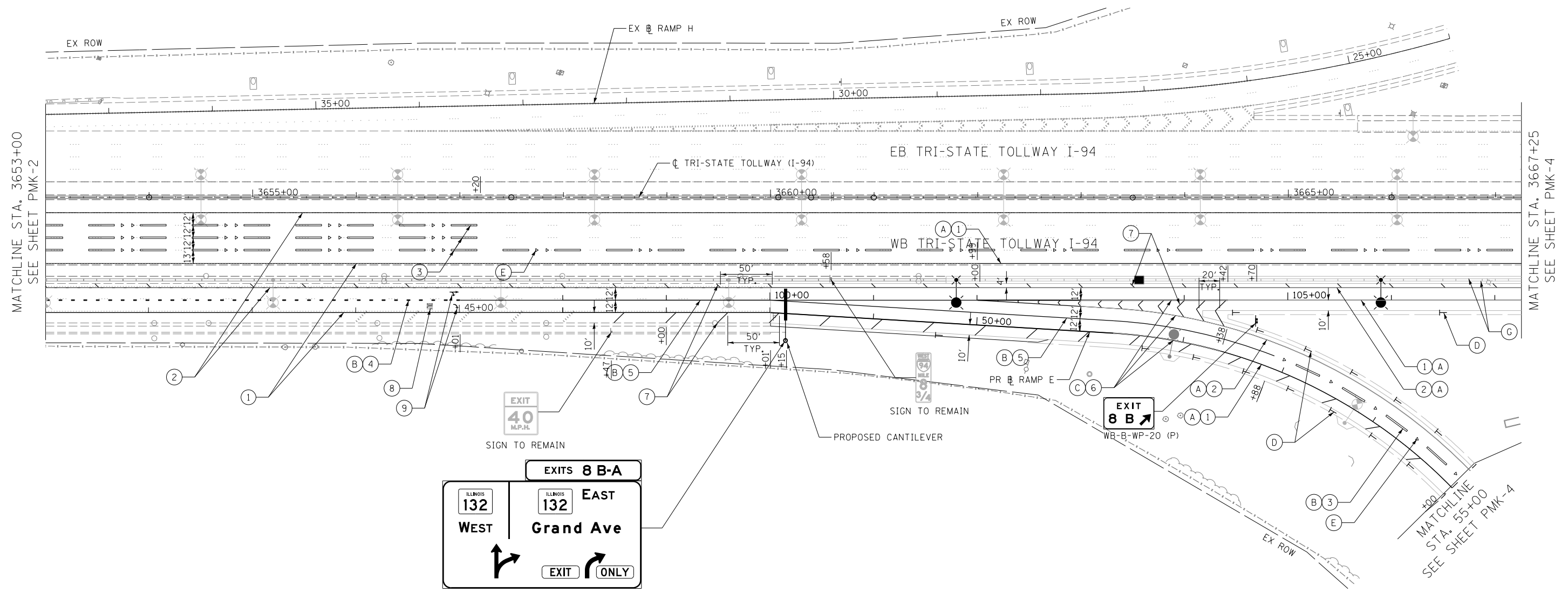
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CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

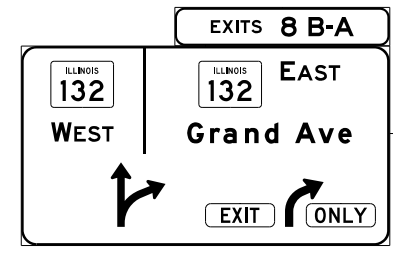
CONTRACT NO. RR-17-4291 SHT NO. PMK-2
I-94 AT GRAND AVENUE DRAWING NO. 99 OF 228
PAVEMENT MARKING & SIGNING PLAN



MATCHLINE STA. 3653+00
SEE SHEET PMK-2

MATCHLINE STA. 3667+25
SEE SHEET PMK-4

MATCHLINE STA. 55+00
SEE SHEET PMK-4

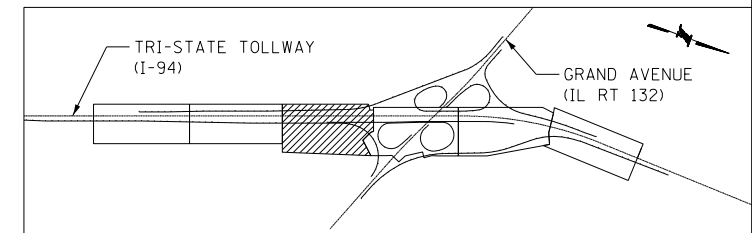
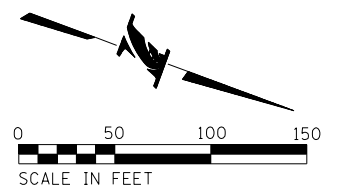


LEGEND

- ① MULTI-POLYMER PAVEMENT MARKING - LINE 4" WHITE (JT780300)
- ② MULTI-POLYMER PAVEMENT MARKING - LINE 4" YELLOW (JT780300)
- ③ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 25' SKIP/ 25' DASH (JT780310)
- ④ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 9' SKIP/ 3' DASH (JT780310)
- ⑤ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, (JT780310)
- ⑥ MULTI-POLYMER PAVEMENT MARKING - LINE 10" WHITE (JT780320)
- ⑦ MULTI-POLYMER PAVEMENT MARKING - LINE 12" WHITE CHEVRON (JT780325)
- ⑧ MULTI-POLYMER PAVEMENT MARKING - LETTERS (8FT) (JT780340)
- ⑨ MULTI-POLYMER PAVEMENT MARKING - SYMBOLS (LARGE) (JT780355)

- Ⓐ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 5" GROOVE (JT780JA1)
- Ⓑ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 7" GROOVE (JT780JC1)
- Ⓒ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 11" GROOVE (JT780JE1)
- Ⓓ ROADWAY DELINEATORS (JI635010)
- Ⓔ RAISED PAVEMENT LANE MARKER REFLECTOR (JI781010)
- Ⓕ GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B (JI782012)
- Ⓖ CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C (JI782020)

- CANTILEVER STRUCTURE SIGN
- PROPOSED SIGN PANEL
- EXISTING SIGN PANEL
- REMOVE EXISTING SIGN PANEL
- SINGLE ROADWAY DELINEATOR
- DOUBLE ROADWAY DELINEATOR



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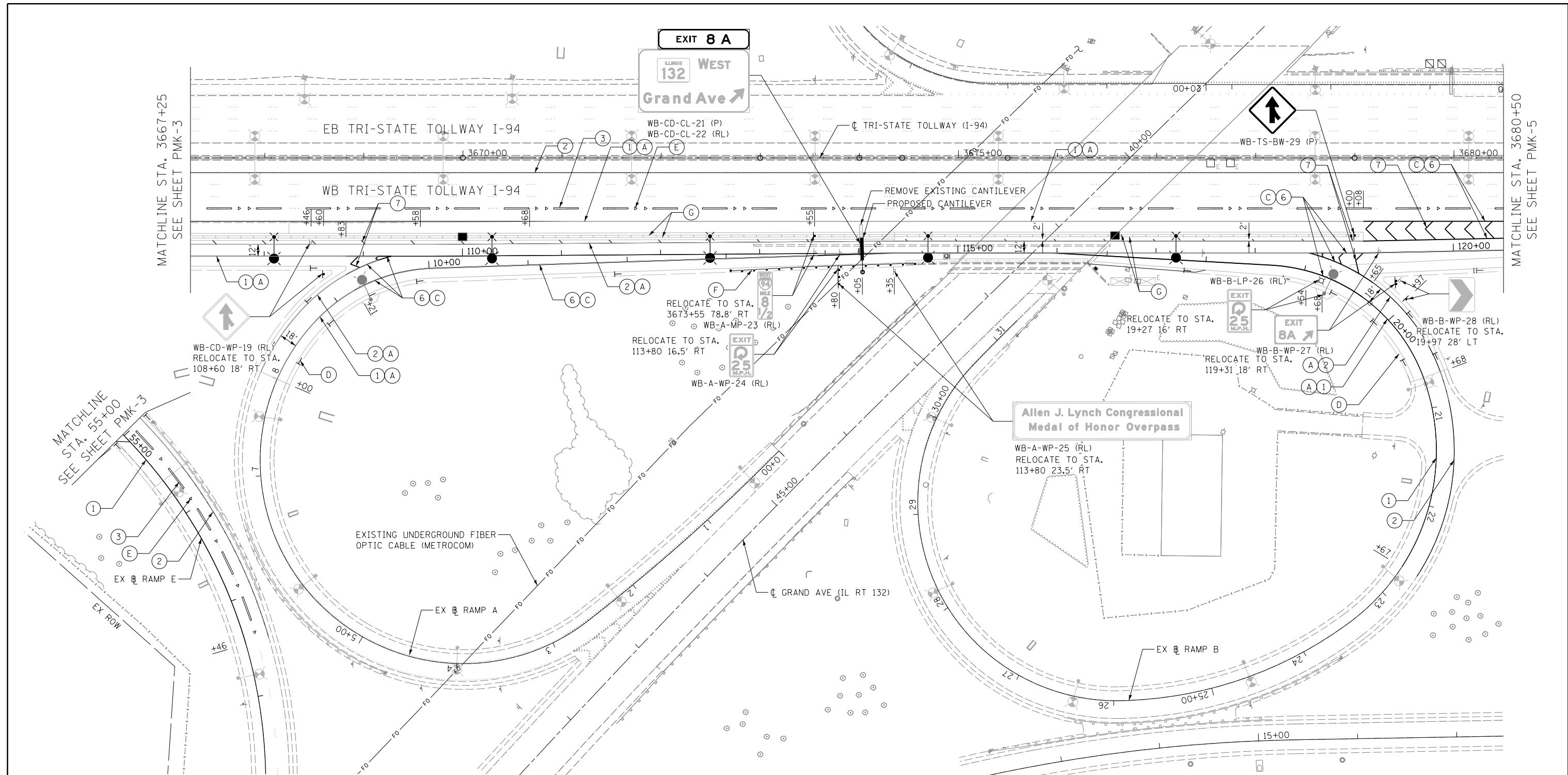
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CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. PMK-3
I-94 AT GRAND AVENUE DRAWING NO.
PAVEMENT MARKING & SIGNING PLAN 100 OF 228



MATCHLINE STA. 3667+25
SEE SHEET PMK-3

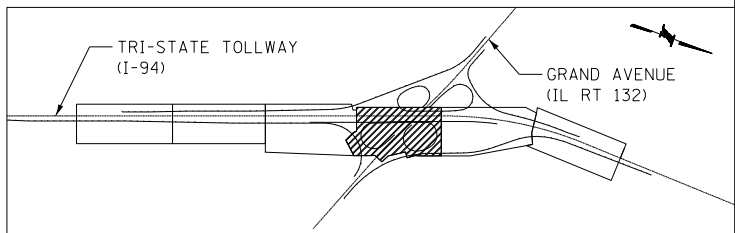
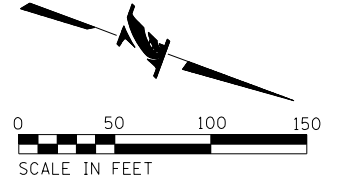
MATCHLINE STA. 3680+50
SEE SHEET PMK-5

LEGEND

- ① MULTI-POLYMER PAVEMENT MARKING - LINE 4" WHITE (JT780300)
- ② MULTI-POLYMER PAVEMENT MARKING - LINE 4" YELLOW (JT780300)
- ③ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 25' SKIP/ 25' DASH (JT780310)
- ④ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 9' SKIP/ 3' DASH (JT780310)
- ⑤ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, (JT780310)
- ⑥ MULTI-POLYMER PAVEMENT MARKING - LINE 10" WHITE (JT780320)
- ⑦ MULTI-POLYMER PAVEMENT MARKING - LINE 12" WHITE CHEVRON (JT780325)
- ⑧ MULTI-POLYMER PAVEMENT MARKING - LETTERS (8FT) (JT780340)
- ⑨ MULTI-POLYMER PAVEMENT MARKING - SYMBOLS (LARGE) (JT780355)

- (A) GROOVING FOR RECESSED PAVEMENT MARKING LINES, 5" GROOVE (JT780JA1)
- (B) GROOVING FOR RECESSED PAVEMENT MARKING LINES, 7" GROOVE (JT780JC1)
- (C) GROOVING FOR RECESSED PAVEMENT MARKING LINES, 11" GROOVE (JT780JE1)
- (D) ROADWAY DELINEATORS (JI635010)
- (E) RAISED PAVEMENT LANE MARKER REFLECTOR (JI781010)
- (F) GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B (JI782012)
- (G) CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C (JI782020)

- CANTILEVER STRUCTURE SIGN
- PROPOSED SIGN PANEL
- EXISTING SIGN PANEL
- REMOVE EXISTING SIGN PANEL
- SINGLE ROADWAY DELINEATOR
- DOUBLE ROADWAY DELINEATOR



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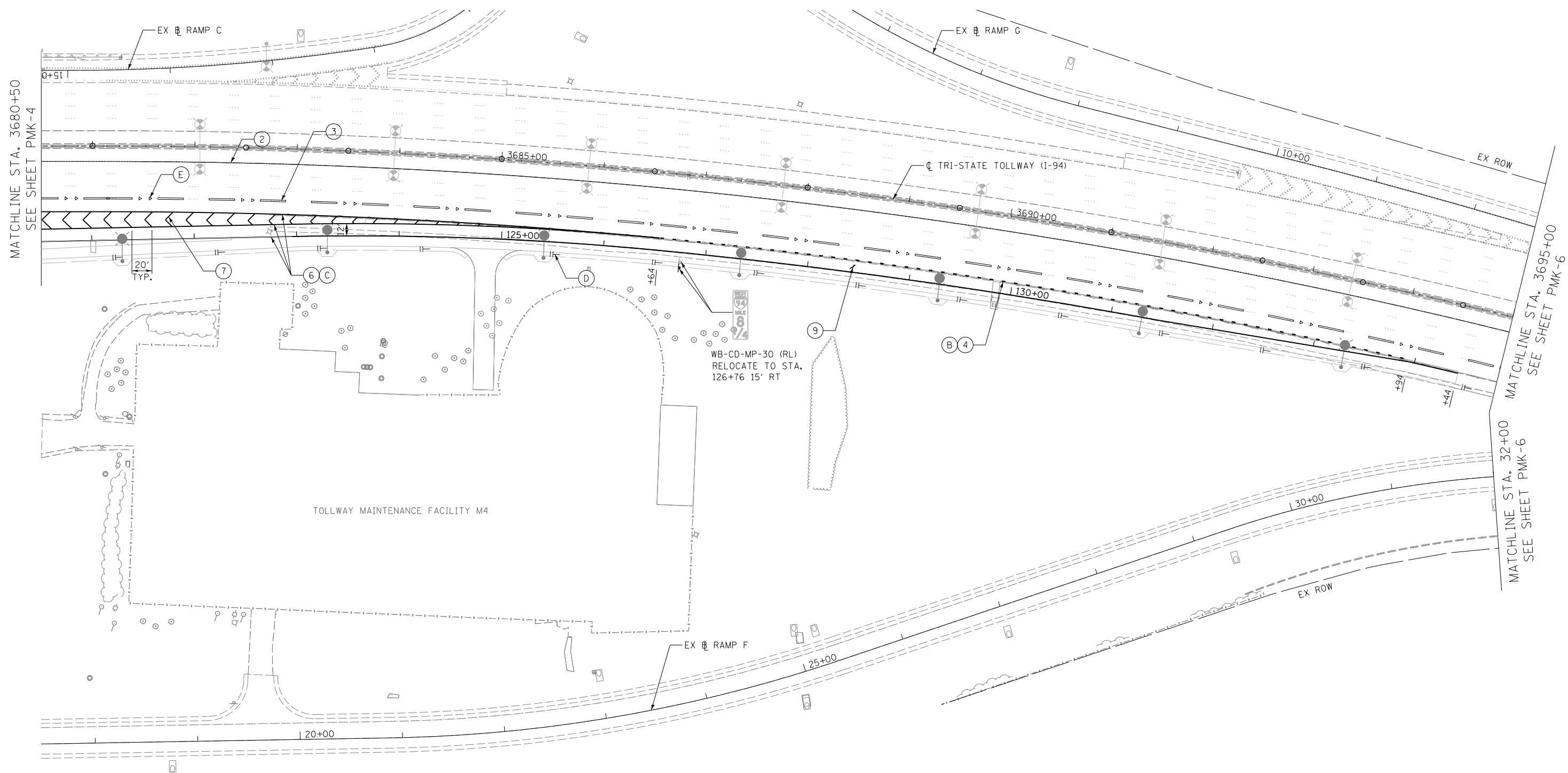
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. PMK-4
I-94 AT GRAND AVENUE DRAWING NO. 101 OF 228
PAVEMENT MARKING & SIGNING PLAN

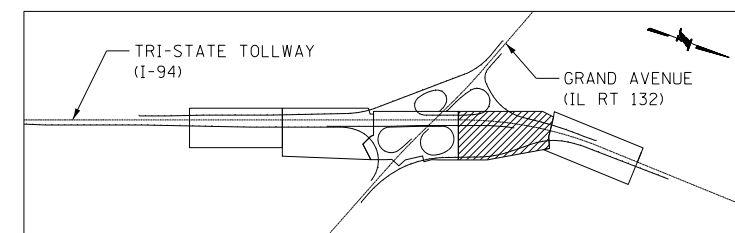
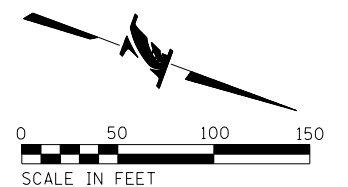


LEGEND

- ① MULTI-POLYMER PAVEMENT MARKING - LINE 4" WHITE (JT780300)
- ② MULTI-POLYMER PAVEMENT MARKING - LINE 4" YELLOW (JT780300)
- ③ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 25' SKIP/ 25' DASH (JT780310)
- ④ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 9' SKIP/ 3' DASH (JT780310)
- ⑤ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, (JT780310)
- ⑥ MULTI-POLYMER PAVEMENT MARKING - LINE 10" WHITE (JT780320)
- ⑦ MULTI-POLYMER PAVEMENT MARKING - LINE 12" WHITE CHEVRON (JT780325)
- ⑧ MULTI-POLYMER PAVEMENT MARKING - LETTERS (8FT) (JT780340)
- ⑨ MULTI-POLYMER PAVEMENT MARKING - SYMBOLS (LARGE) (JT780355)

- (A) GROOVING FOR RECESSED PAVEMENT MARKING LINES, 5" GROOVE (JT780JA1)
- (B) GROOVING FOR RECESSED PAVEMENT MARKING LINES, 7" GROOVE (JT780JC1)
- (C) GROOVING FOR RECESSED PAVEMENT MARKING LINES, 11" GROOVE (JT780JE1)
- (D) ROADWAY DELINEATORS (JI635010)
- (E) RAISED PAVEMENT LANE MARKER REFLECTOR (JI781010)
- (F) GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B (JI782012)
- (G) CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C (JI782020)

- CANTILEVER STRUCTURE SIGN
- PROPOSED SIGN PANEL
- EXISTING SIGN PANEL
- REMOVE EXISTING SIGN PANEL
- SINGLE ROADWAY DELINEATOR
- DOUBLE ROADWAY DELINEATOR



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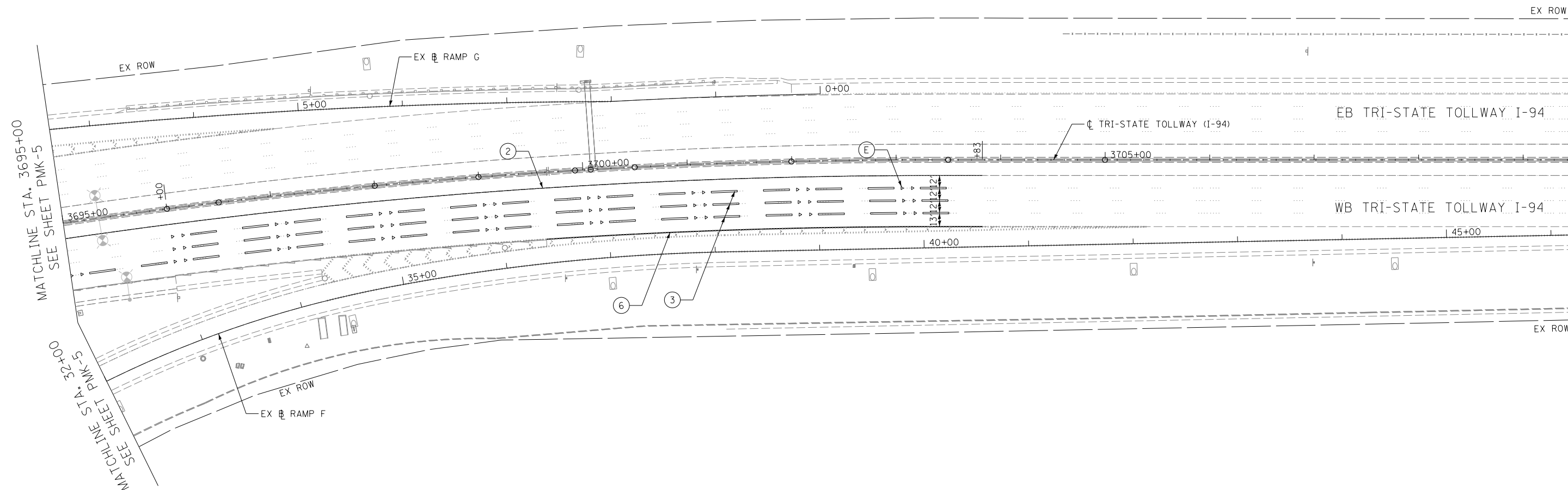
DRAWN BY EC DATE 03/23/2017
 CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. PMK-5
 I-94 AT GRAND AVE DRAWING NO.
 PAVEMENT MARKING & SIGNING PLAN 102 OF 228

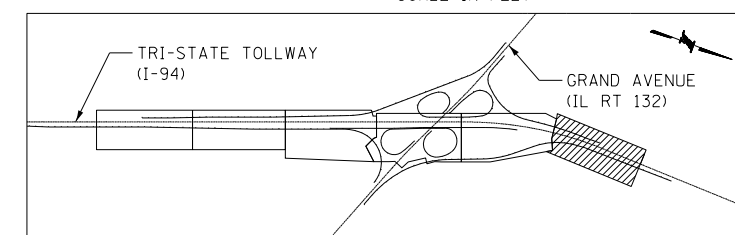
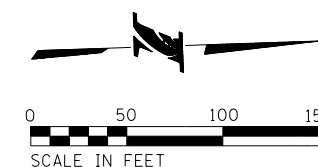


LEGEND

- ① MULTI-POLYMER PAVEMENT MARKING - LINE 4" WHITE (JT780300)
- ② MULTI-POLYMER PAVEMENT MARKING - LINE 4" YELLOW (JT780300)
- ③ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 25' SKIP/ 25' DASH (JT780310)
- ④ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, 9' SKIP/ 3' DASH (JT780310)
- ⑤ MULTI-POLYMER PAVEMENT MARKING - LINE 6" WHITE, (JT780310)
- ⑥ MULTI-POLYMER PAVEMENT MARKING - LINE 10" WHITE (JT780320)
- ⑦ MULTI-POLYMER PAVEMENT MARKING - LINE 12" WHITE CHEVRON (JT780325)
- ⑧ MULTI-POLYMER PAVEMENT MARKING - LETTERS (8FT) (JT780340)
- ⑨ MULTI-POLYMER PAVEMENT MARKING - SYMBOLS (LARGE) (JT780355)

- Ⓐ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 5" GROOVE (JT780JA1)
- Ⓑ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 7" GROOVE (JT780JC1)
- Ⓒ GROOVING FOR RECESSED PAVEMENT MARKING LINES, 11" GROOVE (JT780JE1)
- Ⓓ ROADWAY DELINEATORS (JI635010)
- Ⓔ RAISED PAVEMENT LANE MARKER REFLECTOR (JI781010)
- Ⓕ GUARDRAIL BARRIER DELINEATOR, REFLECTOR MARKER TYPE B (JI782012)
- Ⓖ CONCRETE BARRIER DELINEATOR, REFLECTOR MARKER TYPE C (JI782020)

- CANTILEVER STRUCTURE SIGN
- PROPOSED SIGN PANEL
- EXISTING SIGN PANEL
- REMOVE EXISTING SIGN PANEL
- SINGLE ROADWAY DELINEATOR
- DOUBLE ROADWAY DELINEATOR



I:\14225\02\04_CADD\CADD_Sheets\5703_2-ph1-pmk-086.dgn

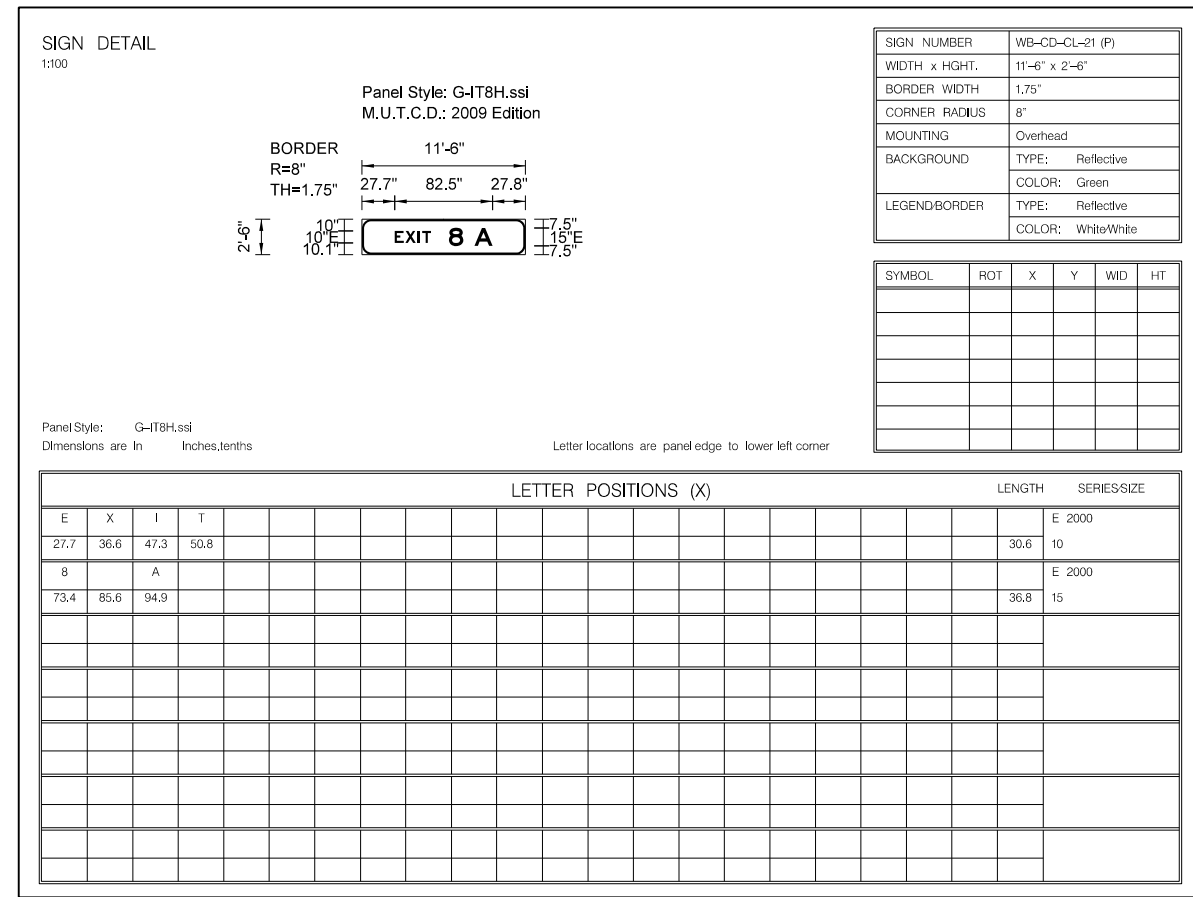
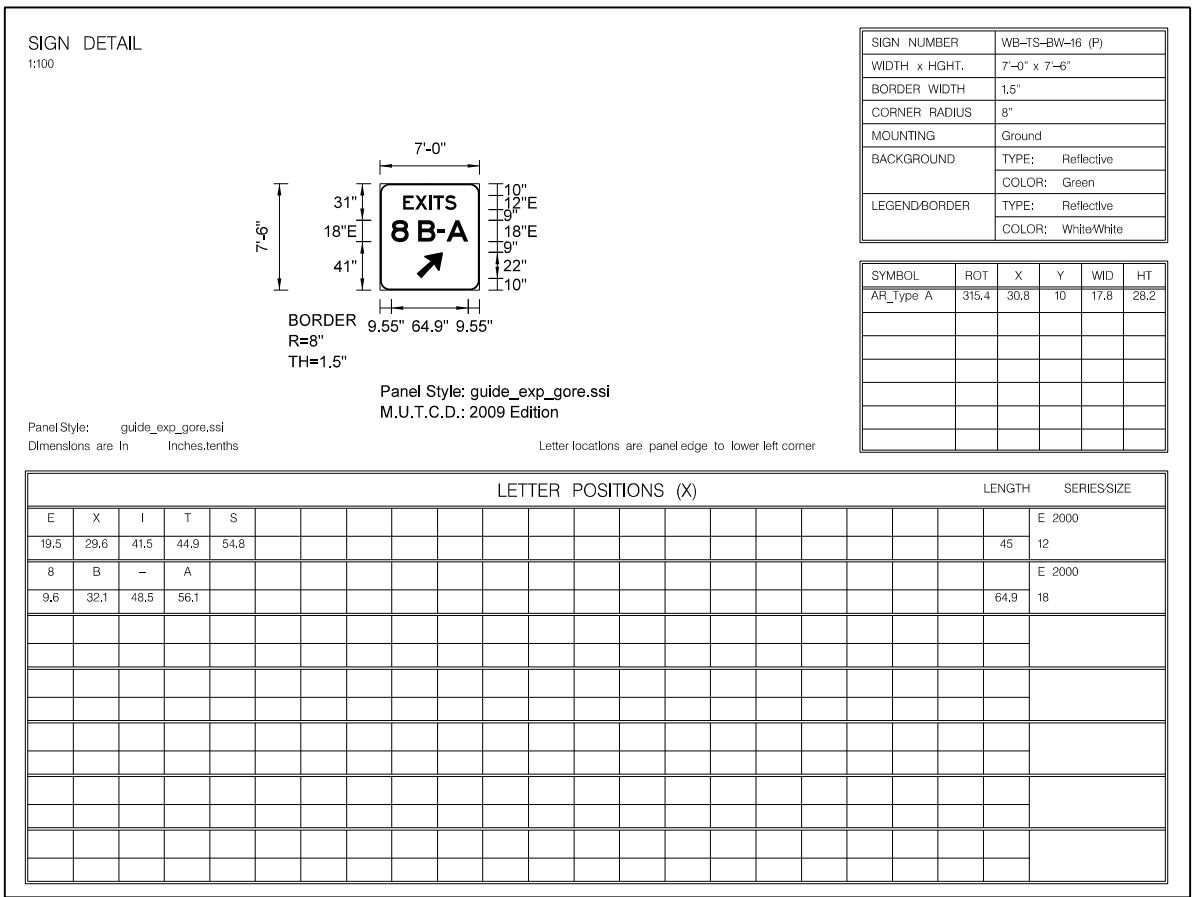
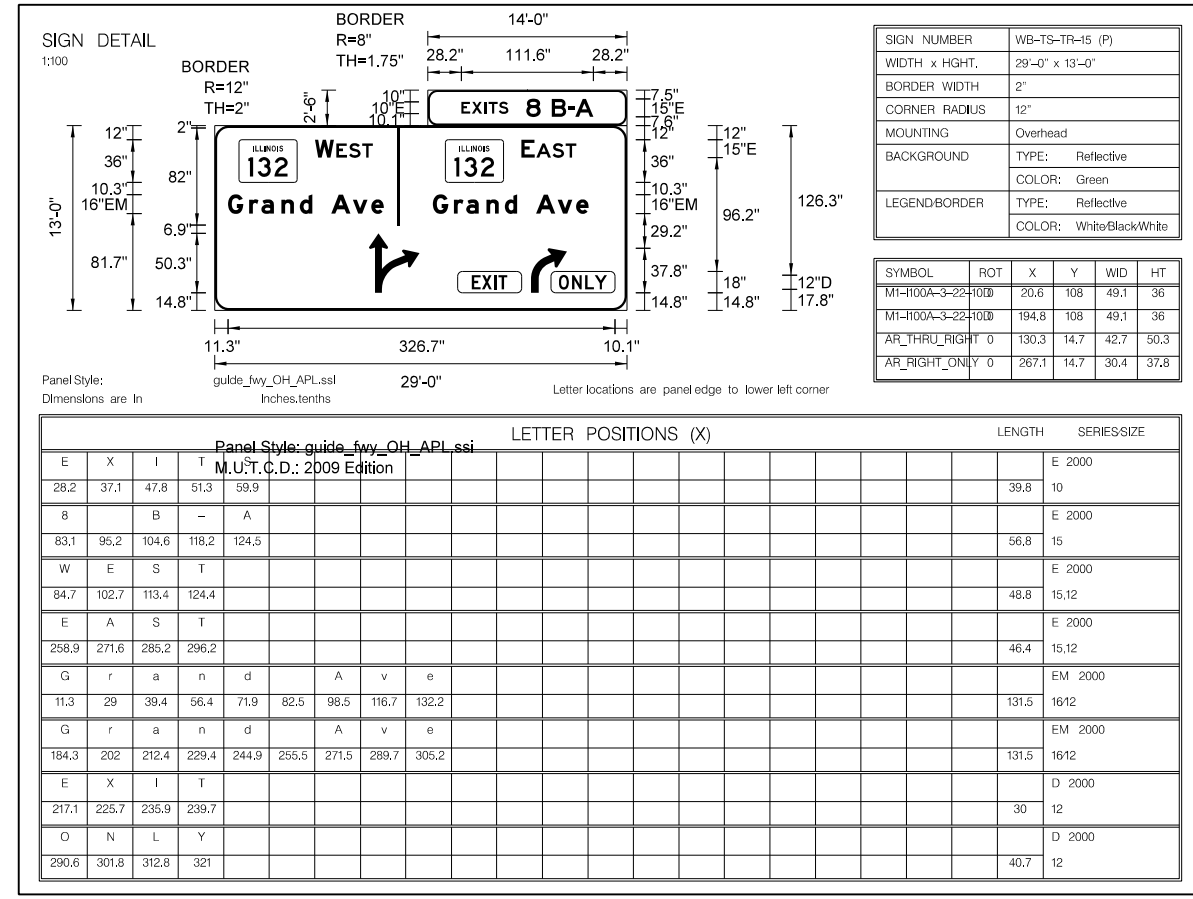
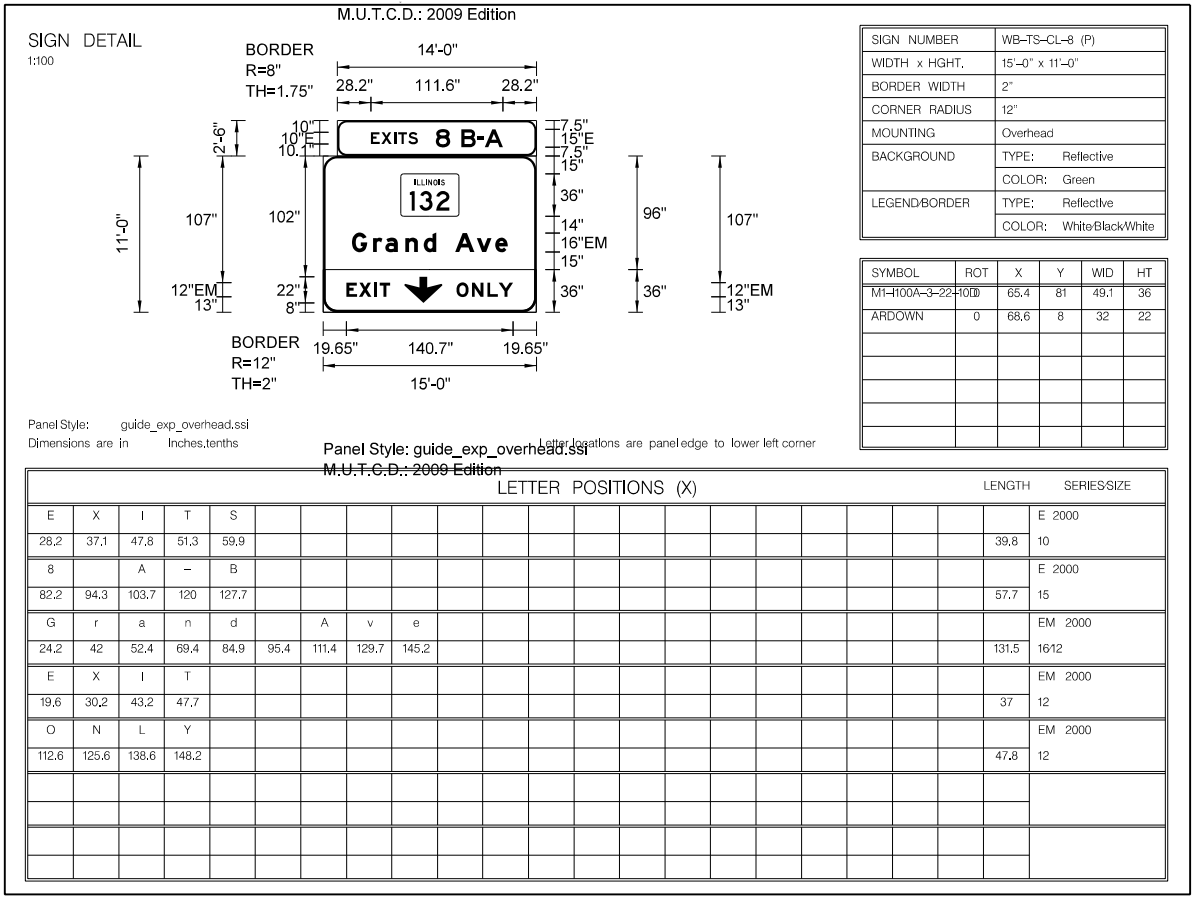
DRAWN BY EC DATE 03/23/2017
 CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. PMK-6
 I-94 AT GRAND AVE DRAWING NO.
 PAVEMENT MARKING & SIGNING PLAN 103 OF 228



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DRAWN BY CEY DATE 03/23/2017
 CHECKED BY LS DATE 03/23/2017

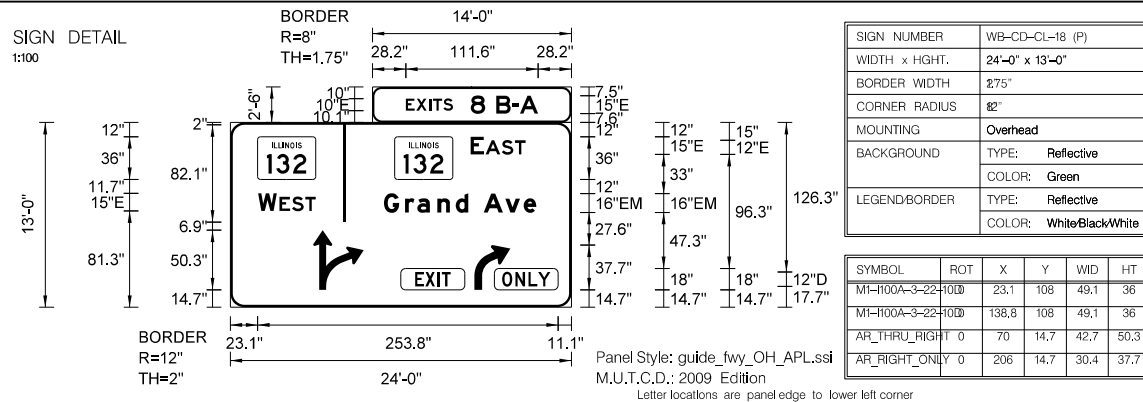


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 SIGN DETAIL

SHT NO. SN-1
 DRAWING NO. 104 OF 228

SIGN DETAIL
1:100

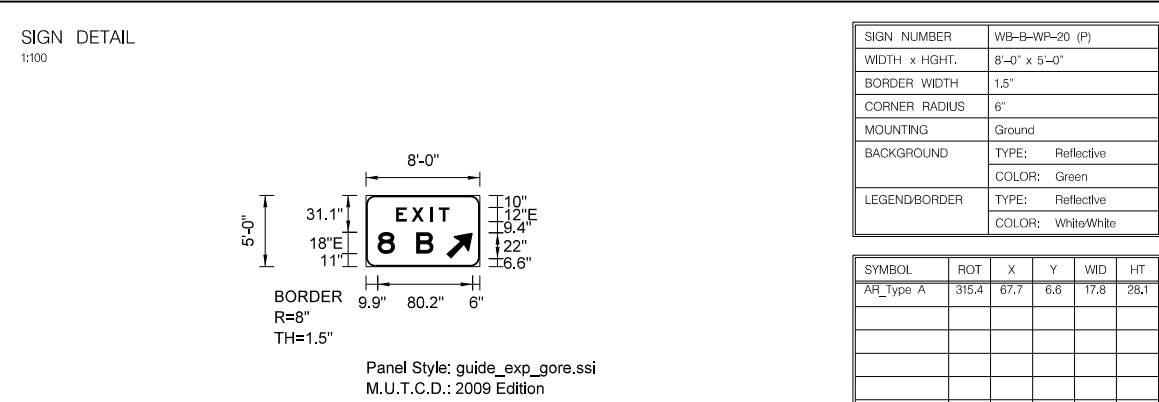


SIGN NUMBER	WB-CD-CL-18 (P)				
WIDTH x HGHT.	24'-0" x 13'-0"				
BORDER WIDTH	2.75"				
CORNER RADIUS	82"				
MOUNTING	Overhead				
BACKGROUND	TYPE: Reflective				
	COLOR: Green				
LEGENDBORDER	TYPE: Reflective				
	COLOR: White/Black/White				

SYMBOL	ROT	X	Y	WID	HT
MI-100A-3-22-100		23.1	108	49.1	36
MI-100A-3-22-100		138.8	108	49.1	36
AR_THRU_RIGHT	0	70	14.7	42.7	50.3
AR_RIGHT_ONLY	0	206	14.7	30.4	37.7

LETTER POSITIONS (X)											LENGTH	SERIESSIZE
E	X	I	T	S							39.8	10
28.2	37.1	47.8	51.3	59.9								
B		B		A							56.8	15
83.1	95.2	104.6	118.2	124.5								
E	A	S	T								46.4	15.12
202.9	215.6	229.2	240.2									
W	E	S	T								48.8	15.12
23.5	41.5	52.2	63.2									
G	r	a	n	d	A	v	e				128.5	1612
129.8	147.5	157.9	174.9	190.4	214	232.2	247.7					
E	X	I	T								30	12
156	164.7	174.9	178.6									
O	N	L	Y								40.7	12
229.5	240.7	251.7	259.9									

SIGN DETAIL
1:100



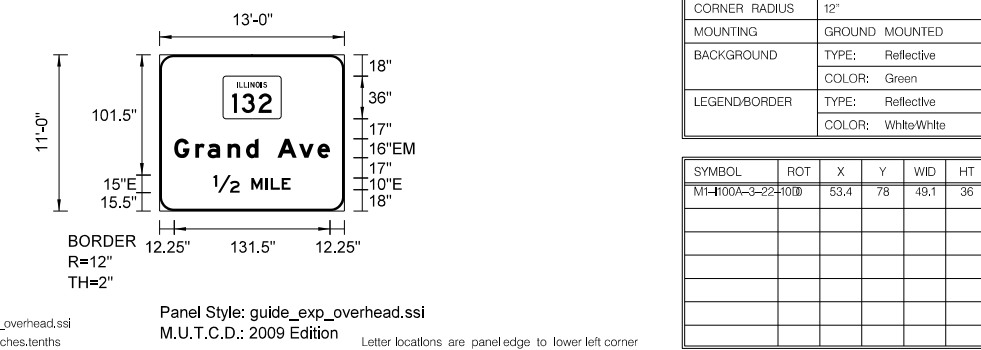
SIGN NUMBER	WB-B-WP-20 (P)				
WIDTH x HGHT.	8'-0" x 5'-0"				
BORDER WIDTH	1.5"				
CORNER RADIUS	6"				
MOUNTING	Ground				
BACKGROUND	TYPE: Reflective				
	COLOR: Green				
LEGENDBORDER	TYPE: Reflective				
	COLOR: White/White				

SYMBOL	ROT	X	Y	WID	HT
AR_Type A		315.4	67.7	6.6	17.8

LETTER POSITIONS (X)											LENGTH	SERIESSIZE
E	X	I	T								45	12
25.6	38.5	54.6	61.6									
B		B									47.2	18
9.9	24.5	42.5										

SIGN DETAIL
1:100

PROPOSED SIGN PANEL TO BE MOUNTED ON EXISTING BREAKAWAY STEEL POSTS.



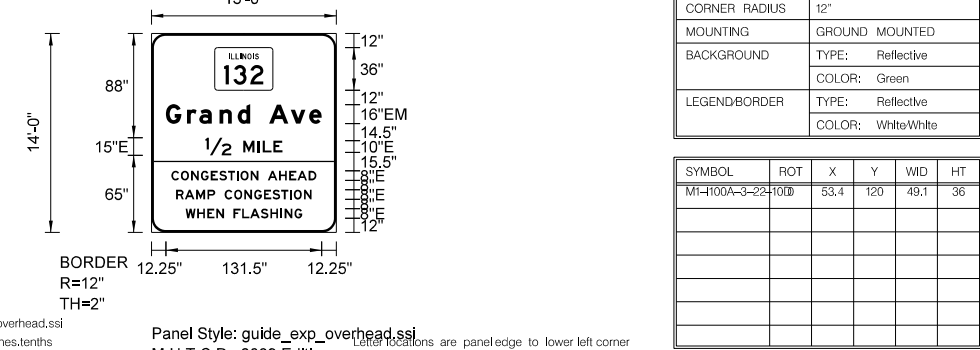
SIGN NUMBER	WB-TS-B3-4 (P)				
WIDTH x HGHT.	13'-0" x 11'-0"				
BORDER WIDTH	2"				
CORNER RADIUS	12"				
MOUNTING	GROUND MOUNTED				
BACKGROUND	TYPE: Reflective				
	COLOR: Green				
LEGENDBORDER	TYPE: Reflective				
	COLOR: White/White				

SYMBOL	ROT	X	Y	WID	HT
MI-100A-3-22-100		53.4	78	49.1	36

LETTER POSITIONS (X)											LENGTH	SERIESSIZE
G	r	a	n	d	A	v	e				131.5	1612
12.2	30	40.4	57.4	72.9	83.4	99.4	117.7	133.2				
12	M	I	L	E							65.1	15.10
45.5	77.4	89.4	93.8	103								

SIGN DETAIL
1:100

PROPOSED SIGN PANEL TO BE MOUNTED ON EXISTING BREAKAWAY STEEL POSTS.



SIGN NUMBER	WB-TS-B3-3 (P)				
WIDTH x HGHT.	13'-0" x 14'-0"				
BORDER WIDTH	2"				
CORNER RADIUS	12"				
MOUNTING	GROUND MOUNTED				
BACKGROUND	TYPE: Reflective				
	COLOR: Green				
LEGENDBORDER	TYPE: Reflective				
	COLOR: White/White				

SYMBOL	ROT	X	Y	WID	HT
MI-100A-3-22-100		53.4	120	49.1	36

LETTER POSITIONS (X)											LENGTH	SERIESSIZE				
G	r	a	n	d	A	v	e				131.5	1612				
12.2	30	40.4	57.4	72.9	83.4	99.4	117.7	133.2								
12	M	I	L	E							65.1	15.10				
45.5	77.4	89.4	93.8	103												
C	O	N	G	E	S	T	I	O	N	A	H	E	A	D	122.4	8
16.8	24.9	33.4	41.8	50.1	57.2	64.6	71.9	75.2	83.8	90.2	98.2	107.8	116.3	123.2		
R	A	M	P	C	O	N	G	E	S	T	I	O	N		114.4	8
20.8	28.2	37.7	47.3	53.8	61.8	69.8	78.4	86.7	95	102.2	109.5	116.9	120.2	128.7		
W	H	E	N	F	L	A	S	H	I	N	G				98.5	8
28.8	38.6	47.2	54.8	61.2	69.2	76.6	83.2	92.3	100.4	108.9	112.4	120.8				

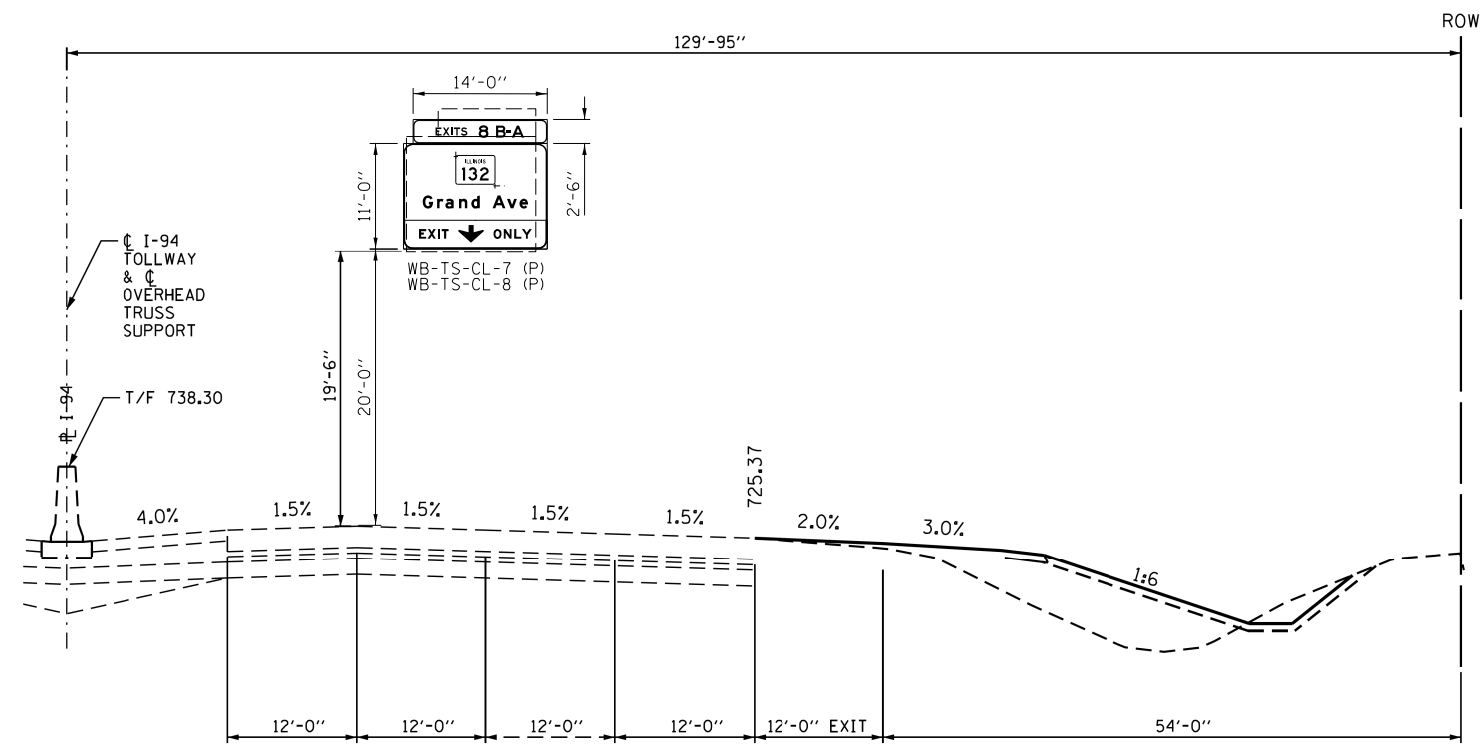
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CHECKED BY LS DATE 03/23/2017



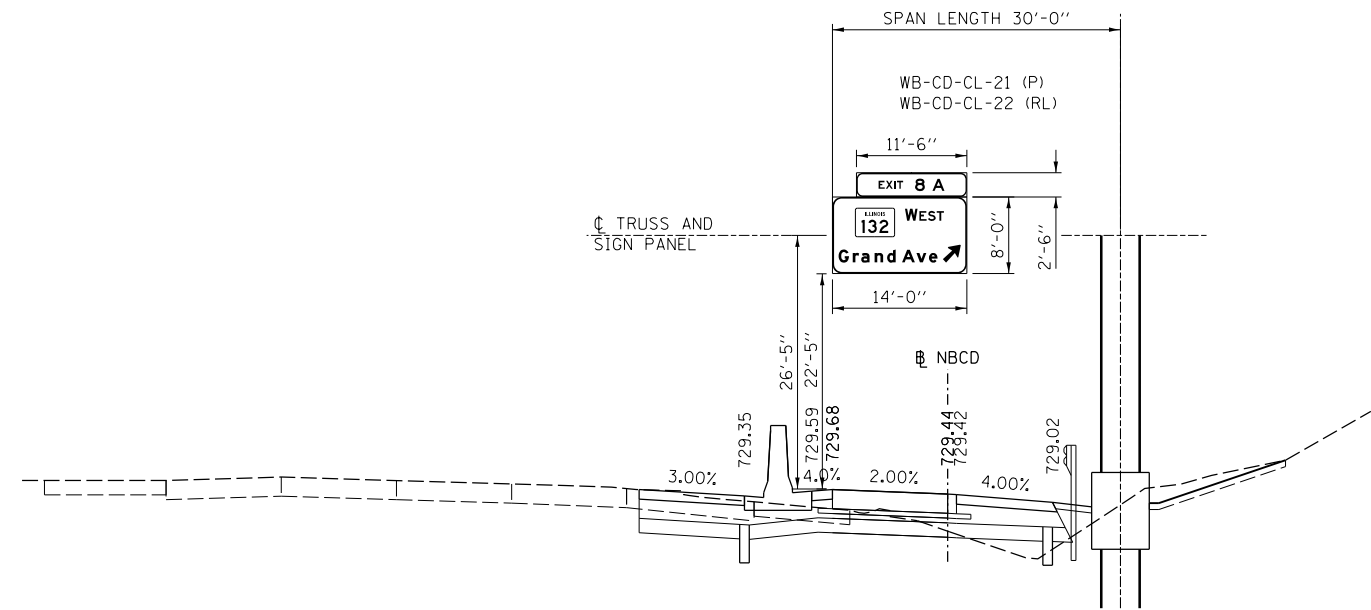
		REVISIONS	
NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
SIGN DETAIL

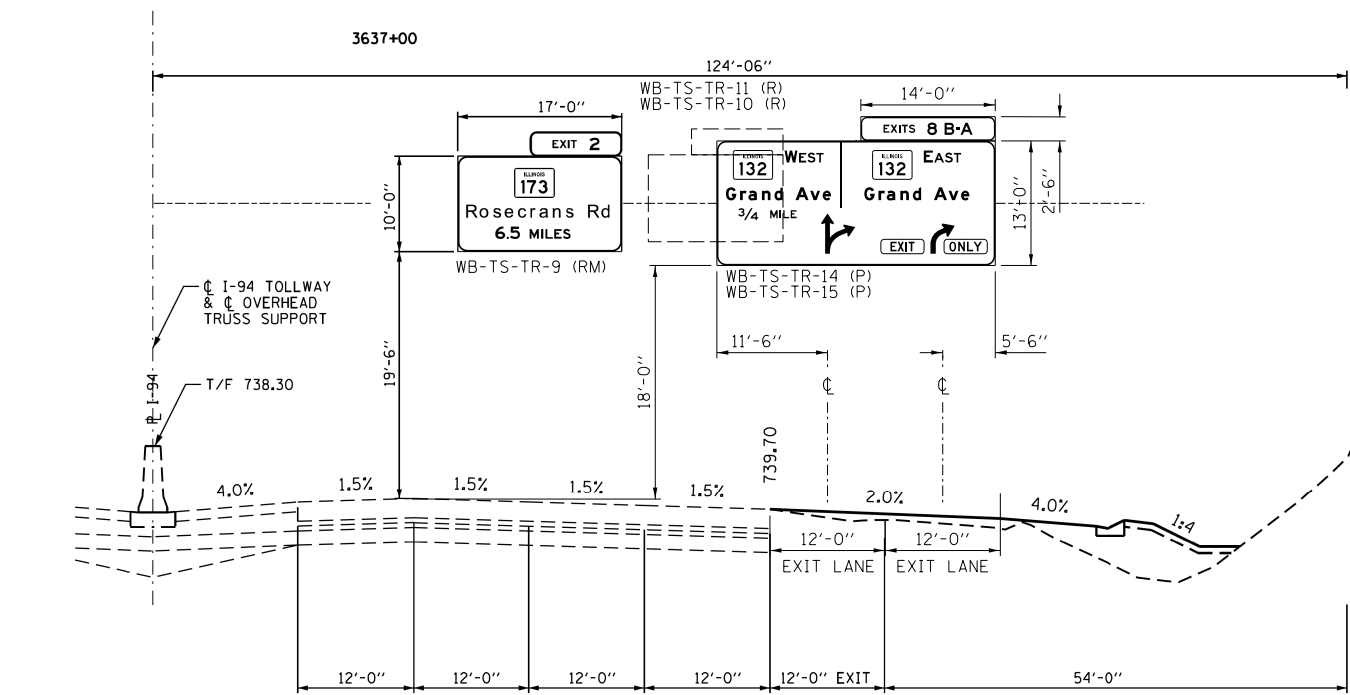
SHT NO. SN-2
DRAWING NO.
105 OF 228



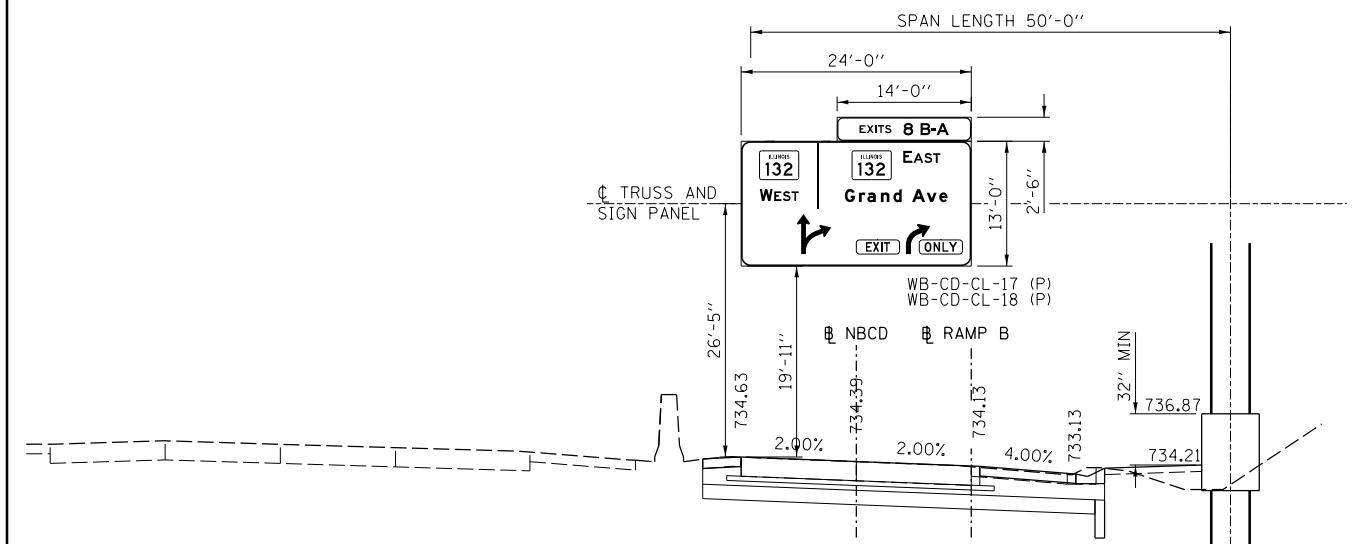
EXISTING OVERHEAD SIGN STRUCTURE, CANTILEVER
STA. 3624 + 00 (LOOKING NORTH)



PROPOSED OVERHEAD SIGN STRUCTURE, CANTILEVER
STA. 114 + 04.00 CD ROAD
STA. 3674 + 00.00 I-94



EXISTING OVERHEAD SIGN TRUSS
STA. 3637 + 00 (LOOKING NORTH)



PROPOSED OVERHEAD SIGN STRUCTURE, CANTILEVER
STA. 100 + 15.00 CD ROAD
STA. 3660 + 14.42 I-94

DRAWN BY CEY DATE 03/23/2017
CHECKED BY LS DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
SIGN DETAIL

SHT NO. SN-3
DRAWING NO.
106 OF 228

SIGN REMOVAL AND REMAIN SCHEDULE

SHEET	SIGN DESCRIPTION	SIGN PANEL ID	STATION	OFFSET	WIDTH	HEIGHT	72400310	72400320	72400330	72400500	72400730	JT726040	JT726020	73800310	73700300	
							REMOVE SIGN PANEL TYPE I	REMOVE SIGN PANEL TYPE II	REMOVE SIGN PANEL TYPE III	RELOCATE SIGN PANEL ASSEMBLY - TYPE A	RELOCATE SIGN PANEL - TYPE 3	REMOVE AND REINSTALL MILEPOST MARKER	MILEPOST MARKER ASSEMBLY, BARRIER WALL MOUNTED	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	REMOVE CONCRETE FOUNDATION - OVERHEAD	
							SQ FT	SQ FT	SQ FT	EACH	SQ FT	EACH	EACH	EACH	EACH	
PMK-1	GRAND AVE CONGESTION AHEAD	WB-TS-BS-1 (R)	3584+00	94' RT	13.00	14.00			182							
PMK-1	GRAND AVE 1/2 MILE	WB-TS-BS-2 (R)	3612+69	91.5' RT	13.00	11.50			149.5							
PMK-1	EXIT 8 B	WB-TS-CL-5 (R)	3623+99	96' RT	11.00	2.50		27.50								
PMK-1	GRAND AVE EAST 1/4 MILE	WB-TS-CL-6 (R)	3623+99	96' RT	13.50	12.00			162.00							
PMK-1	IL 173 6 1/2 MILES	WB-TS-TR-9 (RM)	3637+00	RT	17.00	10.00										
PMK-1	EXIT 8 A	WB-TS-TR-11 (R)	3637+00	RT	11.00	2.50		27.50								
PMK-1	GRAND AVE WEST 3/4 MILE	WB-TS-TR-10 (R)	3637+00	RT	14.00	9.00			126.00							
PMK-1	EXIT 8 B	WB-TS-TR-13 (R)	3637+00	RT	11.00	2.50		27.50								
PMK-1	GRAND AVE EAST EXIT ONLY	WB-TS-TR-12 (R)	3637+00	RT	16.50	10.50			173.25							
PMK-4	W4-1	WB-CD-WP-19 (RL)	3668+46	85.9' RT	4.00	4.00				1						
PMK-4	GRAND AVE WEST ARROW	WB-CD-CL-22 (RL)	3674+00	94.7' RT	14.00	8.00				112.00				1	1	
PMK-4	MP 8 1/2	WB-A-MP-23 (RL)	3673+55	95.1' RT	1.25	4.00					1		1			
PMK-4	W13-6	WB-A-WP-24 (RL)	3673+80	95.9' RT	2.00	3.50				1						
PMK-4	MEDAL HONOR OVERPASS	WB-A-WP-25 (RL)	3674+35	113.6' RT	12.00	4.00				2						
PMK-4	W13-6	WB-B-LP-26 (RL)	3678+66	123.9' RT	2.00	3.50				1						
PMK-4	EXIT 8A	WB-B-WP-27 (RL)	3679+25	94.3' RT	7.50	5.00				2						
PMK-4	W1-8R	WB-B-WP-28 (RL)	3679+45	124.0' RT	2.50	3.00				1						
PMK-5	MP 8 1/4	WB-CD-MP-30 (RL)	3686+83	85.6' RT	1.25	4.00					1					
TOTAL:							0.00	82.50	792.75	8	112.00	2	1	1	1	1

OVERHEAD SIGN SCHEDULE

SHEET	DESCRIPTION	SIGN PANEL ID	STATION	OFFSET	WIDTH	HEIGHT	JT720110	JT720120	JS733B30	JS733B50
							SIGN INSTALLATION, TYPE II	SIGN INSTALLATION, TYPE III	OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL) (30 FT)	OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL) (50 FT)
							SQ FT	SQ FT	FT	FT
PMK-1	EXITS 8 A-B	WB-TS-CL-7 (P)	3624+00	RT	14.00	2.50	35.00			
PMK-1	GRAND AVE EXIT ONLY	WB-TS-CL-8 (P)			15.00	11.00		165.00		
PMK-1	EXITS 8 A-B	WB-TS-TR-14 (P)	3637+00	RT	14.00	2.50	35.00			
PMK-1	GRAND AVE WEST EAST	WB-TS-TR-15 (P)			29.00	13.00		377.00		
PMK-3	EXITS 8 A-B	WB-CD-CL-17 (P)	100+15	39' RT	14.00	2.50	35.00		50.00	
PMK-3	GRAND AVE WEST EAST	WB-CD-CL-18 (P)			24.00	13.00		312.00		
PMK-4	EXIT 8 A	WB-CD-CL-21 (P)	114+04	18' RT	11.50	2.50	28.75	30.00		
TOTAL:							134.00	854.00	30.00	50.00

PROPOSED SIGN SCHEDULE

SHEET	DESCRIPTION	SIGN PANEL ID	STATION	OFFSET	WIDTH	HEIGHT	HEIGHT ABOVE EDGE TRAVEL WAY	JT720100	JT720110	JT720120	NUMBER OF SIGN SUPPORTS	J1728010	73000100	
								SIGN INSTALLATION, TYPE I	SIGN INSTALLATION, TYPE II	SIGN INSTALLATION, TYPE III		TELESCOPING STEEL SIGN SUPPORT, BARRIER ASSEMBLY	WOOD SIGN SUPPORT	
							FT	SQ FT	SQ FT	SQ FT	EACH	FT		
PMK-1	GRAND AVE CONGESTION AHEAD	WB-TS-BS-3 (P)	3584+00	94' RT	13.00	14.00	7			182.00				
PMK-1	GRAND AVE 1/2 MILE	WB-TS-BS-4 (P)	3612+69	91.5' RT	13.00	11.00	7			143.00				
PMK-2	MODIFIED G-1T4E	WB-TS-BW-16 (P)	3648+32	79.8' RT	7.00	7.50	7		52.50		2	1		
PMK-3	G-1T4D	WB-B-WP-20 (P)	104+70	17.6' RT	8.00	5.00	7		40.00		2		42.00	
PMK-4	W4-1	WB-TS-BW-29 (P)	3679+00	78.5' RT	4.00	4.00	7		16.00		1	1		
TOTAL:								0.00	109.00	325.00		2		42.00

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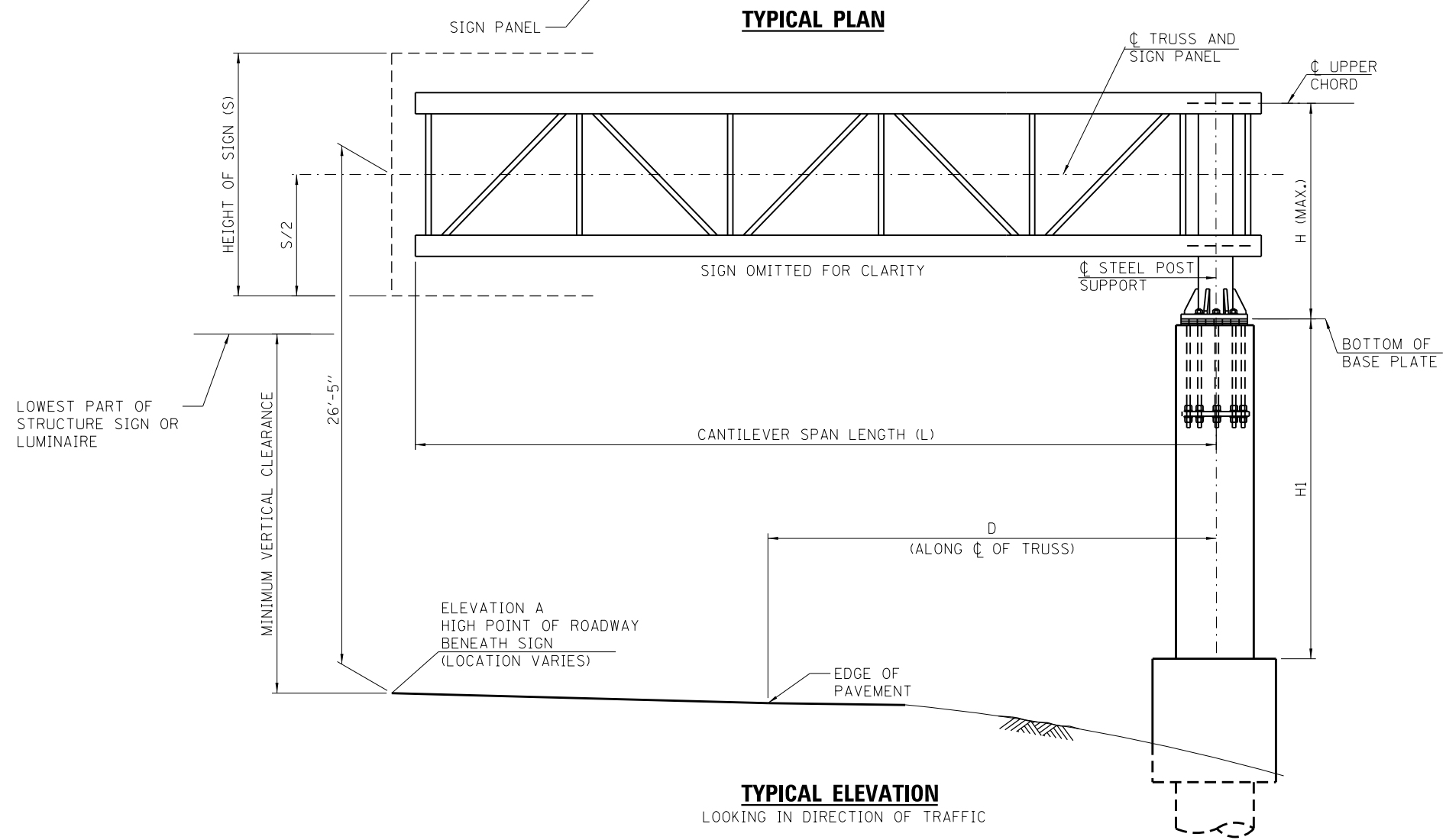
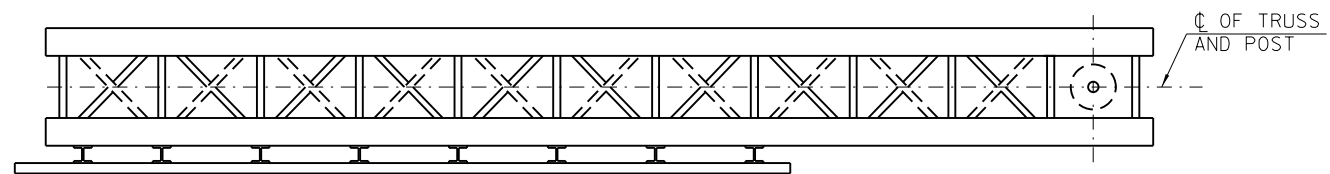
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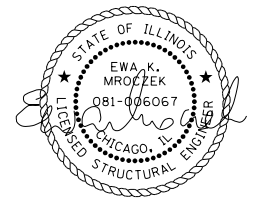
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 SIGN DETAIL

SHT NO. SN-4
 DRAWING NO.
 107 OF 228



- NOTES:**
1. WORK THIS SHEET WITH STANDARD F4.
 2. ALL STATIONS SHOWN ARE FOR THE CD ROAD.
 3. PROTECTIVE COAT SHALL BE APPLIED TO ALL EXPOSED SURFACES.



COLLINS ENGINEERS, INC.
EWA MROCZEK, P.E., S.E.
NO. 081-006067
EXP.: 11/30/2018

TOTAL BILL OF MATERIAL

PAY ITEM	DESCRIPTION	UNIT	TOTAL
JS733B30	OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL) (30 FT)	FOOT	30
JS733B50	OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL) (50 FT)	FOOT	50
JS734B10	FOUNDATION FOR OVERHEAD SIGN STRUCTURE, CATILEVER TYPE	CU YD	72
50300300	PROTECTIVE COAT	SQ YD	75
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	20,720

SUMMARY

STRUCTURE NUMBER	STATION	DESIGN TRUSS TYPE	L	ELEV. A	MINIMUM VERTICAL CLEARANCE	D	H	H1	HEIGHT OF TALLEST SIGN	TOTAL SIGN AREA (SQ FT)	FOUNDATION FOR OVERHEAD SIGN STRUCTURE		REINFORCEMENT BARS, EPOXY COATED (POUND)	PROTECTIVE COAT (SQ. YD.)
											CLASS SI CONCRETE (CU YD)	CLASS DS CONCRETE (CU YD)		
TN8.75C.WB(R)	100+15	50-D	50	734.63	19'-11"	27'	12.00'	15.75'	15'-6"	347	7.2	37.3	11,410	39
TN8.50C.WB(R)	114+04	30-D	30	729.68	21'-2"	18'	12.00'	17.00'	10'-6"	140.75	6.0	21.0	9310	36
TOTAL											13.2	58.3	20,720	75

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100% DESIGN SUBMITTAL

DRAWN BY PRH DATE 03/10/2017

CHECKED BY AK DATE 03/10/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291

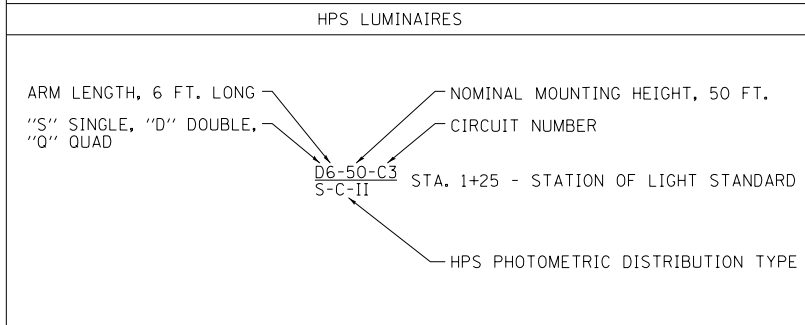
1-94 AT GRAND AVENUE
OVERHEAD SIGN DETAILS
CANTILEVER

SHT NO. SN-5
DRAWING NO.
108 OF 228

LIGHTING AND ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXISTING LIGHTING UNIT TO BE RELOCATED
	EXISTING LIGHTING UNIT TO BE REMOVED
	PROPOSED LIGHTING UNIT, WALL MOUNTED, 50 FT MOUNTING HEIGHT, 6 FT MAST ARM, 400W HPS LUMINAIRE
	EXISTING LIGHTING UNIT TO REMAIN
	RELOCATED LIGHTING UNIT, 50 FT MOUNTING HEIGHT, 15 FT MAST ARM, 400W HPS LUMINAIRE
	TEMPORARY LIGHTING UNIT, WOOD POLE, 50 FT MOUNTING HEIGHT, 15 FT MAST ARM, 400W HPS LUMINAIRE
	EXISTING TEMPORARY LIGHTING UNIT
	EXISTING COMED TRANSFORMER
	EXISTING LIGHTING CONTROLLER TO REMAIN
	EXISTING UNDERPASS LUMINAIRE TO REMAIN
	EXISTING UNDERPASS LUMINAIRE TO BE REMOVED
	PROPOSED UNDERPASS LUMINAIRE, HPS
	EXISTING HANDHOLE TO REMAIN
	EXISTING HANDHOLE TO BE REMOVED
	PROPOSED HEAVY DUTY HANDHOLE
	TEMPORARY WOOD POLE, 40 FT, CLASS 4 (UNLESS NOTED OTHERWISE)
	EXISTING WOOD POLE
	EXISTING JUNCTION BOX
	PROPOSED JUNCTION BOX (SIZE AND TYPE AS NOTED)
	EXISTING UNIT DUCT OR CONDUIT TO BE REMOVED
	EXISTING UNIT DUCT OR CONDUIT TO BE REMAIN
	TEMPORARY AERIAL CABLE 4-1/C NO. 2 WITH MESSENGER WIRE
	EXISTING AERIAL CABLE
	EXISTING UNDERGROUND CONDUIT
	PROPOSED CONDUIT (SIZE AND TYPE AS NOTED)
	PROPOSED UNIT DUCT, SIZE AS NOTED

CALL-OUT LEGEND



TOLLWAY STANDARD DRAWINGS

H4-03	HEAVY-DUTY HANDHOLE AND BURIED WIRING DETAILS
H9-00	UNDERPASS LIGHTING INSTALLATION DETAILS

INDEX OF DRAWINGS

DRAWING NO.	TITLE
EL-1	LIGHTING LEGEND, GENERAL NOTES, AND INDEX OF DRAWINGS
EL-2	SCHEDULE OF ROADWAY LIGHTING QUANTITIES
EL-3 TO EL-8	LIGHTING REMOVAL AND TEMPORARY LIGHTING PLANS
EL-9	TEMPORARY UNDERPASS LIGHTING PLAN, GRAND AVENUE OVER I-94
EL-10 TO EL-12	PROPOSED LIGHTING PLANS
EL-13	PANELBOARD SCHEDULE
EL-14	UNDERPASS LIGHTING DETAILS, GRAND AVENUE OVER I-94
EL-15	TEMPORARY LIGHT POLE DETAIL
EL-16	LIGHTING DETAILS
ELD-1 TO ELD-12	LIGHT STANDARD DETAILS

GENERAL NOTES:

- PRIOR TO INSTALLATION OF THE NEW UNIT DUCT, CONDUITS, JUNCTION BOXES, LIGHT STANDARD FOUNDATION AND APPURTENANCES, THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION OF EXISTING CONDUITS, CABLE AND UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL J.U.L.I.E. (800-893-0123) TO AID IN THE TASK.
- THE CONTRACTOR MUST VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT PLANS AND REFERENCE DRAWINGS WHICH WOULD AFFECT HIS WORK UNDER THIS CONTRACT FOR THE OPERATION OF THE EXISTING ROADWAY LIGHTING.
- ALL NEW UNIT DUCT, CONDUIT, JUNCTION BOXES AND APPURTENANCES ARE DIAGRAMMATICALLY SHOWN. THE ACTUAL LOCATION IN THE FIELD MUST MEET THE APPROVAL OF THE ENGINEER.
- CONDUIT AND UNIT DUCT MUST BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH ALL UNDERGROUND UTILITIES IN ELEVATION. MAKE MINIMUM SEPARATION OF 12".
- NO MATERIAL OR EQUIPMENT SHALL BE DELIVERED TO THE JOB SITE WITHOUT PRIOR INSPECTION AND APPROVAL BY THE ENGINEER. ANY MATERIAL AND EQUIPMENT NOT APPROVED BY THE ENGINEER MUST BE REMOVED FROM THE JOB SITE AT THE CONTRACTOR'S EXPENSE.
- THE ELECTRICAL MATERIALS MUST BE NEW AND OF THE TYPE AND KINDS APPROVED BY THE FOLLOWING ORGANIZATIONS.
 - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION. (NEMA)
 - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS. (IEEE)
 - ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA. (IESNA)
 - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS. (AASHTO)
 - U.S. DEPARTMENT OF TRANSPORTATION. (U.S.D.O.T.)
 - UNDERWRITERS LABORATORIES. (UL)
 - AMERICAN NATIONAL STANDARDS INSTITUTE. (ANSI)
 - INSULATED POWER AND CABLE ENGINEERS ASSOCIATION. (IPCEA)
- ALL ABOVE GROUND CONDUIT SHALL BE PVC COATED RGS UNLESS NOTED OTHERWISE.
- ALL ELECTRICAL SYSTEMS, EQUIPMENT AND APPURTENANCES SHALL BE PROPERLY GROUNDED IN STRICT CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, EVEN THOUGH EVERY DETAIL OF REQUIREMENTS IS NOT SPECIFIED OR SHOWN.
- CONTRACTOR IS RESPONSIBLE TO CONTACT COMED AND GAS COMPANY AND COORDINATE HIS WORK.
- ALL UNIT DUCT TERMINATIONS IN THE LIGHTING CONTROLLER SHALL BE CARRIED OUT THROUGH THE CONCRETE FOUNDATION IN STAINLESS STEEL CONDUIT LARGE RADIUS ELBOW.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATION OF ALL LIGHT POLES AND THE LIGHT CONTROLLERS FOR INSPECTION AND APPROVAL BY THE ENGINEER.
- NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
- TO MAINTAIN THE STRUCTURAL INTEGRITY, ALUMINIUM POLES WITH MAST ARMS SHALL NOT BE ERECTED AND LEFT TO STAND WITHOUT LUMINAIRES.
- UNLESS OTHERWISE NOTED, ALL GROUND MOUNTED ALUMINIUM POLES SHALL BE PROVIDED WITH BREAKAWAY DEVICES AS SPECIFIED. ALL BREAKAWAY DEVICES MUST BE CLASSIFIED BY AASHTO AND FHWA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING, TEMPORARY AND PROPOSED ROADWAY LIGHTING, AS SPECIFIED IN GENERAL ELECTRICAL PROVISIONS.
- TRENCH AND BACKFILL FOR ELECTRICAL WORK SHALL NOT BE MEASURED OR PAID FOR ON A UNIT COST BASIS. THE CONTRACTOR SHALL HAVE THE OPTION OF INSTALLING UNDERGROUND RACEWAYS AND UNIT DUCTS BY TRENCHING, PLOWING, DIRECTIONAL BORING, OR PUSHED UNDER EXISTING PAVEMENT.

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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-17-4291
 LIGHTING LEGEND, GENERAL NOTES
 AND INDEX OF DRAWINGS

SHT NO. EL-1
 DRAWING NO.
 109 OF 228

SCHEDULE OF ROADWAY LIGHTING QUANTITIES

PAY ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
81800400	AERIAL CABLE, 4-1/C NO. 2 WITH MESSENGER WIRE	FOOT	3705
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	10
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	100
89502380	REMOVE EXISTING HANDHOLE	EACH	5
JI811280	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., STAINLESS STEEL	FOOT	15
JS810879	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 4" DIA.	FOOT	365
JS811051	CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., PVC COATED GALVANIZED STEEL	FOOT	251
JS812040	CONDUIT EMBEDDED IN STRUCTURE, 4" DIA., PVC OR COILABLE NONMETALLIC CONDUIT	FOOT	1550
JS813001	JUNCTION BOX, STAINLESS STEEL, EMBEDDED IN STRUCTURE, 20" X 12" X 8"	EACH	3
JS813053	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 10" X 6"	EACH	4
JS813083	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 18" X 18" X 8"	EACH	2
JS814002	HEAVY-DUTY HANDHOLE, TOLLWAY	EACH	2
JS816076	UNIT DUCT, WITH 4-1/C NO. 2 AND 1/C NO. 4 GROUND, 600V (XLP-TYPE USE), 2" DIA. CNC	FOOT	9475
JS817211	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	1131
JS821001	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	7
JS821002	UNDERPASS LUMINAIRE, 150 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	3
JS821003	TEMPORARY LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	4
JS830012	WALL MOUNTED LIGHT POLE, ALUMINUM, 50 FT., 6 FT. MAST ARM	EACH	7
JS830025	TEMPORARY WOOD POLE, 40 FT., CLASS 4	EACH	4
JS830030	TEMPORARY WOOD POLE, 60 FT., CLASS 4	EACH	8
JS830031	TEMPORARY WOOD POLE, 60 FT., CLASS 4, 15 FT. MAST ARM	EACH	4
JS836001	LIGHT POLE FOUNDATION (ROADWAY) STEEL HELIX (7 FT) OR CONCRETE	EACH	10
JS836005	LIGHT POLE FOUNDATION (ROADWAY) MEDIAN, TYPE 1	EACH	3
JS836006	LIGHT POLE FOUNDATION (ROADWAY) MEDIAN, TYPE 2	EACH	4
JS842080	REMOVAL OF EXISTING LIGHTING UNIT, SALVAGE	EACH	7
JS842100	REMOVAL OF UNDERPASS LUMINAIRE	EACH	3
JS842110	POLE FOUNDATION REMOVED, METAL	EACH	17
JS846001	MAINTAIN LIGHTING SYSTEM	L SUM	1
JT844006	RELOCATE EXISTING LIGHTING UNIT, SPECIAL	EACH	10

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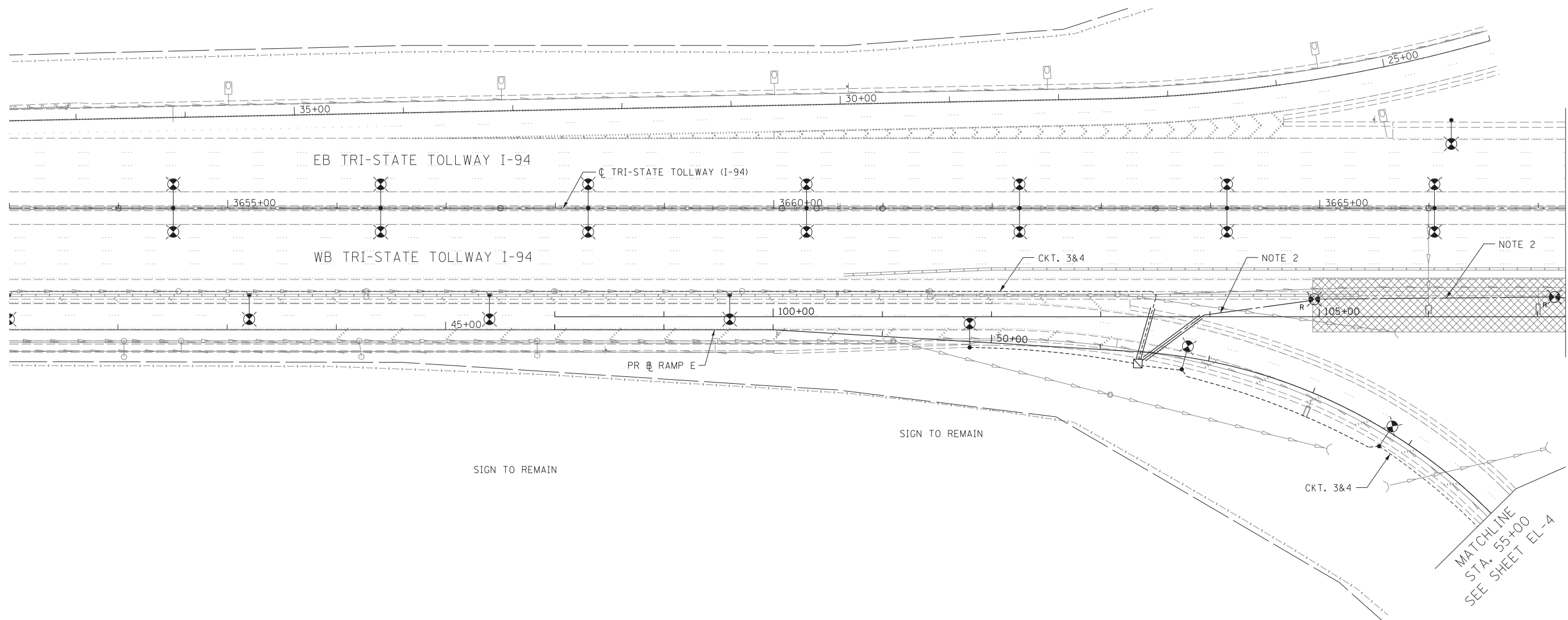
DRAWN BY VG DATE 03/23/2017
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REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-17-4291
 SCHEDULE OF ROADWAY LIGHTING QUANTITIES

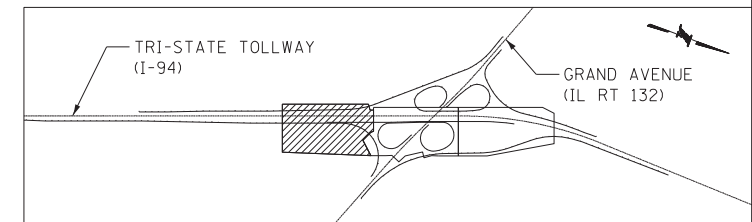
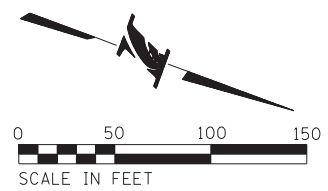
SHT NO. EL-2
 DRAWING NO. 110 OF 228



NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. EXISTING UNIT DUCT TO BE DISCONNECTED AND REMOVED. THE COST OF THIS WORK SHALL BE INCLUDED IN RELOCATE EXISTING LIGHTING UNIT PAY ITEM.

STAGE 1



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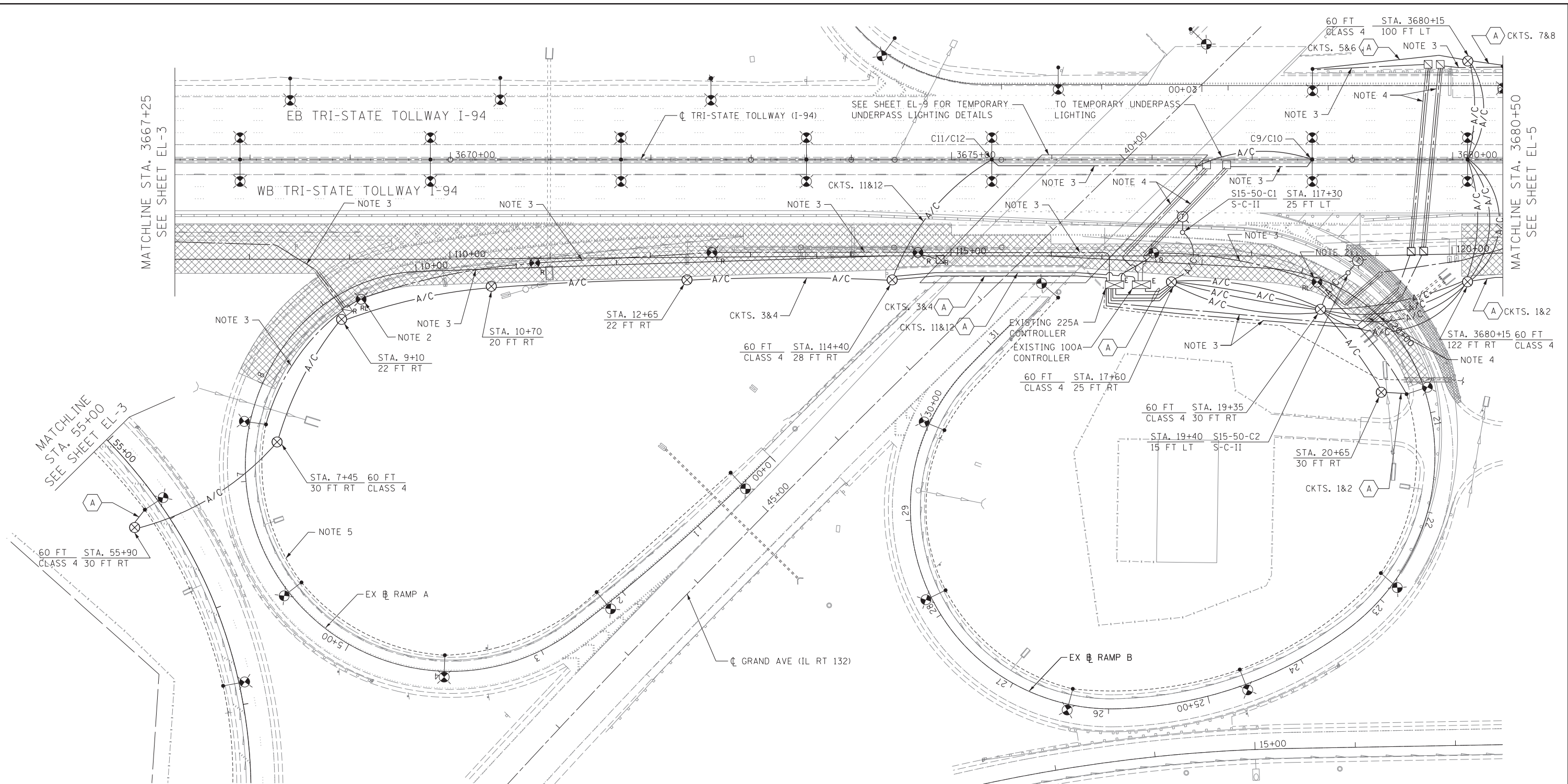


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291
 LIGHTING REMOVAL AND
 TEMPORARY LIGHTING PLANS (1 OF 6)

SHT NO. EL-3
 DRAWING NO.
 111 OF 228



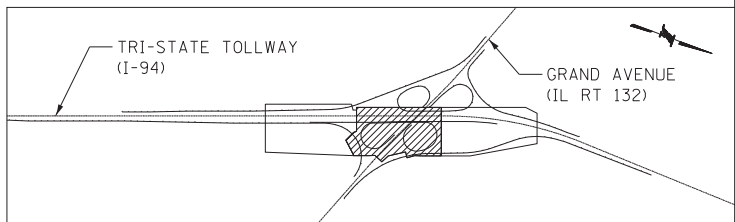
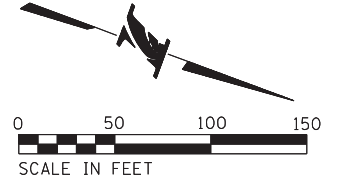
NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. EXISTING LIGHTING UNIT TO BE REMOVED AND STORED FOR FUTURE USE.
3. EXISTING UNIT DUCT TO BE DISCONNECTED AND REMOVED. THE COST OF THIS WORK SHALL BE INCLUDED IN RELOCATE EXISTING LIGHTING UNIT PAY ITEM.
4. EXISTING UNDERGROUND CONDUIT TO REMAIN, UNIT DUCT TO BE REMOVED.
5. DEENERGIZE THIS BRANCH OF CIRCUITS 3 AND 4 DURING ALL STAGES OF THE CONSTRUCTION OR AS APPROVED BY THE ENGINEER.

CABLE AND CONDUIT DESCRIPTION:

- (A) UNIT DUCT, WITH 4-1/2 NO. 2 AND 1/2 NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC

STAGE 1



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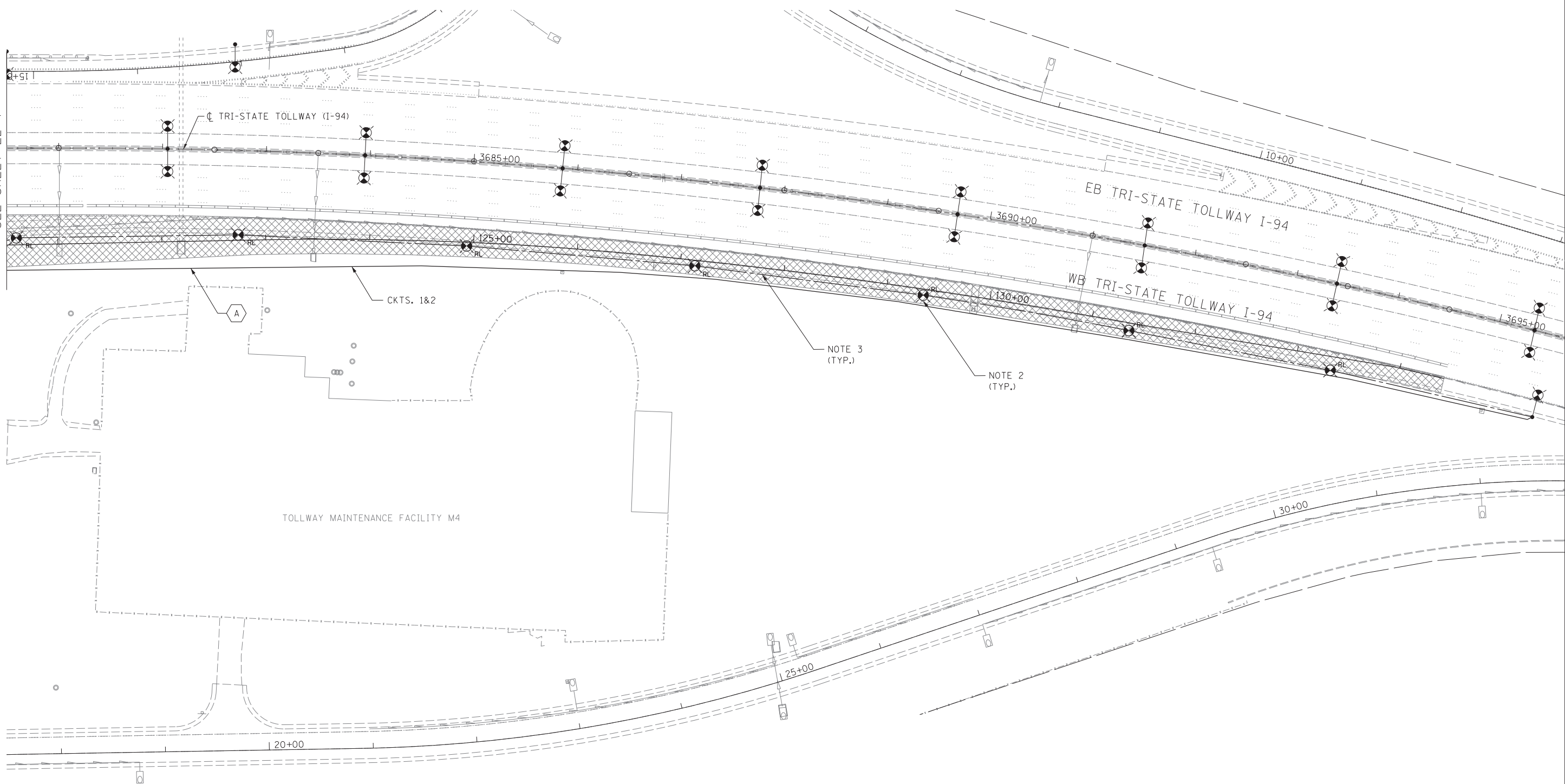


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 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. EL-4
 LIGHTING REMOVAL AND DRAWING NO.
 TEMPORARY LIGHTING PLANS (2 OF 6) 112 OF 228

MATCHLINE STA. 3680+50
SEE SHEET EL-4



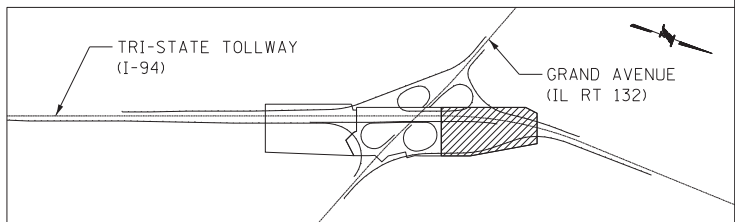
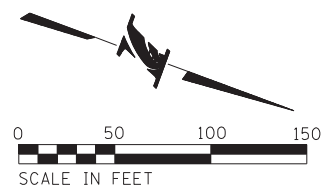
NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. EXISTING LIGHTING UNIT TO BE REMOVED AND STORED FOR FUTURE USE.
3. EXISTING UNIT DUCT TO BE DISCONNECTED AND REMOVED. THE COST OF THIS WORK SHALL BE INCLUDED IN RELOCATE EXISTING LIGHTING UNIT PAY ITEM.

CABLE AND CONDUIT DESCRIPTION:

- A UNIT DUCT, WITH 4-1/C NO. 2 AND 1/C NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC

STAGE 1



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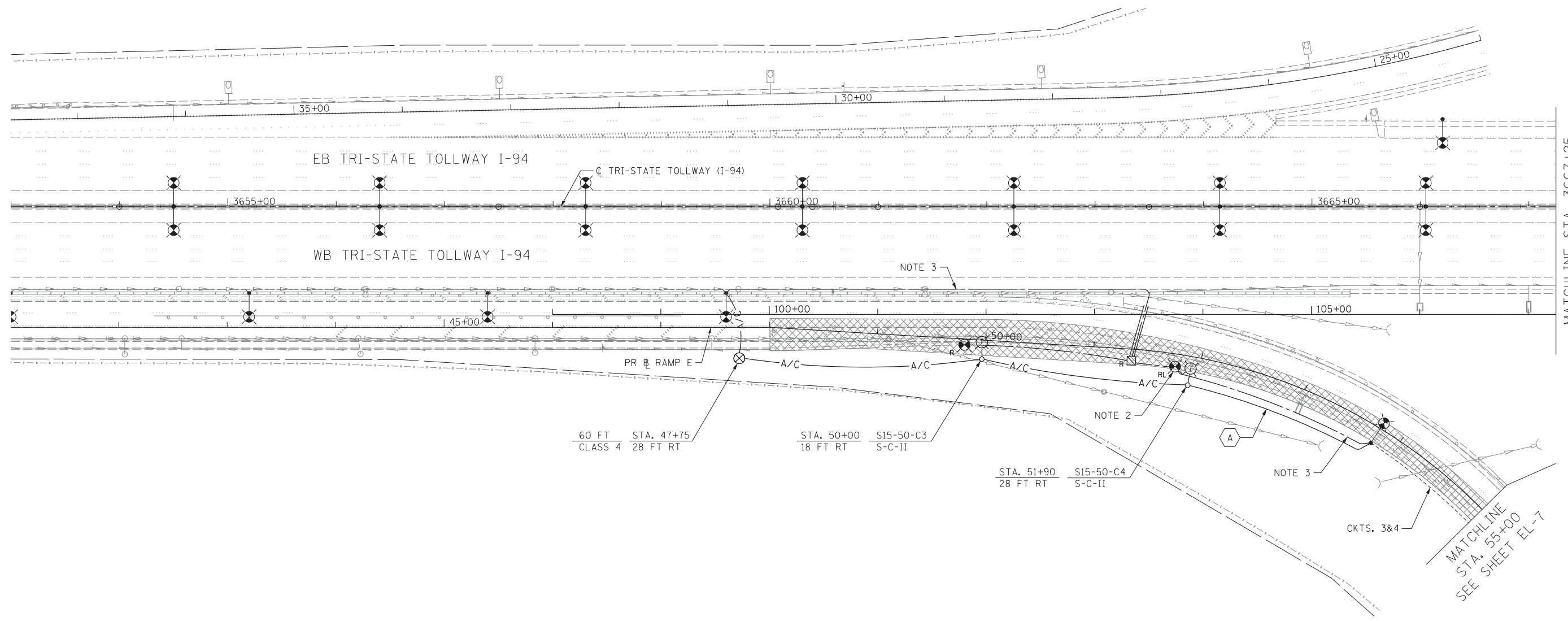


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
LIGHTING REMOVAL AND
TEMPORARY LIGHTING PLANS (3 OF 6)

SHT NO. EL-5
DRAWING NO.
113 OF 228



MATCHLINE STA. 3667+25
SEE SHEET EL-7

MATCHLINE
STA. 55+00
SEE SHEET EL-7

60 FT CLASS 4 STA. 47+75 28 FT RT

STA. 50+00 18 FT RT S15-50-C3 S-C-II

STA. 51+90 28 FT RT S15-50-C4 S-C-II

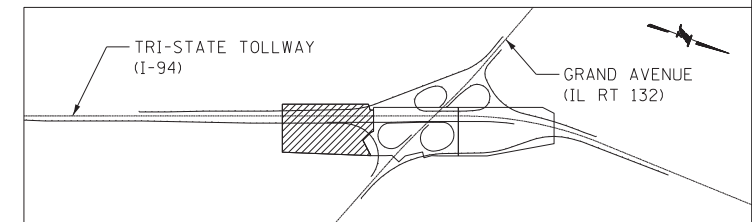
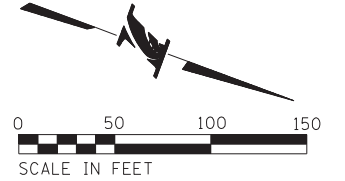
NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. EXISTING LIGHTING UNIT TO BE REMOVED AND STORED FOR FUTURE USE.
3. EXISTING UNIT DUCT TO BE DISCONNECTED AND REMOVED. THE COST OF THIS WORK SHALL BE INCLUDED IN RELOCATE EXISTING LIGHTING UNIT PAY ITEM.

CABLE AND CONDUIT DESCRIPTION:

(A) UNIT DUCT, WITH 4-1/2 NO. 2 AND 1/2 NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC

STAGE 2A



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ILLINOIS 60515

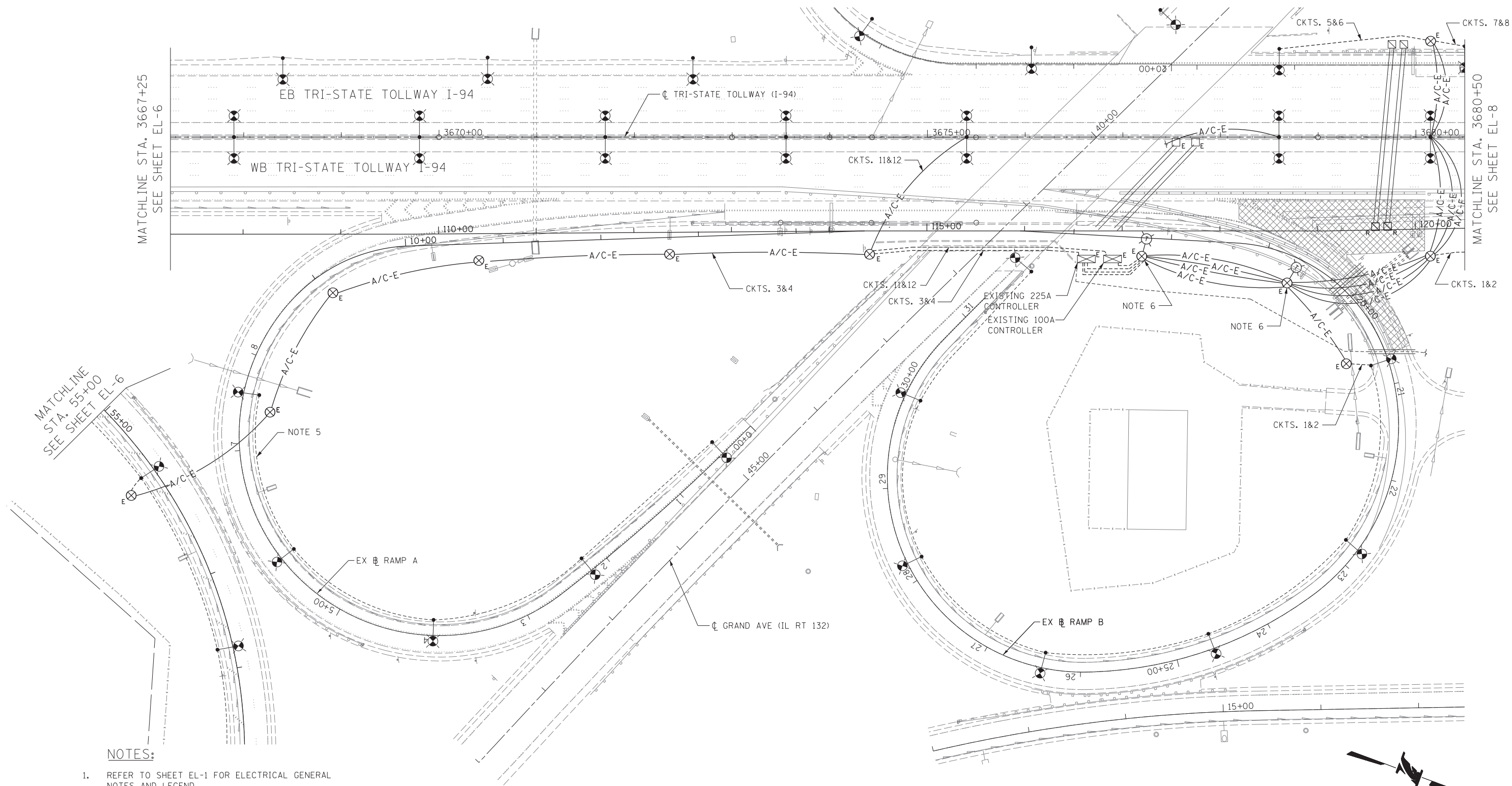
NO.		DATE		REVISIONS DESCRIPTION	

CONTRACT NO. RR-17-4291
LIGHTING REMOVAL AND
TEMPORARY LIGHTING PLANS (4 OF 6)

SHT NO. EL-6
DRAWING NO.
114 OF 228

MATCHLINE STA. 3667+25
SEE SHEET EL-6

MATCHLINE STA. 3680+50
SEE SHEET EL-8



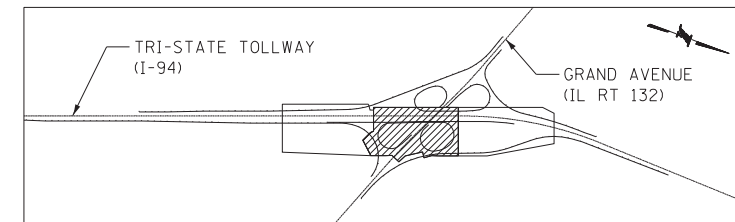
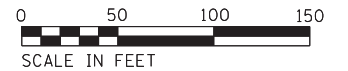
NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. EXISTING LIGHTING UNIT TO BE REMOVED AND STORED FOR FUTURE USE.
3. EXISTING UNIT DUCT TO BE DISCONNECTED AND REMOVED. THE COST OF THIS WORK SHALL BE INCLUDED IN RELOCATE EXISTING LIGHTING UNIT PAY ITEM.
4. EXISTING UNDERGROUND CONDUIT TO REMAIN, UNIT DUCT TO BE REMOVED.
5. DEENERGIZE THIS BRANCH OF CIRCUITS 3 AND 4 DURING STAGES 2 AND 2A OF THE CONSTRUCTION OR AS APPROVED BY THE ENGINEER.
6. RELOCATE TEMP. MAST ARM LUMINAIRE TO WOOD POLE INSTALLED IN PREVIOUS STAGE.

CABLE AND CONDUIT DESCRIPTION:

- (A) UNIT DUCT, WITH 4-1/2" NO. 2 AND 1/2" NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC

STAGE 1A



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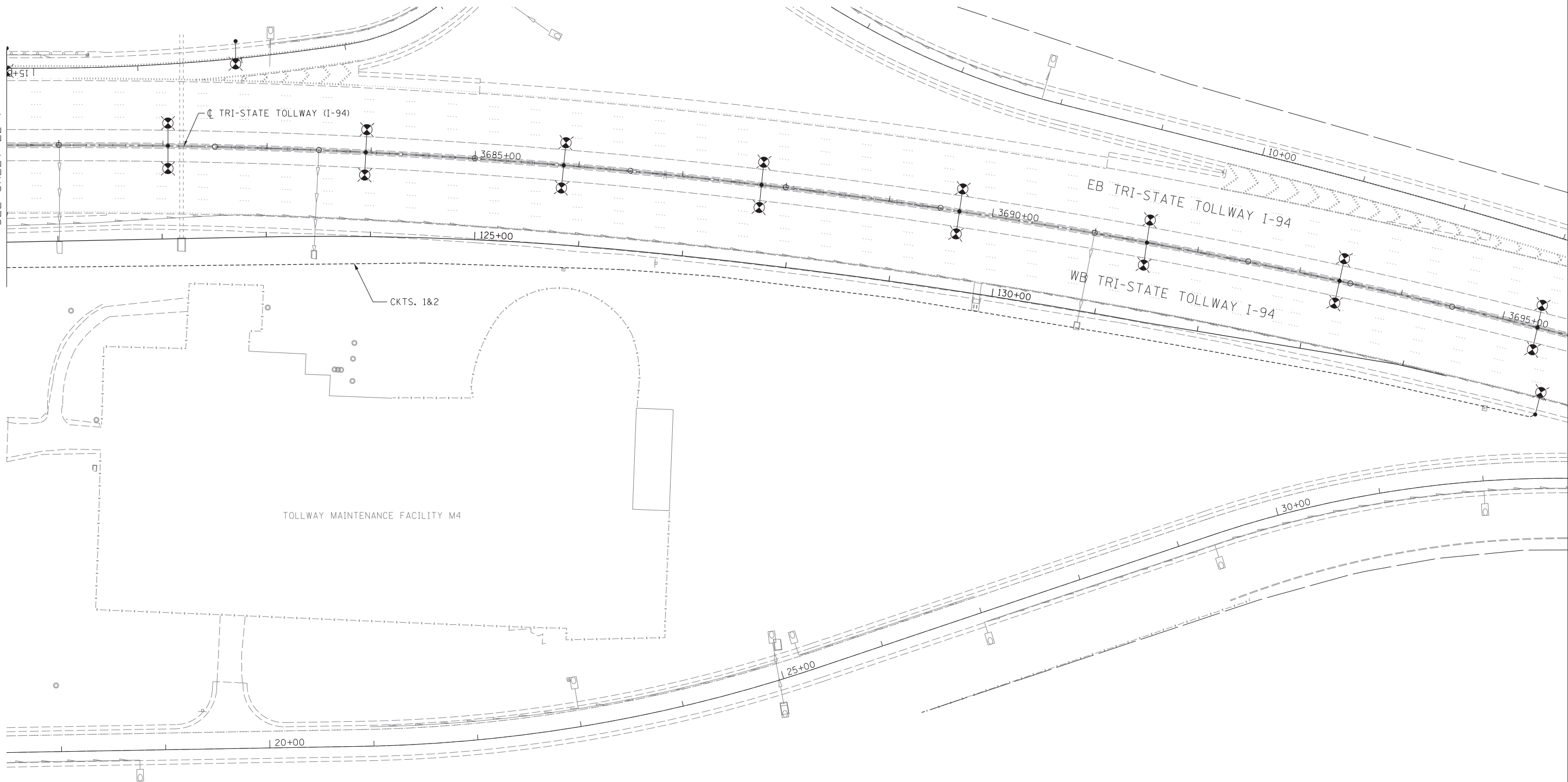


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2700 OGDEN AVENUE
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ILLINOIS 60515

REVISIONS	
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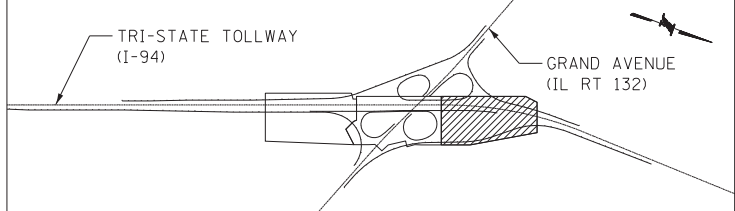
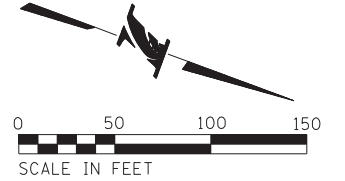
CONTRACT NO. RR-17-4291
LIGHTING REMOVAL AND
TEMPORARY LIGHTING PLANS (5 OF 6)
SHT NO. EL-7
DRAWING NO.
115 OF 228

MATCHLINE STA. 3680+50
SEE SHEET EL-7



NO ELECTRICAL
WORK

STAGES 1A/2A/2B



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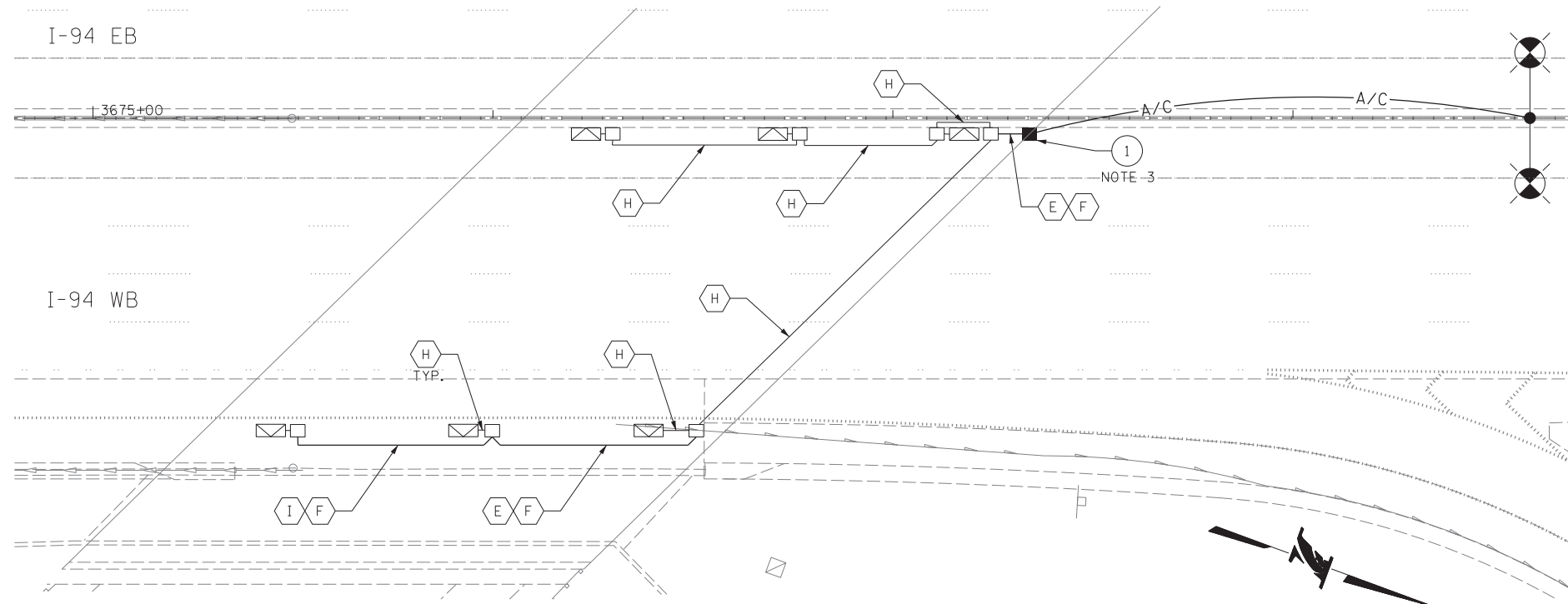


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
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REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
LIGHTING REMOVAL AND
TEMPORARY LIGHTING PLANS (6 OF 6)

SHT NO. EL-8
DRAWING NO.
116 OF 228



TEMPORARY UNDERPASS LIGHTING PLAN
GRAND AVENUE OVER I-94

CABLE AND CONDUIT DESCRIPTION:

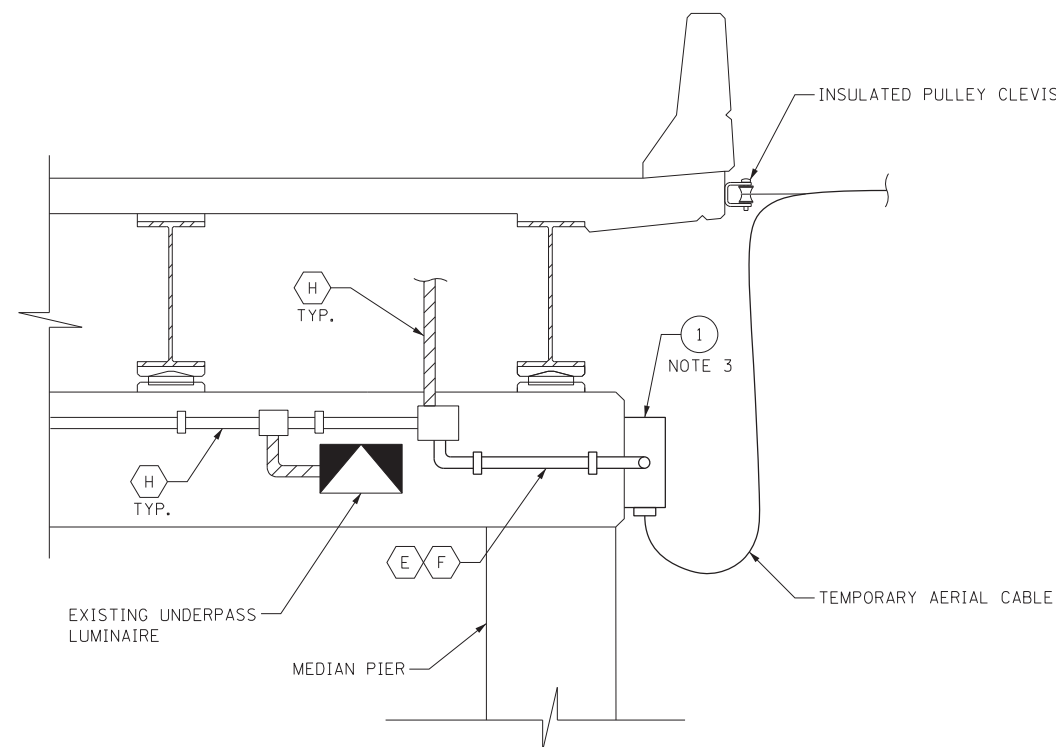
- (E) 4-1/C NO. 10 AND 1/C NO. 10 GROUND, 600V (XLP-TYPE USE)
- (F) CONDUIT ATTACHED TO STRUCTURE, PVC COATED GALVANIZED STEEL, 1 1/2" DIA.
- (H) EXISTING CABLE IN CONDUIT
- (I) 2-1/C NO. 10 AND 1/C NO. 10 GROUND, 600V (XLP-TYPE USE)

KEY NOTES:

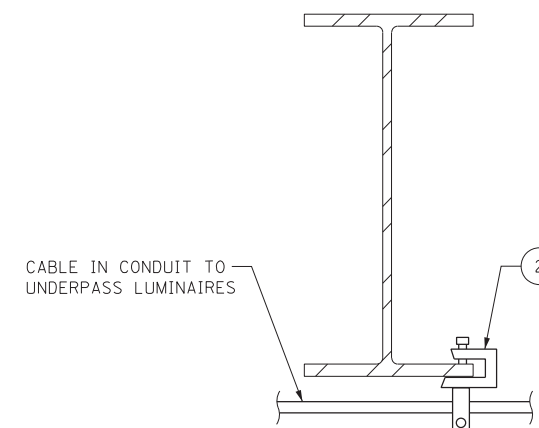
- (1) STAINLESS STEEL JUNCTION BOX ATTACHED TO STRUCTURE, 18"X18"X8"
- (2) GALVANIZED STEEL BEAM CLAMP AND CONDUIT HANGER

NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. THE CLAMP AND HANGER ASSEMBLIES, INCLUDED ALL HARDWARE, SHALL BE INCLUDED IN THE COST OF THE CONDUIT. NO SEPARATE PAYMENT WILL BE MADE.
3. PROVIDE TWO (2) 2-POLE 30A, 600 VOLT CIRCUIT BREAKERS (EATON HFD OR APPROVED EQUAL), TWO (2) SURGE PROTECTION DEVICES (IN ACCORDANCE WITH ARTICLE 1065.02 OF THE STANDARD SPECIFICATIONS) AND SUFFICIENT 30 AMPERE, 600 VOLT TERMINAL BLOCKS TO SPLIT 480 VOLT WIRING FROM THE CIRCUIT BREAKER TO TWO (2) NO. 10 WIRES FOR EACH LUMINAIRE. THIS WORK SHALL BE INCIDENTAL TO THE COST OF THE JUNCTION BOX. NO SEPARATE PAYMENT WILL BE MADE.



TEMPORARY CENTER PIER
FEEDER INSTALLATION



CONDUIT CLAMP AND
HANGER ASSEMBLY

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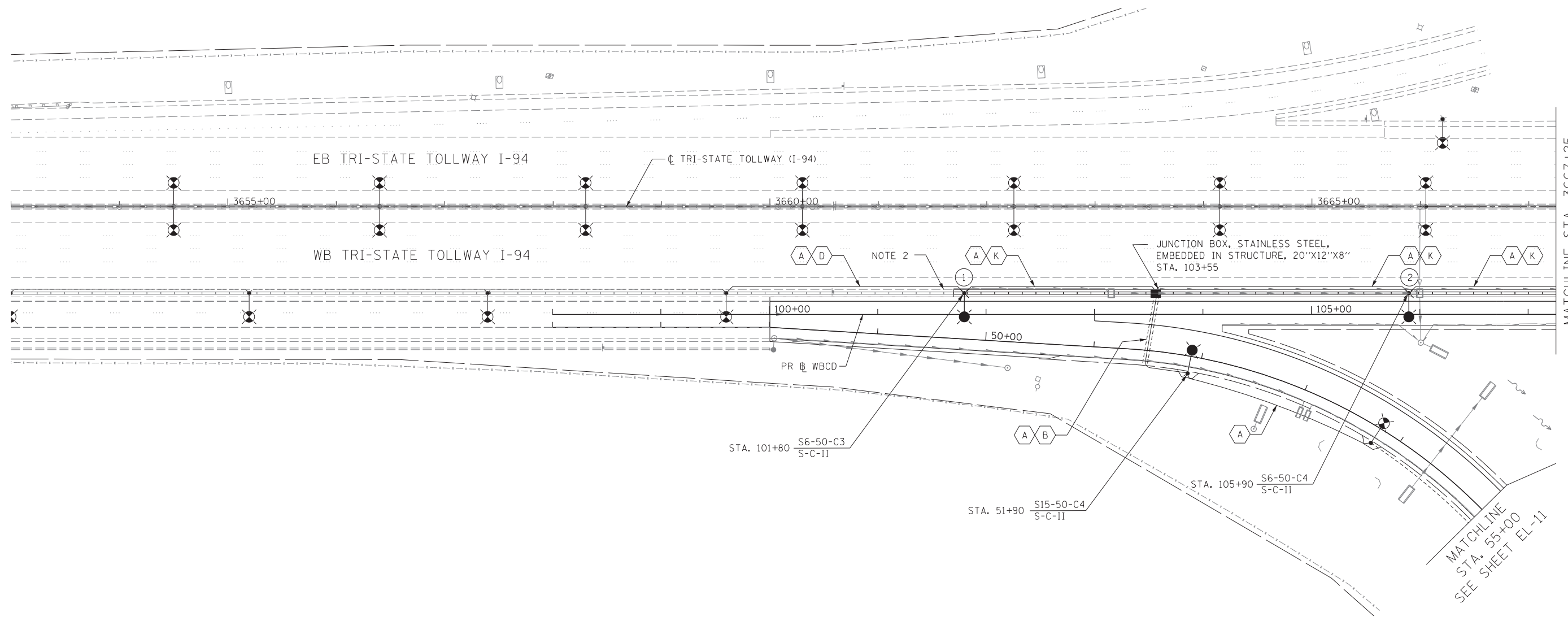
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2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-17-4291
TEMPORARY UNDERPASS LIGHTING PLAN
GRAND AVENUE OVER I-94

SHT NO. EL-9
DRAWING NO.
117 OF 228



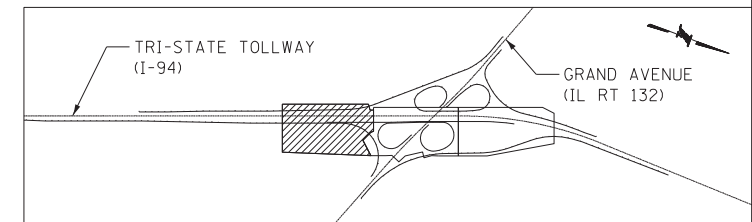
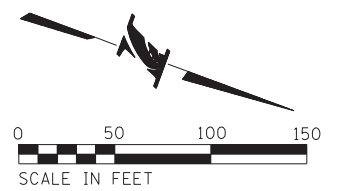
NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. INTERCEPT EXISTING EMBEDDED CONDUIT.

CABLE AND CONDUIT DESCRIPTION:

- (A)** UNIT DUCT, WITH 4-1/C NO. 2 AND 1/C NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC
- (B)** UNDERGROUND CONDUIT, CNC, 4" DIA
- (D)** EXISTING EMBEDDED CONDUIT
- (K)** CONDUIT EMBEDDED IN STRUCTURE, 4" DIA

- (1)** FOUNDATION TYPE 1 (CENTERED CAISSON), 42" BARRIER
- (2)** FOUNDATION TYPE 2 (OFFSET CAISSON), 42" BARRIER



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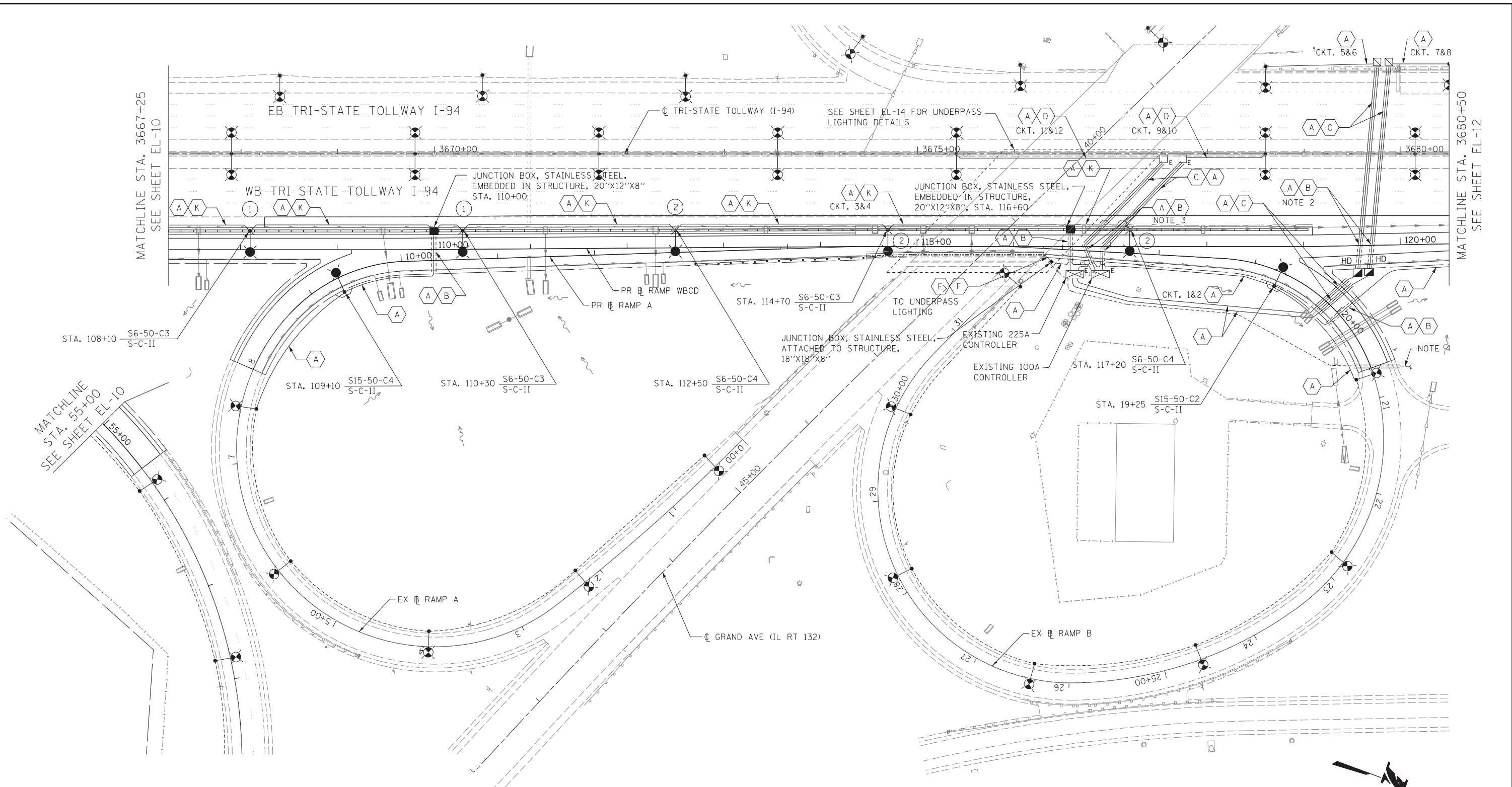


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 PROPOSED LIGHTING PLANS
 (1 OF 3)

SHT NO. EL-10
 DRAWING NO.
 118 OF 228

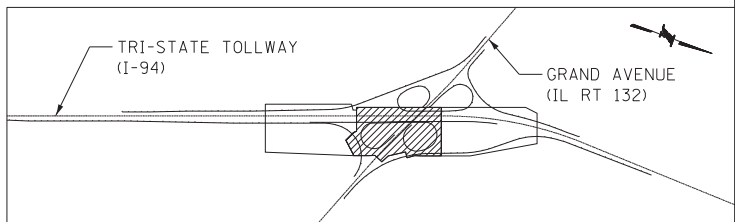
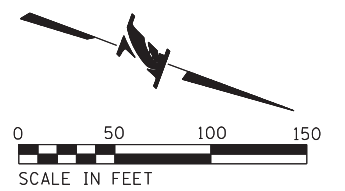


NOTES:

1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. INTERCEPT EXISTING CNC CONDUIT AND EXTEND TO PROPOSED HANDHOLE AS SHOWN.
3. INTERCEPT EXISTING CNC CONDUIT AND EXTEND PAST PROPOSED SHOULDER AS SHOWN.
4. CONTINUED TO EXISTING MAINTENANCE FACILITY.

CABLE AND CONDUIT DESCRIPTION:

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> (A) UNIT DUCT, WITH 4-1/2" NO. 2 AND 1/2" NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC (B) UNDERGROUND CONDUIT, CNC, 4" DIA (C) EXISTING UNDERGROUND CONDUIT, CNC, 4" DIA (D) EXISTING EMBEDDED CONDUIT (E) 4-1/2" NO. 10 AND 1/2" NO. 10 GROUND, 600V (XLP-TYPE USE) | <ul style="list-style-type: none"> (F) CONDUIT ATTACHED TO STRUCTURE, PVC COATED GALVANIZED STEEL, 1 1/2" DIA (K) CONDUIT EMBEDDED IN STRUCTURE, 4" DIA (1) FOUNDATION TYPE 1 (CENTERED CAISSON), 42" BARRIER (2) FOUNDATION TYPE 2 (OFFSET CAISSON), 42" BARRIER |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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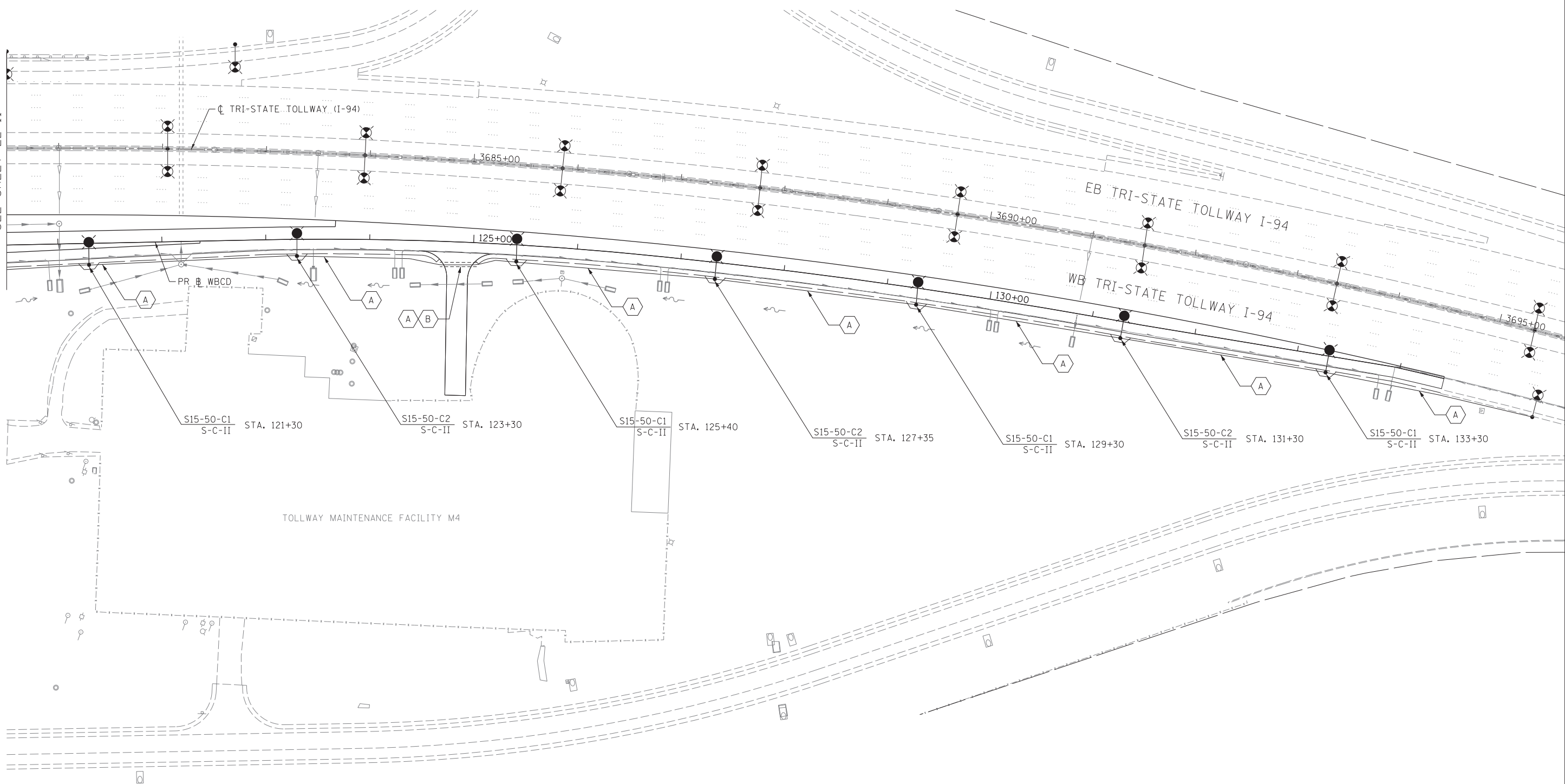
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 PROPOSED LIGHTING PLANS
 (2 OF 3)

SHT NO. EL-11
 DRAWING NO.
 119 OF 228

MATCHLINE STA. 3680+50
SEE SHEET EL-11

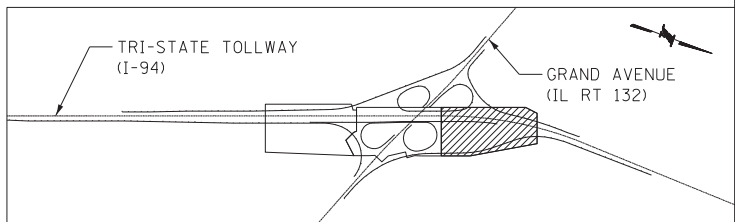
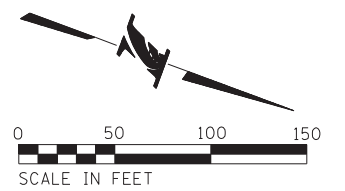


NOTES:

- REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.

CABLE AND CONDUIT DESCRIPTION:

- (A)** UNIT DUCT, WITH 4-1/C NO. 2 AND 1/C NO. 4 GROUND, (XLP-TYPE USE), 2" DIA CNC
- (B)** UNDERGROUND CONDUIT, CNC, 4" DIA



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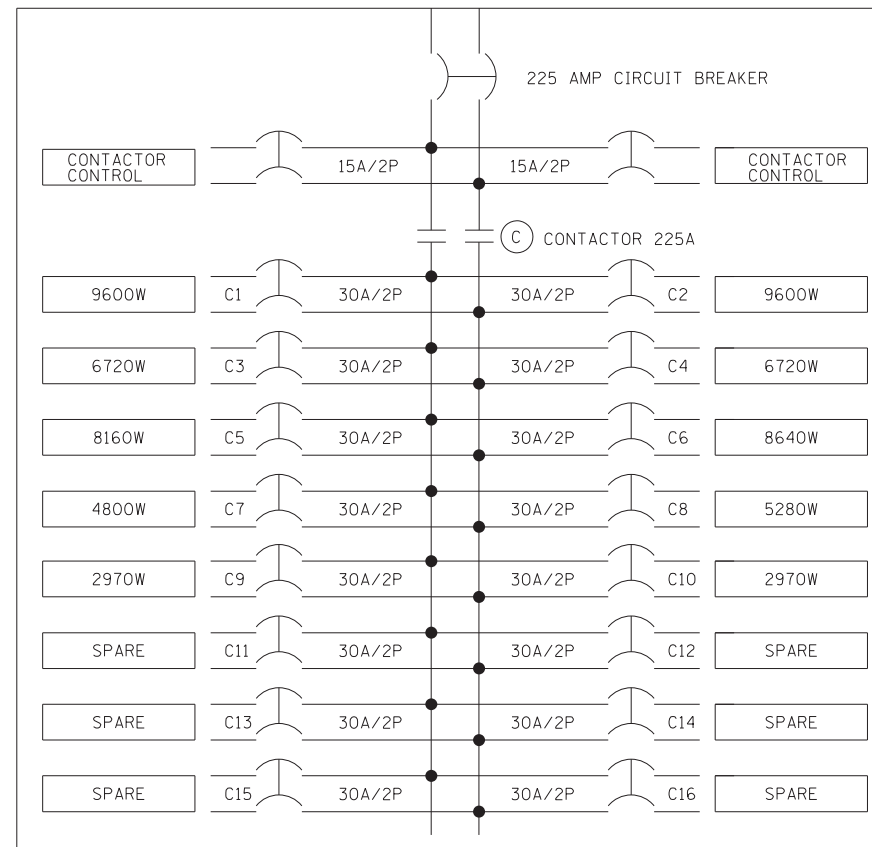
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NO.		DATE		REVISIONS DESCRIPTION	

CONTRACT NO. RR-17-4291
PROPOSED LIGHTING PLANS
(3 OF 3)

SHT NO. EL-12
DRAWING NO.
120 OF 228

480/240V, 1 PHASE, 3 WIRE



TOTAL WATTS 32250W

TOTAL WATTS 33210W

EXISTING LIGHTING CONTROLLER
STATION 3676+63

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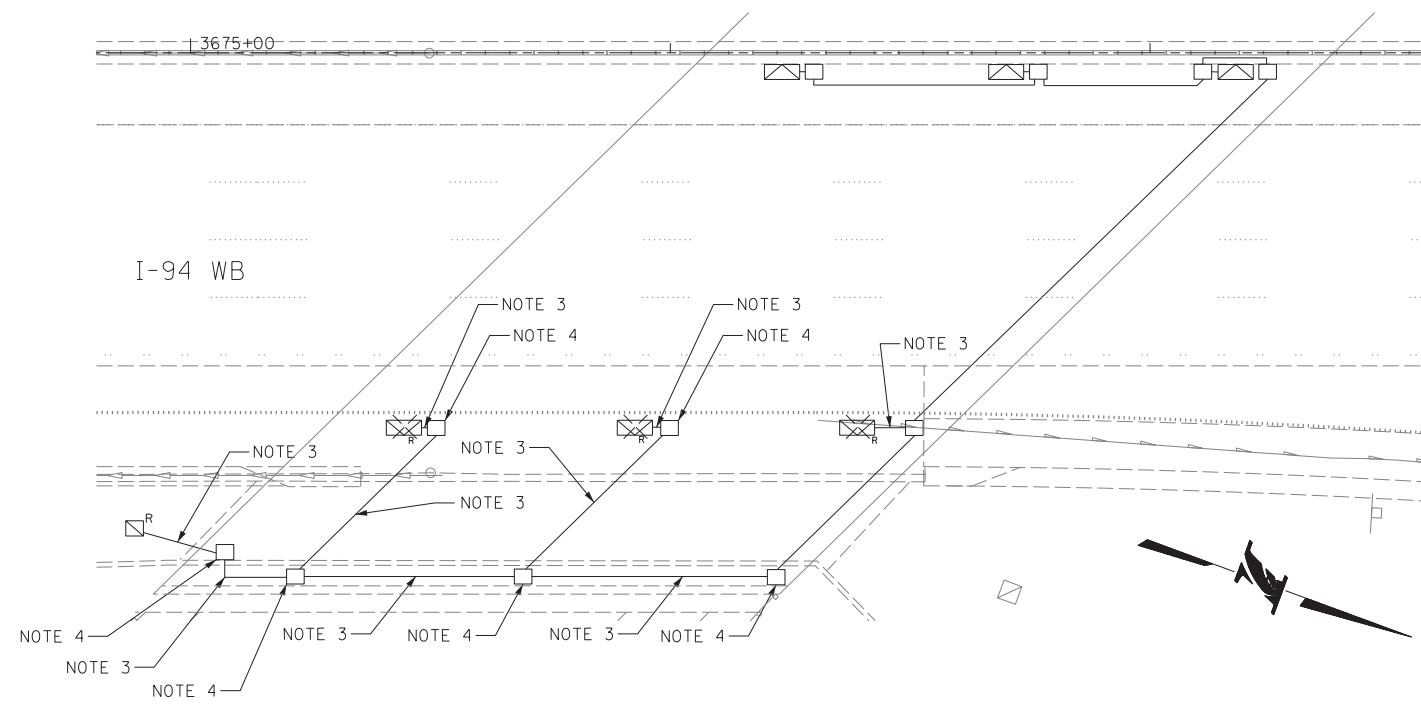
REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291

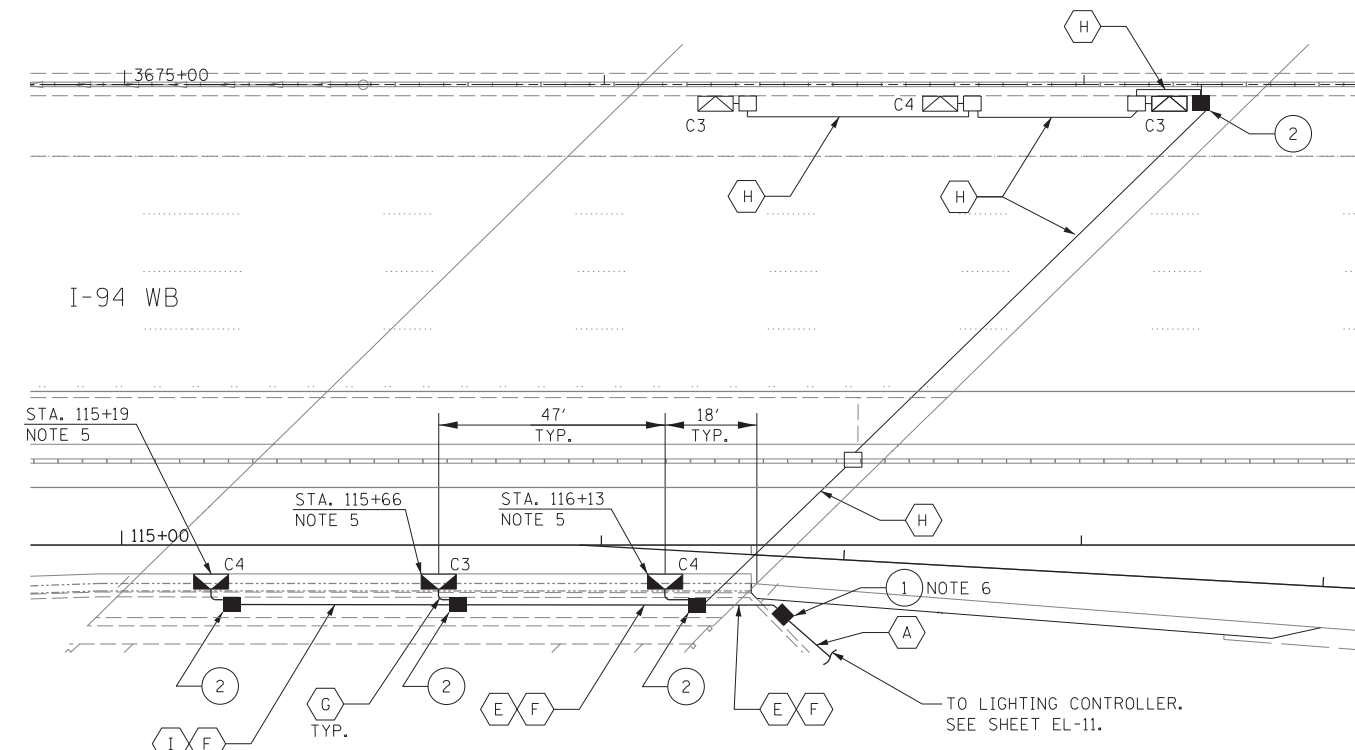
PANELBOARD SCHEDULE

SHT NO. EL-13

DRAWING NO.
121 OF 228



UNDERPASS LIGHTING REMOVAL PLAN
GRAND AVENUE OVER I-94



PROPOSED UNDERPASS LIGHTING PLAN
GRAND AVENUE OVER I-94

NOTES:

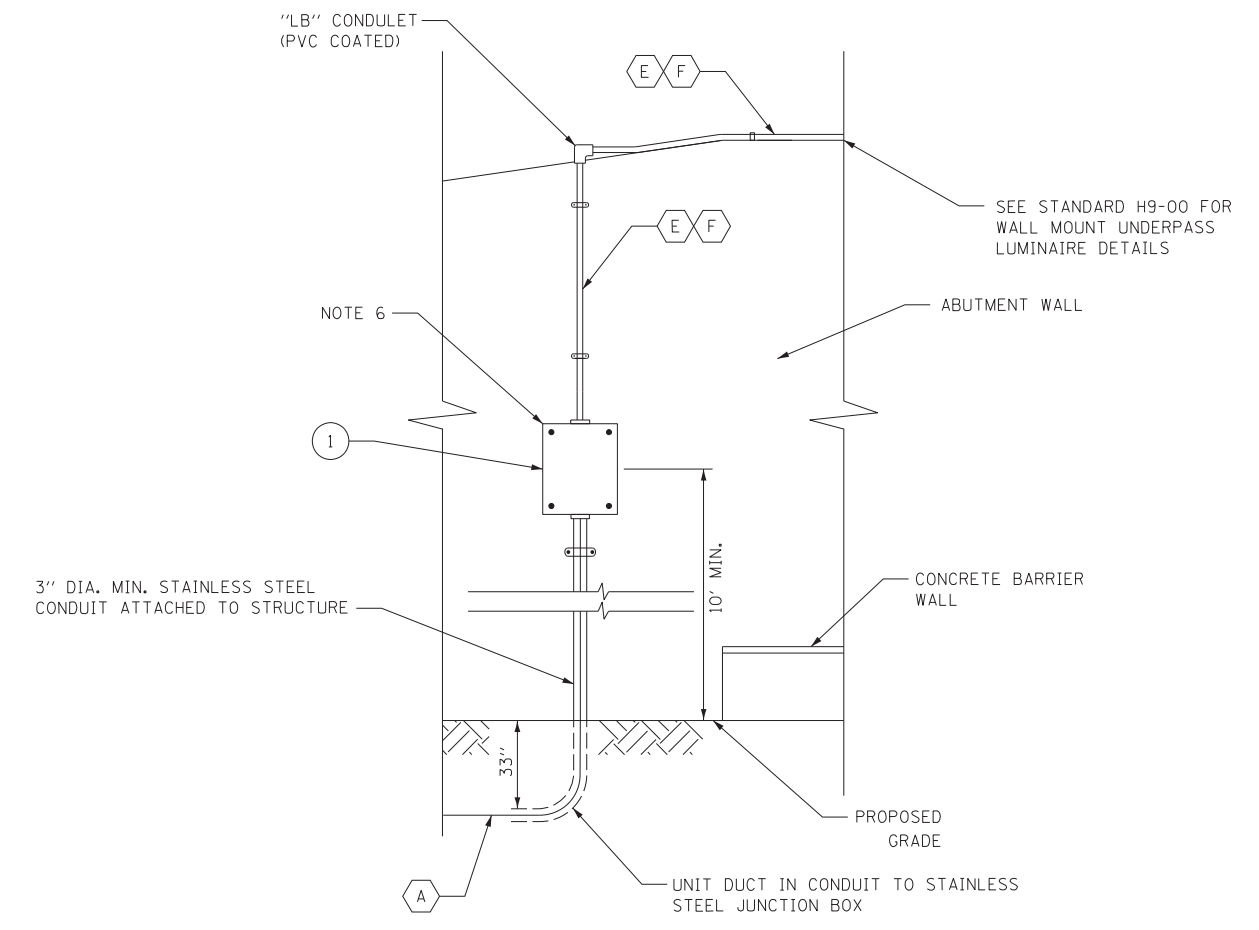
1. REFER TO SHEET EL-1 FOR ELECTRICAL GENERAL NOTES AND LEGEND.
2. THE EXISTING UNDERPASS LIGHTING SYSTEM FOR THE EASTBOUND LANES SHALL REMAIN IN PLACE.
3. REMOVE EXISTING CABLE AND CONDUIT ATTACHED TO STRUCTURE.
4. REMOVE EXISTING JUNCTION BOX ATTACHED TO STRUCTURE.
5. PROPOSED UNDERPASS LUMINAIRE, 150W HPS, WALL MOUNTED.
6. SEE NOTE 3 ON TOLLWAY STANDARD DRAWING H9-00.

CABLE AND CONDUIT DESCRIPTION:

- (A) UNIT DUCT, WITH 4-1/2 NO. 2 AND 1/2 NO. 4 GROUND, (XLP-TYPE USE), 2" DIA. CNC
- (E) 4-1/2 NO. 10 AND 1/2 NO. 10 GROUND, 600V (XLP-TYPE USE)
- (F) CONDUIT ATTACHED TO STRUCTURE, PVC COATED GALVANIZED STEEL, 1 1/2" DIA.
- (G) LIQUID-TIGHT FLEXIBLE CONDUIT, 3/4" DIA.
- (H) EXISTING CABLE IN CONDUIT TO REMAIN
- (I) 2-1/2 NO. 10 AND 1/2 NO. 10 GROUND, 600V (XLP-TYPE USE)

KEY NOTES:

- (1) STAINLESS STEEL JUNCTION BOX ATTACHED TO STRUCTURE, 18"X18"X8"
- (2) STAINLESS STEEL JUNCTION BOX ATTACHED TO STRUCTURE, 12"X10"X6"



ELEVATION - LOOKING EAST
NOT TO SCALE

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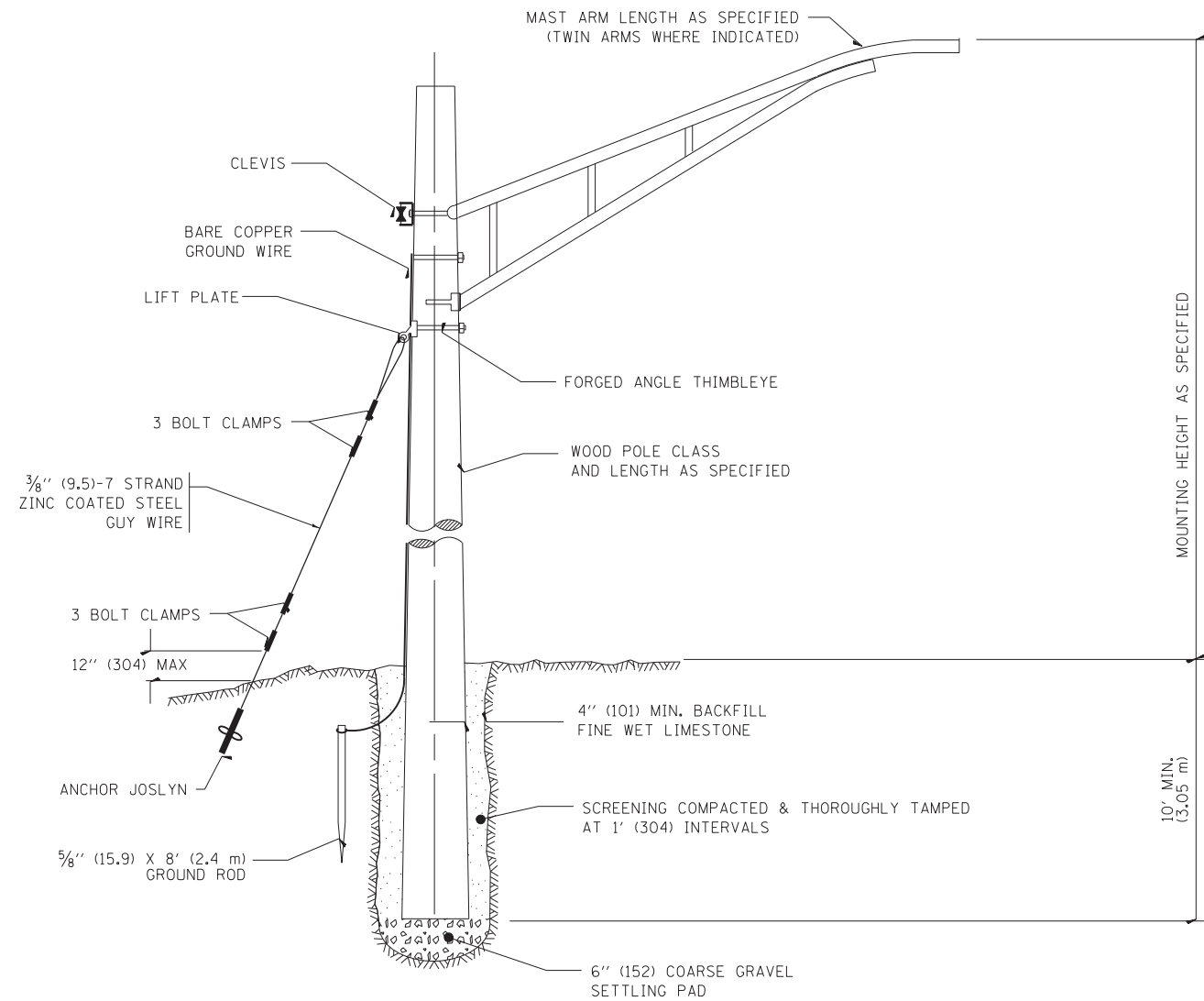
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REVISIONS	
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CONTRACT NO. RR-17-4291
UNDERPASS LIGHTING DETAILS
GRAND AVENUE OVER I-94

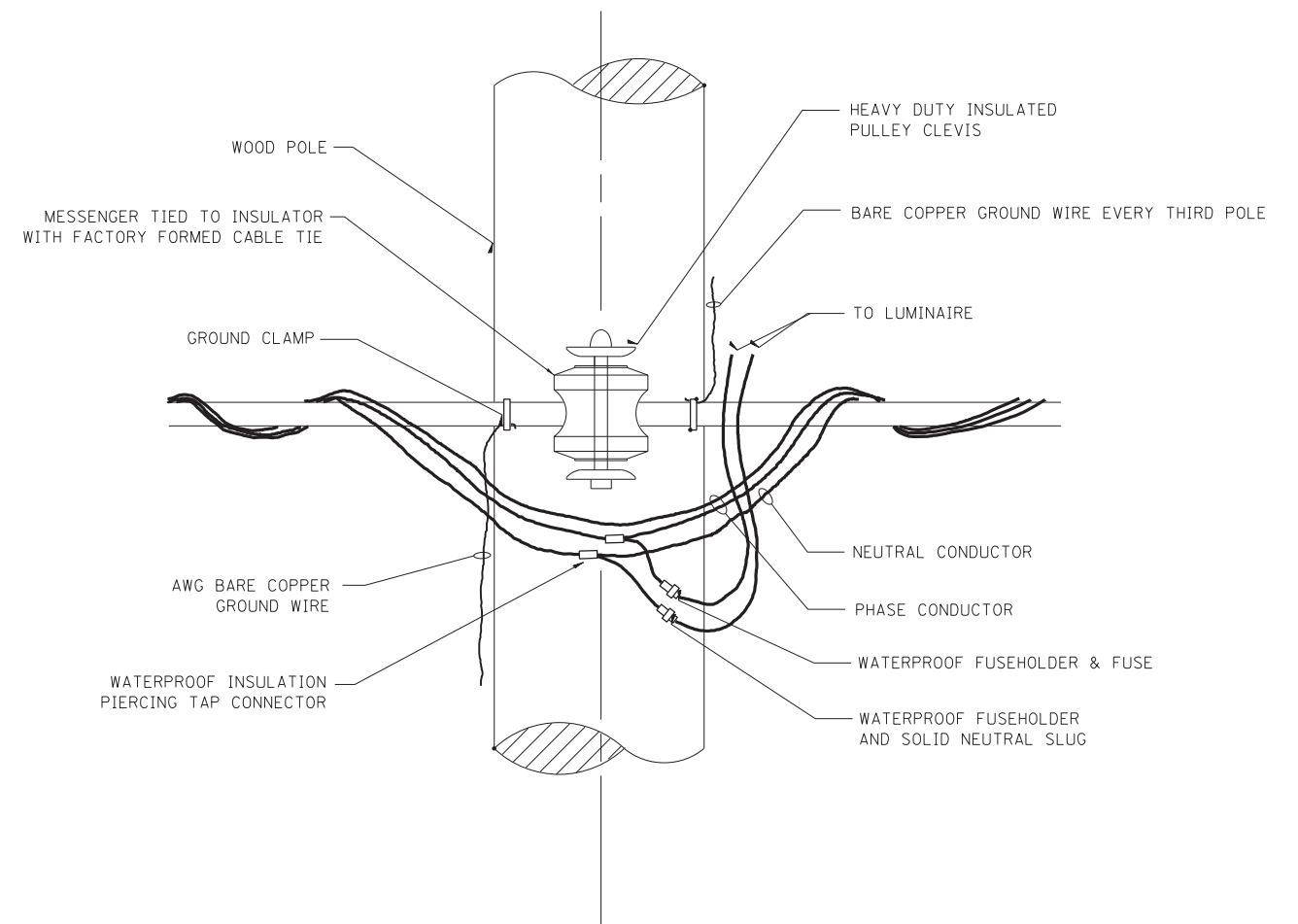
SHT NO. EL-14
DRAWING NO. 122 OF 228



TEMPORARY LIGHT POLE DETAIL

NOTE:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.



TEMPORARY LIGHT POLE ATTACHMENT DETAIL

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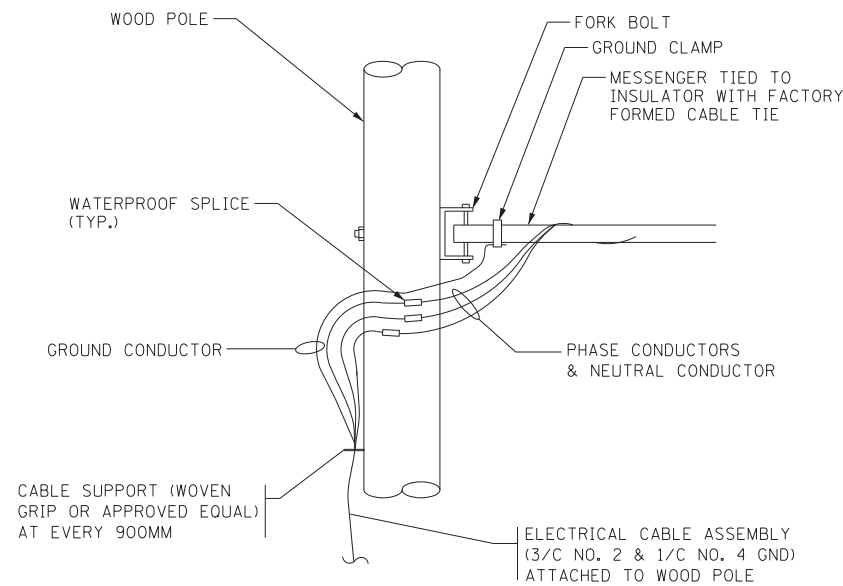
REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 TEMPORARY LIGHT POLE
 DETAIL

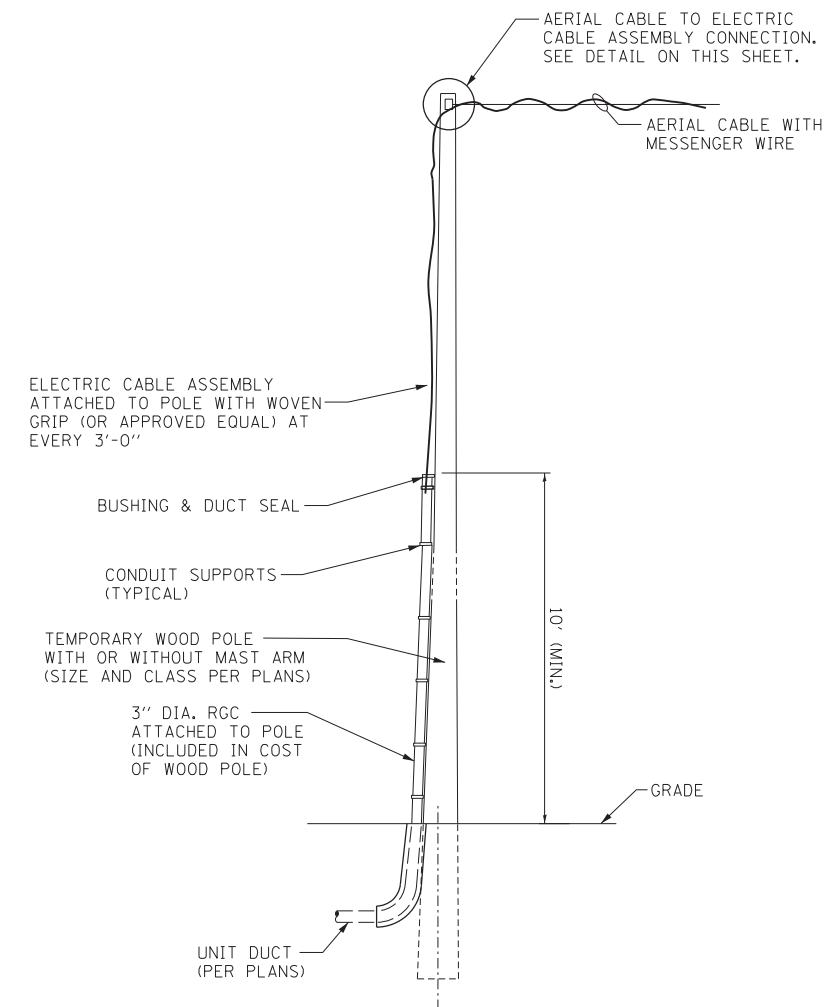
SHT NO. EL-15
 DRAWING NO.
 123 OF 228

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.



AERIAL CABLE CONNECTION DETAIL
N.T.S.



AERIAL CABLE TO UNDERGROUND DUCT TRANSITION DETAIL
N.T.S.

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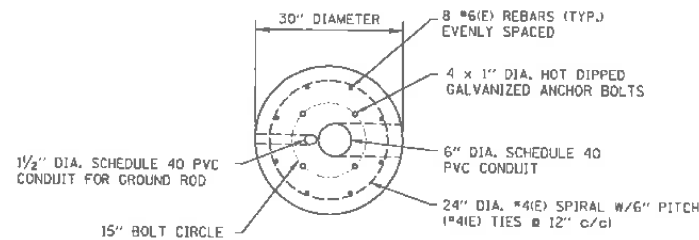
REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291

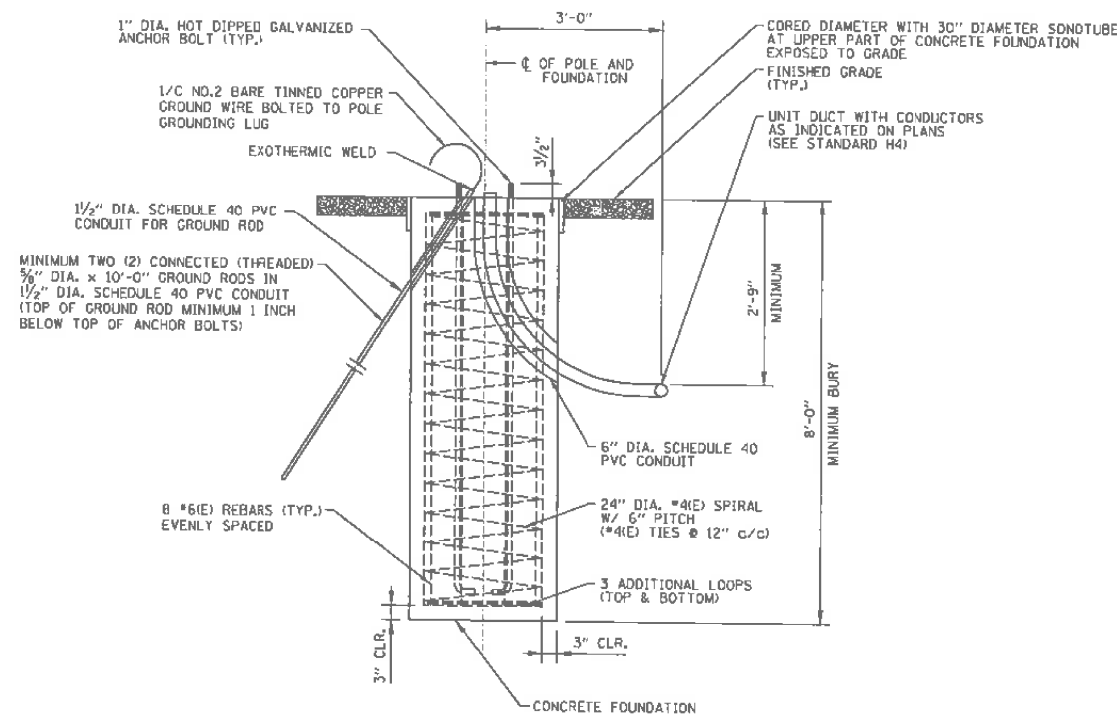
LIGHTING DETAILS

SHT NO. EL-16

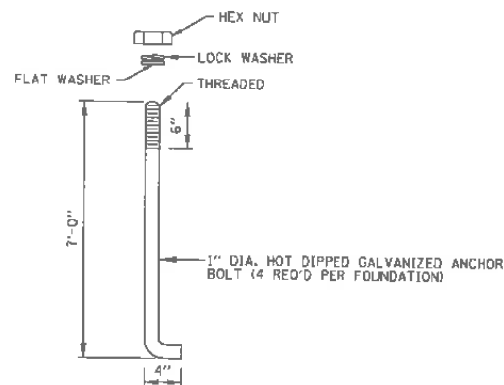
DRAWING NO.
124 OF 228



PLAN



ELEVATION



ANCHOR BOLT DETAIL

NOTES:

1. AT LOCATIONS NOT SHIELDED BY GUARDRAIL, THE LIGHT POLE FOUNDATION SHALL BE FLUSH WITH SURROUNDING GRADED ON ALL SIDES. THE SURROUNDING AREA SHALL BE A LEVEL GRADED AREA CONSTRUCTED OF AGGREGATE SHOULDERS WITH FILTER FABRIC, TYPE B, 4".
2. PROVIDE SEEDING, POTASSIUM FERTILIZER NUTRIENT, AND EROSION CONTROL BLANKET AS REQUIRED.
3. THE TOP OF FOUNDATION SHALL BE AT THE SAME ELEVATION AS THE ADJACENT TOP OF GUTTER OR WHEN ADJACENT TO AGGREGATE SHOULDER, AT THE SAME ELEVATION AS THE OUTSIDE EDGE OF THE AGGREGATE SHOULDER SLOPED A MAXIMUM 6% AWAY FROM THE PAVED SHOULDER.
4. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
5. ALL GROUND MOUNTED LIGHT POLES SHALL BE PROVIDED WITH AN ACCEPTED FHWA BREAKAWAY BASE OR DEVICE PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS SECTION 1070.
6. FOR DETAILS OF FUSE HOLDER, POLE BASE WIRING AND CONDUCTOR SPLICE SEE STANDARD H2.
7. ALL REINFORCEMENT BARS SHALL BE EPOXY COATED.
8. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.

LIGHT STANDARD FOUNDATION DETAILS - CONCRETE
(GROUND MOUNTED UNITS)

SHEET 1 OF 9

LIGHT STANDARD FOUNDATION

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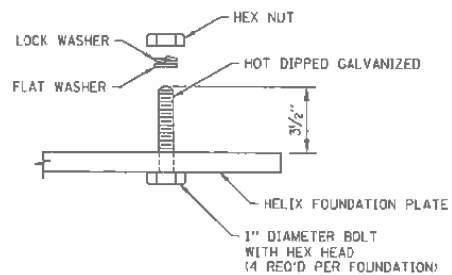
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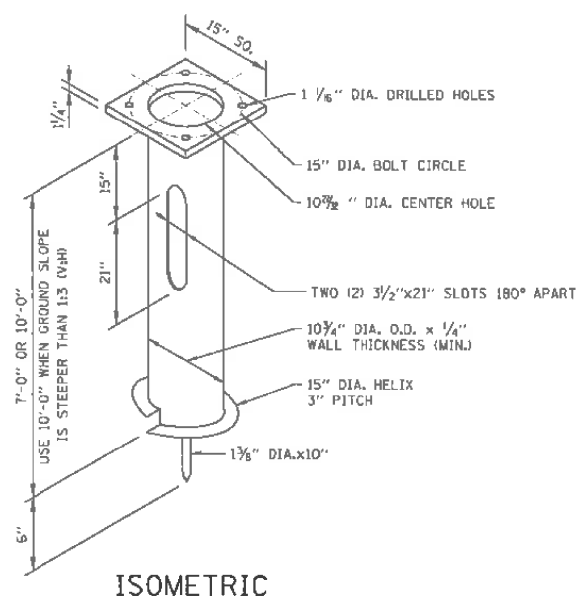
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
LIGHTING STANDARD DETAILS

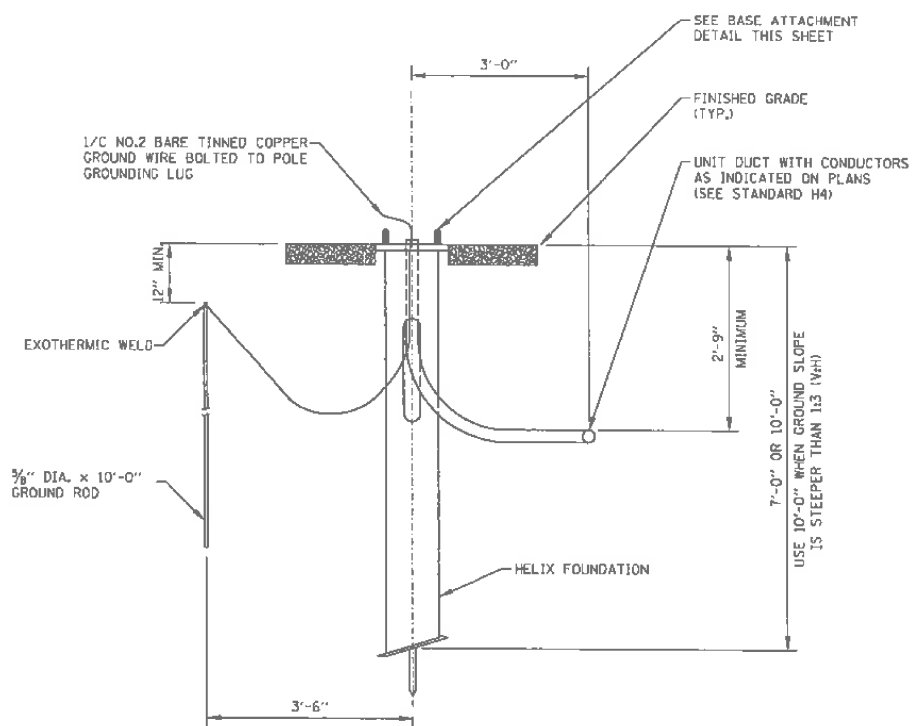
SHT NO. ELD-1
DRAWING NO.
125 OF 228



BASE ATTACHMENT DETAIL



ISOMETRIC



ELEVATION

**LIGHT STANDARD FOUNDATION DETAILS - HELIX
(GROUND MOUNTED UNITS)**

SHEET 2 OF 9

NOTES:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

LIGHT STANDARD
FOUNDATION

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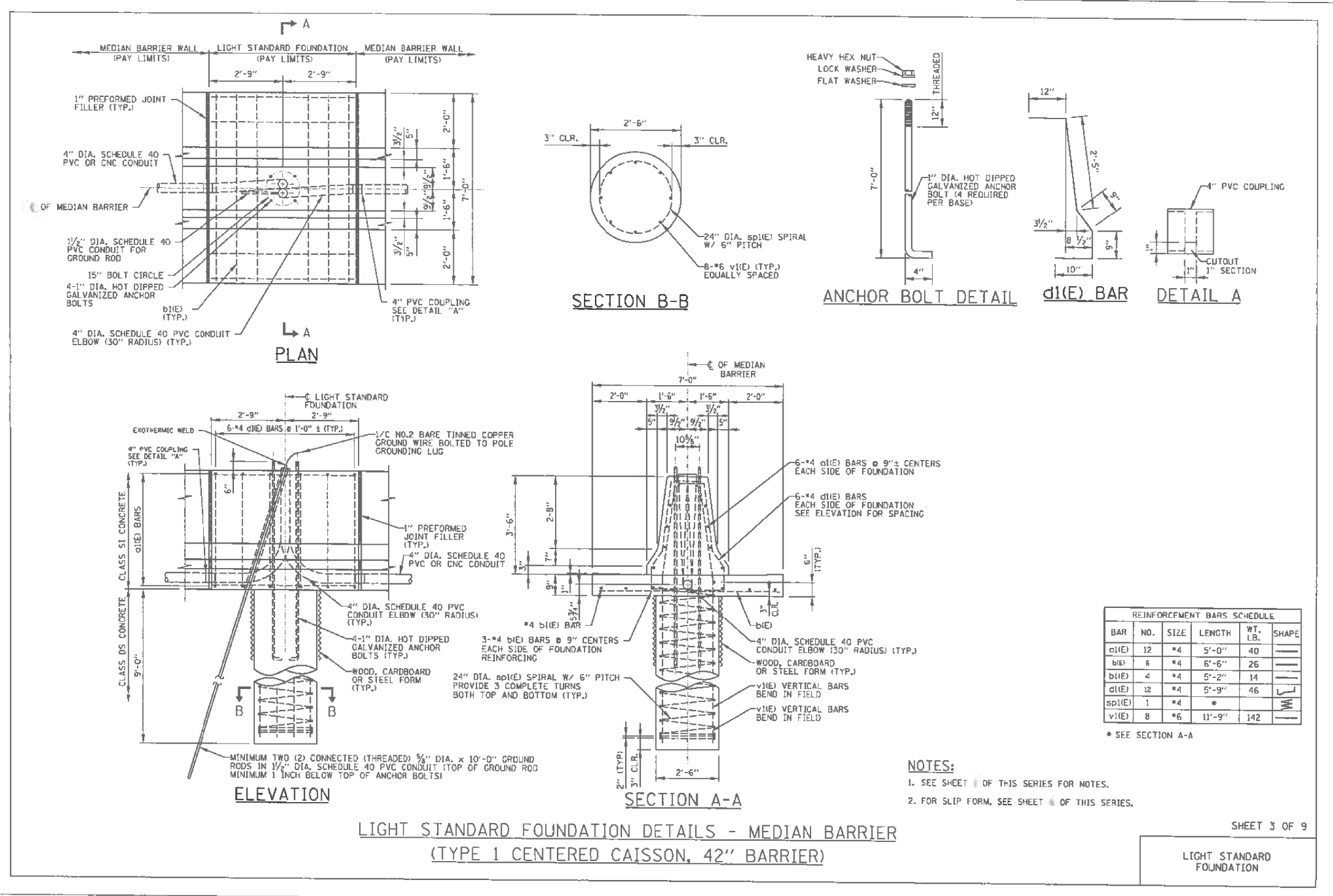
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
LIGHTING STANDARD DETAILS

SHT NO. ELD-2
DRAWING NO.
126 OF 228



REINFORCEMENT BARS SCHEDULE					
BAR	NO.	SIZE	LENGTH	WT. LB.	SHAPE
d1(E)	12	#4	5'-0"	40	—
b1(E)	6	#4	6'-6"	26	—
b1(E)	4	#4	5'-2"	14	—
d1(E)	12	#4	5'-9"	46	—
sp1(E)	1	#4	•	•	—
v1(E)	8	#6	11'-9"	142	—

* SEE SECTION A-A

- NOTES:**
- SEE SHEET # OF THIS SERIES FOR NOTES.
 - FOR SLIP FORM, SEE SHEET # OF THIS SERIES.

LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER
(TYPE 1 CENTERED CAISSON, 42" BARRIER)

SHEET 3 OF 9
LIGHT STANDARD FOUNDATION

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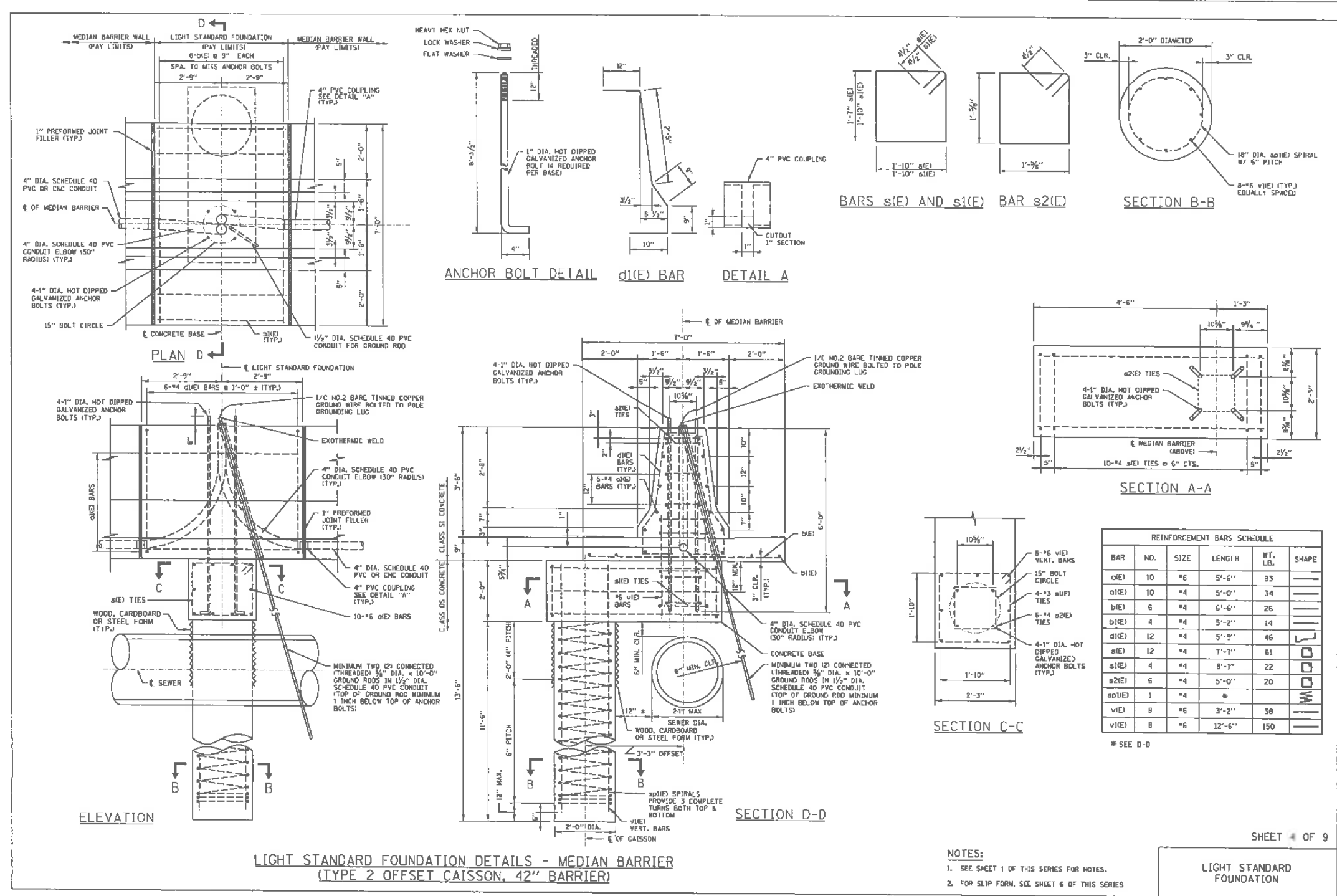
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
LIGHTING STANDARD DETAILS

SHT NO. ELD-3
DRAWING NO. 127 OF 228



**LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER
(TYPE 2 OFFSET CAISSON, 42" BARRIER)**

LIGHT STANDARD FOUNDATION

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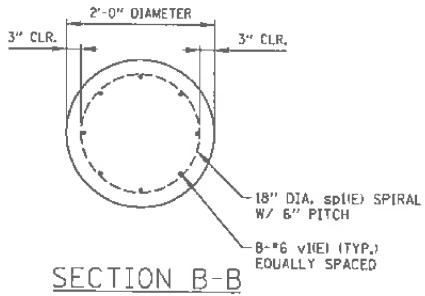
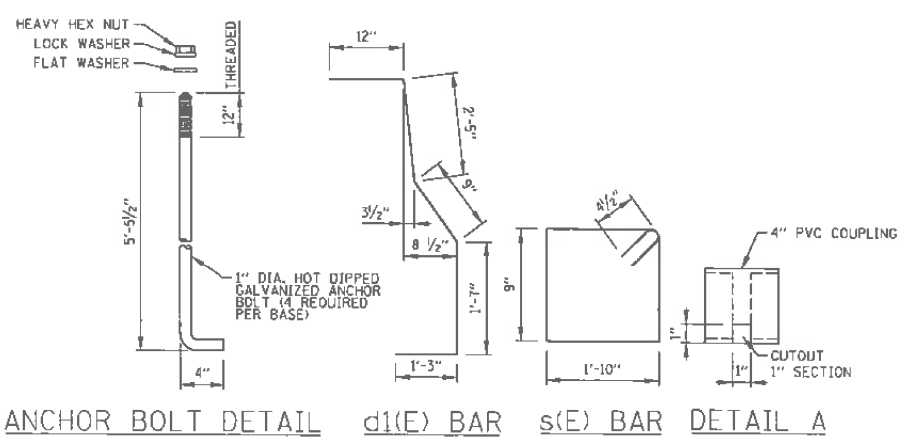
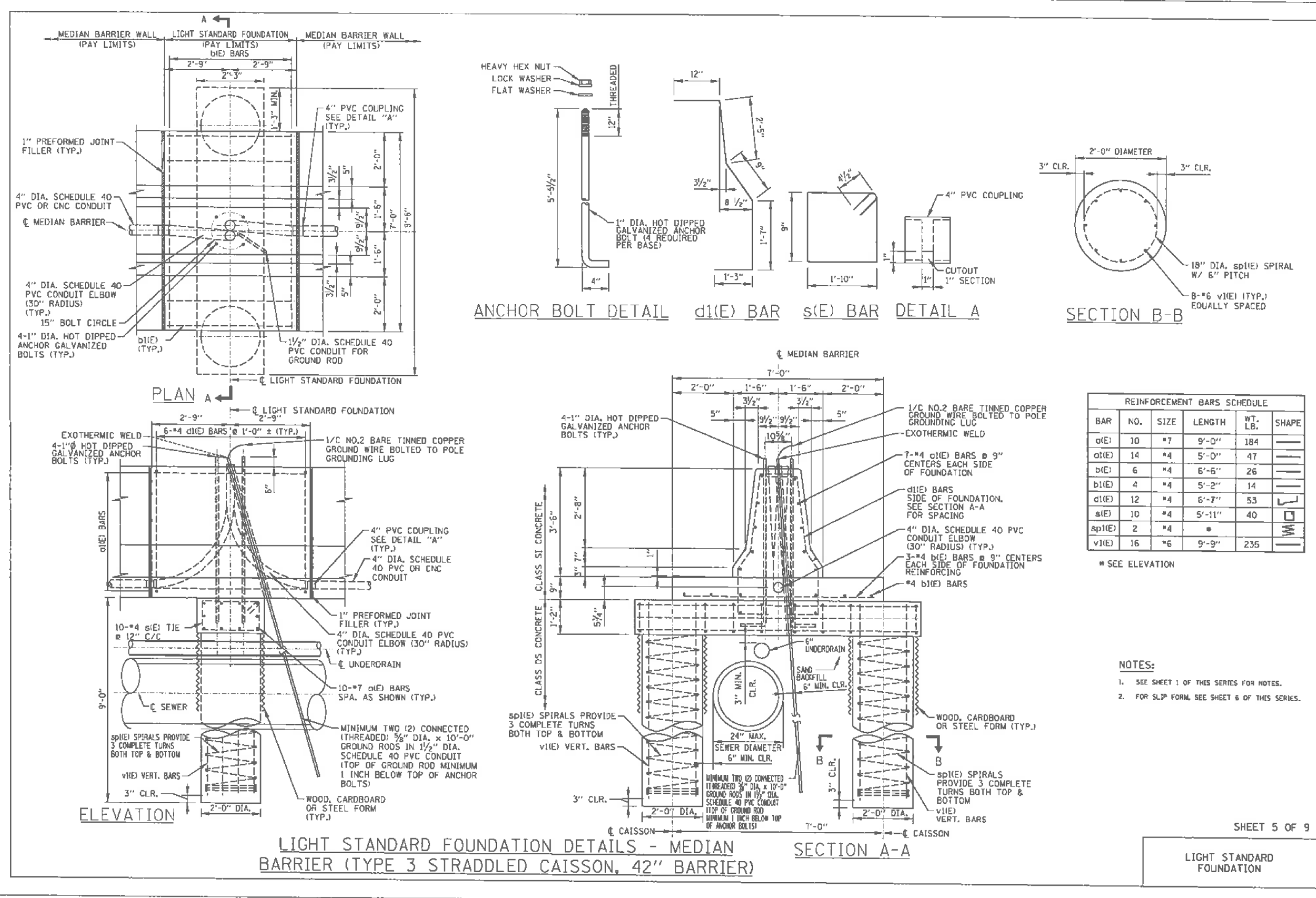
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CONTRACT NO. RR-17-4291
 LIGHTING STANDARD DETAILS

SHT NO. ELD-4
 DRAWING NO.
 128 OF 228



REINFORCEMENT BARS SCHEDULE					
BAR	NO.	SIZE	LENGTH	WT. LB.	SHAPE
d1(E)	10	#7	9'-0"	184	—
d1(E)	14	#4	5'-0"	47	—
b1(E)	6	#4	6'-5"	26	—
b1(E)	4	#4	5'-2"	14	—
d1(E)	12	#4	6'-7"	53	—
s1(E)	10	#4	5'-11"	40	—
sp1(E)	2	#4	*	*	—
v1(E)	16	#6	9'-9"	235	—

* SEE ELEVATION

- NOTES:
- SEE SHEET 1 OF THIS SERIES FOR NOTES.
 - FOR SLIP FORM, SEE SHEET 6 OF THIS SERIES.

SHEET 5 OF 9

LIGHT STANDARD FOUNDATION

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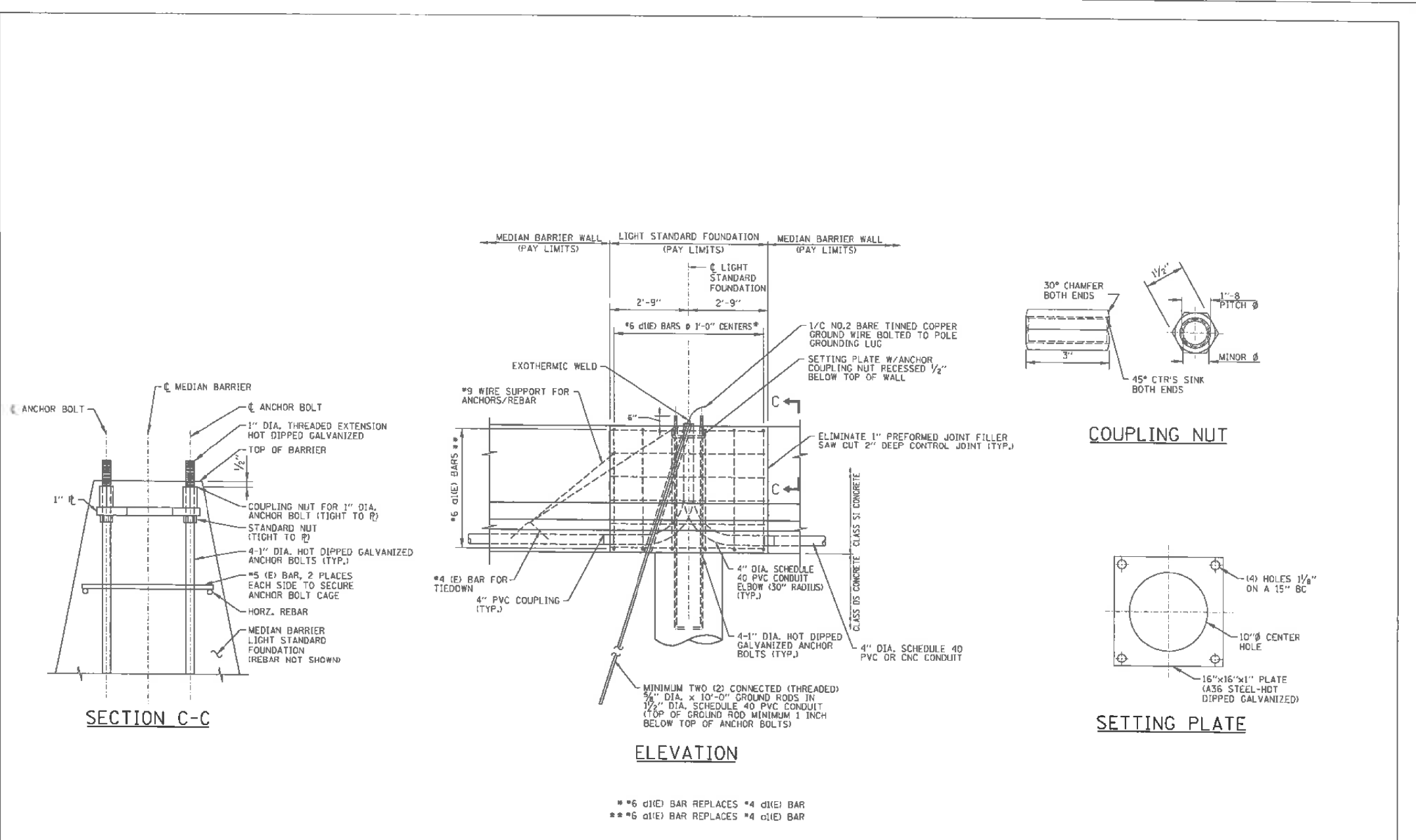
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CONTRACT NO. RR-17-4291
 LIGHTING STANDARD DETAILS

SHT NO. ELD-5
 DRAWING NO.
 129 OF 228



LIGHT STANDARD FOUNDATION DETAILS - MEDIAN BARRIER
(MODIFICATIONS FOR SLIPFORM POUR, 42" BARRIER)

- NOTES:**
- SEE SHEET 11 OF THIS SERIES FOR NOTES.
 - PLUG TOP OF COUPLER WITH PLASTIC PLUG OR COVER WHILE PLACING CONCRETE.

SHEET 6 OF 9
LIGHT STANDARD FOUNDATION

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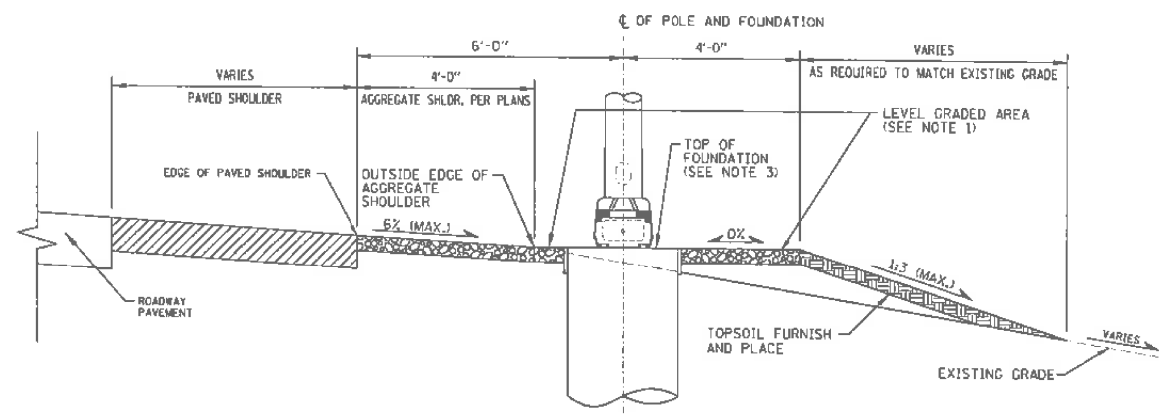
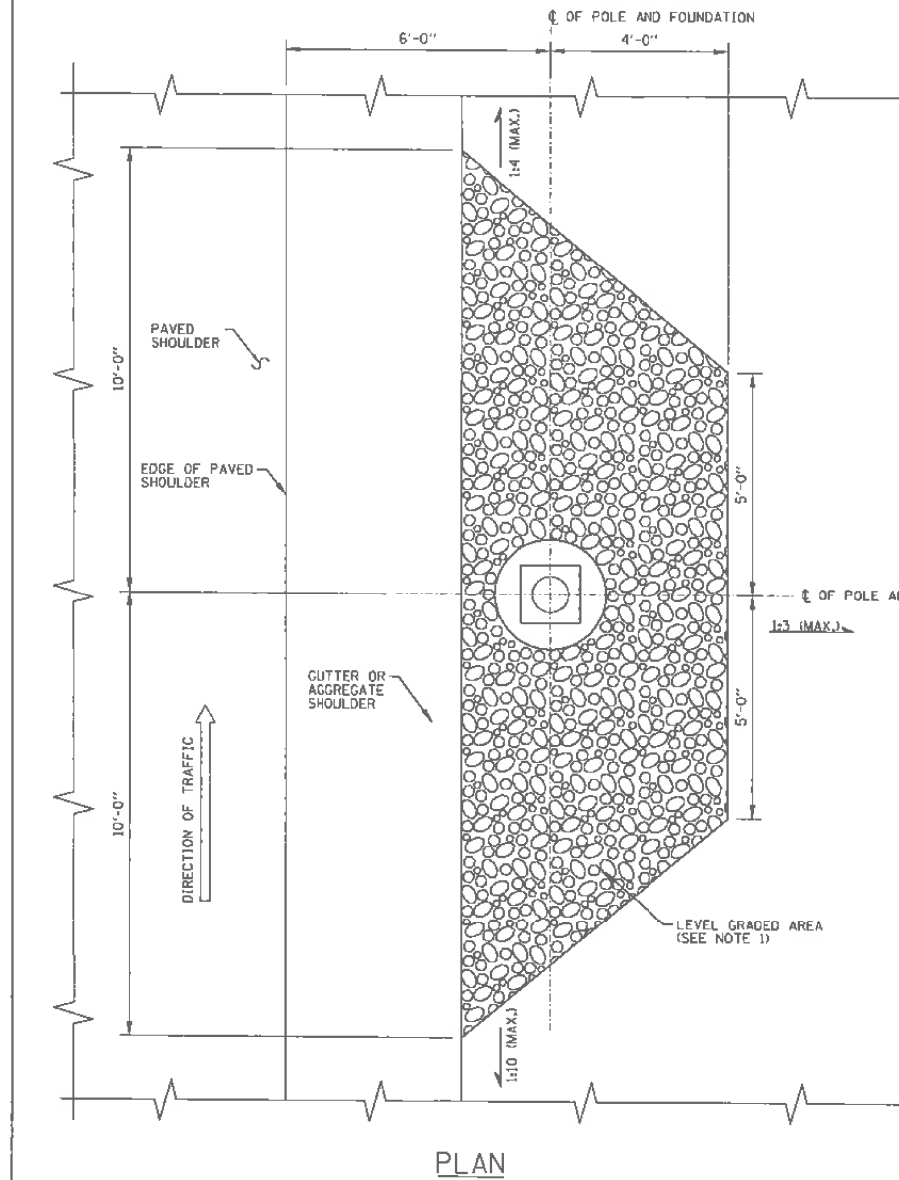
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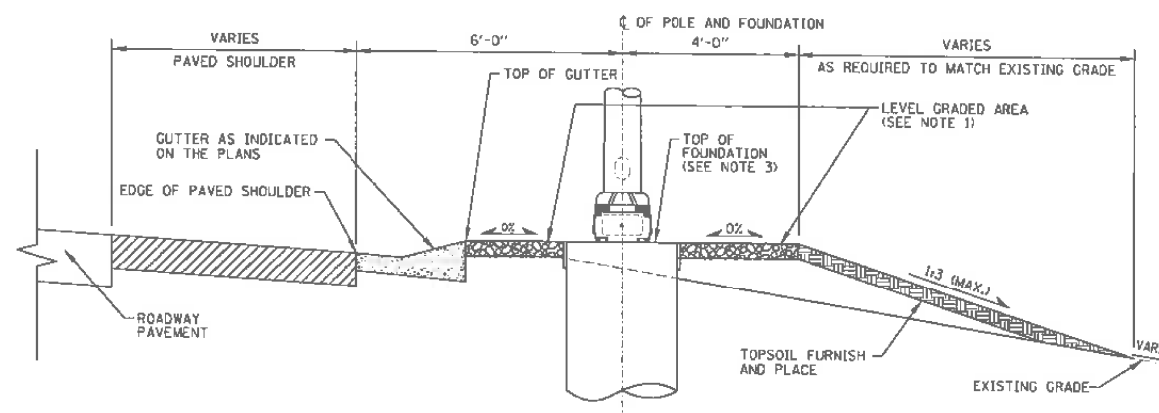
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CONTRACT NO. RR-17-4291
 LIGHTING STANDARD DETAILS

SHT NO. ELD-6
 DRAWING NO. 130 OF 228



LIGHT STANDARD FOUNDATION
ADJACENT TO AGGREGATE SHOULDER



LIGHT STANDARD FOUNDATION
ADJACENT TO GUTTER

LIGHT STANDARD FOUNDATION DETAILS - GRADING W/ FORESLOPE
(GROUND MOUNTED UNITS)

SHEET 7 OF 9

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

LIGHT STANDARD
FOUNDATION

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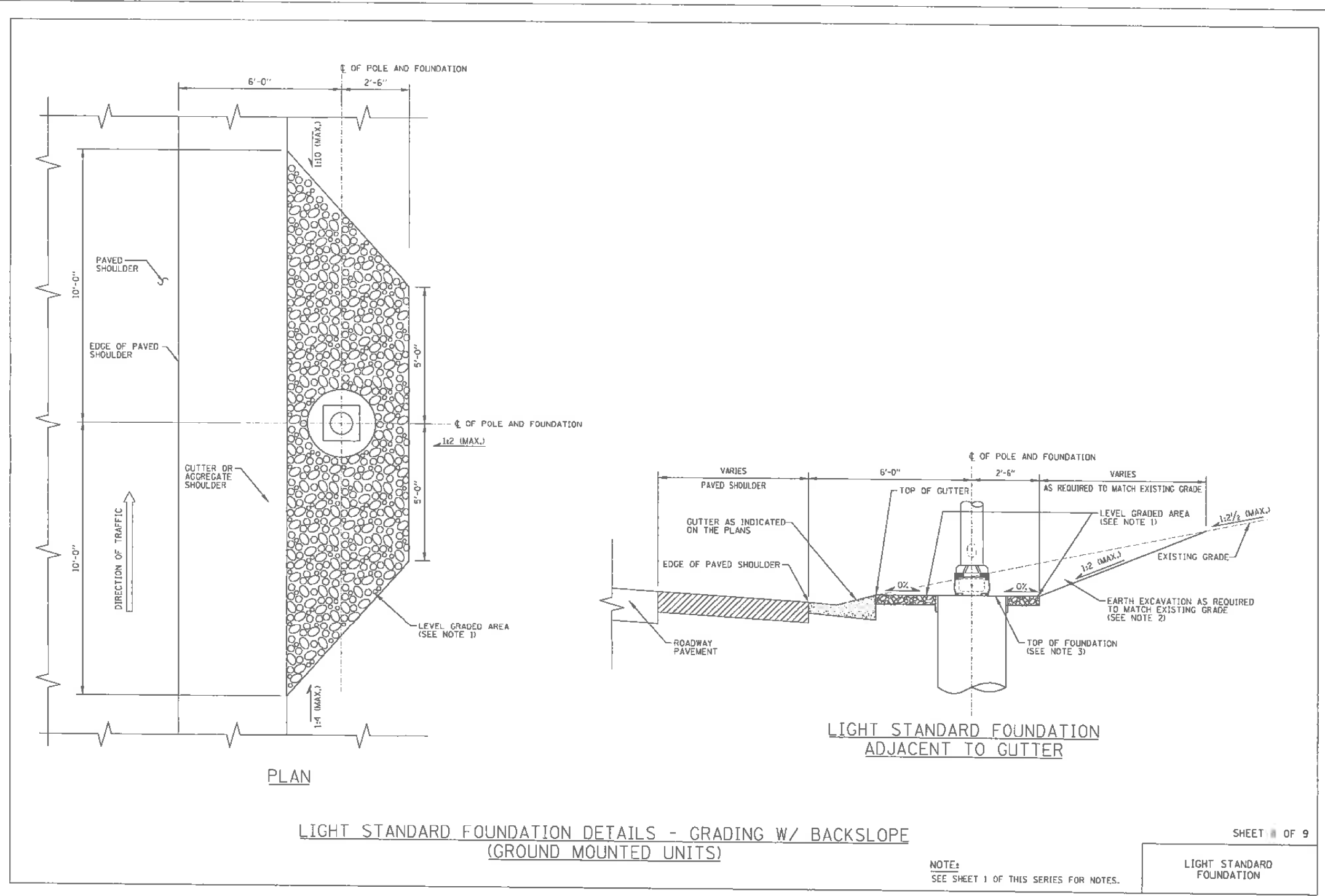
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NO.		DATE		REVISIONS DESCRIPTION	

CONTRACT NO. RR-17-4291
LIGHTING STANDARD DETAILS

SHT NO. ELD-7
DRAWING NO.
131 OF 228



**LIGHT STANDARD FOUNDATION DETAILS - GRADING W/ BACKSLOPE
(GROUND MOUNTED UNITS)**

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

LIGHT STANDARD FOUNDATION

SHEET 8 OF 9

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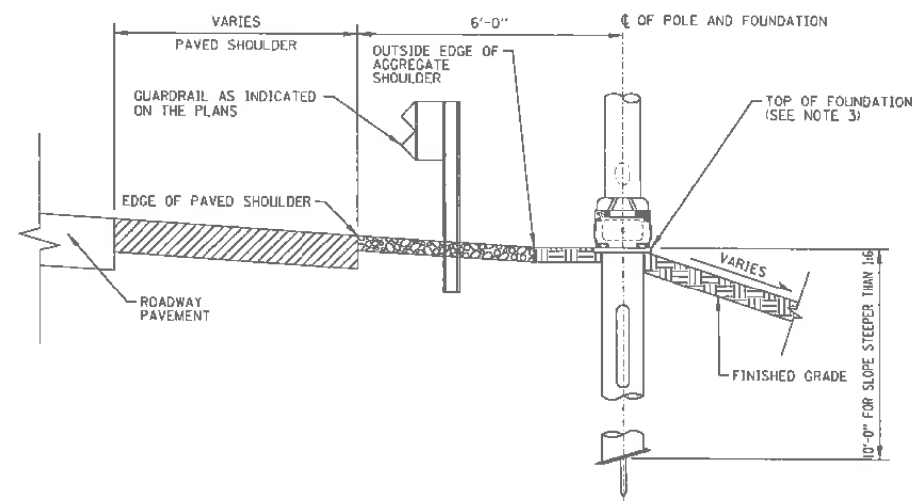
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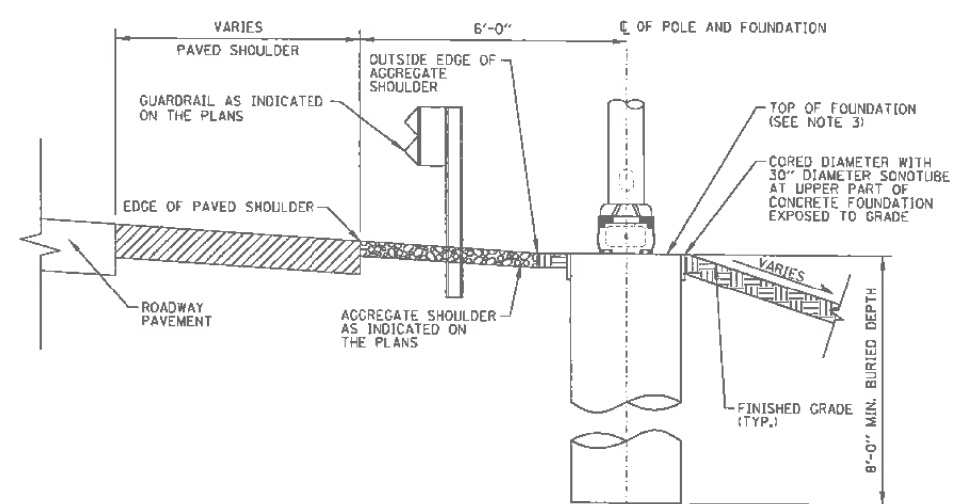
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LIGHTING STANDARD DETAILS

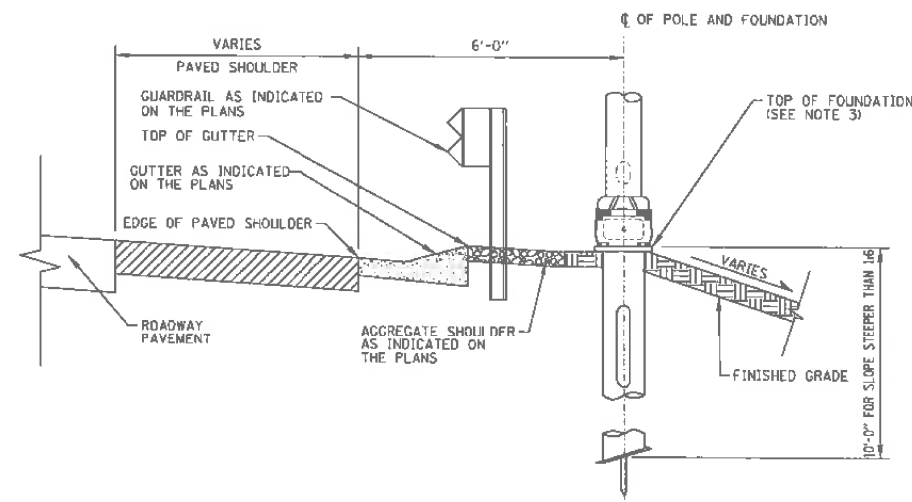
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DRAWING NO.
132 OF 228



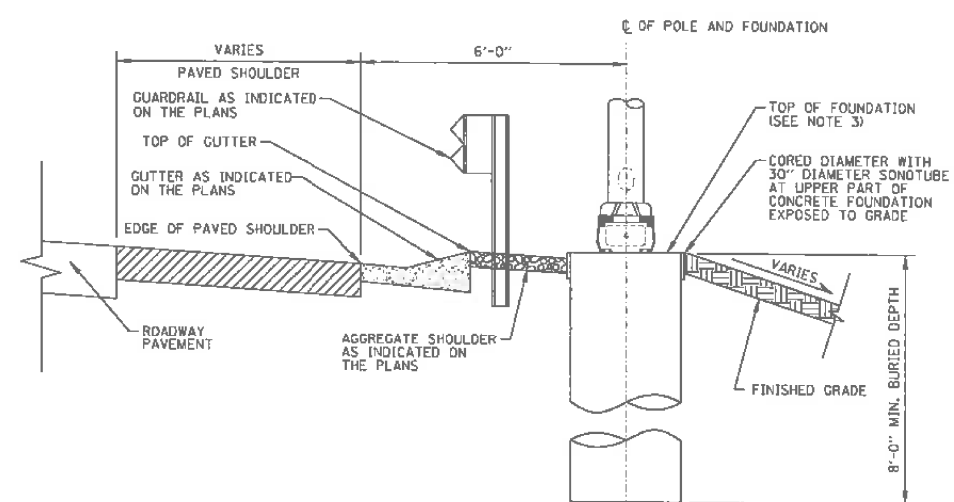
LIGHT STANDARD FOUNDATION - HELIX
ADJACENT TO AGGREGATE SHOULDER



LIGHT STANDARD FOUNDATION - CONCRETE
ADJACENT TO AGGREGATE SHOULDER



LIGHT STANDARD FOUNDATION - HELIX
ADJACENT TO GUTTER



LIGHT STANDARD FOUNDATION - CONCRETE
ADJACENT TO GUTTER

LIGHT STANDARD FOUNDATION DETAILS - ADJACENT TO GUARDRAIL
(GROUND MOUNTED UNITS)

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 9 OF 9

LIGHT STANDARD
FOUNDATION

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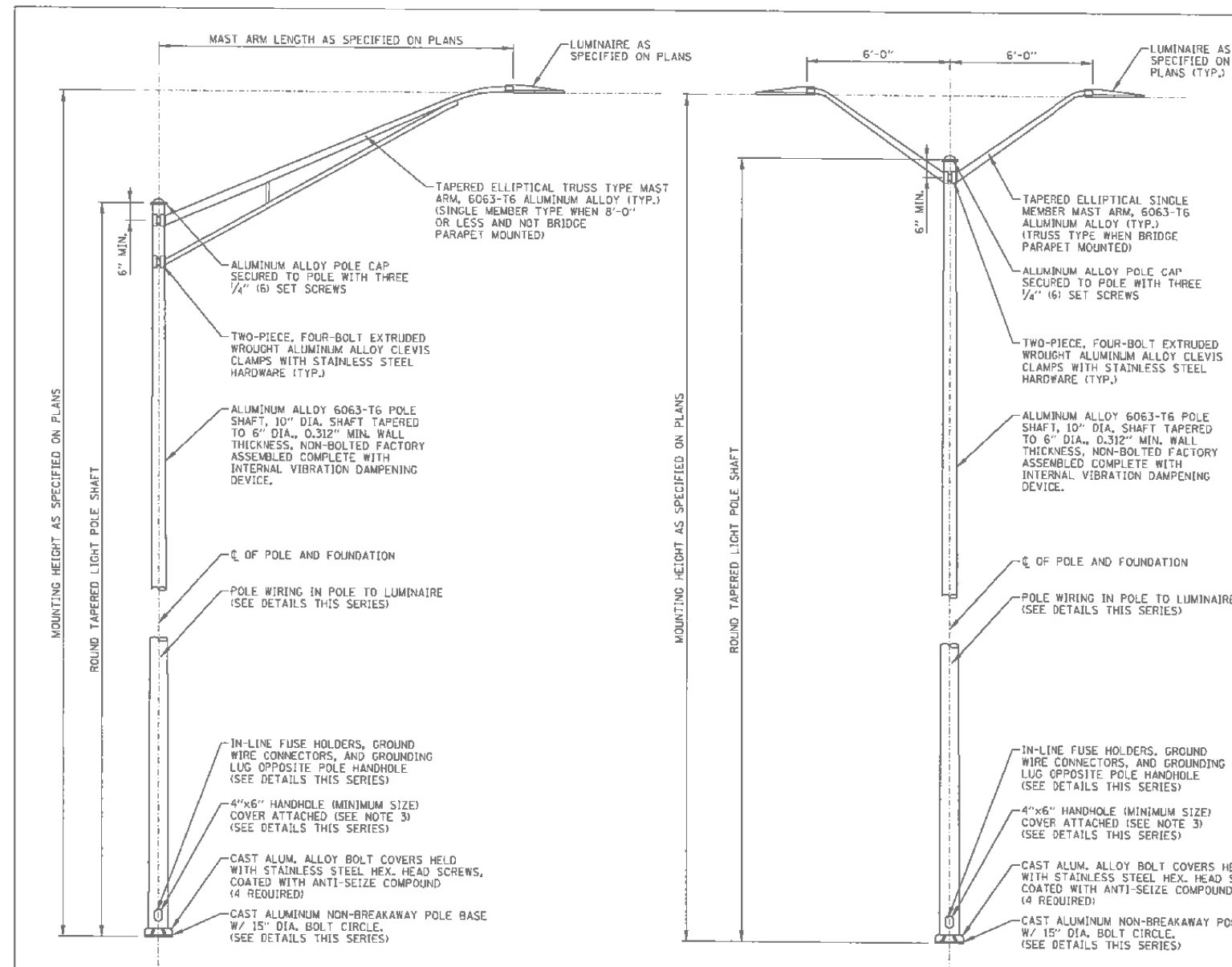
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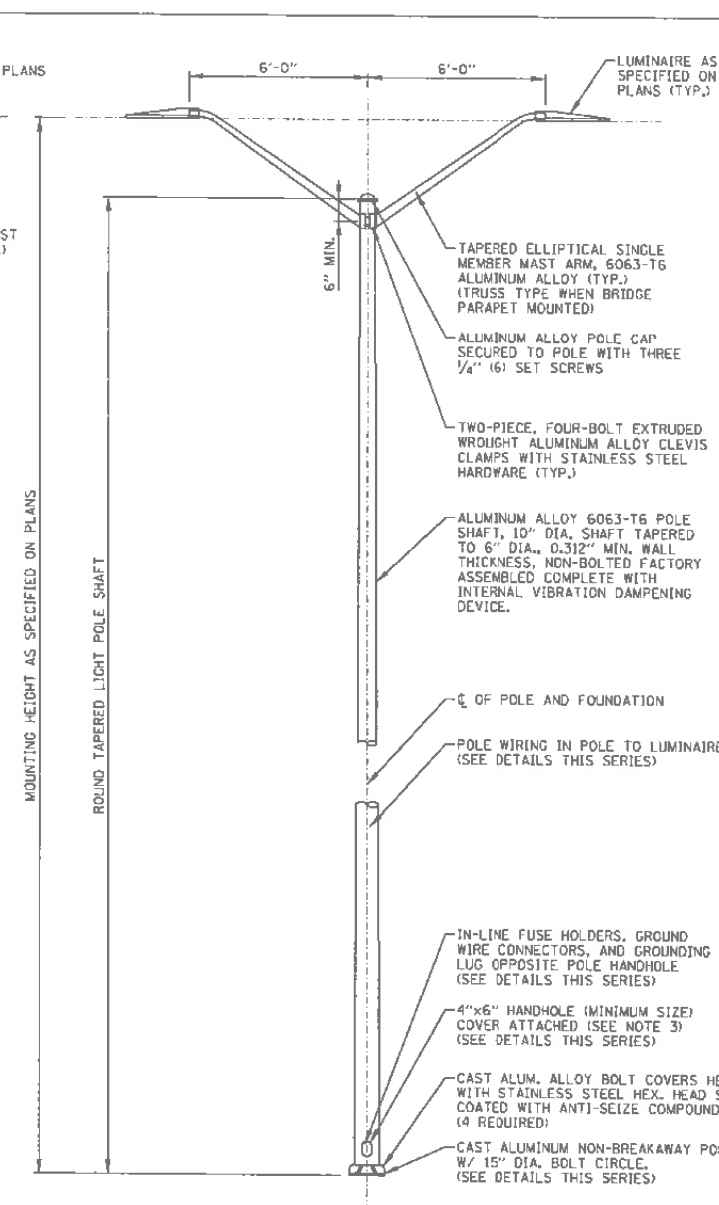
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CONTRACT NO. RR-17-4291
LIGHTING STANDARD DETAILS

SHT NO. ELD-9
DRAWING NO.
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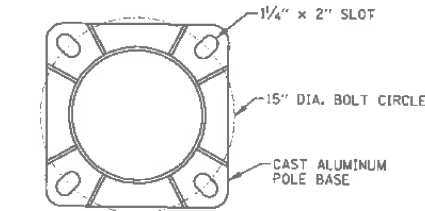
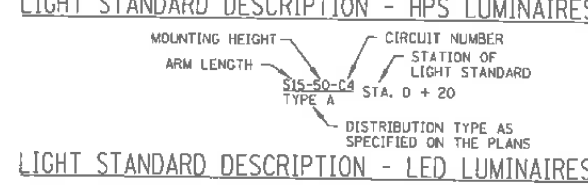
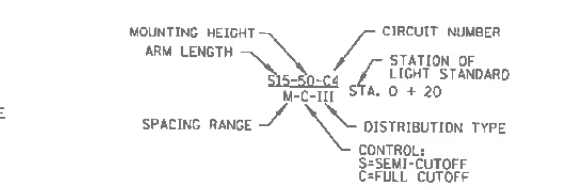
LIGHT STANDARD - SINGLE MAST ARM



LIGHT STANDARD - TWIN MAST ARM

LIGHT STANDARD DETAILS

- NOTES:**
1. ALL LIGHT STANDARDS, BOTH NEW AND EXISTING, ARE SHOWN ON PLANS WITH THE SAMPLE DESCRIPTIONS SHOWN ON THIS SHEET.
 2. FOR FOUNDATION DETAILS SEE STANDARD H1 OR FOR STRUCTURAL PARAPET FOUNDATION DETAILS, SEE STRUCTURAL PLANS.
 3. HANDHOLE COVERS SHALL BE FASTENED USING TWO STAINLESS STEEL SCREWS WITH CAPTIVE STAINLESS STEEL NUTS OR INSERTS, PER ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATION SECTION 1069.
 4. PROVIDE A 24" LONG POLYETHYLENE TUBE TO PROTECT CABLES WHERE THEY PASS THROUGH THE GROMMETED OPENING AT THE POLE/MAST ARM JUNCTION.
 5. ALL GROUND MOUNTED LIGHT POLES SHALL BE PROVIDED WITH AN ACCEPTED FHWA BREAKAWAY BASE OR DEVICE PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS SECTION 1070.
 6. EACH BRIDGE MOUNTED LIGHT STANDARD SHALL BE PROVIDED WITH SHOCK ABSORBING VIBRATION PADS, NUTS, WASHERS, LEVELING PLATE AND WIRE MESH FOR ITS ERECTION ON THE FOUNDATION AS SHOWN ON THE PLANS.
 7. LIGHT STANDARD WIRING DETAIL FOR INSTALLATION WITH CONCRETE FOUNDATION SHOWN. DETAIL FOR INSTALLATION WITH HELIX FOUNDATION IS SIMILAR.
 8. LIGHT STANDARD WIRING DETAILS SHOWN FOR TWIN MAST ARM (2 LUMINAIRES PER POLE) INSTALLATIONS. SINGLE MAST ARM (1 LUMINAIRE PER POLE) INSTALLATIONS SHALL OMIT TWO (2) IN-LINE FUSE HOLDERS, ONE SURGE PROTECTION DEVICE AND ASSOCIATED WIRING.
 9. CONDUCTORS EXTENDED INTO LIGHT POLE BASE SHALL BE OF SUFFICIENT LENGTH TO WITHDRAW SPLICES AND/OR INSULATED JOINTS A MINIMUM 18" OUT OF THE POLE HANDHOLE.
 10. ALL CONDUCTORS ORIGINATING IN POLE SHALL BE A 1/2 NO. 10 AWG UNLESS OTHERWISE NOTED.
 11. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.



POLE BASE

SHEET 1 OF 3

LIGHT STANDARD DETAILS

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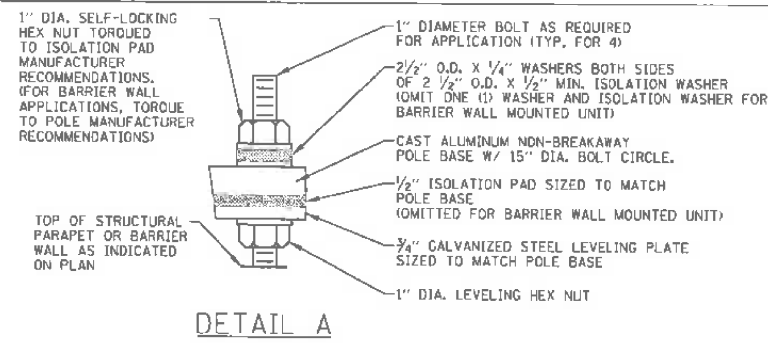
SINGH
 SINGH + ASSOCIATES INC.
 CONSULTING ENGINEERS

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 2700 OGDEN AVENUE
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 ILLINOIS 60515

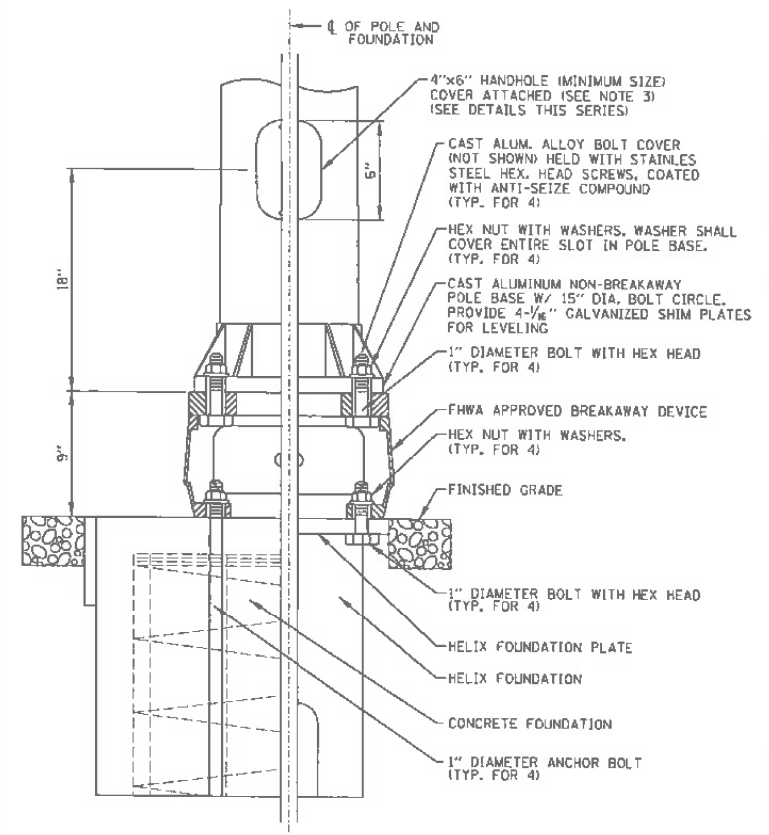
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NO.	DATE	DESCRIPTION	

CONTRACT NO. RR-17-4291
 LIGHTING STANDARD DETAILS

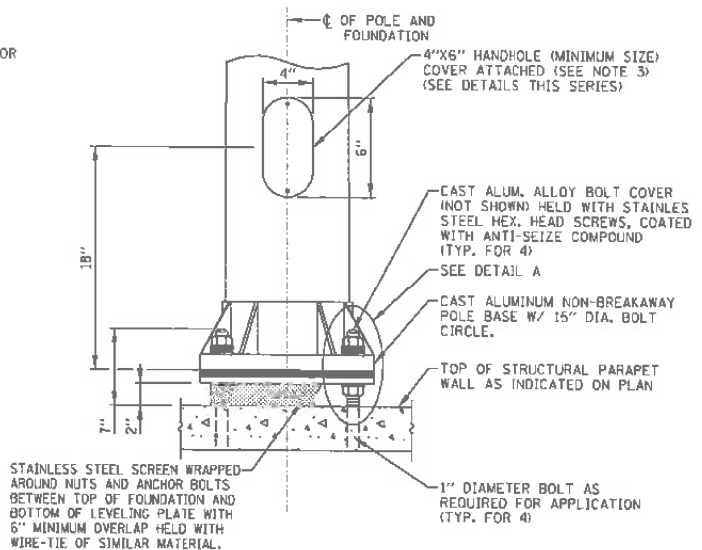
SHT NO.ELD-10
 DRAWING NO.
 134 OF 228



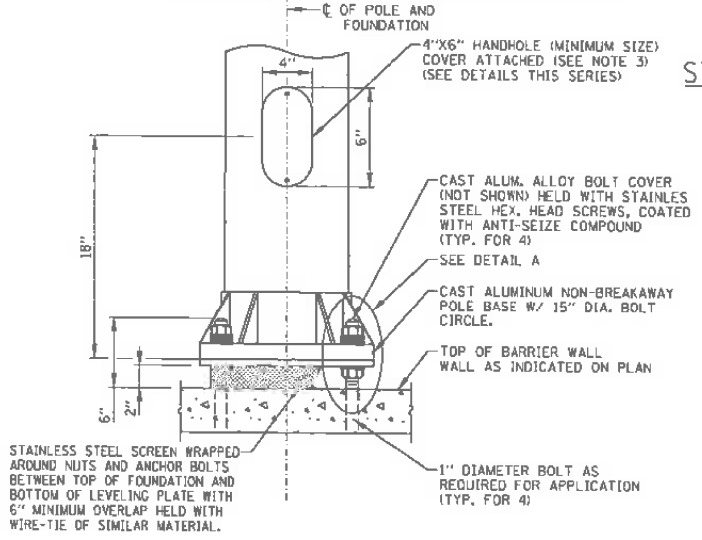
DETAIL A



LIGHT STANDARD MOUNTING DETAIL
(GROUND MOUNTED UNITS)

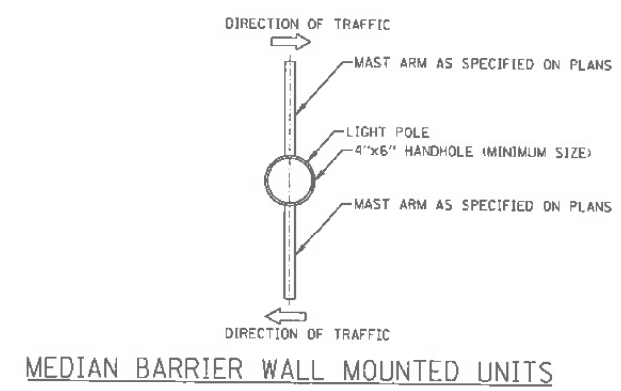


LIGHT STANDARD MOUNTING DETAIL
(STRUCTURAL PARAPET WALL MOUNTED UNITS)

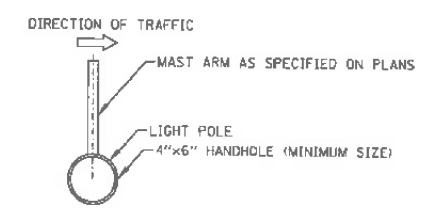


LIGHT STANDARD MOUNTING DETAIL
(BARRIER WALL MOUNTED UNITS)

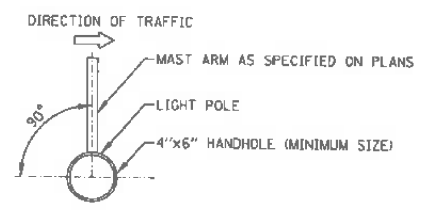
LIGHT STANDARD MOUNTING DETAILS



MEDIAN BARRIER WALL MOUNTED UNITS



STRUCTURAL PARAPET WALL MOUNTED UNITS



GROUND MOUNTED UNITS

LIGHT STANDARD HANDHOLE
ORIENTATION DETAIL

SHEET 2 OF 3

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

LIGHT STANDARD
DETAILS

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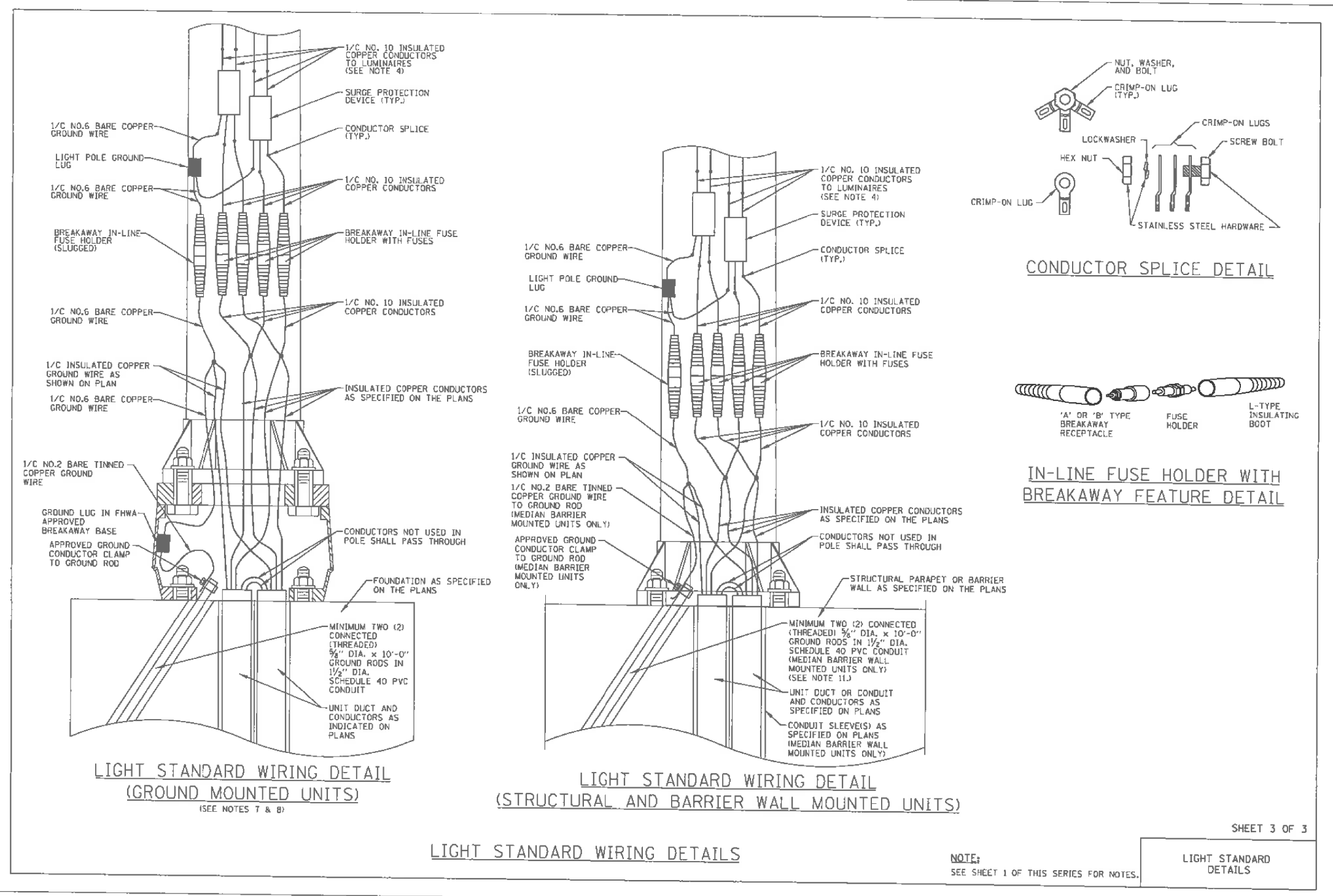
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CONTRACT NO. RR-17-4291
LIGHTING STANDARD DETAILS

SHT NO. ELD-11
DRAWING NO. 135 OF 228



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NO.	DESCRIPTION

CONTRACT NO. RR-17-4291
 LIGHTING STANDARD DETAILS


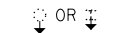
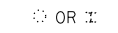


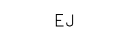
SHT NO.ELD-12
 DRAWING NO.
 136 OF 228

BENCHMARK: "X" ON TOP OF EAST BOLT OF SIGN POST FOUNDATION (GRAND AVE.) (IL 132 WEST) EXIT SIGN. ELEVATION 731.59

STRUCTURE DESCRIPTION: EXISTING SOLDIER PILE WALL WAS BUILT IN 2008 UNDER CONTRACT NO. I-07-5225. WALL WILL BE ALTERED TO ACCOMMODATE NEW CD LANE AND NEW EXPOSED HEIGHT.

SCOPE OF WORK INSTALL HELICAL GROUND ANCHORS ON THE THE EXISTING RETAINING WALL TO ALLOW FOR THE PROPOSED CD LANE.

LEGEND

-  EXISTING DRAINAGE SYSTEM REMOVAL
-  OR  EXISTING BATTERED PILES
-  OR  EXISTING VERTICAL PILES
-  SOIL BORING LOCATION
- CJ CONSTRUCTION JOINT
- EJ EXPANSION JOINT

DESIGN CRITERIA

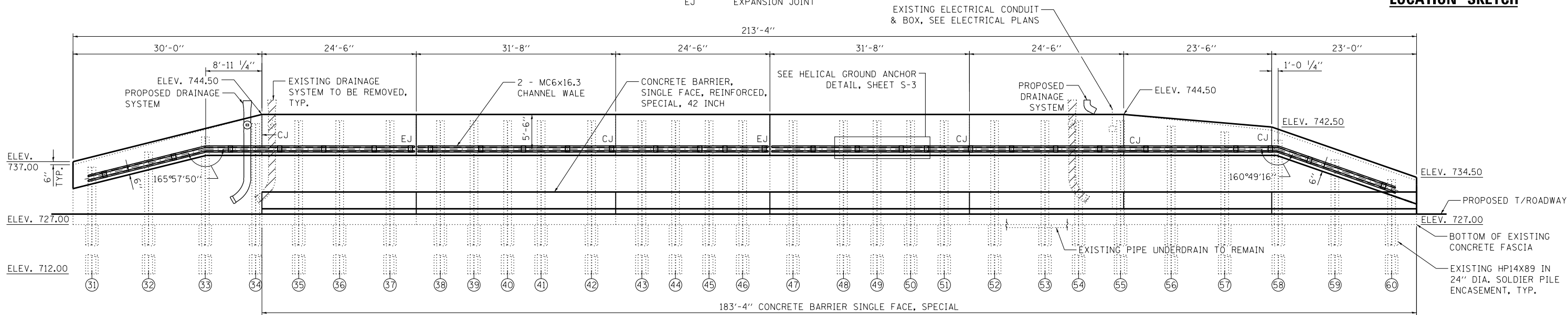
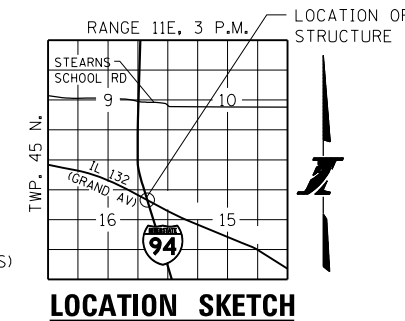
DESIGN SPECIFICATIONS:
 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION WITH 2015 & 2016 INTERIMS
 ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012
 ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, MARCH 2016

DESIGN LOADING:
 DEAD LOADS: CONCRETE 150 PCF
 EARTH 120 PCF

DESIGN STRESSES:

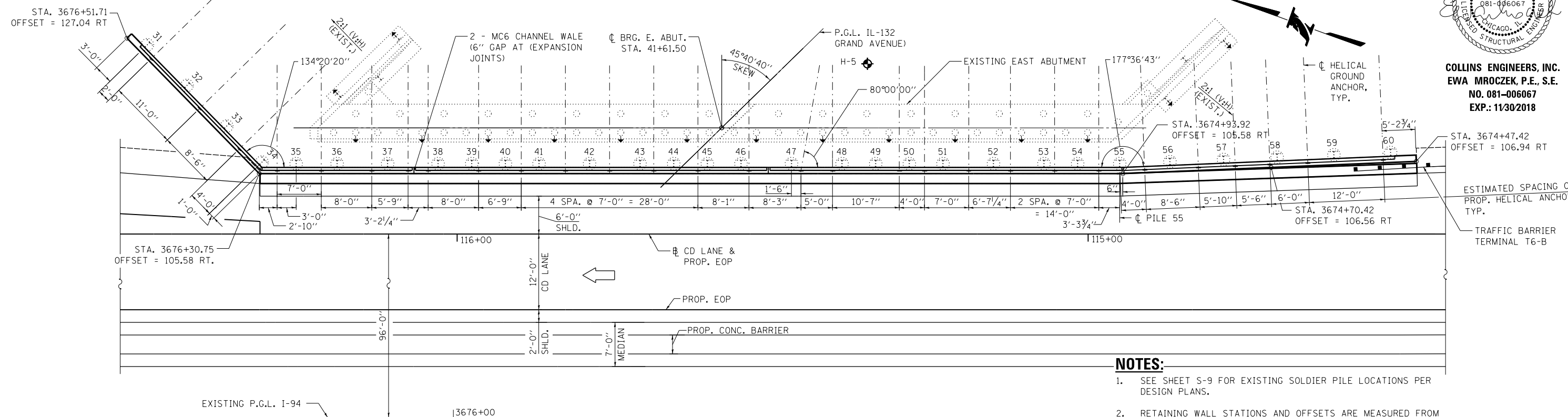
EXISTING UNITS
 f'c= 3,500 PSI (CLASS S1)
 fY= 60,000 PSI (REINFORCEMENT)
 fY= 50,000 PSI (SOLDIER PILES)

FIELD UNITS
 f'c= 3,500 PSI (CLASS S1)
 fY= 60,000 PSI (REINFORCEMENT)
 fY= 50,000 PSI (CHANNELS)
 fY= 50,000 PSI MIN. (HELICAL ANCHORS)
 fY= 36,000 PSI (PLATES)



ELEVATION OF EAST SOLDIER PILE WALL

ABUTMENT AND BRIDGE SUPERSTRUCTURE NOT SHOWN FOR CLARITY



PLAN - EAST SOLDIER PILE WALL LAYOUT

100% DESIGN SUBMITTAL

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COLLINS ENGINEERS
 123 N. Wacker Dr.
 Suite 900
 Chicago, IL 60606
 Tel: (312) 704-3300
 Fax: (312) 704-3320
 www.collins-engineers.com

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 EAST RETAINING WALL
 GENERAL PLAN AND ELEVATION

SHEET S-1 OF S-9
 SHT NO. STU-1
 DRAWING NO. 137 OF 228

NOTES:

1. SEE SHEET S-9 FOR EXISTING SOLDIER PILE LOCATIONS PER DESIGN PLANS.
2. RETAINING WALL STATIONS AND OFFSETS ARE MEASURED FROM I-94 PGL TO THE FRONT FACE OF WALL.
3. PROPOSED EJ & CJ SHALL LINE UP WITH EXISTING JOINTS.



COLLINS ENGINEERS, INC.
 EWA MROCEK, P.E., S.E.
 NO. 081-006067
 EXP.: 11/30/2018

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STRUCTURAL GENERAL NOTES

CAST-IN-PLACE-CONCRETE:

ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCEMENT BARS

REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.

REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.

REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.

REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.

BARS NOTED THUS, 3X2-#5 INDICATES 3 LINES OF BARS WITH 2 LENGTHS OF BARS PER LINE.

COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

STRUCTURAL STEEL

STRUCTURAL STEEL SHALL BE AASHTO M270 (ASTM A709) GRADE 50 EXCEPT WHERE OTHERWISE NOTED.

CONSTRUCTION

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD 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 THE SCOPE OF WORK; HOWEVER, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.

CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES IF SHOWN ARE FOR INFORMATION ONLY.

NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS SHALL BE ALLOWED UNLESS APPROVED BY THE ENGINEER.

THE CONTRACTOR MAY REQUEST COPIES OF EXISTING CONSTRUCTION PLANS THAT ARE CURRENTLY ON FILE WITH THE ILLINOIS TOLLWAY. THE REQUEST SHALL BE IN WRITING WITH THE UNDERSTANDING THAT ANY REPRODUCTION COST WILL BE AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.

NO CONCRETE CUTTING SHALL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTACT J.U.L.I.E., 800-892-0123.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL FIBER OPTIC UTILITIES PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL INITIATE THE LOCATION PROCESS FOR THE FIBER OPTIC CABLE BY COMPLETING A "REQUEST ILLINOIS TOLLWAY UTILITIES LOCATE" FORM FILLED IN ONLINE AT THE ILLINOIS TOLLWAY WEBSITE UNDER "DOING BUSINESS" AT LEAST FOUR (4) BUSINESS DAYS PRIOR TO STARTING ANY UNDERGROUND OPERATIONS, EXCAVATIONS OR DIGGING OF ANY TYPE IN THE GENERAL AREA OF THE FIBER OPTIC CABLE.

THE CONTRACTOR SHALL USE CARE WHEN EXCAVATING AROUND EXISTING FOUNDATIONS. ANY DAMAGE TO THE EXISTING STRUCTURE AND/OR SUPPORTING FOUNDATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AT NO ADDITIONAL COST TO THE ILLINOIS TOLLWAY.

EXISTING REINFORCEMENT WHICH IS TO BE INCORPORATED INTO THE NEW CONSTRUCTION SHALL BE BLAST CLEANED TO GREY METAL, STRAIGHTENED (WITHOUT HEATING), AND CUT TO FIT. COST OF WHICH SHALL BE INCLUDED WITH "CONCRETE REMOVAL."

CONCRETE SEALER SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE EAST RETAINING WALL WHICH ARE ADJACENT TO THE ROADWAY. EXISTING SURFACES SHALL BE POWER WASHED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 592 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. COST OF WHICH SHALL BE INCLUDED WITH "CONCRETE SEALER".

CONSTRUCTION (CON'T.)

WHENEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.

DRAINAGE

DRAIN PIPE FOR BRIDGE DRAINAGE SYSTEM, INCLUDING ALL PIPING, FITTINGS, SUPPORT BRACKETS, INSERTS, BOLTS, AND SPLASH BLOCKS SHOWN, SHALL BE AS SPECIFIED IN THE LATEST IDOT GBSP FOR DRAINAGE SYSTEM, EXCEPT AS MODIFIED HEREIN. DRAIN PIPE MAY BE POLYVINYL CHLORIDE (PVC) PIPE, REINFORCED FIBERGLASS PIPE OR GALVANIZED STEEL PIPE. (16.3)

POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE 8" DIAMETER SCHEDULE 80 MEETING THE REQUIREMENTS OF ASTM D1785 (F441), D2464 AND D2467 COLORED TO MATCH THE ADJACENT BEAM AND/OR COLUMN AS APPROVED BY THE ENGINEER.

HELICAL ANCHORS

CONTRACTOR SHALL SUBMIT COMPLETE DESIGN CALCULATIONS AND SHOP DRAWINGS FOR THE PROPOSED HELICAL ANCHOR SYSTEM TO THE ENGINEER OF RECORD. SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL LOCATE EXISTING ABUTMENT PILES PRIOR TO DRILLING.

HELICAL ANCHORS HELIX'S SHALL BE A MINIMUM OF 2" CLEAR OF THE EXISTING ABUTMENT PILES DURING DRILLING OPERATIONS.

AFTER INSTALLATION OF HELICAL ANCHORS, THE CONTRACTOR SHALL BACKFILL ALL EXCAVATED AREAS AND ALL VOIDS BEHIND THE RETAINING WALL WITH EMBANKMENT OR GRANULAR MATERIAL. THE WORK SHALL NOT BE MEASURED FOR PAYMENT. THE COST OF FURNISHING AND PLACING MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR HELICAL GROUND ANCHORS.

COST OF WASHERS AND NUTS INCLUDED IN THE COST OF HELICAL GROUND ANCHORS.

HELICAL GROUND ANCHORS SHALL BE HOT DIPPED GALVANIZED ACCORDING TO AASHTO M232.

HELICAL ANCHOR DESIGN LOAD (SERVICE) = 28 K/ANCHOR
HELICAL ANCHOR DESIGN LOAD (FACTORED) = 40 K/ANCHOR

HELICAL ANCHORS SHALL HAVE A MINIMUM EXTENSION OF 16'-0".

CONSTRUCTION SEQUENCE

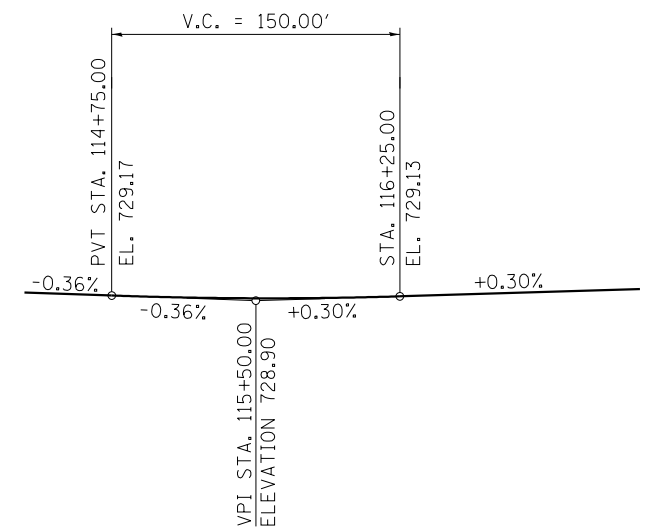
1. REMOVE THE CONCRETE SEAL AND EXISTING FASCIA WALL TO THE LIMITS SHOWN IN SHEETS S-3 & S-4.
2. IN FIELD, PHYSICALLY LOCATE ALL EXISTING ABUTMENT PILES TO VERIFY THEIR LOCATION. COST TO BE INCLUDED IN HELICAL GROUND ANCHORS PAY ITEM.
3. INSTALL WALERS AND HELICAL GROUND ANCHORS WITHOUT DAMAGING EXISTING PILES.
4. BACKFILL VOIDS BEHIND RETAINING WALL.
5. CONTRACTOR MAY BEGIN SLOPEWALL AND EMBANKMENT REMOVAL.
6. INSTALL PROPOSED FASCIA WALL.

TOTAL BILL OF MATERIAL

PAY ITEM NUMBER	DESCRIPTION	UNIT	ESTIMATED QUANTITY	RECORD QUANTITY
50102400	CONCRETE REMOVAL	CU YD	54	
50104650	SLOPE WALL REMOVAL	SQ YD	267	
50300225	CONCRETE STRUCTURES	CU YD	55	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	8420	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	5990	
54002020	EXPANSION BOLTS 3/4 INCH	EACH	16	
54248510	CONCRETE COLLAR	CU YD	2	
58700300	CONCRETE SEALER	SQ FT	3289	
60602800	CONCRETE GUTTER , TYPE B	FOOT	77	
X0323992	HELICAL GROUND ANCHORS	EACH	29	
X0324761	DRAINAGE SYSTEM (SPECIAL)	LSUM	1	
J1637006	CONCRETE BARRIER, SINGLE FACE, REINFORCED, SPECIAL, 42 INCH	FOOT	184	
J1637036	CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL)	FOOT	184	

INDEX OF SHEETS

SHEET NO.	TITLE
S-1	GENERAL PLAN AND ELEVATION
S-2	GENERAL NOTES, BILL OF MATERIAL, INDEX OF SHEETS
S-3	EAST RETAINING WALL DETAILS 1
S-4	EAST RETAINING WALL DETAILS 2
S-5	EAST RETAINING WALL DETAILS 3
S-6	DRAINAGE SYSTEM DETAILS
S-7	CONCRETE CULVERT COLLAR
S-8	EXISTING SOLDIER PILE WALL
S-9	SOIL BORING LOGS



PROFILE GRADE - CD LANE

100% DESIGN SUBMITTAL

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COLLINS ENGINEERS
123 N. Wacker Dr., Suite 900
Chicago, IL 60606
Tel: (312) 704-3300
Fax: (312) 704-3150
www.collins-engineers.com
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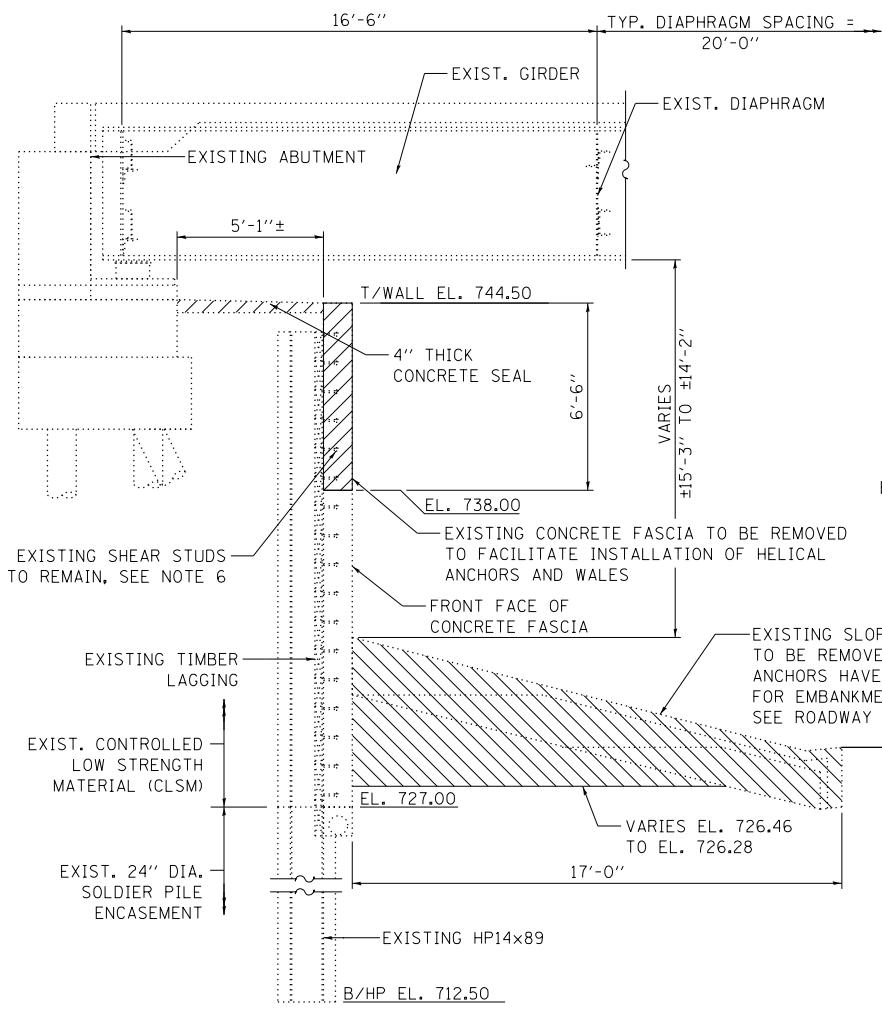
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NO.	DESCRIPTION

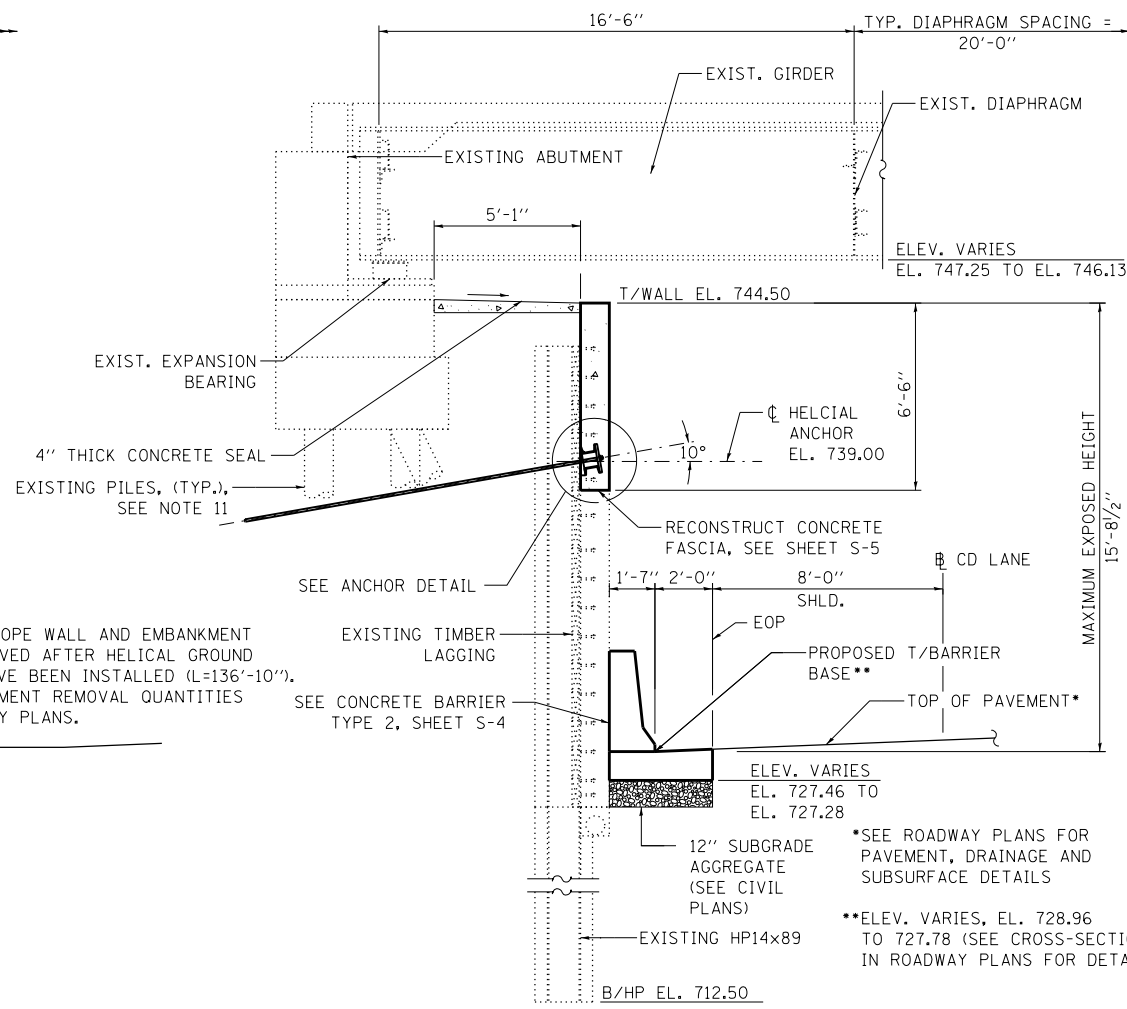
CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
EAST RETAINING WALL
GENERAL NOTES, BILL OF MATERIAL, INDEX OF SHEETS

SHEET S-2 OF S-9

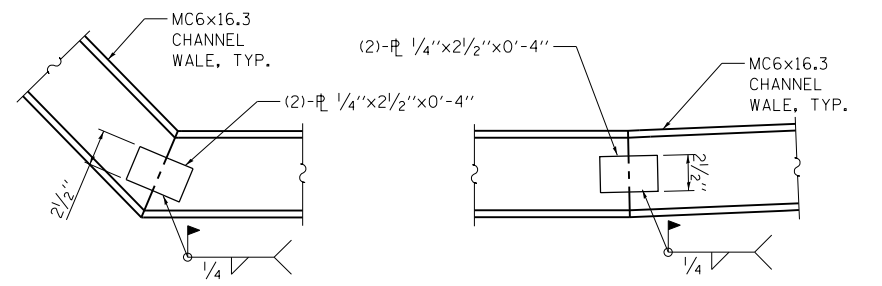
SHT NO. STU-2
DRAWING NO. 138 OF 228



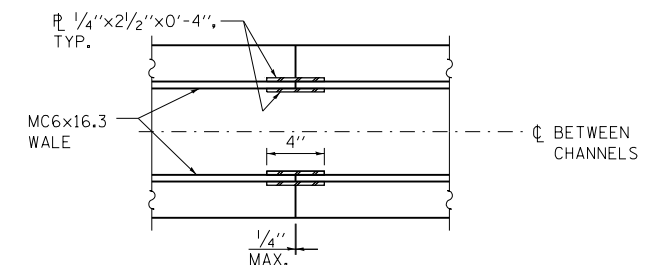
EAST RETAINING WALL REMOVAL
PILES 35 TO 55



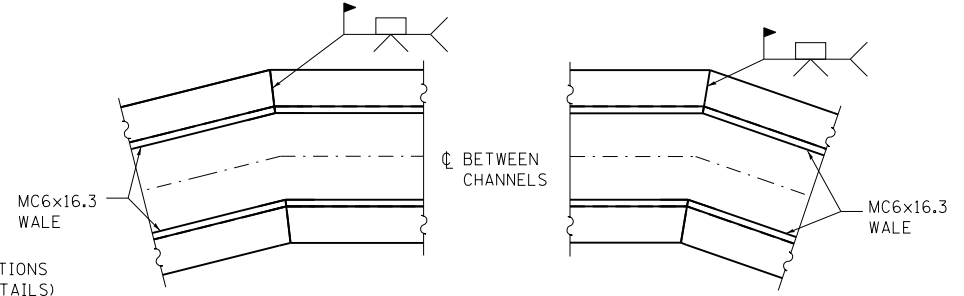
EAST RETAINING WALL RECONSTRUCTION
PILES 35 TO 55



NORTH CORNER PLAN **SOUTH CORNER PLAN**



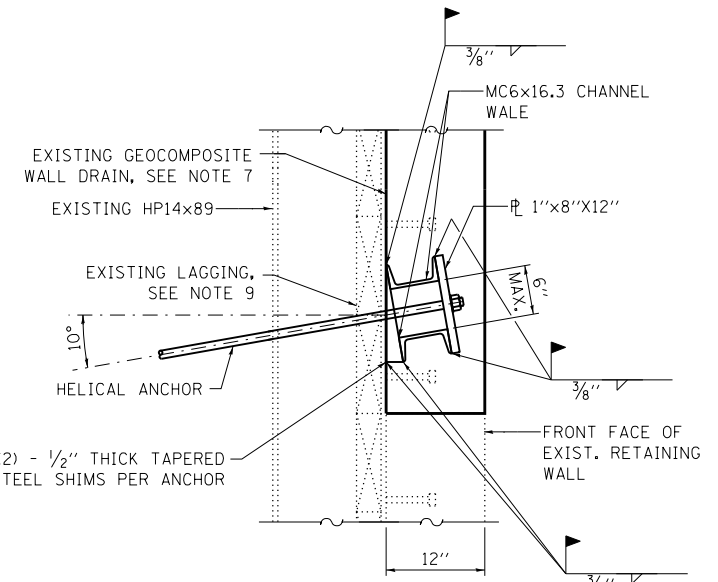
SECTION - WALER CONNECTION
DETAIL - CHANNEL WALE CORNER SPLICE



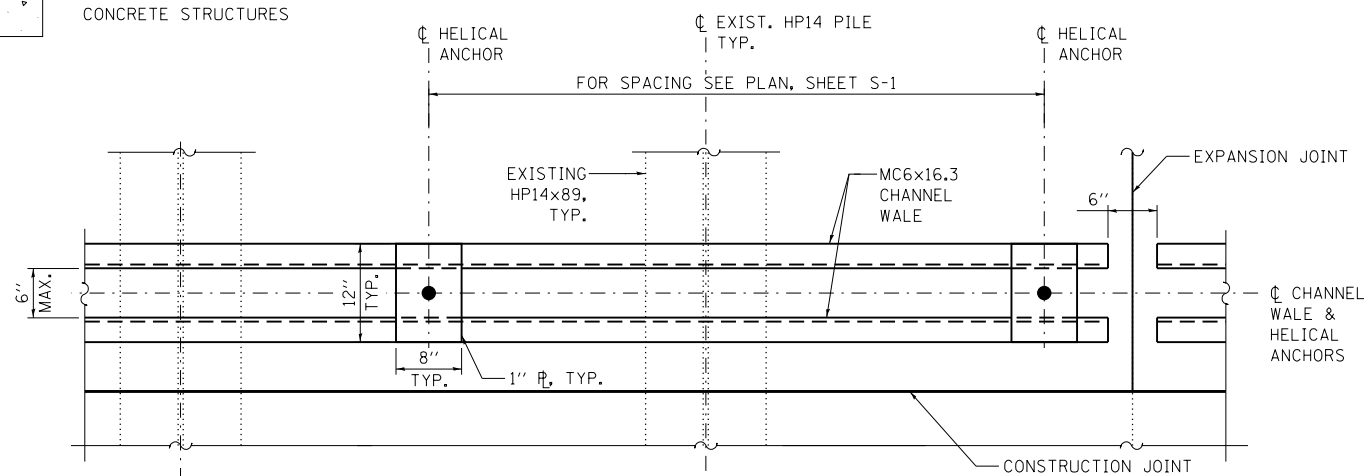
NORTH SLOPE ELEVATION **SOUTH SLOPE ELEVATION**

LEGEND

- CONCRETE REMOVAL
- SLOPE WALL & EMBANKMENT REMOVAL
- CONCRETE STRUCTURES



DETAIL-ANCHOR
REINFORCEMENT NOT SHOWN FOR CLARITY



HELICAL ANCHOR SYSTEM DETAIL

NOTES

1. ALL ANCHORS MAY BE ADJUSTED A MAXIMUM OF 5° IN ANY DIRECTION TO ACCOMMODATE THE EXISTING PILES. EXCEPTIONS MAY BE FOUND IN NOTES 2 & 3.
2. THE ANCHOR INSTALLED ADJACENT TO EXISTING PILE 47 MAY BE SKEWED 10° IN PLAN (HORIZONTALLY) TO ACCOMMODATE THE EXISTING ABUTMENT PILES.
3. THE ANCHOR BETWEEN EXISTING SOLDIER PILES 34 & 35 AND 35 & 36 SHALL BE INSTALLED AT 20° FROM HORIZONTAL (VERTICALLY) AND THE ANCHOR BETWEEN EXISTING PILES 33 & 34 SHALL BE INSTALLED AT 5° FROM HORIZONTAL (VERTICALLY) TO MISS EACH OTHER. HOLE IN BEARING PLATE SHALL BE ADJUSTED ACCORDINGLY.
4. SPLICES SHALL BE INSTALLED AT THE RETAINING WALL CORNERS AND WHERE THE WALER BEGINS TO SLOPE BEHIND THE SPLICE PLATE AS REQUIRED. WALERS TO BE CONTINUOUS ACROSS WALL CONSTRUCTION JOINTS.
5. EXISTING TIMBER LAGGING MAY BE UTILIZED AS THE TEMPORARY EARTH RETENTION SYSTEM DURING FASCIA RECONSTRUCTION. EXISTING TIMBERS SHALL BE INSPECTED WHEN EXPOSED AND REPLACED IN KIND IF DEEMED INADEQUATE TO SUPPORT LOAD. COST INCLUDED IN 109.04.
6. ONLY SHEAR STUDS THAT ARE IN CONFLICT WITH PROPOSED HELICAL ANCHOR SYSTEM SHALL BE REMOVED. COST TO BE INCLUDED IN HELICAL GROUND ANCHORS.
7. REMOVE AND RESTORE GEOCOMPOSITE WALL DRAIN WHERE REQUIRED. COST TO BE INCLUDED WITH HELICAL GROUND ANCHORS.
8. PROPOSED CONCRETE SEAL SHALL BE PAID FOR AS CONCRETE STRUCTURES.
9. REMOVE AND RESTORE EXISTING TIMBER LAGGING AS REQUIRED TO INSTALL HELICAL GROUND ANCHORS. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE COST OF THE HELICAL GROUND ANCHORS.
10. SEE S-5 FOR BILL OF MATERIAL.
11. EXISTING ABUTMENT PILES ARE CAST IN PLACE BEARING PILES WITH A 30 TON CAPACITY AND A MINIMUM BUTT DIAMETER OF 12".

100% DESIGN SUBMITTAL

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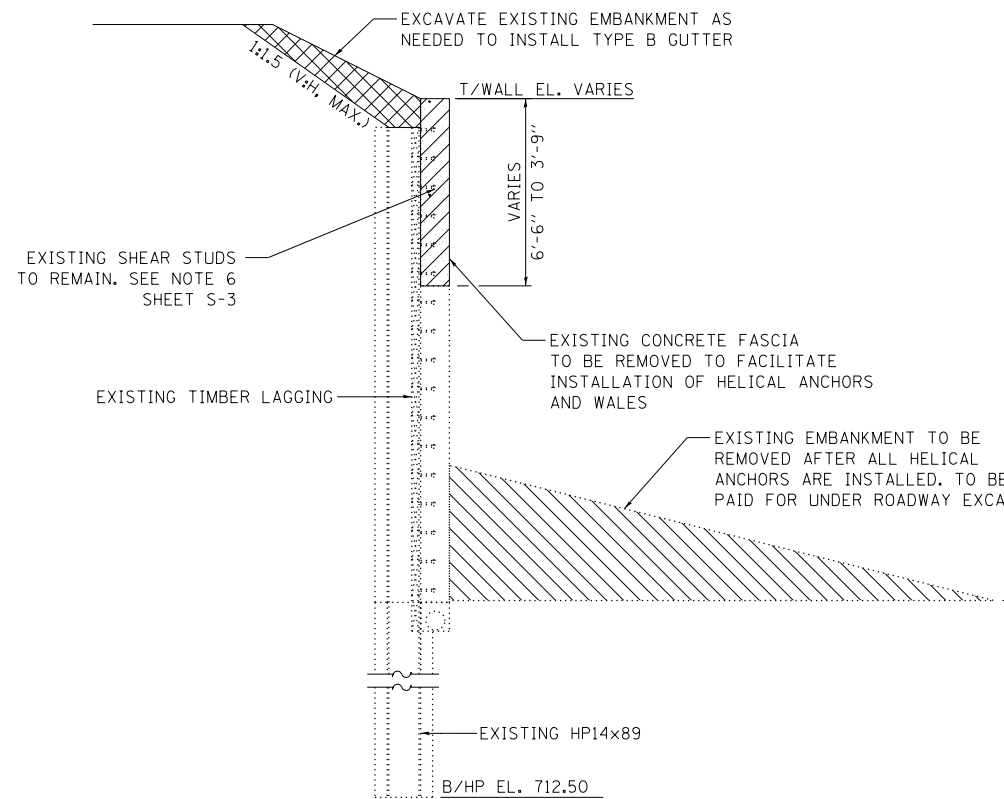
COLLINS ENGINEERS
123 N. Wacker Dr.
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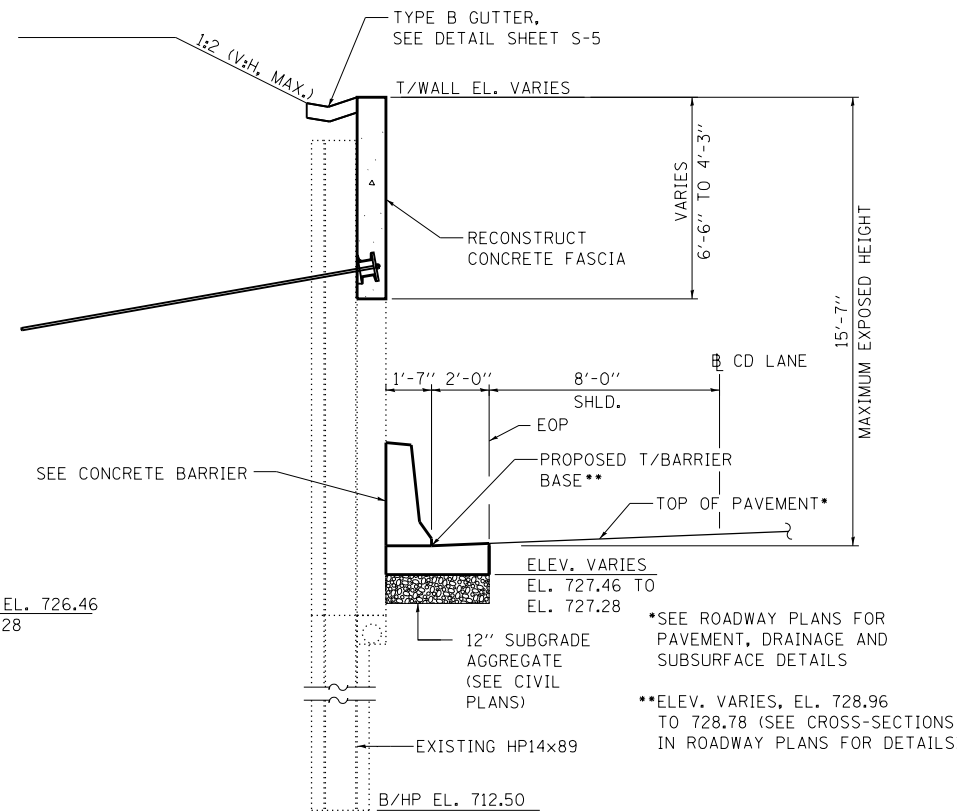
REVISIONS		DESCRIPTION
NO.	DATE	

CONTRACT NO. RR-17-4291	SHT NO. STU-3
1-94 AT GRAND AVENUE EAST RETAINING WALL DETAILS 1	DRAWING NO. 139 OF 228

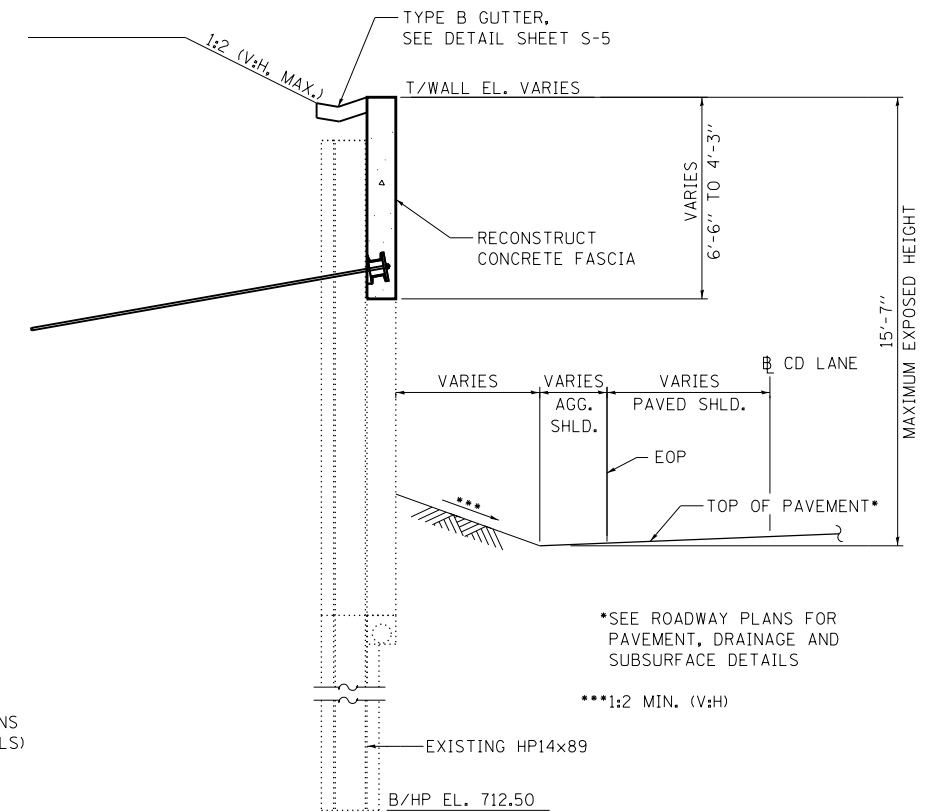
SHEET S-3 OF S-9



SECTION - EAST RETAINING WALL REMOVAL
PILES 31 TO 34 AND 56 TO 60



SECTION - EAST RETAINING WALL RECONSTRUCTION
PILES 56 TO 60



SECTION - EAST RETAINING WALL RECONSTRUCTION
PILES 31 TO 34

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
w(E)	56	#4	29'-8"	—
+ (E)	185	#6	3'-1"	—
+1(E)	185	#5	3'-1"	—
ITEM		UNIT	QUANTITY	
CONCRETE BARRIER, SINGLE FACE REINFORCED, SPECIAL, 42 IN		FOOT	184	
CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL)		FOOT	184	

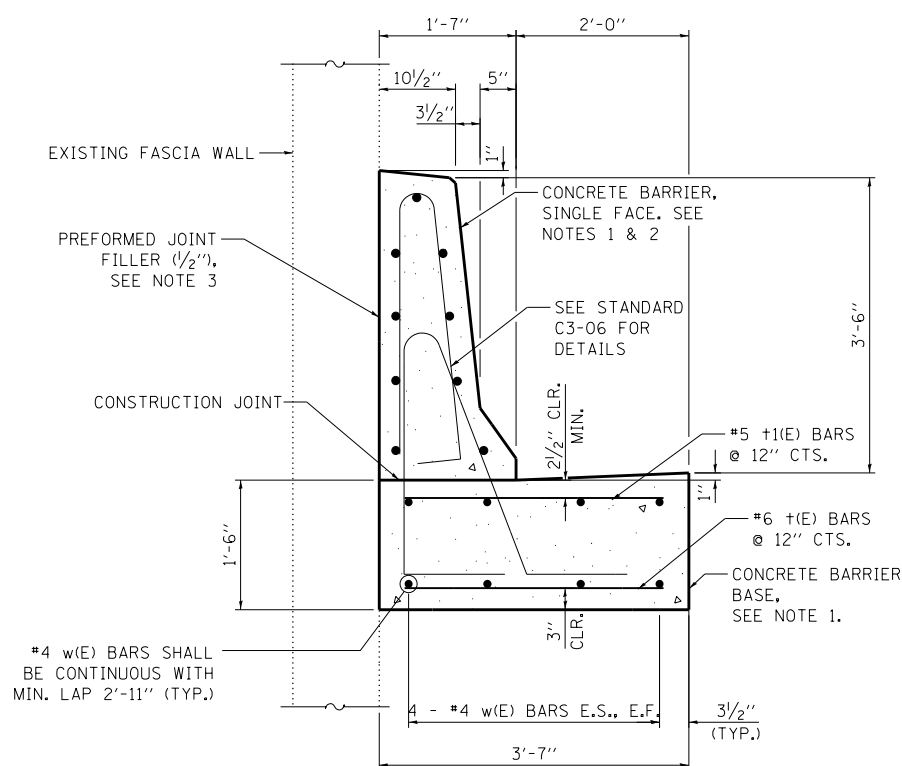
*TO BE BILLED WITH CONCRETE BARRIER BASE, SPECIAL.

NOTES

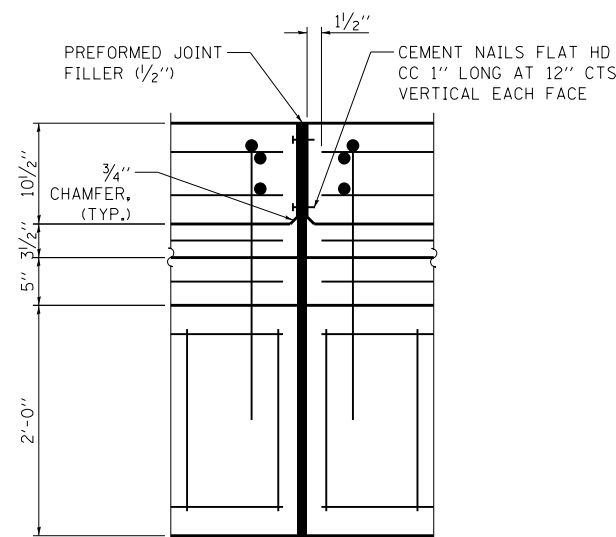
1. THE COST OF REINFORCEMENT BARS AND THEIR INSTALLATION SHALL BE INCLUDED IN THE COST OF THE CONCRETE BARRIER, SINGLE FACE REINFORCED, SPECIAL, 42" (J1637006) AND CONCRETE BARRIER BASE FOR SINGLE FACE BARRIER, REINFORCED, 42 INCH (SPECIAL) (J1637036).
2. FOR REINFORCEMENT THAT IS NOT DETAILED ON THIS SHEET SEE STANDARD C3-06. ALL REINFORCEMENT IN THE BARRIER SHALL BE INSTALLED PER C3-06.
3. THE COST OF THE PREFORMED JOINT FILLER SHALL BE INCLUDED IN THE COST OF THE CONCRETE BARRIER (J1637006).
4. #5 HORIZONTAL BARS SHALL BE LAPPED 3'-7".
5. BILL OF MATERIAL FOR FASCIA, ANCHORS, SLOPEWALL REMOVAL, AND CONCRETE SEALER SHOWN ON SHEET S-5.
6. SEE SHEETS S-3 AND S-5 FOR ADDITIONAL DETAILS AND NOTES.

LEGEND

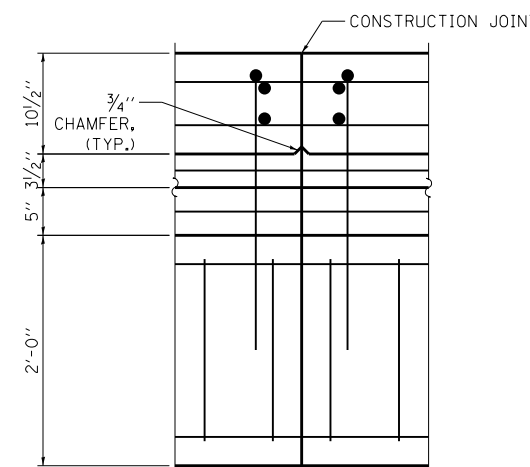
- EXCAVATION (PAID UNDER CONCRETE REMOVAL)
- EMBANKMENT REMOVAL
- CONCRETE STRUCTURES
- E.S. EQUALLY SPACED
- E.F. EACH FACE



CONCRETE BARRIER SINGLE FACE
SEE SHEET STU-1 FOR LIMITS



BARRIER EXPANSION JOINT
PLAN



BARRIER CONSTRUCTION JOINT
PLAN

100% DESIGN SUBMITTAL

DRAWN BY PRH DATE 03/10/2017
CHECKED BY AK DATE 03/10/2017

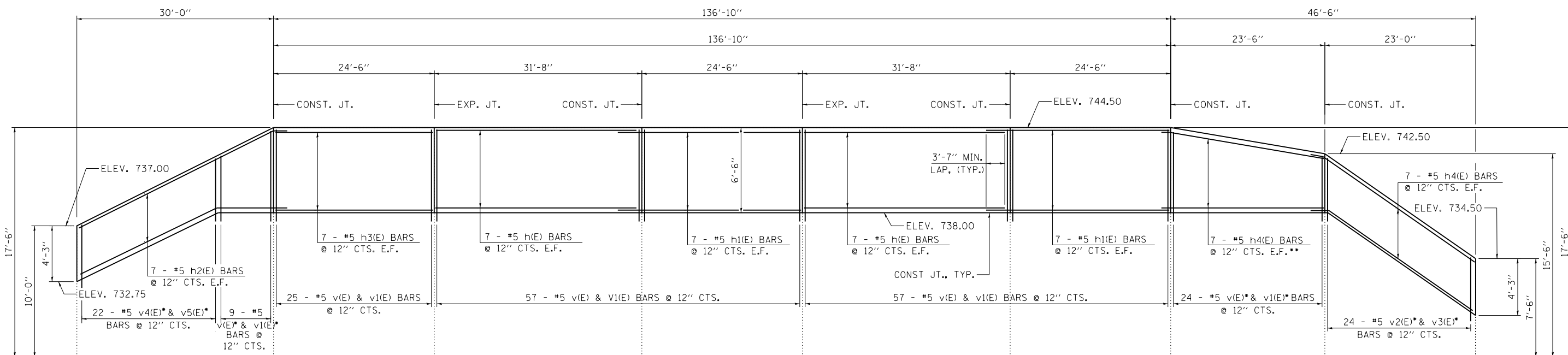
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2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

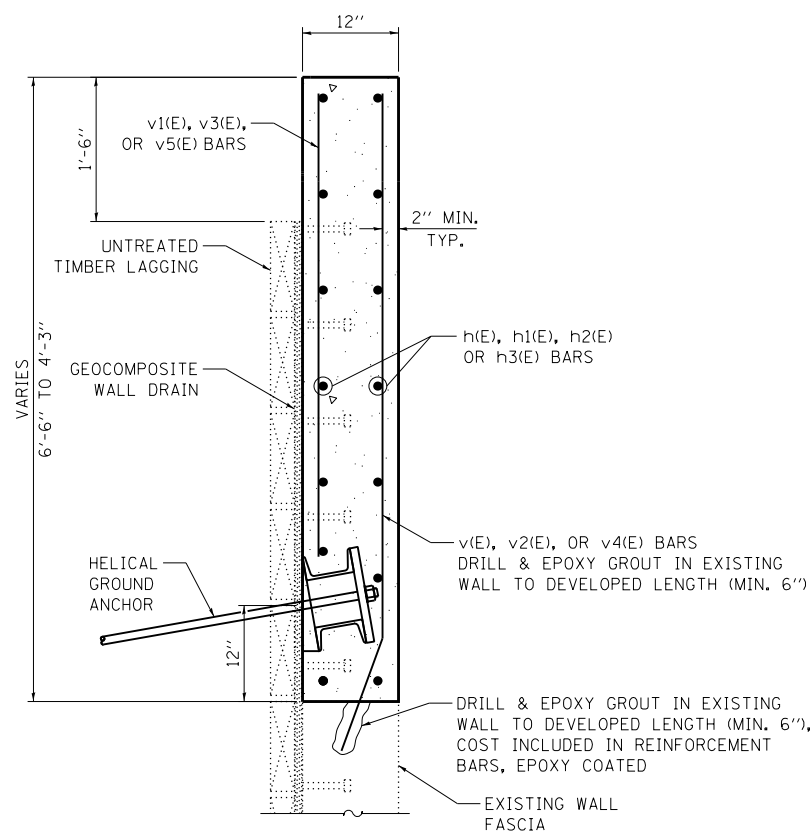
CONTRACT NO. RR-17-4291
1-94 AT GRAND AVENUE
EAST RETAINING WALL DETAILS 2

SHEET S-4 OF S-9
SHT NO. STU-4
DRAWING NO.
140 OF 228

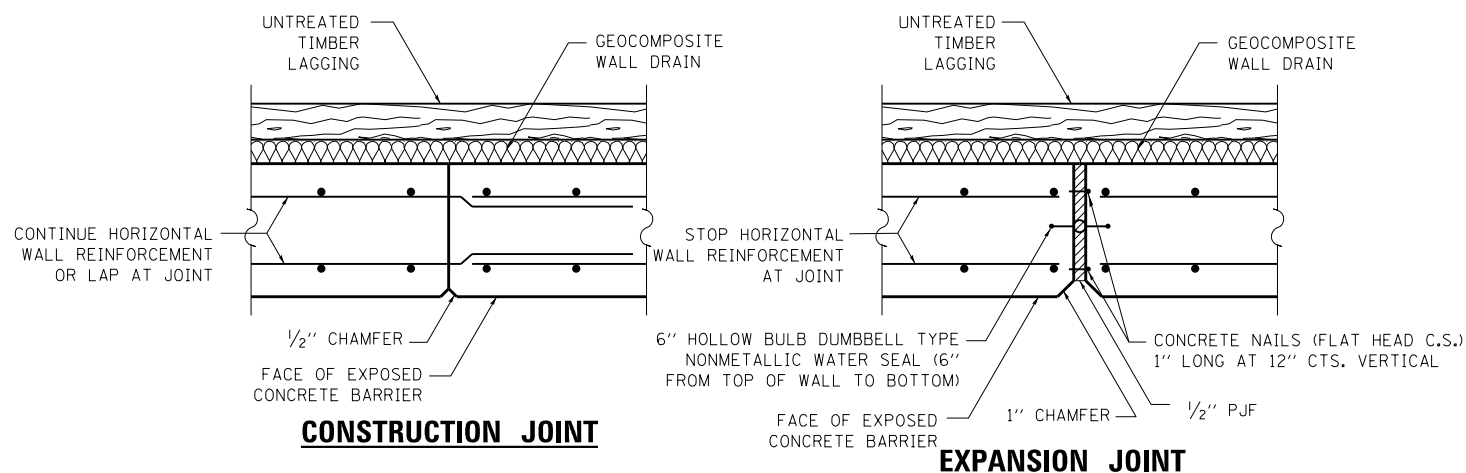


- *ORDER BARS FULL LENGTH, CUT TO FIT TOP OF WALL.
- **FAN BARS TO FIT TOP OF WALL.

WALL REINFORCEMENT
LOOKING EAST

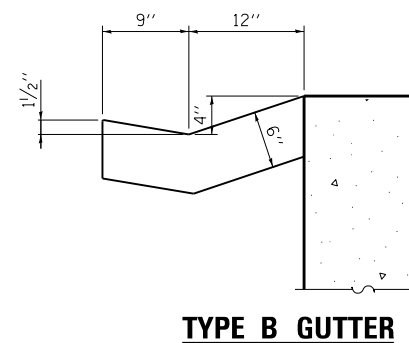
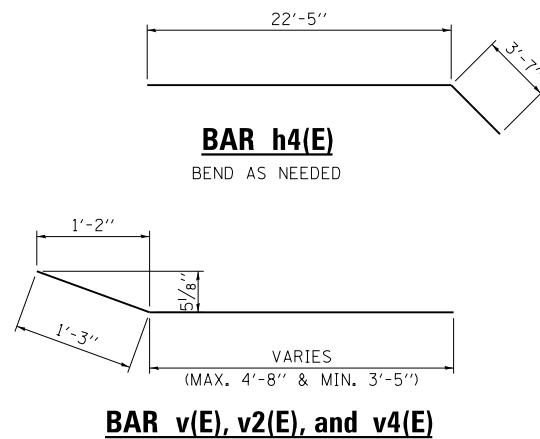


SECTION - TYPICAL FASCIA WALL DETAILS
SEE NOTES ON SHEET S-3



CONSTRUCTION JOINT

EXPANSION JOINT



BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	28	#5	31'-4"	—
h1(E)	28	#5	28'-1"	—
h2(E)	14	#5	34'-6"	—
h3(E)	14	#5	24'-2"	—
h4(E)	28	#5	27'-2"	—
v(E)	172	#5	6'-11"	—
v1(E)	172	#5	5'-0"	—
v2(E)	24	#5	4'-8"	—
v3(E)	24	#5	2'-9"	—
v4(E)	22	#5	5'-2"	—
v5(E)	22	#5	3'-3"	—
ITEM	UNIT	QUANTITY		
CONCRETE REMOVAL	CU YD	54		
SLOPEWALL REMOVAL	SQ YD	267		
CONCRETE STRUCTURES	CU YD	55		
HELICAL GROUND ANCHORS	EACH	29		
REINFORCEMENT BARS, EPOXY COATED	POUND	5910		
CONCRETE SEALER	SQ FT	3239		
FURNISHING AND ERECTING STEEL	POUND	8420		
CONCRETE GUTTER, TYPE B	FOOT	77		

*BEND h2(E) & h4(E) IN FIELD AS REQUIRED TO FIT WALL PROFILE.

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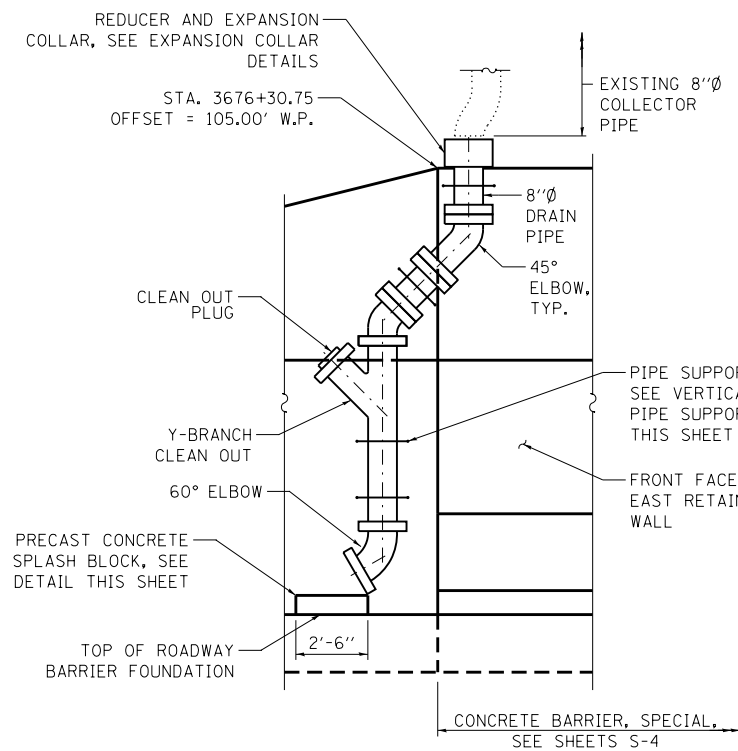
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DOWNERS GROVE,
ILLINOIS 60515

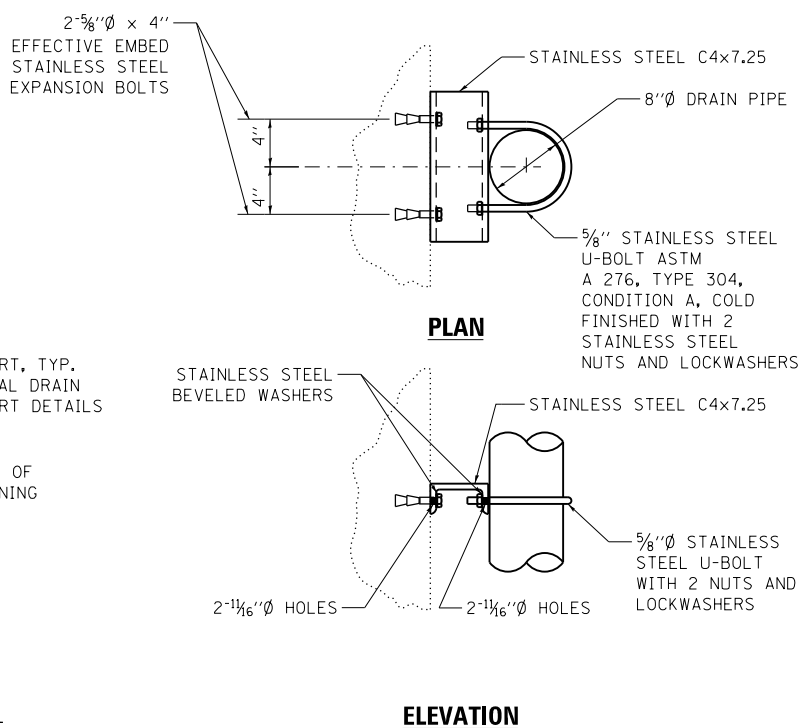
REVISIONS	
NO.	DATE DESCRIPTION

CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
EAST RETAINING WALL DETAILS 3

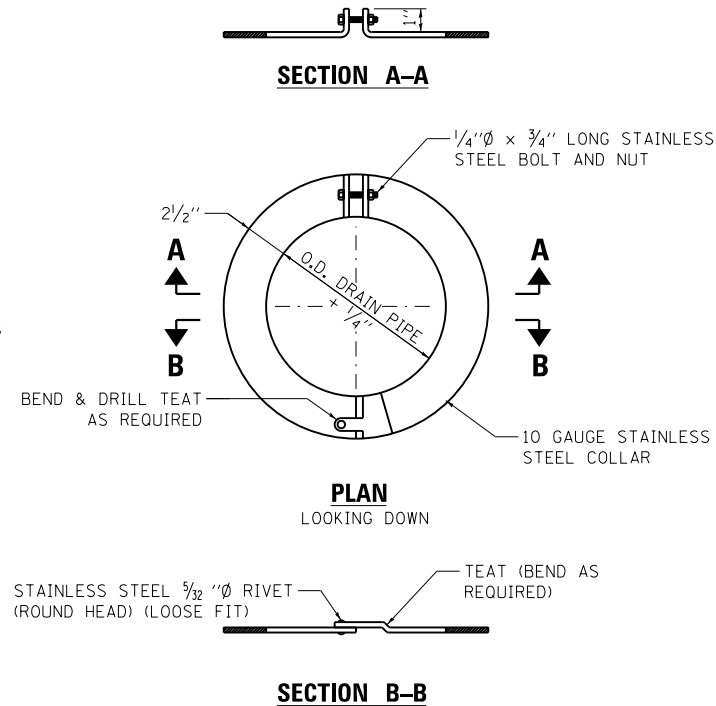
SHEET S-5 OF S-9
SHT NO. STU-5
DRAWING NO. 141 OF 228



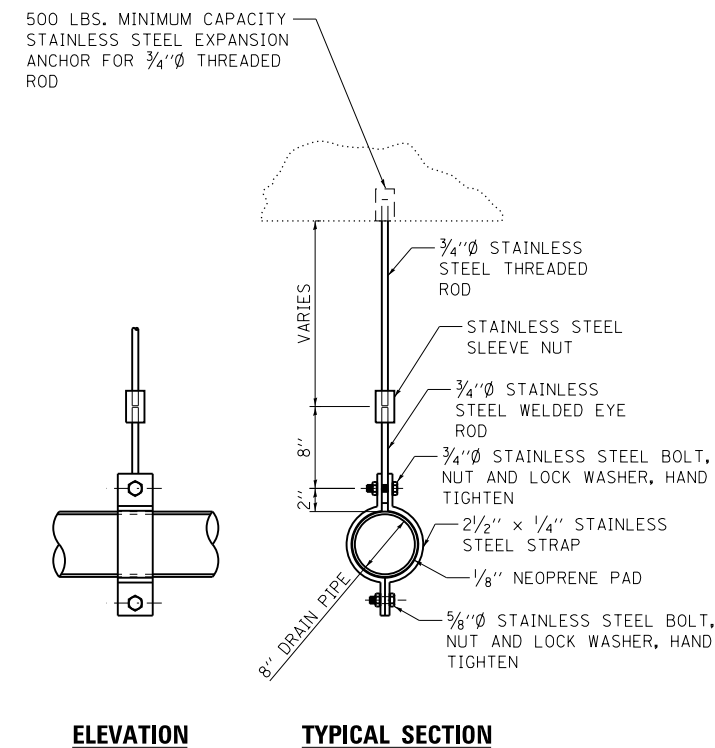
NORTH DRAINAGE SYSTEM DETAIL



VERTICAL DRAIN PIPE SUPPORT DETAILS



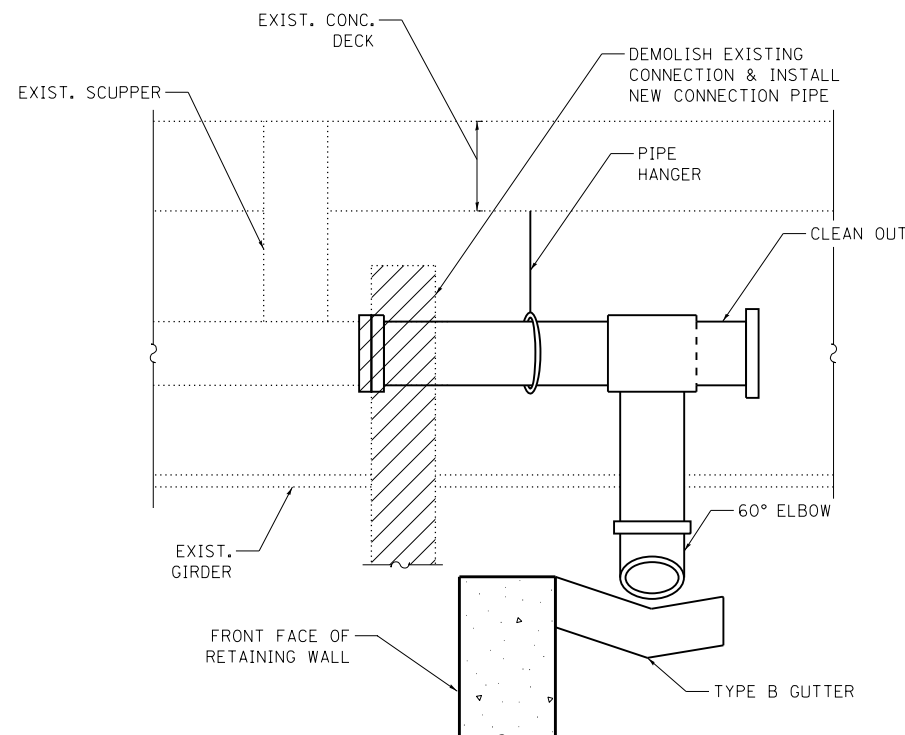
EXPANSION COLLAR DETAILS



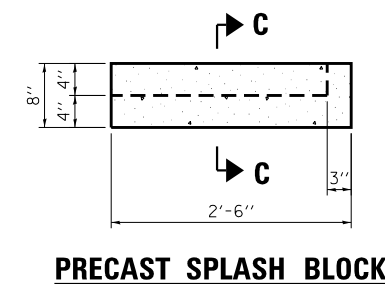
COLLECTOR PIPE HANGER DETAILS

NOTES:

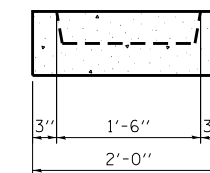
1. DRAIN PIPES AND FITTINGS SHALL BE 8"Ø.
2. REDUCERS SHALL BE SIZED TO ACCOMMODATE LONGITUDINAL THERMAL MOVEMENT OF THE SUPERSTRUCTURE BETWEEN THE PIER AND THE SCUPPER.
3. BOLT PATTERN AND SIZE IN DRAIN PIPE FLANGE TO MATCH SCUPPER FLANGE.
4. ALL DRAINAGE, INCLUDING, BUT NOT LIMITED TO, THE TYPE B GUTTER, ALL ATTACHMENTS, THE PRECAST SPLASH BLOCK, AND ANY ADDITIONAL PIPING SHALL BE BILLED UNDER DRAINAGE SYSTEM (SPECIAL).



SOUTH DRAINAGE SYSTEM DETAIL

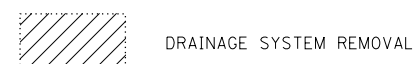


PRECAST SPLASH BLOCK



SECTION C-C

LEGEND



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SYSTEM (SPECIAL)	LSUM	1

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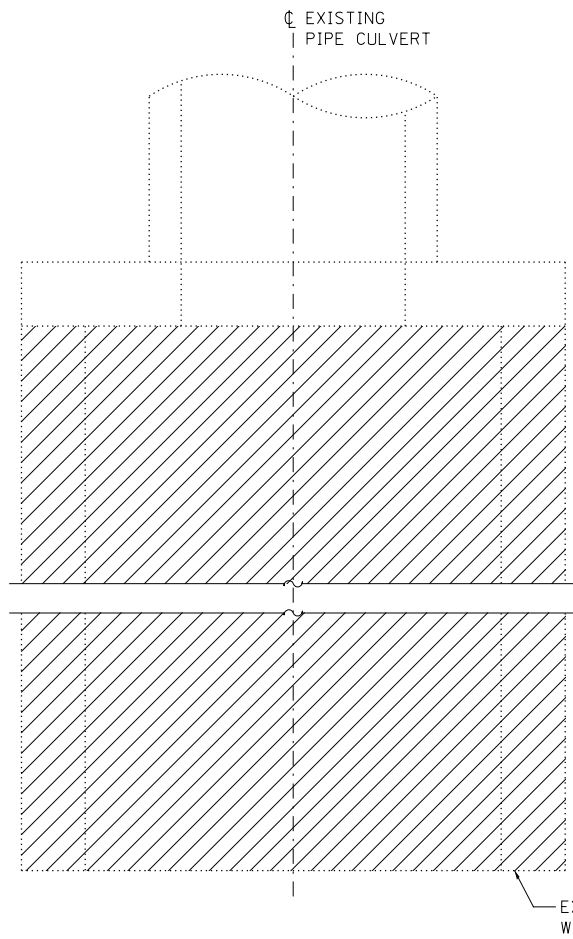
NO.	DATE	REVISIONS	
		DESCRIPTION	

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 EAST RETAINING WALL
 DRAINAGE SYSTEM DETAILS

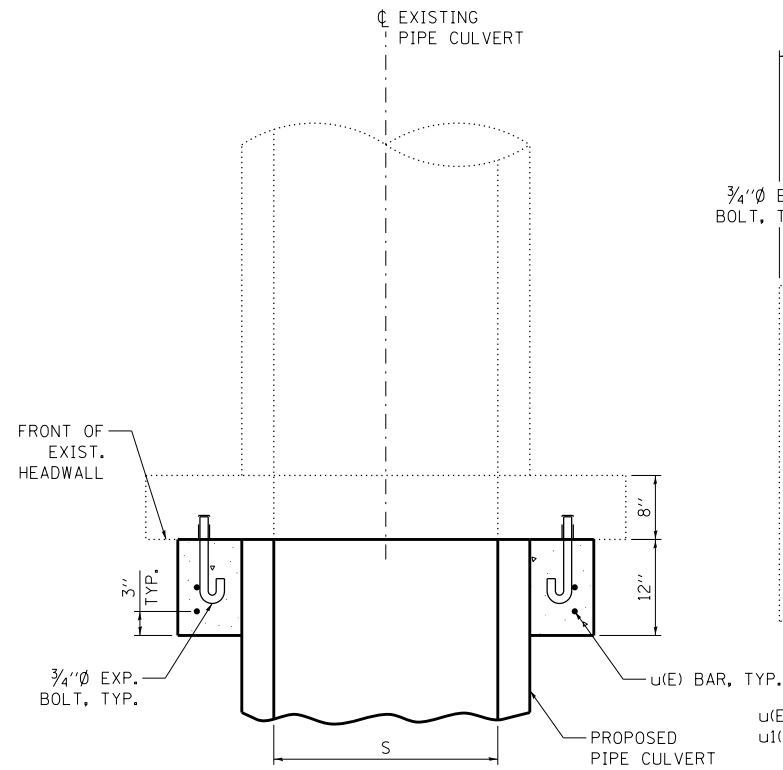
SHEET S-6 OF S-9

SHT NO. STU-6
 DRAWING NO.
 142 OF 228

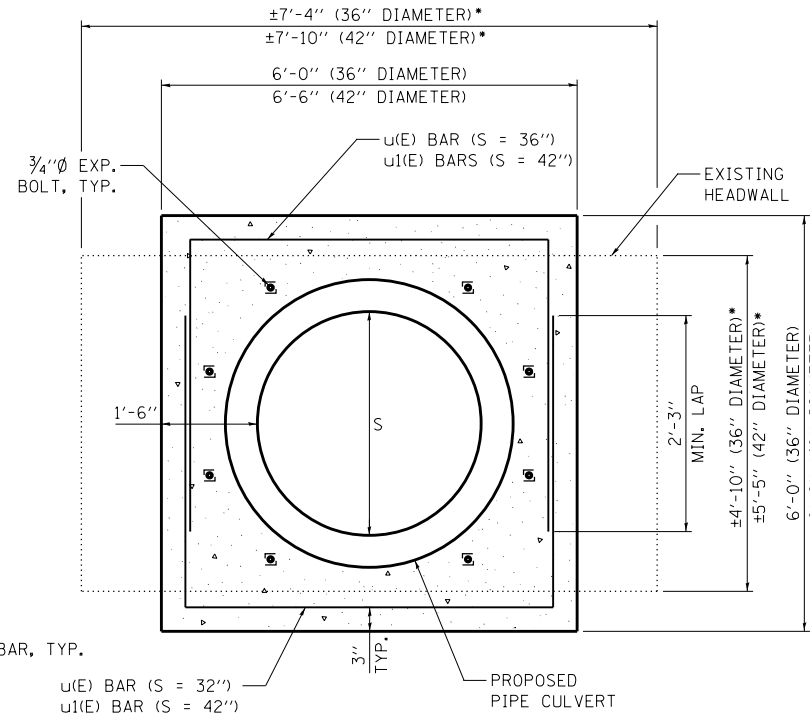
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HEADWALL DEMOLITION PLAN



PLAN



FRONT ELEVATION

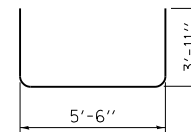
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BILL OF MATERIAL

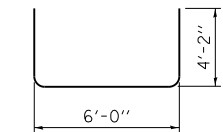
BAR	NO.	SIZE	LENGTH	SHAPE
u(E)	4	#4	7'-9"	U
u1(E)	4	#4	12'-3"	U
ITEM		UNIT	QUANTITY	
CONCRETE COLLAR		CU YD	2.0	
REINFORCEMENT BARS		POUND	80	
EXPANSION BOLTS		EACH	16	

CULVERT DIAMETER S (IN.)	LOCATION	OFFSET** (FT.)
36	STA. 3670+68.99	85.85 RT
42	STA. 3682+19.32	77.42 RT

** TO THE FRONT FACE OF EXISTING HEADWALL



u(E) BAR
FOR 36" PIPE CULVERT



u1(E) BAR
FOR 42" PIPE CULVERT

NOTES:

1. THE CONCRETE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "CONCRETE COLLAR". REINFORCEMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER POUND FOR "REINFORCEMENT BARS". EXPANSION BOLTS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "EXPANSION BOLTS" OF THE SIZE INDICATED, WHICH PRICE SHALL INCLUDE FURNISHING, DRILLING HOLES, AND INSTALLING THE EXPANSION BOLTS IN PLACE. THESE BOLTS SHALL EXTEND AT LEAST 8 INCHES INTO THE NEW CONCRETE.
2. THE COST OF HEADWALL REMOVAL IS INCLUDED ON DRAINAGE PLANS.
3. EXISTING CULVERT ENDS SHALL BE CHECKED PRIOR TO CONSTRUCTION TO INSURE THEY ARE IN GOOD CONDITION. ANY SPALLED CONCRETE OR EXPOSED REBAR SHALL BE REPAIRED PRIOR TO CONCRETE PIPE COLLAR BEING INSTALLED. THIS WORK SHALL BE PAID UNDER CONCRETE COLLAR.
4. FOR CULVERT LOCATION SEE ROADWAY PLANS USING THE STATIONS AND OFFSETS PROVIDED IN THE TABLE ABOVE.

LEGEND



HEADWALL REMOVAL

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ILLINOIS 60515

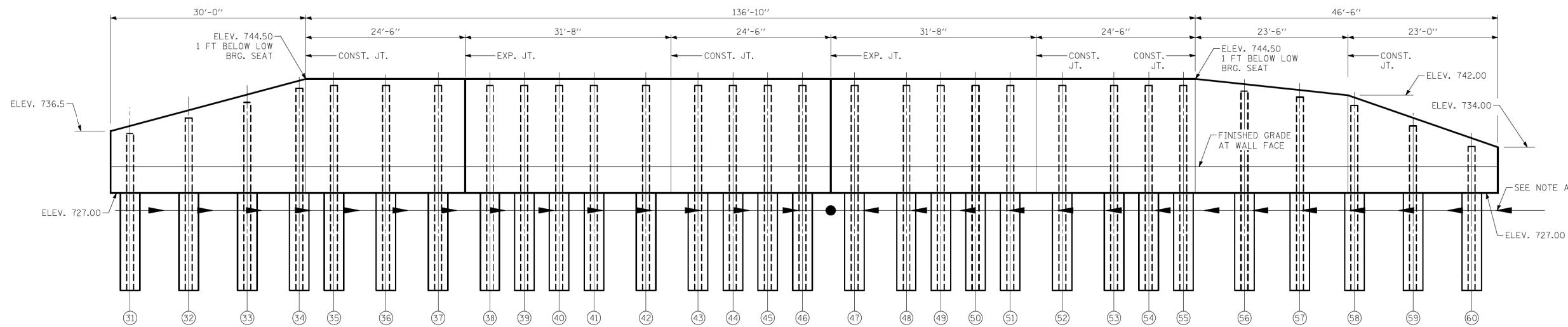
NO.		DATE	REVISIONS DESCRIPTION

CONTRACT NO. RR-17-4291
I-94 AT GRAND AVENUE
CULVERT
CONCRETE CULVERT COLLAR

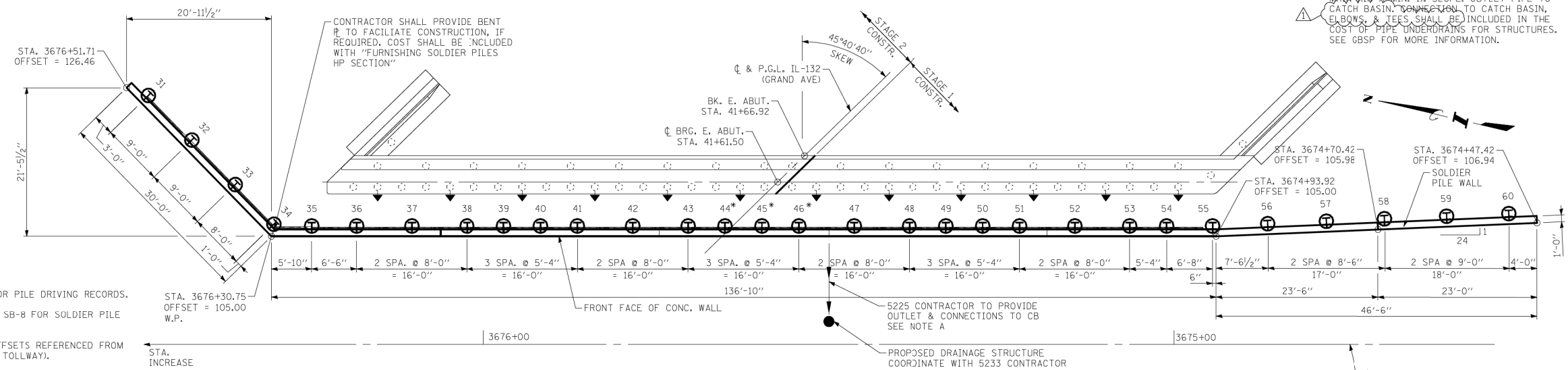
SHEET S-7 OF S-9

SHT NO. STU-7
DRAWING NO.
143 OF 228

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ELEVATION OF EAST SOLDIER PILE WALL



NOTES

- SEE SHEET SB-9 FOR PILE DRIVING RECORDS.
- SEE SHEET SB-7 & SB-8 FOR SOLDIER PILE WALL DETAILS.
- STATIONING AND OFFSETS REFERENCED FROM ϕ I-94 (TRI-STATE TOLLWAY).
- SOLDIER PILES SHOULD BE SPACED TO MISS EXISTING BATTERED PILES. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING PILES.
- CHAMFER EXPOSED EDGES $\frac{3}{4}$ ". STATION & OFFSETS ARE GIVEN FROM ϕ I-94 TO THEORETICAL CORNERS OF CONCRETE WALL.

PLAN - EAST SOLDIER PILE WALL LAYOUT

PILE SUMMARY

PILE NUMBER	STATION	OFFSET	PILE SIZE	LENGTH (FT.)	BOTTOM ELEVATION	TOP ELEVATION	PILE NUMBER	STATION	OFFSET	PILE SIZE	LENGTH (FT.)	BOTTOM ELEVATION	TOP ELEVATION	PILE NUMBER	STATION	OFFSET	PILE SIZE	LENGTH (FT.)	BOTTOM ELEVATION	TOP ELEVATION	
31	3676+48.55	125.36	HP14x89	24.12	712.00	736.12	42	3675+78.42	106.49	HP14x89	31.50	712.00	743.50	53	3675+06.42	106.49	HP14x89	31.50	712.00	743.50	
32	3676+42.26	118.92	HP14x89	26.52	712.00	738.52	43	3675+70.42	106.49	HP14x89	31.50	712.00	743.50	54	3675+01.09	106.49	HP14x89	31.50	712.00	743.50	
33	3676+35.97	112.48	HP14x89	28.92	712.00	740.92	44	3675+65.09	106.49	HP14x89	31.50	712.00	743.50	55	3674+94.44	106.49	HP14x89	31.50	712.00	743.50	
34	3676+30.38	106.76	HP14x89	31.06	712.00	743.06	45	3675+59.75	106.49	HP14x89	31.50	712.00	743.50	56	3674+86.47	106.82	HP14x89	30.64	712.00	742.64	
35	3676+24.92	106.49	HP14x89	31.50	712.00	743.50	46	3675+54.42	106.49	HP14x89	31.50	712.00	743.50	57	3674+77.97	107.18	HP14x89	29.73	712.00	741.73	
36	3676+18.42	106.49	HP14x89	31.50	712.00	743.50	47	3675+46.42	106.49	HP14x89	31.50	712.00	743.50	58	3674+69.48	107.53	HP14x89	28.41	712.00	740.41	
37	3676+10.42	106.49	HP14x89	31.50	712.00	743.50	48	3675+38.42	106.49	HP14x89	31.50	712.00	743.50	59	3674+60.49	107.90	HP14x89	25.28	712.00	737.28	
38	3676+02.42	106.49	HP14x89	31.50	712.00	743.50	49	3675+33.09	106.49	HP14x89	31.50	712.00	743.50	60	3674+51.50	108.28	HP14x89	22.15	712.00	734.15	
39	3675+97.09	106.49	HP14x89	31.50	712.00	743.50	50	3675+27.75	106.49	HP14x89	31.50	712.00	743.50								
40	3675+91.75	106.49	HP14x89	31.50	712.00	743.50	51	3675+22.42	106.49	HP14x89	31.50	712.00	743.50								
41	3675+86.42	106.49	HP14x89	31.50	712.00	743.50	52	3675+14.42	106.49	HP14x89	31.50	712.00	743.50								

SHEET SB-8 OF SB-46

DRAWN BY LAM DATE 04/03/2008
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REVISIONS		
NO.	DATE	DESCRIPTION
1	05/02/2008	ADDENDUM 1

CONTRACT NO. I-07-5225
 GRAND AVENUE OVER I-94
 B/N 431 (M.P. 69.8)
 EAST SOLDIER PILE WALL

DRAWING NO.
 201 OF 291

100% DESIGN SUBMITTAL

DRAWN BY PRH DATE 03/10/2017
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 I-94 AT GRAND AVENUE
 EAST RETAINING WALL
 EXISTING SOLDIER PILE WALL

SHT NO. STU-8
 DRAWING NO.
 144 OF 228

FOR INFORMATION ONLY

SHEET S-8 OF S-9

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ROUTE IL Route 132 (Grand Avenue) DESCRIPTION IL Route 132 (Grand Avenue) over Tri-State Tollway (I-94)
SECT. _____ STRUCT. NO. 431 DRILLED BY J. Martin
COUNTY Lake LOCATION E. Abuttment S. 16, TWP. 45 N, RNC. 11 E

Boring No.	Station	Offset	D	E	B	Qu	W	Surface Water Elev.	Groundwater Elev. when drilling	at Completion	after _____ Hrs.	D	E	B	Qu	W
<u>H-5</u>	<u>3675+34</u>	<u>123.7 ft. Right of Centerline</u>	P	T	L	tsf	%					H	S	O	tsf	%
ASPHALT PAVEMENT 750.5																
CONCRETE PAVEMENT 749.8																
Very Stiff, Brown SANDY CLAY 3 3.0 13																
trace - gravel 4 P																
FILL 748.0																
Very Stiff, Brown and Gray CLAY 5 3.5 12																
trace - gravel 5 P																
-5 7																
Mud Rotary below 30 feet																
6 3.1 12																
7 B																
8																
FILL 743.0																
Hard, Brown SANDY CLAY, trace - gravel 7 4.25 13																
9 P																
12																
Bottom of Pile Cap Elev: 742.66 740.5																
FILL																
Very Stiff to Hard, Brown and Gray CLAY 7 5.2 12																
trace - gravel 11 B																
12																
7 3.6 14																
8 B																
9																
-15																
FILL 735.5																
Very Stiff, Brown SANDY CLAY 7 3.25 11																
trace - gravel 9 P																
11																
FILL 733.0																
Very Stiff, Brown and Gray CLAY 5 3.5 19																
trace - gravel 9 B																
9																
-20																
APPROX. B/FACTING LAS SOLL P = WAL																
7 2.6 15																
9 B																
13																
3 3.1 13																
9 B																
12																
-25																

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test Stations, Depths, Offset, and Elevations are in Feet



STRUCTURE NO. 431
ROUTE IL Route 132 (Grand Avenue)
SECTION _____
COUNTY Lake

Boring No.	Station	Offset	D	E	B	Qu	W	Surface Elev.	D	E	B	Qu	W
<u>H-5</u>	<u>3675+34</u>	<u>123.7 ft. Right of Centerline</u>	P	T	L	tsf	%	<u>751.00 ft</u>	H	S	O	tsf	%
Dense, Gray SANDY CLAY LOAM 674.0													
trace - gravel 7 1.6 17													
8 B													
25													
-80													
669.0													
Stiff, Gray SILTY CLAY little - gravel													
7 1.9 18													
9 B													
12													
-60													
664.0													
Medium Dense, Gray SANDY CLAY LOAM little - gravel													
9 2.3 12													
20 B													
21													
-65													
661.0													
END OF BORING													
-90													
8 2.6 14													
10 B													
15													
-70													
5 2.6 14													
11 B													
15													
-75													

BORING H-5

SHEET SB-46 OF SB-46

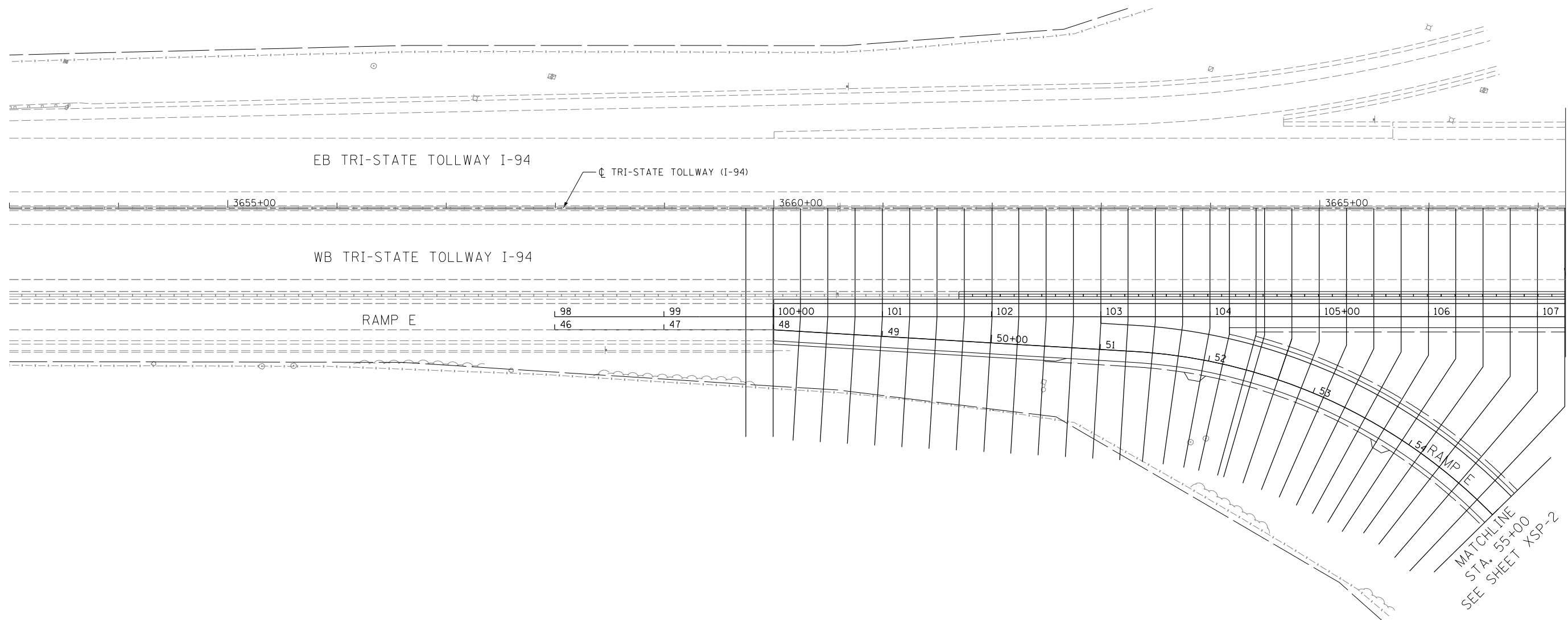
DRAWN BY <u>LAM</u>	DATE <u>04/03/2008</u>	BOWMAN, BARRETT & ASSOCIATES INC. CONSULTING ENGINEERS Chicago, Illinois 312.228.0100 www.bbandainc.com		THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY 2700 OGDEN AVENUE DOWNERS GROVE, ILLINOIS 60515	NO. _____ DATE _____ REVISIONS DESCRIPTION	CONTRACT NO. <u>I-07-5225</u> GRAND AVENUE OVER I-94 B/N 431 (M.P. 69.8) SOIL BORING LOGS 5	DRAWING NO. <u>239</u> OF <u>291</u>
CHECKED BY <u>BLU</u>	DATE <u>04/03/2008</u>						

100% DESIGN SUBMITTAL

DRAWN BY <u>PRH</u>	DATE <u>03/10/2017</u>	COLLINS ENGINEERS 123 N. Wacker Dr. Suite 800 Chicago, IL 60606 Tel: (312) 704-3500 Fax: (312) 704-3520 www.collins-engineers.com		THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY 2700 OGDEN AVENUE DOWNERS GROVE, ILLINOIS 60515	NO. _____ DATE _____ REVISIONS DESCRIPTION	CONTRACT NO. <u>RR-17-4291</u> I-94 AT GRAND AVENUE EAST RETAINING WALL SOIL BORING LOGS	SHT NO. <u>STU-9</u> DRAWING NO. <u>145</u> OF <u>228</u>
CHECKED BY <u>AK</u>	DATE <u>03/10/2017</u>						

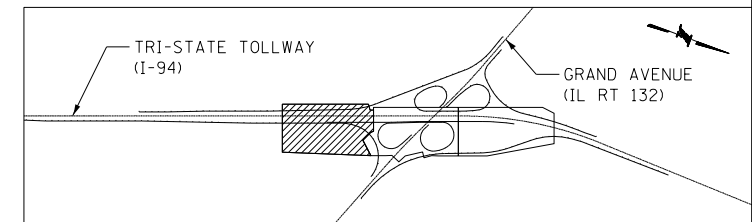
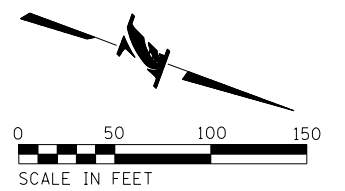
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C:\Users\jmartin\Documents\Projects\RR-17-4291\Drawings\5892-sht-boring-009.dgn



MATCHLINE STA. 3667+25
SEE SHEET XSP-2

MATCHLINE STA. 55+00
SEE SHEET XSP-2



I:\14225\02\04\CADD\CADD_Sheets\5703_2-plt-XSP-1.dgn

DRAWN BY LLS DATE 03/23/2017
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DATE

CONTRACT NO. RR-17-4291 SHT NO. XSP-1
CROSS SECTION KEY PLAN DRAWING NO. 146 OF 228

MATCHLINE STA. 3667+25
SEE SHEET XSP-1

MATCHLINE STA. 3680+50
SEE SHEET XSP-3

EB TRI-STATE TOLLWAY I-94

WB TRI-STATE TOLLWAY I-94

TRI-STATE TOLLWAY (I-94)

MATCHLINE
STA. 55+00
SEE SHEET XSP-1

RAMP A

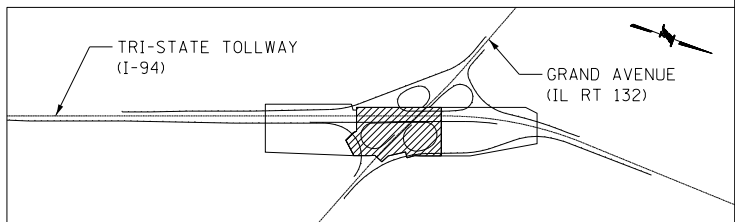
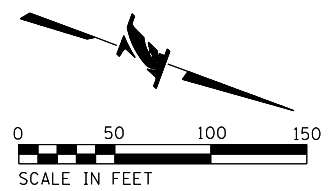
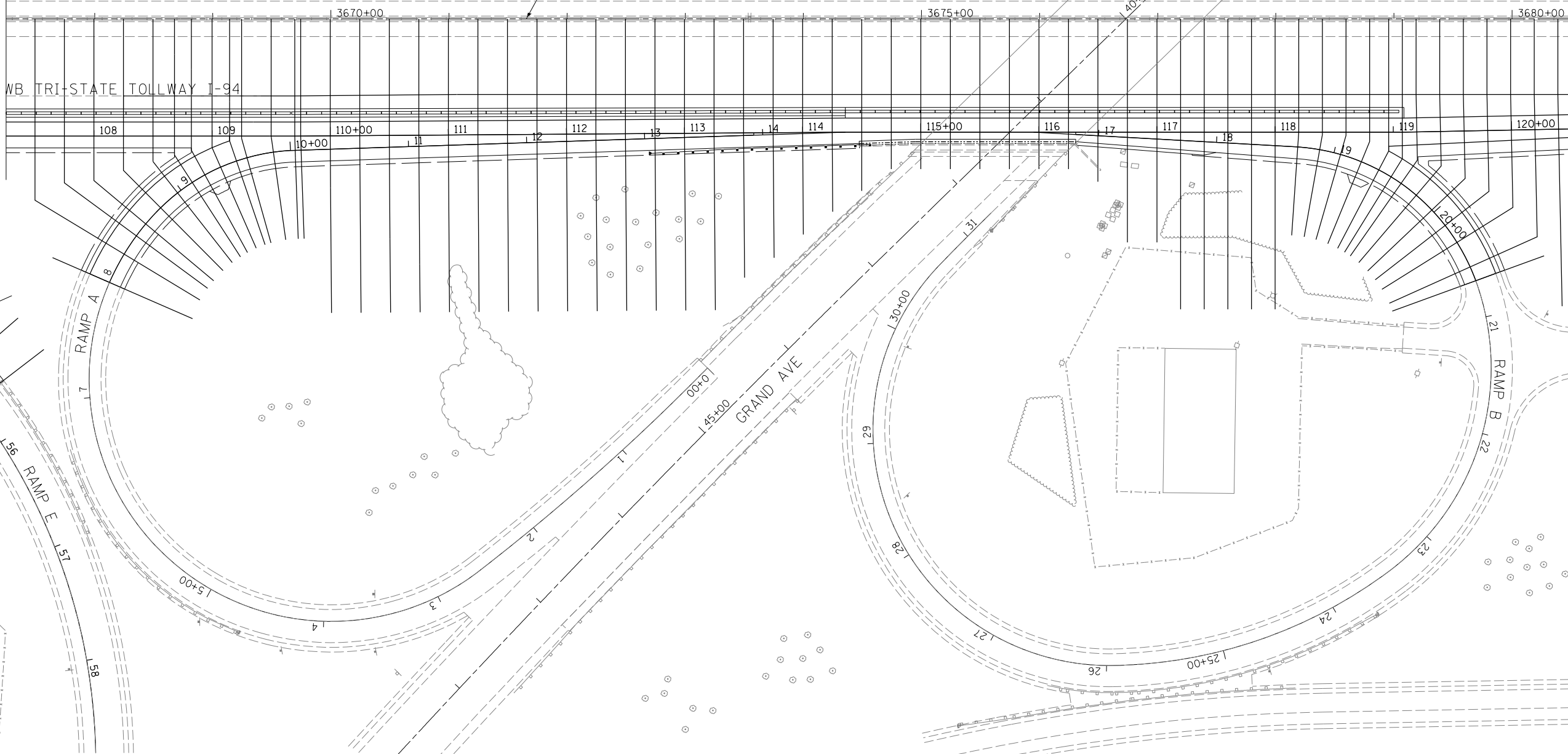
RAMP B

RAMP C

RAMP D

RAMP E

GRAND AVE



DRAWN BY LLS DATE 03/23/2017
CHECKED BY VO DATE 03/23/2017



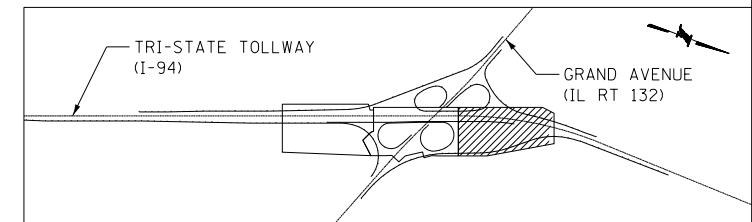
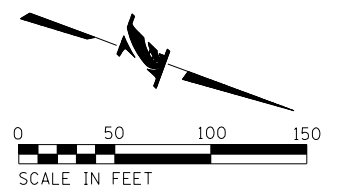
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

NO.		DATE		REVISIONS DESCRIPTION	

CONTRACT NO. RR-17-4291 SHT NO. XSP-2
CROSS SECTION KEY PLAN DRAWING NO. 147 OF 228

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MATCHLINE STA. 3680+50
SEE SHEET XSP-2



I:\14225\02\04_CADD\CADD_Sheets\5703_2-plt-XSP-3.dgn

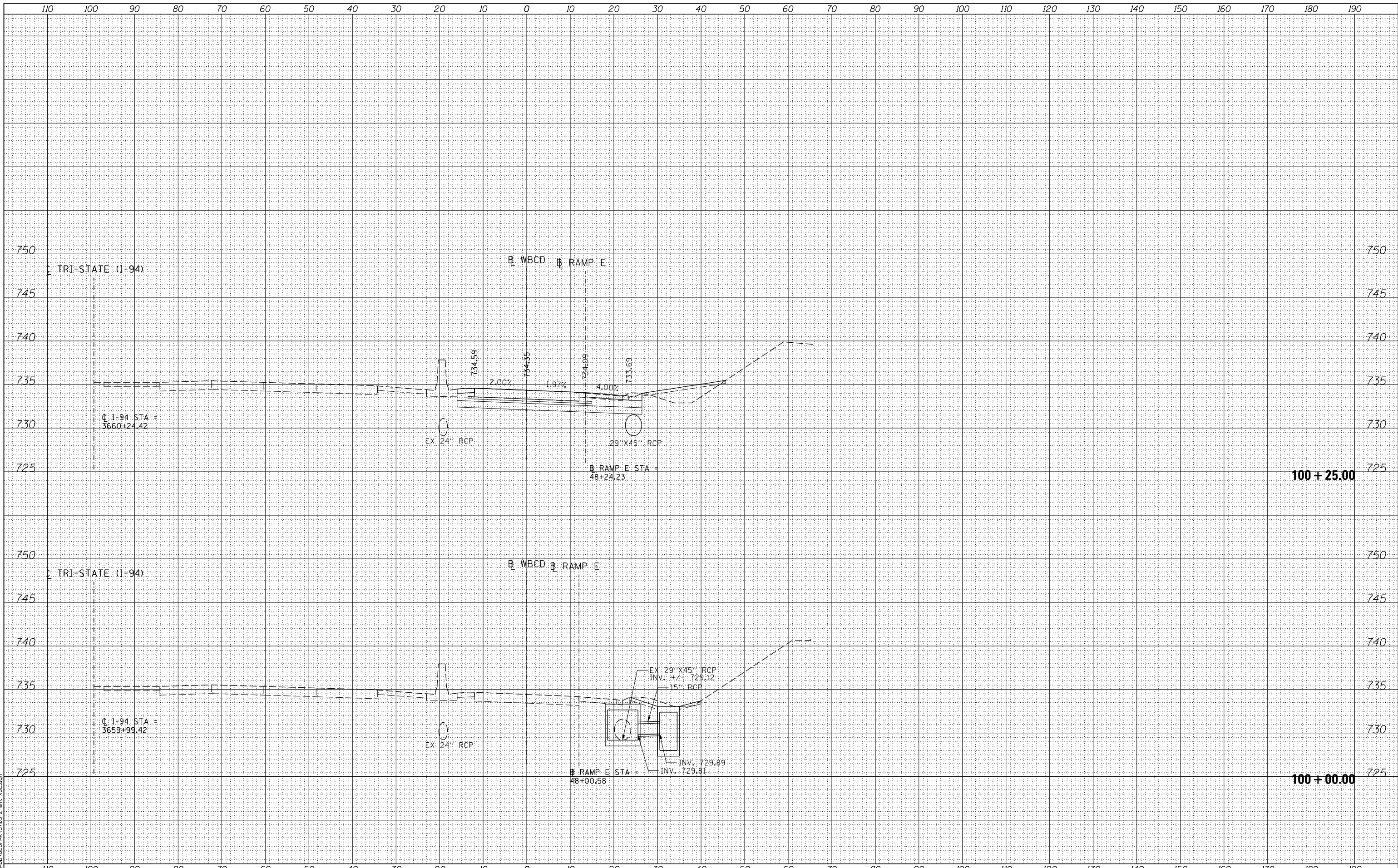
DRAWN BY LLS DATE 03/23/2017
CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
2700 OGDEN AVENUE
DOWNERS GROVE,
ILLINOIS 60515

REVISIONS	
NO.	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSP-3
CROSS SECTION KEY PLAN DRAWING NO. 148 OF 228



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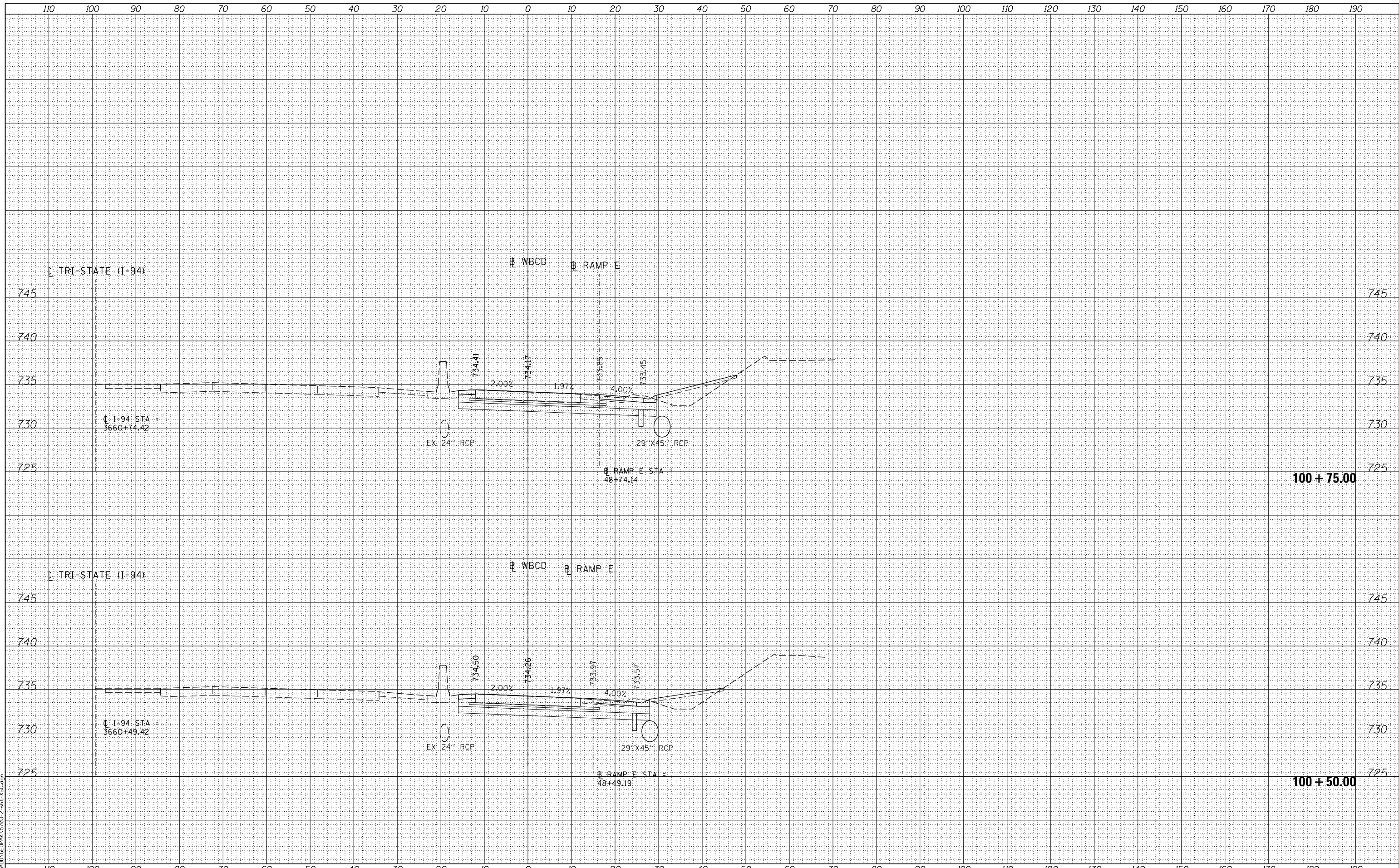
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-1
 DRAWING NO. 149 OF 228



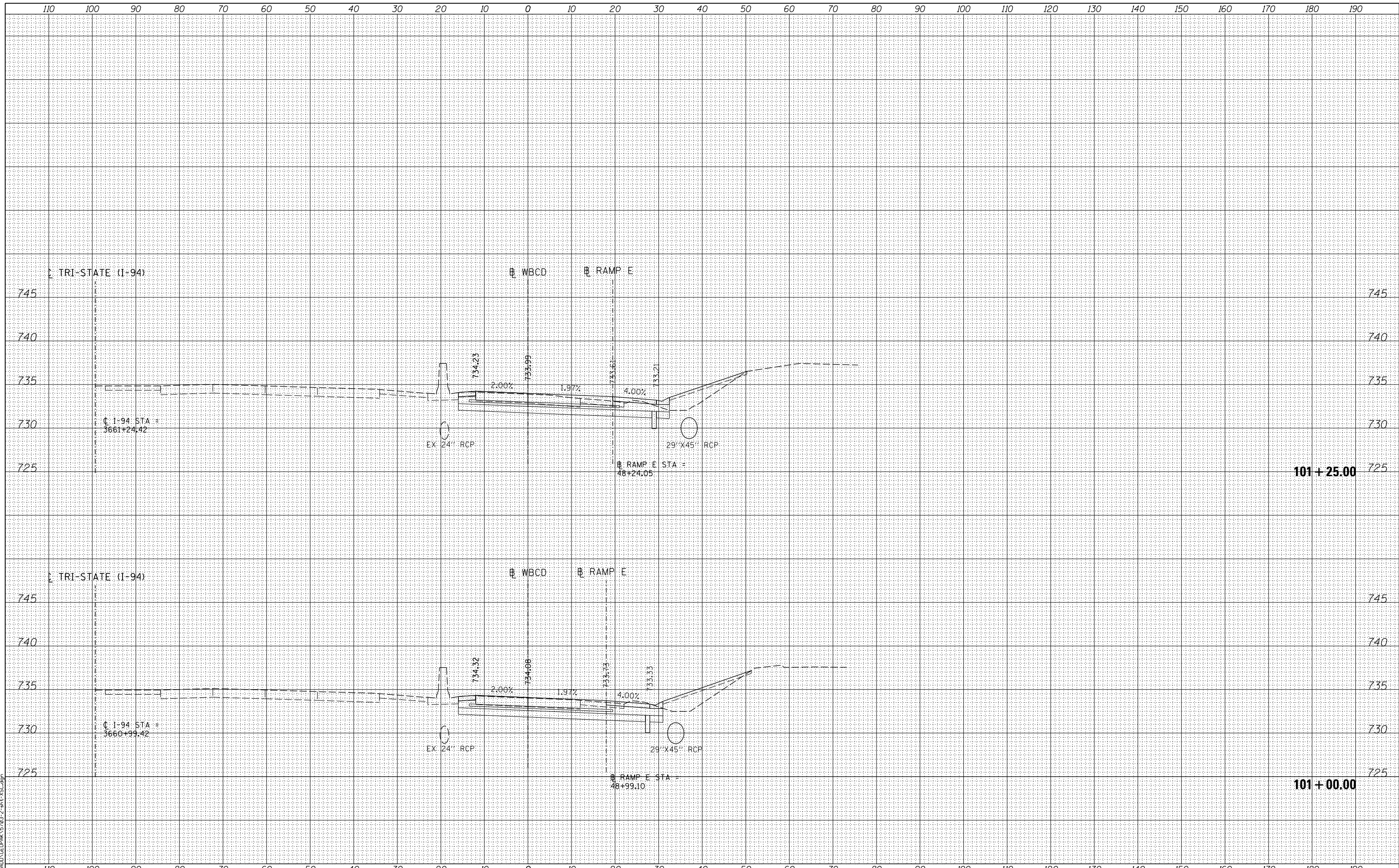
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-2
 CROSS SECTIONS DRAWING NO. 150 OF 228

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 CHECKED BY VO DATE 03/23/2017

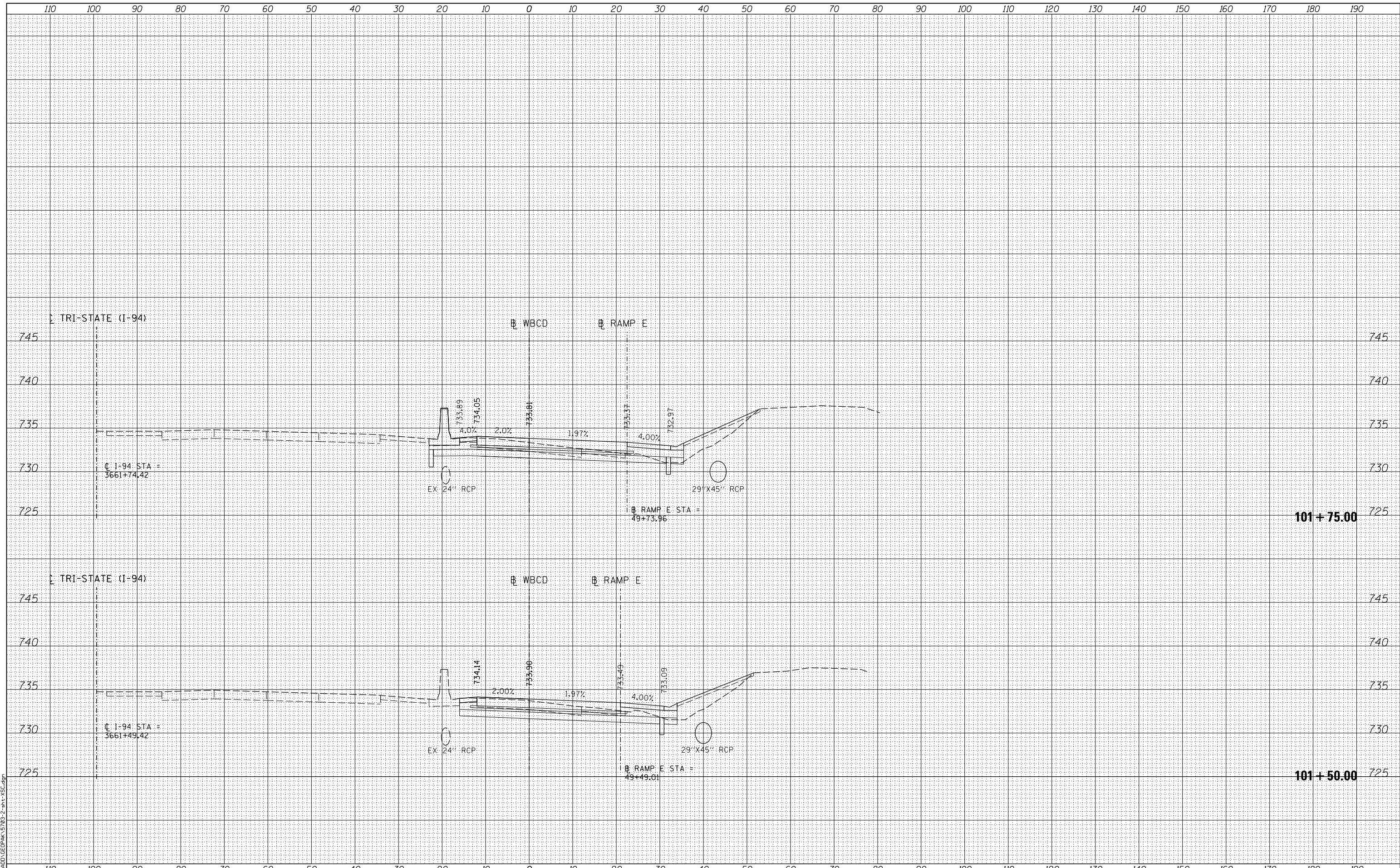


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-3
 DRAWING NO.
 151 OF 228

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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



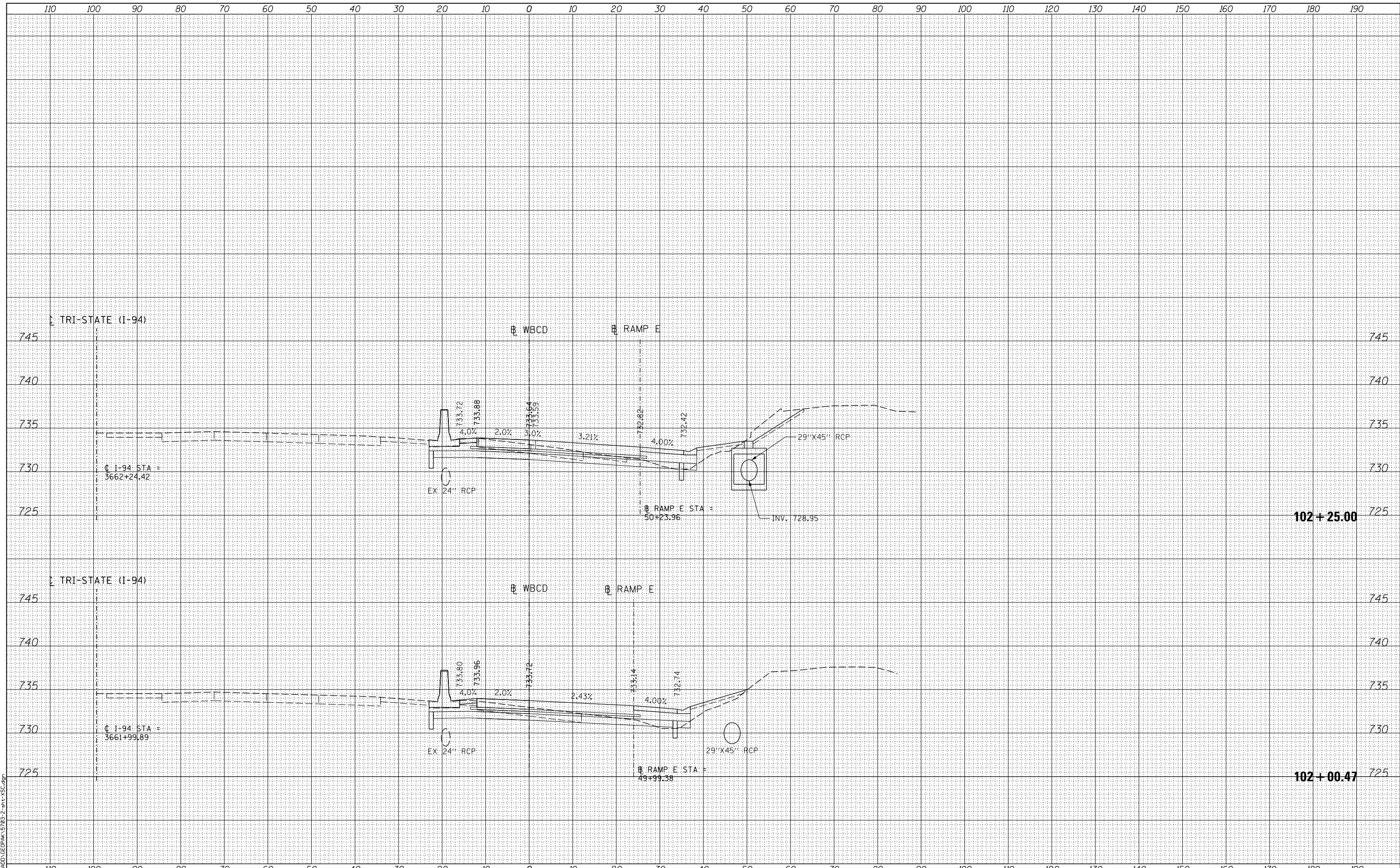
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-4
 DRAWING NO.
 152 OF 228

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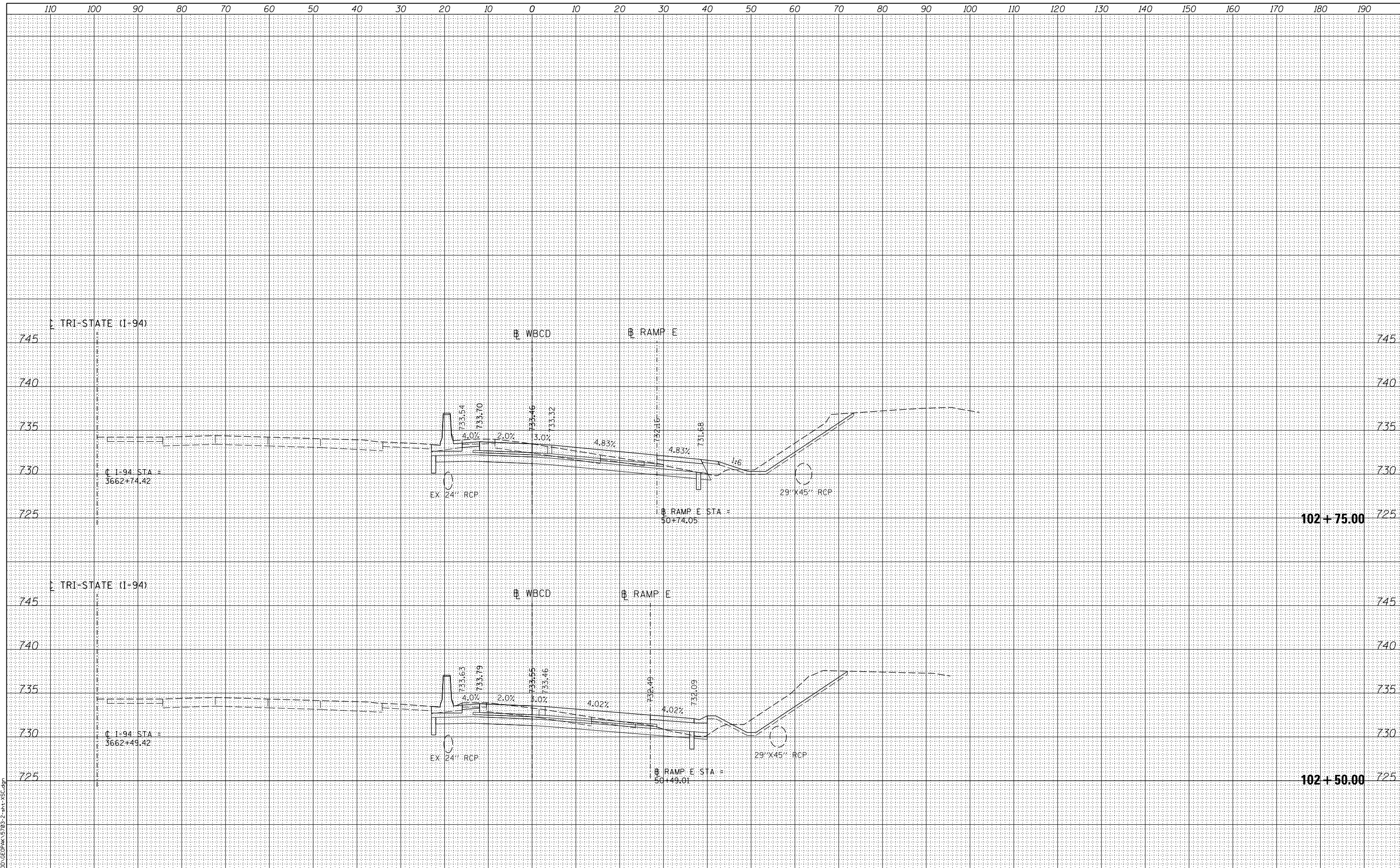
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-5
 DRAWING NO. 153 OF 228



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 CHECKED BY VO DATE 03/23/2017



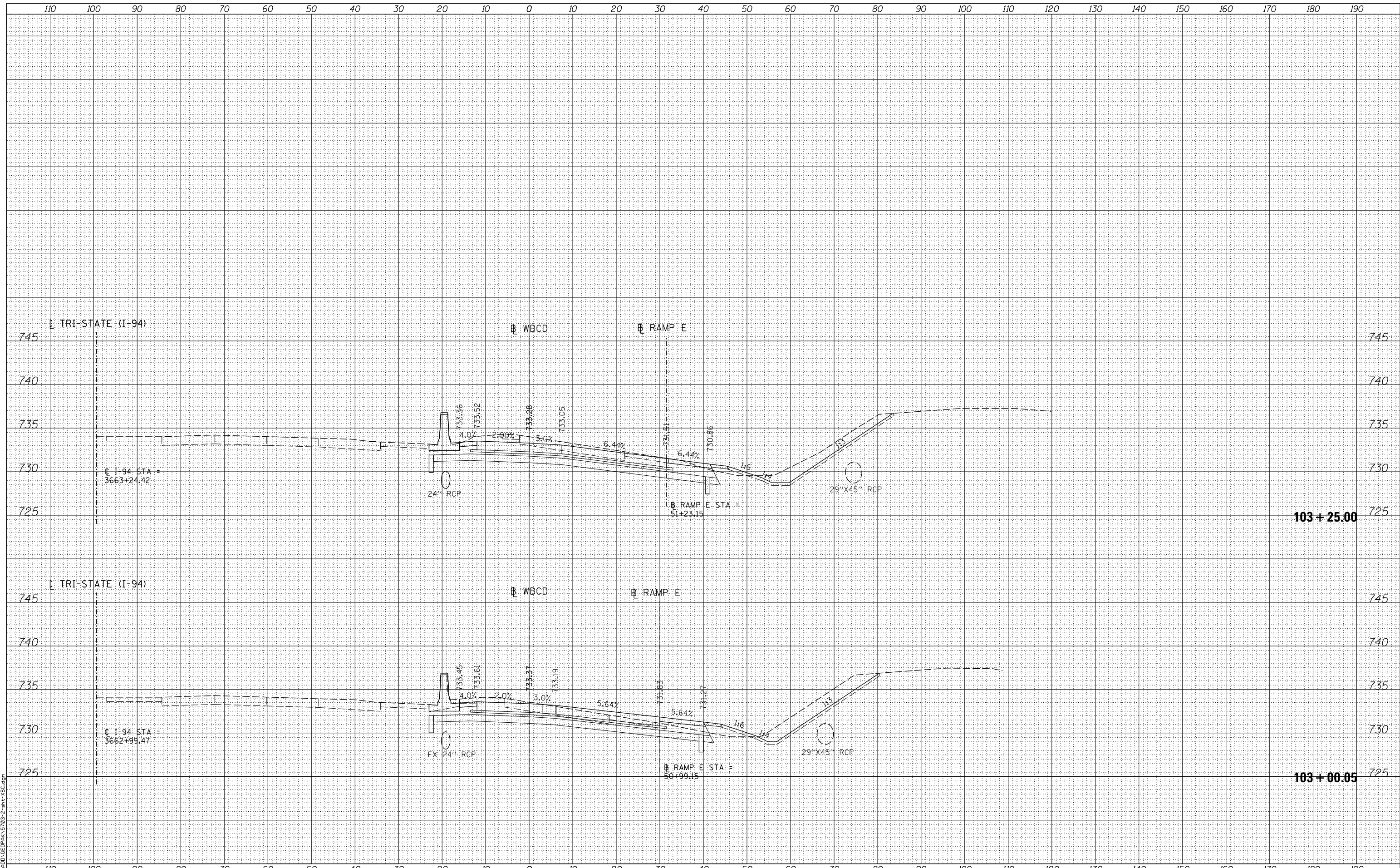
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-6
 DRAWING NO.
 154 OF 228

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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

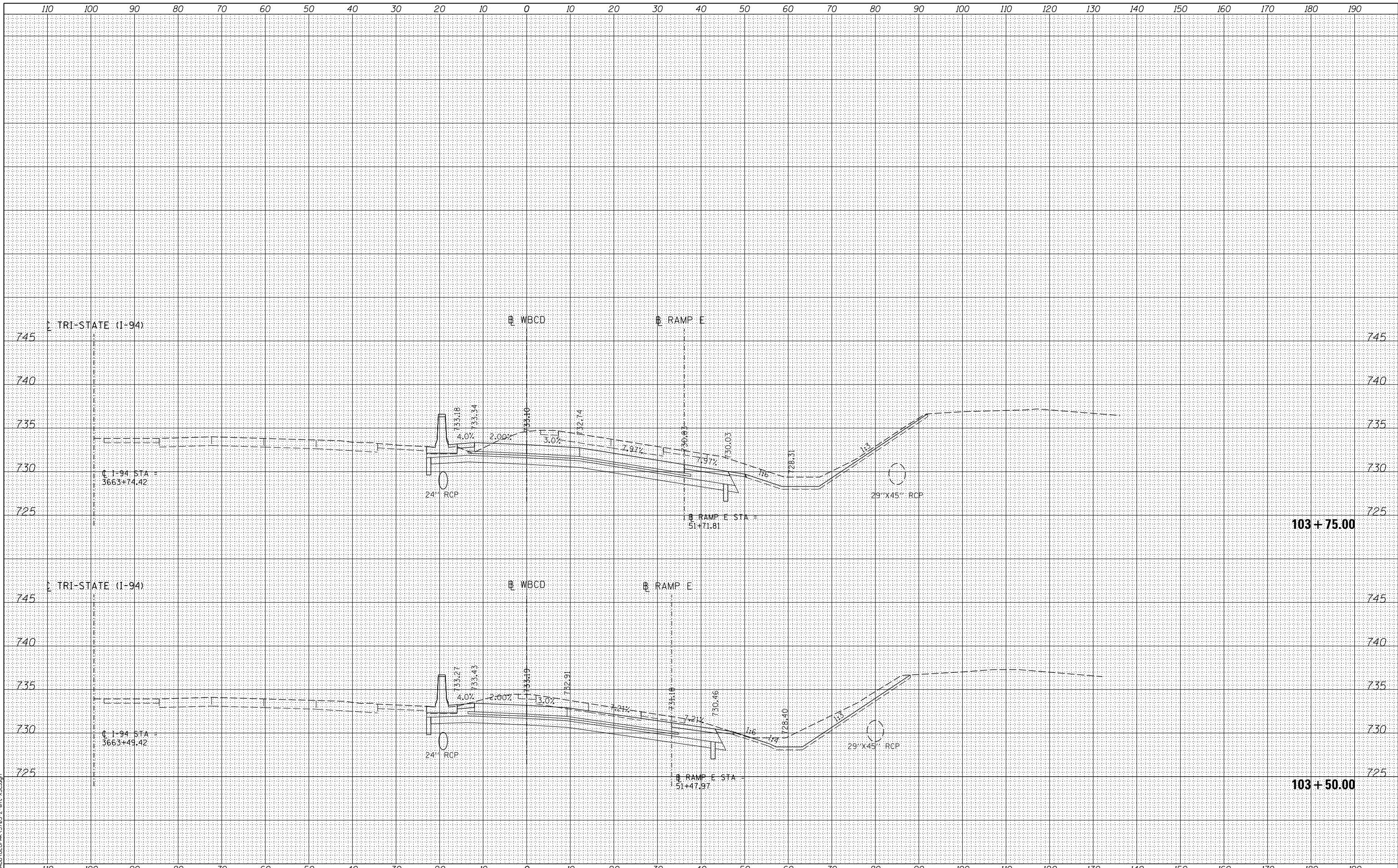


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-7
 DRAWING NO.
 155 OF 228



DRAWN BY LLS DATE 03/23/2017
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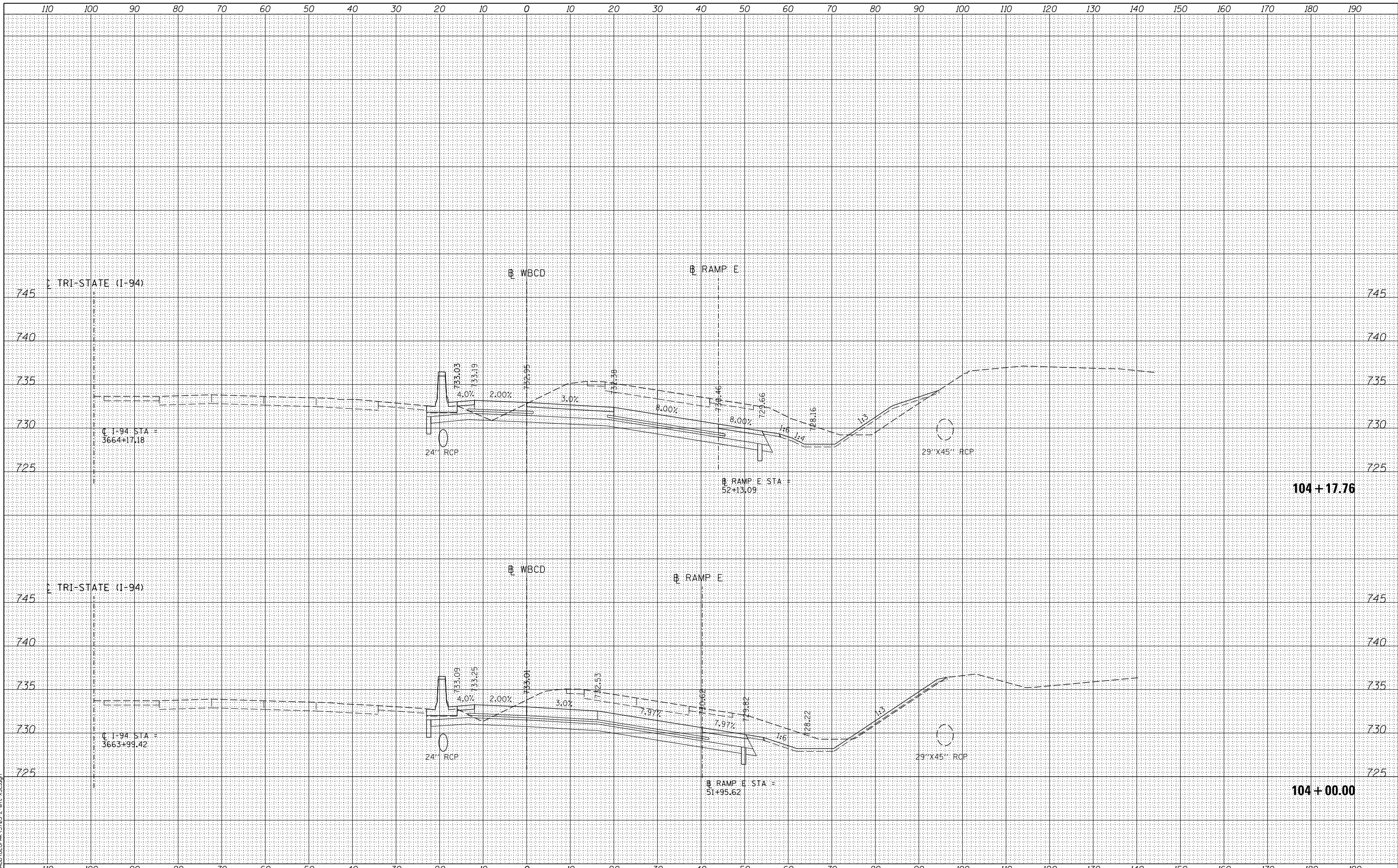


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

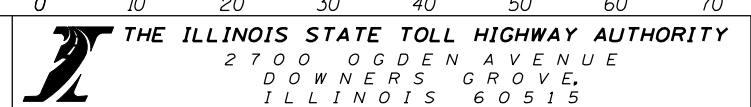
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-8
 CROSS SECTIONS DRAWING NO. 156 OF 228

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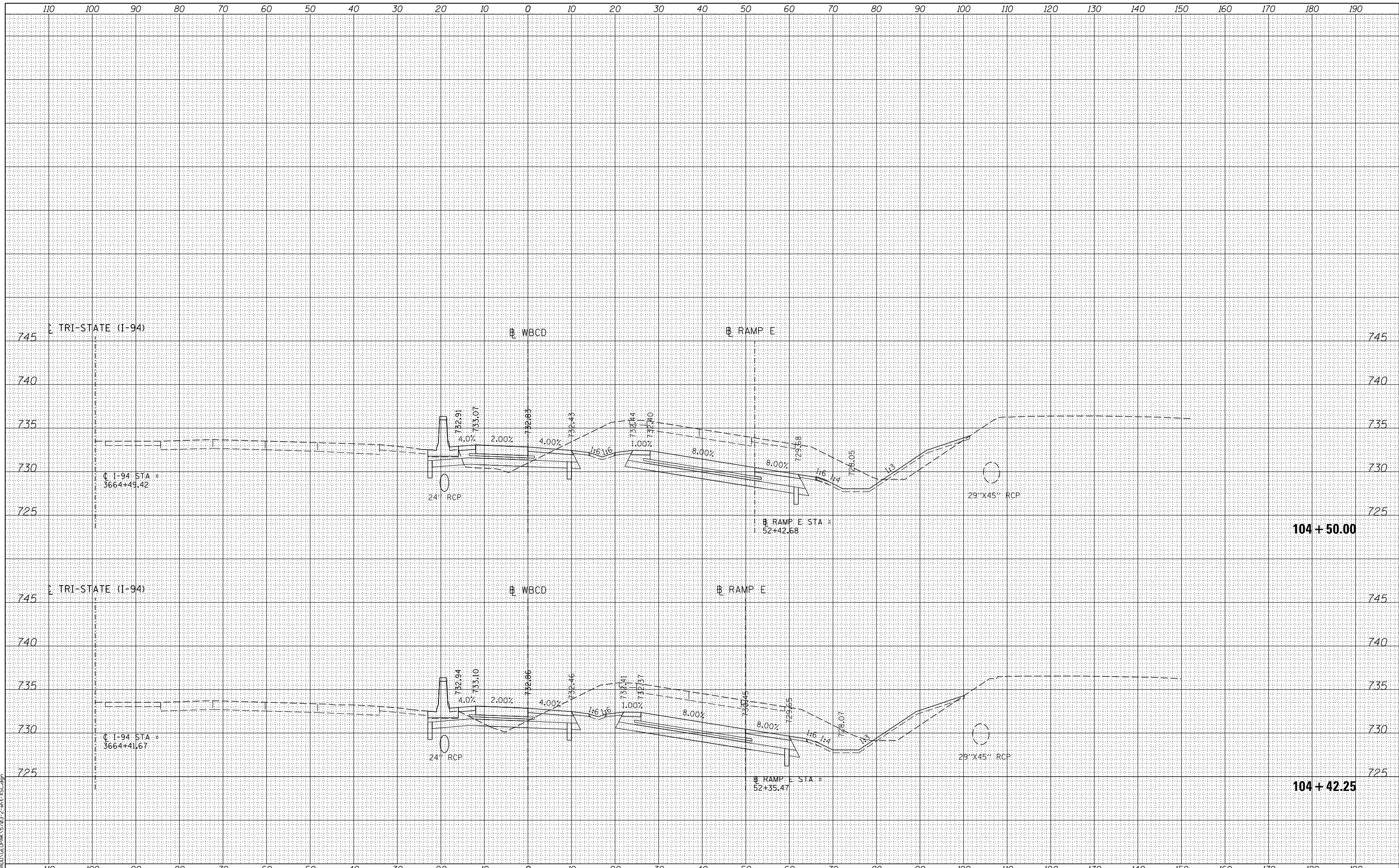
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 CHECKED BY VO DATE 03/23/2017



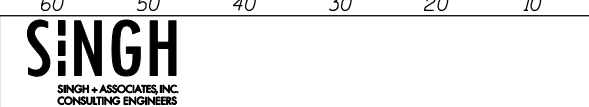
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS
 SHT NO. XSC-9
 DRAWING NO. 157 OF 228

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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

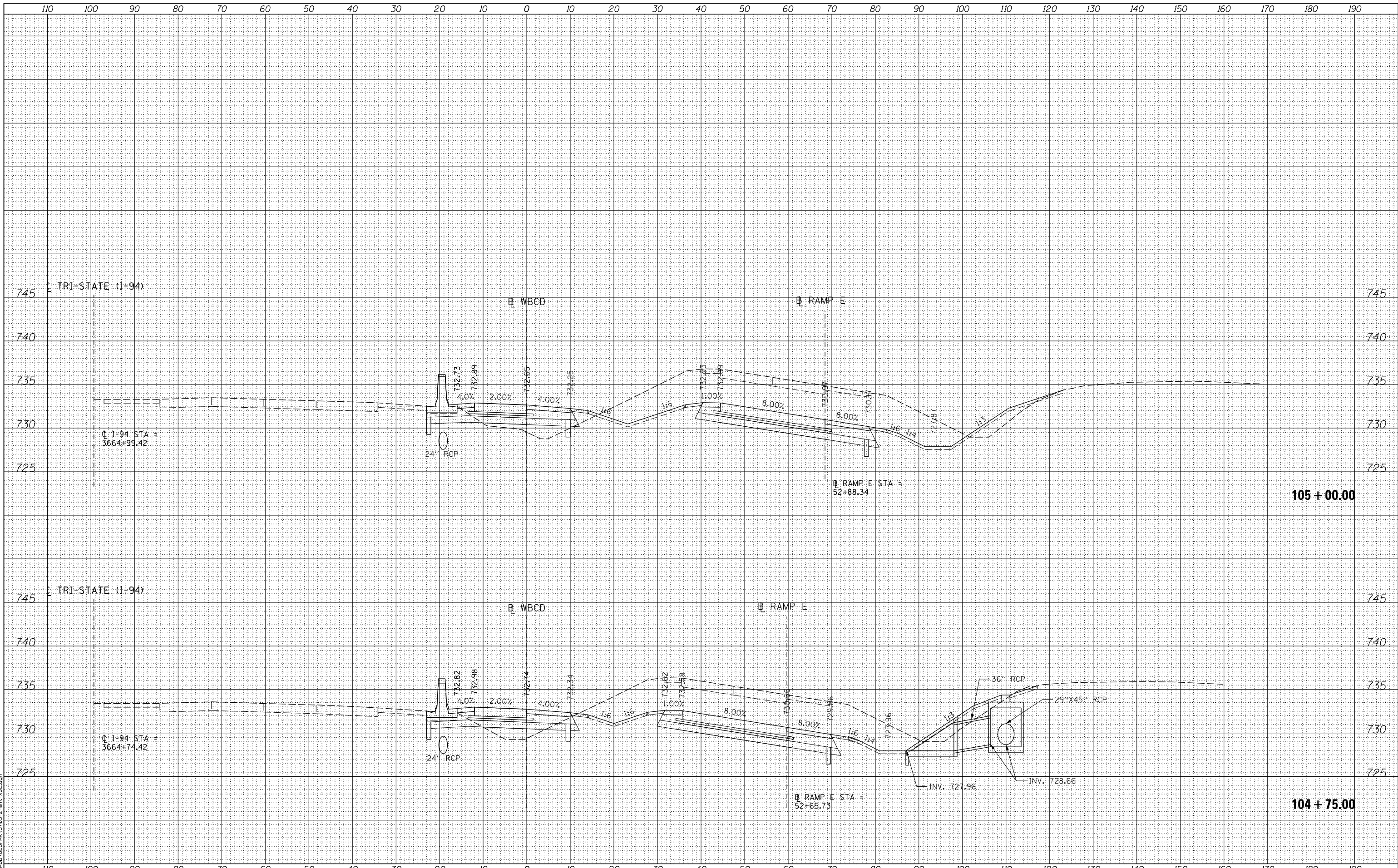


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS
 SHT NO. XSC-10
 DRAWING NO. 158 OF 228

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105 + 00.00

104 + 75.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

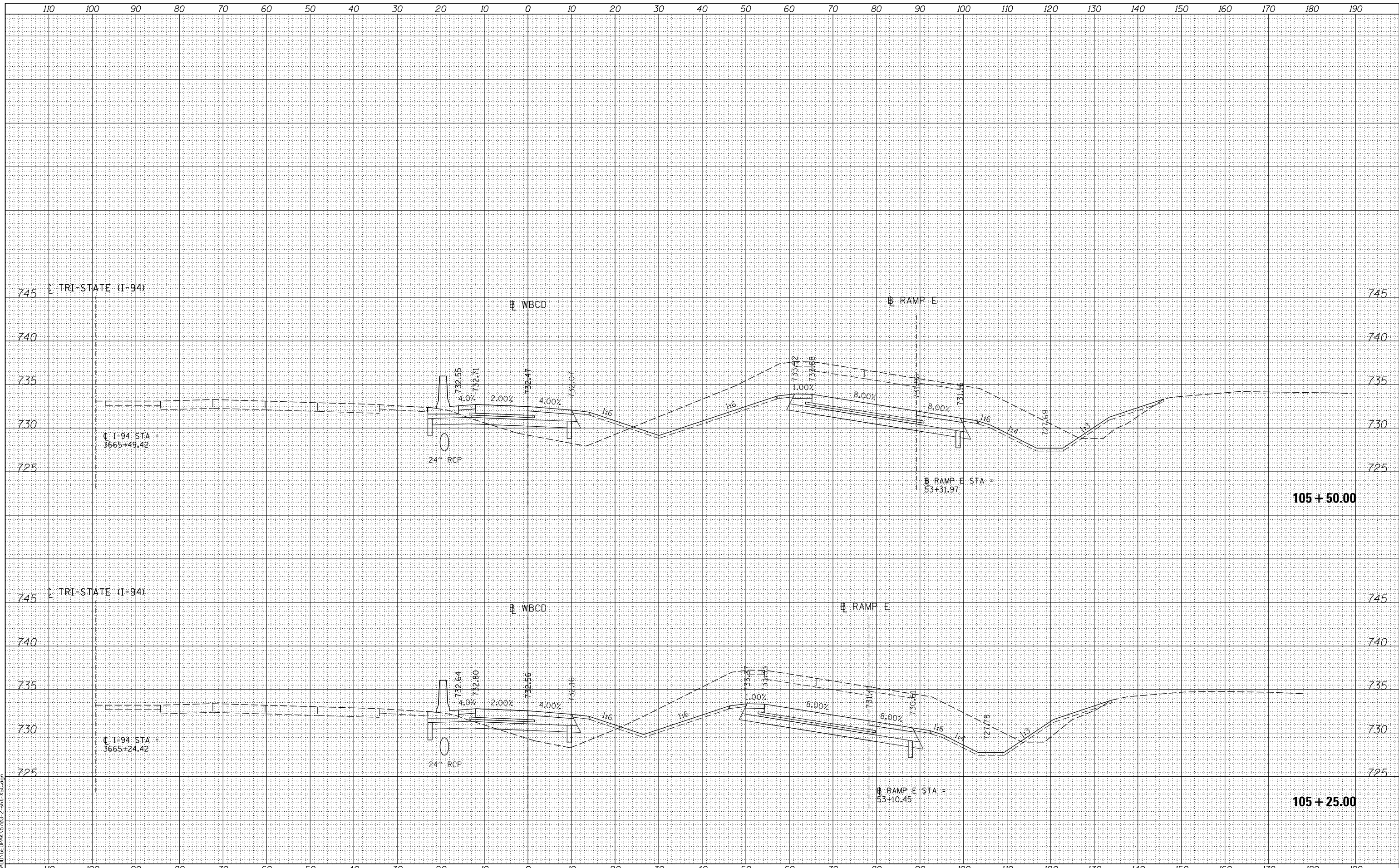
CONTRACT NO. RR-17-4291

CROSS SECTIONS

SHT NO. XSC-11

DRAWING NO. 159 OF 228

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105 + 50.00

105 + 25.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

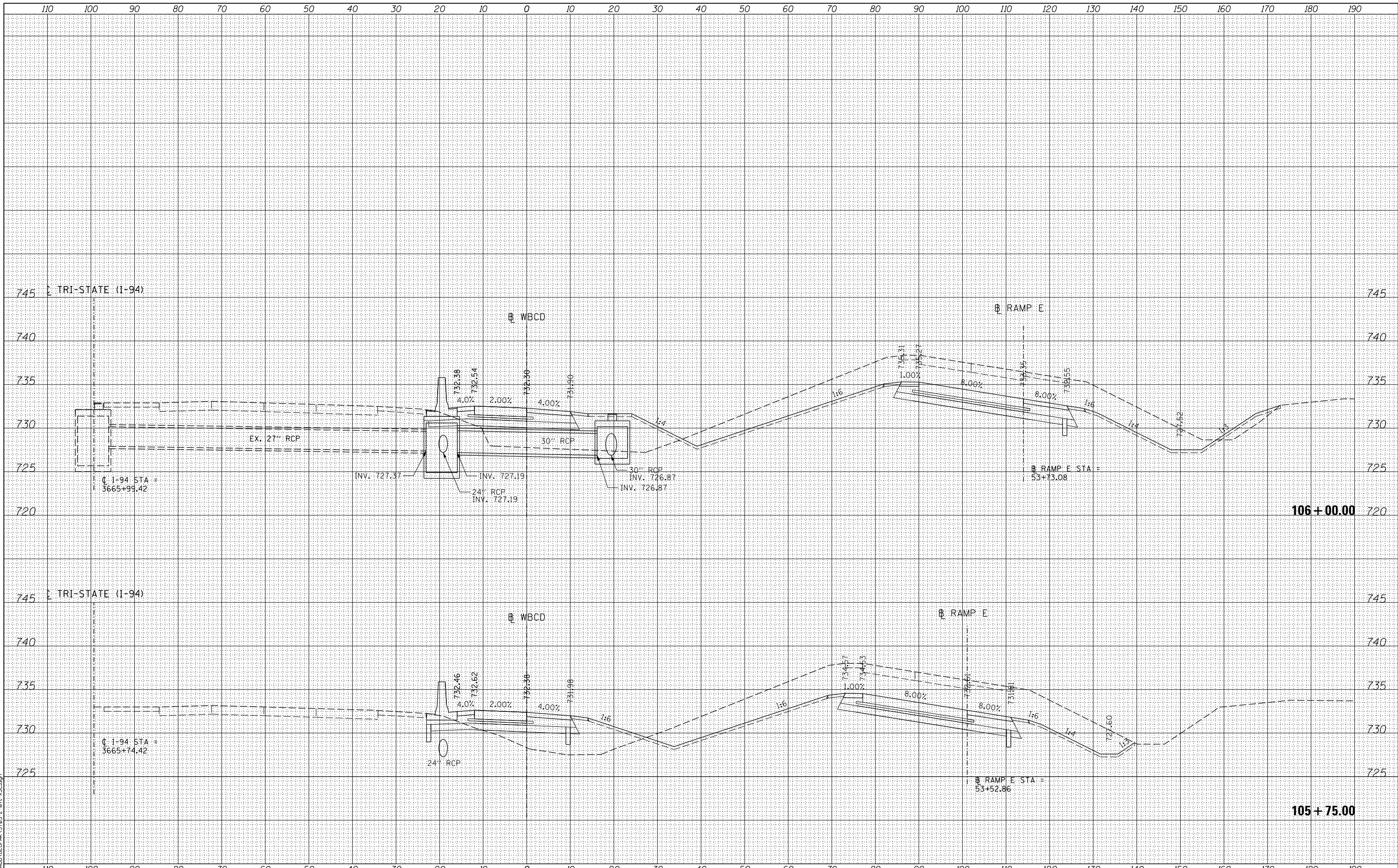


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-12
 DRAWING NO.
 160 OF 228

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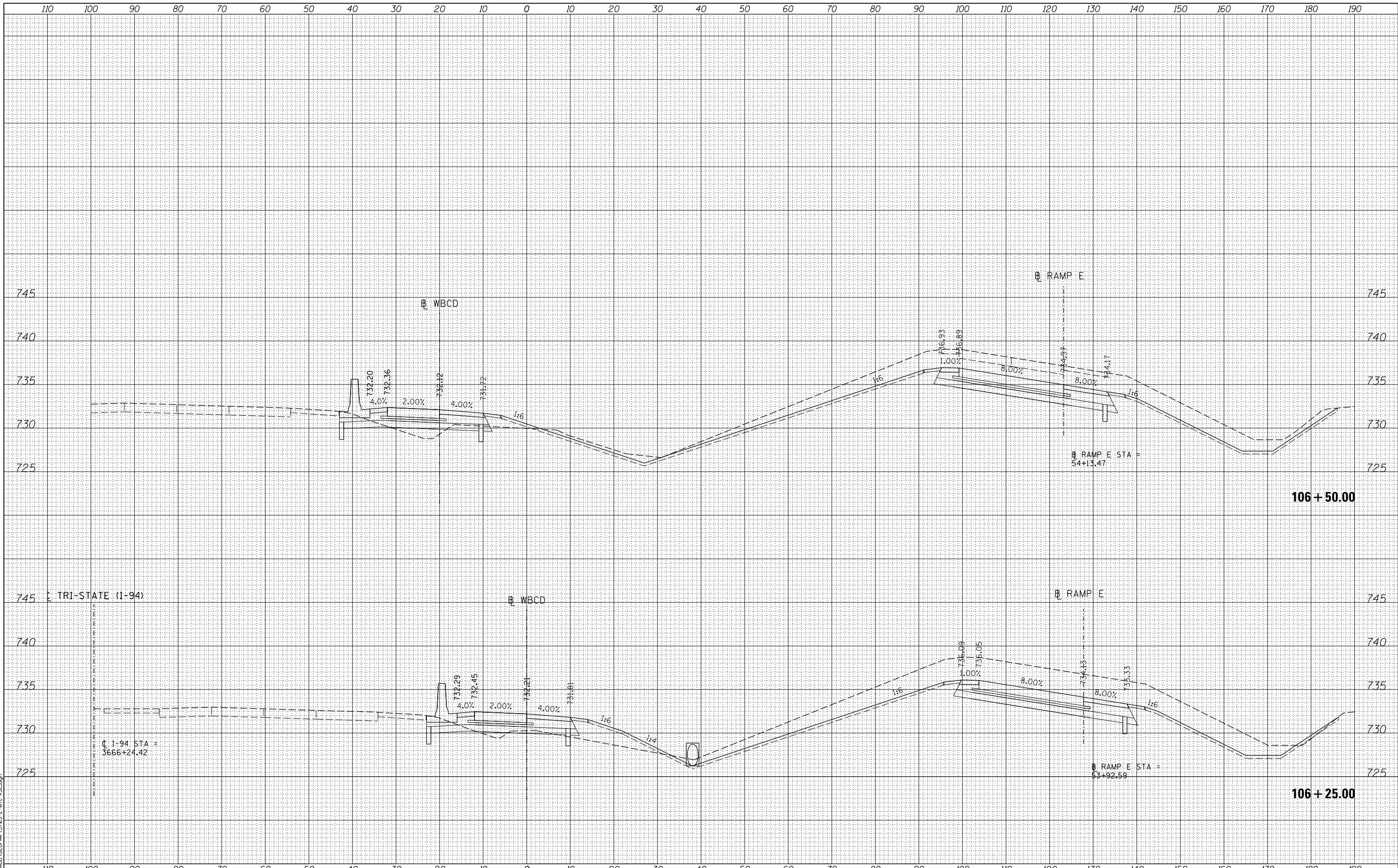
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-13
 CROSS SECTIONS DRAWING NO. 161 OF 228

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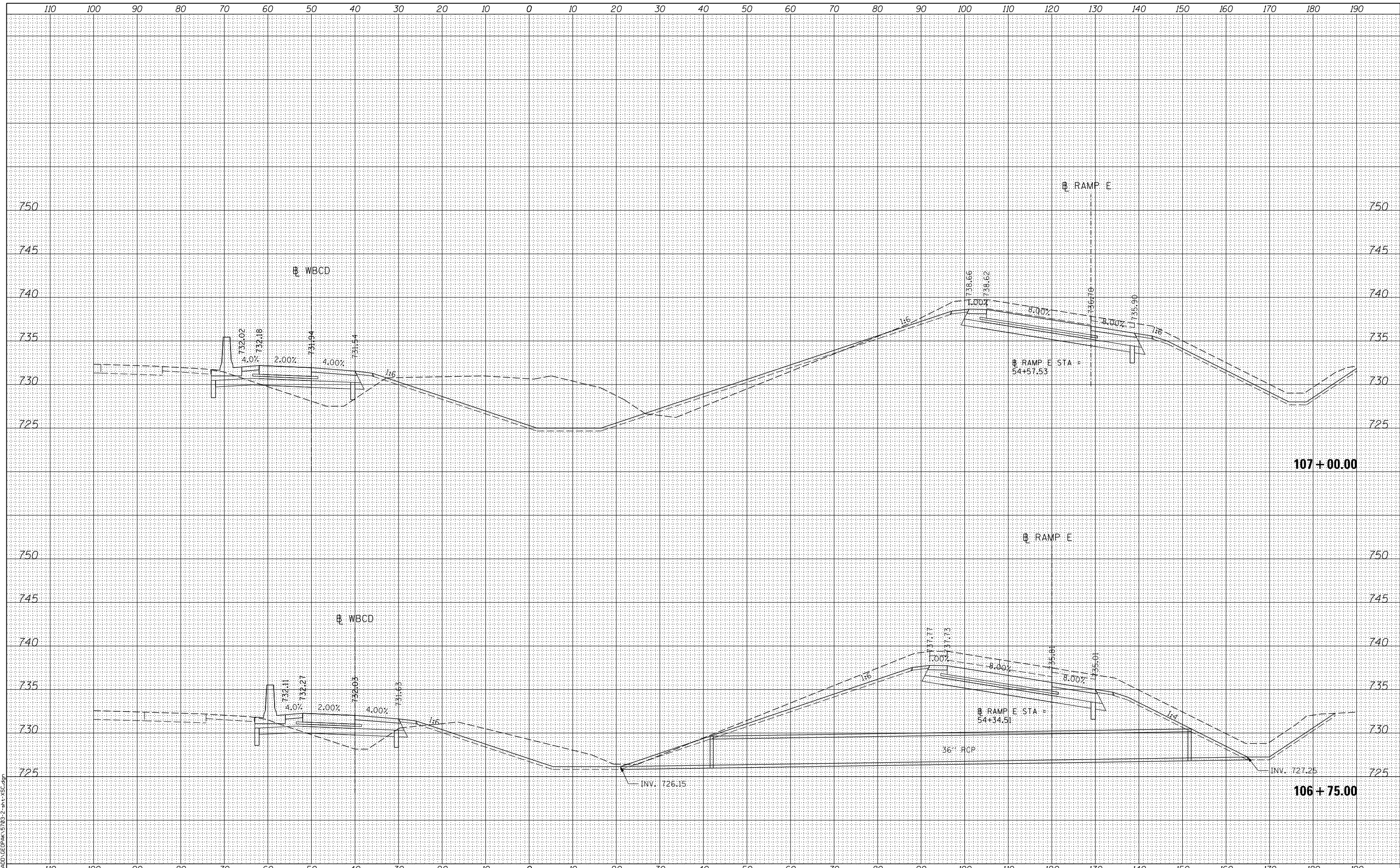
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-14
 CROSS SECTIONS DRAWING NO. 162 OF 228



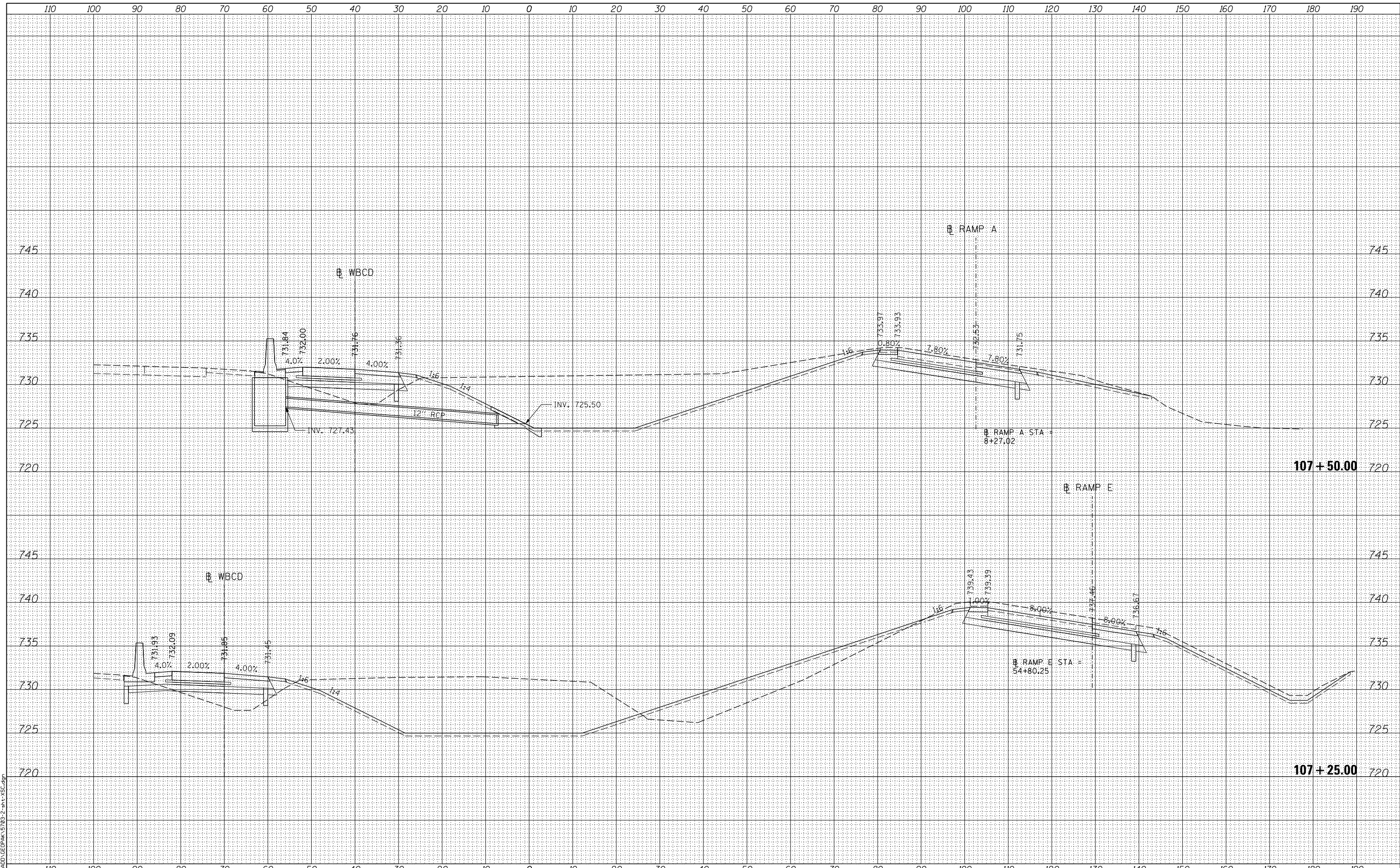
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

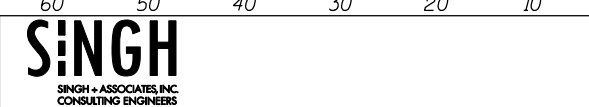


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-15
 CROSS SECTIONS DRAWING NO. 163 OF 228



DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

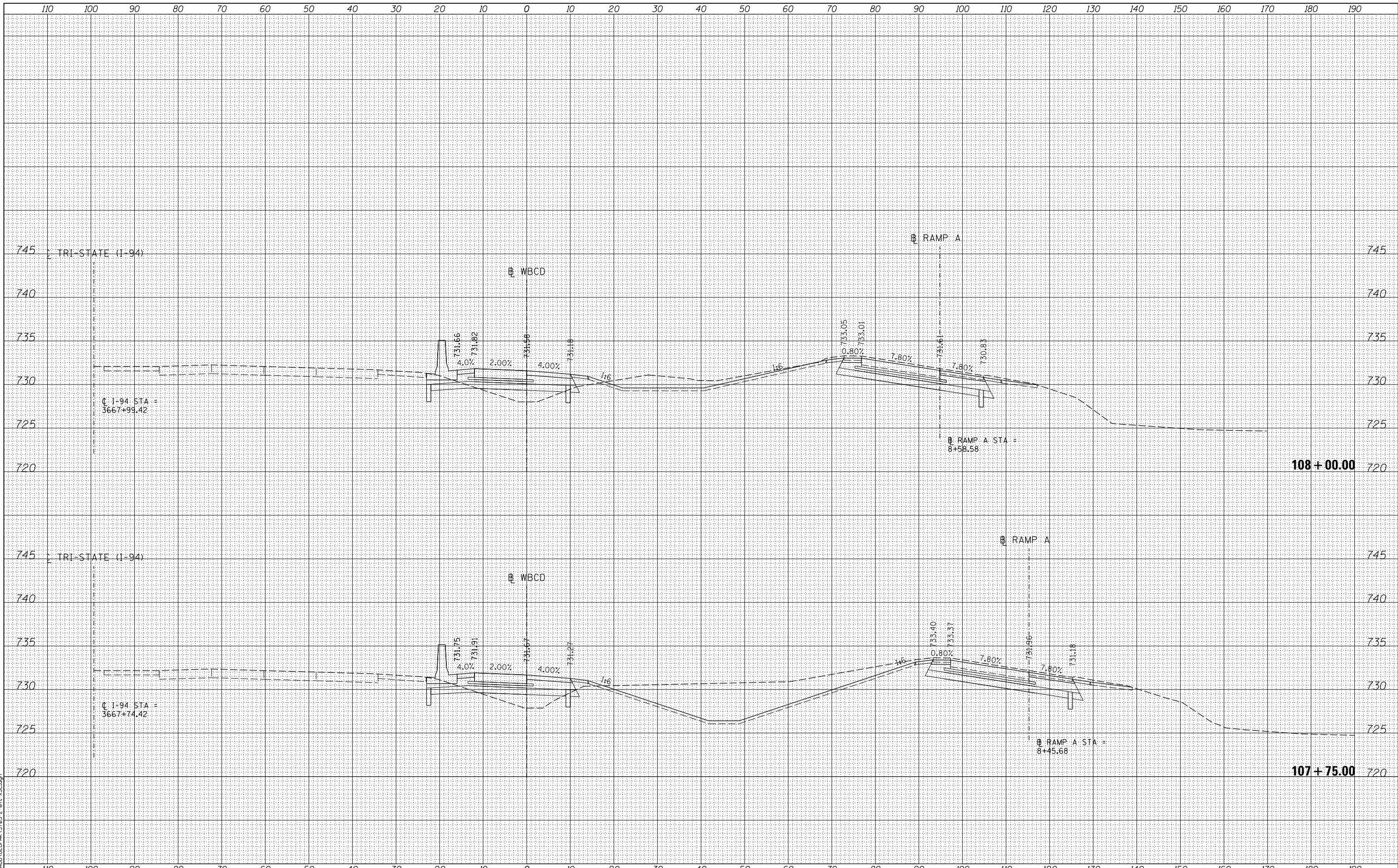


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-16
 CROSS SECTIONS DRAWING NO. 164 OF 228

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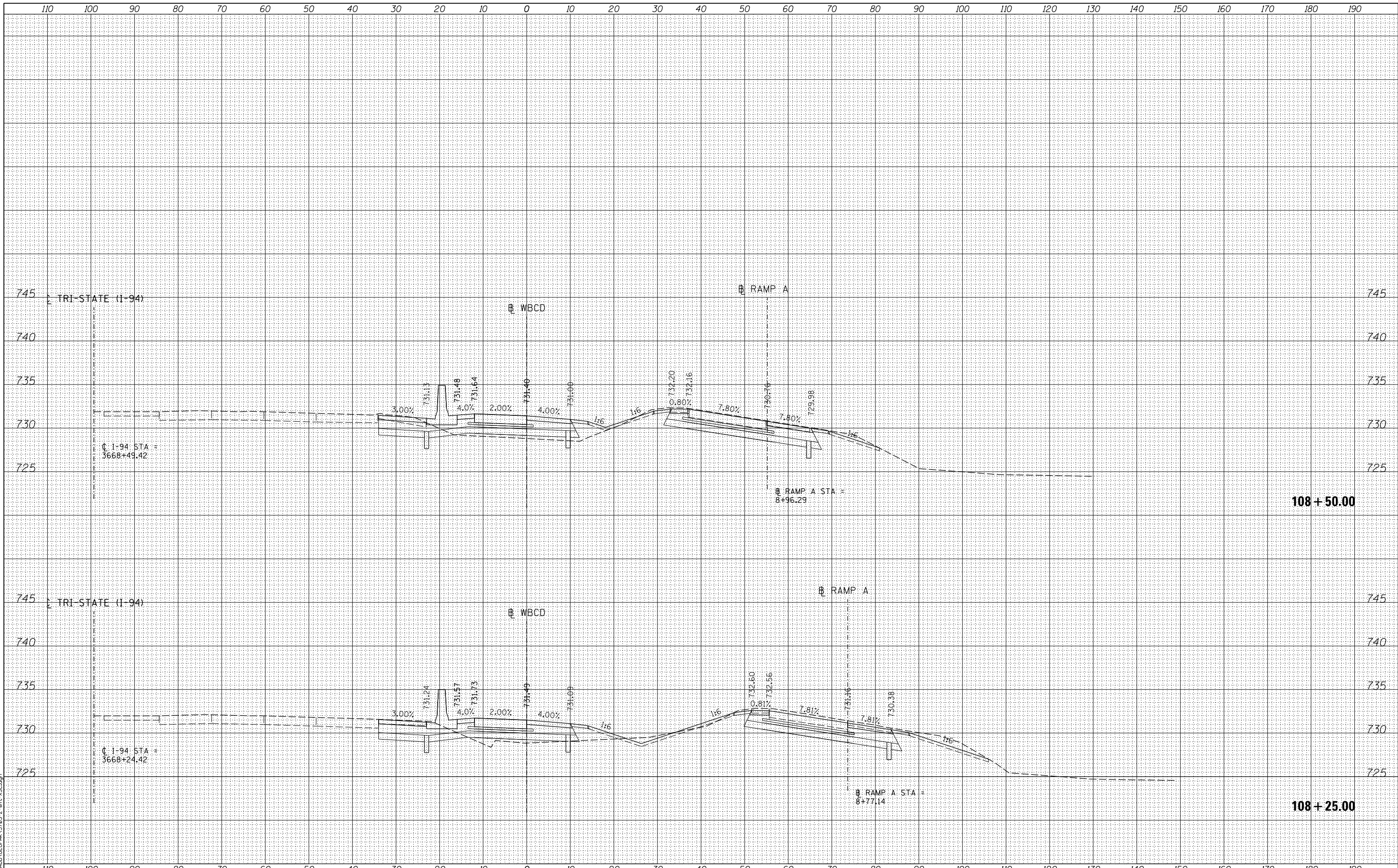
DRAWN BY LLS DATE 03/23/2017
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-17
 DRAWING NO.
 165 OF 228



108 + 50.00

108 + 25.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

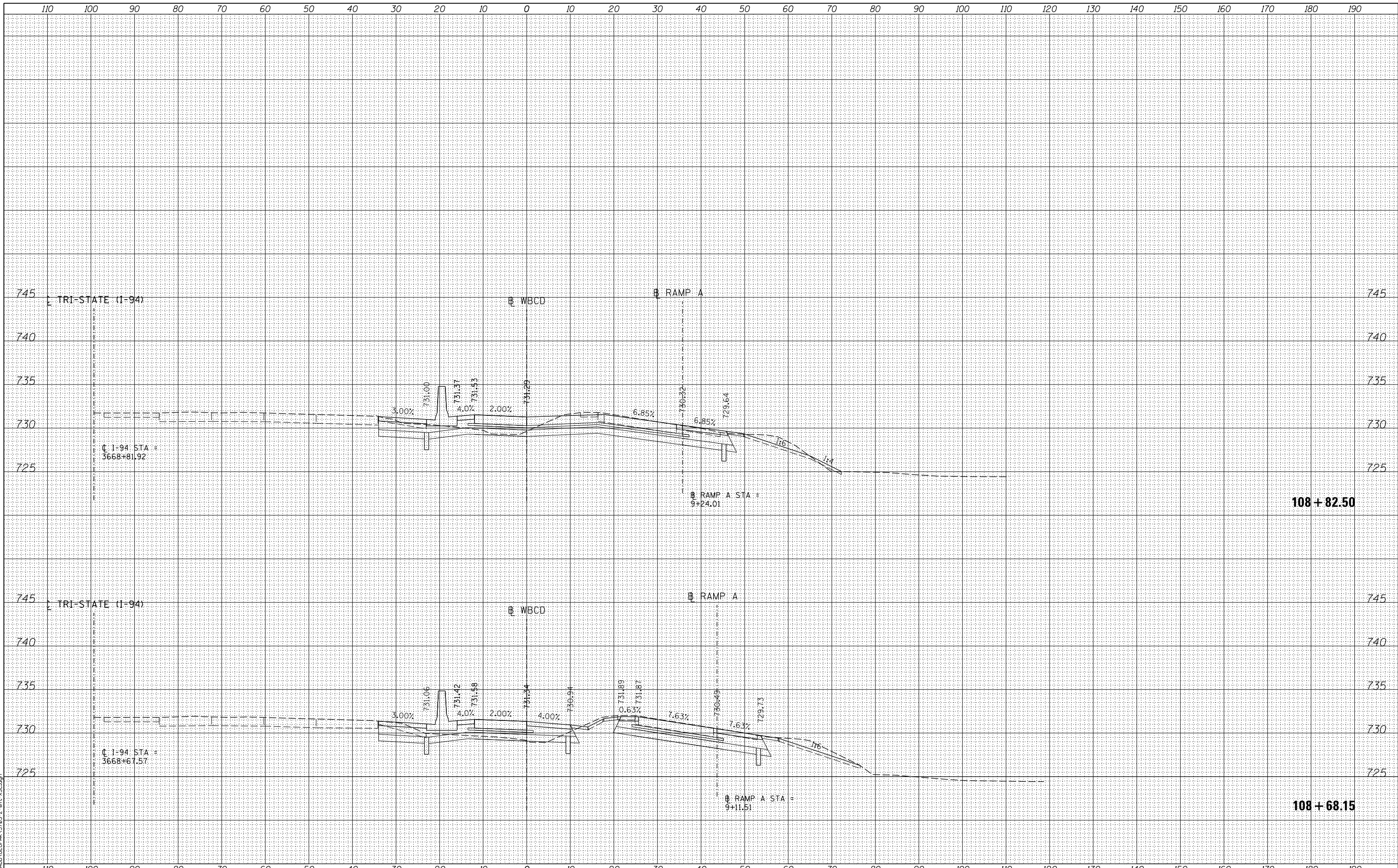


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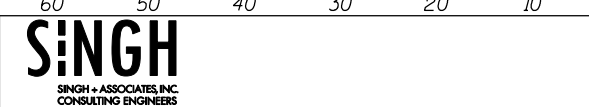
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 CROSS SECTIONS

SHT NO. XSC-18
 DRAWING NO. 166 OF 228

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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

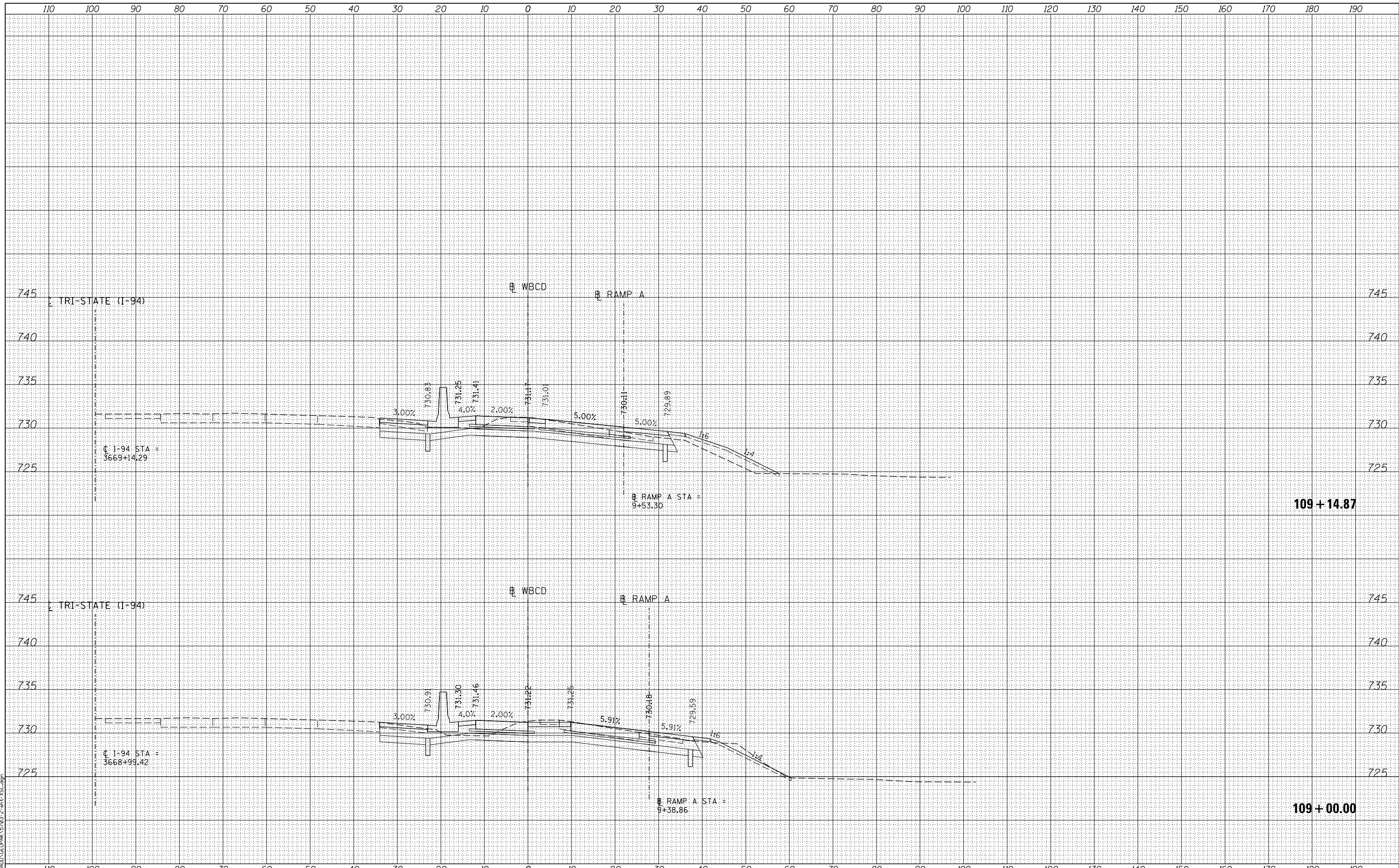


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-19
 CROSS SECTIONS DRAWING NO. 167 OF 228

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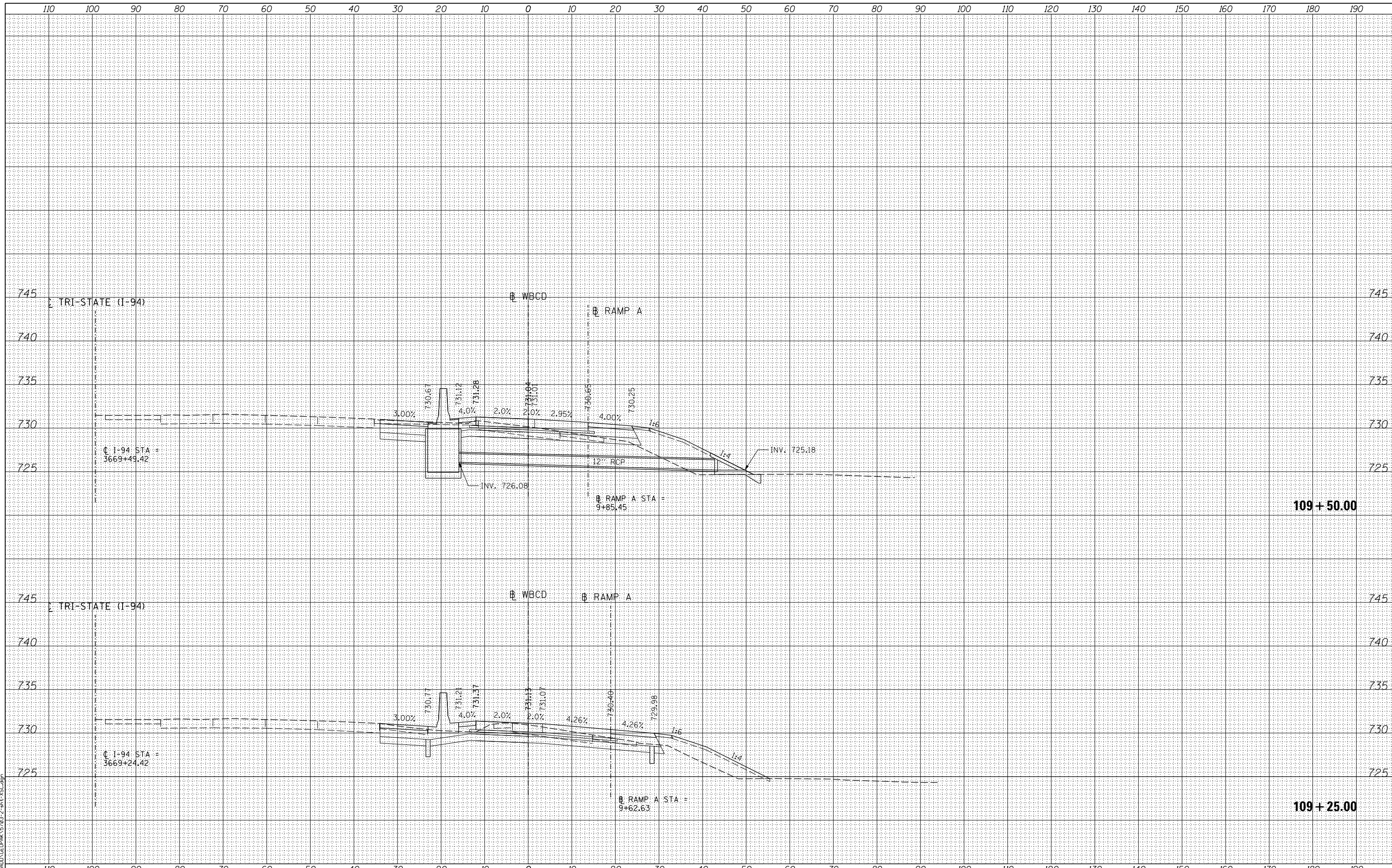
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 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-20
 DRAWING NO.
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109 + 50.00

109 + 25.00

DRAWN BY LLS DATE 03/23/2017
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NO.	DATE	DESCRIPTION

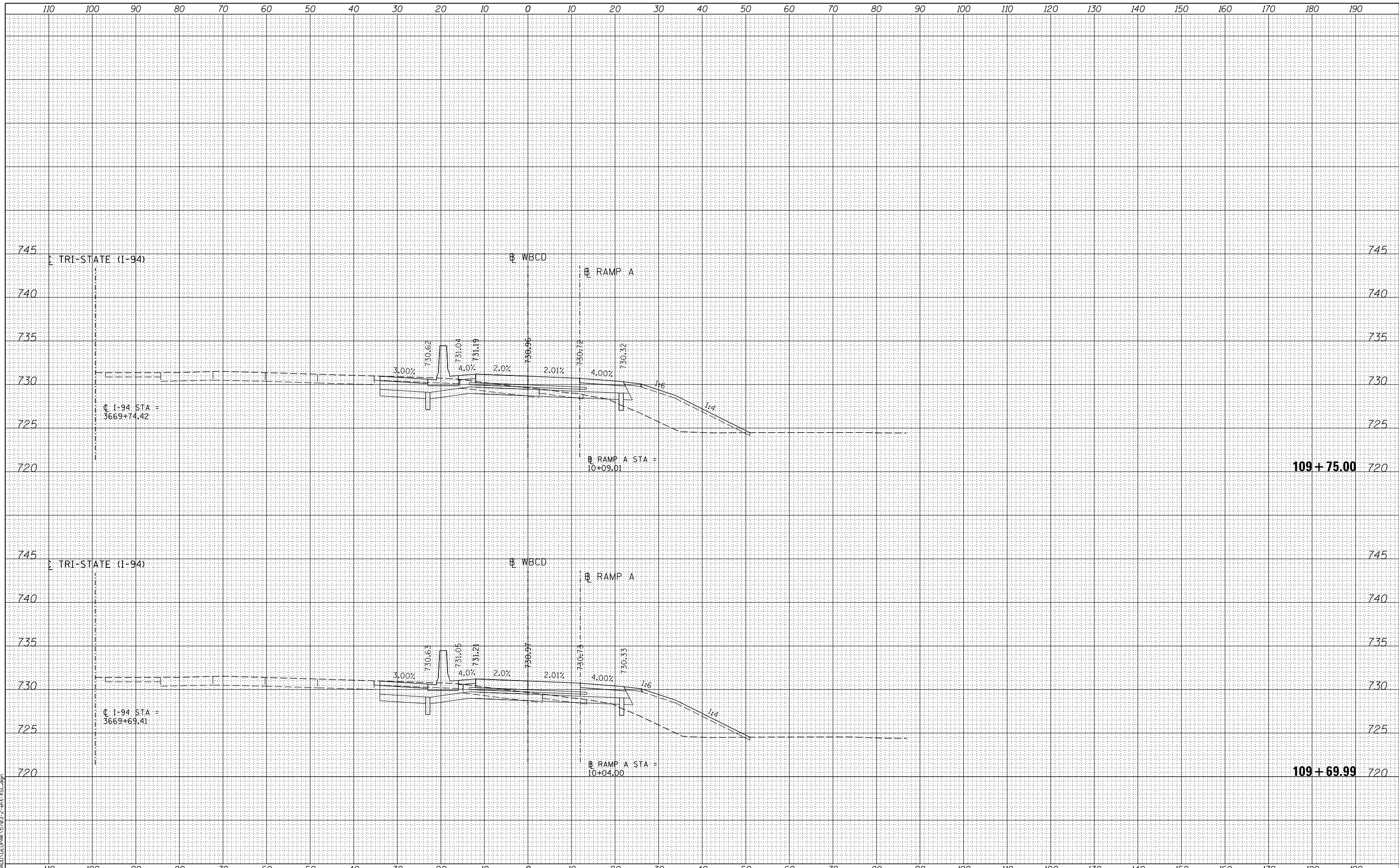
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CROSS SECTIONS

SHT NO.XSC-21

DRAWING NO. 169 OF 228

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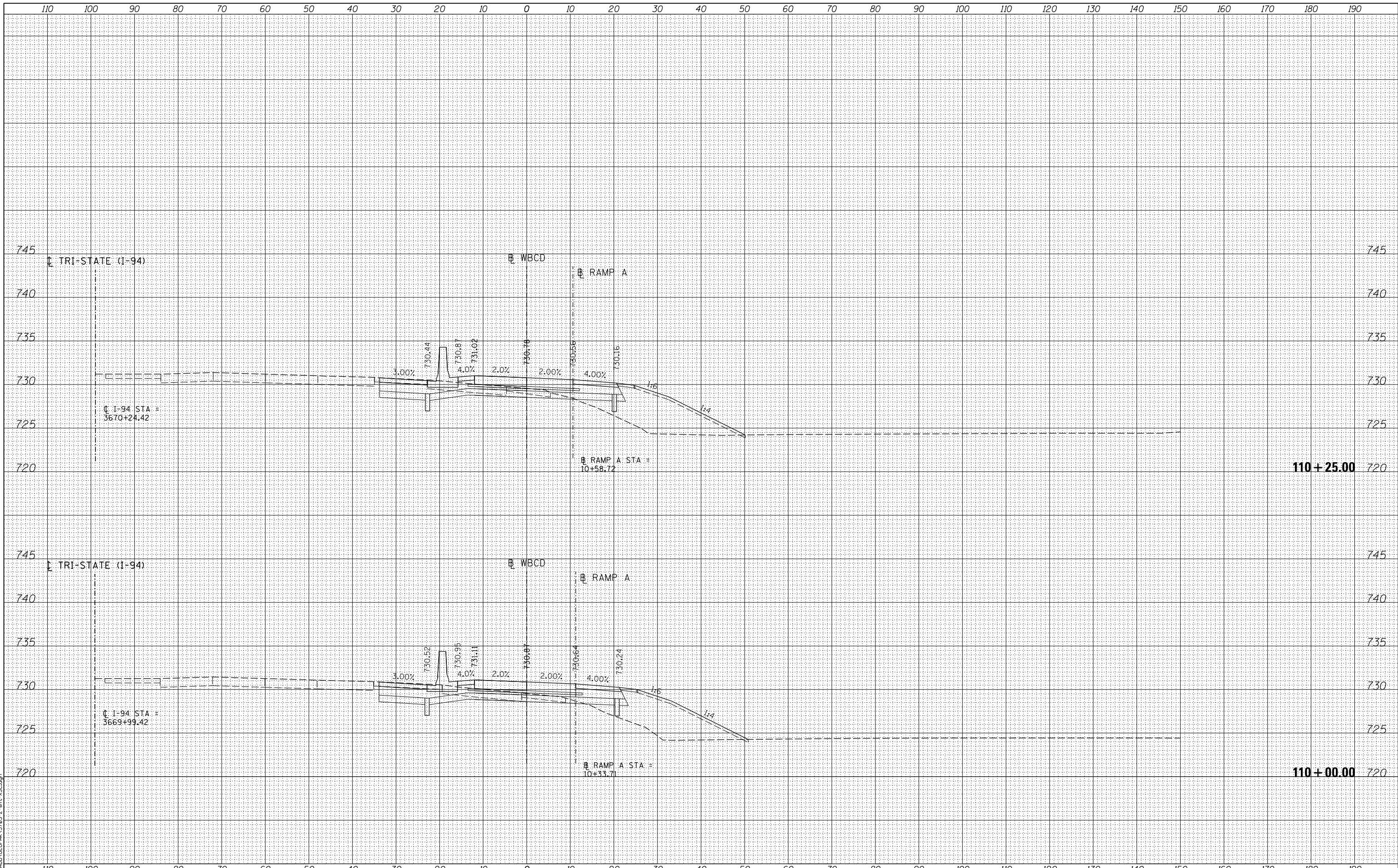
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO.XSC-22
 CROSS SECTIONS DRAWING NO. 170 OF 228

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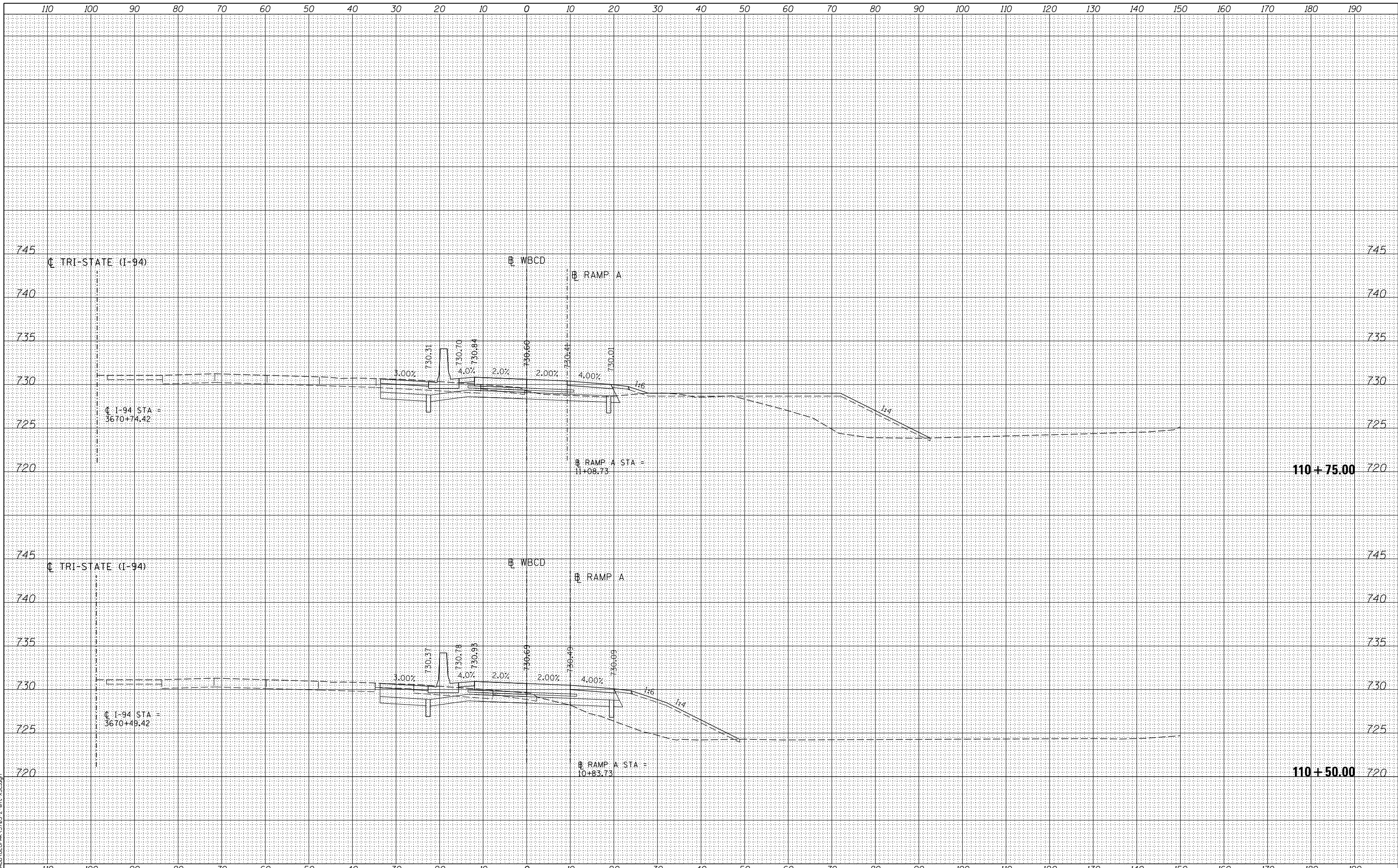
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-23
 DRAWING NO.
 171 OF 228



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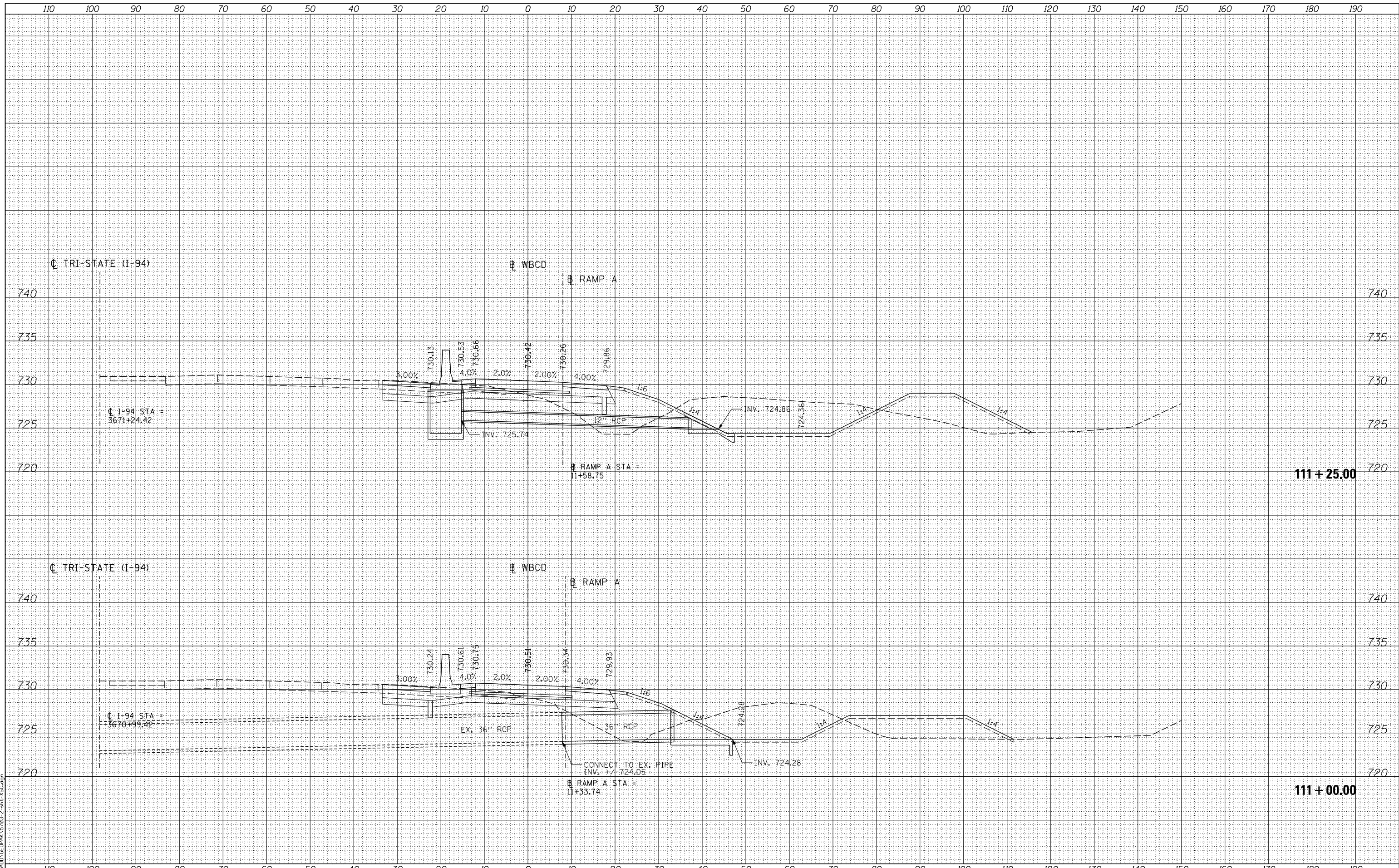
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THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-24
 CROSS SECTIONS DRAWING NO. 172 OF 228



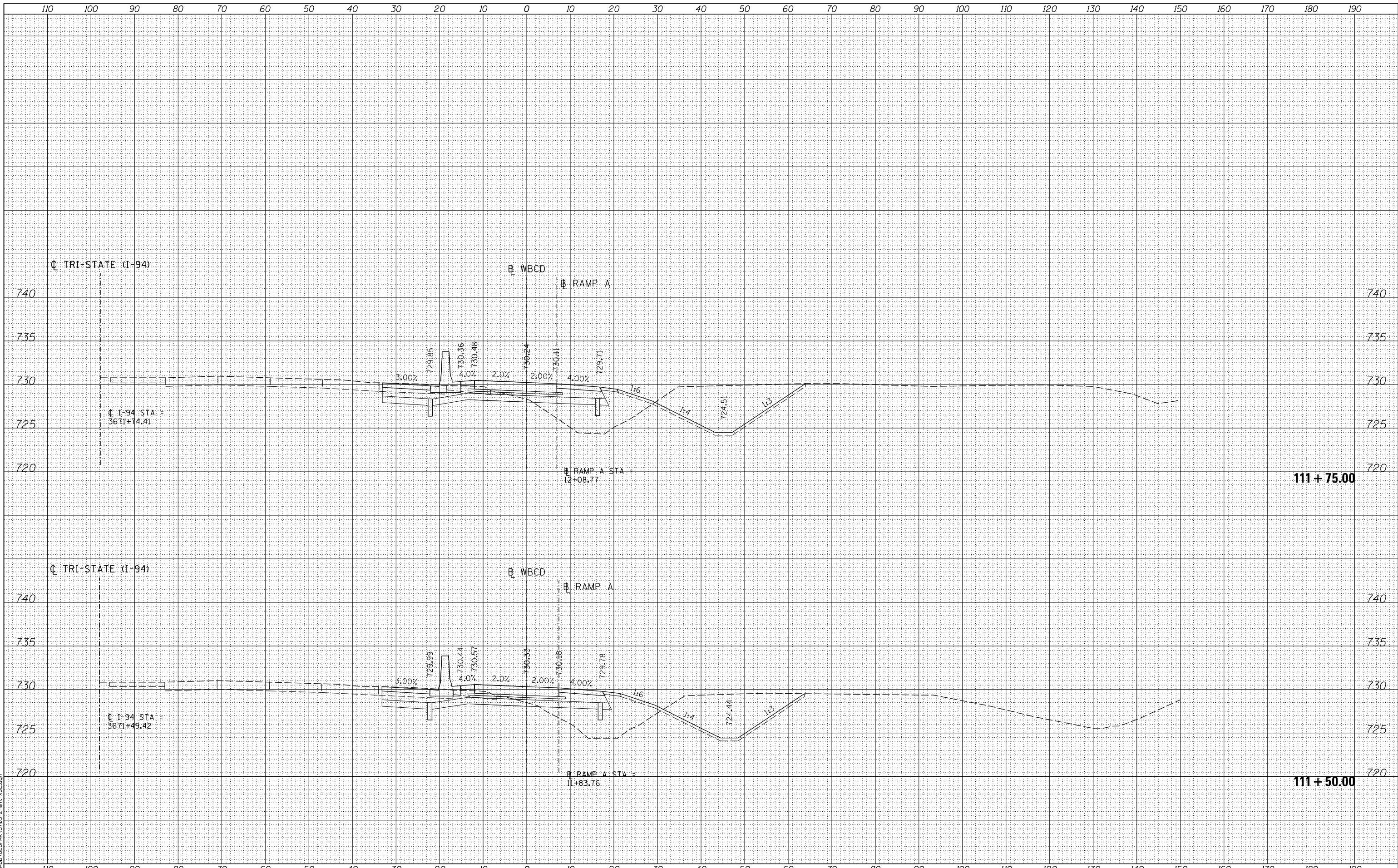
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-25
 CROSS SECTIONS DRAWING NO. 173 OF 228



111 + 75.00

111 + 50.00

J:\14225.02\04-CADD\GEOPAK\15703 2-sht-XSC.dwg

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

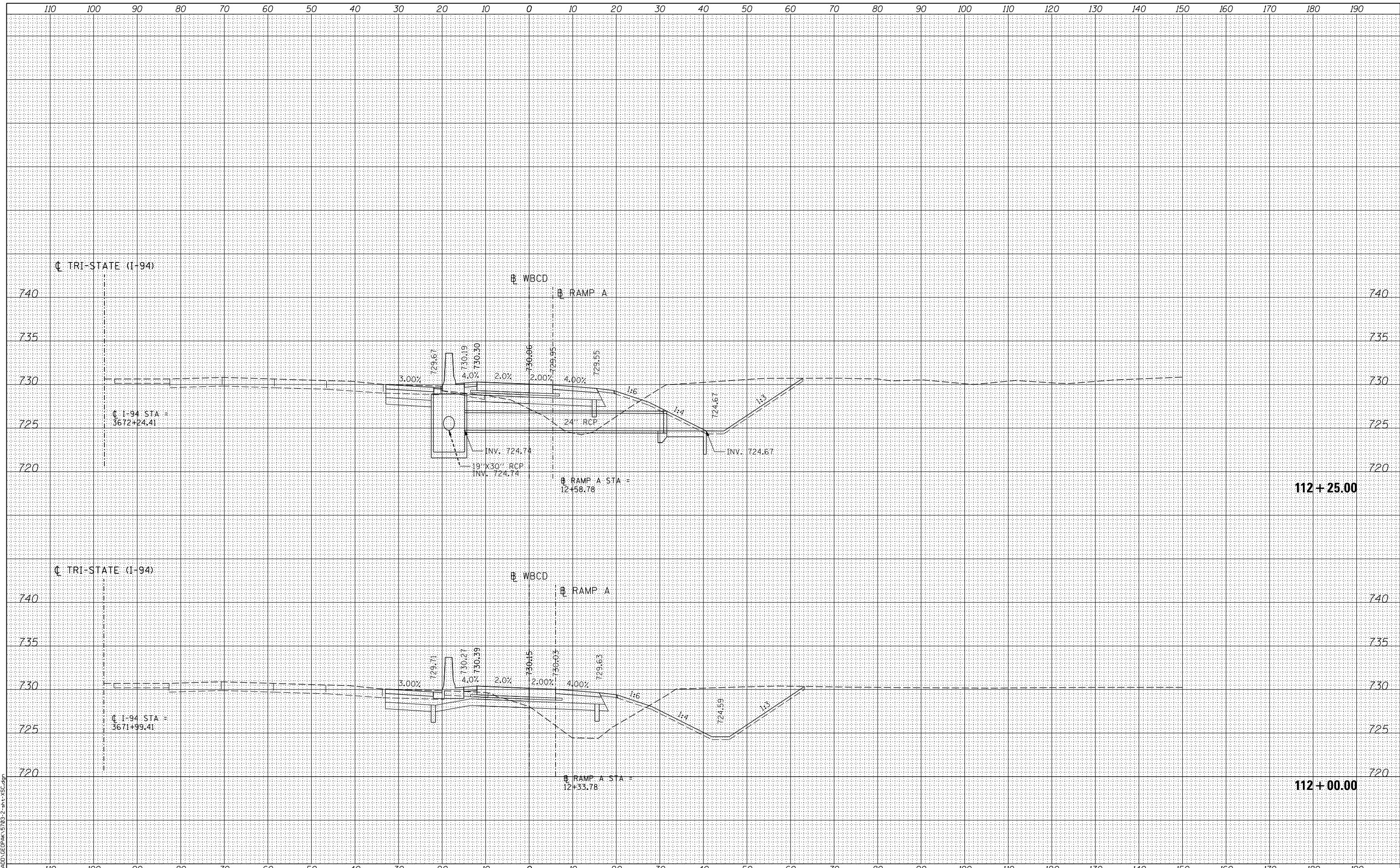
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291

CROSS SECTIONS

SHT NO.XSC-26

DRAWING NO.
174 OF 228



112 + 25.00

112 + 00.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

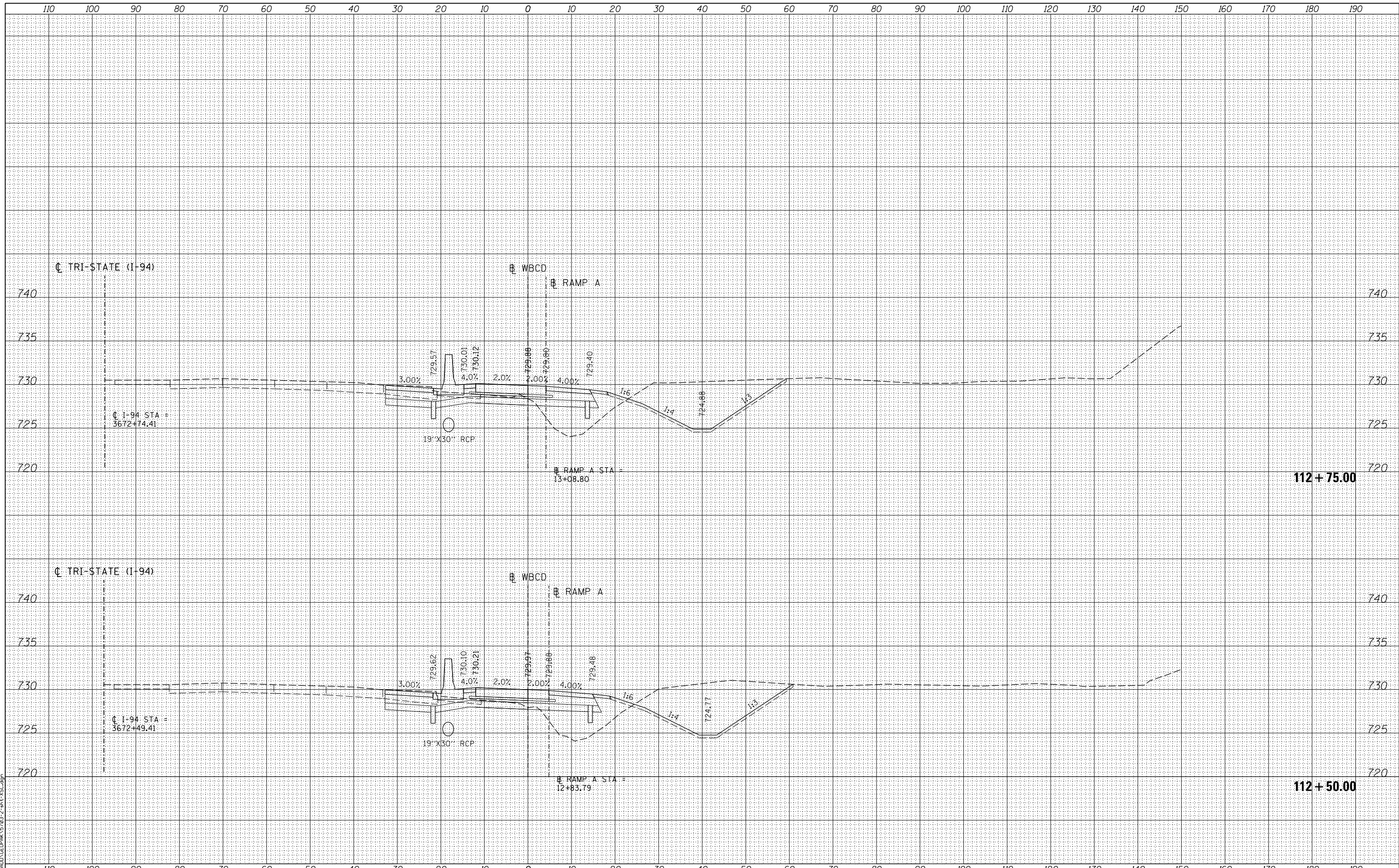
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CROSS SECTIONS

SHT NO.XSC-27

DRAWING NO. 175 OF 228

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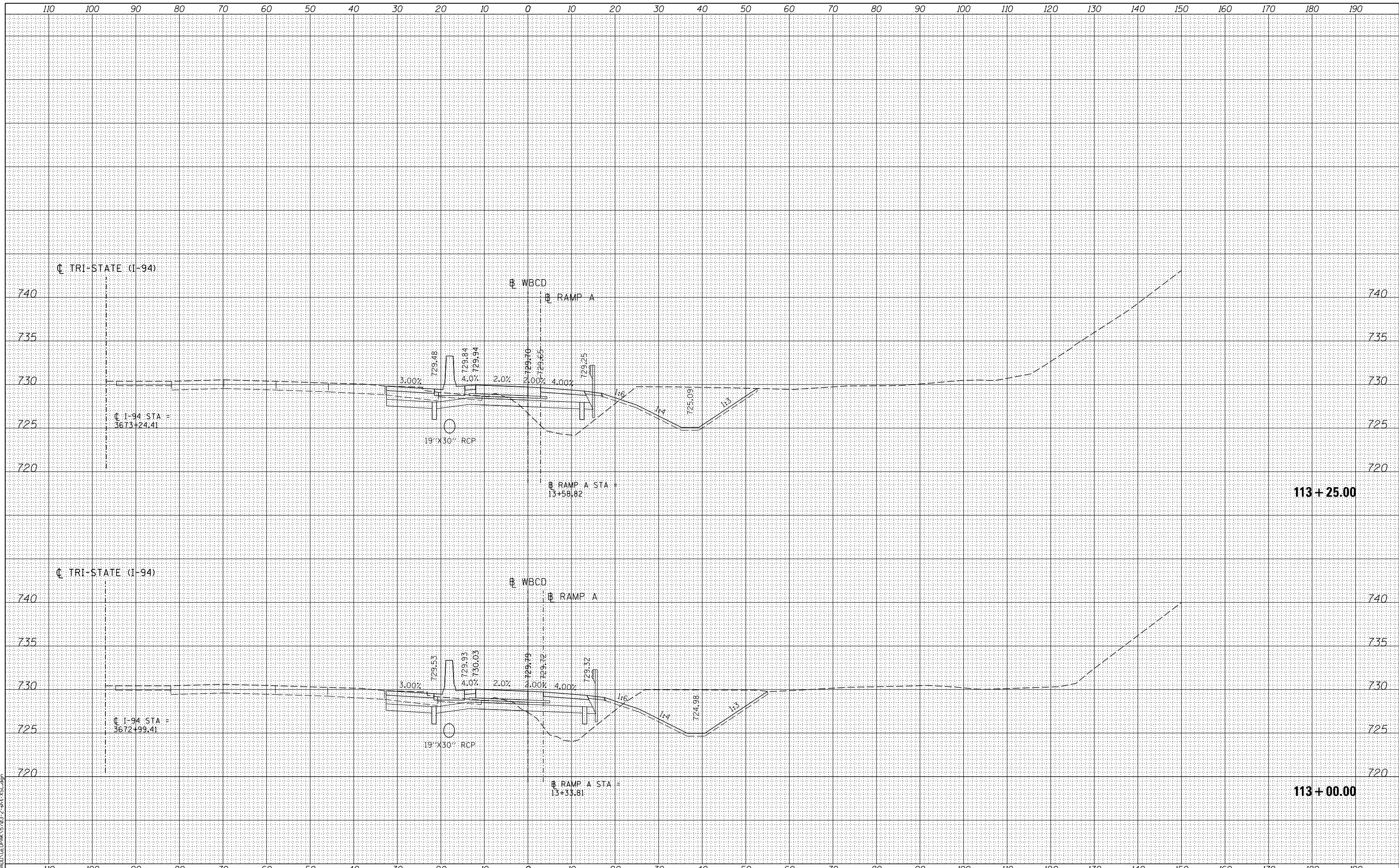
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 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-28
 CROSS SECTIONS DRAWING NO. 176 OF 228

J:\14225.02\04-CADD\GEOPAK\15703-2-sht-XSC.dwg



113 + 25.00

113 + 00.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

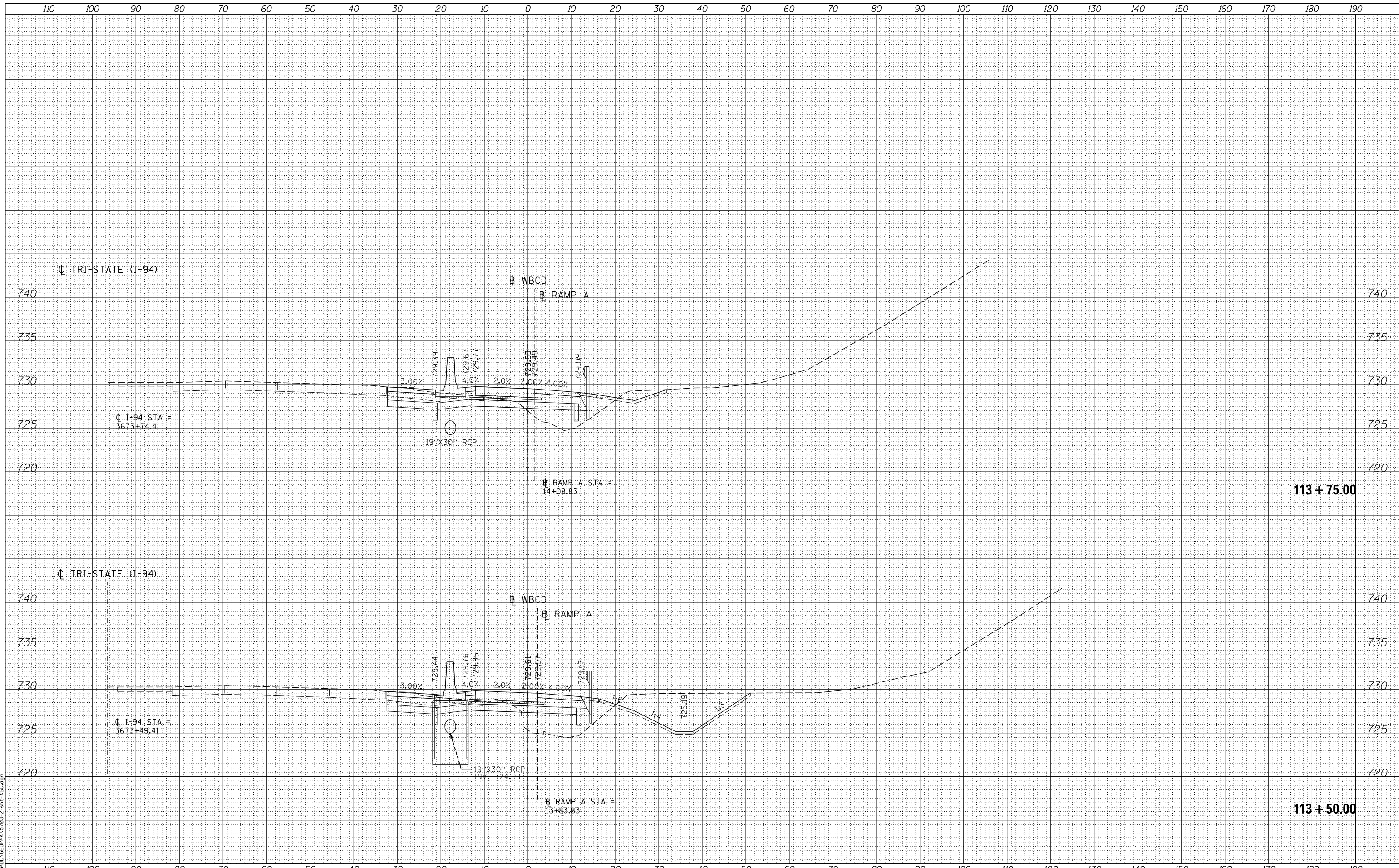
CONTRACT NO. RR-17-4291

CROSS SECTIONS

SHT NO.XSC-29

DRAWING NO. 177 OF 228

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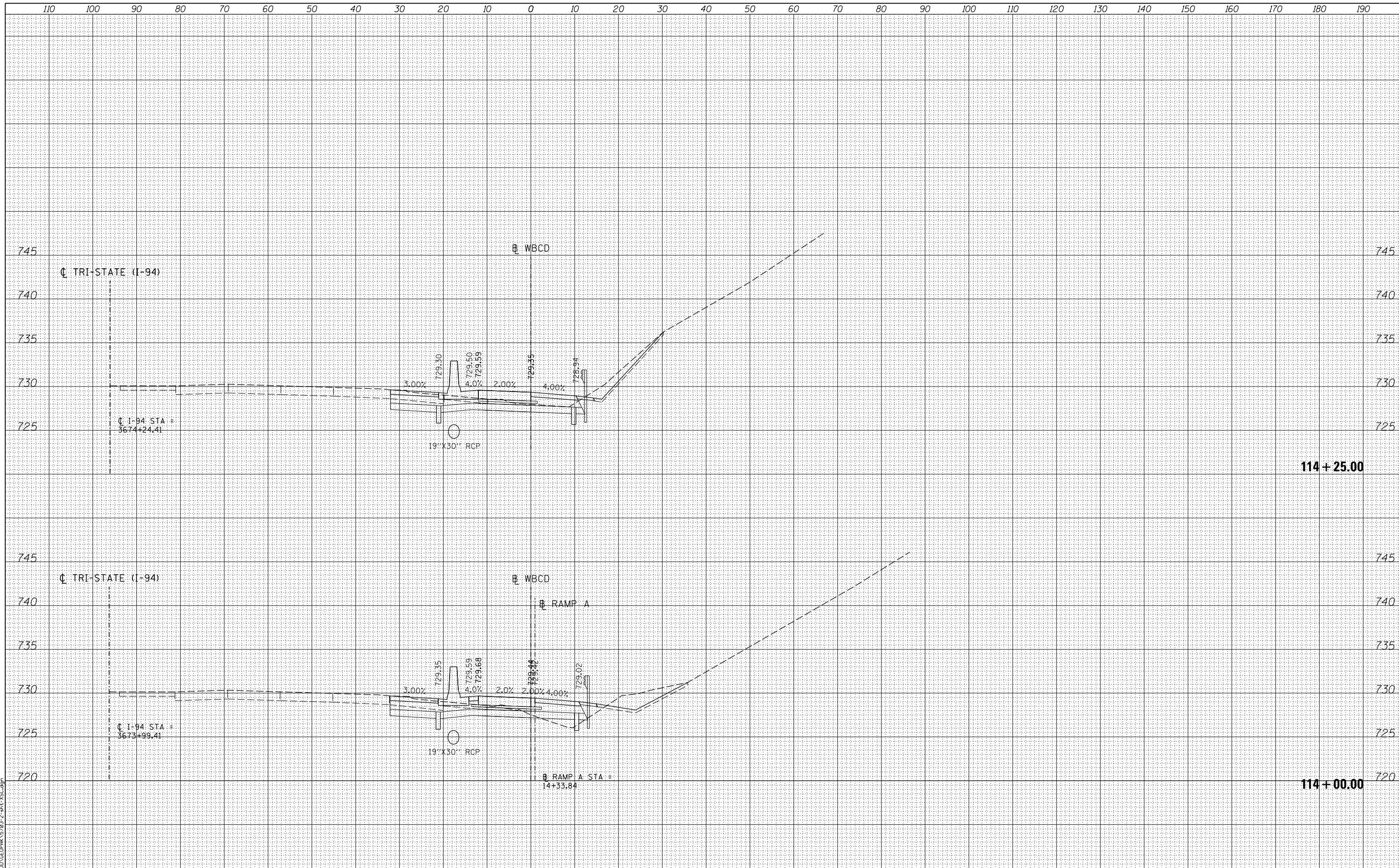
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-30
 CROSS SECTIONS DRAWING NO. 178 OF 228



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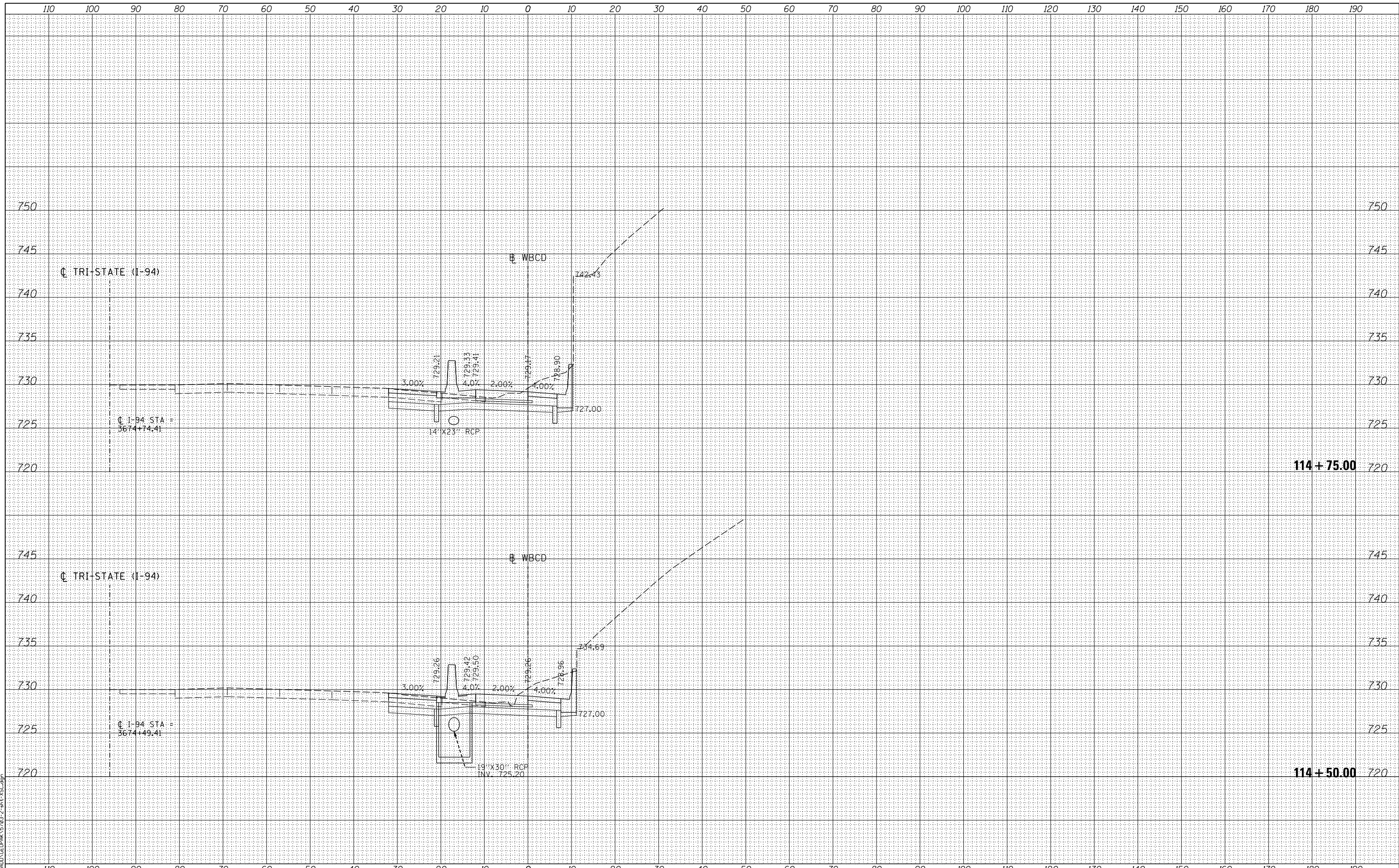
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-31
 DRAWING NO.
 179 OF 228



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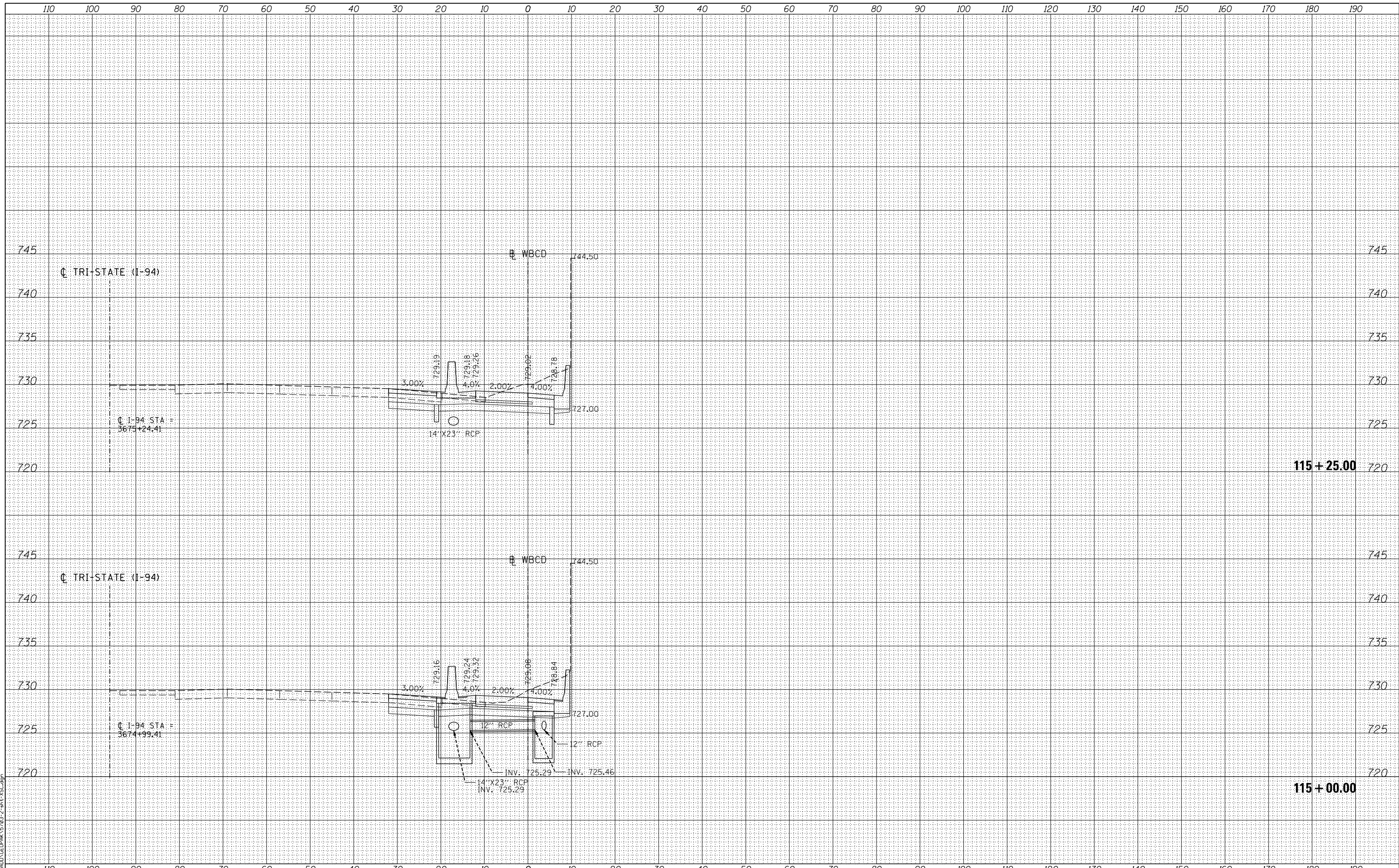
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-32
 DRAWING NO. 180 OF 228



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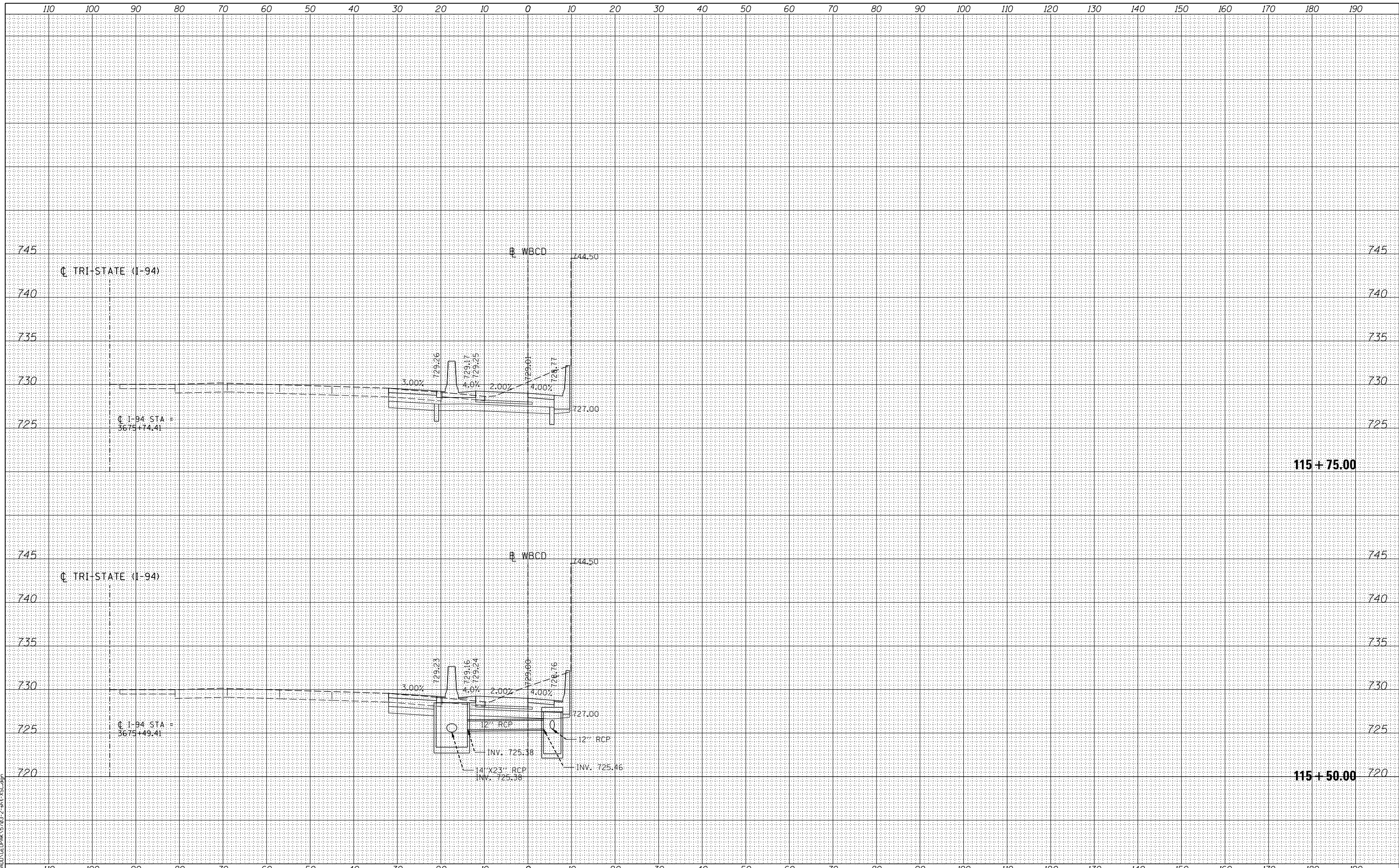
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-33
 CROSS SECTIONS DRAWING NO. 181 OF 228



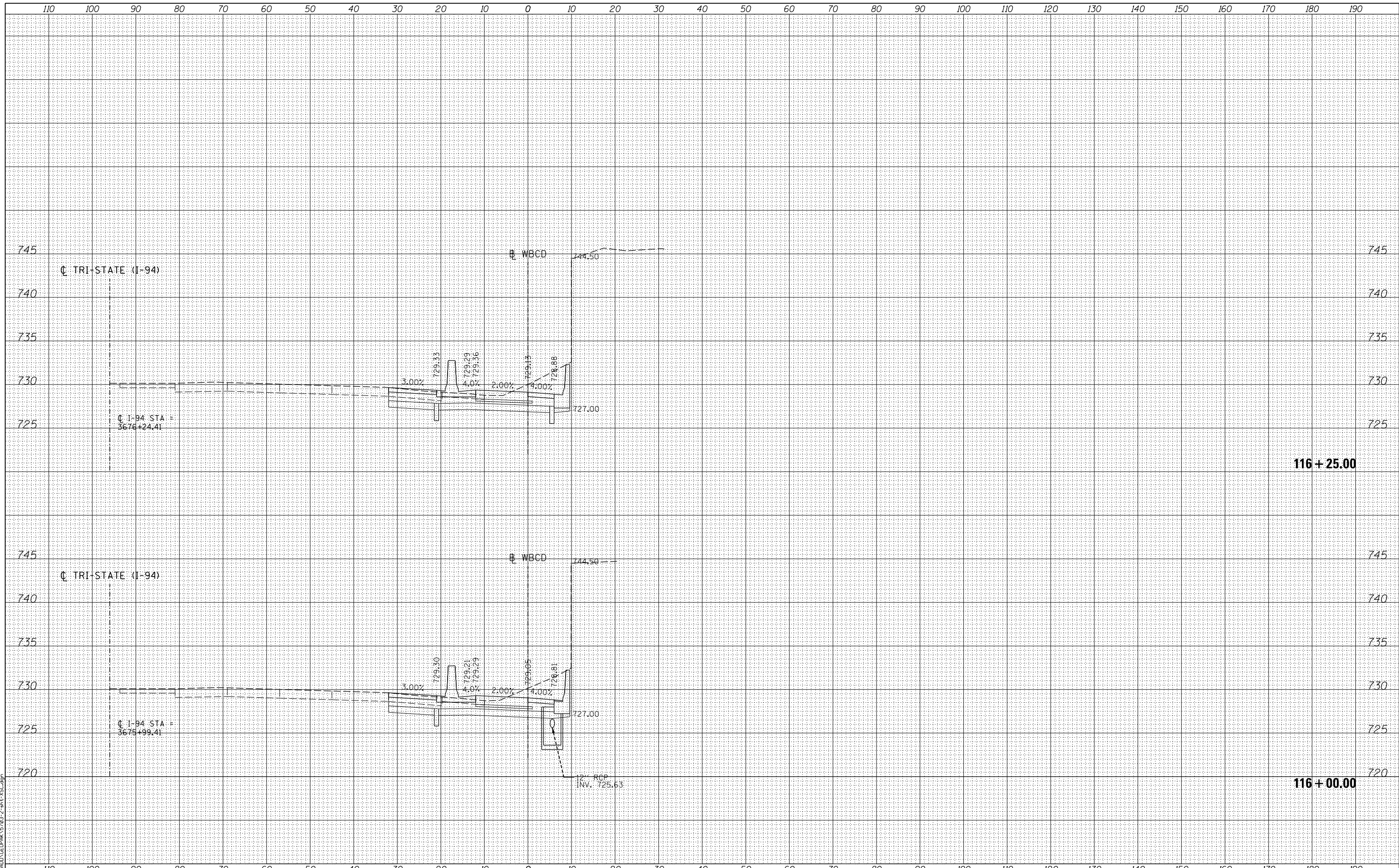
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-34
 CROSS SECTIONS DRAWING NO. 182 OF 228



116 + 25.00

116 + 00.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

SINGH
 SINGH + ASSOCIATES, INC.
 CONSULTING ENGINEERS

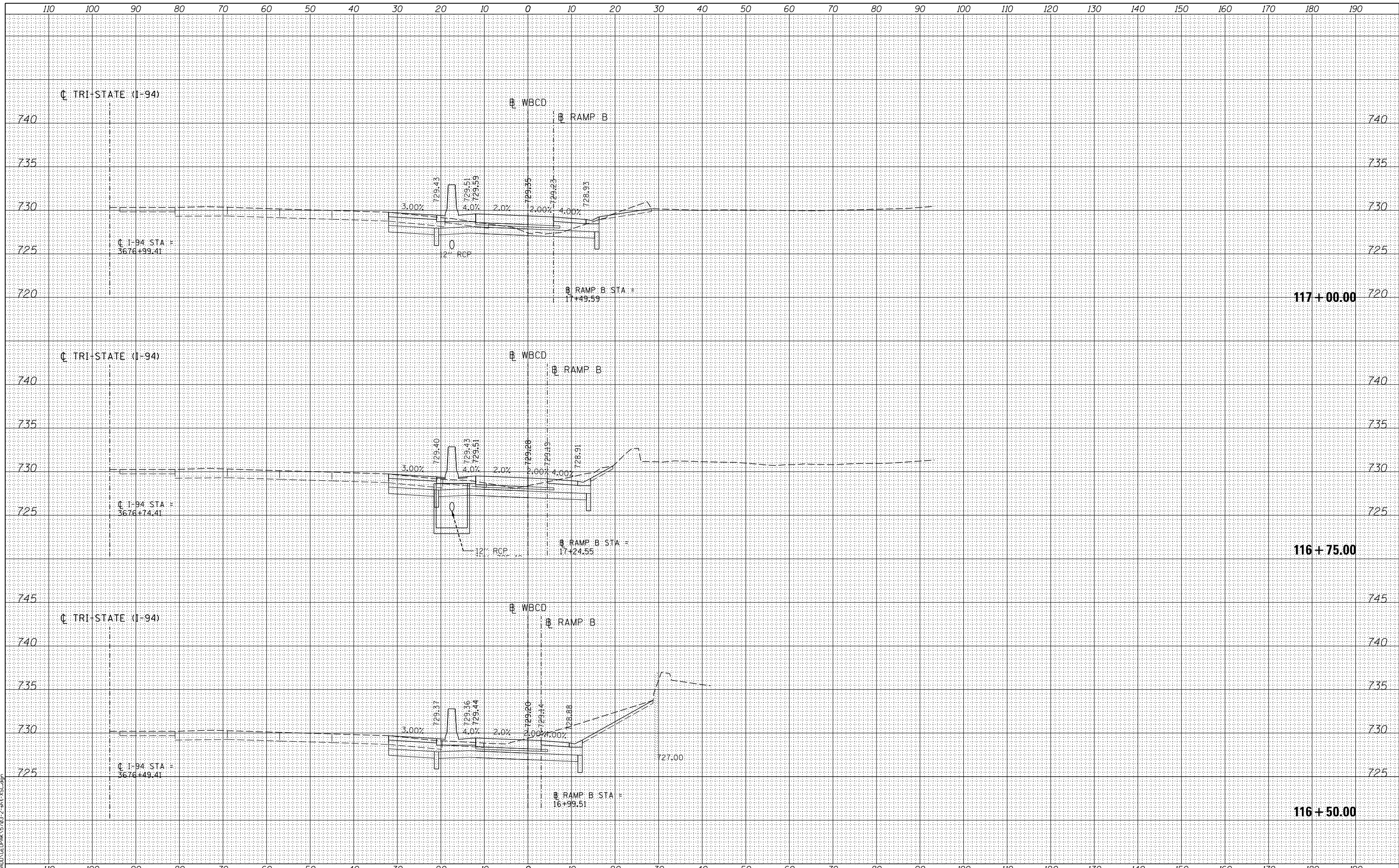
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

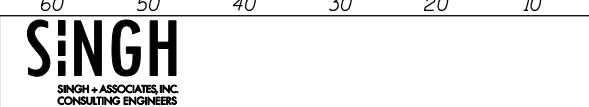
CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-35
 DRAWING NO.
 183 OF 228

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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

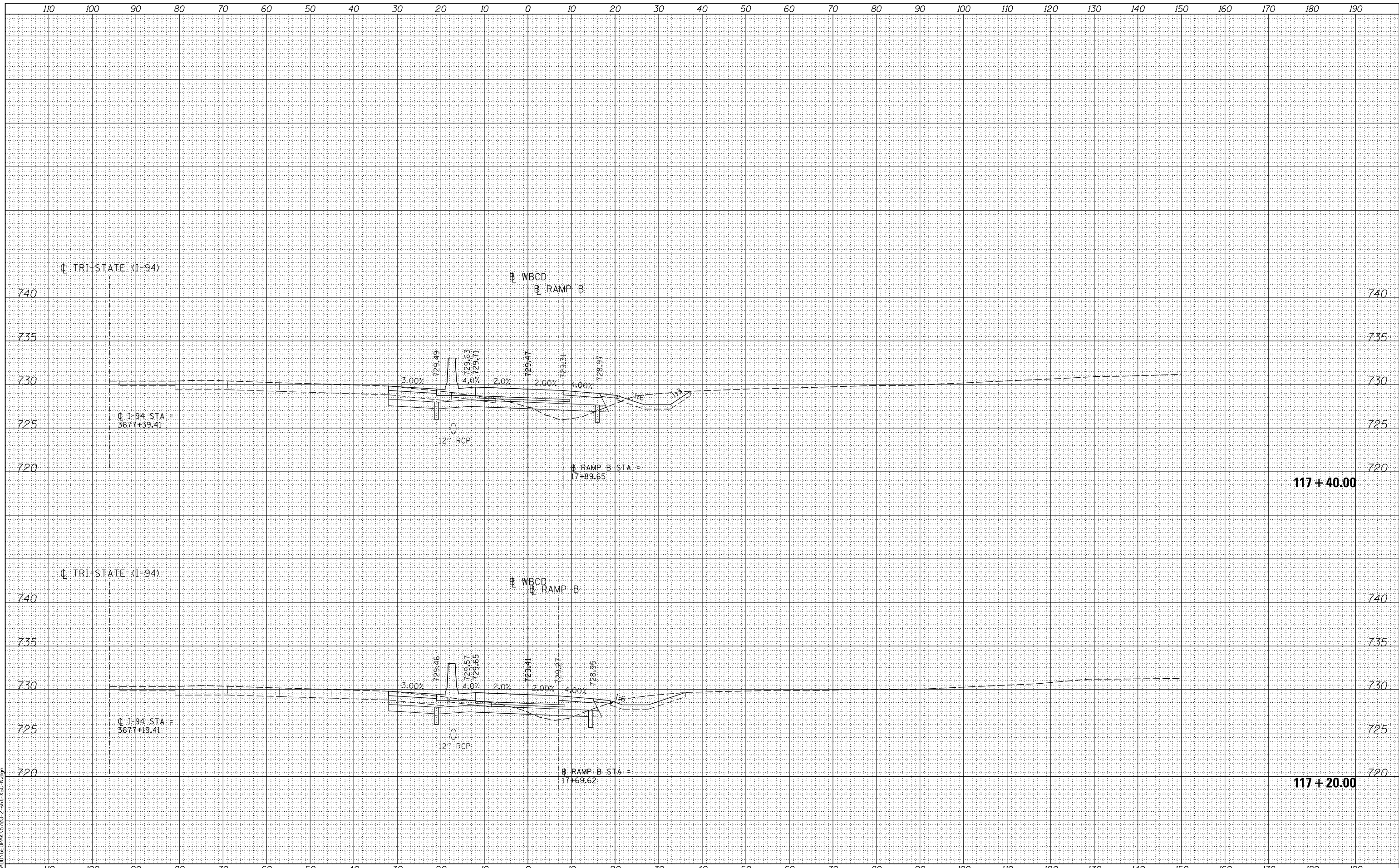


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-36
 CROSS SECTIONS DRAWING NO. 184 OF 228

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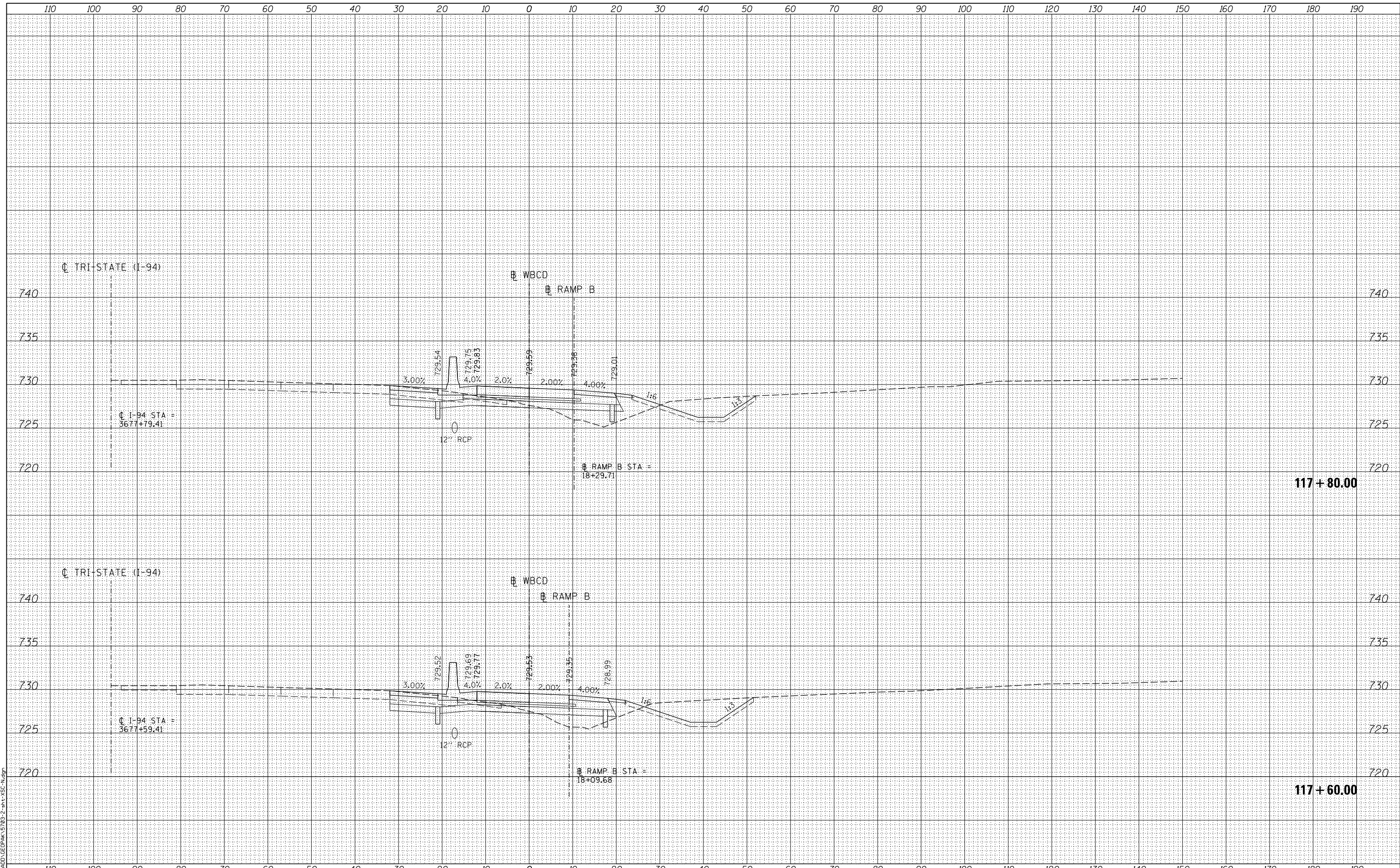
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-37
 CROSS SECTIONS DRAWING NO. 185 OF 228



DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

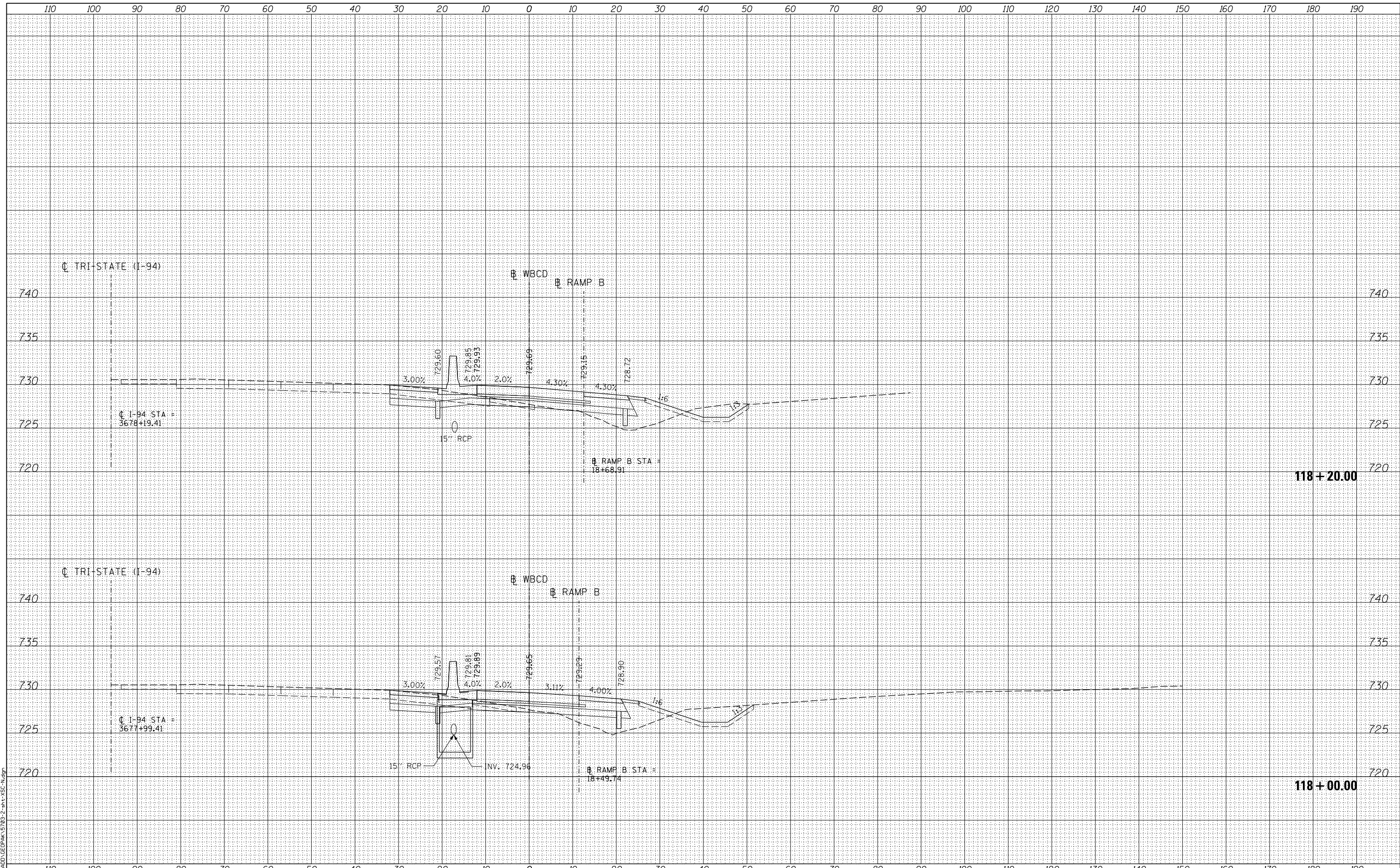


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-38
 DRAWING NO.
 186 OF 228

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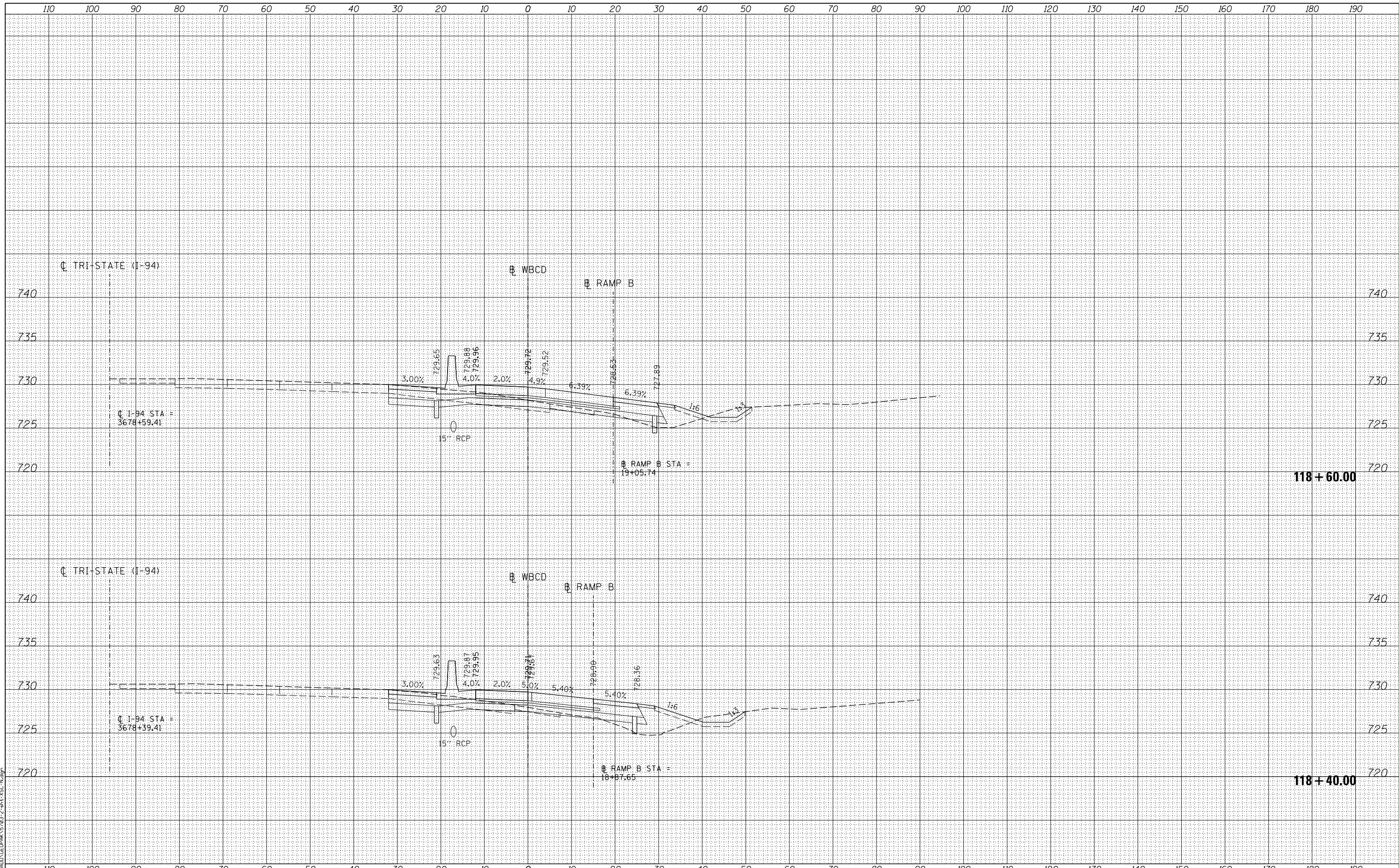
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-39
 CROSS SECTIONS DRAWING NO. 187 OF 228



118 + 60.00

118 + 40.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

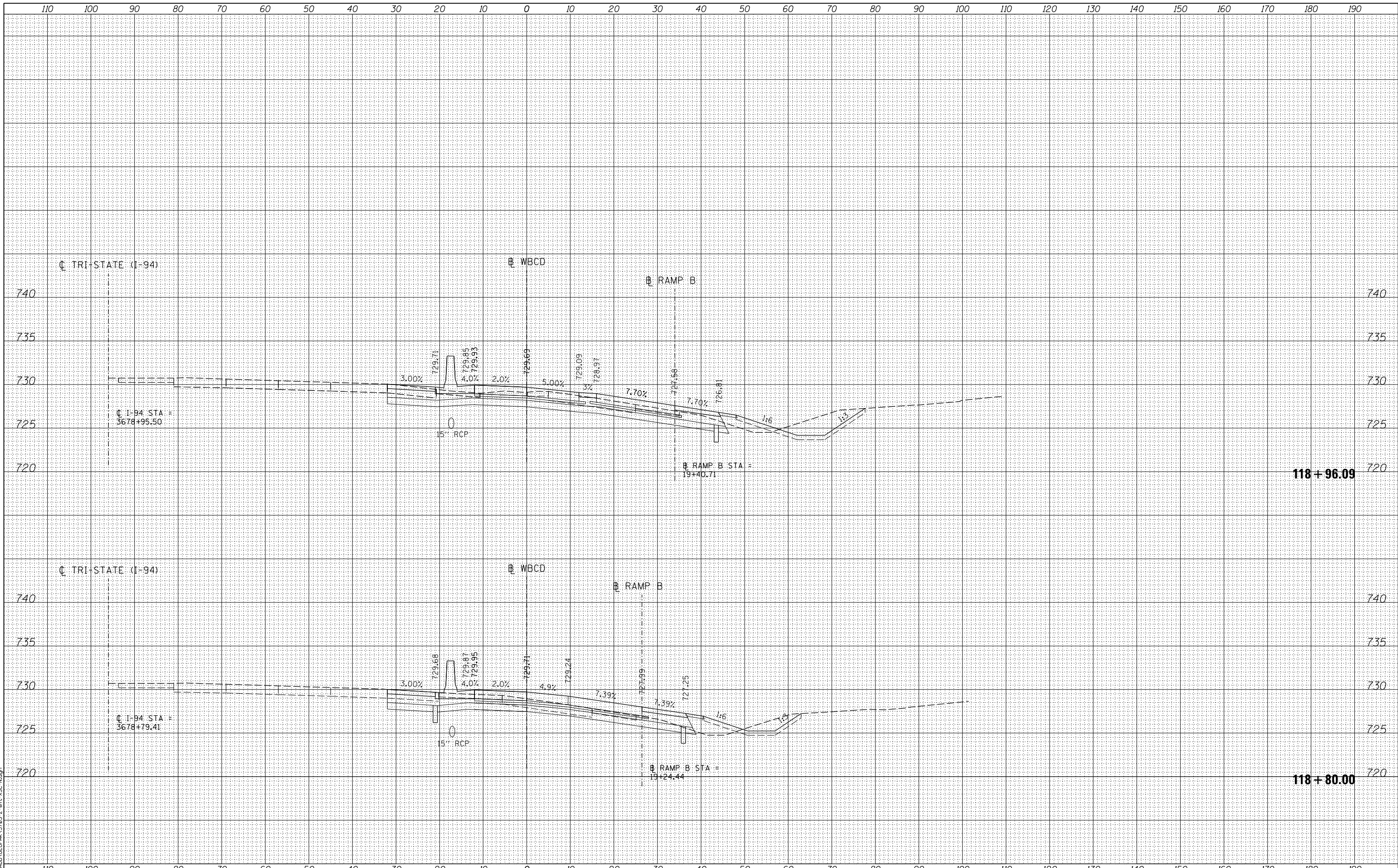


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-40
 DRAWING NO.
 188 OF 228

J:\14225.02\04-CADD\GEOPAK\5703-2-sht-XSC-188.dgn



118 + 96.09

118 + 80.00

J:\14225.02\04-CADD\GEOPAK\AS703-2-sht-XSC-189.dgn

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



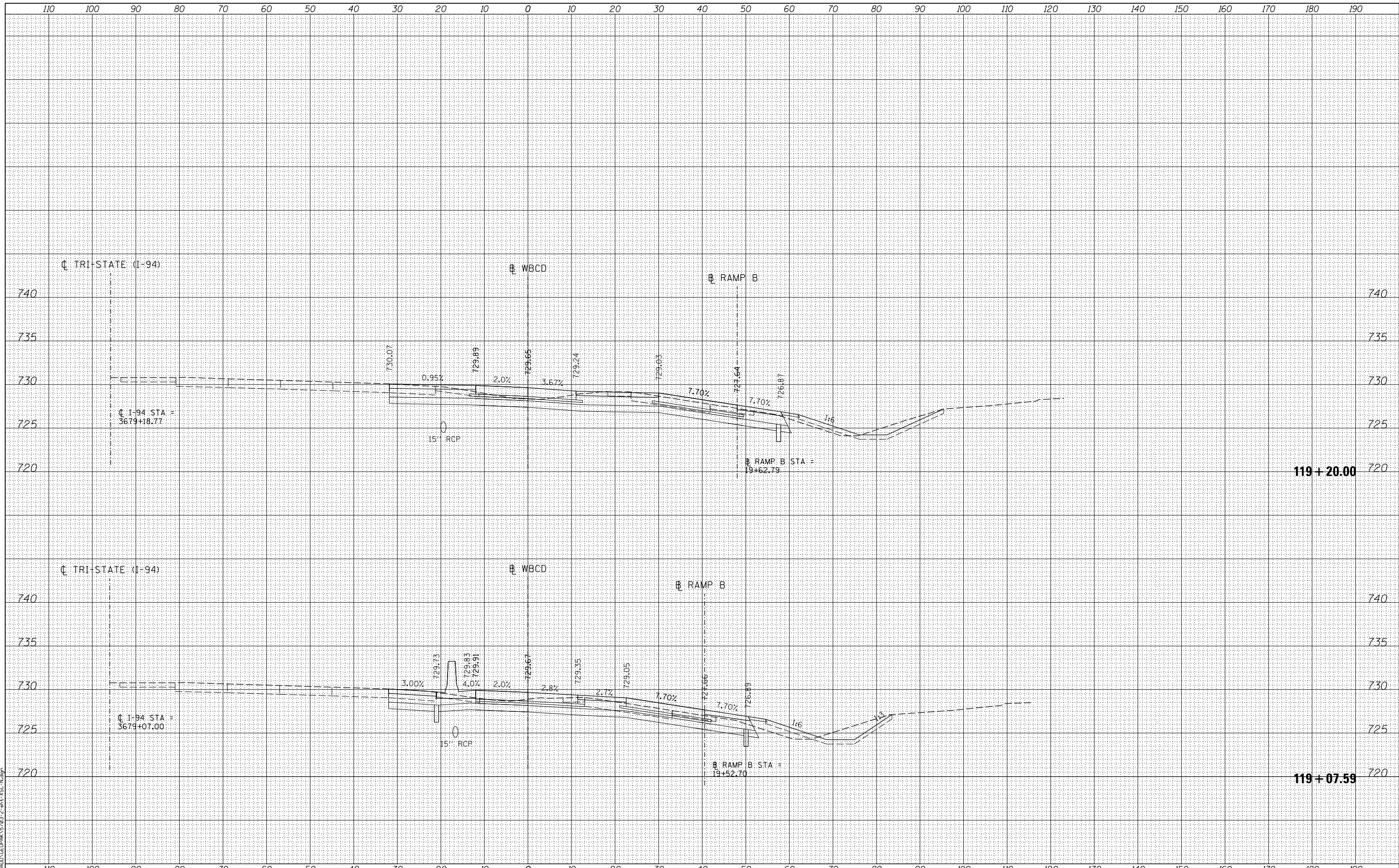
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291

CROSS SECTIONS

SHT NO.XSC-41

DRAWING NO. 189 OF 228



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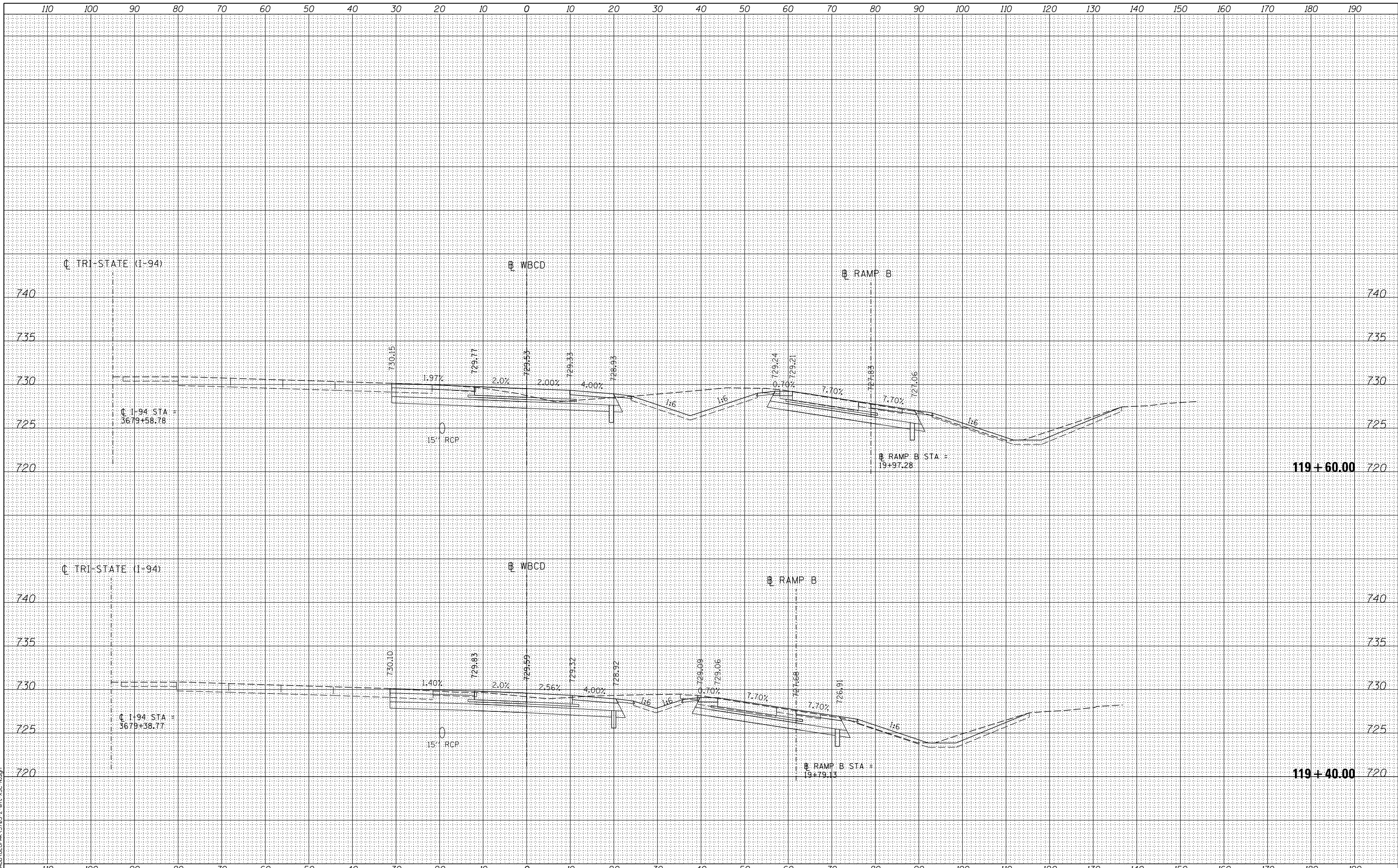
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-42
 CROSS SECTIONS DRAWING NO. 190 OF 228



J:\14225.02\04-CADD\GEOPAK\15702-2-sht-XSC-1.dwg

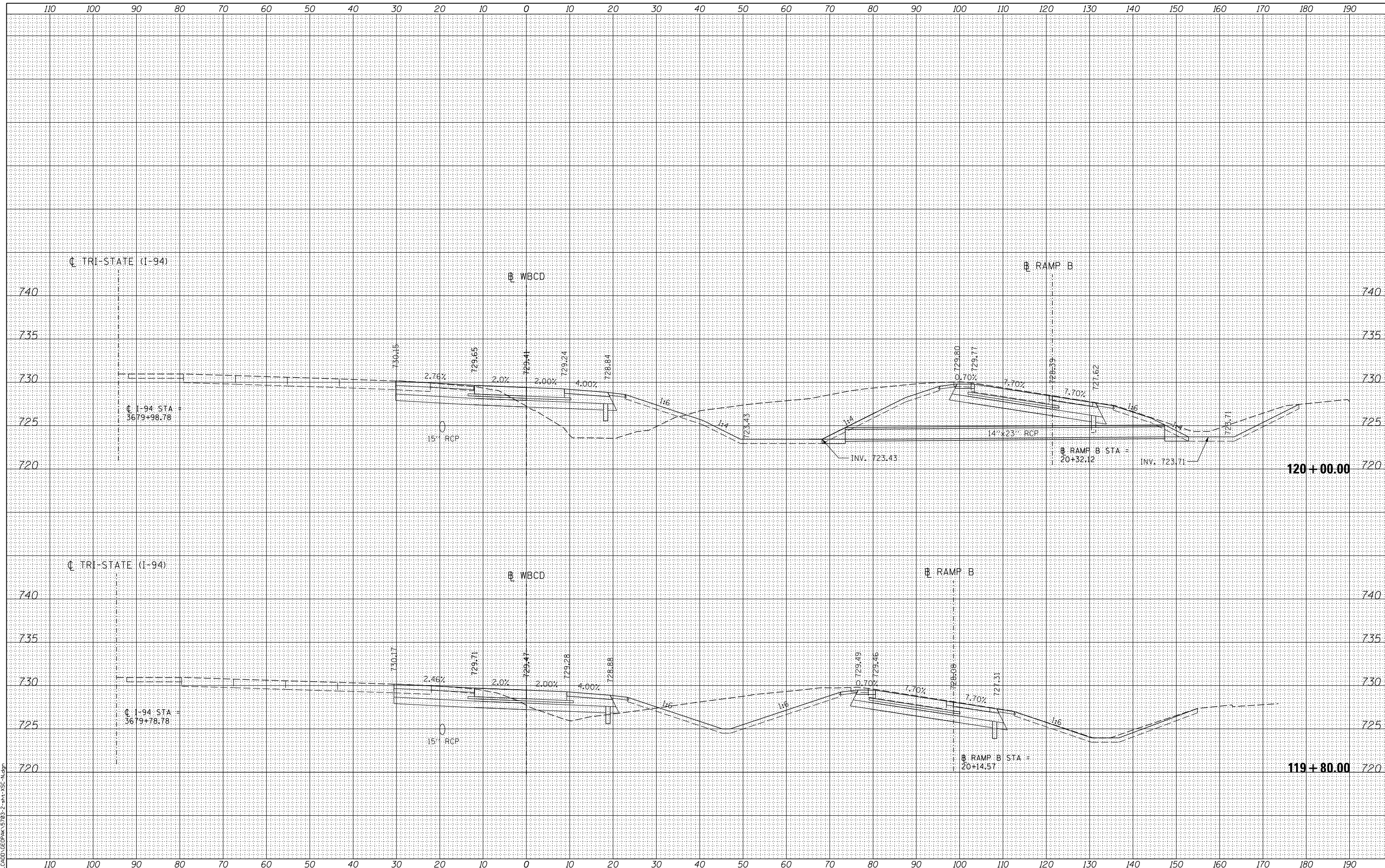
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-43
 DRAWING NO.
 191 OF 228



J:\14225.02\04-CADD\GEOPAK\15703 2-sht-XSC-1.dwg

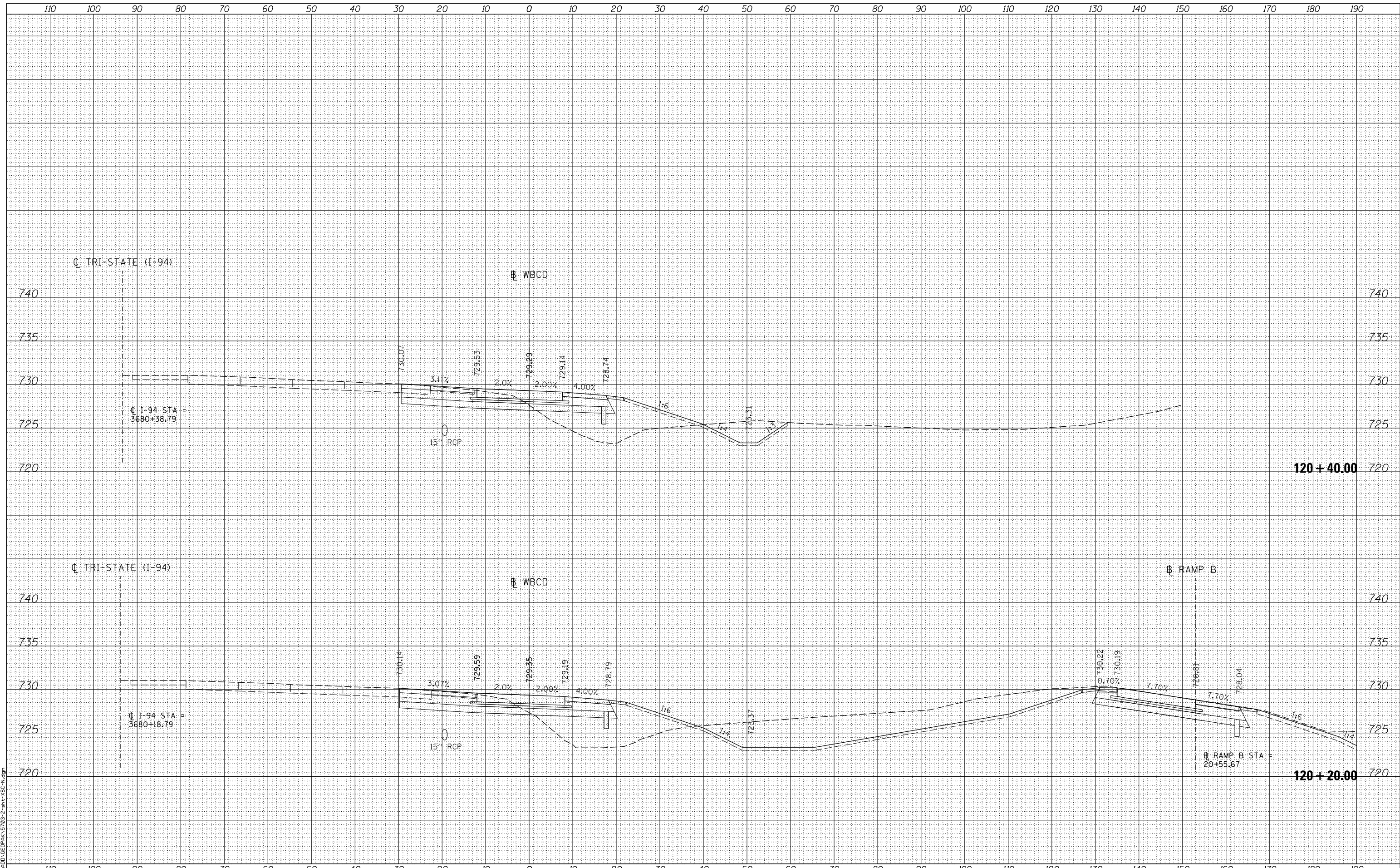
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 CHECKED BY VO DATE 03/23/2017



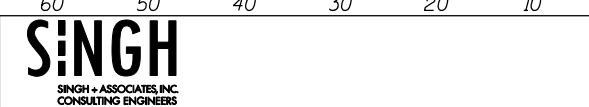
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-44
 DRAWING NO. 192 OF 228



DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

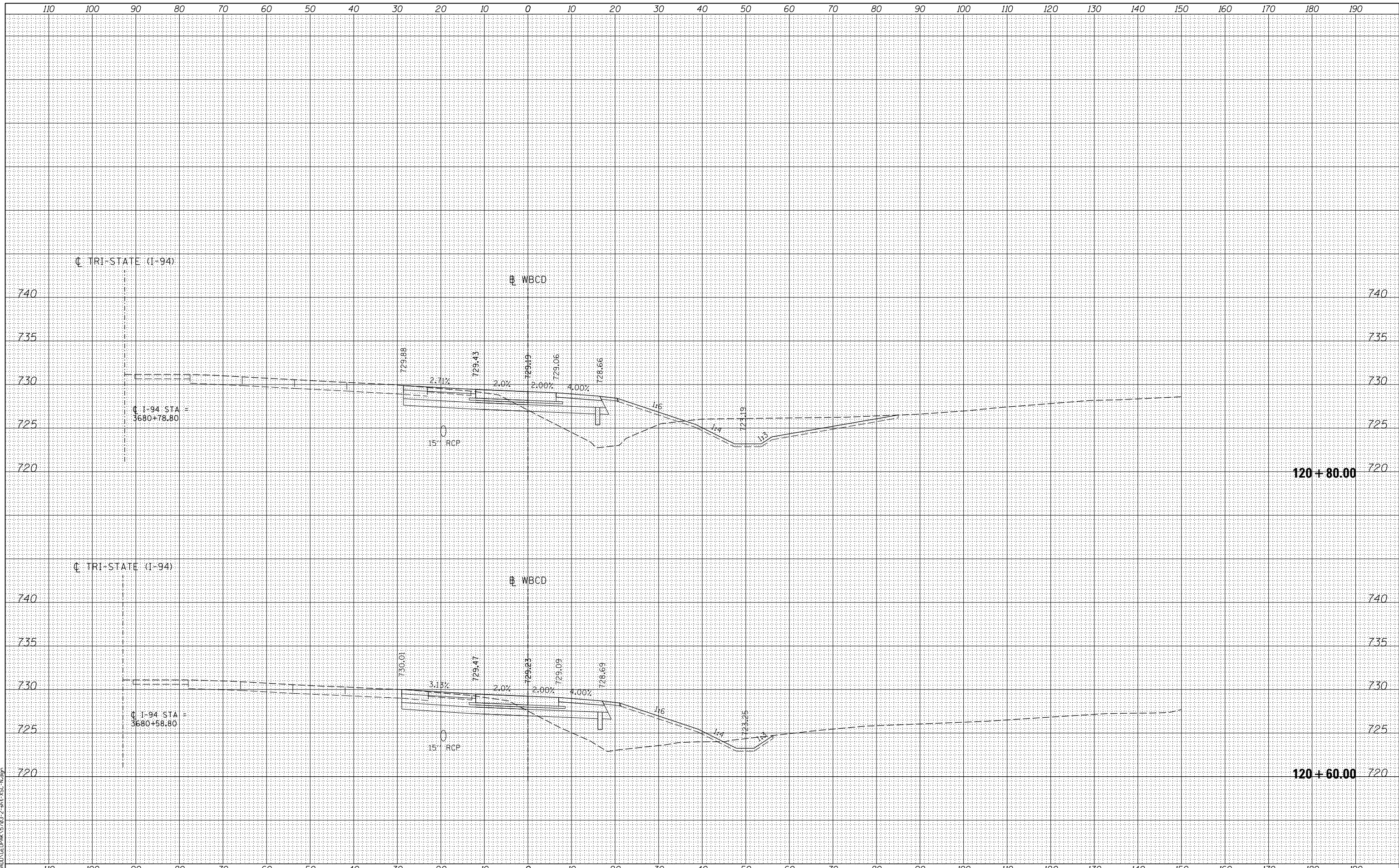


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-45
 CROSS SECTIONS DRAWING NO. 193 OF 228

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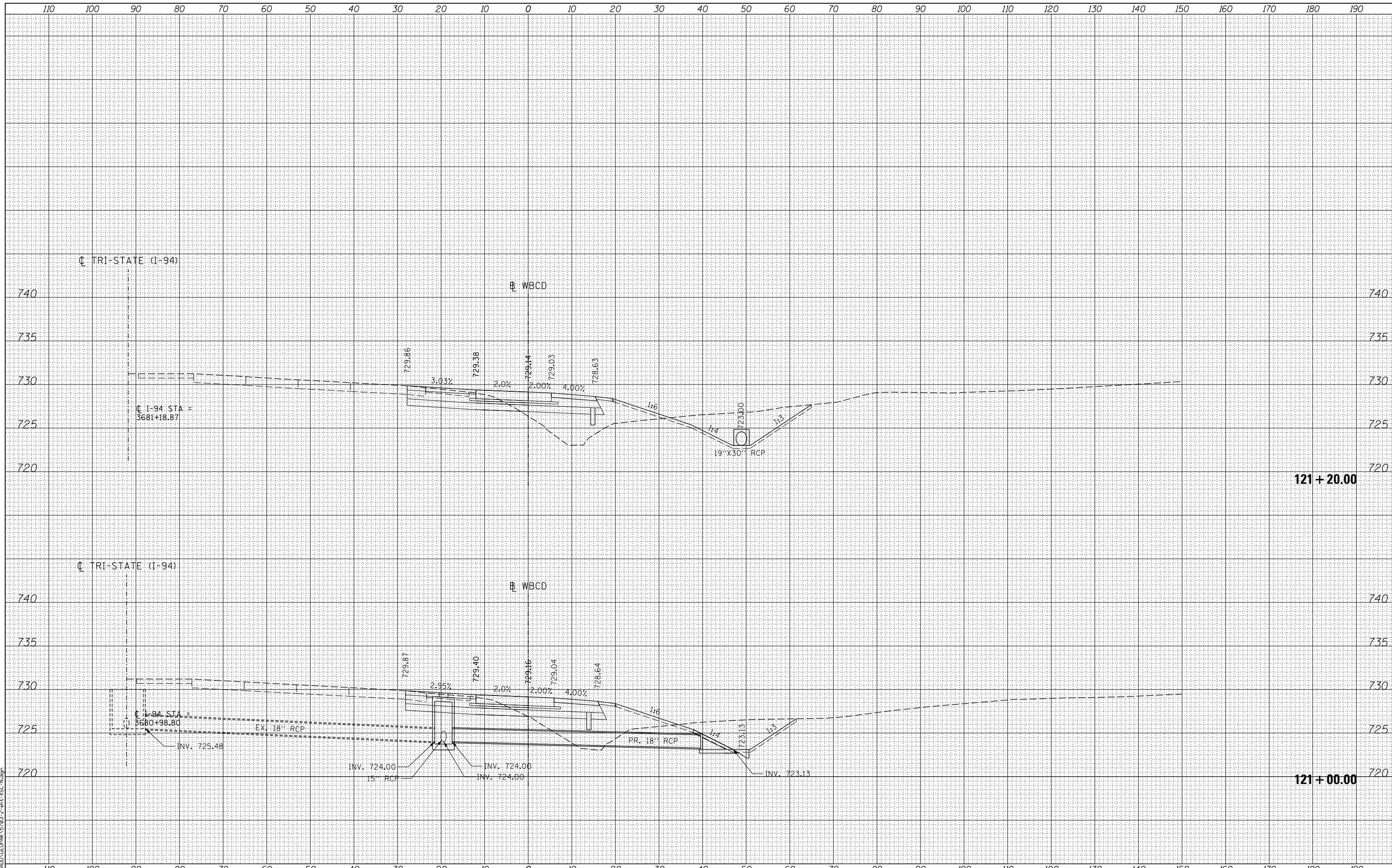
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 CHECKED BY VO DATE 03/23/2017



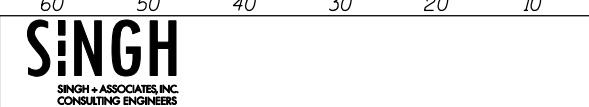
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-46
 DRAWING NO.
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

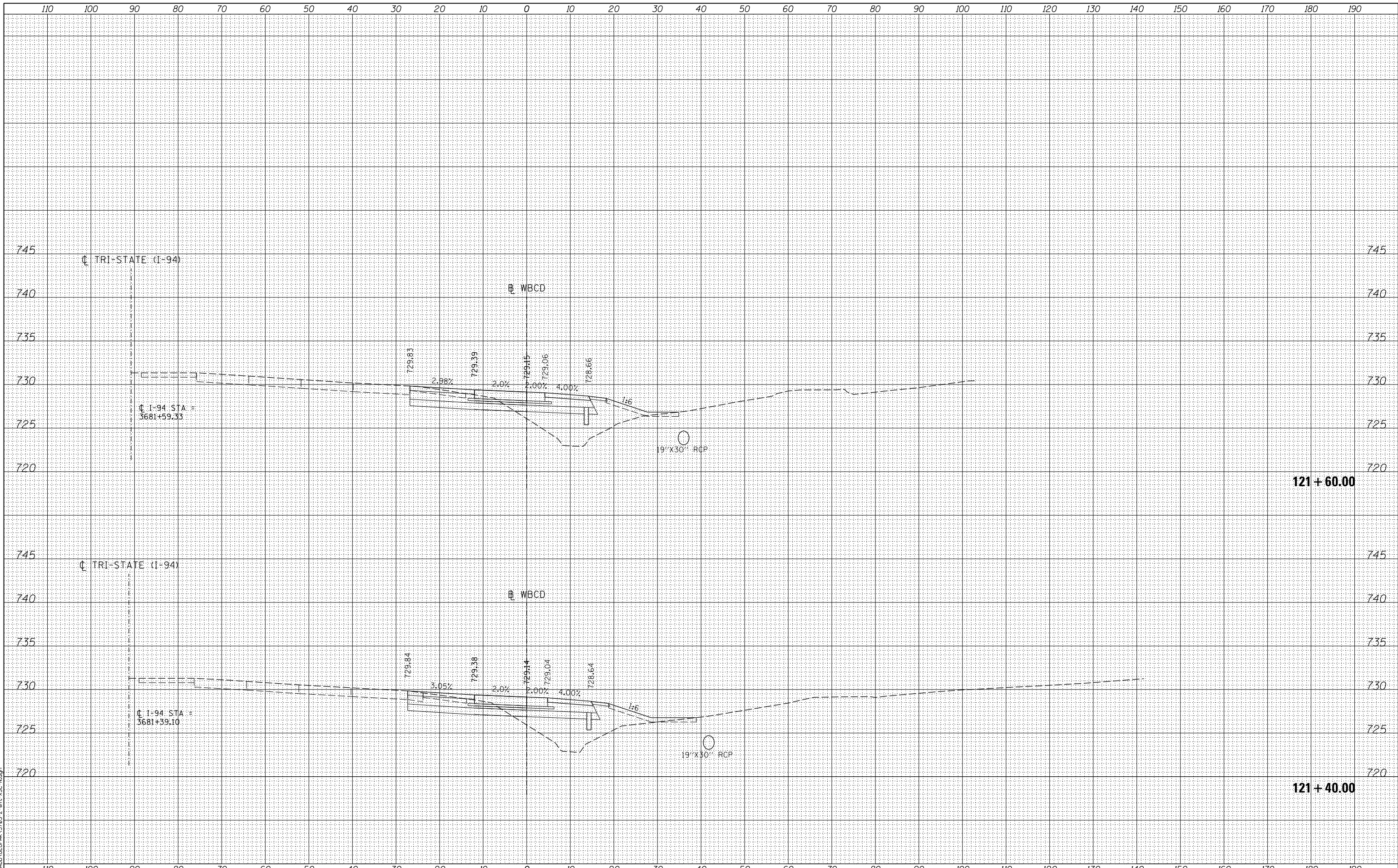


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-47
 CROSS SECTIONS DRAWING NO. 195 OF 228

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121 + 60.00

121 + 40.00

J:\14225.02\94-CADD\GEOPAK\AS703-2-sht-XSC-16.dgn

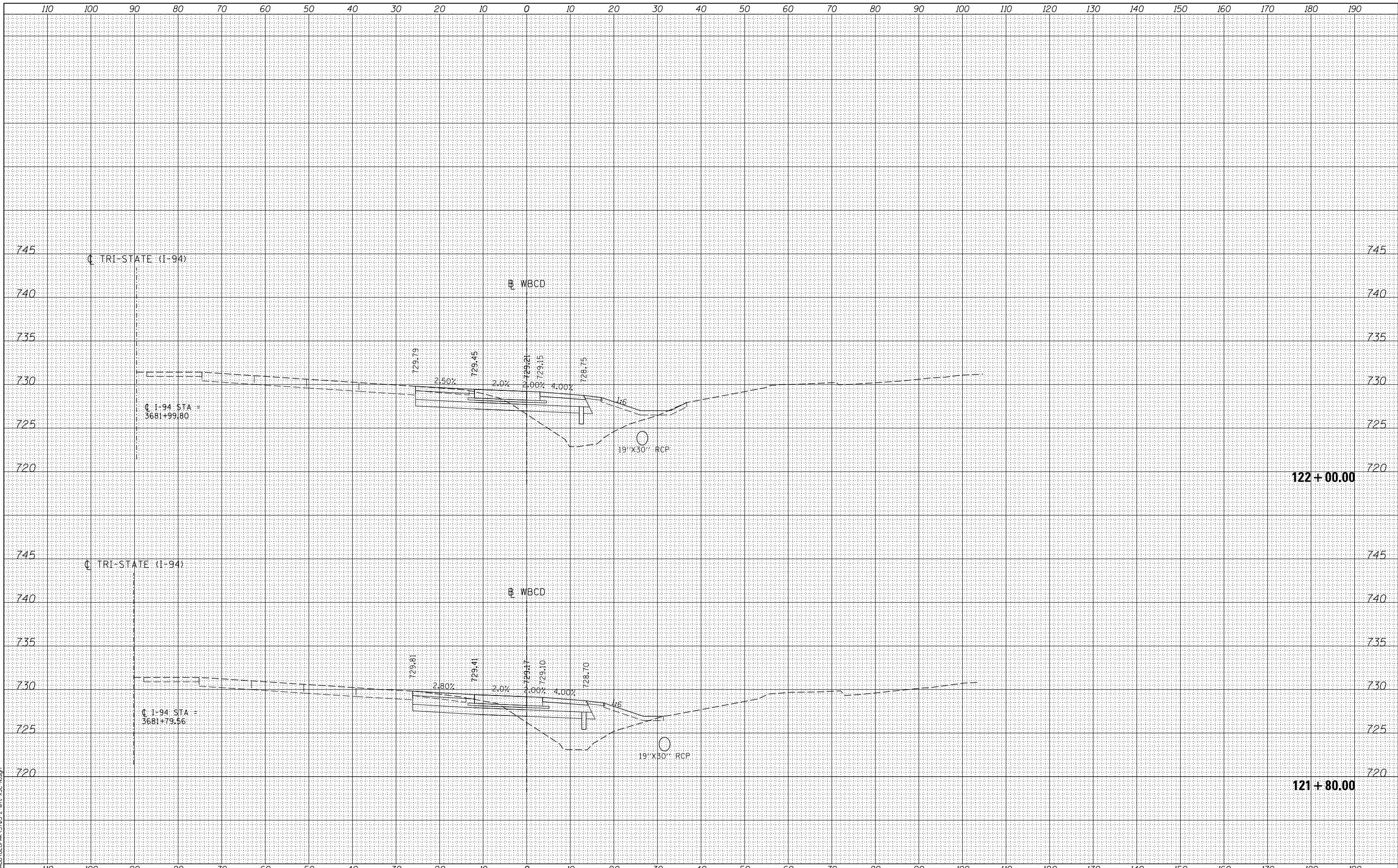
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-48
 DRAWING NO.
 196 OF 228



J:\14225.02\04-CADD\GEOPAK\5703-2-sht-XSC-197.dwg

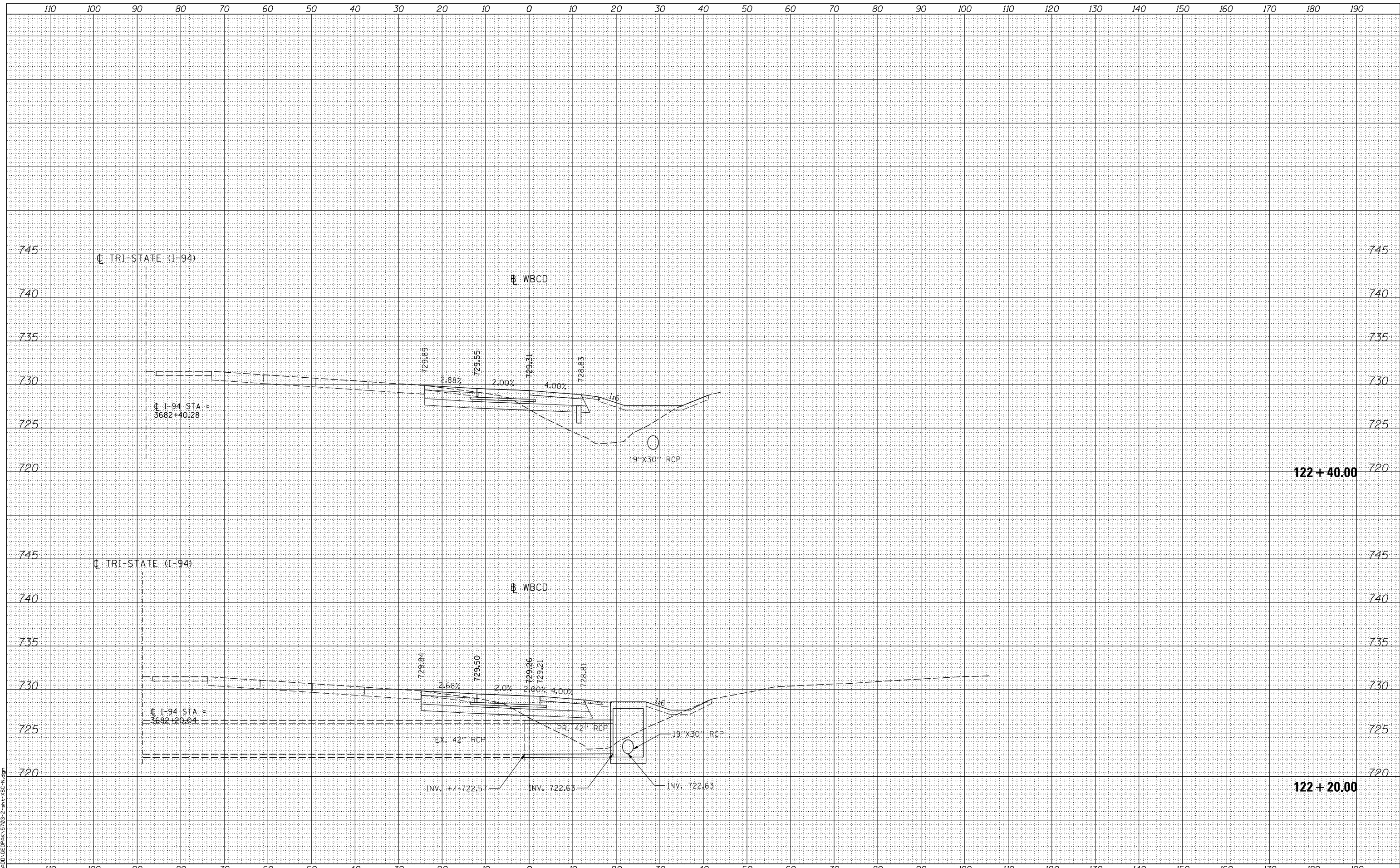
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-49
 DRAWING NO.
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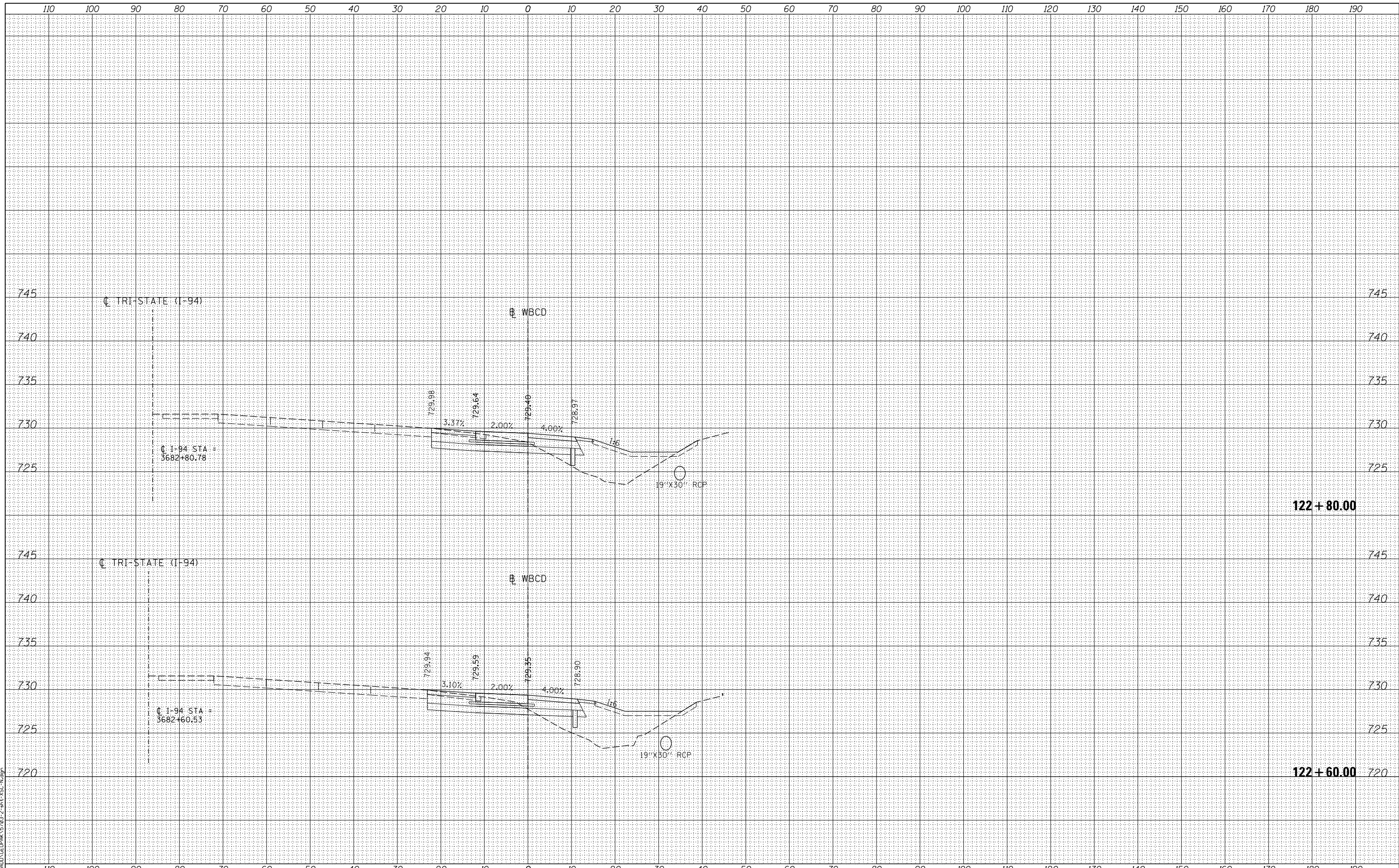
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 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-50
 DRAWING NO.
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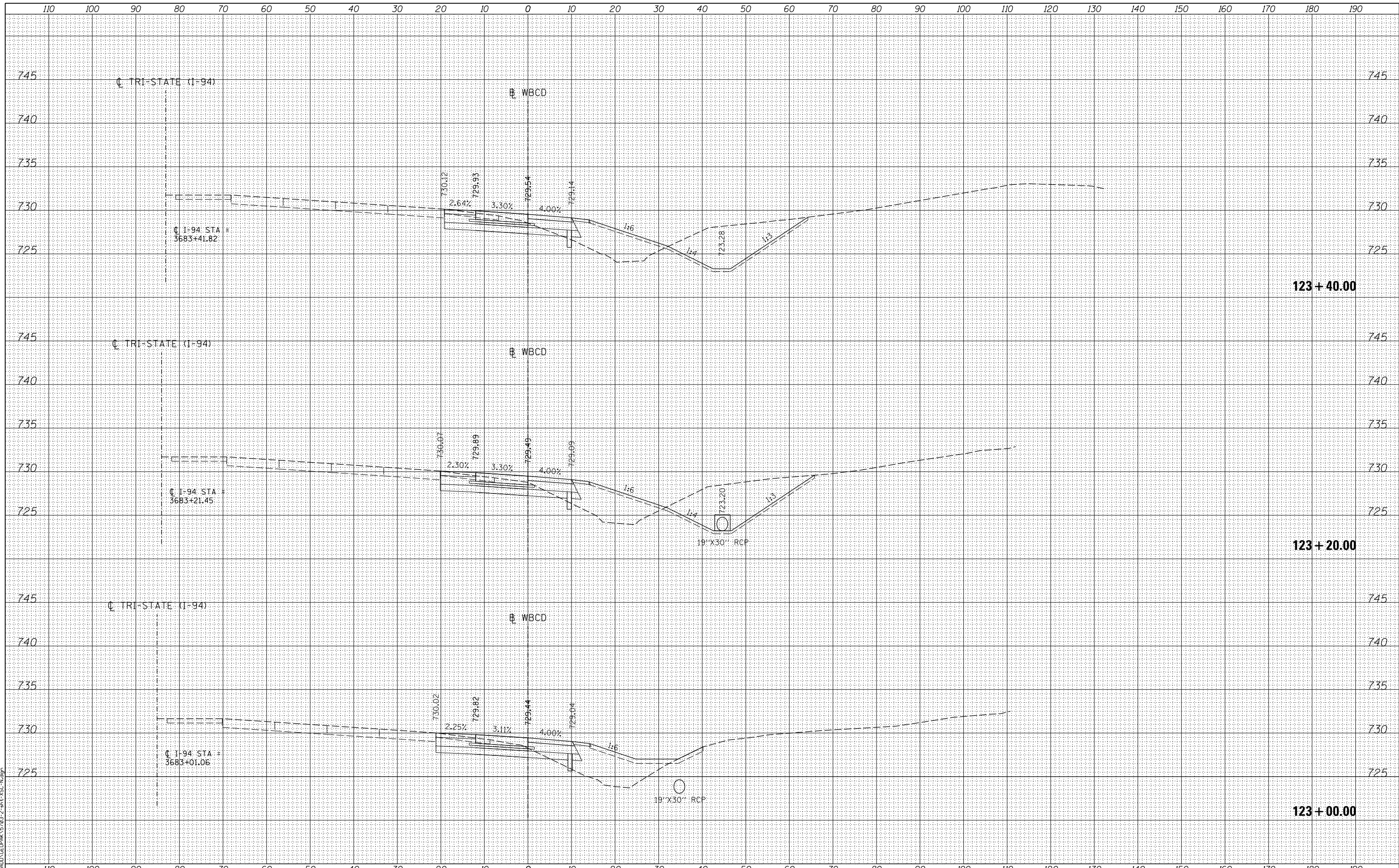
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

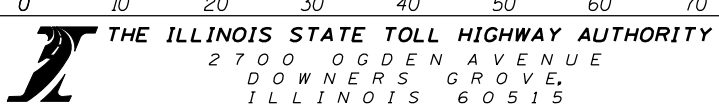
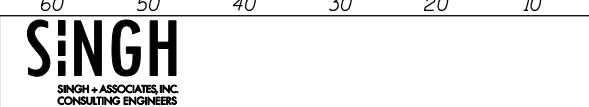


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-51
 CROSS SECTIONS DRAWING NO. 199 OF 228



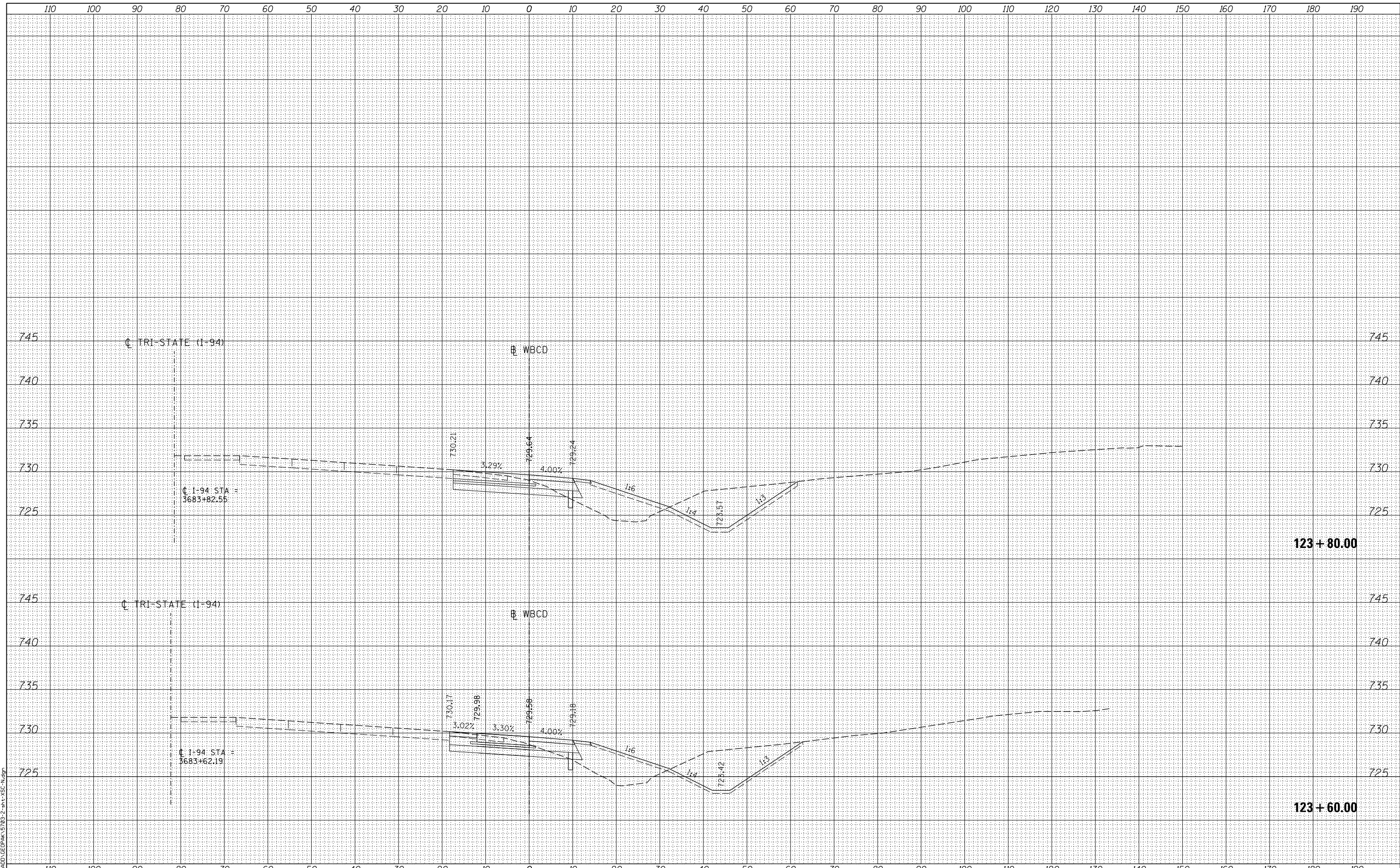
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-52
 CROSS SECTIONS DRAWING NO. 200 OF 228

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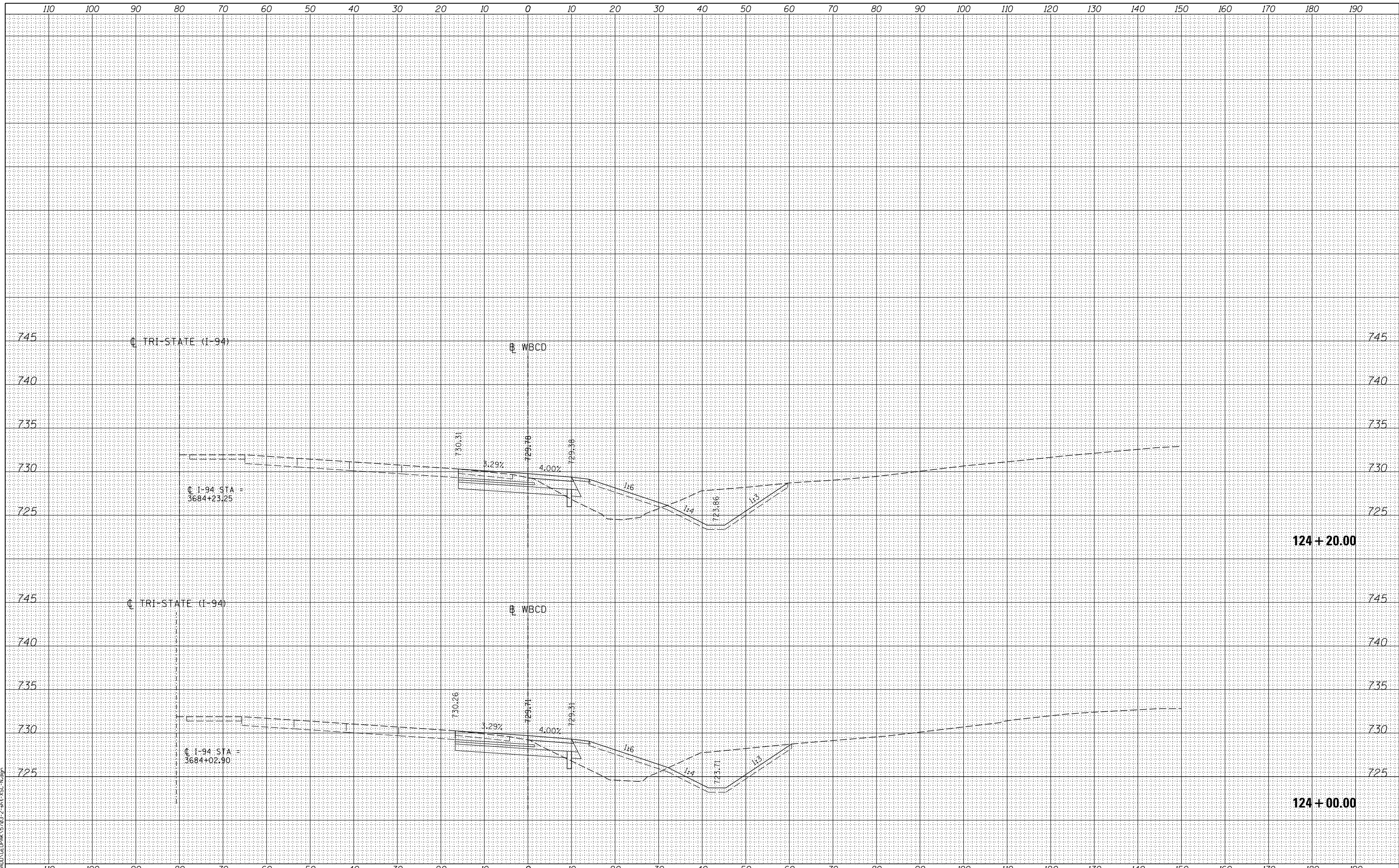
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-53
 DRAWING NO. 201 OF 228



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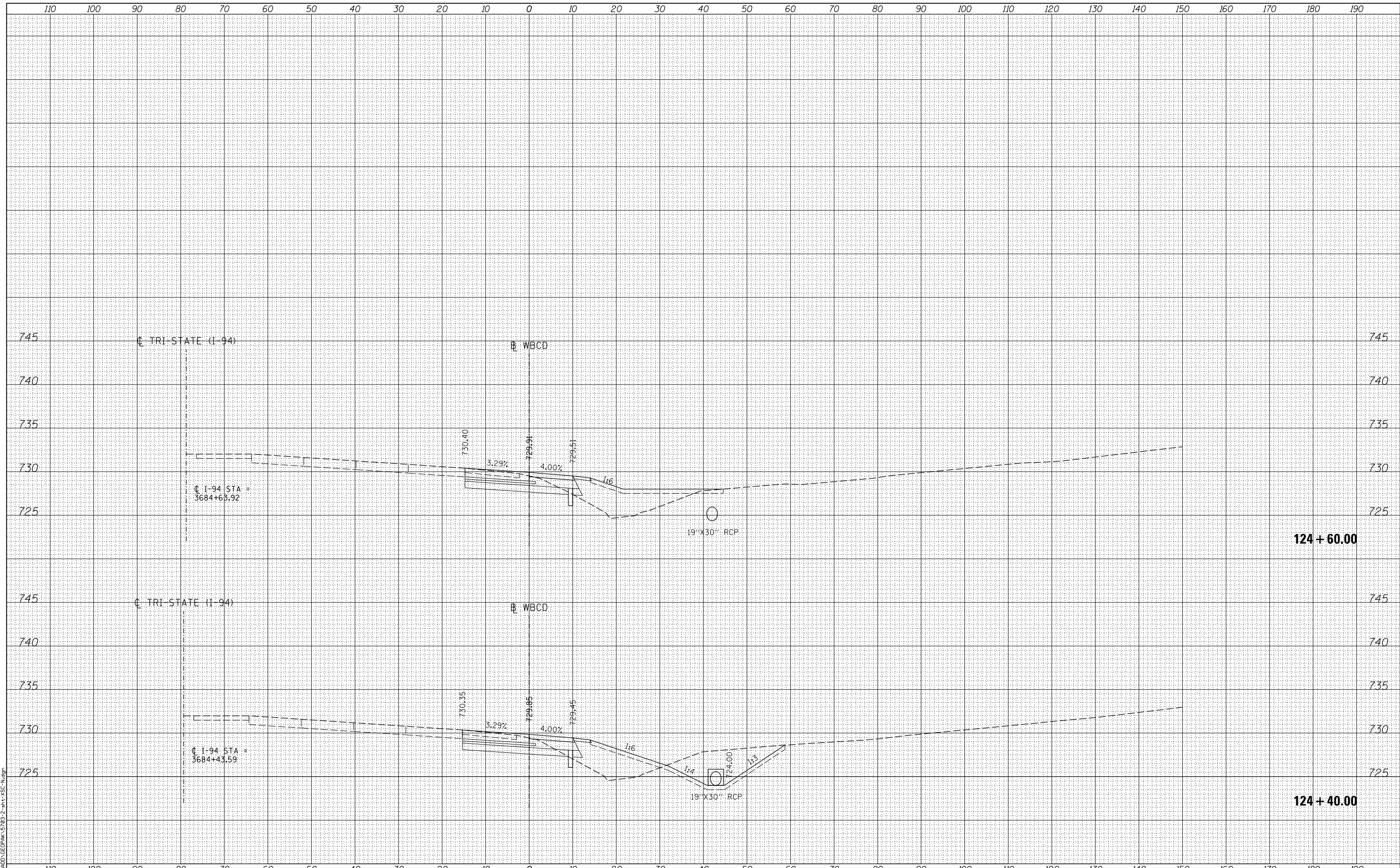
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-54
 CROSS SECTIONS DRAWING NO. 202 OF 228



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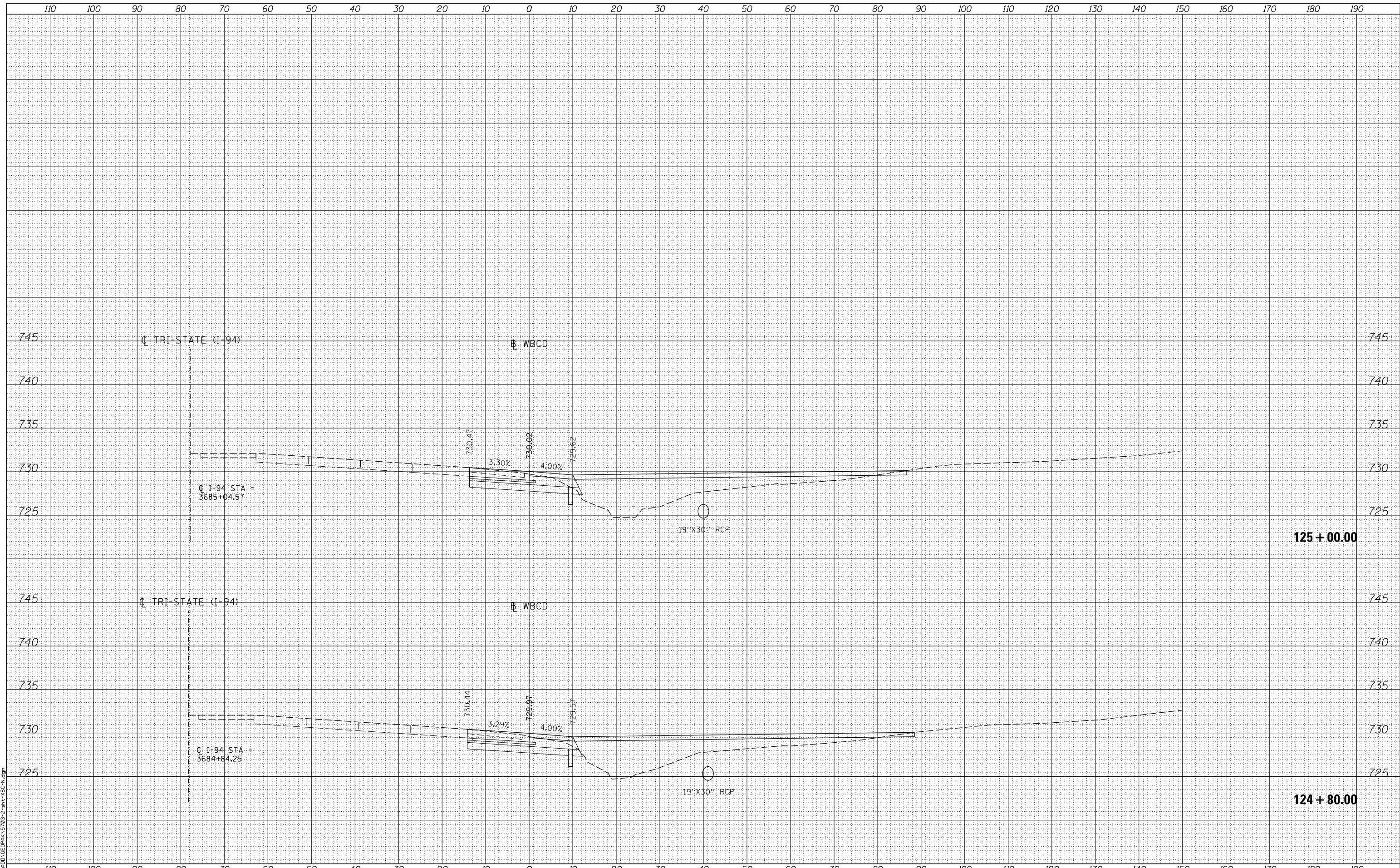
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-55
 DRAWING NO.
 203 OF 228



DRAWN BY LLS DATE 03/23/2017
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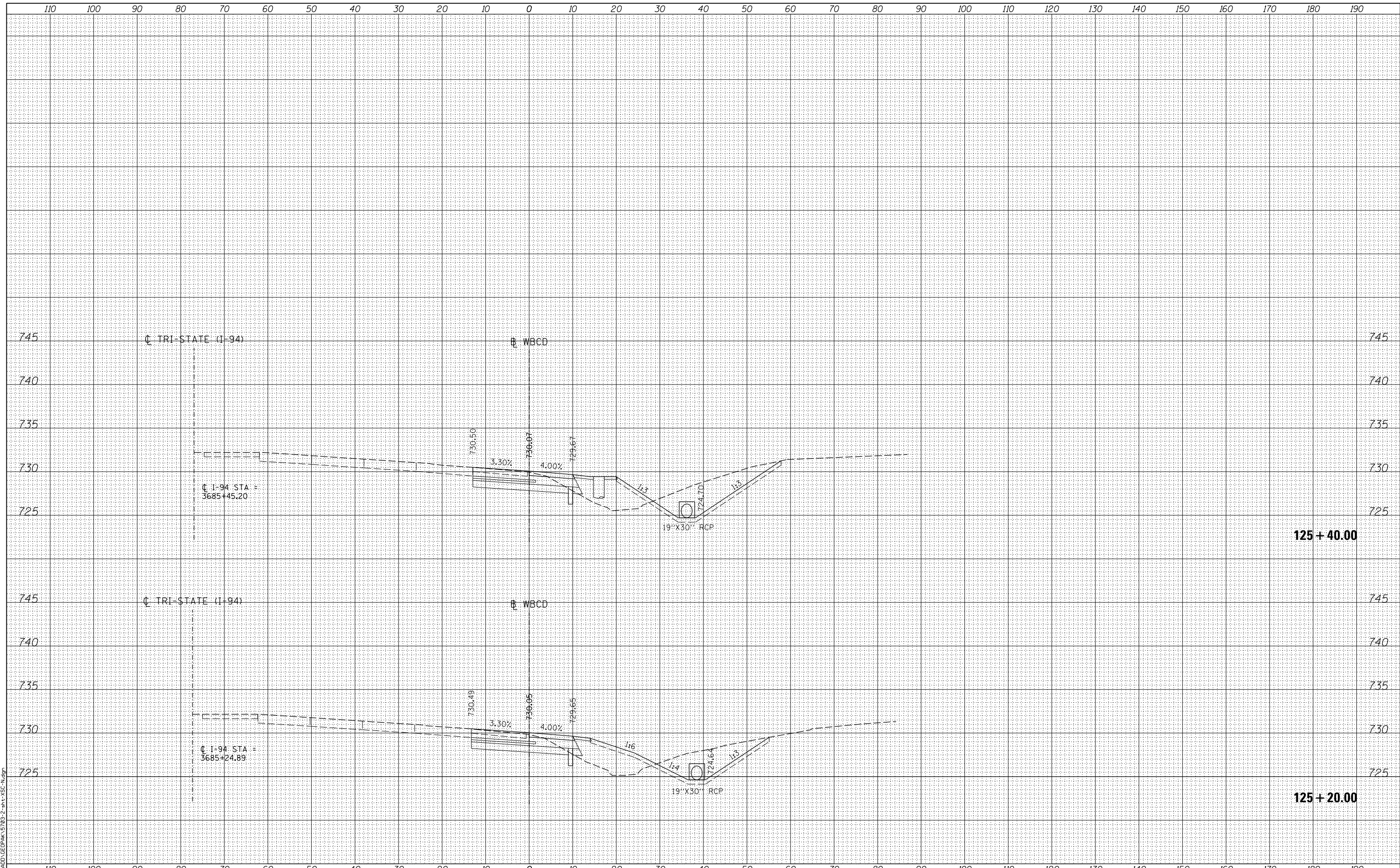


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO.XSC-56
 CROSS SECTIONS DRAWING NO. 204 OF 228

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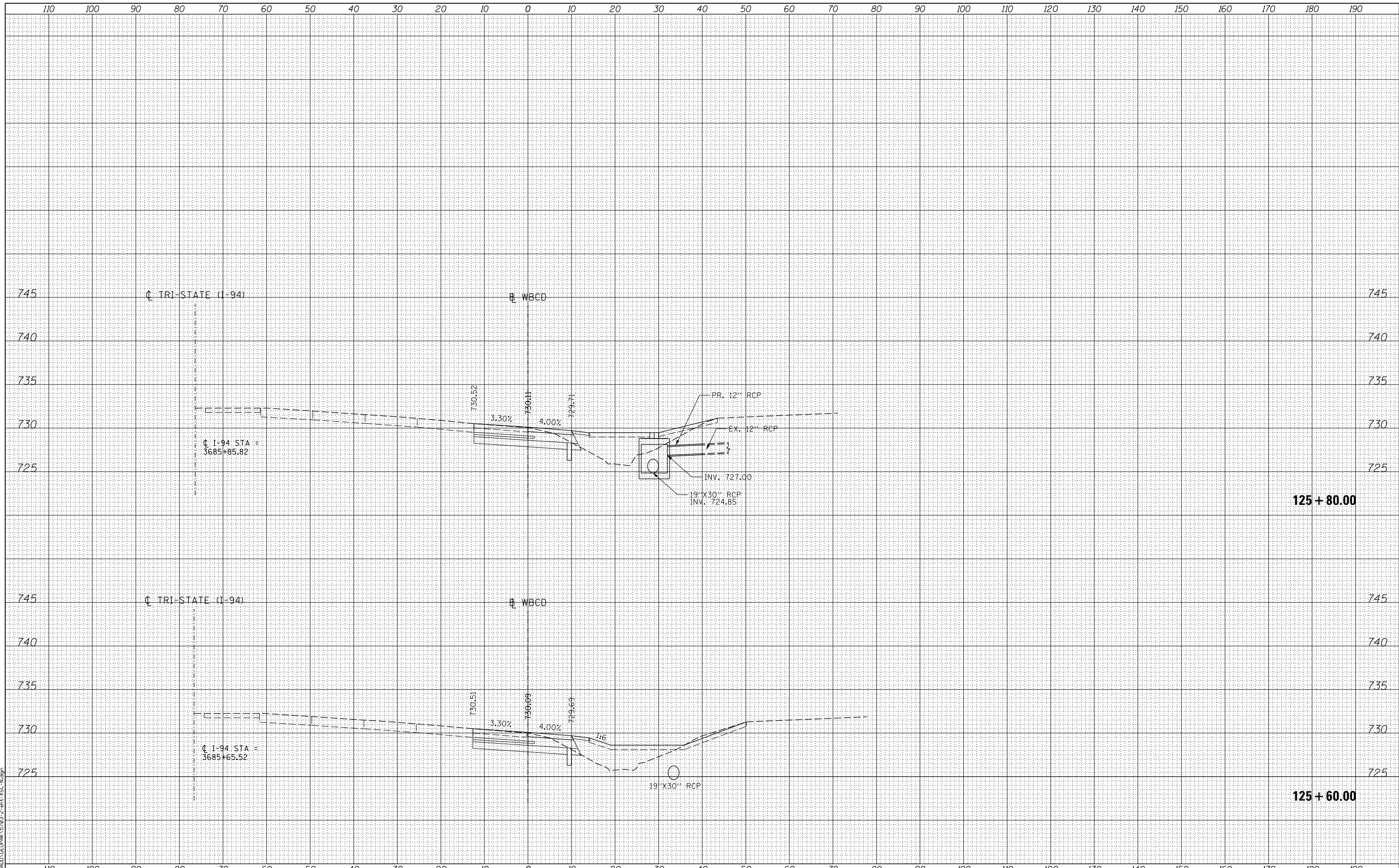
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-57
 DRAWING NO.
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J:\14225\04-0400\GEOPAK\5703 2-sht-XSC-1.dwg

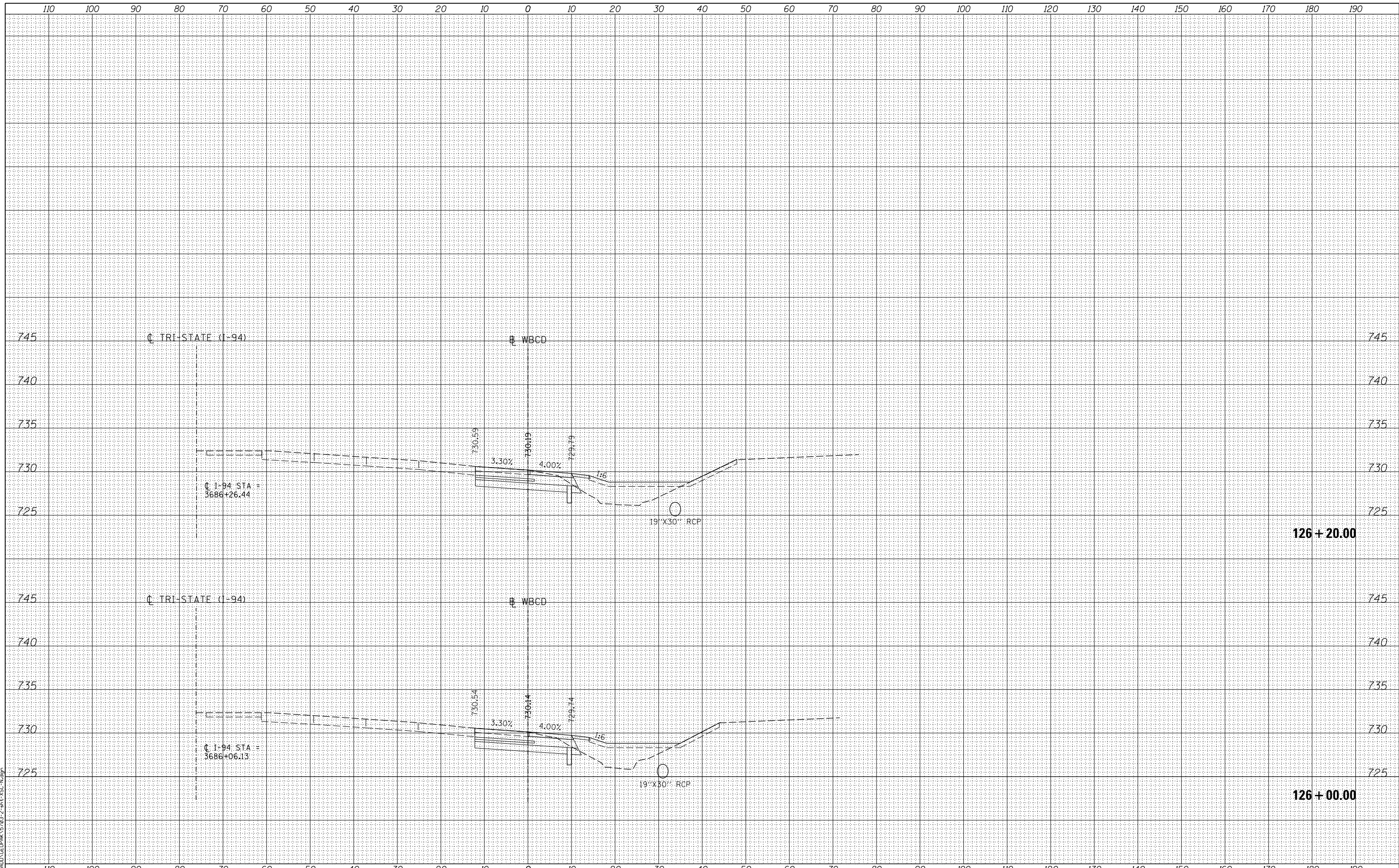
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-58
 CROSS SECTIONS DRAWING NO. 206 OF 228



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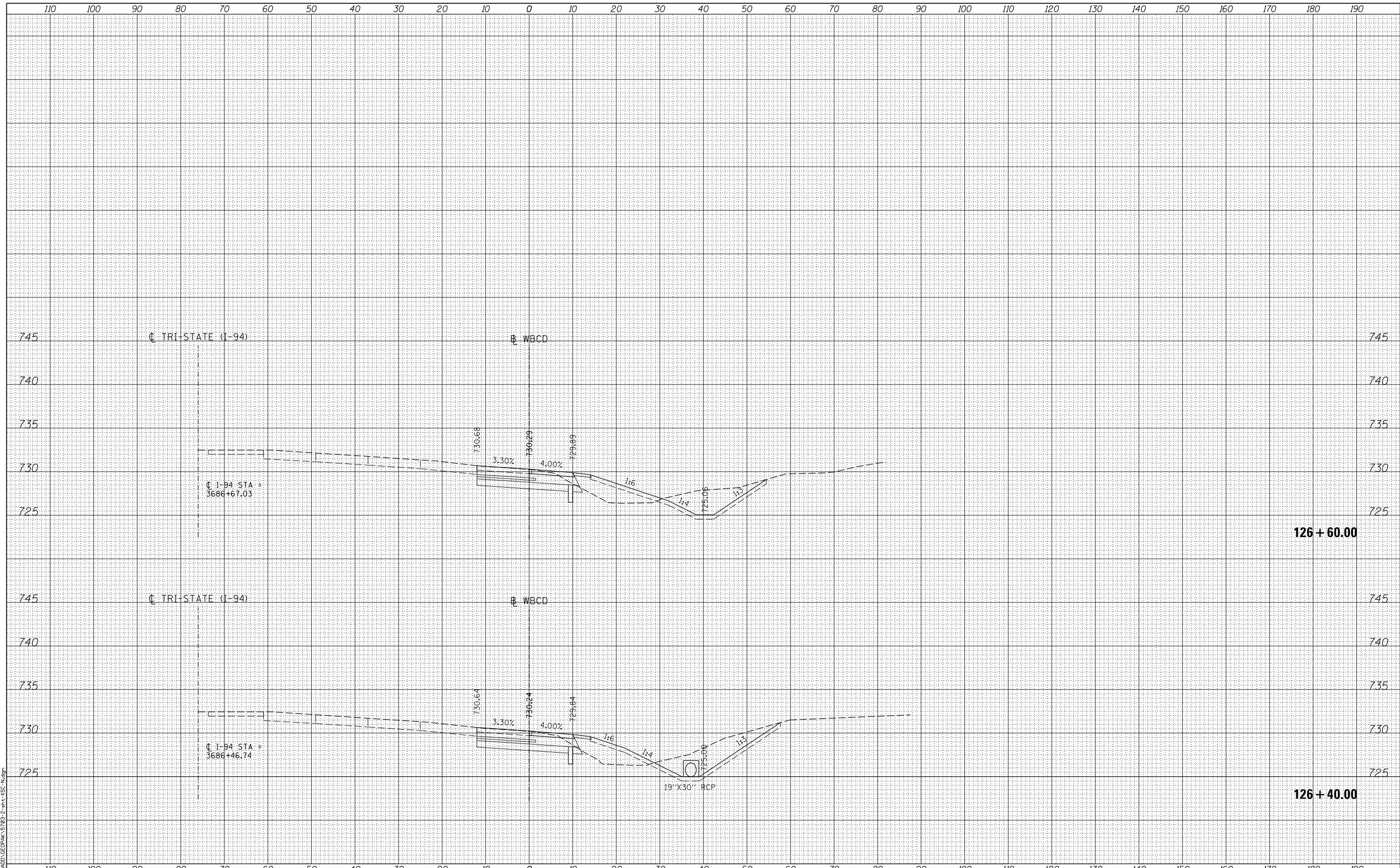
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-59
 DRAWING NO.
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

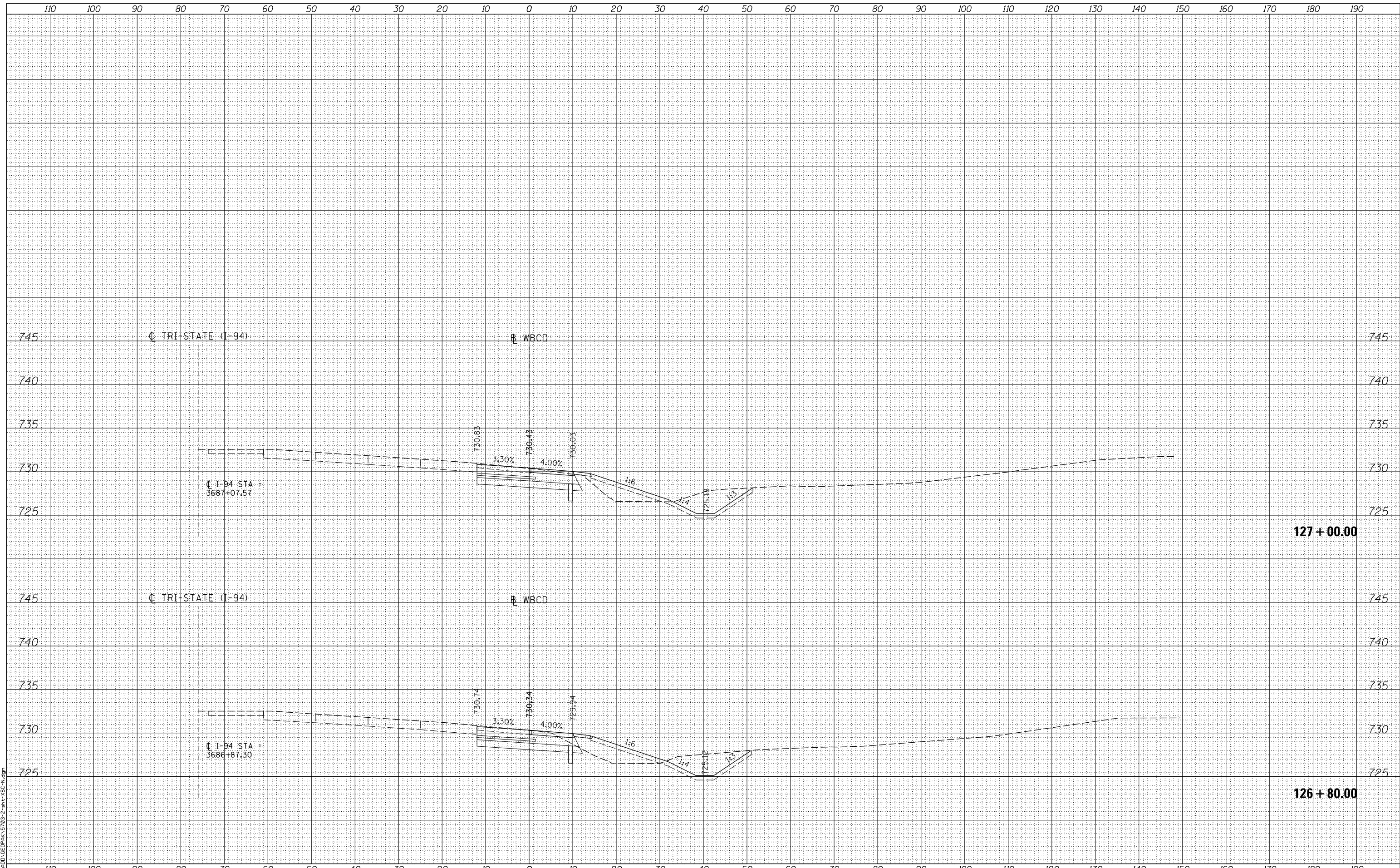


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-60
 DRAWING NO.
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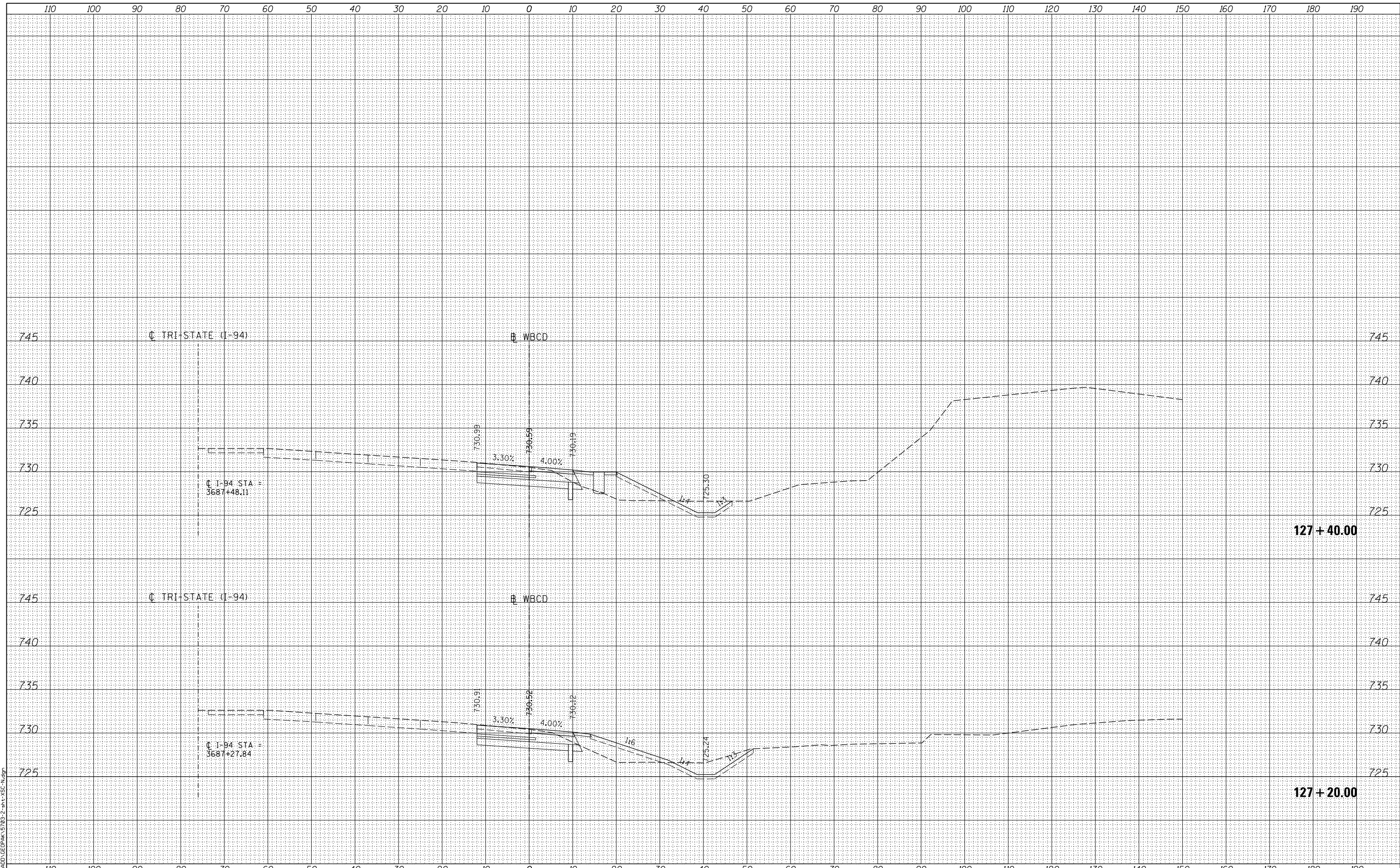
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

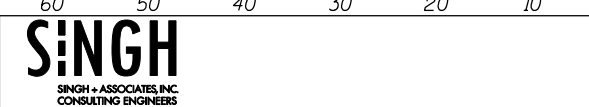


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO.XSC-61
 CROSS SECTIONS DRAWING NO. 209 OF 228



DRAWN BY LLS DATE 03/23/2017
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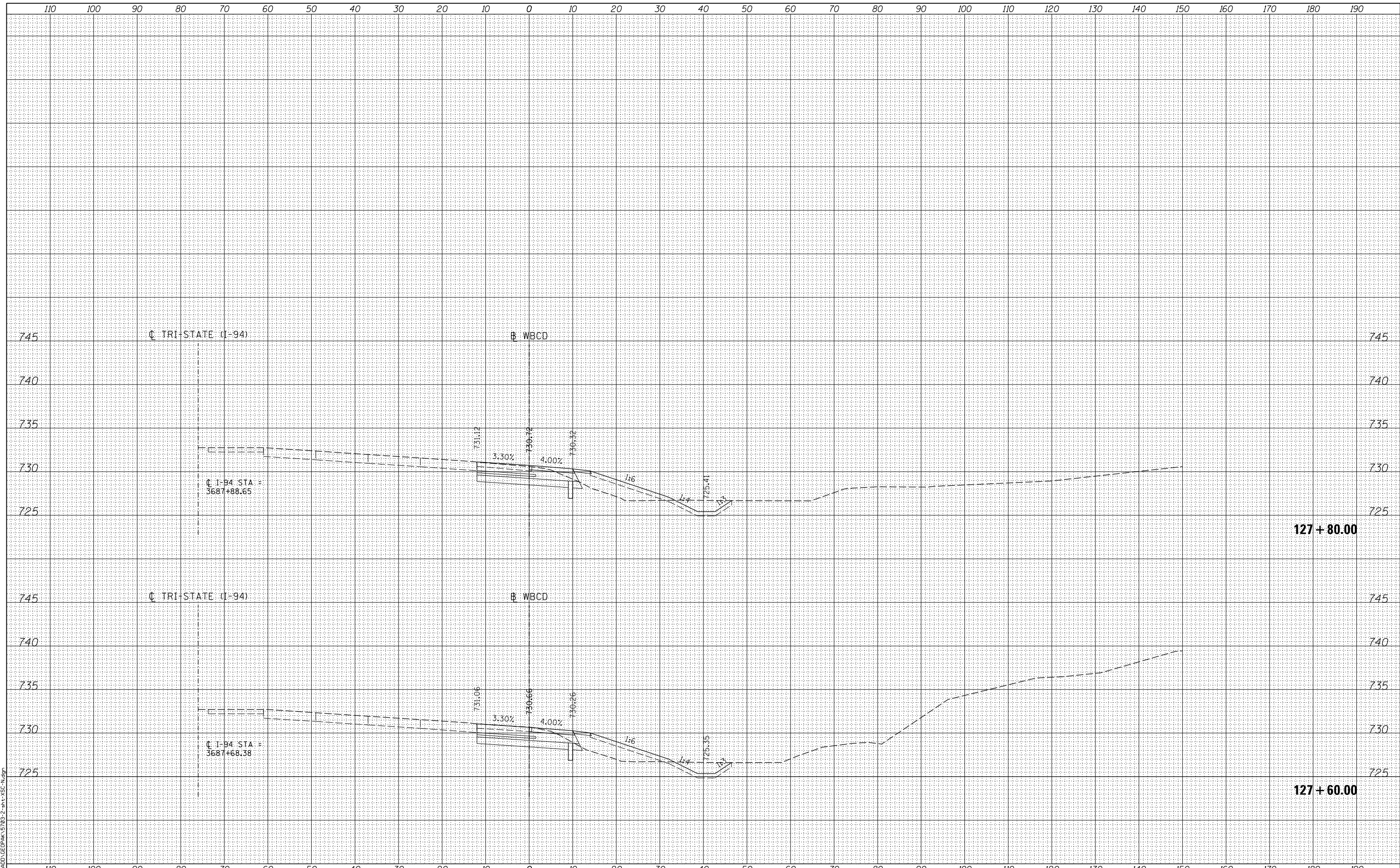


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
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 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO.XSC-62
 CROSS SECTIONS DRAWING NO. 210 OF 228

J:\14225.02\04-CADD\GEOPAK\5703-2-sht-XSC-1.dwg



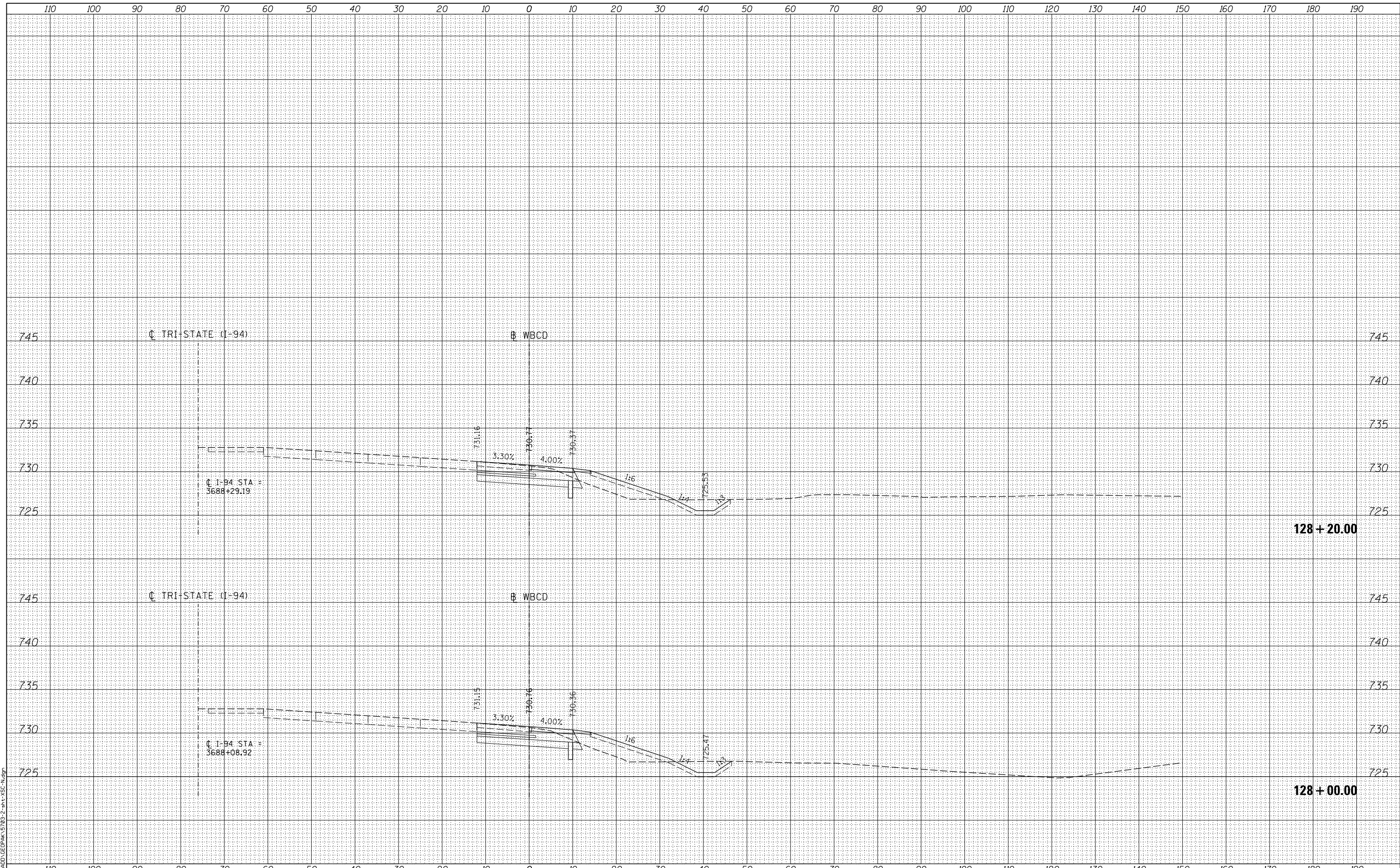
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-63
 CROSS SECTIONS DRAWING NO. 211 OF 228



J:\14225.02\04-CADD\GEOPAK\5703-2-sht-XSC-1.dwg

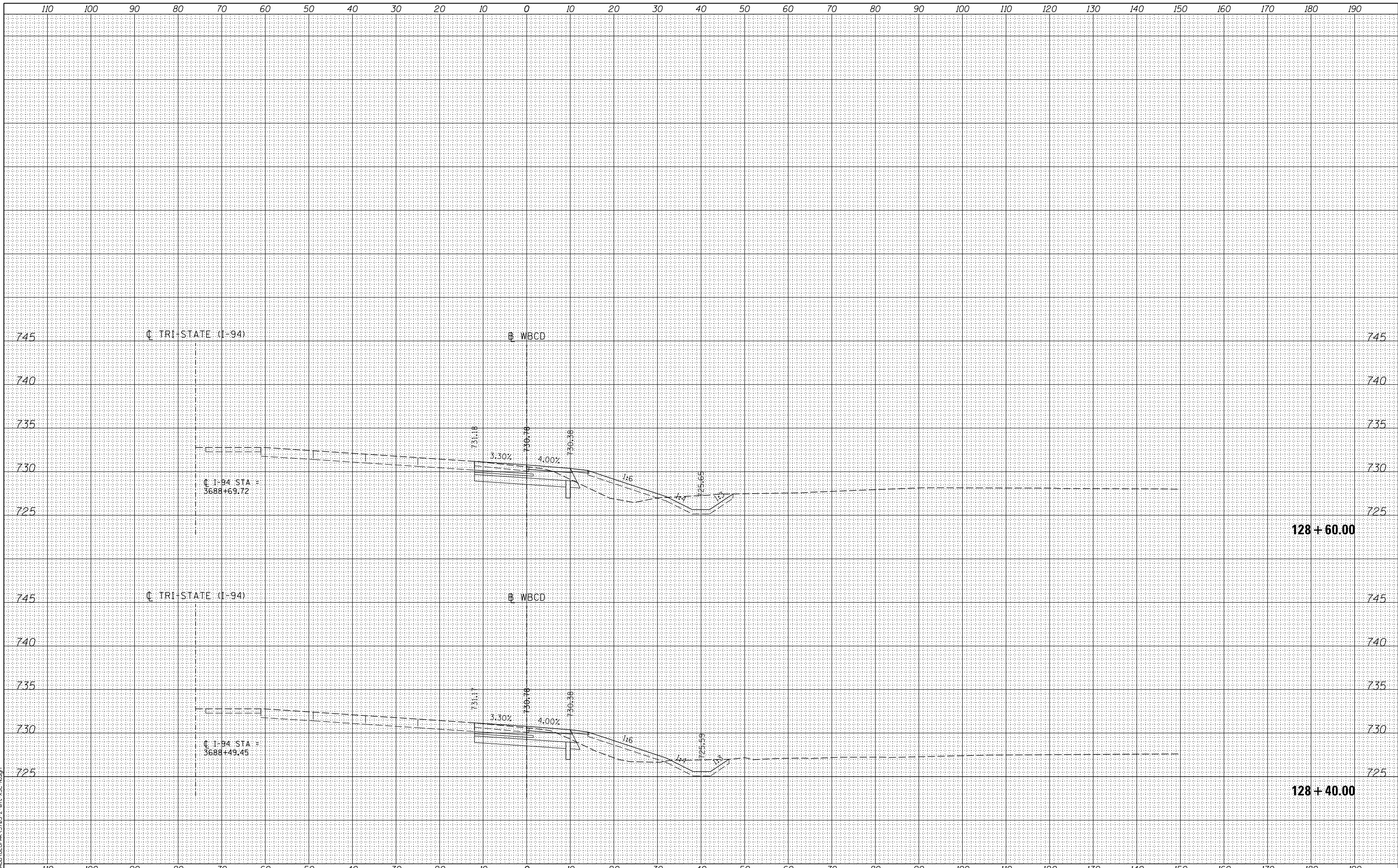
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



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 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-64
 CROSS SECTIONS DRAWING NO. 212 OF 228



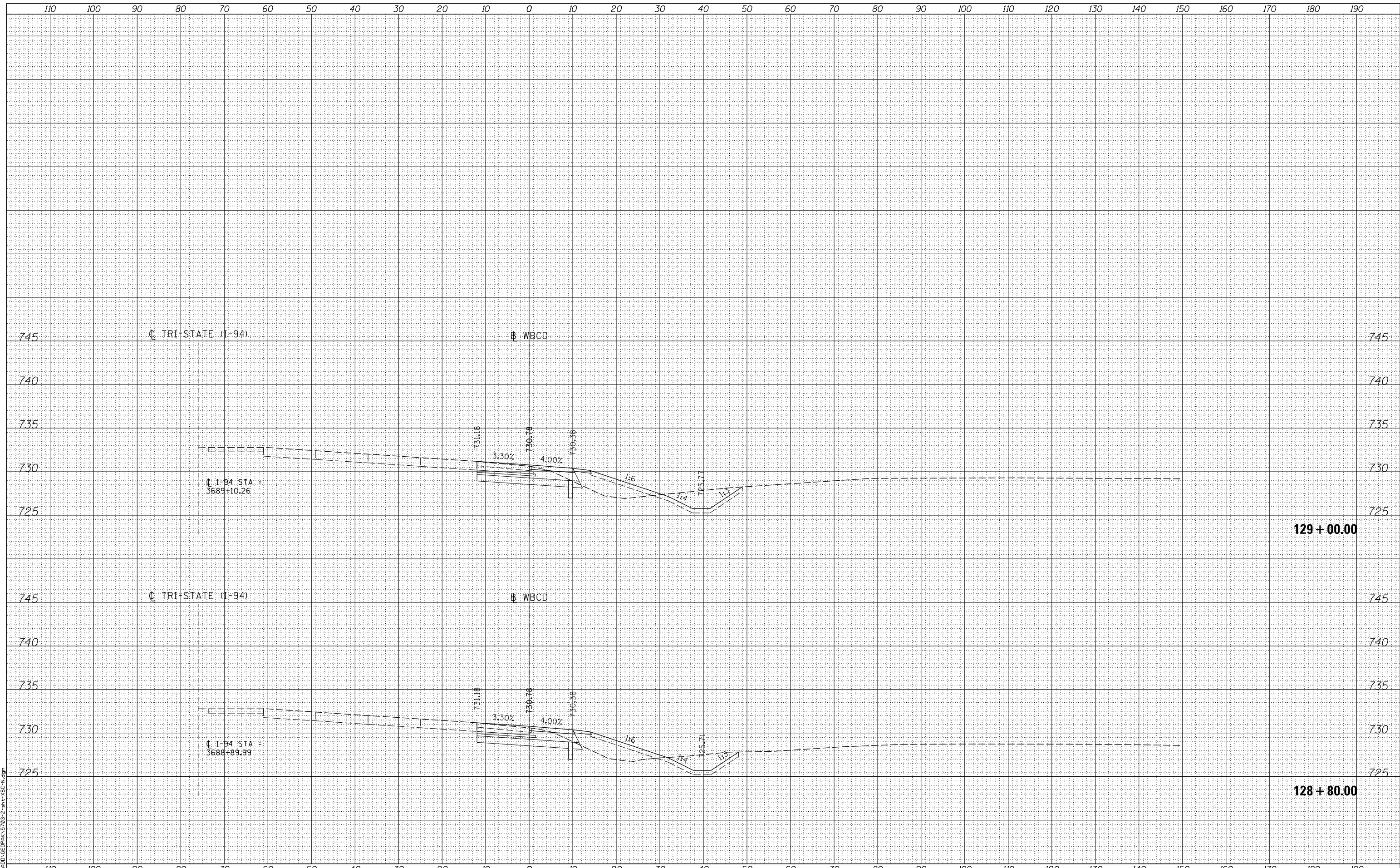
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
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CONTRACT NO. RR-17-4291
 CROSS SECTIONS
 SHT NO.XSC-65
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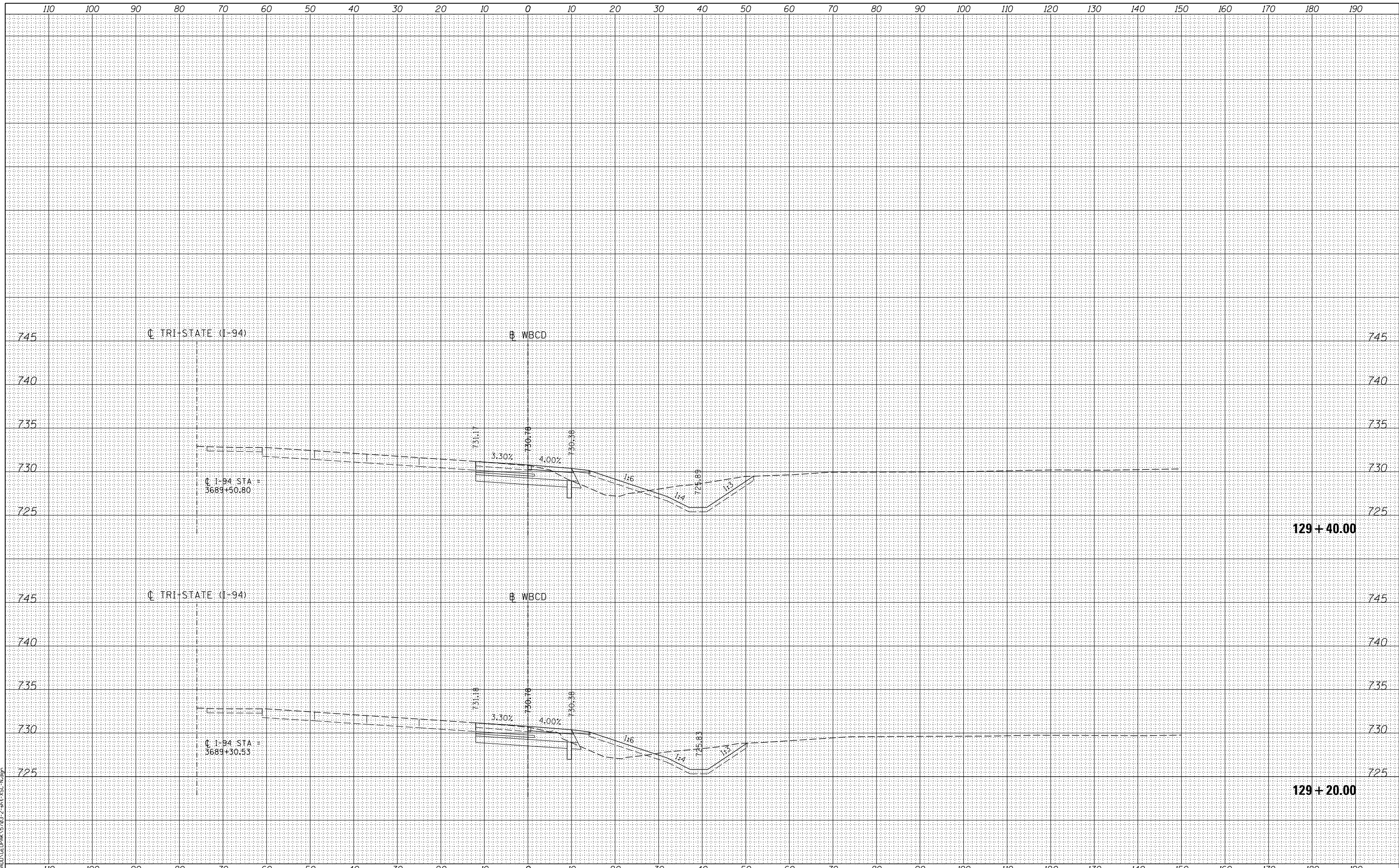
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 CHECKED BY VO DATE 03/23/2017



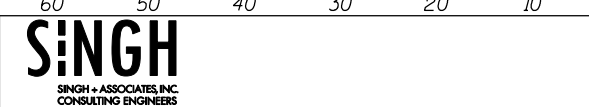
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-66
 DRAWING NO.
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

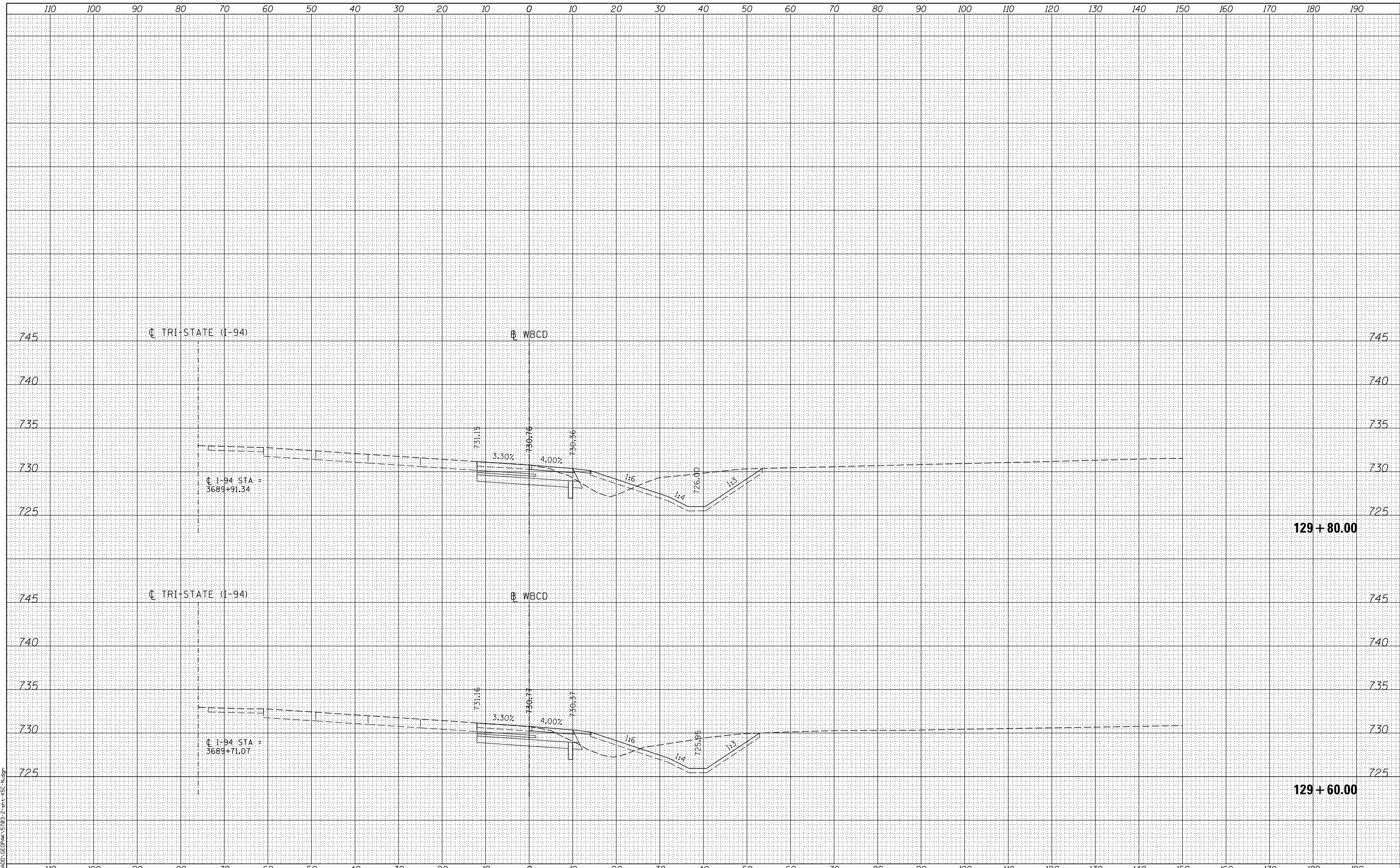


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-67
 CROSS SECTIONS DRAWING NO. 215 OF 228

J:\14225.02\04-CADD\GEOPAK\AS703-2-sht-XSC-67.dwg



129 + 80.00

129 + 60.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

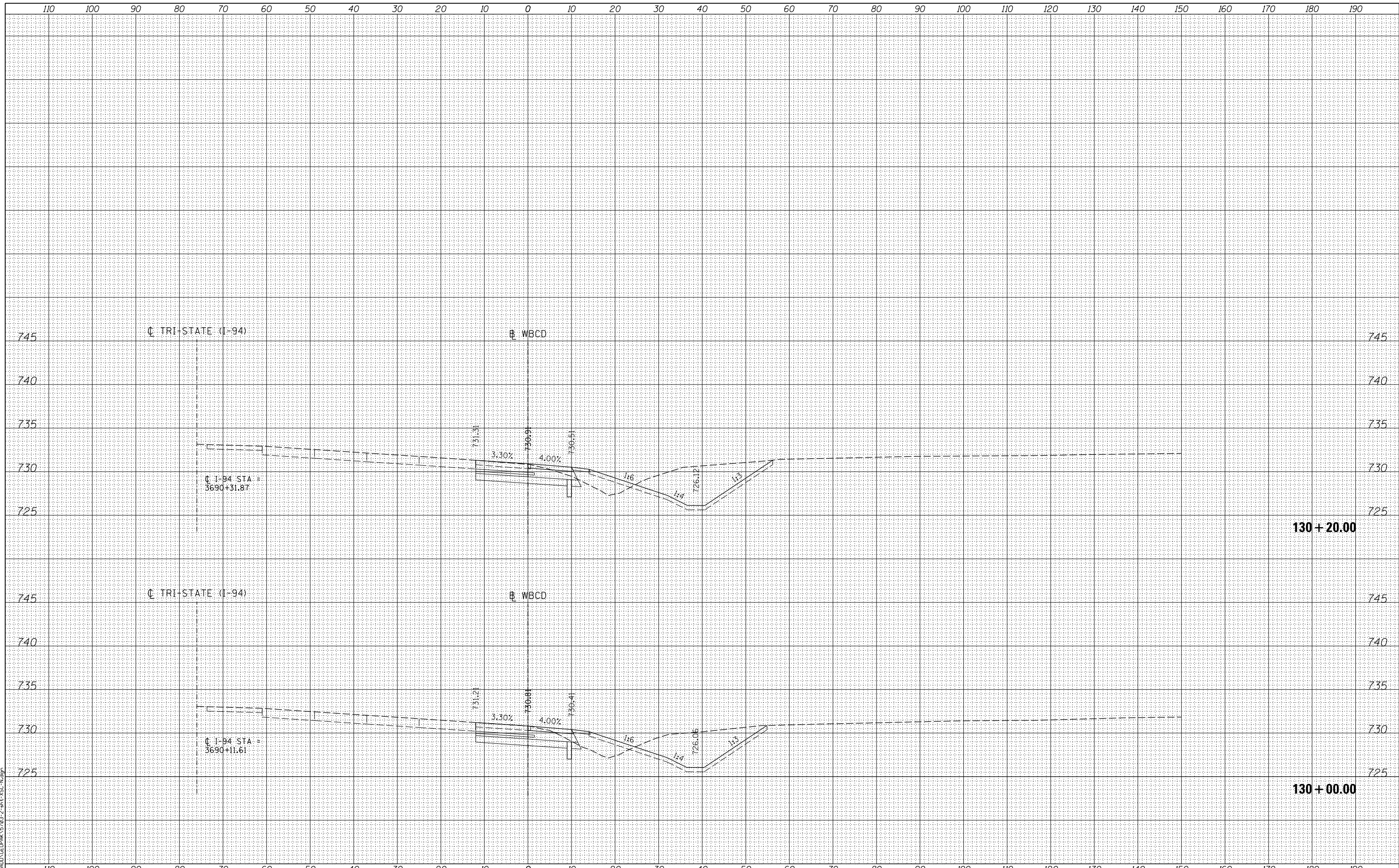


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-68
 DRAWING NO.
 216 OF 228

J:\14225.02\04-CADD\GEOPAK\AS703-2-sht-XSC-68.dgn



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130 + 00.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

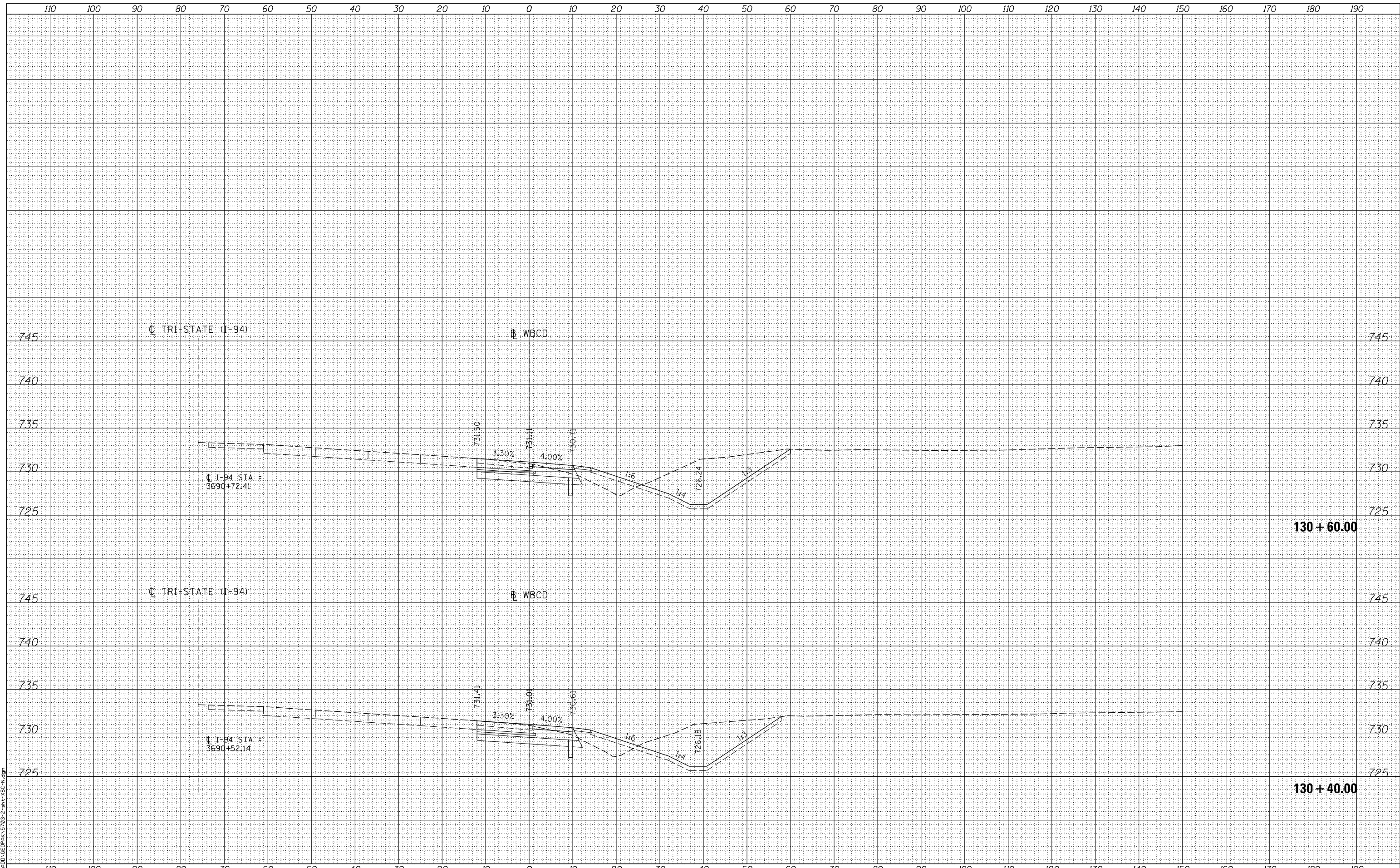


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO.XSC-69
 DRAWING NO.
 217 OF 228

J:\14225.02\04-CADD\GEOPAK\AS703-2-sht-XSC-69.dgn



130 + 60.00

130 + 40.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

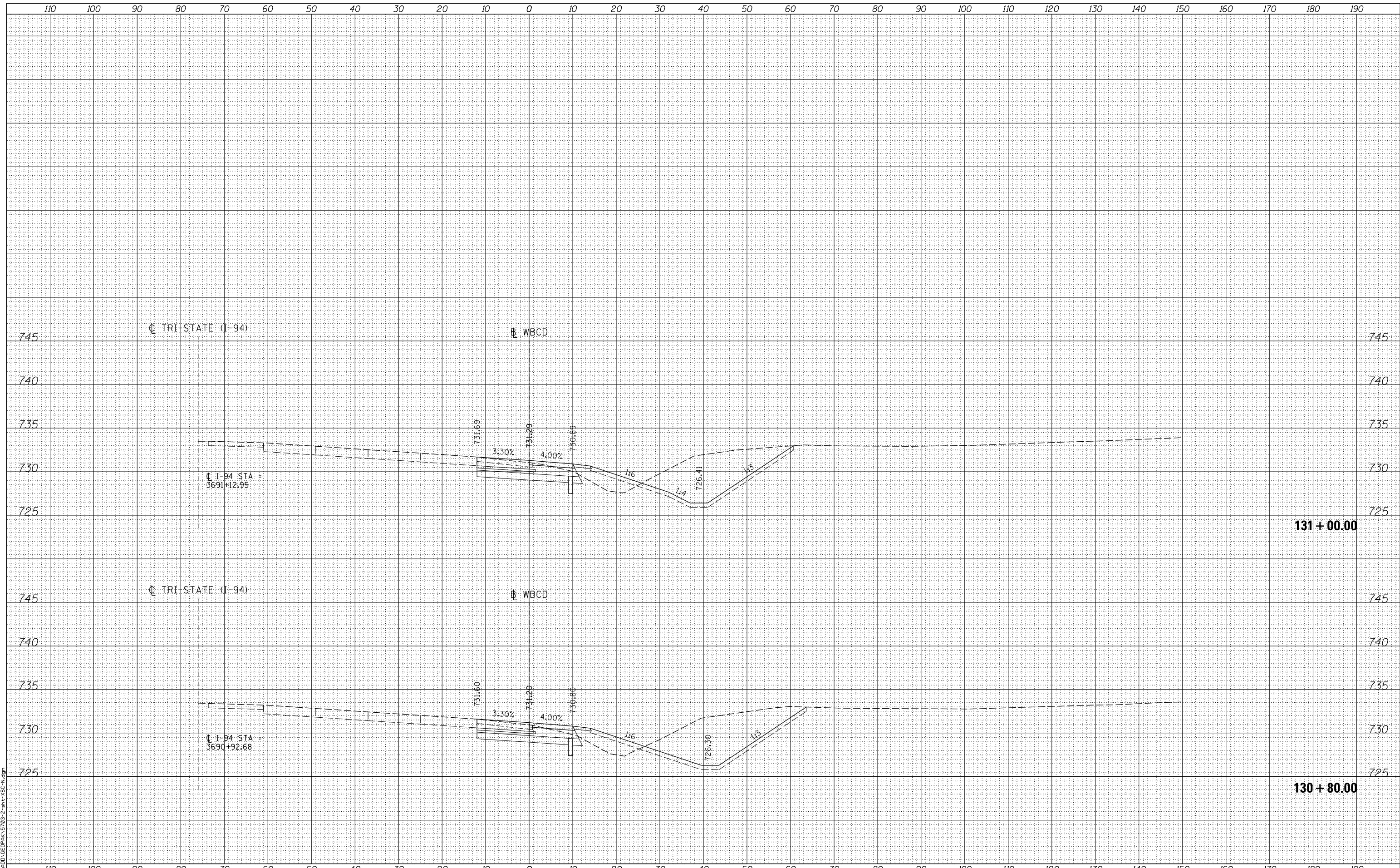
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CROSS SECTIONS

SHT NO.XSC-70

DRAWING NO.
218 OF 228

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TRI-STATE (I-94)
 I-94 STA = 3691+12.95

TRI-STATE (I-94)
 I-94 STA = 3690+92.68

131 + 00.00

130 + 80.00

DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

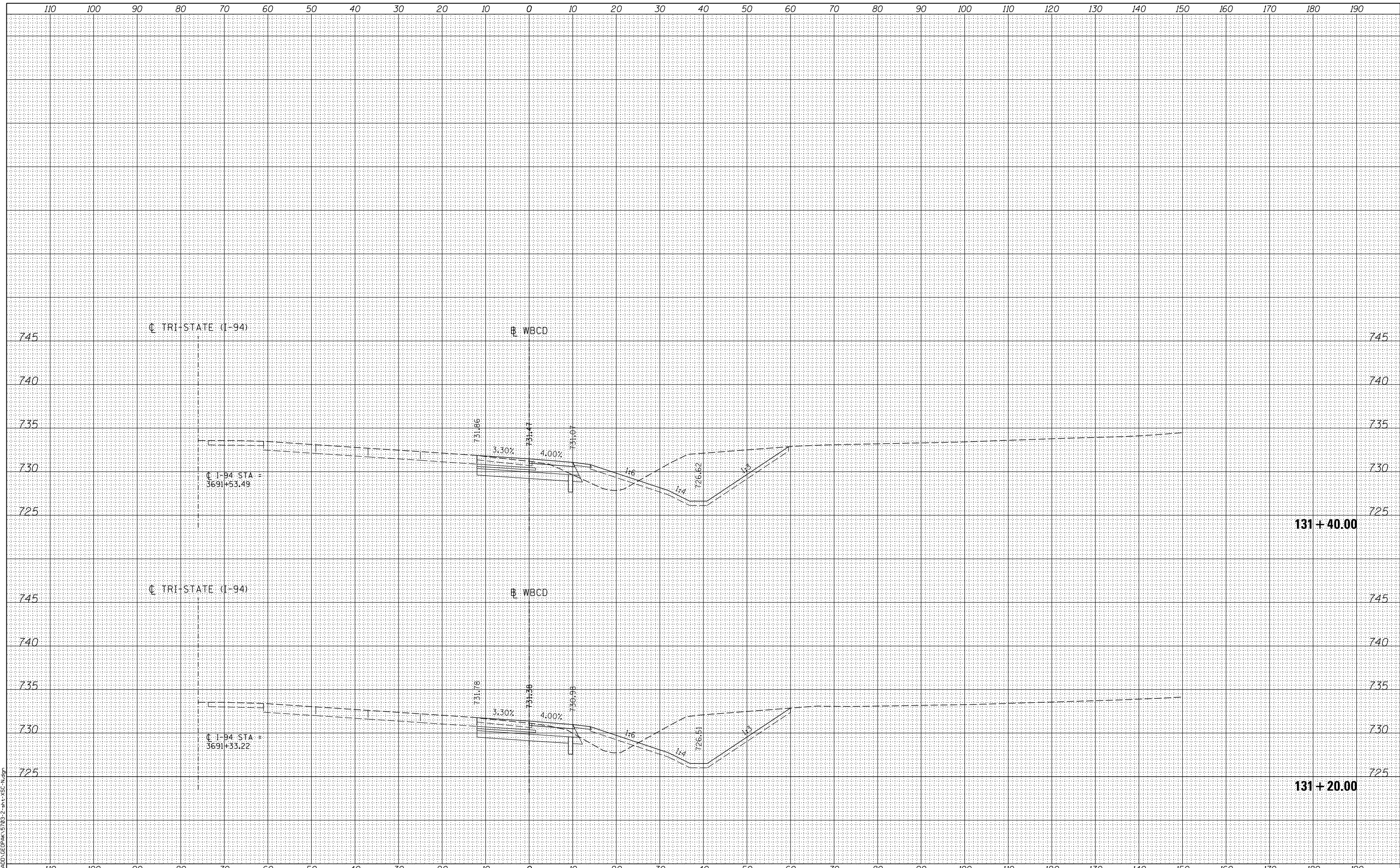
CONTRACT NO. RR-17-4291

CROSS SECTIONS

SHT NO.XSC-71

DRAWING NO. 219 OF 228

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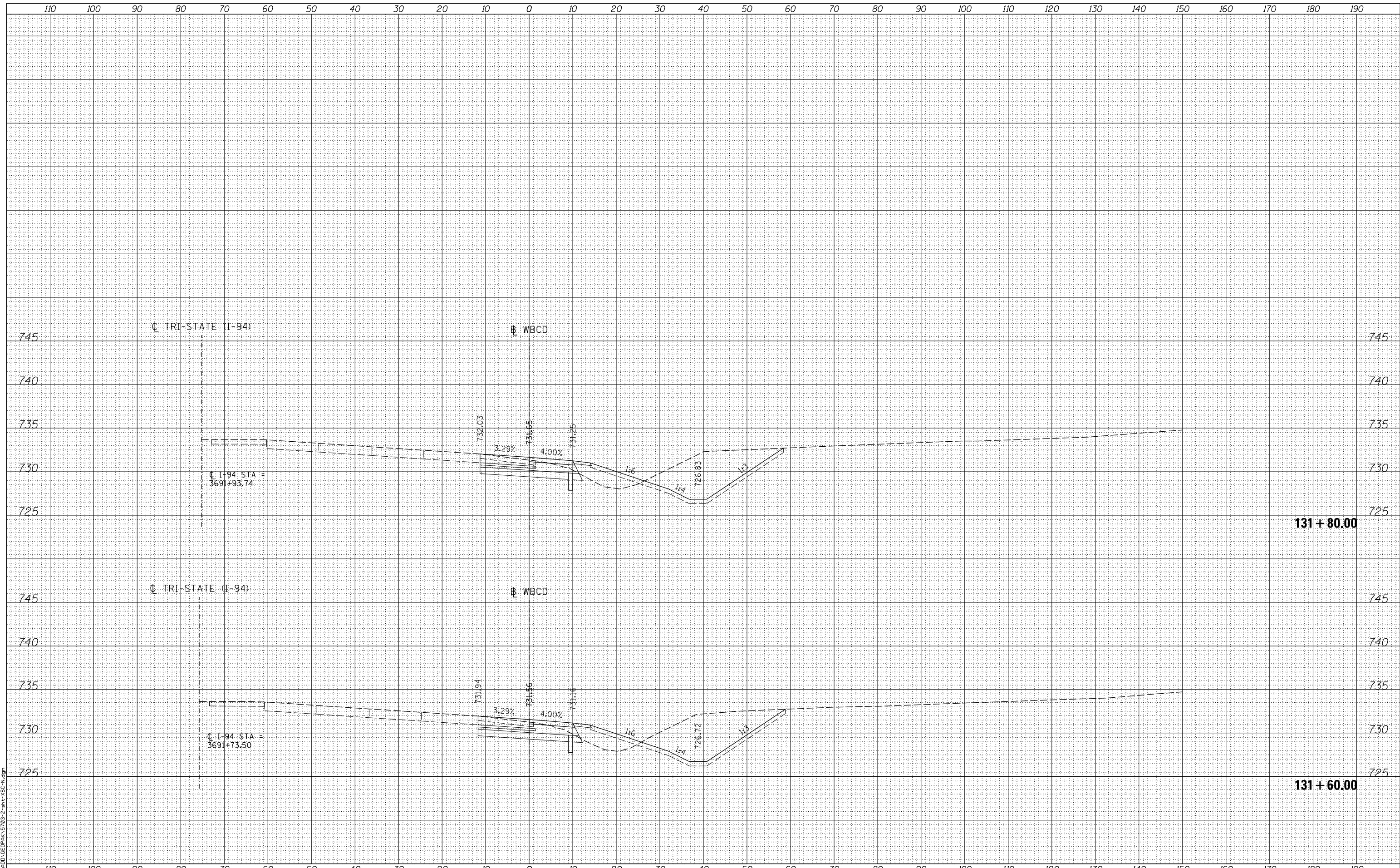
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-72
 CROSS SECTIONS DRAWING NO. 220 OF 228



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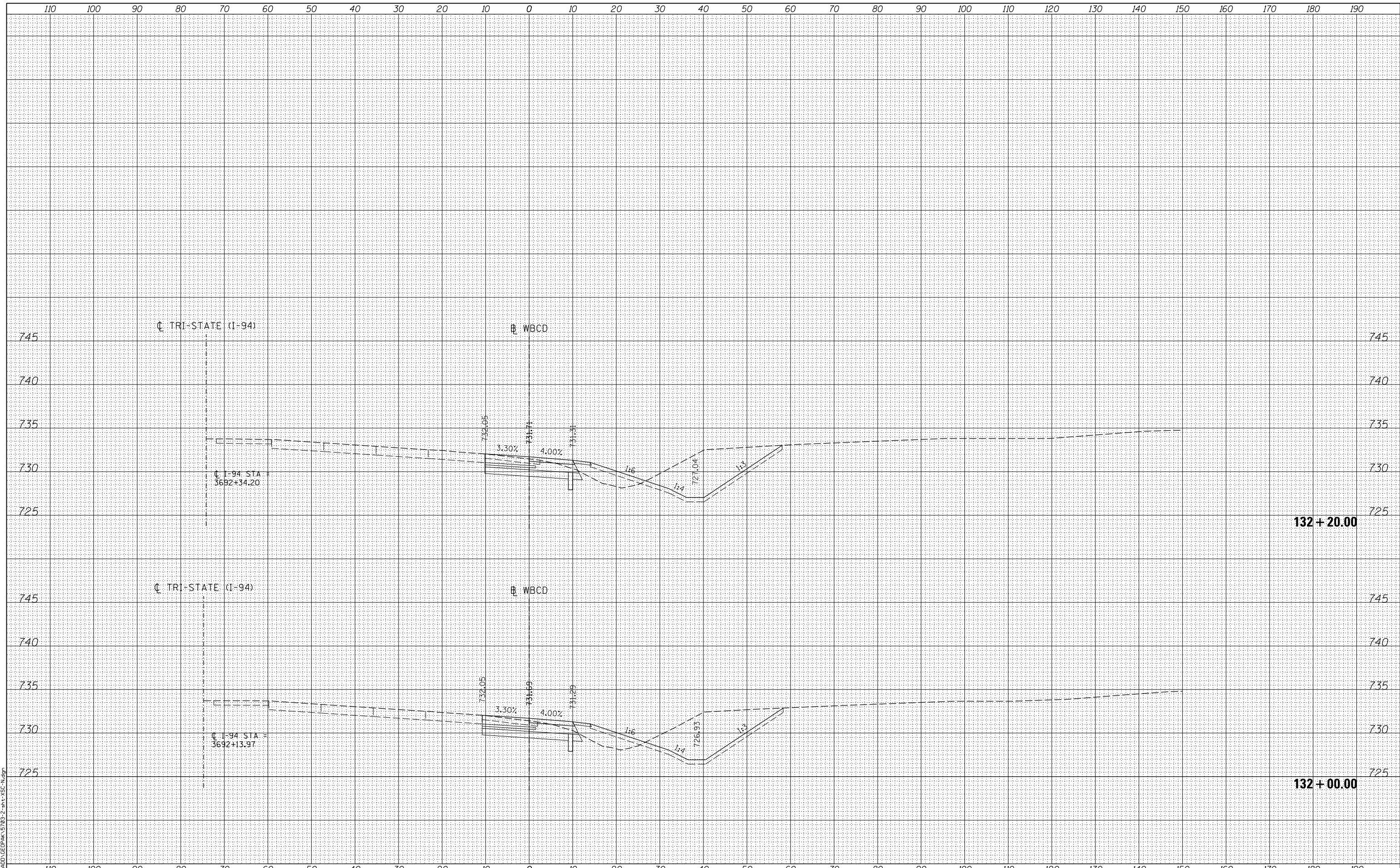


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291
 CROSS SECTIONS

SHT NO. XSC-73
 DRAWING NO.
 221 OF 228



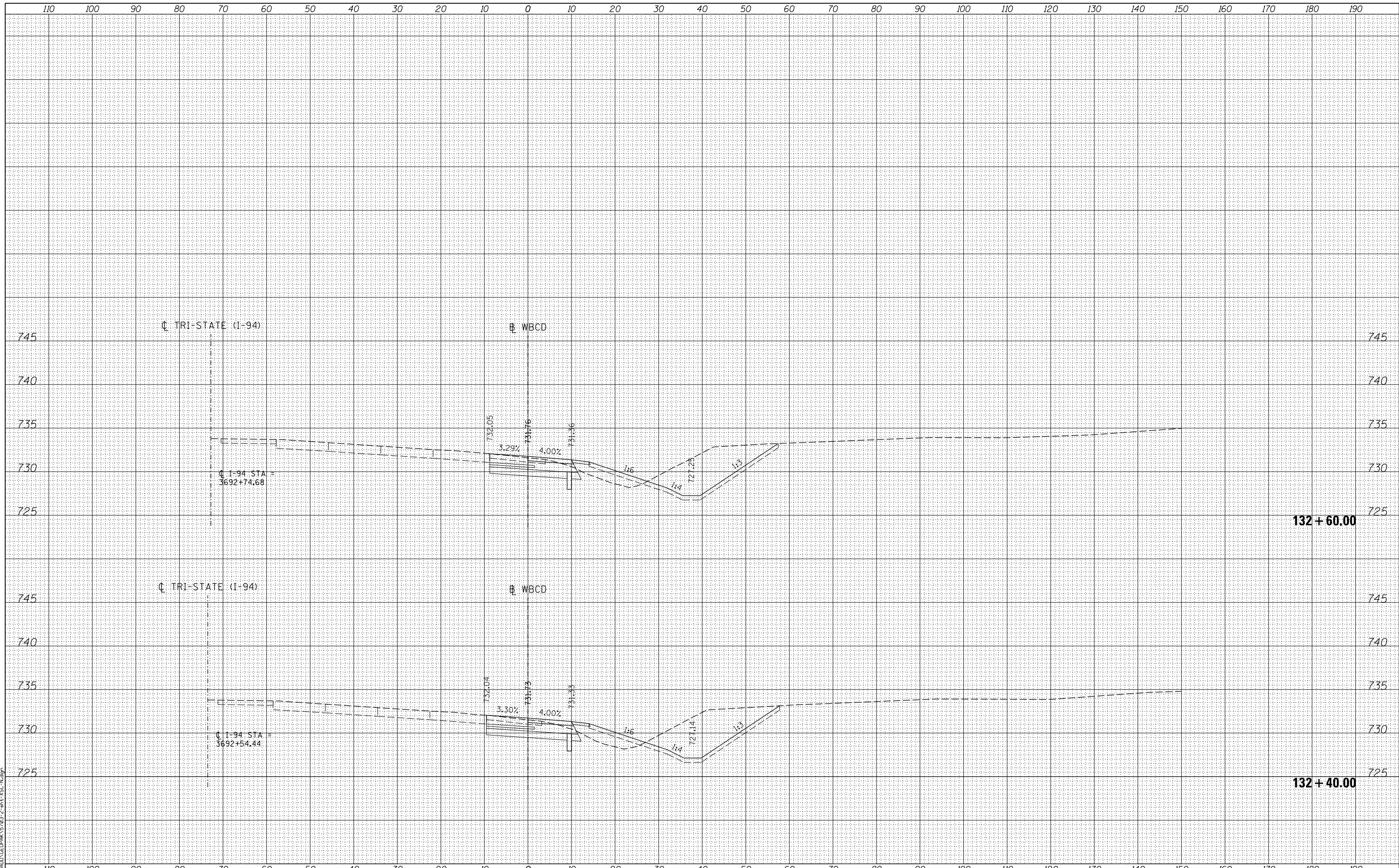
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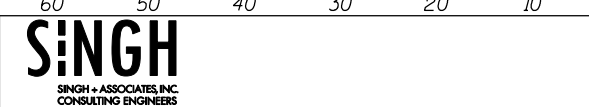


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-74
 CROSS SECTIONS DRAWING NO. 222 OF 228



DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017

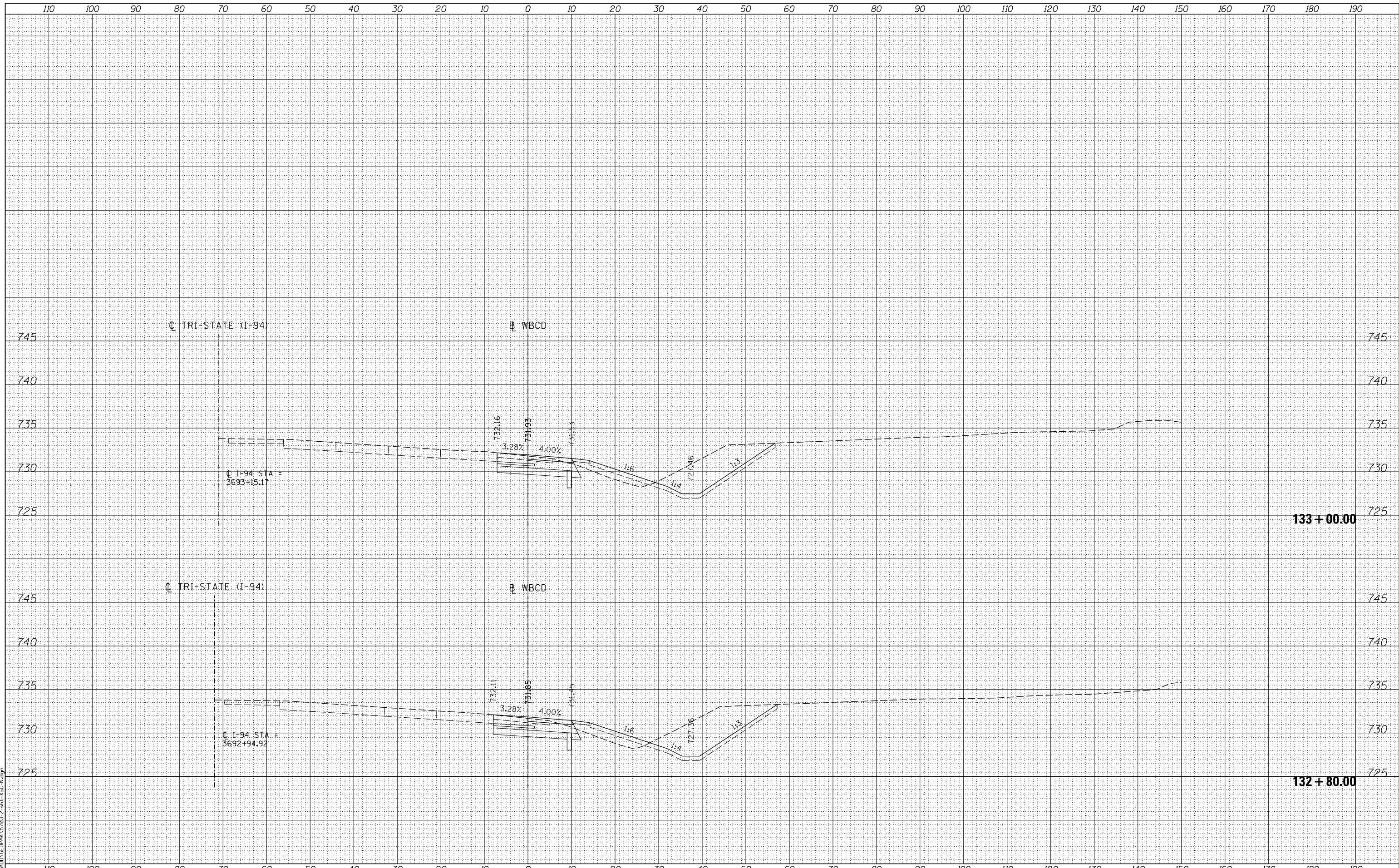


THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-75
 CROSS SECTIONS DRAWING NO. 223 OF 228

J:\14225.02\04-CADD\GEOPAK\5703-2-sht-XSC-75.dwg



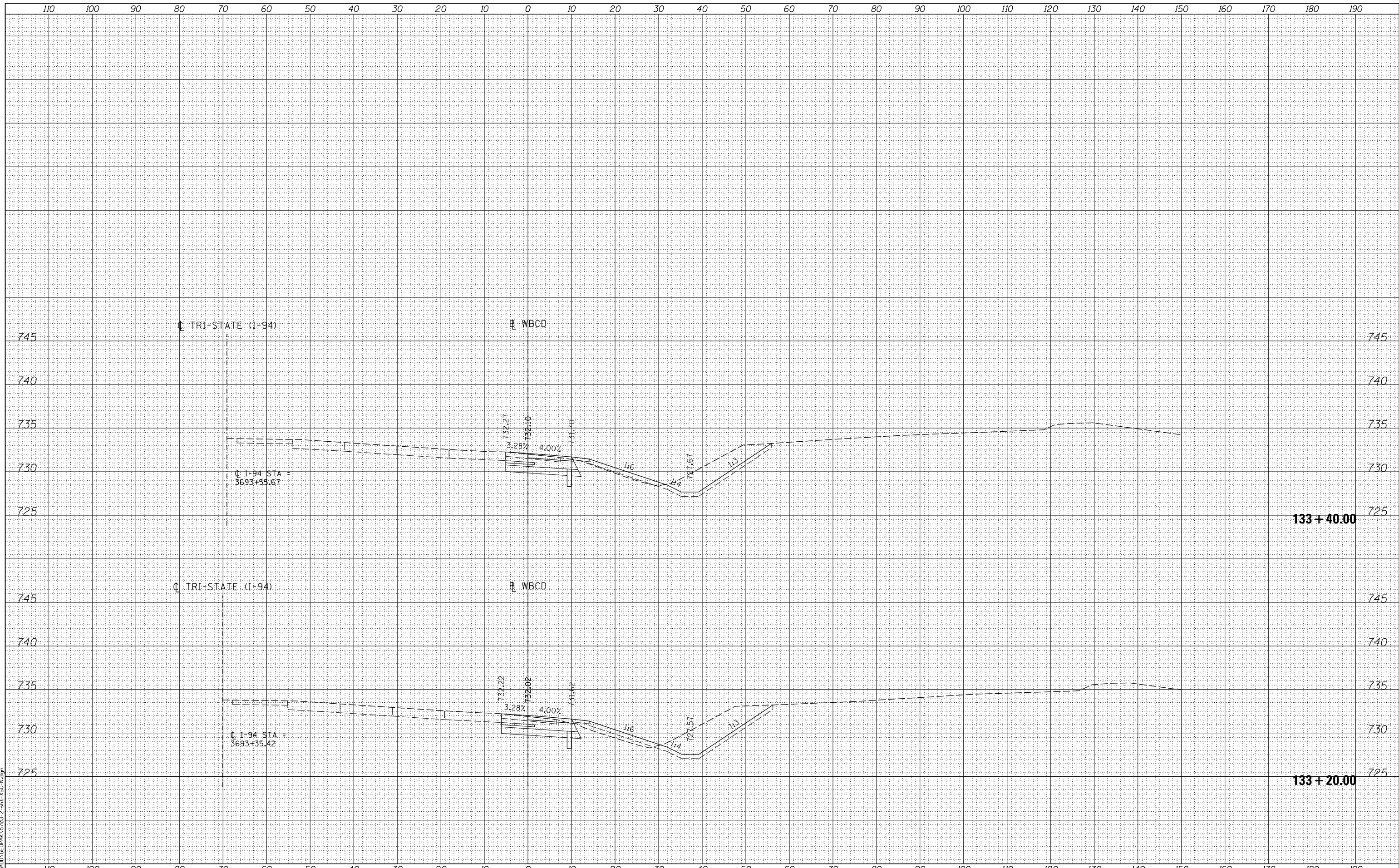
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 CHECKED BY VO DATE 03/23/2017

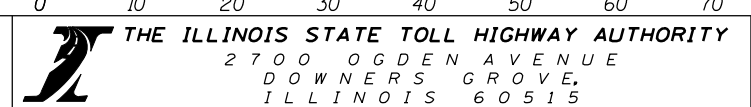


REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-76
 CROSS SECTIONS DRAWING NO. 224 OF 228



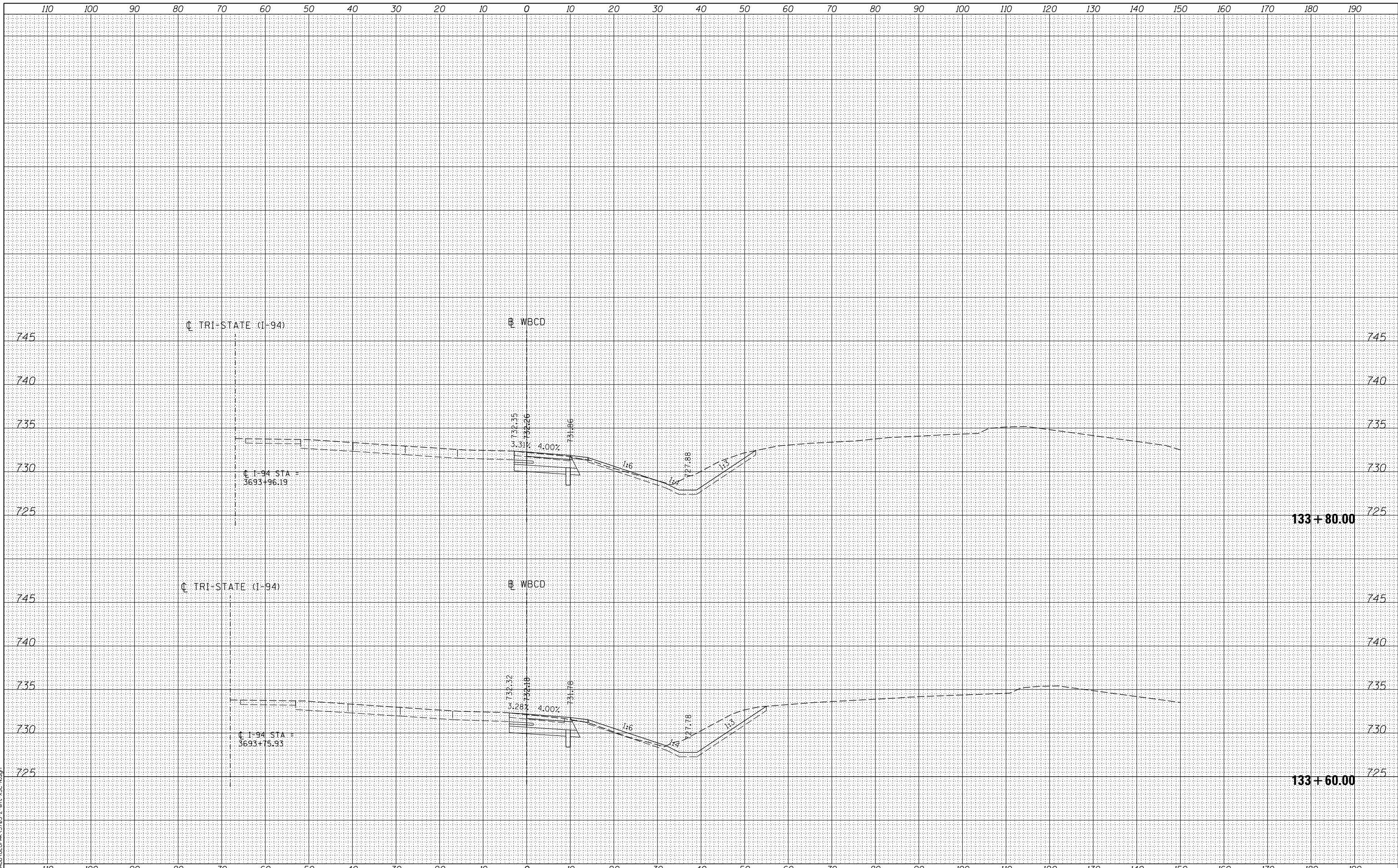
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REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-77
 CROSS SECTIONS DRAWING NO. 225 OF 228

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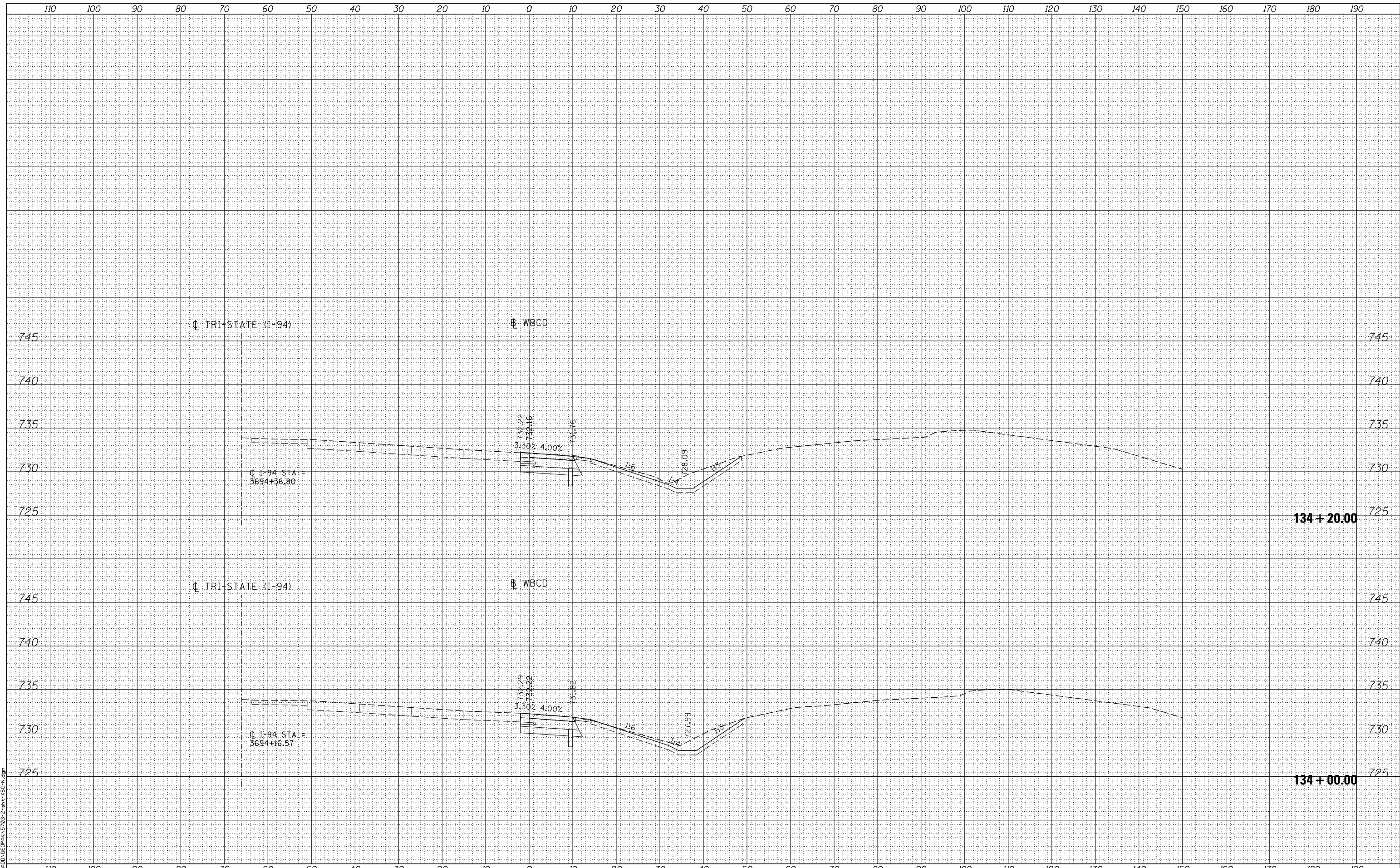
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-78
 CROSS SECTIONS DRAWING NO. 226 OF 228



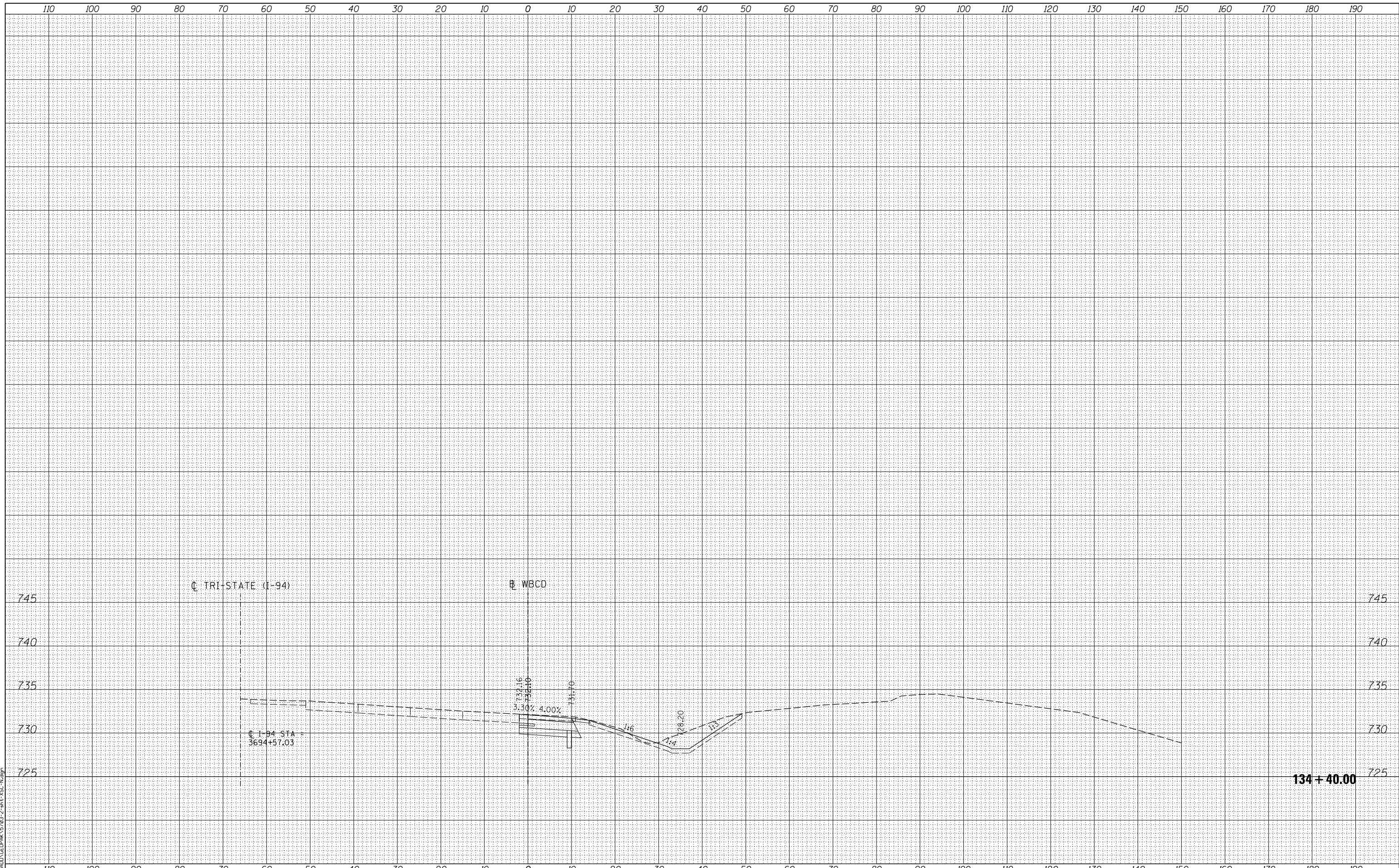
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DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-79
 CROSS SECTIONS DRAWING NO. 227 OF 228



J:\14225.02\04-CADD\GEOPAK\5703-2-sht-XSC-80.dgn

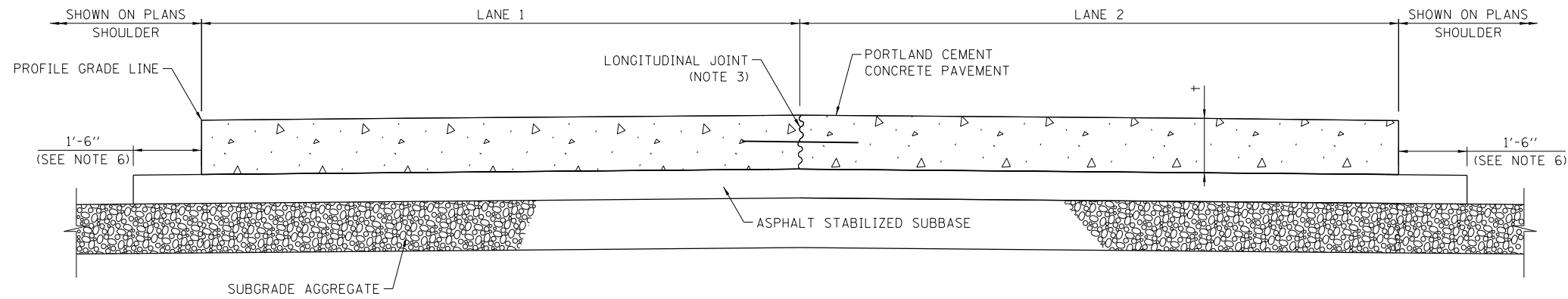
DRAWN BY LLS DATE 03/23/2017
 CHECKED BY VO DATE 03/23/2017



THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY
 2700 OGDEN AVENUE
 DOWNERS GROVE,
 ILLINOIS 60515

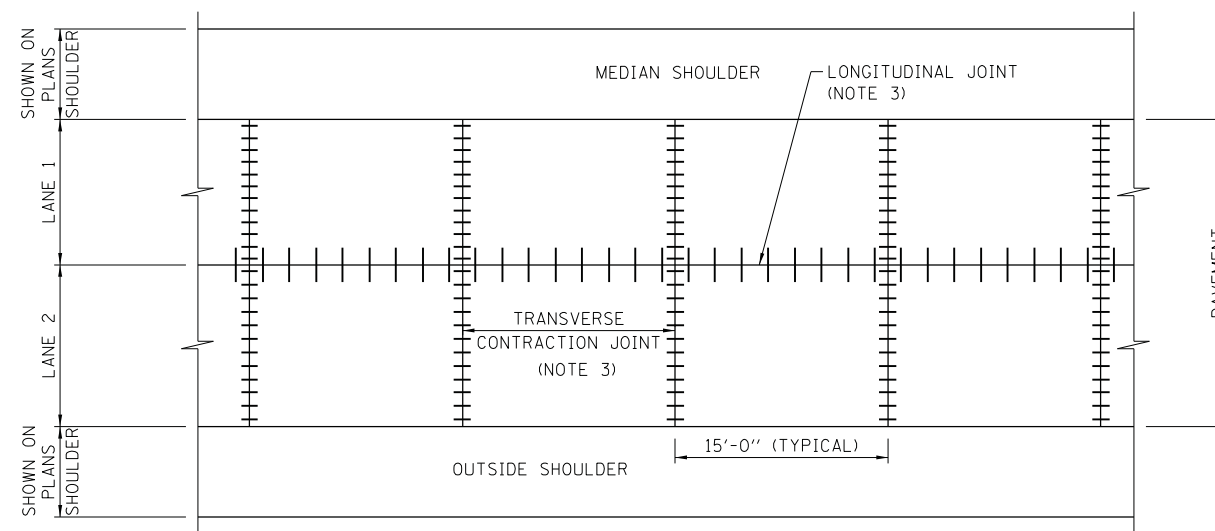
REVISIONS		
NO.	DATE	DESCRIPTION

CONTRACT NO. RR-17-4291 SHT NO. XSC-80
 CROSS SECTIONS DRAWING NO. 228 OF 228



PAVEMENT CROSS - SECTION (2 LANES)

+ = CONCRETE PAVEMENT THICKNESS



PAVEMENT PLAN
2 - LANE SECTION

GENERAL NOTES:


1. DOWEL BASKET ASSEMBLIES, WHERE USED, SHALL BE SUPPORTED AND ANCHORED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. MATERIALS ARE PROJECT SPECIFIC. REFER TO PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS.
3. SEE ILLINOIS TOLLWAY STANDARD DRAWING A7 (PAVEMENT JOINTS) AND IDOT HIGHWAY STANDARD 420001 (PAVEMENT JOINTS) FOR DETAILS OF JOINTS AND TIE BARS NOT SHOWN.
4. PAVEMENT DESIGNS ARE PROJECT SPECIFIC, OTHER MATERIALS MAY BE SUBSTITUTED FOR ASPHALT STABILIZED SUBBASE AND SUBGRADE AGGREGATE. REFER TO PROJECTS PLANS FOR DETAILS AND MATERIAL THICKNESS.
5. THE TIE BAR FOR THE LONGITUDINAL SAWED JOINT SHALL BE 15" FROM THE TRANSVERSE CONTRACTION JOINT.
6. THE 1'-6" WIDE ASPHALT STABILIZED SUBBASE MAY BE REDUCED TO 1'-0" WHEN PAVING EQUIPMENT UTILIZED FOR CONSTRUCTION OF THE PCC PAVEMENT WILL ALLOW.

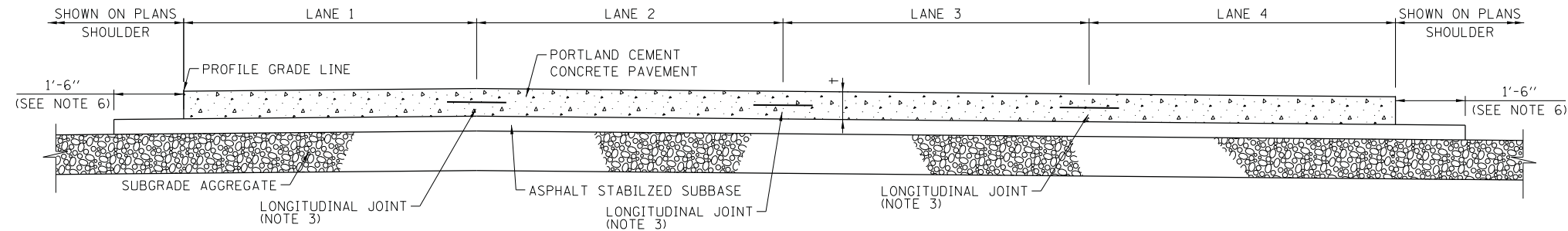


DATE	REVISIONS
05-01-09	DELETED BLOCK-OUTS DETAIL, REMOVED
	SHOULDER DIMENSIONS
3-11-2015	REVISED NOTES
3-31-2016	SHOW SUBBASE WIDENED

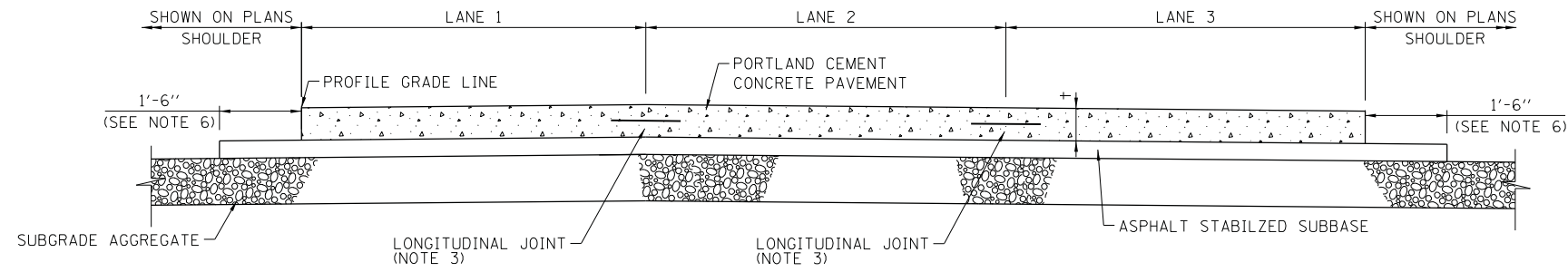
J.P.C. PAVEMENT
12" OR LESS

STANDARD A5-03

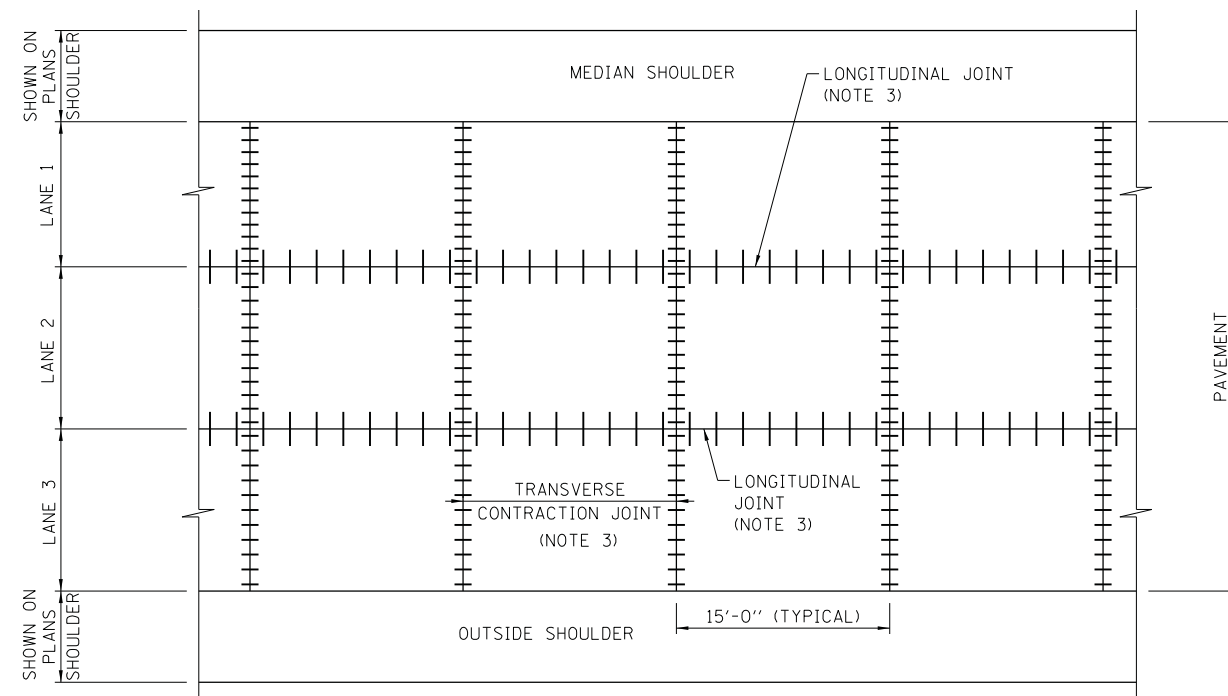

 APPROVED..... CHIEF ENGINEER DATE 5-1-2009



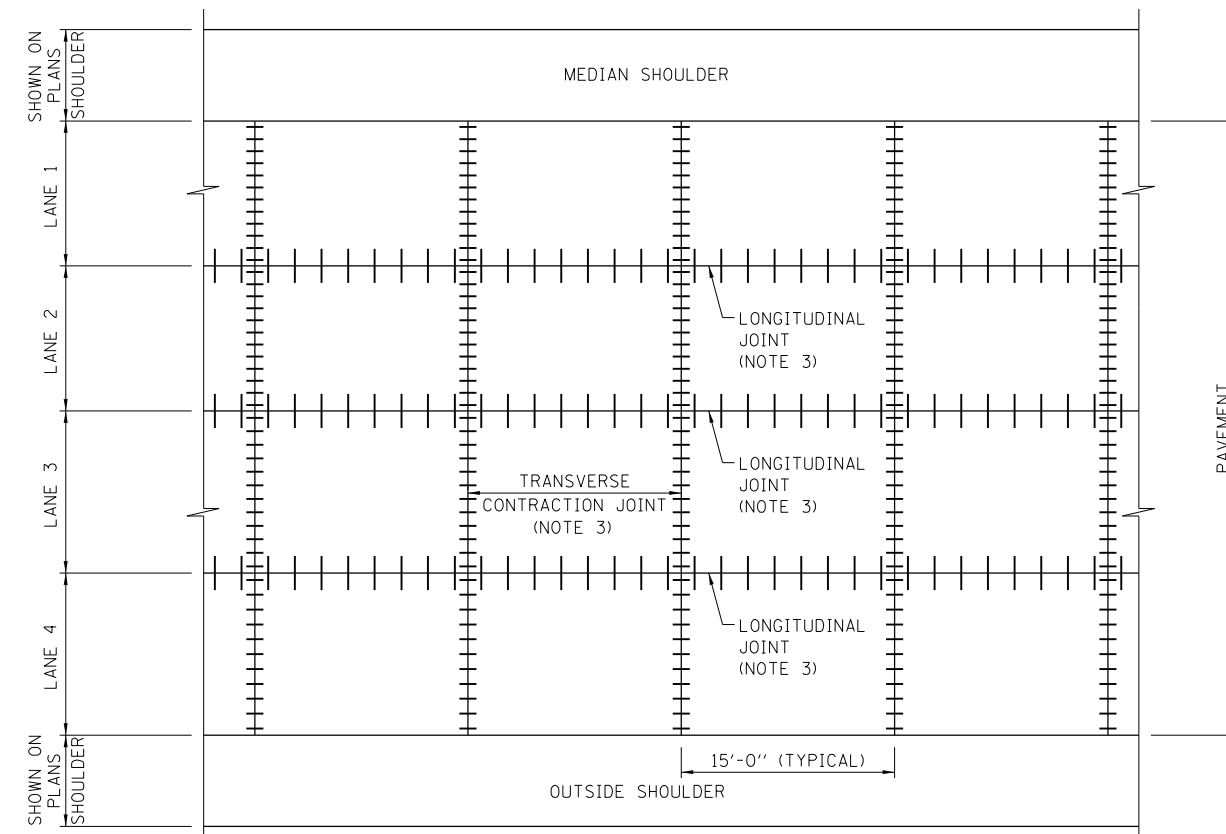
+ = CONCRETE PAVEMENT THICKNESS



PAVEMENT CROSS - SECTION (3 LANES)



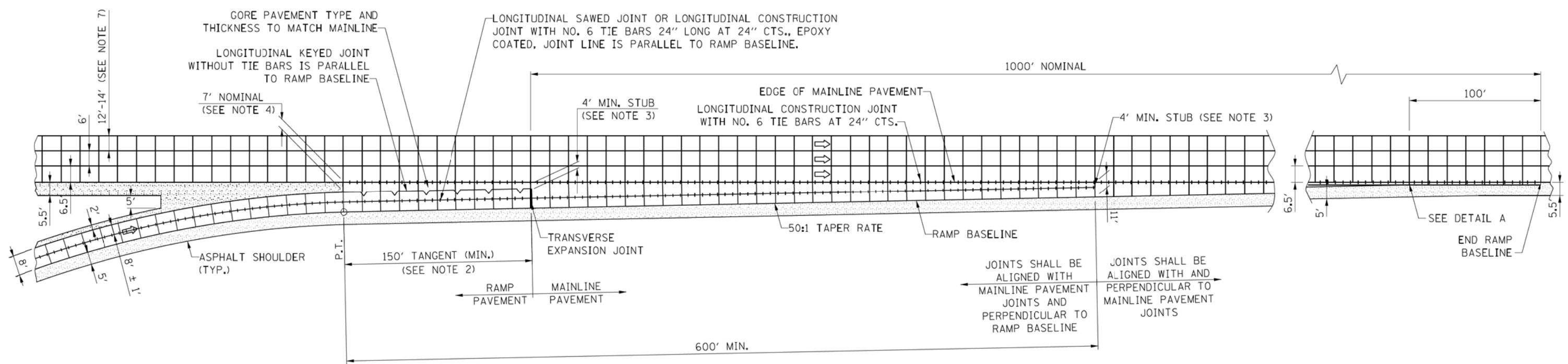
PAVEMENT PLAN
3 - LANE SECTION



PAVEMENT PLAN
4 - LANE SECTION

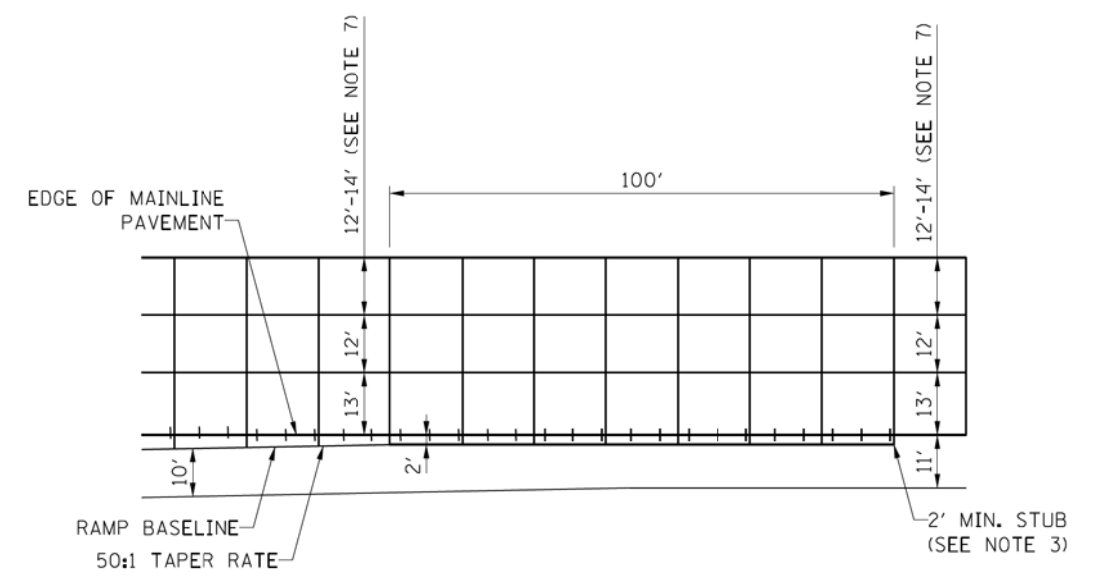
SEE SHEET 1 IN THIS SERIES FOR GENERAL NOTES.





NOTES:

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7 AND IDOT HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEAL.
2. THE THICKNESS OF THE JOINTED RAMP PAVEMENT IN THE TANGENT AREA SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
3. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
4. 7' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
5. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.
6. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATION IN THE WHEEL PATH SHALL BE MINIMIZED.
7. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.



DETAIL A

JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

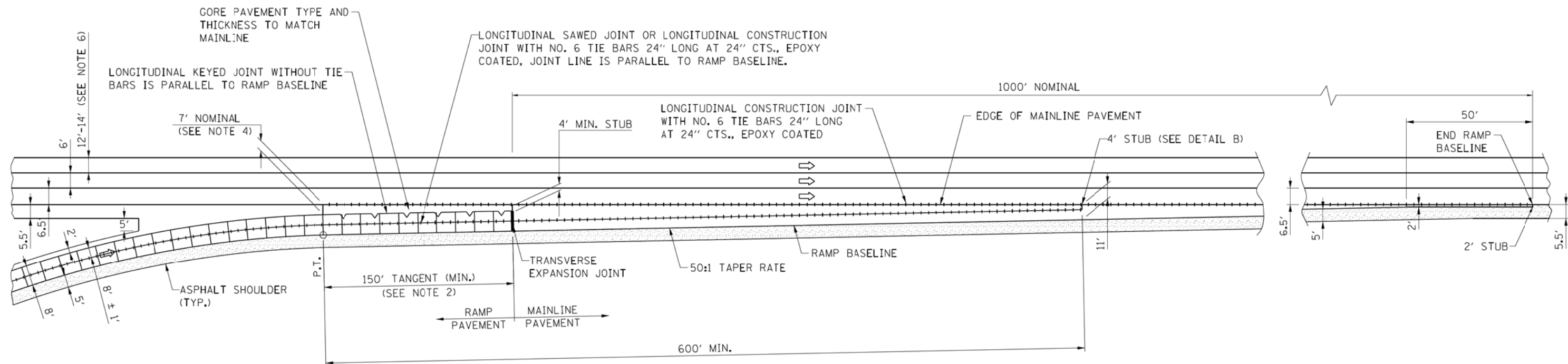



 APPROVED..... CHIEF ENGINEER..... DATE 1-31-2015

DATE	REVISIONS
3-11-2015	MODIFIED JOINT SPACING.
3-31-2016	UPDATED NOTES AND CALL-OUTS.

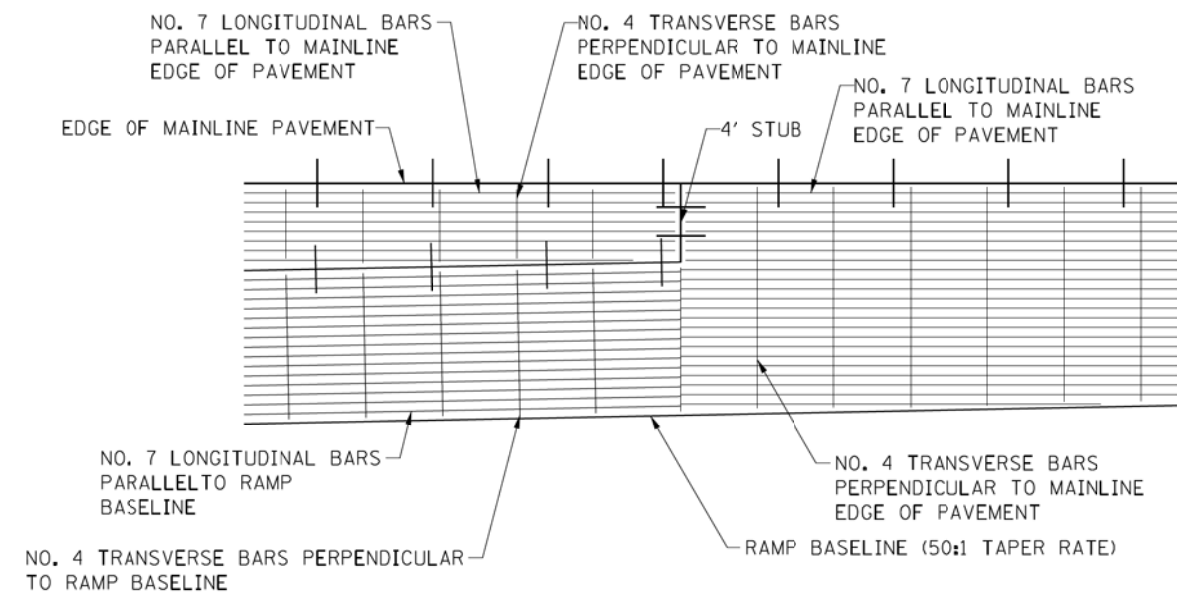
JOINTING PLAN
 ENTRANCE RAMP TERMINAL

STANDARD A14-02



NOTES:

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7 AND IDOT HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEAL.
2. THE THICKNESS OF THE JOINTED RAMP PAVEMENT IN THE TANGENT AREA SHALL MATCH THE MAINLINE PAVEMENT, THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
3. SEE PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS OF PAVEMENT REINFORCEMENT.
4. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.
5. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE, TYPICAL JOINT SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.
6. DIMENSIONS OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

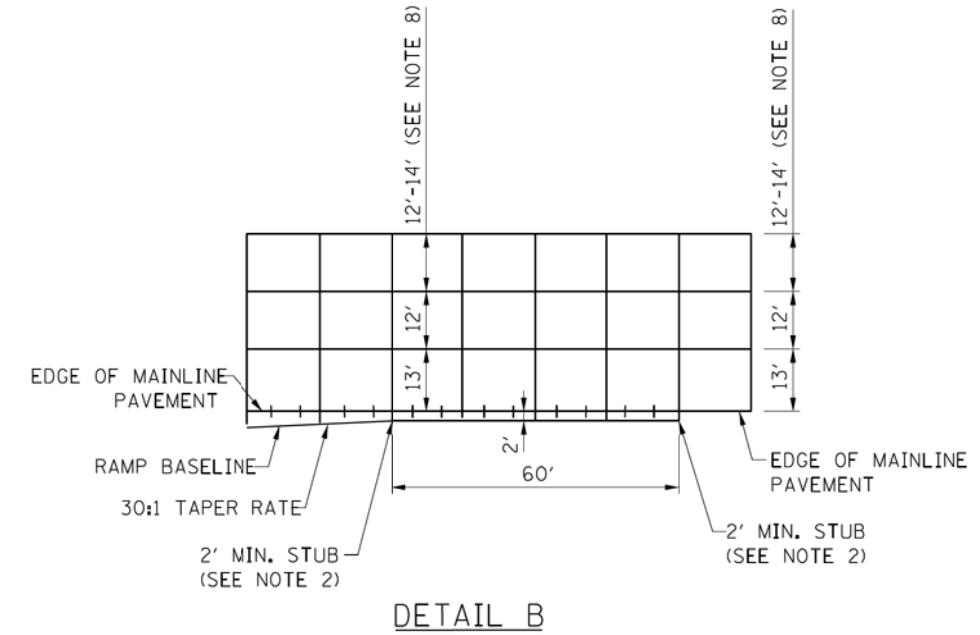
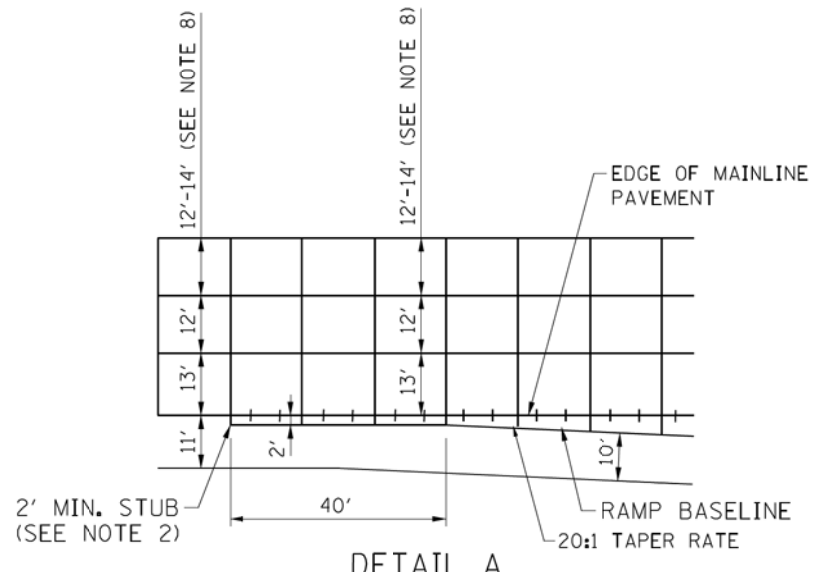
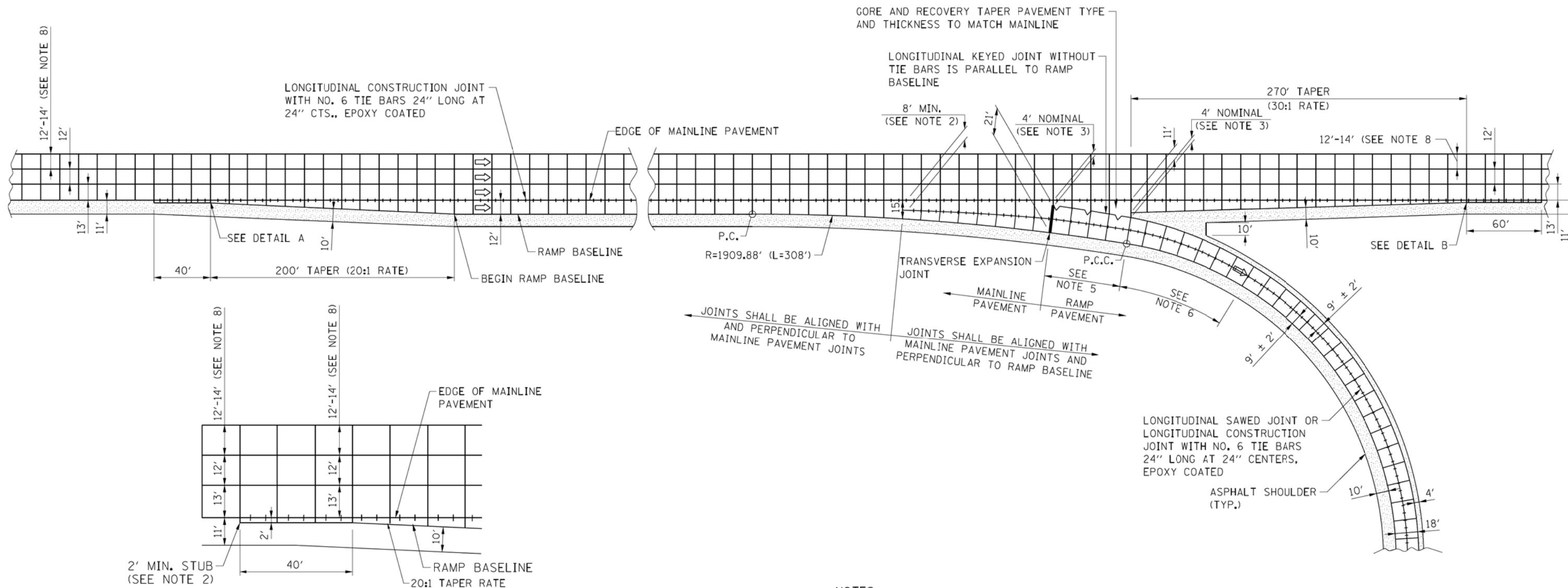


DETAIL B



JOINTED PCC RAMP ADJACENT TO JOINTED C.R.C. MAINLINE PAVEMENT

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 1-31-2015



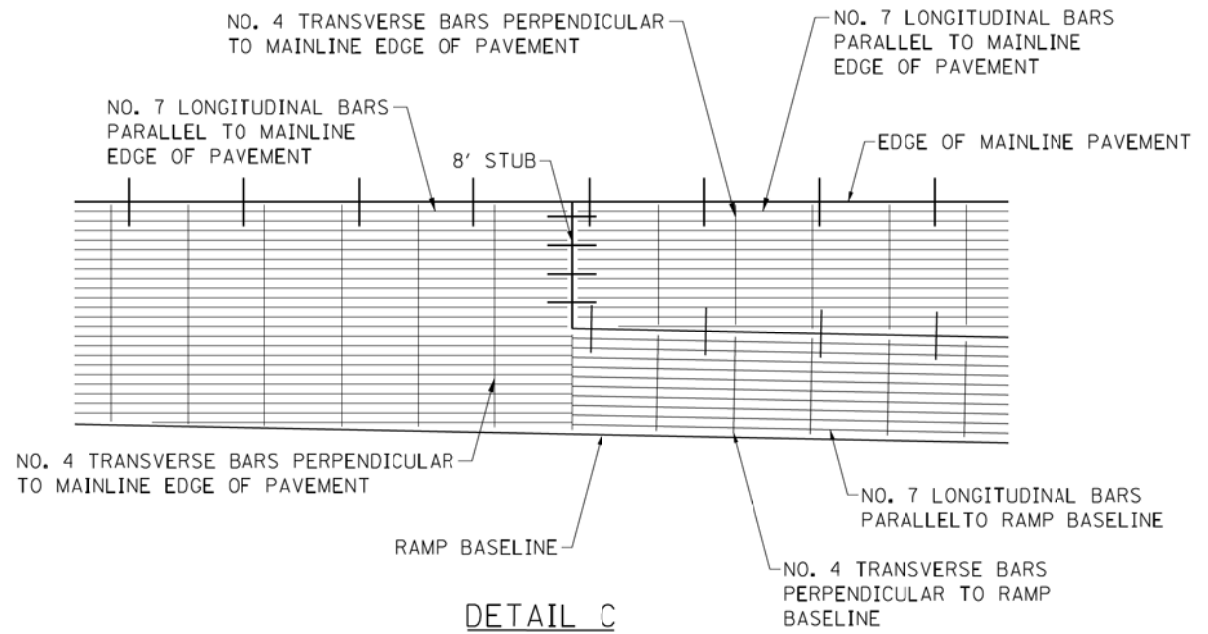
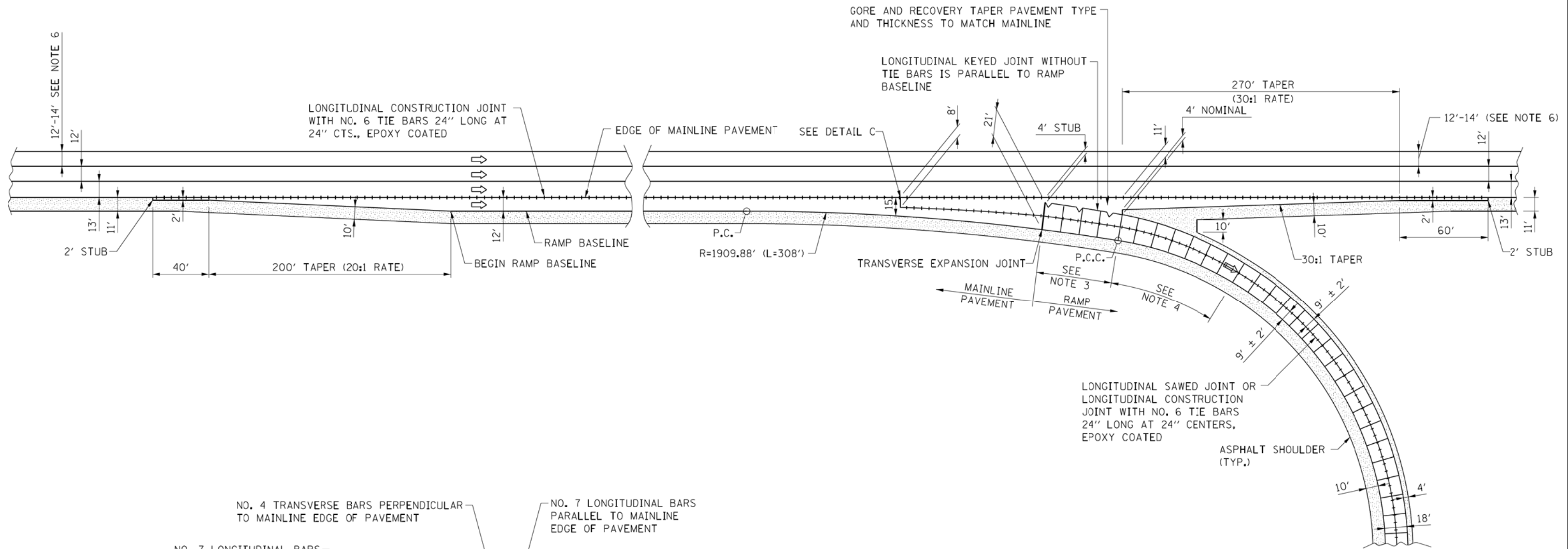
- NOTES:**
1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7 AND IDOT HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEA..
 2. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
 3. 4' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
 4. TYPICAL P.C.C. PAVEMENT JOINT SPACING SHALL BE 15'.
 5. THE THICKNESS OF THE JOINTED RAMP PAVEMENT SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
 6. RAMP NARROWS FROM 21' TO 18'.
 7. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.
 8. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 1-31-2015

DATE	REVISIONS	
3-11-2015	MODIFIED JOINT SPACING	JOINTING PLAN PARALLEL EXIT RAMP TERMINAL
3-31-2016	UPDATED NOTES & CALL-OUTS	
		STANDARD A16-02





NOTES:

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7 AND IDOT HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEAL.
2. TYPICAL P.C.C. PAVEMENT JOINT SPACING SHALL BE 15'.
3. THE THICKNESS OF THE JOINTED RAMP PAVEMENT SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
4. RAMP NARROWS FROM 21' TO 18'.
5. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.
6. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.
7. SEE PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS OF PAVEMENT REINFORCEMENT.

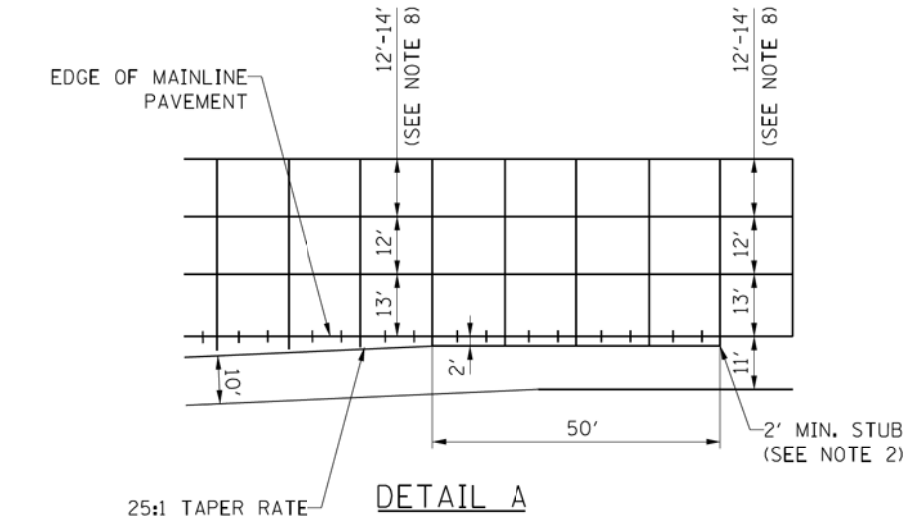
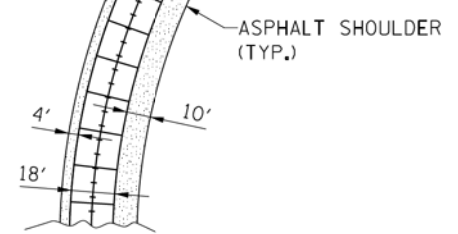
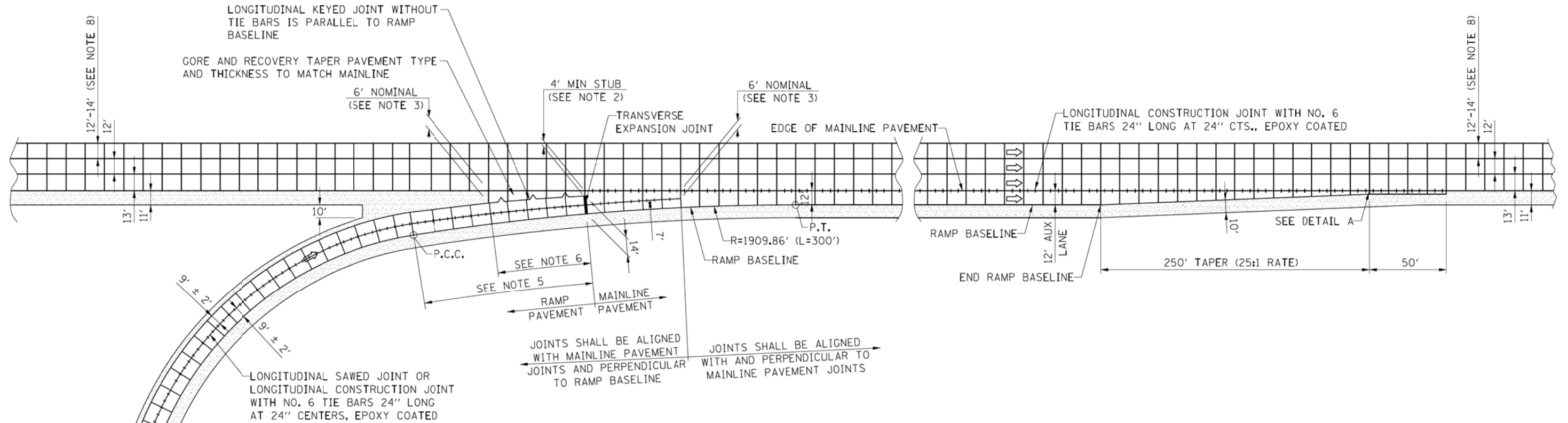
ILLINOIS
TOLLWAY

JOINTING PLAN
PARALLEL EXIT RAMP TERMINAL

STANDARD A16-02

Paul Kovacs
APPROVED..... CHIEF ENGINEER..... DATE 1-31-2015


JOINTED PCC RAMP ADJACENT TO C.R.C. MAINLINE PAVEMENT



NOTES:

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7 AND IDOT HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEAL.
2. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
3. 6' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.
4. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.
5. RAMP NARROWS FROM 18' TO 14'.
6. THE THICKNESS OF THE JOINTED RAMP PAVEMENT SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
7. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.
8. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.



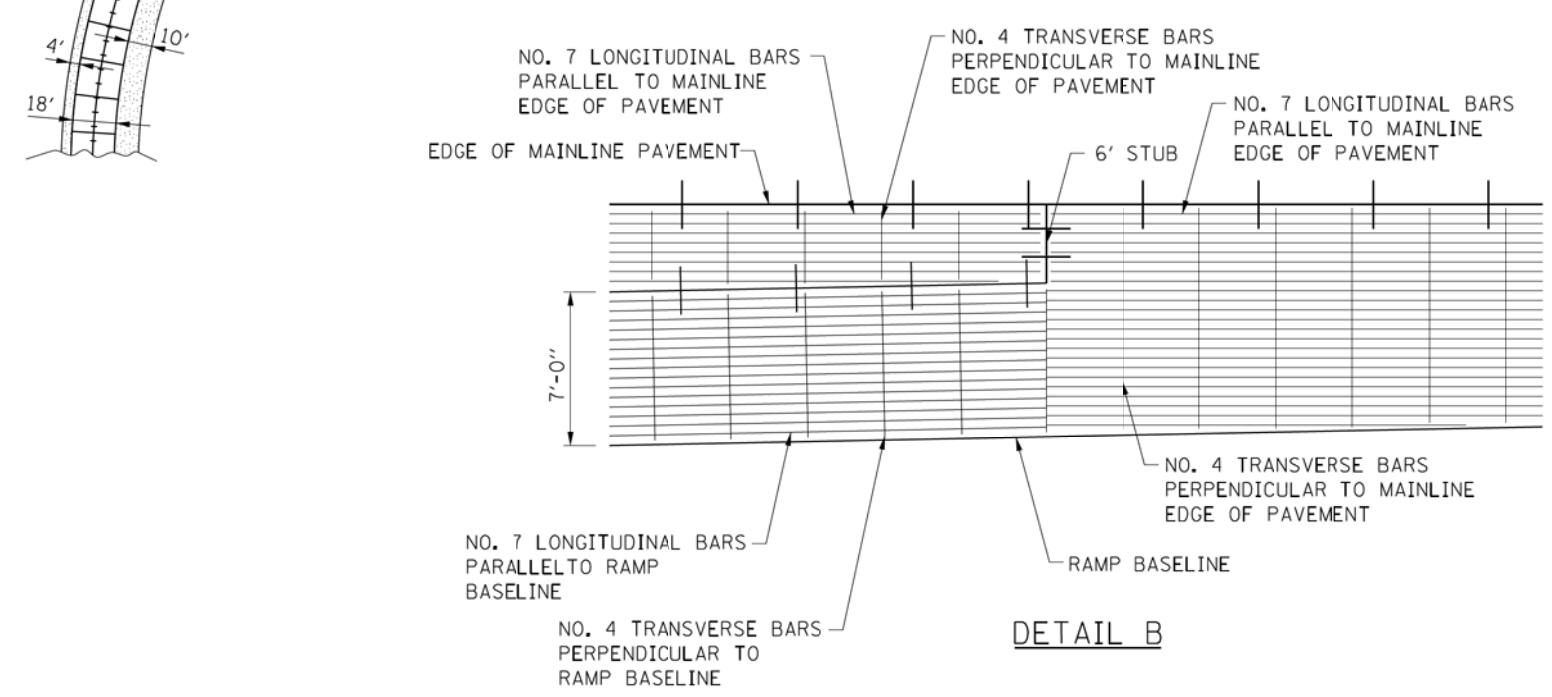
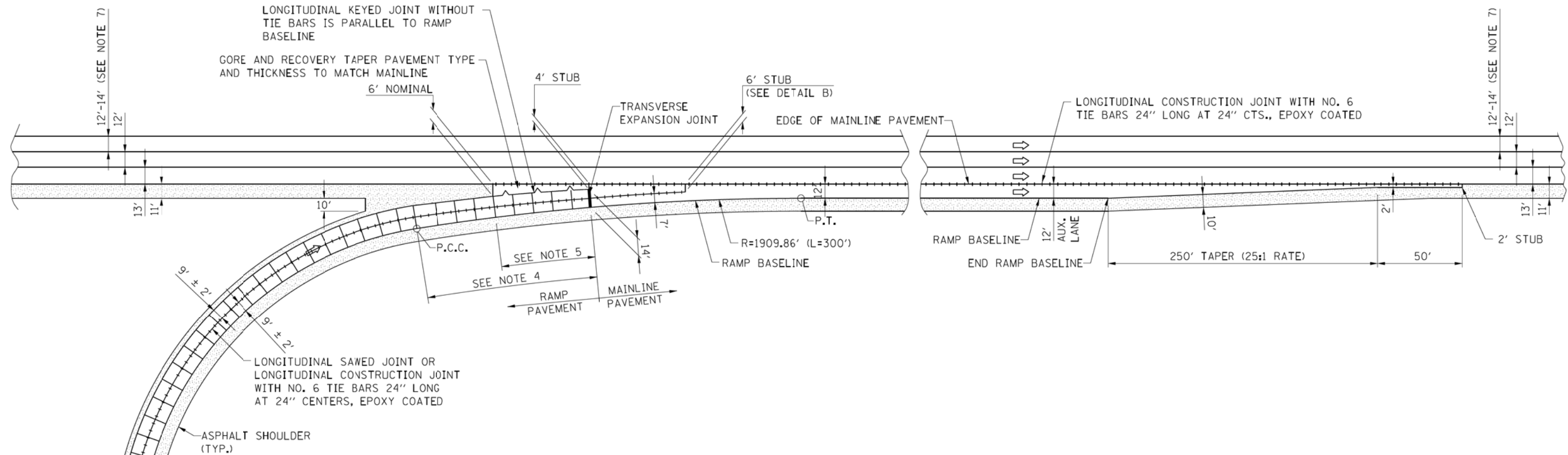

 APPROVED..... CHIEF ENGINEER..... DATE 1-31-2015

JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

DATE	REVISIONS
3-11-2015	MODIFIED JOINT SPACING
3-31-2016	UPDATED NOTES & CALL-OUTS

JOINTING PLAN PARALLEL ENTRANCE RAMP TERMINAL

STANDARD A17-02



- NOTES:**
1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7 AND IDOT HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINT SEALS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISION, BONDED PREFORMED JOINT SEAL.
 2. SEE PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS OF PAVEMENT REINFORCEMENT.
 3. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.
 4. RAMP TAPERS FROM 18' TO 14'.
 5. THE THICKNESS OF THE JOINTED RAMP PAVEMENT SHALL MATCH THE MAINLINE PAVEMENT. THE EXTRA THICKNESS OF PAVEMENT SHALL BE INCLUDED IN THE PRICE FOR THE RAMP PAVEMENT.
 6. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.
 7. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

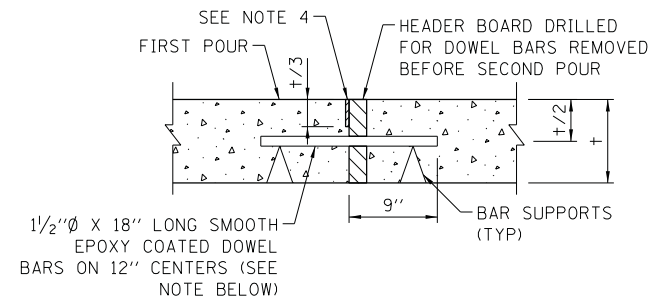


JOINTING PLAN PARALLEL
ENTRANCE RAMP TERMINAL

STANDARD A17-02

Paul Kovacs
APPROVED..... CHIEF ENGINEER DATE 1-31-2015

JOINTED PCC RAMP ADJACENT TO C.R.C. MAINLINE PAVEMENT



NOTE: FOR 13" PAVEMENT USE THE FOLLOWING
 1-1/2" ϕ X 18" LONG SMOOTH EPOXY COATED DOWEL BARS ON 9" CENTERS OR
 1-3/4" ϕ X 18" LONG SMOOTH EPOXY COATED DOWEL BARS ON 12" CENTERS

TRANSVERSE CONSTRUCTION JOINT
(JOINTED PLAIN CONCRETE PAVEMENT)

GENERAL NOTES:

1. DOWEL BAR CAPS SHALL BE PLACED ON OPPOSITE END OF ADJACENT DOWEL BARS.
2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.
3. + = PAVEMENT THICKNESS
4. A 3/8" SAW CUT SHALL BE PROVIDED FOR PAVEMENT CRACK CONTROL.

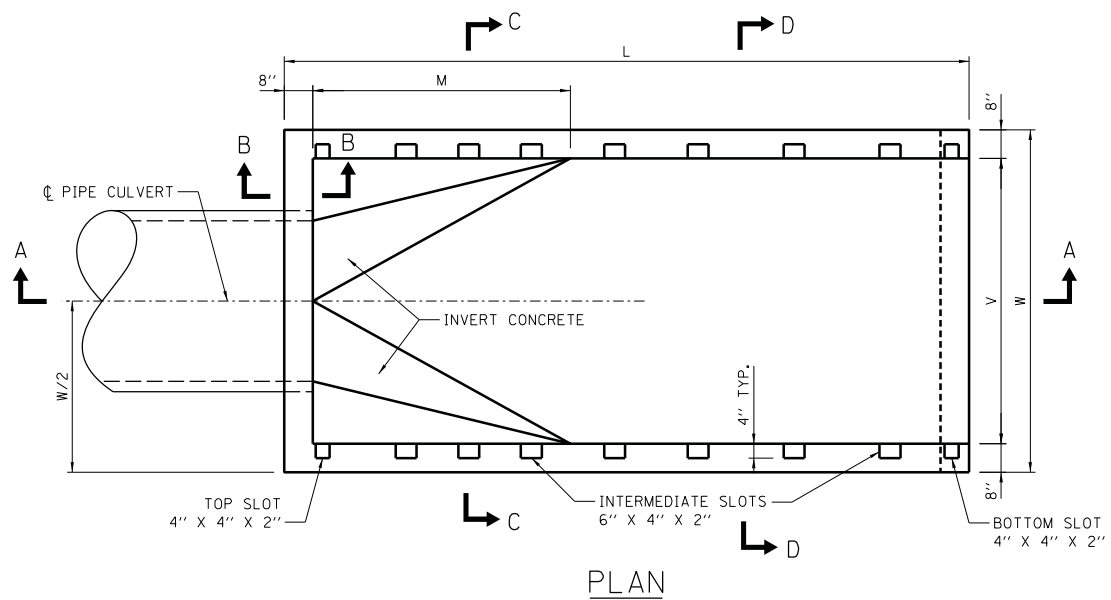


DATE	REVISIONS
05-01-09	MODIFIED JOINT DETAIL, REVISED NOTES
03-31-16	REVISED 13" PAVEMENT NOTE FOR DOWEL BARS

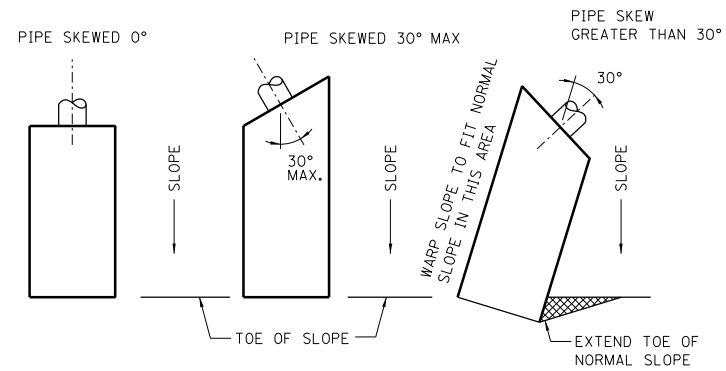
PAVEMENT JOINTS

STANDARD A7-02

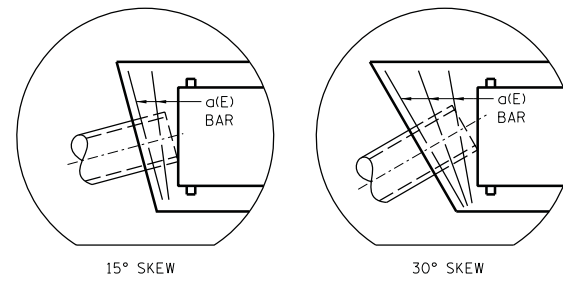
Paul Kovacs
 APPROVED..... CHIEF ENGINEER DATE 5-1-2009



PLAN



PLAN VIEW OF STRUCTURE LOCATIONS

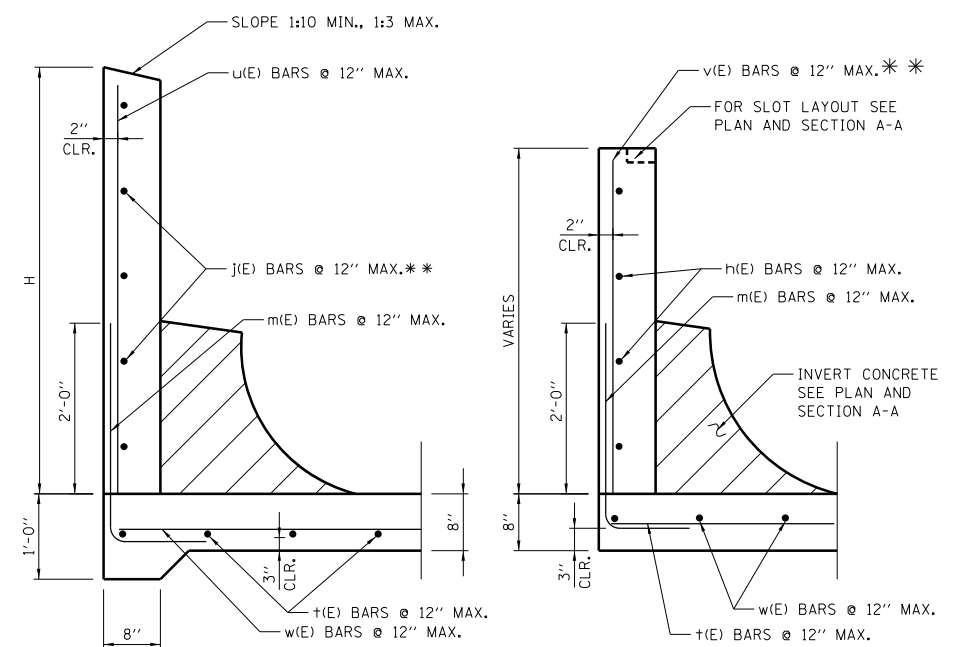


FLARED BAR DETAILS

NOTES:

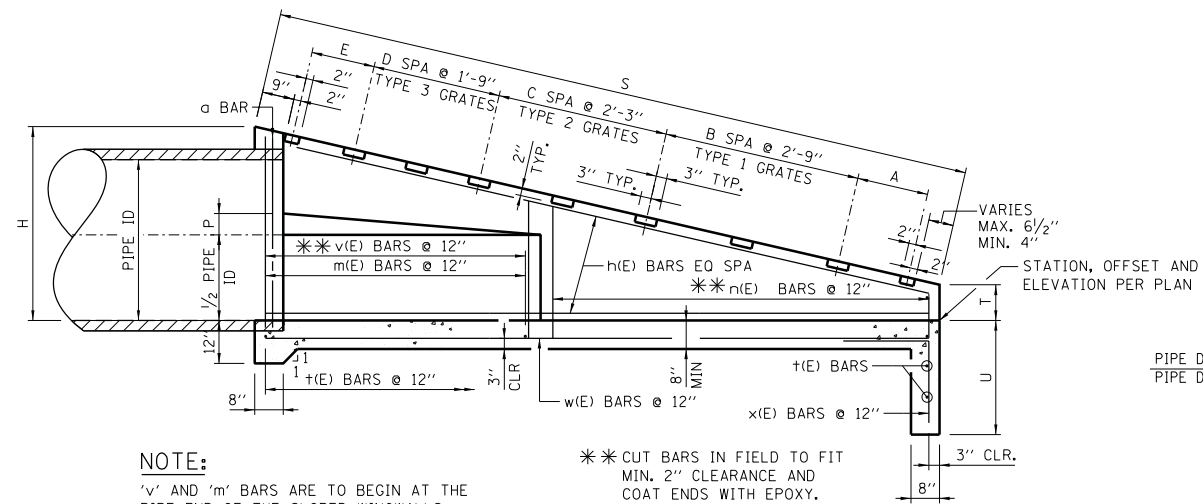
ADDITIONAL "a" BARS SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR. THE ADDITIONAL BARS ARE NOT INCLUDED IN THE LISTED QUANTITIES, BUT WILL BE PAID FOR AS REINFORCEMENT BARS (EPOXY COATED).

1 ADDITIONAL BAR REQUIRED FOR EACH 15° SKEW OR FRACTION THEREOF.



SECTION B-B

SECTION C-C



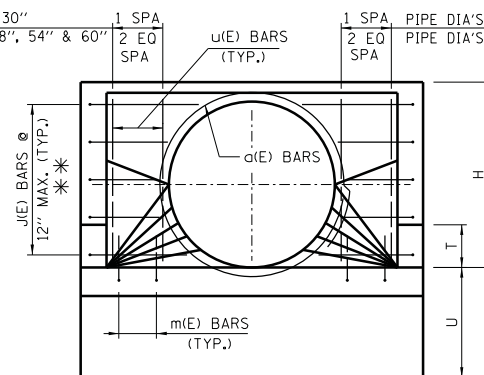
SECTION A-A

NOTE:

"v" AND "m" BARS ARE TO BEGIN AT THE PIPE END OF THE SLOPED WINGWALLS.

** CUT BARS IN FIELD TO FIT MIN. 2" CLEARANCE AND COAT ENDS WITH EPOXY.

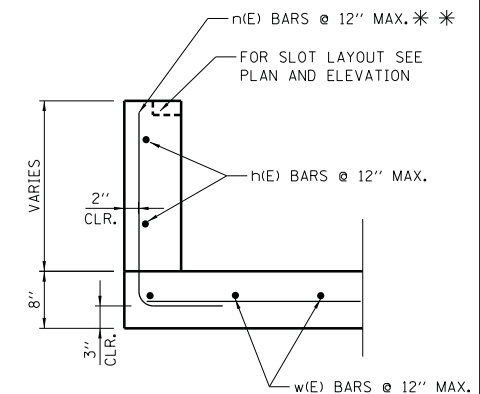
PIPE DIA'S 18", 24" & 30"
PIPE DIA'S 36", 42", 48", 54" & 60"



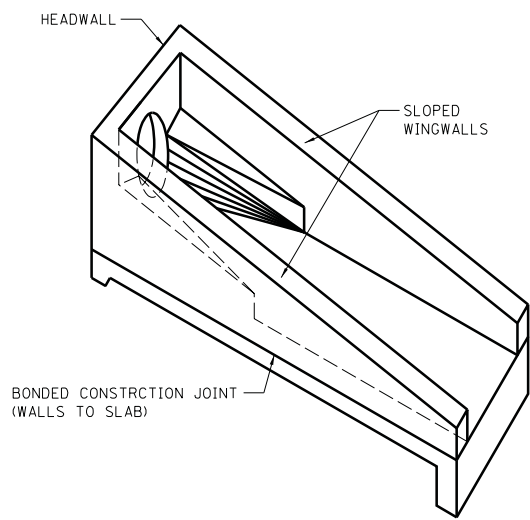
FRONT ELEVATION

NOTES:

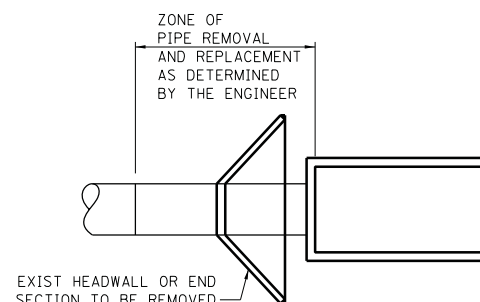
1. HEADWALL TYPE III SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
2. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
3. ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED (E).
4. BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
5. ALL EXPOSED EDGES SHALL HAVE A 3/4" - 45° CHAMFER. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW THE FINISHED GROUND LINE.
6. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
7. CARE SHALL BE EXERCISED IN REMOVING ANY LENGTH OF EXISTING PIPE SO THE REMAINING PIPE IS UNDAMAGED AND FULLY FUNCTIONING.
8. FOR DIMENSIONS AND QUANTITIES FOR ONE HEADWALL, SEE SHEET 2 IN THIS SERIES.
9. FOR STEEL GRATING DETAILS, SEE SHEET 3 IN THIS SERIES.
10. FOR ALTERNATE PRECAST CONCRETE DETAILS AND NOTES, SEE SHEET 4 IN THIS SERIES.
11. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).



SECTION D-D



ISOMETRIC VIEW



INSTALLATION DETAIL



HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES
STANDARD B6-06

DATE	REVISIONS
3-31-2014	REVISED QUANTITIES-CONC REINF STEEL
3-11-2015	REVISED QUANTITIES, CONCRETE REINFORCEMENT STEEL AND PRECAST CONCRETE DETAILS
3-31-2016	ADDED NOTE TO OMIT RESTRAINT ANGLE AND THE PLATE FOR MULTI-END SECTIONS
	REVISED GRATE LAYOUT

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:3 SLOPE

Table with columns: PIPE DIA, DIMENSIONS (H, L, M, P, S, T, U, V, W, A, E), NO. OF SPACES (B, C, D), CONCRETE CLASS SI CU. YD., REINF. BARS LB.

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:4 SLOPE

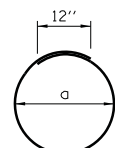
Table with columns: PIPE DIA, DIMENSIONS (H, L, M, P, S, T, U, V, W, A, E), NO. OF SPACES (B, C, D), CONCRETE CLASS SI CU. YD., REINF. BARS LB.

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:6 SLOPE

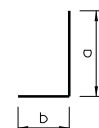
Table with columns: PIPE DIA, DIMENSIONS (H, L, M, P, S, T, U, V, W, A, E), NO. OF SPACES (B, C, D), CONCRETE CLASS SI CU. YD., REINF. BARS LB.

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:10 SLOPE

Table with columns: PIPE DIA, DIMENSIONS (H, L, M, P, S, T, U, V, W, A, E), NO. OF SPACES (B, C, D), CONCRETE CLASS SI CU. YD., REINF. BARS LB.



TYPE 1



TYPE 2

APPROVED: Paul Kovacs CHIEF ENGINEER DATE 5-1-2009

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:10 SLOPE

Large table listing reinforcement bars for one headwall, including columns for PIPE DIA, MARK(E), TYPE, NO REQ'D, LENGTH, and dimensions a and b.

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:6 SLOPE

Table listing reinforcement bars for one headwall, including columns for PIPE DIA, MARK(E), TYPE, NO REQ'D, LENGTH, and dimensions a and b.

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:4 SLOPE

Table listing reinforcement bars for one headwall, including columns for PIPE DIA, MARK(E), TYPE, NO REQ'D, LENGTH, and dimensions a and b.

REINFORCEMENT BARS SCHEDULE FOR ONE HEADWALL TYPE III 1:3 SLOPE

Table listing reinforcement bars for one headwall, including columns for PIPE DIA, MARK(E), TYPE, NO REQ'D, LENGTH, and dimensions a and b.

NOTES:

- 1. THE 'v', 'n' and 'j' BARS, TYPE 3, SHALL BE ORDERED FULL LENGTH AND CUT IN THE FIELD.
2. THE LONG LEG OF THE 'm' AND 'n' BARS SHALL BE VERTICAL.
3. QUANTITIES ON THIS DRAWING ARE BASED ON THE CAST-IN-PLACE DESIGN. SEE SHEET 4 IN THIS SERIES FOR ALTERNATE PRECAST CONCRETE NOTES.
4. "STR." = STRAIGHT BAR
5. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (v:h).

* CUT BARS IN FIELD TO FIT MIN. 2" CLEARANCE
** PROVIDE 2'-0" MIN. LAP



HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:3 SLOPE

INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
36"	0	1	2	6'-7"	11	2'-4 1/2"	112	493
	3	2	2	6'-7"	11	1'-10 1/2"	102	
	2	3	2	6'-7"	11	1'-4 1/2"	93	
42"	0	1	2	7'-1"	12	2'-4 1/2"	121	633
	3	2	2	7'-1"	12	1'-10 1/2"	110	
	3	3	2	7'-1"	12	1'-4 1/2"	100	
48"	0	1	2	7'-7"	13	2'-4 1/2"	130	863
	0	2	2	7'-7"	13	1'-10 1/2"	119	
	8	3	2	7'-7"	13	1'-4 1/2"	108	
54"	0	1	2	8'-1"	14	2'-4 1/2"	139	958
	3	2	2	8'-1"	14	1'-10 1/2"	127	
	5	3	2	8'-1"	14	1'-4 1/2"	115	
60"	3	1	2	8'-7"	15	2'-4 1/2"	148	1058
	0	2	2	8'-7"	15	1'-10 1/2"	135	
	5	3	2	8'-7"	15	1'-4 1/2"	123	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:4 SLOPE

INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
36"	5	1	2	6'-7"	11	2'-4 1/2"	112	558
	0	2	2	6'-7"	11	1'-10 1/2"	102	
	0	3	2	6'-7"	11	1'-4 1/2"	93	
42"	1	1	2	7'-1"	12	2'-4 1/2"	121	784
	6	2	2	7'-1"	12	1'-10 1/2"	110	
	0	3	2	7'-1"	12	1'-4 1/2"	100	
48"	1	1	2	7'-7"	13	2'-4 1/2"	130	962
	7	2	2	7'-7"	13	1'-10 1/2"	119	
	0	3	2	7'-7"	13	1'-4 1/2"	108	
54"	1	1	2	8'-1"	14	2'-4 1/2"	139	1157
	8	2	2	8'-1"	14	1'-10 1/2"	127	
	0	3	2	8'-1"	14	1'-4 1/2"	115	
60"	0	1	2	8'-7"	15	2'-4 1/2"	148	1595
	0	2	2	8'-7"	15	1'-10 1/2"	135	
	13	3	2	8'-7"	15	1'-4 1/2"	123	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:6 SLOPE

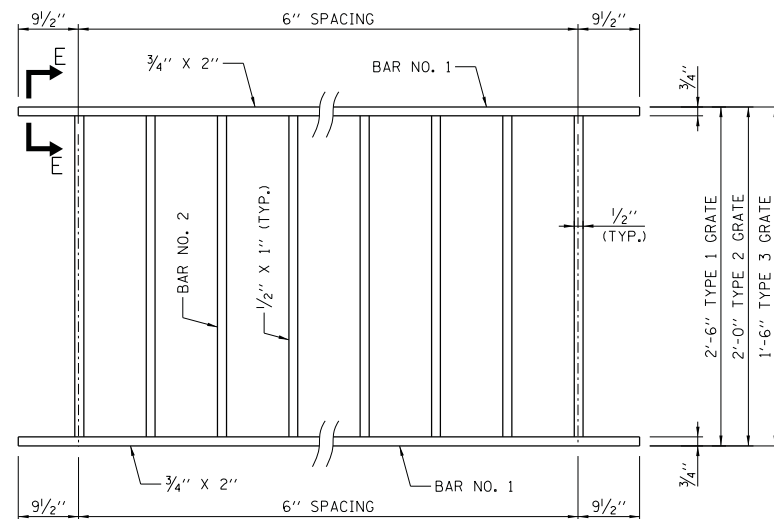
INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
36"	0	1	2	6'-7"	11	2'-4 1/2"	112	1115
	0	2	2	6'-7"	11	1'-10 1/2"	102	
	12	3	2	6'-7"	11	1'-4 1/2"	93	
42"	0	1	2	7'-1"	12	2'-4 1/2"	121	1405
	0	2	2	7'-1"	12	1'-10 1/2"	110	
	14	3	2	7'-1"	12	1'-4 1/2"	100	
48"	0	1	2	7'-7"	13	2'-4 1/2"	130	1725
	0	2	2	7'-7"	13	1'-10 1/2"	119	
	16	3	2	7'-7"	13	1'-4 1/2"	108	
54"	0	1	2	8'-1"	14	2'-4 1/2"	139	1916
	6	2	2	8'-1"	14	1'-10 1/2"	127	
	10	3	2	8'-1"	14	1'-4 1/2"	115	
60"	0	1	2	8'-7"	15	2'-4 1/2"	148	2357
	2	2	2	8'-7"	15	1'-10 1/2"	135	
	17	3	2	8'-7"	15	1'-4 1/2"	123	

GRATE DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III END ENTRANCE 1:10 SLOPE

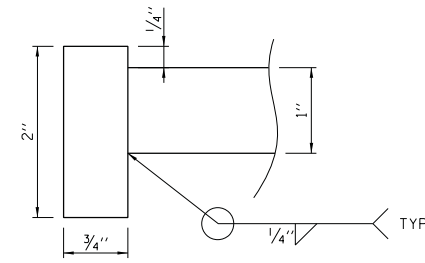
INSIDE PIPE DIAMETER	GRATES		BARS FOR ONE GRATE				HEADWALL GRATES (POUND)	
	NUMBER REQUIRED	TYPE REQ'D	BAR NO 1		BAR NO 2		EACH GRATE	TOTAL
			BARS REQ'D	LENGTH	BARS REQ'D	LENGTH		
18"	3	1	2	3'-7"	5	2'-4 1/2"	57	433
	5	2	2	3'-7"	5	1'-10 1/2"	52	
	0	3	2	3'-7"	5	1'-4 1/2"	48	
24"	0	1	2	4'-7"	7	2'-4 1/2"	75	884
	0	2	2	4'-7"	7	1'-10 1/2"	69	
	14	3	2	4'-7"	7	1'-4 1/2"	63	
30"	7	1	2	5'-7"	9	2'-4 1/2"	93	1082
	5	2	2	5'-7"	9	1'-10 1/2"	86	
	0	3	2	5'-7"	9	1'-4 1/2"	78	
36"	8	1	2	6'-7"	11	2'-4 1/2"	112	1507
	6	2	2	6'-7"	11	1'-10 1/2"	102	
	0	3	2	6'-7"	11	1'-4 1/2"	93	
42"	15	1	2	7'-1"	12	2'-4 1/2"	121	1812
	0	2	2	7'-1"	12	1'-10 1/2"	110	
	0	3	2	7'-1"	12	1'-4 1/2"	100	
48"	0	1	2	7'-7"	13	2'-4 1/2"	130	2497
	21	2	2	7'-7"	13	1'-10 1/2"	119	
	0	3	2	7'-7"	13	1'-10 1/2"	108	
54"	19	1	2	8'-1"	14	2'-4 1/2"	139	2643
	0	2	2	8'-1"	14	1'-10 1/2"	127	
	0	3	2	8'-1"	14	1'-4 1/2"	115	
60"	20	1	2	8'-7"	15	2'-4 1/2"	148	3100
	1	2	2	8'-7"	15	1'-10 1/2"	135	
	0	3	2	8'-7"	15	1'-4 1/2"	123	

NOTES:

- ALL STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36 OR 50.
- GALVANIZING SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- FOR PLACEMENT OF GRATES, SEE SHEET 1 IN THIS SERIES.
- ALL TABLE DIMENSIONS AND QUANTITIES ARE FOR SINGLE HEADWALL, TYPE III.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).



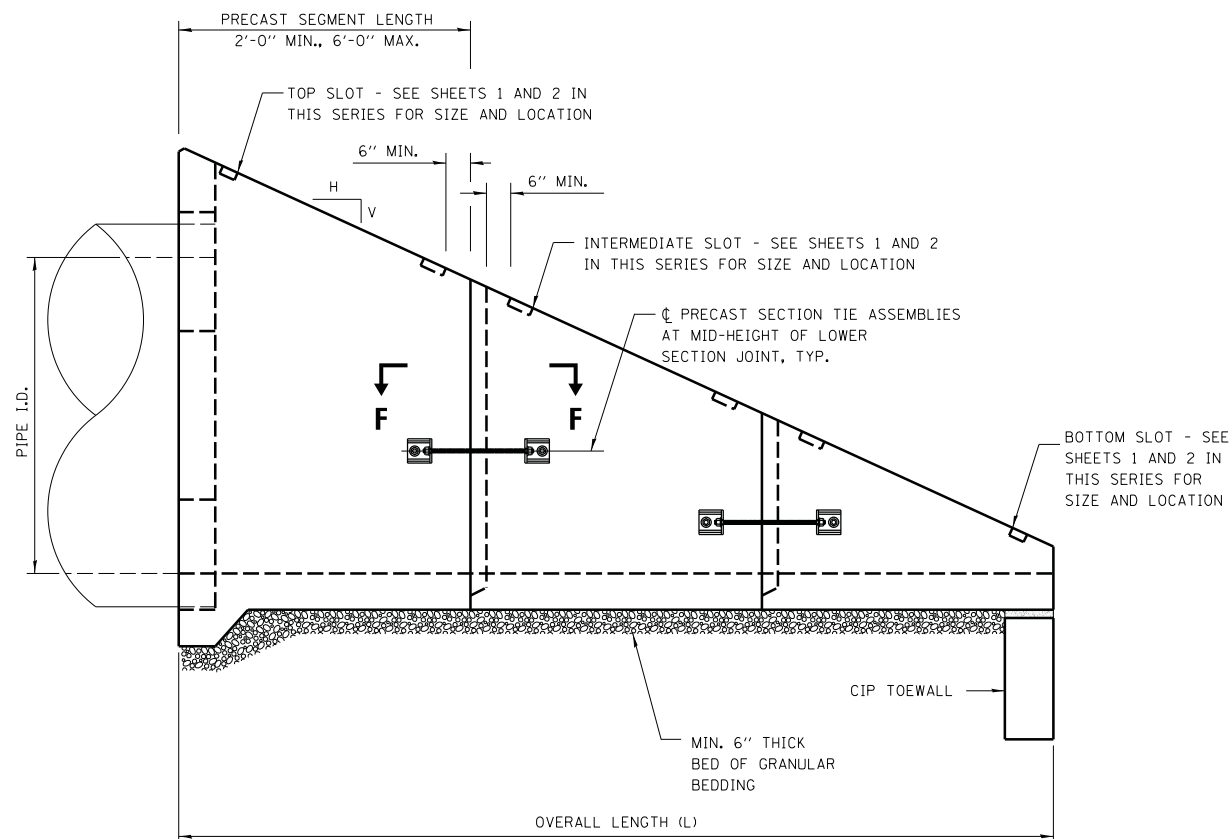
TYPICAL GRATE



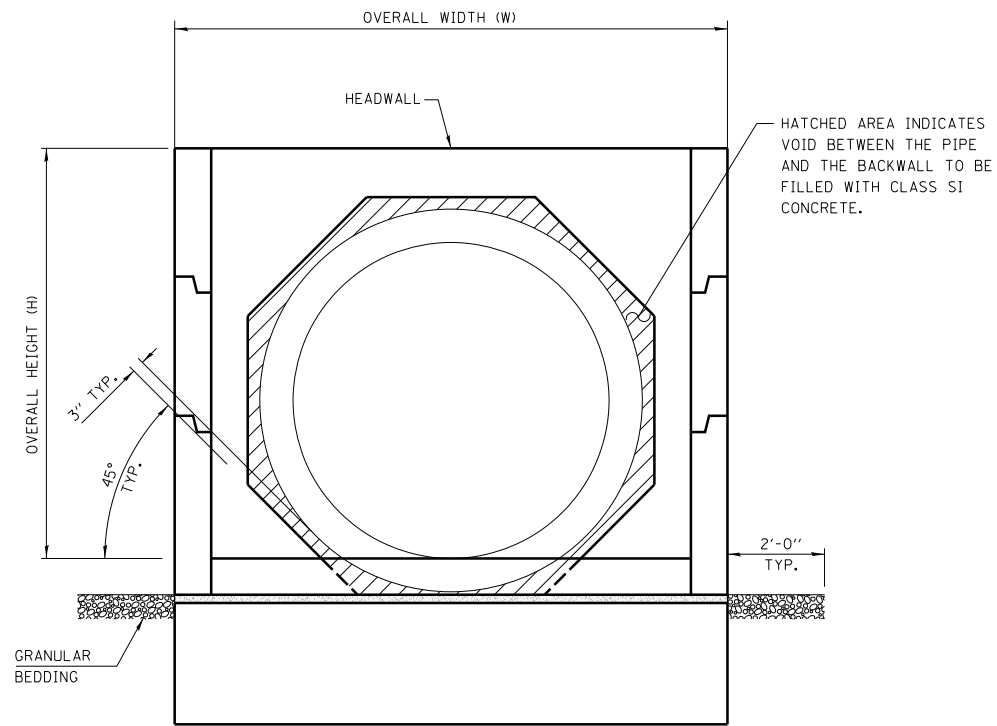
SECTION E-E



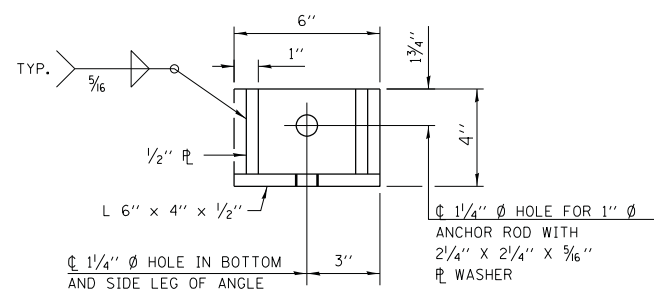
HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES



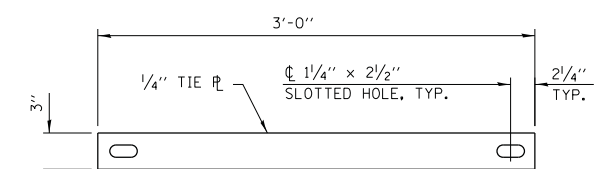
ELEVATION



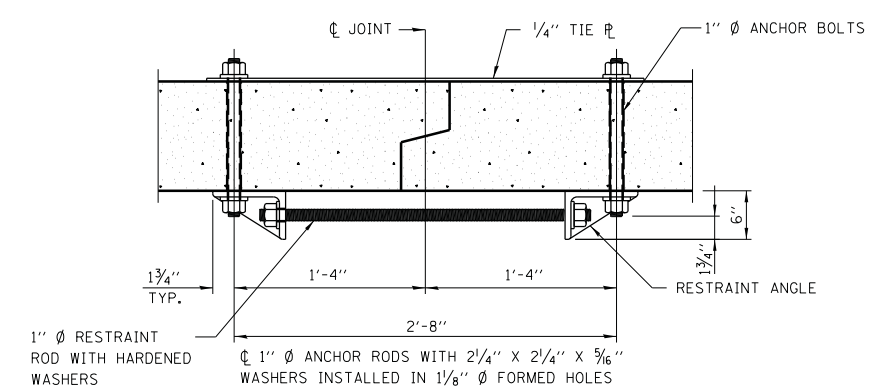
END VIEW



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

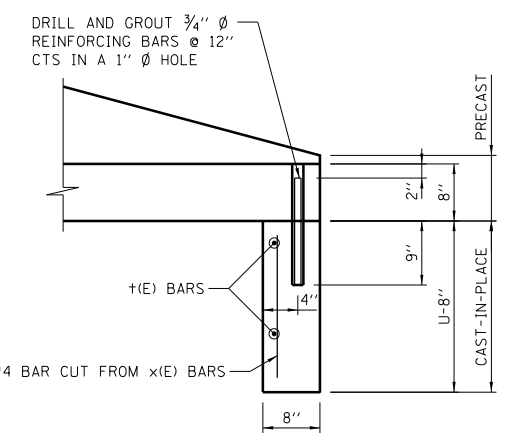


SECTION F-F

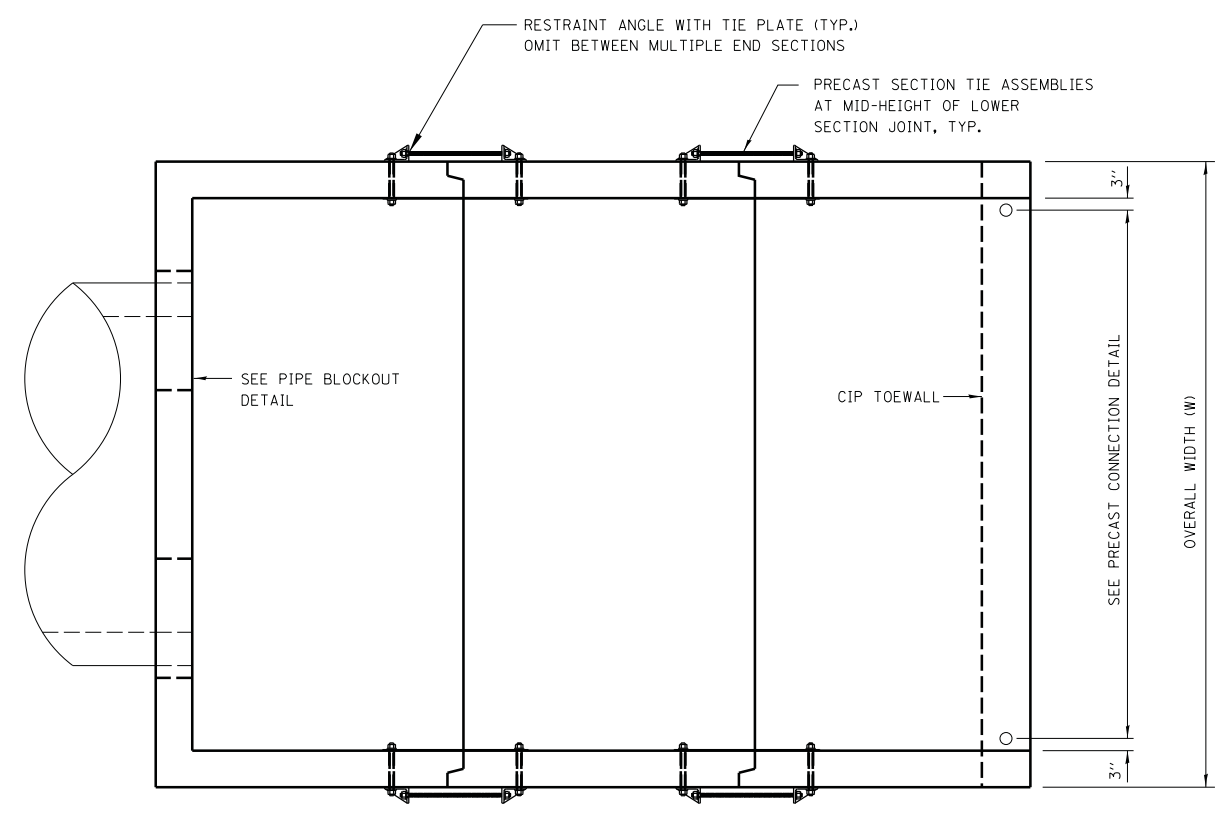
(SHOWING PRECAST SECTION TIE DETAILS)

GENERAL NOTES:

1. THE NUMBER OF SEGMENTS SHOWN IN ELEVATION IS FOR EXAMPLE ONLY. THE LENGTH AND NUMBER OF PRECAST SECTIONS REQUIRED TO CONSTRUCT THE END SECTION SHALL BE DETERMINED BY THE CONTRACTOR.
2. CONTRACTOR SHALL RETAIN THE SERVICES OF AN ILLINOIS LICENSED STRUCTURAL ENGINEER TO PROPORTION, DESIGN AND DETAIL PRECAST SECTIONS FOR INSTALLATION AND FOR SERVICE. SEE CAST-IN-PLACE DIMENSIONS AND REINFORCING DETAILS FOR MINIMUM REQUIREMENTS. INCREASE MEMBER SIZES AND REINFORCING AS NECESSARY TO SATISFY HANDLING AND INSTALLATION STRESSES IN PRECAST SECTIONS.
3. CLASS "SI" CONCRETE SHALL BE USED THROUGHOUT.
4. REINFORCEMENT BARS (GRADE 60) SHALL BE EPOXY COATED. SEE CAST-IN-PLACE DETAILS FOR BENDING DIAGRAMS. SEE NOTES ON SHEET 1 IN THIS SERIES FOR REINFORCING COVER REQUIREMENTS.
5. ALL EXPOSED EDGES SHALL BE CHAMFERED. SEE NOTES ON SHEET 1 IN THIS SERIES.
6. SEE ROADWAY PLANS FOR SLOPE (V:H) AND PIPE INSIDE DIAMETER.
7. HOLES IN THE WALLS FOR THE PRECAST TIE ASSEMBLY MAY BE DRILLED USING CORE BITS IN LIEU OF FORMED HOLES. AVOID DAMAGE TO REINFORCING FROM DRILLING HOLES.
8. FOR STEEL GRATING DETAILS, SEE SHEET 3 IN THIS SERIES.
9. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
10. TIE ASSEMBLIES, CONSISTING OF ANCHOR RODS, TIE PLATES, RESTRAINT ANGLES, RESTRAINT RODS AND ALL NUTS AND WASHERS SHALL CONFORM WITH AASHTO M270 GR36, OR GR50 AND SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION.



PRECAST CONNECTION DETAIL



PLAN

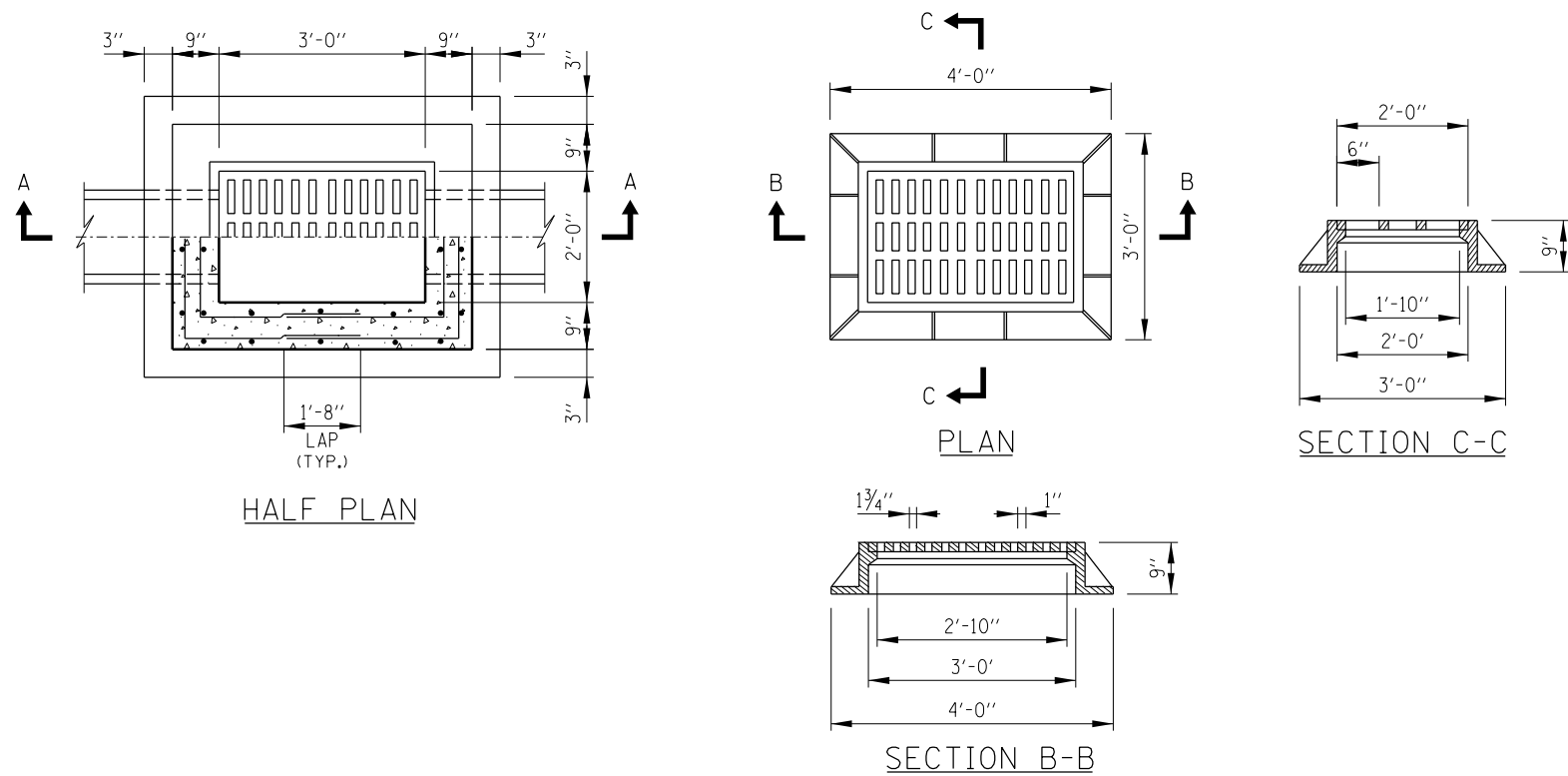


HEADWALL TYPE III
18"-24"-30"-36"-42"-48"-54"-60"
FOR 1:3, 1:4, 1:6, AND
1:10 SLOPES

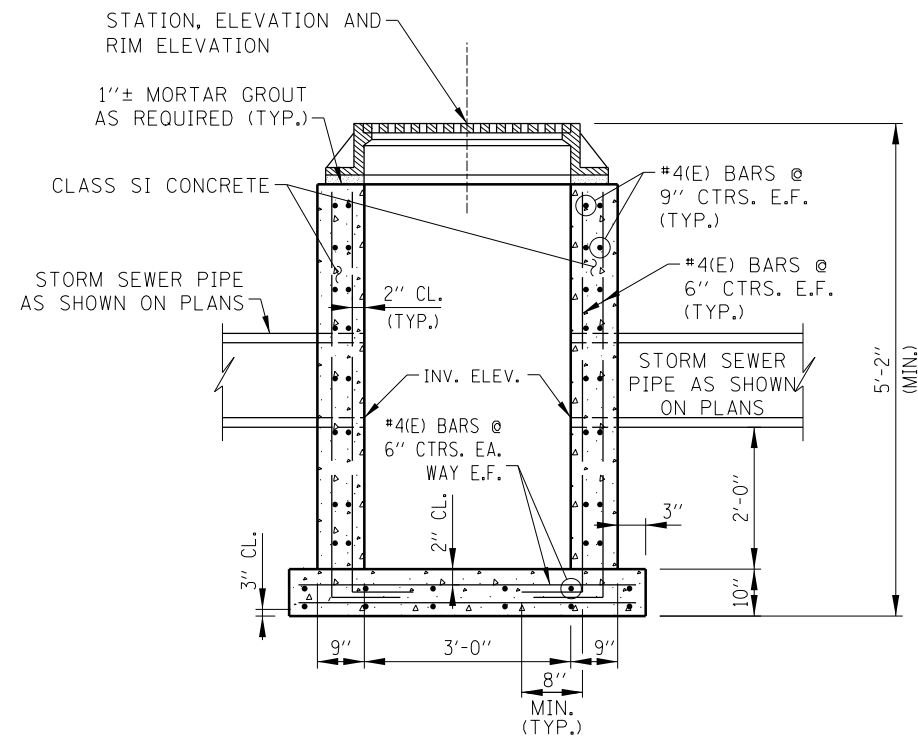
STANDARD B6-06

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

HEADWALL TYPE III ALTERNATE PRECAST CONCRETE DETAILS

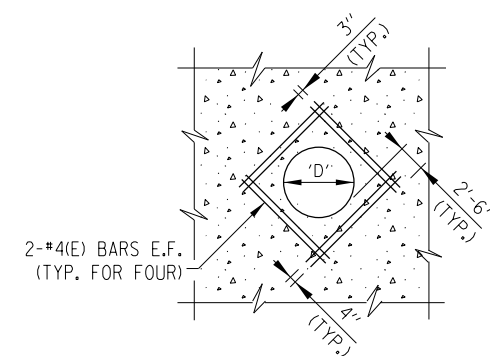


FRAME AND GRATE DETAIL



SECTION A-A


CATCH BASIN TYPE B



TYPICAL REINFORCEMENT AROUND STORM SEWER PIPE

NOTES:

1. FOR MATERIALS AND CONSTRUCTION REQUIREMENTS OF THE CATCH BASIN, REFER TO THE STANDARD SPECIFICATIONS.
2. FRAME AND GRATE FOR CATCH BASIN TYPE B SHALL BE NEENAH FOUNDRY COMPANY TYPE R-3455C, EAST JORDAN IRON WORKS V5360-1 OR APPROVED EQUAL.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.


 APPROVED..... CHIEF ENGINEER..... DATE 2-7-2012

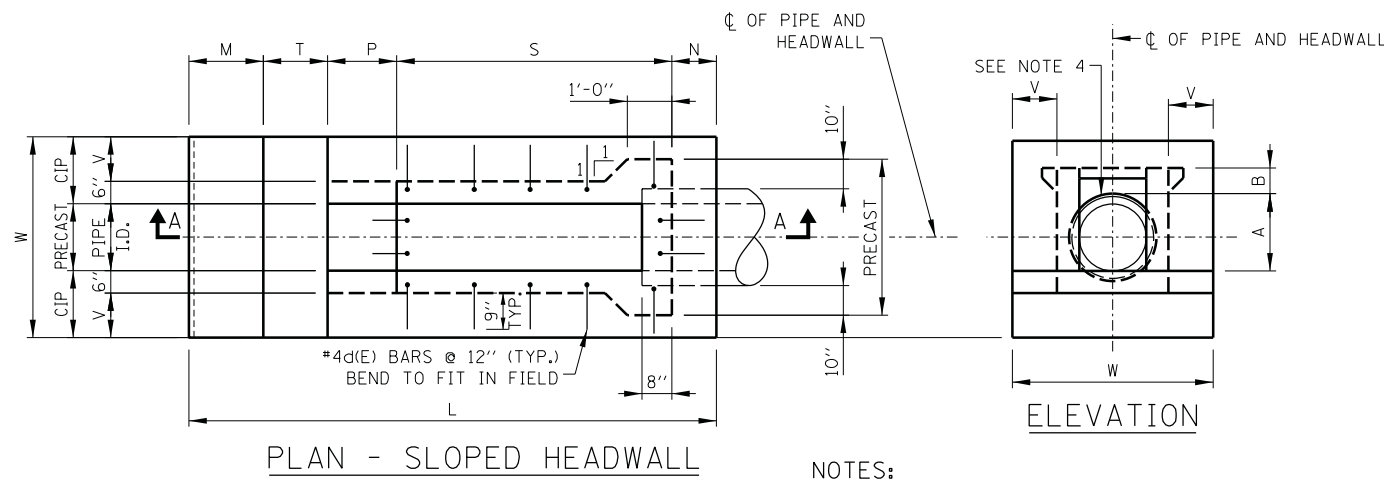
DATE	REVISIONS
02-07-12	REVISED REINFORCEMENT BARS
03-31-14	REVISED SLOPE DRAIN ALSO FRAME AND GRATE CASTINGS
3-11-2015	SLOPE DRAIN CHANGE TO BASE SHEET.



CATCH BASIN, TYPE B

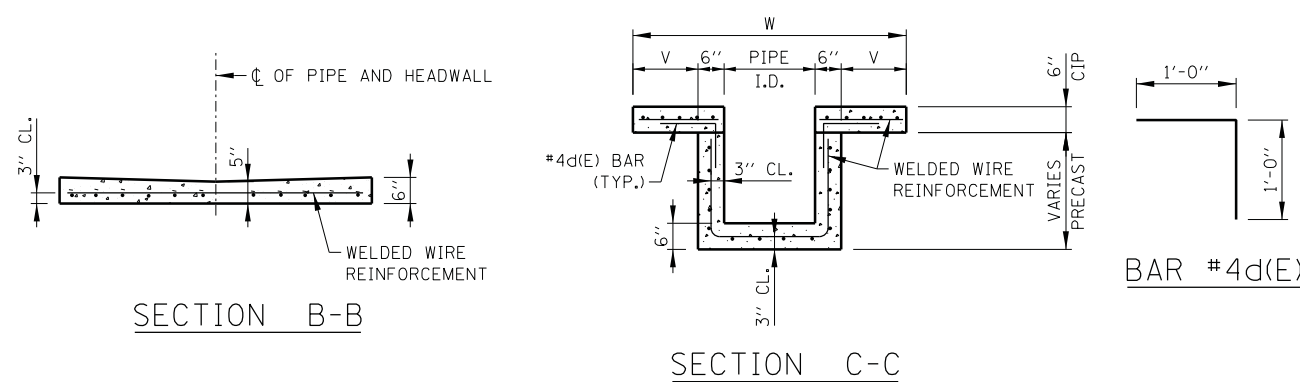
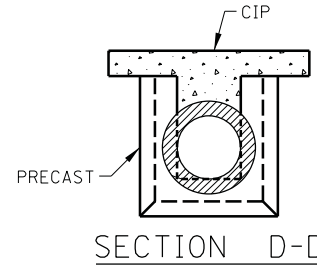
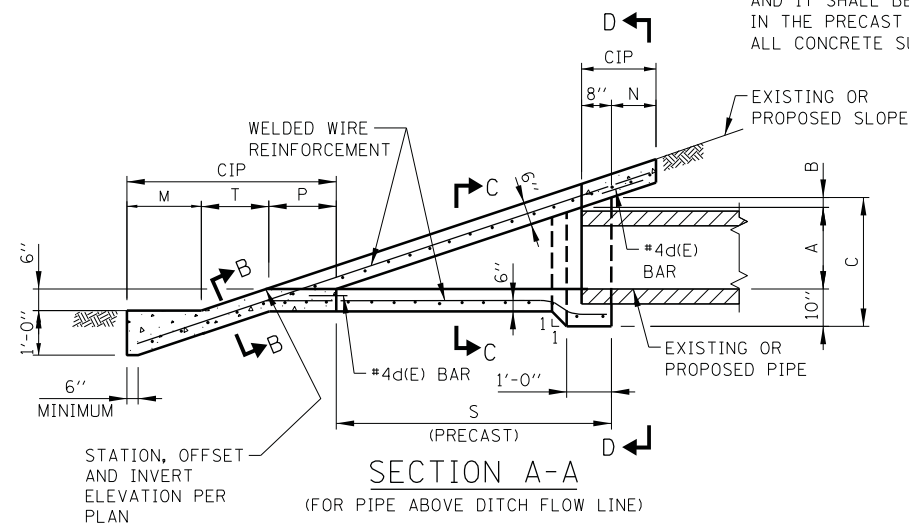
STANDARD B7-03

**DIMENSIONS AND QUANTITIES
FOR ONE SLOPED HEADWALL TYPE III**



NOTES:

EACH #4d(E) BAR SHALL BE PLACED SUCH THAT IT WILL PROJECT 9" INTO THE CAST IN PLACE (CIP) CONCRETE AND IT SHALL BE 3" BELOW THE TOP SURFACE. HOOKS IN THE PRECAST SECTION SHALL BE TIPPED TO CLEAR ALL CONCRETE SURFACES A MIN. OF 2".



PIPE I.D.	DIMENSIONS											PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE REINFORCEMENT SQ. YD.	REINFORCEMENT BARS				
	A	B	C	N	M	T	P	S	L	V	W				MARK(E)	SIZE	NO.	LENGTH	LB.
6"	9"	2 3/4"	1'-9 3/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	2'-11 1/4"	7'-2"	1'-0"	3'-6"	0.15	0.72	3.28	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2 3/4"	2'-4 1/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	4'-6 3/4"	8'-9 1/2"	1'-0"	4'-0"	0.34	0.92	4.50	d12	#4	14	2'-0"	19
15"	1'-6 1/2"	2 3/4"	2'-7 1/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	5'-3 3/4"	9'-6 1/2"	1'-0"	4'-3"	0.45	1.01	5.88	d15	#4	16	2'-0"	21
18"	1'-10"	2 3/4"	2'-10 3/4"	1'-0"	1'-8"	1'-6"	1'-6 3/4"	6'-2 1/4"	10'-5"	1'-0"	4'-6"	0.61	1.13	6.44	d18	#4	18	2'-0"	24
21"	2'-1"	2 3/4"	3'-1 3/4"	1'-0"	1'-9"	1'-6"	1'-6 3/4"	6'-11 1/4"	11'-3"	1'-3"	5'-3"	0.76	1.39	8.34	d21	#4	22	2'-0"	29
24"	2'-4 1/2"	2 3/4"	3'-5 1/4"	1'-0"	2'-0"	1'-6"	1'-6 3/4"	7'-9 3/4"	12'-4 1/2"	1'-6"	6'-0"	0.95	1.72	9.85	d24	#4	24	2'-0"	32
27"	2'-7 1/2"	2 3/4"	3'-8 1/4"	1'-1 1/2"	2'-3"	1'-6"	1'-6 3/4"	8'-6 3/4"	13'-6"	1'-9"	6'-9"	1.14	2.07	13.54	d27	#4	24	2'-0"	32
30"	2'-11"	2 3/4"	3'-11 3/4"	1'-3"	2'-6"	1'-6"	1'-6 3/4"	9'-5 1/4"	14'-9"	2'-0"	7'-6"	1.38	2.46	16.40	d30	#4	26	2'-0"	35

PIPE I.D.	DIMENSIONS											PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE REINFORCEMENT SQ. YD.	REINFORCEMENT BARS				
	A	B	C	N	M	T	P	S	L	V	W				MARK(E)	SIZE	NO.	LENGTH	LB.
6"	9"	2"	1'-9"	1'-0"	1'-8"	2'-0"	2'-1"	3'-8"	8'-5"	1'-0"	3'-6"	0.17	0.83	4.07	d6	#4	12	2'-0"	16
12"	1'-3 1/2"	2"	2'-3 1/2"	1'-0"	1'-8"	2'-0"	2'-1"	5'-10"	10'-7"	1'-0"	4'-0"	0.41	1.07	5.50	d12	#4	16	2'-0"	21
15"	1'-6 1/2"	2"	2'-6 1/2"	1'-0"	1'-8"	2'-0"	2'-1"	6'-10"	11'-7"	1'-0"	4'-3"	0.55	1.18	6.63	d15	#4	18	2'-0"	24
18"	1'-10"	2"	2'-10"	1'-0"	1'-8"	2'-0"	2'-1"	8'-0"	12'-11"	1'-0"	4'-6"	0.74	1.32	8.60	d18	#4	22	2'-0"	29
21"	2'-1"	2"	3'-1"	1'-0"	1'-9"	2'-0"	2'-1"	9'-0"	13'-10"	1'-3"	5'-3"	0.93	1.63	11.03	d21	#4	24	2'-0"	32
24"	2'-4 1/2"	2"	3'-4 1/2"	1'-0"	2'-0"	2'-0"	2'-1"	10'-2"	15'-3"	1'-6"	6'-0"	1.18	2.00	13.88	d24	#4	28	2'-0"	37
27"	2'-7 1/2"	2"	3'-7 1/2"	1'-1 1/2"	2'-3"	2'-0"	2'-1"	11'-2"	16'-7"	1'-9"	6'-9"	1.42	2.41	14.83	d27	#4	30	2'-0"	40
30"	2'-11"	2"	3'-11"	1'-3"	2'-6"	2'-0"	2'-1"	12'-4"	18'-2"	2'-0"	7'-6"	1.71	2.87	20.49	d30	#4	32	2'-0"	43

PIPE I.D.	DIMENSIONS											PRE CAST CONC. CU. YD.	CAST-IN-PLACE CU. YD.	WELDED WIRE REINFORCEMENT SQ. YD.	REINFORCEMENT BARS				
	A	B	C	N	M	T	P	S	L	V	W				MARK(E)	SIZE	NO.	LENGTH	LB.
6"	9"	1 1/2"	1'-8 1/2"	1'-0"	1'-8"	3'-0"	3'-0"	5'-3"	10'-11"	1'-0"	3'-6"	0.23	1.07	5.29	d6	#4	16	2'-0"	21
12"	1'-3 1/2"	1 1/2"	2'-3"	1'-0"	1'-8"	3'-0"	3'-0"	8'-6"	14'-2"	1'-0"	4'-0"	0.57	1.38	8.62	d12	#4	22	2'-0"	29
15"	1'-6 1/2"	1 1/2"	2'-6"	1'-0"	1'-8"	3'-0"	3'-0"	10'-0"	15'-8"	1'-0"	4'-3"	0.77	1.53	10.35	d15	#4	26	2'-0"	35
18"	1'-10"	1 1/2"	2'-9 1/2"	1'-0"	1'-8"	3'-0"	3'-0"	11'-9"	17'-5"	1'-0"	4'-6"	1.04	1.70	12.47	d18	#4	28	2'-0"	37
21"	2'-1"	1 1/2"	3'-0 1/2"	1'-0"	1'-9"	3'-0"	3'-0"	13'-3"	19'-0"	1'-3"	5'-3"	1.31	2.11	15.77	d21	#4	34	2'-0"	45
24"	2'-4 1/2"	1 1/2"	3'-4"	1'-0"	2'-0"	3'-0"	3'-0"	15'-0"	21'-0"	1'-6"	6'-0"	1.66	2.59	17.62	d24	#4	38	2'-0"	51
27"	2'-7 1/2"	1 1/2"	3'-7"	1'-1 1/2"	2'-3"	3'-0"	3'-0"	16'-6"	22'-10 1/2"	1'-9"	6'-9"	1.99	3.11	24.10	d27	#4	40	2'-0"	53
30"	2'-11"	1 1/2"	3'-10 1/2"	1'-3"	2'-6"	3'-0"	3'-0"	18'-3"	25'-0"	2'-0"	7'-6"	2.41	3.70	29.13	d30	#4	44	2'-0"	59

NOTES:

- THE CAST IN PLACE (CIP) SLOPED HEADWALL SHALL BE CONSTRUCTED FLUSH WITH EXISTING OR PROPOSED SLOPE.
- CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
- WELDED WIRE REINFORCEMENT SHALL BE EPOXY COATED 6x6-W4xW4, 58 LBS. PER 100 SQ.FT.
- ALL REINFORCEMENT BARS SHOWN SHALL BE EPOXY COATED (E).
- BAR BENDING DETAILS ARE DIMENSIONED OUT TO OUT OF BARS.
- COVER FROM FACE OF CONCRETE TO FACE OF REINFORCEMENT BAR SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.
- PRECAST UNIT USE IS OPTIONAL. THE ENTIRE STRUCTURE MAY BE CAST IN PLACE.
- AFTER THE PRECAST SLOPED HEADWALL HAS BEEN PLACED, THE SPACE BETWEEN THE HEADWALL AND PIPE SHALL BE COMPLETELY FILLED WITH AN APPROVED NON-SHRINK GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI. THE COST FOR FURNISHING AND PLACING THE GROUT SHALL BE INCIDENTAL TO SLOPED HEADWALLS.
- THE SLOPED HEADWALL DETAILS SHOWN ON THIS DRAWING ARE FOR USE ONLY WITH PIPES HAVING DIAMETER OR SPAN OF 30" OR LESS.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
- I.D. DENOTES INSIDE DIAMETER OF PIPE. O.D. DENOTES OUTSIDE DIAMETER OF PIPE.

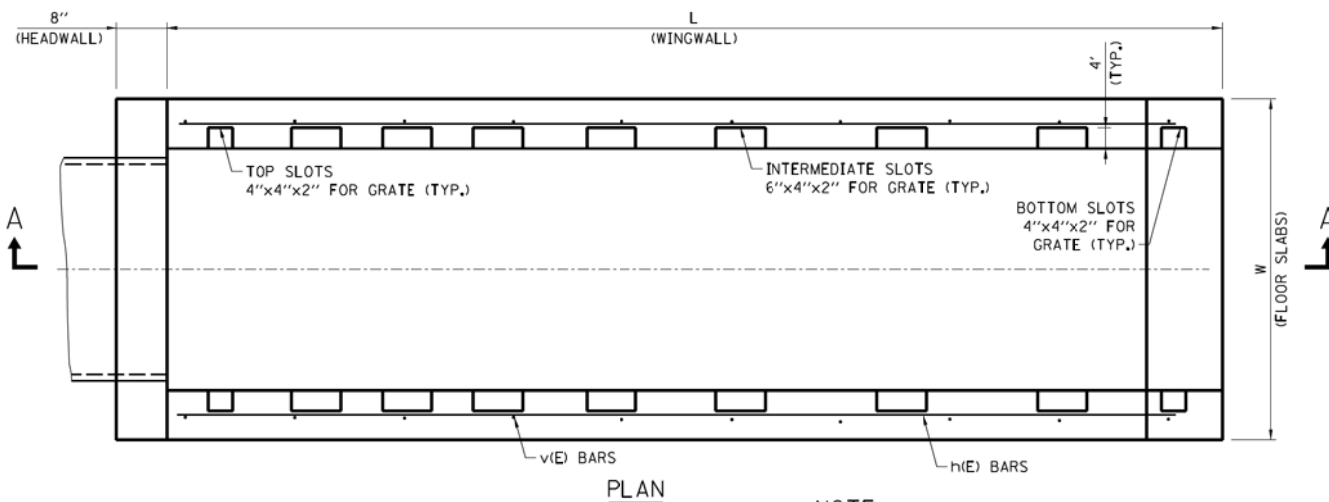
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
3-31-2014	REVISED QUANTITIES
3-11-2015	REVISED TABLES AND SECTIONS
3-31-2016	CHANGED TERMINOLOGY TO WELDED WIRE REINFORCEMENT

Illinois Tollway

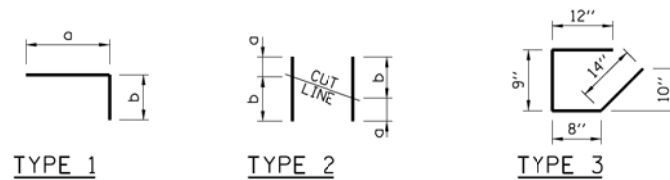
**SLOPED HEADWALLS
TYPE III DETAILS**

STANDARD B10-08



DIMENSIONS AND QUANTITIES IN TWO WINGWALLS 1:4 SLOPE

PIPE-ARCH ELLIPTICAL PIPE (SPAN ≤ 77")	CIRCULAR PIPE (DIAMETER)	DIMENSIONS								NO. OF SPACES			CONCRETE CLASS SI* (C.Y.)	REINF. BAR* (POUND)
		H	L	S	T	U	A	E	B	C	D			
RISE ≤ 30"		3'-2"	12'-0"	12'-4 1/2"	2"	2'-8"	2'-2"	2'-2"	-	3	-	.98	151	
RISE ≤ 36"		3'-8"	14'-0"	14'-5 7/8"	2"	2'-8"	2'-2"	2'-2"	-	4	-	1.33	188	
RISE ≤ 42"		4'-3"	16'-4"	16'-10"	2"	3'-2"	2'-8"	2'-2"	4	-	-	1.78	251	
RISE ≤ 48"		4'-9"	18'-4"	18'-10 3/4"	2"	3'-2"	2'-2"	2'-2"	-	6	-	2.23	295	
RISE ≤ 54"	54"	5'-3"	20'-4"	20'-11 1/2"	2"	3'-6"	2'-2"	2'-2"	4	2	-	2.72	370	
RISE ≤ 60"	60"	5'-10"	22'-8"	23'-4 3/4"	2"	3'-6"	2'-2"	2'-2"	-	8	-	3.36	428	
	66"	6'-4"	24'-8"	25'-5 7/8"	2"	3'-6"	2'-2"	2'-2"	4	4	-	3.96	517	



NOTE:
v(E) BARS ARE TO BEGIN AT THE CULVERT
END OF THE SLOPE HEADWALL

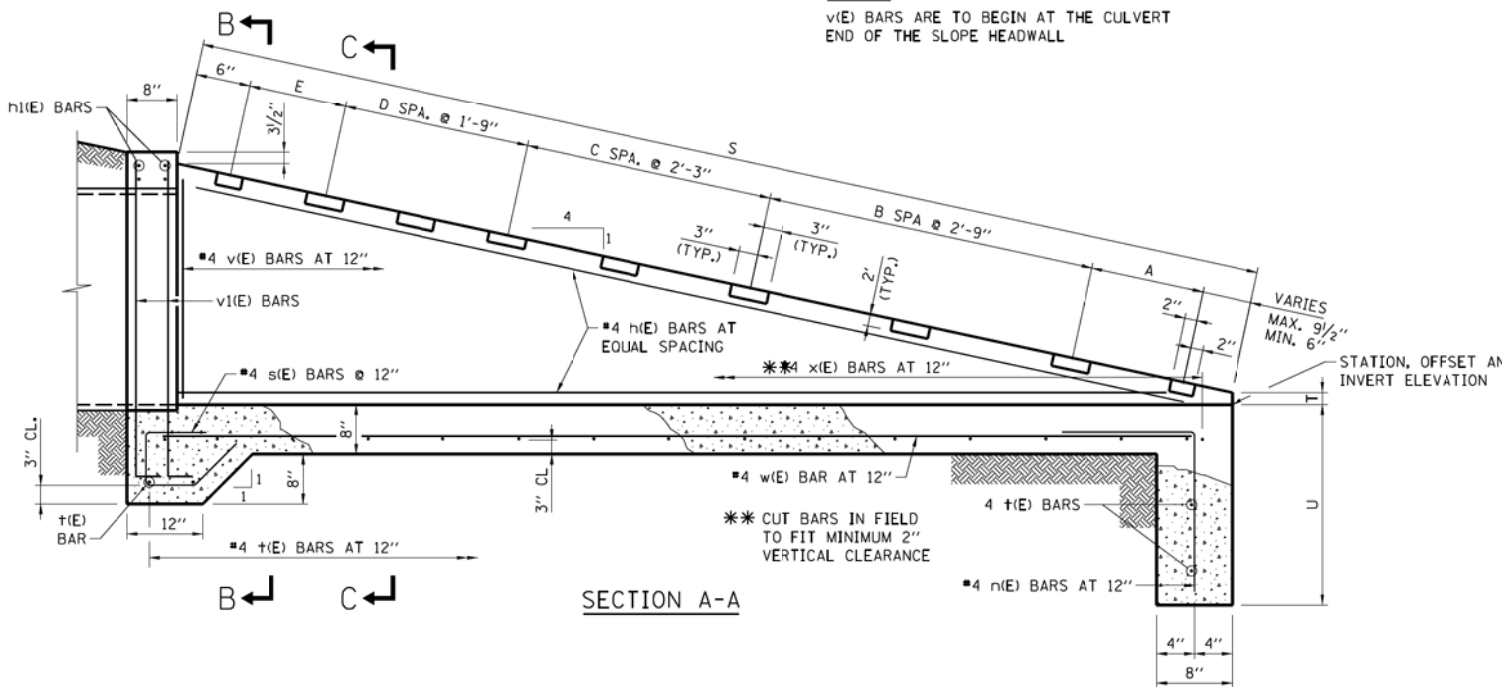
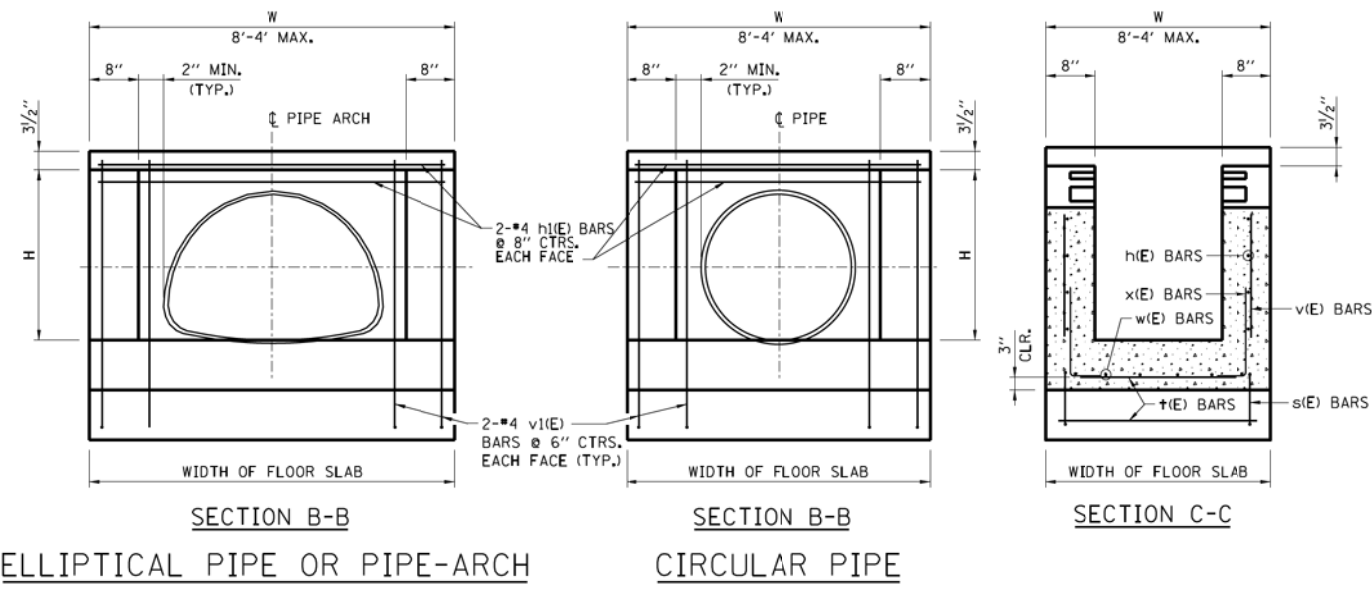


TABLE OF BARS
IN ONE WINGWALL 1:4 SLOPE

H	NO. 4 REINFORCEMENT BARS					
	MARK(E)	TYPE	NO. REQ'D	LENGTH	a	b
3'-2"	H 30	STR.	4	11'-8"		
	V 30	2	5	5'-0"	2'-0"	3'-0"
	X 30	1	13	3'-2"	2'-2"	1'-0"
3'-8"	H 36	STR.	4	13'-8"		
	V 36	2	7	5'-6"	2'-0"	3'-6"
	X 36	1	15	3'-2"	2'-2"	1'-0"
4'-3"	H 42	STR.	5	16'-0"		
	V 42	2	9	6'-0"	1'-11"	4'-1"
	X 42	1	17	3'-2"	2'-2"	1'-0"
4'-9"	H 48	STR.	5	18'-0"		
	V 48	2	11	6'-5"	1'-10"	4'-7"
	X 48	1	19	3'-2"	2'-2"	1'-0"
5'-3"	H 54	STR.	6	20'-0"		
	V 54	2	13	6'-11"	1'-10"	5'-1"
	X 54	1	21	3'-2"	2'-2"	1'-0"
5'-10"	H 60	STR.	6	22'-4"		
	V 60	2	15	7'-7"	1'-11"	5'-8"
	X 60	1	23	3'-2"	2'-2"	1'-0"
6'-4"	H 66	STR.	7	24'-4"		
	V 66	2	17	8'-1"	1'-11"	6'-2"
	X 66	1	25	3'-2"	2'-2"	1'-0"

TABLE OF BARS IN SLAB 1:4 SLOPE
(PER FT. OF FLOOR SLAB WIDTH)

H	NO. 4 REINFORCEMENT BARS						REINF. BARS (POUND)*	CONCRETE CLASS SI (C.Y.)*
	MARK(E)	TYPE	NO. REQ'D	LENGTH	a	b		
3'-2"	h 131	STR.	4	W-(0'-4")			52	.38
	v 131	1	8	5'-0"	4'-4"	8"		
	n 30	1	1	4'-1"	2'-1"	2'-0"		
	w 30	STR.	1	12'-1"				
	t 30	STR.	15	W-(0'-4")				
3'-8"	h 136	STR.	4	W-(0'-4")			58	.43
	v 136	1	8	5'-6"	4'-10"	8"		
	n 36	1	1	4'-1"	2'-1"	2'-0"		
	w 36	STR.	1	14'-1"				
	t 36	STR.	19	W-(0'-4")				
4'-3"	h 142	STR.	4	W-(0'-4")			65	.50
	v 142	1	8	6'-1"	5'-5"	8"		
	n 42	1	1	4'-7"	2'-7"	2'-0"		
	w 42	STR.	1	16'-5"				
	t 42	STR.	21	W-(0'-4")				
4'-9"	h 148	STR.	4	W-(0'-4")			70	.55
	v 148	1	8	6'-7"	5'-11"	8"		
	n 48	1	1	4'-7"	2'-7"	2'-0"		
	w 48	STR.	1	18'-5"				
	t 48	STR.	23	W-(0'-4")				
5'-3"	h 154	STR.	4	W-(0'-4")			76	.60
	v 154	1	8	7'-1"	6'-5"	8"		
	n 54	1	1	4'-11"	2'-11"	2'-0"		
	w 54	STR.	1	20'-5"				
	t 54	STR.	25	W-(0'-4")				
5'-10"	h 160	STR.	4	W-(0'-4")			82	.66
	v 160	1	8	7'-8"	7'-0"	8"		
	n 60	1	1	4'-11"	2'-11"	2'-0"		
	w 60	STR.	1	22'-9"				
	t 60	STR.	27	W-(0'-4")				
6'-4"	h 166	STR.	4	W-(0'-4")			87	.71
	v 166	1	8	8'-2"	7'-6"	8"		
	n 66	1	1	4'-11"	2'-11"	2'-0"		
	w 66	STR.	1	24'-9"				
	t 66	STR.	29	W-(0'-4")				



- GENERAL NOTES:**
- TYPE 2 "v(E)" BARS SHALL BE ORDERED FULL LENGTH AND CUT IN THE FIELD. THE REMAINING PORTION OF THE "v(E)" BARS SHALL BE USED IN THE OTHER WALL.
 - THE LONG LEG OF THE "h(E)" BARS SHALL BE VERTICAL.
 - PAY ITEMS ARE IDENTIFIED BY AN ASTERISK (*).
 - SEE STANDARD B23 FOR GRATING DETAILS.
 - ALL CONCRETE SHALL BE CLASS SI.
 - ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
 - ALL REINFORCEMENT BARS SHALL BE EPOXY COATED (E).

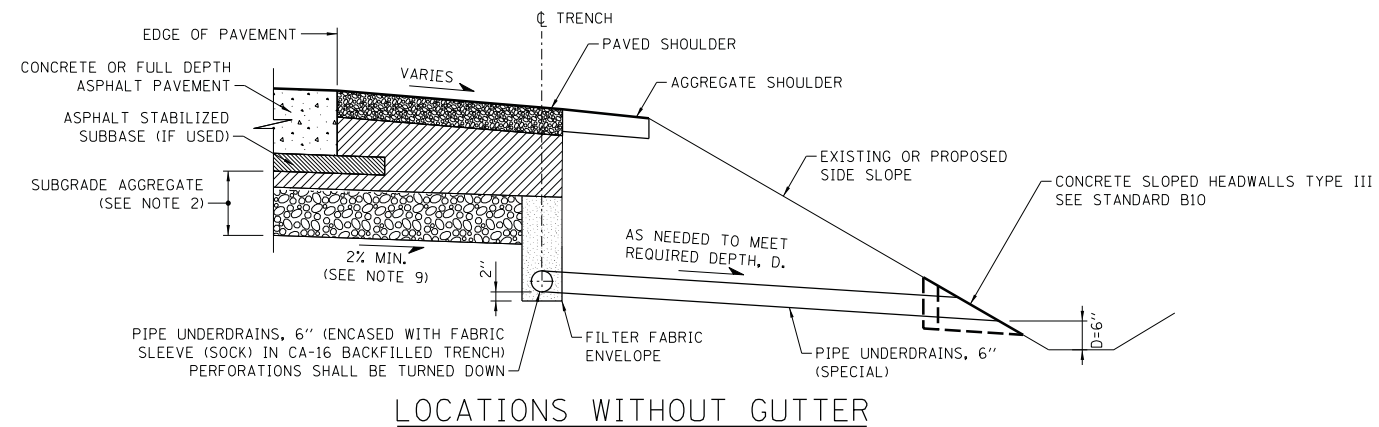


DATE	REVISIONS
2-07-2012	REVISED TABLE QUANTITIES
3-11-2015	REVISED NOTES
3-31-2016	STATION, OFFSET AND INERT ELEVATION, MOVE,

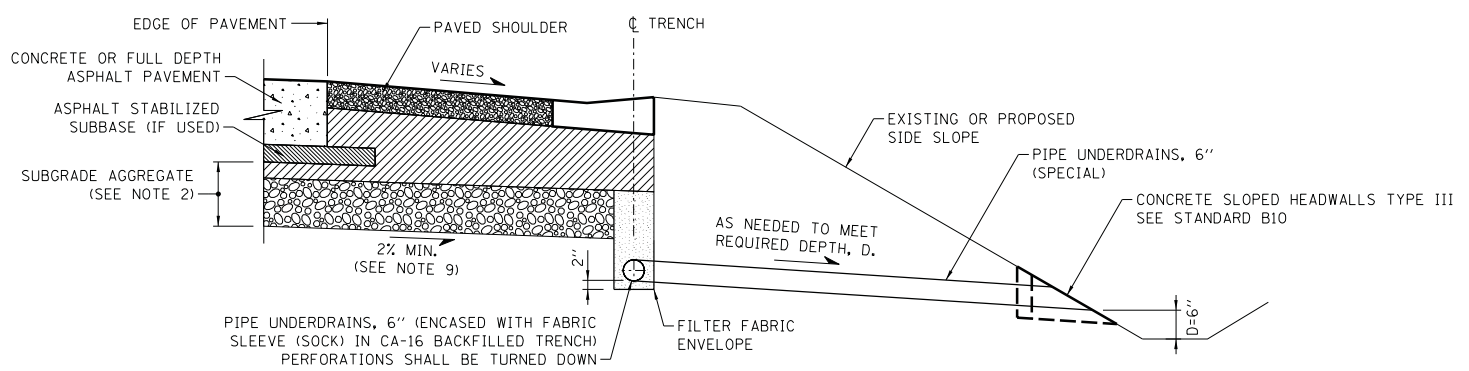
HEADWALL TYPE IV
METAL PIPE & PIPE-ARCH
CULVERTS

STANDARD B22-04

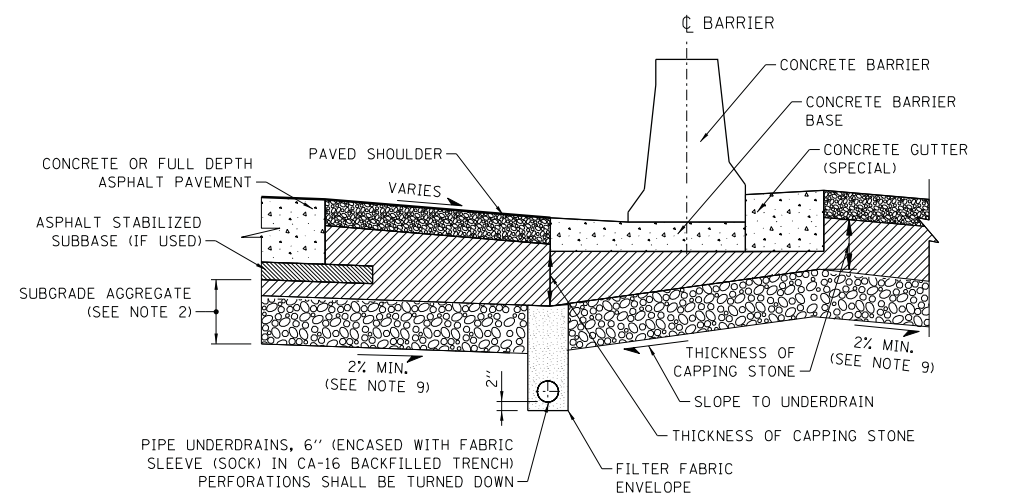
APPROVED: *Paul Kovacs*
CHIEF ENGINEER
DATE 2-7-2012



LOCATIONS WITHOUT GUTTER

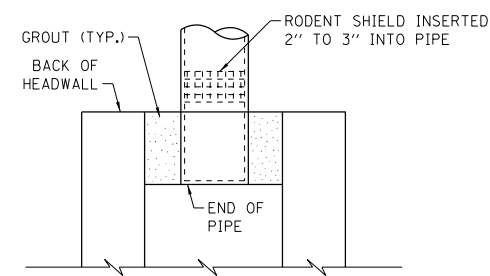


LOCATIONS WITH GUTTER

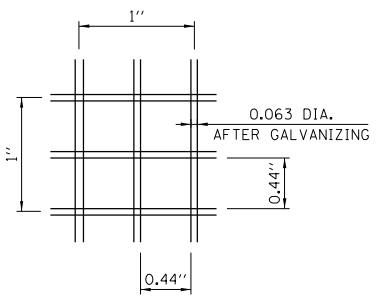


LOCATIONS WITH VARIABLE HEIGHT DOUBLE FACE BARRIER

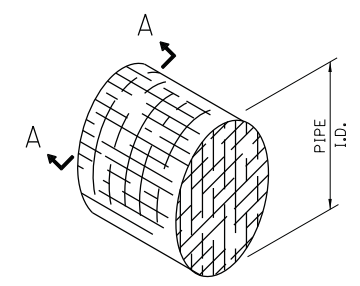
MAXIMUM ALLOWABLE DRAINAGE DISTANCE TO OUTLET OR SEPARATION DISTANCE BETWEEN OUTLETS	
ROADWAY PROFILE GRADE (%)	DISTANCE
≤ 1	250 FT.
BETWEEN 1 AND 2	375 FT.
≥ 2	500 FT. (NOTE 5)



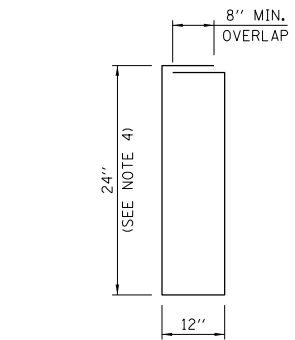
RODENT SHIELD PLACEMENT



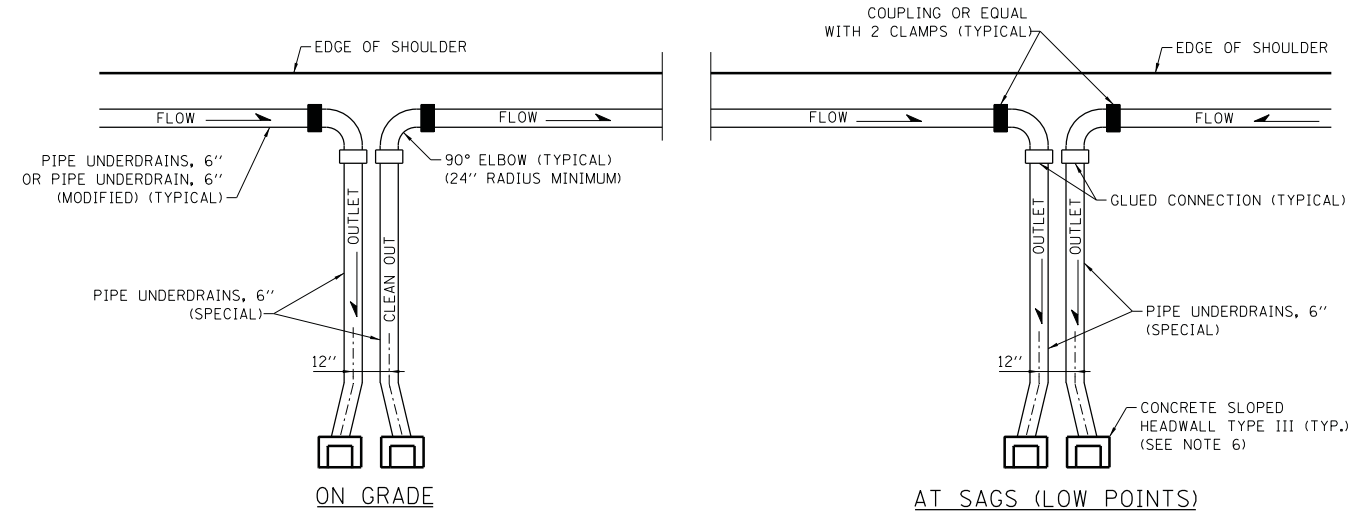
SECTION A-A



DETAIL OF RODENT SHIELD



FILTER FABRIC ENVELOPE



DETAIL OF PIPE UNDERDRAIN OUTLETS

(SEE NOTE 7)

NOTES FOR PIPE UNDERDRAIN

- FOR NEW CONSTRUCTION OR WIDENING PROJECTS, THE PIPE UNDERDRAIN INSTALLATION SHALL OCCUR AFTER SUBGRADE HAS BEEN PREPARED AND AFTER LIFT OF PGE BASE IS PLACED AND BEFORE 3" AND VARIES CA-6 CAPPING STONE IS PLACED. FOR PAVEMENT RUBBLIZATION PROJECTS, THE PIPE UNDERDRAIN SHALL BE INSTALLED PRIOR TO RUBBLIZATION.
- SUBGRADE AGGREGATE SHALL CONSIST OF A 3" AND VARIES CA-6 CAP ABOVE A PGE BASE, THICKNESS AS NOTED IN THE PLANS.
- ON SUPERELEVATED CURVES PLACE LONGITUDINAL UNDERDRAIN ON LOW SIDE ONLY.
- IN AREAS WHERE ROADWAY LONGITUDINAL GRADE IS LESS THAN 0.5%, DIMENSION WILL INCREASE AS NECESSARY TO MAINTAIN MINIMUM 0.5% SLOPE IN PIPE UNDERDRAIN.
- IF 500' MAXIMUM DISTANCE IS EXCEEDED, PIPE UNDERDRAIN SHALL BE INCREASED TO 8" DIAMETER AND TRENCH WIDTH INCREASED TO 16".
- AT OUTLET LOCATIONS, PIPE UNDERDRAINS SHALL SEPARATE SUFFICIENTLY TO PROVIDE SPACE FOR TWO CONCRETE SLOPED HEADWALLS, OR TWO PIPES CAN RUN PARALLEL INTO A LARGER HEADWALL.
- IN AREAS WHERE A CLOSED DRAINAGE SYSTEM EXISTS, THE PIPE UNDERDRAIN, 6" (SPECIAL) SHALL DRAIN TO THE NEAREST CATCH BASIN. THE UPPER END OF A RUN ON GRADE SHALL ALSO BE CONNECTED TO A CATCH BASIN TO BE USED AS A CLEANOUT.
- THE OUTLET END OF THE SUBDRAIN SHALL BE PROTECTED BY A PERMANENT RODENT SHIELD. THE RODENT SHIELD SHALL HAVE THE CONFIGURATION SHOWN AND BE CONSTRUCTED FROM HOT DIP GALVANIZED STEEL INDUSTRIAL WIRE CLOTH 3x3 MESH, 0.063"x0.063" WIRE SIZE IN ACCORDANCE WITH AASHTO M232 (ASTM A153). THE COST OF THE RODENT SHIELD IS INCLUDED IN CONCRETE SLOPED HEADWALL.
- BOTTOM OF SUBGRADE AGGREGATE SLOPE SHALL MATCH PAVEMENT SLOPE OF OUTSIDE LANE, BUT SHALL NOT BE LESS THAN 2%.

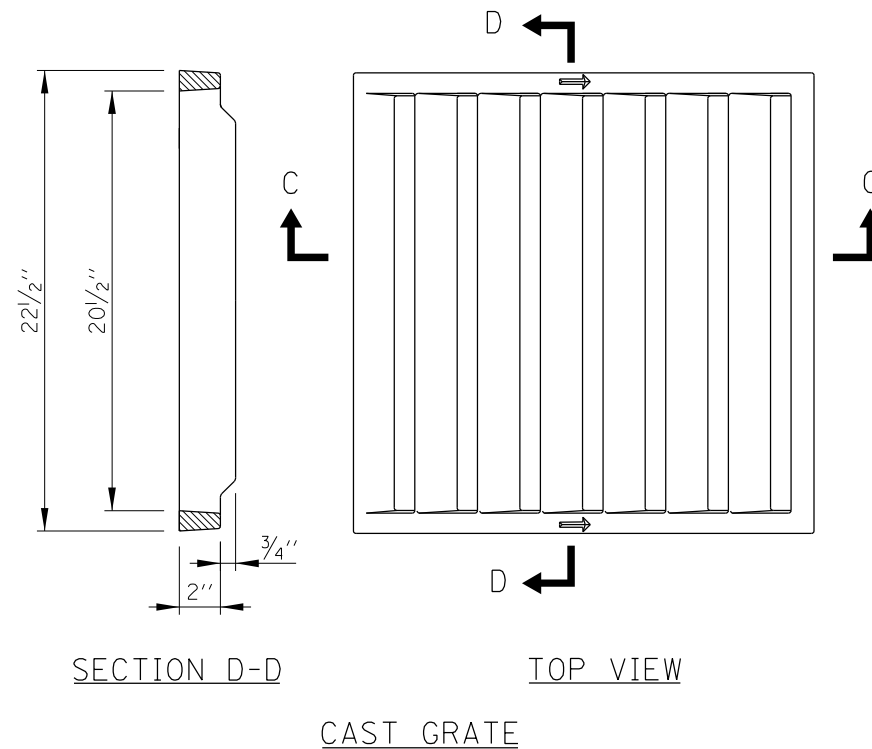
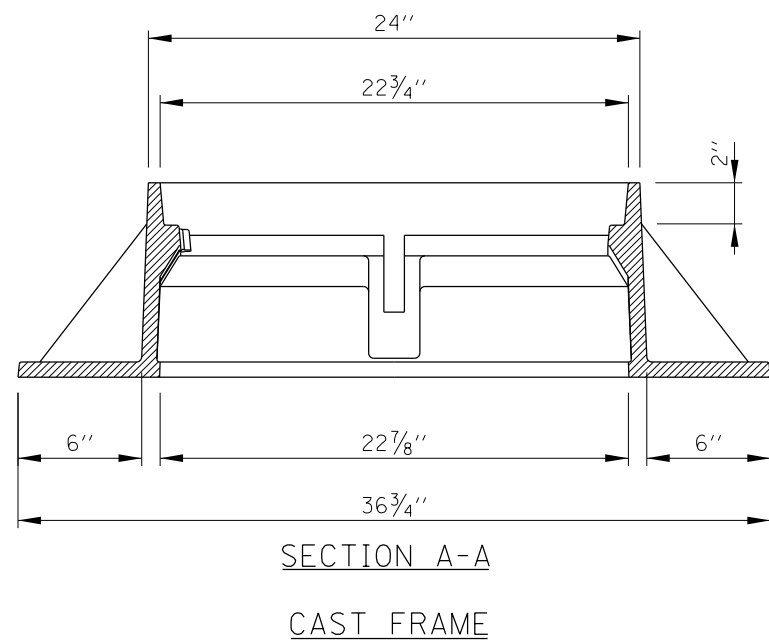
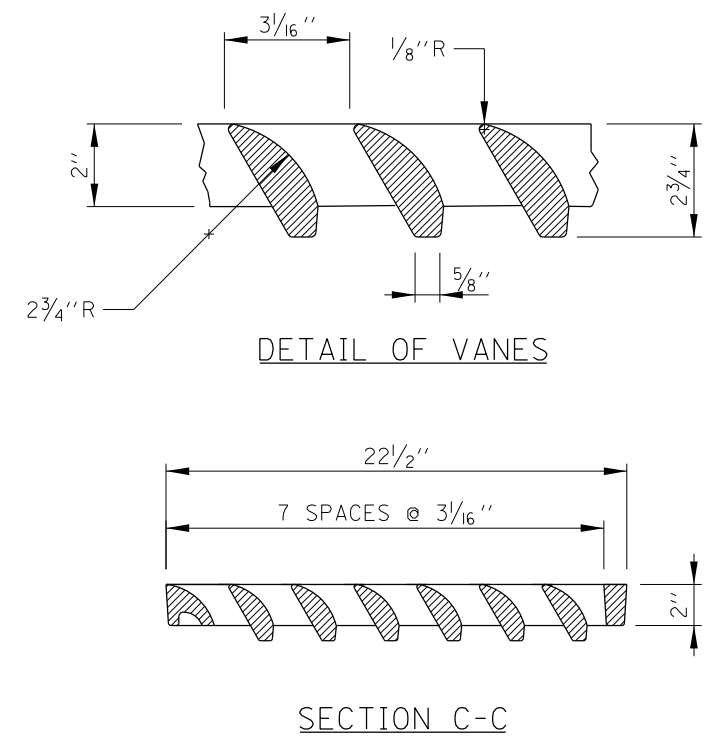
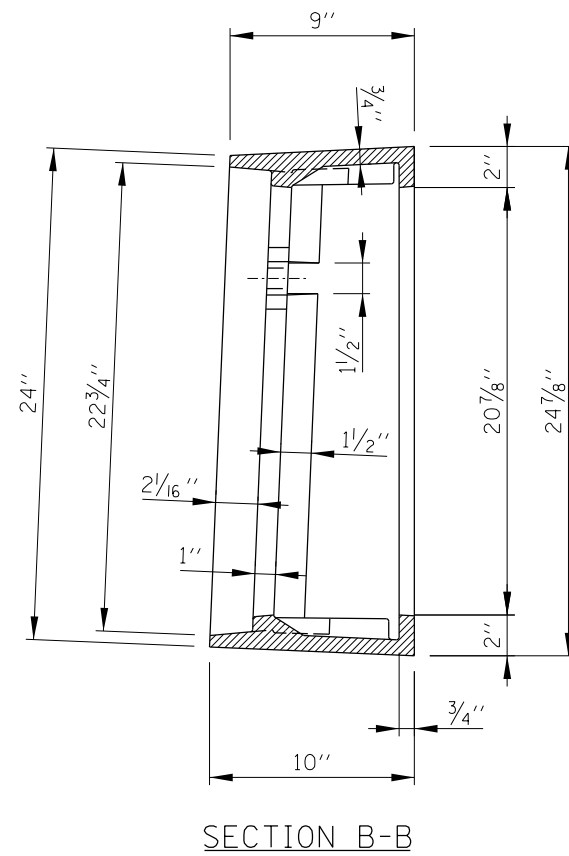
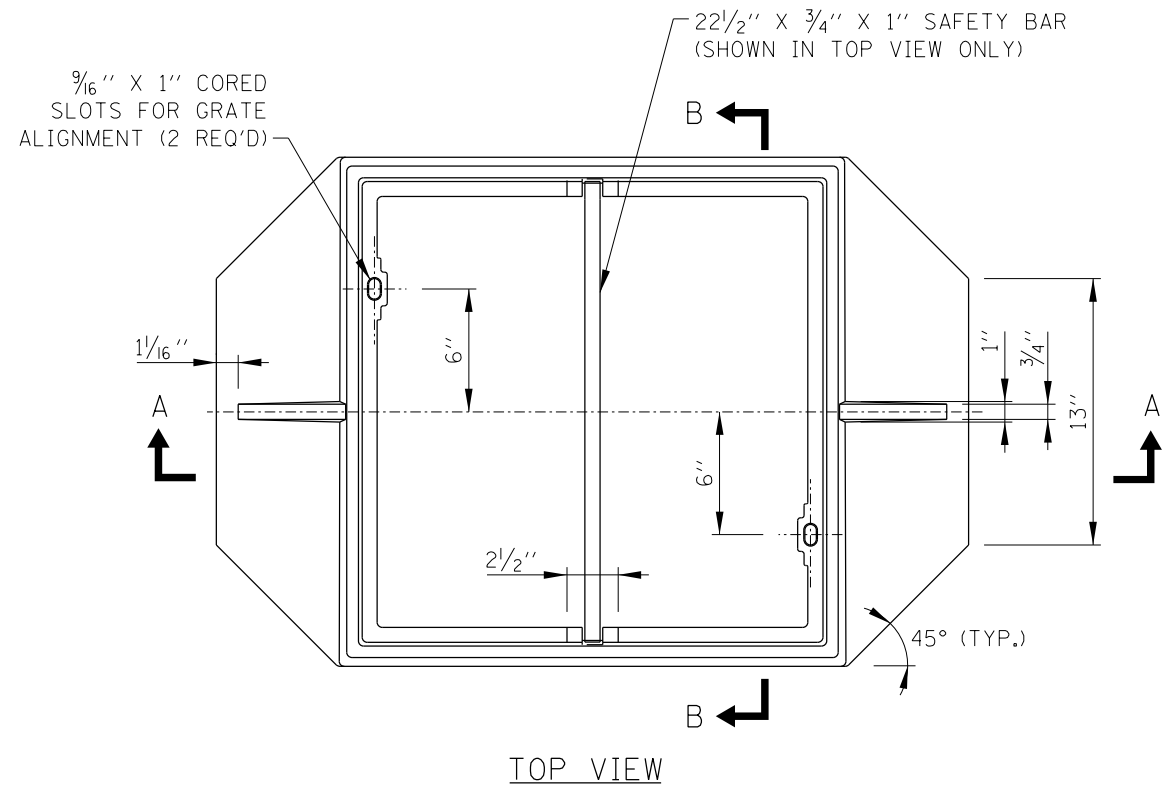
DATE	REVISIONS
06-01-09	CHANGES TO PIPE UNDERDRAIN, 6" (MODIFIED) DETAIL.
11-01-12	REVISED NOTES, MODIFIED PIPE UNDERDRAIN WITHOUT GUTTER.
3-11-2015	REVISED PIPE UNDERDRAIN DIMENSIONS.
3-31-2016	REMOVE RUBBLIZED DETAIL, ADD VAR. HEIGHT BARRIER DETAIL.



PIPE UNDERDRAINS

STANDARD B24-04

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 6-1-2009



- NOTES:
1. ALL FRAMES AND GRATES SHALL CONFORM TO THE REQUIREMENTS OF ART. 1006.14 FOR GRAY IRON CASTINGS AND TO ART. 1006.15 FOR DUCTILE IRON CASTINGS.
 2. FRAME AND GRATE TO BE NEENAH FOUNDRY COMPANY, NEENAH NO. R-3528-V, EAST JORDAN IRON WORKS 7535 OR APPROVED EQUAL.
 3. GRATE SHALL NOT BE BOLTED TO FRAME.

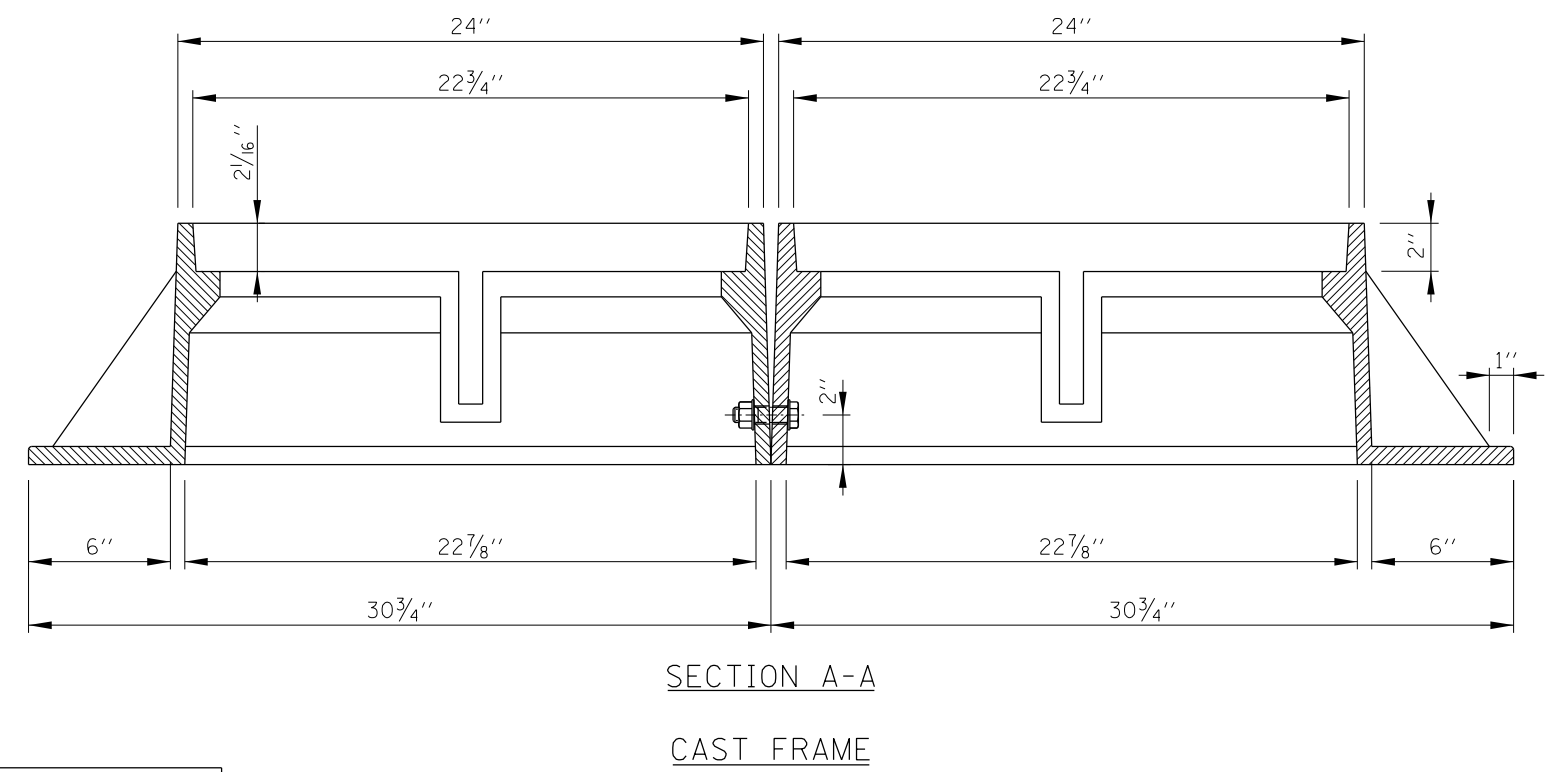
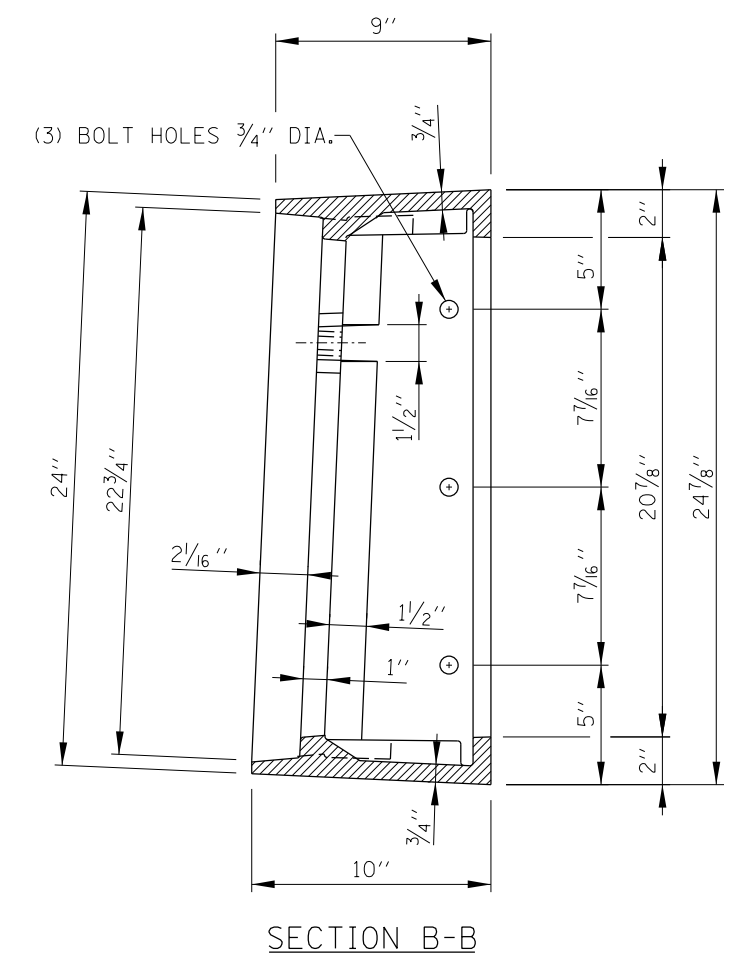
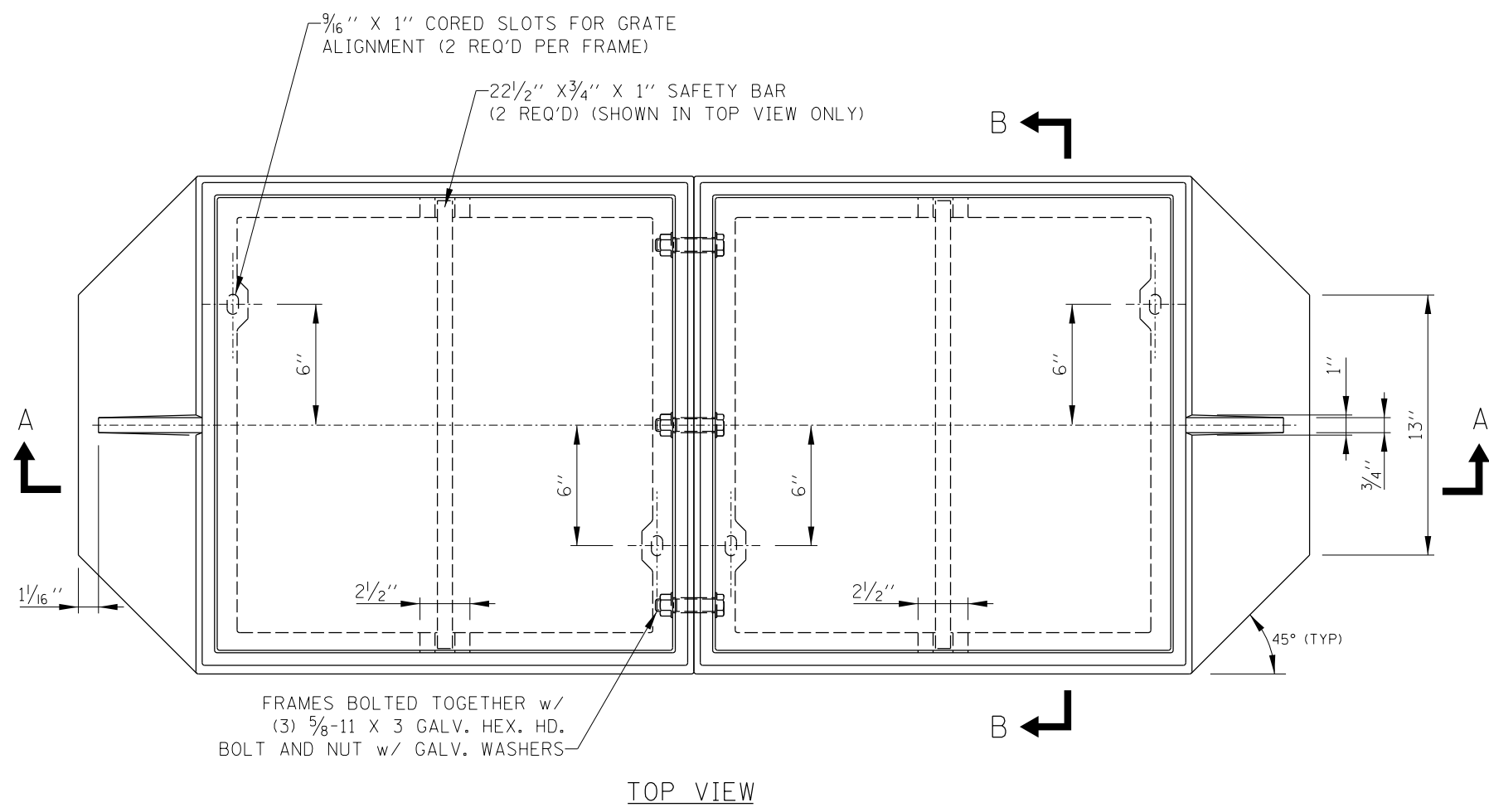
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-30-2008

DATE	REVISIONS
03-31-14	ADDED FRAME AND GRATE CASTINGS



FRAME AND GRATE
TYPE 20A

STANDARD B25-01

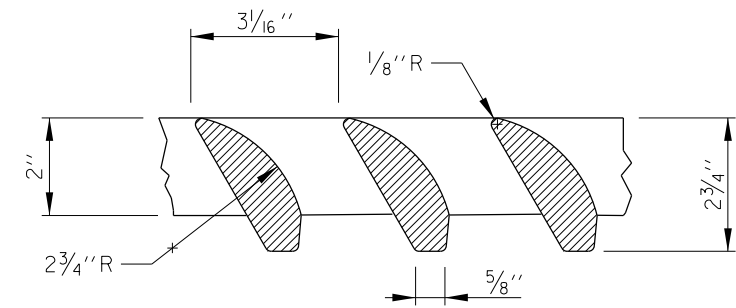


DATE	REVISIONS
03-31-14	ADDED FRAME AND GRATE CASTINGS

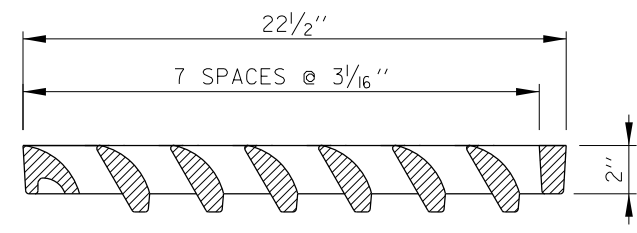
FRAME AND GRATE
TYPE 22A

STANDARD B27-01

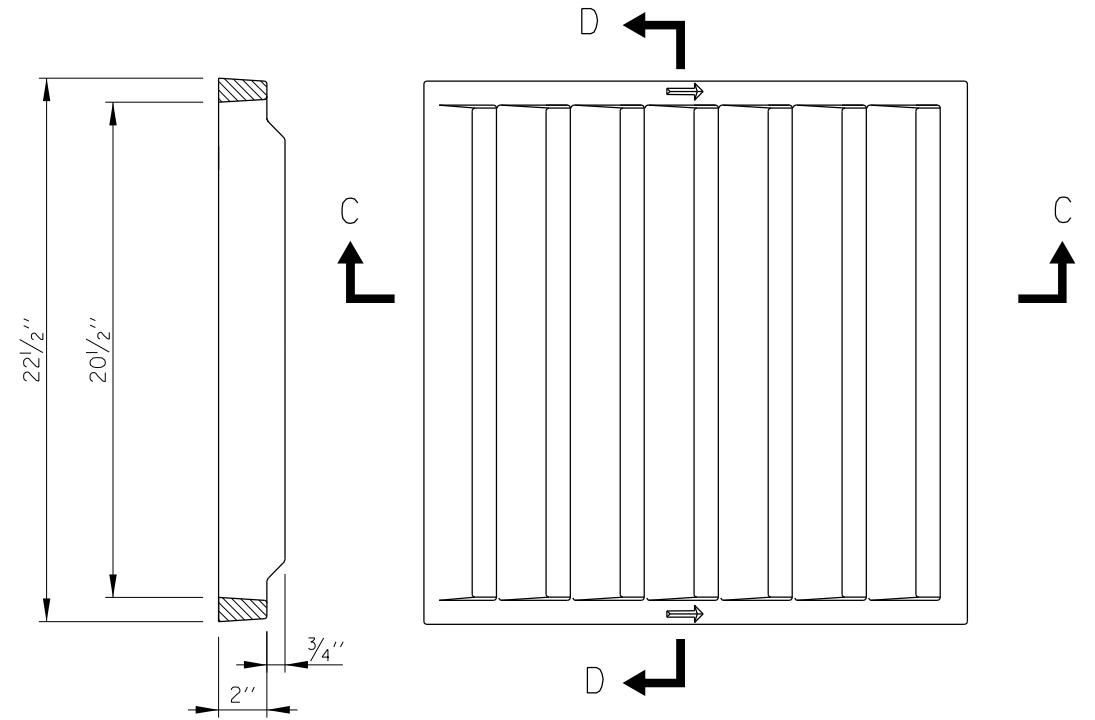
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 6-30-2008



DETAIL OF VANES



SECTION C-C



SECTION D-D

TOP VIEW

CAST GRATE
(2 REQ'D)

NOTES:

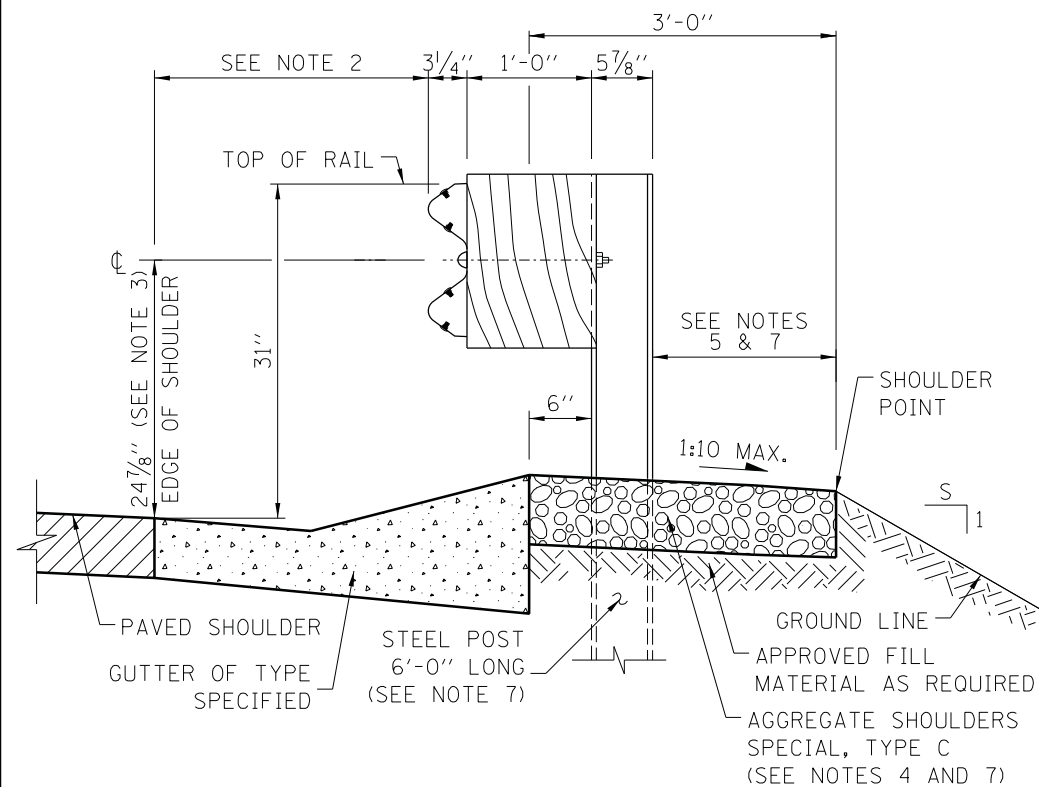
1. ALL FRAMES AND GRATES SHALL CONFORM TO THE REQUIREMENTS OF ART. 1006.14 FOR GRAY IRON CASTINGS AND TO ART. 1006.15 FOR DUCTILE IRON CASTINGS.
2. FRAME AND GRATE TO BE NEENAH FOUNDRY COMPANY, NEENAH NO. R-3529-V, EAST JORDAN IRON WORKS 7536 OR APPROVED EQUAL.
3. GRATE SHALL NOT BE BOLTED TO FRAME.



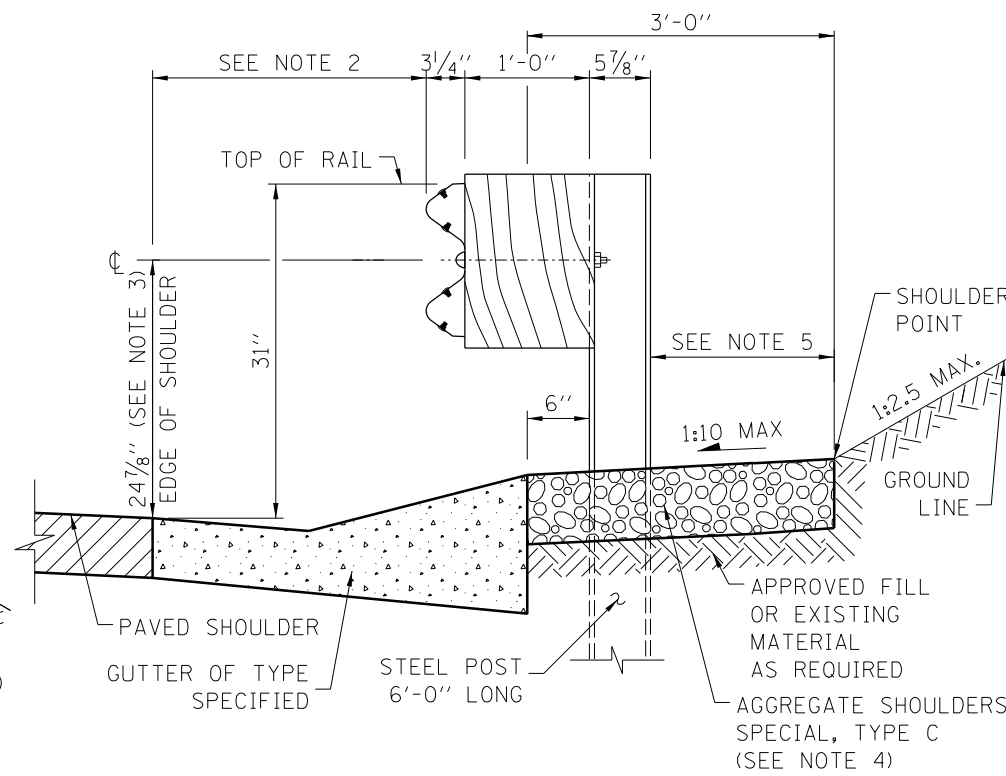
FRAME AND GRATE
TYPE 22A

STANDARD B27-01

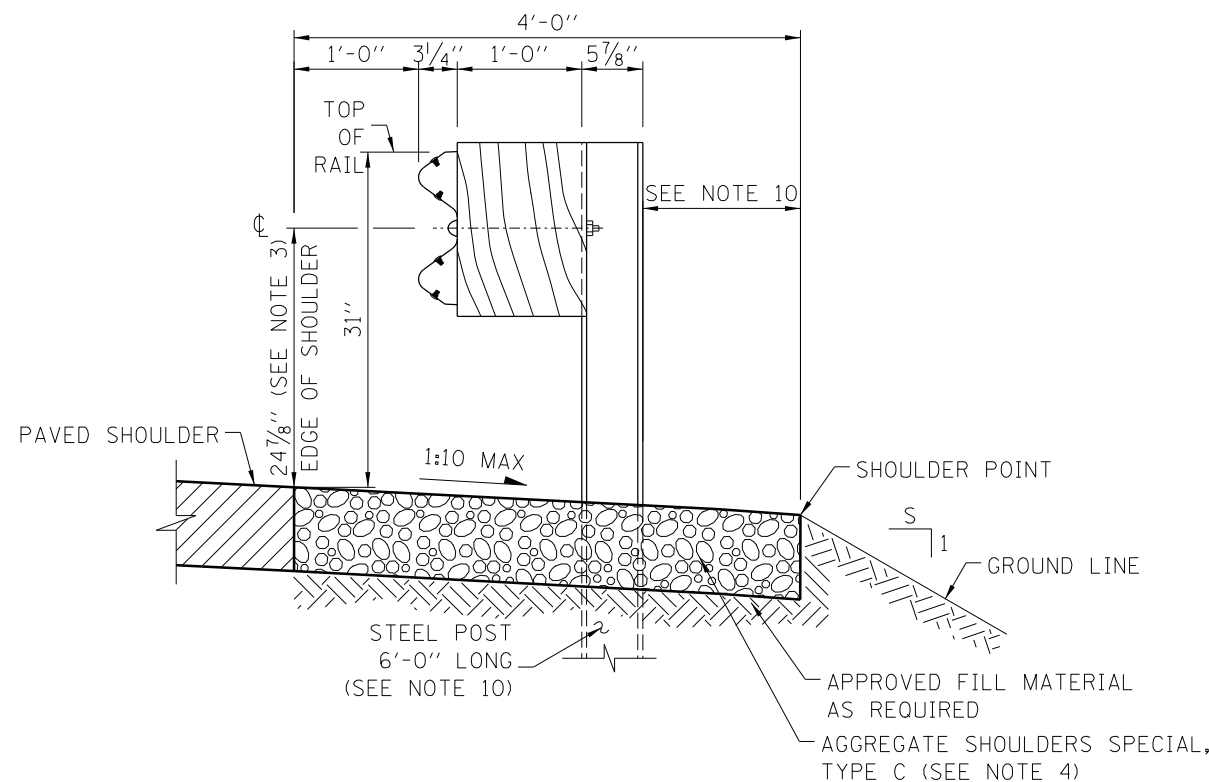
Paul Kovacs
APPROVED CHIEF ENGINEER DATE 6-30-2008



FILL SECTION WITH GUTTER



CUT SECTION WITH GUTTER



SECTION WITHOUT GUTTER

GUARDRAIL INSTALLATION DETAILS

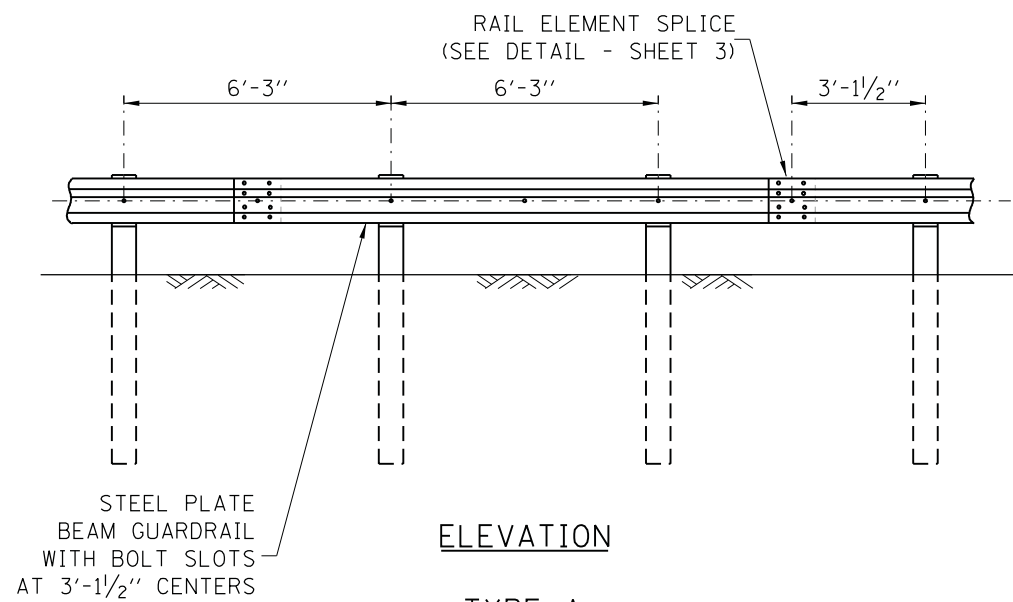
NOTES:

- 1'-0" OFFSET FROM EDGE OF PAVED SHOULDER TO FACE OF RAIL IS TYPICAL FOR ALL INSTALLATIONS WITHOUT GUTTER EXCEPT AS OTHERWISE DETAILED IN THE PLAN DRAWINGS.
- WHERE GUTTERS SUCH AS TYPE G-2, G-3 ARE REQUIRED IN FRONT OF THE GUARDRAIL, THE POSTS SHALL BE LOCATED 6" BEHIND THE GUTTER, OR AS OTHERWISE DETAILED IN THE PLANS. THE OFFSET FROM THE EDGE OF SHOULDER TO THE FACE OF THE GUARDRAIL SHALL BE AS SHOWN ON STANDARD B28.
- THE 24 7/8" TYPICAL RAIL HEIGHT IS MEASURED FROM EXISTING SURFACE 1'-0" IN FRONT OF RAIL, OR FROM EDGE OF SHOULDER/EDGE OF GUTTER WHEN EDGE IS MORE THAN 1'-0" IN FRONT OF RAIL TO CENTER OF RAIL.
- AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL COMPLY WITH THE REQUIREMENTS OF THE ILLINOIS TOLLWAY RECURRING SPECIAL PROVISION. WHERE GUTTER IS PROPOSED WITH GUARDRAIL, A 6" MINIMUM THICKNESS OF AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL BE PLACED BEHIND GUTTER. FOR GUARDRAIL WITHOUT GUTTER, AGGREGATE SHOULDER, TYPE C, OF THE SAME THICKNESS AS PAVED SHOULDER SHALL BE PLACED FROM THE EDGE OF PAVED SHOULDER SLOPING AWAY TO A 6" MIN. THICKNESS.
- AGGREGATE SHOULDERS SPECIAL, TYPE C SHALL EXTEND A MINIMUM OF 1'-0" BEHIND GUARDRAIL POST, EXCEPT AS DETAILED ELSEWHERE IN THE PLANS.
- PLASTIC BLOCK-OUTS SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR WOOD BLOCK-OUTS ON NEW INSTALLATIONS.
- WHEN $S \leq 3$ AND 3'-0" MIN. AGGREGATE SHOULDER WIDTH CANNOT BE MET, THE POST LENGTH SHALL BE 9'-0" AND THE AGGREGATE SHOULDER WIDTH SHALL BE 1'-0" MIN. BEHIND THE POST TO THE SHOULDER POINT.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENTS (V:H).
- UNDER NO CIRCUMSTANCES SHALL AN EXISTING GUARDRAIL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE EXTENDED, ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
- WHEN $S \leq 3$, THE POST LENGTH SHALL BE 9'-0" AND 4'-0" AGGREGATE SHOULDER WIDTH MAINTAINED.
- THE GUARDRAIL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.
- GUARDRAIL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALT PAVEMENT. WHEN NECESSARY USE LEAVE-OUT DETAIL ON SHEET 4 OF 4 OF THIS SERIES.
- GUARDRAIL POSTS SHALL NOT BE ATTACHED TO ANY STRUCTURE.



DATE	REVISIONS
11-01-12	MODIFIED AGGREGATE SHOULDERS
03-31-14	REMOVED SECONDARY HOLE FROM POST AND UPDATED NOTES.
03-31-16	ADDED SECTION, REV'D SHLDR

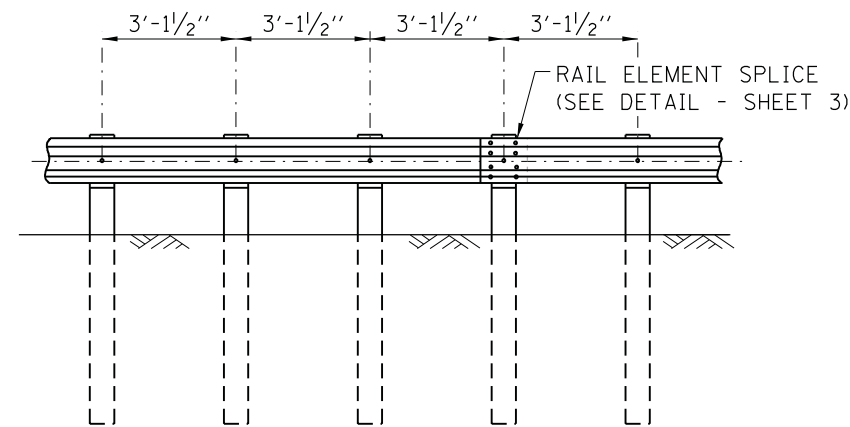
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



ELEVATION

TYPE A

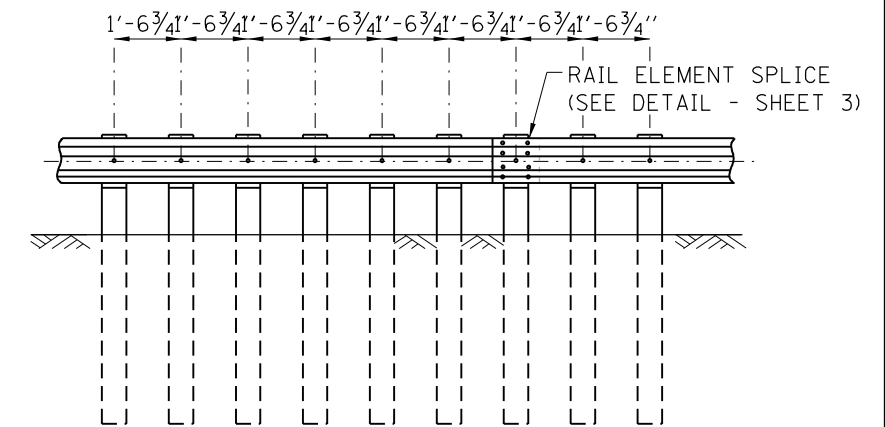
6'-3" TYPICAL POST SPACING



ELEVATION

TYPE B

3'-1/2" 1/2 POST SPACING



ELEVATION

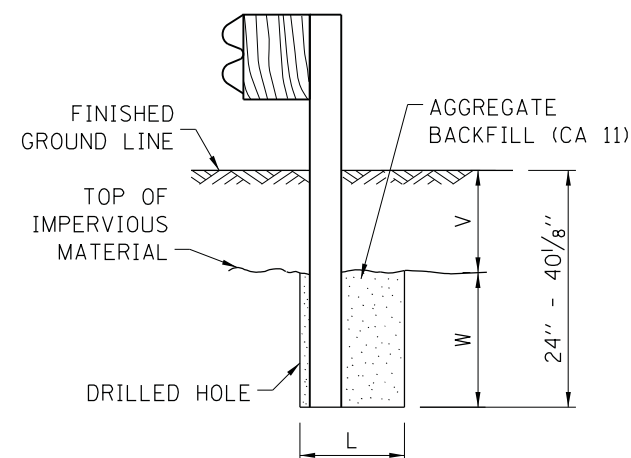
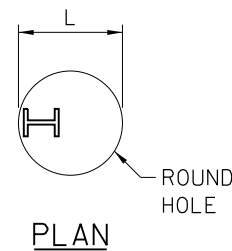
TYPE C

1'-6 3/4" 1/4 POST SPACING

TABLE 1

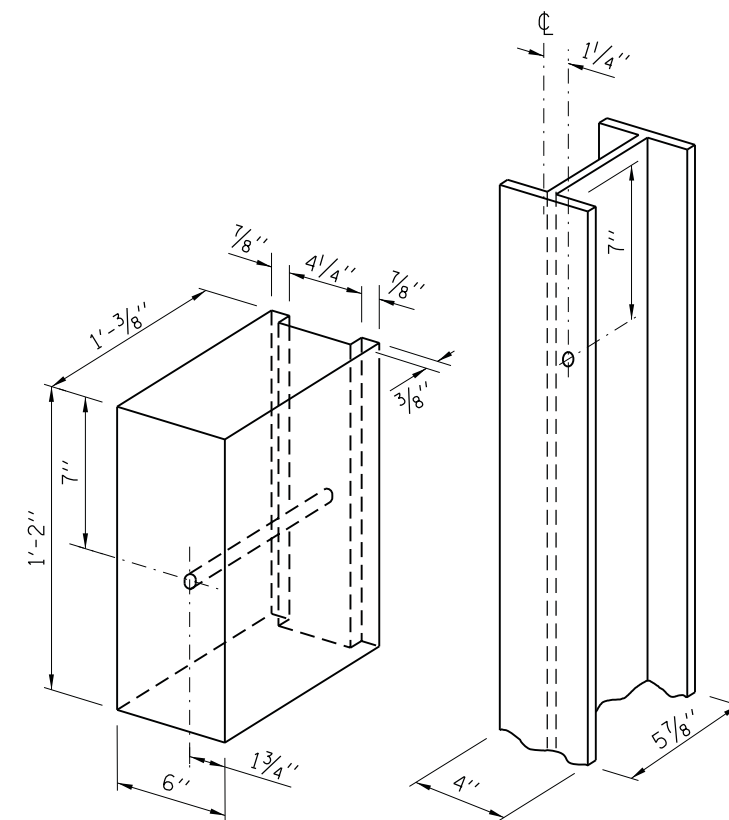
V	W	L
0 - 16 1/8"	24"	21"
> 16 1/8" - 28 1/8"	12"	8"
> 28 1/8" - 40 1/8"	12" - 0 (*)	8"

* V + W = 40 1/8"



ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



NOTES:
ALL HOLES 3/4" DIA.

WOOD BLOCK-OUT AND STEEL POST DETAILS

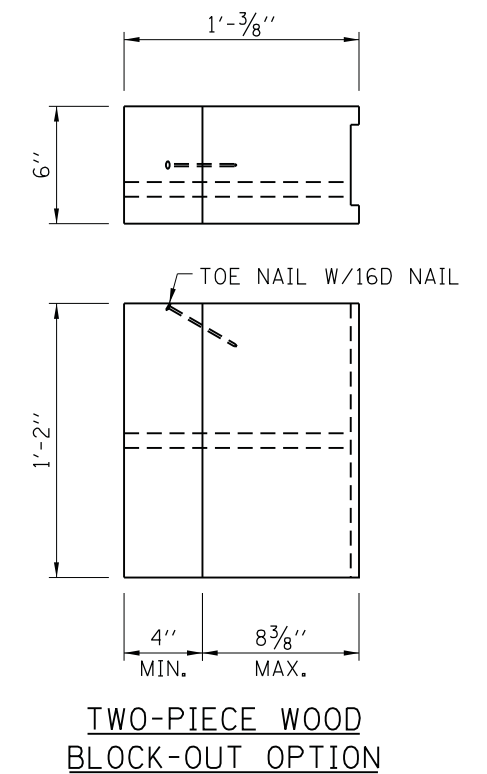
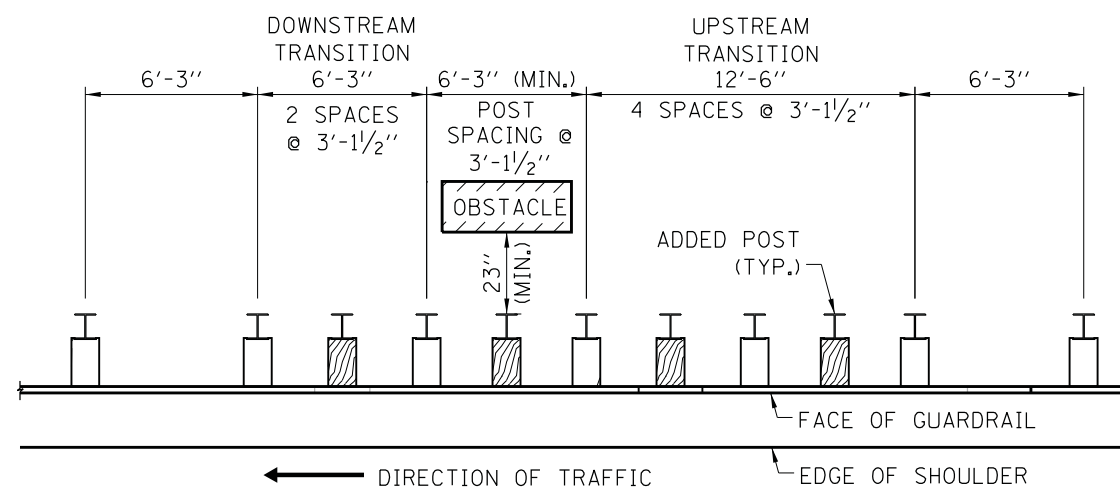
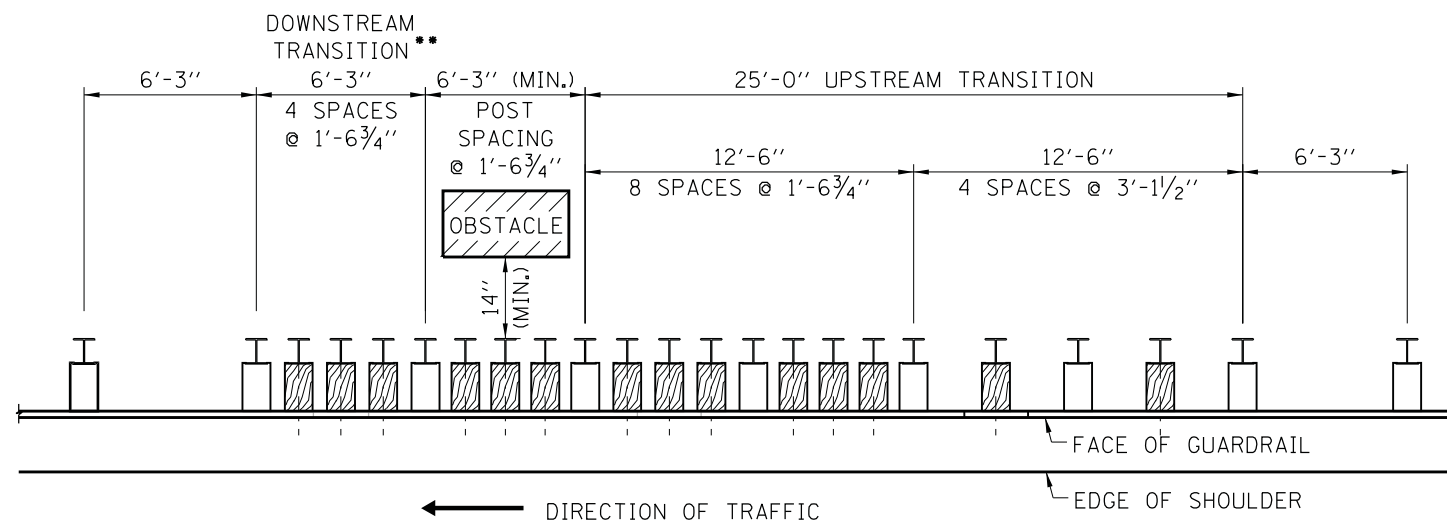


TABLE 2			
BARRIER CLEARANCE DISTANCE			
GUARDRAIL SYSTEM	POST SPACING	MINIMUM BARRIER CLEARANCE DISTANCE	
		CURRENT	CONST. AFTER 2017
TYPE A	6'-3"	28"	39"
TYPE B 1/2 POST SPACING	3'-1 1/2"	23"	34"
TYPE C 1/4 POST SPACING	1'-6 3/4"	14"	26"



TRANSITION TO 1/2-POST SPACING



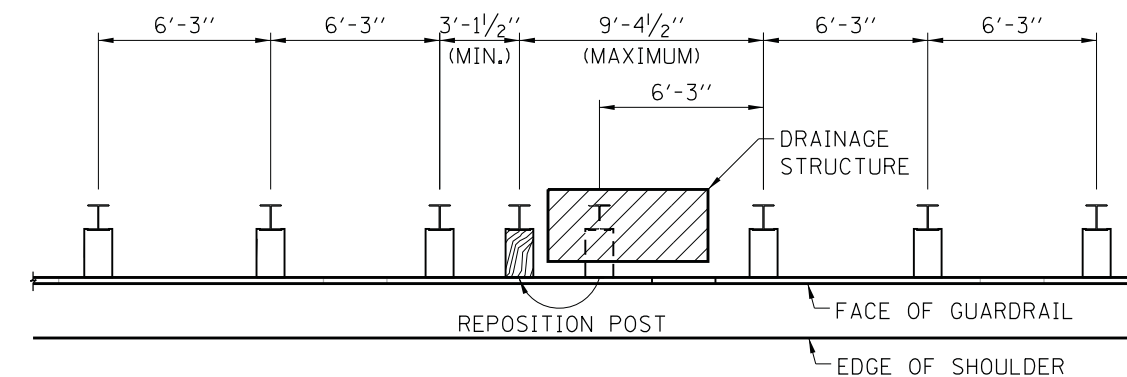
TRANSITION TO 1/4-POST SPACING

** WHEN LENGTH OF OBSTACLES IS 1'-3" OR LESS, THE DOWNSTREAM TRANSITION SHALL BE OMITTED.

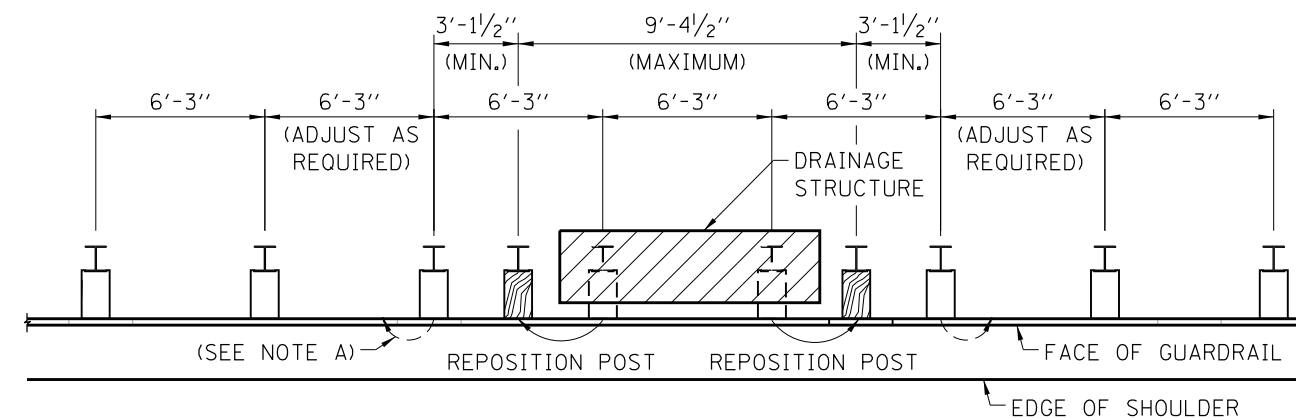
POST SPACING TRANSITIONS

NOTE: NO MODIFICATIONS OF ANY KIND TO THE TRANSITION POST SPACING ARE ALLOWED.

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009



TYPE A GUARDRAIL- DRAINAGE STRUCTURE CONFLICT
ONE POST



TYPE A GUARDRAIL - DRAINAGE STRUCTURE CONFLICT
TWO POSTS

DRAINAGE STRUCTURE CONFLICTS

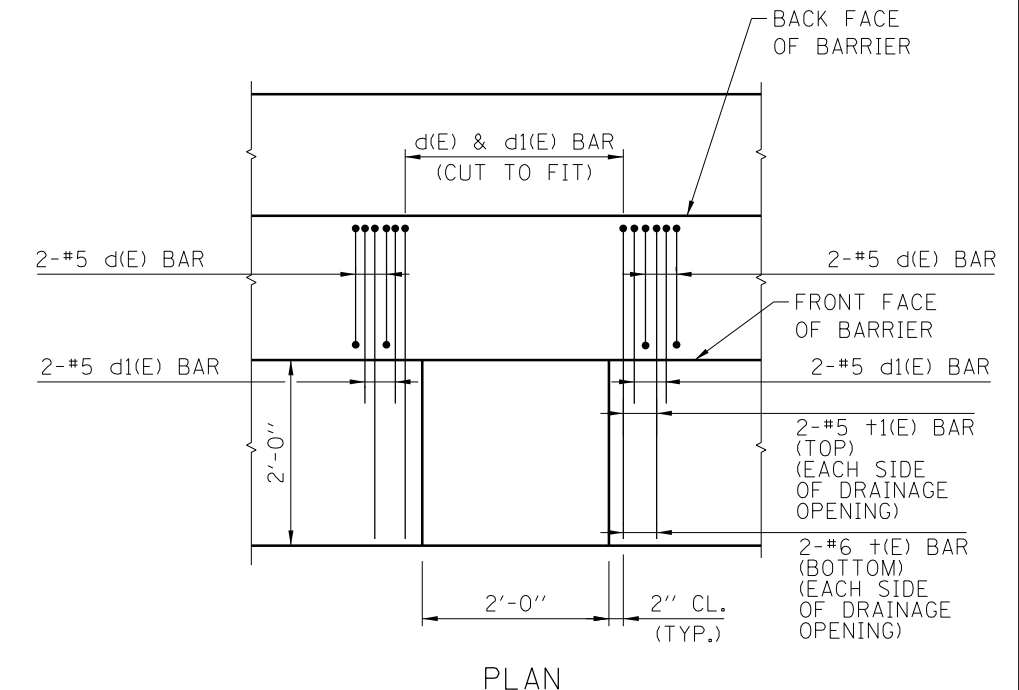
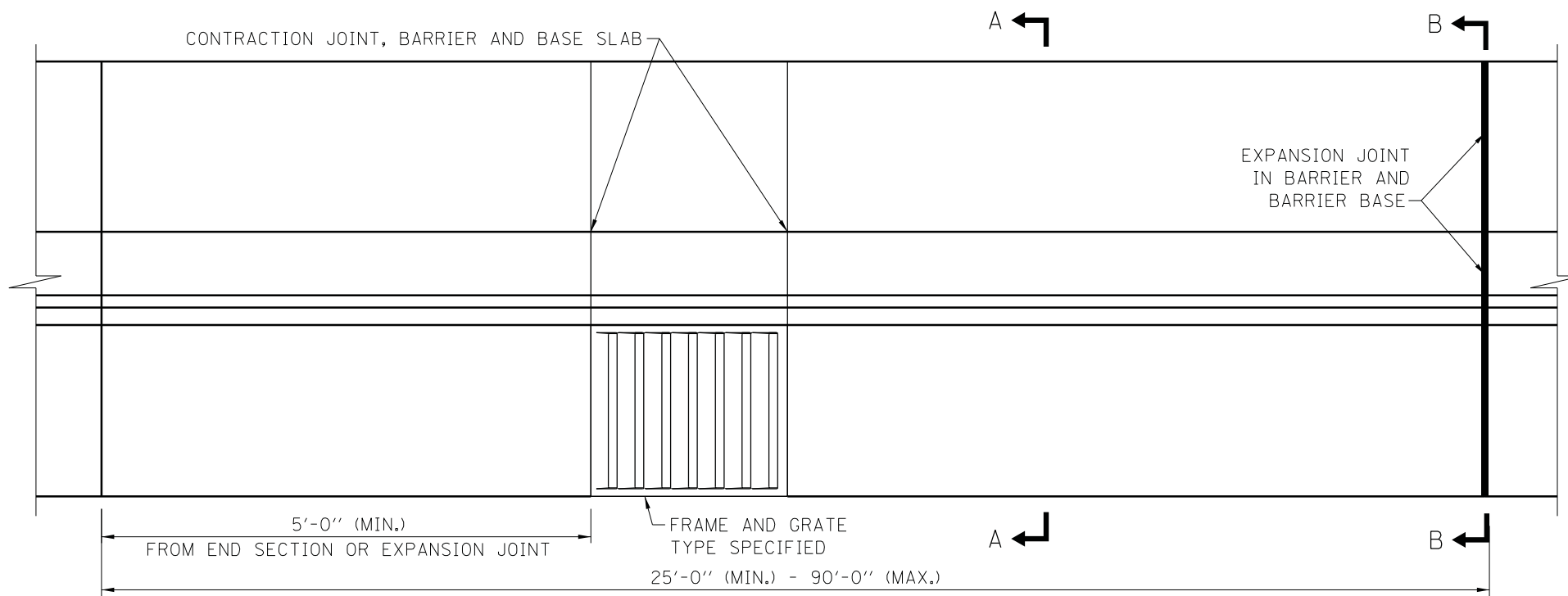
NOTES:

- A. GUARDRAIL POSTS SHALL NOT BE ELIMINATED; ALL POSTS MUST BE USED. POSTS ADJACENT TO REPOSITIONED POSTS MAY NEED TO BE MOVED TO KEEP 3'-1 1/2" MINIMUM SPACING.
- B. GUARDRAIL POSTS SHALL NOT BE SET BACK TO AVOID CONFLICTS WITH A DRAINAGE STRUCTURE.
- C. THIS DETAIL ALSO APPLIES TO OTHER UNDERGROUND CONFLICTS.

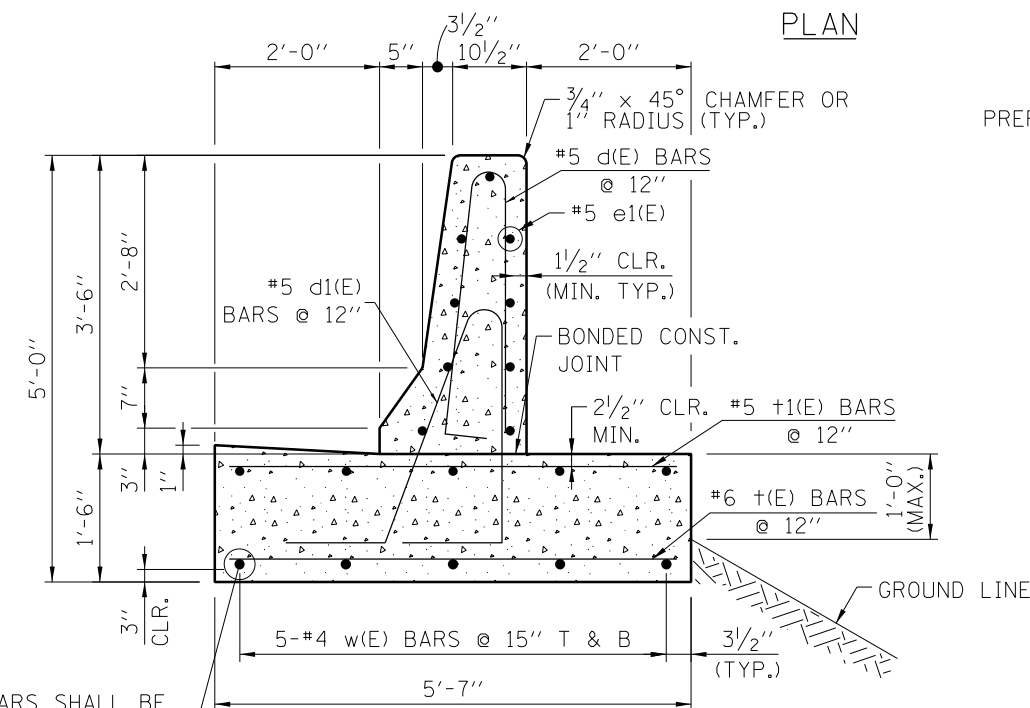


GALVANIZED STEEL PLATE
BEAM GUARDRAIL

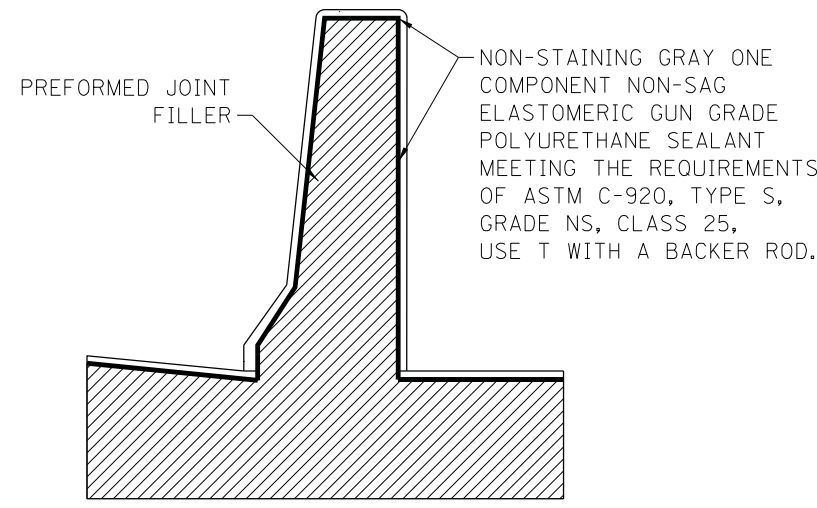
STANDARD C1-08



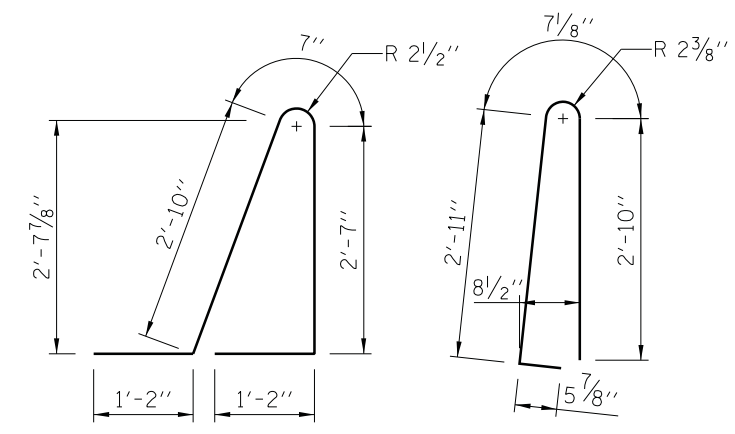
PLAN
REINFORCEMENT AROUND
DRAINAGE STRUCTURE



TYPE F BARRIER
SECTION A-A

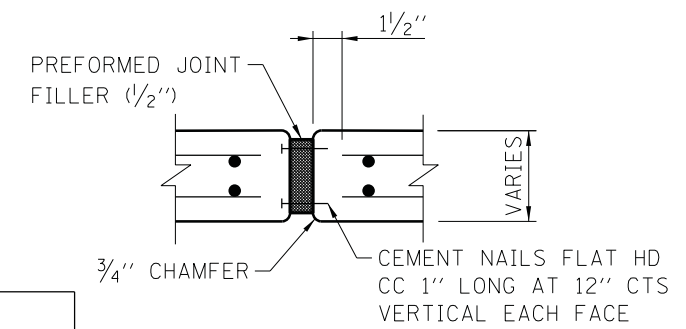


TYPE F BARRIER
EXPANSION JOINT
SECTION B-B



BENDING DIAGRAMS

#4 w(E) BARS SHALL BE CONTINUOUS WITH MIN. LAP 2'-0" (TYP.)



EXPANSION JOINT

NOTES:

- TOP SHOULDER EDGE OF BARRIER BASE GUTTER SHALL MATCH THE TOP OF SHOULDER ELEVATION.
- 1" DEEP CONTRACTION JOINTS SHALL BE CONSTRUCTED IN BOTH THE REINFORCED CONCRETE BARRIER WALL AND BASE. CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0".
- THE FORMING OF CONTRACTION JOINTS SHALL BE DONE WITH AN APPROVED FINISHING TOOL OR BY SAWING SUBJECT TO THE SATISFACTORY CONTROL OF CRACKING.
- REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
- REINFORCEMENT BARS BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.
- REINFORCEMENT BARS BENDING DIMENSIONS ARE OUT TO OUT.
- AT DRAINAGE STRUCTURES, CUT FOOTING BARS TO FIT. ADD AN ADDITIONAL SET OF d, d1, +, AND +1 BARS ON EACH SIDE OF THE DRAINAGE STRUCTURE.
- EXPANSION JOINTS SHALL BE CONSTRUCTED IN BARRIER WALL AT MAXIMUM JOINT SPACING OF 90'-0". SEE SECTION B-B FOR DETAILS.
- MINIMUM LENGTH OF INSTALLATION SHALL BE 25'-0".
- MINIMUM EXPANSION JOINT SPACING SHALL BE 25'-0".

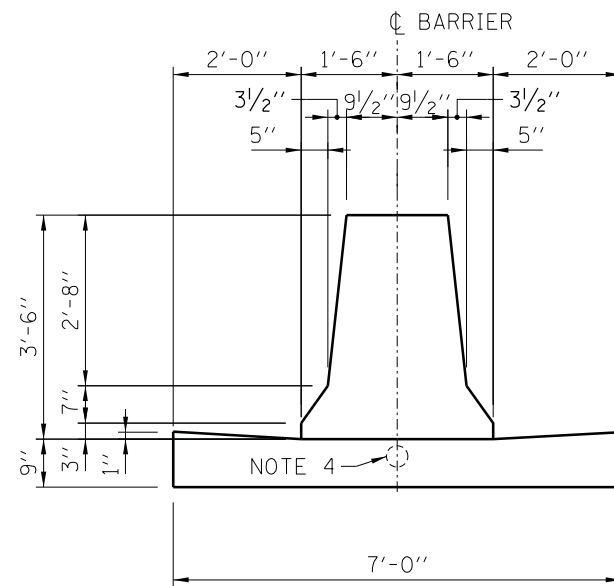
DATE	REVISIONS
11-01-12	GUTTER TRANS. TAPER DET. NEW JOINT DET., REV. NOTES
10-01-13	REVISED REINFORCEMENT BARS AND GUTTER WIDTH
03-31-14	REDESIGNED FOR TL-4 LOADING
3-11-2015	REVISED BENDING DIAGRAM
3-31-2016	ADDED MAX. EXPOSED BASE, REVISED EXP. JT. NOTE



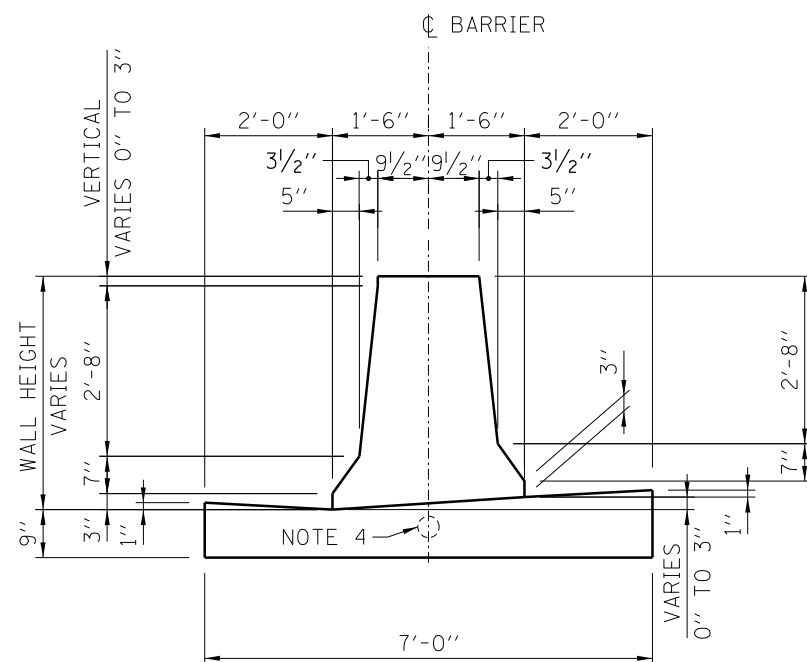
SINGLE FACE REINFORCED CONCRETE BARRIER

STANDARD C3-06

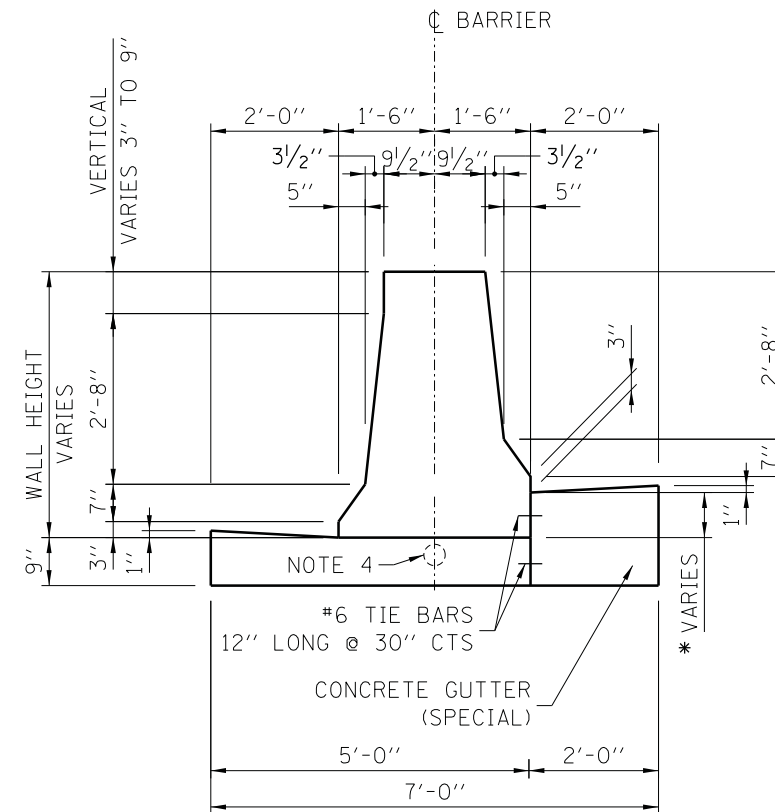
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



CONCRETE BARRIER, DOUBLE FACE, 42"
CONCRETE BARRIER BASE, 7'-0"



CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT
CONCRETE BARRIER BASE, VARIABLE HEIGHT, 7'-0"
(BARRIER HEIGHT VERTICAL DIFFERENTIAL VARIES 0" TO 3")



CONCRETE BARRIER, DOUBLE FACE, VARIABLE HEIGHT
CONCRETE BARRIER BASE, 5'-0"
(BARRIER HEIGHT VERTICAL DIFFERENTIAL VARIES 3" TO 9")
* WHEN 6" OR GREATER ADD TOP TIE BAR.

NOTES:

- 2" DEEP CONTRACTION JOINTS SHALL BE DONE BY SAWING AND SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL, CONCRETE BARRIER BASE, AND CONCRETE GUTTER (SPECIAL). CONTRACTION JOINTS SHALL ALSO BE CONSTRUCTED AT BOTH SIDES OF ALL DRAINAGE STRUCTURES. MAXIMUM CONTRACTION JOINT SPACING SHALL BE 30'-0". THE MINIMUM DISTANCE BETWEEN CONTRACTION JOINTS IN THE MEDIAN BARRIER WALL SHALL BE 2'-0". WHEN A DRAINAGE STRUCTURE FALLS WITHIN 2'-0" FROM AN EXPANSION JOINT (OR) CONTRACTION JOINT, THE NEAREST CONTRACTION JOINT SHALL BE OMITTED.
- GUTTER PROFILE IN THE VICINITY OF SAG VERTICAL CURVES, ALONG FLAT GRADES AND AT THE MEETING OF PROPOSED AND EXISTING GUTTER, SHALL BE CAREFULLY CONTROLLED AND FIELD ADJUSTED IF NECESSARY TO ENSURE POSITIVE DRAINAGE AND AVOID PONDING.
- IN AREAS OF RELATIVELY FLAT LONGITUDINAL PROFILE GRADES, THE 3" VERTICAL DIMENSION AT THE BOTTOM OF THE BARRIER CAN VARY FROM 2" TO 3/4" TO CREATE AN ACCEPTABLE LONGITUDINAL GRADE IN THE GUTTER.
- REFERENCE PLAN SHEET FOR TYPE, SIZE AND NUMBER OF CONDUITS. PROVIDE 1/2" (MIN.) CLEARANCE TO THE TOP OF CONDUIT AND 2" (MIN.) CLEARANCE TO THE BOTTOM OF THE CONDUIT.
- WHEN VARIABLE HEIGHT VERTICAL DIFFERENTIAL EXCEEDS 9" SEE STRUCTURAL PLANS FOR DETAILS.
- GUTTER SLOPE SHALL BE 4.17% SLOPED TOWARD THE MEDIAN UNLESS OTHERWISE NOTED. GUTTER SLOPE IS REVERSE PITCHED IN SUPERELEVATED SECTIONS. TRANSITION GUTTER SLOPE OVER 30'-0". GUTTER SLOPE TRANSITIONS ARE INCLUDED IN THE COST OF CONCRETE BASE AND/OR CONCRETE GUTTER (SPECIAL). SEE ROADWAY PLANS FOR LIMITS OF REVERSE PITCHED GUTTER AND TRANSITIONS.

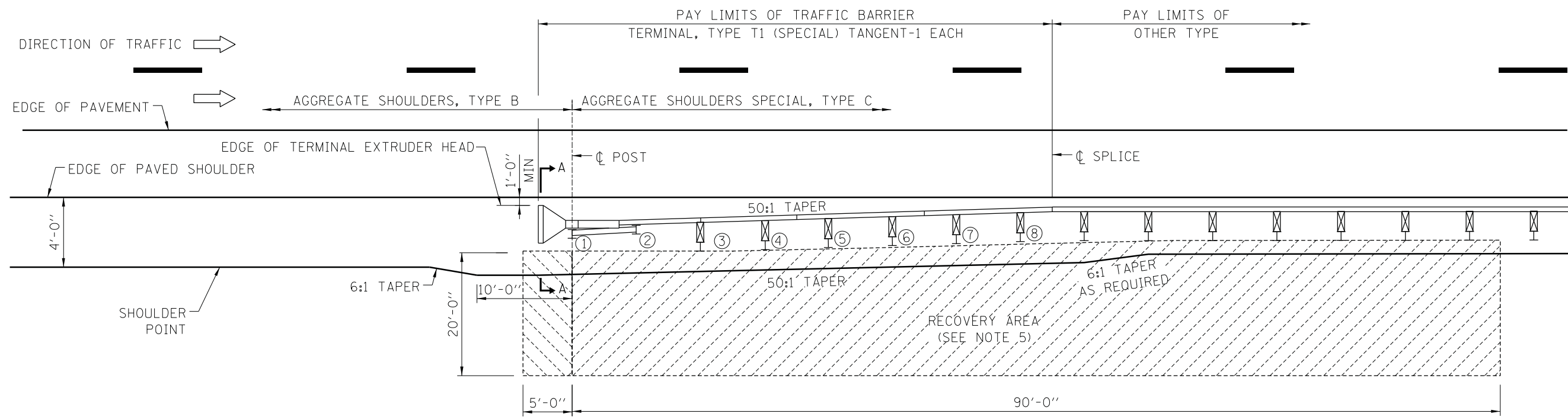
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE: 2-7-2012

DATE	REVISIONS
2-07-2012	ADDED CONDUITS TO BARRIER BASE
11-01-2012	ADDED GUTTER TRANSITION TAPER DETAIL AND NEW JOINT DETAIL
3-31-2014	MODIFIED BARRIER BASE
3-11-2015	REVISED NOTES
3-31-2016	REVISED NOTES

Illinois Tollway

CONCRETE BARRIER BASE, AND CONCRETE BARRIER, DOUBLE FACE, 42" AND VARIABLE HEIGHT

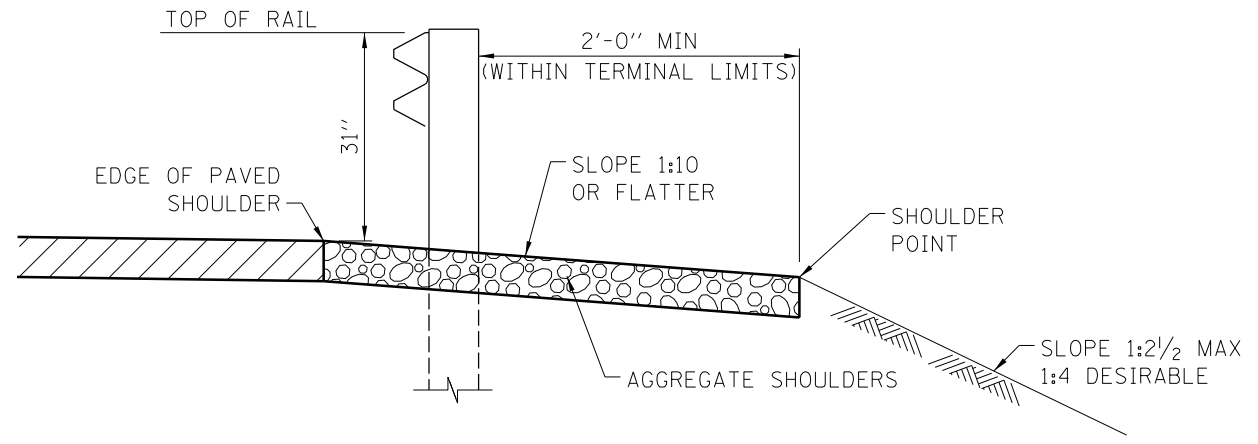
STANDARD C5-05



SHOULDER WIDENING TRANSITION-WITHOUT GUTTER FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT

GENERAL NOTES:

1. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
2. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING B28 FOR GUTTER TRANSITION, AND MINIMUM DISTANCE FROM EDGE OF PAVED SHOULDER TO FACE OF RAIL.
3. UNDER NO CIRCUMSTANCES SHALL AN EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANY WAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
4. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DETAILS AND SPECIFICATIONS.
5. NO ROADSIDE OBSTACLE OF ANY TYPE-FIXED OR BREAKAWAY, EITHER TEMPORARY OR PERMANENT SHALL BE ALLOWED WITHIN THIS RECOVERY AREA.
6. ON TANGENT ROADWAY: TRAFFIC BARRIER TERMINAL SHALL BE INSTALLED AT A 50:1 TAPER MEASURED FROM EDGE OF TRAVELED WAY.
ON CURVED ROADWAY: THE EDGE OF THE TERMINAL EXTRUDER HEAD SHALL BE OFFSET A DISTANCE FROM A POINT ON THE BACK OF THE CURVED EDGE OF PAVED SHOULDER AS SHOWN IN TABLE 1. NO CURVED W-BEAM SECTIONS ARE PERMITTED WITHIN THE TERMINAL PAY LIMITS. THE TERMINAL SHALL BE LAID OUT IN A STRAIGHT LINE.
7. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR HMA. WHEN NECESSARY USE LEAVE-OUT DETAIL SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING C1.
8. THE TERMINAL SYSTEM HAS BEEN PERFORMANCE-TESTED FOR CRASHWORTHINESS UNDER PROCEDURES DEFINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH REPORT (NCHRP) REPORT 350. NO MODIFICATION TO THIS STANDARD DRAWING SHALL BE PERMITTED.




SECTION A-A
(EXTRUDER HEAD OMITTED FOR CLARITY)

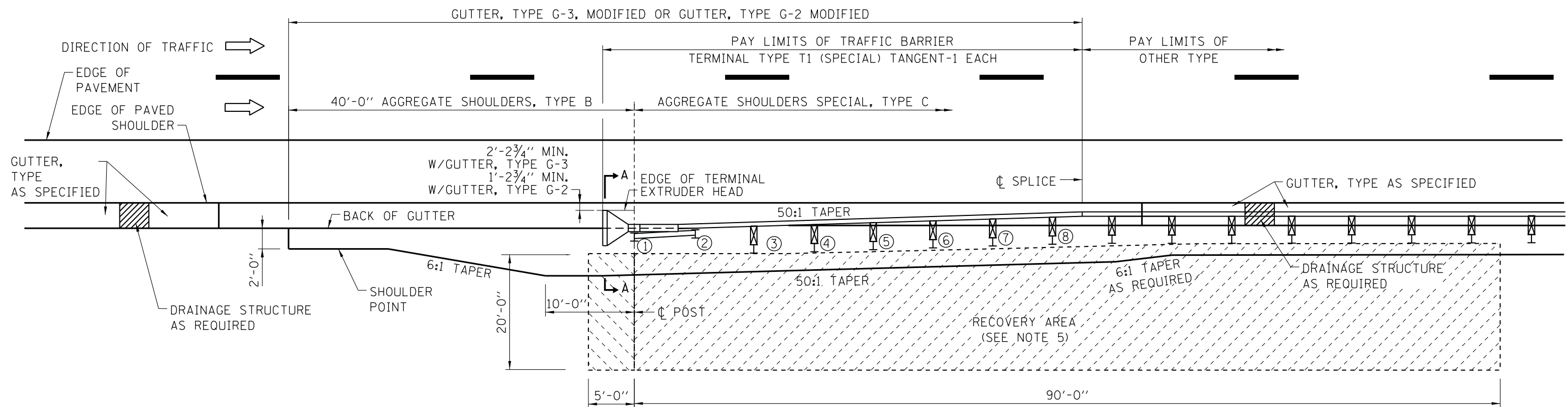


SHOULDER WIDENING FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT

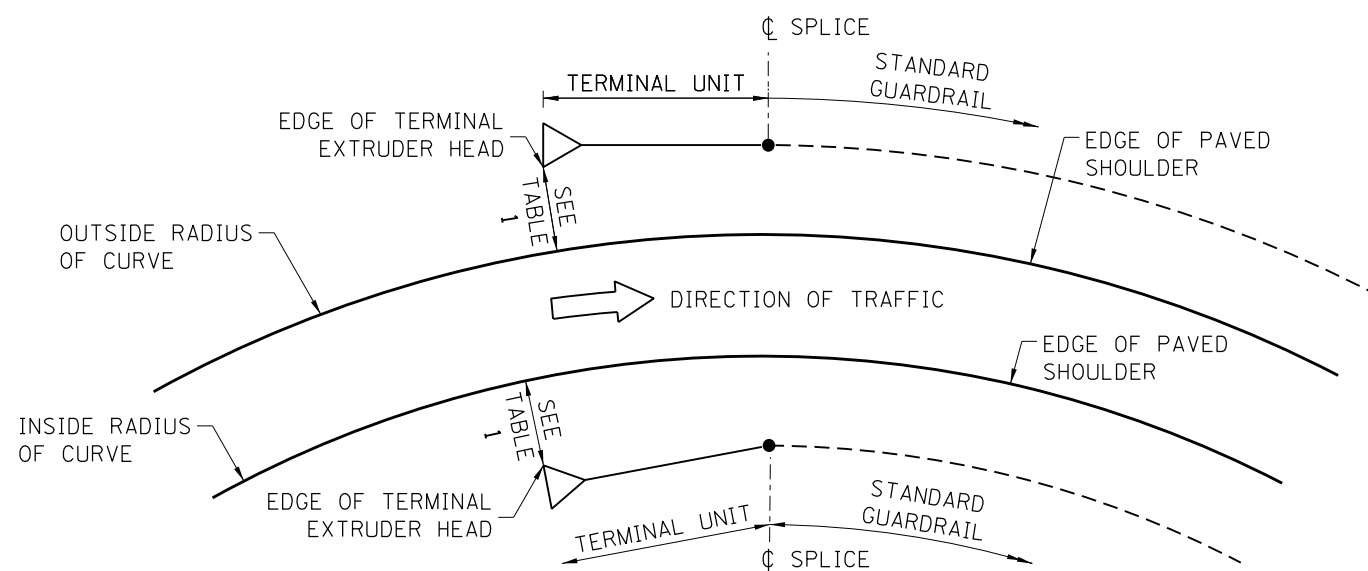
STANDARD C6-08

DATE	REVISIONS
03-01-13	TERMINAL CHANGED TO ALL STEEL POST SYSTEM, REVISED TERMINAL PAY LIMITS
03-31-14	REVISED RECOVERY AREA DIMENSION
3-11-2015	REVISED NOTES
3-31-2016	COMBINED G-3 & G-2

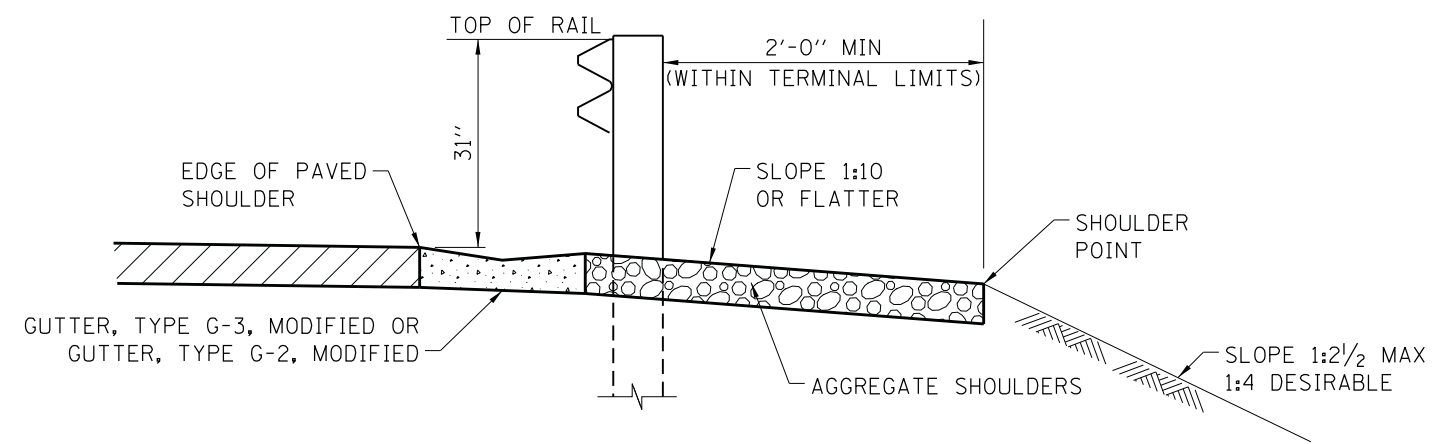

 APPROVED..... CHIEF ENGINEER..... DATE 7-1-2009



SHOULDER WIDENING TRANSITION-WITH GUTTER, TYPE G-3 OR TYPE G-2 FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT



CURVED ROADWAY TRAFFIC BARRIER TERMINAL PLACEMENT



SECTION A-A (EXTRUDER HEAD OMITTED FOR CLARITY)

TABLE 1 LATERAL OFFSET DIMENSION TO EDGE OF TERMINAL EXTRUDER HEAD		
	INSIDE RADIUS OF CURVE	OUTSIDE RADIUS OF CURVE
NO GUTTER	1'-0"	1'-0" MIN. *
GUTTER, TYPE G-2	1'-2 3/4"	1'-2 3/4" MIN. *
GUTTER, TYPE G-3	2'-2 3/4"	2'-2 3/4" MIN. *

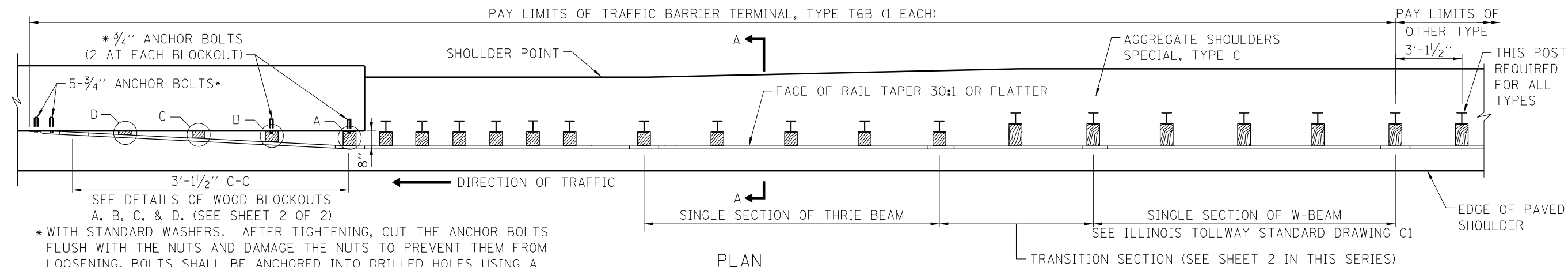
(*) OFFSET DISTANCE WILL VARY BASED ON RADIUS OF HORIZONTAL CURVE AND THE TERMINAL BEING INSTALLED IN A STRAIGHT LINE.

Paul Kovacs
APPROVED..... CHIEF ENGINEER..... DATE 7-1-2009

NOTES:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

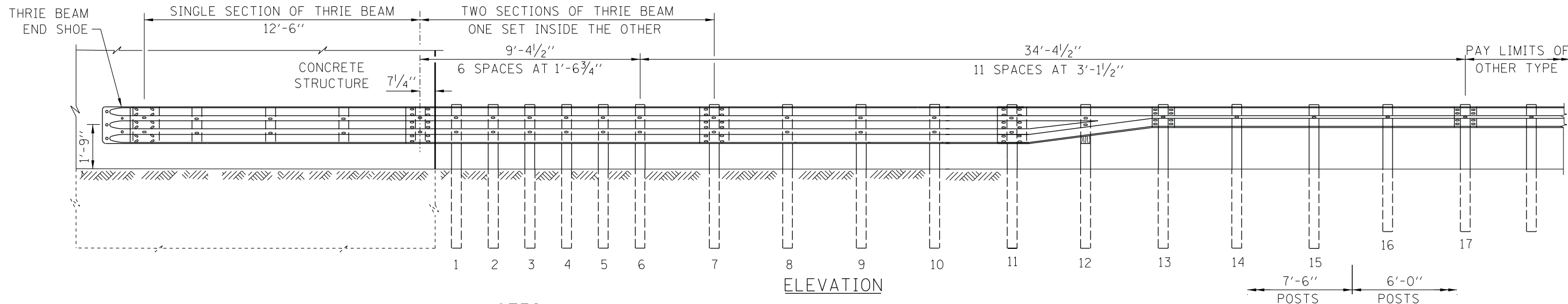


SHOULDER WIDENING FOR TRAFFIC BARRIER TERMINAL, TYPE T1 (SPECIAL) TANGENT



PLAN

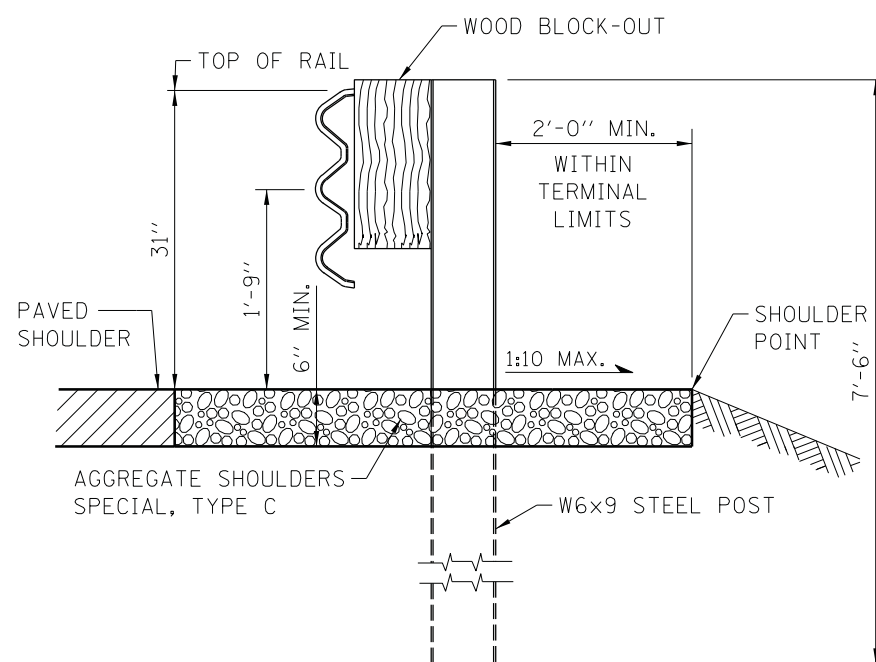
* WITH STANDARD WASHERS. AFTER TIGHTENING, CUT THE ANCHOR BOLTS FLUSH WITH THE NUTS AND DAMAGE THE NUTS TO PREVENT THEM FROM LOOSENING. BOLTS SHALL BE ANCHORED INTO DRILLED HOLES USING A CHEMICAL ADHESIVE RESIN SYSTEM. MINIMUM EMBEDMENT 10".



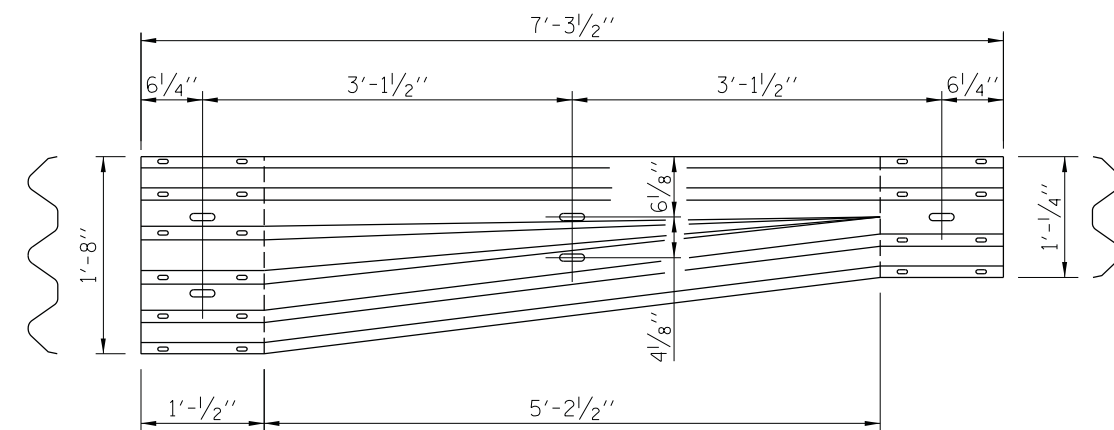
ELEVATION

NOTES:

1. SEE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR DETAILS OF GUARDRAIL NOT SHOWN.
2. THRIE BEAM RAIL SHALL BE BOLTED TO BLOCK-OUT AT ALL POSTS.
3. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).
4. THE TRAFFIC BARRIER TERMINAL, TYPE T6B IS TYPICALLY UTILIZED TO ATTACH GALVANIZED STEEL PLATE BEAM GUARDRAIL AT THE UPSTREAM END OF THE BRIDGE CONCRETE PARAPET, WHERE A ROADSIDE GUTTER IS NOT TO BE INSTALLED.
5. UNDER NO CIRCUMSTANCES SHALL EXISTING TERMINAL, THAT WAS DESIGNED USING A PREVIOUS STANDARD, BE ATTACHED TO OR MODIFIED IN ANYWAY FROM ITS ORIGINAL DESIGN. IF ANY MODIFICATION IS REQUIRED AND A PROPER BARRIER WARRANT HAS BEEN COMPLETED, THE ENTIRE BARRIER INSTALLATION SHALL BE COMPLETELY REMOVED AND REPLACED WITH A NEW SYSTEM THAT CONFORMS TO THE CURRENT STANDARD.
6. TRAFFIC BARRIER TERMINAL SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY'S DETAILS AND SPECIFICATIONS. NO MODIFICATIONS SHALL BE PERMITTED.
7. TERMINAL POSTS SHALL NOT BE INSTALLED IN CONCRETE OR ASPHALT PAVEMENTS. WHEN NECESSARY USE LEAVE-OUT DETAIL PER ILLINOIS TOLLWAY STANDARD DRAWING C1, SHEET 4 OF 4.
8. TERMINAL BARRIER CLEARANCE DISTANCE SHALL CONFORM WITH TABLE 2 ON ILLINOIS TOLLWAY STANDARD DRAWING C1.
9. LEAVE-OUT DIMENSION BEHIND POSTS 1-6, SHALL BE A MINIMUM OF 4".



SECTION A-A

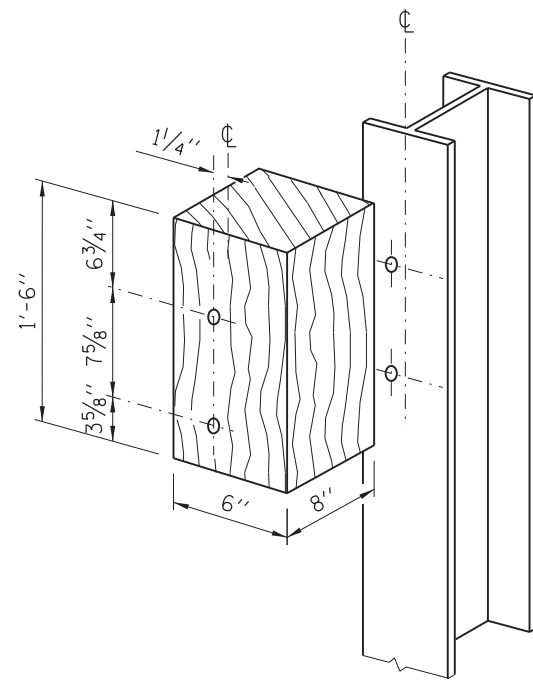


TRANSITION SECTION
(10 GAUGE RAIL ELEMENT)

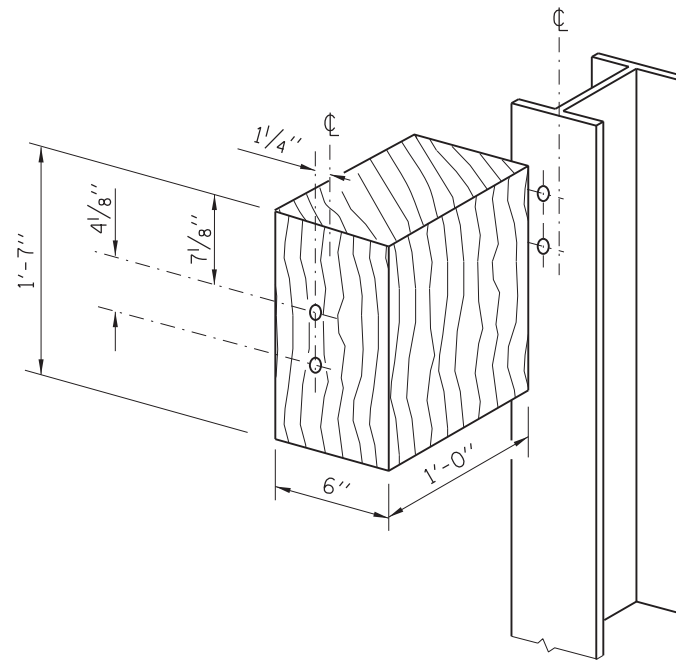
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009



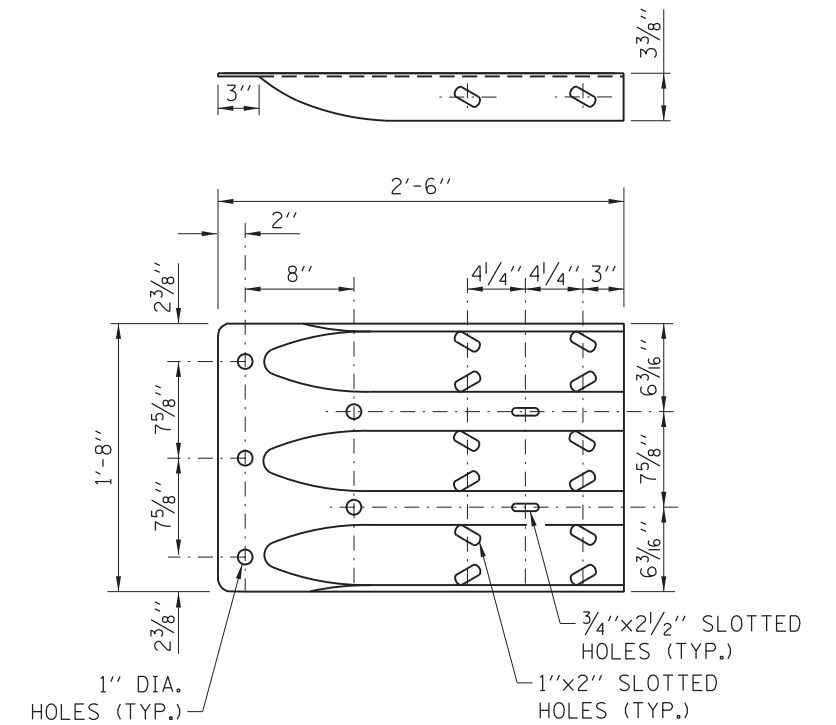
DATE	REVISIONS
2-07-2012	REVISED WOOD BLOCK-OUT DIMENSION ADHESIVE AND REVISED NOTES
11-01-2012	MODIFIED AGGREGATE SHOULDERS, REVISED NOTES
3-31-2014	REVISED WOOD BLOCKS AND NOTES
3-11-2015	REVISED NOTES
3-31-2016	REVISED SECTION A-A SHOULDER



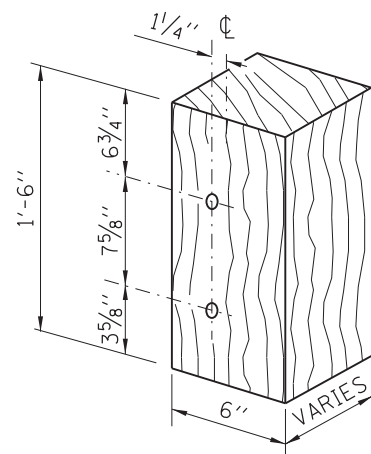
POSTS 1-11 WOOD BLOCK-OUT DETAIL



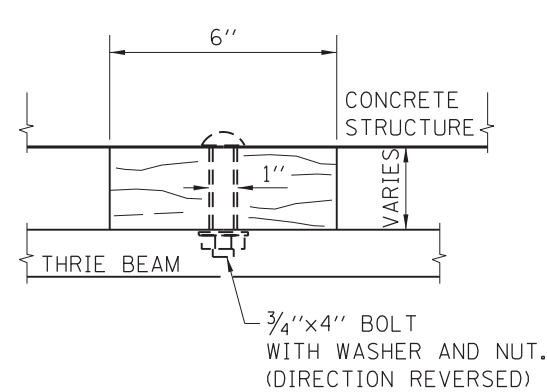
POST 12 WOOD BLOCK-OUT DETAIL
(SEE ILLINOIS TOLLWAY STANDARD DRAWING C1 FOR POST 13-17 BLOCKOUTS)



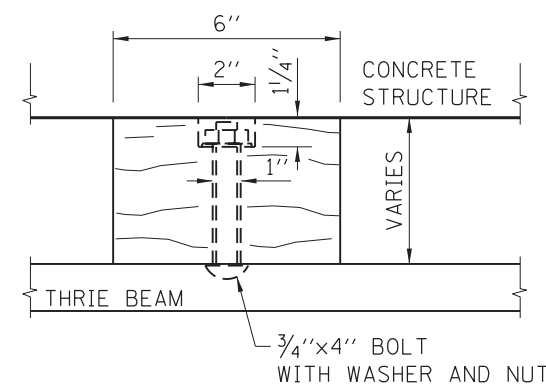
THRIE BEAM END SHOE DETAIL



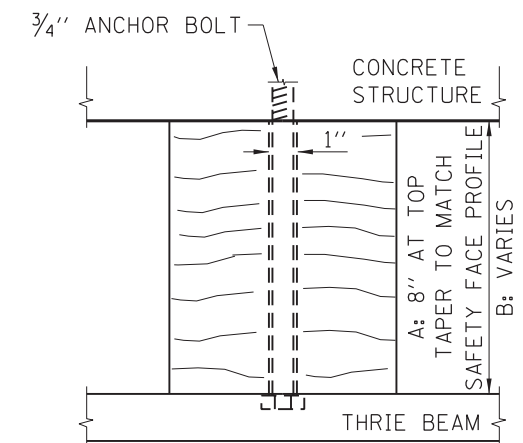
MODIFIED THICKNESS DETAIL
WOOD BLOCK-OUTS A, B, C, & D



WOOD BLOCK-OUT D



WOOD BLOCK-OUT C



WOOD BLOCK-OUT A & B

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NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

SHEET 2 OF 2



TRAFFIC BARRIER
TERMINAL, TYPE T6B

STANDARD C10-07

SURVEY AND ROADWAY ITEMS

EXISTING	PROPOSED	
		CONSTRUCTION JOINT W/DOWEL BARS
		BENCHMARK
		CANTILEVER SIGN STRUCTURE
		BUTTERFLY SIGN STRUCTURE
		DOUBLE COLUMN GROUND MOUNTED SIGN
		SINGLE COLUMN GROUND MOUNTED SIGN
		SPAN TYPE SIGN STRUCTURE
		TRIPLE COLUMN GROUND MOUNTED SIGN
		RUMBLE STRIP

EROSION & SEDIMENT CONTROL, LANDSCAPING ITEMS

EXISTING	PROPOSED		EXISTING	PROPOSED	
		CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)			EROSION CONTROL BLANKET
		DIVERSION DIKE			OVER SEEDING CLASS B1
		DRAINAGE DIVIDE			OVER SEEDING CLASS B2
		DRAINAGE PATH			SEEDING CLASS A1
		SEDIMENT BASIN AGGREGATE BERM			SEEDING CLASS A2
		CULVERT INLET PROTECTION-STONE			SEEDING CLASS A3
		CULVERT INLET PROTECTION-FENCE			SEEDING CLASS A4
		DEWATERING BASIN			SEEDING CLASS A5
		FILTER FABRIC INLET PROTECTION, BASKET TYPE			SEEDING CLASS A6
		FILTER FABRIC INLET PROTECTION, COVER TYPE			SEEDING CLASS D1
		FLOTATION BOOM			SODDING (SALT TOLERANT)
		INITIAL CONSTRUCTION ITEM			TEMPORARY GROUND COVER
		RECTANGULAR INLET PROTECTION			TURF REINFORCEMENT MAT
		TEMPORARY ROCK CHECK DAM			
		TEMPORARY DITCH CHECK			
		SEDIMENT BASIN			
		SILT FENCE			
		SUPER SILT FENCE			
		STABILIZED CONSTRUCTION ENTRANCE			
		STONE OUTLET STRUCTURE			
		SEDIMENT TRAP			
		STREAM DIVERSION			
		TEMPORARY PIPE SLOPE DRAIN			
		TEMPORARY RIPRAP			
		TEMPORARY SWALE			
		TREES AND STUMP			
		TREE PROTECTION			
		TEMPORARY STREAM CROSSING			

DRAINAGE AND UTILITY ITEMS; ROADWAY LIGHTING AND SIGNS

EXISTING	PROPOSED	
		BOX CULVERT WITH HEADWALL
		CABLE IN DUCT W/O GROUND
		LOW POINT
		OVERHEAD ELECTRICAL
		OVERHEAD TELEPHONE
		PIPE CULVERT
		LAKE OR POND
		QUARRY
		STREAM
		SWAMP
		CABLE OR CONDUIT TAG
		ELECTRICAL MANHOLE
		LIGHT-DUTY BOX
		ROADWAY LUMINAIRE
		STEEL TOWER
		TELEPHONE MANHOLE
		UNDERPASS LUMINAIRE
		WATER POINT
		WATERMAIN VALVE VAULT
		WATER WELL
		WOOD POLE

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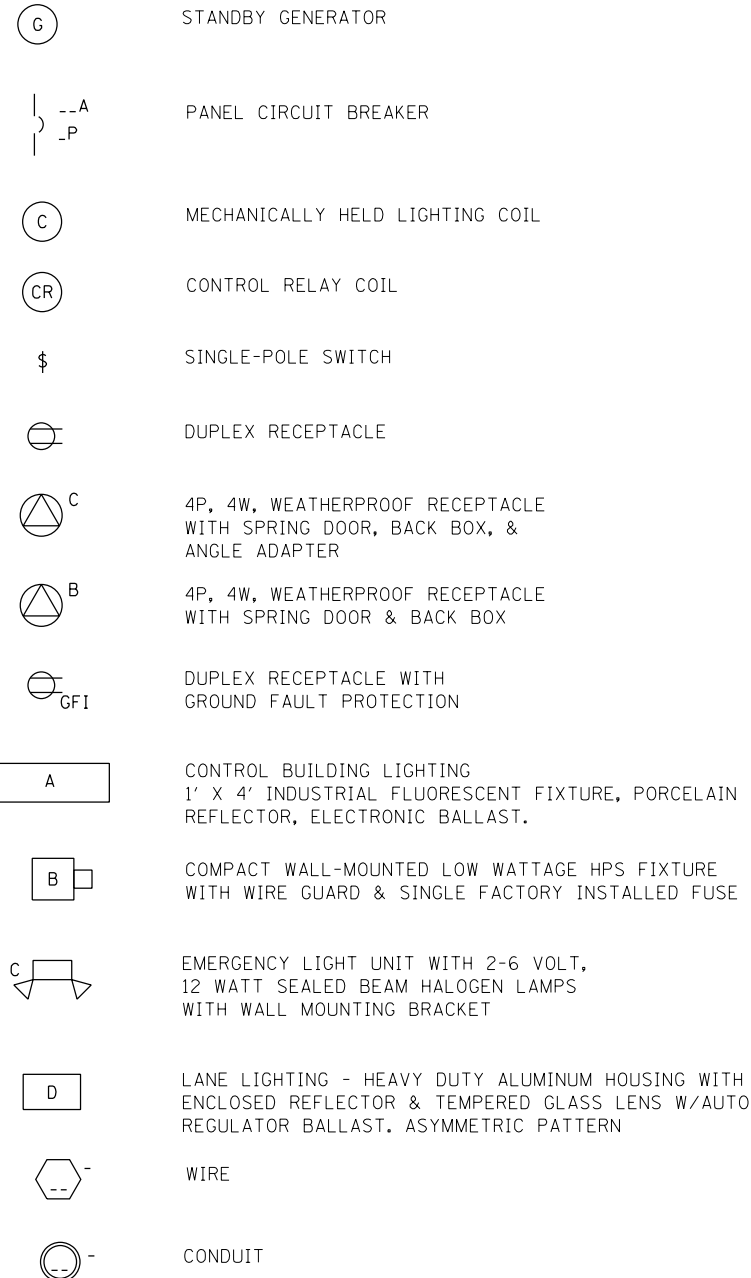
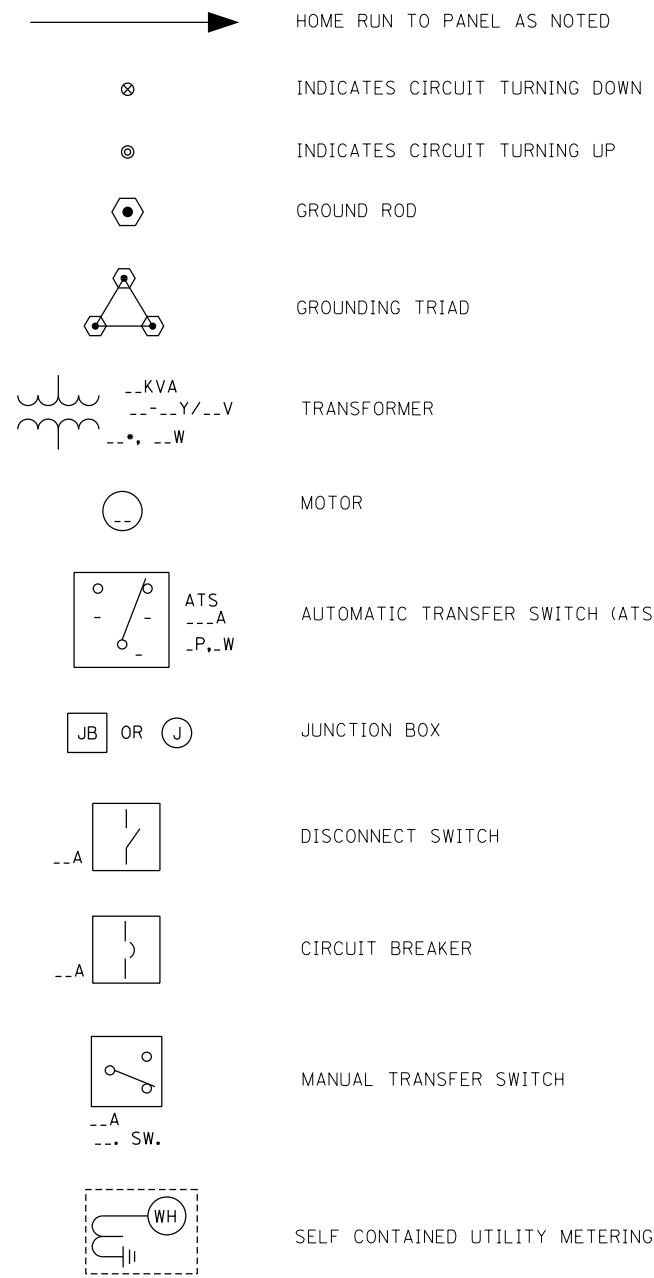


DATE	REVISIONS
7-01-2009	REVISED SYMBOL & PATTERNS
11-01-2012	ADDED NEW SYMBOLS
3-11-2015	ADDED NEW SYMBOL
3-31-2016	UPDATED DITCH CHECK SYMBOL

SYMBOLS AND PATTERNS

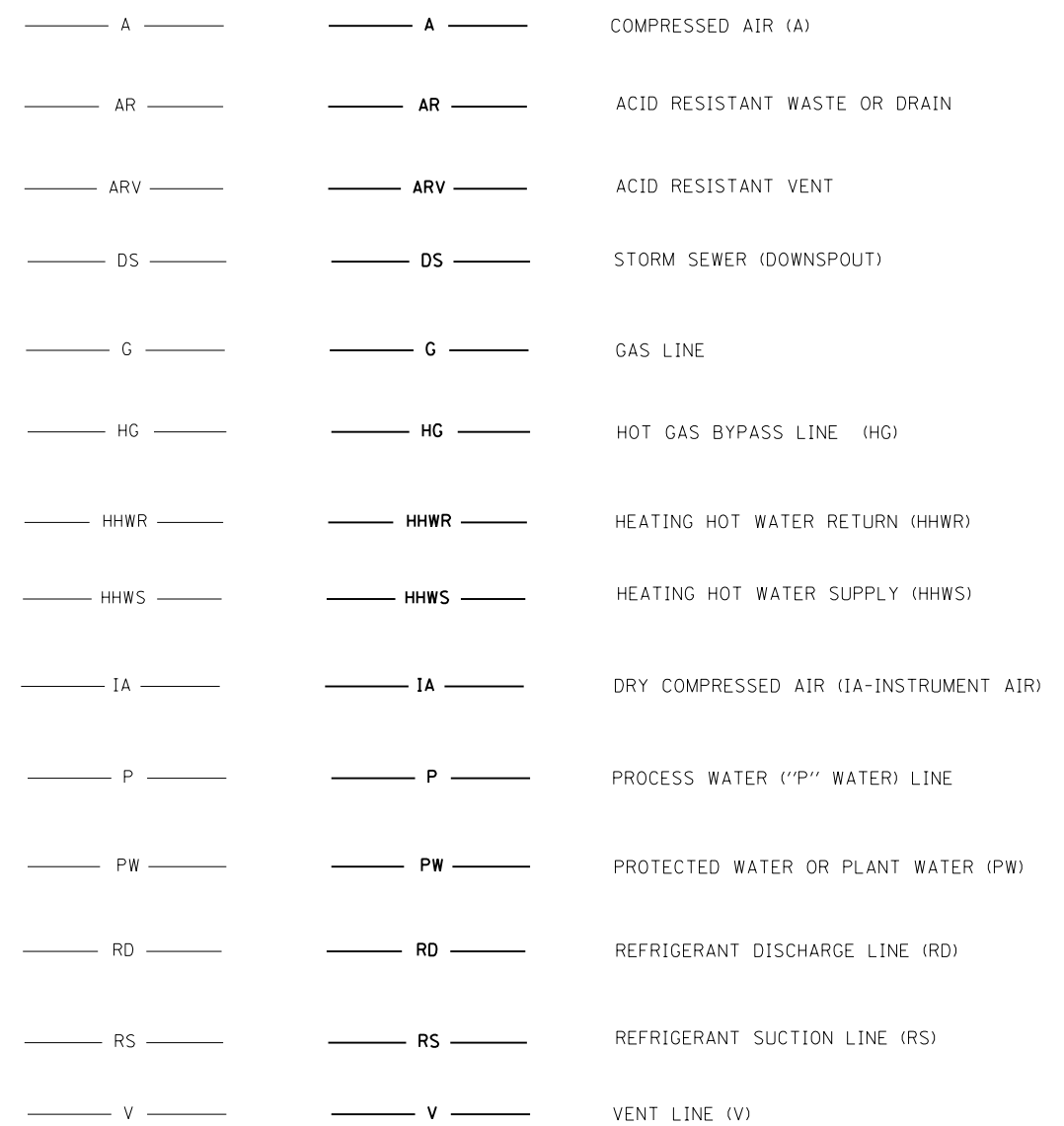
STANDARD D2-04

ELECTRICAL AND MECHANICAL ITEMS



EXISTING

PROPOSED



SYMBOLS AND PATTERNS

STANDARD D2-04

NOTE:

ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

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ELECTRICAL AND MECHANICAL ITEMS

	OR		QUANTITY AND DIRECTION OF THE AIR FLOW		OR		SPLITTER DAMPER		
	OR		DUCT SIZE (FIRST FIGURE SIZE OF SHOWN, SECOND FIGURE SIZE OF SIDE NOT SHOWN.)				PLUG VALVE WITH MEMORY STOP (BALANCING)		GLOBE VALVE
	OR		DUCT SIZE (FIRST FIGURE SIZE OF SHOWN, SECOND FIGURE SIZE OF SIDE NOT SHOWN.)				PLUG VALVE		BUTTERFLY VALVE
			SUPPLY DUCT SECTION				SOLENOID VALVE		ANGLE GATE VALVE
	OR		RETURN OR EXHAUST DUCT SECTION				TEMPERATURE CONTROL VALVE		CONCENTRIC REDUCER
	OR		DUCT DROPS IN THE DIRECTION OF FLOW				THREE-WAY TEMPERATURE CONTROL VALVE DIAPHRAGM		ECCENTRIC REDUCER
	OR		DUCT RISES IN THE DIRECTION OF FLOW				THREE-WAY TEMPERATURE CONTROL VALVE TOP VIEW		ORIFICE FLANGE
	OR		TURNING VANES				PRESSURE REDUCING VALVE (NOS. = INITIAL AND FINAL PRESSURE - PSIG)		CROSSOVER
	OR		8" THROAT DIAMETER CEILING DIFFUSER; AIR FLOW -- 100 CFM				AIR PRESSURE REDUCING STATION (NO. CORRESPONDS WITH AIR PRESSURE REDUCER SCHEDULE)		PIPE GUIDE
	OR		BALANCING OR VOLUME DAMPER				PRV		EXPANSION JOINT (SLIP TYPE)
	OR		MOTOR OPERATED DAMPER				SAFETY VALVE (NOS. = PRESSURE SETTING - PSIG)		EXPANSION JOINT (BELLOWS TYPE)
			FLEXIBLE DUCT				FLOAT OPERATED VALVE		AIR ELIMINATOR (AIR VENT)
	OR		FIRE DAMPER				QUICK COUPLING (QC)		PIPE CAP
	OR		SOUND ATTENUATOR				HORIZONTAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		STRAIGHT CROSS
	OR		ZONE DAMPER				VERTICAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		90° ELBOW
			FLEXIBLE CONNECTION AT FAN OR EQUIPMENT				CABINET TYPE UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)		90° ELBOW TURNED DOWN
			EXTRACTOR				THERMOSTAT OR ROOM TEMPERATURE SENSOR		90° ELBOW TURNED UP
							GATE VALVE		SIDE OUTLET ELBOW TURNED DOWN
							FLOW SWITCH		SIDE OUTLET ELBOW TURNED UP
							VENTURI FLOW METER AND FLOW TO BE INDICATED		LATERAL
							CONNECTION BETWEEN NEW AND EXISTING		TEE
									TEE OUTLET UP
									TEE OUTLET DOWN
									UNION
									STRAINER
									PIPE ANCHOR
									THERMOMETER (NOS. = RANGE IN DEGREES FAHRENHEIT)
									PRESSURE, VACUUM OR COMPOUND GAUGE

NOTE:

ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

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SHEET 3 OF 3



SYMBOLS AND PATTERNS

STANDARD D2-04

PERMANENT DELINEATION SPACING					
REFLECTORS	MAINLINE		RAMP		
	TANGENT	CURVE	TANGENT	CURVE	
* GUARDRAIL	100'	100'	100'	TABLE A	
* BARRIER WALL (DOUBLE FACE)	100'	100'	100'	TABLE A	
* BARRIER WALL (SINGLE FACE)	100'	100'	100'	TABLE A	
SHOULDER NARROWING	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'	
BRIDGE APPROACHES	3 @ 15'	3 @ 15'	3 @ 15'	3 @ 15'	
* BRIDGE PARAPET	50'	50'	50'	50'	
* NOISE ABATEMENT WALL (CRASH WORTHY)	100'	100'	100'	TABLE A	
ROADWAY DELINEATORS					
ROADWAY DELINEATORS	MAINLINE		RAMP		
	TANGENT	CURVE	TANGENT	CURVE	
POST MOUNTED DELINEATOR	200'	200'	200'	TABLE A	
POST MOUNTED DELINEATOR (RAMP TAPERS AND TANGENTS)	100'	100'	NA	NA	
TEMPORARY DELINEATION SPACING					
TEMPORARY DELINEATION SPACING	TANGENT	REVERSE CURVE	SHIFT	TAPER	
	50'	25'	25'	25'	
* WHEN ADJACENT SHOULDER IS USED AS A TRAVELED LANE, USE SPACING REQUIREMENTS AS SHOWN FOR TEMPORARY DELINEATION.					

TABLE A	
REFLECTOR SPACING ON RAMP-CURVES	
RADIUS OF CURVE (FT.)	SPACING ALONG CURVE (FT.)
LESS THAN 1050	50
1050-1299	100
1300-1999	125
2000-2999	150
3000-3999	175
MORE THAN 3999	200

GENERAL NOTES:

EMERGENCY TURNAROUNDS DELINEATION-THE FOLLOWING DELINEATION SHOULD BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT APPROACHING EMERGENCY TURNAROUNDS.

- A. ONE-HALF OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER THREE AMBER REFLECTOR UNITS.
- B. ONE-FOURTH OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER TWO AMBER REFLECTOR UNITS.
- C. AT A POINT NEAR THE INTERSECTION OF THE EDGE OF THE LEFT SHOULDER AND NEAR EDGE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER ONE AMBER REFLECTOR UNIT.

NOTES FOR ROADWAY DELINEATORS, POST MOUNTED INSTALLATION:

1. A. MAINLINE-SINGLE WHITE REFLECTOR UNITS SHALL BE PLACED CONTINUOUSLY ON THE RIGHT AND SINGLE AMBER REFLECTOR UNITS SHALL BE PLACED ON THE LEFT ON MAIN LINE SECTIONS WITHOUT BARRIER WALL.
- B. RAMPS-SINGLE REFLECTOR UNITS SHALL BE PLACED ON THE OUTSIDE OF ALL CURVED SECTIONS OF RAMPS, SINGLE WHITE SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE. THE DELINEATORS SHALL BE OVERLAPPED FOR A SHORT DISTANCE TO CLEARLY INDICATE WHERE DELINEATION ON ONE SIDE OF THE RAMP ENDS AND DELINEATION ON THE OTHER SIDE APPEARS.
- C. DOUBLE WHITE REFLECTOR UNITS SHALL BE PLACED ON THE RIGHT AT ALL ACCELERATION AND DECELERATION LANES.
2. REFLECTORS SHALL BE MOUNTED ON SUPPORTS SUCH THAT THE TOP OF REFLECTORS IS FOUR FEET ABOVE THE ROADWAY EDGE AND TWO FEET OUTSIDE THE OUTER EDGE OF THE PAVED SHOULDER OR TWO FEET MINIMUM AND SIX FEET MAXIMUM OUTSIDE THE BACKS OF CURBS OR GUTTERS.
3. IN ALL CASES, THE COLOR OF THE REFLECTORS SHALL BE THE SAME AS THE ADJACENT EDGE LINE EXCEPT AS SPECIFIED IN GENERAL NOTES.
4. POST MOUNTED REFLECTORS SHALL BE PLACED CONTINUOUSLY AS NOTED ABOVE IN CONJUNCTION WITH GUARDRAIL INSTALLED.
5. THE PLACEMENT OF ROADWAY DELINEATOR "CIRCULAR REFLECTORS" SHALL BE USED FOR ALL MINOR PROJECTS WHICH HAVE A LENGTH OF LESS THAN 5 MILES. THE PLACEMENT OF ROADWAY DELINEATOR "RECTANGULAR REFLECTORS" SHALL BE USED FOR ALL MAJOR PROJECTS WHICH HAVE A LENGTH GREATER THAN 5 MILES. ALL ROADWAY DELINEATORS WITHIN A ROADWAY SEGMENT SHALL BE OF THE SAME TYPE.

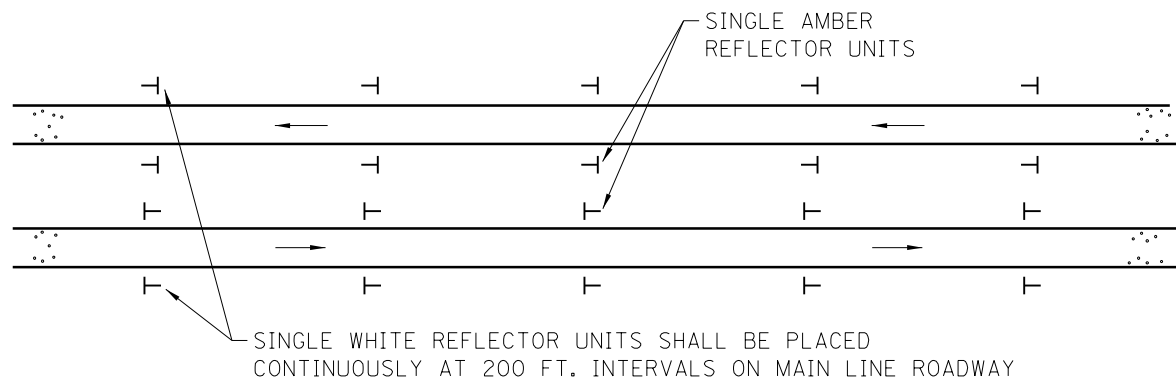
NOTES FOR GUARDRAIL AND BARRIER WALL REFLECTOR:

1. REFLECTORS TYPE B AND TYPE C SHALL HAVE REFLECTIVE SURFACE ON ONE SIDE ONLY.

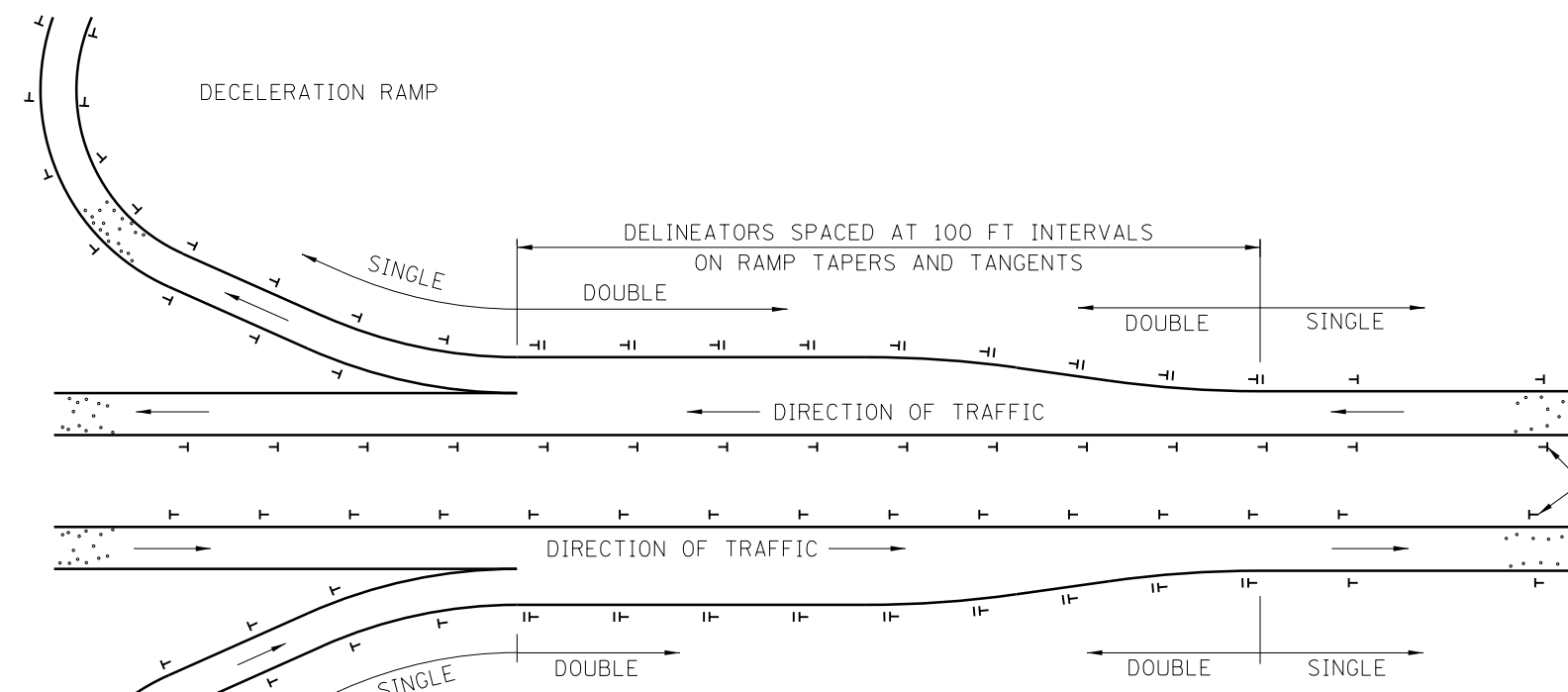


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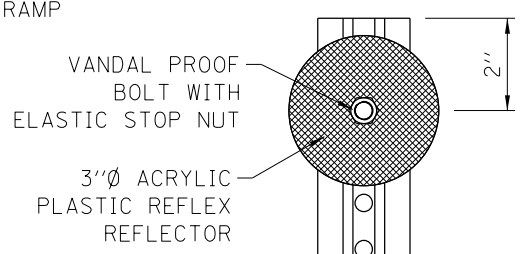
DATE	REVISIONS
07-01-09	CHANGED BARRIER TO F-SHAPE CONFIG. ADDED SECTION C-C NEW BARRIER DELINEATORS
02-07-12	REVISED REFLECTOR MARKER TYPE C DIMENSION
11-01-12	REVISED NOTES, TABLE AND DELINEATION SPACING
3-11-2015	REVISED NOTES
3-31-2016	REVISED DELINEATOR ATTACHMENT TO POST



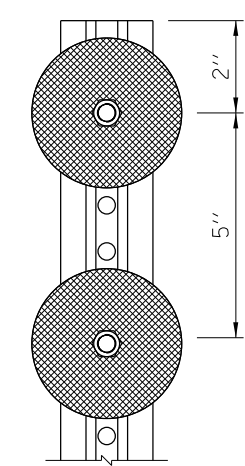
TANGENT PLACEMENT



INTERCHANGE RAMP PLACEMENT

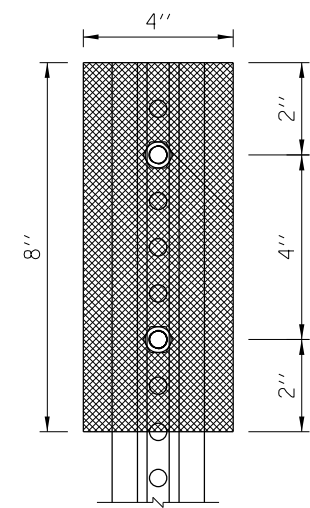


SINGLE UNIT

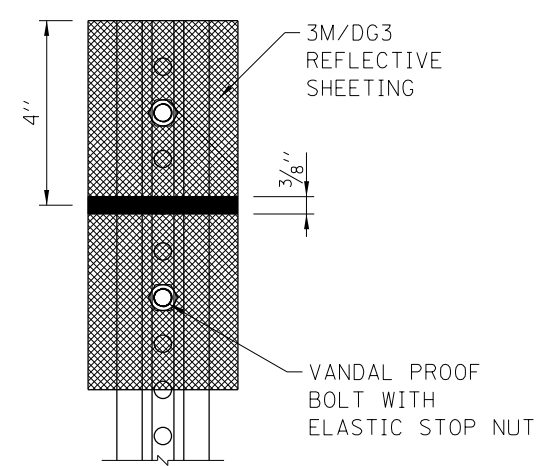


DOUBLE UNIT

CIRCULAR REFLECTORS

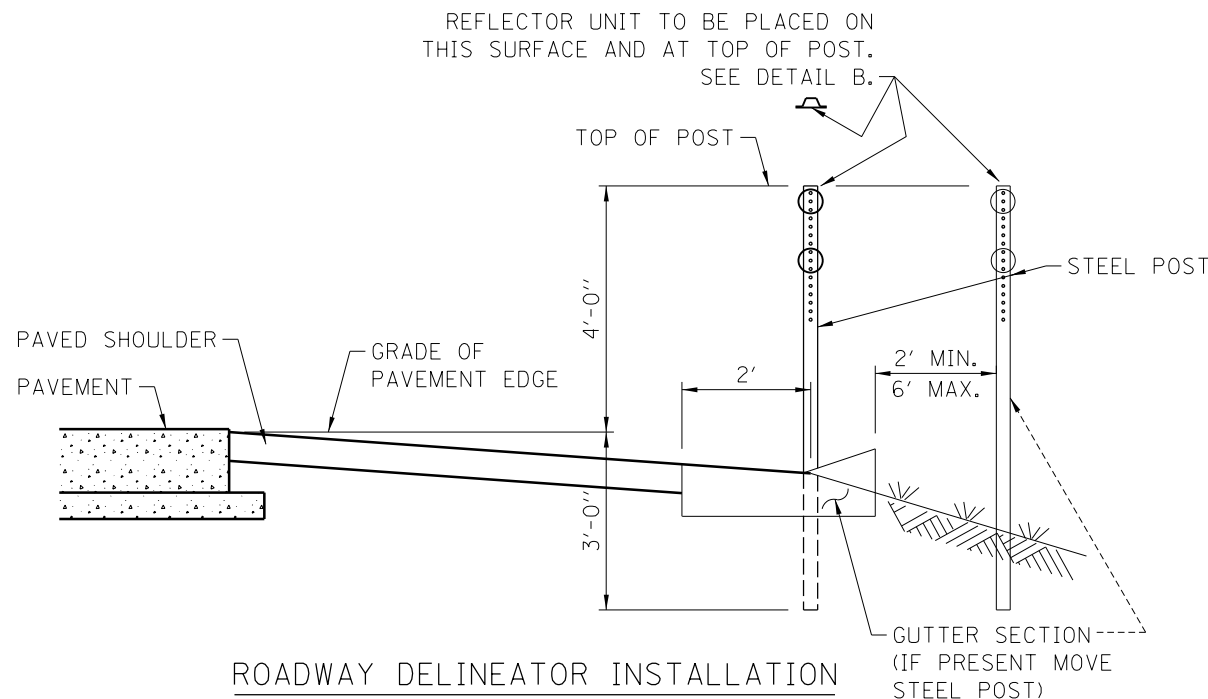


SINGLE UNIT

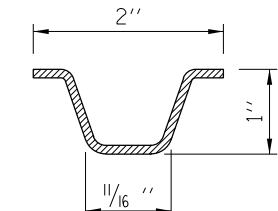


DOUBLE UNIT

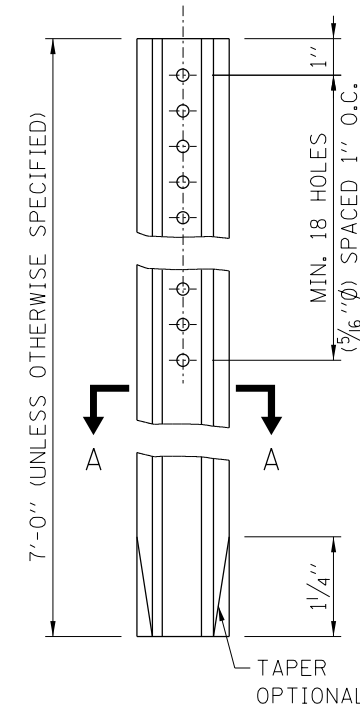
RECTANGULAR REFLECTORS



ROADWAY DELINEATOR INSTALLATION



SECTION A-A
STEEL- 1.12 LBS/FT.

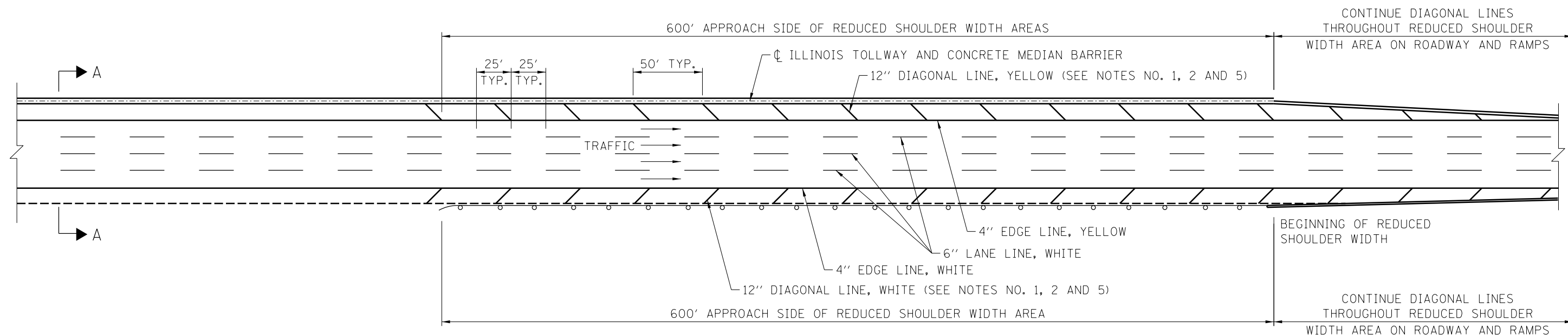


STEEL POST

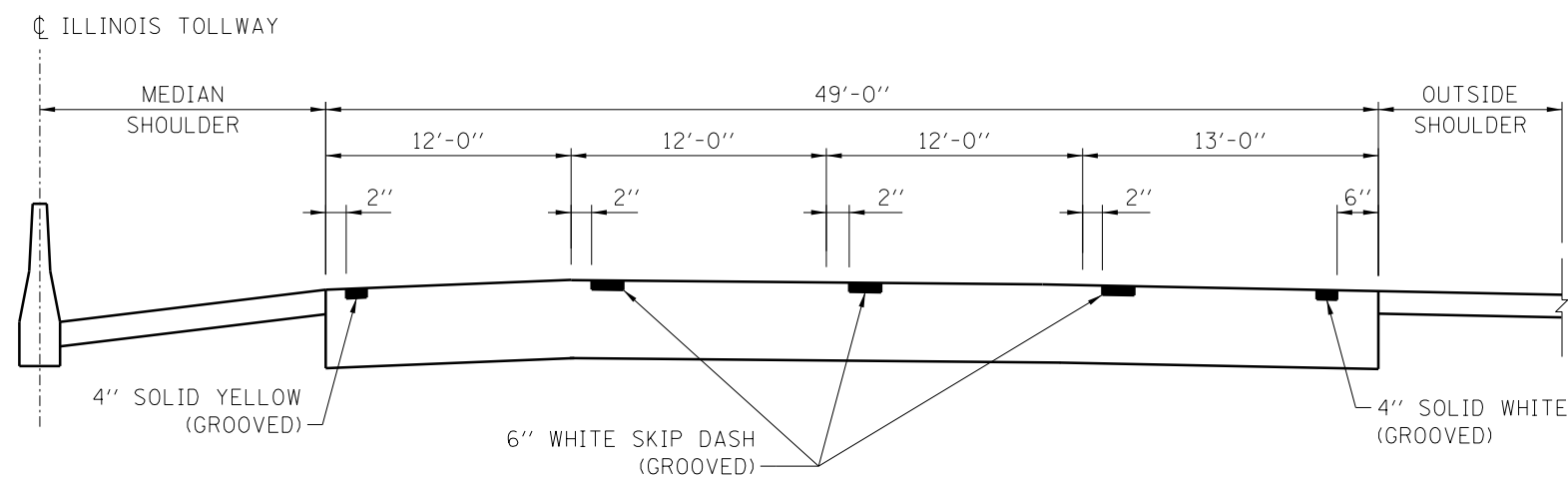


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NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.



PLAN



SECTION A-A

ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION

GENERAL NOTES:

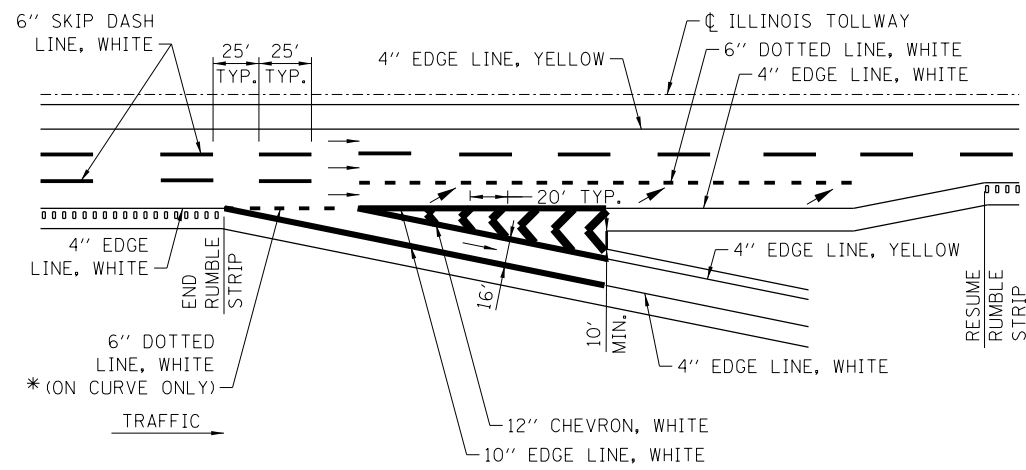
1. DIAGONAL SHOULDER STRIPING REQUIRED WHERE THE SHOULDER WIDTH IS LESS THAN STANDARD.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. WHERE THE GUARDRAIL ENCROACHES ON THE SHOULDER THE DIAGONAL MARKINGS SHALL EXTEND AS CLOSE TO THE FACE OF THE RAIL AS POSSIBLE.
4. ALL PERMANENT LANE LINES AND EDGE LINES SHALL BE GROOVED, ON ROADWAY SURFACES, UNLESS OTHERWISE NOTED.
5. DIAGONAL STRIPING SHALL BE SURFACE APPLIED.
6. GORE STRIPING (CHEVRON) SHALL BE SURFACE APPLIED.
7. ALL LANE LINES AND EDGE LINES SHALL BE SURFACE APPLIED ON BRIDGES.
8. PAVEMENT MARKINGS SHALL NOT BE GROOVED AT THE CASH SIDE OF MAINLINE TOLL PLAZAS OR THE OPEN ROAD TOLLING (ORT), 100' CONTINUOUSLY REINFORCED CONCRETE (CRC) PAVEMENT SECTION OF MAINLINE UNDER MONOTUBES.

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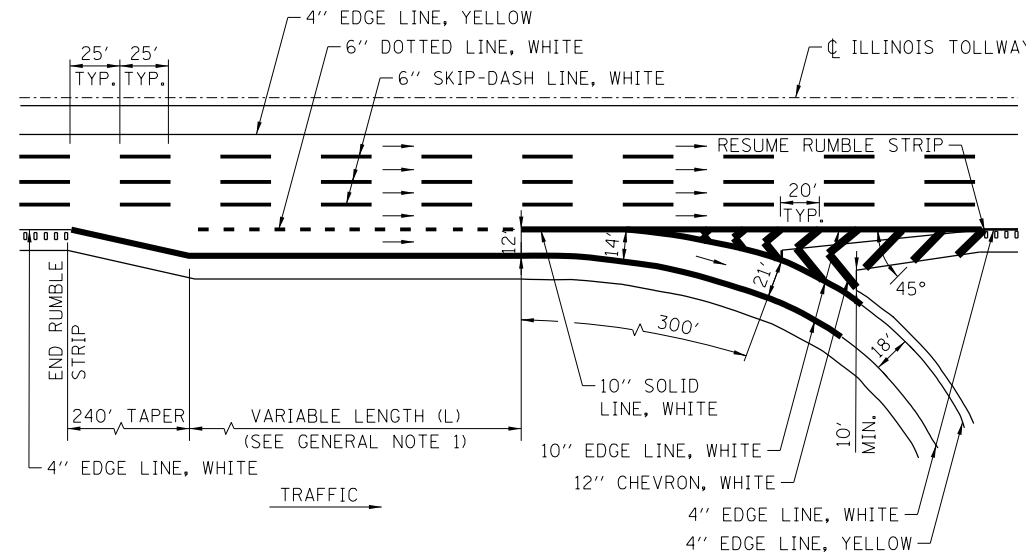
DATE	REVISIONS
7-01-09	ADDED LINE GROOVING NOTES
2-07-12	REVISED NOTES
11-01-12	REVISED EDGELINE OFFSET, REVISED NOTES
3-31-14	REVISED NOTES
3-31-16	REVISED NOTES

PERMANENT PAVEMENT MARKINGS

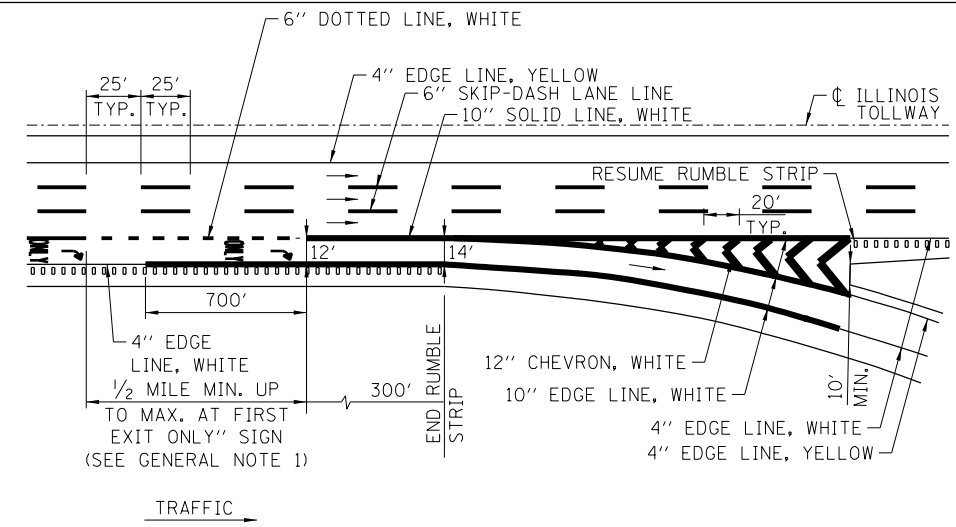
STANDARD D5-06



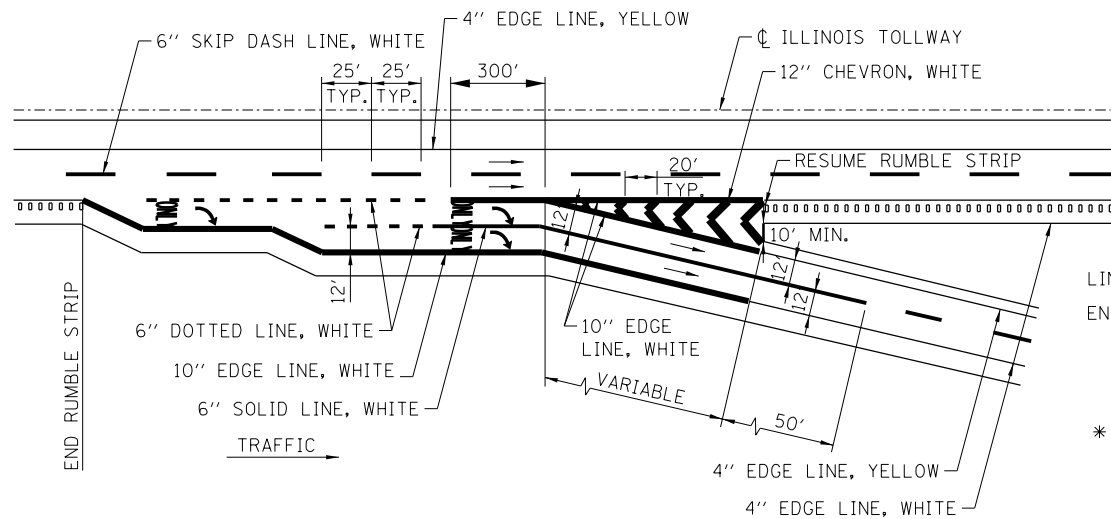
EXIT - SINGLE LANE RAMP
LANE THREE TERMINATION
* OMIT R.P.M.



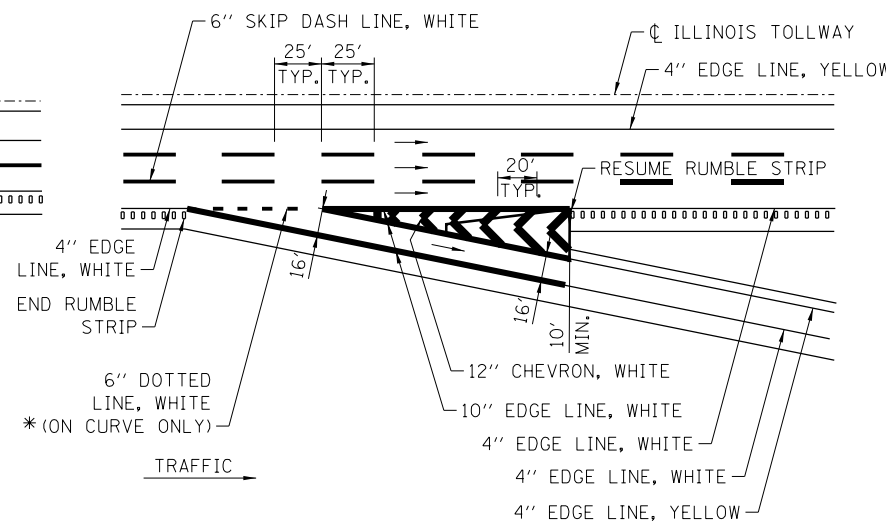
EXIT - SINGLE LANE LOOP RAMP - PARALLEL TYPE



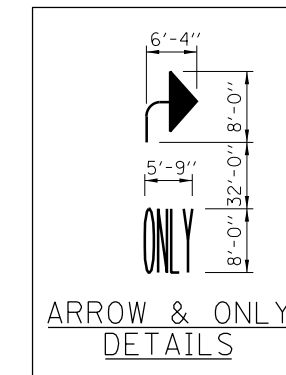
EXIT - SINGLE LANE RAMP - LANE DROP



EXIT - TWO LANE PARALLEL RAMP



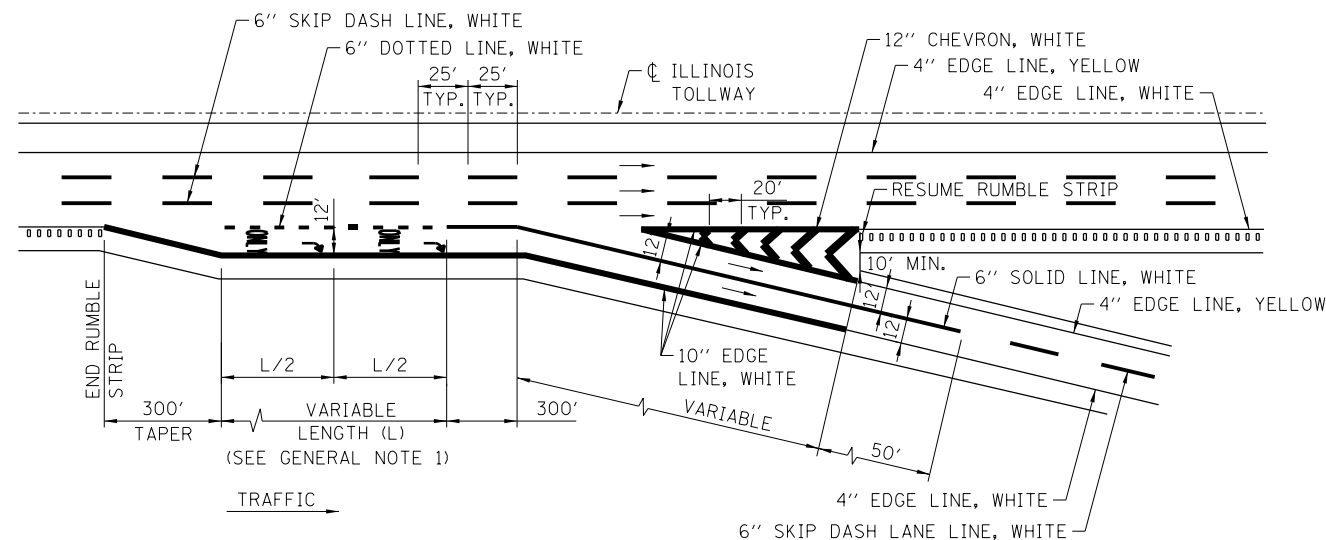
EXIT - SINGLE LANE RAMP - TAPER TYPE
* OMIT R.P.M.



NOTE:
PAVEMENT MARKING LETTERS AND SYMBOLS-ONLY AND ARROW ARE TO BE TYPICALLY PLACED AT 1/2 MILE EXIT GUIDE SIGN, AT GORE EXIT GUIDE SIGN AND APPROXIMATELY HALFWAY BETWEEN THE TWO.

GENERAL NOTES:

- RUMBLE STRIPS SHALL BE INSTALLED BETWEEN THE THEORETICAL GORE AND TAPER WHEN LENGTHS OF AUXILIARY LANES, ACCELERATION LANES OR DECELERATION LANES, ARE GREATER THAN 1000'.
- ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
- ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
- GORE STRIPING (CHEVRON) SHALL BE SURFACE APPLIED.
- LETTERS AND SYMBOL MARKING SHALL BE SURFACE APPLIED.
- DOTTED LINES SHALL CONSIST OF 3' LINE AND 9' GAPS.



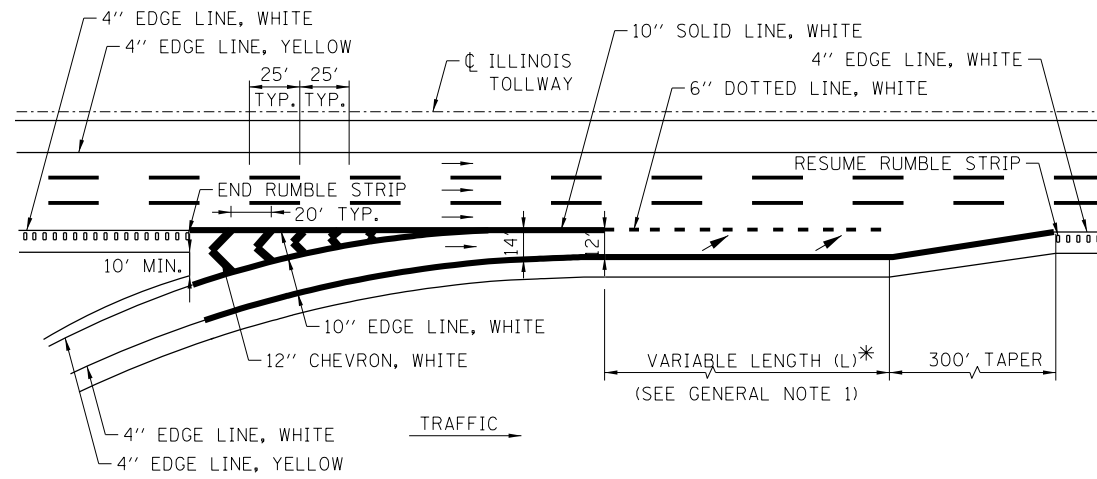
EXIT - TWO LANE RAMP

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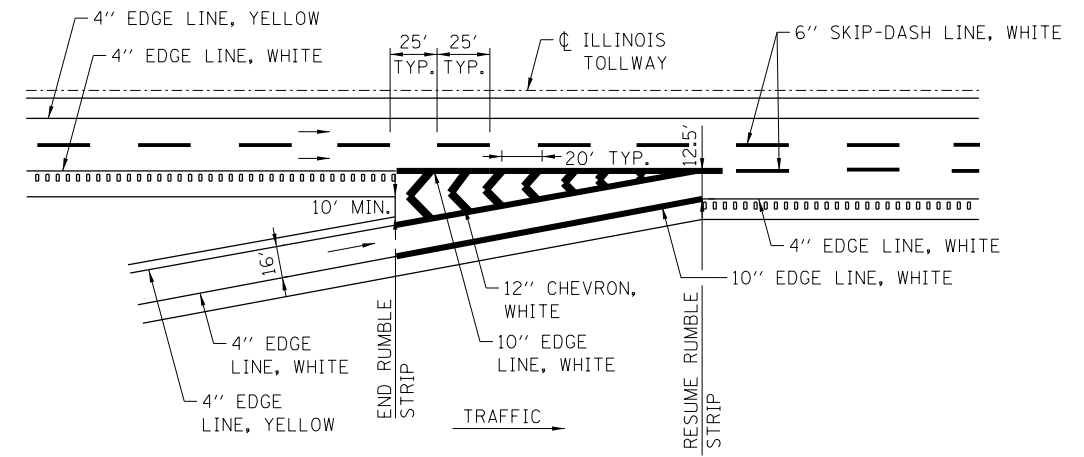


DATE	REVISIONS
07-01-09	ADDED LINE GROOVING NOTES
11-01-12	REVISED NOTES AND ADDED DOTTED LINE
03-01-13	REVISED SINGLE LANE LOOP RAMP DETAILS
03-31-14	ADDED LANE REDUCTION MARKINGS
3-11-2015	REVISED DETAILS, ADDED LANE-REDUCTION ARROWS AND SHEET 3
3-31-2016	REVISED NOTES, ADDED IPO PAVEMENT MARKING DETAIL.

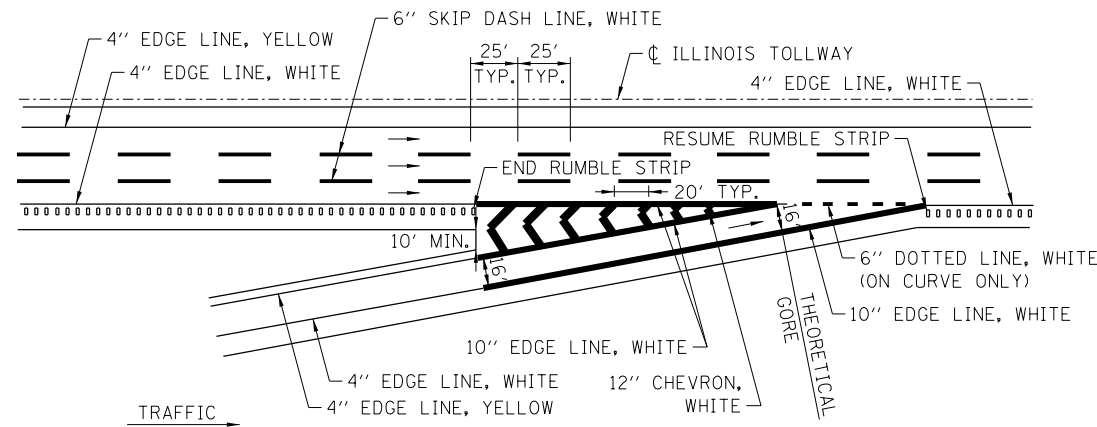
PAVEMENT MARKING
AND SHOULDER
RUMBLE STRIP DETAILS
STANDARD D6-06



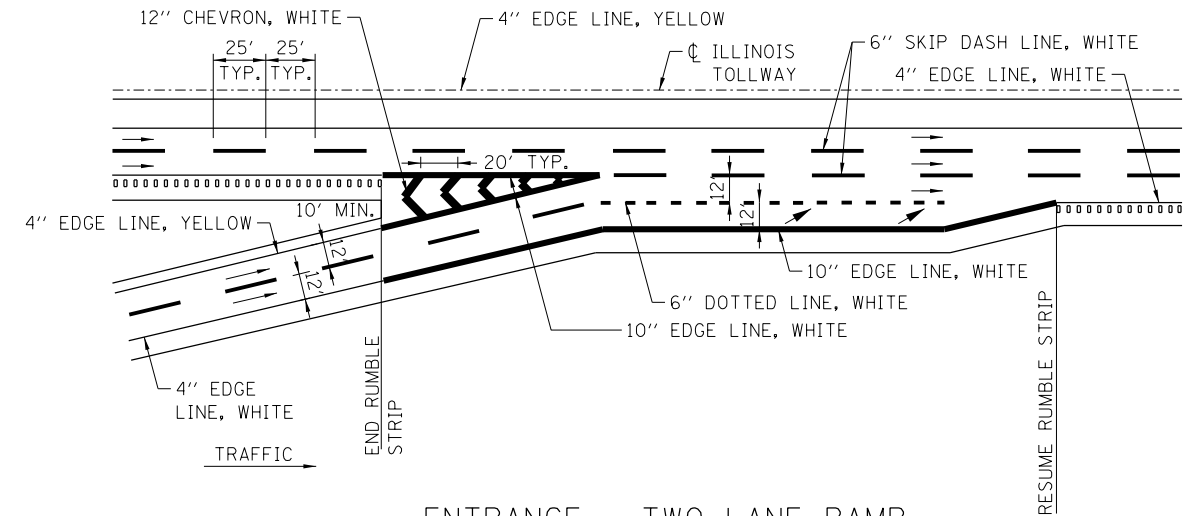
ENTRANCE - SINGLE LANE RAMP - PARALLEL TYPE



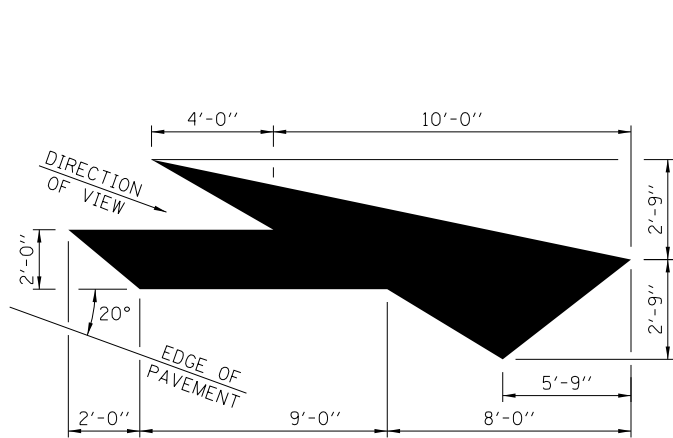
ENTRANCE - SINGLE LANE RAMP WITH ADDED MAINLINE LANE



ENTRANCE - SINGLE LANE RAMP - TAPER TYPE



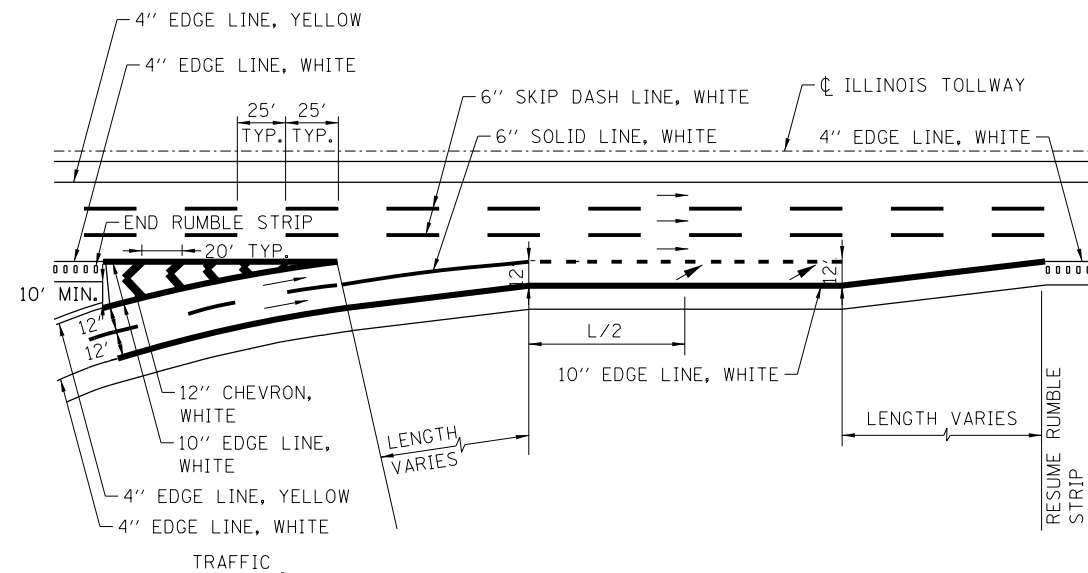
ENTRANCE - TWO LANE RAMP WITH ADDED MAINLINE LANE



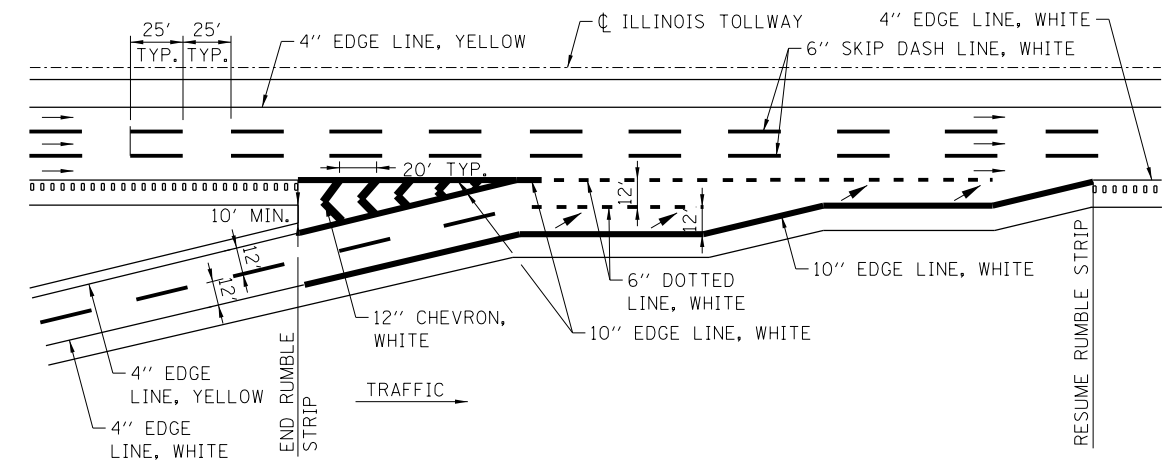
LANE-REDUCTION ARROW

RIGHT LANE-REDUCTION ARROW SHOWN.
USE MIRROR IMAGE FOR LEFT LANE.

* WHEN LENGTH (L) IS
GREATER THAN 1000'-0"
PLACE ARROWS AS SHOWN

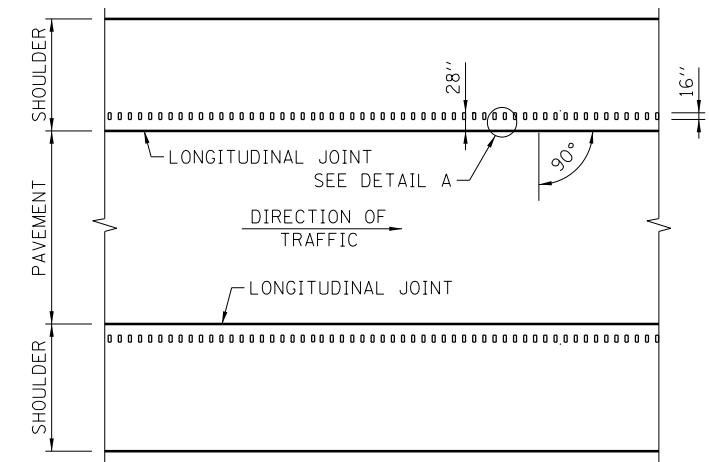
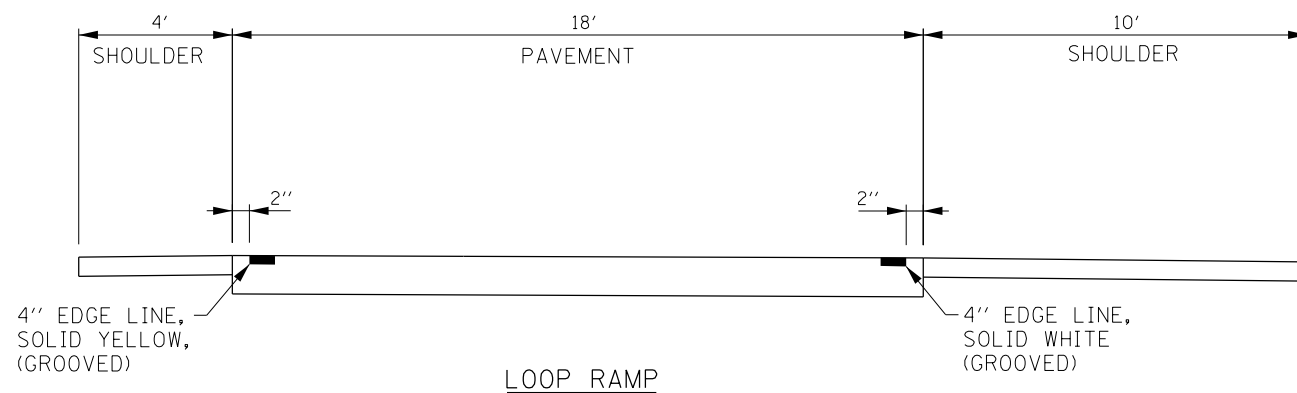
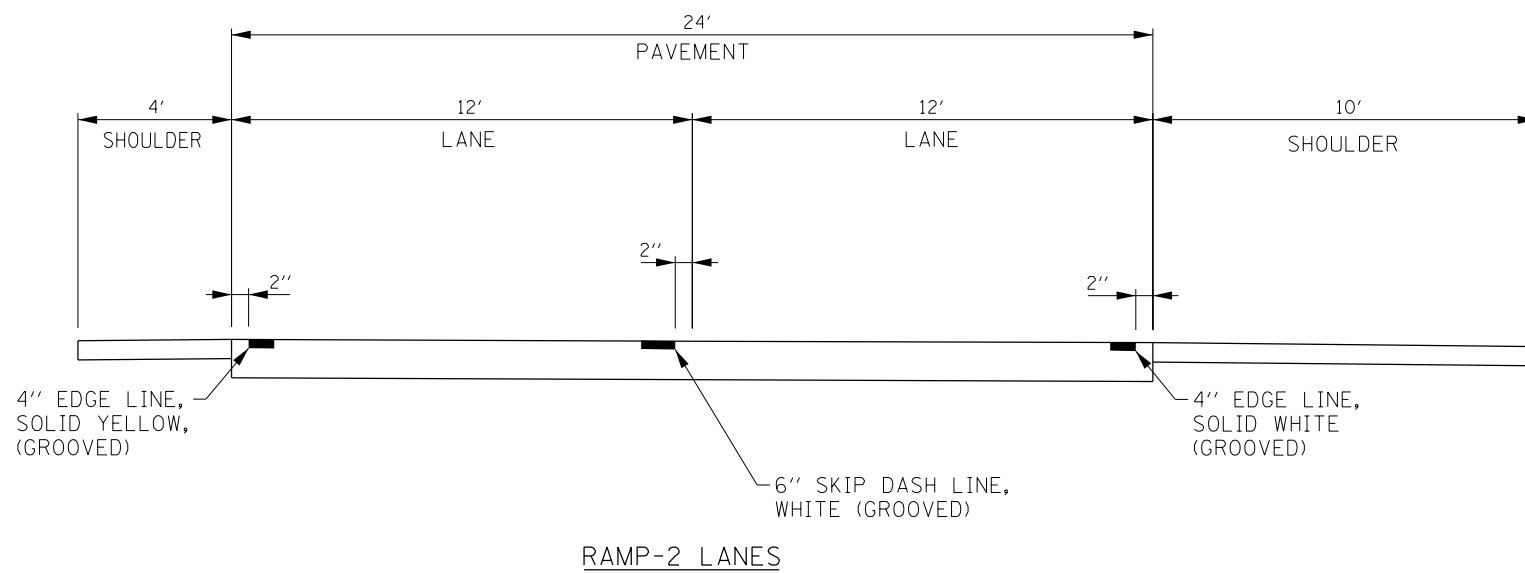
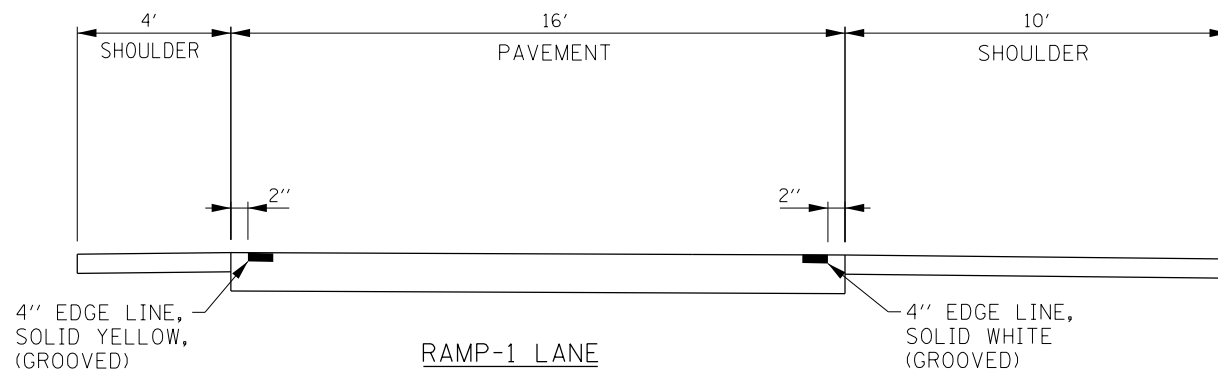


ENTRANCE - TWO LANE RAMP

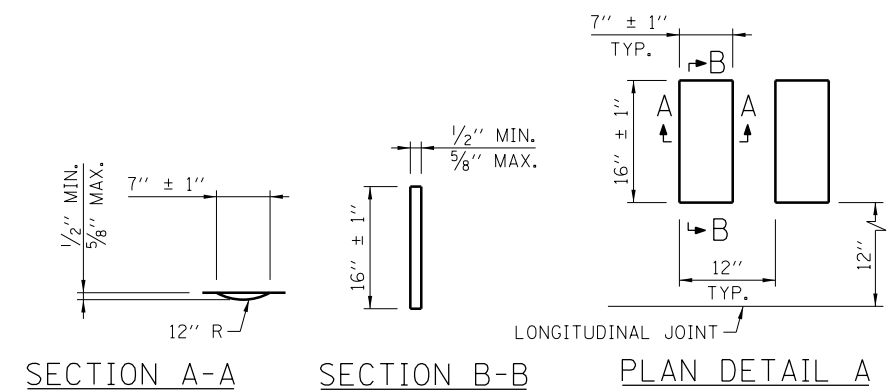


ENTRANCE - TWO LANE PARALLEL RAMP

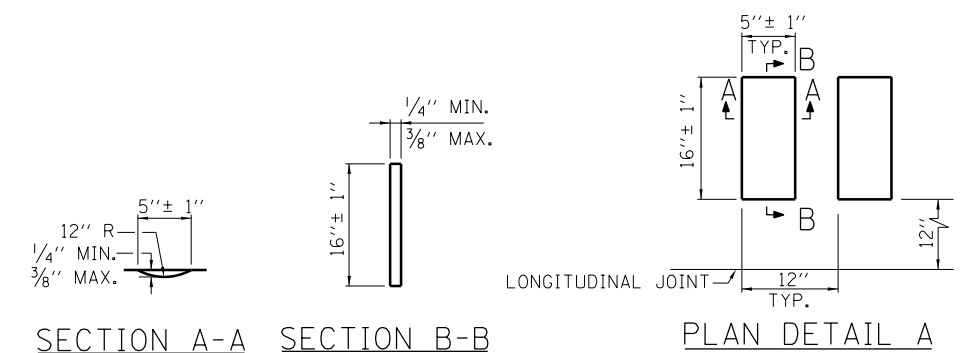




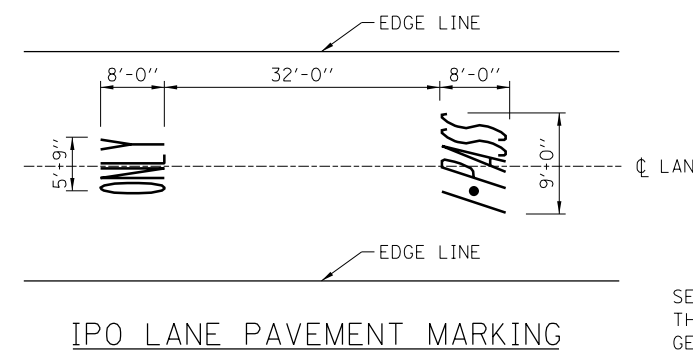
TYPICAL PLAN VIEW
MAINLINE



ASPHALT SHOULDER
RUMBLE STRIP DETAILS

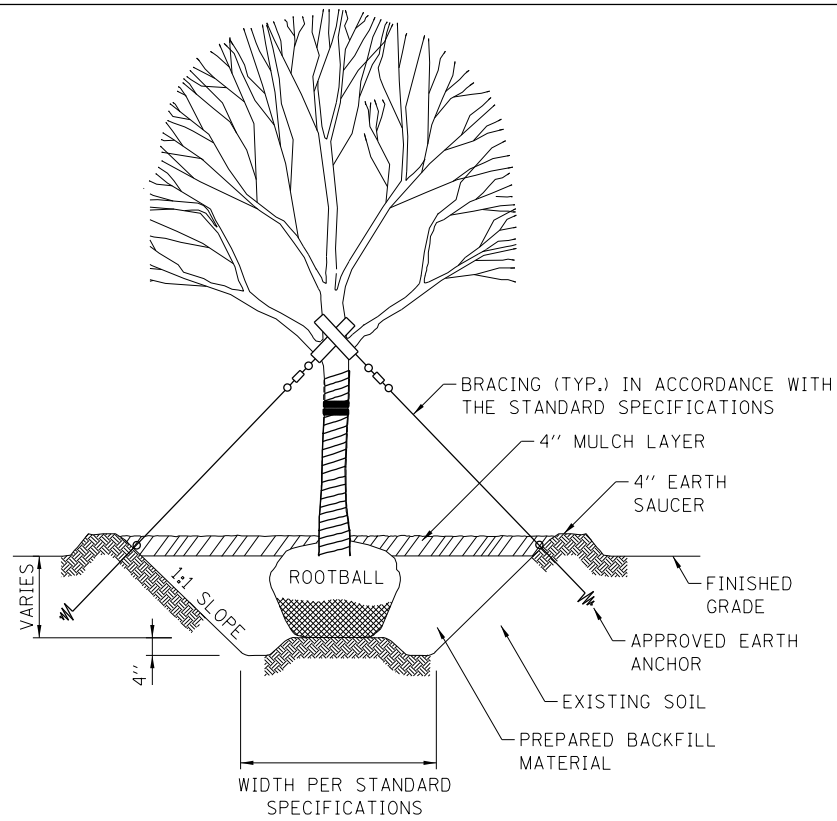


CONCRETE SHOULDER
RUMBLE STRIP DETAILS

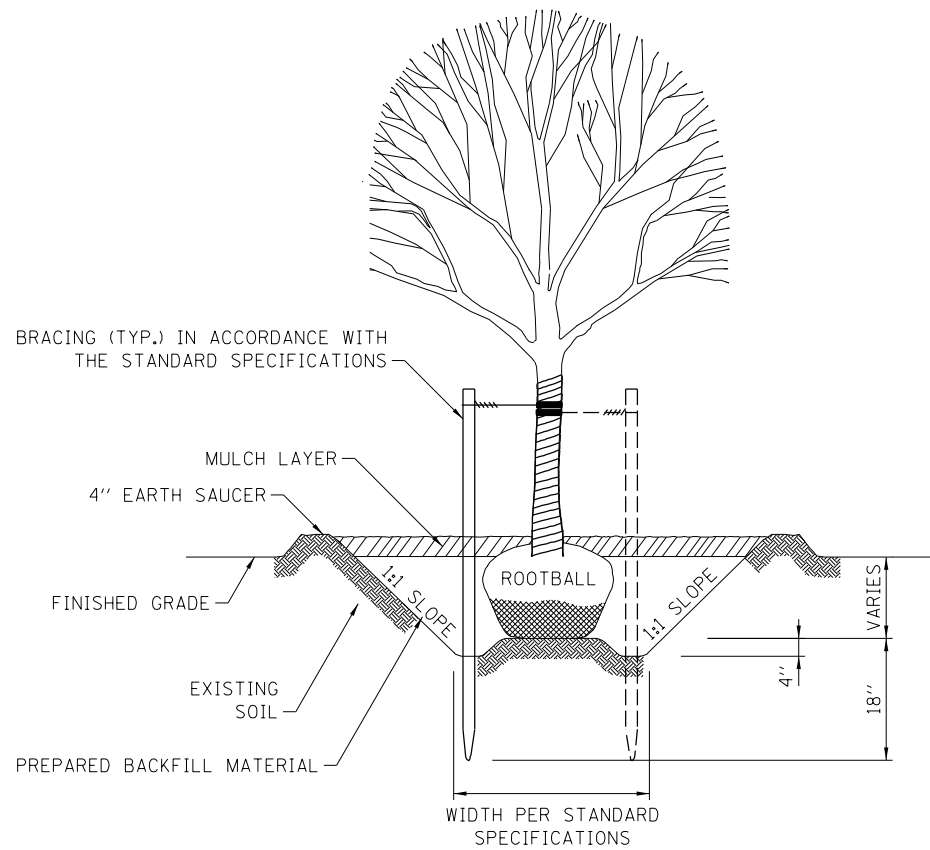


SEE SHEET 1 IN
THIS SERIES FOR
GENERAL NOTES.





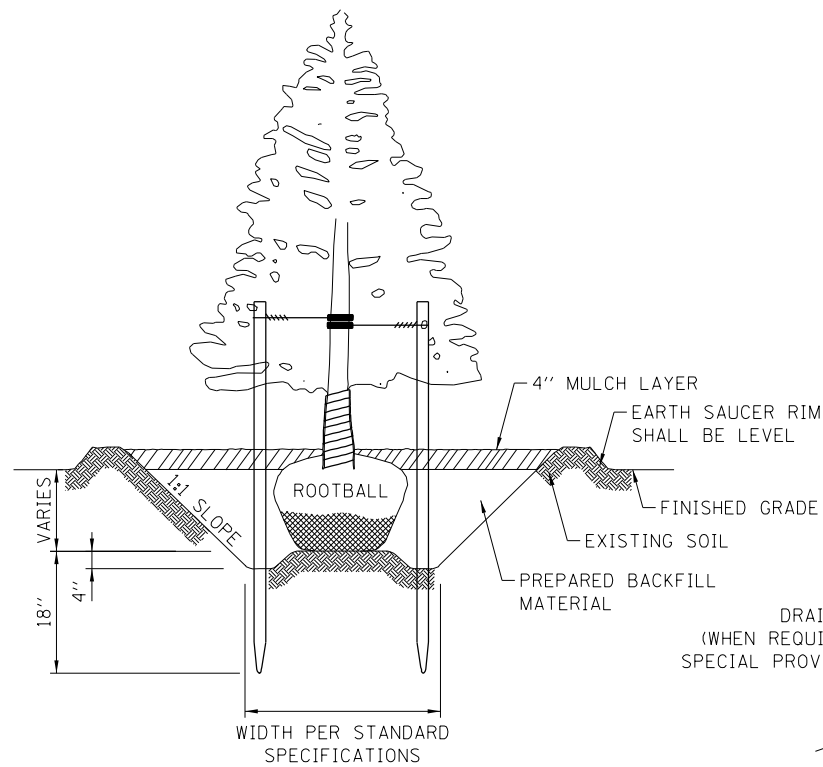
DECIDUOUS TREE PLANTING DETAIL
(4 1/2" CALIPER AND LARGER)



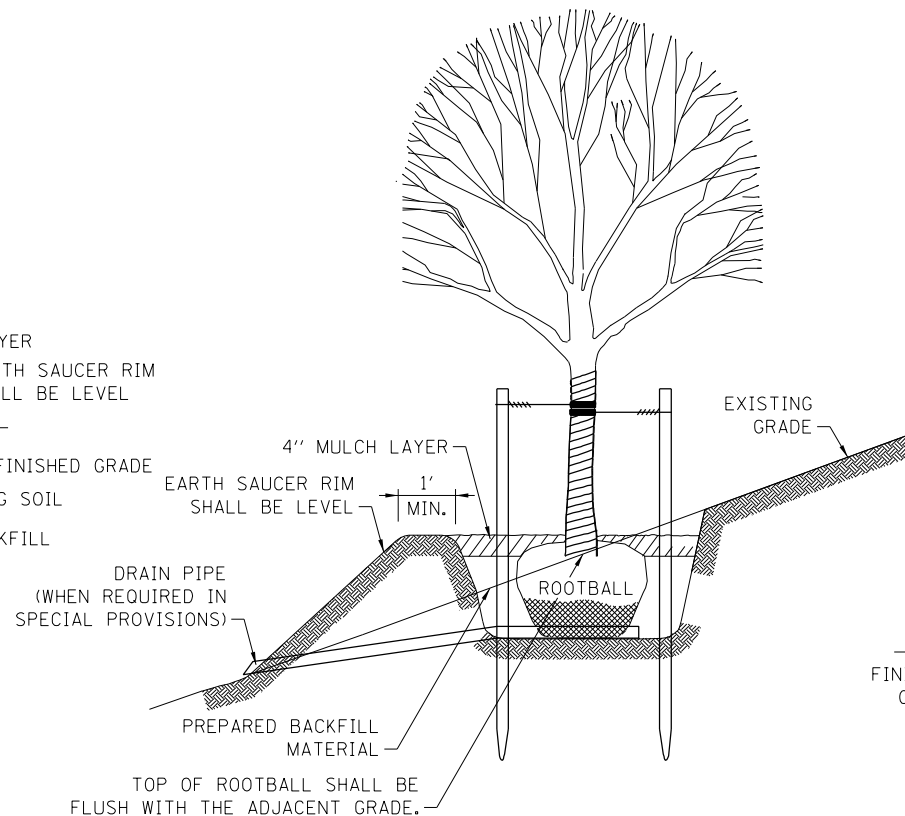
DECIDUOUS TREE PLANTING DETAIL
GREATER THAN 4 FT HEIGHT AND LESS THAN 4 1/2" CALIPER)

PLANTING NOTES:

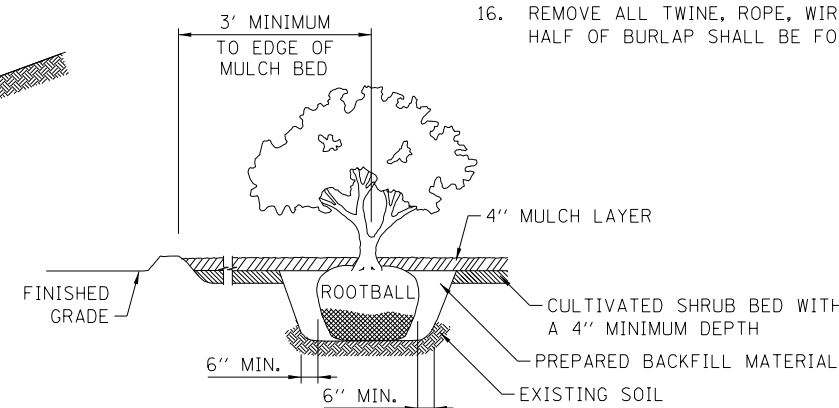
1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES, FIBER OPTICS, STORM SEWERS AND DRAINAGE STRUCTURES IN THE FIELD PRIOR TO THE EXCAVATION OF ANY PLANT PITS OR PLANTING BEDS. LOCATIONS OF TREE AND SHRUB PLANTINGS SHALL BE ADJUSTED TO AVOID DAMAGING ANY UNDERGROUND FEATURES.
2. THE PLANT LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATELY ONLY. THE EXACT LOCATIONS SHALL BE ADJUSTED AS REQUIRED IN THE FIELD BY THE ENGINEER. TREE LOCATIONS SHALL NOT BE MOVED CLOSER TO PAVEMENT EDGES THAN SHOWN ON THE PLANS OR A MINIMUM OF FIFTY (50) FEET.
3. TREES SHALL BE SPACED A MINIMUM OF SIX (6) FEET FROM FENCES.
4. TREE AND SHRUB PLANTINGS SHALL NOT BLOCK ACCESS TO GATES IN FENCES.
5. TREES PLANTED IN TURF AREAS SHALL BE SPACED A MINIMUM OF TEN (10) FEET FROM THE EDGE OF A SHRUB BED.
6. TREES SHALL BE SPACED A MINIMUM OF TEN (10) FEET FROM NOISEWALLS OR OTHER STRUCTURES.
7. DITCHES SHALL BE KEPT CLEAR OF TREE AND SHRUB PLANTINGS. THE MINIMUM VERTICAL DISTANCE BETWEEN DITCH BOTTOMS AND PLANTS SHALL BE THREE (3) FEET.
8. IF DURING EXCAVATION, A PLANT HOLE OR PLANTING BED SHOWS POOR DRAINAGE, STANDING WATER OR AN IMPERVIOUS STRATUM OF SOIL, THE CONTRACTOR SHALL CEASE EXCAVATION AND SHALL NOTIFY THE ENGINEER. THE PLANT(S) SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND THE HOLE(S) OR BED SHALL BE FILLED IN AND RESTORED TO MATCH THE CONDITION AND VEGETATION OF THE ADJACENT AREA.
9. IMPROPERLY PRUNED PLANTINGS WILL BE REJECTED AND REPLACEMENTS WILL IMMEDIATELY BE MADE BY THE CONTRACTOR.
10. THE SIDES OF ALL PLANT PITS SHALL BE LOOSENED TO DISJOIN ANY GLAZING WHICH MAY OCCUR DURING THE DIGGING OPERATION.
11. TREE WRAPPING SHALL EXTEND TO THE LOWEST MAJOR BRANCH.
12. TOP OF ROOTBALL SHALL BE APPROXIMATELY 2 INCHES ABOVE ADJACENT FINISHED GRADE.
13. SHRUB PLANTINGS:
 - A. UNLESS NOTED OTHERWISE, ALL SHRUBS SHALL BE PLANTED IN MULCHED BEDS. THE EDGE OF THE MULCH BED SHALL EXTEND A MINIMUM OF THREE (3) FEET BEYOND THE CENTERS OF THE PERIPHERAL PLANTS IN THE BED.
 - B. THE EDGE OF A MULCH BED FOR SHRUB PLANTINGS ADJACENT TO A WALL, FENCE, GUARDRAIL OR OTHER FIXED OBJECT SHALL EXTEND TO THE OBJECT. THE PERIPHERAL PLANTS IN THE BED SHALL NOT BE PLANTED WITHIN FIVE (5) FEET OF THE OBJECT.
 - C. WHEN A TREE IS LOCATED IN A SHRUB BED, THE MINIMUM DISTANCE BETWEEN THE TREE AND THE ADJACENT SHRUBS SHALL BE SIX (6) FEET.
14. THE CONTRACTOR SHALL RESTORE ALL AREAS, OBJECTS AND VEGETATION DISTURBED BY THE LANDSCAPE OPERATIONS TO ORIGINAL CONDITIONS.
15. STAKES, GUYWIRES AND ALL TREE SUPPORTS SHALL BE REMOVED AFTER ONE YEAR OR AS DIRECTED BY THE ENGINEER.
16. REMOVE ALL TWINE, ROPE, WIRE AND BURLAP FROM TOP HALF OF ROOTBALL. THE LOWER HALF OF BURLAP SHALL BE FOLDED TOWARD THE BOTTOM OF THE ROOTBALL.



EVERGREEN TREE PLANTING DETAIL



STEEP SLOPE PLANTING DETAIL



SHRUB PLANTING DETAIL

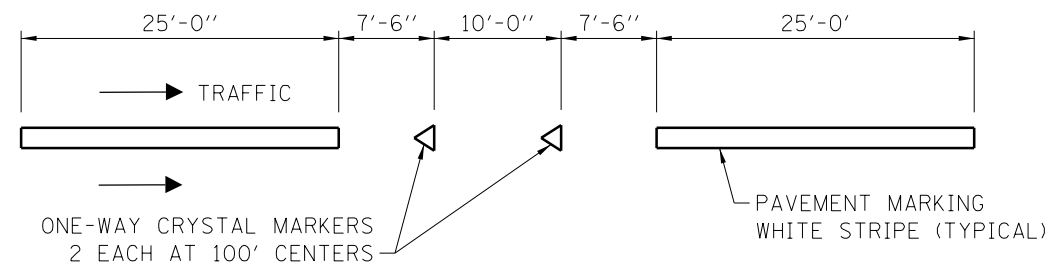
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
02-07-12	REVISED POST BRACING DETAIL
03-31-16	REVISED MULCH LAYER THICKNESS AND PLANTING NOTES

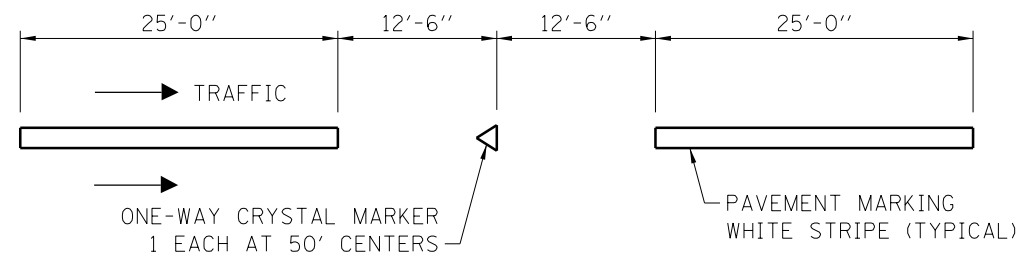
Illinois Tollway

LANDSCAPE PLANTING
DETAILS

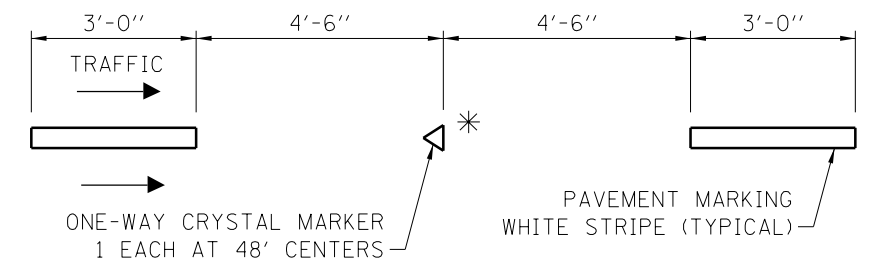
STANDARD D7-02



DETAIL A

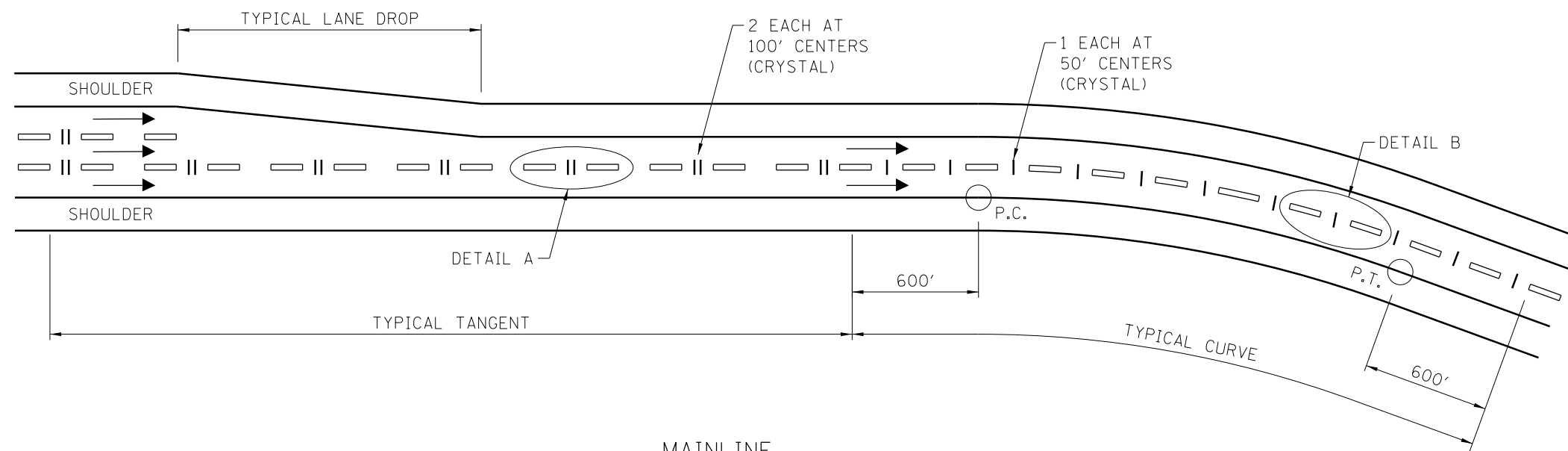


DETAIL B



* MARKER TO BE INSTALLED WHEN LENGTHS OF AUXILIARY LANES ARE GREATER THAN 1000'.

DETAIL C



MAINLINE

RAISED PAVEMENT LANE MARKER DETAILS

NOTES:

1. FOR COLLECTOR-DISTRIBUTOR (C-D) ROADWAYS, PLACE ONE-WAY CRYSTAL MARKER, 2 EACH AT 100' CENTERS. USE DETAIL A.
2. FOR MULTI LANE DIRECTIONAL RAMPS, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 50' CENTERS. USE DETAIL B.
3. FOR AUXILIARY LANES, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 48' CENTERS. USE DETAIL C.

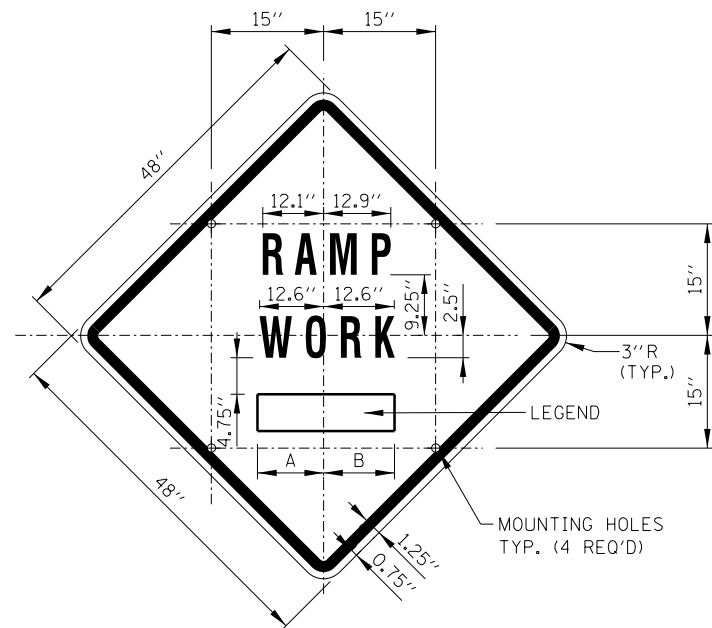
APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 7-1-2009

DATE	REVISIONS
11-01-2012	REVISED DETAIL C.
3-31-2016	REVISED NOTES 1.



RAISED PAVEMENT LANE MARKER

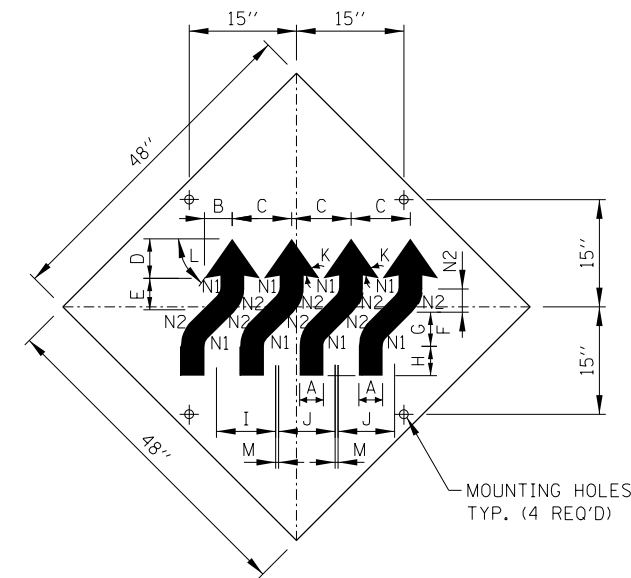
STANDARD D8-02



SIGN TS-2 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND SYMBOL - BLACK
 SIZE: 48"x48"
 LETTERING: 7" FEDERAL SERIES D
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN

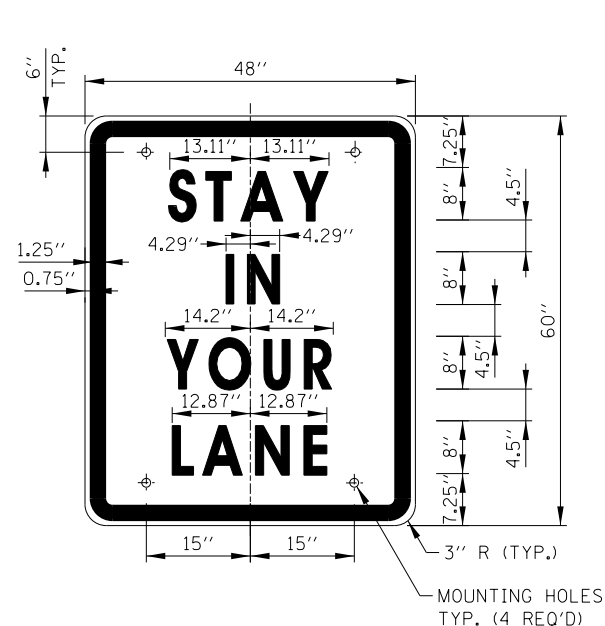
SIGN NO.	LEGEND	A	B
TS-2A	AHEAD	15.50"	15.50"
TS-2B	500 FT	14.25"	15.13"
TS-2C	1000 FT	14.88" L2	15.75" L2
TS-2D	1500 FT	14.88" L2	15.75" L2
TS-2E	1/2 MILE	15.75" L3	15.75" L3
TS-2F	1 MILE	13.06"	13.06"



SIGN W1-4dR (O)

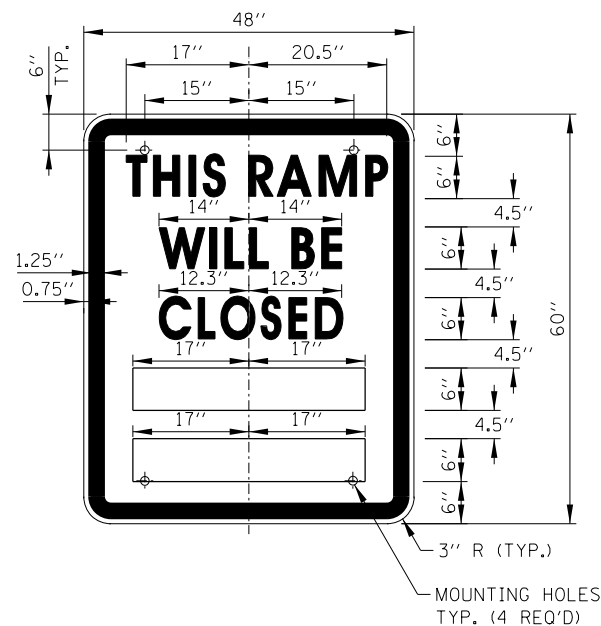
COLOR: BACKGROUND-FLUORESCENT ORANGE (O)
 TYPE A REFLECTIVE SHEETING PER STANDARD SPECIFICATIONS (*A)
 BORDER AND LETTERS-BLACK
 SIZE: 48"x48"
 MOUNTING HOLES: 7/16" DIA., 4 HOLES SPACED AS SHOWN.

A	4 1/2"
B	5 3/4"
C	12 1/2"
D	7 3/4"
E	6 1/2"
F	4 1/2"
G	6 1/2"
H	6"
I	12 3/4"
J	12"
K	45°
L	55°
M	0 3/4"
N1	2"
N2	6 1/2"



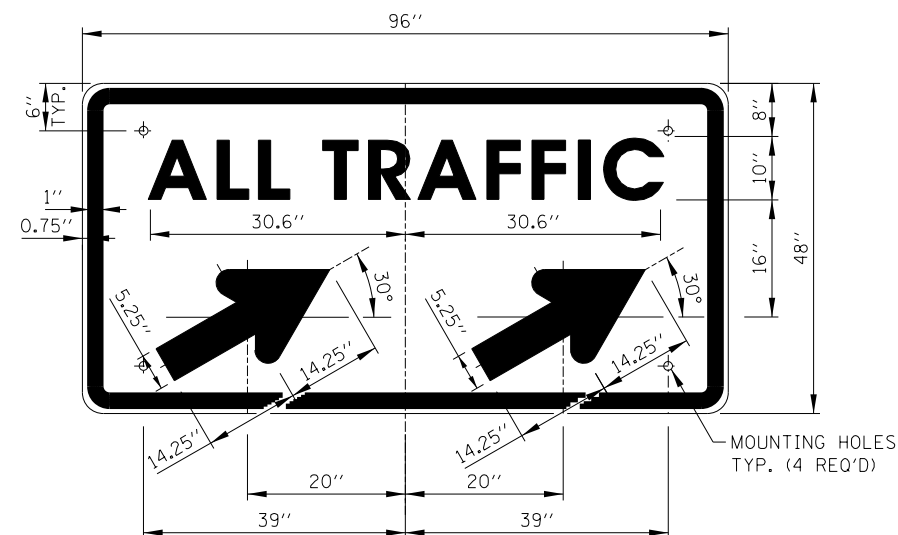
SIGN TS-3

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (*A)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x60"
 LETTERING: LEGEND - 8" FEDERAL SERIES D
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN



SIGN TS-4

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(*A)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x60"
 LETTERING: LEGEND - 6" FEDERAL SERIES C
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN



SIGN TS-5a & TS-5b

COLOR: BACKGROUND - WHITE (REFLECTORIZED)(*A)
 BORDER AND LETTERS - BLACK
 ARROW - BLACK
 SIZE: 96"x48"
 LETTERING: 10" FEDERAL SERIES D
 MOUNTING HOLES: 7/16" DIA., 4 HOLES, SPACED AS SHOWN
 NOTE: SIGN TS-5a IS SHOWN, SUBSTITUTE LEGEND "▲" FOR "▲" FOR SIGN TS-5b

NOTES:

- ALL LETTERING IS DESIGNATED BY SIZE AND SERIES IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. LETTERING SPACING SHALL BE IN ACCORDANCE WITH THIS GUIDE EXCEPT WHERE NOTED.
- SYMBOLS AND ARROWS SHALL CONFORM TO THE DETAILS SHOWN IN THE LATEST EDITION OF "STANDARD HIGHWAY SIGNS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
- SEE THE CONTRACT REQUIREMENTS FOR ADDITIONAL NOTES AND SPECIFICATIONS.
 (O) FLUORESCENT ORANGE REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.
 (*A) - REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.
- DIMENSIONS INDICATED THUS L ARE BASED ON A REDUCTION IN STANDARD LETTERING SPACING AS SHOWN BELOW:
 L1 SPACING REDUCED BY 25%
 L2 SPACING REDUCED BY 40%
 L3 SPACING REDUCED BY 50%

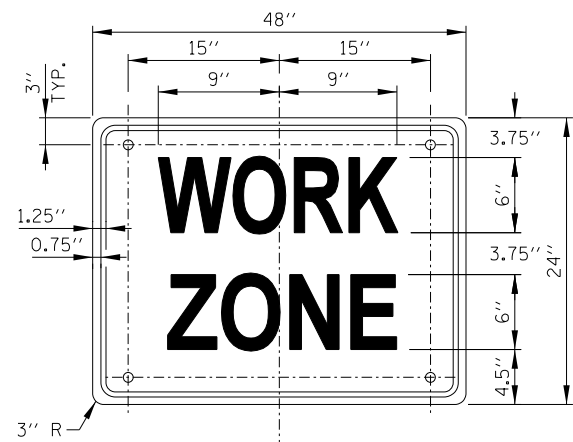
RAMP CLOSURE ADVANCE INFORMATION SIGN

THE VARIABLE MESSAGE WITH DATES FOR THE BOTTOM TWO LINES SHALL BE DETERMINED BY THE ENGINEER AND GIVEN TO THE CONTRACTOR BEFORE THE REQUIRED FIELD ERECTION DATE.

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 5-1-2009

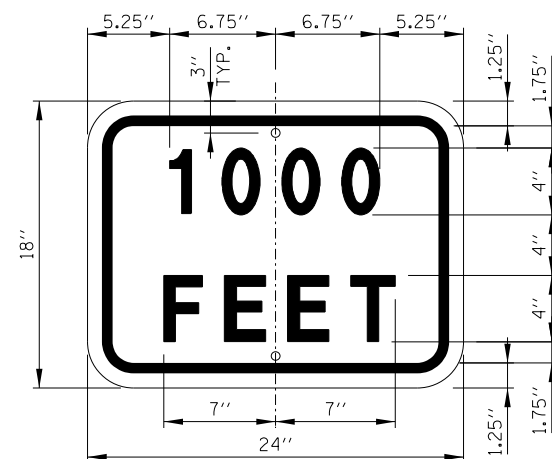


DATE	REVISIONS
05-01-09	DELETED FLASHING ARROW BOARDS
01-01-11	ADDED SIGN COLOR DESIGNATION
11-01-12	DELETED SIGN TS-1
03-31-14	REVISED FINE SIGN NUMBER AND ADDED LED SPEED LIMIT DISPLAY
3-11-2015	REVISED NOTES



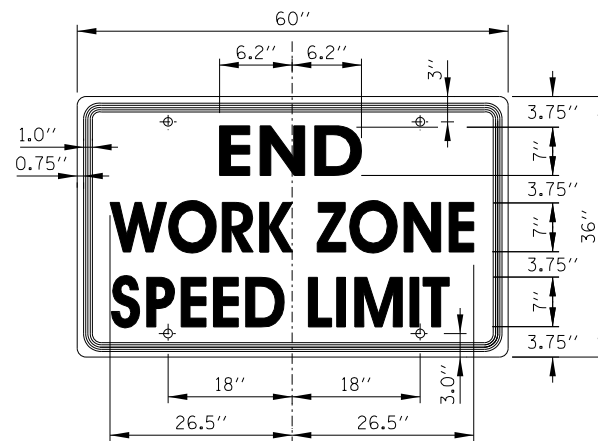
SIGN G20-I102 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x24"
 LETTERING: 6" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



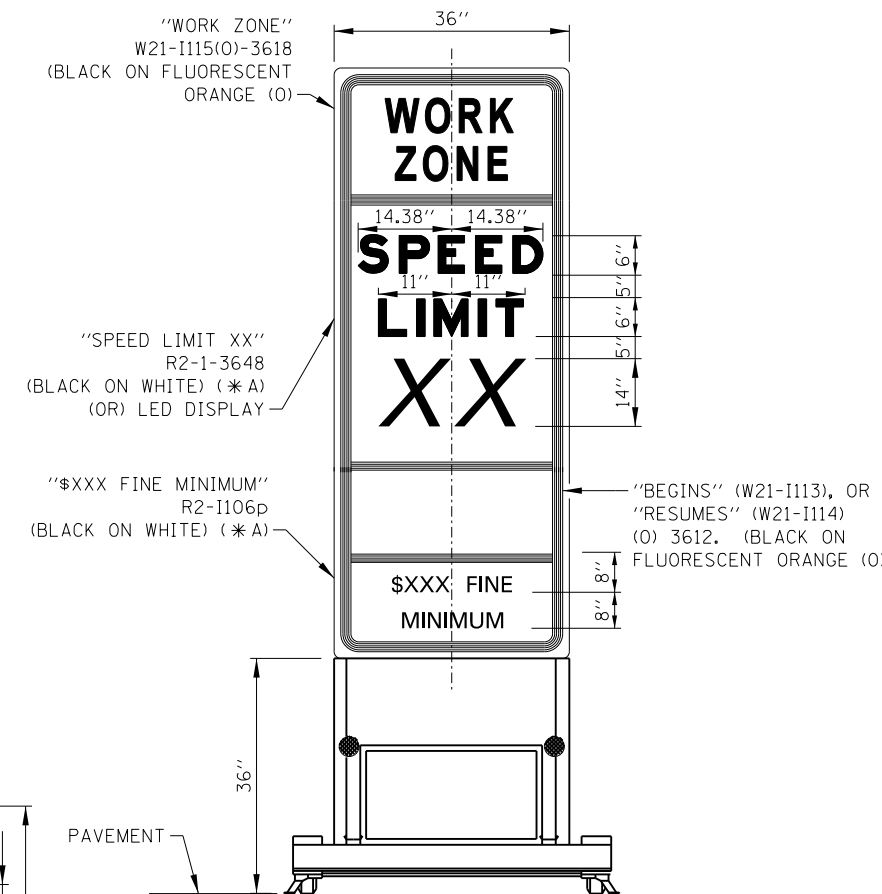
SUPPLEMENTAL PLATE (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 24"x18"
 LETTERING: 4" FEDERAL SERIES D
 MOUNTING HOLES: 1/16" DIA., 2 HOLES SPACED AS SHOWN



SIGN G20-I103 (O)

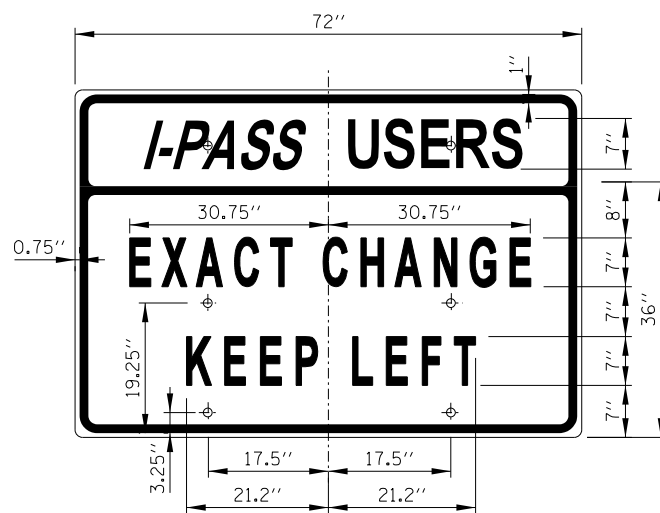
COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 60"x36"
 LETTERING: 6" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



WORK ZONE SPEED LIMIT SIGN ASSEMBLY

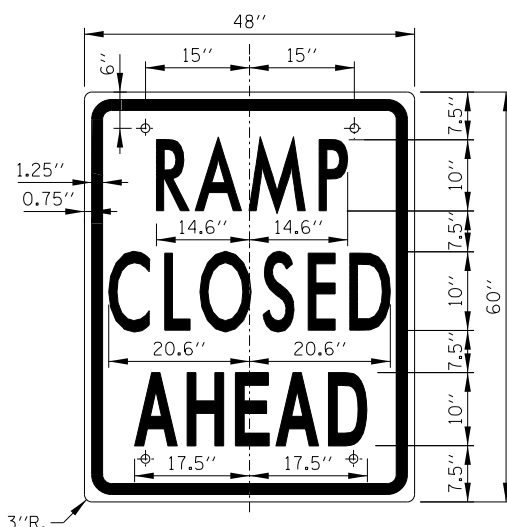
GENERAL NOTES:

- ALL LETTERING IS DESIGNATED BY SIZE AND SERIES IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. LETTERING SPACING SHALL BE IN ACCORDANCE WITH THIS GUIDE EXCEPT WHERE NOTED.
- SYMBOLS AND ARROWS SHALL CONFORM TO THE DETAILS SHOWN IN THE LATEST EDITION OF "STANDARD HIGHWAY SIGNS" AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
- SEE THE CONTRACT REQUIREMENTS FOR ADDITIONAL NOTES AND SPECIFICATIONS.
 (O) FLUORESCENT ORANGE REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.
 (* A) - REFLECTIVE SHEETING PER THE STANDARD SPECIFICATIONS.



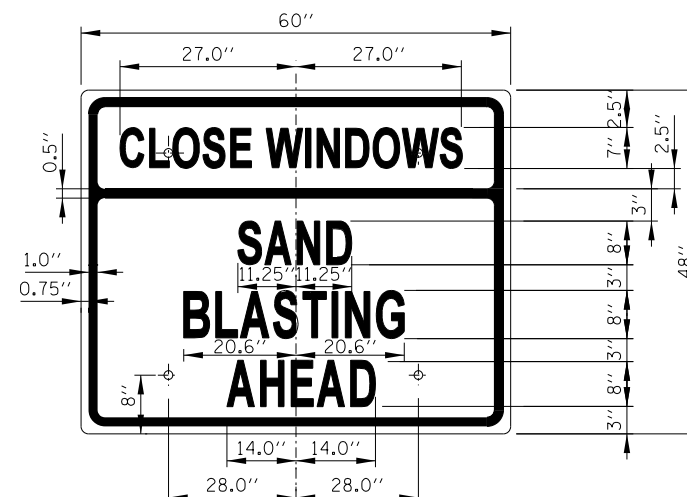
SIGN TS-7

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (* A)
 BORDER AND LETTERS - BLACK
 SIZE: 72"x36"
 LETTERING: 7" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



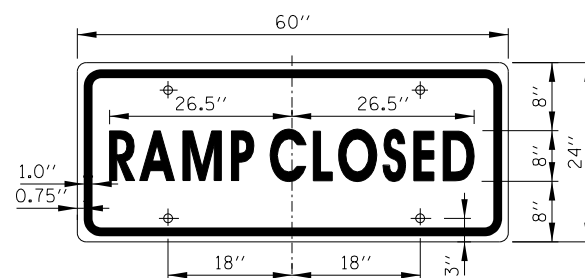
SIGN TS-9

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (* A)
 BORDER AND LETTERS - BLACK
 SIZE: 48"x60"
 LETTERING: 10" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



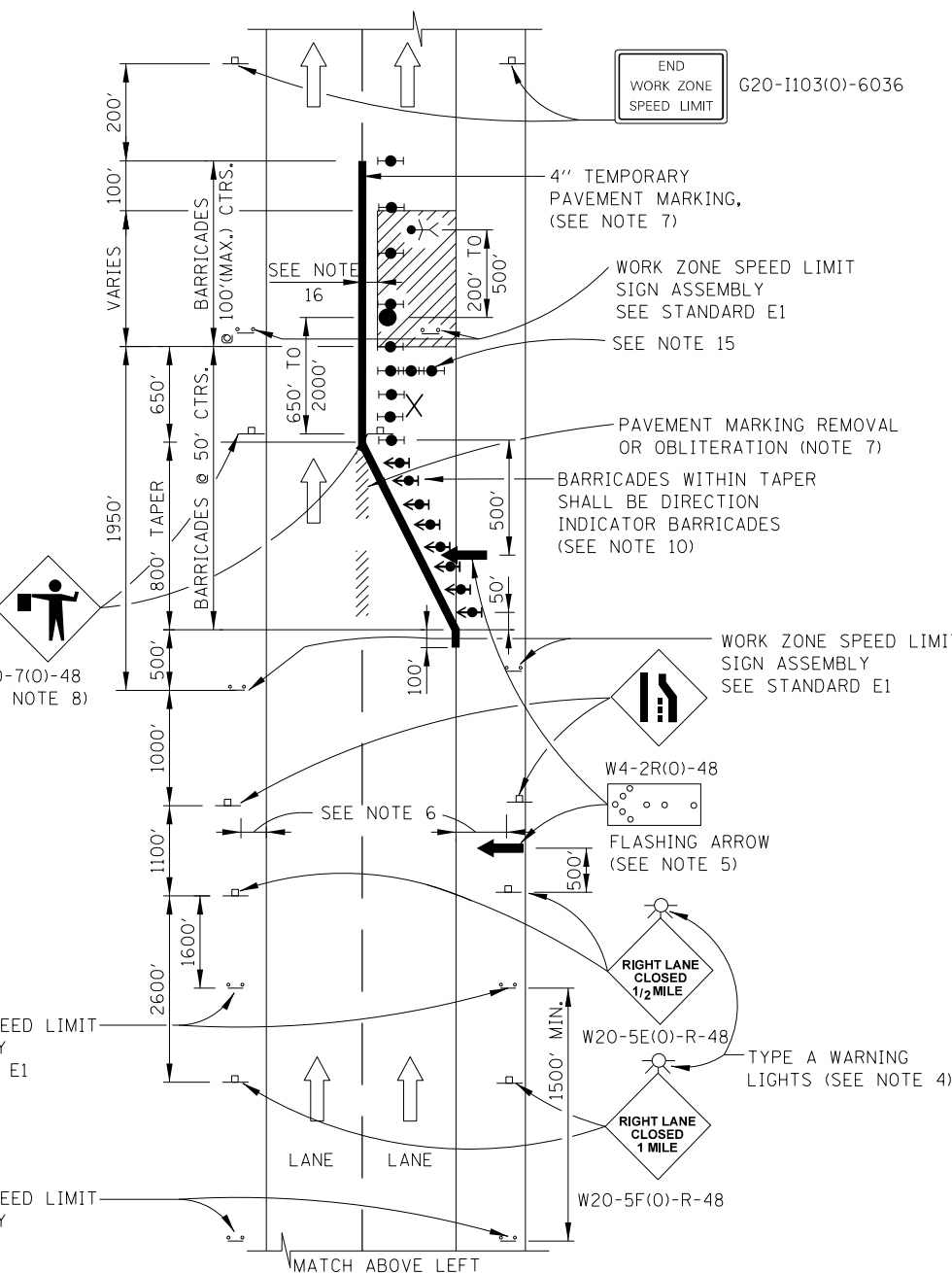
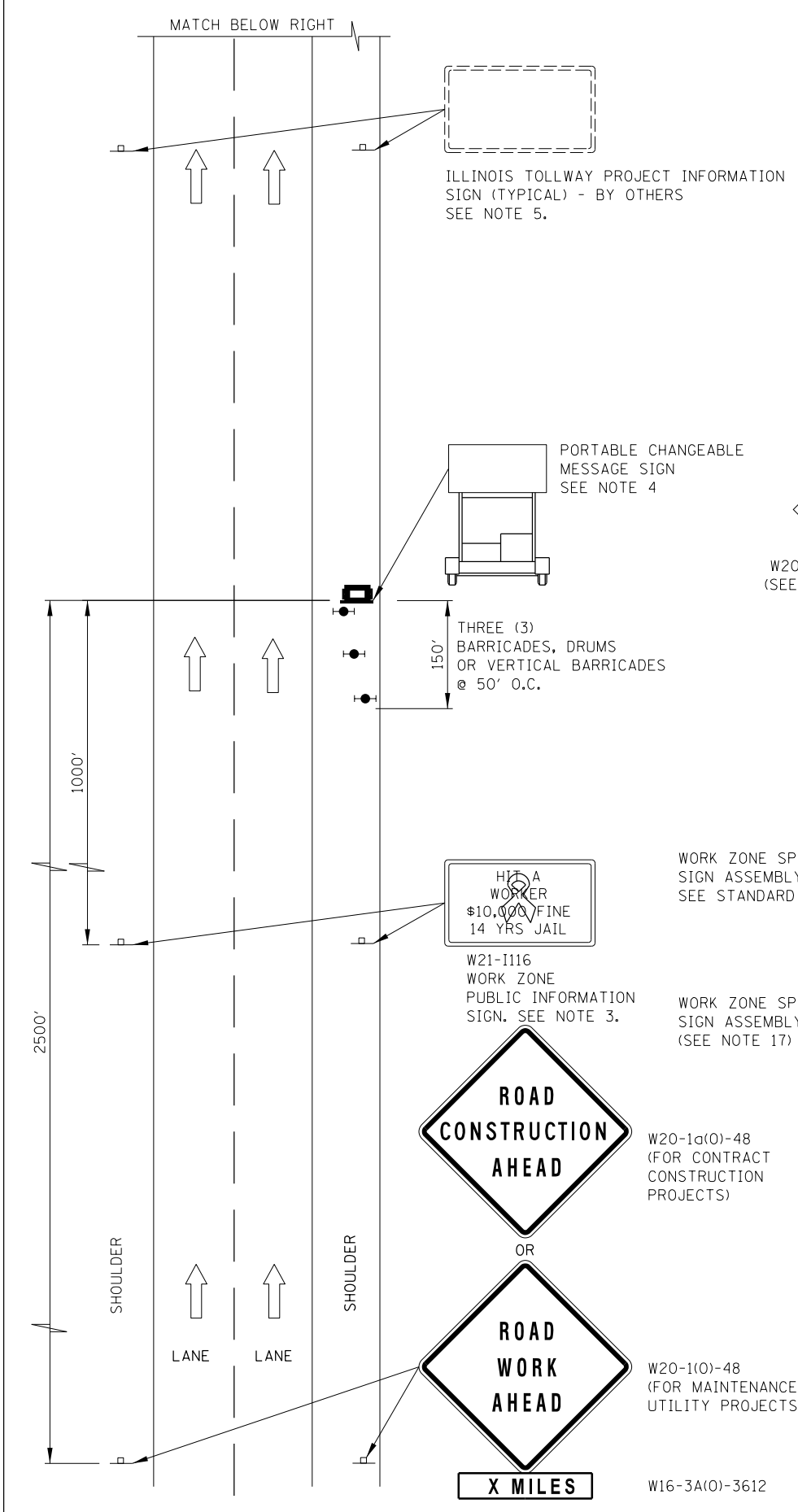
SIGN TS-10 (O)

COLOR: BACKGROUND - FLUORESCENT ORANGE (O)
 BORDER AND LETTERS - BLACK
 SIZE: 60"x48"
 LETTERING: 8" FEDERAL SERIES C, 7" FEDERAL SERIES B
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



SIGN TS-6

COLOR: BACKGROUND - WHITE (REFLECTORIZED) (* A)
 BORDER AND LETTERS - BLACK
 SIZE: 60"x24"
 LETTERING: 8" FEDERAL SERIES C
 MOUNTING HOLES: 1/16" DIA., 4 HOLES SPACED AS SHOWN



ONE-LANE CLOSURE WITH BARRICADE

ADVANCE SIGNING NOTES:

1. THE ADVANCE SIGNING SHOWN ON THIS STANDARD SHALL APPLY ANY TIME THE CONTRACTOR CLOSES ONE OR MORE LANES, OR IS REQUIRED TO SHIFT THE LANE ALIGNMENT. THE "ROAD WORK AHEAD" OR "ROAD CONSTRUCTION AHEAD" SIGNS, WORK ZONE PUBLIC INFORMATION SIGNS AND PORTABLE CHANGEABLE MESSAGE ARE STATIONARY.
2. THE ROAD CONSTRUCTION AHEAD SIGN (W20-1A, WITH W16-3a SUPPLEMENTAL PLATE) OR ROAD WORK AHEAD SIGN (W20-1, WITH W16-3A SUPPLEMENTAL PLATE) SHALL BE LOCATED UP TO 5 MILES IN ADVANCE OF THE PROJECT LIMITS, WITH THE LOCATION BEING DETERMINED BY THE ENGINEER.
3. THE WORK ZONE PUBLIC INFORMATION SIGN IS 60" WIDE BY 48" HIGH. THE CONTRACTOR SHALL OBTAIN THE CAMERA-READY ARTWORK REQUIRED FOR THE SIGN MESSAGE BY CONTACTING IDOT'S CENTRAL BUREAU OF OPERATIONS.
4. THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE USED TO DISPLAY THE STATUS OF LANE WITHIN THE CONTRACT LIMITS. THE PRIMARY MESSAGES SHALL BE: "RIGHT LANE(S) CLOSED" / "X MILES AHEAD", "LEFT LANE(S) CLOSED" / "X MILES AHEAD", "LANE(S) SHIFT" / "X MILES AHEAD", "ALL LANES OPEN". THE PORTABLE CHANGEABLE MESSAGE SIGN MAY BE MOVED TO THE MEDIAN SHOULDER WHEN THE LANE CLOSURES ARE ON THE LEFT, PROVIDED THE EXISTING SHOULDER WIDTH IS ADEQUATE.
5. THE ILLINOIS TOLLWAY WILL FURNISH AND INSTALL STATIC PROJECT INFORMATION SIGNS IN ADVANCE, THROUGH AND AT THE END OF THE WORK ZONE. THESE SIGNS WILL BE INSTALLED ALONG THE OUTSIDE SHOULDER WITH THE ADVANCE SIGNS LOCATED BEYOND THE PORTABLE CHANGEABLE MESSAGE SIGN. THE ENGINEER AND CONTRACTOR SHALL COORDINATE WITH THE ILLINOIS TOLLWAY REGARDING THE LOCATION OF THESE SIGNS AND NOTIFY THE ILLINOIS TOLLWAY OF ANY DAMAGE TO THE SIGNS OR SUPPORTS.

LANE CLOSURE NOTES:

1. IF CLOSURES ARE EXPECTED TO PRODUCE TRAFFIC BACKUPS EXTENDING BEYOND THE FIRST WARNING SIGN SHOWN ON THE DETAILS, ADDITIONAL UPSTREAM SIGNS SHALL BE PLACED SO THAT THE TRAFFIC CONTROL ZONE ENCOMPASSES THE ANTICIPATED BACKUP ZONE.
2. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
3. THESE DETAILS ALSO APPLY TO OPPOSITE HAND LANE CLOSURES BY CHANGING SIGN LEGENDS AND ARROW DIRECTIONS TO INDICATE THE APPROPRIATE CLOSURE.
4. FOR NIGHT TIME CLOSURES, ONE TYPE A WARNING LIGHT SHALL BE INSTALLED ABOVE EACH OF THE 1 MILE AND 1/2 MILE ADVANCE WARNING SIGNS. FOR DAYLIGHT-ONLY CLOSURES, THE LIGHTS MAY BE OMITTED.
5. FOR ANY LANE CLOSURE, FLASHING ARROW BOARDS SHALL BE REQUIRED AND IN OPERATION AT ALL TIMES. THE FLASHING ARROW BOARD IN ADVANCE OF THE TAPER SHALL BE PROTECTED WITH THREE TYPE II BARRICADES AT 50' O.C.
6. CONSTRUCTION SIGNS SHALL GENERALLY BE POST-MOUNTED OR ATTACHED TO PORTABLE SUPPORTS AND SHALL BE INSTALLED 8' TO 12' FROM ADJACENT TRAVEL LANE WHEREVER POSSIBLE. IN NO CASE SHALL SIGNS BE LOCATED TO PROVIDE LESS THAN 2' CLEARANCE BETWEEN EDGE OF SIGN AND ADJACENT TRAVEL LANE.
7. PAVEMENT MARKING TAPE AND REMOVAL OR OBLITERATION OF EXISTING MARKINGS SHALL BE REQUIRED WHEN THE CLOSURE TIME EXCEEDS FOUR DAYS. THIS WORK SHALL BE MEASURED AND PAID FOR SEPARATELY.
8. WHEN A FLAGGER IS NOT ON STATION, THE FLAGGER SIGN SHALL BE PROMPTLY REMOVED, COVERED OR TURNED TO FACE AWAY FROM TRAFFIC. FLAGGER SIGNS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED SPACING BETWEEN THE SIGNS AND THE WORKERS IN EACH SEPARATE WORK ACTIVITY, PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
9. WORK ZONE SPEED LIMIT SIGN ASSEMBLIES, SHALL BE PLACED ADJACENT TO THE OPEN TRAFFIC LANE(S). WORK ZONE SPEED SIGNS SHALL BE MOVED AS NECESSARY TO MAINTAIN THE REQUIRED SPACING BETWEEN SIGNS AND THE WORKERS IN EACH SEPARATE WORK ACTIVITY PER THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
10. DIRECTION INDICATOR BARRICADES SHALL BE USED IN LANE TAPERS.
11. FOR CLOSURES OTHER THAN SHORT TERM (SUNRISE TO ONE HOUR BEFORE SUNSET), THE MINIMUM HEIGHT OF THE SIGN FROM SHOULDER ELEVATION SHALL BE 7'-0".
12. CONES MAY BE USED IN LIEU OF BARRICADES IN THE BUFFER AND WORK AREAS, WHEN THE CLOSURE IS FOR MAINTENANCE OPERATIONS.
13. BARRICADES ARE TO BE LOCATED AT JOINT LINE WHEN WORK AREA EXTENDS UP TO JOINT UNLESS OTHERWISE SHOWN ON THE PLANS.
14. SEE MAINTENANCE OF TRAFFIC DRAWINGS FOR ADDITIONAL SIGNING IN THIS AREA.
15. CHECK BARRICADES SHALL BE PLACED IN THE MIDDLE OF THE CLOSED LANE AND AT THE SHOULDER AT 1000 FOOT CENTERS.
16. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.
17. ADDITIONAL WORK ZONE SPEED LIMIT SIGNS SHALL BE PLACED WHEN DIFFERENCE BETWEEN POSTED TO WORK ZONE SPEED LIMIT IS > 20 M.P.H.

SYMBOLS

- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- WORKER
- LANE CLOSED



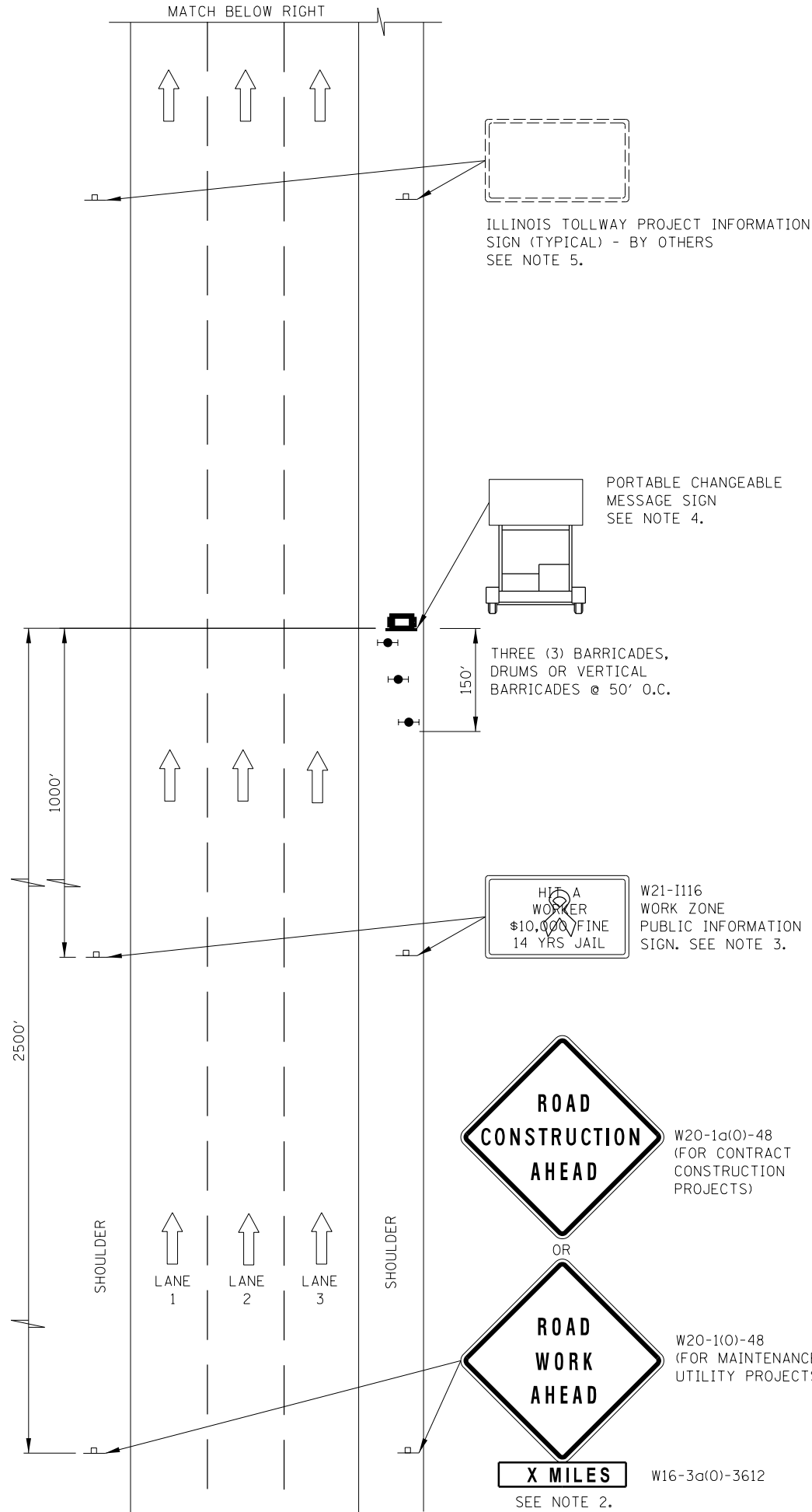
DATE	REVISIONS
11-01-12	ADDED THREE LANE CLOSURE
03-31-14	REVISED BUFFER SPACE, TAPER DIMENSIONS AND REVISED NOTES.
3-11-2015	REVISED NOTES.
3-31-2016	ADDED LANE CLOSURE WITH BARRIER AND ADDED SEQUENTIAL FLASHING WARNING LIGHT.

LANE CLOSURE DETAILS









STANDARD E2-06

APPROVED: *Paul Kovacs*
 CHIEF ENGINEER DATE 5-1-2009

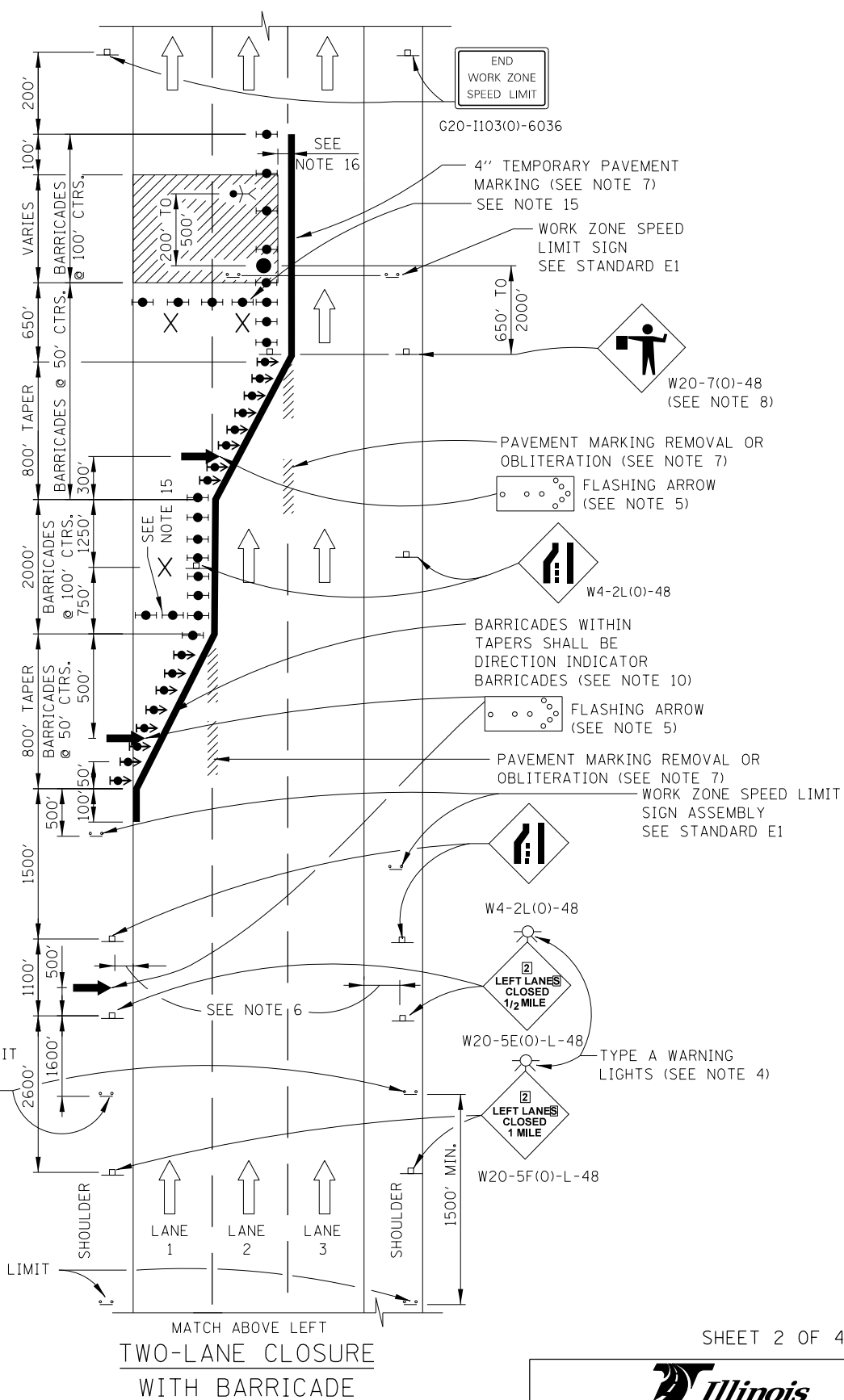
MATCH BELOW RIGHT



SYMBOLS

-  ARROW BOARD
-  WORK AREA
-  SIGN
-  DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
-  TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
-  FLAGGER WITH TRAFFIC CONTROL SIGN
-  WORKER
-  LANE CLOSED

Paul Kovacs
 APPROVED... CHIEF ENGINEER... DATE 5-1-2009



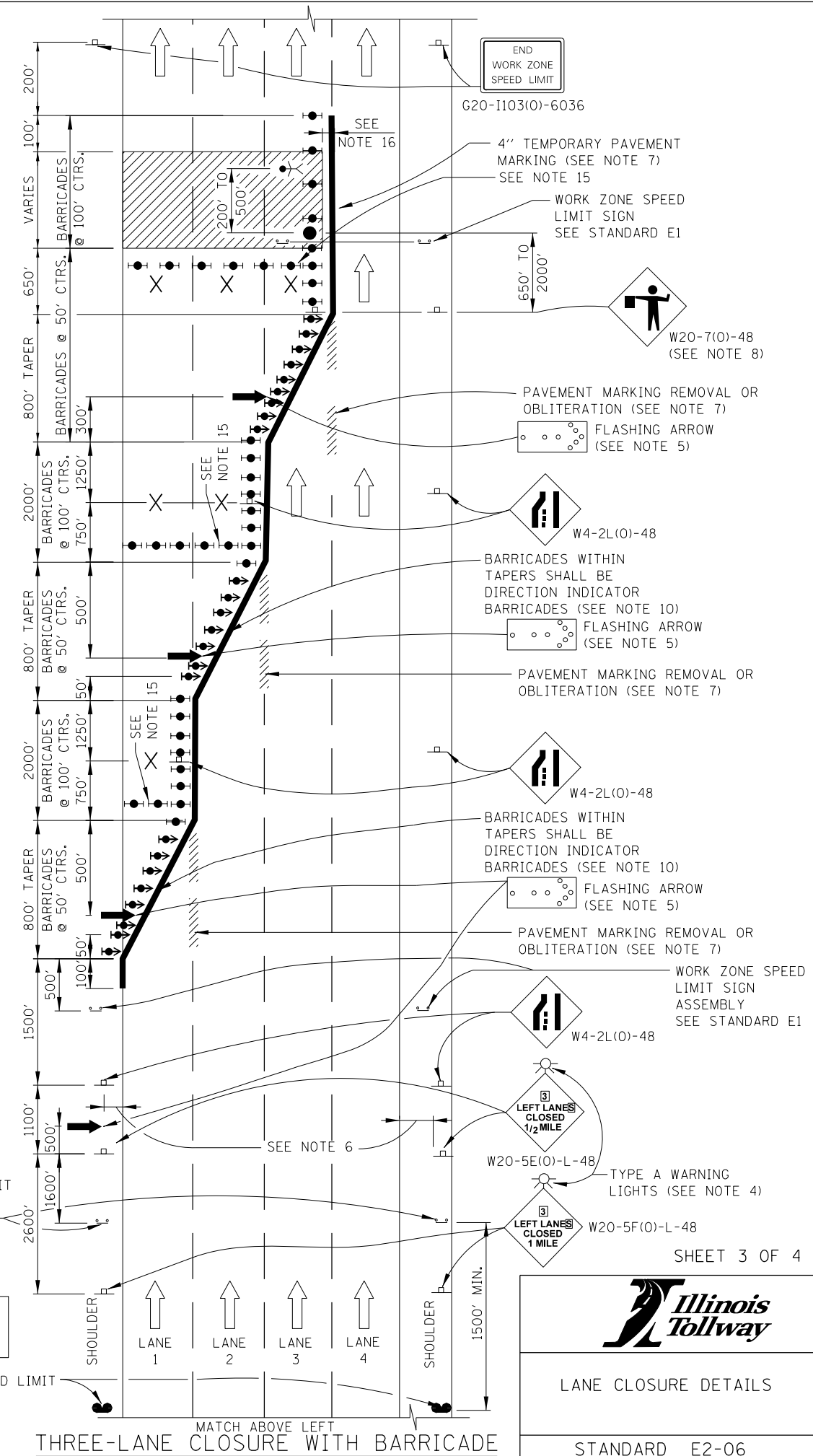
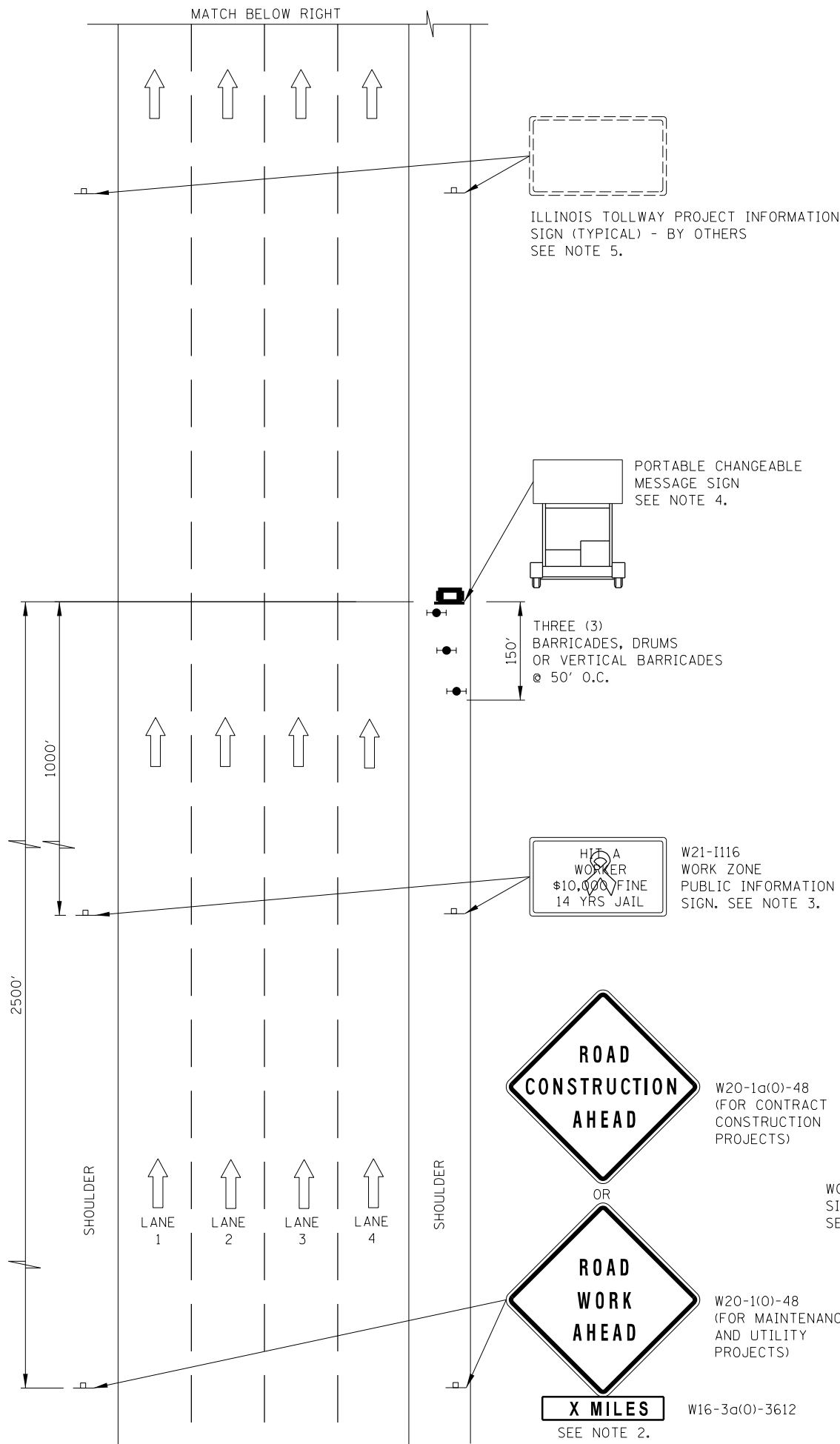
SHEET 2 OF 4



LANE CLOSURE DETAILS

STANDARD E2-06

SEE SHEET 1 IN THIS SERIES FOR GENERAL NOTES



SYMBOLS

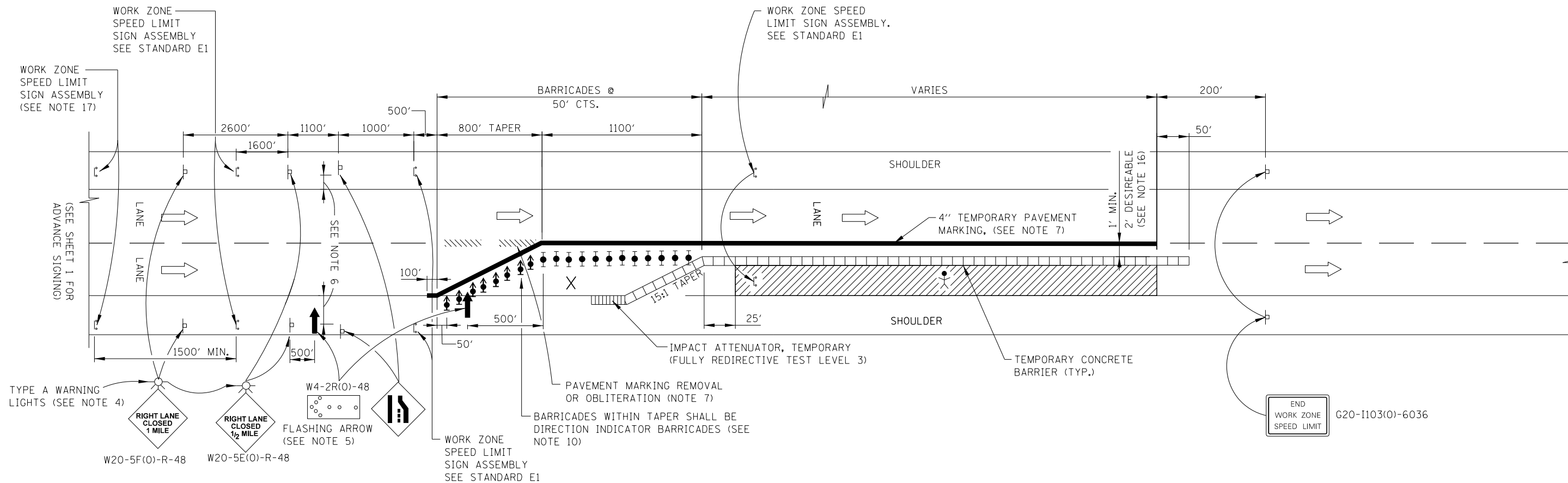
- ARROW BOARD
- WORK AREA
- SIGN
- DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
- TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- FLAGGER WITH TRAFFIC CONTROL SIGN
- WORKER
- LANE CLOSED

Paul Kovacs
 APPROVED... CHIEF ENGINEER... DATE 5-1-2009

SHEET 3 OF 4

LANE CLOSURE DETAILS

STANDARD E2-06



ONE-LANE CLOSURE WITH BARRIER

- SYMBOLS**
- ARROW BOARD
 - WORK AREA
 - SIGN
 - PORTABLE CHANGEABLE MESSAGE SIGN
 - DIRECTION INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHT
 - TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
 - WORKER
 - LANE CLOSED

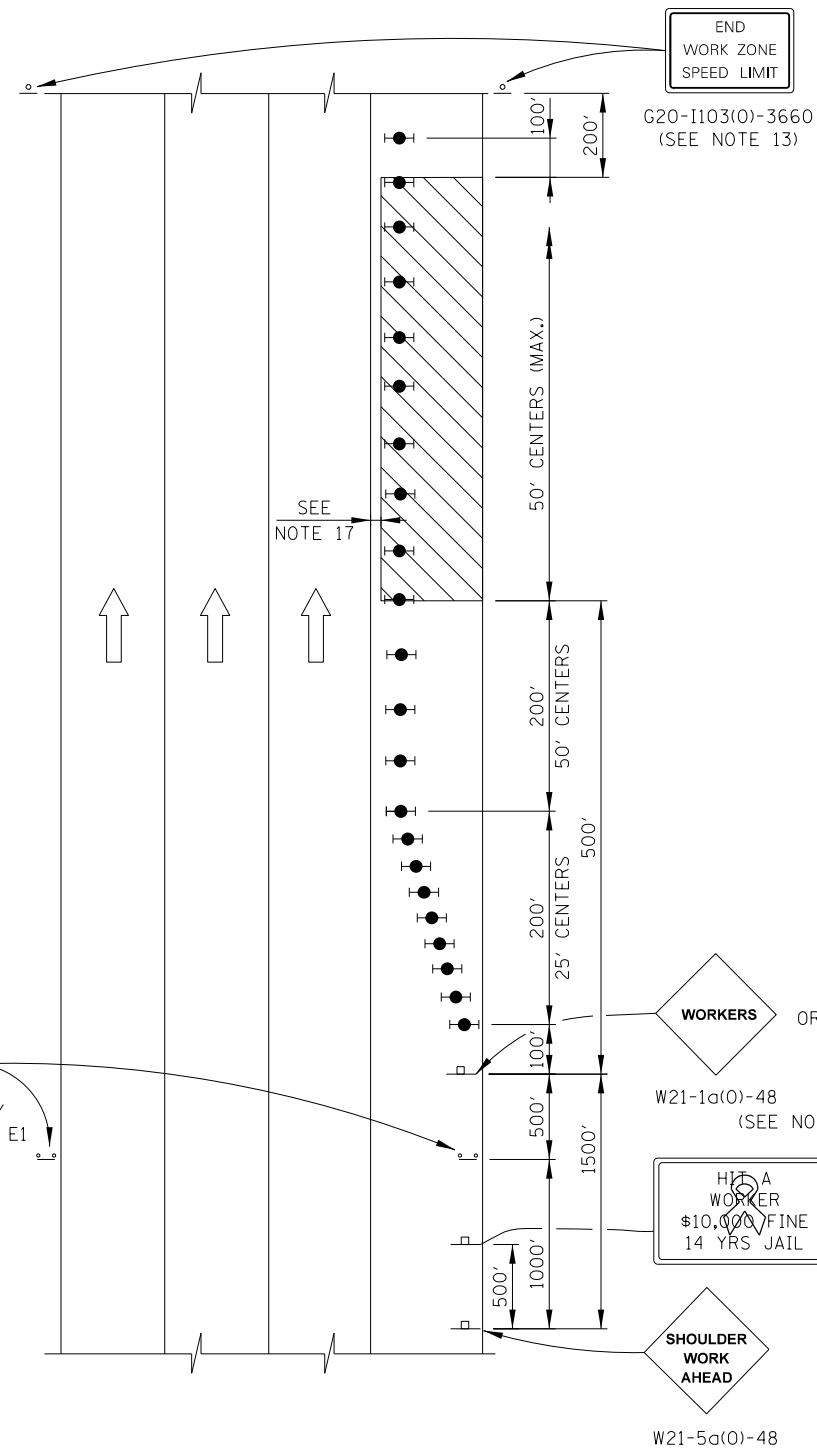
NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.



APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 3-31-2016

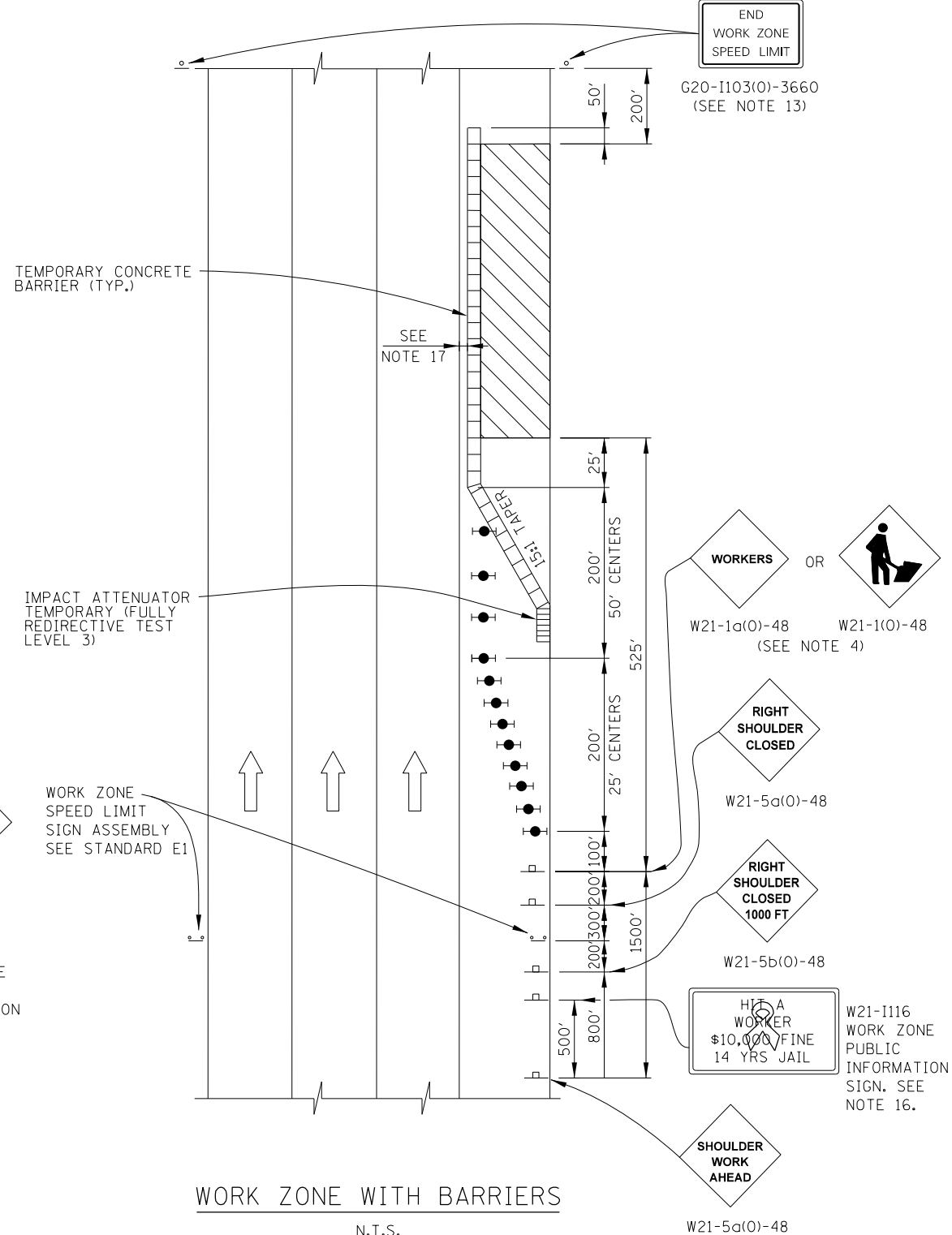
GENERAL NOTES:

1. THE SHOULDER SHALL BE CLOSED WHEN A WORK ACTIVITY REQUIRING 15 OR MORE MINUTES IS PERFORMED AT A DISTANCE WHICH IS LESS THAN 15 FEET BUT NO CLOSER THAN 2 FEET FROM THE EDGE OF PAVEMENT.
2. THE ADJACENT EXTERIOR LANE SHALL BE CLOSED WHEN WORK IS PERFORMED WITHIN 2 FEET FROM THE EDGE OF PAVEMENT.
3. THE CHANNELIZING DEVICES WHICH SEPARATE THE WORK SPACE FROM THE ADJACENT TRAVEL LANE SHALL BE SPACED AT 25' FOR (200 FEET) AND AT A MAXIMUM OF 50' FOR ALL ADDITIONAL DEVICES.
4. WHEN THE WORKSITE IS UNATTENDED, SUBSTITUTE - "SHOULDER WORK AHEAD" SIGN FOR THE SECOND SIGN.
5. WORKER SIGNS OR SHOULDER WORK SIGNS AND CHANNELIZATION DEVICES ARE PLACED ONLY ON THE SIDE OF THE ROADWAY ON WHICH THE ACTIVITY IS PERFORMED.
6. FOR SHOULDER CLOSURE EXTENDING OVERNIGHT, BARRICADE TYPE II WITH STEADY BURNING LIGHT, TYPE C SHALL BE USED.
7. FOR SHORT TERM CLOSURE (SUNRISE TO ONE HOUR BEFORE SUNSET) NOT EXTENDING INTO DARKNESS, CONES MAY BE USED.
8. ONE WORK ZONE SPEED LIMIT SIGN ASSEMBLY SHALL BE PLACED AT A DISTANCE OF 500' TO 2,500' MAXIMUM IN ADVANCE OF WORKERS THROUGHOUT THE SHOULDER CLOSURE. MOVING OPERATIONS MAY REQUIRE CONTINUOUS ADJUSTMENT OF THE SIGN ASSEMBLY LOCATION TO MAINTAIN THE ABOVE INTERVAL.
9. AN ADDITIONAL SIGN ASSEMBLY SHALL BE PLACED 500' BEYOND THE LAST ENTRANCE RAMP FOR EACH INTERCHANGE THAT FALLS WITHIN THE 2,500'.
10. THE SIGN ASSEMBLY SHALL BE PLACED NO CLOSER THAN 500' TO ANY OTHER SIGN.
11. THE WORK ZONE SPEED LIMIT SIGNS AND SIGN ASSEMBLY SHALL BE PROMPTLY REMOVED OR COVERED WHEN SHOULDER CLOSURE IS NOT IN USE.
12. ALL CONFLICTING SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED.
13. "END WORK ZONE SPEED LIMIT" SIGNS SHALL BE IN PLACE ONLY WHEN THE EXISTING POSTED SPEED > 55MPH.
14. FOR SHOULDER REPAIRS OR REPLACEMENT THE CHANNELIZING DEVICES SHALL BE PLACED AT THE EDGE OF PAVEMENT WHENEVER THE WORK ACTIVITIES RESULT IN A DROPOFF AT THE EDGE OF PAVEMENT.
15. ANY UNATTENDED OBSTACLE OR EXCAVATION LEFT ON THE SHOULDER OVERNIGHT SHALL BE IN COMPLIANCE WITH THE ROADWAY TRAFFIC CONTROL AND COMMUNICATIONS MANUAL.
16. THE WORK ZONE PUBLIC INFORMATION SIGN IS 60" WIDE BY 48" HIGH. THE CONTRACTOR SHALL OBTAIN THE CAMERA-READY ARTWORK REQUIRED FOR THE SIGN MESSAGE BY CONTACTING IDOT'S CENTRAL BUREAU OF OPERATIONS.
17. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.



WORK ZONE WITH BARRICADES

N.T.S.



WORK ZONE WITH BARRIERS

N.T.S.

SYMBOLS

WORK AREA

SIGN

TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT

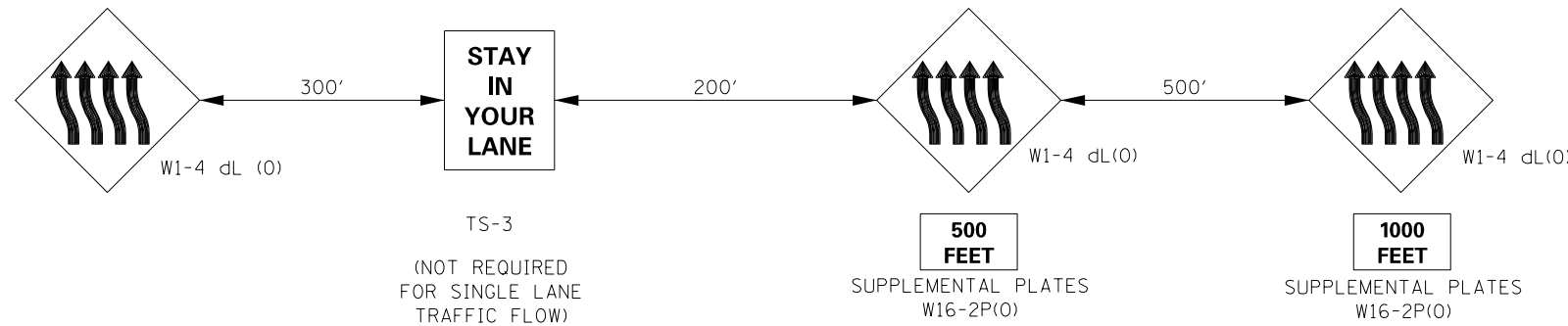
DATE	REVISIONS
1-01-11	CHANGED SYMBOL DESIGNATION
	REVISED NOTES
3-31-14	REVISED WORKER SIGN NUMBERS PER "MUTCD" AND REVISED NOTES.
3-11-2015	REVISED NOTES
3-31-2016	ADD WORK ZONE WITH BARRIERS.



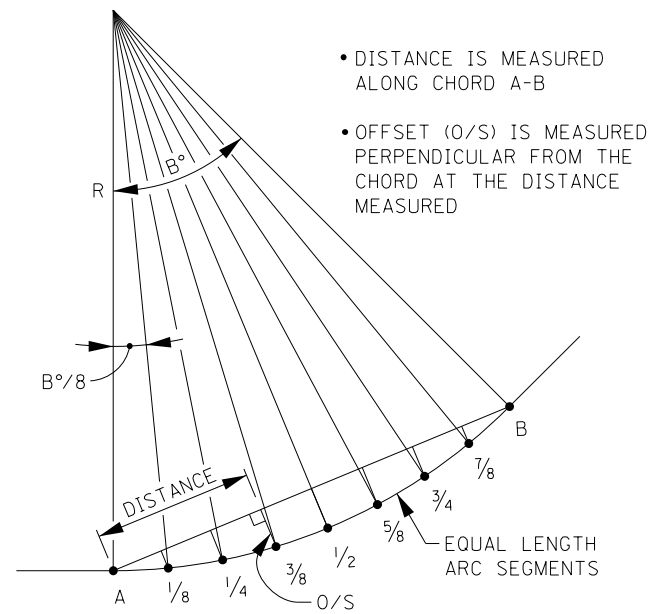
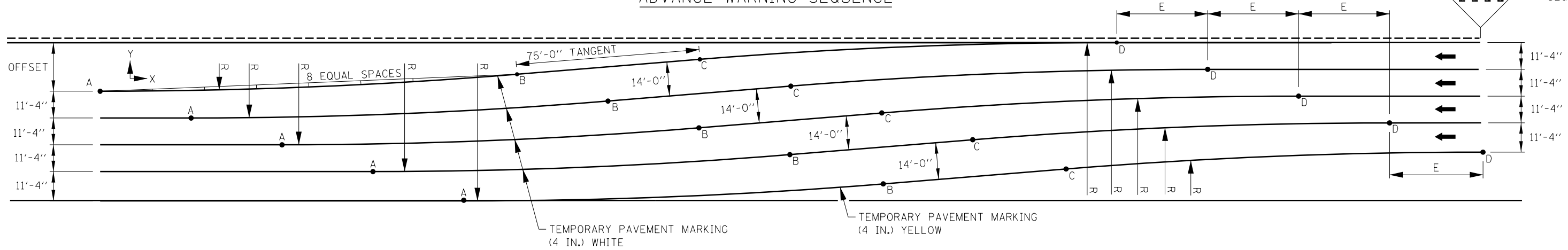
SHOULDER CLOSURE
DETAILS

STANDARD E3-05

Paul Kovacs
APPROVED..... CHIEF ENGINEER..... DATE 5-1-2009



ADVANCE WARNING SEQUENCE



CHORD OFFSET SKETCH

- DISTANCE IS MEASURED ALONG CHORD A-B
- OFFSET (O/S) IS MEASURED PERPENDICULAR FROM THE CHORD AT THE DISTANCE MEASURED

GENERAL NOTES:

1. REVERSE CURVE INFORMATION CAN BE USED FOR SINGLE LANE OR MULTILANE TRAFFIC FLOWS, SHIFTING RIGHT TO LEFT (AS SHOWN) OR LEFT TO RIGHT BY CHANGING TO THE APPROPRIATE ADVANCE WARNING SEQUENCE.
2. THE REVERSE CURVE SHALL NOT BE USED OUTSIDE THE ACTIVITY AREA. LANE SHIFTS IN ADVANCE OF OR ON THE APPROACH TO THE ACTIVITY AREA SHALL BE IMPLEMENTED WITH A SHIFT RATE OF 65:1.
3. LANE SHIFTS FOR DEPARTURES OUT OF THE ACTIVITY AREA SHALL BE IMPLEMENTED WITH A SHIFT RATE OF 65:1.

2-07-12 REVISED NOTES

DATE	REVISIONS
11-01-12	REVISED NOTES.
3-31-14	REVISED CURVE DATA PER MPH AND REVISED NOTES.
3-11-2015	REVISED NOTES AND ADDED RADIUS DIMENSIONS TO TABLES.
3-31-2016	REVISED TABLE DATA ON SHEET 2.



TYPE I (45 MPH) (RADIUS: 2100')

TYPE II (50-55 MPH) (RADIUS: 3100')

OFFSET	POINT LAY-OUT											
	E		B		A		B		C		D	
	X	Y	X	Y	X	Y	X	Y	X	Y		
10	50.23	3.06	0	0	112.2	3.0	187.1	7.0	299.2	10.0		
12	44.94	3.43	0	0	125.6	3.8	200.4	8.2	326.0	12.0		
14	40.96	3.77	0	0	138.0	4.5	212.8	9.5	350.8	14.0		
16	37.86	4.08	0	0	149.5	5.3	224.3	10.7	373.9	16.0		
18	35.34	4.38	0	0	160.4	6.1	235.2	11.9	395.6	18.0		
20	33.26	4.66	0	0	170.7	7.0	245.5	13.0	416.2	20.0		
22	31.50	4.93	0	0	180.5	7.8	255.3	14.2	435.8	22.0		
24	30.00	5.19	0	0	189.9	8.6	264.6	15.4	454.6	24.0		
26	28.68	5.44	0	0	199.0	9.4	273.6	16.6	472.6	26.0		
28	27.53	5.67	0	0	207.7	10.3	282.3	17.7	489.9	28.0		
30	26.51	5.90	0	0	216.0	11.1	290.6	18.9	506.7	30.0		
32	25.59	6.13	0	0	224.2	12.0	298.7	20.0	522.9	32.0		
34	24.76	6.34	0	0	232.0	12.9	306.6	21.1	538.6	34.0		
36	24.02	6.55	0	0	239.7	13.7	314.2	22.3	553.8	36.0		
38	23.33	6.76	0	0	247.1	14.6	321.6	23.4	568.7	38.0		
40	22.71	6.96	0	0	254.3	15.5	328.8	24.5	583.1	40.0		
42	22.13	7.15	0	0	261.4	16.3	335.8	25.7	597.2	42.0		
44	21.60	7.34	0	0	268.3	17.2	342.7	26.8	611.0	44.0		
46	21.11	7.53	0	0	275.0	18.1	349.4	27.9	624.4	46.0		
48	20.65	7.71	0	0	281.6	19.0	356.0	29.0	637.6	48.0		
50	20.22	7.89	0	0	288.1	19.9	362.4	30.1	650.5	50.0		
52	19.82	8.06	0	0	294.4	20.7	368.7	31.3	663.1	52.0		
54	19.44	8.23	0	0	300.6	21.6	374.9	32.4	675.5	54.0		
56	19.09	8.40	0	0	306.7	22.5	380.9	33.5	687.7	56.0		
58	18.76	8.56	0	0	312.7	23.4	386.9	34.6	699.6	58.0		
60	18.44	8.73	0	0	318.6	24.3	392.7	35.7	711.4	60.0		

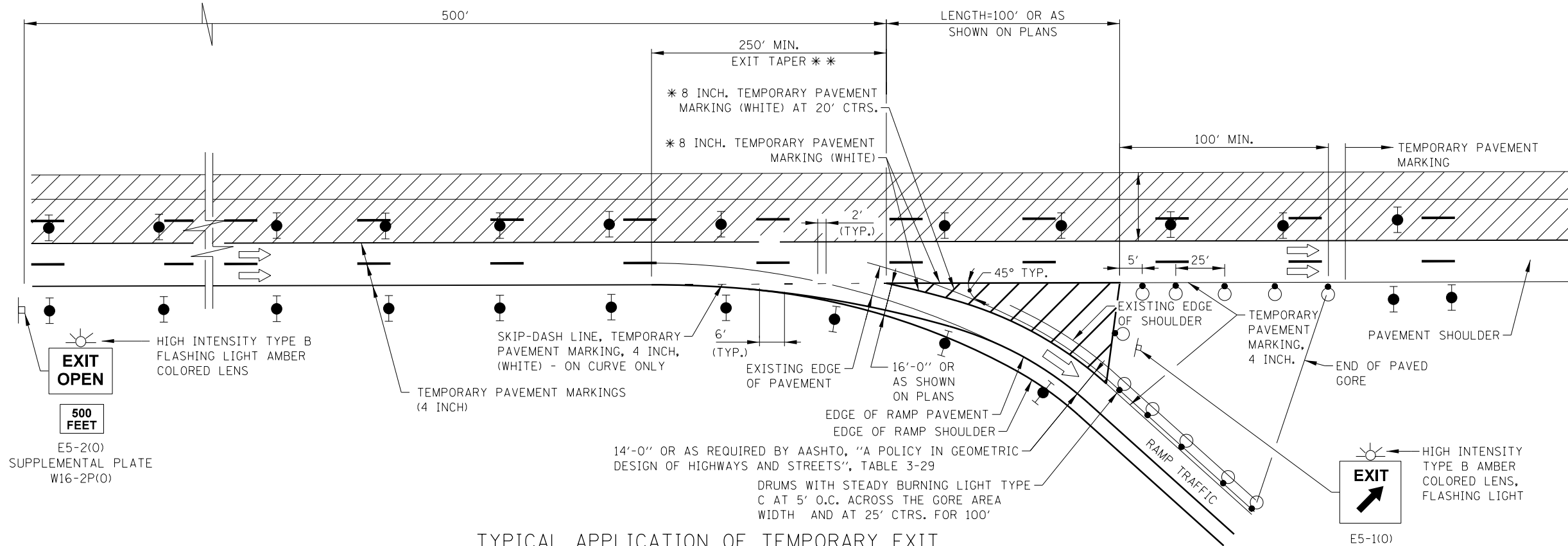
CHORD OFFSET DATA							
1/8 & 7/8		1/4 & 3/4		3/8 & 5/8		1/2	
O/S	DIST	O/S	DIST	O/S	DIST	O/S	DIST
0.3	14.0	0.6	28.0	0.7	42.1	0.7	56.1
0.4	15.7	0.7	31.4	0.9	47.1	0.9	62.8
0.5	17.3	0.9	34.5	1.1	51.8	1.1	69.0
0.6	18.7	1.0	37.4	1.2	56.1	1.3	74.8
0.7	20.1	1.2	40.1	1.4	60.2	1.5	80.3
0.8	21.4	1.3	42.7	1.6	64.1	1.7	85.4
0.9	22.6	1.5	45.2	1.8	67.8	1.9	90.4
0.9	23.8	1.6	47.5	2.0	71.3	2.2	95.1
1.0	24.9	1.8	49.8	2.2	74.7	2.4	99.6
1.1	26.0	1.9	52.0	2.4	78.0	2.6	104.0
1.2	27.0	2.1	54.1	2.6	81.1	2.8	108.2
1.3	28.0	2.3	56.1	2.8	84.2	3.0	112.2
1.4	29.0	2.4	58.1	3.0	87.1	3.2	116.2
1.5	30.0	2.6	60.0	3.2	90.0	3.4	120.0
1.6	30.9	2.7	61.9	3.4	92.8	3.7	123.8
1.7	31.8	2.9	63.7	3.6	95.5	3.9	127.4
1.8	32.7	3.1	65.4	3.8	98.2	4.1	131.0
1.9	33.6	3.2	67.2	4.0	100.8	4.3	134.4
2.0	34.4	3.4	68.9	4.2	103.3	4.5	137.8
2.1	35.2	3.6	70.5	4.5	105.8	4.7	141.1
2.2	36.1	3.7	72.2	4.7	108.3	5.0	144.4
2.3	36.9	3.9	73.7	4.9	110.7	5.2	147.6
2.4	37.6	4.1	75.3	5.1	113.0	5.4	150.7
2.5	38.4	4.2	76.8	5.3	115.3	5.6	153.8
2.6	39.2	4.4	78.3	5.5	117.6	5.9	156.8
2.7	39.9	4.6	79.8	5.7	119.8	6.1	159.8

OFFSET	POINT LAY-OUT											
	E		B		A		B		C		D	
	X	Y	X	Y	X	Y	X	Y	X	Y		
10	58.28	2.63	0	0	142.5	3.3	217.4	6.7	359.9	10.0		
12	52.30	2.94	0	0	158.9	4.1	233.8	7.9	392.8	12.0		
14	47.80	3.22	0	0	174.1	4.9	249.0	9.1	423.1	14.0		
16	44.25	3.48	0	0	188.3	5.7	263.1	10.3	451.4	16.0		
18	41.38	3.73	0	0	201.6	6.6	276.4	11.4	478.0	18.0		
20	38.99	3.96	0	0	214.2	7.4	289.0	12.6	503.2	20.0		
22	36.96	4.18	0	0	226.2	8.3	301.0	13.7	527.2	22.0		
24	35.22	4.40	0	0	237.7	9.1	312.5	14.9	550.1	24.0		
26	33.70	4.60	0	0	248.7	10.0	323.5	16.0	572.1	26.0		
28	32.36	4.80	0	0	259.3	10.9	334.0	17.1	593.3	28.0		
30	31.16	4.99	0	0	269.5	11.7	344.2	18.3	613.8	30.0		
32	30.10	5.17	0	0	279.4	12.6	354.1	19.4	633.6	32.0		
34	29.13	5.35	0	0	289.0	13.5	363.7	20.5	652.7	34.0		
36	28.25	5.52	0	0	298.4	14.4	373.0	21.6	671.4	36.0		
38	27.45	5.69	0	0	307.4	15.3	382.1	22.7	689.5	38.0		
40	26.72	5.86	0	0	316.3	16.2	390.9	23.8	707.1	40.0		
42	26.04	6.02	0	0	324.9	17.1	399.5	24.9	724.3	42.0		
44	25.41	6.17	0	0	333.3	18.0	407.9	26.0	741.1	44.0		
46	24.83	6.32	0	0	341.5	18.9	416.1	27.1	757.6	46.0		
48	24.29	6.47	0	0	349.6	19.8	424.1	28.2	773.6	48.0		
50	23.78	6.62	0	0	357.4	20.7	431.9	29.3	789.4	50.0		
52	23.31	6.76	0	0	365.2	21.6	439.6	30.4	804.8	52.0		
54	22.86	6.91	0	0	372.7	22.5	447.2	31.5	819.9	54.0		
56	22.44	7.04	0	0	380.2	23.4	454.6	32.6	834.8	56.0		
58	22.05	7.18	0	0	387.5	24.3	461.9	33.7	849.4	58.0		
60	21.67	7.31	0	0	394.7	25.2	469.1	34.8	863.7	60.0		

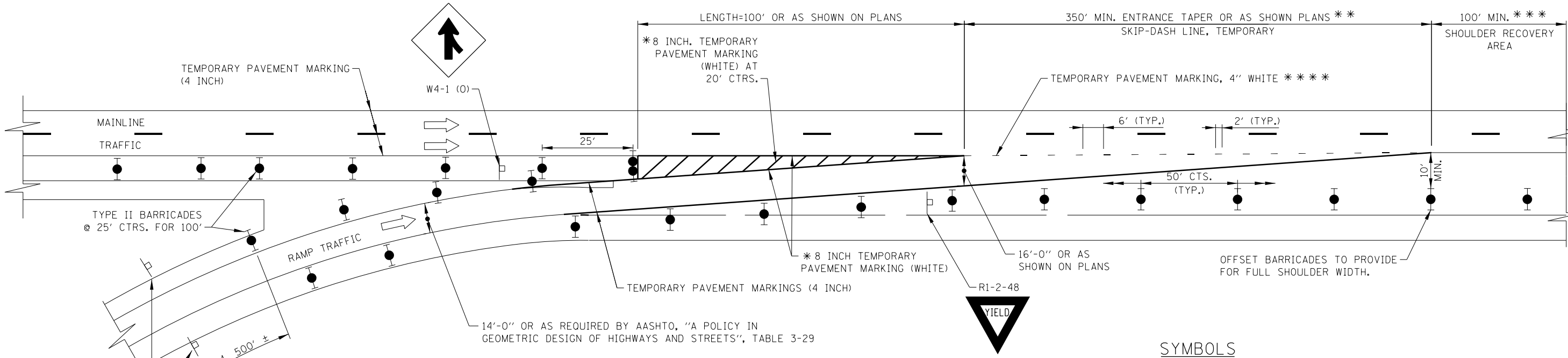
CHORD OFFSET DATA							
1/8 & 7/8		1/4 & 3/4		3/8 & 5/8		1/2	
O/S	DIST	O/S	DIST	O/S	DIST	O/S	DIST
0.4	17.8	0.6	35.6	0.8	53.4	0.8	71.3
0.4	19.9	0.8	39.7	1.0	59.6	1.0	79.5
0.5	21.8	0.9	43.5	1.1	65.3	1.2	87.1
0.6	23.5	1.1	47.1	1.3	70.6	1.4	94.2
0.7	25.2	1.2	50.4	1.5	75.6	1.6	100.8
0.8	26.8	1.4	53.6	1.7	80.4	1.9	107.2
0.9	28.3	1.5	56.6	1.9	84.9	2.1	113.2
1.0	29.7	1.7	59.5	2.1	89.2	2.3	118.9
1.1	31.1	1.9	62.2	2.3	93.3	2.5	124.4
1.2	32.4	2.0	64.9	2.5	97.3	2.7	129.8
1.3	33.7	2.2	67.4	2.8	101.2	2.9	134.9
1.4	34.9	2.4	69.9	3.0	104.9	3.2	139.9
1.5	36.2	2.5	72.3	3.2	108.5	3.4	144.7
1.6	37.3	2.7	74.7	3.4	112.0	3.6	149.4
1.7	38.5	2.9	76.9	3.6	115.4	3.8	153.9
1.8	39.6	3.0	79.1	3.8	118.7	4.0	158.3
1.9	40.6	3.2	81.3	4.0	122.0	4.3	162.7
2.0	41.7	3.4	83.4	4.2	125.1	4.5	166.9
2.1	42.7	3.5	85.5	4.4	128.2	4.7	171.0
2.2	43.7	3.7	87.5	4.6	131.3	4.9	175.1
2.3	44.7	3.9	89.5	4.8	134.2	5.2	179.0
2.4	45.7	4.0	91.4	5.1	137.2	5.4	182.9
2.5	46.6	4.2	93.3	5.3	140.0	5.6	186.7
2.6	47.6	4.4	95.2	5.5	142.8	5.9	190.5
2.7	48.5	4.6	97.0	5.7	145.6	6.1	194.1
2.8	49.4	4.7	98.8	5.9	148.3	6.3	197.7

TYPE III (60-65 MPH) (RADIUS: 4400')

OFFSET	POINT LAY-OUT											
	E		B		A		B		C		D	
	X	Y	X	Y	X	Y	X	Y	X	Y		
10	67.06	2.29	0	0	175.6	3.5	250.5	6.5	426.1	10.0		
12	60.34	2.54	0	0	195.3	4.3	270.2	7.7	465.5	12.0		
14	55.24	2.78	0	0	213.5	5.2	288.4	8.8	501.8	14.0		
16	51.22	3.00	0	0	230.4	6.0	305.3	10.0	535.7	16.0		
18	47.95	3.21	0	0	246.3	6.9	321.2	11.1	567.5	18.0		
20	45.22	3.41	0	0	261.4	7.8	336.3	12.2	597.7	20.0		
22	42.90	3.59	0	0	275.8	8.6	350.6	13.4	626.4	22.0		
24	40.91	3.77	0	0	289.5	9.5	364.3	14.5	653.8	24.0		
26	39.16	3.94	0	0	302.6	10.4	377.5	15.6	680.1	26.0		
28	37.62	4.11	0	0	315.3	11.3	390.1	16.7	705.4	28.0		
30	36.24	4.27	0	0	327.5	12.2	402.3	17.8	729.9	30.0		
32	35.01	4.42	0	0	339.4	13.1	414.2	18.9	753.5	32.0		
34	33.90	4.57	0	0	350.8	14.0	425.6	20.0	776.4	34.0		
36	32.88	4.72	0	0	362.0	14.9	436.7	21.1	798.7	36.0		
38	31.95	4.86	0	0	372.8	15.8	447.5	22.2	820.4	38.0		
40	31.10	5.00	0	0	383.4	16.7	458.1	23.3	841.4	40.0		
42	30.31	5.13	0	0	393.7	17.6	468.4	24.4	862.0	42.0		
44	29.59	5.26	0	0	403.7	18.6	478.4	25.4	882.1	44.0		
46	28.91	5.39	0	0	413.5	19.5	488.2	26.5	901.7	46.0		
48	28.28	5.52	0	0	423.1	20.4	497.8	27.6	920.9	48.0		
50	27.68	5.64	0	0	432.6	21.3	507.2	28.7	939.7	50.0		



TYPICAL APPLICATION OF TEMPORARY EXIT GORE DELINEATION AND SIGNING



TYPICAL APPLICATION OF TEMPORARY ENTRANCE GORE DELINEATION AND SIGNING

* 8 INCH TEMPORARY PAVEMENT MARKING IS TO BE MADE OF 2-TEMPORARY PAVEMENT MARKING 4 INCH, WHITE OF THE TYPE SPECIFIED.

** BASED ON A MAINLINE WORK ZONE SPEED LIMIT OF 45 M.P.H.

*** WHERE VIABLE WITH STAGED CONSTRUCTION

**** WHEN MAINLINE IS WITHIN HORIZONTAL CURVE

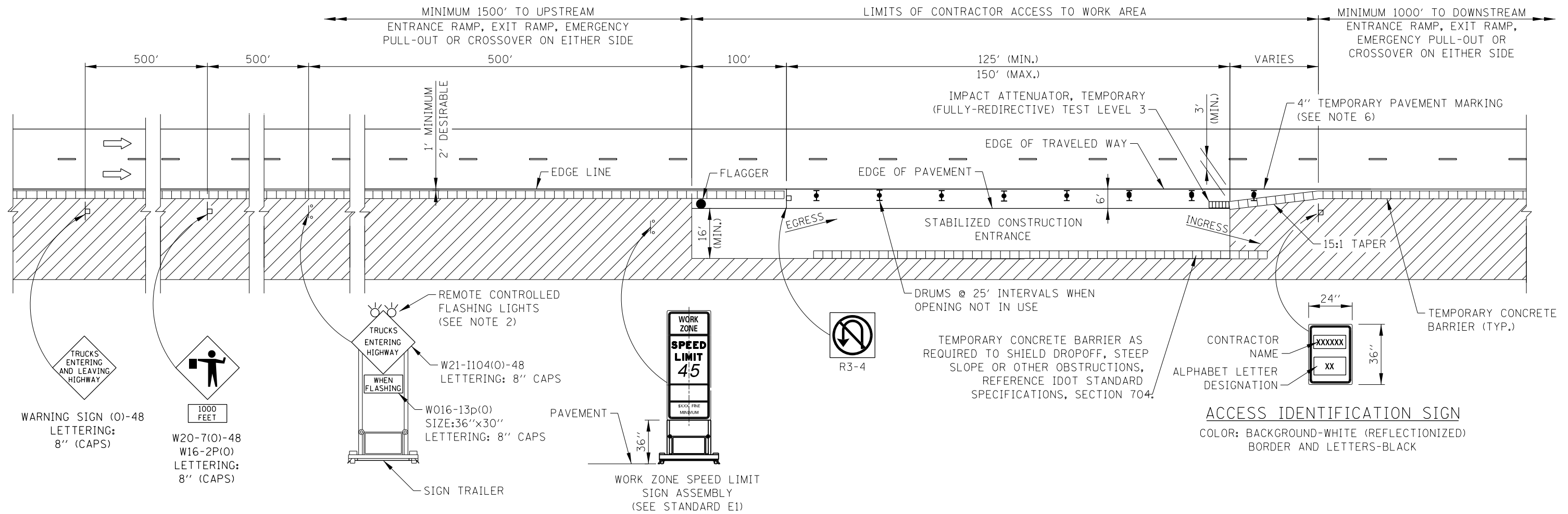
- SYMBOLS**
- WORK AREA
 - SIGN
 - TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
 - DRUM WITH STEADY BURNING LIGHT

DATE	REVISIONS
2-07-2012	REVISED MERGE SIGN.
3-31-2014	ADDED 45 MPH SPEED TO ENTRANCE TAPER.
3-11-2015	REVISED EXIT/ENTRANCE DETAIL LAYOUTS
	REMOVED DETAILS NOT NEEDED.
3-31-2016	REVISED ENTRANCE GORE DETAIL.

TEMPORARY GORE DETAILS

STANDARD E5-05

Paul Kovacs
 APPROVED..... CHIEF ENGINEER DATE 5-1-2009



CONTRACTOR ACCESS TO WORK AREA
(45 M.P.H.)

LEGEND

- FLAGGER
- ⊥ CONSTRUCTION SIGN ON SUPPORT PER TOLLWAY STANDARD UNLESS NOTED
- ➔ DIRECTION OF TRAFFIC FLOW
- ▨ WORK AREA
- ⊕ DRUM WITH STEADY BURNING MONODIRECTIONAL LIGHT

NOTES:

1. SIGNS DESIGNATED FOR THIS ACCESS TO WORK AREA SHALL BE COVERED OR TURNED AWAY FROM THE TRAFFIC WHEN THE FLAGGER IS NOT ON STATION AND THE ACCESS OPENINGS ARE NOT IN USE.
2. THE FLASHING WARNING LIGHT SHALL MEET THE REQUIREMENTS OF TOLLWAY SUPPLEMENTAL SPECIFICATIONS AND BE OPERATED BY THE FLAGGER REMOTELY. THE LIGHTS SHALL BE FLASHING ONLY WHEN A VEHICLE IS ENTERING THE TOLLWAY.
3. WHEN THREE LANES OR MORE ARE OPENED TO TRAFFIC, ADVANCE WARNING SIGNS AND ASSEMBLIES SHALL BE PROVIDED ON BOTH SIDES OF TRAVELED WAY.
4. WHEN CONTRACTOR ACCESS TO WORK AREA IS ON OPPOSITE SIDE FROM SHOWN, ALL INSTALLATIONS ARE MIRROR IMAGE.
5. FOR NIGHTTIME OPERATIONS, TEMPORARY LIGHTING OF CONSTRUCTION ACCESS TO WORK AREA SHALL BE PROVIDED.
6. TEMPORARY PAVEMENT MARKINGS SHALL BE REPLACED AS OFTEN AS NECESSARY TO DELINEATE OPENINGS.
7. IF POSSIBLE, LANE CLOSURES SHALL BE UTILIZED TO ELIMINATE THE MERGING OF CONSTRUCTION TRAFFIC INTO THROUGH TRAFFIC LANES.
8. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICES.
9. "TRUCKS ENTERING HIGHWAY" SIGN MAY BE SUPPORTED BY OPTIONAL POST OR STAND MOUNTED DEVICES WHEN POSITIONED BEHIND TEMPORARY CONCRETE BARRIER.

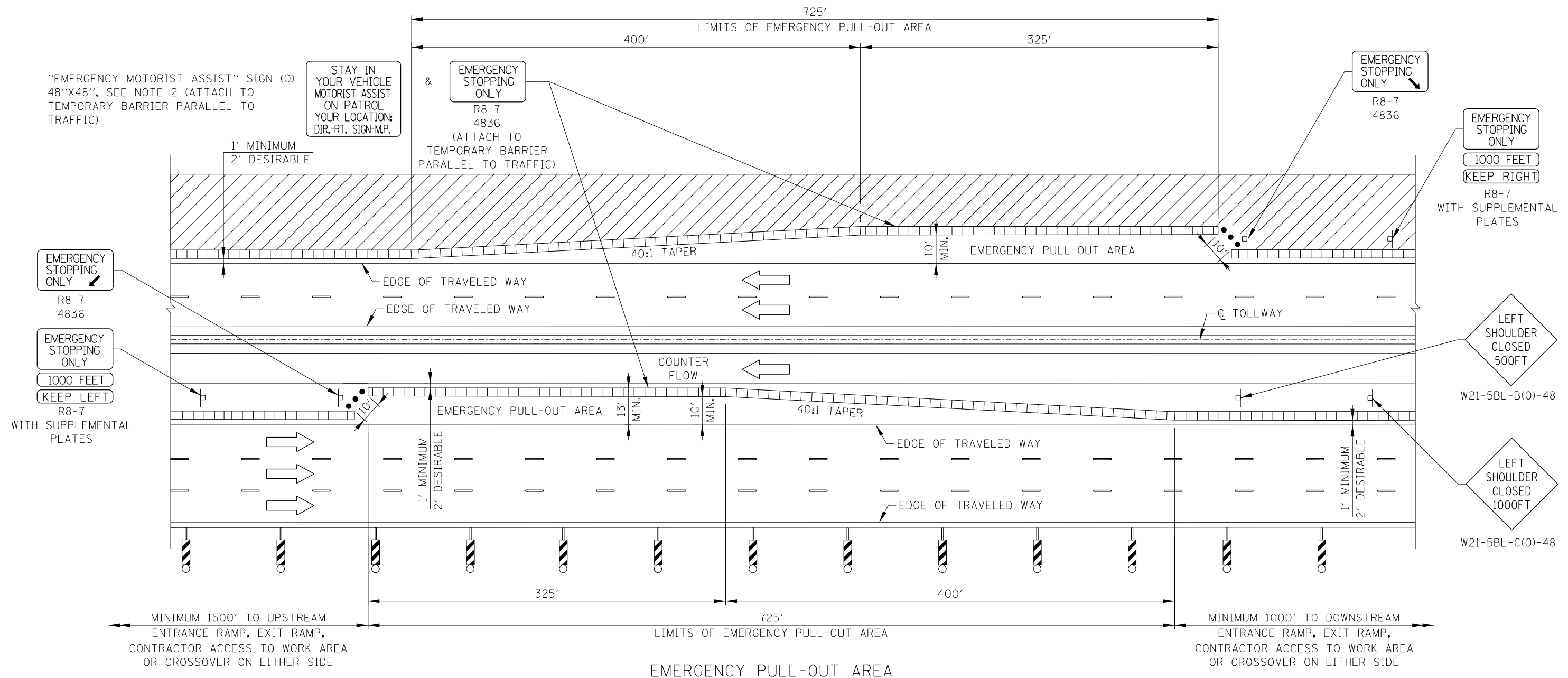
Paul Kovacs
APPROVED..... CHIEF ENGINEER..... DATE 2-7-2012

DATE	REVISIONS
3-01-2013	REVISED NOTES.
3-31-2014	REVISED NOTE FOR TEMPORARY CONCRETE BARRIER.

Illinois Tollway

CONTRACTOR ACCESS
TO WORK AREA

STANDARD E6-02



LEGEND

- TEMPORARY CONCRETE BARRIER WITH BARRIER DELINEATORS ON TRAFFIC SIDE
- VERTICAL PANELS WITH STEADY BURNING LIGHTS @ 100 FT CENTERS ALONG ROADWAY (TANGENT) AND 50 FT CENTERS ALONG TAPERS.
- WORK AREA
- FLEXIBLE DELINEATOR POSTS
- DIRECTION OF TRAFFIC FLOW
- CONSTRUCTION SIGN ON SUPPORT PER TOLLWAY STANDARD UNLESS NOTED.

NOTES:

1. PULL-OUT AREA SPACED PER CONTRACT DOCUMENTS.
2. ENGINEER TO DETERMINE EMERGENCY ASSIST SIGN'S INFORMATION FOR DIRECTION-ROUTE SIGN-MILEPOST ONCE THE LOCATION HAS BEEN ACCEPTED.
3. A 1'-0" MINIMUM/2'-0" DESIRABLE SHY DISTANCE SHALL BE PROVIDED, MEASURED BETWEEN EDGE OF PAVEMENT LANE MARKING TO THE EDGE OF THE TRAFFIC CONTROL DEVICE.
4. FLEXIBLE DELINEATORS TO BE 48" IN HEIGHT ABOVE BASE, TUBULAR POSTS (ORANGE) WITH 360 DEGREES FULL VIEW TWO-4" FLOURESCENT ORANGE REFLECTORIZED TAPE BANDS. FLEXIBLE DELINEATORS SHALL BE CAPABLE OF BENDING UNDER REPEATED IMPACTS AND RETURN TO AN UPRIGHT POSITION WITHOUT DAMAGE TO THE IMPACTING VEHICLE OR THE DELINEATORS. THE DELINEATOR'S BASE SHALL BE SECURELY MOUNTED TO THE ROADWAY SURFACE. THE POSTS SHALL BE REMOVABLE FROM THE BASES TO PERMIT REPLACEMENT OF DAMAGED UNITS AS REQUIRED.



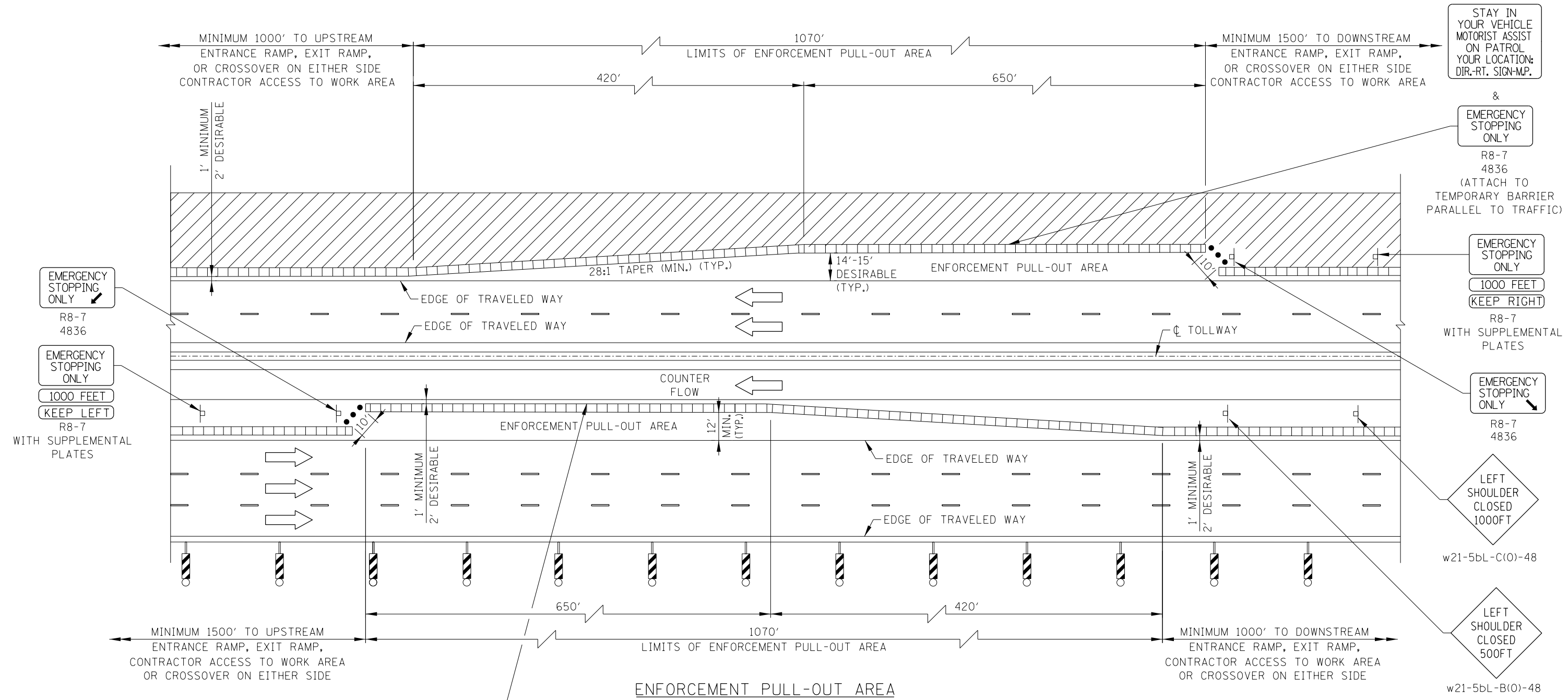
DATE	REVISIONS
11-01-12	REVISED LENGTH OF PULL-OUT AREA
	REVISED NOTES
03-01-13	REVISED "EMERGENCY MOTORIST ASSIST" SIGN NOTE.
03-31-14	ADDED ENFORCEMENT PULL-OUT AREA
03-11-15	REVISED NOTES

PULL-OUT AREA

STANDARD E7-04

APPROVED: *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

"EMERGENCY MOTORIST ASSIST" SIGN (O)
48"x48", SEE NOTE 2 (ATTACH TO
TEMPORARY BARRIER PARALLEL TO TRAFFIC)



EMERGENCY STOPPING ONLY
R8-7
4836

EMERGENCY STOPPING ONLY
1000 FEET
KEEP LEFT
R8-7
WITH SUPPLEMENTAL PLATES

STAY IN YOUR VEHICLE
MOTORIST ASSIST
ON PATROL
YOUR LOCATION:
DIR.-RT. SIGN-M.P.

&
EMERGENCY STOPPING ONLY
R8-7
4836
(ATTACH TO
TEMPORARY BARRIER
PARALLEL TO TRAFFIC)

EMERGENCY STOPPING ONLY
1000 FEET
KEEP RIGHT
R8-7
WITH SUPPLEMENTAL PLATES

EMERGENCY STOPPING ONLY
R8-7
4836

LEFT SHOULDER CLOSED
1000FT
w21-5bL-C(0)-48

LEFT SHOULDER CLOSED
500FT
w21-5bL-B(0)-48

"EMERGENCY MOTORIST ASSIST" SIGN (O)
48"x48", SEE NOTE 2 (ATTACH TO
TEMPORARY BARRIER PARALLEL TO TRAFFIC)

STAY IN YOUR VEHICLE
MOTORIST ASSIST
ON PATROL
YOUR LOCATION:
DIR.-RT. SIGN-M.P.

&
EMERGENCY STOPPING ONLY
R8-7
4836
(ATTACH TO
TEMPORARY BARRIER
PARALLEL TO TRAFFIC)

- LEGEND**
- TEMPORARY CONCRETE BARRIER WITH BARRIER DELINEATORS ON TRAFFIC SIDE
 - VERTICAL PANELS WITH STEADY BURNING LIGHTS @ 100 FT CENTERS ALONG ROADWAY (TANGENT) AND 50 FT CENTERS ALONG TAPERS.
 - WORK AREA
 - FLEXIBLE DELINEATOR POSTS
 - DIRECTION OF TRAFFIC FLOW
 - CONSTRUCTION SIGN ON SUPPORT PER TOLLWAY STANDARD UNLESS NOTED.

SEE SHEET 1 IN THIS SERIES FOR NOTES.

Paul Kovacs
APPROVED... CHIEF ENGINEER... DATE 2-7-2012

SHEET 2 OF 2

PULL-OUT AREA

STANDARD E7-04

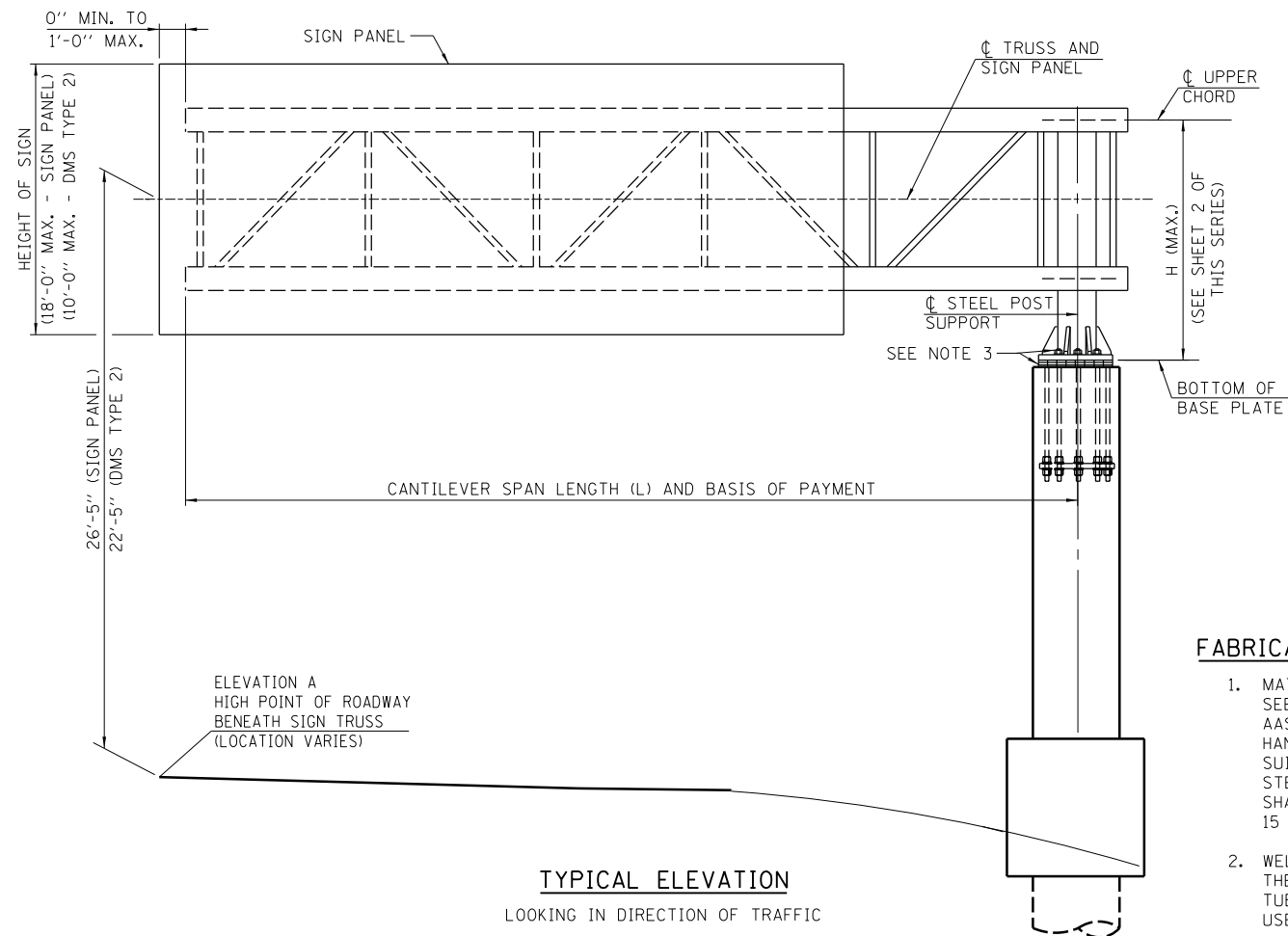
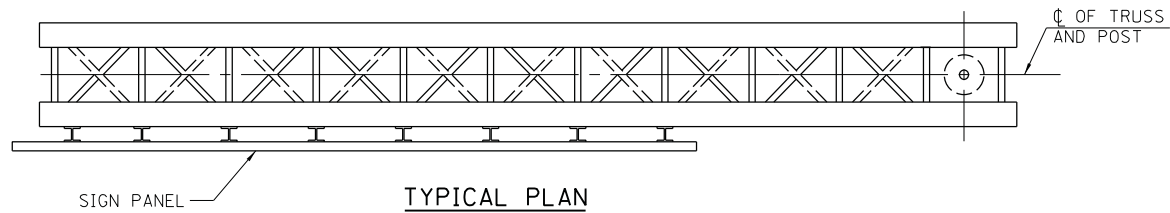
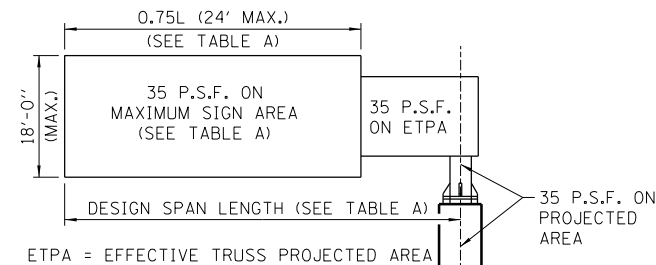


TABLE A: MAXIMUM LIMITS FOR SIGNS

TRUSS TYPE	DESIGN SPAN LENGTH (FT.)	MAXIMUM SIGN AREA (SQ. FT.)	MAXIMUM SIGN LENGTH (FT.)
20-D	20	270	15
25-D	25	338	18.75
30-D	30	405	22.5
35-D	35	432	24
40-D	40	432	24
45-D	45	432	24
50-D	50	432	24



FABRICATION NOTES:

- MATERIALS:** FOR MATERIAL SPECIFICATIONS FOR CANTILEVER SIGN STRUCTURES, SEE TABLE B. ALL STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO AASHTO M270 GR. 50. STAINLESS STEEL FOR SHIMS, SLEEVES AND HANDHOLE COVERS SHALL BE ASTM A240, TYPE 302 OR 304 OR ANOTHER ALLOY SUITABLE FOR EXTERIOR EXPOSURE AND ACCEPTABLE TO THE ENGINEER. THE STEEL PIPE AND STIFFENING RIBS AT THE BASE PLATE FOR THE STEEL POST SHALL HAVE A MINIMUM LONGITUDINAL CHARPY V-NOTCH (CVN) ENERGY OF 15 LB.-FT. AT 40° F (ZONE 2) BEFORE GALVANIZING.
- WELDING:** ALL MATERIALS, WELDING PROCEDURES AND INSPECTION USED FOR THE CANTILEVER OVERHEAD SIGN STRUCTURE SHALL CONFORM TO AWS D1.1-10 FOR TUBULAR, CYCLICALLY LOADED STRUCTURES. ADDITIONALLY, ALL WELDED MATERIALS USED SHALL BE PREQUALIFIED FOR USE WITH WPS AS PER AWS D1.1-10, TABLE 3.1.
- FASTENERS FOR STEEL TRUSSES:** HIGH STRENGTH BOLTS MUST SATISFY THE REQUIREMENTS OF AASHTO M164 (ASTM A325), OR APPROVED ALTERNATE, AND MUST HAVE MATCHING LOCKNUTS. THREADED STUDS FOR SPLICES (IF MEMBERS INTERFERE) MUST SATISFY THE REQUIREMENTS OF ASTM A449, ASTM A193 GRADE B7, OR APPROVED ALTERNATE, AND MUST HAVE MATCHING LOCKNUTS. BOLTS AND LOCKNUTS NOT REQUIRED TO BE HIGH STRENGTH MUST SATISFY THE REQUIREMENTS OF ASTM A307. ALL BOLTS AND LOCKNUTS MUST BE HOT DIP GALVANIZED PER AASHTO M232, EXCEPT STAINLESS STEEL FASTENERS, NUTS AND WASHERS. THE LOCKNUTS MUST HAVE NYLON OR STEEL INSERTS. A STAINLESS STEEL FLAT WASHER CONFORMING TO ASTM A240 TYPE 302 OR 304, IS REQUIRED UNDER BOTH HEAD AND NUT OR UNDER BOTH NUTS WHERE THREADED STUDS ARE USED. HIGH STRENGTH BOLT INSTALLATION SHALL CONFORM TO ARTICLE 505.04(F)(2)d OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ROTATIONAL CAPACITY ("ROCAP") TESTING OF BOLTS WILL NOT BE REQUIRED.
- U-BOLTS:** U-BOLTS MUST BE PRODUCED FROM ASTM A276 TYPE 304, 304L, 316 OR 316L, CONDITION A, COLD FINISHED STAINLESS STEEL, OR AN EQUIVALENT MATERIAL ACCEPTABLE TO THE ENGINEER. ALL NUTS FOR U-BOLTS MUST BE LOCKNUTS EQUIVALENT TO ASTM A307 WITH NYLON OR STEEL INSERTS AND HOT DIP GALVANIZED PER AASHTO M232. A STAINLESS STEEL FLAT WASHER CONFORMING TO ASTM A240, TYPE 302 OR 304, IS REQUIRED UNDER EACH U-BOLT LOCKNUT.
- GALVANIZING:** ALL PLATES, SHAPES AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111. PAINTING IS NOT PERMITTED. ALL FASTENERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111 OR M232 AS APPROPRIATE FOR THE PRODUCT (EXCEPT STAINLESS STEEL FASTENERS).

GENERAL NOTES:

- WORK THIS SHEET WITH OVERHEAD SIGN STRUCTURE CANTILEVER TYPE SUMMARY AND TOTAL BILL OF MATERIAL SHEET.
- AFTER ADJUSTMENTS TO LEVEL TRUSS AND ENSURE ADEQUATE VERTICAL CLEARANCE, ALL TOP AND LEVELING NUTS SHALL BE TIGHTENED AGAINST THE BASE PLATE WITH A MINIMUM TORQUE OF 200 LB.-FT. STAINLESS STEEL MESH SHALL THEN BE PLACED AROUND THE PERIMETER OF THE BASE PLATE. SECURE TO BASE PLATE WITH STAINLESS STEEL BANDING.
- SIGN SUPPORT STRUCTURES MAY BE SUBJECT TO DAMAGING VIBRATIONS AND OSCILLATIONS WHEN SIGN PANELS ARE NOT IN PLACE DURING ERECTION OR MAINTENANCE OF THE STRUCTURE. TO AVOID THESE, ATTACH TEMPORARY BLANK SIGN PANELS OR OTHER BRACING TO THE STRUCTURE UNTIL PERMANENT SIGNS ARE INSTALLED.
- TRUSSES SHALL BE SHIPPED INDIVIDUALLY WITH ADEQUATE PROVISION TO PREVENT DETRIMENTAL MOTION DURING TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONFIGURATION AND PROTECTION OF THE TRUSSES.
- ALL WELDS SHALL BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH CURRENT AWS D1.1 STRUCTURE WELDING CODE AND THE STANDARD SPECIFICATIONS.
- ALL STEEL PLATES, SHAPES AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111.
- PROVIDE RUBBED SURFACE FINISH FOLLOWED BY CONCRETE SEALER APPLICATION ON ENTIRE SURFACE OF CONCRETE COLUMN AND NORMAL SURFACE FINISH ON GRADE BEAM, EXCEPT BOTTOM SURFACE. COST IS INCLUDED IN THE COST OF "FOUNDATION FOR OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE".
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- DMS TYPE 2 IS PERMITTED TO BE INSTALLED ON CANTILEVER TRUSS. DO NOT INSTALL SIGN PANEL IN CONJUNCTION WITH DMS TYPE 2. SEE SHEET 9 OF THIS SERIES FOR PERMISSIBLE SIGN SIZE AND WEIGHT.

CONSTRUCTION SPECIFICATIONS:

- ALL MATERIALS, EXCEPT AS SHOWN, FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 733 OF THE LATEST ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
- THE COST OF FURNISHING AND INSTALLING THE STAINLESS STEEL BAND AND WIRE MESH CLOTH IS INCLUDED IN THE COST OF "OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL)".

LOADING:

- ALL CANTILEVER TRUSSES ARE DESIGNED FOR AN 18'-0" DEEP SIGN PANEL OVER 75% OF THE ARM LENGTH, WITH A MAXIMUM PANEL WIDTH OF 24'-0".
- ALL CANTILEVER TRUSSES ARE DESIGNED FOR 35 PSF WIND PRESSURE ON TRUSS MEMBERS AND SIGN PANEL.
- THE AASHTO GROUP II AND III ALLOWABLE STRESS SHALL BE 133% (ALLOWABLE STRESS DESIGN).

DESIGN SPECIFICATIONS:

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2013 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SIXTH EDITION.

CONCRETE COLUMN, GRADE BEAM AND DRILLED SHAFT ARE DESIGNED IN ACCORDANCE WITH THE 2012 EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (INCLUDING THE 2013 INTERIM REVISIONS).

DESIGN UNIT STRESSES FOR REINFORCED CONCRETE:

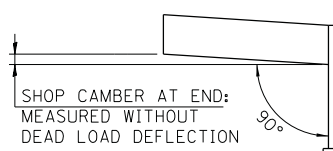
CLASS SI CONCRETE $f'_c = 3,500$ P.S.I.
 CLASS DS CONCRETE $f'_c = 4,000$ P.S.I.
 REINFORCING STEEL $f_y = 60,000$ P.S.I.

SHOP CAMBER TABLE

CANTILEVER LENGTH (L)	SHOP CAMBER AT END
20'	1 1/2"
25'	1 1/2"
30'	2"
35'	2 1/2"
40'	2 1/2"
45'	3"
50'	3 1/2"

TABLE B: MATERIAL SPECIFICATIONS FOR STRUCTURAL STEEL AND FASTENERS

ELEMENT OF STRUCTURE	SPECIFICATION	MINIMUM YIELD STRENGTH (K.S.I.)	MINIMUM ULTIMATE STRENGTH (K.S.I.)
STRUCTURAL STEEL TUBE	ASTM A500 GRADE B	46	58
STRUCTURAL STEEL POST AND PIPE	API 5L GRADE B OR X42 OR X52	35	52
	ASTM A106 GRADE B	35	60
	ASTM A53, TYPE E OR S, GRADE B	35	60
STEEL BAR AND STEEL PLATES	ASTM A572 GRADE 50	50	65
STAINLESS STEEL BOLTS	ASTM A193, CLASS 1, GRADE B8	30	75
STRUCTURAL STEEL BOLTS	ASTM 325 TYPE 1	--	105
STAINLESS STEEL LOCKNUTS	ASTM A194 GRADE 8F ASTM A194 GRADE 2H	--	--
NUTS	ASTM A563 GRADE DH	--	--
STEEL WASHERS	ASTM F436	--	--
STAINLESS STEEL WASHERS	ASTM A240, TYPE 302	--	--
STEEL ANCHOR BOLTS	AASHTO M314 OR ASTM F1554	55	75



APPROVED *Paul Kovacs* DATE 3-31-2014.
 CHIEF ENGINEER

DATE	REVISIONS
2-1-2013	REVISED SIGN PARAMETERS
12-12-2013	REVISED TABLES AND NOTES
2-07-2014	REVISED STEEL POST TO CONCRETE
3-31-2014	ADDED DMS TYPE II
7-01-2014	ADDED DIMENSIONS AND REVISED NOTES
3-11-2015	ADDED DIMENSIONS AND REVISED NOTES
3-31-2016	REVISED FOUNDATION NOTE

SHEET 1 OF 9

OVERHEAD SIGN STRUCTURE CANTILEVER TYPE STRUCTURE DETAILS

STANDARD F4-07

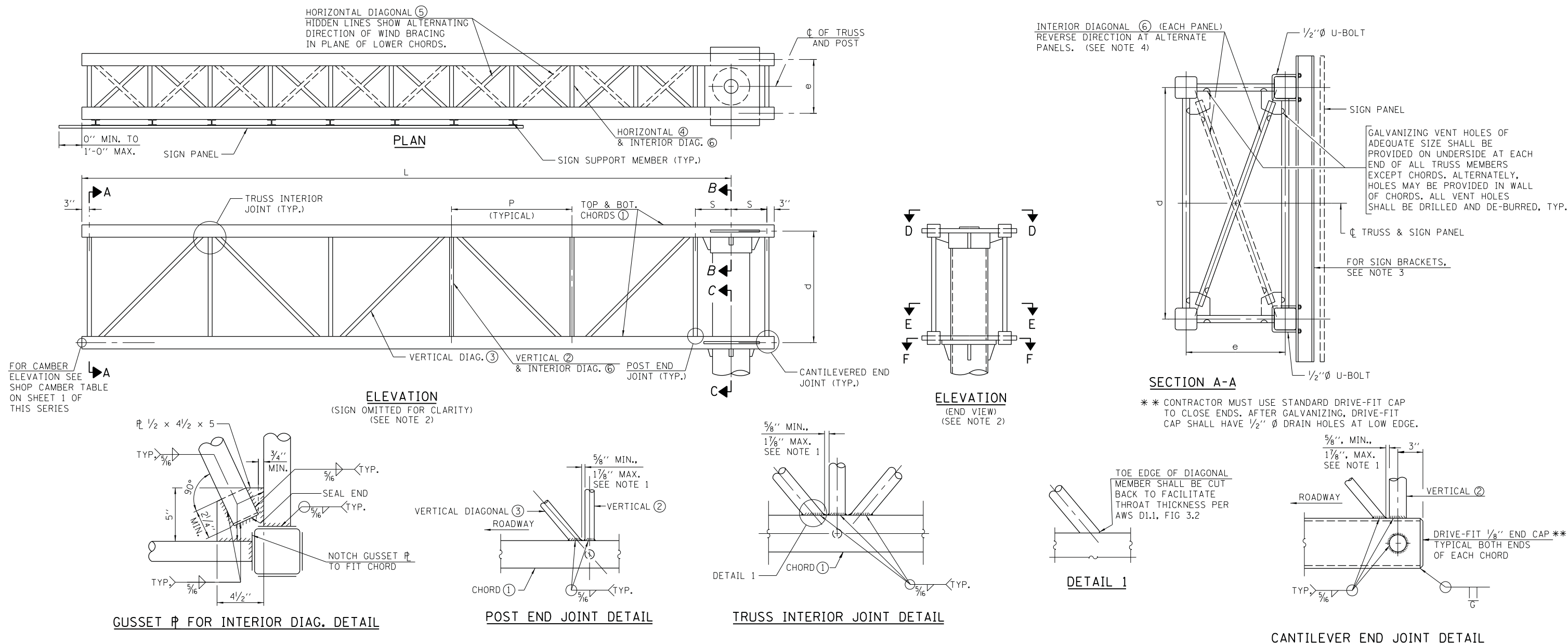


TABLE C: TRUSS AND POST DETAILS FOR 18'-0" (MAX.) SIGN HEIGHT

DESIGN SPAN LENGTH (L)	TRUSS TYPE	TRUSS SIZE		ACTUAL SPAN LENGTH	MAXIMUM SIGN LENGTH	STEEL SUPPORT POST (COLUMN)				TRUSS MEMBERS AND DETAILS													
		e	d			DIAMETER	WEIGHT	* WALL THICKNESS	H (MAX.)	TOP & BOTTOM CHORD ①	VERTICAL ②		VERTICAL DIAG. ③		HORIZONTAL ④		HORIZONTAL DIAG. ⑤		INTERIOR DIAG. ⑥		PANELS		
											PIPE	WALL	PIPE	WALL	PIPE	WALL	PIPE	WALL	PIPE	WALL	NO.	P	S
20'	20-D	2'-6"	5'-6"	20'-1"	15'-0"	18"	138.30 (#/FT)	0.75"	12'-0"	HSS 5x5x1/4	2 1/2" Ø X.S	0.276"	3" Ø X.X.S	0.600"	1 1/2" Ø X.S	0.200"	2 1/2" Ø X.S	0.276"	1 1/2" Ø X.S	0.200"	4	4'-7"	1'-6"
25'	25-D	3'-6"	5'-6"	24'-11"	18'-9"	18"	181.73 (#/FT)	1"	12'-0"	HSS 5x5x1/4	2 1/2" Ø X.S	0.276"	3" Ø X.X.S	0.600"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	5	4'-7"	1'-9"
30'	30-D	3'-6"	7'-0"	30'-2"	22'-6"	18"	181.73 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	5	5'-7"	2'-0"
35'	35-D	4'-0"	7'-0"	35'-0"	24'-0"	24"	186.41 (#/FT)	0.75"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	5	6'-6"	2'-3"
40'	40-D	4'-0"	7'-0"	40'-0"	24'-0"	24"	186.41 (#/FT)	0.75"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	6	6'-3"	2'-3"
45'	45-D	4'-6"	7'-0"	45'-0 1/2"	24'-0"	24"	245.87 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	7	6'-0 1/2"	2'-6"
50'	50-D	4'-6"	7'-0"	50'-1"	24'-0"	24"	245.87 (#/FT)	1"	12'-0"	HSS 6x6x1/4	3" Ø X.S	0.300"	4" Ø X.X.S	0.674"	2" Ø X.S	0.218"	2 1/2" Ø X.S	0.276"	2" Ø X.S	0.218"	8	5'-11"	2'-6"

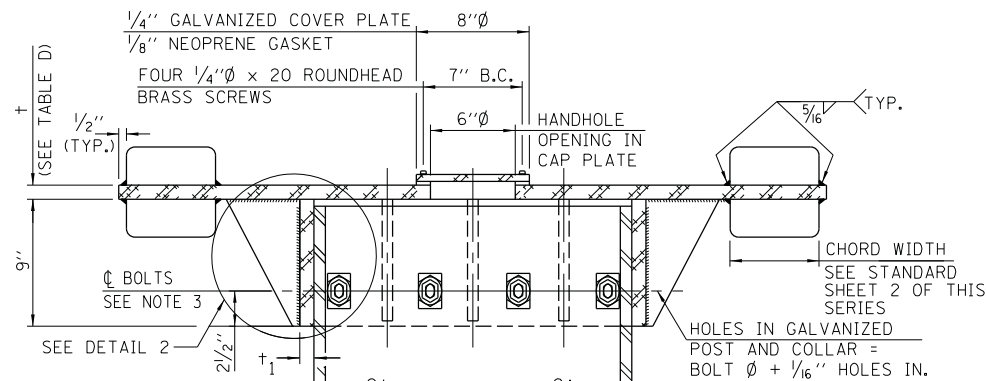
* NOMINAL WALL THICKNESS SHOWN. THICKER WALL IS PERMITTED UPON ENGINEER'S APPROVAL.

NOTES:

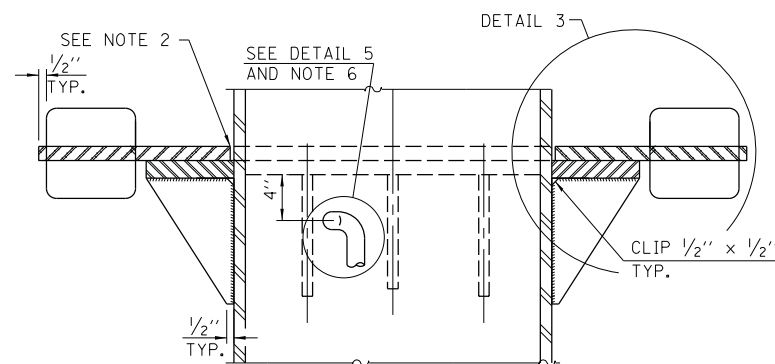
1. TRUSS MEMBERS SHALL BE SPACED A MINIMUM OF 3 TIMES THE WALL THICKNESS OF THE LARGEST CONNECTING MEMBERS TO ENSURE PROPER WELD SPACING.
2. FOR SECTIONS B-B, C-C, D-D, E-E AND F-F SEE SHEET 3 OF THIS SERIES.
3. FOR SIGN SUPPORT DETAILS, SEE ILLINOIS TOLLWAY STANDARD DRAWING F8, FOR DMS TYPE 2 SIGN SUPPORT DETAILS, SEE SHEET 9 OF THIS SERIES.
4. DIRECTION OF INTERIOR DIAGONALS SHOWN IN SECTION A-A CORRECTLY DEPICTS TRUSSES HAVING AN ODD NUMBER OF PANELS. TRUSSES WITH AN EVEN NUMBER OF PANELS WILL HAVE DIAGONALS IN A REVERSED DIRECTION THAN AS SHOWN.
5. FOR ANY DESIGN SPAN LENGTH THAT FALLS BETWEEN TWO CONSECUTIVE SPANS, PROVIDED IN COLUMN 1 OF TABLE C, THE LARGER DESIGN SPAN LENGTH SHALL BE USED (I.E. FOR A 32' SPAN LENGTH FALLING BETWEEN 30' AND 35' DESIGN SPAN LENGTHS IN TABLE C, THE 35' DESIGN SPAN LENGTH TRUSS AND POST DETAILS SHALL BE USED).

Paul Kovacs
 APPROVED... CHIEF ENGINEER... DATE 3-31-2014.

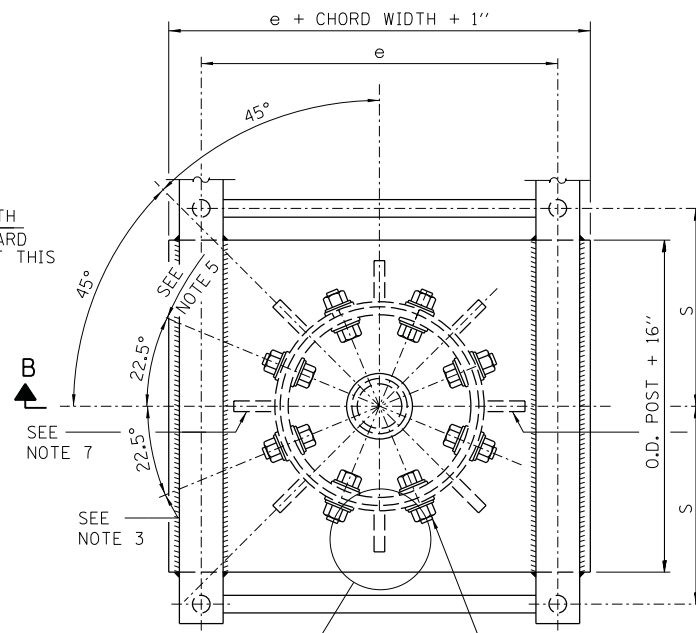




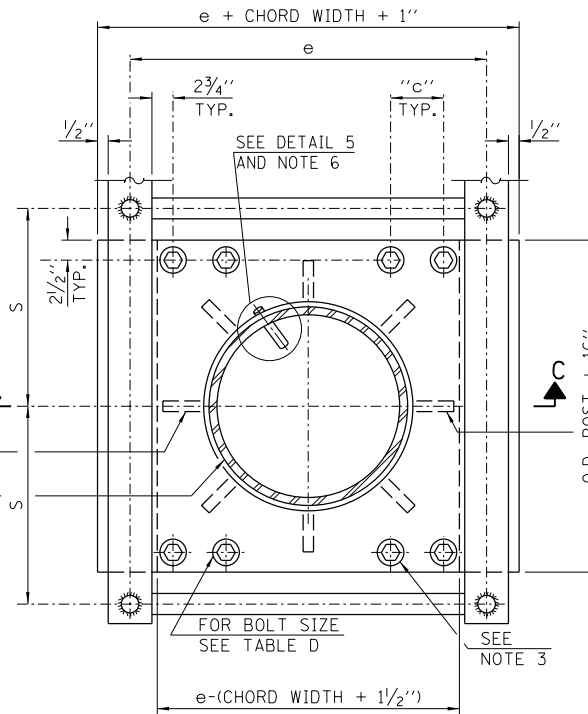
SECTION B-B



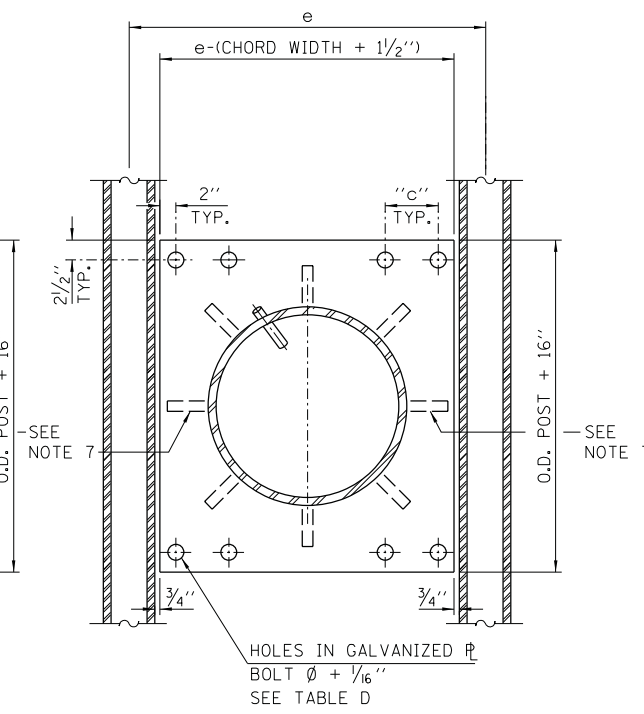
SECTION C-C



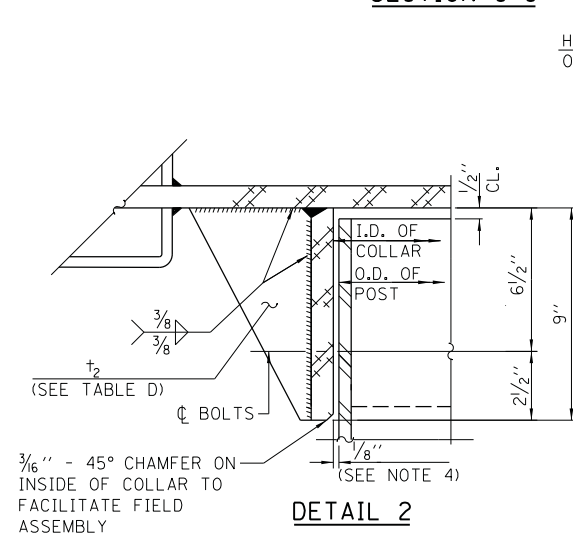
VIEW D-D
(CAP PLATE)



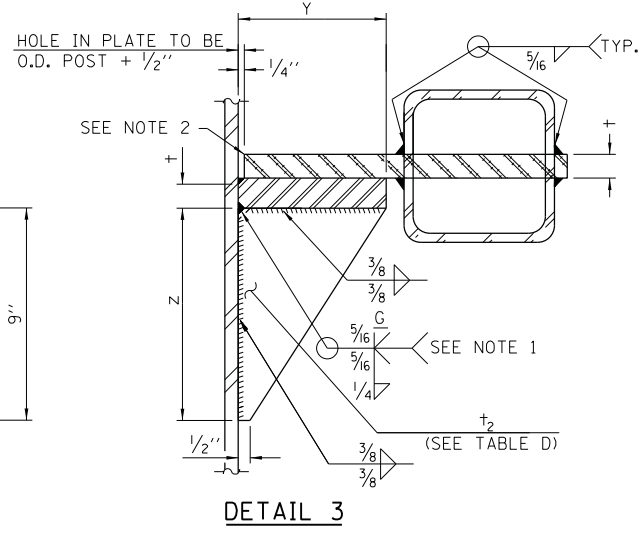
SECTION E-E
(JUNCTURE PLATE)



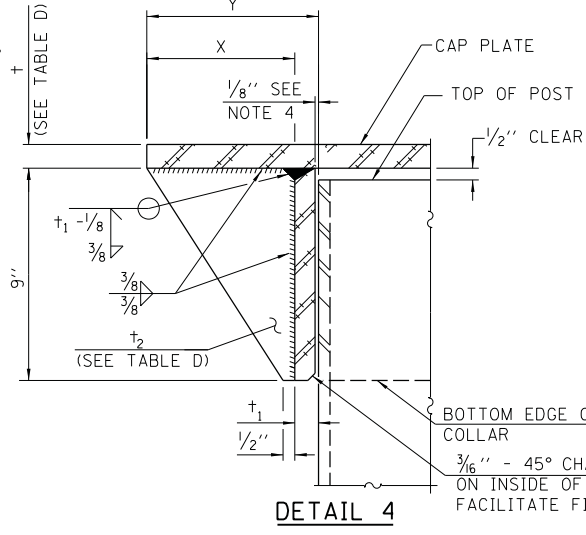
SECTION F-F
(SETTING PLATE)



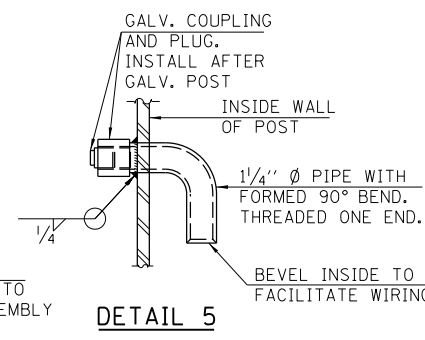
DETAIL 2



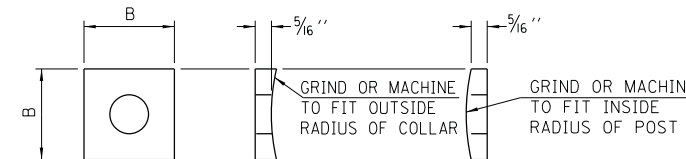
DETAIL 3



DETAIL 4



DETAIL 5



BOLT SIZE	CONTOURED WASHERS	
	HOLE DIA.	B
1 1/8" Ø	1 1/4" Ø	2 1/4"
1 1/4" Ø	1 3/8" Ø	2 1/4"
1 1/2" Ø	1 5/8" Ø	2 1/4"

CONTOURED WASHERS
(ASTM A240, TYPE 304)

NOTES:

- GRIND TOP IF REQUIRED TO FULLY SEAT PLATE. REPAIR DAMAGED GALVANIZING BEFORE ASSEMBLY.
- AFTER TIGHTENING LOWER CONNECTION BOLTS, FILL GAP WITH NON-HARDENING SILICONE CAULK SUITABLE FOR EXTERIOR EXPOSURE AND ACCEPTABLE TO THE ENGINEER. COST IS INCLUDED IN "OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL)".
- CONNECTION BOLTS IN COLLAR AND BOLTS AT LOWER CHORD CONNECTION MUST BE HIGH STRENGTH WITH MATCHING LOCKNUTS. LOWER CONNECTION BOLTS MUST HAVE 2 FLAT WASHERS EACH.
- AFTER GALVANIZING, COLLAR I.D. SHALL EQUAL O.D. OF GALVANIZED POST PLUS 1/8" (±1/16") MAXIMUM GAP BETWEEN POST AND COLLAR AT ANY LOCATION SHALL BE 1/8" BEFORE TIGHTENING BOLTS.
- OPTIONAL FULL PENETRATION WELD IN COLLAR. (TWO LOCATIONS MAXIMUM (180° APART) X-RAY OR UT 100%) ALL BOLTS SHOWN ARE HIGH STRENGTH.
- ORIENT PIPE TOWARD SIGN PANEL SIDE. HOLE IN POST = O.D. PIPE + 1/8".
- OMIT INDICATED STIFFENER IN TRUSS TYPE 20-D.

TABLE D: BOLT SCHEDULE

SPAN LENGTH	POST OUTSIDE DIAMETER	JUNCTURE & COLLAR CONNECTION BOLT DIAMETER	LOWER JUNCTURE BOLT SPACING DIMENSION "c"	PLATE THICKNESS		STIFFENER THICKNESS (t ₂)	NO. OF STIFFENERS	STIFFENERS		
				(t)	(t ₁)			x	y	z
< = 20'	18"	1 1/8"	3 3/8"	1"	3/4"	1/2"	6	5"	6"	8"
21'-30'	18"	1 1/2"	3 3/4"	1 1/8"	7/8"	3/4"	8	5"	6"	8"
31'-40'	24"	1 1/2"	4 1/2"	1 1/4"	1"	3/4"	8	7"	8"	10 1/2"
41'-50'	24"	1 1/2"	4 1/2"	1 1/4"	1"	3/4"	8	7"	8"	10 1/2"

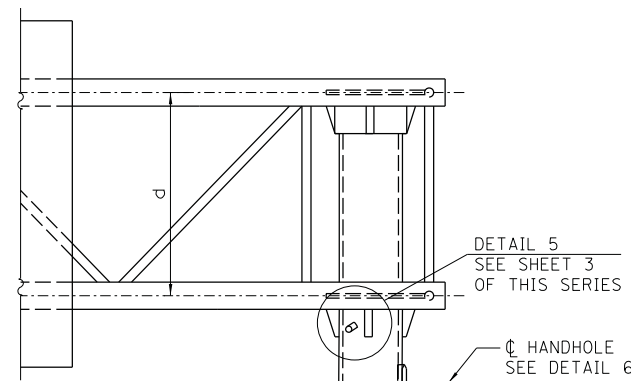
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B.C. = BOLT CIRCLE

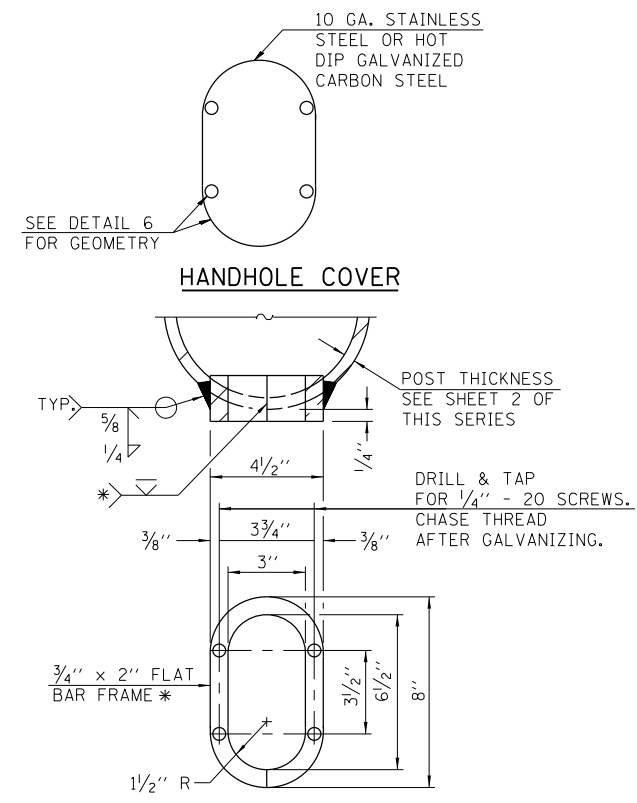
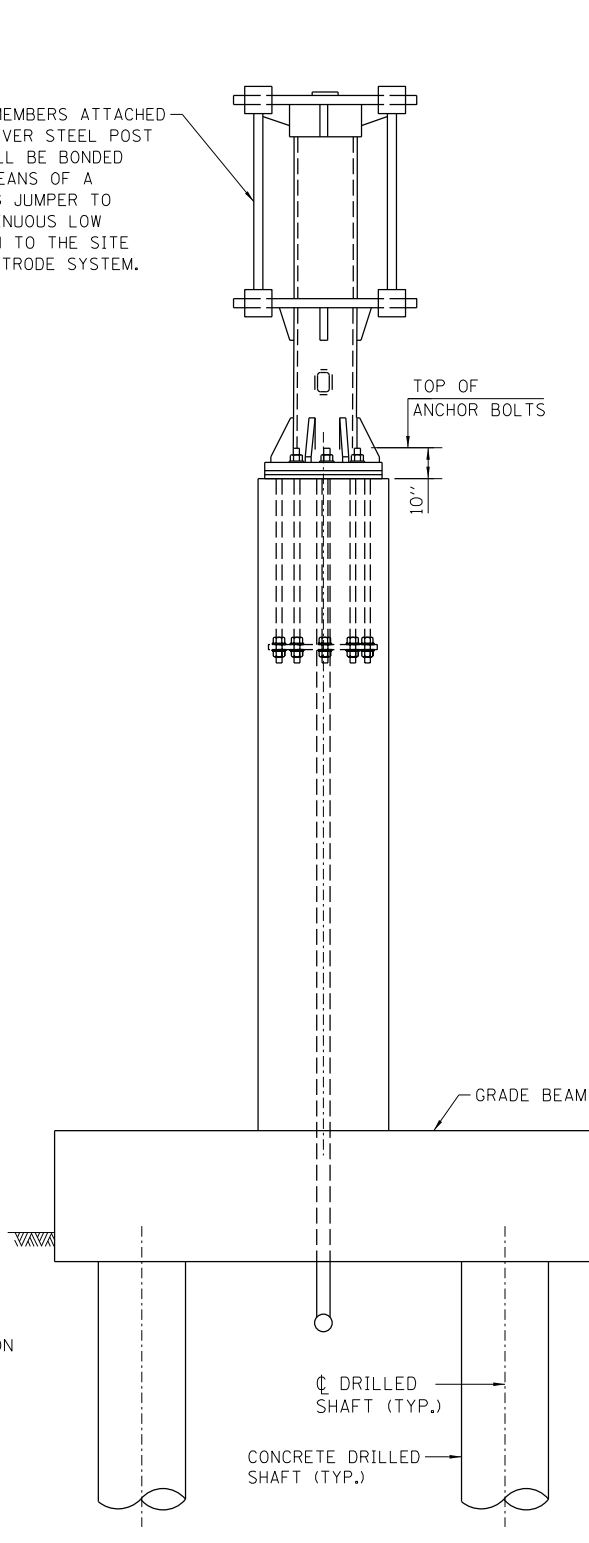
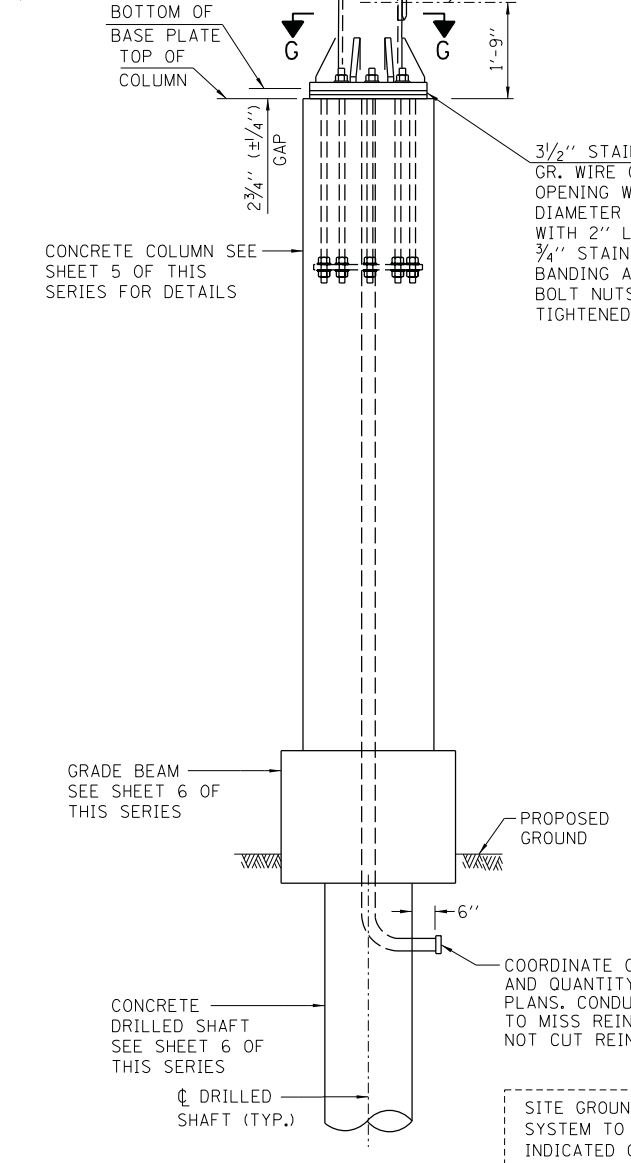


OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
STRUCTURE DETAILS

STANDARD F4-07



ALL METALLIC MEMBERS ATTACHED TO THE CANTILEVER STEEL POST STRUCTURE SHALL BE BONDED TOGETHER BY MEANS OF A COPPER BONDING JUMPER TO CREATE A CONTINUOUS LOW IMPEDANCE PATH TO THE SITE GROUNDING ELECTRODE SYSTEM.

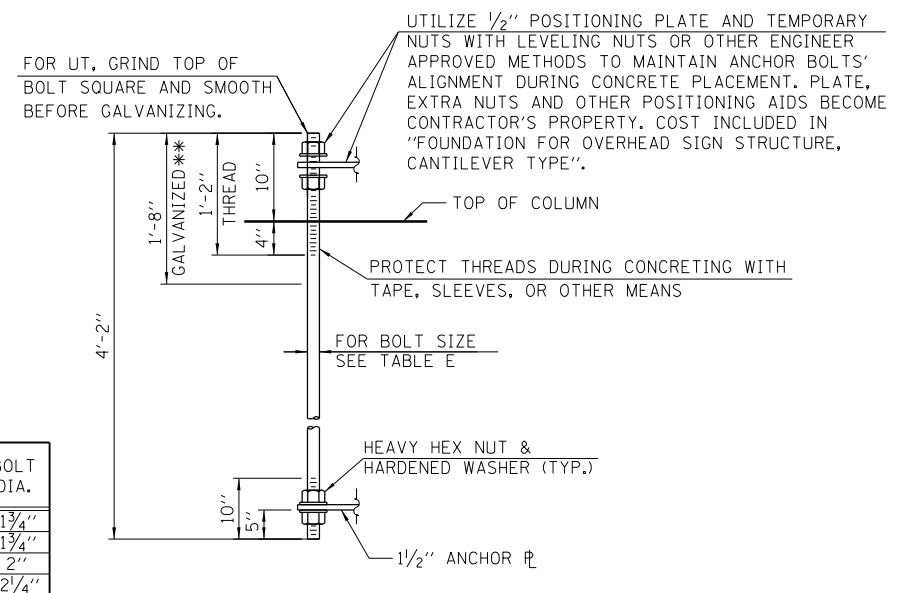
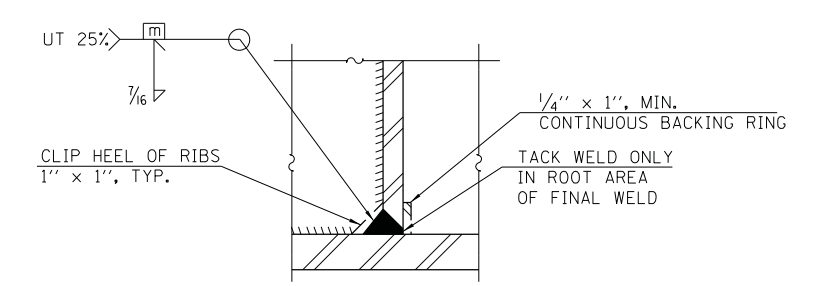
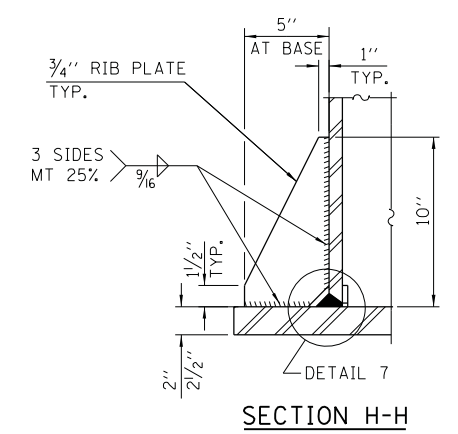


PROVIDE 8" x 4 1/2" COVER. OUTSIDE CORNERS = 2 1/4" RADIUS. PROVIDE 4-5/16" Ø HOLES IN COVER FOR 1/4" - 20 ROUND HEAD HOT DIP GALVANIZED OR STAINLESS STEEL MACHINE SCREWS. (SEE COVER DETAILS.)

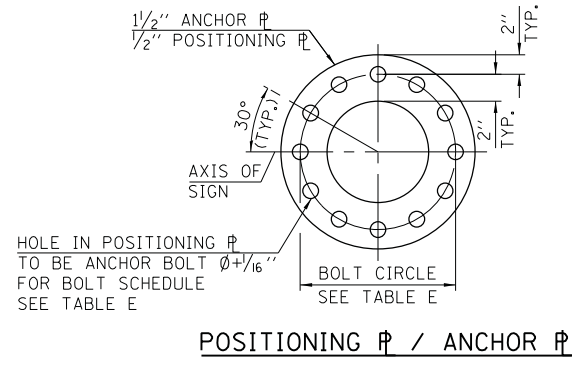
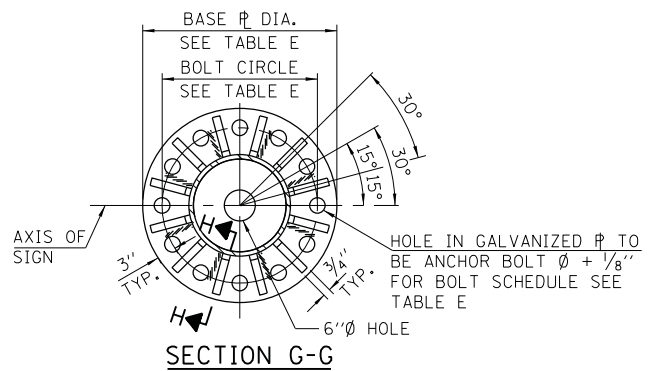
- * BENT BARS MAY BE BUTT WELDED TOP AND BOTTOM OR BOTTOM ONLY. IN LIEU OF FABRICATED HANDHOLE FRAME AS SHOWN, MAY CUT FROM 2" PLATE (ROLLING DIRECTION VERTICAL). ALL CUT FACES TO BE GROUNDED TO ANSI ROUGHNESS OF 500 µIN OR LESS.
- * * 18" IS MINIMUM TO BE GALVANIZED. ENTIRE BOLT MAY BE GALVANIZED AT CONTRACTOR'S OPTION.

TABLE E: BASE PLATE DETAIL

SPAN LENGTH (L)	POST OUTSIDE DIAMETER	BASE PLATE		BOLT CIRCLE	BOLT DIA.
		DIAMETER	THICKNESS		
<= 20'	18"	30"	2"	24"	1 3/4"
21'-30'	18"	30"	2"	24"	1 3/4"
31'-40'	24"	36"	2 1/2"	30"	2"
41'-50'	24"	36"	2 1/2"	30"	2 1/4"



SITE GROUNDING ELECTRODE SYSTEM TO BE PROVIDED AS INDICATED ON THE PLANS.



NOTE:
ANCHOR BOLTS SHALL CONFORM TO AASHTO M314 OR ASTM F1554 AND MEET CHARPY V-NOTCH (CVN) ENERGY OF 15 LB.-FT. AT 10° F. BEFORE GALVANIZING. GALVANIZE THE UPPER 18" (MINIMUM ***) AND ASSOCIATED M291, GRADE A, C OR DH HEAVY HEX NUTS AND HARDENED WASHERS PER AASHTO M293. NO WELDING SHALL BE PERMITTED ON BOLTS. PROVIDE AN UNFINISHED NUT AT BOTTOM, A HEXAGON LOCKNUT AND WASHER ABOVE BASE PLATE AND A LEVELING NUT AND WASHER BELOW BASE PLATE. NUTS SHALL EACH BE TIGHTENED WITH 200 LB.-FT. MINIMUM TORQUE AGAINST BASE PLATE. BEFORE OR AFTER THREADING, BUT BEFORE GALVANIZING, EACH ANCHOR BOLT SHALL BE ULTRASONICALLY TESTED (UT) BY A LEVEL II OR III INSPECTOR, QUALIFIED IN ACCORDANCE WITH ANSI GUIDELINES, USING A STRAIGHT BEAM, 1/2" Ø 3.5 MHZ. TRANSDUCER, TO ENSURE NO REJECTABLE FLAWS EXIST IN THE UPPER 18" (TENSION CRITERIA). COST OF TESTING INCLUDED IN THE COST OF "FOUNDATION FOR OVERHEAD STRUCTURE, CANTILEVER TYPE".

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SHEET 4 OF 9

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
STRUCTURE DETAILS

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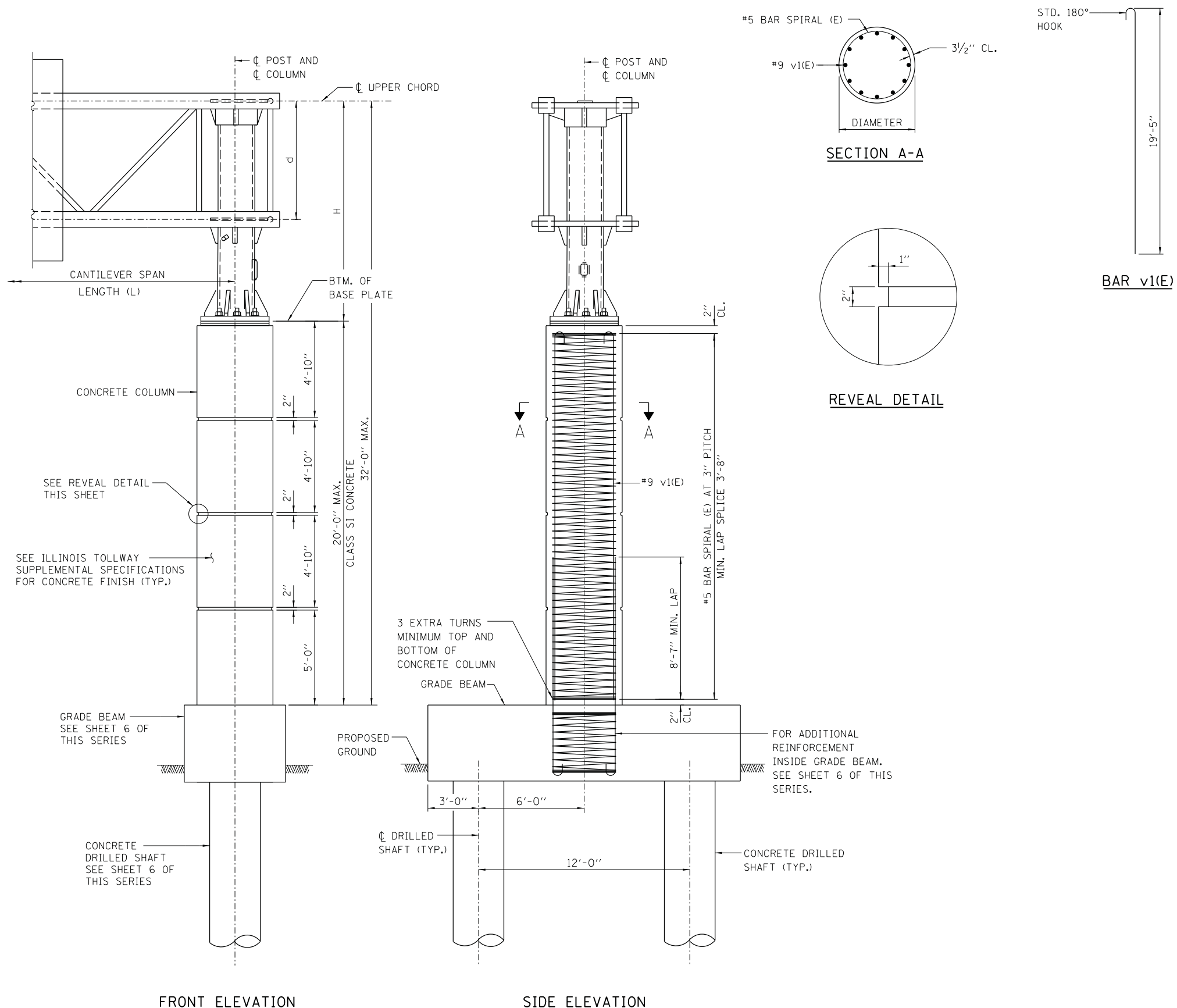


TABLE F: CONCRETE COLUMN DESIGN TABLE

SPAN LENGTH (L)	STEEL POST DIAMETER	CONCRETE COLUMN			
		DIAMETER	VERTICAL BAR	CLASS SI CONC. CU. YD.*	REINF. BARS POUND *
< = 20'	18"	3'-6"	16-#9	7.1	1,910
21'-30'	18"	3'-6"	16-#9	7.1	1,910
31'-40'	24"	4'-0"	20-#9	9.2	2,330
41'-50'	24"	4'-0"	20-#9	9.2	2,330

* CONCRETE VOLUME AND REBAR WEIGHT ARE DETERMINED FOR 20'-0" CONCRETE COLUMN HEIGHT. ADJUST CONCRETE VOLUME AND REBAR WEIGHT ACCORDINGLY IF CONCRETE COLUMN HEIGHT IS LESS THAN 20'-0".

FRONT ELEVATION

SIDE ELEVATION

SECTION A-A

REVEAL DETAIL

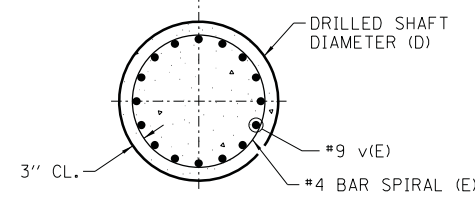
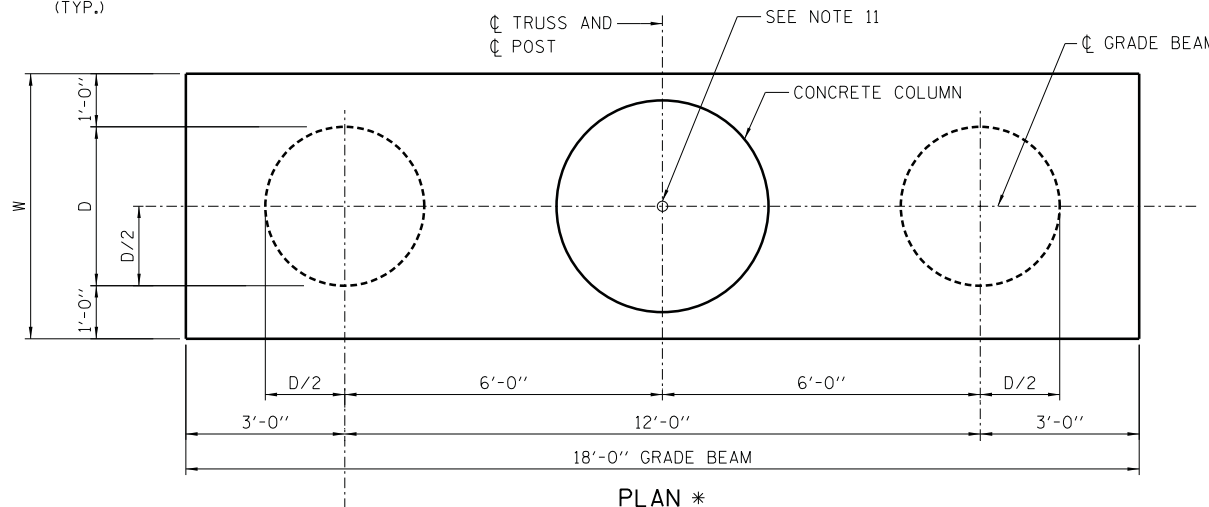
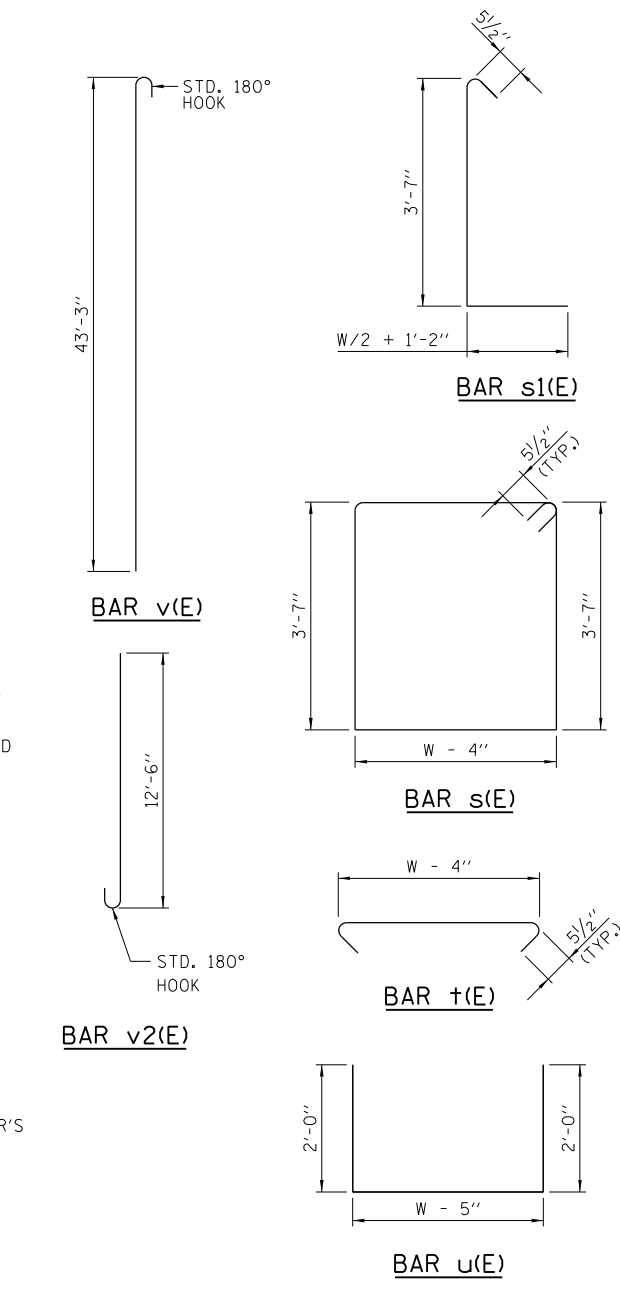
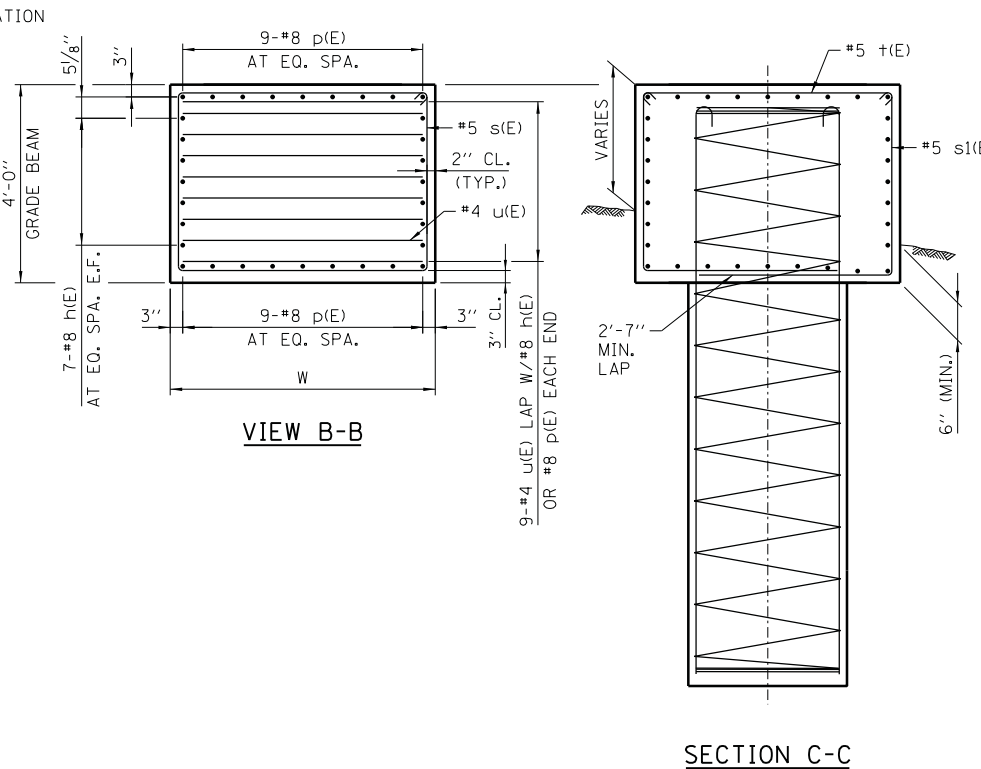
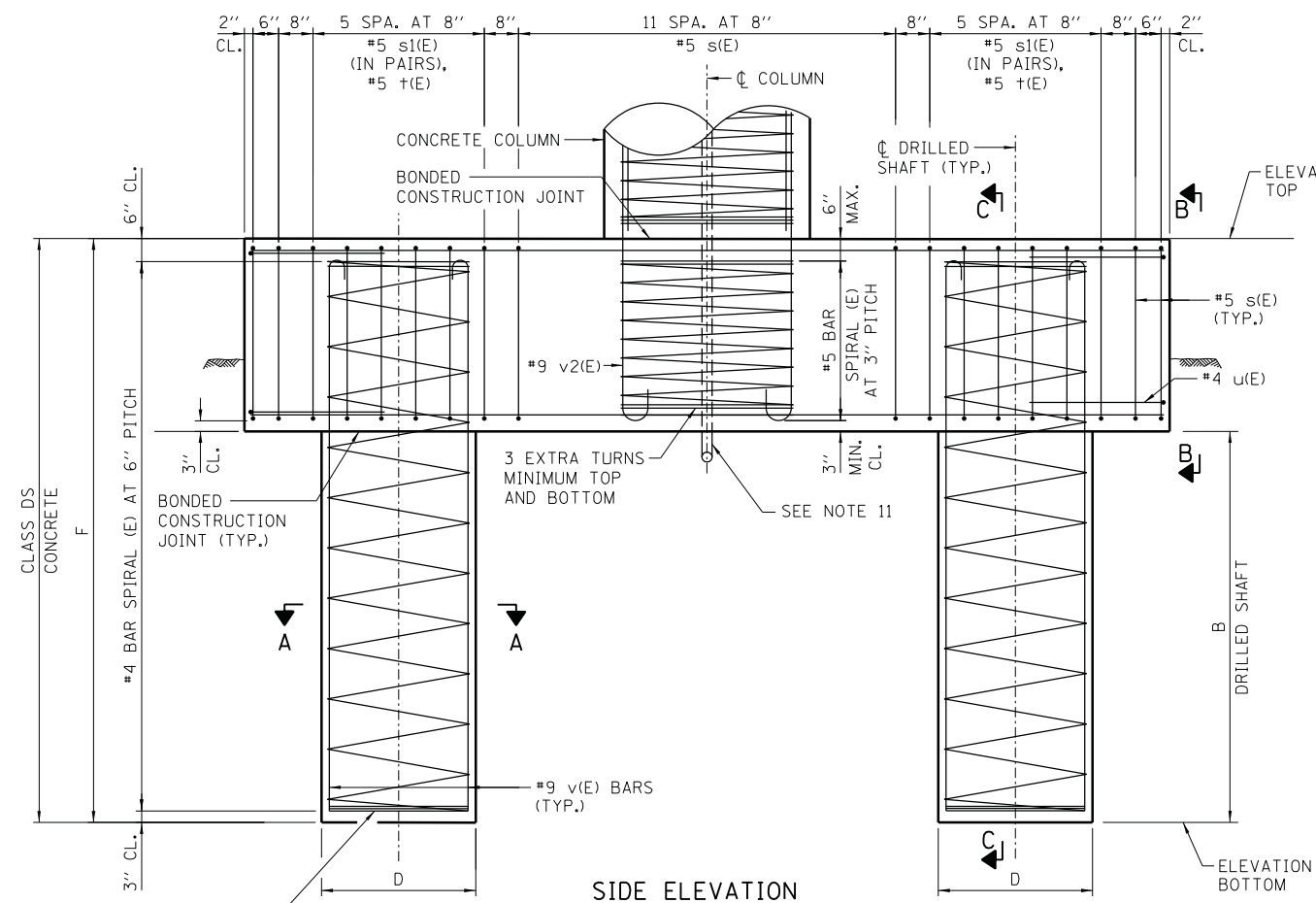


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BAR LIST - EACH FOUNDATION

(2 SHAFT AND 1 GRADE BEAM)

BAR	NUMBER	SIZE	LENGTH		SHAPE
			D = 3'-0"	D = 4'-0"	
h(E)	14	#8	17'-8"	17'-8"	—
p(E)	18	#8	17'-8"	17'-8"	—
s(E)	16	#5	17'-5"	19'-5"	□
s1(E)	24	#5	7'-8 1/2"	8'-2 1/2"	└
t(E)	12	#5	5'-7"	6'-7"	┌
u(E)	18	#4	8'-7"	9'-7"	┌
v(E)	SEE TABLE G	#9	44'-6"	44'-6"	┌
v2(E)	SEE TABLE G	#9	13'-9"	13'-9"	┌
*4 BAR SPIRAL (E) - SEE SIDE ELEVATION					
*5 BAR SPIRAL (E) - SEE SIDE ELEVATION					



NOTES:

1. THE FOUNDATION DETAILS SHOWN ARE BASED ON THE PRESENCE OF MOSTLY COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY), WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH (QU) > 1.25 TON/SQ. FT. WHICH MUST BE DETERMINED BY PREVIOUS SOIL INVESTIGATIONS AT THE JOBSITE. WHEN OTHER CONDITIONS ARE INDICATED, THE BORING DATA SHALL BE INCLUDED IN THE PLANS AND THE FOUNDATION DIMENSIONS SHOWN SHALL BE THE RESULT OF SITE SPECIFIC DESIGNS. IF CONDITIONS ENCOUNTERED IN THE FIELD ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION DIMENSIONS NEED TO BE MODIFIED.
2. ALL MATERIAL, FABRICATION, AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
3. CONCRETE SHALL BE PLACED MONOLITHICALLY, WITHOUT CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.
4. BACKFILL SHALL BE PLACED PER SECTION 502 OF THE STANDARD SPECIFICATION AND PRIOR TO ERECTION OF CONCRETE COLUMN.
5. SEE NOTE 7 OF GENERAL NOTES ON SHEET 1 OF THIS SERIES.
6. ALL REBAR DESIGNATED (E) SHALL BE EPOXY COATED. REBAR SHALL BE POSITIONED SO THAT THERE WILL BE NO INTERFERENCE BETWEEN VERTICAL REINFORCEMENT AND STIRRUPS.
7. FURNISHING AND INSTALLING ALL CONDUIT, FITTINGS AND GROUNDING SYSTEM IS INCLUDED IN THE COST OF "FOUNDATION FOR OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE".
8. NO SONOTUBES OR DECOMPOSABLE FORMS SHALL BE USED 6" BELOW THE FINISHED GROUND LINE. PERMANENT METAL FORMS OR OTHER SHIELDING MAY NOT BE LEFT IN PLACE BELOW THE ELEVATION WITHOUT THE ENGINEER'S WRITTEN PERMISSION. EXCAVATIONS SHALL BE DEWATERED BEFORE CONCRETE PLACEMENT IF DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
9. FOR SIZE AND NUMBER OF PVC COATED STEEL CONDUITS, SEE ELECTRICAL CONSTRUCTION DRAWINGS.
10. TYPICAL SIGN STRUCTURE FOUNDATION IS SHOWN ON THIS SHEET. SEE SHEET 7 OF THIS SERIES FOR FOUNDATION LOCATED IN ROADWAY MEDIAN.
11. COORDINATE CONDUIT SIZE, LOCATION AND QUANTITY WITH ELECTRICAL PLANS. CONDUITS SHALL BE PLACED TO MISS REINFORCEMENT BARS. DO NOT CUT REINFORCEMENT BARS.

NOTE:
 * REINFORCEMENT IN GRADE BEAM NOT SHOWN FOR CLARITY.
 ** FOR GRADE BEAM ONLY.

BAR SPIRAL LAP SPLICE	
BAR	MIN. LAP
#4	2'-11"
#5	3'-8"

TABLE G: DESIGN TABLE FOR DRILLED SHAFTS IN COHESIVE SOILS

SPAN LENGTH (L)	W	D	B	F	VERTICAL BAR		CLASS DS CONC. CU. YD.**	CLASS DS CONC. CU. YD.	REINF. BARS POUND
					v(E)	v2(E)			
< = 20'	5'-0"	3'-0"	40'	44'	12-#9	16-#9	13.4	21	7,680
21'-30'	5'-0"	3'-0"	40'	44'	12-#9	16-#9	13.4	21	7,680
31'-40'	6'-0"	4'-0"	40'	44'	20-#9	20-#9	16	37.3	9,570
41'-50'	6'-0"	4'-0"	40'	44'	20-#9	20-#9	16	37.3	9,570

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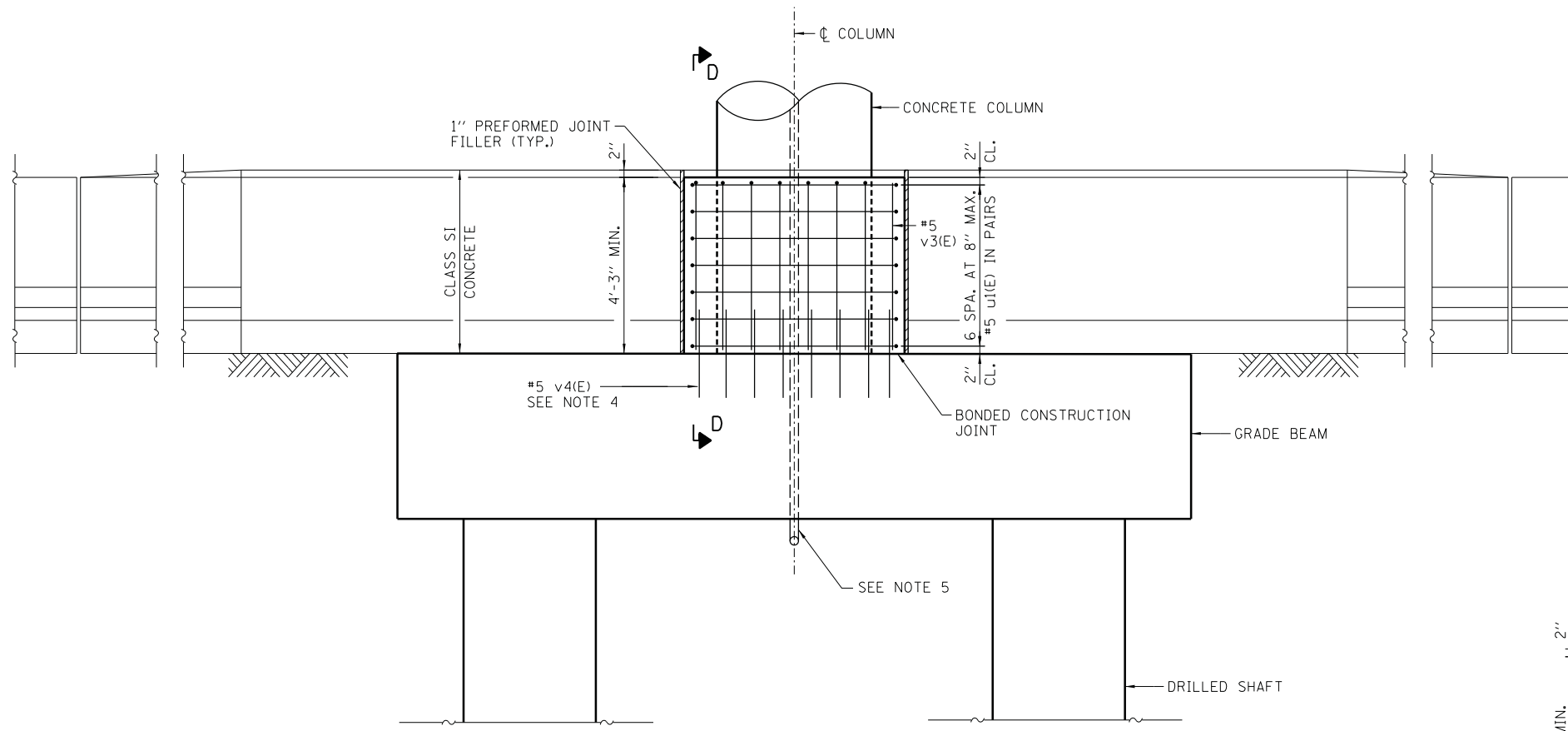


OVERHEAD SIGN STRUCTURE
 CANTILEVER TYPE
 STRUCTURE DETAILS

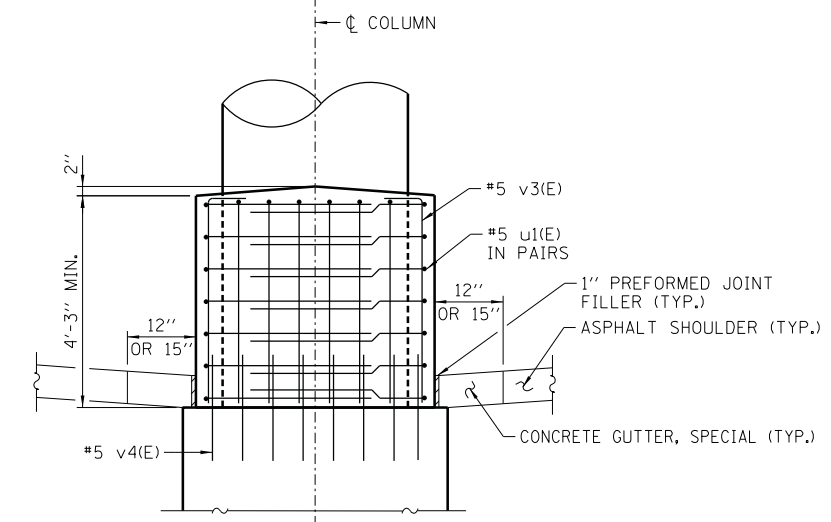
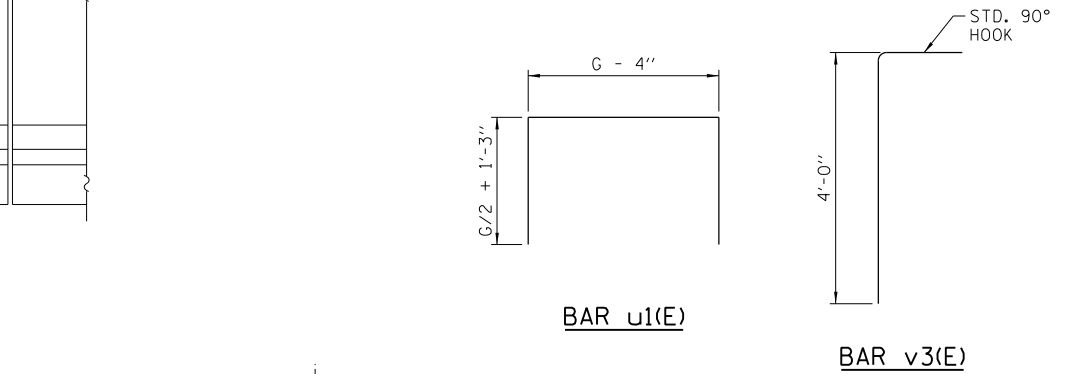
STANDARD F4-07

BAR LIST - CRASHWALL

BAR	SIZE	G = 4'-6"		G = 5'-0"		SHAPE
		NUMBER	LENGTH	NUMBER	LENGTH	
u1(E)	#5	14	11'-2"	14	12'-2"	
v3(E)	#5	24	4'-10"	28	4'-10"	
v4(E)	#5	24	2'-0"	28	2'-0"	



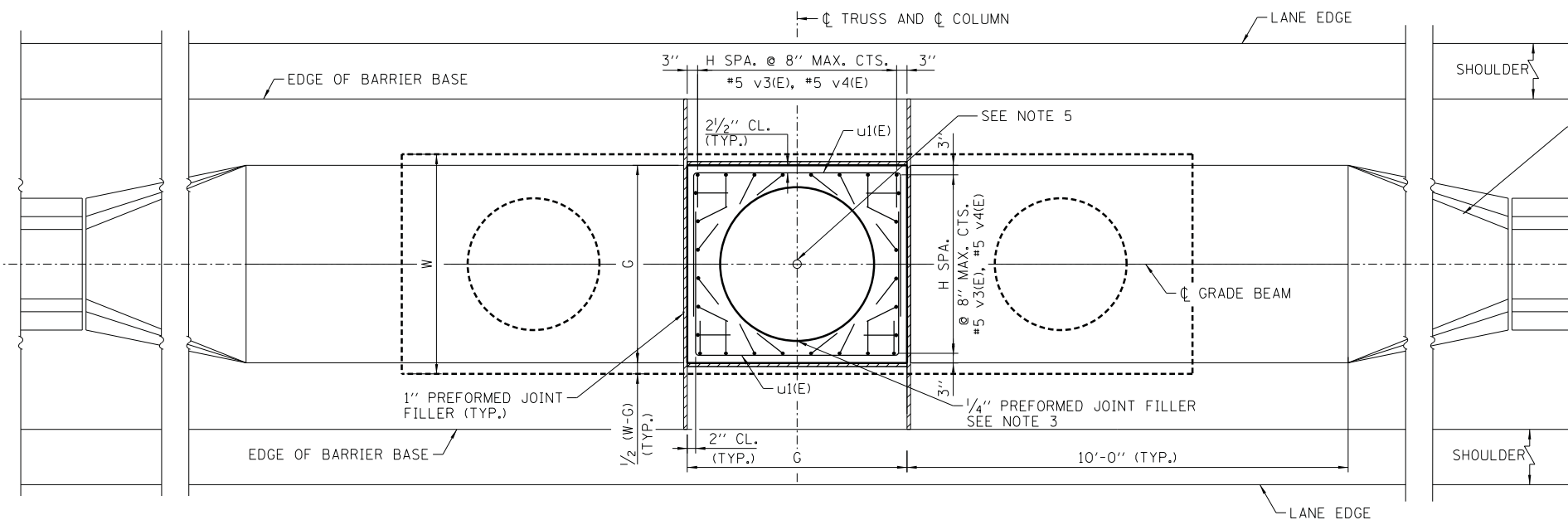
SIDE ELEVATION



SECTION D-D

NOTES:

- SEE SHEET 6 OF THIS SERIES FOR ADDITIONAL NOTES.
- GRADE BEAM AND DRILLED SHAFT DIMENSIONS, DETAILS, QUANTITIES AND BAR LIST ARE SHOWN ON SHEET 6 OF THIS SERIES.
- SEAL EXPOSED SURFACE OF 1/4" PREFORMED JOINT FILLER WITH BACKER ROD AND SILICONE SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- #5 DRILLED ANCHOR BARS WILL BE EPOXY GROUTED AASHTO M31, GRADE 60 REBAR. PROVIDE 12" MINIMUM EMBEDMENT. INSTALL ANCHORS ACCORDING TO STANDARD SPECIFICATIONS SECTION 584. LOCATE GRADE BEAM REBAR PRIOR TO DRILLING. DO NOT DAMAGE GRADE BEAM REBAR DURING INSTALLATION.
- COORDINATE CONDUIT SIZE, LOCATION AND QUANTITY WITH ELECTRICAL PLANS. CONDUITS SHALL BE PLACED TO MISS REINFORCEMENT BARS. DO NOT CUT REINFORCEMENT BARS.
- PROTECTIVE COAT SHALL BE APPLIED TO TRAFFIC AND TOP FACES OF CRASHWALL.

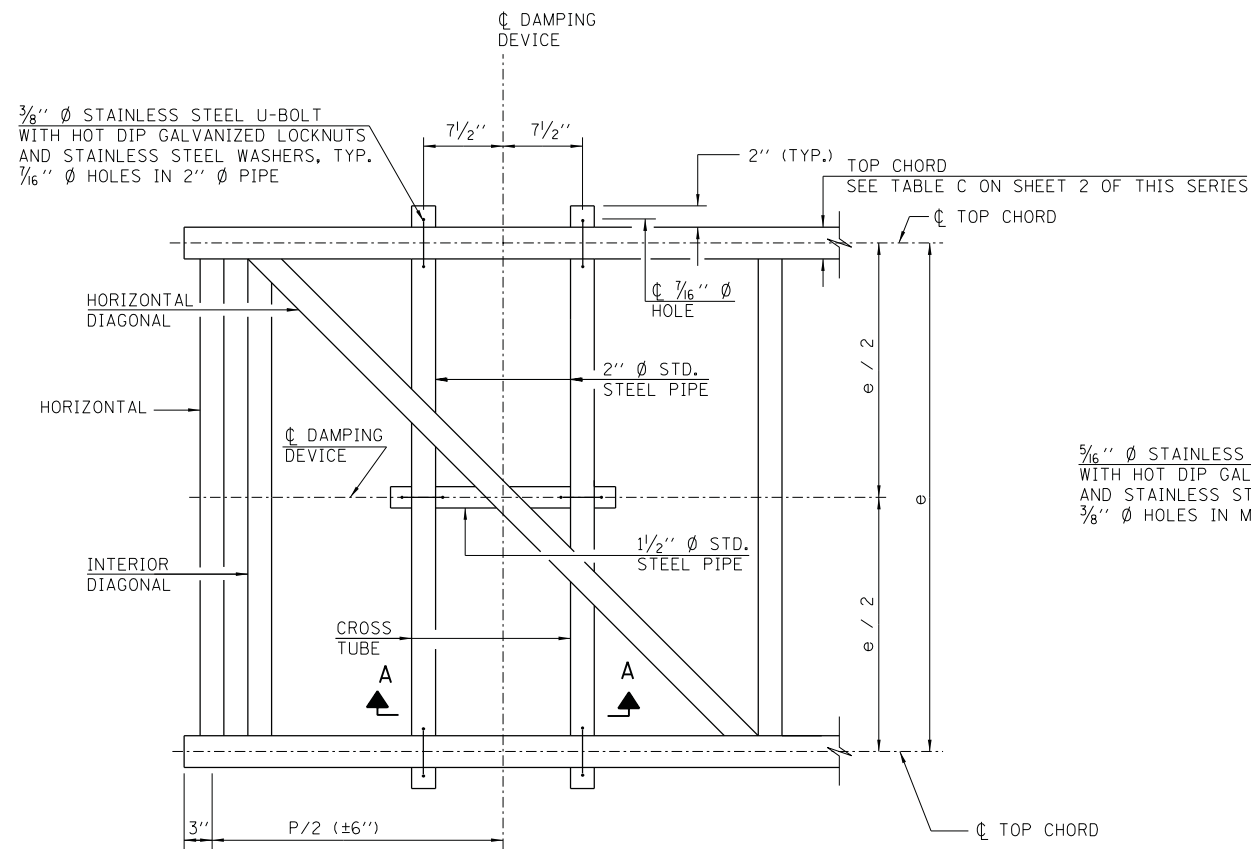


PLAN

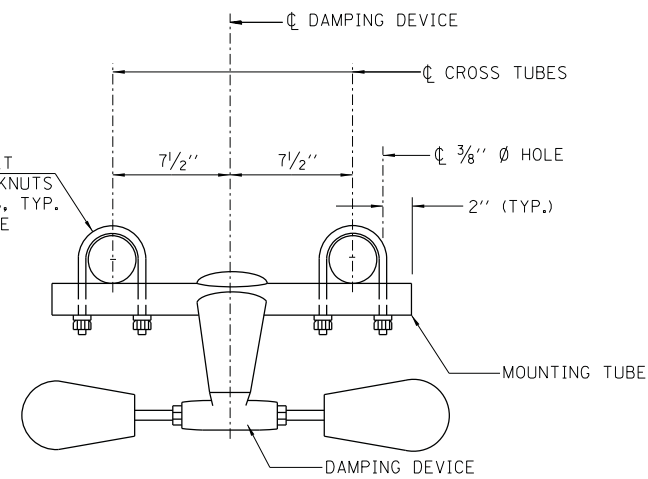
TABLE H: DESIGN TABLE FOR CRASHWALL

SPAN LENGTH (L)	W	G	H	CLASS S1 CONCRETE CU. YD.	REINF. BARS POUND	PROTECTIVE COAT SQ. YD.
< = 20'	5'-0"	4'-6"	6	1.7	340	6.0
21'-30'	5'-0"	4'-6"	6	1.7	340	6.0
31'-40'	6'-0"	5'-0"	7	2.0	380	7.0
41'-50'	6'-0"	5'-0"	7	2.0	380	7.0

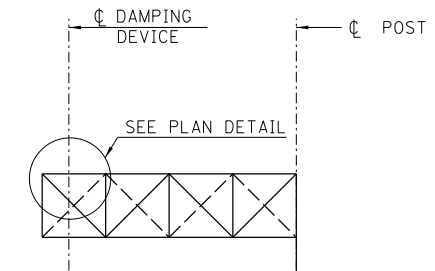




PLAN DETAIL

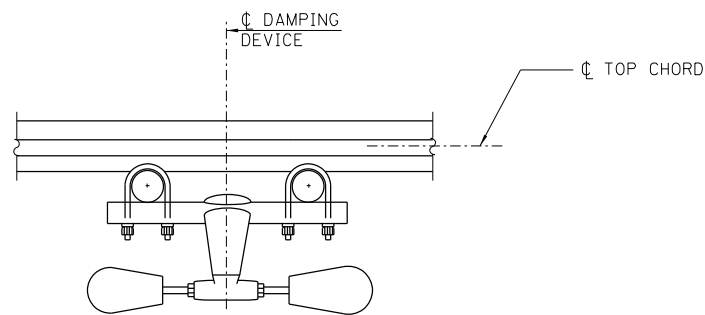


TRUSS DAMPING DEVICE CONNECTION DETAIL

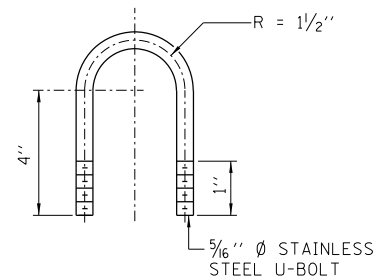


ELEVATION

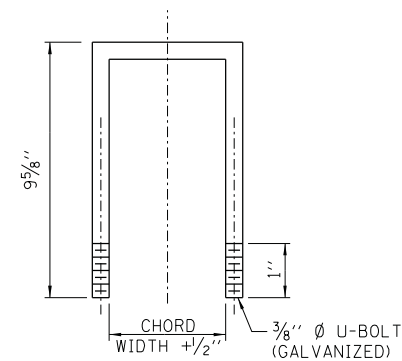
NOTE:
 DAMPER: ONE DAMPER PER TRUSS. (31 LBS. STOCKBRIDGE-TYPE 29" MINIMUM BETWEEN ENDS OF WEIGHTS) COST INCLUDED IN THE COST OF "OVERHEAD SIGN STRUCTURE, CANTILEVER TYPE (STEEL)."



SECTION A-A



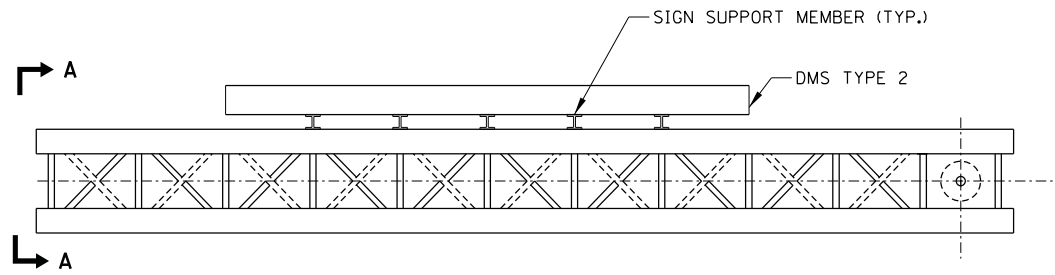
DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL (TYPICAL)



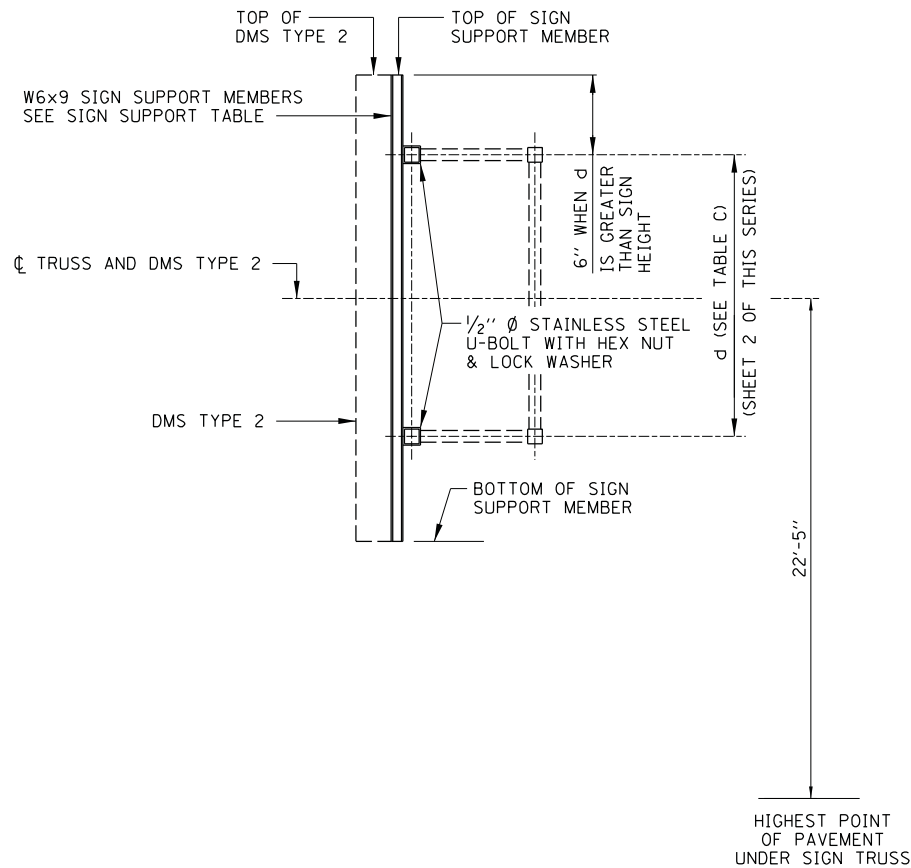
TOP CHORD TO CROSS TUBE U-BOLT DETAIL (TYPICAL)

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PLAN



SECTION A-A

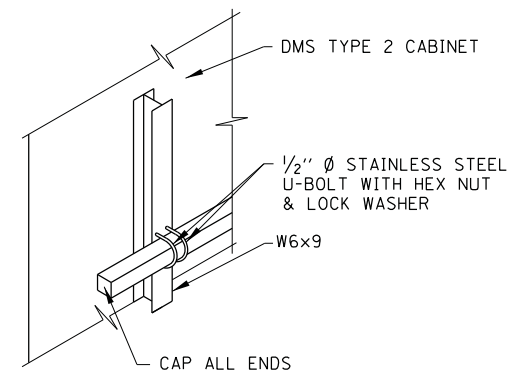
DMS TYPE 2 SUPPORT DETAIL

TABLE I: SIGN SUPPORT TABLE

SIGN WIDTH		NUMBER OF SIGN SUPPORTS REQUIRED
GREATER THAN	LESS THAN OR EQUAL TO	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

TABLE J: DMS TYPE 2 TABLE

MAXIMUM TRUSS LENGTH	MAXIMUM DMS TYPE 2 SIGN SIZE			MAXIMUM WEIGHT
	HEIGHT	WIDTH	DEPTH	
25 FEET	4'-0"	10'-0"	1'-0"	1200 LBS.
30 FEET	5'-0"	16'-0"	1'-0"	2000 LBS.
40 FEET	8'-0"	26'-0"	2'-2"	3100 LBS.

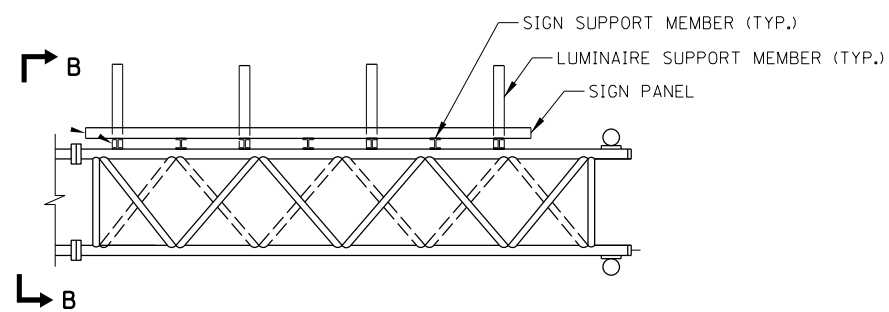
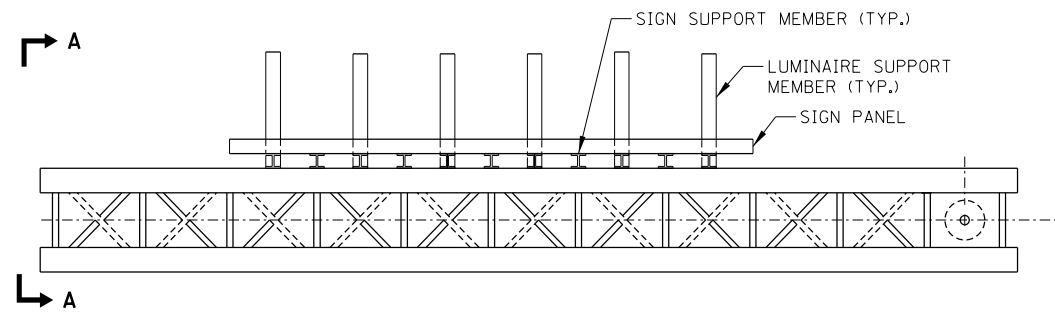


STAINLESS STEEL U-BOLT DETAIL

NOTES:

1. DMS TYPE 2 SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
2. VERIFY SIGN SUPPORT MEMBER LENGTH PRIOR TO FABRICATION.
3. DMS TYPE 2 MANUFACTURER SHALL DESIGN, PROVIDE AND INSTALL HORIZONTAL MOUNTING MEMBERS. VERTICAL SPACING OF HORIZONTAL MEMBERS SHALL BE DESIGNED BY DMS TYPE 2 MANUFACTURER. VERIFY VERTICAL SPACING WITH HOLES FOR STAINLESS STEEL U-BOLT.
4. ALTERNATE DMS TYPE 2 DIMENSIONS MAY BE ACCEPTABLE UPON ILLINOIS TOLLWAY'S APPROVAL. CONSULT WITH THE ILLINOIS TOLLWAY BEFORE USING DMS TYPE 2 WITH ALTERNATE DIMENSIONS.





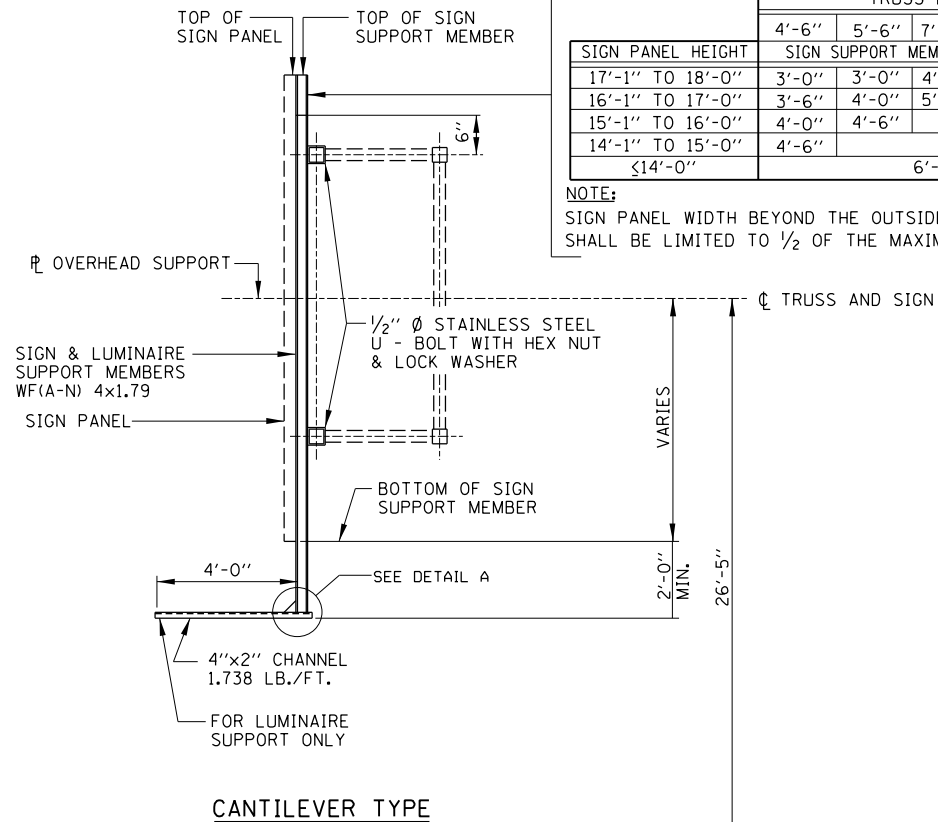
PLAN

PLAN

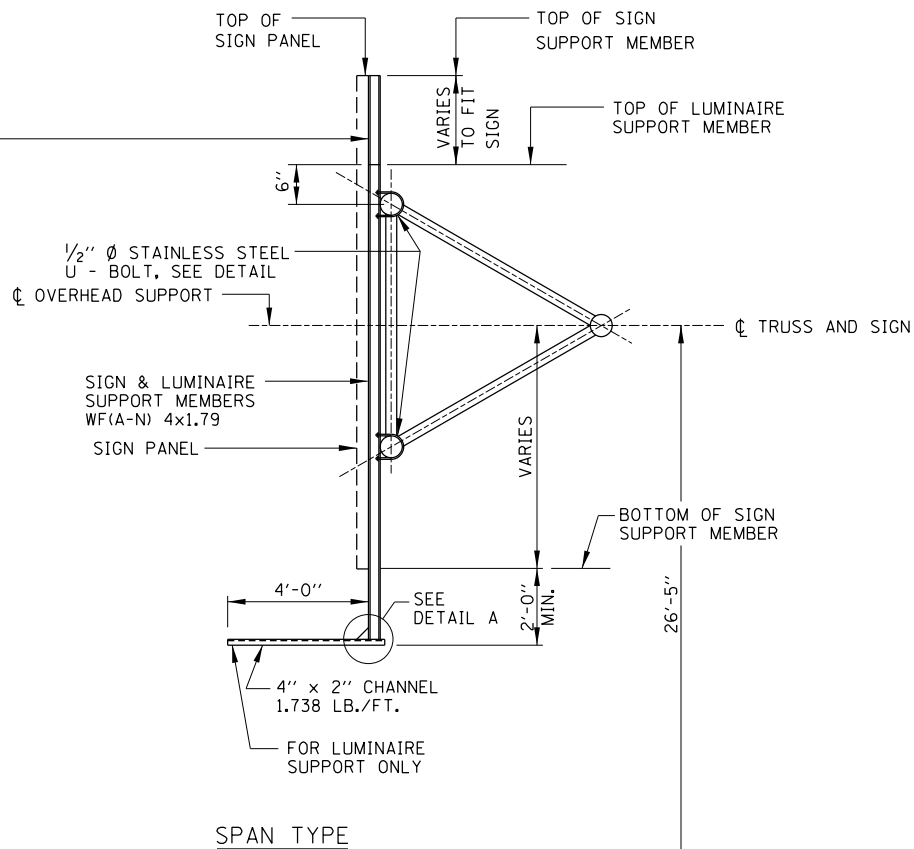
SIGN SUPPORT MEMBERS-WF(A-N) 4x1.79

SIGN PANEL HEIGHT	TRUSS DEPTH				
	4'-6"	5'-6"	7'-0"	8'-2"	8'-10"
17'-1" TO 18'-0"	3'-0"	3'-0"	4'-6"	5'-6"	6'-0"
16'-1" TO 17'-0"	3'-6"	4'-0"	5'-0"	6'-0"	
15'-1" TO 16'-0"	4'-0"	4'-6"		6'-0"	
14'-1" TO 15'-0"	4'-6"		6'-0"		
≤14'-0"			6'-0"		

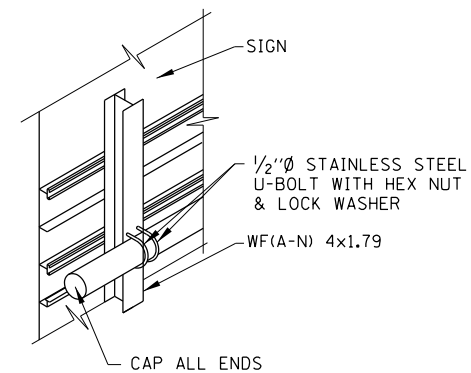
NOTE:
SIGN PANEL WIDTH BEYOND THE OUTSIDE VERTICAL MEMBER SHALL BE LIMITED TO 1/2 OF THE MAXIMUM SPACING



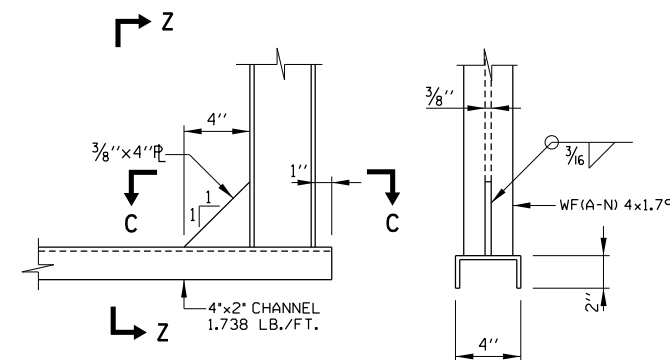
SECTION A-A



SECTION B-B

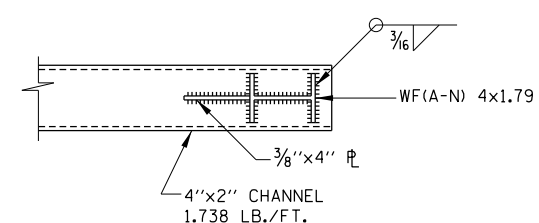


STAINLESS STEEL U-BOLT DETAIL



DETAIL A

SECTION Z-Z



SECTION C-C

NOTES:
ALL MATERIAL IS ALUMINUM (UNLESS OTHERWISE NOTED).

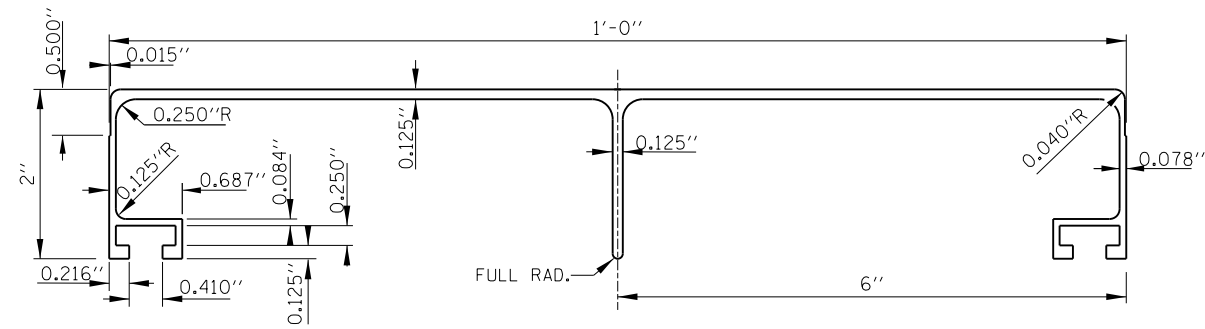
- NOTES:
- SIGN PANEL SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
 - LUMINAIRE SUPPORT MEMBERS TO BE INSTALLED ONLY WHEN SIGN STRUCTURE IS TO BE ILLUMINATED. DESIGNER TO DETERMINE REQUIREMENTS BASED ON ROADWAY GEOMETRY.

APPROVED... *Paul Kovacs* ... DATE 2-7-2012...
CHIEF ENGINEER

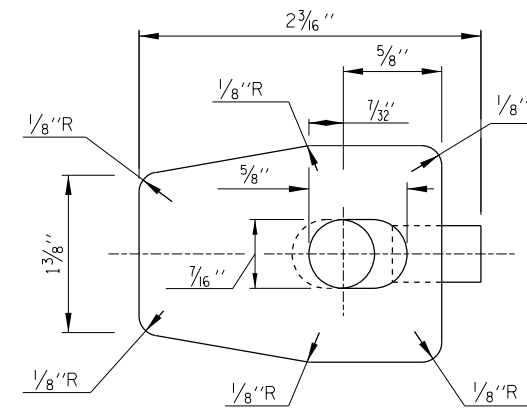
DATE	REVISIONS
1-1-2009	ADDED PLAN VIEWS FOR SIGN STRUCTURES
2-7-2012	REVISED OVERHEAD SIGN STRUCTURE CANTILEVER DIAGONALS
2-1-2013	REMOVED VERTICAL CLEARANCE.
3-31-2014	REVISED SIGN SUPPORT MEMBERS
3-11-2015	REVISED VERTICAL CL. AND SIGN SUPPORT

OVERHEAD SIGN STRUCTURE
SIGN AND LUMINAIRE
SUPPORTS

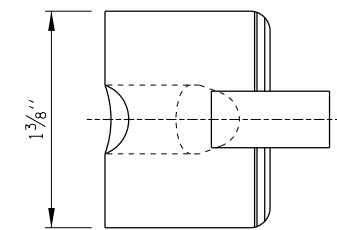
STANDARD F8-05



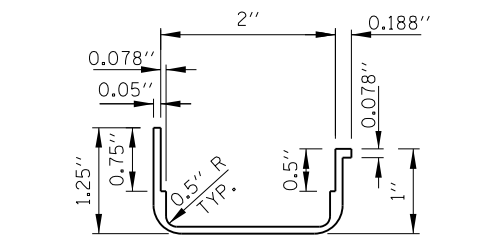
12" PANEL
TYPE B SIGN PANEL EXTRUSIONS



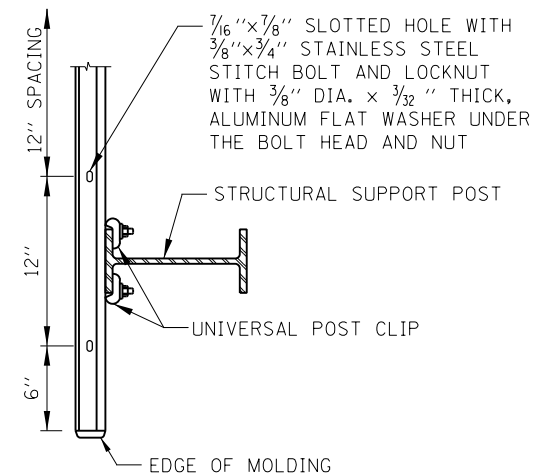
PLAN VIEW



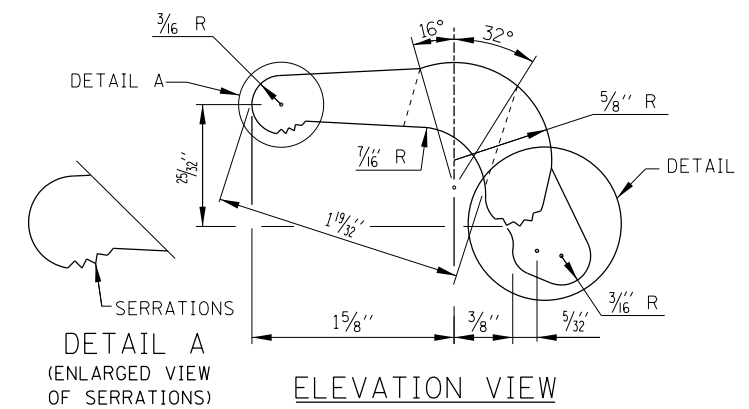
END VIEW



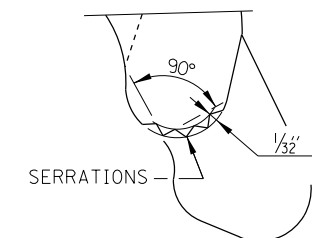
EDGE MOLDING SECTION
FOR SIGN PANEL



SECTION C-C

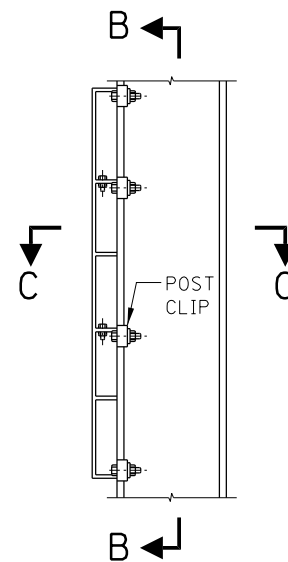


ELEVATION VIEW

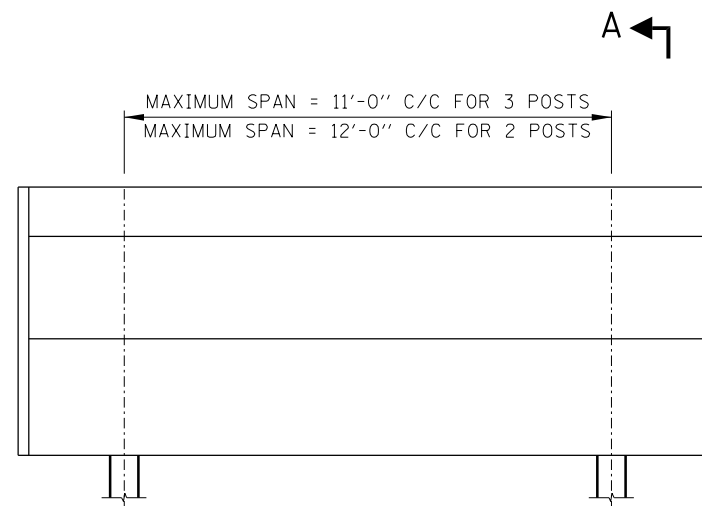


DETAIL B
(ENLARGED DETAIL
OF SERRATIONS)

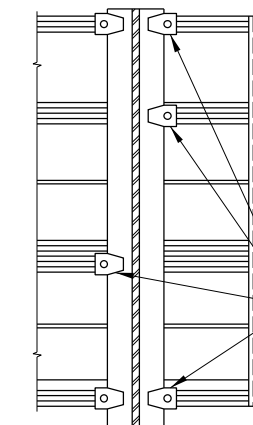
ALUMINUM CLIP DETAIL



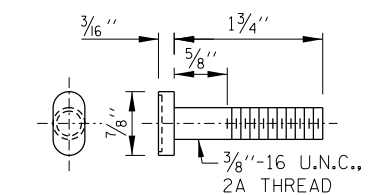
SECTION A-A



FACE OF SIGN PANEL



SECTION B-B



POST CLIP BOLT
STAINLESS STEEL

PROVIDE TWO (2) POST CLIPS AT TOP AND BOTTOM. ALTERNATE INTERIOR POST CLIPS ON SIGNS UNDER 24 FEET LONG AND OVER HEAD MOUNTED SIGNS. DO NOT ALTERNATE INTERIOR CLIPS ON OTHER SIGNS. A 3/8" DIA. x 3/32" THICK, ALUMINUM FLAT WASHER SHALL BE USED UNDER EACH NUT TO PREVENT GOUGING OF THE CLIP.

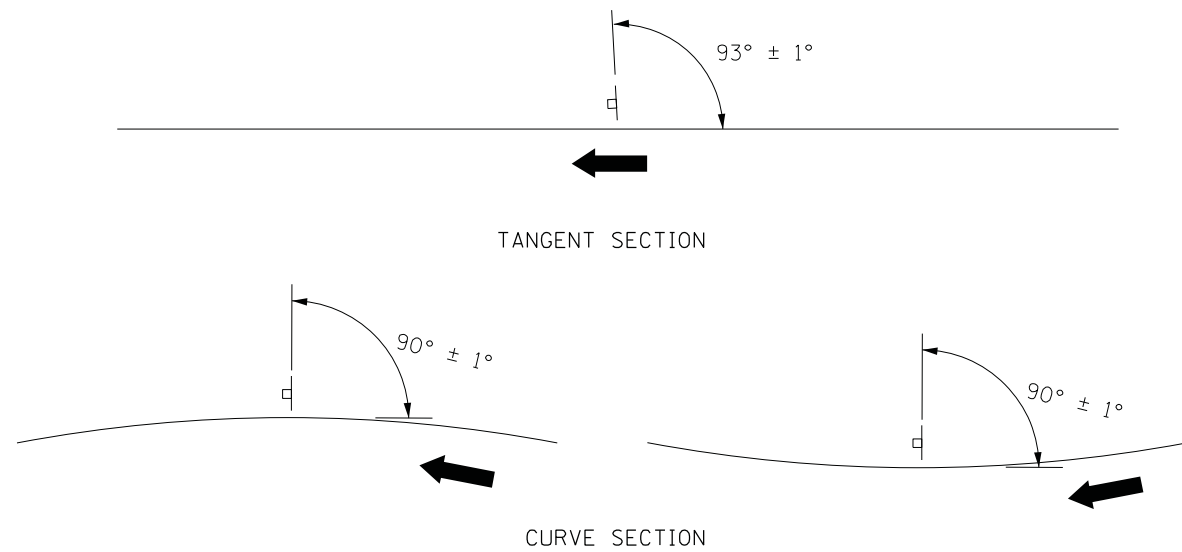


DATE	REVISIONS
1-1-2009	MODIFIED TYPE B SIGN PANEL DIM.
	MODIFIED POST CLIP DETAIL
2-7-2012	REMOVED DETAIL FOR MOUNTING 2 PANEL SIGN
3-11-2015	ADDED WASHERS TO CONNECTION DETAILS

MISCELLANEOUS DETAILS
AND ALUMINUM SIGN PANELS

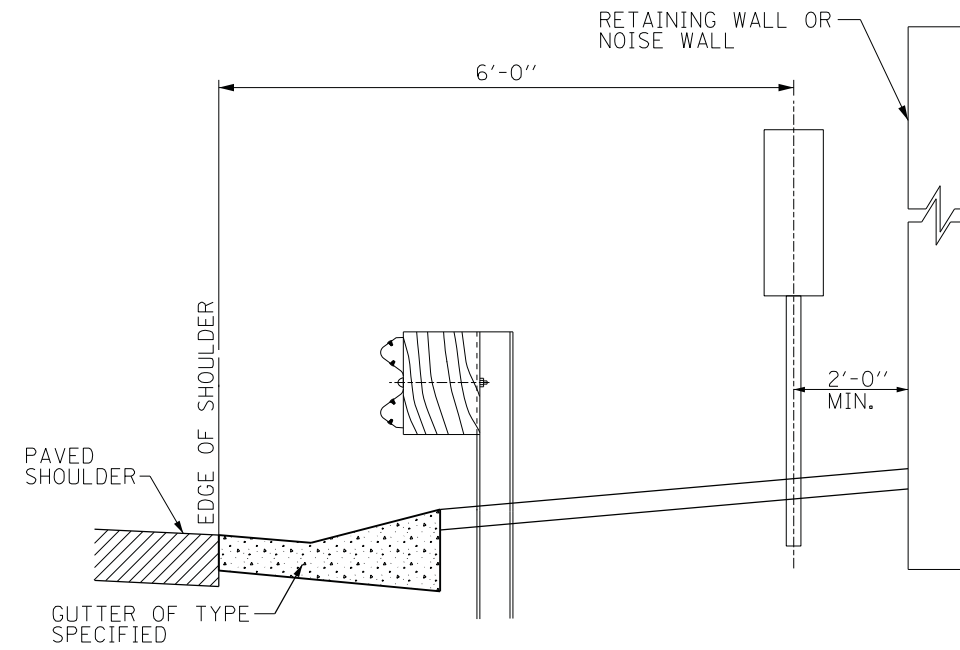
STANDARD F10-03

APPROVED...
Paul Kovacs
CHIEF ENGINEER
DATE 2-7-2012...



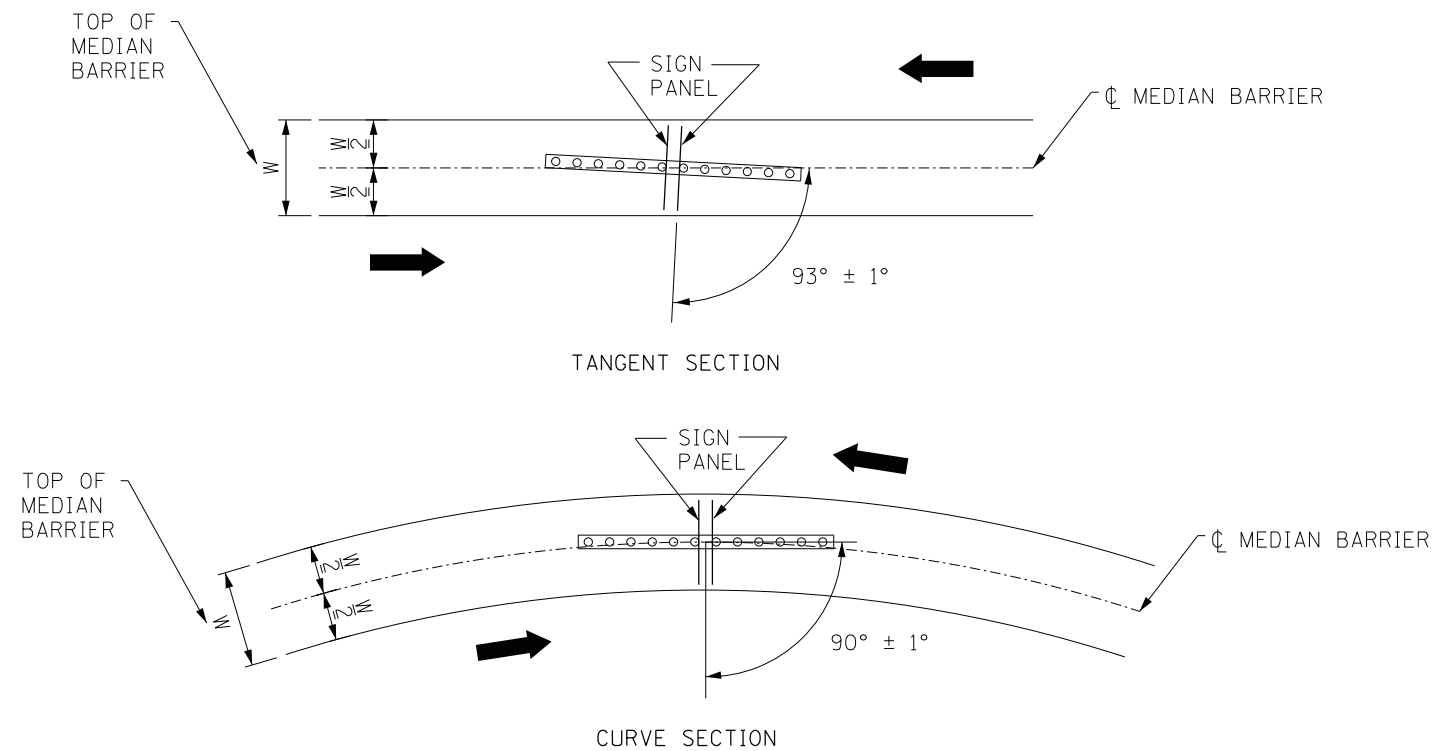
GROUND MOUNT SIGN POSITIONING

NOT TO SCALE



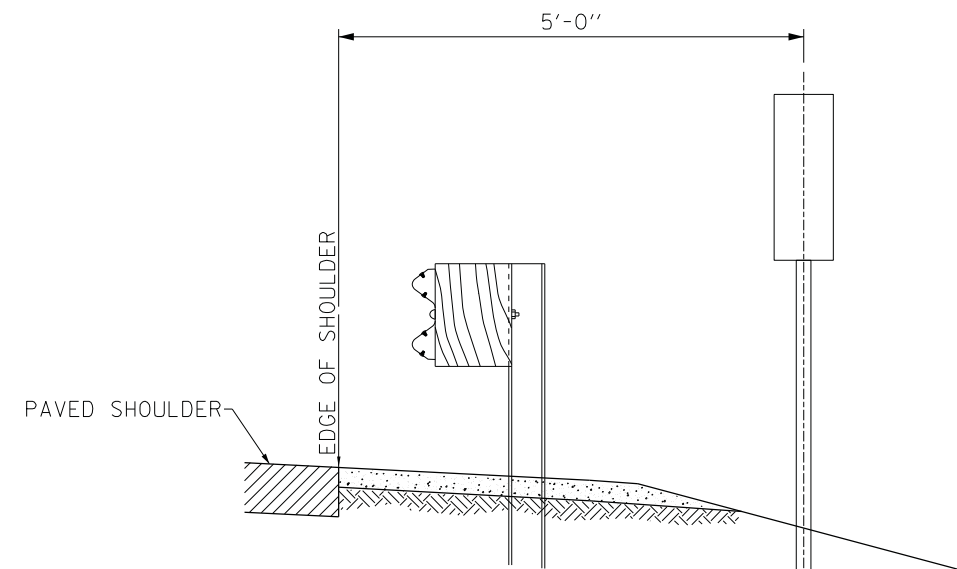
SECTION WITH GUTTER

NOT TO SCALE



MEDIAN BARRIER SIGN POSITIONING

NOT TO SCALE



SECTION WITHOUT GUTTER

NOT TO SCALE

← DIRECTION OF TRAFFIC

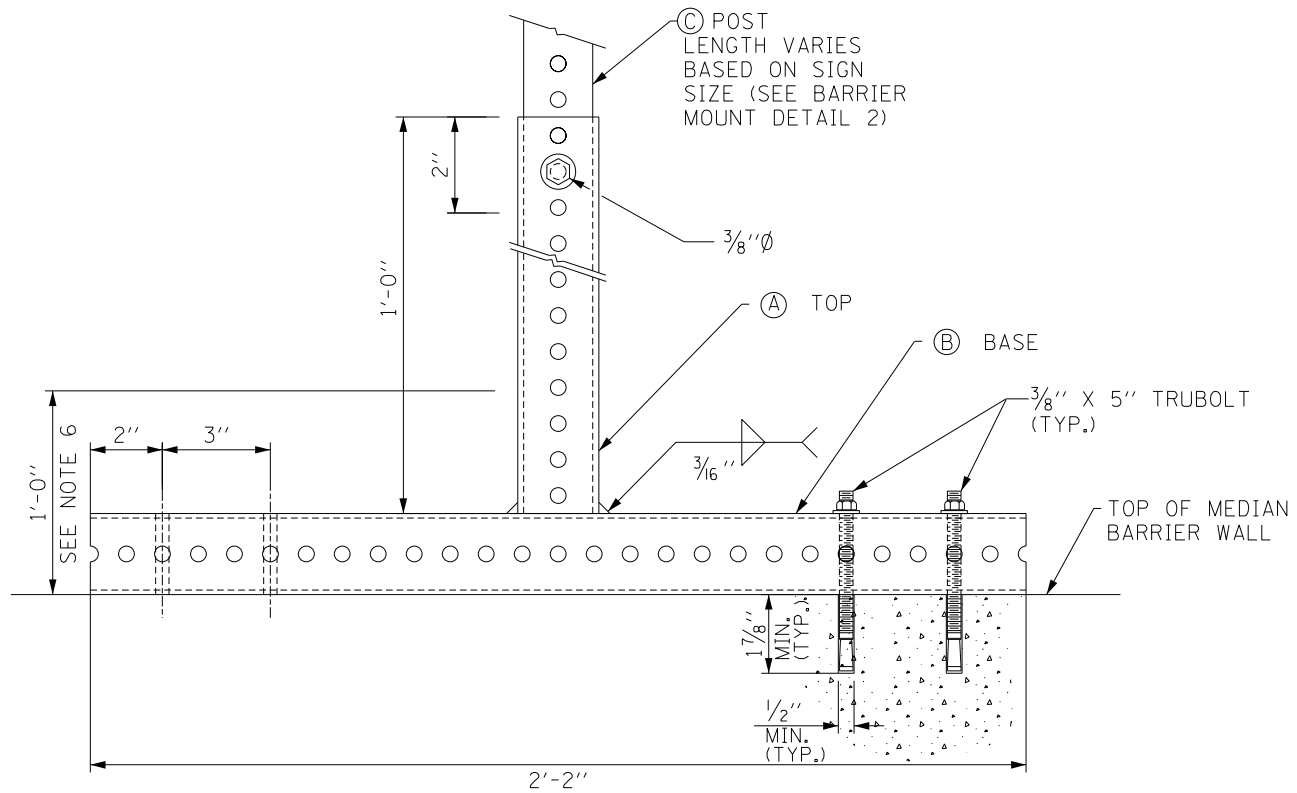


MILEPOST MARKER

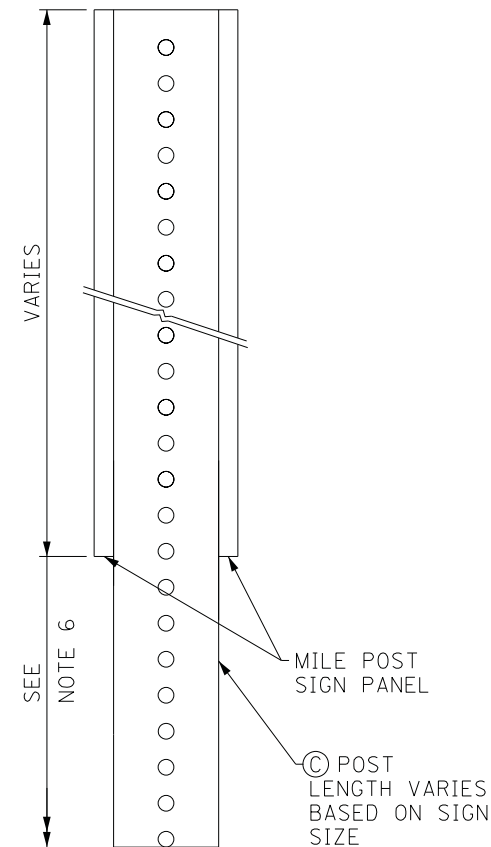
STANDARD F11-04

DATE	REVISIONS
5-8-2009	POSITIONING DETAILS
8-1-2009	REVISED BARRIER WALL MOUNT
3-1-2013	REMOVED MILE POST SIGNS
3-31-2016	REVISED BOLT NOTE

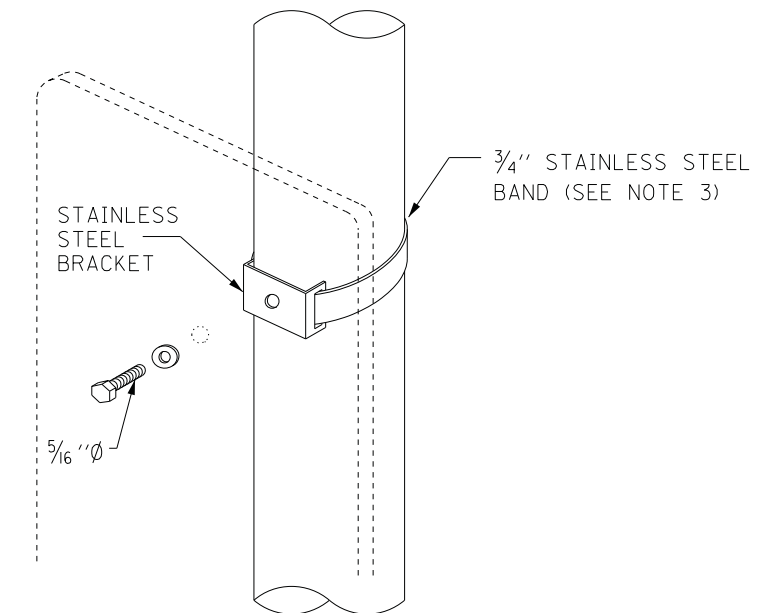
APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 4-6-2009



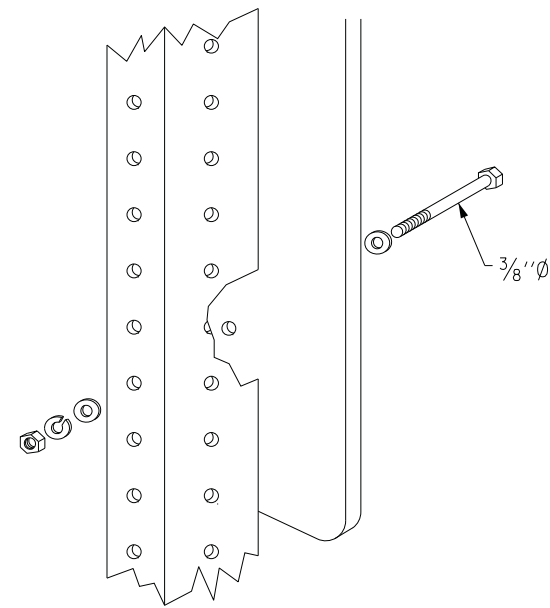
BARRIER WALL MOUNT DETAIL
NOT TO SCALE



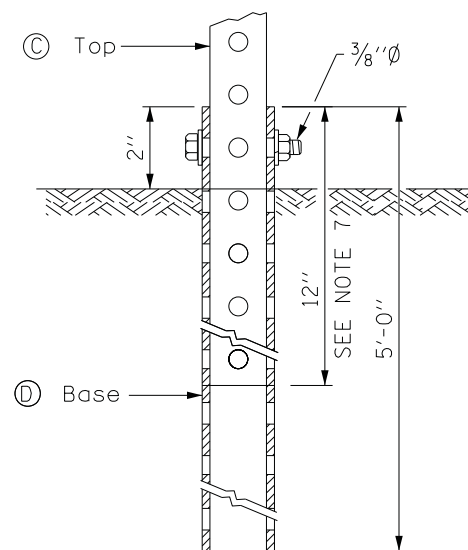
BARRIER WALL MOUNT DETAIL 2
NOT TO SCALE



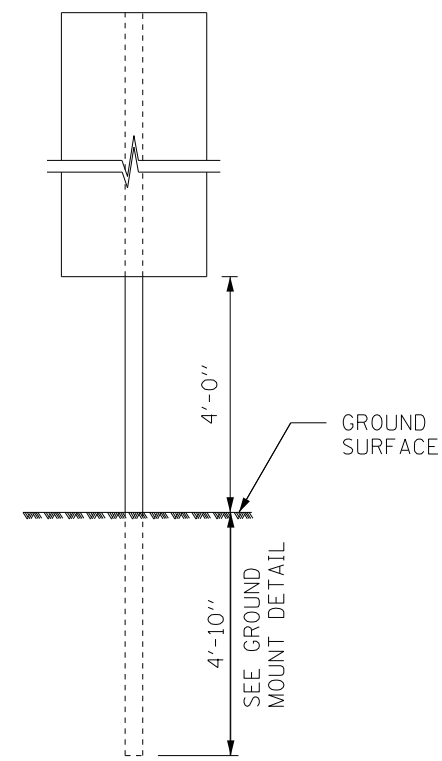
LIGHT POLE/SIGN STRUCTURE MOUNT DETAIL
NOT TO SCALE



TELESCOPING STEEL POSTS
NOT TO SCALE



GROUND MOUNT DETAIL
NOT TO SCALE



ONE POST INSTALLATION
NOT TO SCALE

GENERAL NOTES:

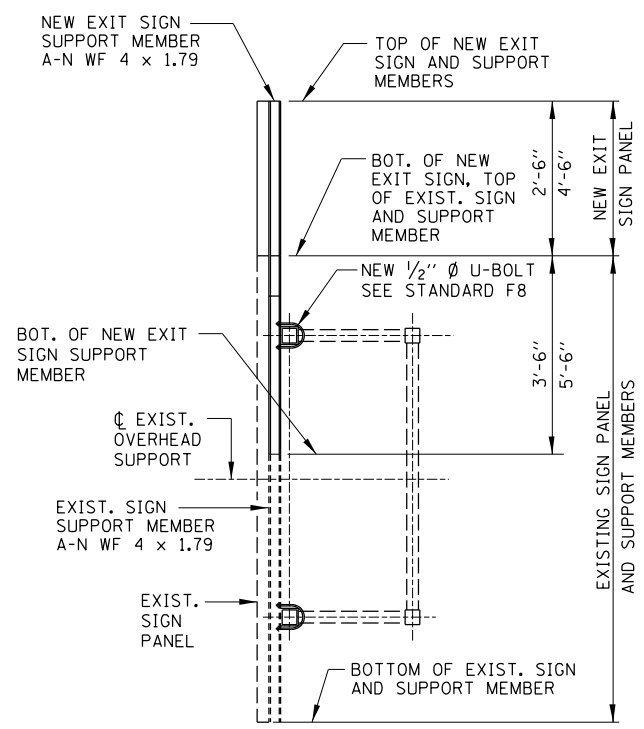
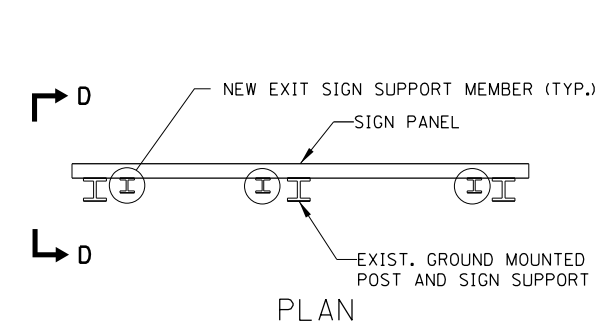
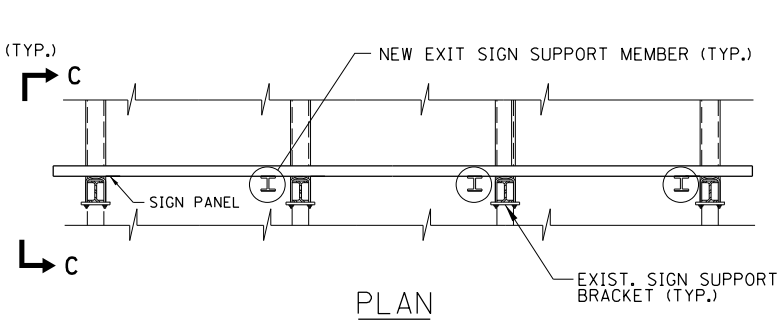
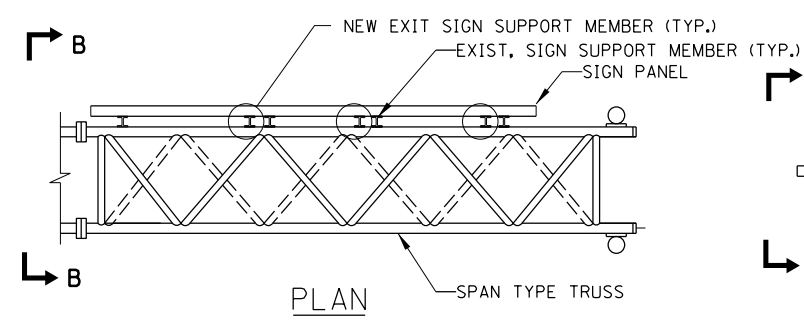
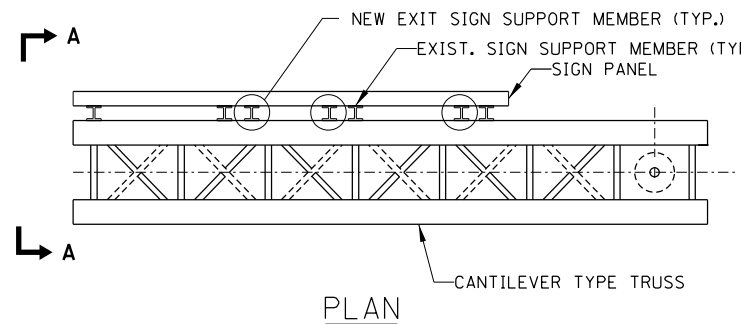
1. ALL ANCHOR BOLTS FOR MEDIAN BARRIER MOUNT DETAIL SHALL BE 3/8" DIA. RED HEAD "TRUBOLT" OR APPROVED EQUAL.
2. ALL DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE.
3. FOLLOWING ARE THE STEPS FOR FASTENING THE MILEPOST MARKER SIGN PANEL. ALL MOUNTING DETAILS SHOWN ON THIS SHEET APPLY:
 - a. CENTER ALL FASTENERS ON THE SIGN PANEL.
 - b. START AND FINISH THE FASTENER SPACING USING A MINIMUM OF 3" TO A MAXIMUM OF 6" FROM THE TOP AND BOTTOM EDGE OF THE SIGN PANEL.
 - c. THE DISTANCE BETWEEN SUCCESSIVE FASTENERS SHALL NOT EXCEED 2'-0".
4. CENTER THE 5/16" DIA. BOLT IN THE MIDDLE OF THE SIGN.
5. USE THE SAME ATTACHMENT FOR BACK TO BACK MILEPOST MARKER SIGN.
6. DISTANCE FROM THE GROUND TO THE BOTTOM OF THE MILEPOST MARKER SIGN SHALL HAVE A MINIMUM OF 4'-0" REGARDLESS OF BARRIER TYPE.
7. THE TOP SECTION SHALL BE TELESCOPED INTO THE BASE SECTION 12 INCHES AND FASTENED TOGETHER.
8. FOR ATTACHMENT TO BRIDGE PARAPET USE BARRIER MOUNT WALL DETAIL. ONLY ONE PANEL REQUIRED WHEN ATTACHED TO PARAPET ALONG OUTSIDE SHOULDER.

(A)	2 1/4" x 2 1/4" x 1'-0" (12 GA.)
(B)	2 1/4" x 2 1/4" x 2'-2" (12 GA.)
(C)	2" x 2" x VARIES (12 GA.)
(D)	2 1/2" x 2 1/2" x 5'-0" (12 GA.)

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 4-6-2009

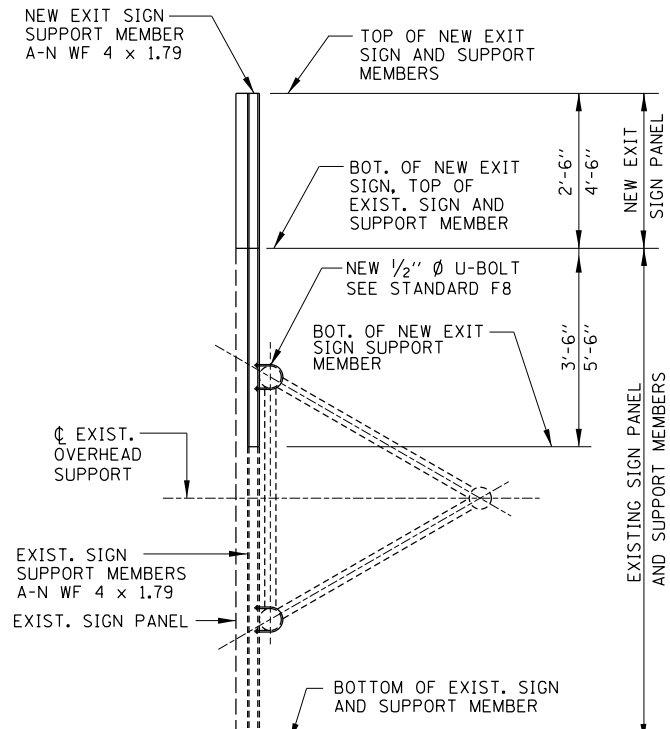
MILEPOST MARKER

STANDARD F11-04



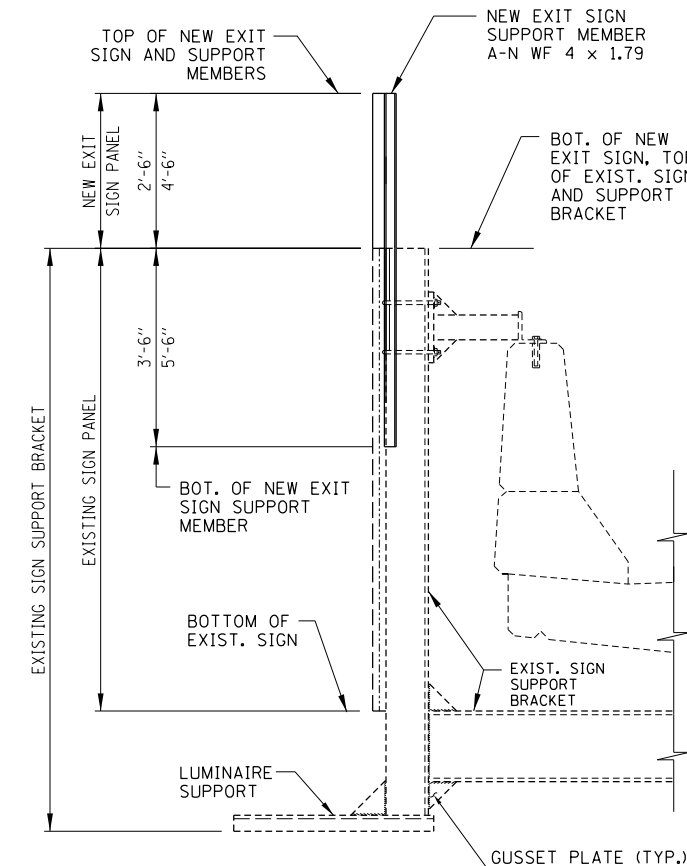
SECTION A-A

OVERHEAD CANTILEVER TYPE SIGN SUPPORT



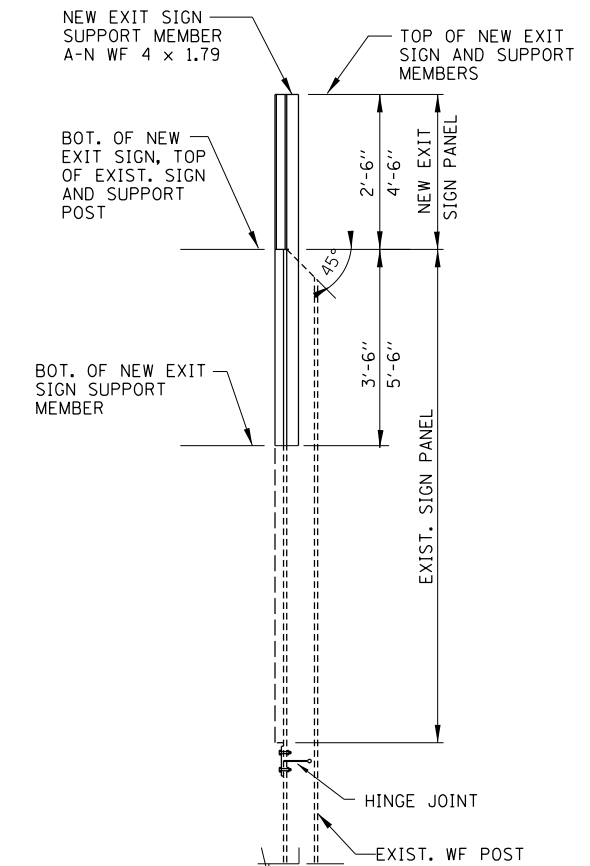
SECTION B-B

OVERHEAD SPAN TYPE SIGN SUPPORT



SECTION C-C

BRIDGE MOUNTED SIGN SUPPORT

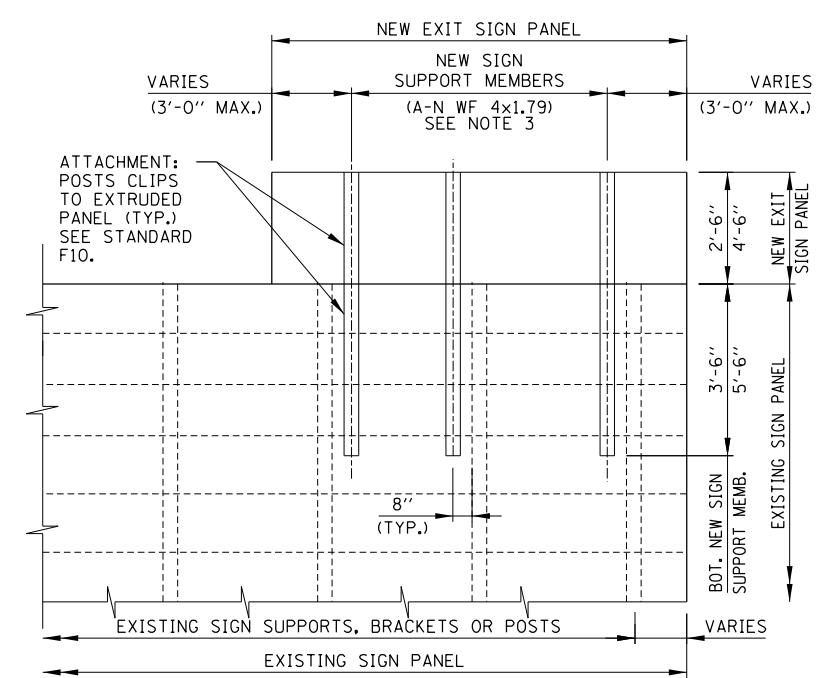


SECTION D-D

GROUND MOUNTED SIGN SUPPORT

DETAILS FOR RETROFITTING NEW EXIT SIGN

- NOTES:
1. ALL MATERIAL IS ALUMINUM IN ACCORDANCE WITH SECTION 733 OF THE LATEST IDOT STANDARD SPECIFICATIONS. (UNLESS OTHERWISE NOTED).
 2. EXISTING TRUSS AND SUPPORT MEMBERS SHALL BE CHECKED FOR STRUCTURAL ADEQUACY TO SUPPORT THE ADDITIONAL SIGN PANEL AREA.
 3. NEW SIGN SUPPORT MEMBERS SHALL BE SPACED WITH EXISTING SIGN SUPPORTS. SPACING SHALL NOT EXCEED 6'-0".



PARTIAL REAR ELEVATION OF SIGN PANELS AND SUPPORT MEMBERS

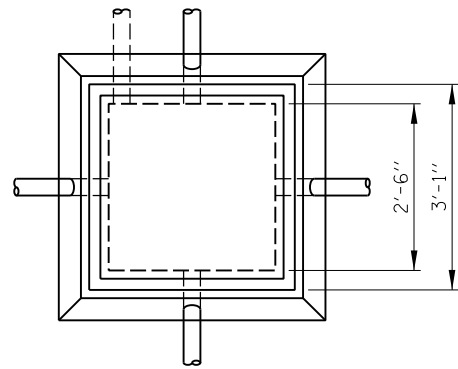
APPROVED: *Paul Kovacs*
 CHIEF ENGINEER DATE 3-1-2013...

DATE	REVISIONS
3-11-2015	REVISED SUPPORT SPACING.



MOUNTING DETAILS FOR
 RETROFITTING NEW
 EXIT SIGN PANELS

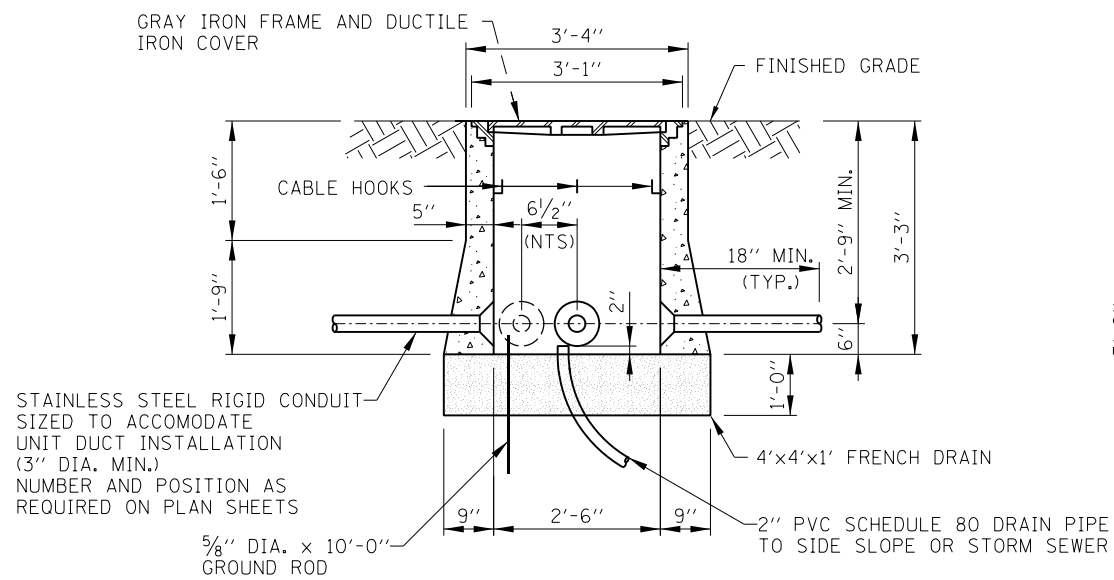
STANDARD F12-01



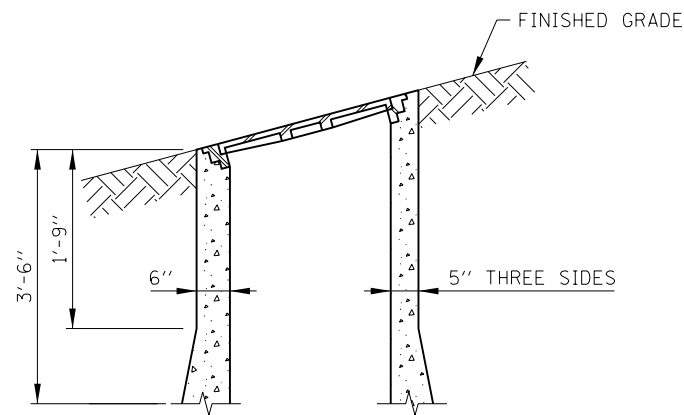
PLAN

NOTES:

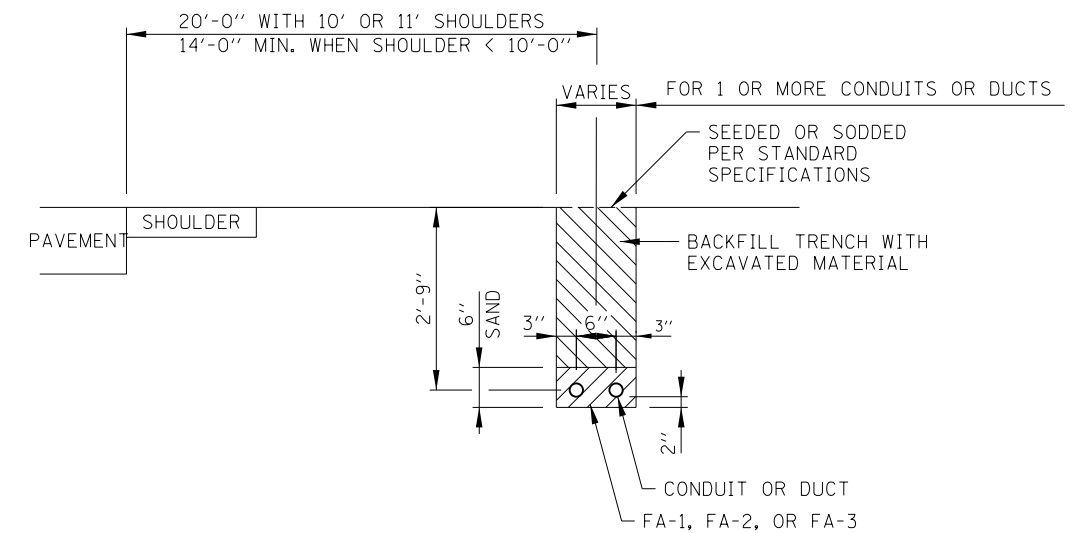
1. HEAVY-DUTY HANDHOLE LOCATED IN UNPAVED AREAS AND NOT SHIELDED BY GUARDRAIL SHALL BE CONSTRUCTED WITH THE TOP FLUSH WITH THE ADJACENT SLOPE.
2. HEAVY-DUTY HANDHOLE SHALL BE CONSTRUCTED IN NON-PAVED AREAS AND ITS FRAME AND COVER SHALL BE EITHER NEENAH FOUNDRY R-6662-PP WITH TYPE G LIFTING HANDLE OR EAST JORDAN IRON WORKS NO. 8213 WITH EPIC PICKBAR, OR APPROVED EQUAL.
3. AGGREGATE FOR FRENCH DRAIN SHALL BE PER ARTICLE 1003.04 OF THE STANDARD SPECIFICATIONS.
4. 10 FEET OF EXTRA CABLE SHALL BE COILED IN EACH HANDHOLE.
5. TRENCH AND BACKFILL FOR ELECTRICAL WORK SHALL BE INCLUDED IN THE COST OF THE UNDERGROUND RACEWAY AND WILL NOT BE MEASURED FOR PAYMENT.
6. ALL EQUIPMENT SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE.



ELEVATION



SLOPE INSTALLATION



TRENCHING FOR CONDUIT IN NON-PAVED AREAS

HEAVY-DUTY HANDHOLE DETAILS

APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012

DATE	REVISIONS
2-07-2012	MODIFY TRENCH DETAIL, NEW HANDHOLE. DETAILS AND REVISED NOTES.
3-11-2015	DELETED NON HEAVY-DUTY HANDHOLE.
7-7-2015	REVISED NOTE 2



HEAVY-DUTY HANDHOLE AND BURIED WIRING DETAILS

STANDARD H4-03

RESERVED

APPROVED CHIEF ENGINEER DATE

DATE	REVISIONS



STANDARD H9-00

GENERAL NOTES - EROSION AND SEDIMENT CONTROLS

1. THE WORK DESCRIBED ON THESE DRAWINGS IS AN INTEGRAL PART OF THE STORM WATER POLLUTION PREVENTION PLAN USED TO OBTAIN A NPDES PERMIT FROM IEPA FOR THE CONSTRUCTION OF THIS PROJECT.
2. THE PURPOSE OF THE EROSION AND SEDIMENT CONTROL MEASURES INCLUDED FOR THIS PROJECT IS TO LIMIT THE SEDIMENT POLLUTION IMPACT OF ANY STORM WATER DISCHARGES THAT ORIGINATE ON THIS SITE OR OFF-SITE FLOWS THAT FLOW OVER THE DISTURBED AREAS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SEDIMENT TRANSPORT OFF THE SITE IS REDUCED BY A COMBINATION OF MINIMIZATION OF EROSION AT THE SOURCE AND INSTALLATION OF SPECIFIC MEASURES TO CONTROL OR REDUCE THE TRANSPORT OF SEDIMENT. A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN, NOI, SWPPP, AND INSPECTION LOG BEING IMPLEMENTED BY THE CONTRACTOR SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES.
4. TO THE MAXIMUM EXTENT POSSIBLE EROSION SHALL BE MINIMIZED AT THE SOURCE. ALL FLOWS ORIGINATING OFF THE CONSTRUCTION SITE SHALL BE DIVERTED AROUND DISTURBED AREAS OR SHALL BE CONVEYED THROUGH THE SITE IN A MANNER THAT UNTREATED ON-SITE RUNOFF, SHALL BE MINIMIZED AND DOES NOT MIX WITH THE OFF-SITE RUNOFF.
5. ALL RUNOFF ORIGINATING ON DISTURBED AREAS ASSOCIATED WITH THIS PROJECT WILL PASS THROUGH ONE OR MORE MEASURES THAT WILL MINIMIZE THE OFF-SITE SEDIMENT IMPACTS OF THE CONSTRUCTION ACTIVITY.
6. ALL PERMANENT SEDIMENT BASINS, PERMANENT STORM WATER CONTROL MEASURES, AND RUNOFF CONTROL MEASURES REQUIRED TO KEEP OFF-SITE RUNOFF FROM FLOWING OVER THE CONSTRUCTION AREA WILL BE INSTALLED BEFORE CLEARING AND STRIPPING OF THE SITE PROCEEDS. PRIOR TO PROCEEDING WITH EARTHWORK ON A PROJECT THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A PROPOSED EARTHWORK AND STABILIZATION SCHEDULE FOR REVIEW AND APPROVAL.
7. A MAXIMUM OF 10 ACRES IS ALLOWED TO BE IN SOME STAGE OF GRADING AT A SINGLE TIME. ADDITIONAL AREAS (UP TO 10 ACRES) MAY BE CLEARED BUT SHALL NOT BE STRIPPED OF VEGETATION UNTIL THE GRADED AREAS HAVE BEEN PROTECTED FROM EROSION THROUGH INSTALLATION OF EITHER TEMPORARY OR PERMANENT MEASURES. WHENEVER POSSIBLE, THE GRADING SHALL BE COMPLETED TO THE DESIGN GRADE AND THE PERMANENT VEGETATION PLAN IMPLEMENTED PRIOR TO STARTING GRADING ACTIVITIES ON THE NEXT SITE.
 - A. WHEN BALANCING EARTHWORK (BORROW FROM A CUT USED AS FILL AT A LOCATION DISTANT FROM THE CUT) THE CHIEF ENGINEER WILL CONSIDER ALLOWING MORE THAN 10 ACRES OF CONSTRUCTION WORK AREAS AND STORAGE AREAS.
 - B. WHERE NEW INTERCHANGES ARE BEING CONSTRUCTED THE ALLOWABLE AREA BEING GRADED MAY BE LARGER THAN 10 ACRES WHEN THE CONTRACT DRAWINGS AND SWPPP DEFINE SUCH INCREASES.
 - C. VARIATIONS TO THE ABOVE MAY BE CONSIDERED BY THE CHIEF ENGINEER UNDER ALL THE FOLLOWING CONDITIONS:
 - IF THE CONTRACTOR FALLS BEHIND SCHEDULE THROUGH NO FAULT OF HIS OWN.
 - THE CONTRACTOR MUST PRESENT A SCHEDULE DEMONSTRATING THE NEED FOR SUCH VARIATION IN ORDER TO COMPLETE THE WORK ON TIME.
 - THE CONTRACTOR MUST COMPLY WITH ALL OTHER CONTRACT AND PERMIT REQUIREMENTS.
8. DISTURBED AREAS ARE TO BE PROTECTED FROM EROSION IN A TIMELY MANNER. UPON COMPLETION OF GRADING OR CONSTRUCTION, THE AREA SHALL BE STABILIZED (USING PERMANENT MEASURES WHEN POSSIBLE) WITHIN 7 CALENDAR

9. DAYS. TEMPORARY STABILIZATION THROUGH USE OF GROUND COVER, MULCHING, OR OTHER APPROVED MEASURES WILL BE INSTALLED WHENEVER SITE DEVELOPMENT WORK, GRADING OR OTHER EARTH DISTURBING ACTIVITIES CEASE TO BE CONTINUOUS FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. THE 7/14 DAY REQUIREMENT IS TAKEN TO MEAN THAT THE STABILIZATION OPERATION IS COMPLETE OR NEARING COMPLETION IN THE DEFINED TIME.
9. STABILIZATION OF CUT OR FILL SLOPES WITH TEMPORARY OR PERMANENT EROSION CONTROL MEASURES IS REQUIRED WHENEVER THE CUT OR FILL ACTIVITY REACHES 15 FEET VERTICALLY OR THE FINISHED SLOPE EQUALS 50 FEET, WHICHEVER IS MORE RESTRICTIVE. ONCE THE STABILIZATION MEASURES ARE INSTALLED, THE PLACEMENT OF FILL OR EXCAVATION ACTIVITIES ARE ALLOWED TO PROCEED.
10. THE CONTRACTOR SHALL DESIGNATE ONE OF HIS EMPLOYEES AS EROSION AND SEDIMENT CONTROL MANAGER. THIS PERSON WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN ON ALL DISTURBED AREAS. THIS PERSON SHALL POSSESS THE NECESSARY TRAINING AND CERTIFICATION ON EROSION AND SEDIMENT CONTROL MEASURES FOR ACCEPTANCE BY THE ILLINOIS TOLLWAY. THIS EMPLOYEE IS TO HAVE THE AUTHORITY TO CARRY OUT THE IMPLEMENTATION OF ANY INSTRUCTIONS CONCERNING THE EROSION AND SEDIMENT CONTROL PLAN GIVEN BY THE ENGINEER. ALL MEASURES WILL BE INSPECTED BY THIS INDIVIDUAL AND THE ENGINEER ON A REGULAR BASIS (AT LEAST ONCE EVERY 7 DAYS) AND AFTER ANY RAINFALL EVENT GREATER THAN 0.5 INCHES, OR EQUIVALENT SNOWFALL (I.E. + 5").
11. SEDIMENT TRAPS, SEDIMENT BASINS, DITCHES, SILT FENCES, FENCES, STONE OUTLET STRUCTURES, EARTH BERMS, ETC. SHALL BE MAINTAINED DURING THE CONSTRUCTION SEASON AS WELL AS THE WINTER MONTHS AND OTHER TIMES WHEN THE PROJECT IS CLOSED DOWN. TRAPS WILL BE CLEANED WHEN THEY ARE 50% FILLED. SILT FENCE AND STONE OUTLET STRUCTURES SHALL HAVE SEDIMENT REMOVED WHEN IT REACHES 50% THE HEIGHT OF THE CONTROL DEVICE. THESE SPOILS WILL BE REMOVED TO AN APPROVED SITE.
12. SALVAGED TOPSOIL SHALL BE PLACED ON WELL DRAINED LAND AWAY FROM INTERMITTENT AND LIVE STREAMS OR WETLANDS WITH THE APPROPRIATE RUNOFF CONTROL AND SEDIMENT CONTROL MEASURES INSTALLED AROUND THE STORAGE SITE. SALVAGED TOPSOIL SHALL BE STABILIZED WITH STRAW MULCH IMMEDIATELY AFTER SHAPING OF THE PILE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS. SILT FENCE SHALL BE PROVIDED AT THE PERIMETER OF THE STOCKPILE.
13. MATERIALS EXCAVATED FOR THE CONSTRUCTION OR CLEAN OUT OF SEDIMENT TRAPS SHALL NOT BE STOCKPILED IN THE VICINITY OF THE TRAP. IT SHALL BE PLACED IN AN EMBANKMENT OR WASTED AS DIRECTED BY THE ENGINEER.
14. EXCAVATION TO BE USED FOR EMBANKMENTS SHALL NOT BE STOCKPILED UNLESS PERIMETER CONTROLS ARE UTILIZED. WHEN THIS MATERIAL IS STOCKPILED FOR THE CONVENIENCE OF THE CONTRACTOR THE COST OF PROVIDING THE CONTROLS ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF THE MATERIAL IS STOCKPILED AT THE DIRECTION OF THE ENGINEER THE ILLINOIS TOLLWAY WILL ASSUME THE COSTS OF THE CONTROLS.
15. SEDIMENT LADEN DEWATERING DISCHARGE MUST BE DIRECTED TO AN APPROVED SEDIMENT TRAPPING MEASURE PRIOR TO RELEASE FROM THE SITE.
16. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSIDERED TEMPORARY. THESE MEASURES WILL BE REMOVED BY THE CONTRACTOR AS DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. DISTURBED AREAS ARE TO BE RESTORED UPON REMOVAL.


17. WHEN THE CONTRACTOR REQUESTS A CHANGE TO POSTPONE COMPLETION OF THE EXCAVATION OF A SPECIFIC AREA AS A CONTINUOUS OPERATION AND PLACING THE TOPSOIL AS DEFINED IN THE STANDARD SPECIFICATIONS, THE ENGINEER MAY ALLOW THE CONTRACTOR TO STABILIZE THE AREA USING TEMPORARY STABILIZATION WITH STRAW MULCH PROVIDING THE FOLLOWING CONDITIONS ARE MET:
 - A. ALL AREAS BEING STABILIZED ARE 1:3 (V:H) SLOPES OR FLATTER.
 - B. THE COST OF PREPARING THE SEED BED AND STABILIZING THE AREA WITH TEMPORARY STABILIZATION WITH STRAW MULCH IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - C. ALL REQUIRED SEDIMENT CONTROL MEASURES FOR THE SECTION OF ROAD IN QUESTION HAVE BEEN INSTALLED AND ARE BEING MAINTAINED.
18. THE CONTRACTOR SHALL PREPARE A SKETCH SHOWING DIMENSIONS FROM TWO ADJACENT OBJECTS TO ALL DRAINAGE STRUCTURES THAT HAVE BEEN PROTECTED. THIS IS TO LOCATE THE STRUCTURE IN CASE OF HEAVY RAINFALL AND THE STRUCTURE IS BLOCKED OR FLOODED. THE ENGINEER SHALL BE PROVIDED WITH A COPY OF THE SKETCH.
19. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIAL PROVISION (S.P.) 111, STORM WATER POLLUTION PREVENTION PLAN INCLUDING CONTROLS AND SPILL PREVENTION-MATERIAL MANAGEMENT PRACTICES. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL SIGN THE CONTRACTOR'S CERTIFICATION STATEMENT. LIST THE MATERIALS OR SUBSTANCES EXPECTED TO BE PRESENT ON-SITE IN THE INVENTORY FOR POLLUTION PREVENTION PLAN AND SHALL NAME TWO ADDITIONAL INDIVIDUALS TO ASSIST IN SPILL PREVENTION AND CLEAN UP AT THE PRECONSTRUCTION CONFERENCE. SEE S.P. 111.
20. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL THE PROPOSED CONCRETE TRUCK WASHOUT LOCATIONS AS REQUIRED IN SPECIAL PROVISION 111. RUNOFF FROM WASH AREAS SHALL BE CONTAINED IN DESIGNATED AREAS SO THAT RUNOFF DOES NOT REACH THE STORM SEWER OR DITCH SYSTEMS. WASHOUT WATER SHALL BE TAKEN TO AN APPROVED DISCHARGE LOCATION.
21. IF AN ALTERNATIVE SIZE DITCH CHECK IS PROPOSED BY THE CONTRACTOR FOR USE ON THE PROJECT, A CONTRACT DITCH CHECK SPACING WILL NEED TO BE RECALCULATED BY THE CONTRACTOR IN ACCORDANCE WITH THE ILLINOIS TOLLWAY EROSION AND SEDIMENT CONTROL, LANDSCAPE DESIGN CRITERIA MANUAL. ANY RESULTING QUANTITY CHANGES MUST BE APPROVED BY THE ENGINEER PRIOR TO START OF WORK.
22. ALL RUNOFF, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LOCATED OUTSIDE THE CLEAR ZONE. THE CONTRACTOR SHALL REVIEW THE LOCATIONS OF ALL MEASURES AND PERFORM A BARRIER WARRANT ANALYSIS IF NECESSARY TO ENSURE ROADSIDE OBSTACLES ARE NOT CREATED.
23. ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).





TEMPORARY EROSION AND SEDIMENT CONTROLS

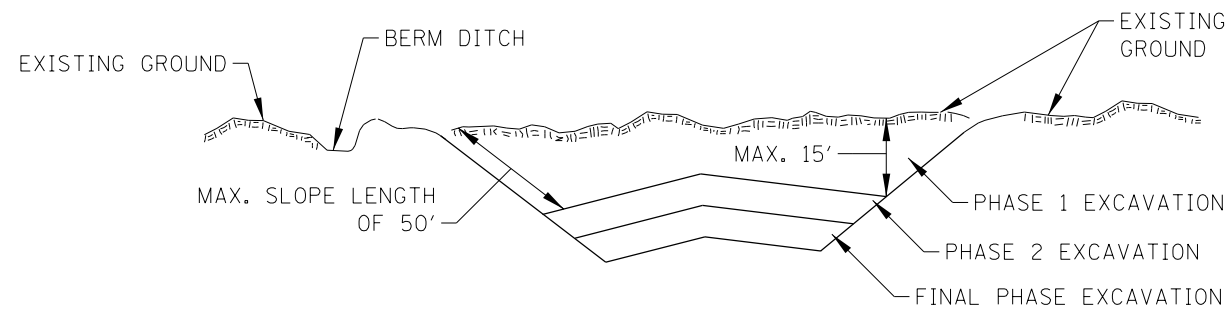
STANDARD K1-06

DATE	REVISIONS
3-31-2014	REVISED GENERAL NOTES.
3-11-2015	REVISED NOTES.
3-31-2016	REMOVED TEMPORARY DITCH CHECKS


 APPROVED CHIEF ENGINEER DATE 2-7-2012

STANDARD SYMBOLS

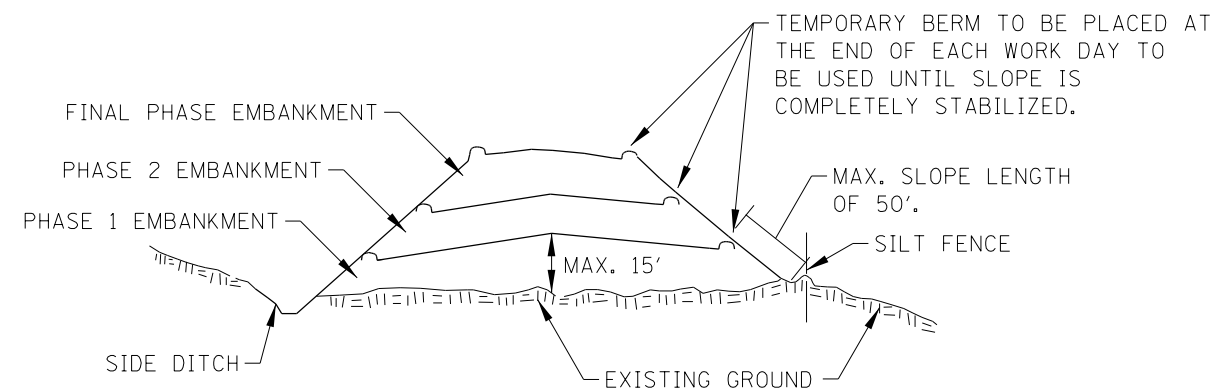
	CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)		SILT FENCE
	CULVERT INLET PROTECTION-FENCE		STABILIZED CONSTRUCTION ENTRANCE
	CULVERT INLET PROTECTION-STONE		STONE OUTLET STRUCTURE SEDIMENT TRAP
	CIP		STREAM DIVERSION
	DEWATERING BASINS		SUPER SILT FENCE
	DIVERSION DIKE		TEMPORARY DITCH CHECK
	DRAINAGE DIVIDE		TEMPORARY PIPE SLOPE DRAIN
	EXISTING DRAINAGE PATH		TEMPORARY RIPRAP
	FILTER FABRIC INLET PROTECTION, COVER TYPE		TEMPORARY ROCK CHECK DAM
	FILTER FABRIC INLET PROTECTION, BASKET TYPE		TEMPORARY STREAM CROSSING
	FLOTATION BOOM		TEMPORARY SWALE
	INITIAL CONSTRUCTION ITEM		TREE PROTECTION
	PROPOSED DRAINAGE PATH		
	RECTANGULAR INLET PROTECTION		
	SEDIMENT BASIN AGGREGATE BERM		
	SEDIMENT BASIN		



NOTES:

1. ALL CUT SLOPES SHALL BE EXCAVATED AND STABILIZED (PLACE TOPSOIL, PREPARE SEEDBED, APPLY SEED, PROTECT SLOPE WITH MULCH OR EROSION BLANKET) AS THE WORK PROGRESSES.
2. CONSTRUCTION SEQUENCE:
 - A) EXCAVATE AND STABILIZE BERM, SIDE AND OUTLET DITCHES, PROVIDE SEDIMENT TRAPS FOR DITCHES.
 - B) PERFORM PHASE 1 EXCAVATION AND STABILIZE SLOPES WITH PERMANENT SEEDING.
 - C) PERFORM PHASE 2 EXCAVATION AND STABILIZE SLOPES WITH PERMANENT SEEDING. OVER SEED PHASE 1 SLOPES, IF REQUIRED.
 - D) PERFORM FINAL PHASE EXCAVATION, DRESS, SEED AND MULCH SLOPES WITH PERMANENT SEEDING. STABILIZE SURFACE DRAIN DITCHES. OVER SEED PHASE 1 & 2 SLOPES, IF REQUIRED, AS DETERMINED BY THE ENGINEER.
3. IF PERMANENT SEEDING CANNOT BE PLACED DUE TO CONTRACT REQUIREMENTS REGARDING PLANTING SEASONS, THE CUT SLOPE IS TO HAVE TOPSOIL PLACED AND SEEDING PREPARED PRIOR TO USING TEMPORARY STABILIZATION WITH STRAW MULCH OR TEMPORARY SEEDING WITH EROSION BLANKET.
4. THE CONTRACTOR HAS THE OPTION OF DELAYING TOPSOIL SEEDING BEYOND THE 15 FOOT LIMITATION. IF THIS OPTION IS CHOSEN, THE CUT SLOPE MUST BE "TEMPORARY STABILIZED" AT NO COST TO THE ILLINOIS TOLLWAY.
5. ONCE THE EXCAVATION WITHIN A SPECIFIC AREA HAS BEGUN, THE OPERATION SHALL BE CONTINUOUS FROM STRIPPING THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF SLOPE STABILIZATION MEASURES. ANY INTERRUPTIONS IN THE OPERATION OF 14 DAYS OR MORE MUST BE APPROVED BY THE ENGINEER. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST AND EXPENSE.

EXCAVATION PHASING PLAN - CUT SECTION



NOTES:

1. THE EMBANKMENT WILL BE MADE IN STAGES NOT TO EXCEED 15' IN HEIGHT OR 50' IN SLOPE LENGTH. THE EMBANKMENT SLOPES WILL BE STABILIZED USING TEMPORARY MEASURES BEFORE BEGINNING NEXT STAGE.
2. AT THE END OF EACH WORK DAY TEMPORARY BERMS (EARTH) AND TEMPORARY PIPE SLOPE DRAINS WILL BE CONSTRUCTED ALONG THE TOP EDGE(S) OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF.
3. CONSTRUCTION SEQUENCE:
 - A) EXCAVATE AND STABILIZE SIDE DITCH AND/OR INSTALL PROPOSED PERIMETER CONTROLS AT THE TOE OF SLOPE.
 - B) PLACE PHASE 1 EMBANKMENT AND STABILIZE WITH TEMPORARY SEEDING AND MULCH.
 - C) PLACE PHASE 2 EMBANKMENT AND STABILIZE WITH TEMPORARY SEEDING AND MULCH.
 - D) PLACE FINAL PHASE EMBANKMENT AND STABILIZE WITH PERMANENT VEGETATIVE PLAN ON THE ENTIRE SLOPE.
4. ONCE THE PLACEMENT OF FILL WITHIN A SPECIFIC AREA HAS BEGUN, THE OPERATION SHALL BE CONTINUOUS FROM STRIPPING THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF PERMANENT VEGETATIVE PLAN. ANY INTERRUPTIONS IN THE OPERATION OF 14 DAYS OR MORE MUST BE APPROVED BY THE ENGINEER. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST AND EXPENSE.

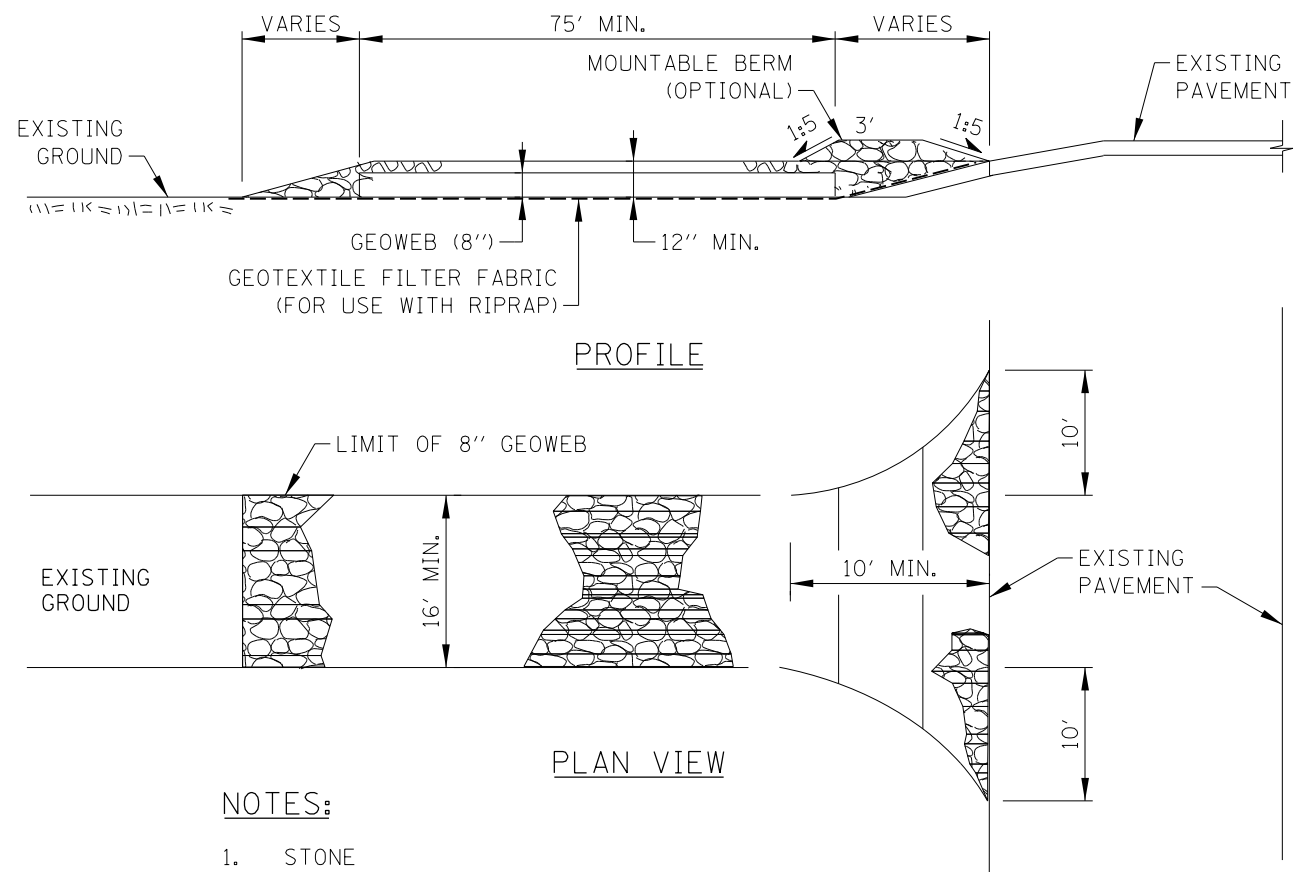
EMBANKMENT PHASING PLAN - FILL SECTION



TEMPORARY EROSION AND SEDIMENT CONTROLS

STANDARD K1-06

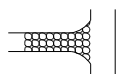
APPROVED: *Paul Kovacs* DATE 2-7-2012
CHIEF ENGINEER



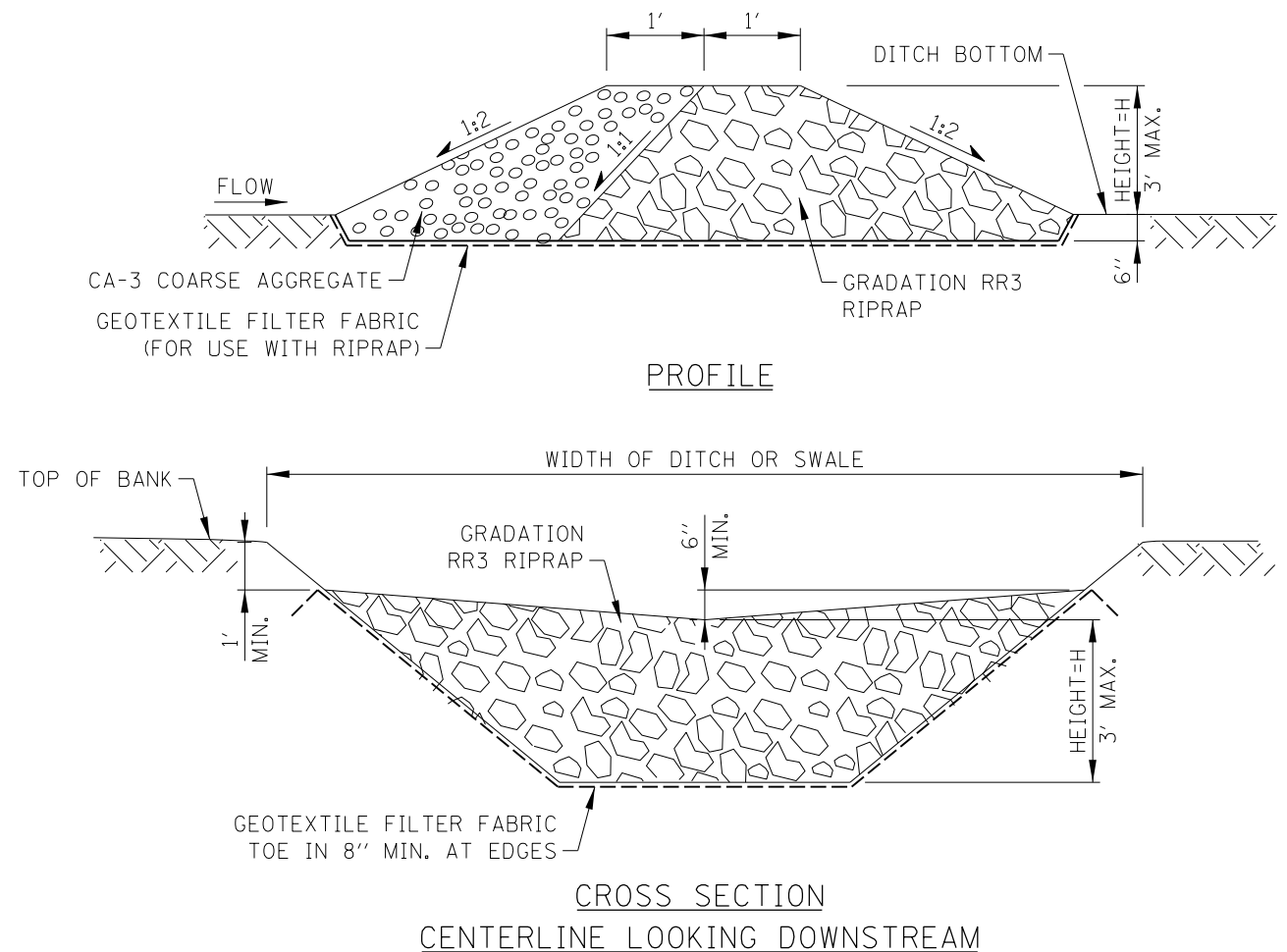
NOTES:

1. STONE
 - A. STONE SIZE - CA-3
 - B. LENGTH - AS REQUIRED, BUT NOT LESS THAN 75'.
 - C. THICKNESS - NOT LESS THAN 4" ABOVE TOP OF GEOWEB.
2. WIDTH - 16' MINIMUM FOR ONE WAY TRAFFIC; 24' MINIMUM FOR TWO-WAY TRAFFIC; BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
3. GEOWEB NOT LESS THAN 8" IN DEPTH WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
4. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 1:5 SLOPES WILL BE PERMITTED.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
6. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER HEAVY USE AND EACH RAINFALL EVENT.
7. TO BE USED TO REDUCE OR ELIMINATE TRACKING OF SEDIMENT ONTO PUBLIC STREETS. PLACE AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS. DISTURBED AREAS TO BE RESTORED UPON REMOVAL.

STABILIZED CONSTRUCTION ENTRANCE
STANDARD SYMBOL



Paul Kovacs
APPROVED..... CHIEF ENGINEER..... DATE 2-7-2012.....

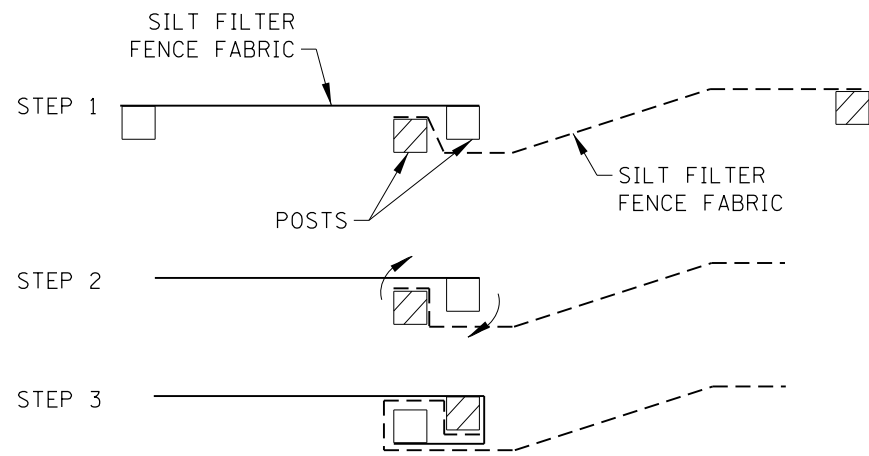


NOTES:

1. FOR LOCATIONS AND HEIGHTS OF ROCK CHECK DAMS REFER TO CONSTRUCTION DRAWINGS.
2. TEMPORARY ROCK CHECK DAMS SHALL BE REPLACED WHEN THEY CEASE TO FUNCTION AS INTENDED DUE TO WASHOUT OR CONSTRUCTION TRAFFIC DAMAGE.
3. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF DAM HEIGHT. THIS PRACTICE IS NOT A SUBSTITUTE FOR MAJOR PERIMETER TRAPPING SUCH AS A TEMPORARY SEDIMENT TRAP OR BASIN.
4. SPACING BETWEEN DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS TOP OF RIPRAP AT THE CENTER OF THE DOWNSTREAM DAM.
5. WHEN A TEMPORARY ROCK CHECK DAM IS IN THE CLEAR ZONE, IT MUST BE MADE TRAVERSABLE TO AN ERRANT VEHICLE. THE MAXIMUM UNSHIELDED TRANSVERSE SLOPE ALLOWED TO FACE TRAFFIC SHALL BE 1:10 (V:H) AND THE MAXIMUM TRANSVERSE FACING AWAY FROM TRAFFIC SHALL BE 1:4 (V:H). AN UNSHIELDED TEMPORARY ROCK CHECK DAM SHALL HAVE AN ADDITIONAL LAYER OF CA-3 COURSE AGGREGATE (6" MIN.) PLACED ON THE DOWNSTREAM SIDE OF THE ROCK CHECK DAM. THE GEOTEXTILE FILTER FABRIC SHALL BE PLACED ALONG THE ENTIRE BASE OF THE TEMPORARY ROCK CHECK DAM.

TEMPORARY ROCK CHECK DAM
STANDARD SYMBOL

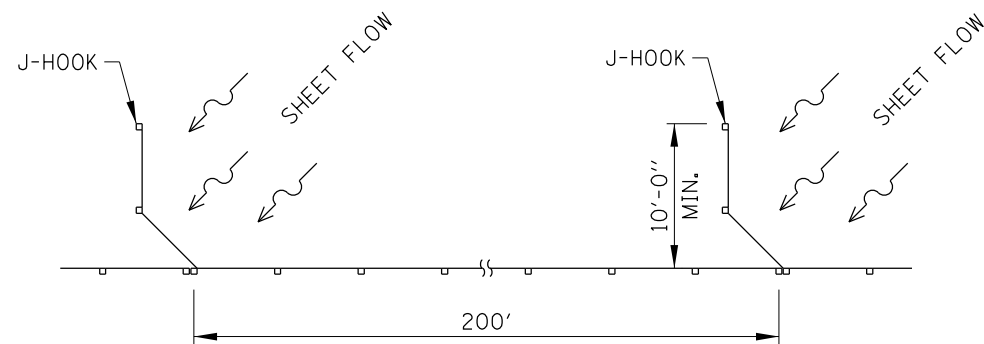




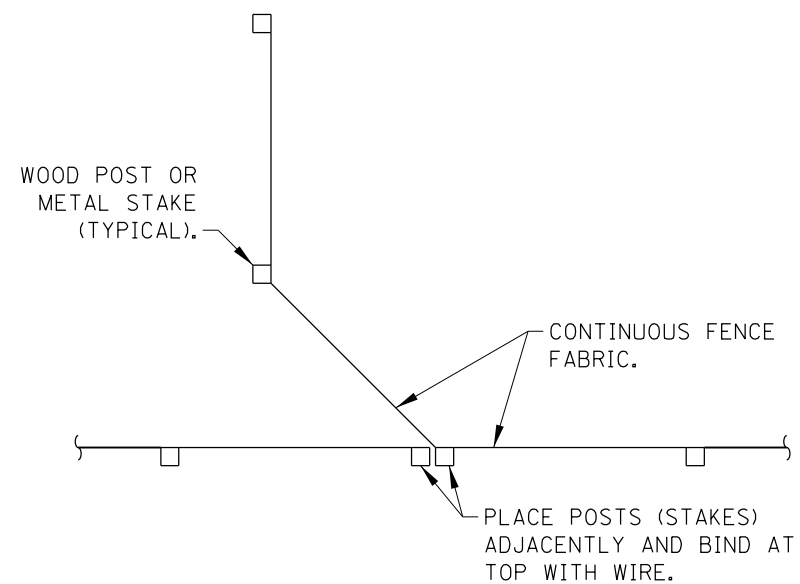
NOTES:

1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. DRIVE BOTH POSTS A MINIMUM OF 24" INTO THE GROUND.

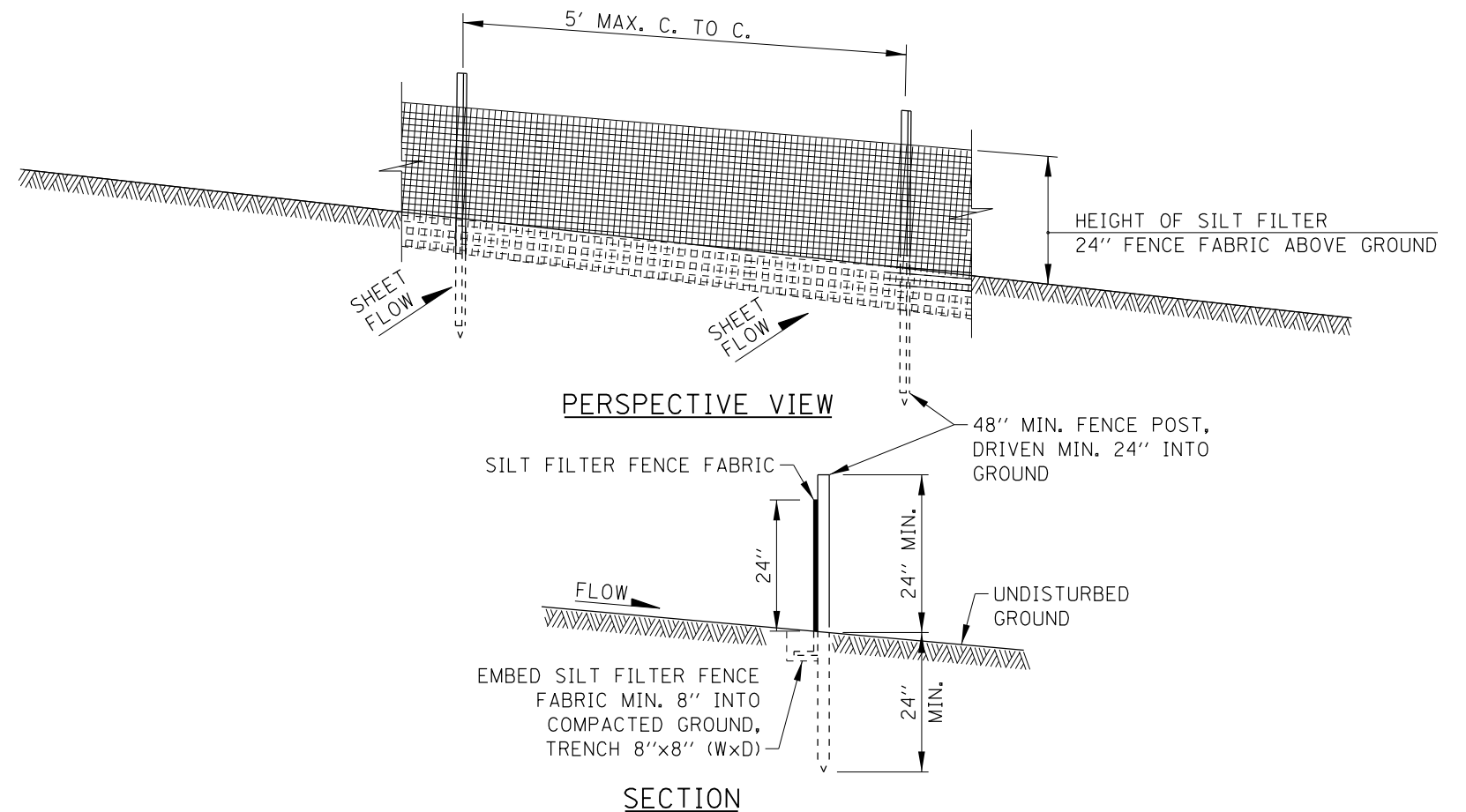
ATTACHING TWO SILT FENCES



SILT FILTER J-HOOK PLACEMENT



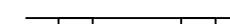
J-HOOK

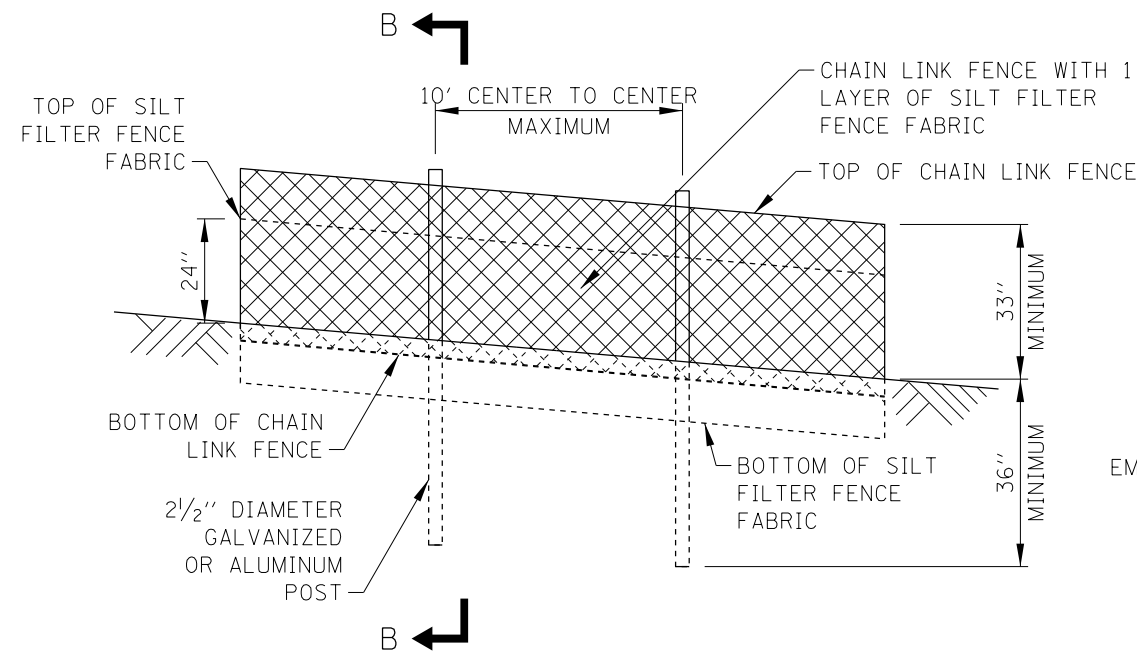


NOTES:

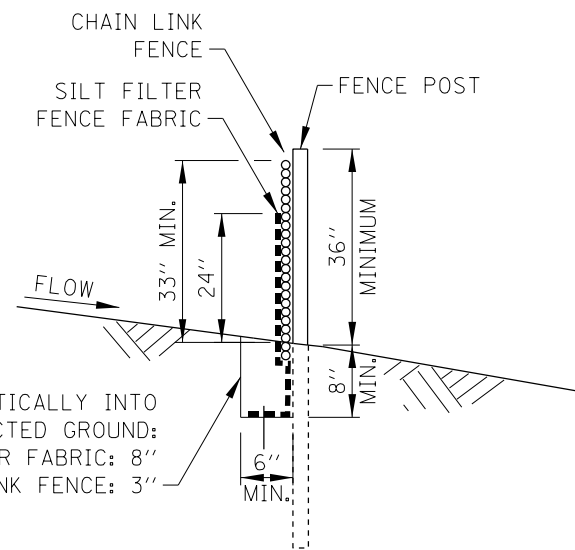
1. SILT FILTER FENCE FABRIC TO BE FASTENED SECURELY TO FENCE POSTS.
2. WHEN TWO SECTIONS OF SILT FILTER FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE SECURELY FASTENED PER THE DETAIL ATTACHING TWO SILT FENCES.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SILT BUILD UP AGAINST FENCE SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT.
4. FENCE POSTS: 2"x2" (NOMINAL) HARDWOOD OR SCHEDULE 40 METAL PIPE OR 1.33 LB/FT MIN. STANDARD T OR U SECTION STEEL POSTS.
5. THIS DEVICE IS TO CONTROL SHEET FLOW ONLY. DO NOT USE FOR CONCENTRATED FLOWS, DRAINAGE CHANNELS, ABOVE OR BELOW DRAINAGE PIPES.

SILT FENCE (SF)
STANDARD SYMBOL

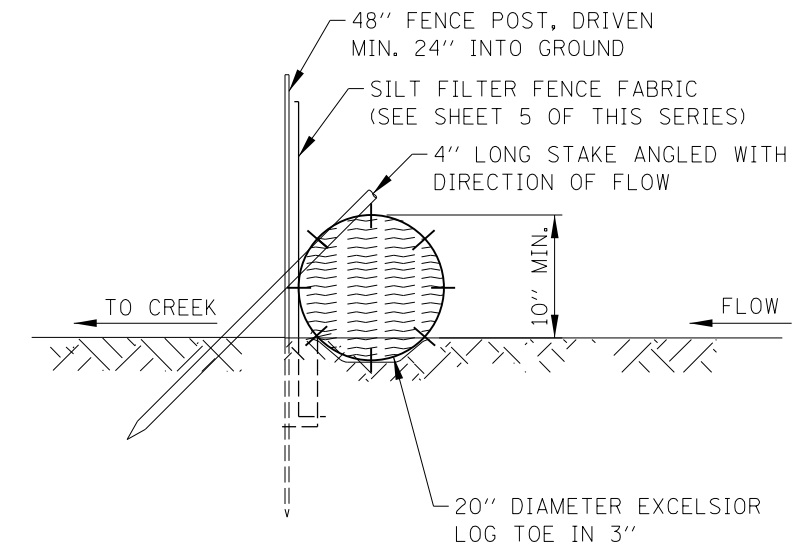




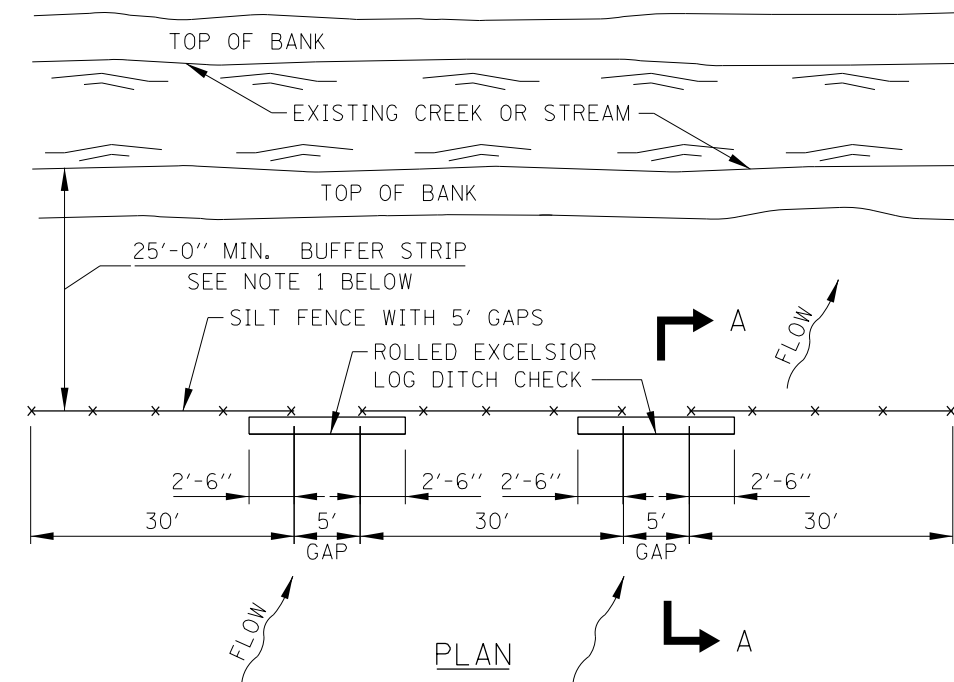
ELEVATION



SECTION B-B



SECTION A-A



PLAN

NOTES:

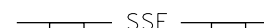
1. FENCING SHALL BE 36" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH ILLINOIS TOLLWAY STANDARD DRAWING D1, RIGHT-OF-WAY FENCE, TYPE 1. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 36" FABRIC AND 6' LENGTH POSTS.
2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED. PULL POSTS, CORNER POSTS, HORIZONTAL BRACING AND TIE RODS ARE NOT REQUIRED.
3. SILT FILTER FENCE FABRIC SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
4. WHEN TWO SECTIONS OF SILT FILTER FENCE FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED 2' HORIZONTALLY.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SILT BUILD-UP AGAINST FENCE SHALL BE REMOVED WHEN SILT REACHES 50% OF FENCE HEIGHT.
6. SUPER SILT FENCE IS TO BE USED TO PROTECT ENVIRONMENTALLY SENSITIVE AREAS AND CONTROL SEDIMENT RUNOFF FROM CONSTRUCTION SITES WHEN ADDITIONAL REINFORCEMENT IS REQUIRED DUE TO SLOPE OF SITE OR VOLUME OF STORM WATER RUNOFF.

NOTES:

1. A MINIMUM 25' WIDE VEGETATED BUFFER STRIP SHALL BE PRESERVED AND/OR RE-ESTABLISHED WHERE POSSIBLE ALONG EXISTING CHANNELS.
2. THE 5' GAPS IN THE SILT FENCE AND THE 20" DIAMETER TEMPORARY DITCH CHECKS ARE TO ALLOW FLOODWATER FLOW INTO THE CREEK FROM THE SITE WITHOUT DAMAGE TO THE SILT FENCE.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT SHALL BE REMOVED WHEN IT REACHES 50% OF ROLL HEIGHT. WHEN ROLLED EXCELSIOR LOG BECOMES LESS THAN 10" IT SHALL BE REPLACED.

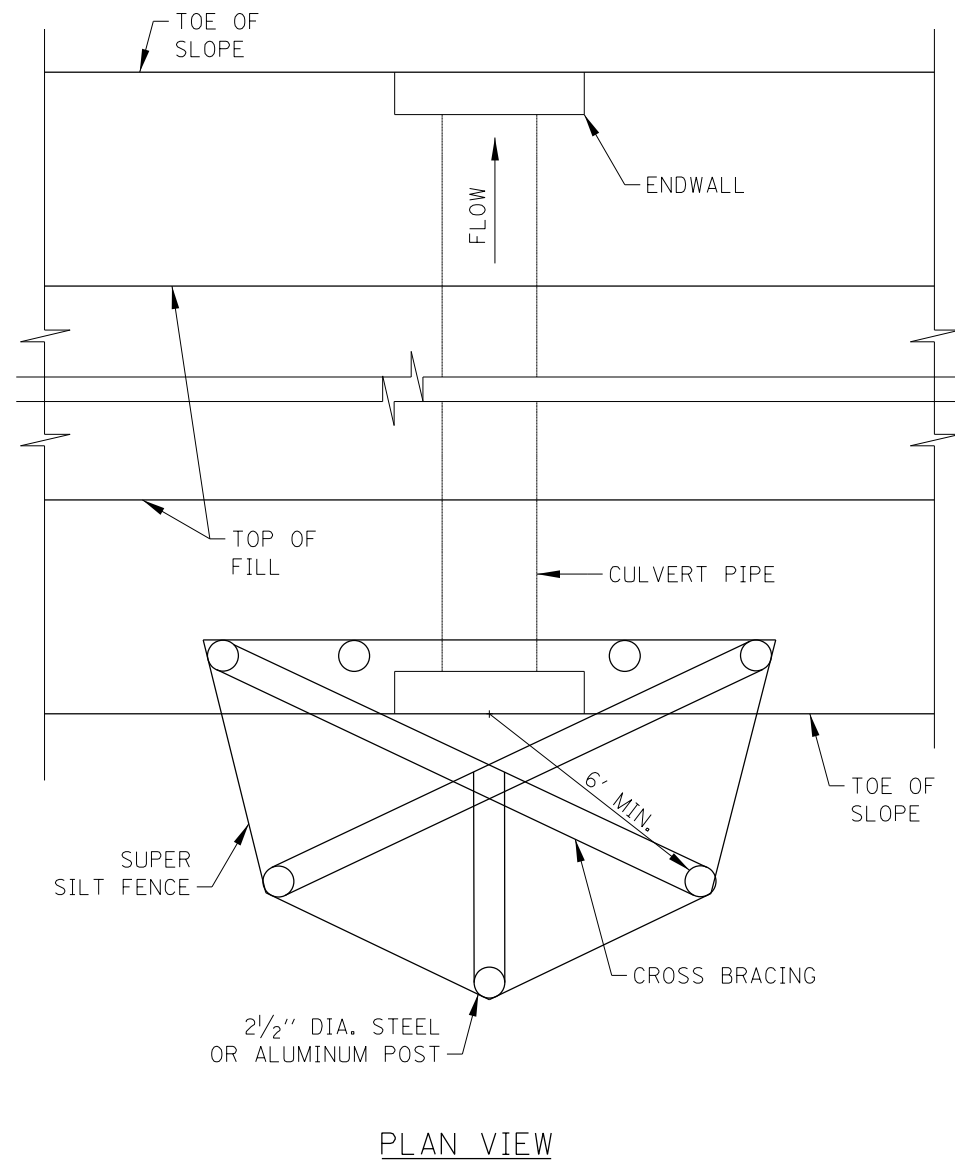
SUPER SILT FENCE (SSF)

STANDARD SYMBOL



APPROVED *Paul Kovacs* CHIEF ENGINEER DATE 2-7-2012



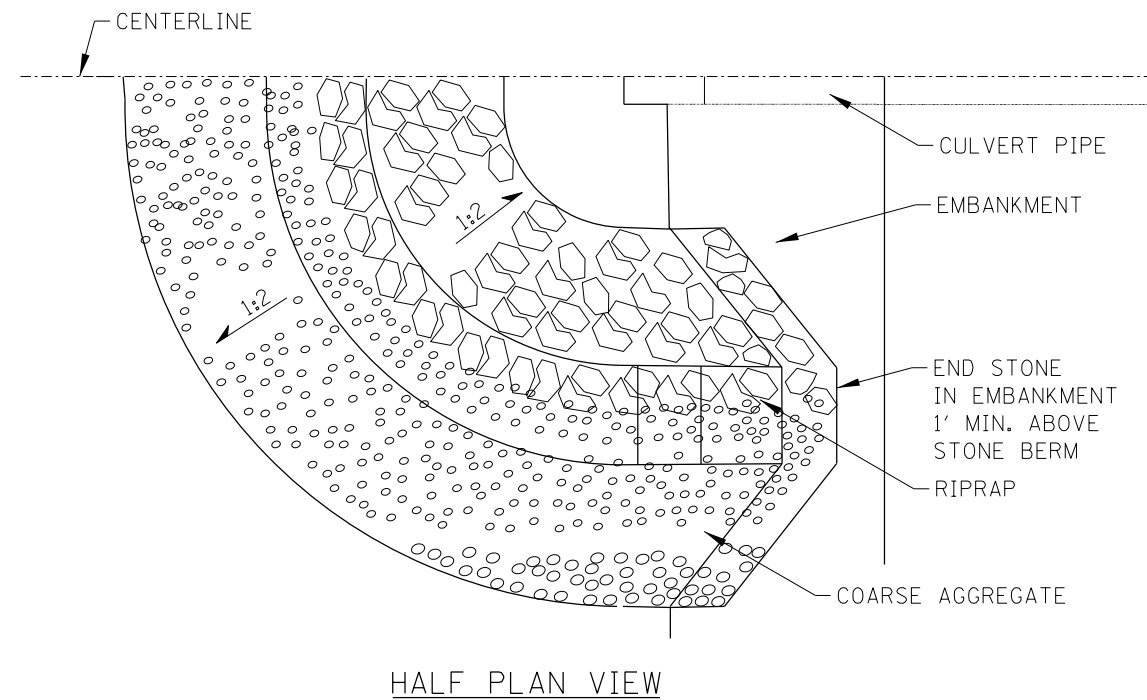
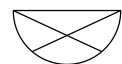


PLAN VIEW

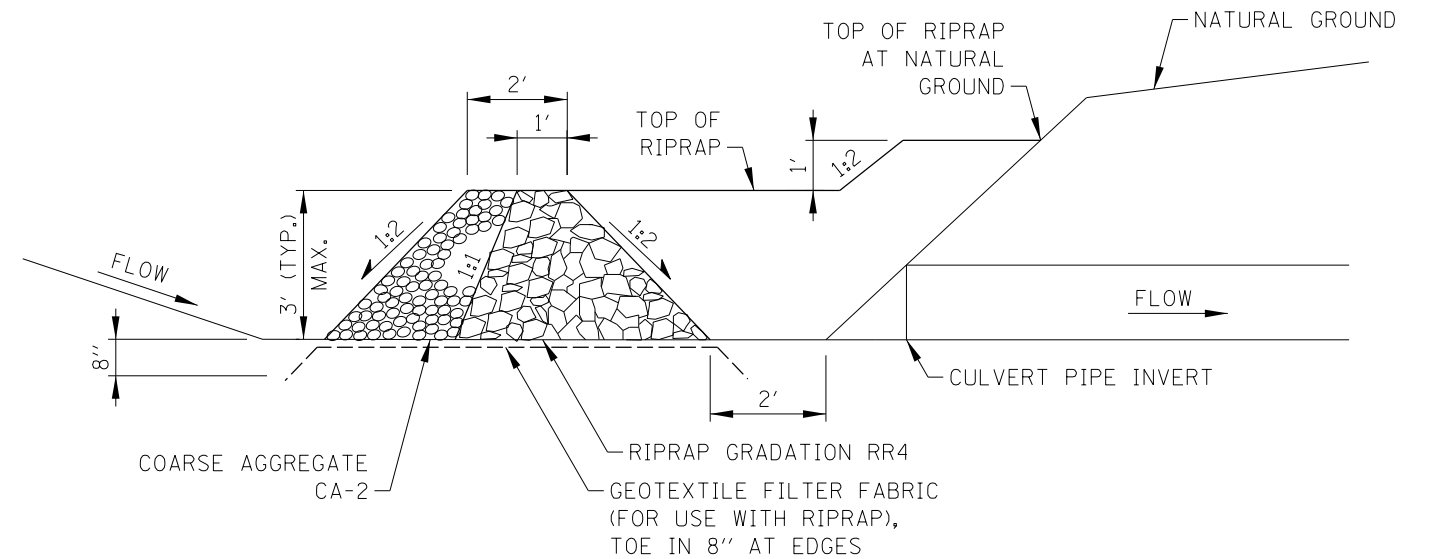
NOTES:

1. CONSTRUCT SUPER SILT FENCE PER SHEET 6 IN THIS SERIES, EXCEPT THE MAXIMUM POST SPACING SHALL BE 3 FEET AND THE TOPS OF POSTS SHALL BE CROSSED BRACED.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF THE FENCE HEIGHT.
3. THE CULVERT INLET PROTECTION AND SEDIMENT SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.
4. THE CULVERT INLET PROTECTION - FENCE TO BE MEASURED AND PAID FOR AS SUPER SILT FENCE.

CULVERT INLET PROTECTION - FENCE
STANDARD SYMBOL



HALF PLAN VIEW



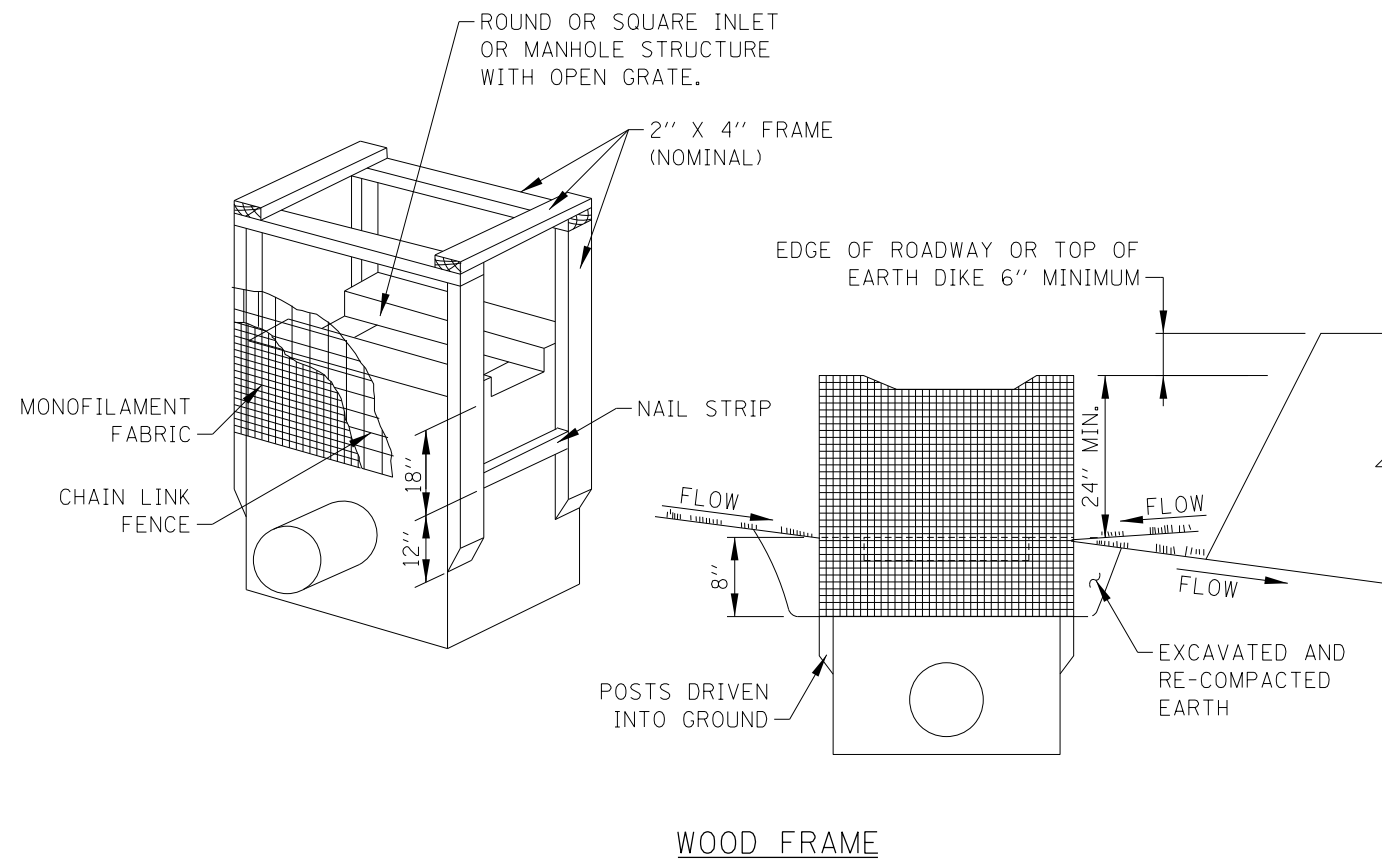
CENTERLINE CROSS SECTION

NOTES:

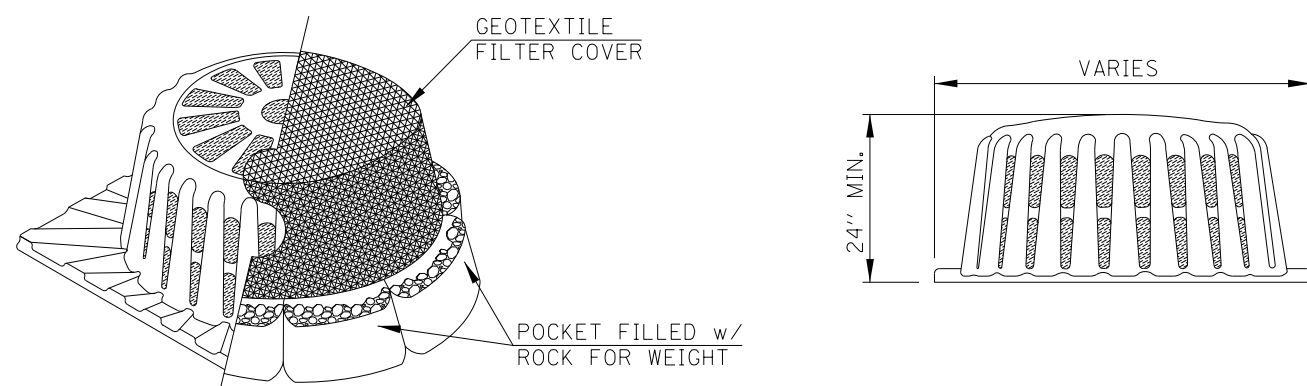
1. MAINTENANCE SHALL BE PERFORMED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 50% OF THE STONE HEIGHT.
2. THE CULVERT INLET PROTECTION AND SEDIMENT SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.
3. THE CULVERT INLET PROTECTION - STONE TO BE MEASURED AND PAID FOR AS TEMPORARY RIPRAP.

CULVERT INLET PROTECTION - STONE
STANDARD SYMBOL





WOOD FRAME



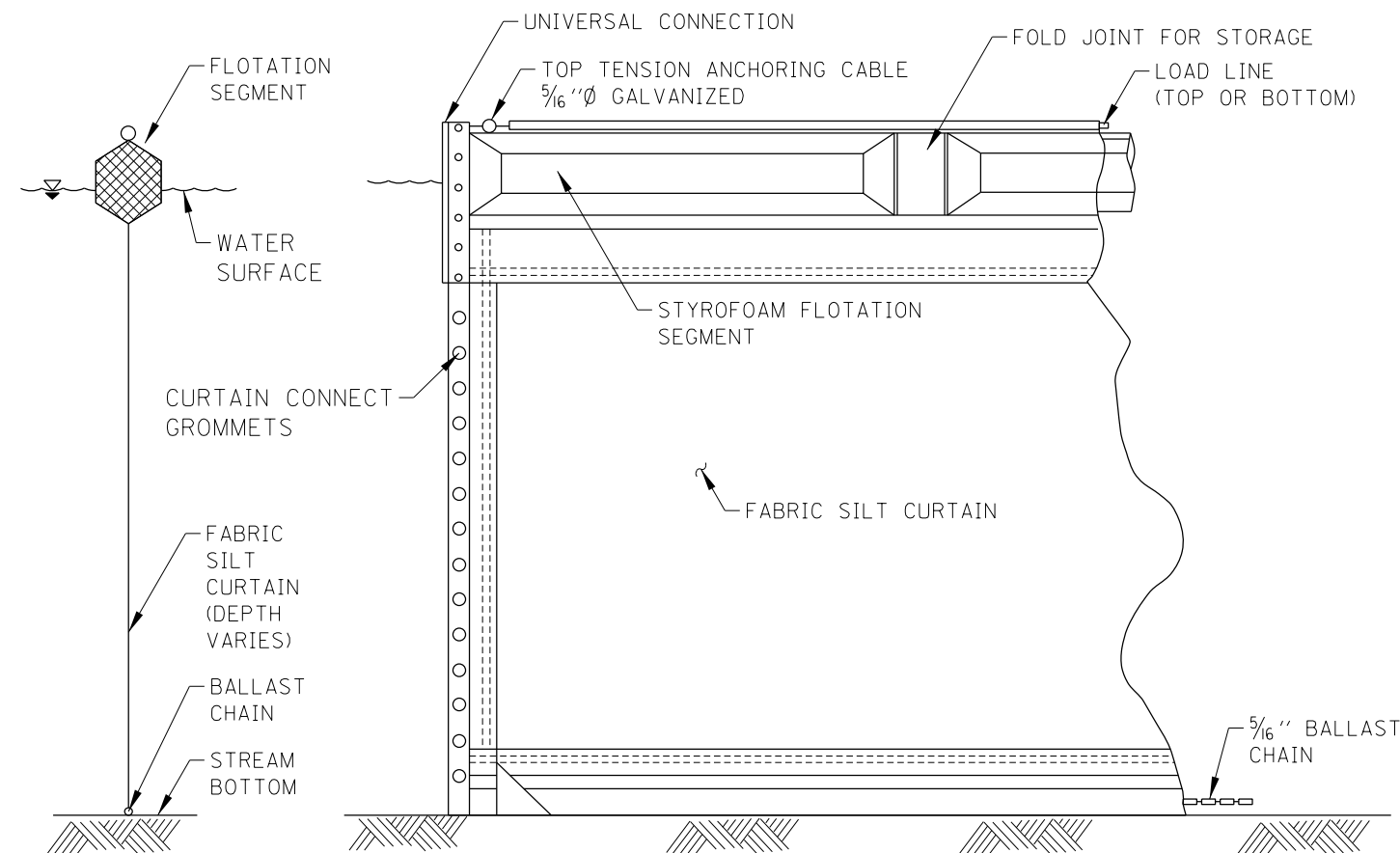
POLYETHYLENE FRAME

NOTES:

1. WOODEN FRAME IS TO BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER. IF CONTRACTOR PREFERENCES, SUPER SILT FENCE CAN BE CONSTRUCTED AROUND THE INLET PER SHEET 6 IN THIS SERIES.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT REMOVED WHEN IT REACHES 50% OF FENCE HEIGHT.
3. TO BE USED TO PROTECT EXISTING AND NEW INLETS, CATCH BASINS AND MANHOLES WITH OPEN LIDS IN NON-PAVED AREAS.

RECTANGULAR INLET PROTECTION

STANDARD SYMBOL



SECTION

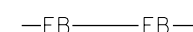
ELEVATION

NOTES:

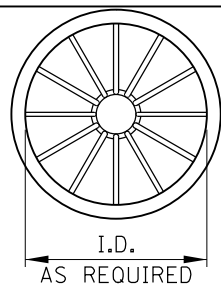
1. FLOTATION BOOM FOR USE IN MOVING WATER SHALL BE ANCHORED TO PREVENT DRIFT SHOREWARD OR DOWNSTREAM. ANCHORAGES SHALL BE INSTALLED ON BOTH SHORE AND STREAM SIDE. BOOMS ARE NOT TO BE INSTALLED ACROSS FLOWING BODY OF WATER.
2. SHORE ANCHORS SHALL CONSIST OF A POST WITH DEADMAN OR APPROVED EQUAL. STREAM ANCHORS SHALL BE OF SUFFICIENT SIZE TO STABILIZE THE BARRIER WITH NUMBER AND SPACING DEPENDENT ON WATERWAY VELOCITIES.
3. FABRIC SECTIONS SHALL BE CONNECTED END TO END WITH MINIMUM 5/8" DIAMETER POLYPROPYLENE ROPE.
4. DESIGN OF BOOM AND ANCHORAGE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BOTTOM OF BOOM SHALL REACH BOTTOM OF WATERWAY USING ONE VERTICAL SECTION AS REQUIRED.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED. CONTRACTOR SHALL REMOVE THE BOOM AT COMPLETION OF WORK IN A MANNER THAT WILL PREVENT SILTATION OF THE WATERWAY.
6. CONSTRUCTION DEBRIS/MATERIALS SHALL BE REMOVED IMMEDIATELY TO PREVENT DAMAGE TO THE CURTAIN AND ENTRY INTO THE WATERWAY.
7. FLOTATION BOOMS TO BE USED TO CONTROL TURBIDITY WHEN WORKING IN WATERWAYS.

FLOTATION BOOM

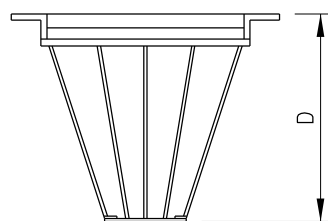
STANDARD SYMBOL



CIRCULAR
SPECIFY INSIDE
DIMENSION

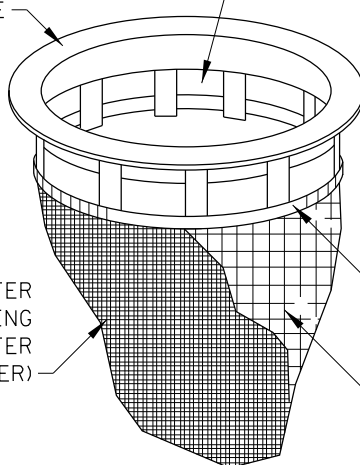


I.D.
AS REQUIRED



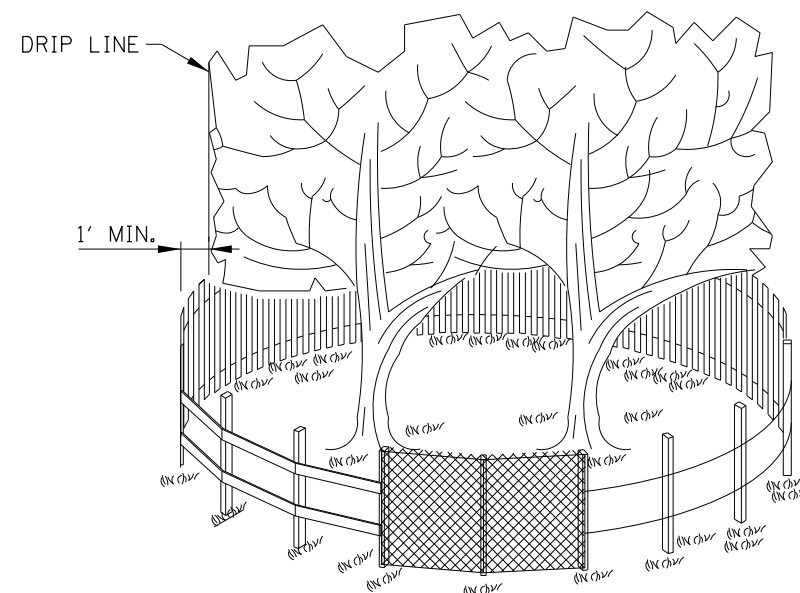
FRONT VIEW

STEEL FRAME
OVERFLOW
FEATURE

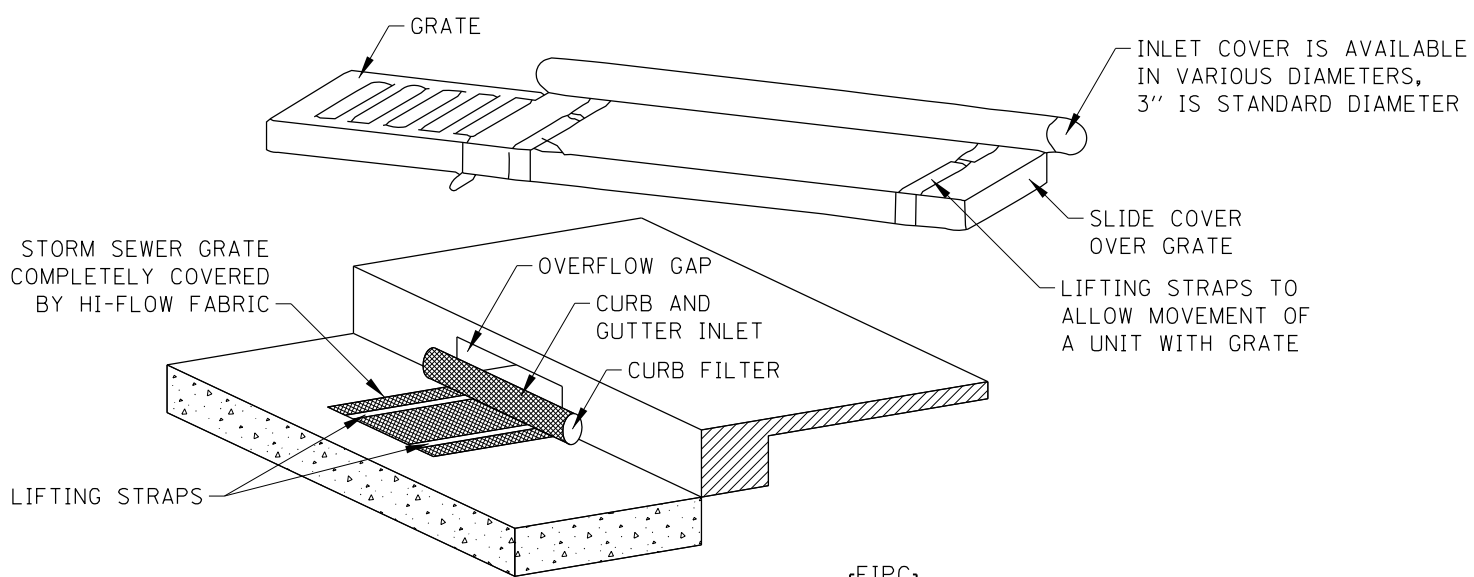


POLYESTER
REINFORCING
MESH (OUTER
LAYER)
STAINLESS STEEL
BAND AND
LOCKING CLAMP
MONOFILAMENT
FABRIC

INLET BASKET
(SEE NOTE 3 BELOW)  STANDARD SYMBOL




SIDE VIEW



STORM SEWER GRATE
COMPLETELY COVERED
BY HI-FLOW FABRIC

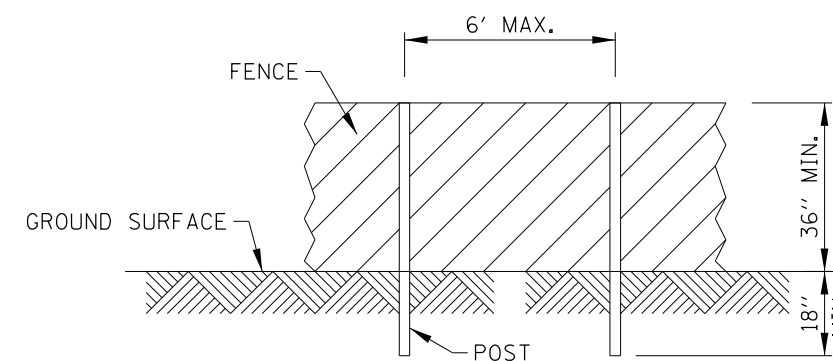
LIFTING STRAPS

OVERFLOW GAP
CURB AND
GUTTER INLET
CURB FILTER

INLET COVER
 STANDARD SYMBOL

INLET COVER IS AVAILABLE
IN VARIOUS DIAMETERS,
3" IS STANDARD DIAMETER

SLIDE COVER
OVER GRATE
LIFTING STRAPS TO
ALLOW MOVEMENT OF
A UNIT WITH GRATE



POST AND FENCE DETAIL

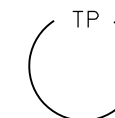
NOTES:

1. MONOFILAMENT FABRIC INLET PROTECTION SHALL CONSIST OF INLET BASKET, FRAME AND FABRIC INSERT.
2. DEVICE SHALL BE EQUIPPED WITH AN OVERFLOW FEATURE SO DRAINAGE TO INLET IS NOT COMPLETELY BLOCKED IF DEVICE IS FULL OF SILT.
3. INLET BASKET IS AVAILABLE TO FIT ROUND, RECTANGULAR, BEEHIVE OR CURB INLET CASTINGS.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED. REMOVE SILT FROM FABRIC INSERT WHEN 50% OF CAPACITY IS REACHED. REMOVE SILT FROM INTERIOR AND EXTERIOR OF INLET COVER WHEN 50% OF COVER HEIGHT IS REACHED.

NOTES:

1. THE FENCE SHALL BE LOCATED 1 FOOT MINIMUM OUTSIDE THE DRIP LINE OF THE TREE TO BE SAVED AND IN NO CASE CLOSER THAN 5 FEET TO THE TRUNK OF ANY TREE.
2. THE FENCE SHALL BE HIGH VISIBILITY PLASTIC OR WOOD LATH SNOW FENCE TO CLEARLY DELINEATE THE PROTECTION AREA.
3. USED TO PROTECT TREES FROM DISTURBANCE AND FROM EQUIPMENT TRAVELING OVER THE ROOT ZONE.

TREE PROTECTION
STANDARD SYMBOL



ABV	ABOVE	CU YD	CUBIC YARD	HD	HEAD	PED	PEDESTAL	STD	STANDARD
A/C	ACCESS CONTROL	CULV	CULVERT	HDW	HEADWALL	PNT	POINT	SBI	STATE BOND ISSUE
AC	ACRE	C&G	CURB & GUTTER	HDUTY	HEAVY DUTY	PC	POINT OF CURVATURE	SR	STATE ROUTE
ADJ	ADJUST	D	DEGREE OF CURVE	ha	HECTARE	PI	POINT OF INTERSECTION OF HORIZONTAL CURVE	STA	STATION
AS	AERIAL SURVEYS	DC	DEPRESSED CURVE	HMA	HOT MIX ASPHALT			SPBGR	STEEL PLATE BEAM GUARDRAIL
AGG	AGGREGATE	DET	DETECTOR	HWY	HIGHWAY	PRC	POINT OF REVERSE CURVE	SS	STORM SEWER
AH	AHEAD	DIA	DIAMETER	HORIZ	HORIZONTAL	PT	POINT OF TANGENCY	STY	STORY
APT	APARTMENT	DIST	DISTRICT	HSE	HOUSE	POT	POINT ON TANGENT	ST	STREET
ASPH	ASPHALT	DOM	DOMESTIC	IL	ILLINOIS	POLYETH	POLYETHYLENE	STR	STRUCTURE
AUX	AUXILIARY	DBL	DOUBLE	IMP	IMPROVEMENT	PCC	PORTLAND CEMENT CONCRETE	e	SUPERELEVATION RATE
AGS	AUXILIARY GAS VALVE (SERVICE)	DSEL	DOWNSTREAM ELEVATION	IN DIA	INCH DIAMETER	PP	POWER POLE OR PRINCIPAL POINT	S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
AVE	AVENUE	DSFL	DOWNSTREAM FLOWLINE	INL	INLET	PRM	PRIME	SURF	SURFACE
AX	AXIS OF ROTATION	DR	DRAINAGE OR DRIVE	INST	INSTALLATION	PE	PRIVATE ENTRANCE	SMK	SURVEY MARKER
BK	BACK	DI	DRAINAGE INLET OR DROP INLET	IDS	INTERSECTION DESIGN STUDY	PROF	PROFILE	T	TANGENT DISTANCE
B-B	BACK TO BACK	DRV	DRIVEWAY	INV	INVERT	PGL	PROFILE GRADELINE	T.R.	TANGENT RUNOUT DISTANCE
BKPL	BACKPLATE	DCT	DUCT	IP	IRON PIPE	PROJ	PROJECT	TEL	TELEPHONE
B	BARN	EA	EACH	IR	IRON ROD	P.C.	PROPERTY CORNER	TB	TELEPHONE BOX
BARR	BARRICADE	EB	EASTBOUND	JT	JOINT	PL	PROPERTY LINE	TP	TELEPHONE POLE
BGN	BEGIN	EOP	EDGE OF PAVEMENT	kg	KILOGRAM	PR	PROPOSED	TEMP	TEMPORARY
BM	BENCHMARK	E-CL	EDGE TO CENTERLINE	km	KILOMETER	R	RADIUS	TBM	TEMPORARY BENCH MARK
BIND	BINDER	E-E	EDGE TO EDGE	LS	LANDSCAPING	RR	RAILROAD	TD	TILE DRAIN
BIT	BITUMINOUS	EL	ELEVATION	LN	LANE	RRS	RAILROAD SPIKE	TBE	TO BE EXTENDED
BTM	BOTTOM	ENTR	ENTRANCE	LT	LEFT	RPS	REFERENCE POINT STAKE	TBR	TO BE REMOVED
BLVD	BOULEVARD	EXC	EXCAVATION	LP	LIGHT POLE	REF	REFLECTIVE	TBS	TO BE SAVED
BRK	BRICK	EX	EXISTING	LGT	LIGHTING	RCCP	REINFORCED CONCRETE CULVERT PIPE	TWP	TOWNSHIP
BBOX	BUFFALO BOX	EXPWAY	EXPRESSWAY	LF	LINEAL FEET OR LINEAR FEET	REINF	REINFORCEMENT	TR	TOWNSHIP ROAD
BLDG	BUILDING	E	EXTERNAL DISTANCE OF HORIZONTAL CURVE	L	LITER OR CURVE LENGTH	REM	REMOVAL	TS	TRAFFIC SIGNAL
CIP	CAST IRON PIPE	E	OFFSET DISTANCE TO VERTICAL CURVE	LC	LONG CHORD	RC	REMOVE CROWN	TSCB	TRAFFIC SIGNAL CONTROL BOX
CB	CATCH BASIN	F-F	FACE TO FACE	LNG	LONGITUDINAL	REP	REPLACEMENT	TSC	TRAFFIC SYSTEMS CENTER
C-C	CENTER TO CENTER	FA	FEDERAL AID	L SUM	LUMP SUM	REST	RESTAURANT	TRVS	TRANSVERSE
CL	CENTERLINE OR CLEARANCE	FAI	FEDERAL AID INTERSTATE	MACH	MACHINE	RESURF	RESURFACING	TRVL	TRAVEL
CL-E	CENTERLINE TO EDGE	FAP	FEDERAL AID PRIMARY	MB	MAIL BOX	RET	RETAINING	TRN	TURN
CL-F	CENTERLINE TO FACE	FAS	FEDERAL AID SECONDARY	MH	MANHOLE	RT	RIGHT	TY	TYPE
CTS	CENTERS	FAUS	FEDERAL AID URBAN SECONDARY	MATL	MATERIAL	ROW	RIGHT-OF-WAY	T-A	TYPE A
CERT	CERTIFIED	FP	FENCE POST	MED	MATERIAL	RD	ROAD	TYP	TYPICAL
CHSLD	CHISELED	FE	FIELD ENTRANCE	m	METER	RDWY	ROADWAY	UNDGND	UNDERGROUND
CS	CITY STREET	FH	FIRE HYDRANT	METH	METHOD	RTE	ROUTE	USGS	U.S. GEOLOGICAL SURVEY
CP	CLAY PIPE	FL	FLOW LINE	M	MID-ORDINATE	SAN	SANITARY	USEL	UPSTREAM ELEVATION
CLSD	CLOSED	FB	FOOT BRIDGE	mm	MILLIMETER	SANS	SANITARY SEWER	USFL	UPSTREAM FLOWLINE
CLID	CLOSED LID	FDN	FOUNDATION	mm DIA	MILLIMETER DIAMETER	SEC	SECTION	UTIL	UTILITY
CT	COAT OR COURT	FR	FRAME	MIX	MIXTURE	SEED	SEEDING	VBOX	VALVE BOX
COMB	COMBINATION	F&G	FRAME & GRATE	MBH	MOBILE HOME	SHAP	SHAPING	VV	VALVE VAULT
C	COMMERCIAL BUILDING	FRWAY	FREEWAY	MOD	MODIFIED	S	SHED	VLV	VAULT
CE	COMMERCIAL ENTRANCE	GAL	GALLON	MFT	MOTOR FUEL TAX	SH	SHEET	VEH	VEHICLE
CONC	CONCRETE	GALV	GALVANIZED	N & BC	NAIL & BOTTLE CAP	SHLD	SHOULDER	VP	VENT PIPE
CONST	CONSTRUCT	G	GARAGE	N & C	NAIL & CAP	SW	SIDEWALK OR SOUTHWEST	VERT	VERTICAL
CONTD	CONTINUED	GM	GAS METER	N & W	NAIL & WASHER	SIG	SIGNAL	VC	VERTICAL CURVE
CONT	CONTINUOUS	GV	GAS VALVE	NOAA	NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION	SOD	SODDING	VPC	VERTICAL POINT OF CURVATURE
COR	CORNER	GRAN	GRANULAR	NC	NORMAL CROWN	SM	SOLID MEDIAN	VPI	VERTICAL POINT OF INTERSECTION
CORR	CORRUGATED	GR	GRATE	NB	NORTHBOUND	SB	SOUTHBOUND	VPT	VERTICAL POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	GRVL	GRAVEL	NE	NORTHEAST	SE	SOUTHEAST	WM	WATER METER
CNTY	COUNTY	GND	GROUND	NW	NORTHWEST	SPL	SPECIAL	WV	WATER VALVE
CH	COUNTY HIGHWAY	GUT	GUTTER	OLID	OPEN LID	SD	SPECIAL DITCH	WMAIN	WATER MAIN
CSE	COURSE	GP	GUY POLE	PAT	PATTERN	SQ FT	SQUARE FEET	WB	WESTBOUND
XSECT	CROSS SECTION	GW	GUY WIRE	PVD	PAVED	m ²	SQUARE METER	WILDFL	WILDFLOWERS
m ³	CUBIC METER	HH	HANDHOLE	PVMT	PAVEMENT	mm ²	SQUARE MILLIMETER	W	WITH
mm ³	CUBIC MILLIMETER	HATCH	HATCHING	PM	PAVEMENT MARKING	SQ YD	SQUARE YARD	WO	WITHOUT

DATE	REVISIONS
1-1-11	Updated abbreviations and symbols.
1-1-08	Updated abbreviations and symbols.

**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**
(Sheet 1 of 8)
STANDARD 000001-06

Illinois Department of Transportation

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ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011

Scott Schick
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

<u>ADJUSTMENT ITEMS</u>			<u>ALIGNMENT ITEMS</u>			<u>CONTOUR ITEMS</u>		
	<u>EX</u>	<u>PR</u>		<u>EX</u>	<u>PR</u>		<u>EX</u>	<u>PR</u>
Structure To Be Adjusted		ADJ	Baseline			Approx. Index Line		
Structure To Be Cleaned		C	Centerline			Approx. Intermediate Line		
Main Structure To Be Filled		FM	Centerline Break Circle			Index Contour		
Structure To Be Filled		F	Baseline Symbol			Intermediate Contour		
Structure To Be Filled Special		FSP	Centerline Symbol			<u>DRAINAGE ITEMS</u>		
Structure To Be Removed		R	PI Indicator			Channel or Stream Line		
Structure To Be Reconstructed		REC	Point Indicator			Culvert Line		
Structure To Be Reconstructed Special		RSP	Horizontal Curve Data (Half Size)	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	Grading & Shaping Ditches		
Frame and Grate To Be Adjusted		A	<u>BOUNDARIES ITEMS</u>					
Frame and Lid To Be Adjusted		A	Dashed Property Line			Drainage Boundary Line		
Domestic Service Box To Be Adjusted		A	Solid Property/Lot Line			Paved Ditch		
Valve Vault To Be Adjusted		A	Section/Grant Line			Aggregate Ditch		
Special Adjustment		SP	Quarter Section Line			Pipe Underdrain		
Item To Be Abandoned		AB	Quarter/Quarter Section Line			Storm Sewer		
Item To Be Moved		M	County/Township Line			Flowline		
Item To Be Relocated		REL	State Line			Ditch Check		
Pavement Removal and Replacement			Iron Pipe Found			Headwall		
			Iron Pipe Set			Inlet		
			Survey Marker			Manhole		
			Property Line Symbol			Summit		
			Same Ownership Symbol (Half Size)			Roadway Ditch Flow		
			Northwest Quarter Corner (Half Size)			Swale		
			Section Corner (Half Size)			Catch Basin		
			Southeast Quarter Corner (Half Size)			Culvert End Section		
						Water Surface Indicator		
						Riprap		

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 ISSUED 1-1-97

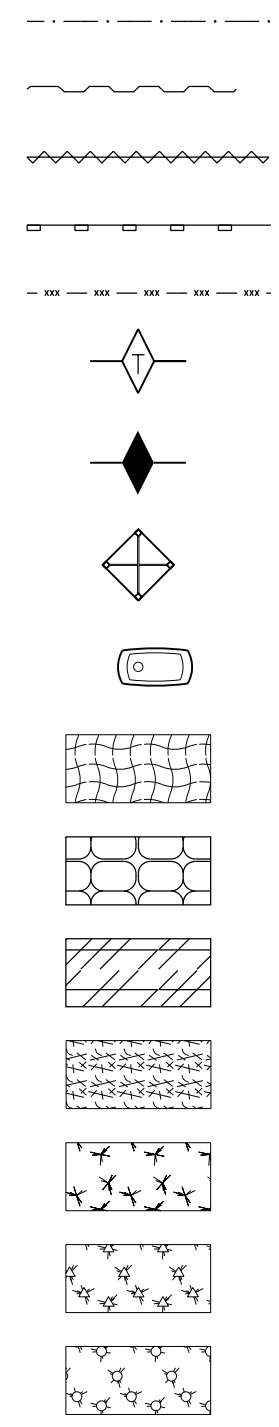
**STANDARD SYMBOLS,
 ABBREVIATIONS
 AND PATTERNS**
 (Sheet 2 of 8)
STANDARD 000001-06

EROSION & SEDIMENT CONTROL ITEMS

EX

PR

- Cleaning & Grading Limits
- Dike
- Erosion Control Fence
- Perimeter Erosion Barrier
- Temporary Fence
- Ditch Check Temporary
- Ditch Check Permanent
- Inlet & Pipe Protection
- Sediment Basin
- Erosion Control Blanket
- Fabric Formed Concrete Revetment Mat
- Turf Reinforcement Mat
- Mulch Temporary
- Mulch Method 1
- Mulch Method 2 Stabilized
- Mulch Method 3 Hydraulic

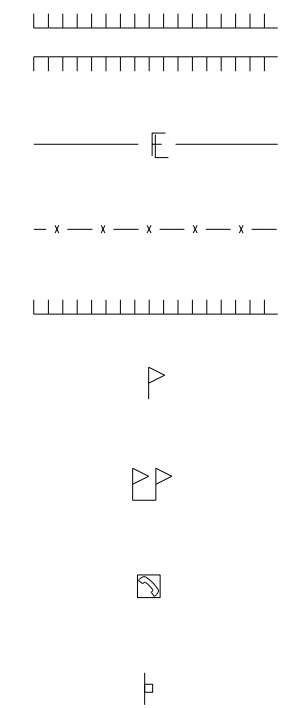


NON-HIGHWAY IMPROVEMENT ITEMS

EX

PR

- Noise Attn./Levee
- Field Line
- Fence
- Base of Levee
- Mailbox
- Multiple Mailboxes
- Pay Telephone
- Advertising Sign

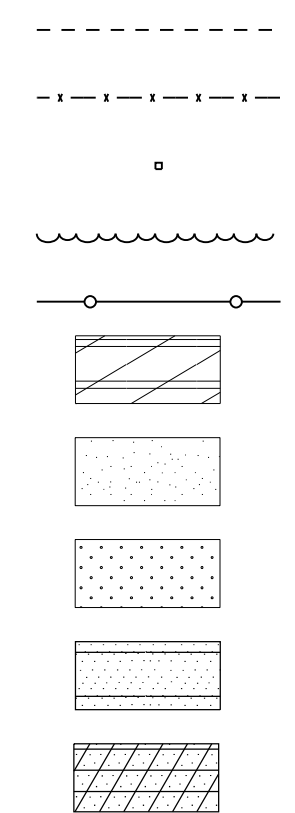


LANDSCAPING ITEMS

EX

PR

- Contour Mounding Line
- Fence
- Fence Post
- Shrubs
- Mowline
- Perennial Plants
- Seeding Class 2
- Seeding Class 2A
- Seeding Class 4
- Seeding Class 4 & 5 Combined

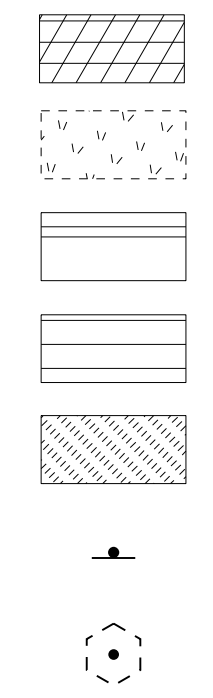


EXISTING LANDSCAPING ITEMS (contd.)

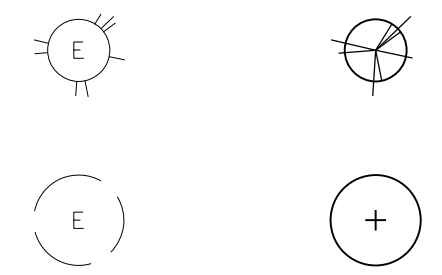
EX

PR

- Seeding Class 5
- Seeding Class 7
- Seedlings Type 1
- Seedlings Type 2
- Sodding
- Mowstake w/Sign
- Tree Trunk Protection



- Evergreen Tree
- Shade Tree

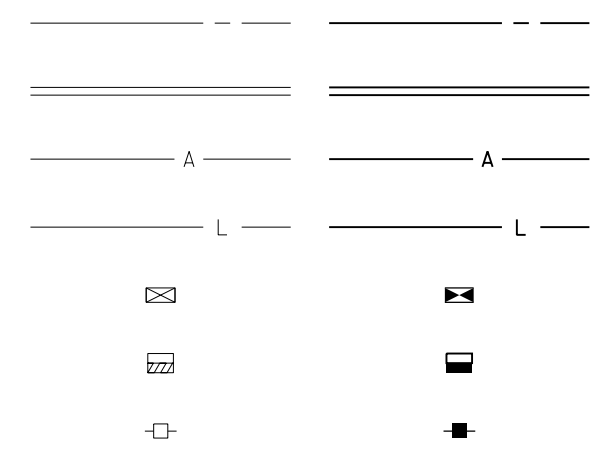


LIGHTING

EX

PR

- Duct
- Conduit
- Electrical Aerial Cable
- Electrical Buried Cable
- Controller
- Underpass Luminaire
- Power Pole



STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 3 of 8)

STANDARD 000001-06

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**LIGHTING
(contd.)**

Pull Point

EX



PR



Handhole



Heavy Duty Handhole



Junction Box



Light Unit Comb.



Electrical Ground



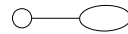
Traffic Flow Arrow



High Mast Pole
(Half Size)



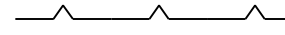
Light Unit-1



PAVEMENT (MISC.)

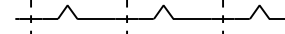
Keyed Long. Joint

EX

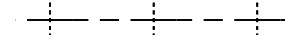


PR

Keyed Long. Joint w/Tie Bars



Sawed Long. Joint w/Tie Bars



Bituminous Shoulder



Bituminous Taper



Stabilized Driveway



Widening



PAVEMENT MARKINGS

Bike Lane Symbol

EX



PR



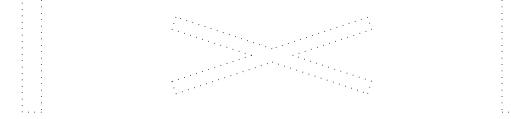
Bike Lane Text



Handicap Symbol



RR Crossing



Raised Marker Amber 1 Way

Raised Marker Amber 2 Way

Raised Marker Crystal 1 Way

Two Way Turn Left

Shoulder Diag. Pattern

Skip-Dash White

Skip-Dash Yellow

Stop Line

Solid Line

Double Centerline

Dotted Lines

CL 2Ln 2Way
RRPM 12.2 m (40') o.c.

CL 2Ln 2Way
RRPM 80' (24.4 m) o.c.

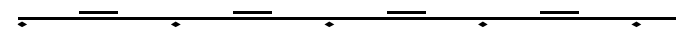
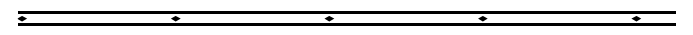
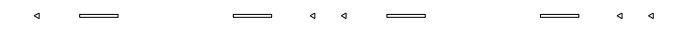
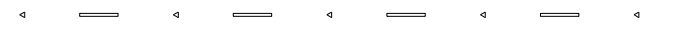
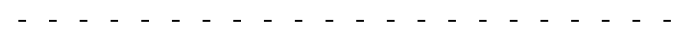
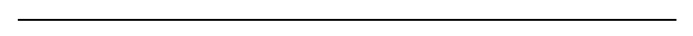
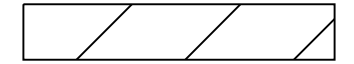
CL Multilane Div.
RRPM 40' (12.2 m) o.c.

CL Multilane Div.
RRPM 80' (24.4 m) o.c.

CL Multilane Div. Dbl.
RRPM 80' (24.4 m) o.c.

CL Multilane Undiv.

Two Way Turn Left Line



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PASSED January 1, 2011
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 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011
Santosh
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**STANDARD SYMBOLS,
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 (Sheet 4 of 8)

STANDARD 000001-06

PAVEMENT MARKINGS

(contd.)

Urban Combination Left

EX



PR



Urban Combination Right



Urban Left Turn Arrow



Urban Right Turn Arrow



Urban Left Turn Only



ONLY ONLY ONLY



Urban Right Turn Only



Urban Thru Only



Urban U-Turn



Urban Combined U-Turn



Rural Combination Left



Rural Combination Right



Rural Left Turn Arrow



Rural Right Turn Arrow



Rural Left Turn Only



ONLY ONLY ONLY



Rural Right Turn Only



ONLY ONLY ONLY



Rural Thru Only



ONLY ONLY ONLY



RAILROAD ITEMS

EX

PR

Abandoned Railroad



Railroad



Railroad Point



Control Box



Crossing Gate



Flashing Signal



Railroad Cant. Mast Arm



Crossbuck

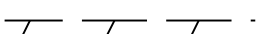


REMOVAL ITEMS

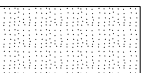
EX

PR

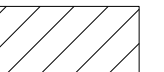
Removal Tic



Bituminous Removal



Hatch Pattern



Tree Removal Single



RIGHT OF WAY ITEMS

EX

PR

Future ROW Corner Monument



ROW Marker



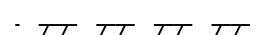
ROW Line



Easement



Temporary Easement



**STANDARD SYMBOLS,
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(Sheet 5 of 8)

STANDARD 000001-06

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RIGHT OF WAY ITEMS
(contd.)

	EX	PR
Access Control Line	— AC —————	— AC —————
Access Control Line & ROW	— AC —————	— AC —————
Access Control Line & ROW with Fence	— x ————— AR —	— x — AC — x —
Excess ROW Line		— XS —————

ROADWAY PLAN
ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement	-----	-----
Bit Shoulders, Medians and C&G Line	-----	-----
Aggregate Shoulder	-----	-----
Sidewalks, Driveways	-----	-----
Guardrail		
Guardrail Post	□	
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)		
Match Line		STA. 45+00
Slope Limit Line	-----	
Typical Cross-Section Line	-----	-----

ROADWAY PROFILES

	EX	PR
P.I. Indicator	△	△
Point Indicator	○	○
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV = L = E =	VPI = ELEV = L = E =
Ditch Profile Left Side	-----	-----
Ditch Profile Right Side	-----	-----
Roadway Profile Line	-----	-----
Storm Sewer Profile Left Side	-----	-----
Storm Sewer Profile Right Side	-----	-----

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		○
Barricade Type II		
Barricade Type III		
Barricade With Edge Line		
Flashing Light Sign		○
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS
(contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(0) (Half Size)		
Left Lane Closed Ahead W20-5L(0) (Half Size)		
Right Lane Closed Ahead W20-5R(0) (Half Size)		
Road Closed Ahead W20-3(0) (Half Size)		
Road Construction Ahead W20-1(0) (Half Size)		
Single Lane Ahead (Half Size)		
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

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**STANDARD SYMBOLS,
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(Sheet 6 of 8)

STANDARD 000001-06

SIGNING ITEMS
(contd.)

EX

PR

One Way Arrow Lrg. W1-6-(0)
(Half Size)



Two Way Arrow Large W1-7-(0)
(Half Size)



Detour M4-10L-(0)
(Half Size)



Detour M4-10R-(0)
(Half Size)



One Way Left R6-1L
(Half Size)



One Way Right R6-1R
(Half Size)



Left Turn Lane R3-I100L
(Half Size)



Keep Left R4-7AL
(Half Size)



Keep Left R4-7BL
(Half Size)



Keep Right R4-7AR
(Half Size)



Keep Right R4-7BR
(Half Size)



Stop Here On Red R10-6-AL
(Half Size)



Stop Here On Red R10-6-AR
(Half Size)



No Left Turn R3-2
(Half Size)



No Right Turn R3-1
(Half Size)



Road Closed R11-2
(Half Size)



Road Closed Thru Traffic R11-2
(Half Size)

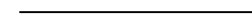


STRUCTURES ITEMS

EX

PR

Box Culvert Barrel



Box Culvert Headwall



Bridge Pier



Bridge



Retaining Wall



Temporary Sheet Piling



TRAFFIC SHEET
ITEMS

EX

PR

Cable Number



Left Turn Green



Left Turn Yellow



Signal Backplate



Signal Section 8" (200 mm)



Signal Section 12" (300 mm)



Walk/Don't Walk Letters



Walk/Don't Walk Symbols



TRAFFIC SIGNAL
ITEMS

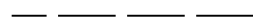
EX

PR

Galv. Steel Conduit



Underground Cable



Detector Loop Line



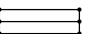
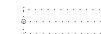
Detector Loop Large



Detector Loop Small



Detector Loop Quadrapole



STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS

(Sheet 7 of 8)

STANDARD 000001-06

Illinois Department of Transportation

PASSED January 1, 2011
Michael Beard
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011
Scott Schick
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TRAFFIC SIGNAL ITEMS (contd.)

	<u>EX</u>	<u>PR</u>
Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulfbox Junction		
Wood Pole		
Temp. Signal Head		
Handhole		
Double Handhole		
Heavy Duty Handhole		
Junction Box		
Ped. Pushbutton Detector		
Ped. Signal Head		
Power Pole Service		
Priority Veh. Detector		
Signal Head		
Signal Head w/Backplate		
Signal Post		
Closed Circuit TV		
Video Detector System		

UNDERGROUND UTILITY ITEMS

	<u>EX</u>	<u>PR</u>	<u>ABANDONED</u>
Cable TV			
Electric Cable			
Fiber Optic			
Gas Pipe			
Oil Pipe			
Sanitary Sewer			
Telephone Cable			
Water Pipe			

UTILITIES ITEMS

	<u>EX</u>	<u>PR</u>
Controller		
Double Handhole		
Fire Hydrant		
GuyWire or Deadman Anchor		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Pole		
Manhole		
Pipeline Warning Sign		
Power Pole		
Power Pole with Light		
Sanitary Sewer Cleanout		
Splice Box Above Ground		
Telephone Splice Box Above Ground		
Telephone Pole		

UTILITY ITEMS (contd.)

	<u>EX</u>	<u>PR</u>
Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line		

VEGETATION ITEMS

	<u>EX</u>	<u>PR</u>
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

WATER FEATURE ITEMS

	<u>EX</u>	<u>PR</u>
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 8 of 8)

STANDARD 000001-06

Illinois Department of Transportation

PASSED January 1, 2011
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REINFORCEMENT BARS - ENGLISH (METRIC)

Bar Size English (metric)	Dia. in. mm	Cross- Sectional Area sq. in. (sq. mm)	Weight lbs./ft. kg/m	SPACING, in. (mm)													
				4 (100)	4½ (115)	5 (125)	5½ (140)	6 (150)	6½ (165)	7 (175)	7½ (190)	8 (200)	8½ (215)	9 (225)	10 (250)	11 (275)	12 (300)
				AREA OF STEEL PER FOOT (METER), sq. in. (sq. mm)													
3 (10)	0.375 (9.5)	0.110 (71)	0.376 (0.560)	0.330 (710)	0.293 (617)	0.264 (568)	0.240 (507)	0.220 (473)	0.203 (430)	0.189 (406)	0.176 (374)	0.165 (355)	0.155 (330)	0.147 (316)	0.132 (284)	0.120 (258)	0.110 (237)
4 (13)	0.500 (12.7)	0.196 (129)	0.668 (0.944)	0.588 (1290)	0.523 (1122)	0.470 (1032)	0.428 (921)	0.392 (860)	0.362 (782)	0.336 (737)	0.314 (679)	0.294 (645)	0.277 (600)	0.261 (573)	0.235 (516)	0.214 (469)	0.196 (430)
5 (16)	0.625 (15.9)	0.307 (199)	1.043 (1.552)	0.921 (1990)	0.819 (1730)	0.737 (1592)	0.670 (1421)	0.614 (1327)	0.567 (1206)	0.526 (1137)	0.491 (1047)	0.461 (995)	0.433 (926)	0.409 (884)	0.368 (796)	0.335 (724)	0.307 (663)
6 (19)	0.750 (19.1)	0.442 (284)	1.502 (2.235)	1.326 (2840)	1.179 (2470)	1.061 (2272)	0.964 (2029)	0.884 (1893)	0.816 (1721)	0.758 (1623)	0.707 (1495)	0.663 (1420)	0.624 (1321)	0.589 (1262)	0.530 (1136)	0.482 (1033)	0.442 (947)
7 (22)	0.875 (22.2)	0.601 (387)	2.044 (3.042)	1.803 (3870)	1.603 (3365)	1.442 (3096)	1.311 (2764)	1.202 (2580)	1.110 (2345)	1.030 (2211)	0.962 (2037)	0.902 (1935)	0.848 (1800)	0.801 (1720)	0.721 (1548)	0.656 (1407)	0.601 (1290)
8 (25)	1.000 (25.4)	0.785 (510)	2.670 (3.973)	2.355 (5100)	2.093 (4435)	1.884 (4080)	1.713 (3543)	1.570 (3400)	1.449 (3091)	1.346 (2914)	1.256 (2684)	1.178 (2550)	1.108 (2372)	1.047 (2267)	0.942 (2040)	0.856 (1855)	0.785 (1700)
9 (29)	1.128 (28.7)	1.000 (645)	3.400 (5.060)	3.000 (6450)	2.667 (5609)	2.400 (5160)	2.182 (4607)	2.000 (4300)	1.846 (3909)	1.714 (3686)	1.600 (3395)	1.500 (3225)	1.412 (3000)	1.333 (2867)	1.200 (2580)	1.091 (2345)	1.000 (2150)
10 (32)	1.270 (32.3)	1.267 (819)	4.303 (6.404)	3.801 (8190)	3.379 (7122)	3.041 (6552)	2.764 (5850)	2.534 (5460)	2.339 (4964)	2.172 (4680)	2.027 (4311)	1.901 (4095)	1.789 (3809)	1.689 (3640)	1.520 (3276)	1.382 (2978)	1.267 (2730)
11 (36)	1.410 (35.8)	1.561 (1006)	5.313 (7.907)	4.683 (10060)	4.163 (8748)	3.746 (8048)	3.406 (7186)	3.122 (6707)	2.882 (6097)	2.676 (5749)	2.498 (5295)	2.342 (5030)	2.204 (4679)	2.081 (4471)	1.873 (4024)	1.703 (3658)	1.561 (3353)

Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	Deleted metric table. Soft converted English table.

AREAS OF REINFORCEMENT BARS
STANDARD 001001-02

DECIMAL OF AN INCH AND OF A FOOT

A		B	A		B	A		B	A		B	A		B	A		B
1/64	0.0052	1/16	11/64	0.171875	2 1/16	11/32	0.3385	4 1/16	33/64	0.5052	6 1/16	43/64	0.671875	8 1/16	27/32	0.8385	10 1/16
	0.0104	1/8		0.1771	2 1/8		0.34375	4 1/8		0.5104	6 1/8		0.6771	8 1/8		0.84375	10 1/8
	0.015625	3/16		0.1823	2 3/16		0.3490	4 3/16		0.515625	6 3/16		0.6823	8 3/16		0.8490	10 3/16
	0.0208	1/4		0.1875	2 1/4		0.3542	4 1/4		0.5208	6 1/4		0.6875	8 1/4		0.8542	10 1/4
1/32	0.0260	5/16	13/64	0.1927	2 5/16	23/64	0.359375	4 5/16	17/32	0.5260	6 5/16	45/64	0.6927	8 5/16	55/64	0.859375	10 5/16
	0.03125	3/8		0.1979	2 3/8		0.3646	4 3/8		0.53125	6 3/8		0.6979	8 3/8		0.8646	10 3/8
	0.0365	7/16		0.203125	2 7/16		0.3698	4 7/16		0.5365	6 7/16		0.703125	8 7/16		0.8698	10 7/16
	0.0417	1/2		0.2083	2 1/2		0.3750	4 1/2		0.5417	6 1/2		0.7083	8 1/2		0.8750	10 1/2
3/64	0.046875	9/16	7/32	0.2135	2 9/16	25/64	0.3802	4 9/16	35/64	0.546875	6 9/16	23/32	0.7135	8 9/16	57/64	0.8802	10 9/16
	0.0521	5/8		0.21875	2 5/8		0.3854	4 5/8		0.5521	6 5/8		0.71875	8 5/8		0.8854	10 5/8
	0.0573	11/16		0.2240	2 11/16		0.390625	4 11/16		0.5573	6 11/16		0.7240	8 11/16		0.890625	10 11/16
	0.0625	3/4		0.2292	2 3/4		0.3958	4 3/4		0.5625	6 3/4		0.7292	8 3/4		0.8958	10 3/4
5/64	0.0677	13/16	15/64	0.234375	2 13/16	13/32	0.4010	4 13/16	37/64	0.5677	6 13/16	47/64	0.734375	8 13/16	29/32	0.9010	10 13/16
	0.0729	7/8		0.2396	2 7/8		0.40625	4 7/8		0.5729	6 7/8		0.7396	8 7/8		0.90625	10 7/8
	0.078125	15/16		0.2448	2 15/16		0.4115	4 15/16		0.578125	6 15/16		0.7448	8 15/16		0.9115	10 15/16
	0.0833	1		0.2500	3		0.4167	5		0.5833	7		0.7500	9		0.9167	11
3/32	0.0885	1 1/16	11/64	0.2552	3 1/16	27/64	0.421875	5 1/16	19/32	0.5885	7 1/16	49/64	0.7552	9 1/16	59/64	0.921875	11 1/16
	0.09375	1 1/8		0.2604	3 1/8		0.4271	5 1/8		0.59375	7 1/8		0.7604	9 1/8		0.9271	11 1/8
	0.0990	1 3/16		0.265625	3 3/16		0.4323	5 3/16		0.5990	7 3/16		0.765625	9 3/16		0.9323	11 3/16
	0.1042	1 1/4		0.2708	3 1/4		0.4375	5 1/4		0.6042	7 1/4		0.7708	9 1/4		0.9375	11 1/4
7/64	0.109375	1 5/16	9/32	0.2760	3 5/16	29/64	0.4427	5 5/16	39/64	0.609375	7 5/16	25/32	0.7760	9 5/16	61/64	0.9427	11 5/16
	0.1146	1 3/8		0.28125	3 3/8		0.4479	5 3/8		0.6146	7 3/8		0.78125	9 3/8		0.9479	11 3/8
	0.1198	1 7/16		0.2865	3 7/16		0.453125	5 7/16		0.6198	7 7/16		0.7865	9 7/16		0.953125	11 7/16
	0.1250	1 1/2		0.2917	3 1/2		0.4583	5 1/2		0.6250	7 1/2		0.7917	9 1/2		0.9583	11 1/2
9/64	0.1302	1 9/16	5/16	0.296875	3 9/16	15/32	0.4635	5 9/16	41/64	0.6302	7 9/16	13/16	0.796875	9 9/16	31/32	0.9635	11 9/16
	0.1354	1 5/8		0.3021	3 5/8		0.46875	5 5/8		0.6354	7 5/8		0.8021	9 5/8		0.96875	11 5/8
	0.140625	1 11/16		0.3073	3 11/16		0.4740	5 11/16		0.640625	7 11/16		0.8073	9 11/16		0.9740	11 11/16
	0.1458	1 3/4		0.3125	3 3/4		0.4792	5 3/4		0.6458	7 3/4		0.8125	9 3/4		0.9792	11 3/4
5/32	0.1510	1 13/16	21/64	0.3177	3 13/16	31/64	0.484375	5 13/16	23/32	0.6510	7 13/16	53/64	0.8177	9 13/16	63/64	0.984375	11 13/16
	0.15625	1 7/8		0.3229	3 7/8		0.4896	5 7/8		0.65625	7 7/8		0.8229	9 7/8		0.9896	11 7/8
	0.1615	1 15/16		0.328125	3 15/16		0.4948	5 15/16		0.6615	7 15/16		0.828125	9 15/16		0.9948	11 15/16
	0.1667	2		0.3333	4		0.5000	6		0.6667	8		0.8333	10		1.0000	12

A = Fractions of Inch or Foot
 B = Inch Equivalents to Foot Fractions

DATE	REVISIONS
1-1-97	New Standard.

DECIMAL OF AN INCH AND OF A FOOT

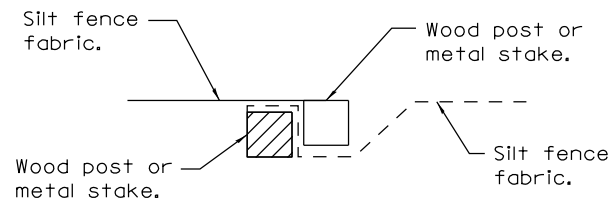
STANDARD 001006

Illinois Department of Transportation

PASSED January 1, 1997
Sheryl G. ...
 ENGINEER OF POLICY AND PROCEDURES

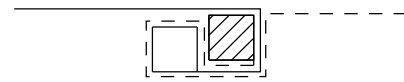
APPROVED January 1, 1997
Ray ...
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as shown.

STEP 1

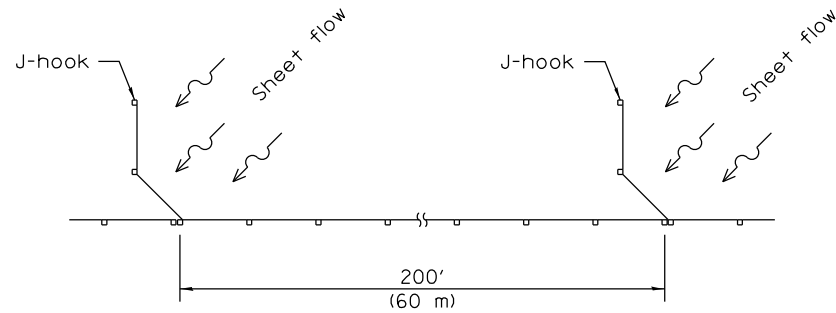


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

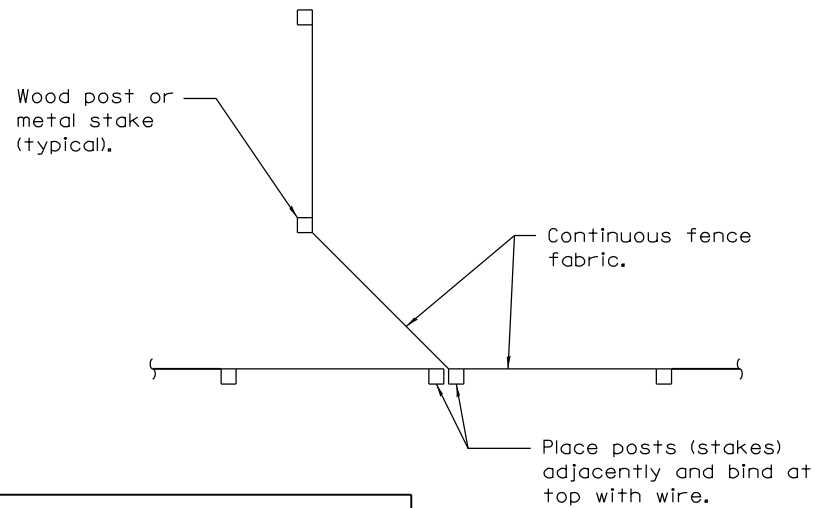
STEP 2

ATTACHING TWO SILT FILTER FENCES

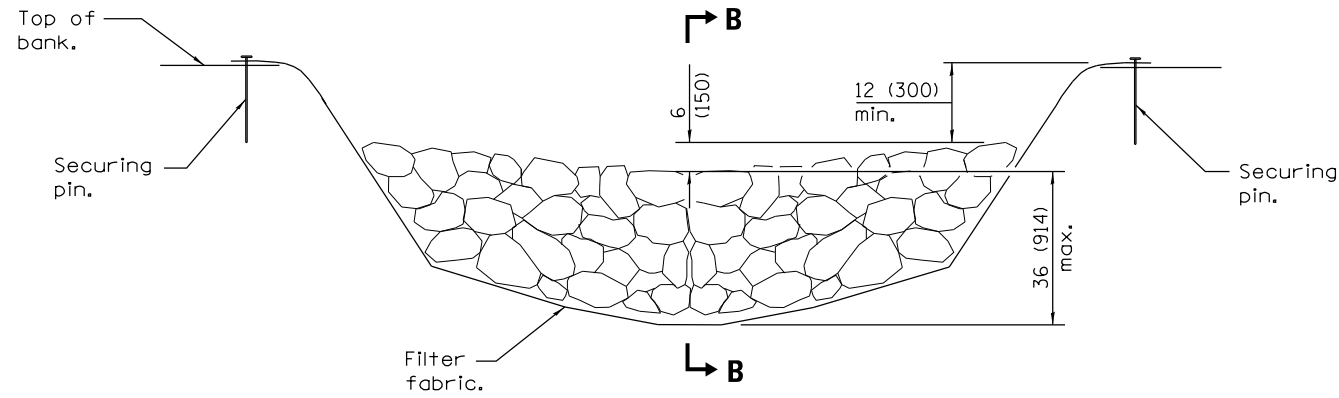
(Not applicable for J-hooks)



SILT FILTER J-HOOK PLACEMENT

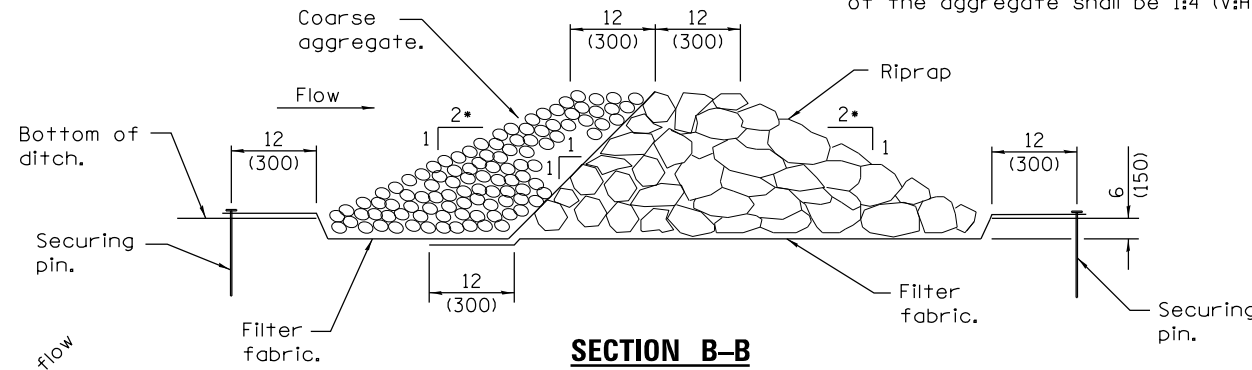


J-HOOK



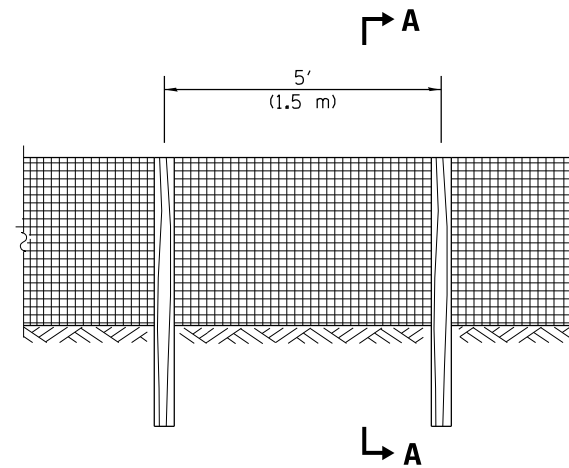
ELEVATION

• When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



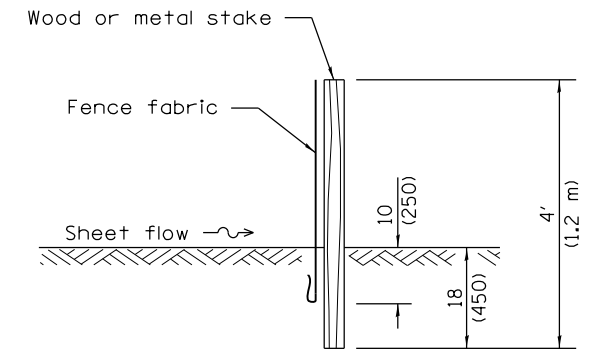
SECTION B-B

AGGREGATE DITCH CHECK

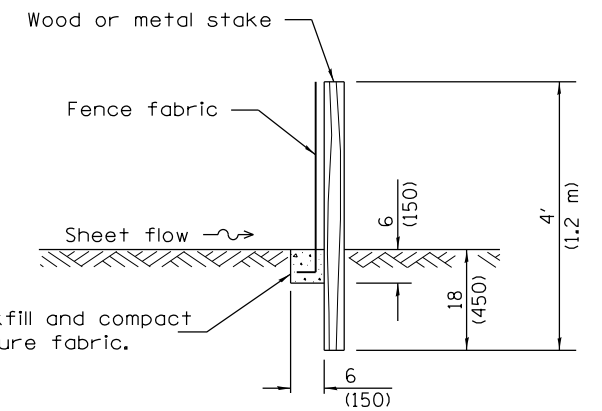


ELEVATION

SILT FILTER FENCE AS A PERIMETER EROSION BARRIER



SLICE METHOD



TRENCH METHOD

SECTION A-A

Excavate, backfill and compact trench to secure fabric.

GENERAL NOTES

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-13	Corrected notation for flowline (E) on SEDIMENT BASIN ELEVATION.
1-1-12	Omitted hay/straw perimeter barrier. Added SLICE METHOD to SECTION A-A.

TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 1 of 2)

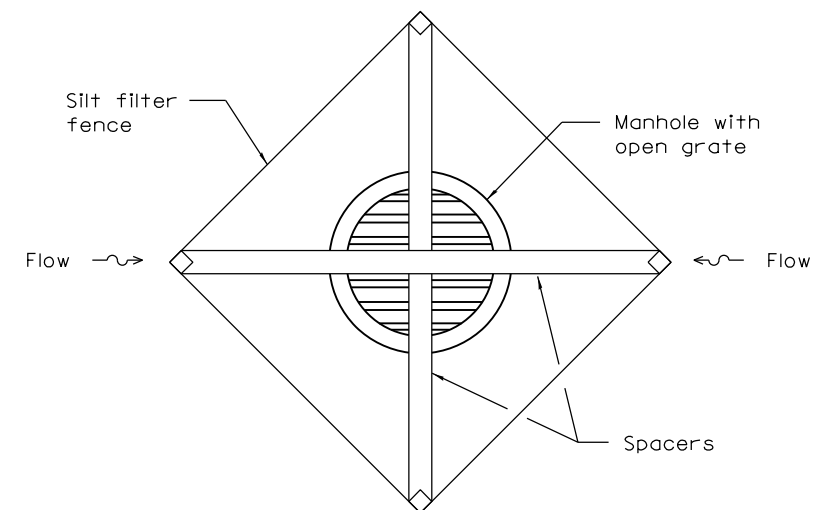
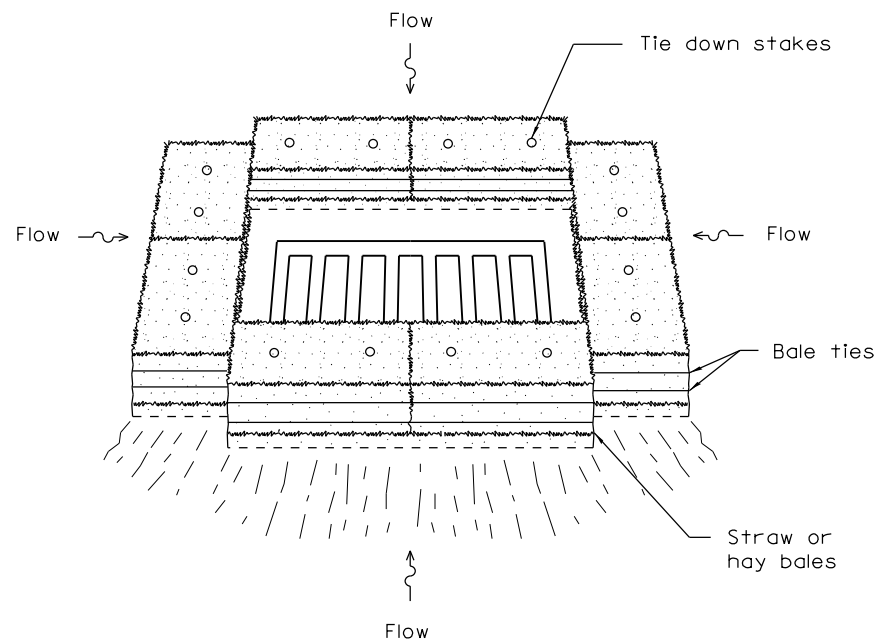
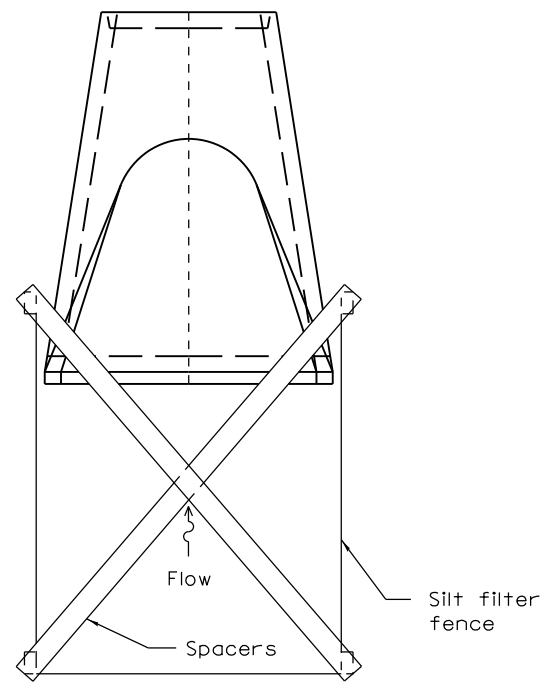
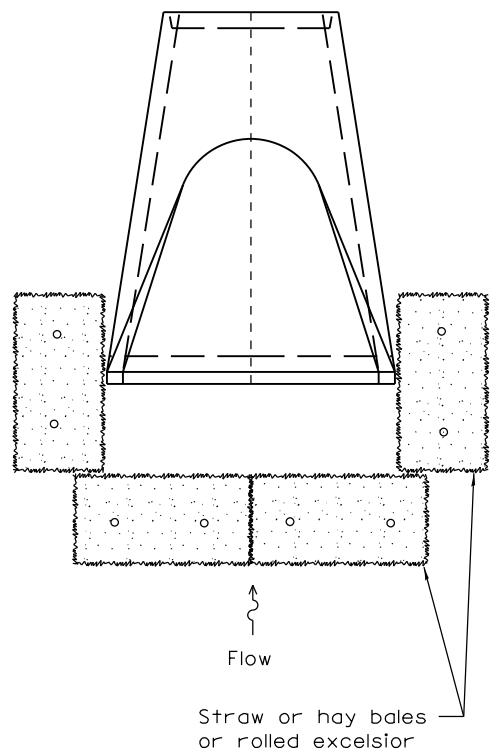
STANDARD 280001-07

Illinois Department of Transportation

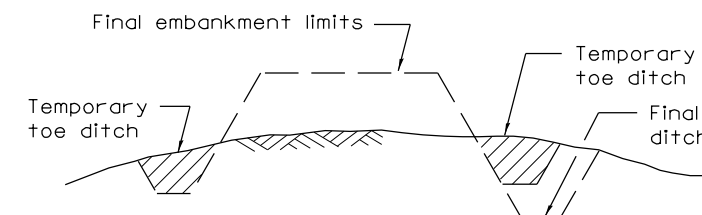
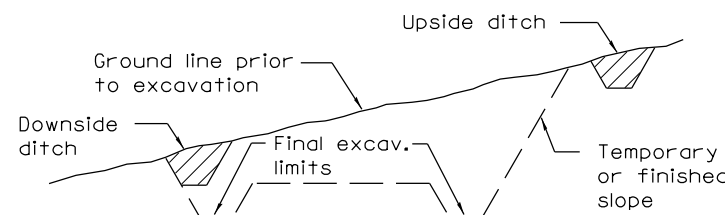
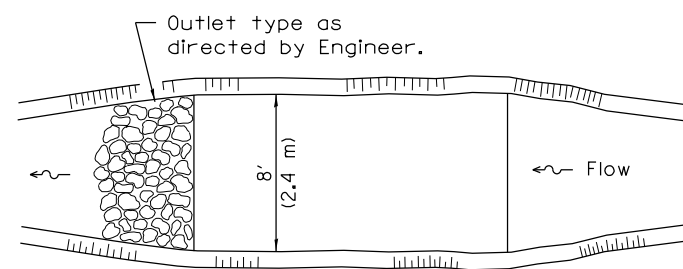
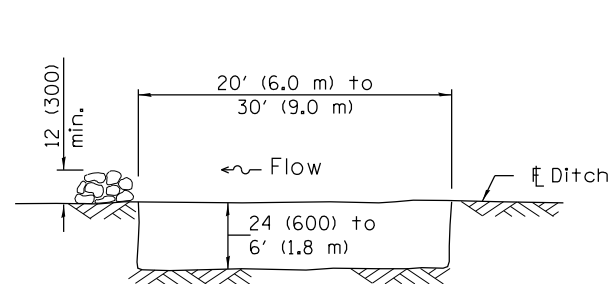
PASSED January 1, 2013
Michael Brand
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2013
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



INLET AND PIPE PROTECTION



TYPICAL CUT CROSS-SECTION

TYPICAL FILL CROSS-SECTION

TEMPORARY DITCHES FOR CUT & FILL SECTIONS

The performance of the basin will improve if put into a series.

The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

ELEVATION

PLAN

SEDIMENT BASIN

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
 ENGINEER OF POLICY AND PROCEDURES

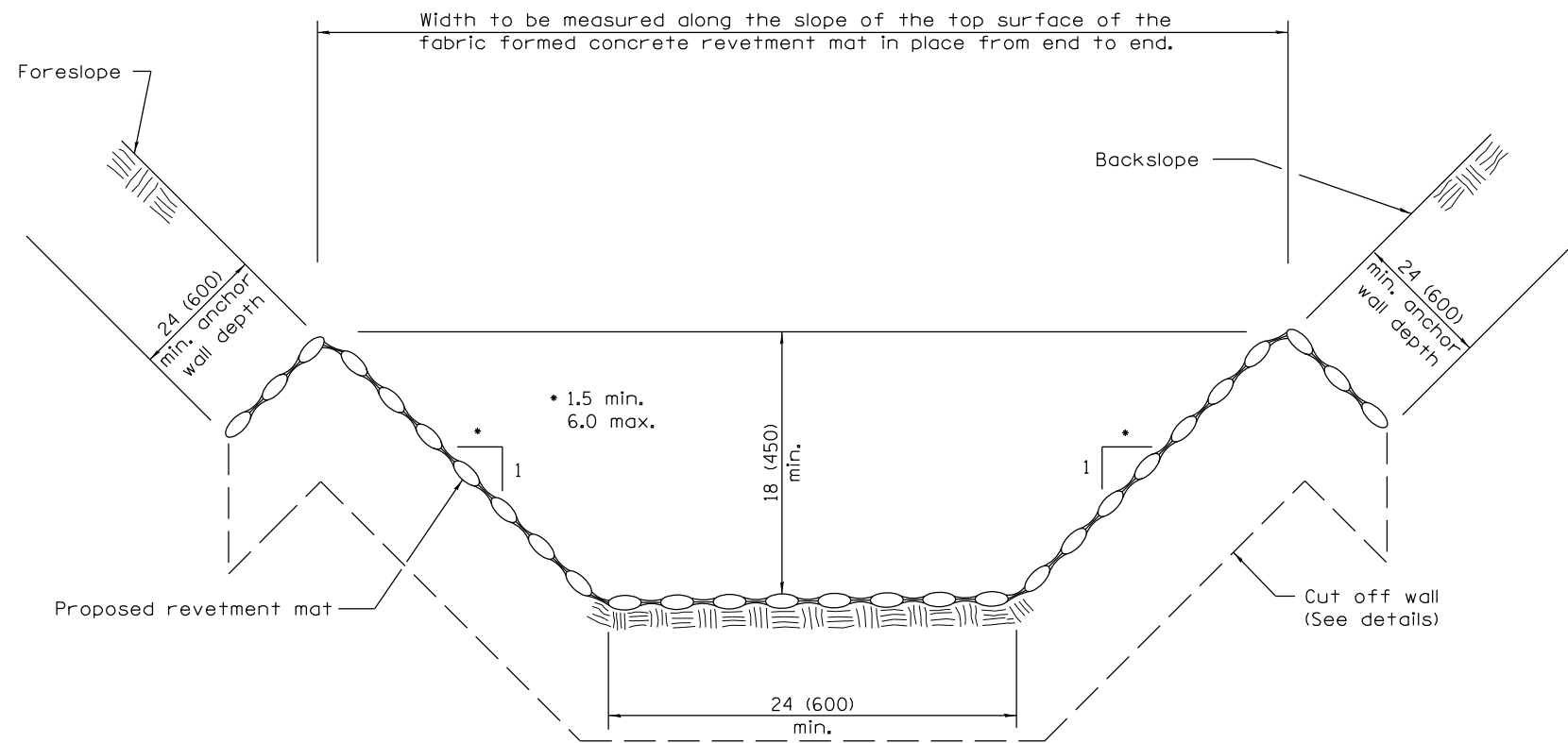
APPROVED January 1, 2013
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

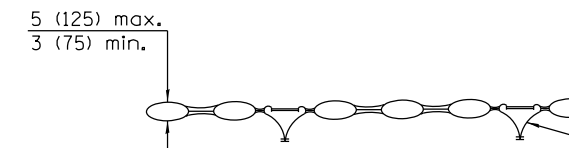
TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 2 of 2)

STANDARD 280001-07

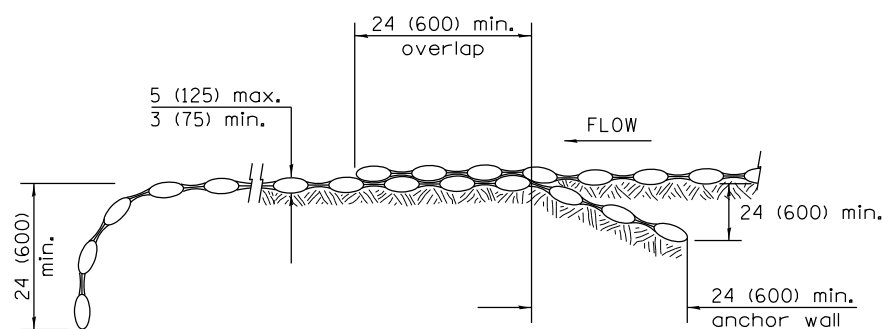


TYPICAL FABRIC FORMED CONCRETE REVETMENT MAT LINED DITCH



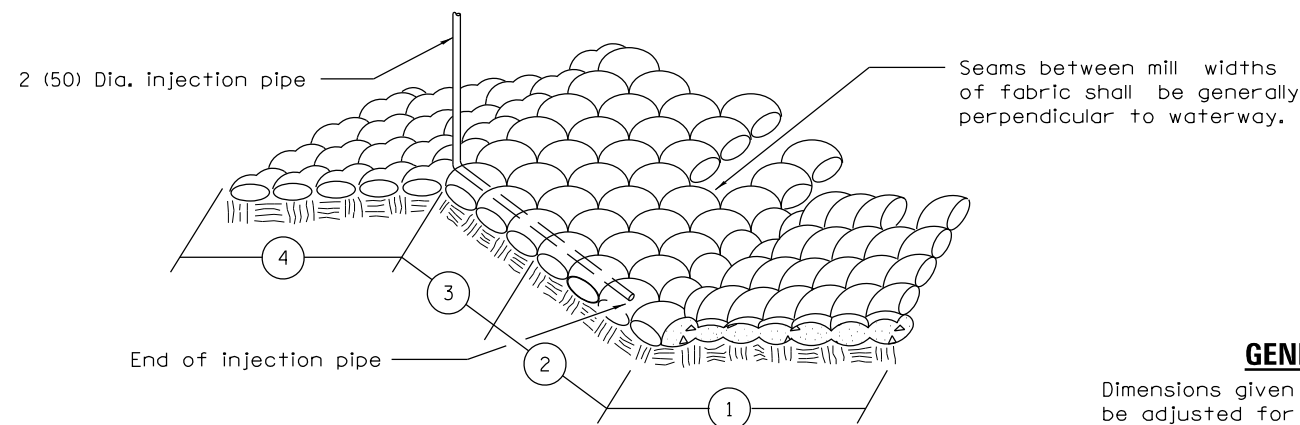
Locate field sewn joint midway between mortar stops. Lay seams down for best appearance.

TYPICAL SECTION THRU FILTER POINT MAT



CUT OFF WALL DETAILS

TYPICAL LAP JOINTS W/ANCHOR WALL



INSTALLATION DETAILS

1. In placing inserts through fabric use care to avoid breaking drop stitches.
2. (1) Indicates sequence of pour.

GENERAL NOTES

Dimensions given with minimum limits shall be adjusted for field conditions as directed by the Engineer.

All anchor walls on side slopes and at lap joints, as well as cut off walls, shall be installed in trenches.

Cut off walls shall be installed at the upstream and downstream ends.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2008

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2008

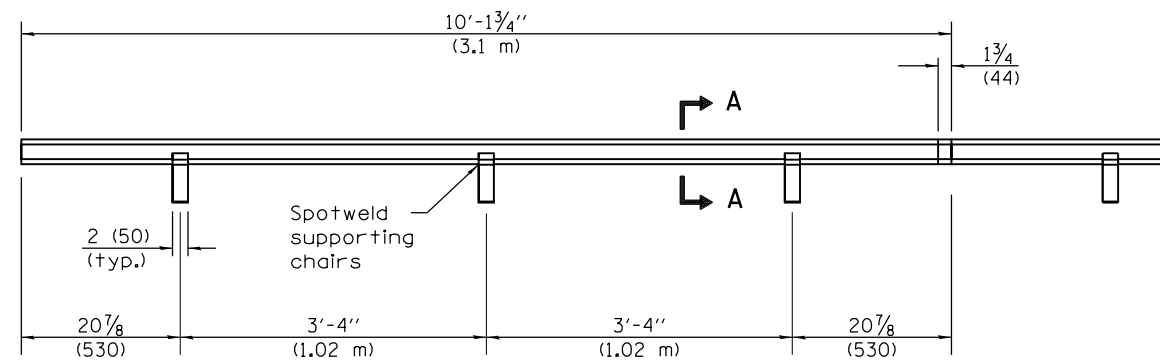
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-08	Switched units to English (metric).
1-1-02	Revised second note.

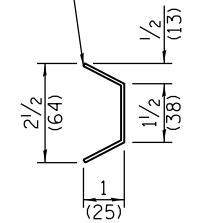
FABRIC FORMED CONCRETE REVETMENT MATS

STANDARD 285001-02

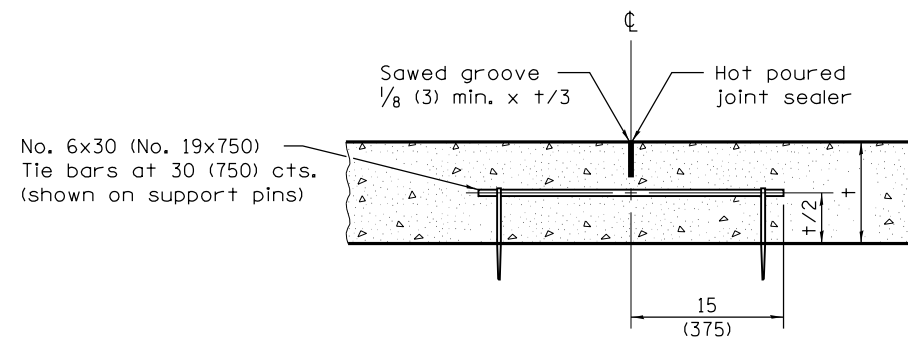


TYPE C METAL JOINT

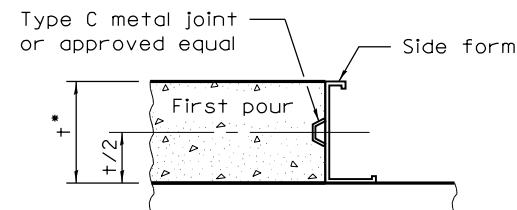
Sheet steel of suitable thickness to form keyway as detailed or approved equal.



SECTION A-A

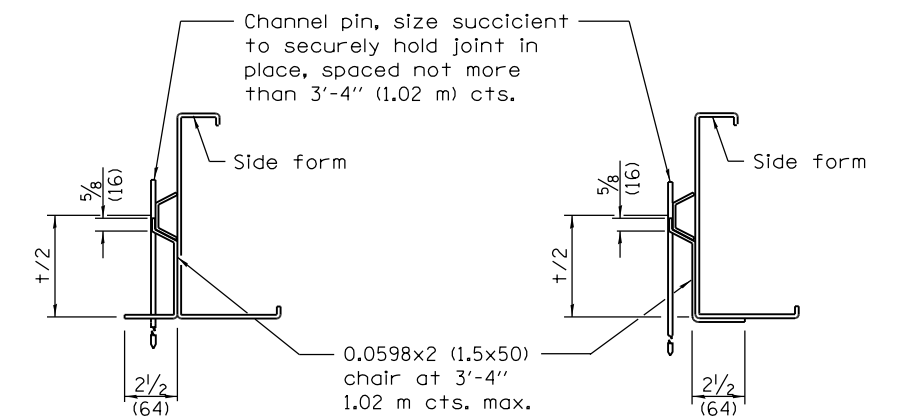


LONGITUDINAL SAWED JOINT



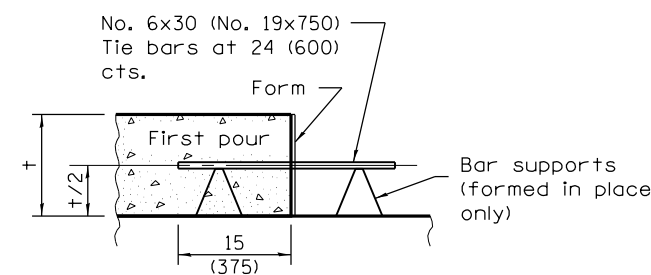
LONGITUDINAL KEYED JOINT

* 8 (203) min. pavement thickness for keyed joints.

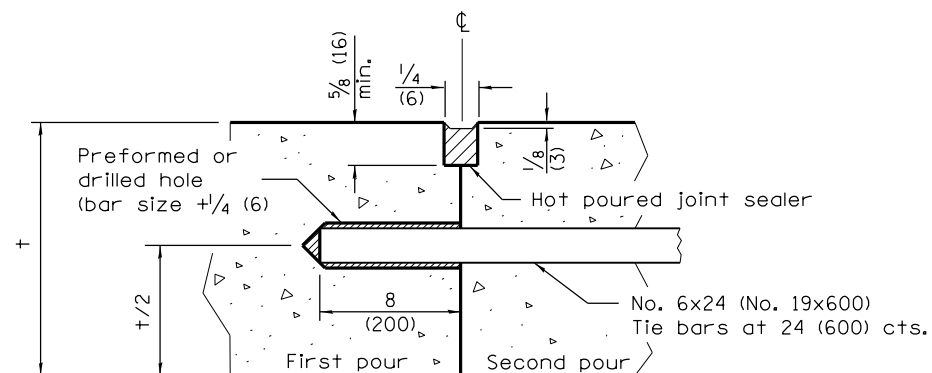


SUPPORTING CHAIR ALTERNATE

SUPPORTING CHAIR ALTERNATE



LONGITUDINAL CONSTRUCTION JOINT
(TIE BAR FORMED IN PLACE OR MECHANICALLY INSERTED)



LONGITUDINAL CONSTRUCTION JOINT
(TIE BAR GROUTED IN PLACE)

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-15	Added: opt. for mech. inserted tie bars, min. pvmt. thickness for keyed joints.
1-1-08	Switched units to English (metric).

PAVEMENT JOINTS

(Sheet 1 of 2)

STANDARD 420001-08

Illinois Department of Transportation

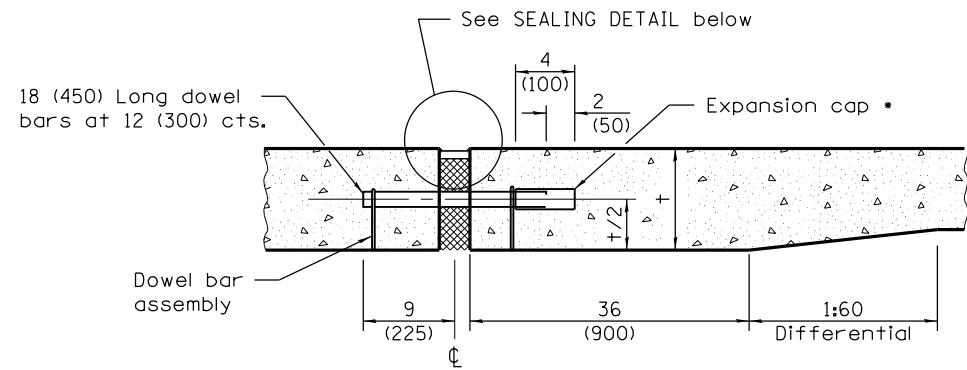
PASSED January 1, 2015

Michael Beard
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2015

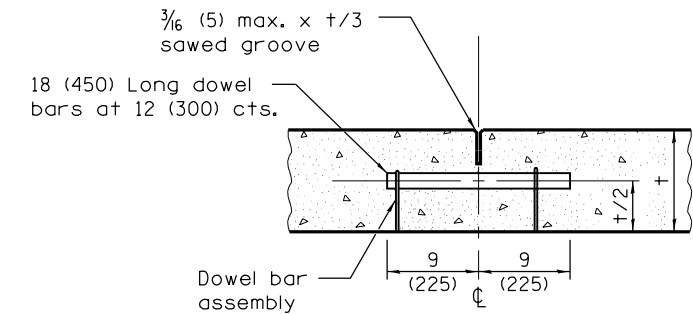
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

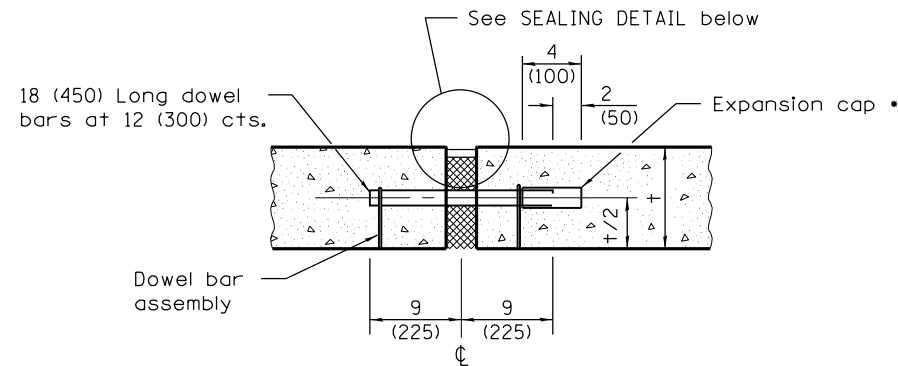


TRANSVERSE EXPANSION JOINT
(FOR PAVEMENTS WITH UNEQUAL THICKNESS)

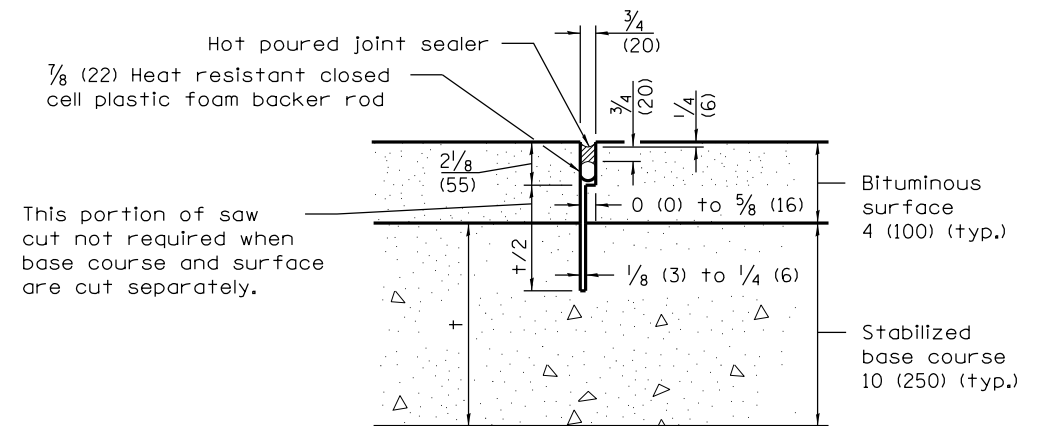
• Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.



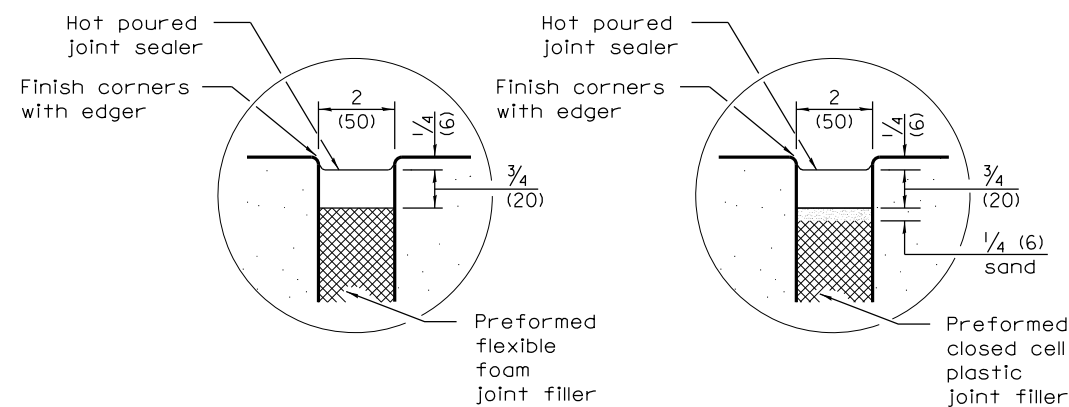
TRANSVERSE CONTRACTION JOINT



TRANSVERSE EXPANSION JOINT
(FOR PAVEMENTS WITH EQUAL THICKNESS)

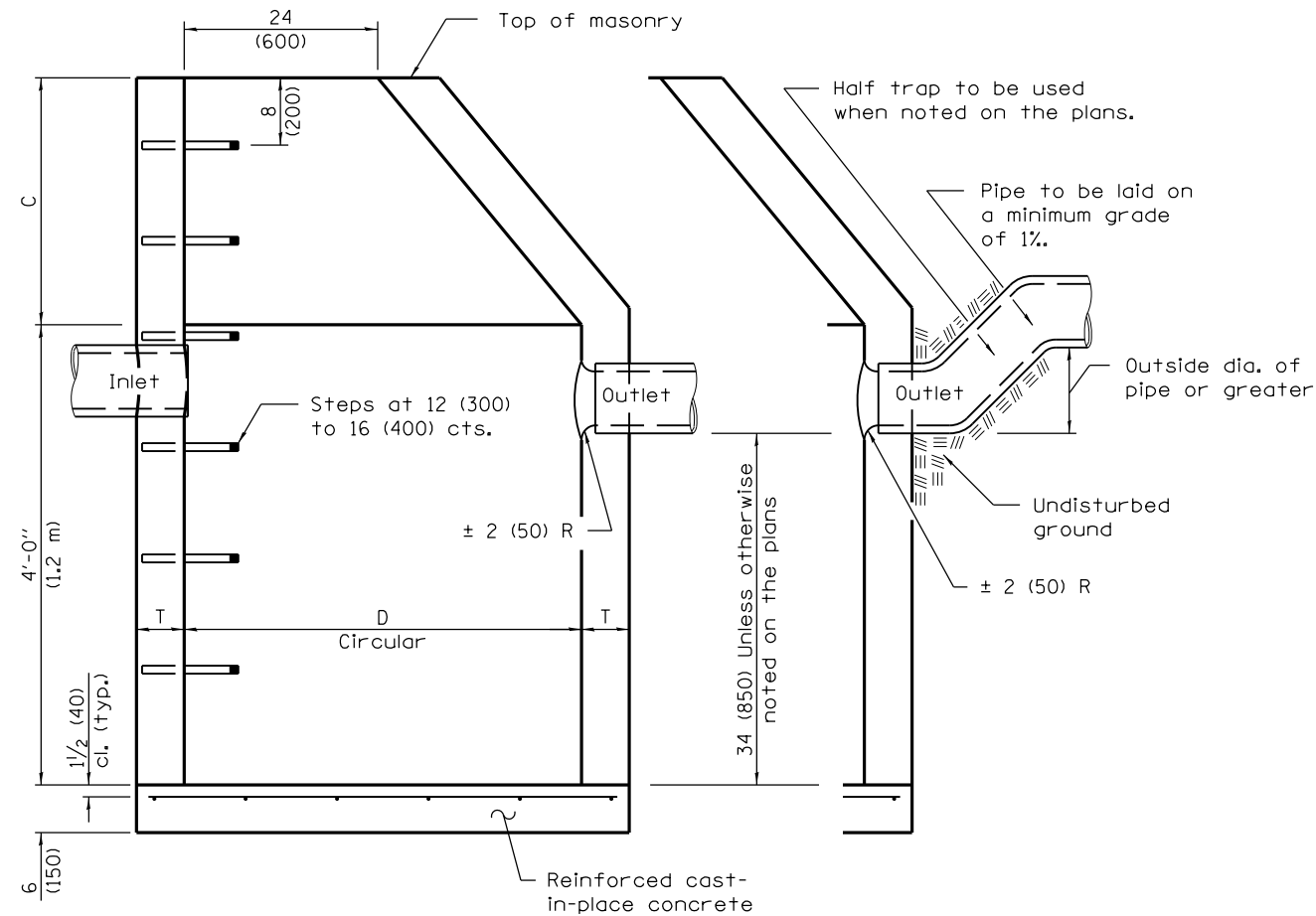


TRANSVERSE CONTRACTION JOINT
(FOR CAM, CFA AND LFA BASE COURSE MIXTURES)



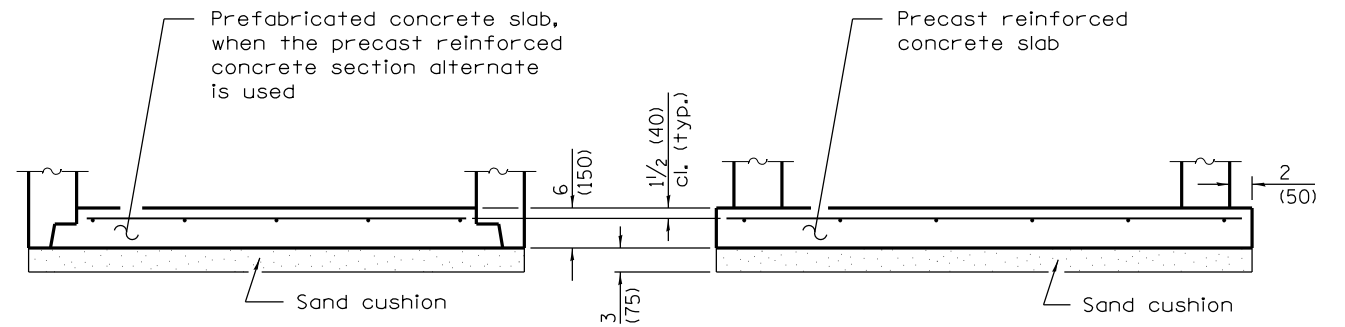
SEALING DETAIL

DOWEL BAR TABLE	
PAVEMENT THICKNESS	DOWEL BAR DIAMETER
8 (200) or greater	1 1/2 (38)
7 (175) thru 7.99 (199)	1 1/4 (32)
Less than 7 (175)	1 (25)



ELEVATION
(Standard Outlet)

ELEVATION
(Half Trap)



ALTERNATE BOTTOM SLAB

ALTERNATE MATERIALS FOR WALLS	D	C*	T (min.)
Concrete Masonry Unit	4'-0" (1.2 m)	30 (750)	5 (125)
	5'-0" (1.5 m)	3'-9" (1.15 m)	5 (125)
Brick Masonry	4'-0" (1.2 m)	30 (750)	8 (200)
	5'-0" (1.5 m)	3'-9" (1.15 m)	8 (200)
Precast Reinforced Concrete Section	4'-0" (1.2 m)	30 (750)	4 (100)
	5'-0" (1.5 m)	3'-9" (1.15 m)	5 (125)
Cast-in-place Concrete	4'-0" (1.2 m)	30 (750)	6 (150)
	5'-0" (1.5 m)	3'-9" (1.15 m)	6 (150)

- For precast reinforced concrete sections, dimension "C" may vary from the dimension given to plus 6 (150).

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.20 sq. in./ft (420 sq. mm/m) in both directions with a maximum spacing of 12 (300).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602601 for optional precast reinforced concrete flat slab top.

See Standard 602701 for details of steps.

All dimensions are in inches (millimeters) unless otherwise shown.

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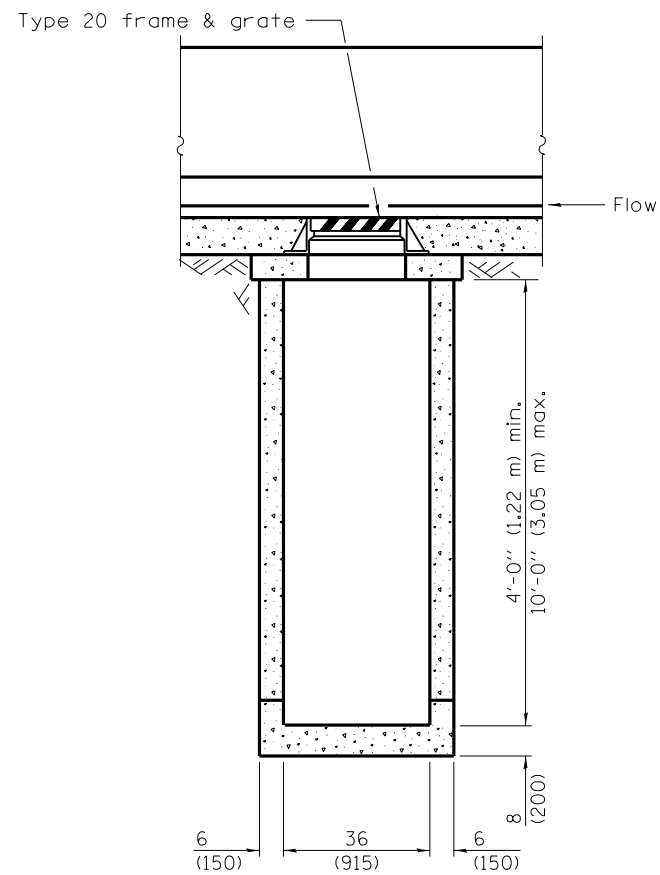
APPROVED January 1, 2011
Scott Schick
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

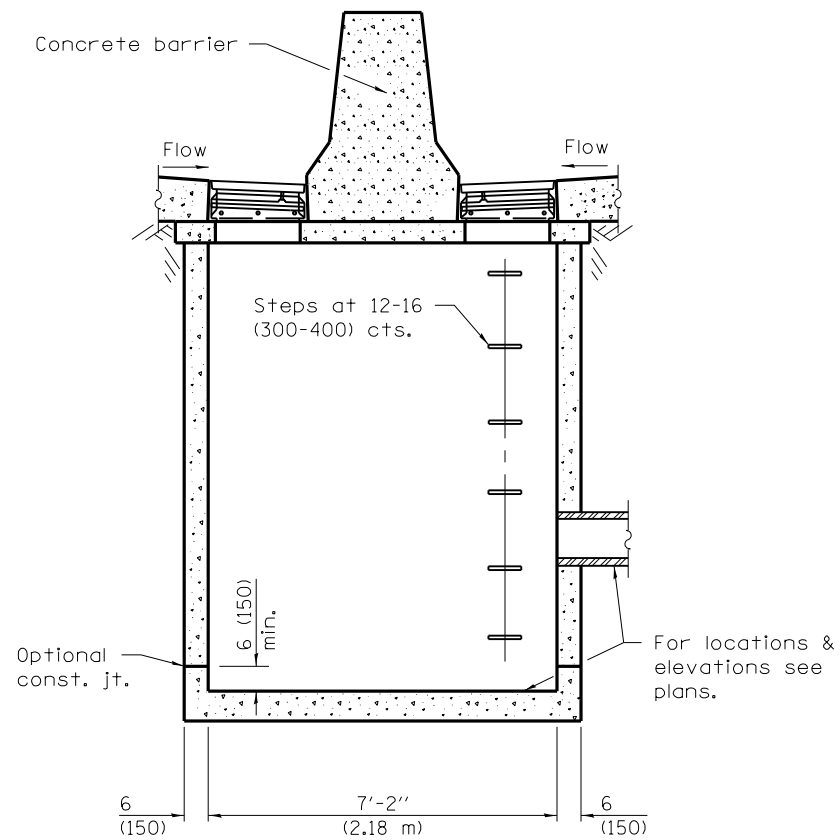
DATE	REVISIONS
1-1-11	Added 'Outside' to half trap note. Detail rein. in slabs.
	Revised general notes.
1-1-09	Switched units to English (metric).

**CATCH BASIN
TYPE A**

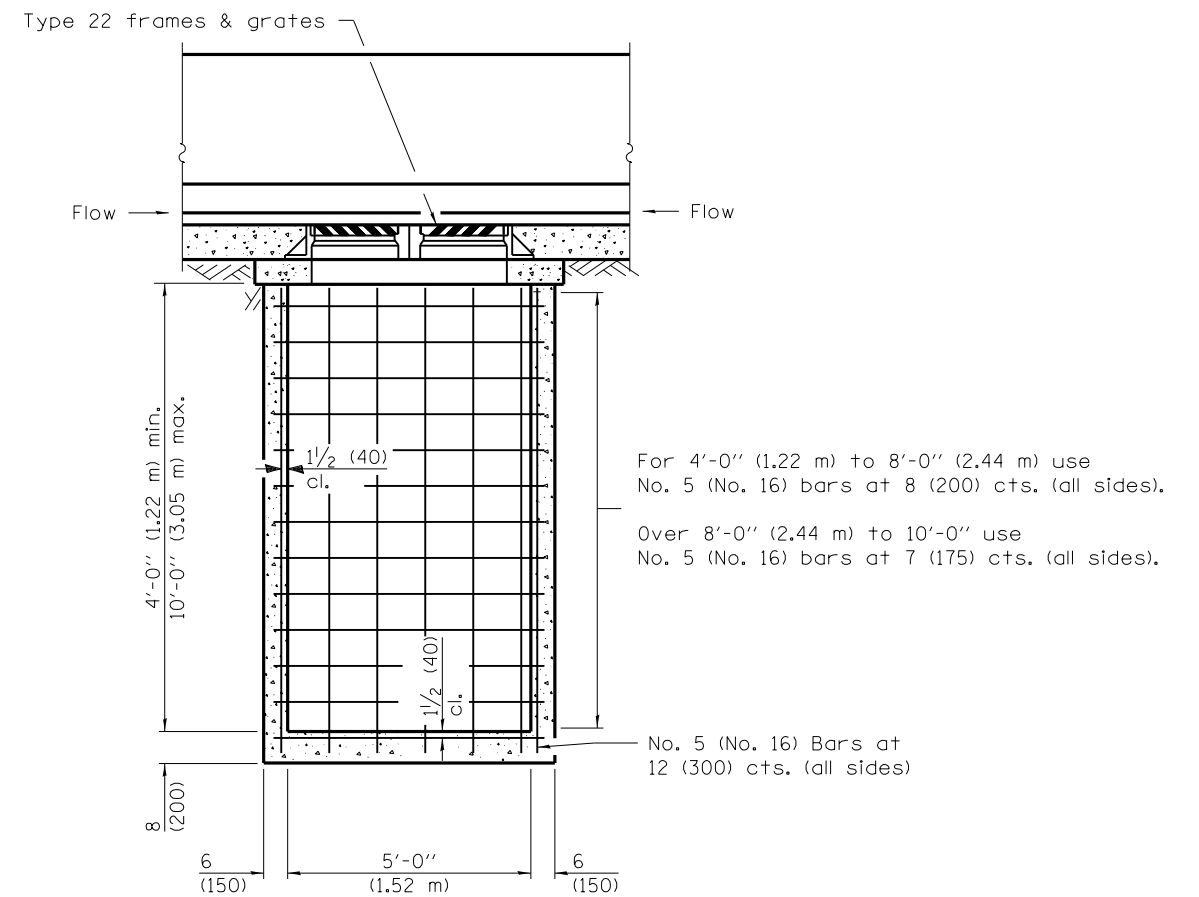
STANDARD 602001-02



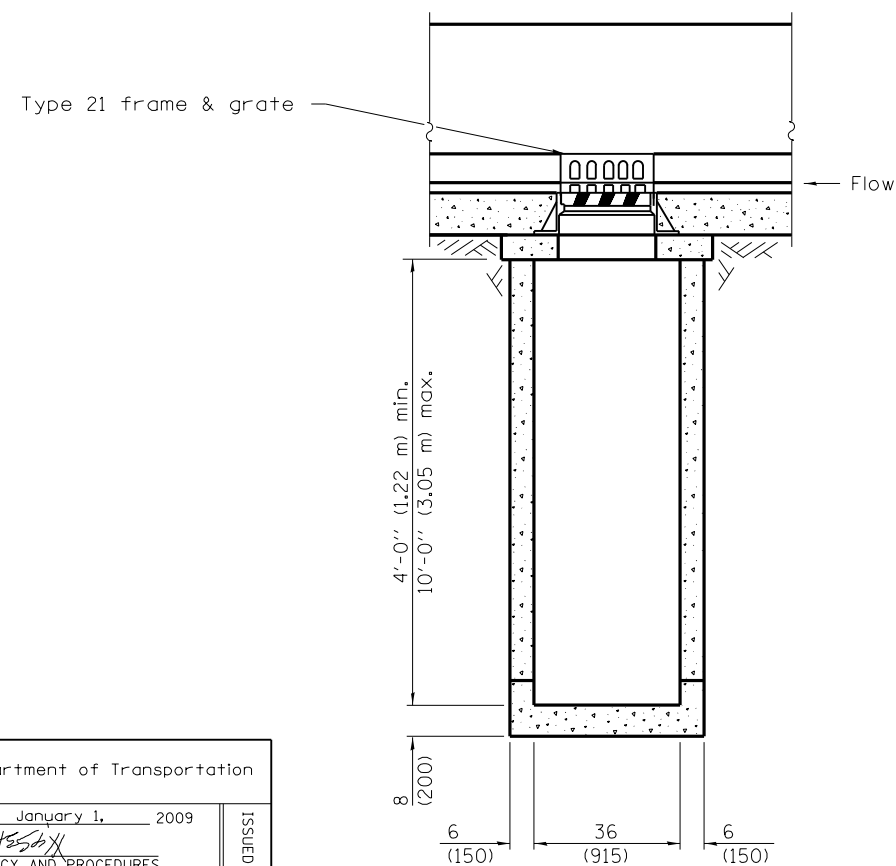
FRONT ELEVATION – TYPE 4



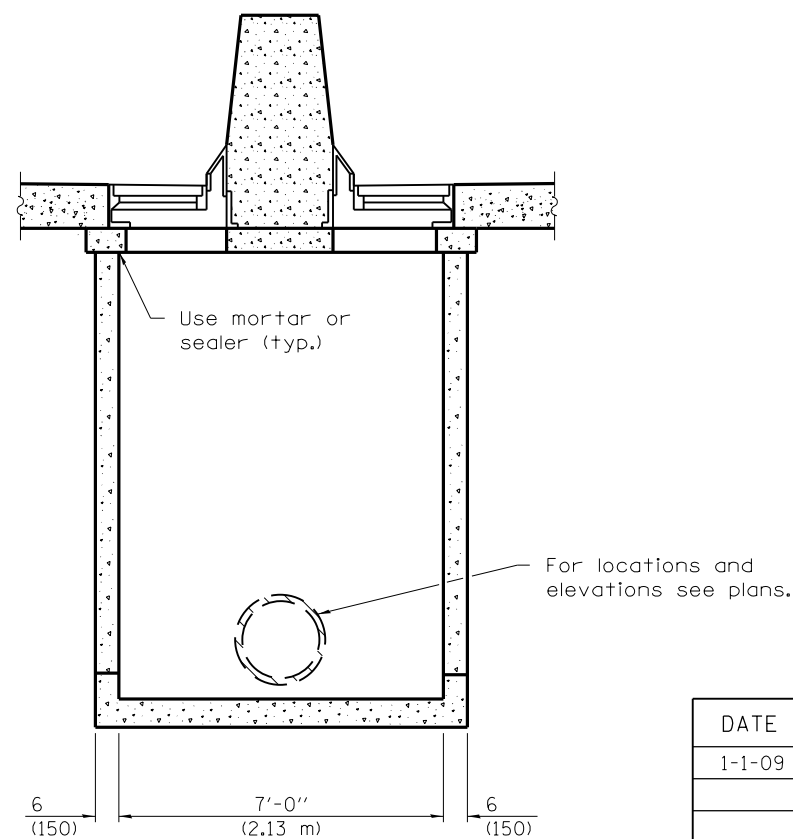
SIDE ELEVATION – TYPE 4 & 5



FRONT ELEVATION – TYPE 5



FRONT ELEVATION – TYPE 6



SIDE ELEVATION – TYPE 6

For 4'-0" (1.22 m) to 8'-0" (2.44 m) use No. 5 (No. 16) bars at 8 (200) cts. (all sides).
 Over 8'-0" (2.44 m) to 10'-0" use No. 5 (No. 16) bars at 7 (175) cts. (all sides).
 No. 5 (No. 16) Bars at 12 (300) cts. (all sides)

GENERAL NOTES

These structures are for use with concrete barrier, double face, 42 (1065) height (Standard 637006).

The reinforcement shown in the front elevation of the Type 5 is typical for both elevations of all types.

See Standard 602701 for details of steps.

Exposed edges shall be beveled 3/4 (19).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-04	New standard

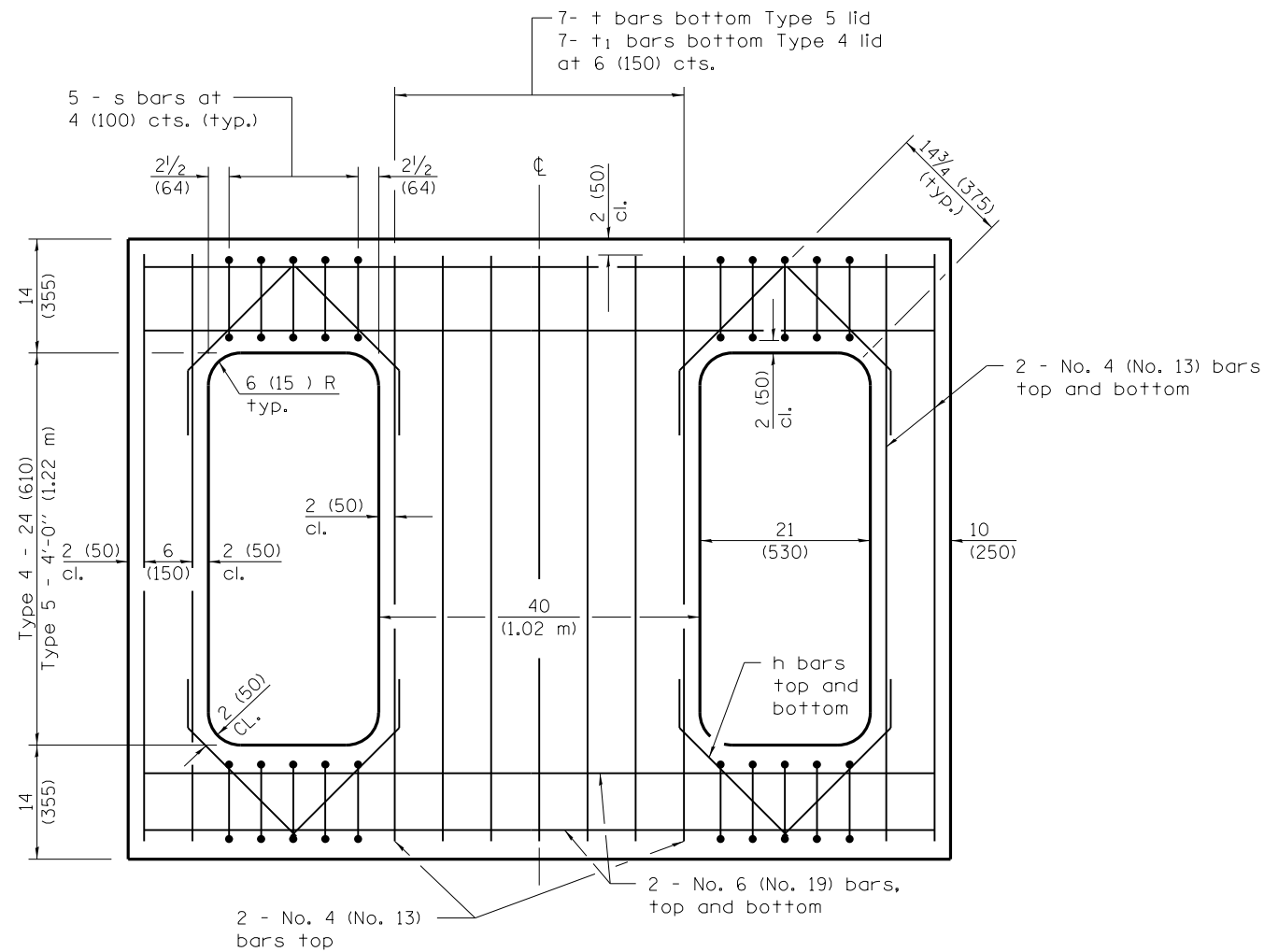
**DRAINAGE STRUCTURES
TYPES 4, 5 & 6**

(Sheet 1 of 2)

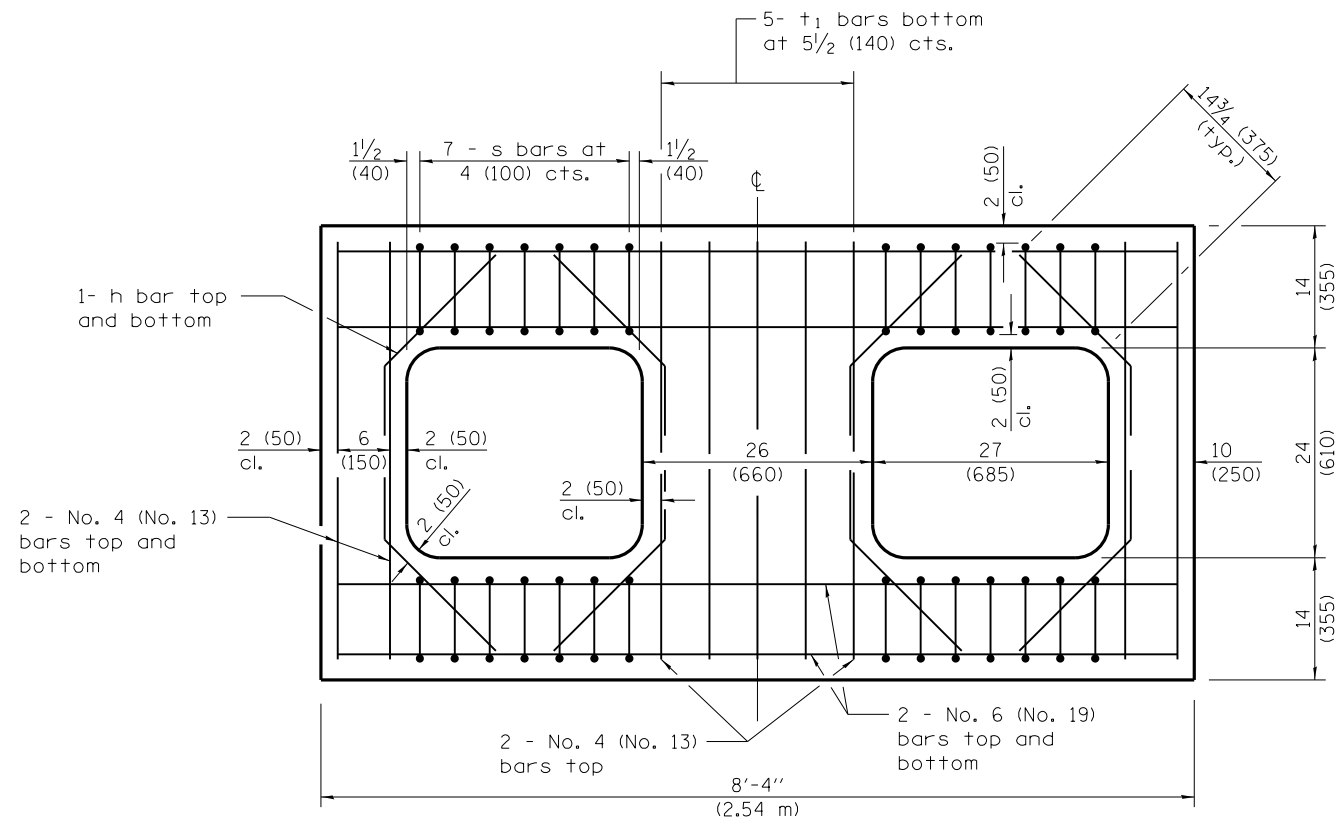
STANDARD 602106-01

Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

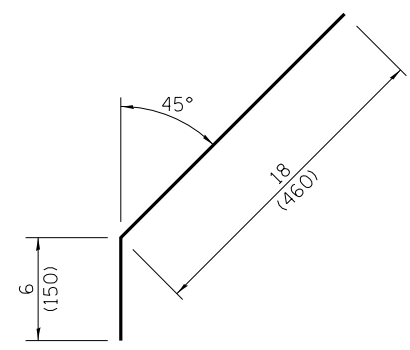
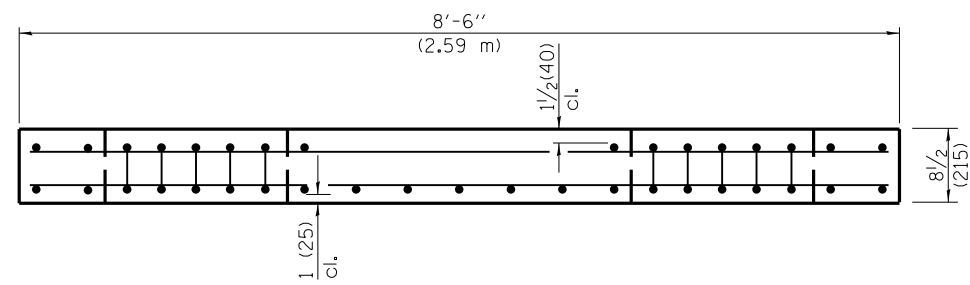
ISSUED 4-1-04



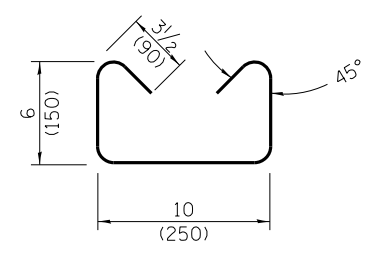
REINFORCED LID - TYPE 4 & 5



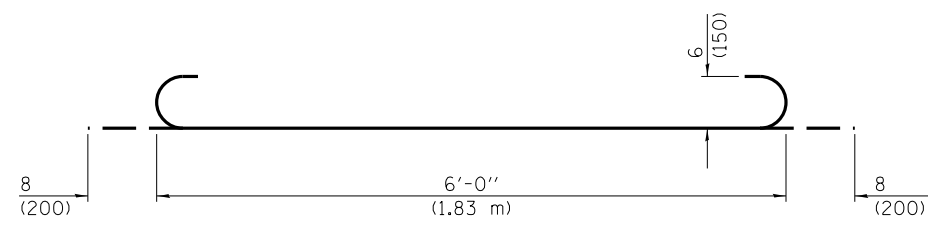
REINFORCED LID - TYPE 6



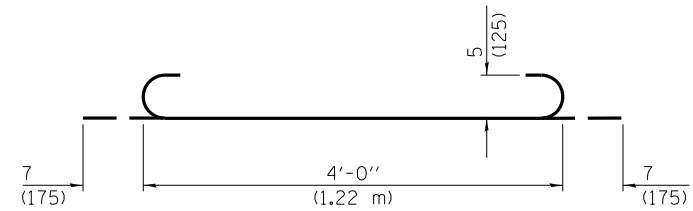
No. 4 (No. 13) Bar h



No. 3 (No. 10) Bar s



No. 6 (No. 19) Bar t



No. 5 (No. 16) Bar t1

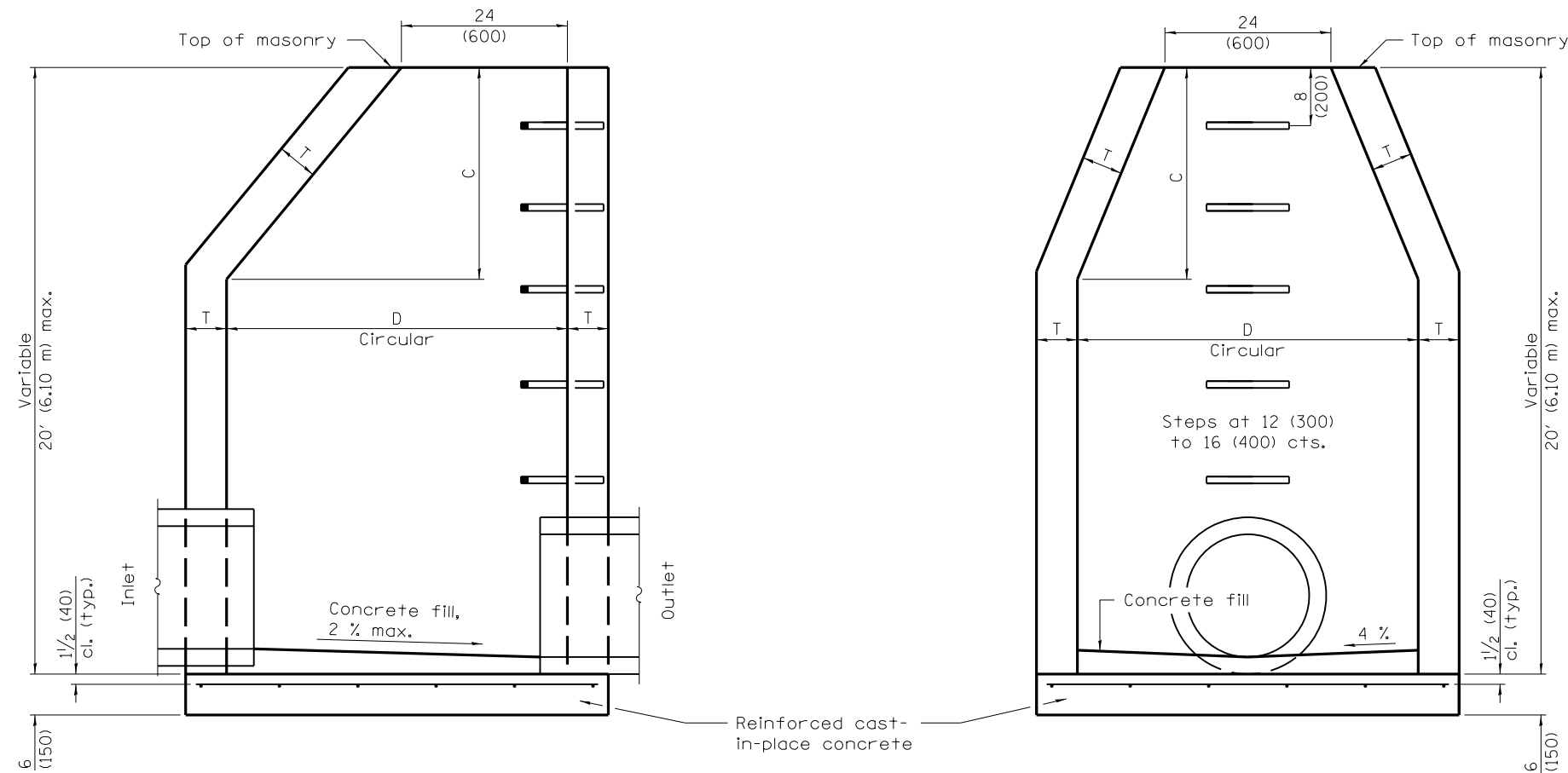
Illinois Department of Transportation
 PASSED January 1, 2009
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 APPROVED January 1, 2009
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ISSUED 4-1-04

**DRAINAGE STRUCTURES
 TYPES 4, 5 & 6**

(Sheet 2 of 2)

STANDARD 602106-01

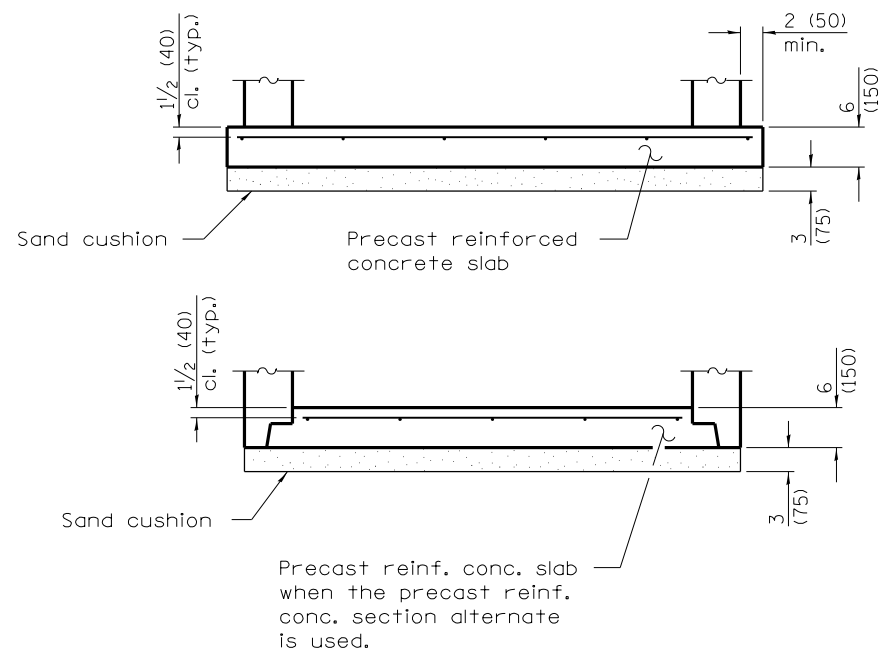


ELEVATION - ECCENTRIC

ELEVATION - CONCENTRIC

ALTERNATE MATERIALS FOR WALLS	D	C*	T (min.)
Concrete Masonry Unit	4'-0" (1.2 m)	30 (750)	5 (125)
	5'-0" (1.5 m)	3'-9" (1.15 m)	5 (125)
Brick Masonry	4'-0" (1.2 m)	30 (750)	8 (200)
	5'-0" (1.5 m)	3'-9" (1.15 m)	8 (200)
Precast Reinforced Concrete Section	4'-0" (1.2 m)	30 (750)	4 (100)
	5'-0" (1.5 m)	3'-9" (1.15 m)	5 (125)
Cast-in-place Concrete	4'-0" (1.2 m)	30 (750)	6 (150)
	5'-0" (1.5 m)	3'-9" (1.15 m)	6 (150)

* For precast reinforced concrete sections, dimension "C" may vary from the dimension given to plus 6 (150).



ALTERNATE BOTTOM SLAB

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.31 sq. in./ft. (660 sq. mm/m) in both directions with a maximum spacing of 12 (300).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602701 for details of steps.

See Standard 602601 for optional Precast Reinforced Concrete Flat Slab Top.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-11	Detailed rein. in slabs.
	Added max. limit to height.
	Revised general notes.
1-1-09	Switched units to
	English (metric).

MANHOLE TYPE A

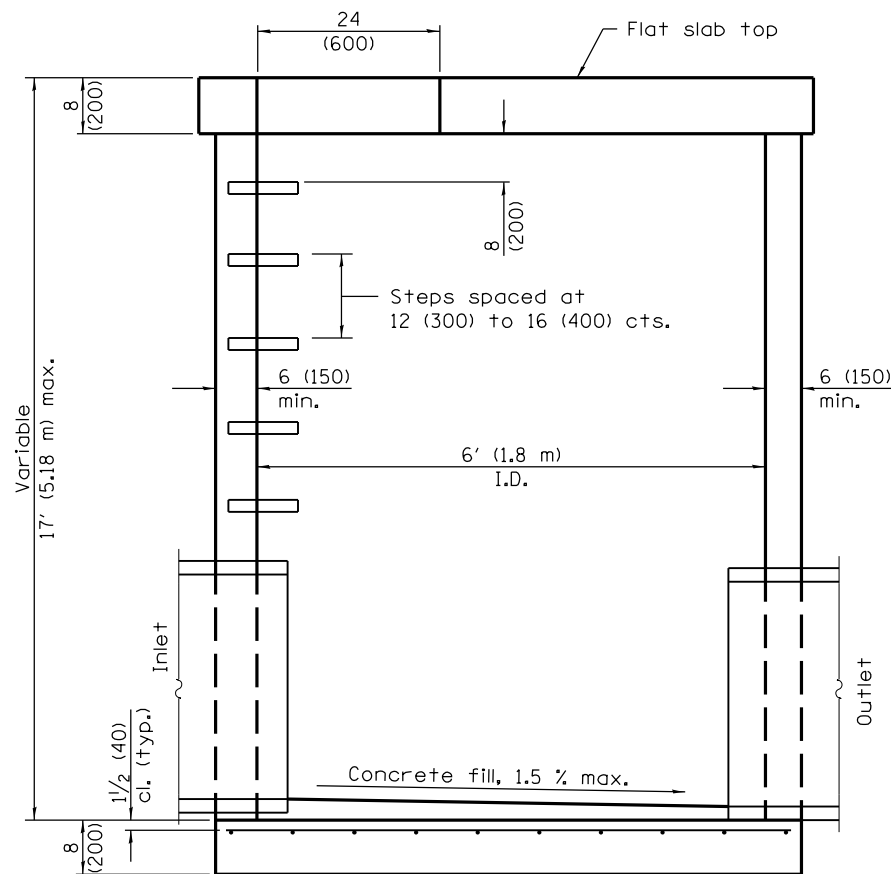
STANDARD 602401-03

Illinois Department of Transportation

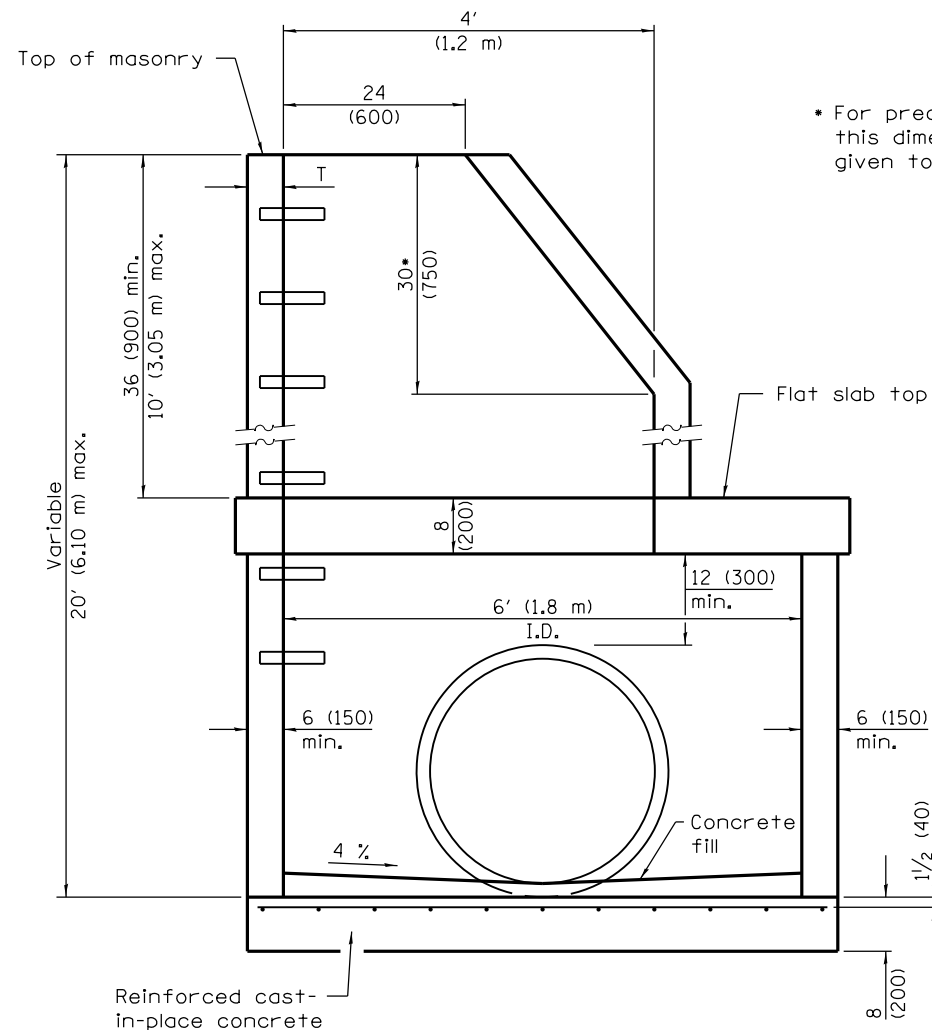
PASSED January 1, 2011
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011
Scott Schick
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

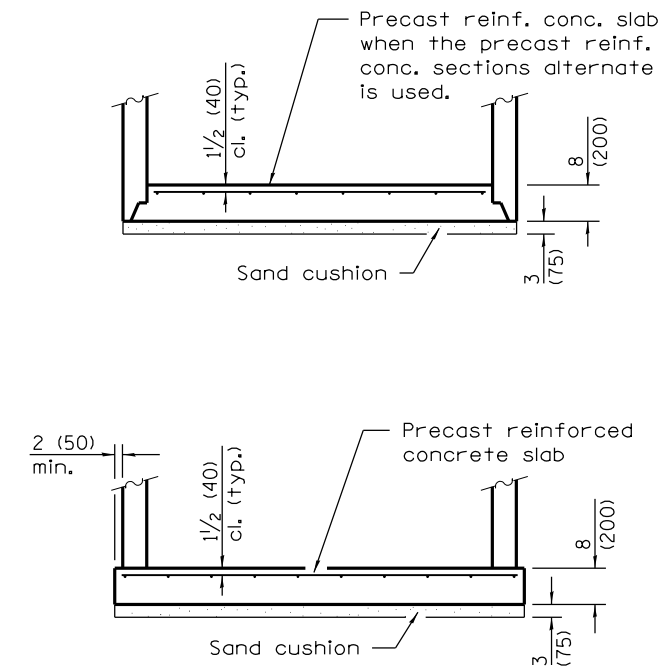


ELEVATION
(with flat slab top only)

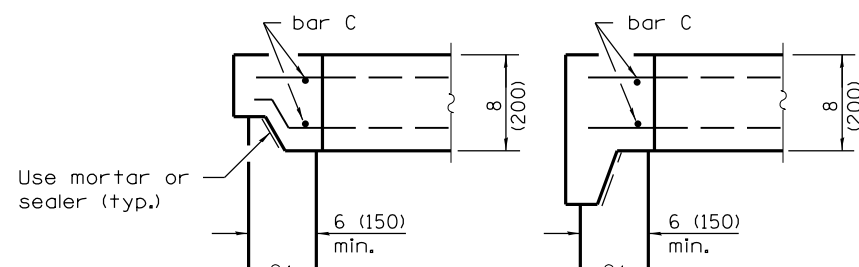


ELEVATION
(with flat slab top and riser)

• For precast reinforced concrete sections, this dimension may vary from the dimension given to plus 6 (150).



ALTERNATE BOTTOM SLABS



ALTERNATE JOINT CONFIGURATIONS

ALTERNATE MATERIALS FOR WALLS	T (min)
Concrete Masonry Units	5 (125)
Precast Reinforced Concrete Sections	4 (100)
Cast-in-Place Concrete	6 (150)

GENERAL NOTES

Joint configuration and dimensions of flat slab top shall match and fit the riser joint detail.

Bottom slabs shall be reinforced with a minimum of 0.29 sq. in./ft. (610 sq. mm /m) in both directions with a maximum spacing of 13 (330)

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Changed terminology to 'welded wire reinforcement'.
1-1-14	Increased maximum heights. Revised General Notes.

MANHOLE TYPE A
6' (1.8 m) DIAMETER

(Sheet 1 of 2)

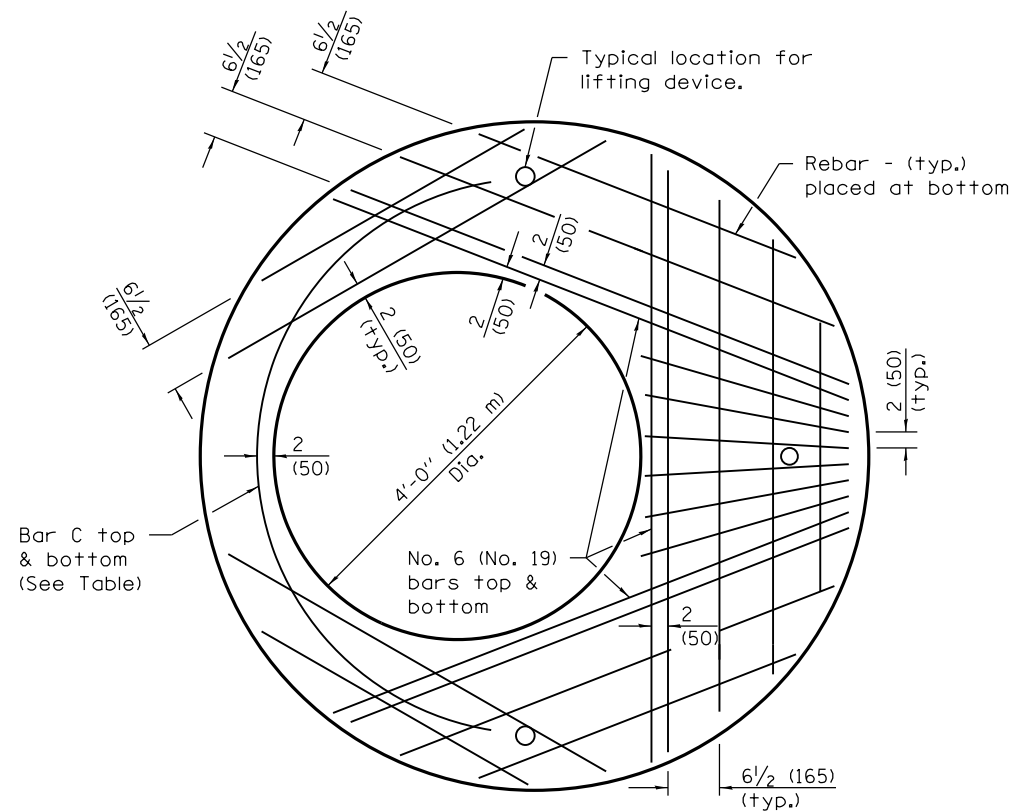
STANDARD 602406-07

Illinois Department of Transportation

PASSED April 1, 2016
Michael Beard
ENGINEER OF POLICY AND PROCEDURES

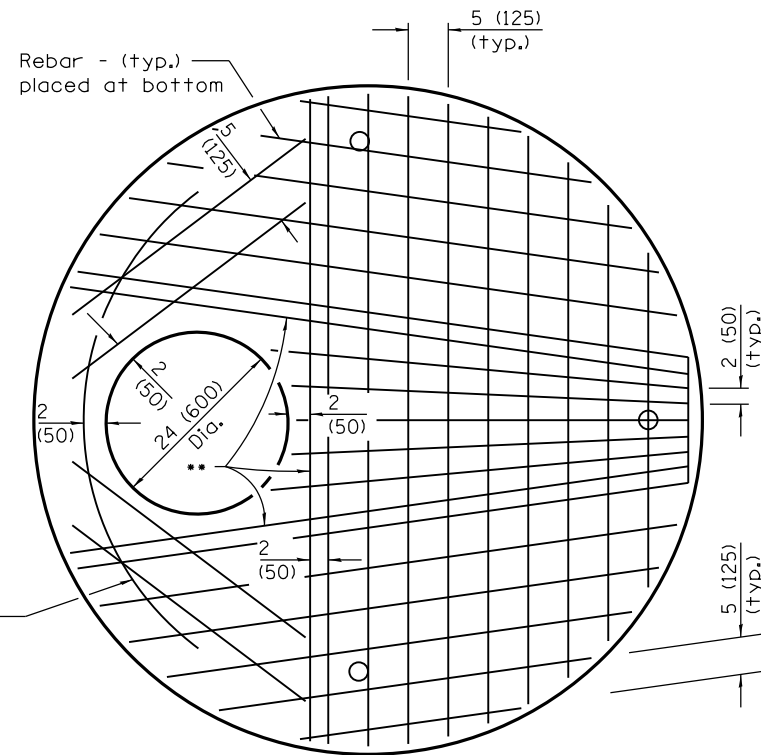
APPROVED April 1, 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



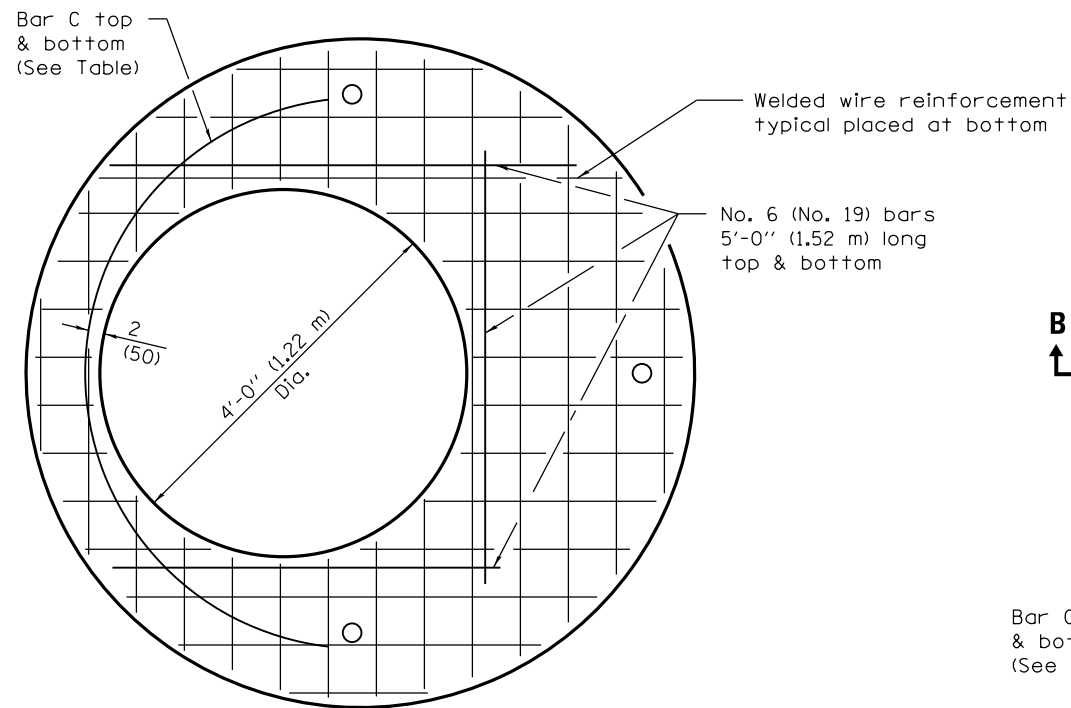
PLAN

Showing Rebar Reinforcement



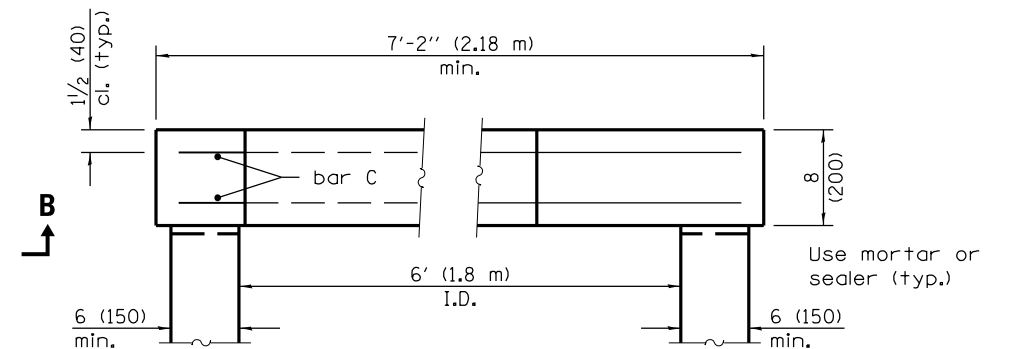
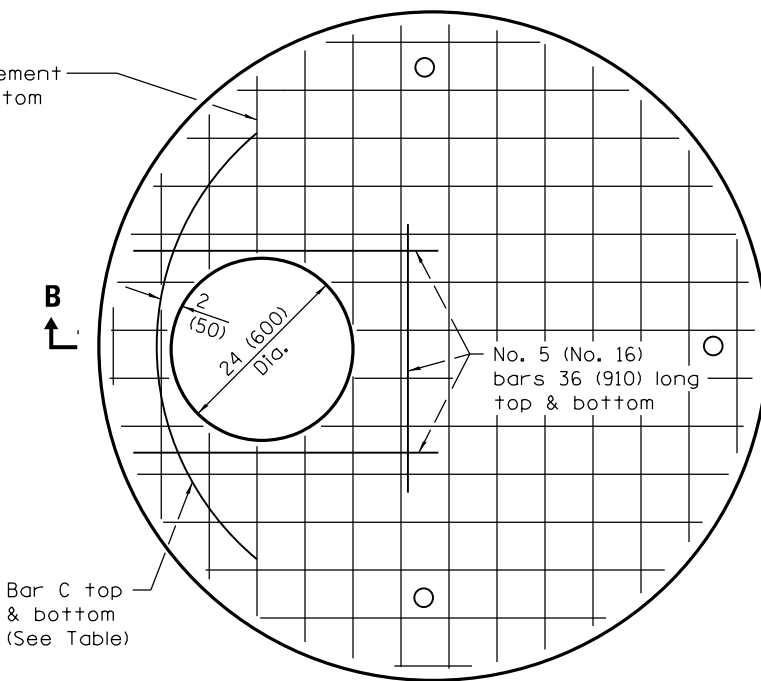
** No. 6 (No. 19) bars top & bottom

Diameter of opening	Thickness	Reinforcement "As" WWR Each direction	Bar Size	No. 4 (No. 13) Bar C	
				Length	Radius
24 (600)	8 (200)	1.06 sq. in./ft. (2244 sq. mm/m)	No. 6 (No. 19)	6'-0" (1.83 m)	38 (965)
4'-0" (1.2 m)	8 (200)	0.82 sq. in./ft. (1736 sq. mm/m)	No. 6 (No. 19)	9'-0" (2.74 m)	38 (965)



PLAN

Showing Welded Wire Fabric Reinforcement



SECTION B-B

Use mortar or sealer (typ.)

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APPROVED April 1, 2016

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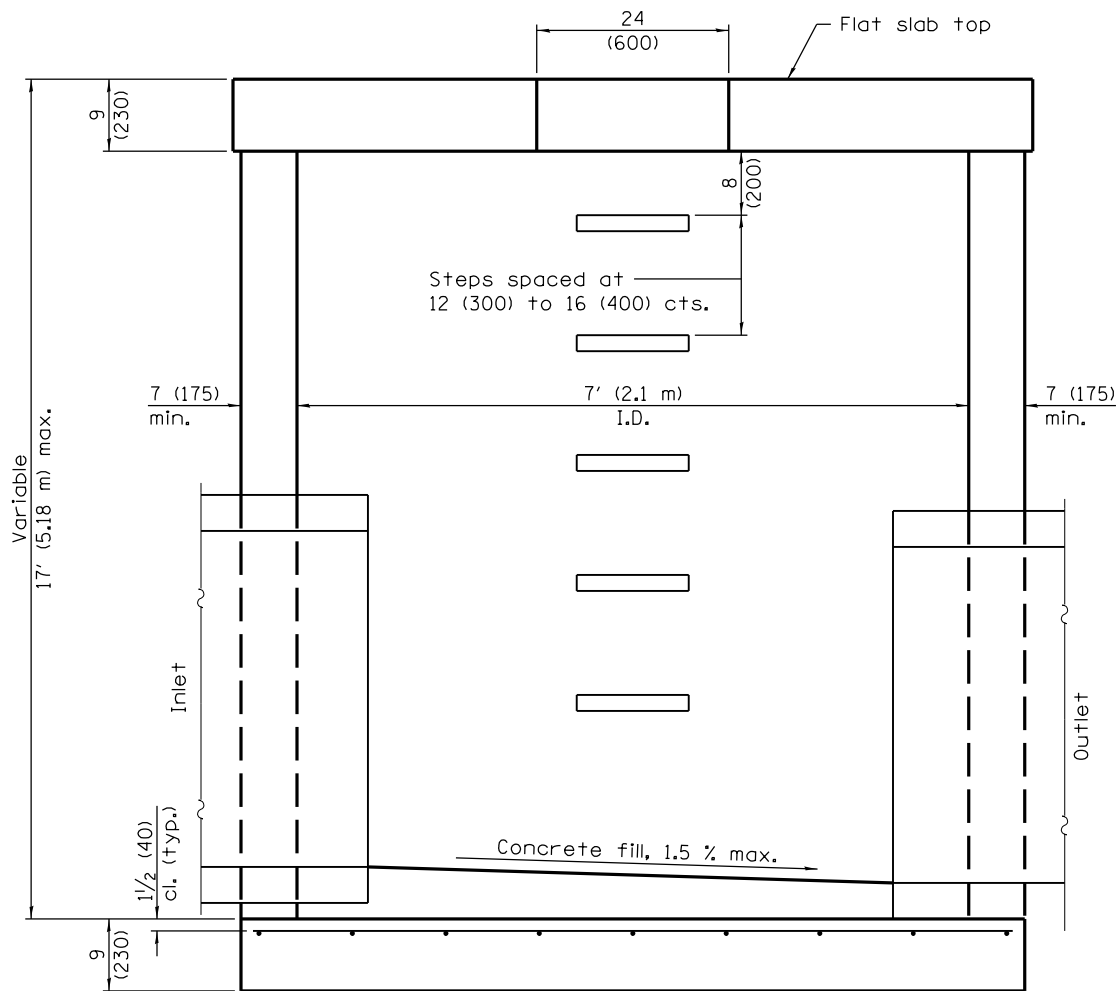
ISSUED 1-1-97

MANHOLE TYPE A

6' (1.8 m) DIAMETER

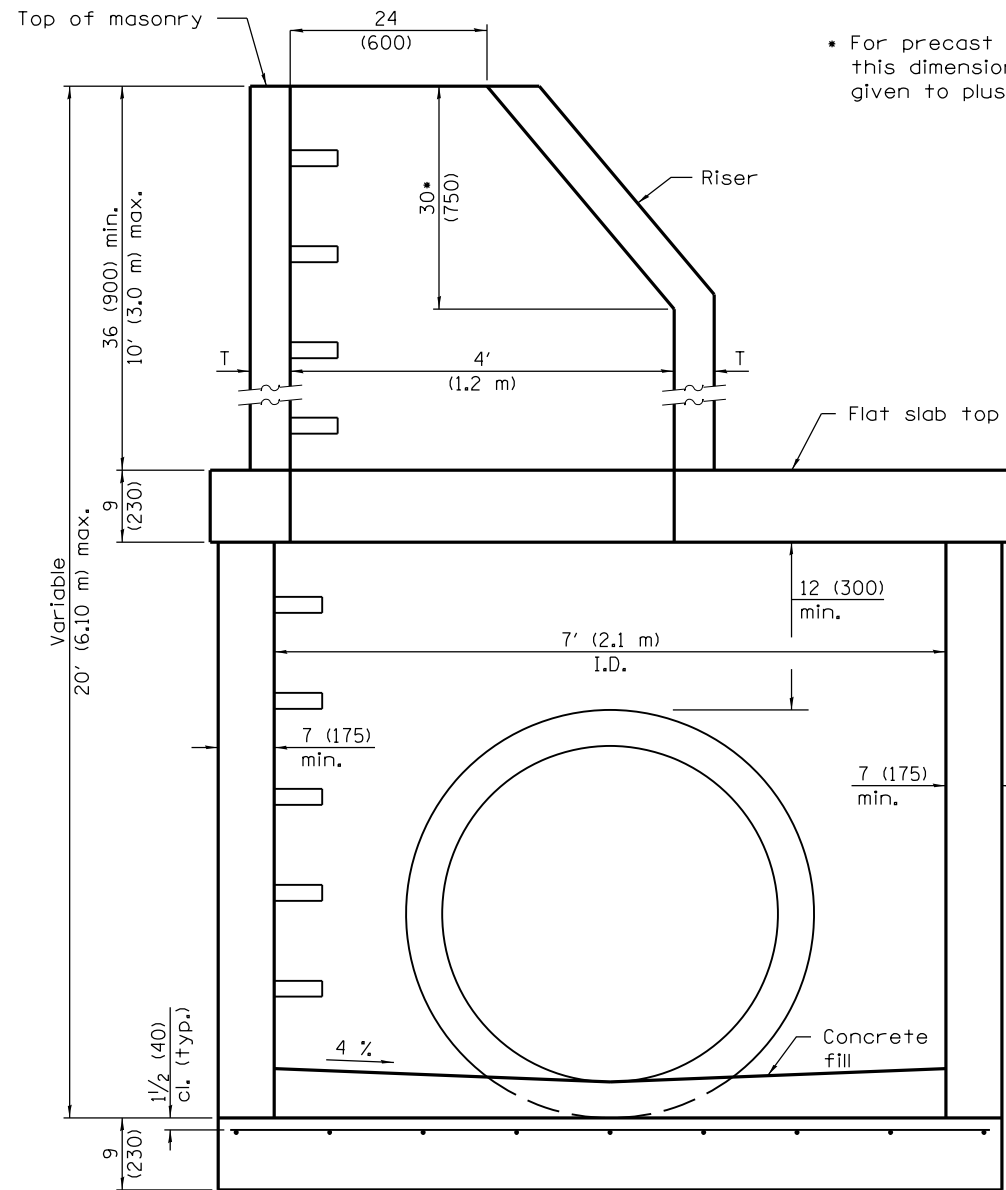
(Sheet 2 of 2)

STANDARD 602406-07



ELEVATION

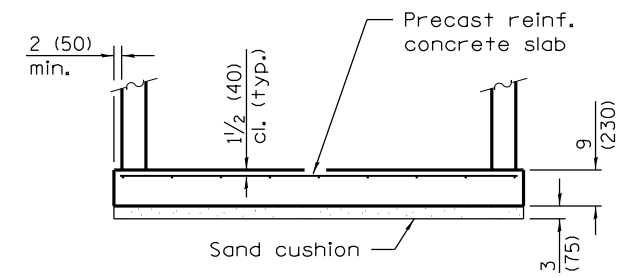
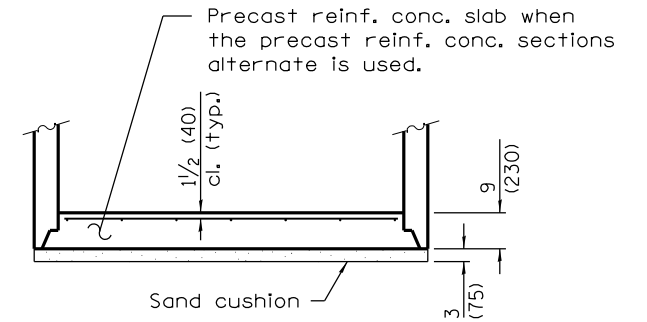
(With Flat Slab Top Only)



ELEVATION

(With Flat Slab Top and Riser)

* For precast reinforced concrete sections, this dimension may vary from the dimension given to plus 6 (150).



ALTERNATE BOTTOM SLABS

GENERAL NOTES

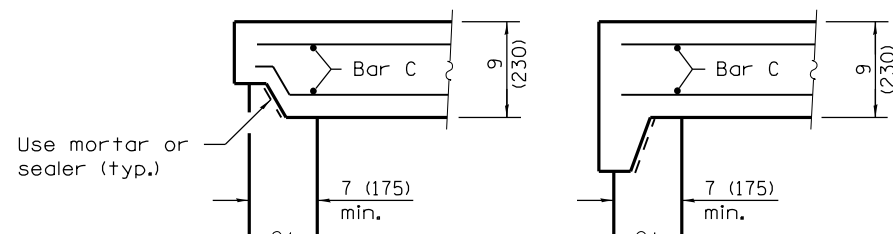
Joint configuration and dimensions of flat slab top shall match and fit the riser joint detail.

Bottom slabs shall be reinforced with a minimum of 0.31 sq. in./ft. (660 sq. mm/m) in both directions with a maximum spacing of 12 (300).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise shown.



ALTERNATE JOINT CONFIGURATIONS

ALTERNATE MATERIALS FOR RISER WALLS	T (min)
Concrete Masonry Units	5 (125)
Precast Reinforced Concrete Sections	4 (100)
Cast-in-Place Concrete	6 (150)

DATE	REVISIONS
4-1-16	Changed terminology to 'welded wire reinforcement'.
1-1-14	Increased maximum heights.
	Revised General Notes.

MANHOLE TYPE A
7' (2.1 m) DIAMETER

(Sheet 1 of 2)

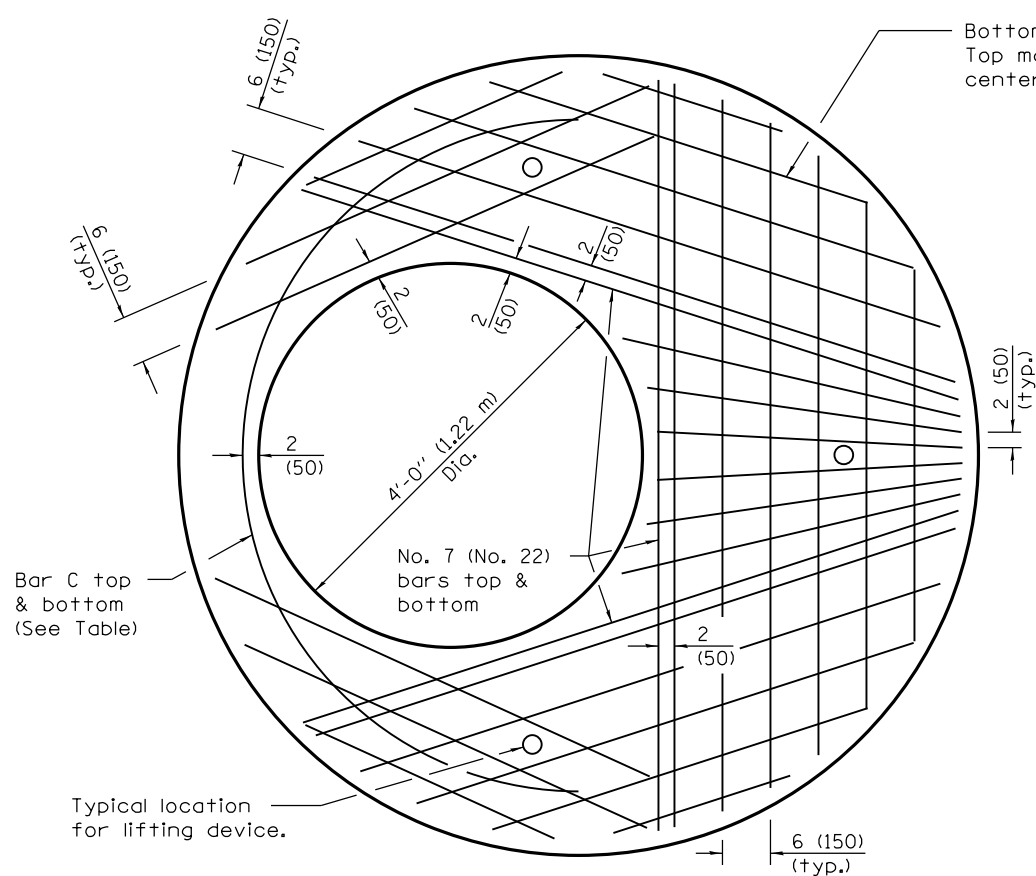
STANDARD 602411-05

Illinois Department of Transportation

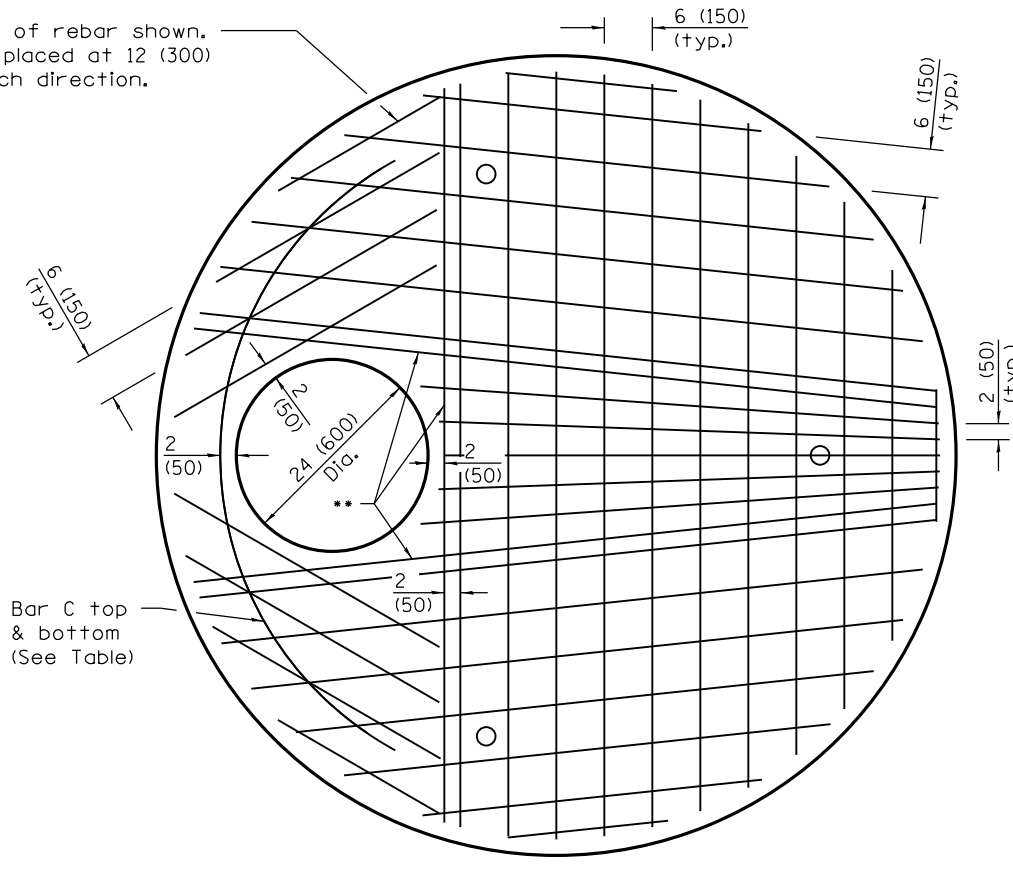
PASSED April 1, 2016
Michael Beard
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APPROVED April 1, 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-06



Bottom mat of rebar shown. Top mat is placed at 12 (300) centers each direction.



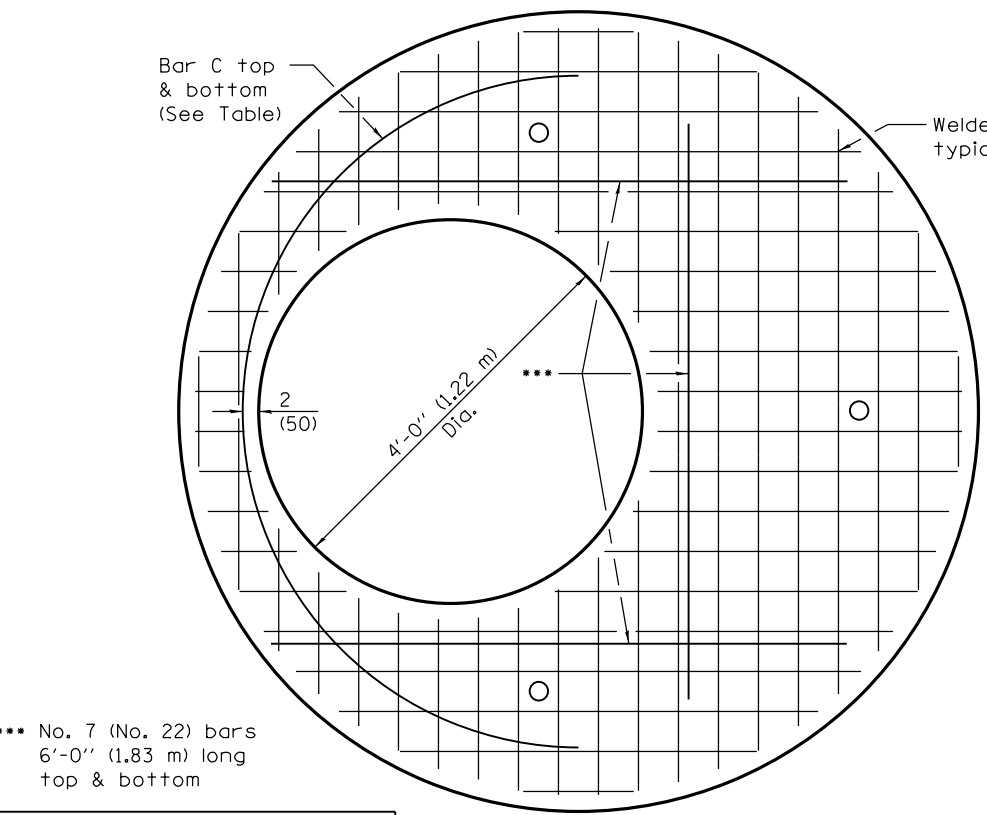
Bar C top & bottom (See Table)

Bar C top & bottom (See Table)

Typical location for lifting device.

PLAN
Showing Rebar Reinforcement

** No. 8 (No. 25) bars top & bottom



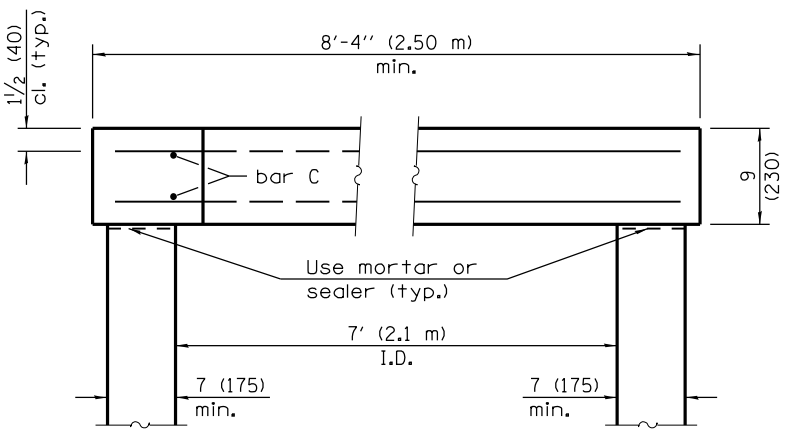
Bar C top & bottom (See Table)

Welded wire reinforcement typical placed at top and bottom

*** No. 7 (No. 22) bars 6'-0" (1.83 m) long top & bottom

Bar C top & bottom (See Table)

PLAN
Showing Welded Wire Reinforcement



SECTION B-B
(Typical of each top)

Diameter of opening	Reinforcement Bar Size	Reinforcement "As" WWR each direction	No. 4 (No. 13) Bar C	
			Length	Radius
24 (600)	Bottom mat No. 8 (No. 25)	Bottom mat **** 1.57 sq. in./ft. (3325 sq. mm/m)	7'-6" (2.30 m)	3'-6" (1.067 m)
	Top mat No. 4 (No. 13)	Top mat **** 0.20 sq. in./ft. (425 sq. mm/m)		
4'-0" (1.2 m)	Bottom mat No. 7 (No. 22)	Bottom mat **** 1.20 sq. in./ft. (2540 sq. mm/m)	11'-0" (3.35 m)	3'-6" (1.067 m)
	Top mat No. 4 (No. 13)	Top mat **** 0.20 sq. in./ft. (425 sq. mm/m)		

**** A maximum of two layers of welded wire reinforcement may be used to satisfy the required "As" for each mat.

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APPROVED April 1, 2016

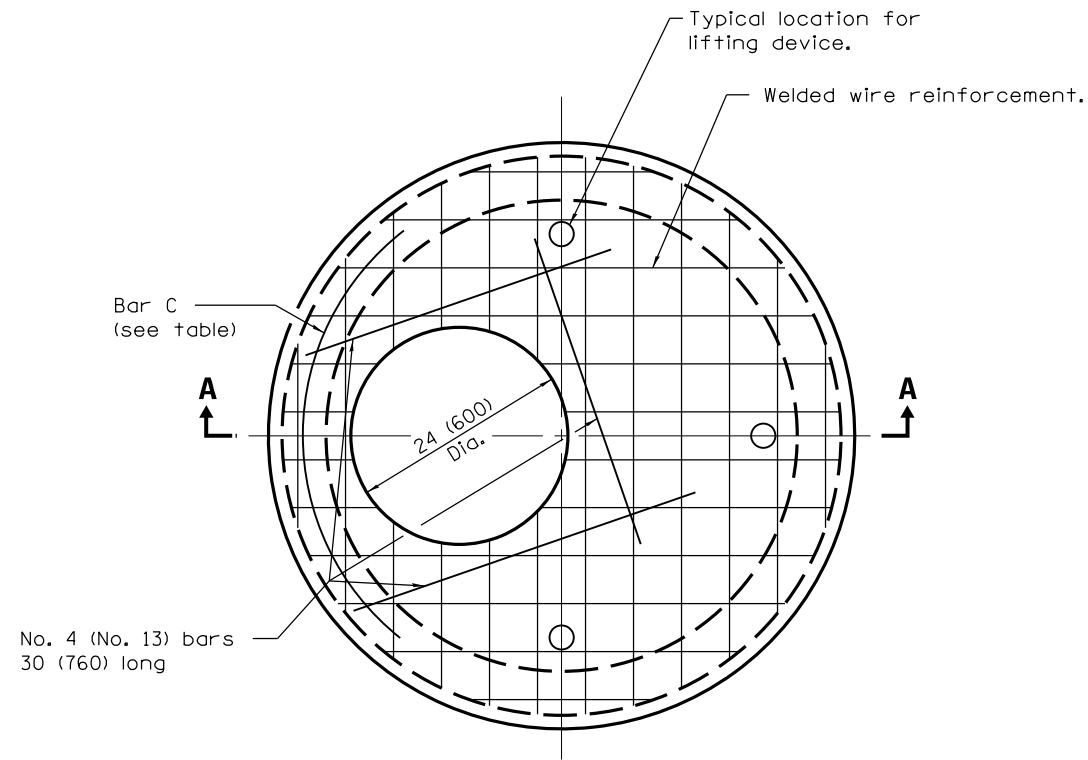
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-06

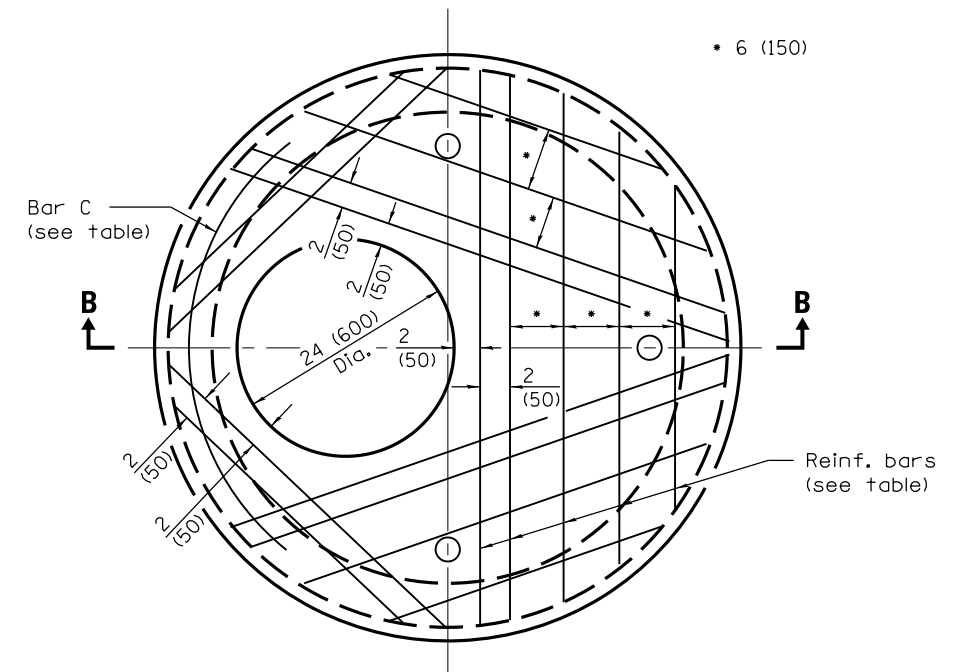
MANHOLE TYPE A
7' (2.1 m) DIAMETER

(Sheet 2 of 2)

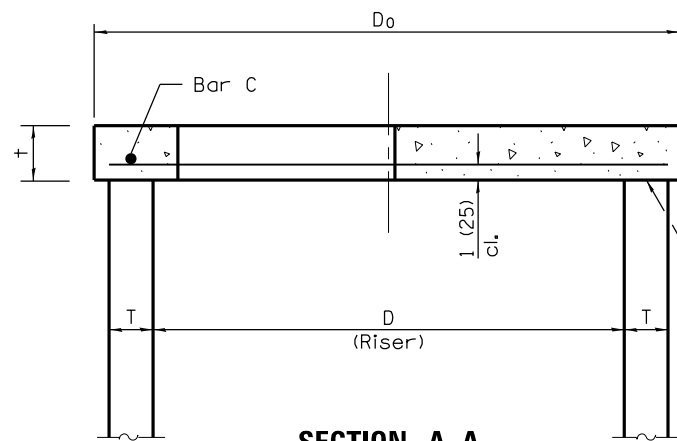
STANDARD 602411-04



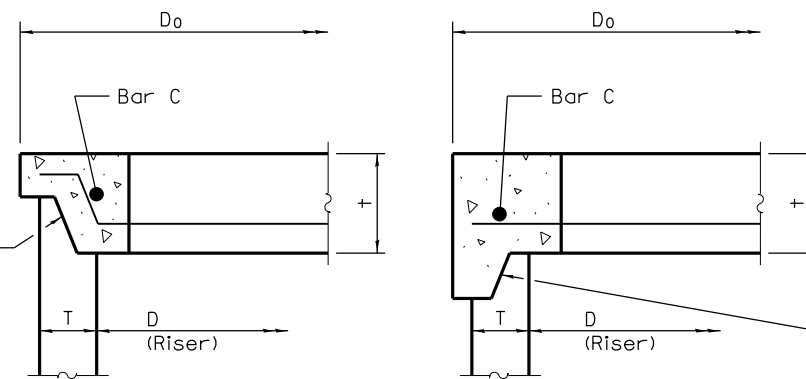
PLAN
(WELDED WIRE FABRIC)



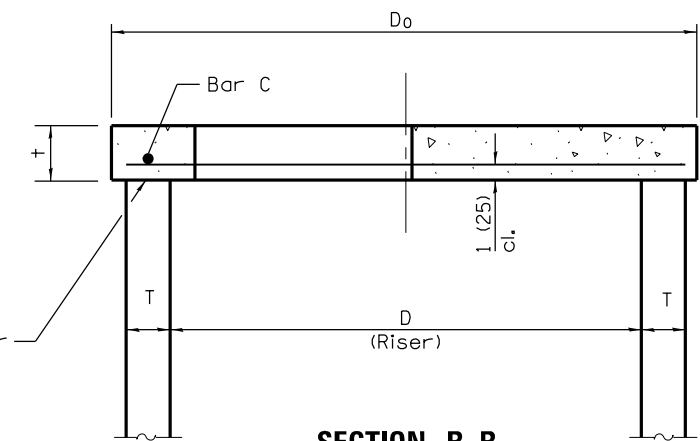
PLAN
(REINFORCEMENT BARS)



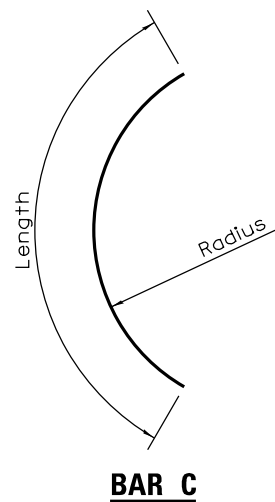
SECTION A-A



ALTERNATE JOINT CONFIGURATIONS



SECTION B-B



BAR C

TABLE

D	T	D _o (min.)	t	Reinforcement		No. 4 (No. 13) Bar C	
				"A _s " W.W.R. each direction	QR Bar size	Length	Radius
36 (900)	See applicable Standards	D + 2T	6 (150)	0.20 sq. in./ft. (425 sq. mm/m)	No. 4 (No. 13)	4'-0" (1.2 m)	19 (480)
4'-0" (1.2 m)			6 (150)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16)	4'-6" (1.35 m)	26 (660)
5'-0" (1.5 m)			8 (200)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16)	5'-0" (1.5 m)	32 (810)

GENERAL NOTES

The flat slab top may be used in lieu of the tapered tops shown on Standards 602001, 602011, 602016, 602306, 602401, or 602501 at the option of the Contractor or when field conditions prohibit the use of tapered tops.

All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS
4-1-16	Changed terminology to 'welded wire reinforcement'.
1-1-14	Omitted detail for lifting hole or lifting loop.

**PRECAST REINFORCED
CONCRETE FLAT SLAB TOP**

STANDARD 602601-04

Illinois Department of Transportation

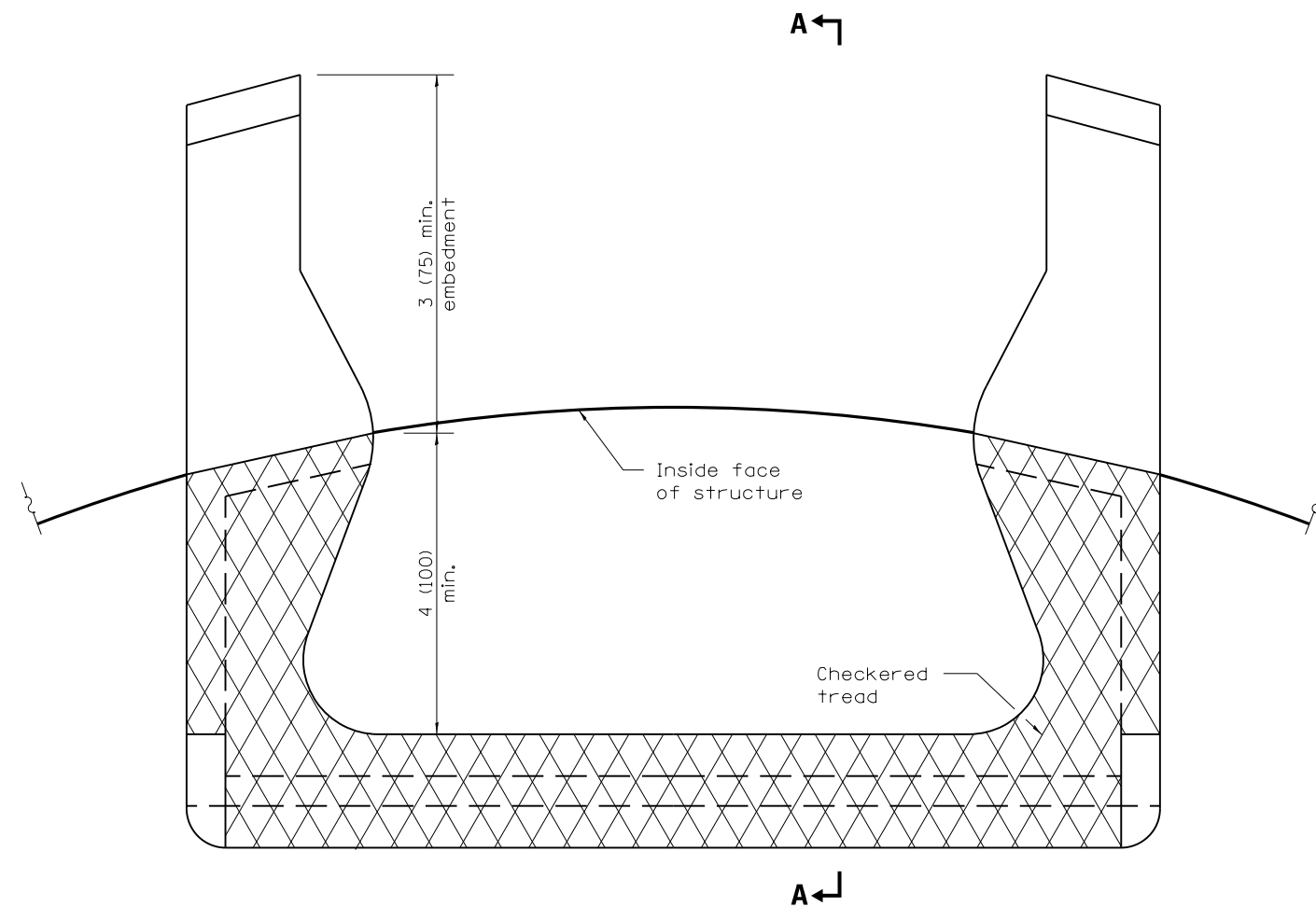
PASSED April 1, 2016

Michael Beard
ENGINEER OF POLICY AND PROCEDURES

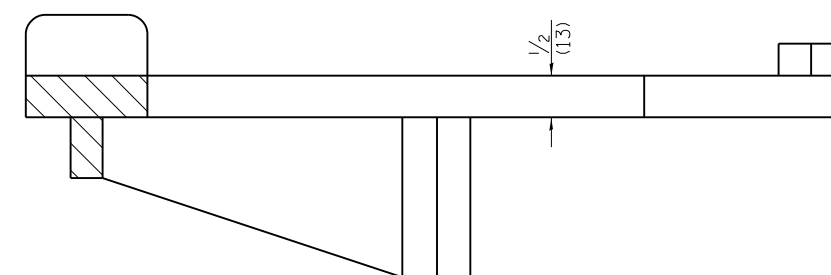
APPROVED April 1, 2016

ENGINEER OF DESIGN AND ENVIRONMENT

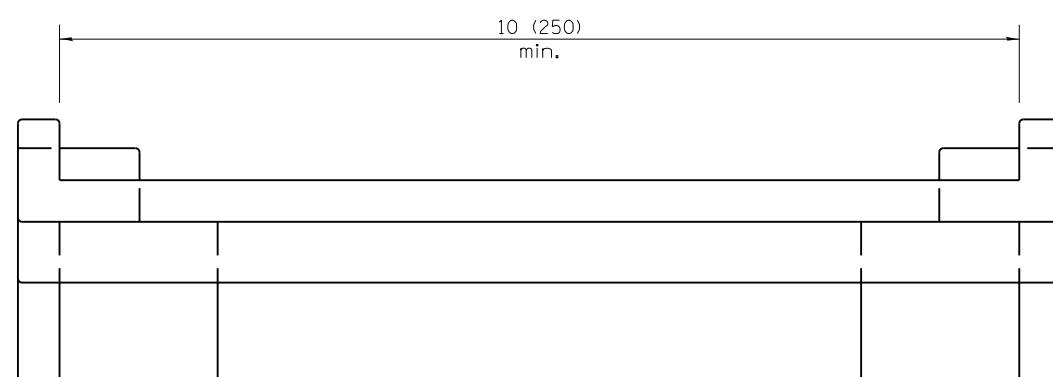
ISSUED 1-1-97



PLAN VIEW



SECTION A-A



ELEVATION VIEW

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2009

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2009

ENGINEER OF DESIGN AND ENVIRONMENT

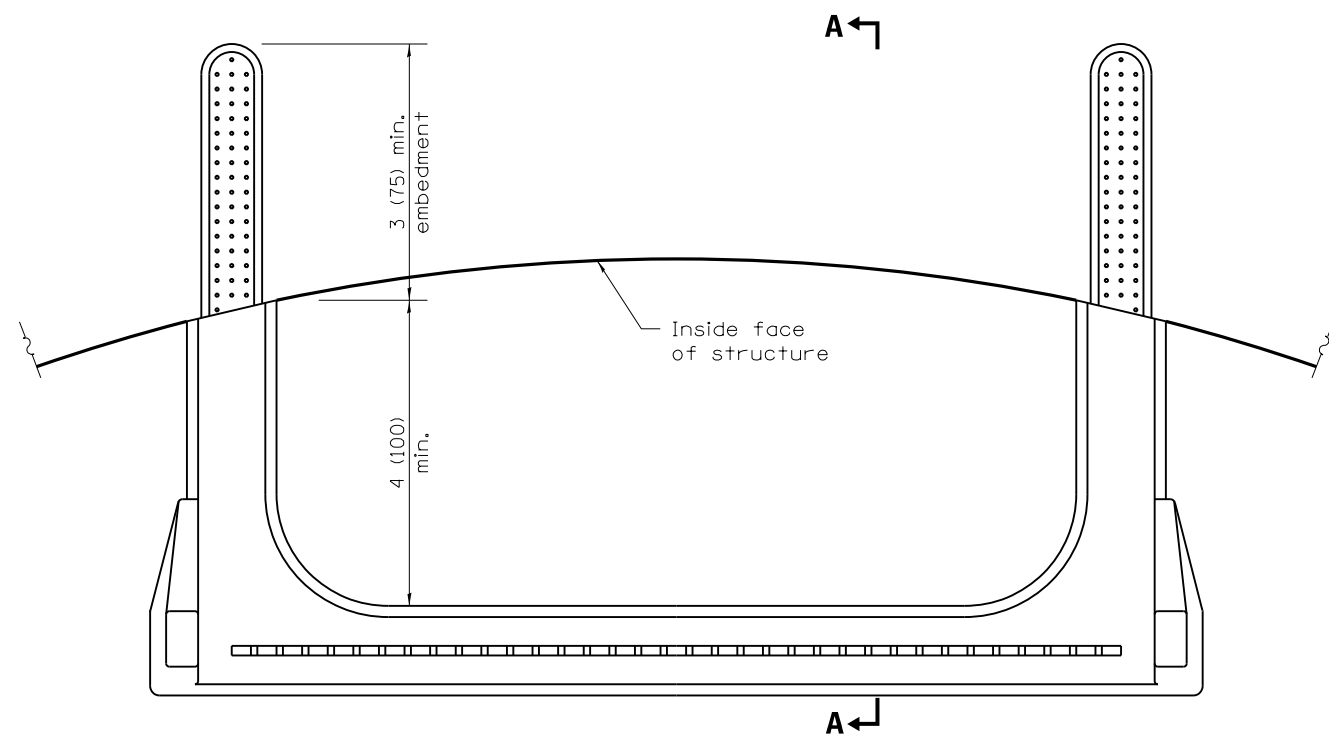
ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
4-1-06	Revised title, drawings, and added plastic steps on sheet 2.

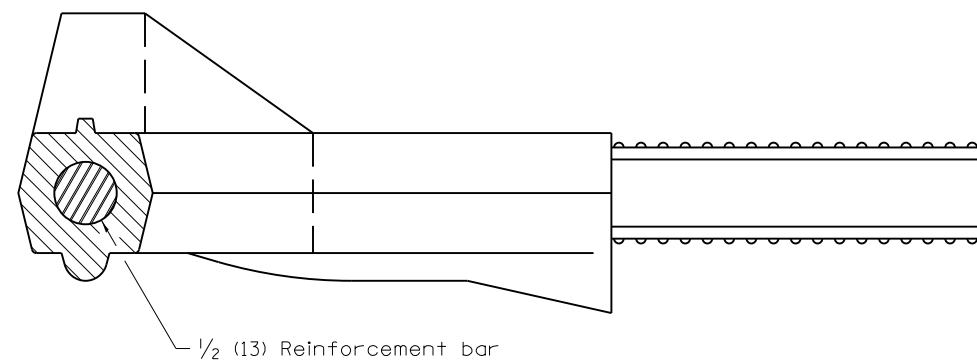
MANHOLE STEPS

(Sheet 1 of 2)

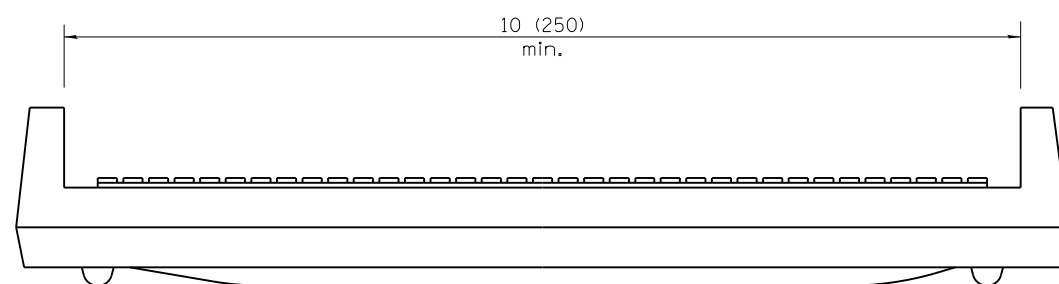
STANDARD 602701-02



PLAN VIEW



SECTION A-A



ELEVATION VIEW

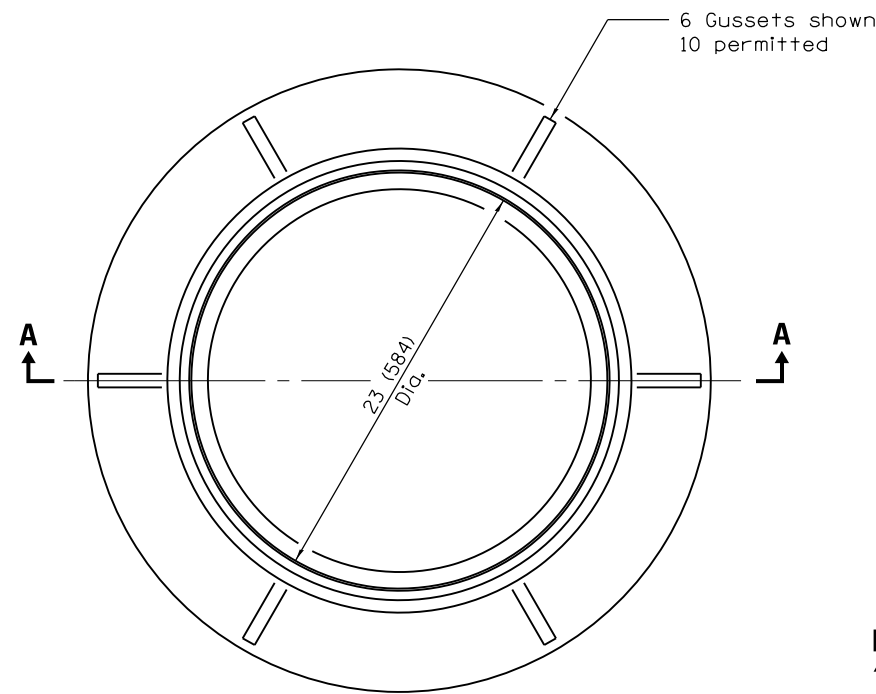
Illinois Department of Transportation
PASSED January 1, 2009
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

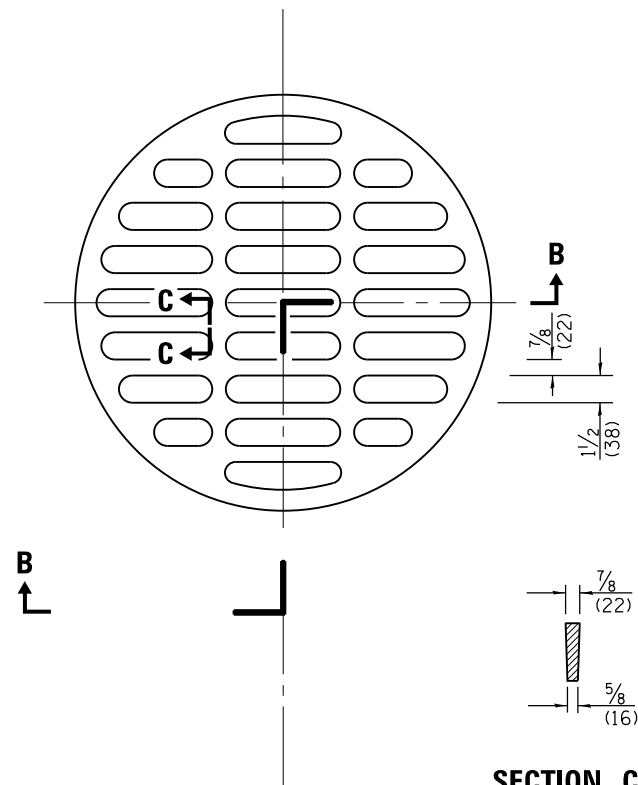
MANHOLE STEPS

(Sheet 2 of 2)

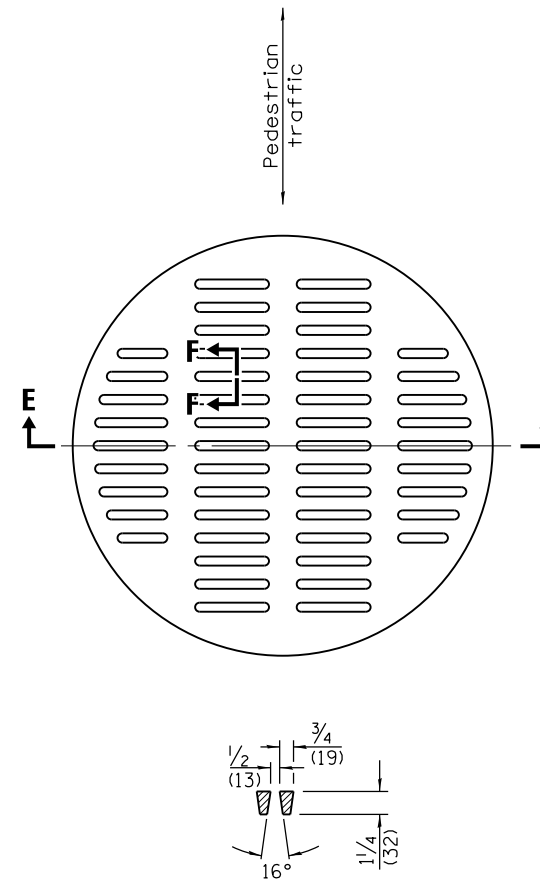
STANDARD 602701-02



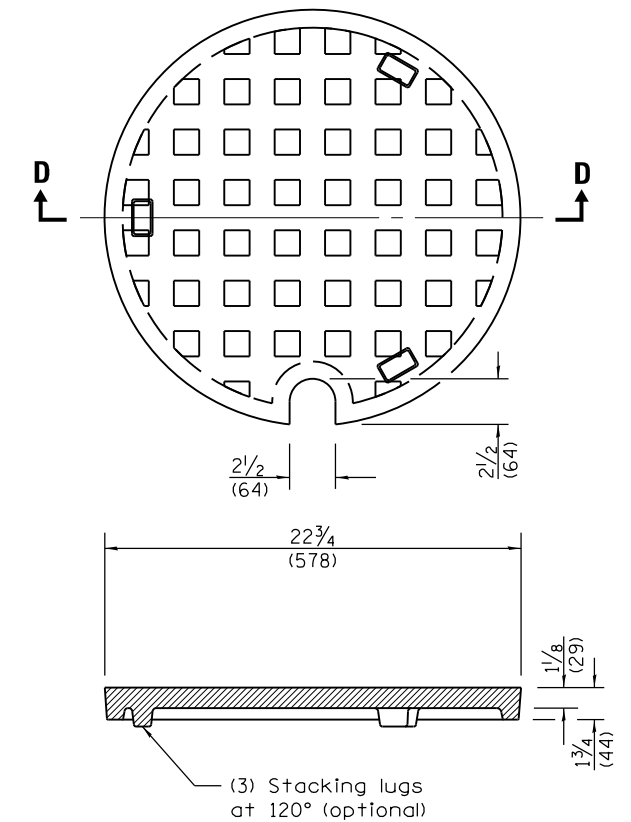
CAST FRAME



SECTION C-C

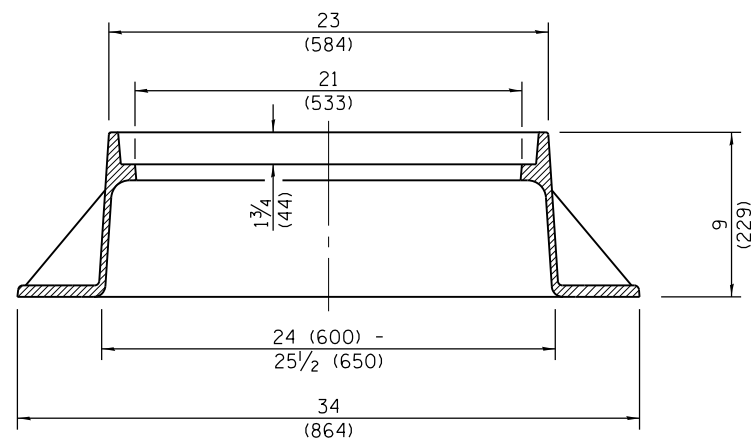


SECTION F-F

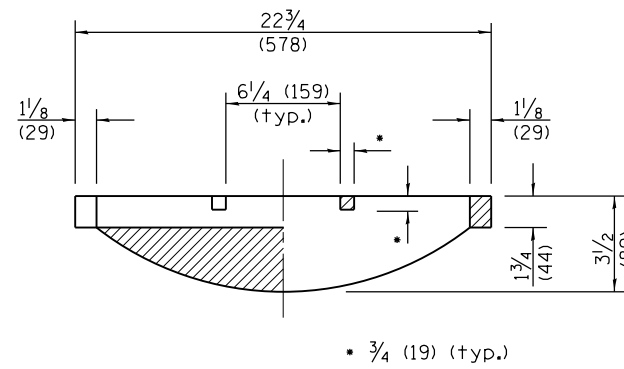


SECTION D-D

CAST CLOSED LID
Gray Iron Lid

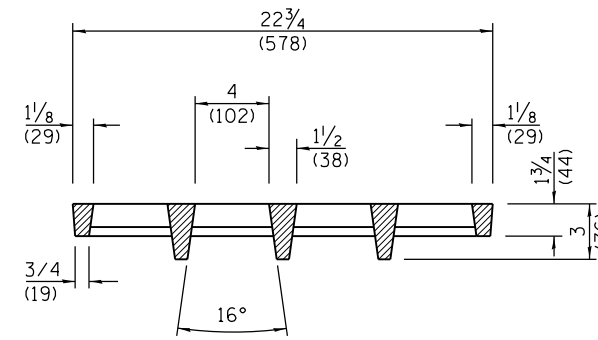


SECTION A-A
Gray Iron



SECTION B-B

CAST OPEN LID



SECTION E-E

**ADA COMPLIANT
CAST OPEN LID**

All dimensions are in inches (millimeters)
unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015

Michael Beard
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2015

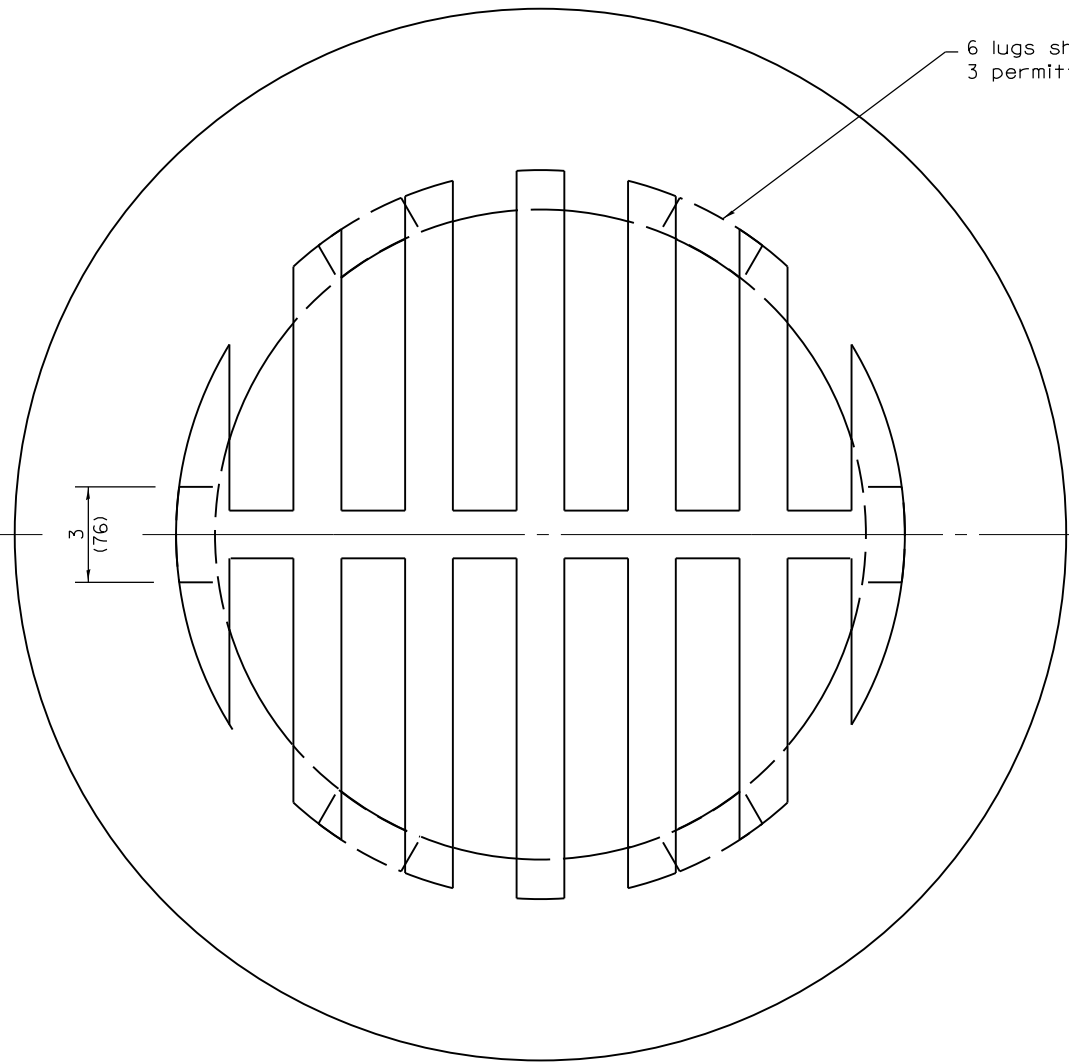
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-15
46-1-19

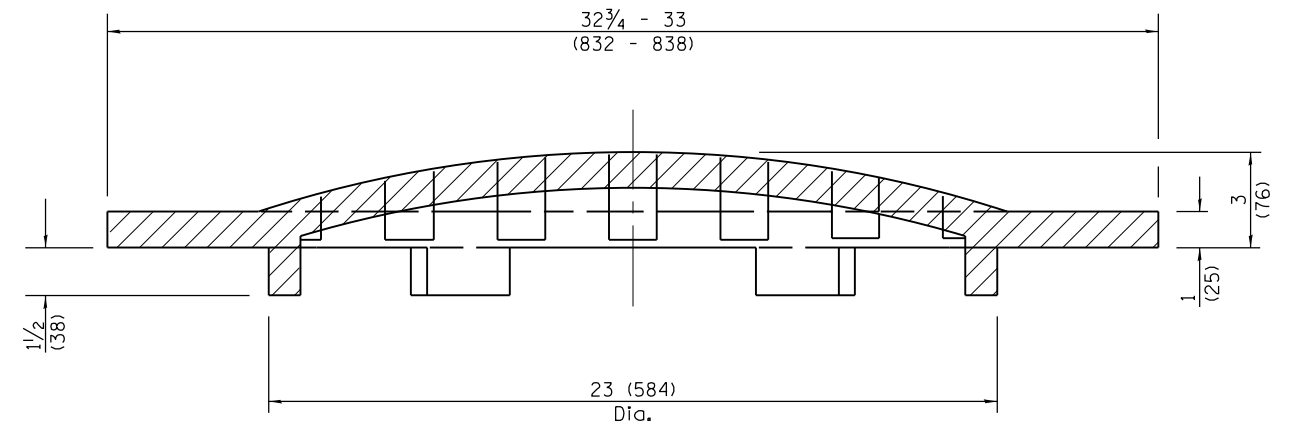
DATE	REVISIONS
1-1-15	Revised dimensioning of frame. Added ADA compliant open lid.
1-1-09	Switched units to English (metric).

**FRAME AND LIDS
TYPE 1**

STANDARD 604001-04



CAST GRATE



SECTION A-A

All dimensions are in inches (millimeters)
unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2015
Michael Beard
ENGINEER OF POLICY AND PROCEDURES

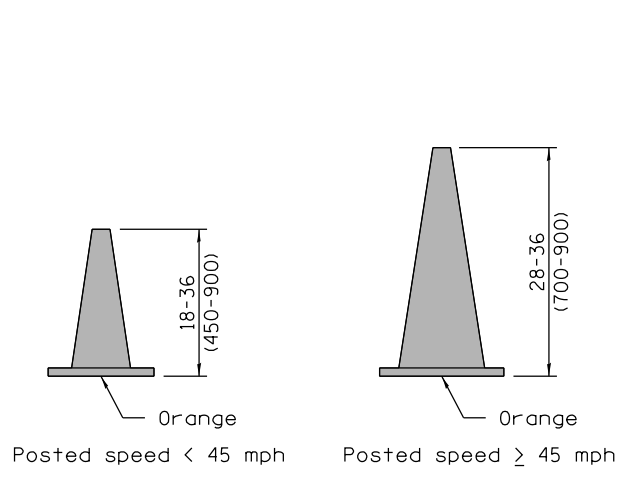
APPROVED January 1, 2015
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

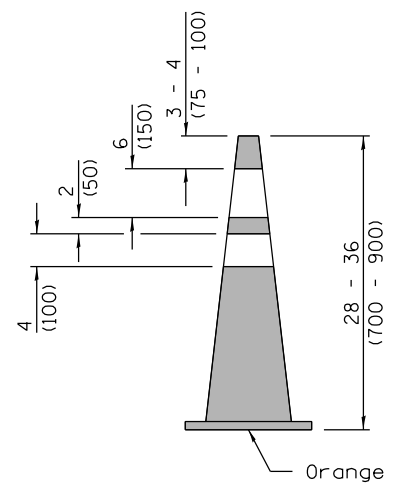
DATE	REVISIONS
1-1-15	Revised dimensions.
1-1-09	Switched units to English (metric).

GRATE TYPE 8

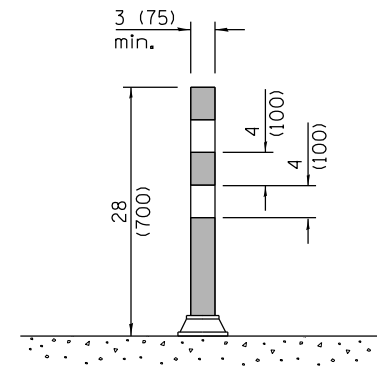
STANDARD 604036-03



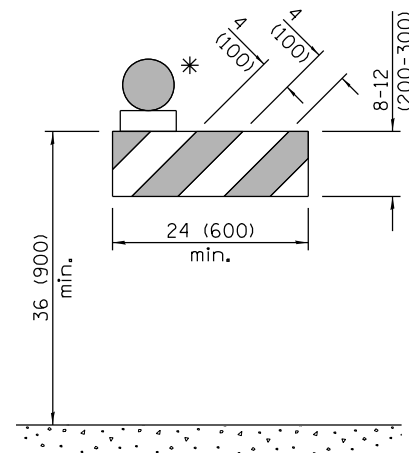
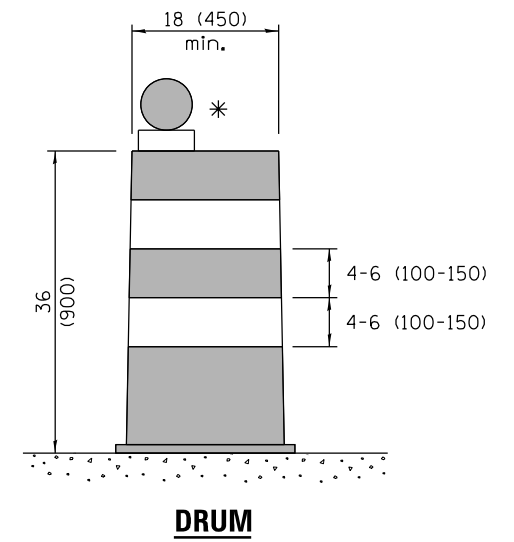
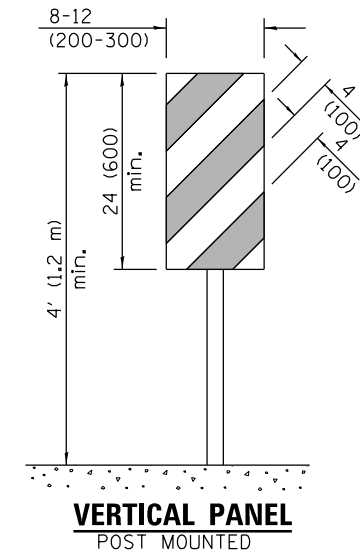
CONE FOR DAYTIME



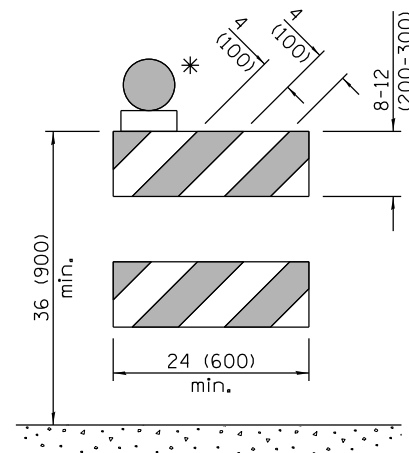
REFLECTORIZED CONE FOR NIGHTTIME



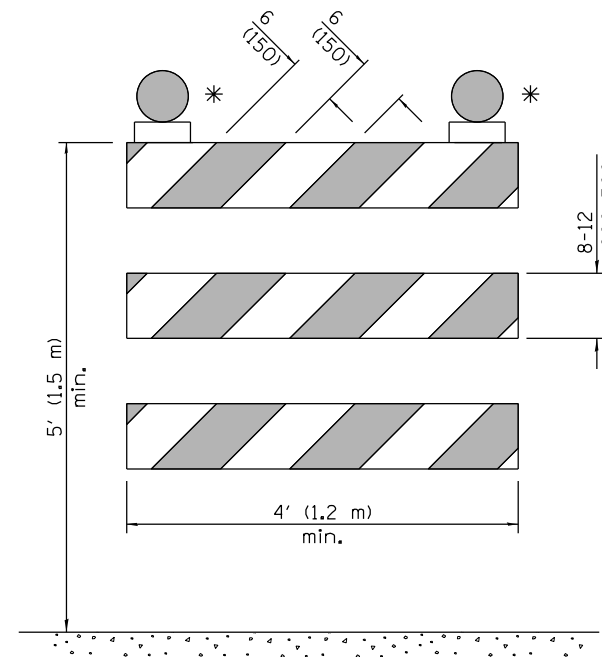
TUBULAR MARKER



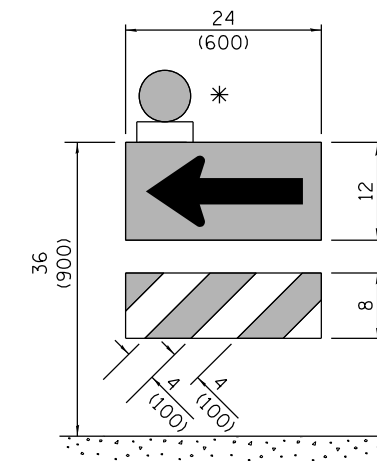
TYPE I BARRICADE



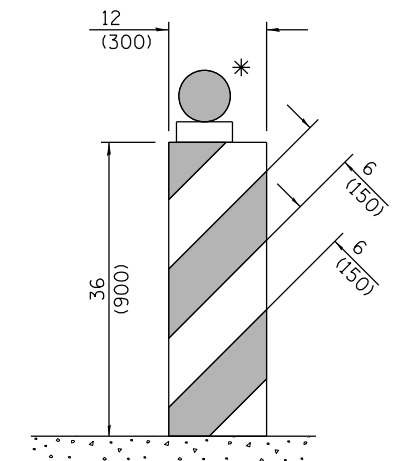
TYPE II BARRICADE



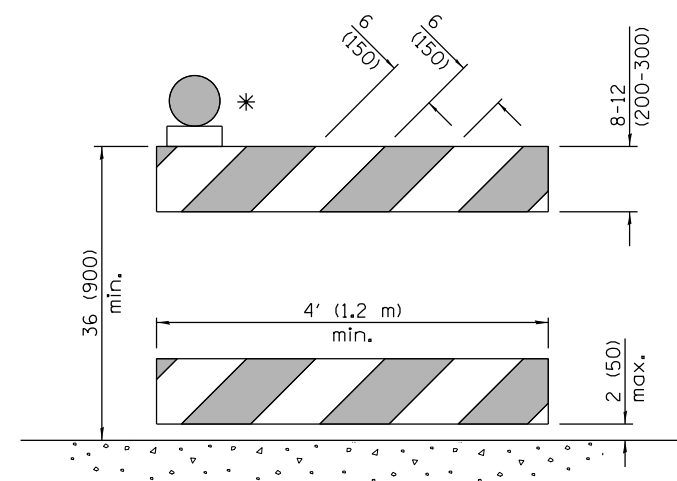
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-17	Changed FLEXIBLE DELINEATOR to TUBULAR MARKER.
4-1-16	Add dim's to barricades. Rev. note for post mnt. signs.
	Rev. cone d'tls. Add W12-I103.

TRAFFIC CONTROL DEVICES

(Sheet 1 of 3)

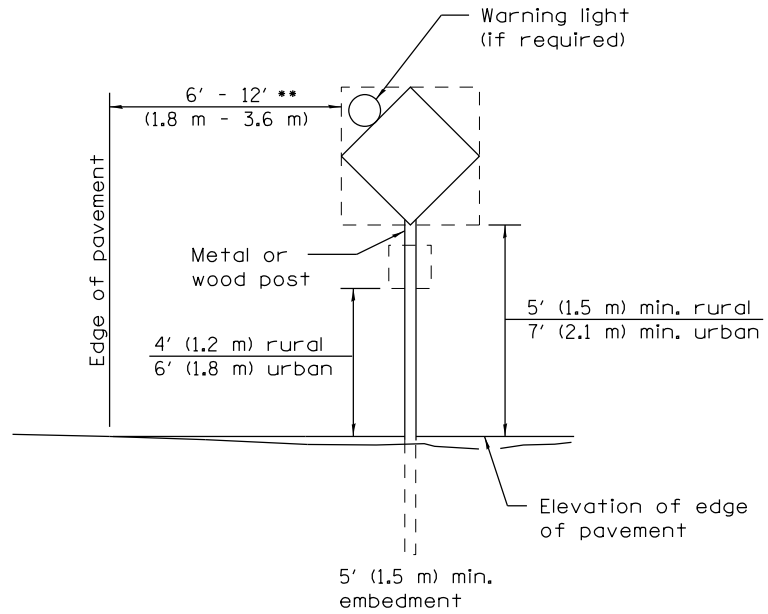
STANDARD 701901-06

Illinois Department of Transportation

APPROVED January 1, 2017
Amy Ellis
 ENGINEER OF OPERATIONS

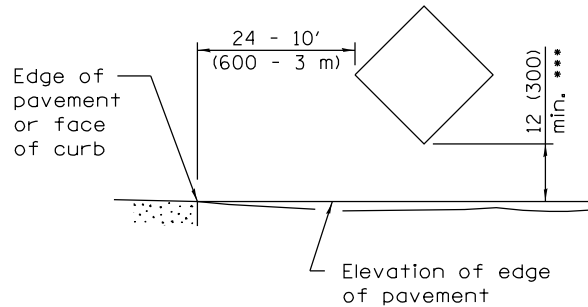
APPROVED January 1, 2017
Marcus M. Beck
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 46-1-1 03/15/11



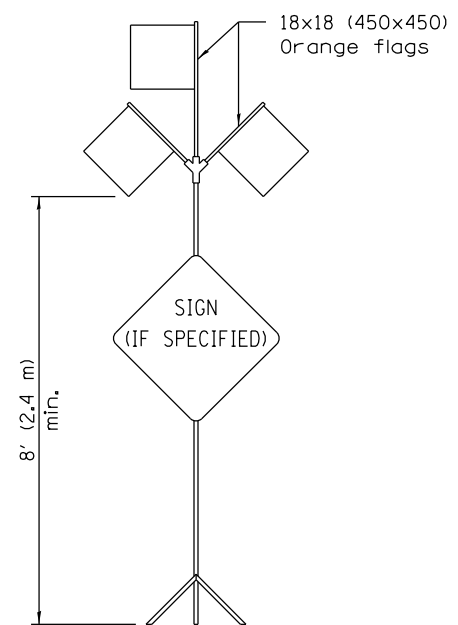
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

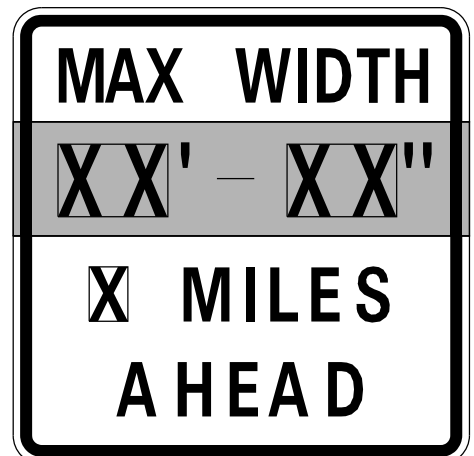


SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



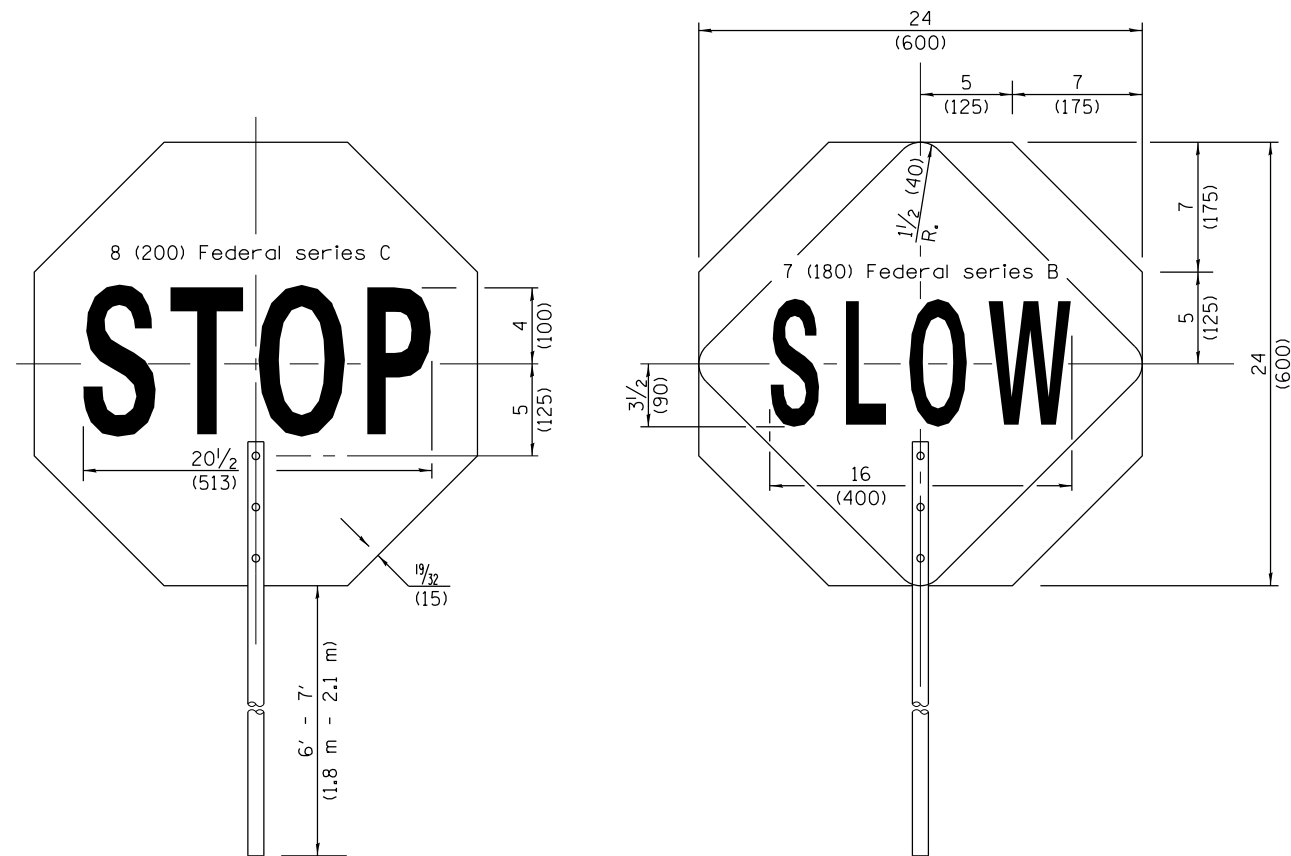
HIGH LEVEL WARNING DEVICE



W12-I103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FRONT SIDE

REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

ROAD CONSTRUCTION NEXT X MILES	END CONSTRUCTION
G20-I104(0)-6036	G20-I105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

WORK ZONE	W21-I115(0)-3618
SPEED LIMIT XX	R2-1-3648
PHOTO ENFORCED	R10-I108p-3618 ****
\$XXX FINE MINIMUM	R2-I106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT	G20-I103(0)-6036
---------------------------	------------------

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

**** R10-I108p shall only be used along roadways under the jurisdiction of the State.

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

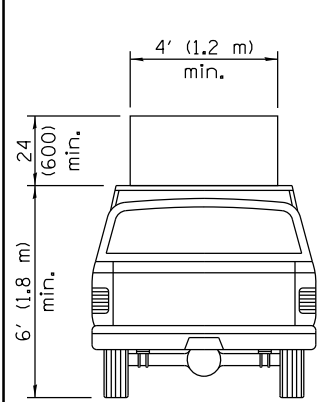
STANDARD 701901-06

Illinois Department of Transportation

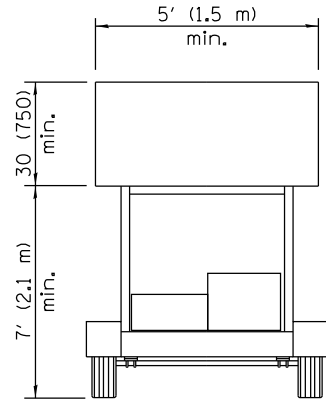
APPROVED January 1, 2017
Amy Allen
 ENGINEER OF OPERATIONS

APPROVED January 1, 2017
Marcus M. Adams
 ENGINEER OF DESIGN AND ENVIRONMENT

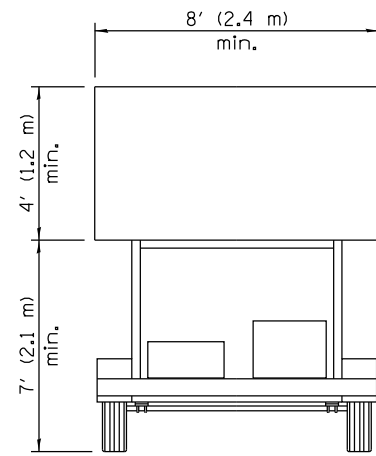
ISSUED 1-1-97
 46-1-1-97



**TYPE A
ROOF
MOUNTED**

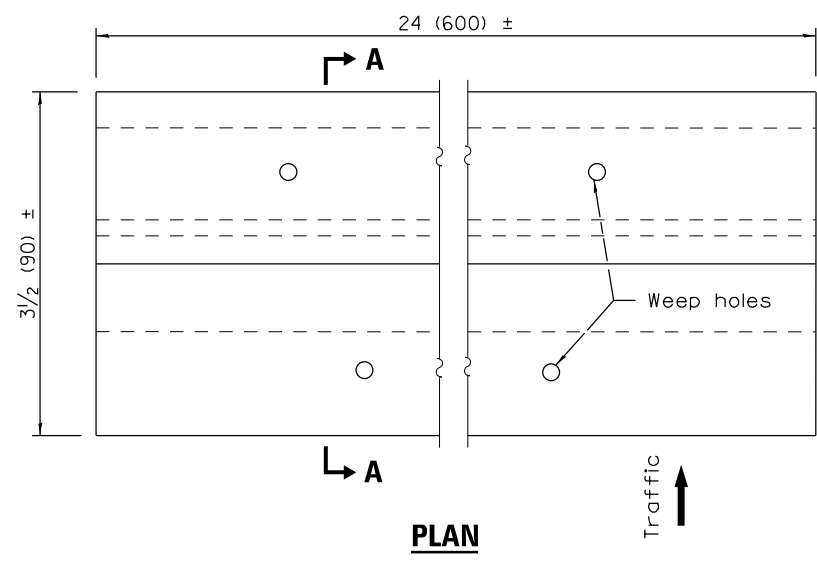


**TYPE B
ROOF OR TRAILER
MOUNTED**

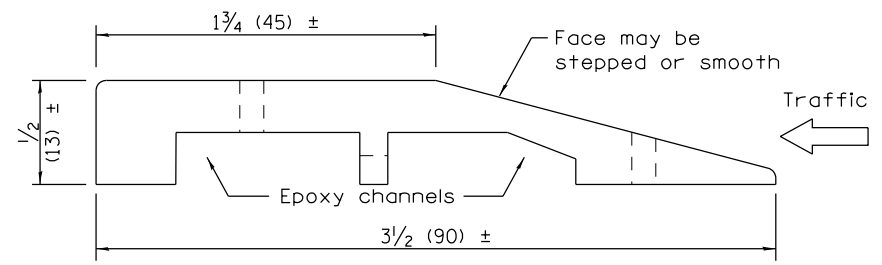


**TYPE C
TRAILER
MOUNTED**

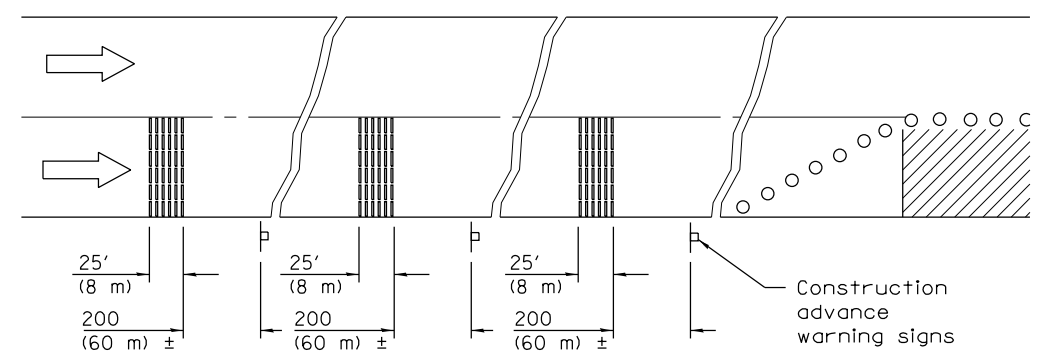
ARROW BOARDS



PLAN

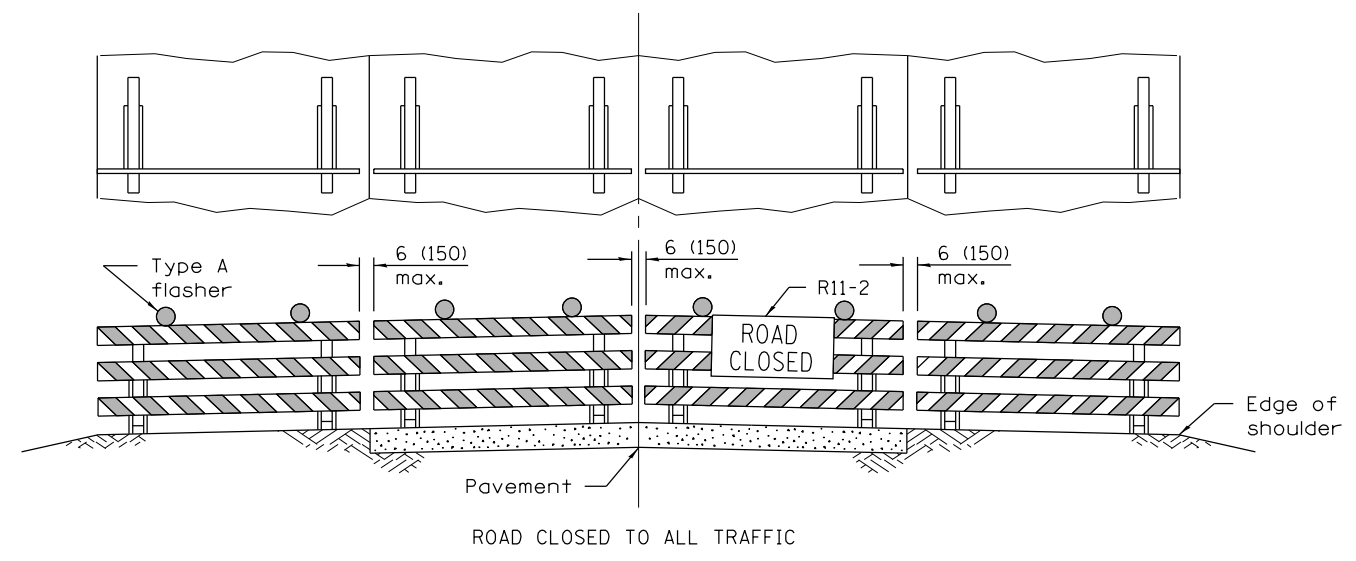


SECTION A-A



TYPICAL INSTALLATION

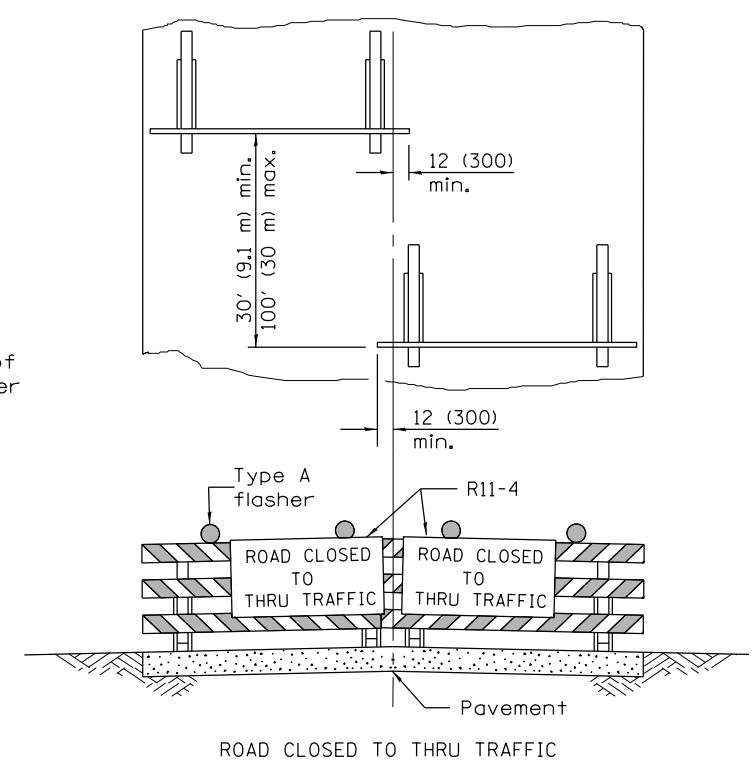
TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.

**TYPICAL APPLICATIONS OF
TYPE III BARRICADES CLOSING A ROAD**



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

Illinois Department of Transportation

APPROVED January 1, 2017
Amy Ellis
ENGINEER OF OPERATIONS

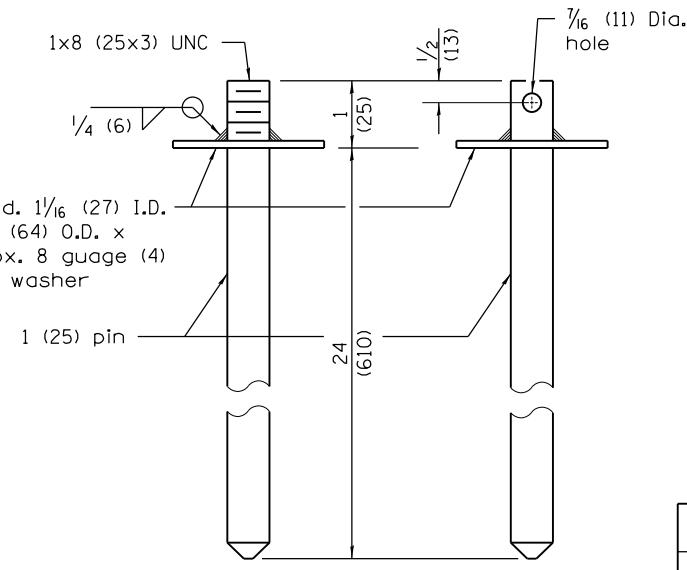
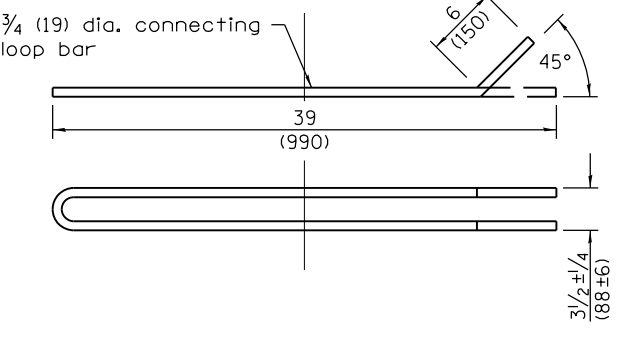
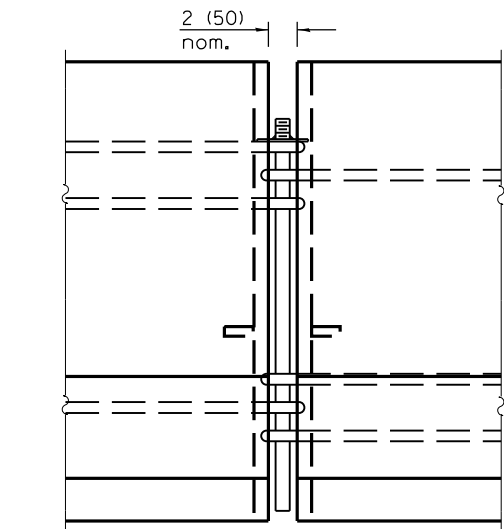
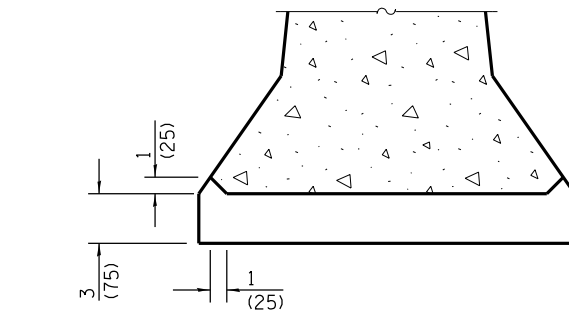
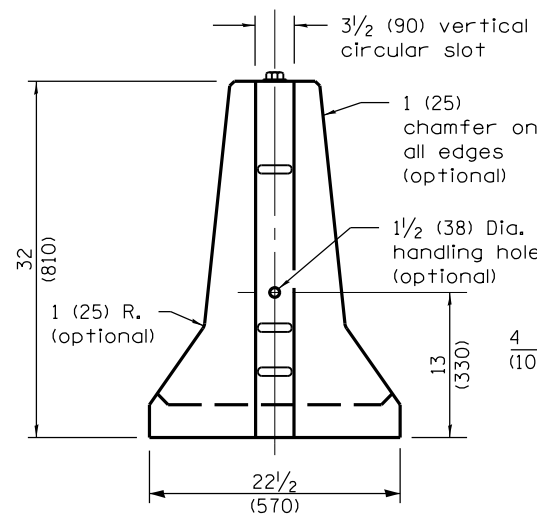
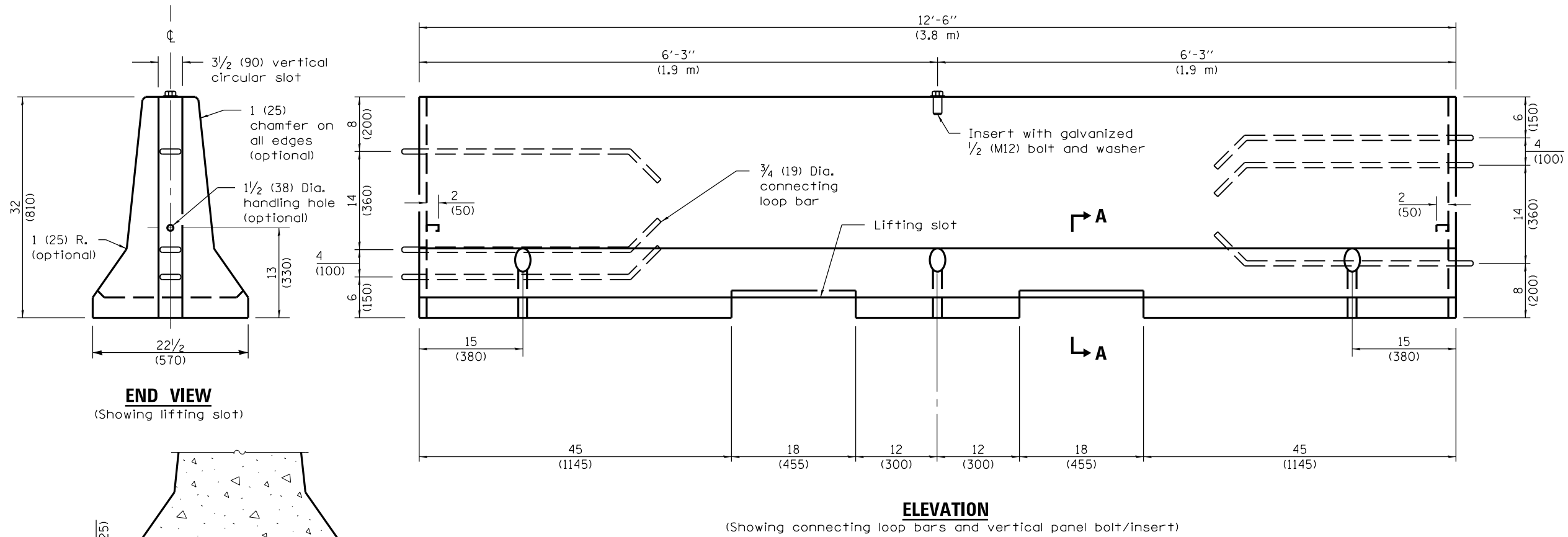
APPROVED January 1, 2017
Maureen M. Beck
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

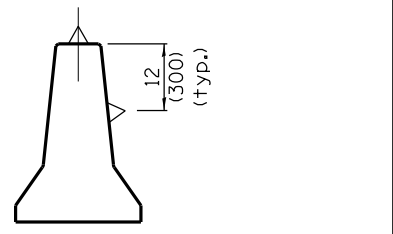
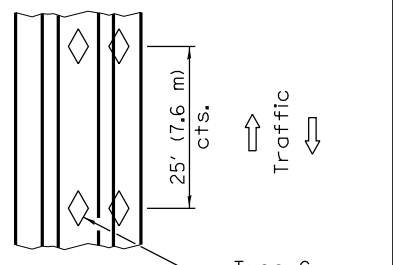
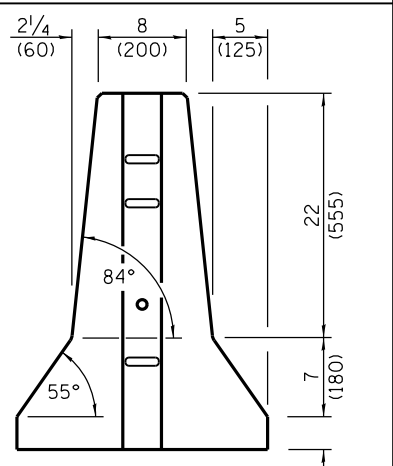
**TRAFFIC CONTROL
DEVICES**

(Sheet 3 of 3)

STANDARD 701901-06



F SHAPE DESIGN



GENERAL NOTES

Each F shape barrier shall be clearly marked with "ILLINOIS F SHAPE", the Producer's mark and the date of manufacture. The markings shall be indented on the barrier or painted thereon with waterproof paint/ink.

The insert for the 1/2 (M12) bolt shall be capable of 3,000 lb (13 kN) pull-out strength.

When barrier separates opposing flows of traffic markers shall be on both sides of barrier.

See Standard 782006 for dimensions of Type C reflector.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Rev. opt. chamfer on all edges to 1 (25). Reference to Std. 635011 now 782006.
1-1-12	Omitted 'ALTERNATE' from connecting and anchoring pins detail.

TEMPORARY CONCRETE BARRIER
(Sheet 1 of 2)

STANDARD 704001-08

Illinois Department of Transportation

PASSED April 1, 2016

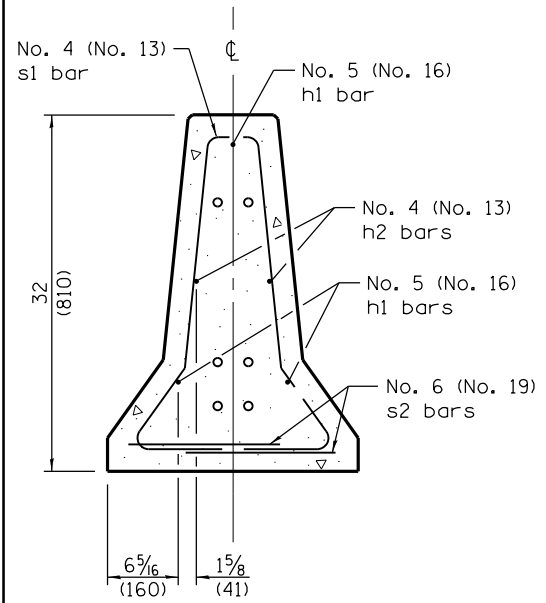
Michael Beard
ENGINEER OF POLICY AND PROCEDURES

APPROVED April 1, 2016

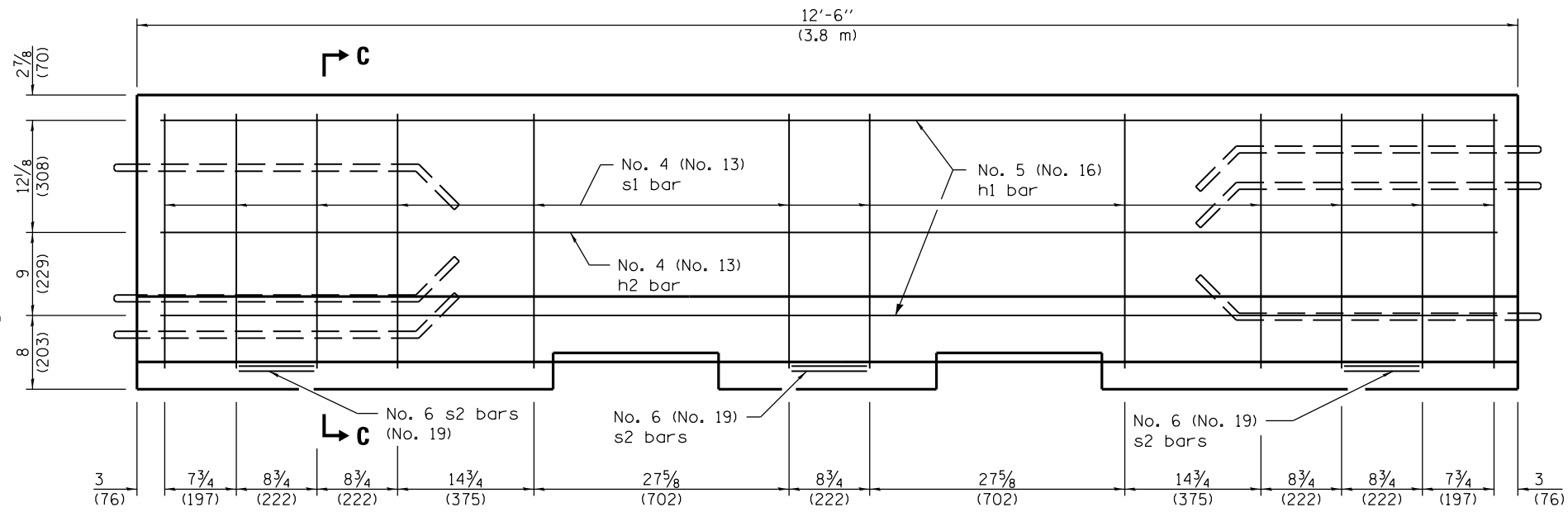
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 10-1-01

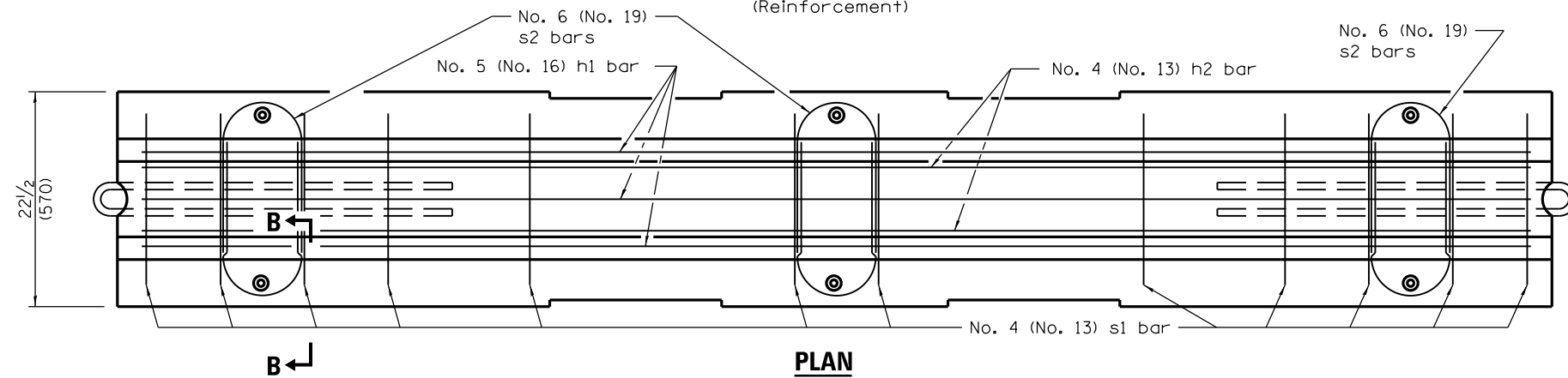
F SHAPE DESIGN



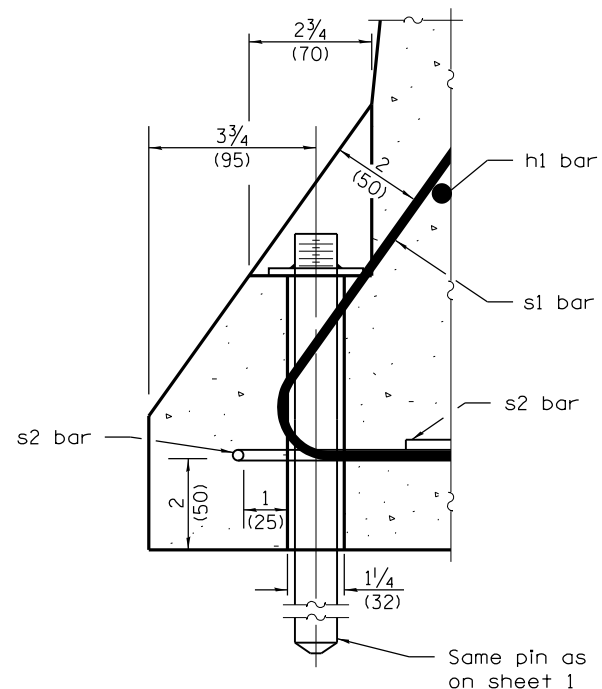
SECTION C-C



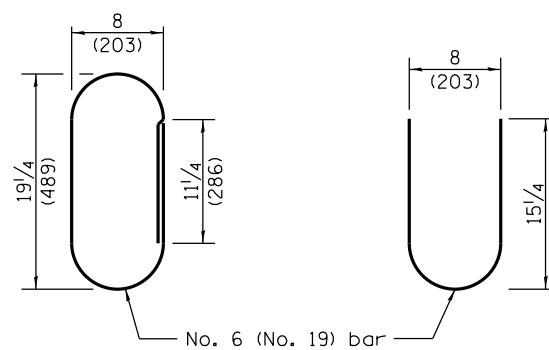
ELEVATION
(Reinforcement)



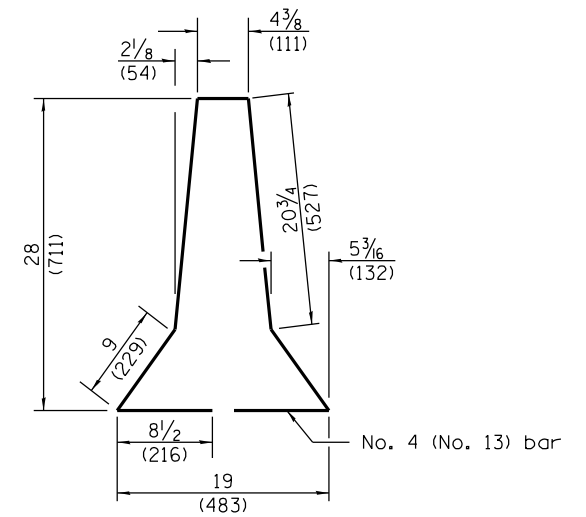
PLAN



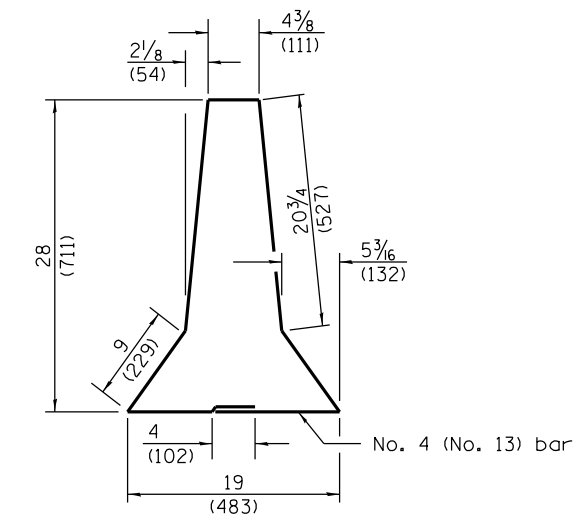
SECTION B-B
ANCHORING DETAIL



ALTERNATE s2 BARS



s1 BAR



ALTERNATE s1 BAR

Illinois Department of Transportation

PASSED April 1, 2016
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES

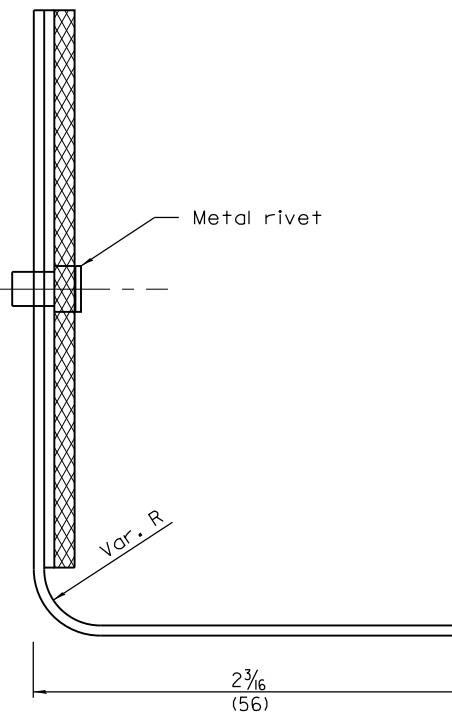
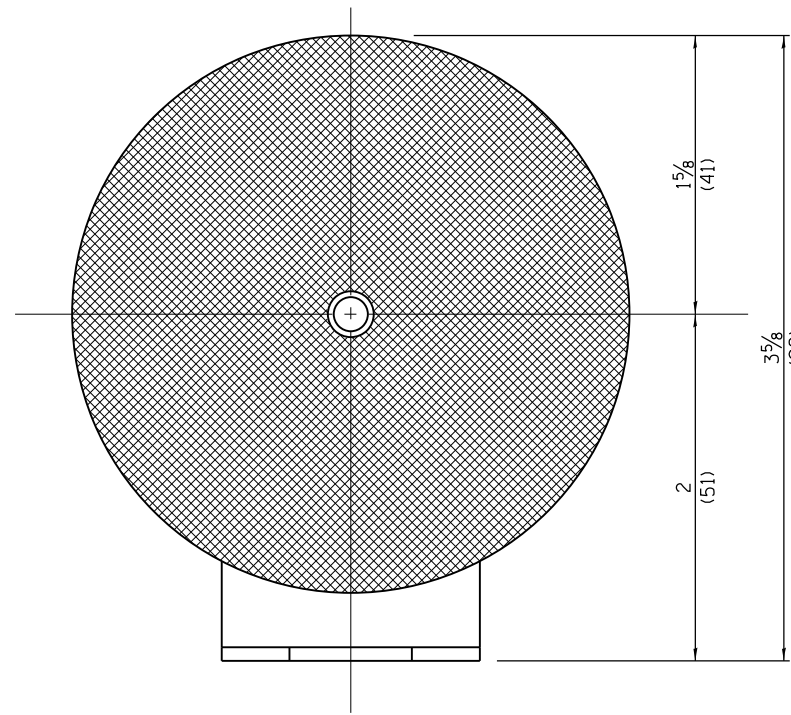
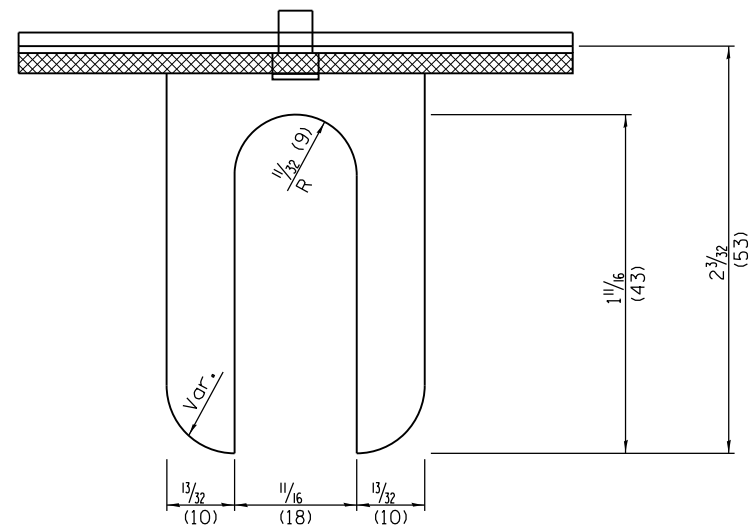
APPROVED April 1, 2016
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 10-1-20
 20-1-01

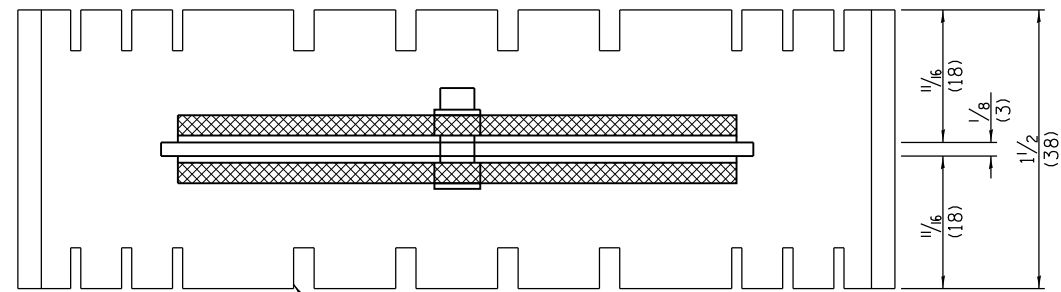
TEMPORARY CONCRETE BARRIER

(Sheet 2 of 2)

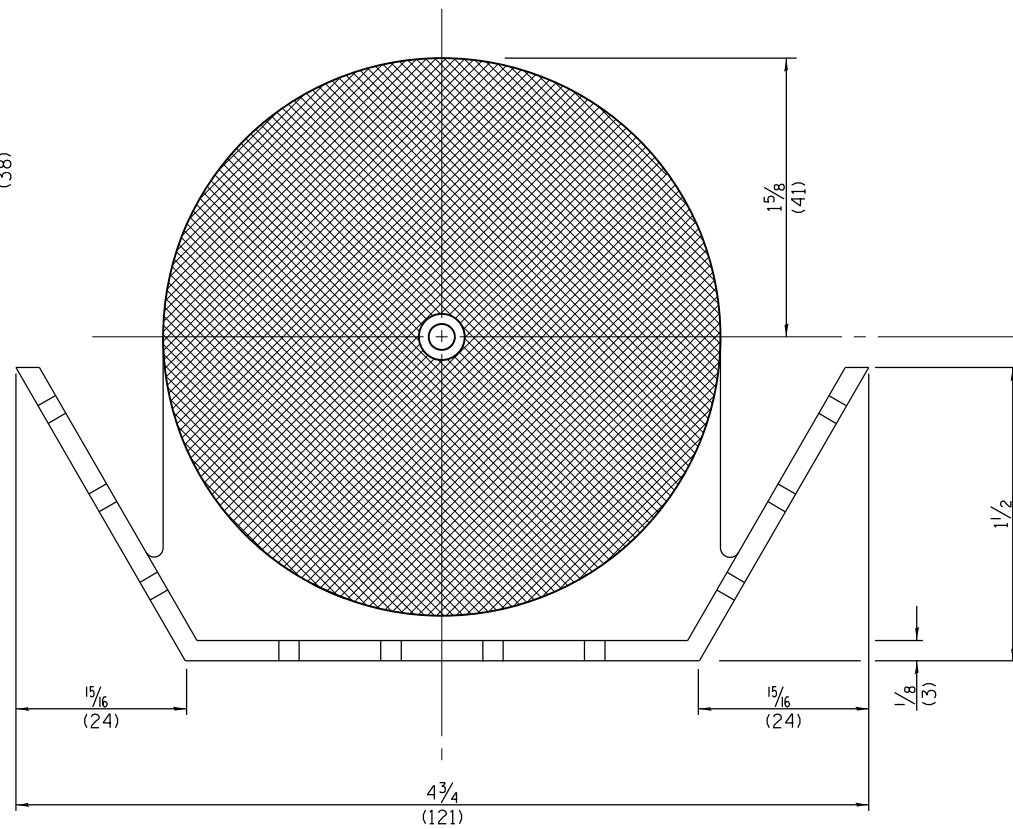
STANDARD 704001-08



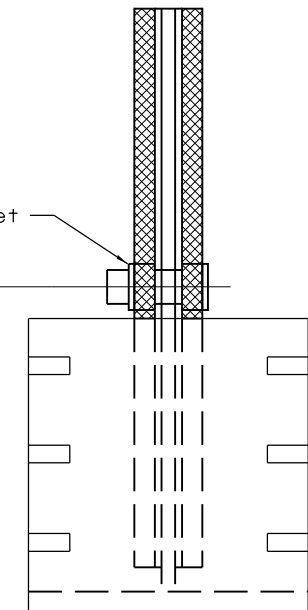
REFLECTOR TYPE A
(monodirectional shown)



Adhesive weep slots or holes
equally spaced on both sides



Brass or plastic rivet



REFLECTOR TYPE B
(bidirectional shown)

All dimensions are in inches (millimeters)
unless otherwise shown.

Illinois Department of Transportation

APPROVED April 1, 2016
Amy Ellis
ENGINEER OF OPERATIONS

APPROVED April 1, 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-2000

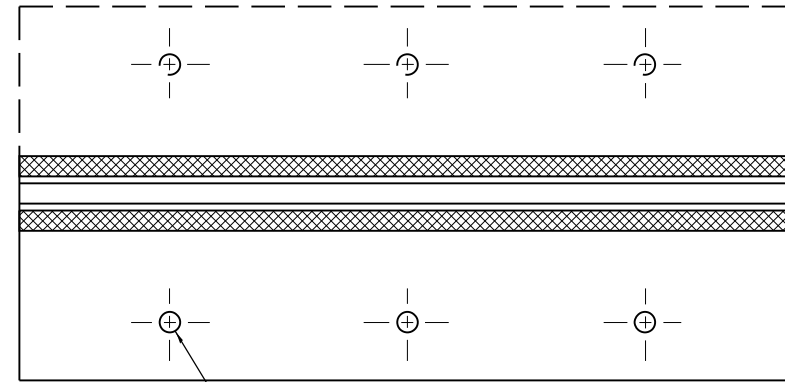
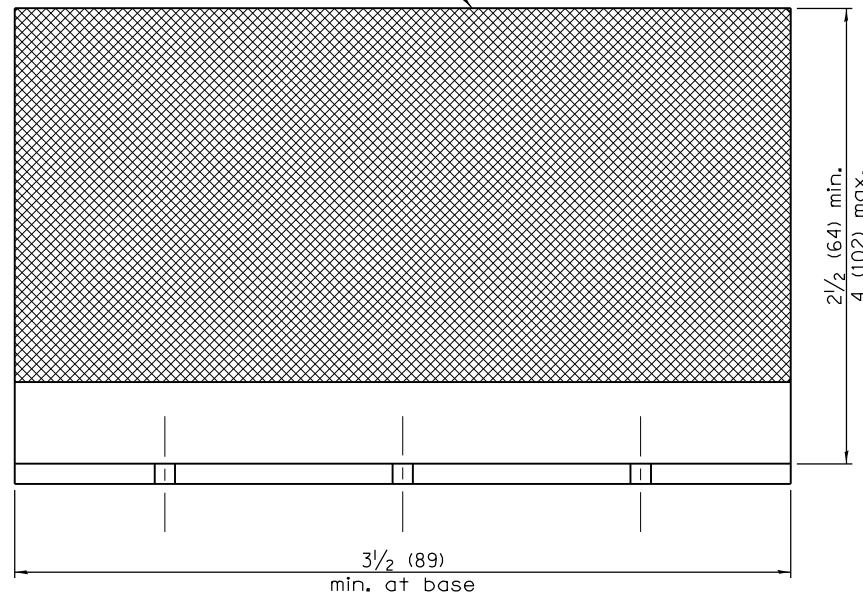
DATE	REVISIONS
4-1-16	Added reflector spacing detail. Moved TERMINAL MARKER to std. 725001.
1-1-09	Switched units to English (metric).

**GUARDRAIL AND
BARRIER WALL REFLECTOR
MOUNTING DETAILS**

(Sheet 1 of 3)

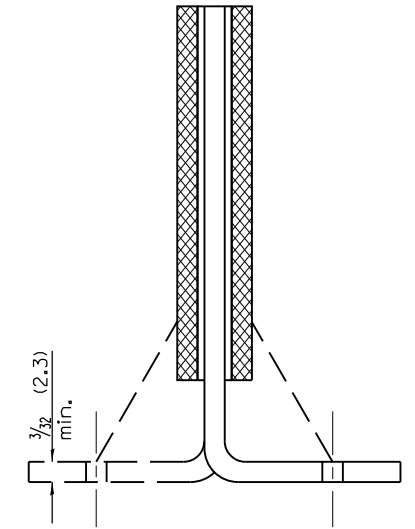
STANDARD 782006

Reflective area. May be rectangular or slight trapezoid.



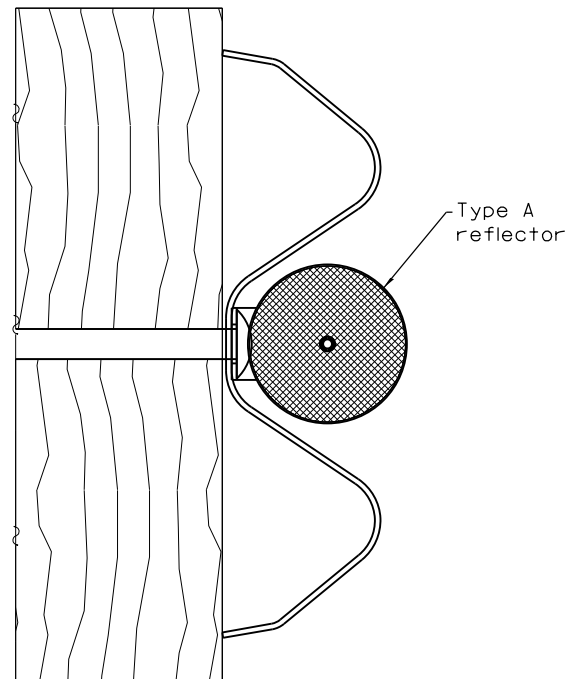
3 min. adhesive weep holes or slots each side, variable spacing.

Minimum total area of base 7.0 sq. in. (4,516 mm²)

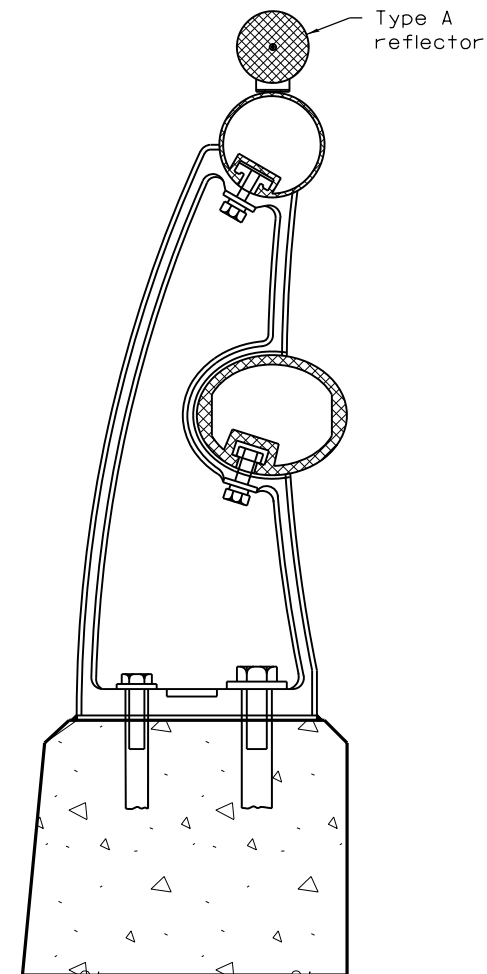
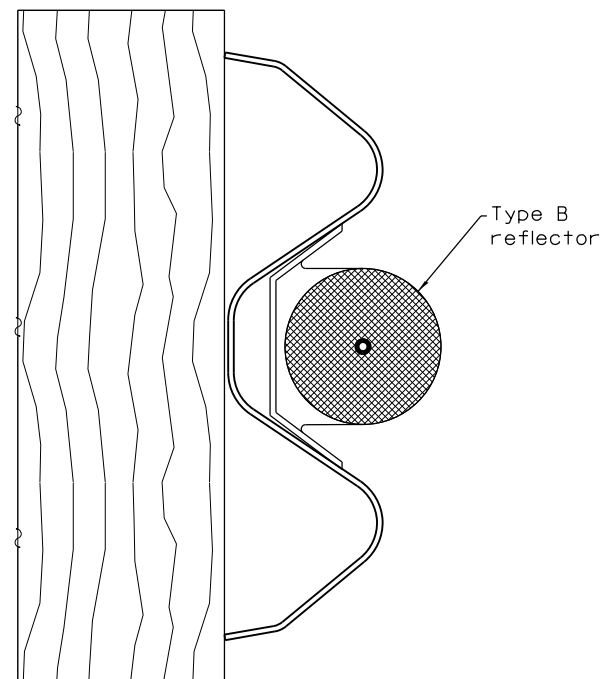


Cross section may be "T" or "L" shaped and may have side supports at ends.

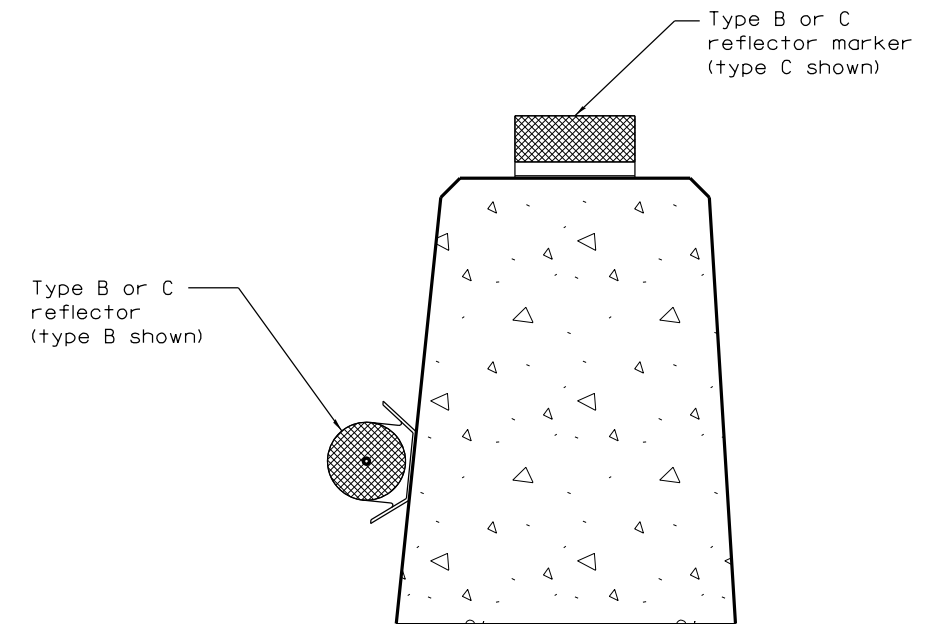
REFLECTOR TYPE C



TYPICAL MOUNTING DETAIL FOR GUARDRAIL REFLECTOR



TYPICAL MOUNTING DETAIL FOR BRIDGE RAIL REFLECTOR



TYPICAL MOUNTING DETAIL FOR BARRIER WALL REFLECTOR

Illinois Department of Transportation

APPROVED April 1, 2016
Amy Eller
ENGINEER OF OPERATIONS

APPROVED April 1, 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

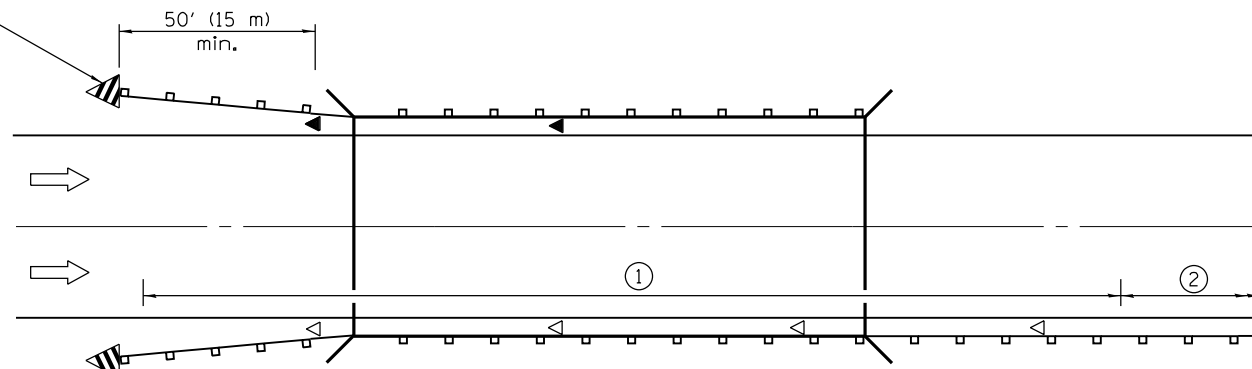
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GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

(Sheet 2 of 3)

STANDARD 782006

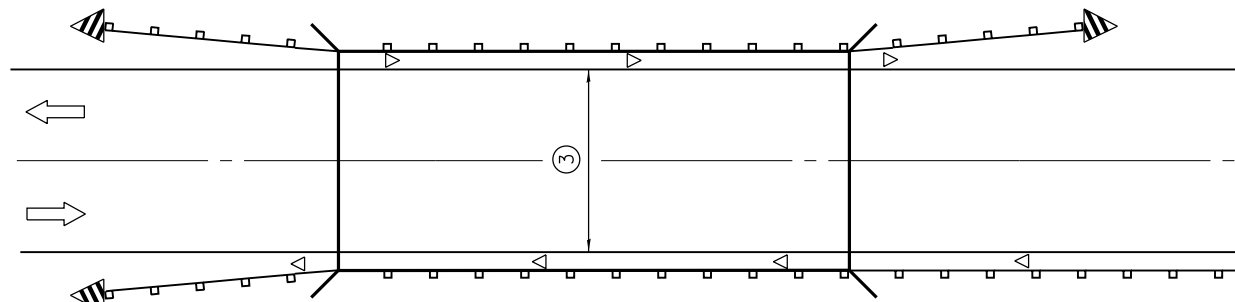
Terminal marker.
See standard
725001.



① Spacing 80 ft. (24 m) max. for first 400 ft. (122 m) or curve spacing shown in Standard 635001, whichever is less (min. 4 reflectors regardless of length).

② After 400 ft. (122 m), transition to normal delineator spacing shown in Standard 635001, and continue as required.

ONE-WAY TRAFFIC



③ Bidirectional silver/silver should be used in lieu of monodirectional silver on both sides of two-lane bridges where the pavement is less than 24 (610) wider than the pavement approaching the bridge.

◁ Monodirectional crystal

◄ Monodirectional amber

TWO-WAY TRAFFIC

**GUARDRAIL /BARRIER WALL
REFLECTOR PLACEMENT DETAIL**

Illinois Department of Transportation

APPROVED April 1, 2016
Amy Allen
ENGINEER OF OPERATIONS

APPROVED April 1, 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-2000

**GUARDRAIL AND
BARRIER WALL REFLECTOR
MOUNTING DETAILS**
(Sheet 3 of 3)

STANDARD 782006