

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113*	1
		ILLINOIS	CONTRACT NO. 68698	

\*113 + 1 = 114 TOTAL SHEETS

FOR INDEX OF SHEETS, SEE SHEET NO. 2

HIGHWAY STANDARDS:

- 000001-08 701901-08
- 001001-02 704001-08
- 001006 725001-01
- 280001-07 780001-05
- 420001-10 781001-04
- 420401-13 782006-01
- 515001-04
- 542401-04 542411
- 601101-02
- 630001-12
- 630301-09
- 631031-17
- 666001-01
- 667001-01
- 667101-02
- 701001-02
- 701006-05
- 701201-05
- 701301-04
- 701311-03
- 701316-13
- 701321-18

PROP. SN 088-0030  
STA. 63+44.19  
IL 17/91 OVER SPOON RIVER  
396'-11 3/4" BK. TO BK. OF ABUTMENT

PROPOSED  
HIGHWAY PLANS

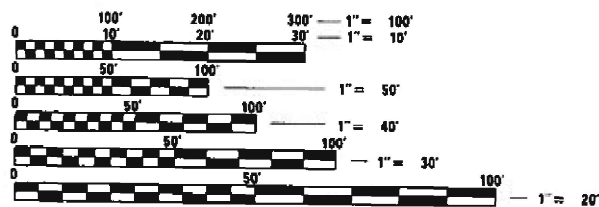
F.A.P. ROUTE 643 (IL 17/L 91)  
SECTION (11B)BR-1  
PROJECT STP-X0HZ(866)  
STRUCTURE REPLACEMENT  
STARK COUNTY

C-94-031-07

PROJECT BEGINS STA. 49+22

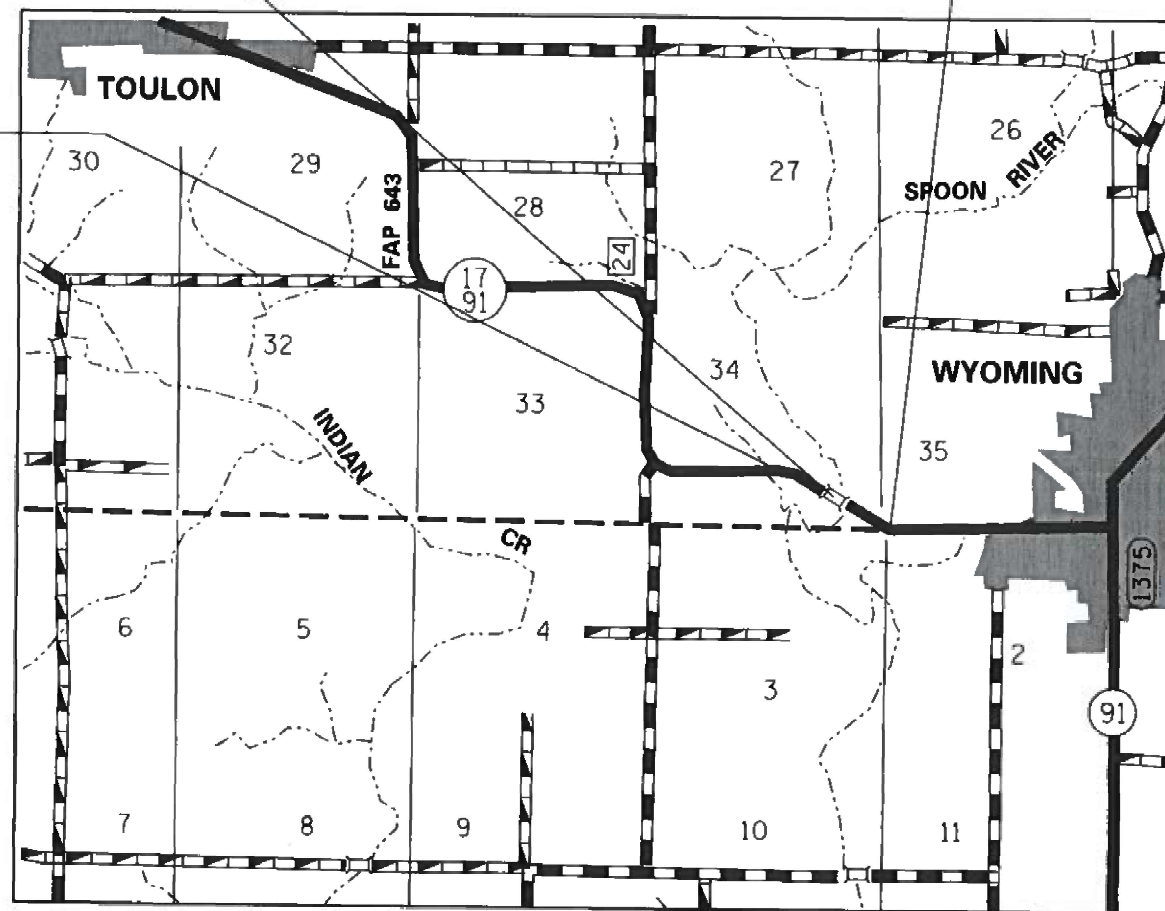
PROJECT ENDS STA. 78+00

FUNCTIONAL CLASSIFICATION:  
MINOR ARTERIAL  
2019 ADT: 2000  
PV: 95.5% MU 2% SU 2.5%

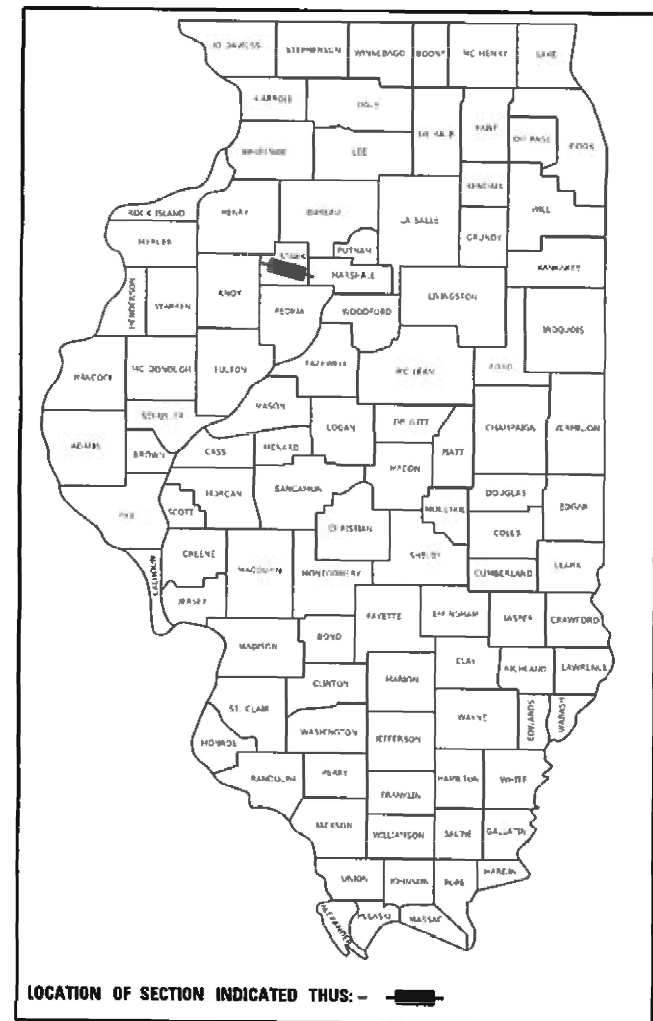


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS  
1-800-892-0123  
OR 811



GROSS LENGTH = 2878 FT. = 0.55 MILE  
NET LENGTH = 2878 FT. = 0.55 MILE



PROJECT DESCRIPTION:  
THE PROJECT CONSISTS OF THE REPLACEMENT OF THE EXISTING STRUCTURE (SN 088-0002) CARRYING IL 17/91 OVER THE SPOON RIVER WITH PROPOSED STRUCTURE (SN 088-0030). THE PROJECT ALSO INCLUDES ROADWAY PROFILE ADJUSTMENTS, REGRADING OF EXISTING SIDESLOPES, AND CONSTRUCTION OF STREAM BARBS.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED July 01 2022  
Ronald A. Barnett RSD  
REGIONAL ENGINEER

August 19, 2022  
[Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT

August 19, 2022  
[Signature]  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER: NICOLE FAYANT (309) 671-3454  
PROJECT MANAGER: ARLENE OTERO-FEBUS (309) 671-3462  
CATALOG NO. 033472-00D  
CONTRACT NO. 68698

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OF THE STATE OF ILLINOIS

**INDEX OF SHEETS**

1. COVER SHEET  
 2-4. INDEX OF SHEETS, GENERAL NOTES, AND PROJECT SPECIFIC NOTES  
 5. STATUS OF UTILITIES  
 6-13. SUMMARY OF QUANTITIES  
 14-16. TYPICAL SECTIONS  
 17-18. SCHEDULE OF QUANTITIES  
 19. ALIGNMENT, TIES, AND BENCHMARKS  
 20-22. REMOVAL PLAN SHEETS  
 23-25. PLAN AND PROFILE SHEETS  
 26-27. STAGING DETAIL SHEETS  
 28-30. EROSION CONTROL & STREAM BARB DETAILS  
 30A. GRADING DETAILS  
 31. GUARDRAIL DETAIL  
 32-34. PAVEMENT MARKING DETAILS  
 35. GENERAL PLAN AND ELEVATION S.N. 088-0030  
 36. GENERAL DATA S.N. 088-0030  
 37. RIPRAP LAYOUT S.N. 088-0030  
 38. STAGE CONSTRUCTION DETAILS S.N. 088-0030  
 39. TEMPORARY SOIL RETENTION SYSTEM S.N. 088-0030  
 40. FOOTING LAYOUT S.N. 088-0030  
 41. TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
 42-45. TOP OF SLAB ELEVATION S.N. 088-0030  
 46. TOP OF EAST APPROACH SLAB ELEVATIONS  
 47. TOP OF WEST APPROACH SLAB ELEVATIONS  
 48. SUPERSTRUCTURE S.N. 088-0030  
 49-50. SUPERSTRUCTURE DETAILS S.N. 088-0030  
 51. DIAPHRAGM DETAILS S.N. 088-0030  
 52. DRAINAGE SCUPPER DS-11  
 53-55. PRECAST BRIDGE APPROACH SLAB  
 56. PREFORMED JOINT STRIP SEAL  
 57. STRUCTURAL STEEL  
 58-59. STRUCTURAL STEEL DETAIL  
 60. STRUCTURAL STEEL  
 61-62. BEARING DETAILS  
 63. EAST ABUTMENT  
 64. EAST ABUTMENT DETAIL & WINGWALL EXTENSION  
 65. WEST ABUTMENT  
 66. WEST ABUTMENT DETAIL & WINGWALL EXTENSION  
 67-68. PIER 1 S.N. 088-0030  
 69-70. PIER 2 S.N. 088-0030  
 71. METAL SHELL PILE DETAIL  
 72. BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAIL  
 73. CONCRETE PARAPET SLIPFORMING OPTION  
 74-83. SOIL BORING LOGS  
 84-97. DISTRICT STANDARDS  
 98-113. CROSS SECTIONS

**GENERAL NOTES**

**COMMITMENTS**

Commitments are not to be altered without the written approval of all parties to which the commitment was made.

No commitments have been made for this project.

**AVAILABILITY OF ELECTRONIC FILES**

MicroStation and GEOPAK files of this project will be made available to the Contractor after contract award. If there is a conflict between the electronic files and the printed contract plans and documents, the printed contract plans and documents shall take precedence over the electronic files. The Contractor shall accept all risk associated with using the electronic files and shall hold the Department harmless for any errors or omissions in the electronic files and the data contained therein. Errors or delays resulting from the use of the electronic files by the Contractor shall not result in an extension of time for any interim or final completion date or shall not be considered cause for additional compensation. The Contractor shall not use, share, or distribute these electronic files except for the purpose of constructing this contract. Any claims by third parties due to use or errors shall be the responsibility of the Contractor. The Contractor shall include this disclaimer with the transfer of these electronic files to any other parties and shall include appropriate language binding them to similar responsibilities.

**PLAN ELEVATIONS – U.S.G.S. MEAN SEA LEVEL DATUM**

All elevations shown on the plans are established from U.S.G.S. mean sea level datum.

**PROPERTY OWNER ACCESS REQUIREMENT**

Access must be maintained to all existing properties during construction per Article 107.09 unless arrangements are made in writing by the Contractor with the property owners with a copy to the Engineer for short-term closures.

**ORDERING LENGTH CONFIRMATION – DRAINAGE ITEMS**

The Contractor shall consult with the Engineer in regard to the exact length of the box/pipe culverts, storm sewers, and/or pipe drains required prior to ordering these items.

**SOIL REPORT AVAILABILITY**

The Soils Report and all soils data collected and processed in conjunction with the design of this improvement is on file at the District Office where it is available for inspection by Contractors or prospective bidders. By submitting a bid, the Contractor acknowledges that the Soils Report and data have been made available, that the Contractor is aware of the report contents and appendices, and that the Soils Report is part of the contract documents.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, GENERAL NOTES, AND PROJECT SPECIFIC NOTES**

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	2
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	

**GENERAL NOTES (CONTINUED)**

**ENVIRONMENTAL REVIEWS**

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run-arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

The required environmental resource documentation shall include the following:

- BDE Form 2289 (Cultural and Natural Resources Review of Borrow Areas)
- BDE Form 2290 (Waste/Use Area Review)
- A location map showing the size limits and location of the use area
- Color photographs depicting the use area
- Borrow Area Entry Agreement form \*D4 PI0101

Prior to any waste materials being removed from the construction site the required environmental resource surveys shall be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of broken concrete at approved disposal sites.

Please note that a minimum of four weeks shall be allowed for the District to obtain the required waste site environmental clearances and six weeks for the required borrow site environmental clearances.

**PAVEMENT STATIONING NUMBERS & PLACEMENT**

The Contractor shall provide labor and materials required to imprint pavement station numbers in the finished surface of the pavement and/or overlay. The numbers shall be approximately 3/4 inch (20 mm) wide, 5 inches (125 mm) high and 5/8 inch (15 mm) deep.

The pavement station numbers shall be installed as specified herein:

Interval – 200 feet (English stationing) or 100 meters (metric stationing)

Bottom of Numbers – 6 inches (150 mm) from the inside edge of the pavement marking

Location:

- 2, 3, & 5 Lane Pavements – right edge of pavement in direction of increasing stations
- Multi-Lane Divided Roadways – outside edge of pavement in both directions
- Ramps – along baseline edge of pavement

Position – stations shall be placed so they can be read from the adjacent shoulder

Format – English (Metric) pavement stations shall use this format "XXX (XX + X00)", where X represents the pavement station

This work will not be paid for separately, but will be included in the cost of the associated pavement and/or overlay pay items.

**BUTT JOINT CUTTING TIME RESTRICTION**

Butt joints shall not be milled more than three (3) days prior to placement of the HMA surface course.

**PAVING SURFACE COURSE**

Continuous paving operations on the main roadway shall be maintained at all times during the construction of the hot-mix asphalt surface. No interruptions for side roads, entrances, turn lanes, etc. will be allowed.

**MATERIAL TRANSFER DEVICE ON STRUCTURES**

The Contractor shall not cross the existing structure (SN 088-0002) or the proposed structure (SN 088-0030) with a material transfer device.

**RIGHT-OF-WAY MARKERS**

When installing right-of-way markers, care shall be taken to not disturb any existing property/right-of-way pins. If a property/right-of-way pin is found at the location of a proposed right-of-way marker, the marker shall be placed one (1) foot in front of the pin.

**NO PASSING ZONE VERIFICATION**

The resident shall contact Operations to verify the location of no passing zones prior to placement of centerline striping.

**POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) RATES**

Surface Type	Residual Rate
Milled (HMA or PCC)	0.08 lb /sq ft
Existing Pavement	0.08 lb /sq ft
Fog Coat (between lifts)	0.08 lb /sq ft

**SECURING DRAINAGE STRUCTURE GRATES**

Prior to routing traffic onto the shoulders as shown in the staging plans, the Contractor shall secure gratings on shoulder inlets as directed by the Engineer. This work will not be paid for separately, but shall be included in the cost of the traffic control pay item.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, GENERAL NOTES, AND PROJECT SPECIFIC NOTES**

SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	3
				CONTRACT NO. 68698
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES (CONTINUED)**

**HOT-MIX ASPHALT MIXTURE REQUIREMENTS**

MIXTURE USES(S):	SURFACE (1.5")	POLYMER BINDER (1") AND CROSS-SLOPE CORRECTION	VAR. BINDER BUILD-UP AND SHOULDERS (LOWER LIFTS)	SHOULDERS (SURFACE LIFT) AND INCIDENTAL SURFACE
AC/PG:	PG 58-28	SBS OR SBR 70-28	PG 58-28	PG 58-28
DESIGN AIR VOIDS:	4.0% AT N=50	4.0% AT N=50	4.0% AT N=50	4.0% AT N=50
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 9.5	IL 4.75	IL 19.0	IL 9.5
FRICTION AGGREGATE:	MIX D	N.A.	N.A.	MIX C
QUALITY MANAGEMENT:	QC/QA	QC/QA	QC/QA	QC/QA

**Notes:**

- 1) Individual lift thickness of each mix type will be no less than 3 times nominal maximum aggregate size and no more than 6 times nominal maximum.
- 2) For design purposes, mixture weight for all mixes is determined to be 112.0 lb/s.y.in., unless otherwise noted.
- 3) Sublot sizes for PFP and QCP mixes will be 600 tons, unless otherwise agreed to by the Engineer and the paving Contractor.

**PROJECT SPECIFIC NOTES**

Existing Pavement to be removed is 11-14 inches thick.

The temporary support beams the structure shall be salvaged. The Contractor shall use care in the removal of the beams to prevent damage. The Contractor shall deliver the beams to the IDOT Bridge Maintenance yard located at:  
604 Camp Street East Peoria, IL 61611

The Contractor shall contact Bryon Strunk at 309-699-3822 to arrange a delivery time. IDOT will provide unloading. The miscellaneous brackets and hardware used to connect the beams to the concrete substructure shall become the property of the Contractor. This work will not be paid for separately, but it shall be considered included in the cost of Removal of Existing Structure.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, GENERAL NOTES, AND PROJECT SPECIFIC NOTES**

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	4
			CONTRACT NO. 68698	
			ILLINOIS FED. AID PROJECT	



CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
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				ROADWAY	BRIDGE
				0005 RURAL	0010 S.N. 088-0030
20200100	EARTH EXCAVATION	CU YD	11166	11166	
20400800	FURNISHED EXCAVATION	CU YD	2004	2004	
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	13584	13584	
25000210	SEEDING, CLASS 2A	ACRE	2.8	2.8	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	253	253	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	253	253	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	253	253	
25100115	MULCH, METHOD 2	ACRE	2.8	2.8	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	281	281	
28000305	TEMPORARY DITCH CHECKS	FOOT	80	80	
28000400	PERIMETER EROSION BARRIER	FOOT	2511	2511	
28000500	INLET AND PIPE PROTECTION	EACH	4	4	
28100109	STONE RIPRAP, CLASS A5	SQ YD	7032		7032
28100209	STONE RIPRAP, CLASS A5	TON	2727.9		2727.9

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 1 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	6
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	

CONSTRUCTION CODE	
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ROADWAY	BRIDGE
0005	0010
RURAL	S.N. 088-0030

CODE NO.	ITEM	UNIT	TOTAL QUANTITY		
28200200	FILTER FABRIC	SQ YD	7032		7032
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	58	58	
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	119	119	
40600285	POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT)	POUND	14	14	
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	7523	7523	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	174	174	
40600990	TEMPORARY RAMP	SQ YD	40	40	
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	33.5	33.5	
40603200	POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-4.75, N50	TON	299	299	
40604060	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50	TON	375	375	
44000100	PAVEMENT REMOVAL	SQ YD	746	746	
44000153	HOT-MIX ASPHALT SURFACE REMOVAL, 1"	SQ YD	3283	3283	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	329.9	329.9	
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	1830	1830	

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**STATE OF ILLINOIS  
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**SUMMARY OF QUANTITIES**

SCALE: SHEET 2 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	7
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	

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				0005 RURAL	0010 S.N. 088-0030
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50105220	PIPE CULVERT REMOVAL	FOOT	69	69	
50200100	STRUCTURE EXCAVATION	CU YD	179		179
50200300	COFFERDAM EXCAVATION	CU YD	1161		1161
50201121	COFFERDAM (TYPE 2) (LOCATION = 1)	EACH	1		1
50201122	COFFERDAM (TYPE 2) (LOCATION = 2)	EACH	1		1
50300225	CONCRETE STRUCTURES	CU YD	761.8		761.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	588.3		588.3
50300260	BRIDGE DECK GROOVING	SQ YD	1718		1718
50300265	SEAL COAT CONCRETE	CU YD	222.1		222.1
50300300	PROTECTIVE COAT	SQ YD	2211		2211
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1
50500505	STUD SHEAR CONNECTORS	EACH	5754		5754
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	237140		237140

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**STATE OF ILLINOIS  
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**SUMMARY OF QUANTITIES**

SCALE: SHEET 3 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	8
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



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				ROADWAY	BRIDGE
				0005 RURAL	0010 S.N. 088-0030
50800515	BAR SPLICERS	EACH	1658		1658
50800530	MECHANICAL SPLICERS	EACH	496		496
51200958	FURNISHING METAL SHELL PILES 14" X 0.250"	FOOT	2212		2212
51200963	FURNISHING METAL SHELL PILES 16" X 0.375"	FOOT	5816		5816
51202305	DRIVING PILES	FOOT	8028		8028
51203200	TEST PILE METAL SHELLS	EACH	4		4
51204650	PILE SHOES	EACH	119		119
51500100	NAME PLATES	EACH	1		1
52000110	PREFORMED JOINT STRIP SEAL	FOOT	91		91
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	18		18
52100530	ANCHOR BOLTS, 1 1/4"	EACH	24		24
52100540	ANCHOR BOLTS, 1 1/2"	EACH	24		24
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	1599		1599
542D0217	PIPE CULVERTS, CLASS D, TYPE 1 12"	FOOT	44	44	

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PLOT DATE = 7/5/2022	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 4 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	9
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
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				ROADWAY	BRIDGE
				0005 RURAL	0010 S.N. 088-0030
542D1063	PIPE CULVERTS, CLASS D, TYPE 2 18"	FOOT	39	39	
54261712	STEEL FLARED END SECTIONS 12"	EACH	2	2	
54261718	STEEL FLARED END SECTIONS 18"	EACH	2	2	
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	378		378
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	157		157
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	219		219
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	162.5	162.5	
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	3	3	
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	1	1	
63200310	GUARDRAIL REMOVAL	FOOT	2406	2406	
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	20	20	
* 66700205	PERMANENT SURVEY MARKERS, TYPE 1	EACH	20	20	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	10	10	

\*= SPECIALTY ITEM

MODEL: Default  
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PLOT DATE = 7/5/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 5 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	10
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	

MODEL: Default  
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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				FED: 80% STATE: 20%	FED: 80% STATE: 20%
				ROADWAY	BRIDGE
				0005 RURAL	0010 S.N. 088-0030
67100100	MOBILIZATION	L SUM	1	1	
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	40	40	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6	
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	825	825	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	3886	3886	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	829	829	
70307210	TEMPORARY PAVEMENT MARKING - LINE 24" - TYPE IV TAPE	FOOT	48	48	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	825	825	
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	36	36	

USER NAME = weckjr	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 7/5/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 6 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	11
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	

CONSTRUCTION CODE	
FED: 80% STATE: 20%	FED: 80% STATE: 20%
ROADWAY	BRIDGE
0005 RURAL	0010 S.N. 088-0030

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	ROADWAY	BRIDGE
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	825	825	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
* 72501000	TERMINAL MARKER = DIRECT APPLIED	EACH	4	4	
* 78009004	MODIFIED URETHANE PAVEMENT MARKING = LINE 4"	FOOT	9311	9311	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	36	36	
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16	16	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	36	36	
X0327809	LINEAR DELINEATOR PANELS, 4 INCH	EACH	16	16	
X0556100	PARTIAL DEPTH PATCHING (SPECIAL)	SQ YD	70.7	70.7	
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	253		253
X5040100	PRECAST BRIDGE APPROACH SLAB	SQ FT	2221		2221
Z0001002	GUARDRAIL AGGREGATE EROSION CONTROL	TON	116.1	116.1	
Z0002750	BARRICADES, TYPE III	EACH	2	2	

\*= SPECIALTY ITEM

MODEL: Default  
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PLOT DATE = 7/5/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET 7 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	12
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				FED: 80% STATE: 20%	FED: 80% STATE: 20%
				ROADWAY	BRIDGE
				0005 RURAL	0010 S.N. 088-0030
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
Z0018002	DRAINAGE SCUPPERS, DS-11	EACH	6		6
∅ Z0076600	TRAINEES	HOUR	1,000	1,000	
Z0034105	MATERIAL TRANSFER DEVICE	TON	707	707	
∅ Z0076604	TRAINEES - TRAINING PROGRAM GRADUATE	HOUR	1,000	1,000	

∅ 0042

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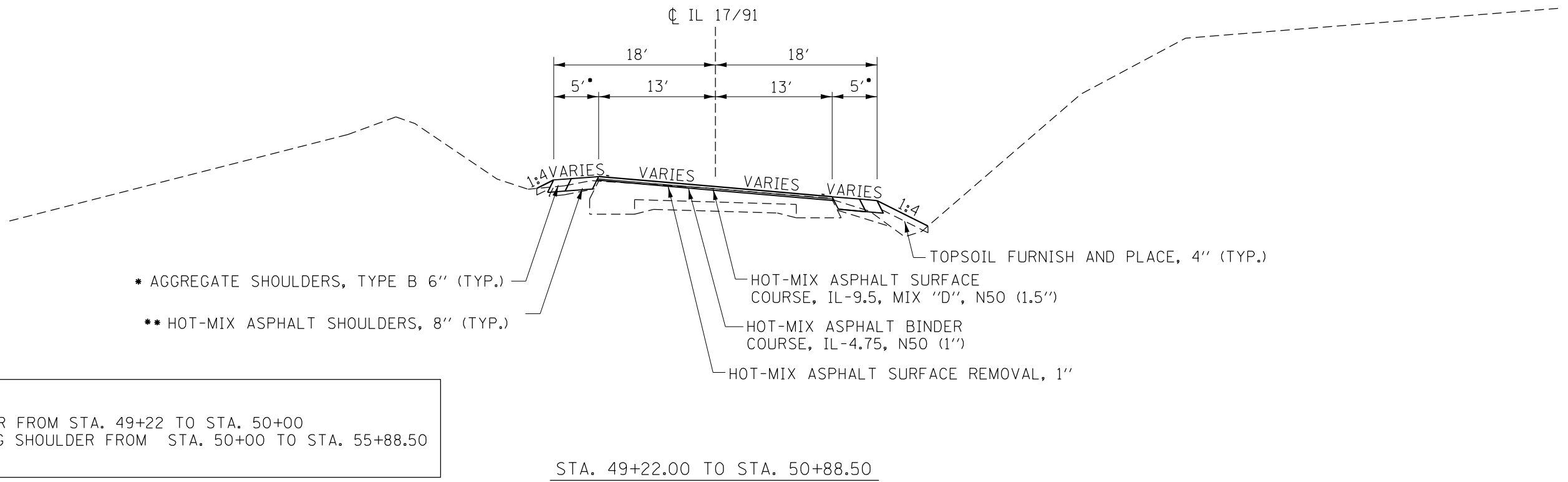
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

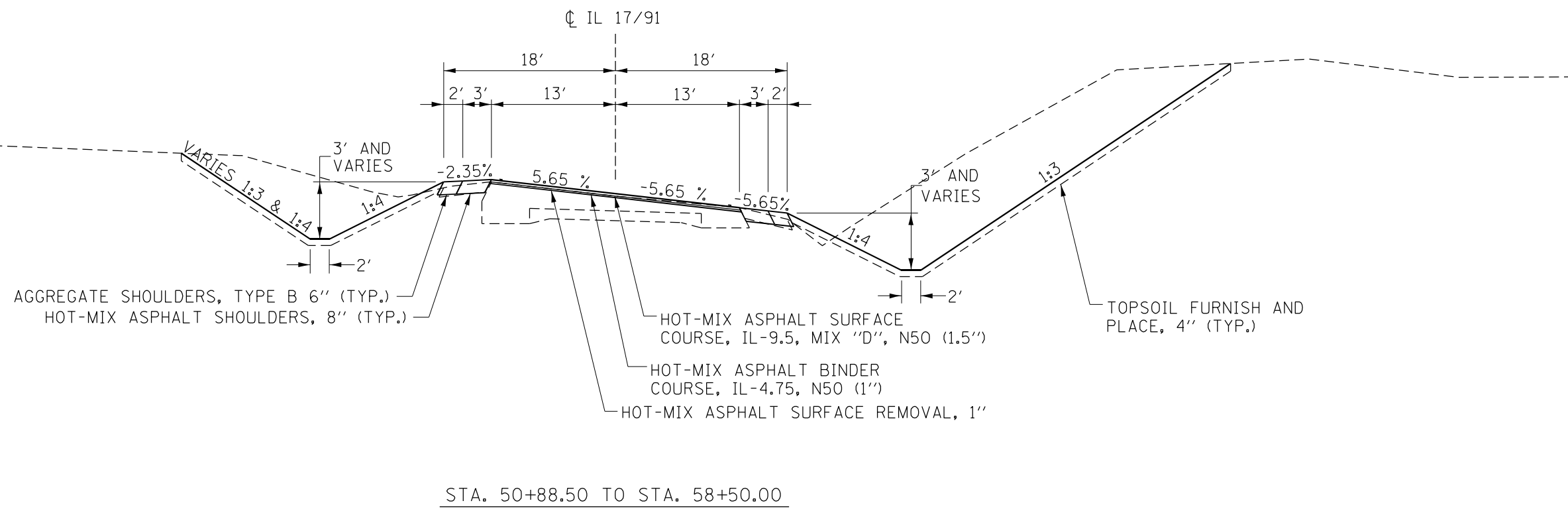
SCALE: SHEET 7 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	13
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



**NOTE:**

- \* 5' AGG SHOULDER FROM STA. 49+22 TO STA. 50+00
- \*\* 3' HMA & 2' AGG SHOULDER FROM STA. 50+00 TO STA. 55+88.50



NOT TO SCALE

MODEL: D:\p1\17\_91\_Spoon River Structure Rehabilitation\_68698\DOT Phase II CADD Drawings\17\_91\_Cover\_Sheets.dgn  
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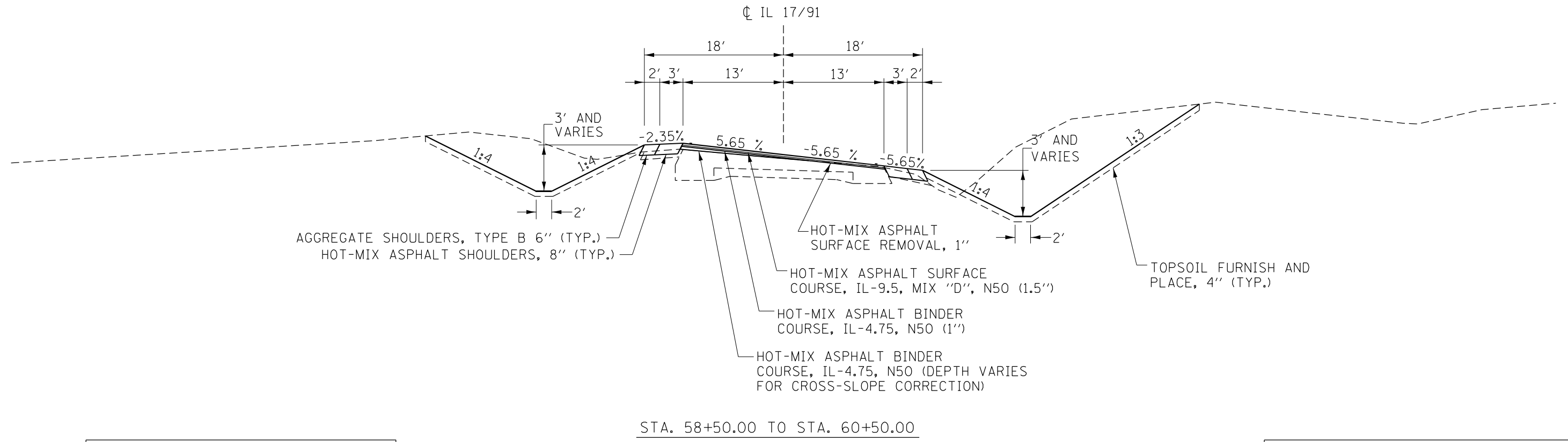
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PLOT DATE = 7/3/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 17/91  
PROPOSED TYPICAL SECTIONS**

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 14
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	



AGGREGATE SHOULDERS, TYPE B 6" (TYP.)  
 HOT-MIX ASPHALT SHOULDERS, 8" (TYP.)

HOT-MIX ASPHALT SURFACE REMOVAL, 1"

HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50 (1.5")

HOT-MIX ASPHALT BINDER COURSE, IL-4.75, N50 (1")

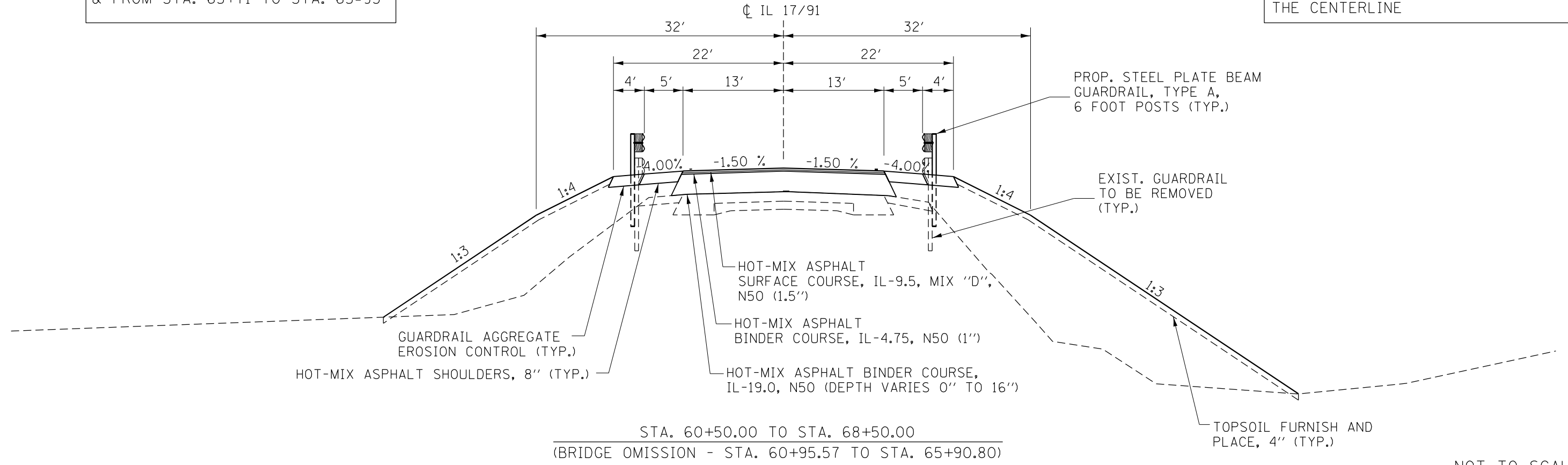
HOT-MIX ASPHALT BINDER COURSE, IL-4.75, N50 (DEPTH VARIES FOR CROSS-SLOPE CORRECTION)

TOPSOIL FURNISH AND PLACE, 4" (TYP.)

STA. 58+50.00 TO STA. 60+50.00

NOTE:  
 PROP. AGG. SUBGRADE IMPROVEMENT  
 FROM STA. 60+96 TO STA. 61+17  
 & FROM STA. 65+71 TO STA. 65+93

NOTE:  
 THE BINDER DEPTH VARIES DUE TO  
 THE CROSS SLOPE CORRECTION,  
 MAINTAIN 1" BINDER DEPTH AT  
 THE CENTERLINE



GUARDRAIL AGGREGATE EROSION CONTROL (TYP.)

HOT-MIX ASPHALT SHOULDERS, 8" (TYP.)

HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N50 (1.5")

HOT-MIX ASPHALT BINDER COURSE, IL-4.75, N50 (1")

HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 (DEPTH VARIES 0" TO 16")

TOPSOIL FURNISH AND PLACE, 4" (TYP.)

PROP. STEEL PLATE BEAM  
 GUARDRAIL, TYPE A,  
 6 FOOT POSTS (TYP.)

EXIST. GUARDRAIL  
 TO BE REMOVED  
 (TYP.)

STA. 60+50.00 TO STA. 68+50.00  
 (BRIDGE OMISSION - STA. 60+95.57 TO STA. 65+90.80)

NOT TO SCALE

MODEL: D:\p1\17\_91\_Spoon River Structure Rehabilitation\_6869\DOT Phase II CADD Drawings\17\_91\_Cover\_Sheets.dgn  
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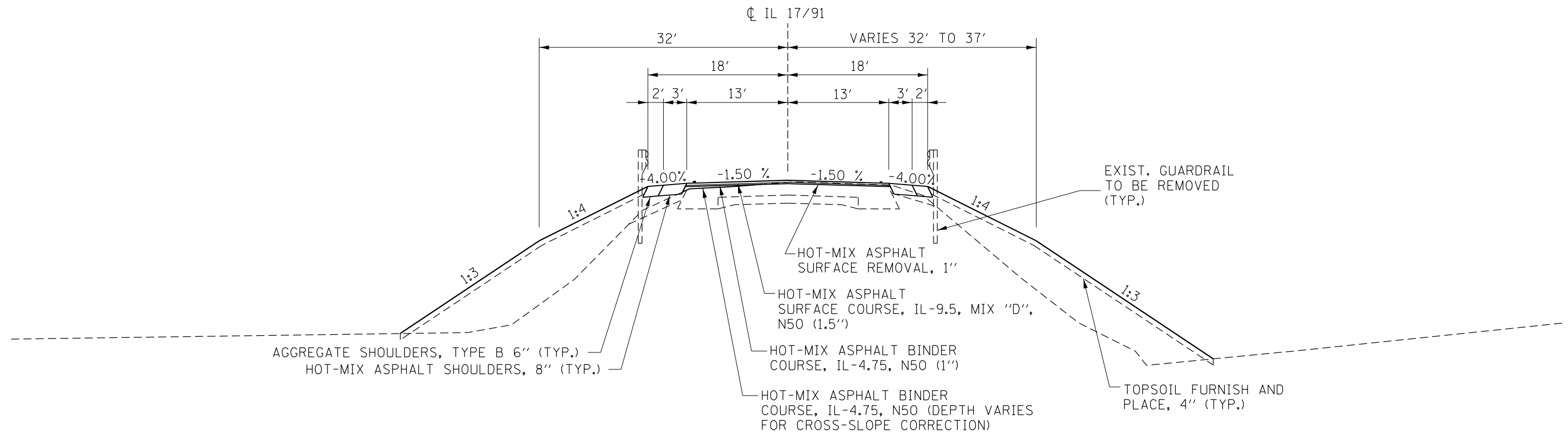
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PLOT DATE = 7/1/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL 17/1 91  
 PROPOSED TYPICAL SECTIONS**

SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

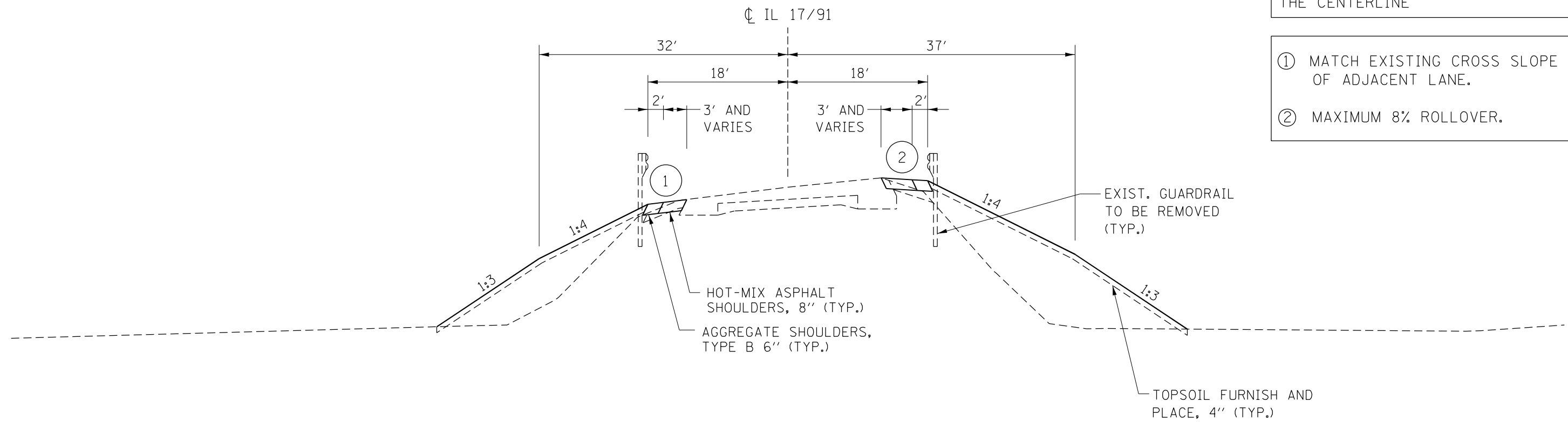
F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 15
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	



STA. 68+50.00 TO STA. 69+19.00

**NOTE:**  
 THE BINDER DEPTH VARIES DUE TO THE CROSS SLOPE CORRECTION, MAINTAIN 1" BINDER DEPTH AT THE CENTERLINE

- ① MATCH EXISTING CROSS SLOPE OF ADJACENT LANE.
- ② MAXIMUM 8% ROLLOVER.



STA. 69+19.00 TO STA. 77+70.00 LT/78+00.00 RT

NOT TO SCALE

MODEL: Default  
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 PROJECT: St. Louis River Structure Rehabilitation - BR-118  
 SHEET: 17-91 Cover Sheets.dwg

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PLOT DATE = 7/1/2022	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**IL 17/91**  
**PROPOSED TYPICAL SECTIONS**

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 16
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	





MOBILIZATION SCHEDULE	
LOCATION	L SUM
IL 17 / IL 91	1
TOTAL	1

PATCHING SCHEDULE					
LOCATION STATION LANE	LENGTH FEET	WIDTH FEET	AREA SQ FT	PARTIAL DEPTH PATCHING (SPL) 3 INCHES	
				SQ YD	
STA 70+75 FULL WIDTH	6	24	144	16	
STA 70+00 FULL WIDTH	6	24	144	16	
STA 56+01 EB	15	12	180	20	
STA 55+50 WB	8	12	96	10.7	
STA 54+00 EB	6	12	72	8	
TOTAL				70.7	

SEEDING SCHEDULE									
LOCATION	LENGTH	AREA	AREA	SEEDING CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	MULCH, METHOD 2	
STATION	FOOT	SQ FT	ACRE	ACRE	POUND	POUND	POUND	ACRE	
STA 49+28 TO STA 55+74 LT	646	6753	0.16	0.16	14	14	14	0.16	
STA 49+28 TO STA 53+32 RT	404	11285	0.26	0.26	23	23	23	0.26	
STA 55+74 TO STA 61+00 LT	526	10464	0.24	0.24	22	22	22	0.24	
STA 53+32 TO STA 59+46 RT	614	24085	0.55	0.55	50	50	50	0.55	
STA 59+67 TO STA 61+33 RT	166	3542	0.08	0.08	7	7	7	0.08	
STA 65+57 TO STA 77+70 LT	1213	28746	0.66	0.66	59	59	59	0.66	
STA 65+91 TO STA 75+95 RT	1004	35171	0.81	0.81	73	73	73	0.81	
STA 76+30 TO STA 78+00 RT	170	2206	0.05	0.05	5	5	5	0.05	
TOTAL			2.8	2.8	253	253	253	2.8	

CONSTRUCTION LAYOUT SCHEDULE	
LOCATION	L SUM
IL 17 / IL 91	1
TOTAL	1

CULVERT SCHEDULE							
LOCATION	LENGTH	PIPE CULVERT REMOVAL	PIPE CULVERT CLASS D TYPE 1 12"	PIPE CULVERT CLASS D TYPE 2 18"	INLET AND PIPE PROTECTION	STEEL FLARED END SECTION 12"	STEEL FLARED END SECTION 18"
STATION	FOOT	FOOT	FOOT	FOOT	EACH	EACH	EACH
STA 53+10 TO STA 53+50	40	40					
STA 53+10 TO STA 53+54	44		44		2	2	
STA 59+80 TO STA 60+09	29	29					
STA 59+35 TO STA 59+74	39			39	2		2
TOTAL	113	69	44	39	4	2	2

EARTHWORK EXCAVATION SCHEDULE								
LOCATION	SIDE	LENGTH	AREA	AREA	TOPSOIL FURNISH AND PLACE, 4"	EARTH EXCAVATION	FURNISHED EXCAVATION EARTHWORK BAL	
STATION	FOOT	FOOT	SQ FT	SQ YD	SQ YD	CU YD	CU YD	
TOPSOIL FURNISH								
STA 49+50 TO STA 61+02	LT	1152	17216.4	1912.9	1913			
STA 49+50 TO STA 61+32	RT	1182	38912	4323.6	4324			
STA 65+67 TO STA 77+66	LT	1199	28746.1	3194.0	3194			
STA 65+44 TO STA 78+00	RT	1256	37377.3	4153.0	4153			
EARTH EXCAVATION								
STA 50+87 TO STA 53+00	RT/LT	213	13567.4	1507.5		502	-350	
STA 52+96 TO STA 53+60	RT	64	956.1	106.2		35		
STA 53+00 TO STA 55+74	RT/LT	274	27182.65	3020.3		1007	-752	
STA 55+17 TO STA 56+29	LT	112	1550.9	172.3		57		
STA 55+74 TO STA 60+00	RT/LT	426	63139.28	7015.5		2338	-1736	
STA 59+78 TO STA 60+14	RT	36	259.1	28.8		10		
STA 60+00 TO STA 74+50	RT/LT	1450	9902.23	1100.2		367	4532	
STA 75+53 TO STA 76+56	RT	103	822.4	91.4		30		
STA 74+50 TO STA 77+78	RT/LT	328	2241.2	249.0		83	310	
SUB-TOTAL					26874.8	13584	4429	2004
STREAM RECONSTRUCTION							6737	
TOTAL						13584	11166	2004

R.O.W. MARKER SCHEDULE			
LOCATION	SIDE	OFFSET	FURISHING AND ERECTING ROW MARKERS
STATION	FOOT	EACH	
STA 55+00	RT	63.8	1
STA 57+00	LT	40	1
STA 57+50	RT	67.3	1
STA 57+50	LT	50	1
STA 60+50	LT	50	1
STA 60+85	LT	125	1
STA 61+00	RT	59.3	1
STA 61+92	RT	56	1
STA 62+62	RT	66	1
STA 62+65	LT	165	1
STA 66+00	LT	55	1
STA 66+50	RT	70	1
STA 67+00	RT	65	1
STA 69+00	RT	60	1
STA 70+00	LT	55	1
STA 71+00	LT	50	1
STA 74+75	RT	60	1
STA 75+50	LT	50	1
STA 76+00	LT	35	1
STA 76+50	RT	35	1
TOTAL			20

PERMANENT SURVEY MARKERS	
LOCATION	PERMANENT SURVEY MARKERS TYPE I
STATION	EACH
STA 50+88.50	5
STA 60+36.82	5
STA 70+18.79	5
STA 77+60.21	5
TOTAL	20

ENGINEER'S FIELD OFFICE, TYP A	
LOCATION	CAL MO
IL 17/IL 91	10
TOTAL	10

CHANGEABLE MESSAGE SIGN	
LOCATION	CAL DA
IL 17/IL 91	14
TOTAL	14

\* NOTE: 7 DAYS EACH SIGN

STONE RIPRAP SCHEDULE					
LOCATION	TOP AREA	BOTTOM AREA	STONE TOE	STONE RIPRAP CLASS A5	
STATION	OFFSET	CU YD	CU YD	CU YD	TON
STEAM BARBS					
NO. 1 STA 60+61	57'	78	133		316.7
NO. 2 STA 63+29	103'	78	133		316.7
NO. 3 STA 65+54	52'	78	133	129.6	1144.4
NO. 4 STA 65+06	70'	78	133		
NO. 5 STA 65+57	93'	78	133		
NO. 6 STA 66+03	129'	78	133		316.7
NO. 7 STA 66+38	178'	78	133		316.7
NO. 8 STA 66+69	229'	78	133		316.7
TOTAL					2727.9

EROSION CONTROL SCHEDULE						
LOCATION	LENGTH	AREA	AREA	TEMPORARY EROSION CONTROL SEEDING	TEMPORARY DITCH CHECKS	PERIMETER EROSION BARRIER
STATION	FOOT	SQ FT	ACRE	POUND	FOOT	FOOT
STA 49+28 TO STA 55+74 LT	646	6753	0.16	16	30	
STA 55+74 TO STA 61+04 LT	530	10464	0.24	24	20	
STA 61+04 TO STA 65+59 LT	455					
STA 65+59 TO STA 77+70 LT	1211	28746	0.66	66		1238
BRIDGE						
STA 49+28 TO STA 53+32 RT	404	11285	0.26	26	10	
STA 53+32 TO STA 59+46 RT	614	24085	0.55	55	10	
STA 59+67 TO STA 61+30 RT	163	3542	0.08	8	10	
STA 61+30 TO STA 65+85 RT	455					
BRIDGE						
STA 65+85 TO STA 75+95 RT	1010	35171	0.81	81		1100
STA 76+30 TO STA 78+00 RT	170	2206	0.05	5		173
TOTAL			2.81	281	80	2511

TRAFFIC CONTROL AND PROTECTION SCHEDULE												
LOCATION	TEMP. BRIDGE TRAFFIC SIGNALS	CHANGEABLE MESSAGE SIGN *	TRAFFIC CONTROL AND PROTECTION, STD 701316	TRAFFIC CONTROL AND PROTECTION, STD 701321	TRAFFIC CONTROL AND PROTECTION, STD 701201	TRAFFIC CONTROL SURVEILLANCE	TEMPORARY CONCRETE BARRIER	PINNING TEMP CONC BARRIER	RELOCATE TEMP. CONCRETE BARRIER	IMPACT ATTN, TEMP (NON-REFLECTIVE), TEST LEVEL 3	IMPACT ATTN, RELOCATE (NON-REFLECTIVE), TEST LEVEL 3	BARRICADES, TYPE III
IL 17 / IL 91	EACH	CAL DAY	EACH	EACH	L SUM	CAL DAY	FOOT	EACH	FOOT	EACH	EACH	EACH
TOTAL	1	14	1	1	1	40	825	36	825	2	2	2
TOTAL	1	14	1	1	1	40	825	36	825	2	2	2

\*NOTE: FOR CHANGEABLE MESSAGE SIGN 7 DAYS EACH SIGN

MODEL: D:\p1\17-91\_Spoon River Structure Rehabilitation\_6869\BIDDIT Phase II\CADD\Drawings\17-91\_Cover\_Sheets.dgn

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	DRAWN -	REVISED -
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PLOT DATE = 7/5/2022	DATE -	REVISED -

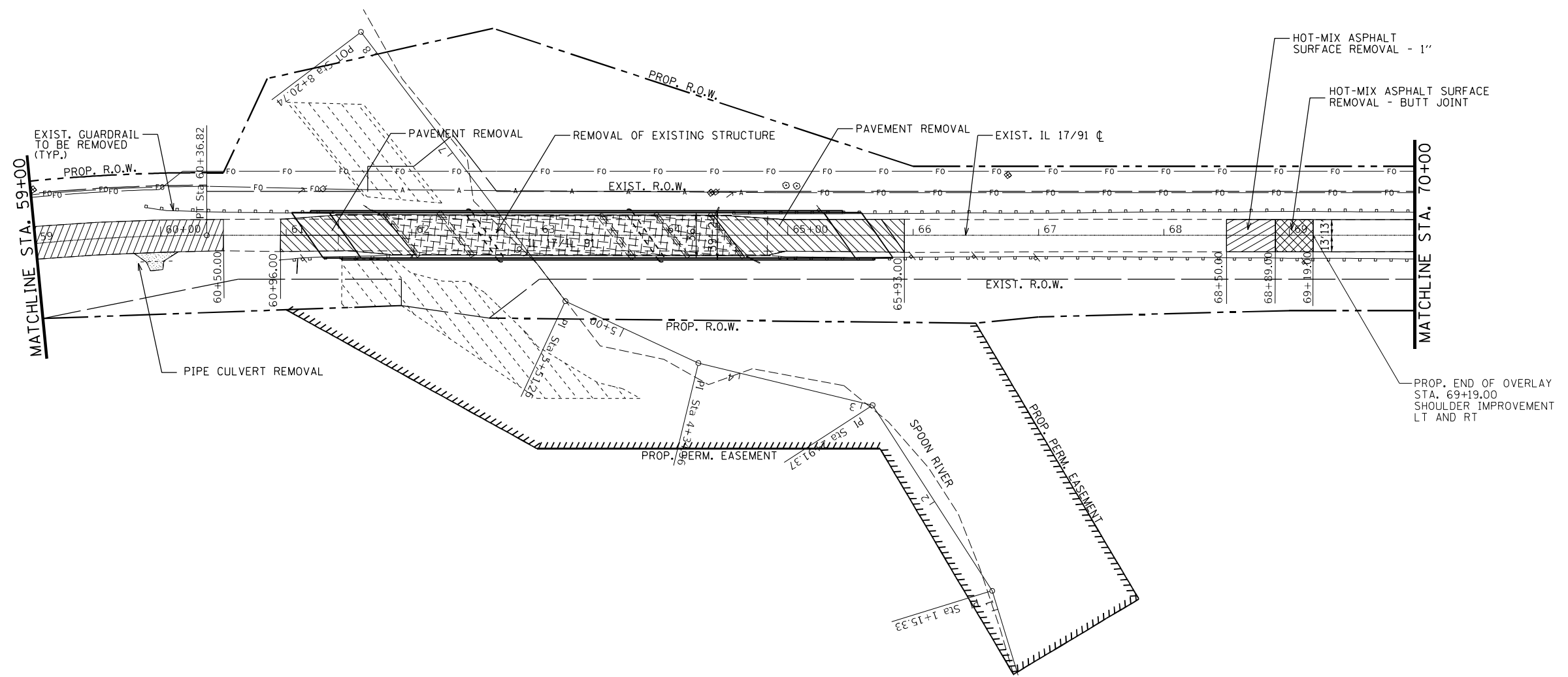
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES			
SCALE:	SHEET 2	OF 2	SHEETS
	STA.		TO STA.

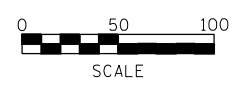
F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 18
				CONTRACT NO. 68698
ILLINOIS FED. AID PROJECT				







LEGEND	
	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
	HOT-MIX ASPHALT SURFACE REMOVAL - 1"
	REMOVAL OF EXISTING STRUCTURE
	PAVEMENT REMOVAL



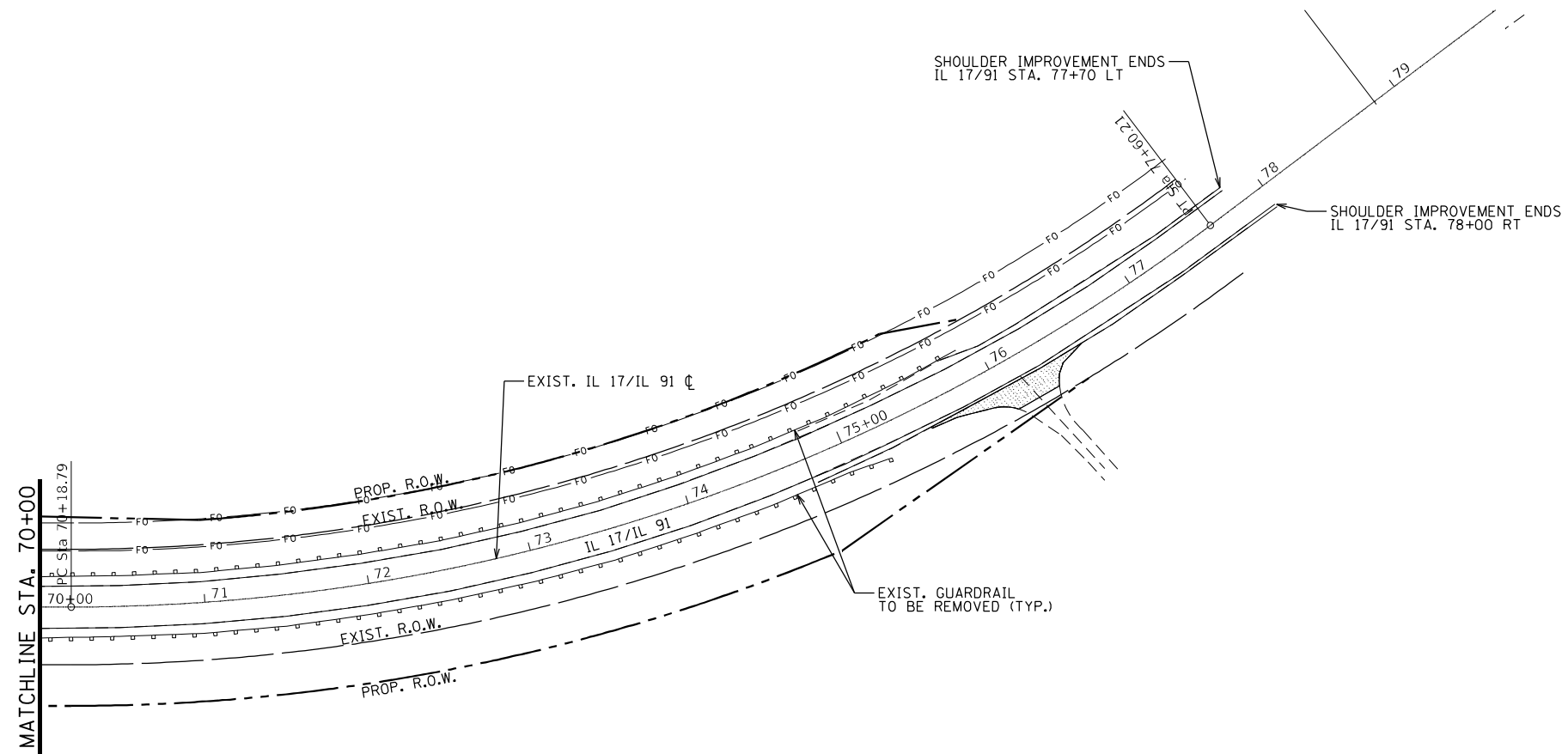
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USER NAME = Vonachenjc	DESIGNED -	REVISED -
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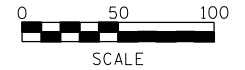
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>IL 17/91 REMOVAL PLAN</b>			
SCALE:	SHEET 2	OF 3 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	21
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



LEGEND	
	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT
	HOT-MIX ASPHALT SURFACE REMOVAL - 1"
	REMOVAL OF EXISTING STRUCTURES
	PAVEMENT REMOVAL



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PLOT SCALE = 100,0036' / in.	DRAWN -	REVISED -
PLOT DATE = 6/14/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 17/IL 91  
REMOVAL PLAN**

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

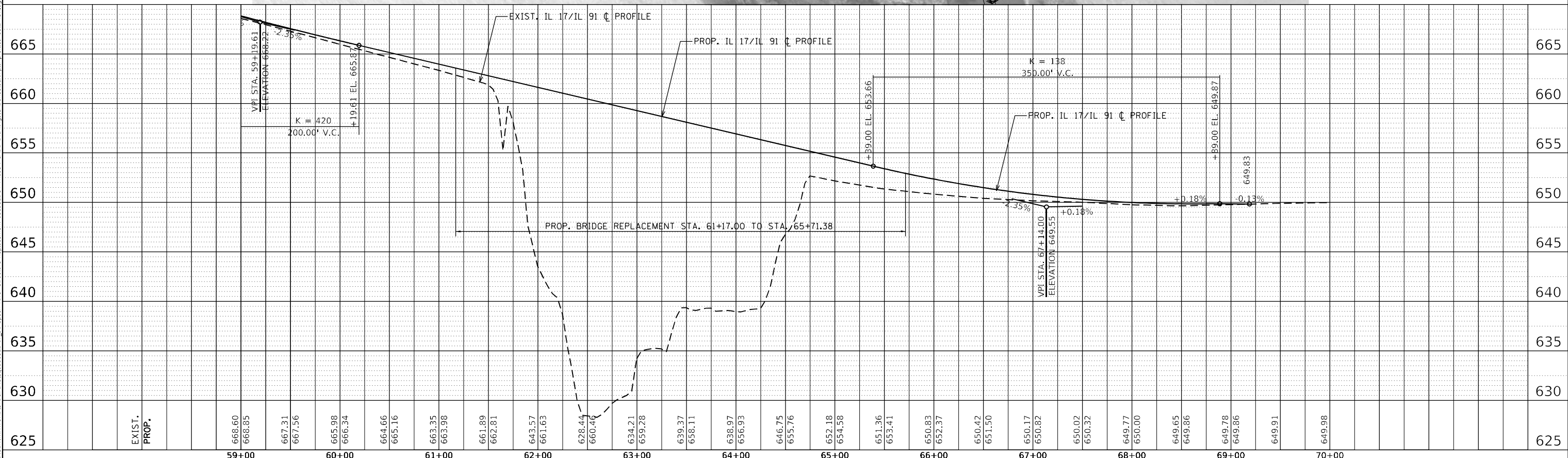
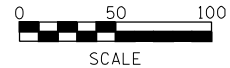
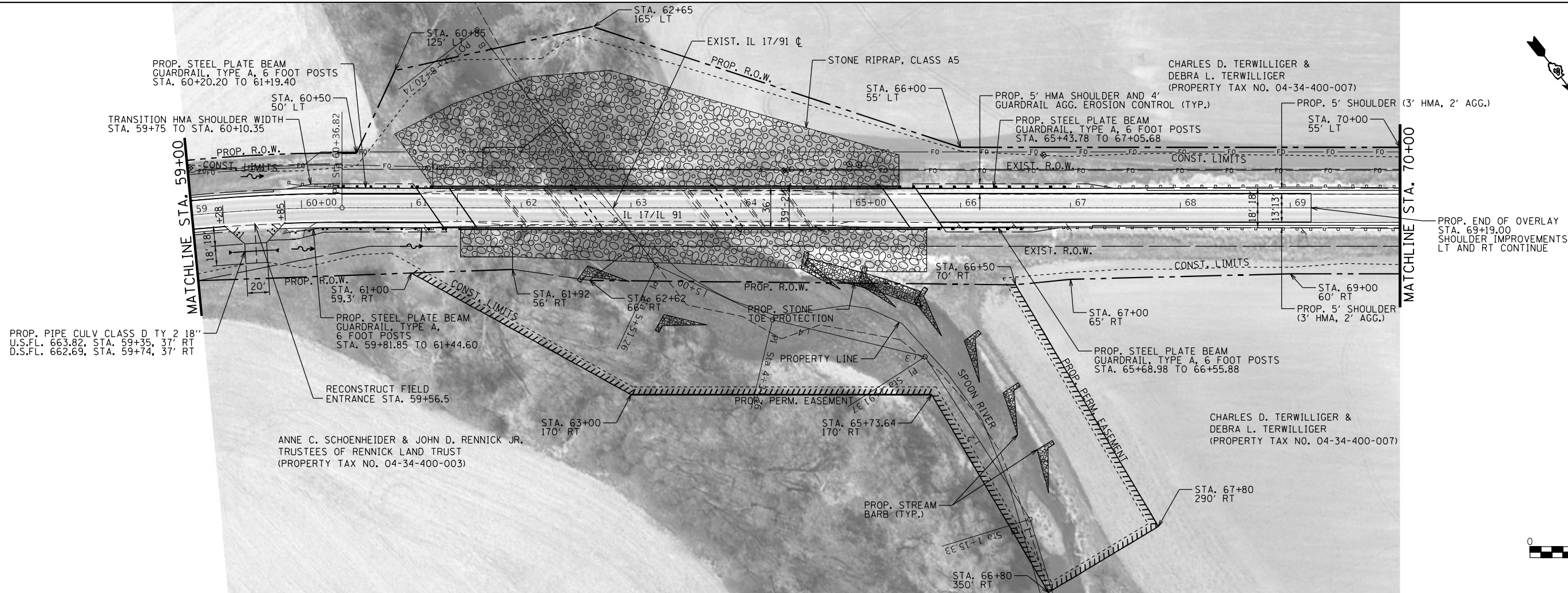
F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 22
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNMENT CHECKED	
	NOTE BOOK	
	NO.	
	CADD FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	NOTE BOOK	
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	STRUCTURE NOTATION	

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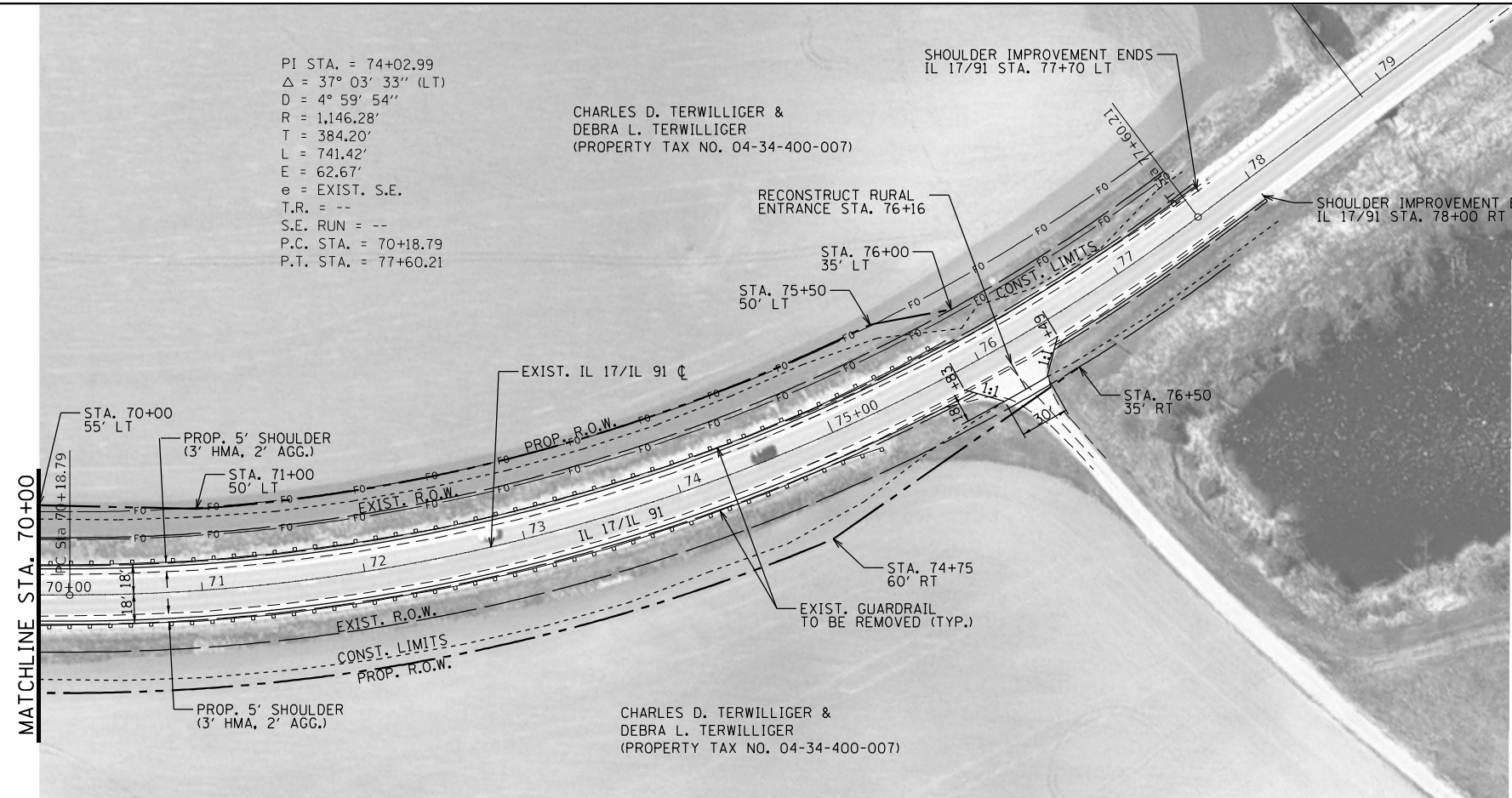
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PLOT DATE = 6/14/2022	DATE -	REVISED -			ILLINOIS FED. AID PROJECT									



PLAN	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
	ALIGNMENT CHECKED	
	GRADE CHECKED	
	STRUCTURE NOTATION CHECKED	
	CADD FILE NAME	

PROFILE	SURVEYED	DATE
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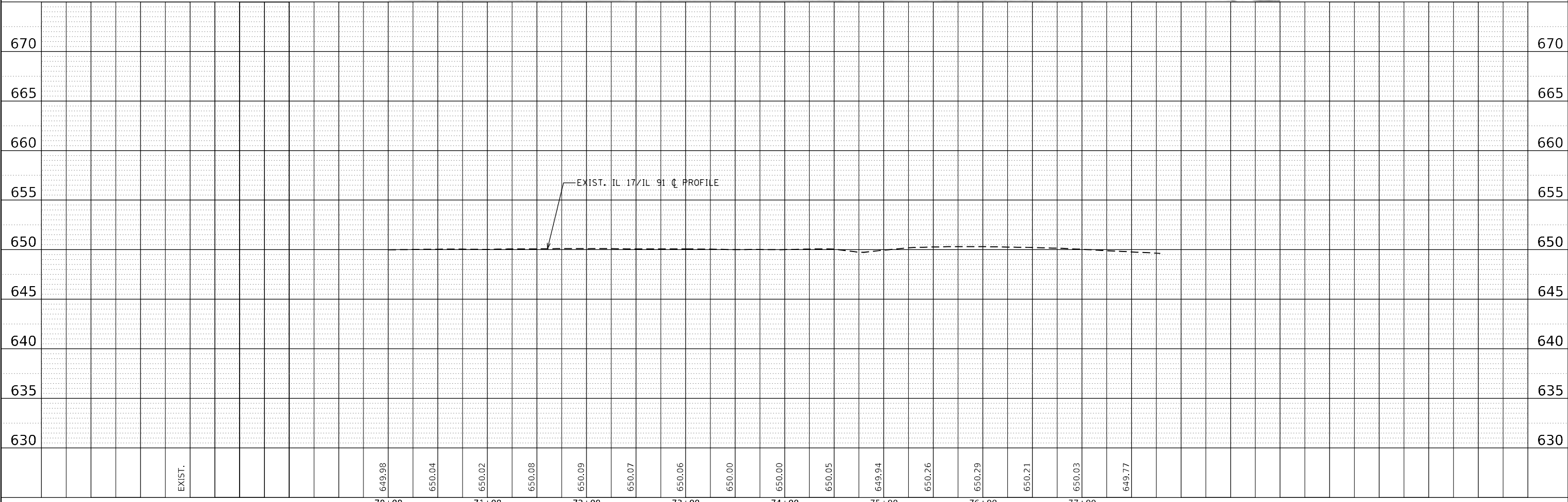
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PI STA. = 74+02.99  
 $\Delta = 37^\circ 03' 33''$  (LT)  
 $D = 4^\circ 59' 54''$   
 $R = 1,146.28'$   
 $T = 384.20'$   
 $L = 741.42'$   
 $E = 62.67'$   
 $e =$  EXIST. S.E.  
 T.R. = --  
 S.E. RUN = --  
 P.C. STA. = 70+18.79  
 P.T. STA. = 77+60.21

CHARLES D. TERWILLIGER &  
 DEBRA L. TERWILLIGER  
 (PROPERTY TAX NO. 04-34-400-007)

CHARLES D. TERWILLIGER &  
 DEBRA L. TERWILLIGER  
 (PROPERTY TAX NO. 04-34-400-007)



USER NAME = Vonachenjc	DESIGNED -	REVISED -
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>IL 17/IL 91 PLAN AND PROFILE</b>			
SCALE:	SHEET 3	OF 3	SHEETS
STA.		TO STA.	

F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 25
			CONTRACT NO. 68698	
		ILLINOIS FED. AID PROJECT		













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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 17/ 91  
GUARDRAIL DETAIL**

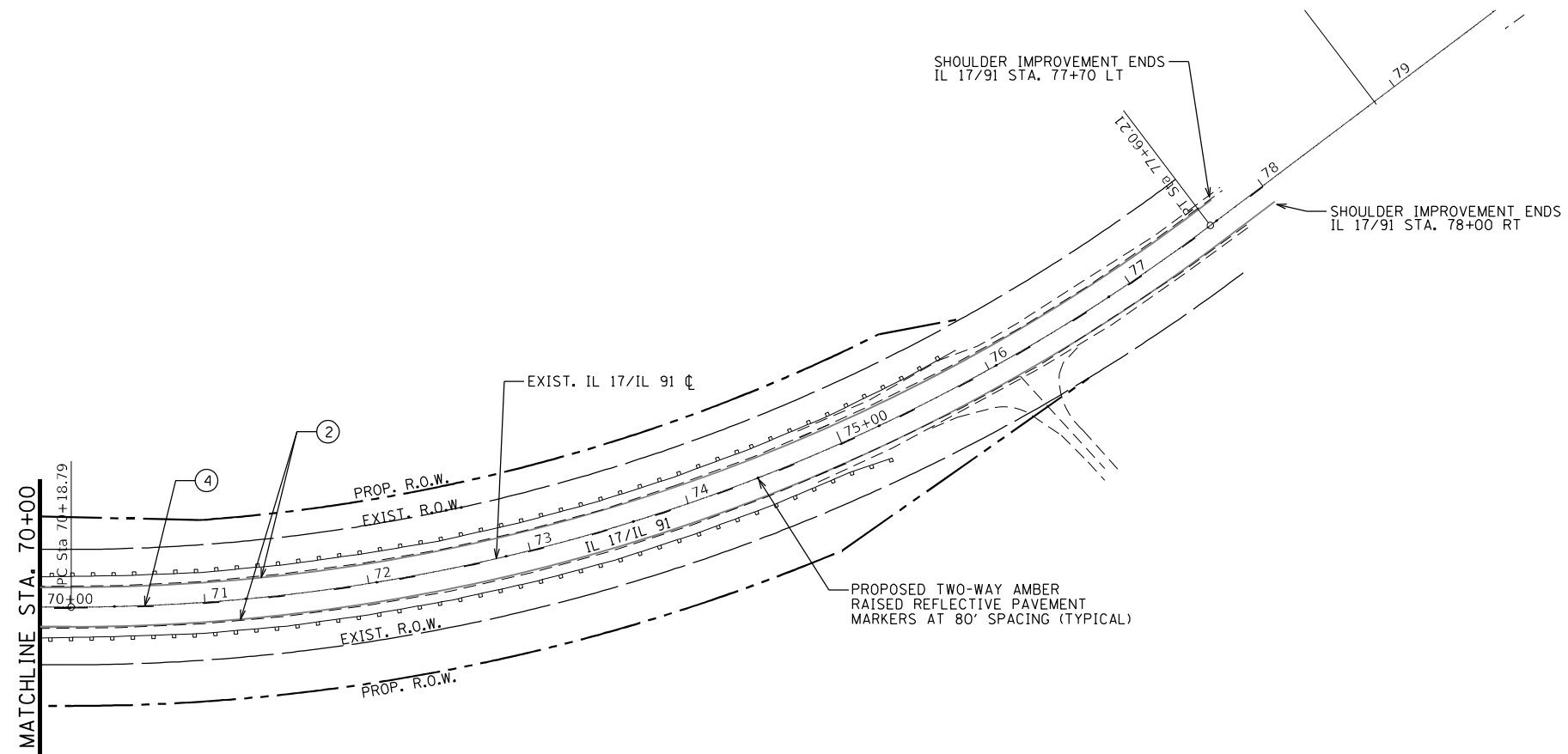
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F.A.P. RTE. 643	SECTION (11B)BR-1	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 31
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

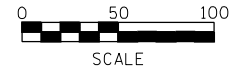








MODIFIED URETHANE LEGEND	
①	4" SOLID DOUBLE YELLOW
②	4" SOLID WHITE
③	4" SOLID YELLOW
④	4" SKIP-DASH YELLOW



MODEL Default  
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PLOT DATE = 6/14/2022	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

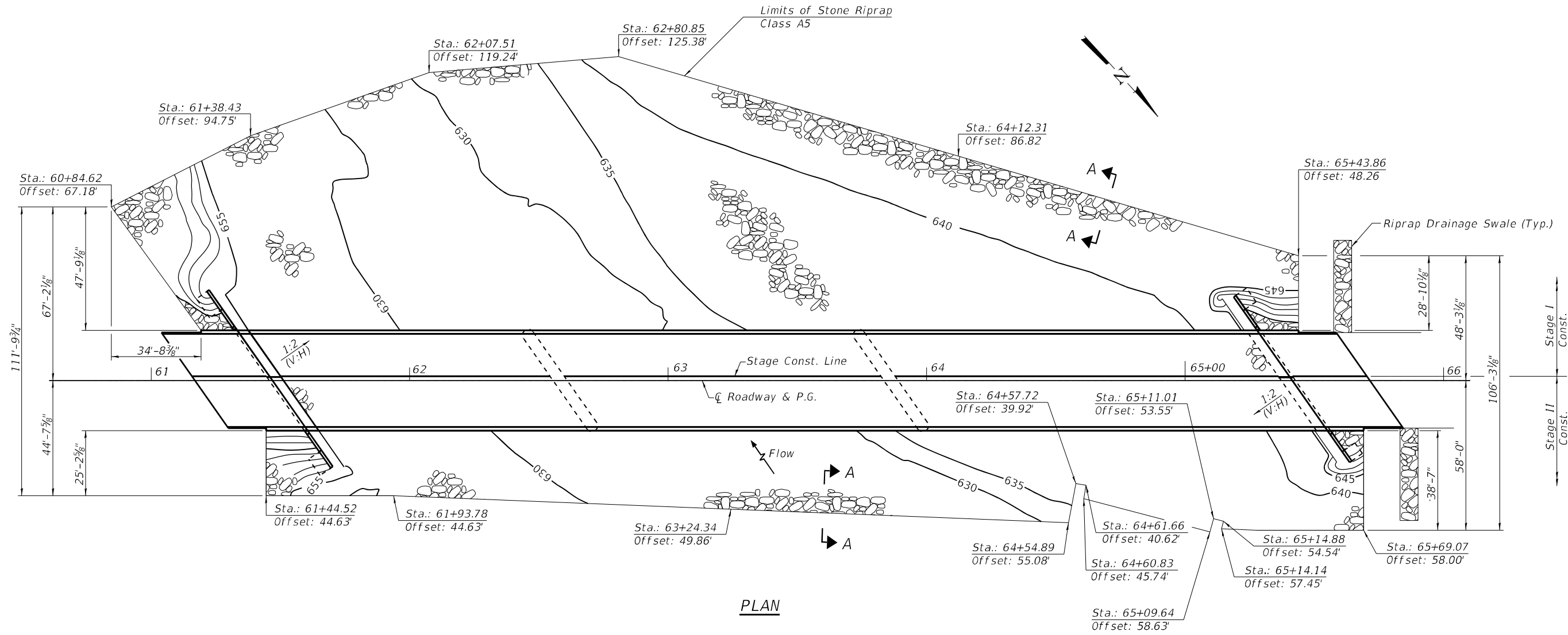
IL 17/IL 91 PAVEMENT MARKING PLAN			
SCALE:	SHEET 3	OF 3	SHEETS
	STA.		TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	34
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



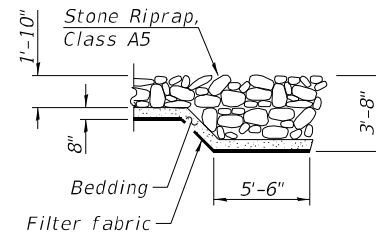


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PLAN

Note:  
 See roadway plans for stream barb locations and details.  
 See roadway plans for grading details.  
 See roadway plans for riprap drainage swale details.



SECTION A-A



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 ENGINEERS & ARCHITECTS, INC.

USER NAME =	DESIGNED - FAM	REVISED -
CHECKED - GBR	CHECKED - GBR	REVISED -
PLOT SCALE =	DRAWN - FAM	REVISED -
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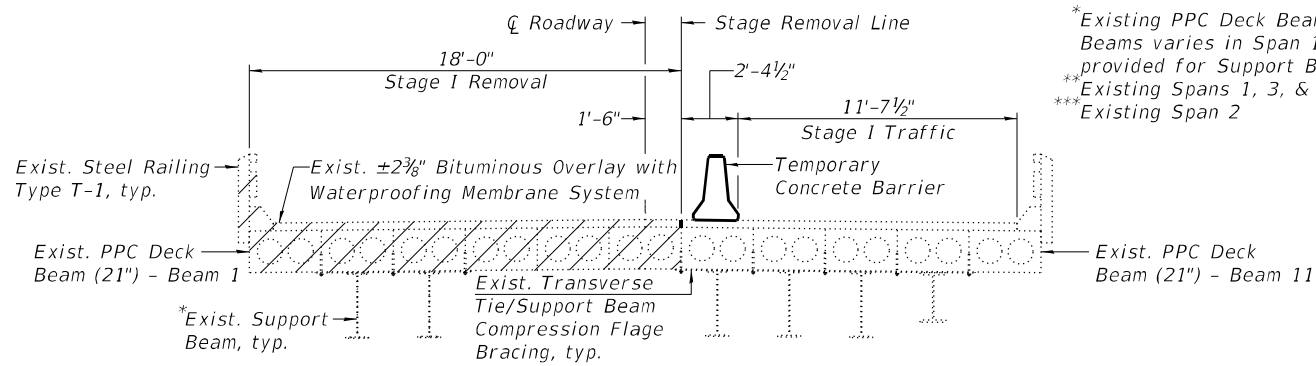
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

RIPRAP LAYOUT  
 STRUCTURE NO. 088-0030

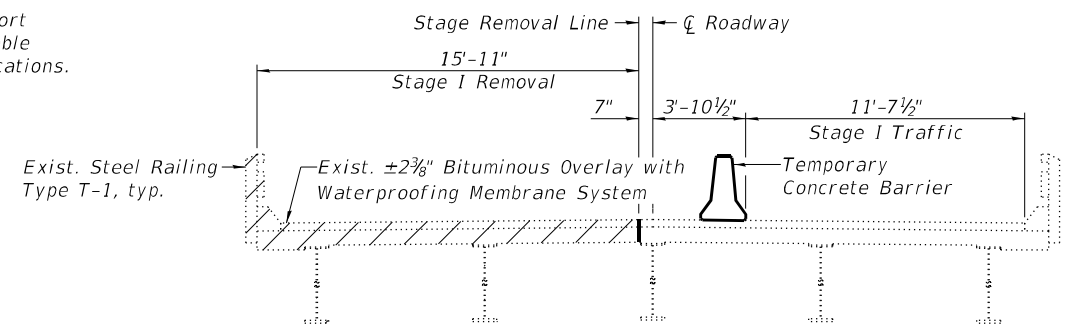
SHEET NO. 3 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 37
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

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**STAGE I REMOVAL & STAGE I TRAFFIC ( EXISTING SPANS 1, 3, & 4 )**  
 (Looking West)  
 (Existing Span 1 shown; Existing Spans 3 & 4 Similar except as noted)

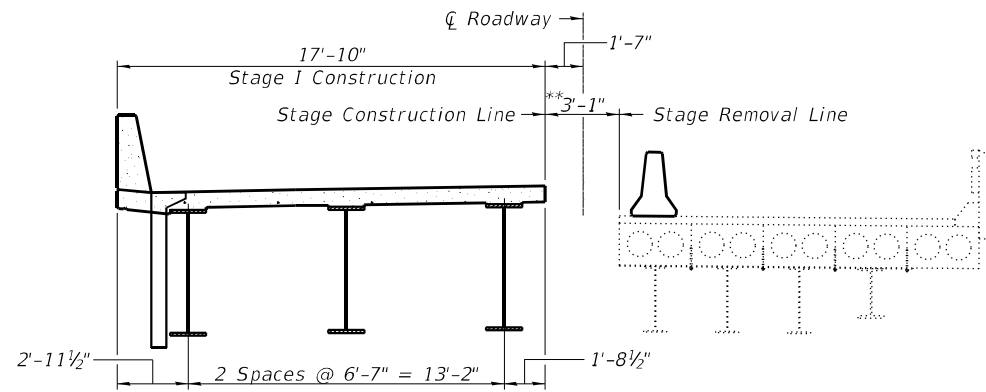


**STAGE I REMOVAL & STAGE I TRAFFIC (EXISTING SPAN 2)**  
 (Looking West)

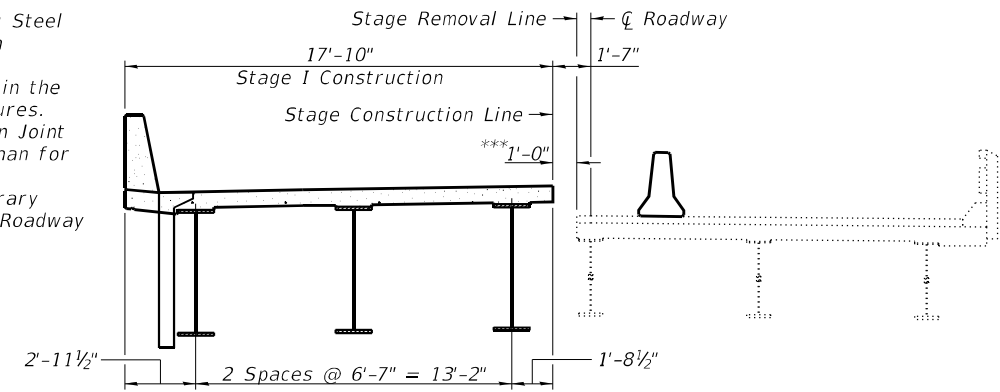
▨ - Indicates Removal of Existing Structure.

**Notes:**

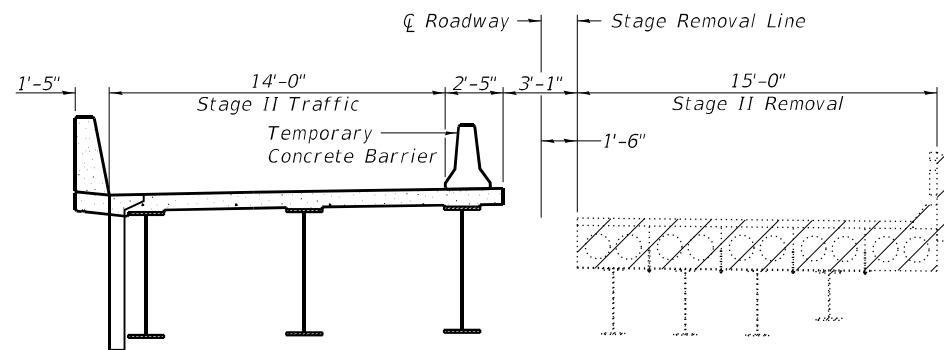
The cost of removing the Existing Steel Railing, the Bituminous Overlay with Waterproofing Membrane System, and the Support Beams is included in the Cost of Removal of Existing Structures.  
 The location of Stage Construction Joint for the Substructure is different than for the Superstructure.  
 See sheet 7 of 49 for the Temporary Concrete Barrier Details. See the Roadway Plans for the Quantity.



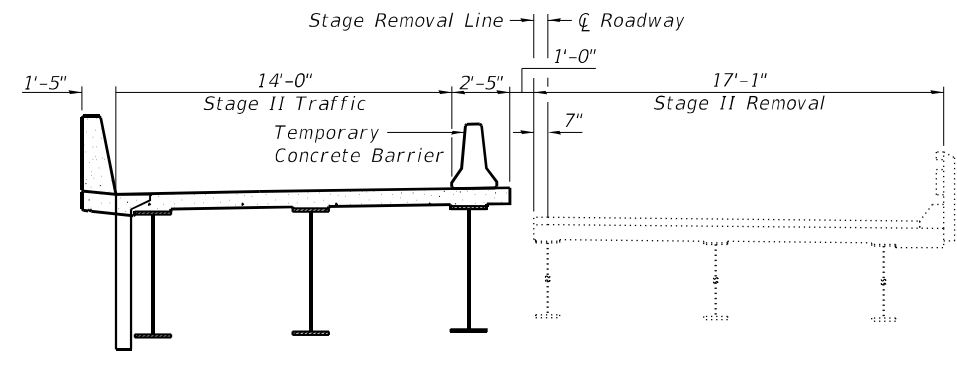
**STAGE I CONSTRUCTION (ALL PROPOSED SPANS)**  
 (Looking West)



**STAGE I CONSTRUCTION (ALL PROPOSED SPANS)**  
 (Looking West)



**STAGE II REMOVAL (EXISTING SPANS 1, 3, & 4) & STAGE II TRAFFIC (ALL PROPOSED SPANS)**  
 (Looking West)  
 (Existing Span 1 shown; Existing Spans 3 & 4 Similar except as noted)

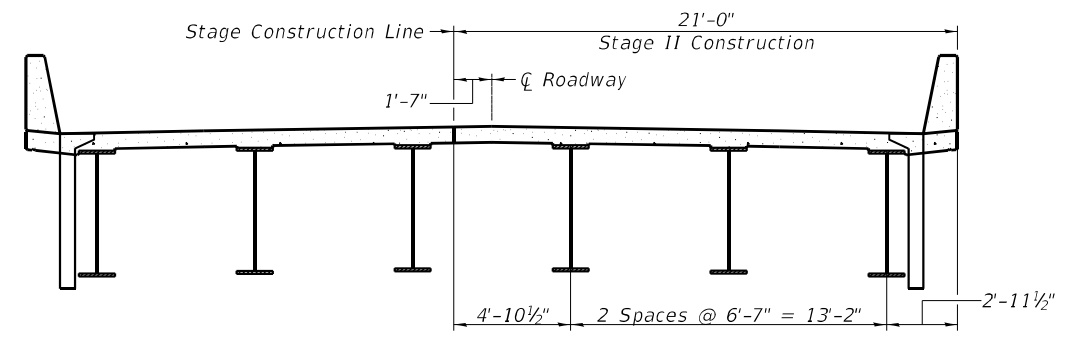


**STAGE II REMOVAL (EXISTING SPAN 2) & STAGE II TRAFFIC (ALL PROPOSED SPANS)**  
 (Looking West)

**\*\*\*\* EXISTING SUPPORT BEAM LOCATIONS & SIZES**

		EXISTING PPC DECK BEAM (21") - BEAM NUMBER										
		1	2	3	4	5	6	7	8	9	10	11
Span 1	-	-	W33x118	W33x118	-	-	W33x118	W33x118	W33x118	W24x146	-	-
Span 3	-	-	W33x118	W33x118	W33x118	W33x118	-	-	W24x146	W24x146	-	-
Span 4	W24x146	W24x146	-	W33x118	W33x118	-	W33x118	W33x118	W33x118	W24x146	-	-

\*\*\*\* The existing W24x146 and W33x118 steel support beams are to be salvaged. The Contractor shall remove and deliver the beams to the IDOT Bridge Yard located at 604 W Camp St. in East Peoria, IL. The Contractor shall coordinate with the yard a time of delivery (phone 309-699-3822). IDOT will provide unloading at the bridge yard. All miscellaneous brackets and hardware connecting the steel beams to the existing concrete substructure shall become the property of the Contractor and shall be disposed of. All work to be performed per Section 501 of the Standard Specifications. Cost to be include with Removal of Existing Structures.



**STAGE II CONSTRUCTION - (ALL PROPOSED SPANS)**  
 (Looking West)



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 ENGINEERS & ARCHITECTS, INC.

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PILOT DATE	=	DRAWN	-	FAM	REVISED	-	_____
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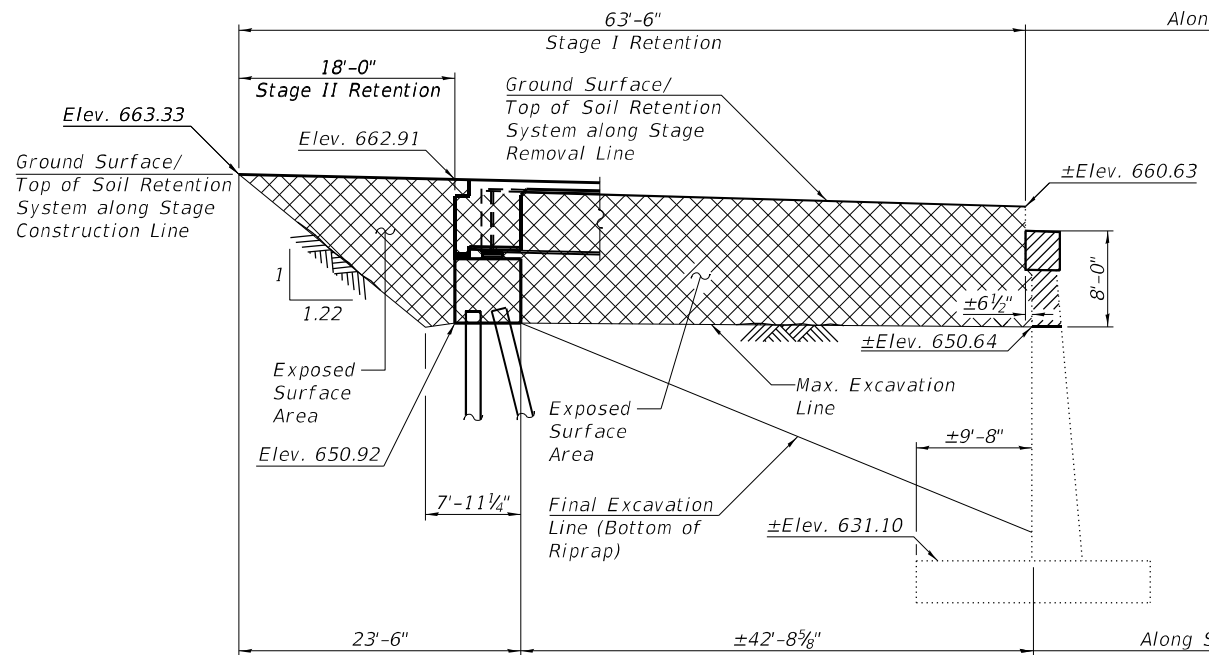
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS  
 STRUCTURE NO. 088-0030

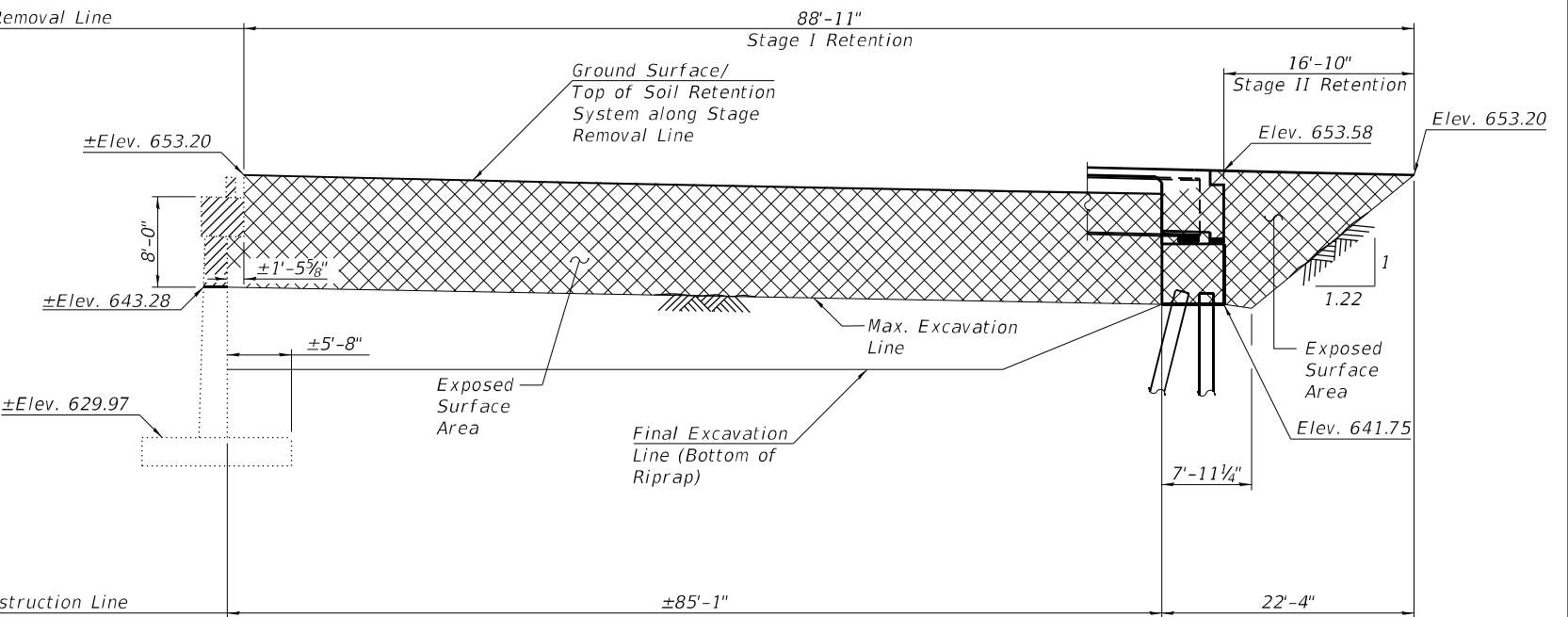
SHEET NO. 4 OF 49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	38
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

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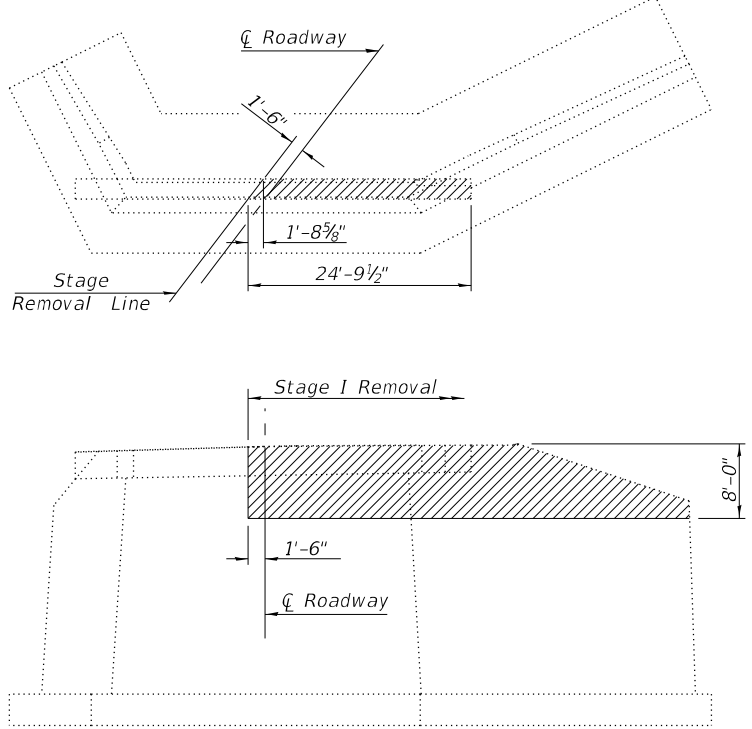
**\*TEMPORARY SOIL RETENTION SYSTEM - EAST ABUTMENT**



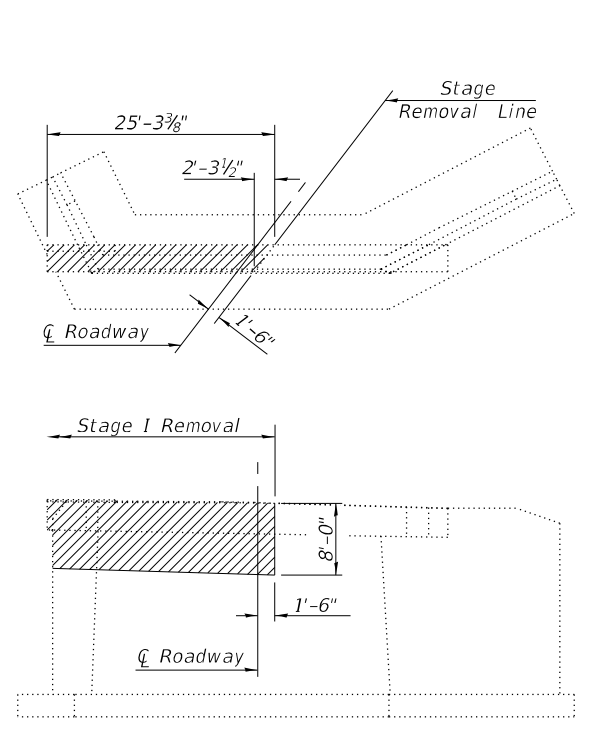
**\*TEMPORARY SOIL RETENTION SYSTEM - WEST ABUTMENT**

- Indicates Stage I Concrete Removal
- Indicates minimum exposed area to be retained by Temp. Soil Retention System

\*A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



**\*\*CONCRETE REMOVAL - EAST ABUTMENT**



**\*\*CONCRETE REMOVAL - WEST ABUTMENT**

**\*\*Notes:**  
 As is necessary to construct the proposed structure, removal of the existing abutment substructure units shall occur in a min. of two stages.  
 The limits of removal for each stage shall be shown in the Contractor's demolition plan. See Article 501.02 of the Standard Specifications, for additional demolition plan requirements. The depth of concrete removal for Stage I shall be 8'-0" as shown.  
 After completion of Stage I Construction, all remaining portions of the existing abutment substructure units shall be removed. Existing piling below the foundations may be abandoned in place.  
 Cost for removal of concrete is included with Removal of Existing Structures. See sheet 6 of 49 for requirements for removing the existing piers.

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Soil Retention System	Sq. ft	1599



**BACON | FARMER | WORKMAN**  
 ENGINEERS & ARCHITECTS, INC.  
401 NORTH FLORISSANT STREET  
 MARIETTA, ILLINOIS 62424  
 PHONE: 618-242-1600

USER NAME =	DESIGNED - FAM	REVISED -
PLOT SCALE =	CHECKED - GBR	REVISED -
PLOT DATE = 6/24/2022	DRAWN - FAM	REVISED -
	CHECKED - GBR	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

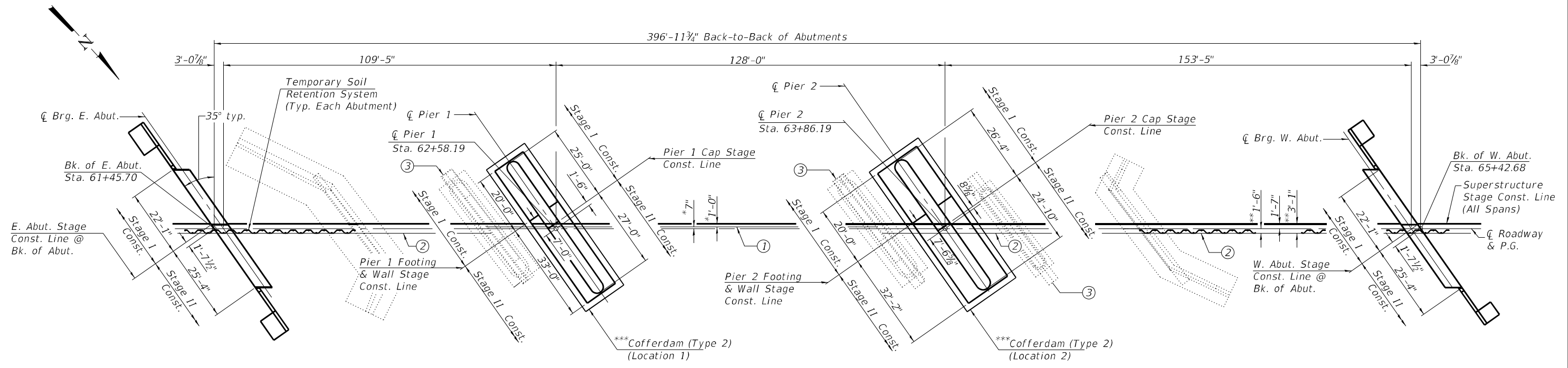
**TEMPORARY SOIL RETENTION SYSTEM  
 STRUCTURE NO. 088-0030**

SHEET NO. 5 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 39
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



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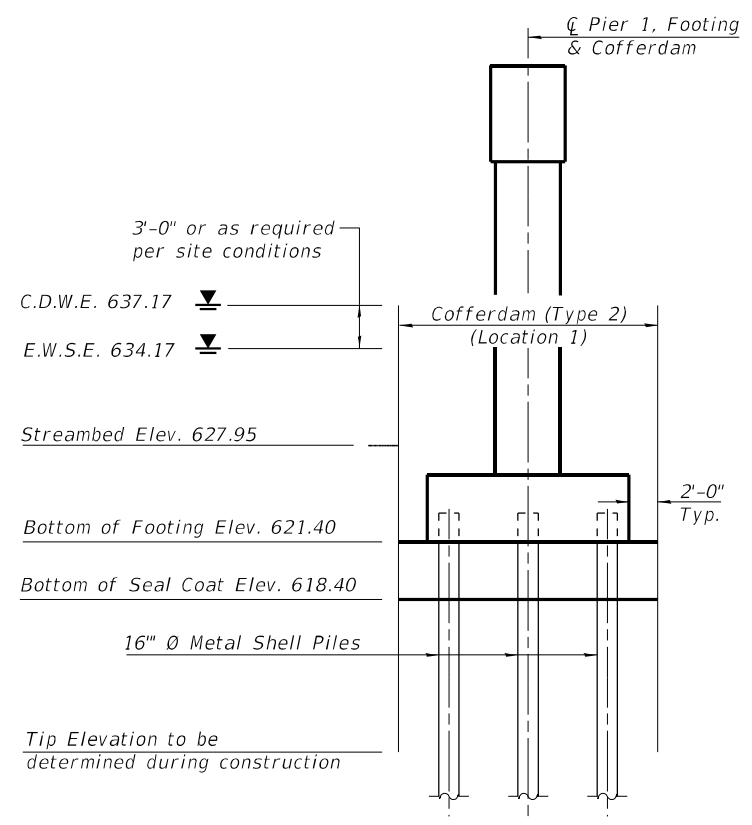


\*Existing Span 2 Only  
 \*\*Existing Spans 1, 3, & 4  
 \*\*\*Location of Stage Construction Line for the Proposed Cofferdam (Type 2) and Seal Coat to be determined by the Contractor.

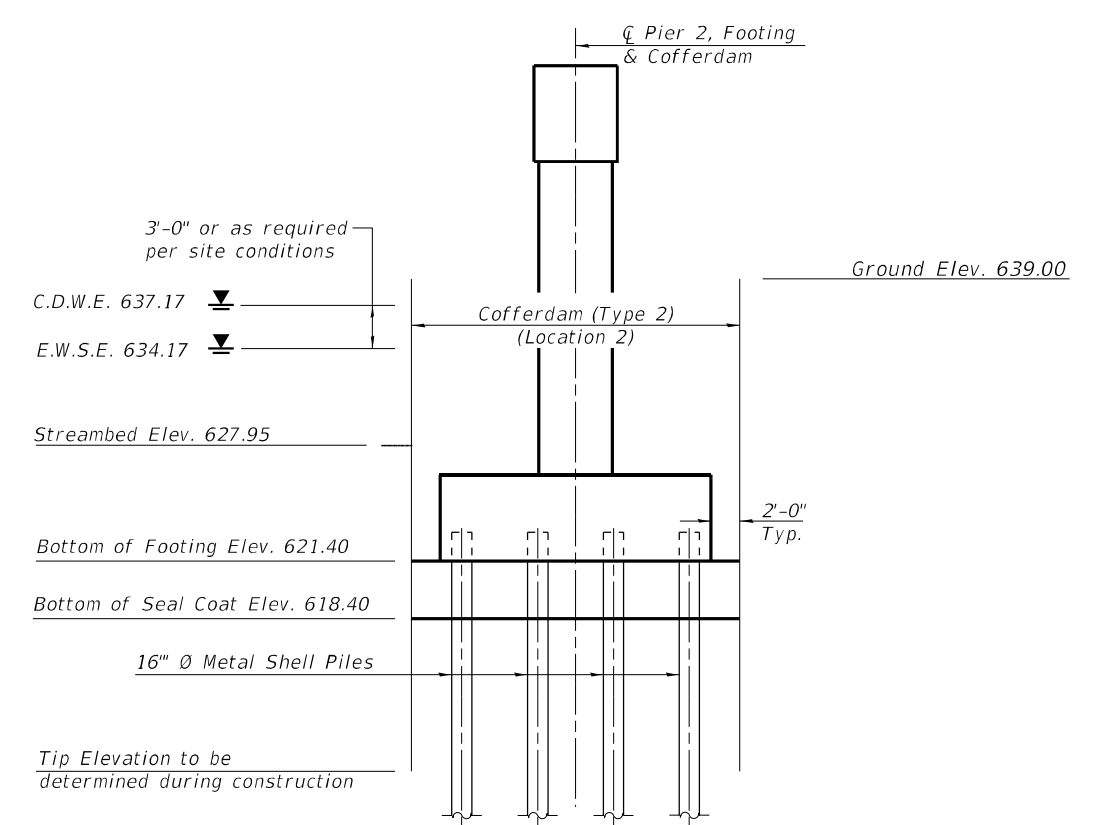
① - Superstructure Stage Removal Line (Existing Span 2)  
 ② - Superstructure Stage Removal Line (Existing Spans 1, 3, & 4)

③ - As is necessary to construct the proposed structure, removal of the existing pier substructure units shall occur in a min. of two stages. The limits of removal for each stage shall be shown in the Contractor's demolition plan. See Article 501.02 of the Standard Specification, for additional demolition plan requirements. The existing pier substructure units shall be completely removed. Existing piling below the foundations may be abandoned in place.

**SUBSTRUCTURE LAYOUT**



Section thru Pier 1



Section thru Pier 2

**COFFERDAM DETAILS**

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

FOOTING LAYOUT  
 STRUCTURE NO. 088-0030

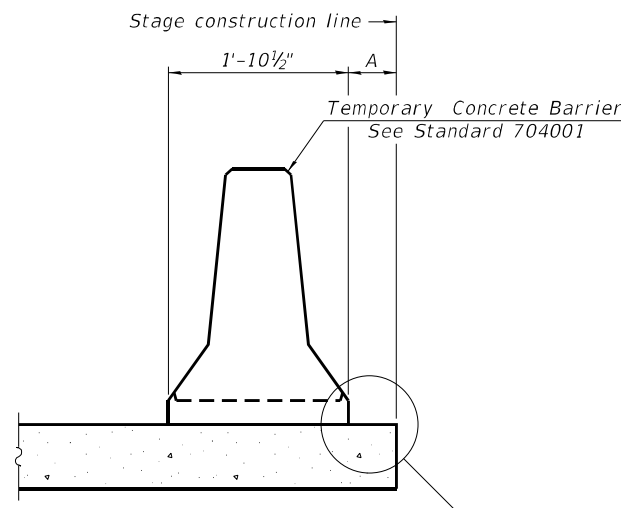
SHEET NO. 6 OF 49 SHEETS

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PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 40
			CONTRACT NO. 68698	
		ILLINOIS FED. AID PROJECT		

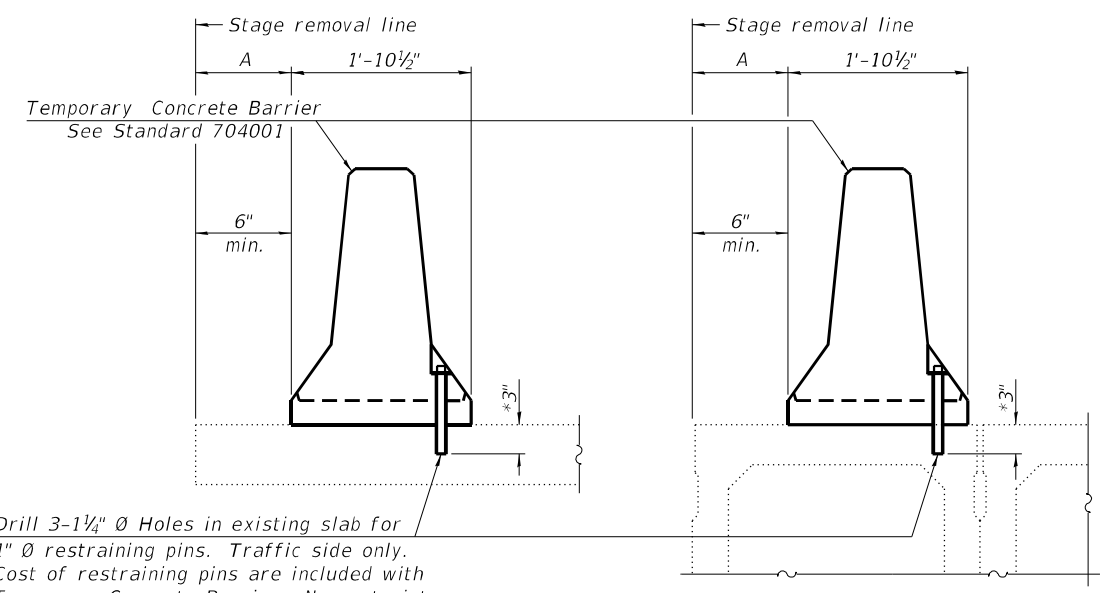


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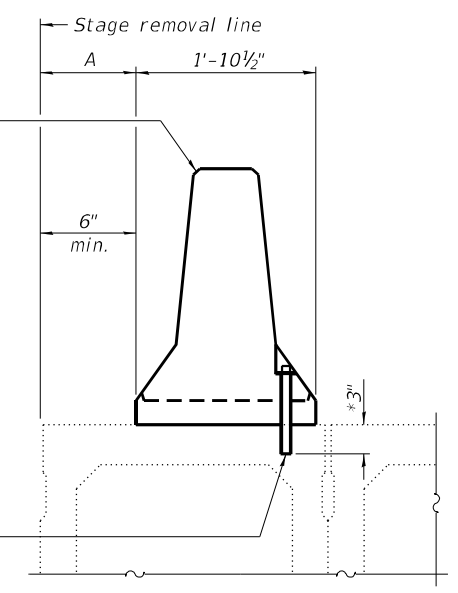
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

**NEW SLAB OR NEW DECK BEAM**



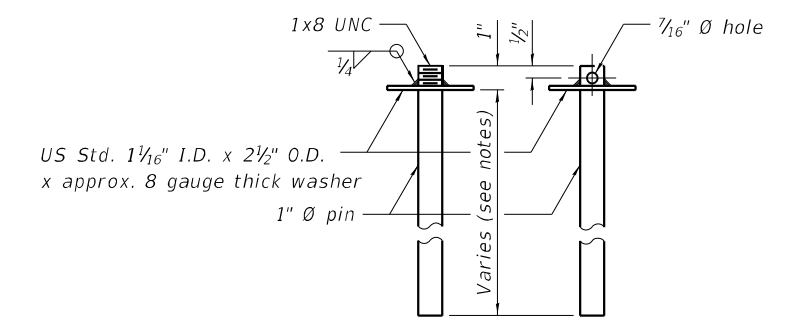
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**



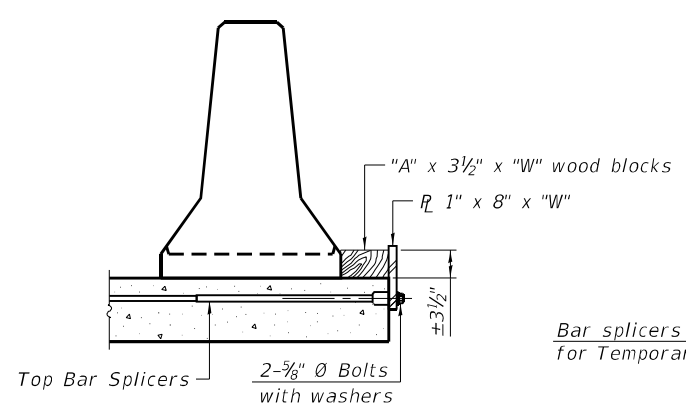
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

**EXISTING DECK BEAM**

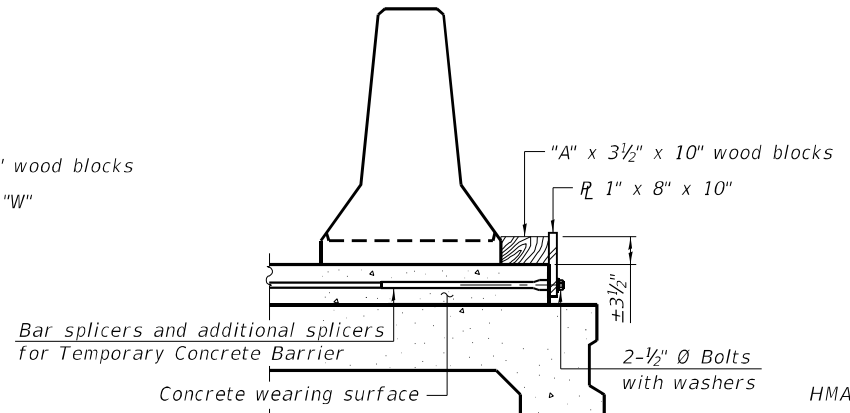


**RESTRAINING PIN**

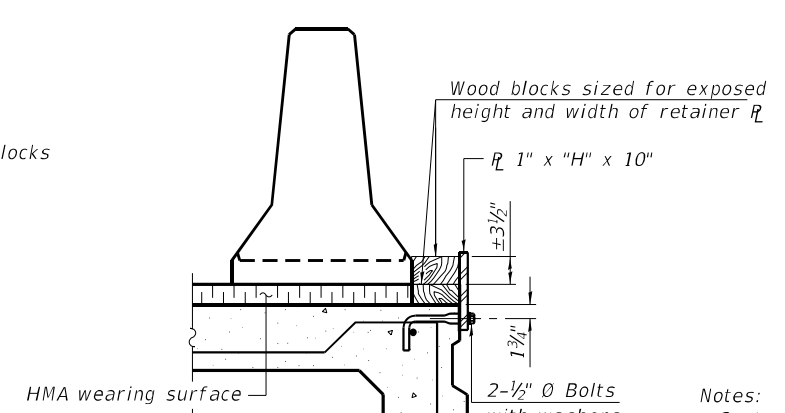
**SECTIONS THRU SLAB OR DECK BEAM**



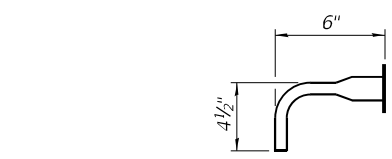
**DETAIL I**



**DETAIL II**



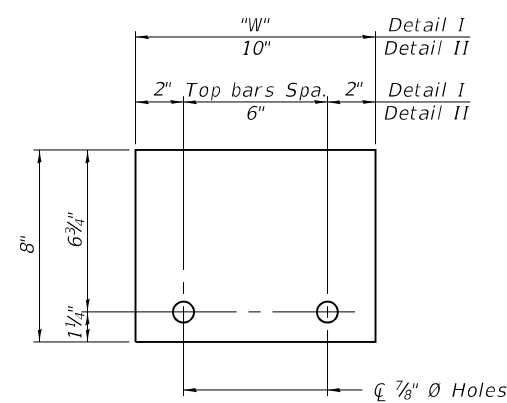
**DETAIL III**



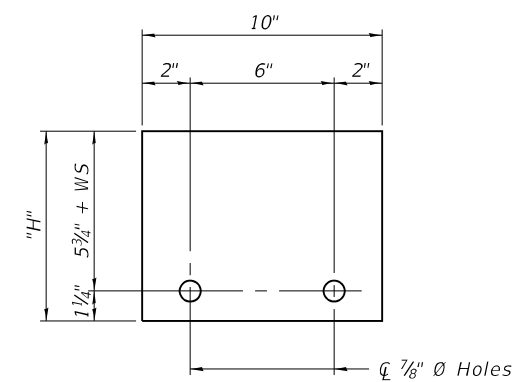
**BAR SPLICER FOR #4 BAR - DETAIL III**

**Notes:**  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate  $\text{C}$  of each temporary concrete barrier.  
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
 When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate.  
 For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

**Detail I** - Installation for a new bridge deck or bridge slab.  
**Detail II** - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.  
**Detail III** - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.



**STEEL RETAINER R 1" x 8" x "W"**  
(Detail I and II)

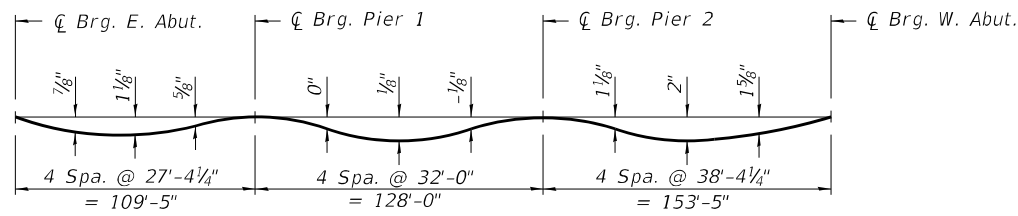


**STEEL RETAINER R 1" x "H" x 10"**  
(Detail III)

**RAILING CRITERIA**

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

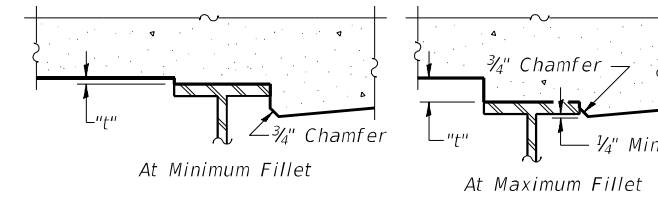


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

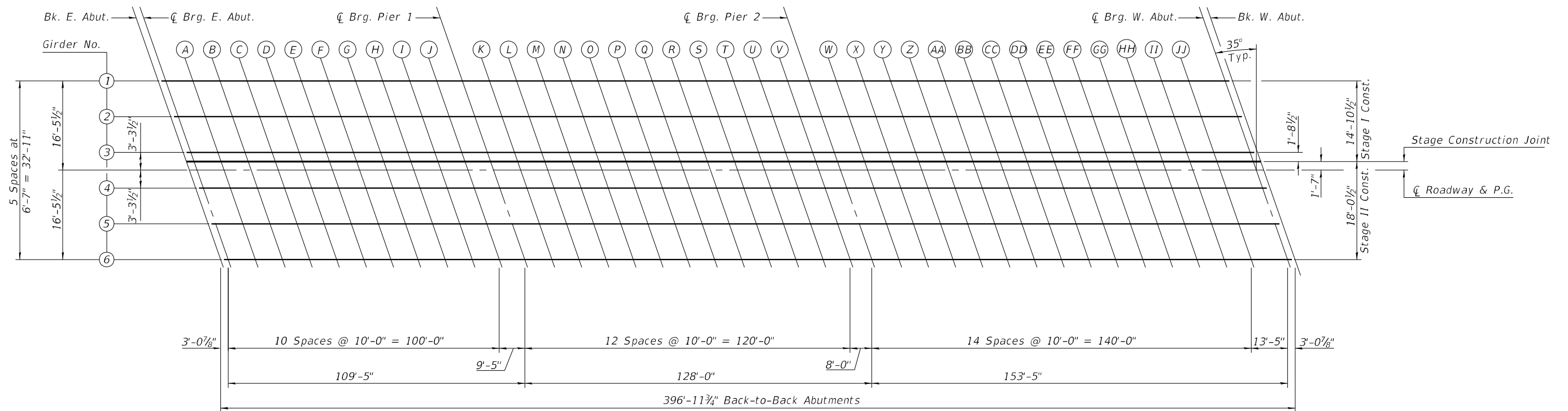
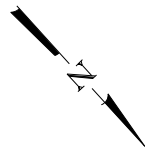
**Note:**

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets 9 thru 11 of 49.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 9 thru 11 of 49, minus 8" slab thickness, equals the fillet heights "t" above top flange of girders.

**FILLET HEIGHTS**



**PLAN**

(Sheet 1 of 4)

MODEL: Default  
FILE NAME: p:\w\wme-pw-bentley.com\bfwme-pw-01\Documents\BFW\PROJECTS\2019 PROJECTS\19277 - IDOT D4 PTB 191-08 WO #3 IL 17 IL 91 Structure\DOT\CAD\_Sheets\0880030-68698-008-Top of Slab Elevations

	BACON FARMER WORKMAN ENGINEERS & ARCHITECTS, INC. <small>441 NORTH FLORISSANT STREET MADISON, ILLINOIS 62401 PHONE: 618-241-0000</small>	USER NAME = _____ DESIGNED - FAM CHECKED - GBR PLOT SCALE = _____ DRAWN - FAM PLOT DATE = 6/24/2022 CHECKED - GBR	REVISED - _____ REVISED - _____ REVISED - _____ REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS STRUCTURE NO. 088-0030</b>	F.A.P. RTE. = 643 SECTION = 11B (BR-1)	COUNTY = STARK CONTRACT NO. 68698	TOTAL SHEETS = 113 SHEET NO. = 42
	SHEET NO. 8 OF 49 SHEETS		ILLINOIS FED. AID PROJECT					

MODEL: Default  
 FILE NAME: D:\bentley\pwworking\Documents\BFW\PROJECTS\2019 PROJECTS\DOT D4 PTB 191-08 WO #3 IL 17 IL 91 Structure\DOT\CAD\_Sheets\0880030-08898-009-Top of Slab Elevations

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+34.17	-16.46	662.91	662.91
☐ Brg. E. Abut.	61+37.25	-16.46	662.84	662.84
A	61+47.25	-16.46	662.60	662.63
B	61+57.25	-16.46	662.37	662.43
C	61+67.25	-16.46	662.13	662.21
D	61+77.25	-16.46	661.90	661.99
E	61+87.25	-16.46	661.66	661.76
F	61+97.25	-16.46	661.43	661.52
G	62+07.25	-16.46	661.19	661.27
H	62+17.25	-16.46	660.96	661.02
I	62+27.25	-16.46	660.72	660.76
J	62+37.25	-16.46	660.49	660.50
☐ Brg. Pier 1	62+46.66	-16.46	660.27	660.27
K	62+56.66	-16.46	660.03	660.03
L	62+66.66	-16.46	659.80	659.79
M	62+76.66	-16.46	659.56	659.56
N	62+86.66	-16.46	659.33	659.33
O	62+96.66	-16.46	659.09	659.10
P	63+06.66	-16.46	658.86	658.86
Q	63+16.66	-16.46	658.62	658.62
R	63+26.66	-16.46	658.39	658.38
S	63+36.66	-16.46	658.15	658.14
T	63+46.66	-16.46	657.92	657.90
U	63+56.66	-16.46	657.68	657.67
V	63+66.66	-16.46	657.45	657.44
☐ Brg. Pier 2	63+74.66	-16.46	657.26	657.26
W	63+84.66	-16.46	657.02	657.04
X	63+94.66	-16.46	656.79	656.83
Y	64+04.66	-16.46	656.55	656.63
Z	64+14.66	-16.46	656.32	656.42
AA	64+24.66	-16.46	656.08	656.21
BB	64+34.66	-16.46	655.85	656.00
CC	64+44.66	-16.46	655.61	655.78
DD	64+54.66	-16.46	655.38	655.55
EE	64+64.66	-16.46	655.14	655.31
FF	64+74.66	-16.46	654.91	655.07
GG	64+84.66	-16.46	654.67	654.82
HH	64+94.66	-16.46	654.44	654.56
II	65+04.66	-16.46	654.20	654.29
JJ	65+14.66	-16.46	653.97	654.02
☐ Brg. W. Abut.	65+28.08	-16.46	653.65	653.65
Bk. W. Abut.	65+31.15	-16.46	653.58	653.58

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+38.78	-9.88	662.92	662.92
☐ Brg. E. Abut.	61+41.86	-9.88	662.85	662.85
A	61+51.86	-9.88	662.61	662.65
B	61+61.86	-9.88	662.38	662.44
C	61+71.86	-9.88	662.14	662.22
D	61+81.86	-9.88	661.91	662.00
E	61+91.86	-9.88	661.67	661.77
F	62+01.86	-9.88	661.44	661.53
G	62+11.86	-9.88	661.20	661.28
H	62+21.86	-9.88	660.97	661.03
I	62+31.86	-9.88	660.73	660.77
J	62+41.86	-9.88	660.50	660.51
☐ Brg. Pier 1	62+51.27	-9.88	660.28	660.28
K	62+61.27	-9.88	660.04	660.04
L	62+71.27	-9.88	659.81	659.81
M	62+81.27	-9.88	659.57	659.57
N	62+91.27	-9.88	659.34	659.34
O	63+01.27	-9.88	659.10	659.11
P	63+11.27	-9.88	658.87	658.88
Q	63+21.27	-9.88	658.63	658.64
R	63+31.27	-9.88	658.40	658.40
S	63+41.27	-9.88	658.16	658.15
T	63+51.27	-9.88	657.93	657.91
U	63+61.27	-9.88	657.69	657.68
V	63+71.27	-9.88	657.46	657.45
☐ Brg. Pier 2	63+79.27	-9.88	657.27	657.27
W	63+89.27	-9.88	657.03	657.06
X	63+99.27	-9.88	656.80	656.85
Y	64+09.27	-9.88	656.56	656.64
Z	64+19.27	-9.88	656.33	656.43
AA	64+29.27	-9.88	656.09	656.22
BB	64+39.27	-9.88	655.86	656.01
CC	64+49.27	-9.88	655.62	655.79
DD	64+59.27	-9.88	655.39	655.56
EE	64+69.27	-9.88	655.15	655.32
FF	64+79.27	-9.88	654.92	655.08
GG	64+89.27	-9.88	654.68	654.83
HH	64+99.27	-9.88	654.45	654.57
II	65+09.27	-9.88	654.21	654.30
JJ	65+19.27	-9.88	653.98	654.03
☐ Brg. W. Abut.	65+32.69	-9.88	653.66	653.66
Bk. W. Abut.	65+35.76	-9.88	653.59	653.59

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+43.39	-3.29	662.91	662.91
☐ Brg. E. Abut.	61+46.47	-3.29	662.84	662.84
A	61+56.47	-3.29	662.60	662.64
B	61+66.47	-3.29	662.37	662.43
C	61+76.47	-3.29	662.13	662.21
D	61+86.47	-3.29	661.90	661.99
E	61+96.47	-3.29	661.66	661.76
F	62+06.47	-3.29	661.43	661.52
G	62+16.47	-3.29	661.19	661.27
H	62+26.47	-3.29	660.96	661.02
I	62+36.47	-3.29	660.72	660.76
J	62+46.47	-3.29	660.49	660.50
☐ Brg. Pier 1	62+55.88	-3.29	660.27	660.27
K	62+65.88	-3.29	660.03	660.03
L	62+75.88	-3.29	659.80	659.80
M	62+85.88	-3.29	659.56	659.57
N	62+95.88	-3.29	659.33	659.34
O	63+05.88	-3.29	659.09	659.10
P	63+15.88	-3.29	658.86	658.87
Q	63+25.88	-3.29	658.62	658.63
R	63+35.88	-3.29	658.39	658.39
S	63+45.88	-3.29	658.15	658.14
T	63+55.88	-3.29	657.92	657.90
U	63+65.88	-3.29	657.68	657.67
V	63+75.88	-3.29	657.45	657.44
☐ Brg. Pier 2	63+83.88	-3.29	657.26	657.26
W	63+93.88	-3.29	657.03	657.05
X	64+03.88	-3.29	656.79	656.84
Y	64+13.88	-3.29	656.56	656.63
Z	64+23.88	-3.29	656.32	656.42
AA	64+33.88	-3.29	656.09	656.21
BB	64+43.88	-3.29	655.85	656.00
CC	64+53.88	-3.29	655.62	655.78
DD	64+63.88	-3.29	655.38	655.55
EE	64+73.88	-3.29	655.15	655.31
FF	64+83.88	-3.29	654.91	655.07
GG	64+93.88	-3.29	654.68	654.82
HH	65+03.88	-3.29	654.44	654.56
II	65+13.88	-3.29	654.21	654.29
JJ	65+23.88	-3.29	653.97	654.02
☐ Brg. W. Abut.	65+37.30	-3.29	653.65	653.65
Bk. W. Abut.	65+40.37	-3.29	653.58	653.58

(Sheet 2 of 4)

 <b>BACON   FARMER   WORKMAN</b> ENGINEERS & SURVEYORS, INC. <small>441 NORTH KENTON STREET          MARIETTA, MISSISSIPPI 39056          PHONE: 601-544-2929</small>	USER NAME =	DESIGNED - FAM	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS</b> <b>STRUCTURE NO. 088-0030</b>	F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - FAM	REVISED -			643	11B (BR-1)	STARK	113	43
	PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -			CONTRACT NO. 68698				
					SHEET NO. 9 OF 49 SHEETS		ILLINOIS FED. AID PROJECT			

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+44.59	-1.58	662.91	662.91
☒ Brg. E. Abut.	61+47.66	-1.58	662.84	662.84
A	61+57.66	-1.58	662.60	662.63
B	61+67.66	-1.58	662.37	662.43
C	61+77.66	-1.58	662.13	662.21
D	61+87.66	-1.58	661.90	661.99
E	61+97.66	-1.58	661.66	661.76
F	62+07.66	-1.58	661.43	661.52
G	62+17.66	-1.58	661.19	661.27
H	62+27.66	-1.58	660.96	661.02
I	62+37.66	-1.58	660.72	660.76
J	62+47.66	-1.58	660.49	660.50
☒ Brg. Pier 1	62+57.08	-1.58	660.27	660.27
K	62+67.08	-1.58	660.03	660.03
L	62+77.08	-1.58	659.80	659.79
M	62+87.08	-1.58	659.56	659.56
N	62+97.08	-1.58	659.33	659.33
O	63+07.08	-1.58	659.09	659.10
P	63+17.08	-1.58	658.86	658.86
Q	63+27.08	-1.58	658.62	658.63
R	63+37.08	-1.58	658.39	658.38
S	63+47.08	-1.58	658.15	658.14
T	63+57.08	-1.58	657.92	657.90
U	63+67.08	-1.58	657.68	657.67
V	63+77.08	-1.58	657.45	657.44
☒ Brg. Pier 2	63+85.08	-1.58	657.26	657.26
W	63+95.08	-1.58	657.02	657.04
X	64+05.08	-1.58	656.79	656.83
Y	64+15.08	-1.58	656.55	656.63
Z	64+25.08	-1.58	656.32	656.42
AA	64+35.08	-1.58	656.08	656.21
BB	64+45.08	-1.58	655.85	655.99
CC	64+55.08	-1.58	655.61	655.77
DD	64+65.08	-1.58	655.38	655.55
EE	64+75.08	-1.58	655.14	655.31
FF	64+85.08	-1.58	654.91	655.07
GG	64+95.08	-1.58	654.67	654.82
HH	65+05.08	-1.58	654.44	654.56
II	65+15.08	-1.58	654.20	654.29
JJ	65+25.08	-1.58	653.97	654.02
☒ Brg. W. Abut.	65+38.50	-1.58	653.65	653.65
Bk. W. Abut.	65+41.57	-1.58	653.58	653.58

☒ ROADWAY & P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+45.70	0.00	662.91	662.91
☒ Brg. E. Abut.	61+48.77	0.00	662.83	662.83
A	61+58.77	0.00	662.60	662.63
B	61+68.77	0.00	662.36	662.42
C	61+78.77	0.00	662.13	662.21
D	61+88.77	0.00	661.89	661.99
E	61+98.77	0.00	661.66	661.76
F	62+08.77	0.00	661.42	661.52
G	62+18.77	0.00	661.19	661.27
H	62+28.77	0.00	660.95	661.01
I	62+38.77	0.00	660.72	660.76
J	62+48.77	0.00	660.48	660.50
☒ Brg. Pier 1	62+58.19	0.00	660.26	660.26
K	62+68.19	0.00	660.03	660.02
L	62+78.19	0.00	659.79	659.79
M	62+88.19	0.00	659.56	659.56
N	62+98.19	0.00	659.32	659.33
O	63+08.19	0.00	659.09	659.10
P	63+18.19	0.00	658.85	658.86
Q	63+28.19	0.00	658.62	658.62
R	63+38.19	0.00	658.38	658.38
S	63+48.19	0.00	658.15	658.14
T	63+58.19	0.00	657.91	657.90
U	63+68.19	0.00	657.68	657.67
V	63+78.19	0.00	657.44	657.44
☒ Brg. Pier 2	63+86.19	0.00	657.26	657.26
W	63+96.19	0.00	657.02	657.04
X	64+06.19	0.00	656.79	656.83
Y	64+16.19	0.00	656.55	656.62
Z	64+26.19	0.00	656.32	656.42
AA	64+36.19	0.00	656.08	656.21
BB	64+46.19	0.00	655.85	655.99
CC	64+56.19	0.00	655.61	655.77
DD	64+66.19	0.00	655.38	655.55
EE	64+76.19	0.00	655.14	655.31
FF	64+86.19	0.00	654.91	655.06
GG	64+96.19	0.00	654.67	654.81
HH	65+06.19	0.00	654.44	654.55
II	65+16.19	0.00	654.20	654.29
JJ	65+26.19	0.00	653.97	654.02
☒ Brg. W. Abut.	65+39.60	0.00	653.65	653.65
Bk. W. Abut.	65+42.68	0.00	653.58	653.58

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+48.00	3.29	662.80	662.80
☒ Brg. E. Abut.	61+51.08	3.29	662.73	662.73
A	61+61.08	3.29	662.50	662.53
B	61+71.08	3.29	662.26	662.32
C	61+81.08	3.29	662.03	662.11
D	61+91.08	3.29	661.79	661.88
E	62+01.08	3.29	661.56	661.65
F	62+11.08	3.29	661.32	661.41
G	62+21.08	3.29	661.09	661.16
H	62+31.08	3.29	660.85	660.91
I	62+41.08	3.29	660.62	660.65
J	62+51.08	3.29	660.38	660.40
☒ Brg. Pier 1	62+60.49	3.29	660.16	660.16
K	62+70.49	3.29	659.92	659.92
L	62+80.49	3.29	659.69	659.69
M	62+90.49	3.29	659.45	659.46
N	63+00.49	3.29	659.22	659.23
O	63+10.49	3.29	658.98	658.99
P	63+20.49	3.29	658.75	658.76
Q	63+30.49	3.29	658.51	658.52
R	63+40.49	3.29	658.28	658.28
S	63+50.49	3.29	658.04	658.04
T	63+60.49	3.29	657.81	657.80
U	63+70.49	3.29	657.57	657.56
V	63+80.49	3.29	657.34	657.33
☒ Brg. Pier 2	63+88.49	3.29	657.15	657.15
W	63+98.49	3.29	656.92	656.94
X	64+08.49	3.29	656.68	656.73
Y	64+18.49	3.29	656.45	656.52
Z	64+28.49	3.29	656.21	656.31
AA	64+38.49	3.29	655.98	656.10
BB	64+48.49	3.29	655.74	655.89
CC	64+58.49	3.29	655.51	655.67
DD	64+68.49	3.29	655.27	655.44
EE	64+78.49	3.29	655.04	655.21
FF	64+88.49	3.29	654.80	654.96
GG	64+98.49	3.29	654.57	654.71
HH	65+08.49	3.29	654.33	654.45
II	65+18.49	3.29	654.10	654.18
JJ	65+28.49	3.29	653.86	653.91
☒ Brg. W. Abut.	65+41.91	3.29	653.55	653.55
Bk. W. Abut.	65+44.98	3.29	653.47	653.47

(Sheet 3 of 4)

MODEL: Default  
FILE NAME: p:\w\wme-pw\benley.com\bwme-pw-01\Documents\BFW\PROJECTS\2019 PROJECTS\19277 - IDOT D4 PTB 191-08 WO #3 IL 17 IL 91 Structure\DOT\CAD\_Sheets\0880030-68698-010-Top of Slab Elevations



BACON | FARMER | WORKMAN  
ENGINEERS & ARCHITECTS, INC.  
110 NORTH CLIGHT STREET  
MADISON, ILLINOIS 62202  
PHONE: 314.481.8200

USER NAME =	DESIGNED - FAM	REVISED -
	CHECKED - GBR	REVISED -
PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 088-0030

SHEET NO. 10 OF 49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	44
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

MODEL: Default  
 FILE NAME: p:\w\wme-pw\benley.com\bfwme-pw-01\Documents\BFW\PROJECTS\2019 PROJECTS\19277 - IDOT D4 PTB 191-08 WO #3 IL 17 IL 91 Structure\DOT\CAD\_Sheets\0880030-68698-01-1-Top of Slab Elevations

**GIRDER 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+52.61	9.88	662.60	662.60
☉ Brg. E. Abut.	61+55.69	9.88	662.52	662.52
A	61+65.69	9.88	662.29	662.32
B	61+75.69	9.88	662.05	662.11
C	61+85.69	9.88	661.82	661.90
D	61+95.69	9.88	661.58	661.68
E	62+05.69	9.88	661.35	661.45
F	62+15.69	9.88	661.11	661.20
G	62+25.69	9.88	660.88	660.96
H	62+35.69	9.88	660.64	660.70
I	62+45.69	9.88	660.41	660.45
J	62+55.69	9.88	660.17	660.19
☉ Brg. Pier 1	62+65.10	9.88	659.95	659.95
K	62+75.10	9.88	659.72	659.71
L	62+85.10	9.88	659.48	659.48
M	62+95.10	9.88	659.25	659.25
N	63+05.10	9.88	659.01	659.02
O	63+15.10	9.88	658.78	658.79
P	63+25.10	9.88	658.54	658.55
Q	63+35.10	9.88	658.31	658.31
R	63+45.10	9.88	658.07	658.07
S	63+55.10	9.88	657.84	657.83
T	63+65.10	9.88	657.60	657.59
U	63+75.10	9.88	657.37	657.35
V	63+85.10	9.88	657.13	657.13
☉ Brg. Pier 2	63+93.10	9.88	656.94	656.94
W	64+03.10	9.88	656.71	656.73
X	64+13.10	9.88	656.47	656.52
Y	64+23.10	9.88	656.24	656.31
Z	64+33.10	9.88	656.00	656.11
AA	64+43.10	9.88	655.77	655.90
BB	64+53.10	9.88	655.53	655.68
CC	64+63.10	9.88	655.30	655.46
DD	64+73.10	9.88	655.06	655.23
EE	64+83.10	9.88	654.83	655.00
FF	64+93.10	9.88	654.59	654.75
GG	65+03.10	9.88	654.36	654.50
HH	65+13.10	9.88	654.12	654.24
II	65+23.10	9.88	653.89	653.98
JJ	65+33.10	9.88	653.65	653.71
☉ Brg. W. Abut.	65+46.52	9.88	653.34	653.34
Bk. W. Abut.	65+49.59	9.88	653.27	653.27

**GIRDER 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	61+57.22	16.46	662.37	662.37
☉ Brg. E. Abut.	61+60.30	16.46	662.29	662.29
A	61+70.30	16.46	662.06	662.09
B	61+80.30	16.46	661.82	661.89
C	61+90.30	16.46	661.59	661.67
D	62+00.30	16.46	661.35	661.45
E	62+10.30	16.46	661.12	661.22
F	62+20.30	16.46	660.88	660.98
G	62+30.30	16.46	660.65	660.73
H	62+40.30	16.46	660.41	660.47
I	62+50.30	16.46	660.18	660.22
J	62+60.30	16.46	659.94	659.96
☉ Brg. Pier 1	62+69.71	16.46	659.72	659.72
K	62+79.71	16.46	659.49	659.48
L	62+89.71	16.46	659.25	659.25
M	62+99.71	16.46	659.02	659.02
N	63+09.71	16.46	658.78	658.79
O	63+19.71	16.46	658.55	658.56
P	63+29.71	16.46	658.31	658.32
Q	63+39.71	16.46	658.08	658.08
R	63+49.71	16.46	657.84	657.84
S	63+59.71	16.46	657.61	657.60
T	63+69.71	16.46	657.37	657.36
U	63+79.71	16.46	657.14	657.13
V	63+89.71	16.46	656.90	656.90
☉ Brg. Pier 2	63+97.71	16.46	656.72	656.72
W	64+07.71	16.46	656.48	656.50
X	64+17.71	16.46	656.25	656.29
Y	64+27.71	16.46	656.01	656.09
Z	64+37.71	16.46	655.78	655.88
AA	64+47.71	16.46	655.54	655.67
BB	64+57.71	16.46	655.31	655.46
CC	64+67.71	16.46	655.07	655.23
DD	64+77.71	16.46	654.84	655.01
EE	64+87.71	16.46	654.60	654.77
FF	64+97.71	16.46	654.37	654.53
GG	65+07.71	16.46	654.13	654.28
HH	65+17.71	16.46	653.90	654.02
II	65+27.71	16.46	653.66	653.75
JJ	65+37.71	16.46	653.43	653.48
☉ Brg. W. Abut.	65+51.13	16.46	653.11	653.11
Bk. W. Abut.	65+54.20	16.46	653.04	653.04

(Sheet 4 of 4)



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 ENGINEERS & TESTERS, INC.  
44 NORTH COURT STREET  
 HANSON, ILLINOIS 60148  
 PHONE: 630.585.0000

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PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
 STRUCTURE NO. 088-0030**

SHEET NO. 11 OF 49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	45
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

SOUTH EDGE OF SHOULDER/INSIDE  
FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Apr. Slab	61+04.31	-18.00	663.58
A1	61+14.31	-18.00	663.34
A2	61+24.31	-18.00	663.11
W. End of E. Apr. Slab	61+34.31	-18.00	662.87

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Apr. Slab	61+08.52	-12.00	663.60
A1	61+18.52	-12.00	663.37
A2	61+28.52	-12.00	663.13
W. End of E. Apr. Slab	61+38.52	-12.00	662.90

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Apr. Slab	61+15.81	-1.58	663.59
A1	61+25.81	-1.58	663.35
A2	61+35.81	-1.58	663.12
W. End of E. Apr. Slab	61+45.81	-1.58	662.88

☐ ROADWAY & P.G.

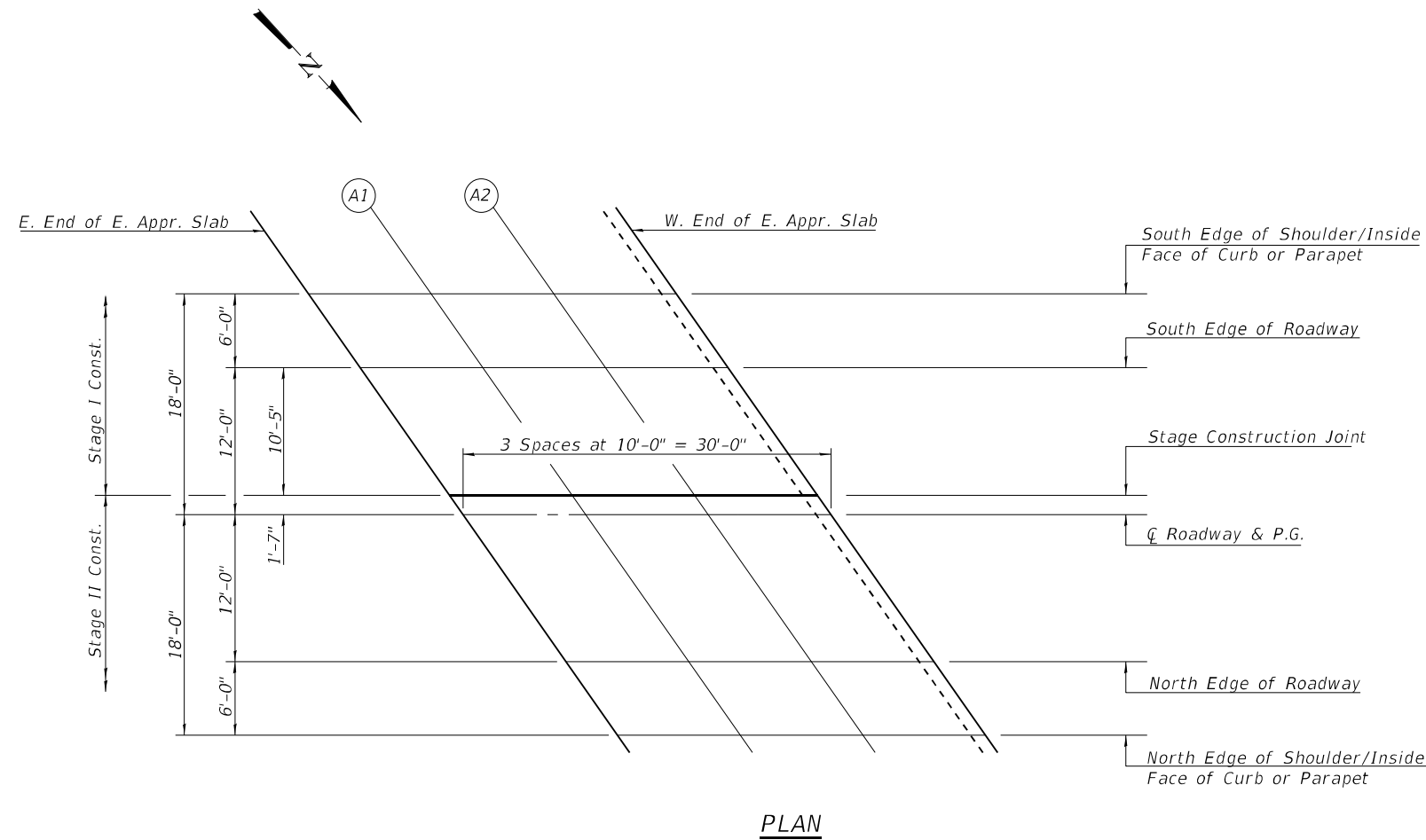
Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Apr. Slab	61+16.92	0.00	663.58
A1	61+26.92	0.00	663.35
A2	61+36.92	0.00	663.11
W. End of E. Apr. Slab	61+46.92	0.00	662.88

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Apr. Slab	61+25.32	12.00	663.21
A1	61+35.32	12.00	662.97
A2	61+45.32	12.00	662.74
W. End of E. Apr. Slab	61+55.32	12.00	662.50

NORTH EDGE OF SHOULDER/INSIDE  
FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Apr. Slab	61+29.52	18.00	662.99
A1	61+39.52	18.00	662.75
A2	61+49.52	18.00	662.52
W. End of E. Apr. Slab	61+59.52	18.00	662.28



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 088-0030

SHEET NO. 12 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 46
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

SOUTH EDGE OF SHOULDER/INSIDE  
FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	65+28.85	-18.00	653.60
A3	65+38.85	-18.00	653.37
A4	65+48.85	-18.00	653.13
W. End of W. Appr. Slab	65+58.85	-18.00	652.91

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	65+33.05	-12.00	653.62
A3	65+43.05	-12.00	653.39
A4	65+53.05	-12.00	653.16
W. End of W. Appr. Slab	65+63.05	-12.00	652.94

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	65+40.35	-1.58	653.61
A3	65+50.35	-1.58	653.38
A4	65+60.35	-1.58	653.15
W. End of W. Appr. Slab	65+70.35	-1.58	652.94

☐ ROADWAY & P.G.

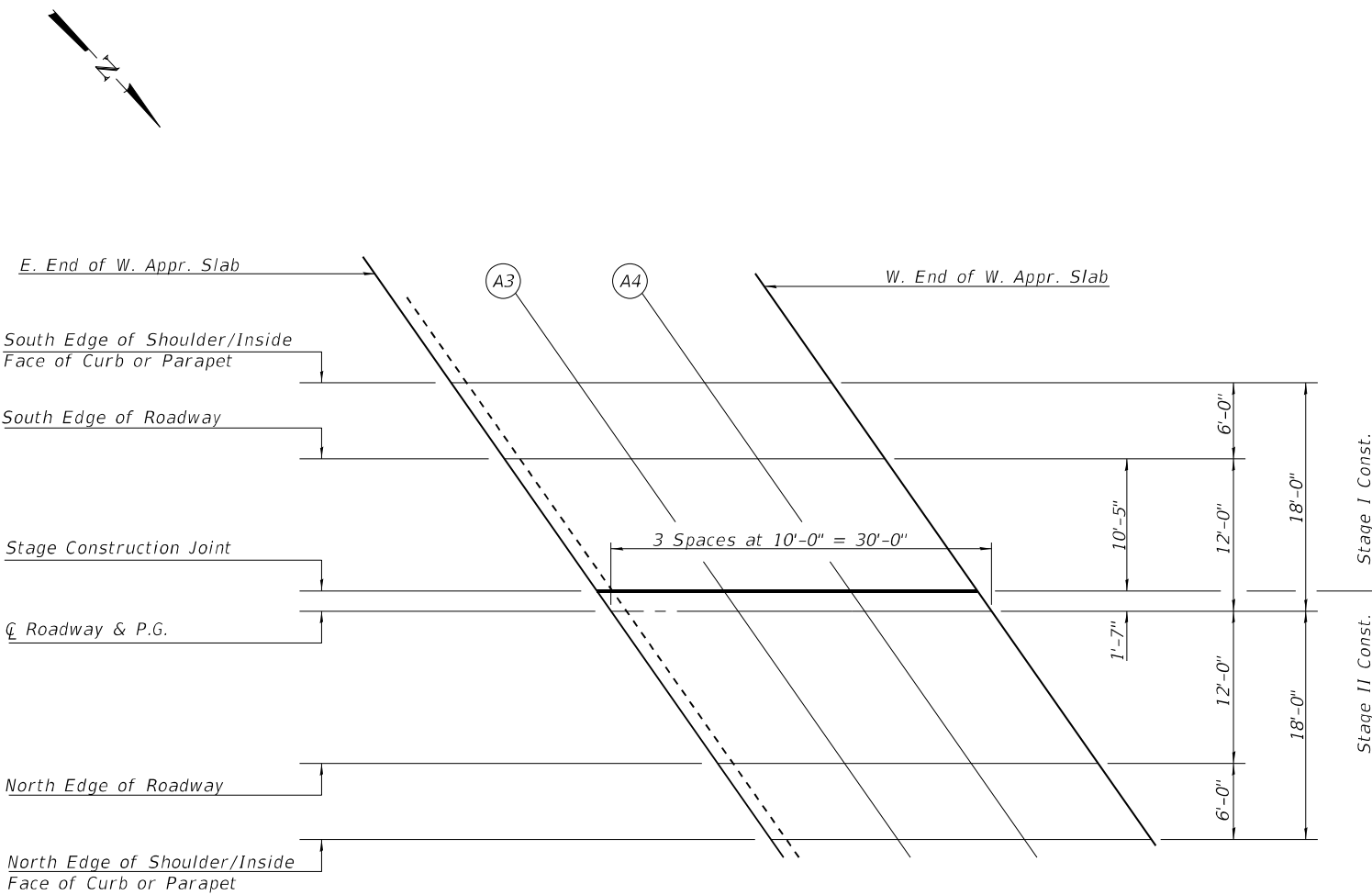
Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	65+41.46	0.00	653.60
A3	65+51.46	0.00	653.38
A4	65+61.46	0.00	653.15
W. End of W. Appr. Slab	65+71.46	0.00	652.94

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	65+49.86	12.00	653.23
A3	65+59.86	12.00	653.01
A4	65+69.86	12.00	652.79
W. End of W. Appr. Slab	65+79.86	12.00	652.58

NORTH EDGE OF SHOULDER/INSIDE  
FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	65+54.06	18.00	653.02
A3	65+64.06	18.00	652.80
A4	65+74.06	18.00	652.58
W. End of W. Appr. Slab	65+84.06	18.00	652.38

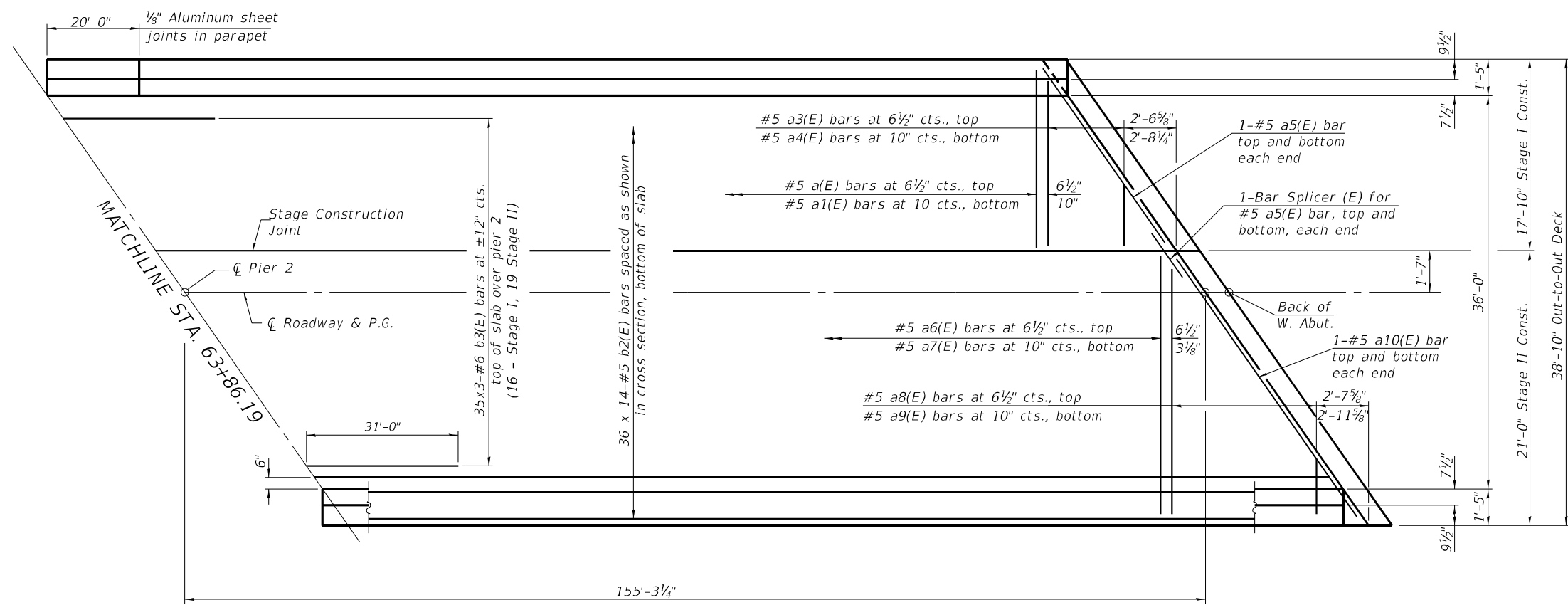
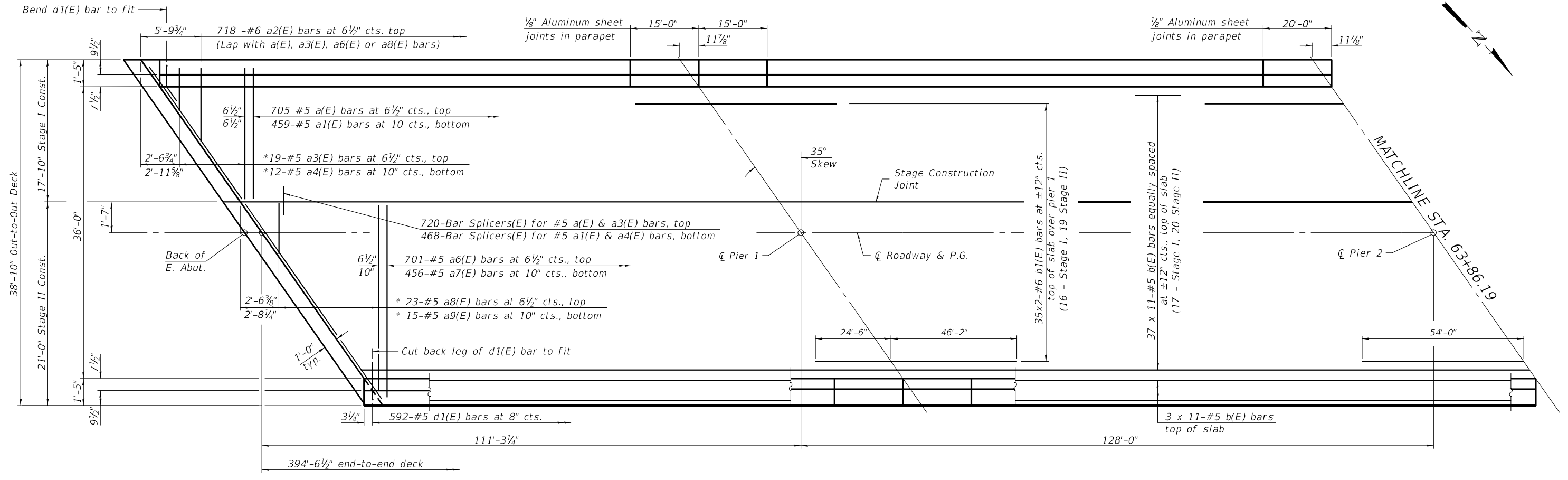


PLAN

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PLAN

Notes:  
 See sheet 1 of 49 for Scupper locations.  
 See sheet 15 of 49 for cross section of deck.  
 See sheet 15 & 16 of 49 for superstructure details and Bill of Material.  
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 Cut bar splice assemblies to fit skew.

**MINIMUM BAR LAP**

#5 bar = 3'-6"  
 #6 bar = 3'-7"

\*See Field Cutting Diagram on sheet 16 of 49.



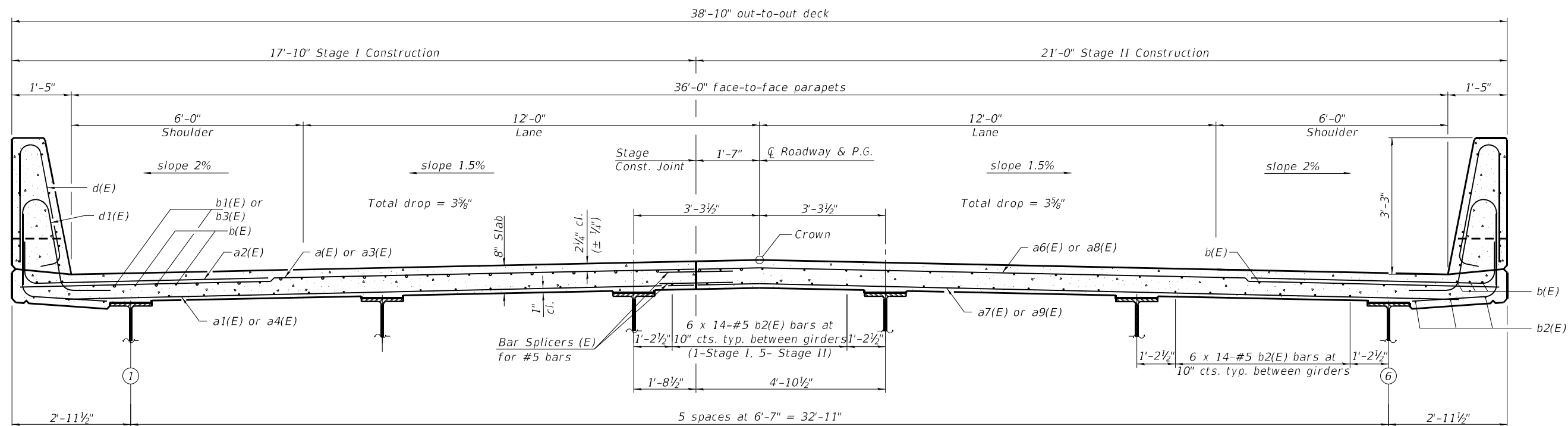
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PLOT SCALE =	DRAWN - FAM	REVISED -
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE  
 STRUCTURE NO. 088-0030

SHEET NO. 14 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 48
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



NEAR PIER

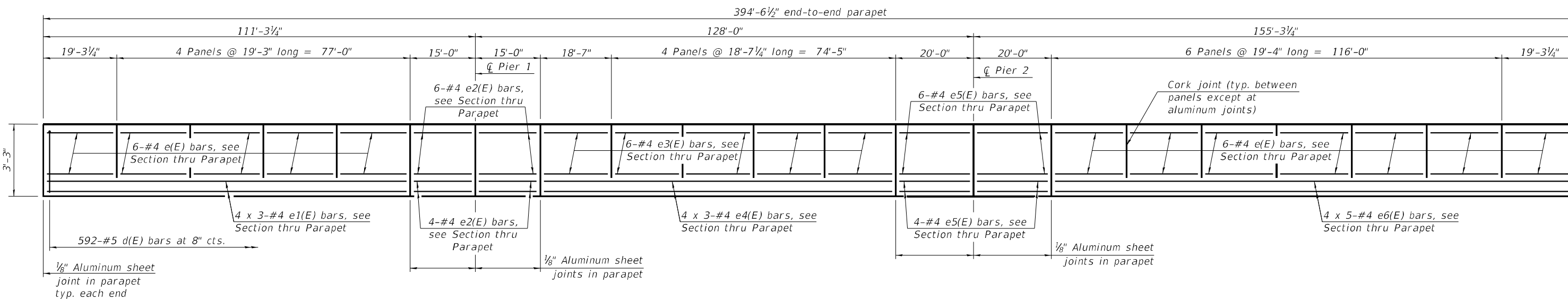
NEAR MIDSPAN

**MINIMUM BAR LAP**

#4 bar = 2'-5"

**CROSS SECTION**

(Looking West)



**INSIDE ELEVATION OF SOUTH PARAPET**

(North Parapet Similar)

**MINIMUM BAR LAP**

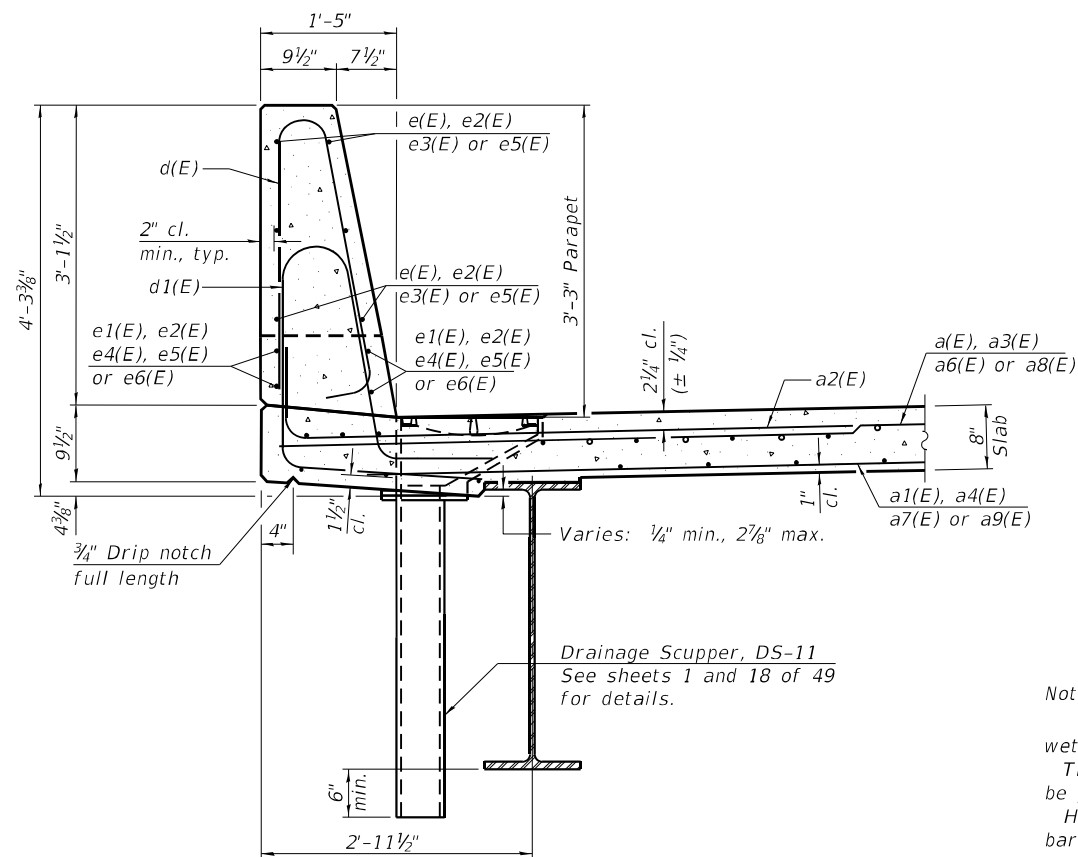
#4 bar = 2'-5"

(Sheet 1 of 2)

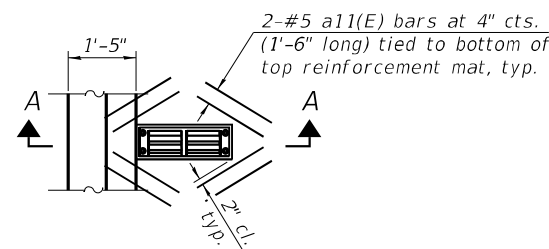
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	BACON   FARMER   WORKMAN ENGINEERS & TESTERS, INC. <small>441 WASHINGTON STREET          MARIETTA, GEORGIA 30067          PHONE: 770-426-9600</small>	USER NAME = DESIGNED - FAM CHECKED - GBR PLOT SCALE = DRAWN - FAM CHECKED - GBR PLOT DATE = 6/24/2022	DESIGNED - FAM CHECKED - GBR DRAWN - FAM CHECKED - GBR REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 088-0030 SHEET NO. 15 OF 49 SHEETS	F.A.P. RTE. 643 SECTION 11B (BR-1) COUNTY STARK TOTAL SHEETS 113 SHEET NO. 49 CONTRACT NO. 68698	ILLINOIS FED. AID PROJECT
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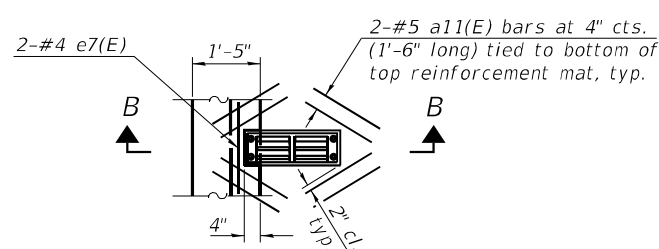


**SECTION THRU PARAPET**



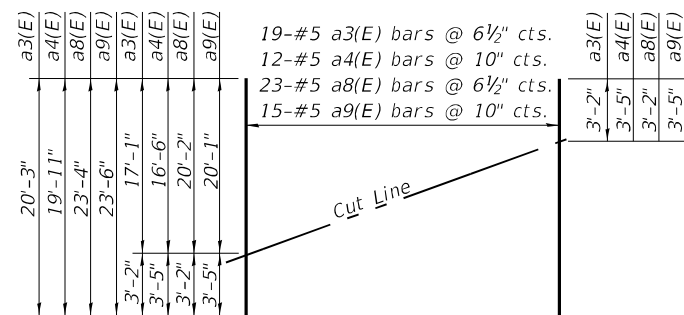
**PLAN (SCUPPERS IN SPAN 1 & 2)**

Note:  
Cut longitudinal reinforcement to clear drainage scuppers.



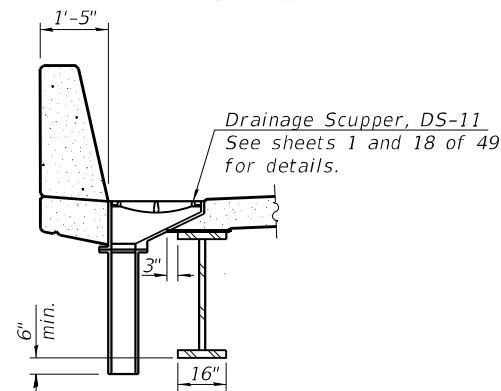
**PLAN (SCUPPERS IN SPAN 3)**

Note:  
Cut longitudinal reinforcement to clear drainage scuppers. Bend d(E) bars near scupper locations in Span 3 to clear drainage scuppers as shown on Section B-B. Cut d1(E) bars near scupper locations in Span 3 to clear drainage scuppers as shown on Section B-B.

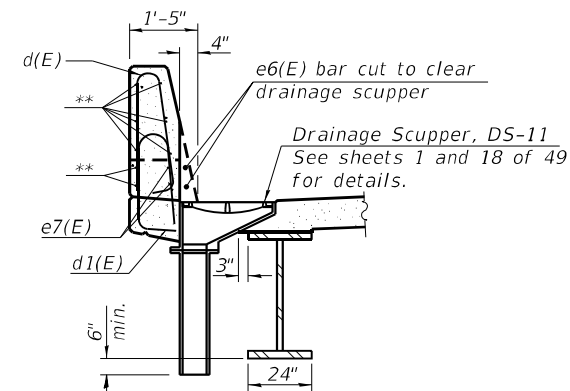


**FIELD CUTTING DIAGRAM**

Order a3(E), a4(E), a8(E) & a9(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.

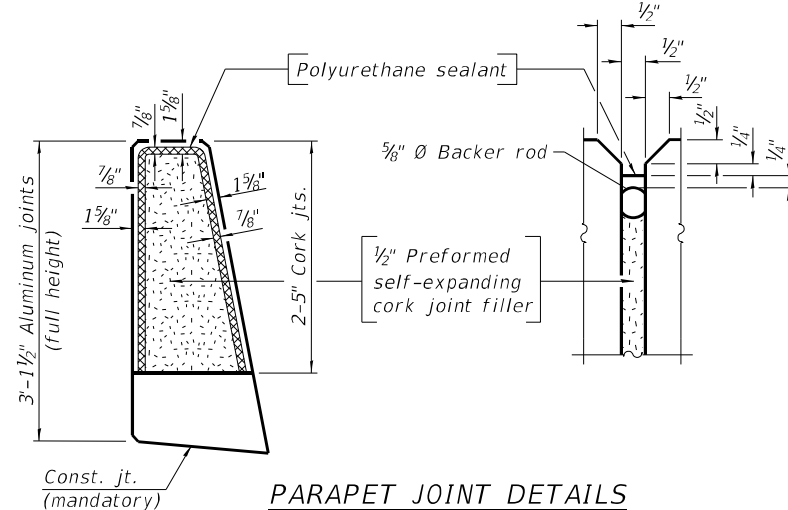


**SECTION A-A**



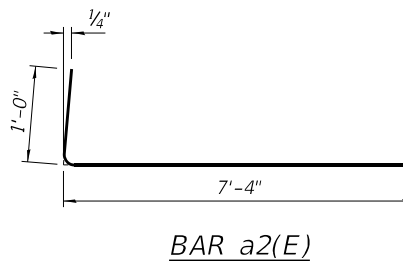
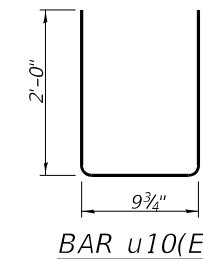
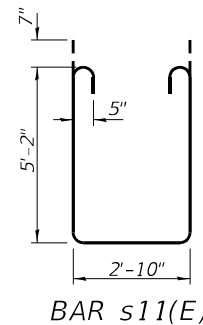
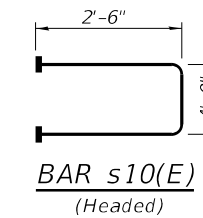
**SECTION B-B**

\*\* See "Section Thru Parapet"



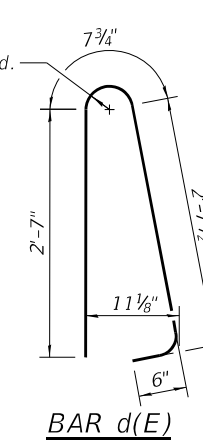
**PARAPET JOINT DETAILS**

Notes:  
The 1/8" aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.  
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



**BAR a2(E)**

\*Bar length provided is to the center of the mechanical splicer. The Contractor shall adjust the bar length as required for the selected splicer.



**BAR d(E)**

SUPERSTRUCTURE BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
a(E)	705	#5	17'-6"	—
a1(E)	459	#5	17'-2"	—
a2(E)	1436	#6	8'-4"	—
a3(E)	19	#5	20'-3"	—
a4(E)	12	#5	19'-11"	—
a5(E)	4	#5	21'-0"	—
a6(E)	701	#5	20'-8"	—
a7(E)	456	#5	20'-4"	—
a8(E)	23	#5	23'-4"	—
a9(E)	15	#5	23'-6"	—
a10(E)	4	#5	24'-10"	—
a11(E)	48	#5	1'-6"	—
b(E)	473	#5	39'-0"	—
b1(E)	70	#6	37'-2"	—
b2(E)	504	#5	31'-5"	—
b3(E)	105	#6	30'-9"	—
d(E)	1184	#5	6'-5"	—
d1(E)	1184	#5	7'-9"	—
e(E)	144	#4	18'-11"	—
e1(E)	24	#4	33'-7"	—
e2(E)	40	#4	14'-8"	—
e3(E)	60	#4	18'-3"	—
e4(E)	24	#4	32'-6"	—
e5(E)	40	#4	19'-8"	—
e6(E)	40	#4	28'-11"	—
e7(E)	4	#4	2'-0"	—
m10(E)	14	#6	21'-5"	—
m11(E)	16	#6	7'-6"	—
m12(E)	32	#6	7'-6"	—
m13(E)	4	#4	21'-5"	—
m14(E)	16	#6	3'-2"	—
m15(E)	8	#6	3'-2"	—
m16(E)	8	#6	2'-7"	—
m17(E)	4	#6	2'-7"	—
m18(E)	8	#6	4'-10"	—
m19(E)	4	#6	4'-10"	—
m20(E)	14	#6	25'-3"	—
m21(E)	4	#4	25'-3"	—
s10(E)	72	#5	9'-0"	—
s11(E)	72	#5	14'-4"	—
u10(E)	72	#4	4'-10"	—
Reinforcement Bars, Epoxy Coated	Lbs.		136,880	
Concrete Superstructure	Cu. Yd.		580.5	



USER NAME	DESIGNED	FAM	REVISED	—
—	CHECKED	GBR	REVISED	—
PLOT SCALE	DRAWN	FAM	REVISED	—
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PLOT DATE	6/24/2022			

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

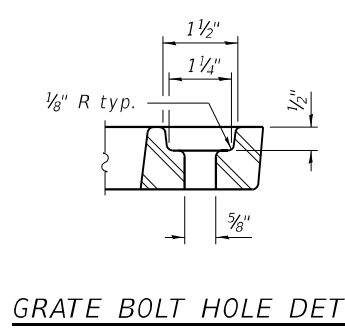
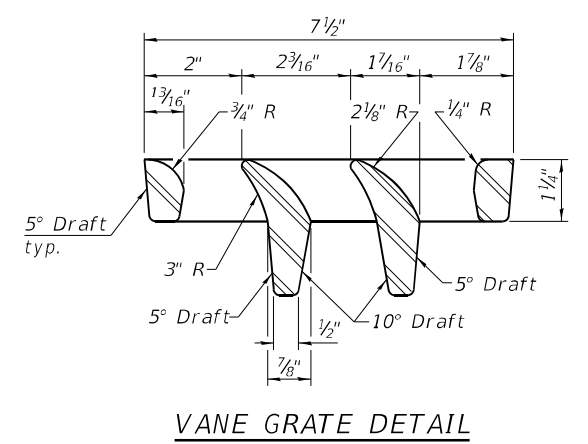
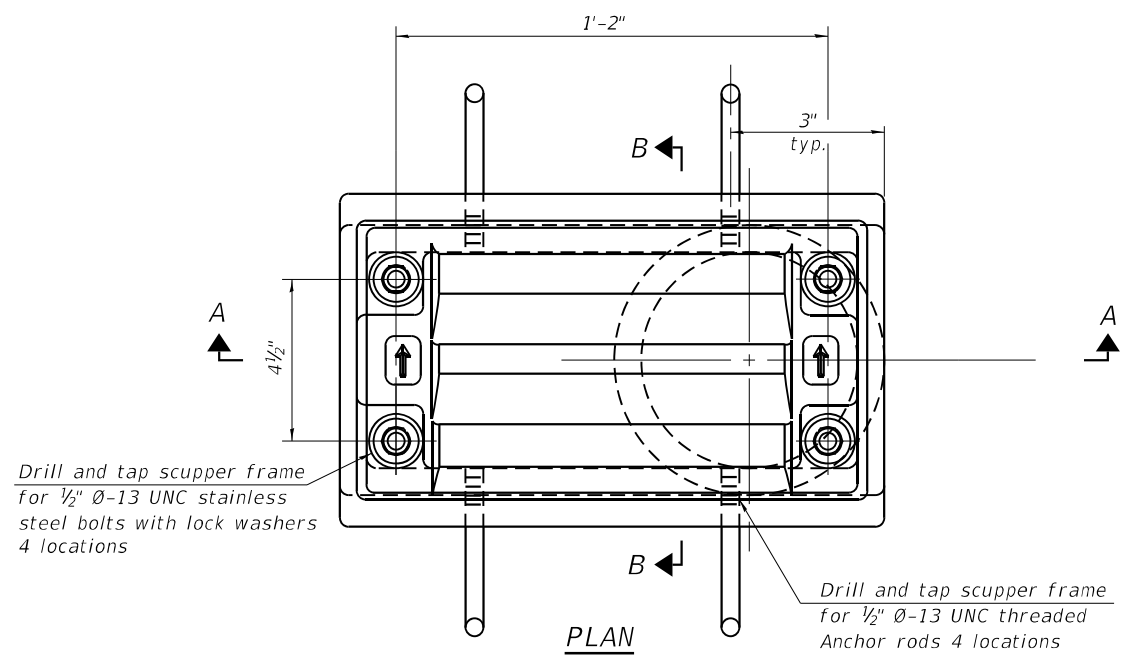
**SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 088-0030**

SHEET NO. 16 OF 49 SHEETS

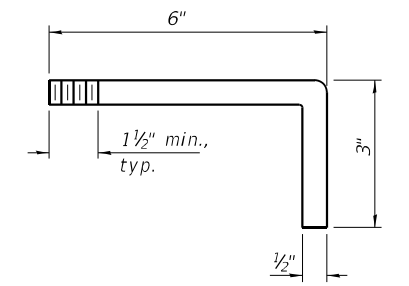
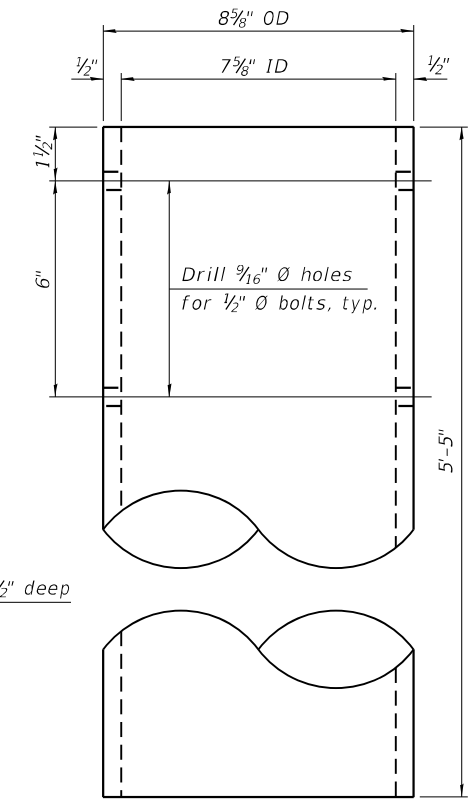
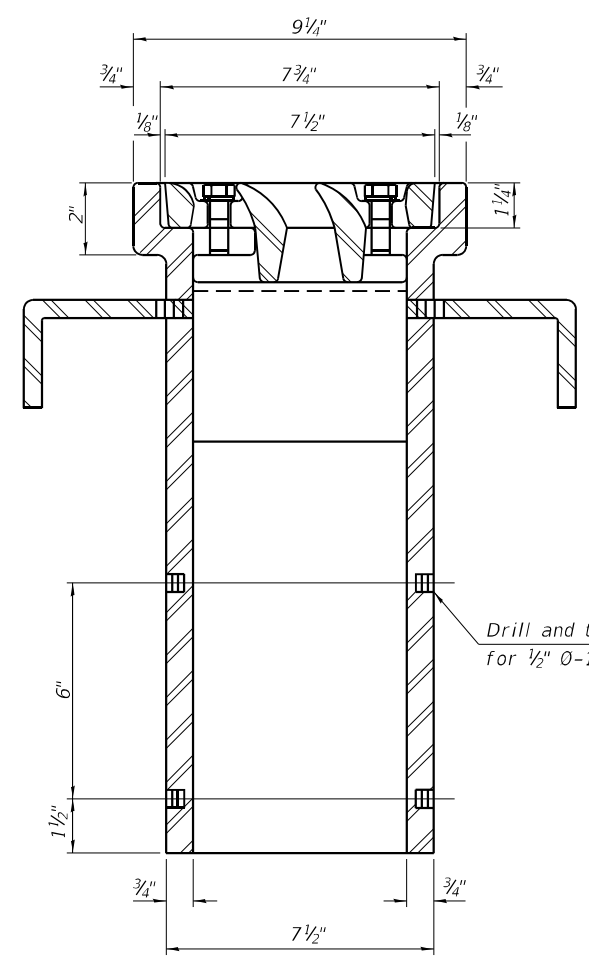
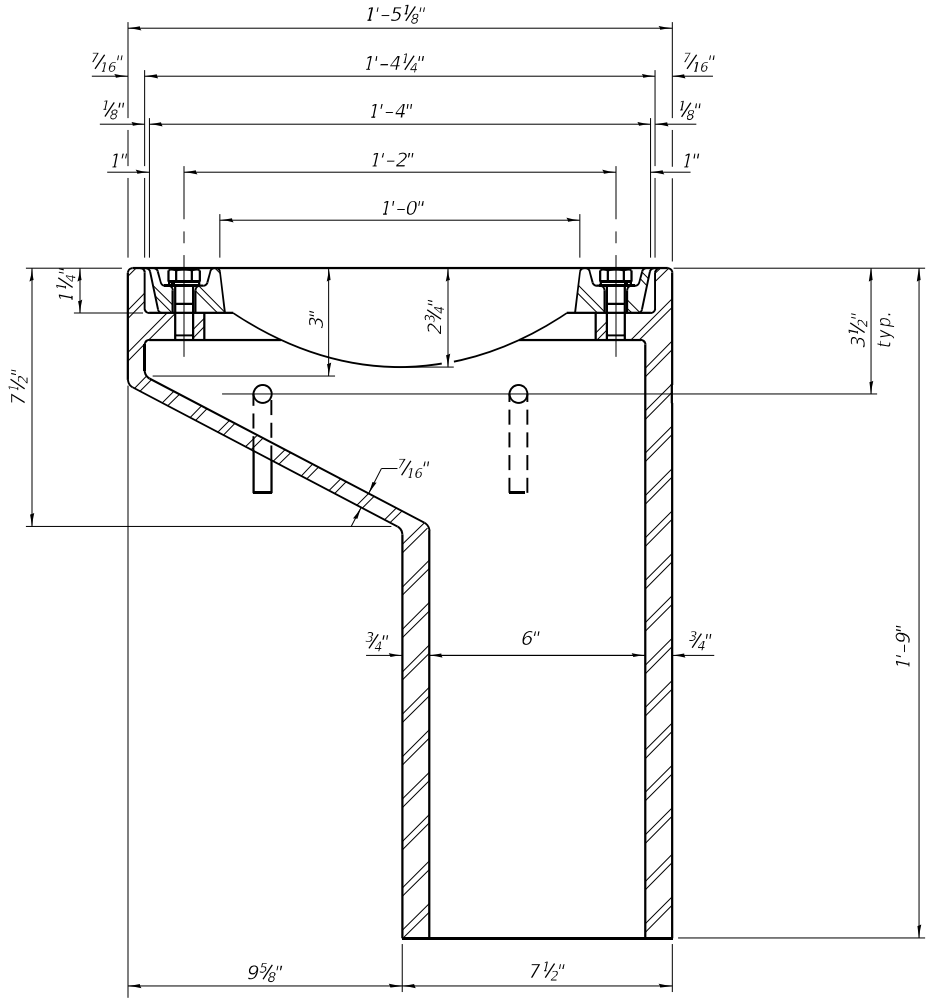
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	50
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



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 DS-11  
 1-1-2020



**Notes:**  
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B and AASHTO M 306.  
 Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M 232. As an alternate stainless steel may be used.  
 Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.  
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.  
 Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M 111.  
 As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel.  
 Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be pigmented or painted to match the color of the adjacent beam.  
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.  
 Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scupper, DS-11.



**SECTION B-B**

**DOWNSPOUT**

**ANCHOR ROD DETAIL**

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	6



USER NAME =	DESIGNED - FAM	REVISED -
PLLOT SCALE =	CHECKED - GBR	REVISED -
PLLOT DATE = 6/24/2022	DRAWN - FAM	REVISED -
	CHECKED - GBR	REVISED -

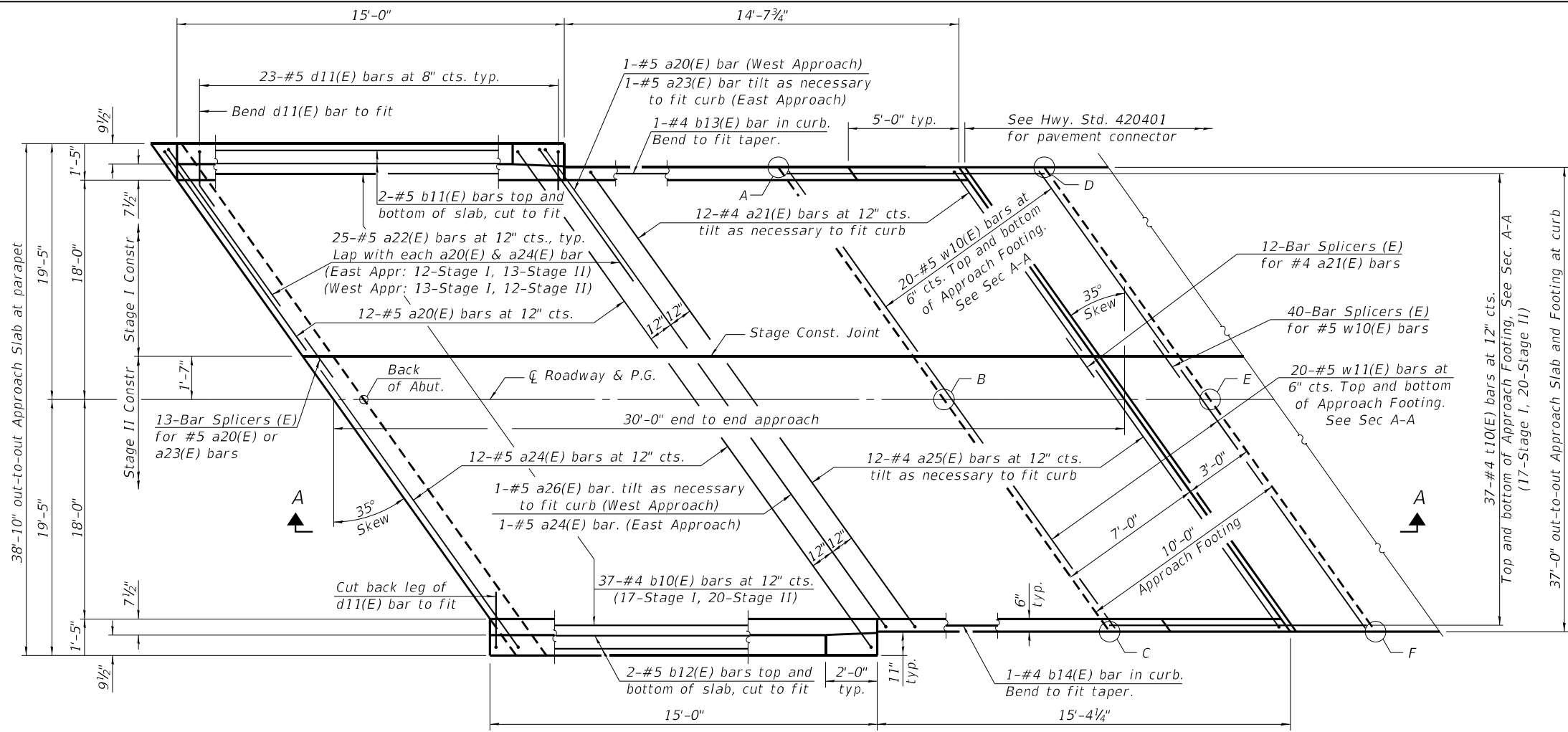
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11  
 STRUCTURE NO. 088-0030

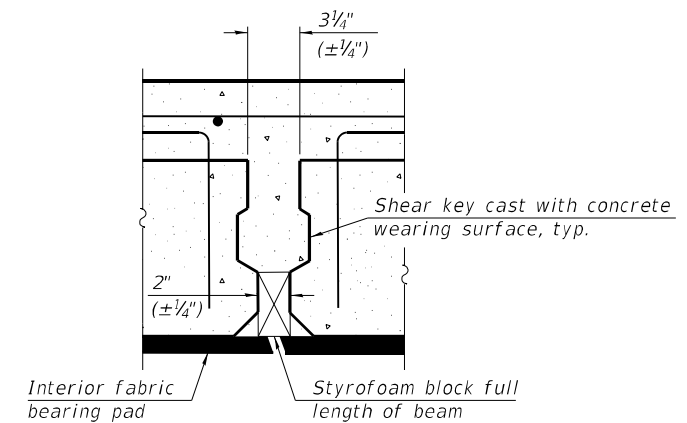
SHEET NO. 18 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 52
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

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**PLAN - WEST APPROACH**  
(East Approach Similar by Mirror Image Except as Noted)

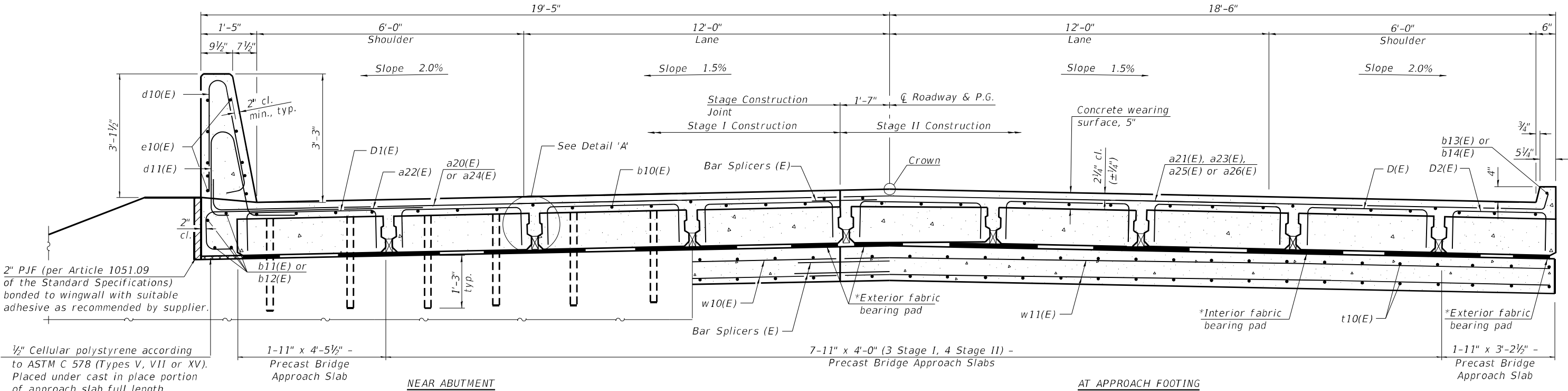


**DETAIL 'A'**

**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

Point	East Approach		West Approach	
	Top	Bottom	Top	Bottom
A	662.00	661.16	651.72	650.88
B	662.01	661.17	651.75	650.91
C	661.39	660.55	651.16	650.32
D	662.29	661.45	651.45	650.61
E	662.29	661.45	651.49	650.65
F	661.68	660.84	650.91	650.07

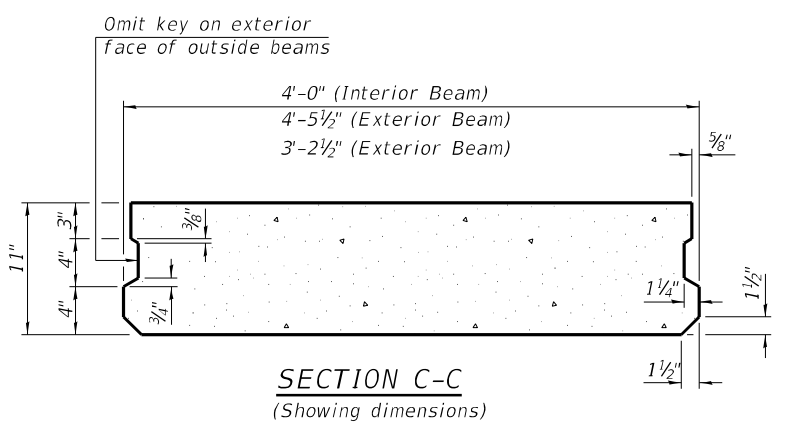
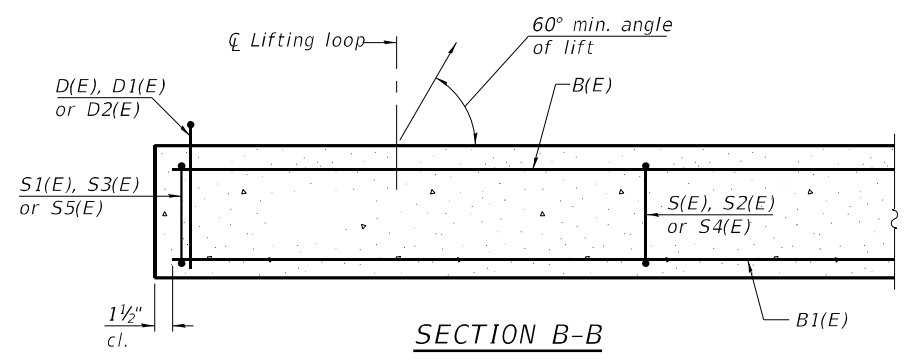
\* Fabric bearing pads at the expansion end shall be recessed 1/4" into the approach footing and bonded. Adjusting shims, when required, shall be bonded to the top of the fabric bearing pads.



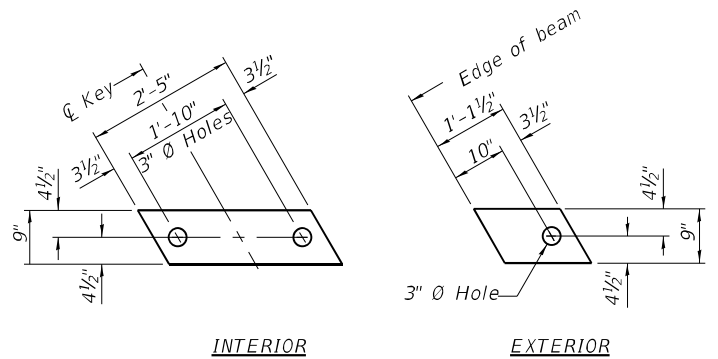
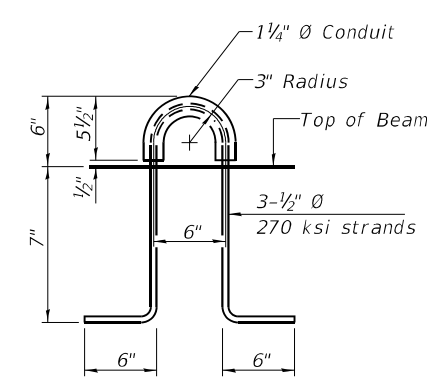
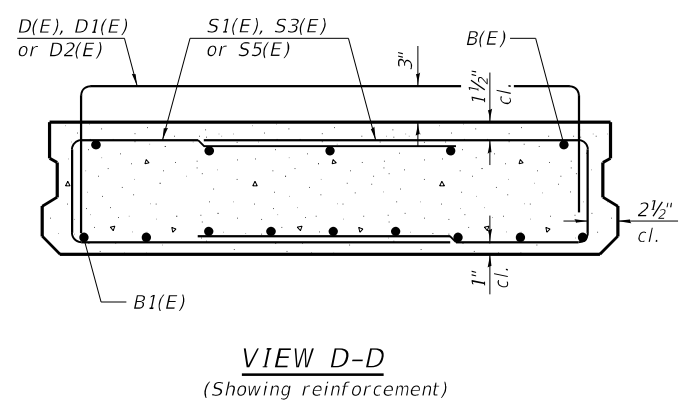
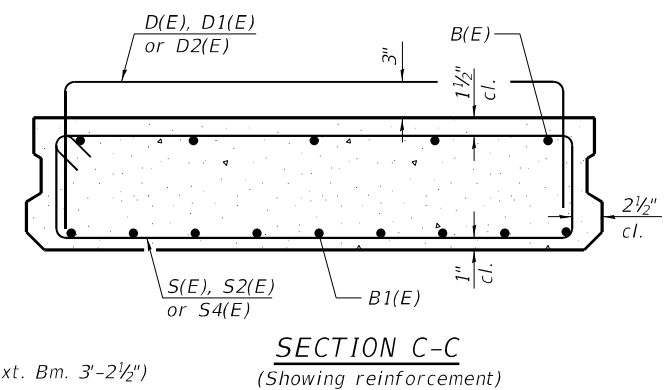
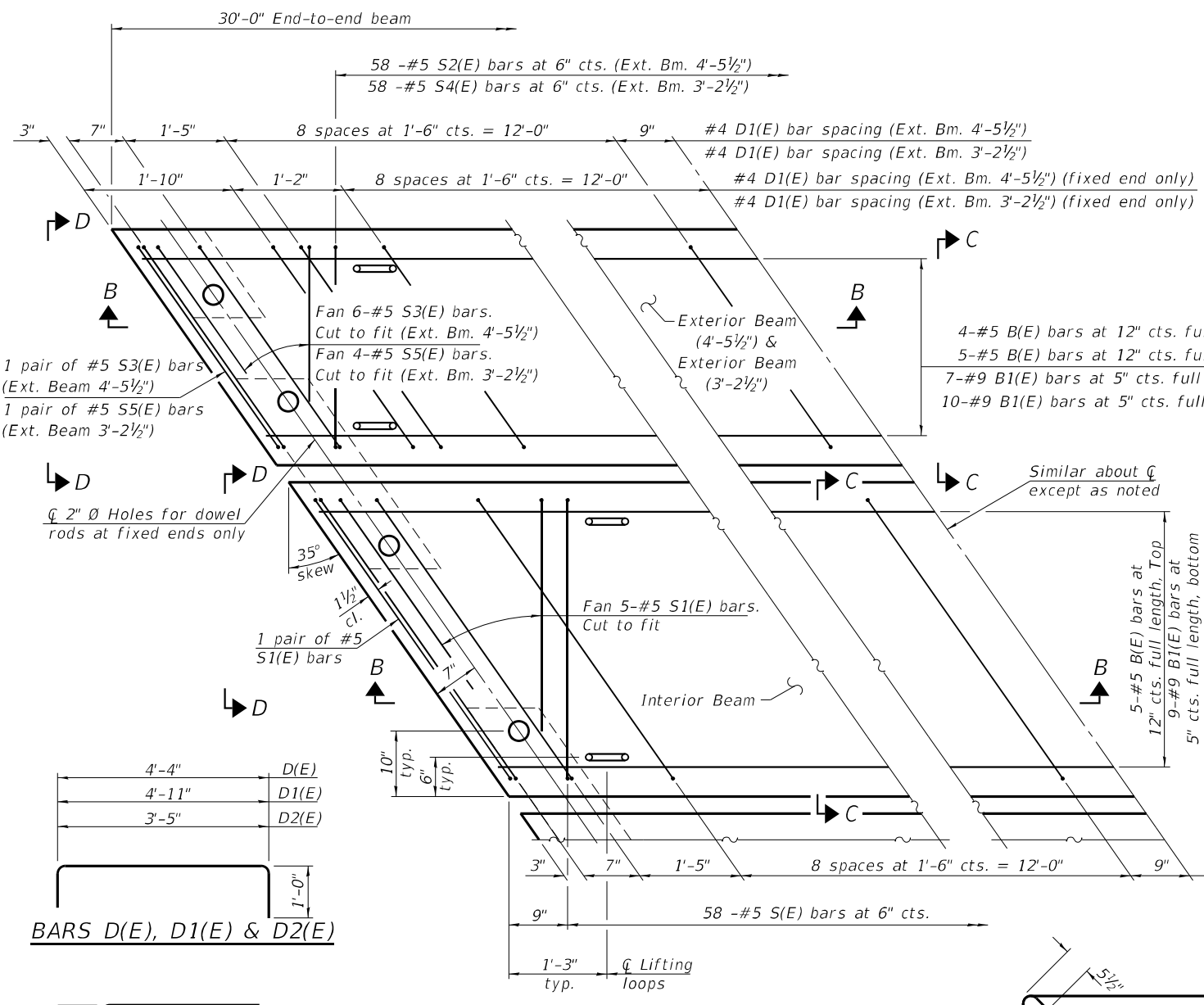
**CROSS SECTION**  
(Looking West)

(Sheet 1 of 3)

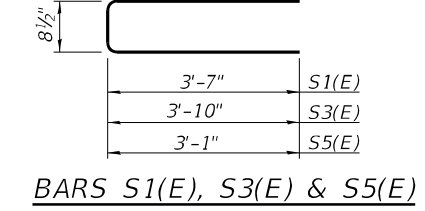
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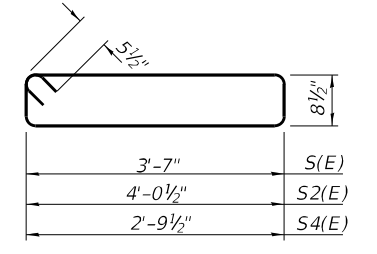
**Notes:**  
 The precast bridge approach slab shall be according to Section 504 of the Standard Specifications and shall be paid for at the contract unit price per square foot for Precast Bridge Approach Slab.  
 Cast-in-place substitution of Precast Bridge Approach Slab is not allowed.  
 The top surface of precast bridge approach slabs shall be finished similar to precast prestressed deck beams with concrete wearing surface as specified in the IDOT "Manual for Fabrication of Precast Prestressed Concrete Products."  
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Cost included with Precast Bridge Approach Slab.  
 A minimum 2 1/2" Ø lifting pins shall be used to engage the lifting loops during handling.  
 Compressive strength of precast concrete, f'c shall be 6,000 psi.  
 Compressive strength of precast concrete during initial lifting, f'ci shall be 5,000 psi.



**Notes:**  
 Bearing pads at fixed end shall be 1/2" thick and bearing pads at expansion end shall be 3/4" thick.  
 Omit holes for fabric bearing pads at approach slab footing end of beams.



**PLAN VIEW**  
 (showing precast bridge approach beams)  
 (Spacing of D(E), D1(E) and D2(E) bars may be adjusted up to 3" to miss the dowel rod holes and the lifting loops at the beam ends)



**BAR LIST**  
**EACH EXTERIOR BEAM (4'-5 1/2")**  
 (For information only)

Bar	No.	Size	Length	Shape
B(E)	5	#5	29'-8"	—
B1(E)	10	#9	29'-8"	—
D1(E)	32	#4	6'-11"	┌
S2(E)	58	#5	10'-5"	▬
S3(E)	16	#5	8'-5"	▬

**BAR LIST**  
**EACH INTERIOR BEAM**  
 (For information only)

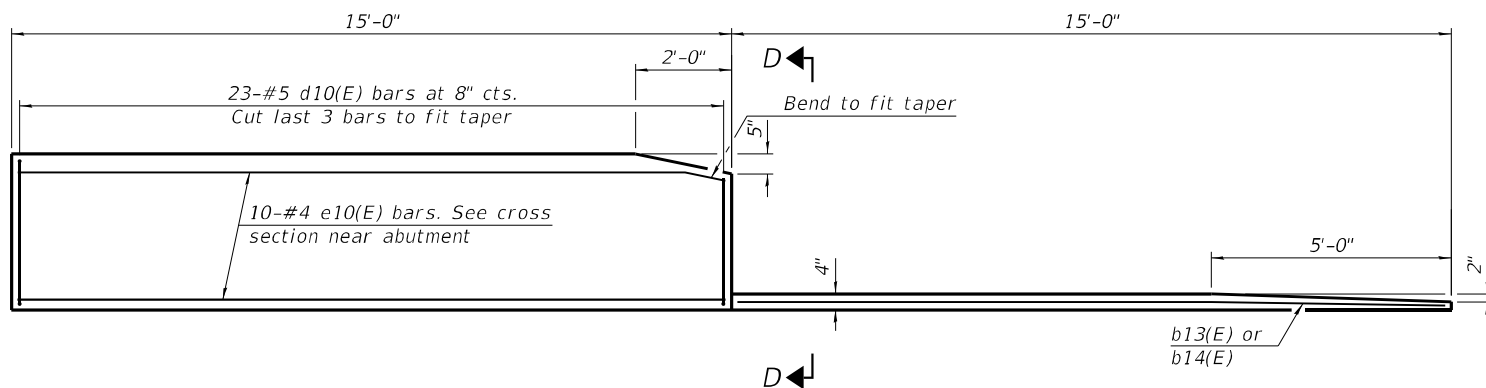
Bar	No.	Size	Length	Shape
B(E)	5	#5	29'-8"	—
B1(E)	9	#9	29'-8"	—
D(E)	22	#4	6'-4"	┌
S(E)	58	#5	9'-6"	▬
S1(E)	14	#5	7'-11"	▬

**BAR LIST**  
**EACH EXTERIOR BEAM (3'-2 1/2")**  
 (For information only)

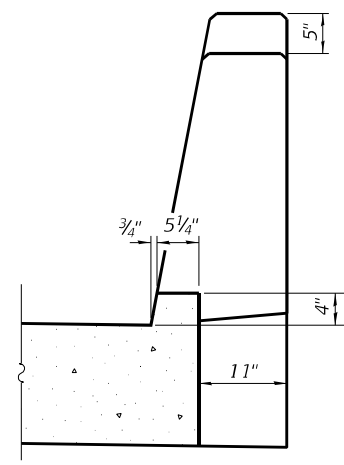
Bar	No.	Size	Length	Shape
B(E)	4	#5	29'-8"	—
B1(E)	7	#9	29'-8"	—
D2(E)	32	#4	5'-5"	┌
S4(E)	58	#5	7'-11"	▬
S5(E)	12	#5	6'-11"	▬

(Sheet 2 of 3)

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**INSIDE ELEVATION OF PARAPET AND CURB**  
 (For Type 6 terminal connections see Highway Standard 631031.)



**VIEW D-D**

**Notes:**

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

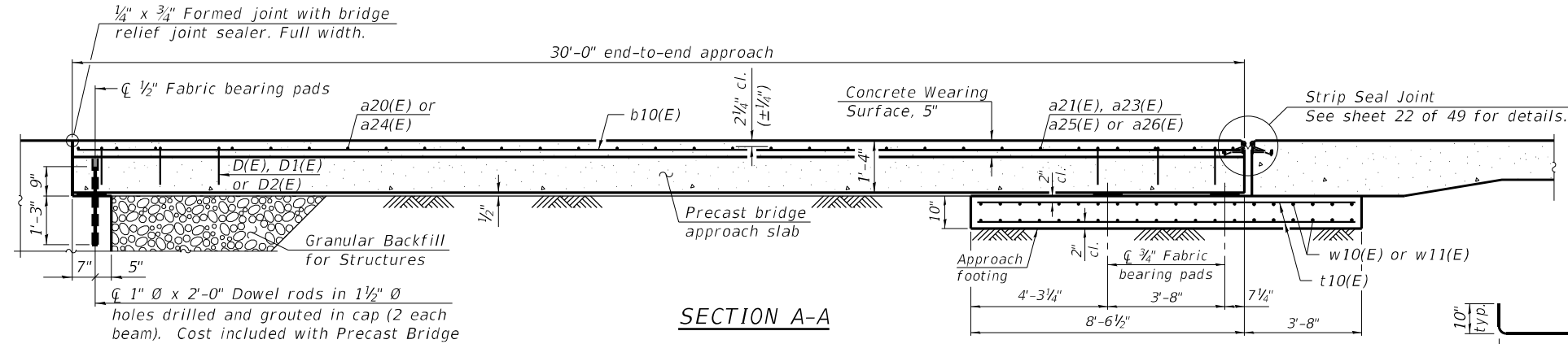
After precast bridge approach slabs have been erected, holes shall be drilled into abutment and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and cured according to Article 1020.13(a)(3) or 1020.13(a)(5) of the Standard Specifications for a minimum of 24 hours before casting the shear keys and wearing surface.

Any concrete poured monolithically with the wearing surface, such as curbs, shall not be paid for separately, but will be included in the cost of Concrete Wearing Surface, 5". The strip seal shall extend 6" beyond the edge of the approach slab on each end. Parapet concrete shall be paid for as Concrete Superstructure.

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf. Cost of excavation for approach footing included with Concrete Structures.

For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 49. Cost of cellular polystyrene is included with Concrete Superstructure.



**SECTION A-A**

1/4" x 3/4" Formed joint with bridge relief joint sealer. Full width.

3/4" Fabric bearing pads

a20(E) or a24(E)

b10(E)

Concrete Wearing Surface, 5"

a21(E), a23(E) a25(E) or a26(E)

Strip Seal Joint See sheet 22 of 49 for details.

Granular Backfill for Structures

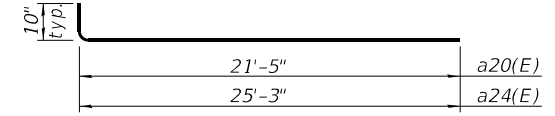
1/2"

1'-3" 0"

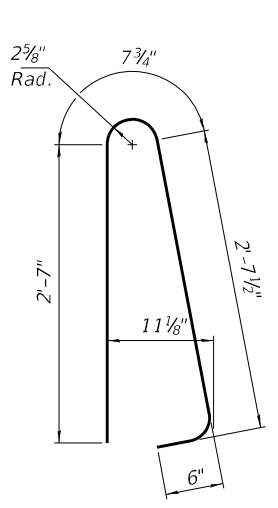
7"

5"

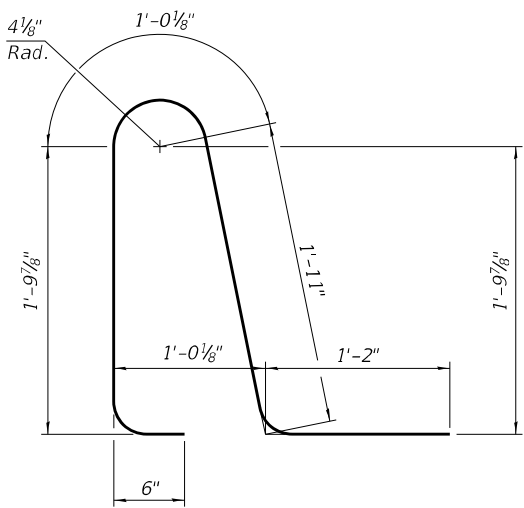
1" 0" x 2'-0" Dowel rods in 1/2" 0" holes drilled and grouted in cap (2 each beam). Cost included with Precast Bridge Approach Slab.



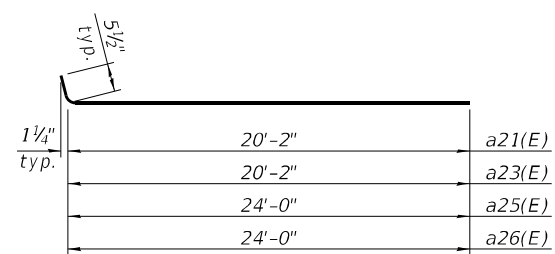
**BAR a20(E) & a24(E)**



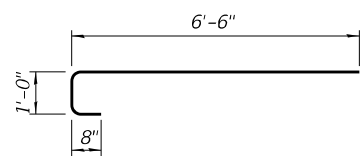
**BAR d10(E)**



**BAR d11(E)**



**BAR a21(E), a23(E), a25(E) & a26(E)**



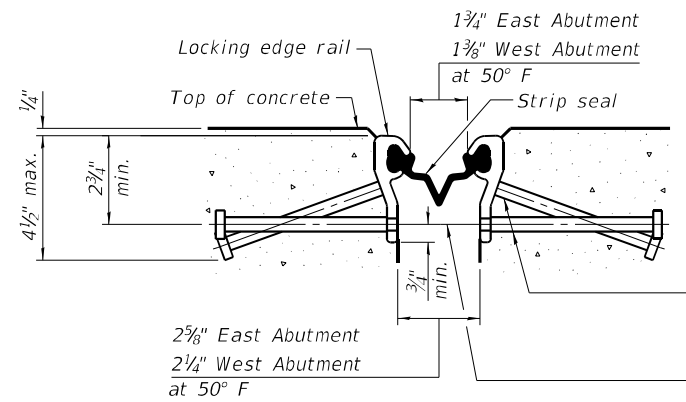
**BAR a22(E)**

**TWO APPROACHES BILL OF MATERIAL**

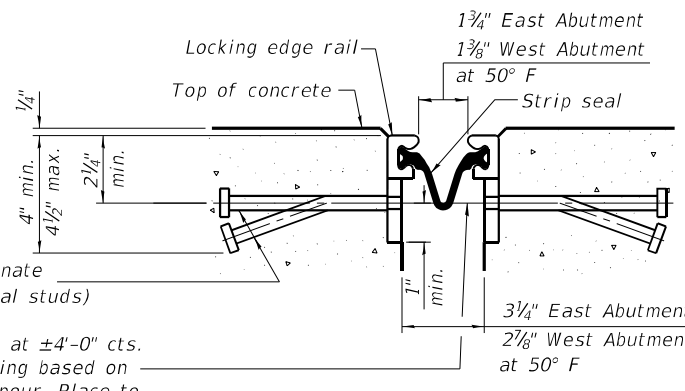
Bar	No.	Size	Length	Shape
a20(E)	25	#5	22'-3"	┌───┐
a21(E)	24	#4	20'-8"	┌───┐
a22(E)	50	#5	8'-2"	┌───┐
a23(E)	1	#5	20'-8"	┌───┐
a24(E)	25	#5	26'-1"	┌───┐
a25(E)	24	#4	24'-6"	┌───┐
a26(E)	1	#5	24'-6"	┌───┐
b10(E)	74	#4	29'-8"	───
b11(E)	8	#4	15'-6"	───
b12(E)	8	#4	14'-2"	───
b13(E)	2	#4	14'-4"	───
b14(E)	2	#4	14'-10"	───
d10(E)	92	#5	6'-5"	┌───┐
d11(E)	92	#5	6'-5"	┌───┐
e10(E)	40	#4	14'-8"	───
t10(E)	74	#4	11'-10"	───
w10(E)	80	#5	20'-3"	───
w11(E)	80	#5	24'-1"	───
Concrete Superstructure		Cu. Yd.	7.8	
Concrete Structures		Cu. Yd.	27.9	
Reinforcement Bars, Epoxy Coated		Pound	10,030	
Precast Bridge Approach Slab		Sq. Ft.	2221	
Concrete Wearing Surface, 5"		Sq. Yd.	253.0	



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SHOWING ROLLED RAIL JOINT

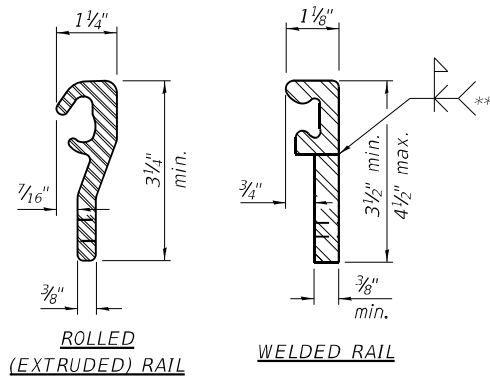


SHOWING WELDED RAIL JOINT

\* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)  
 3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

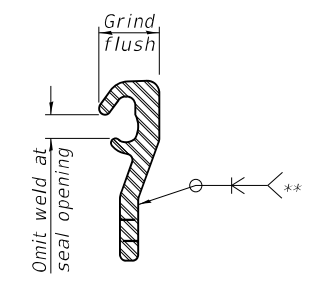
**SECTION A-A**

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



**LOCKING EDGE RAILS**

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

**Notes:**  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.  
 The manufacturer's recommended installation methods shall be followed.  
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.  
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.  
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	91



USER NAME =	DESIGNED - FAM	REVISED -
	CHECKED - GBR	REVISED -
PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

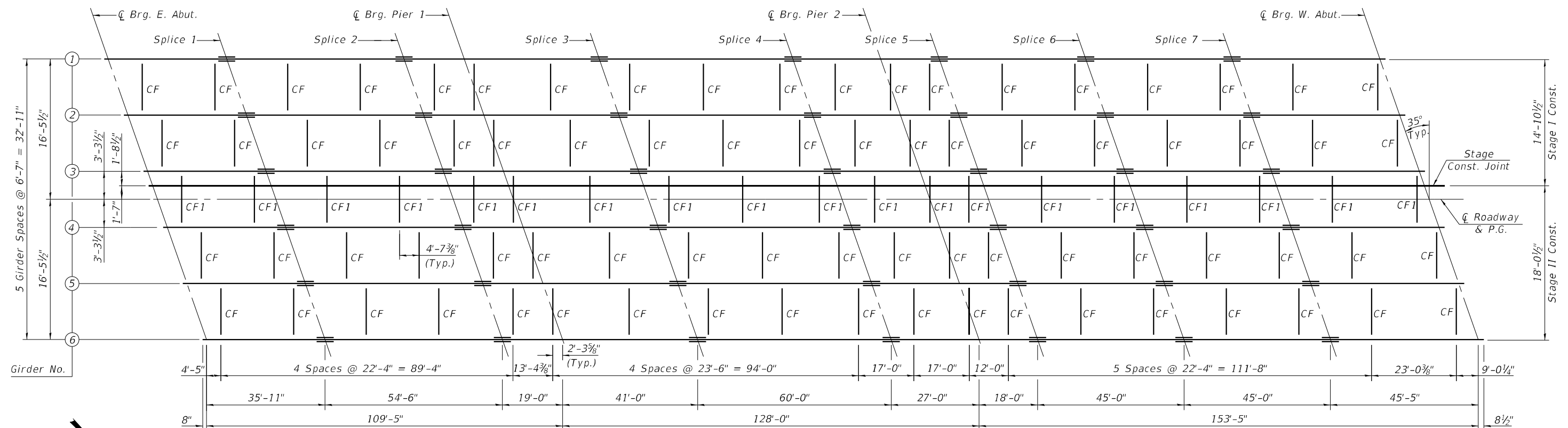
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL  
 STRUCTURE NO. 088-0030**

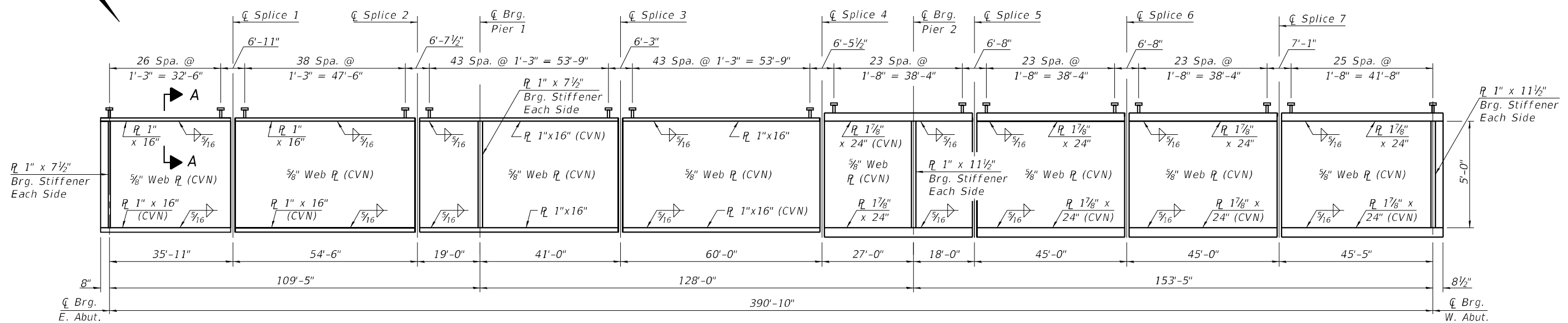
SHEET NO. 22 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 56
			CONTRACT NO. 68698	
		ILLINOIS	FED. AID PROJECT	

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**FRAMING PLAN**



**GIRDER ELEVATION**

**Notes:**  
 All flange, web, and bearing stiffener plates shall be AASHTO M 270, Grade 50.  
 All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
 Girders have bearing stiffeners and connections plates as required by the design.  
 Additional stiffeners may be added at the Contractor's expense as necessary to prevent distortion of the girders during galvanizing. The Contractor shall coordinate with the fabricator and the galvanizer to determine if additional stiffeners are necessary, and where these should be placed. Any proposed changes shall be submitted to the Engineer for approval prior to making any changes and documented on the shop drawings.  
 Temporary stiffener angles shall be bolted to each side of the splice ends of each girder segment to prevent distortion during galvanizing. Temporary stiffener angles shall be bolt or fit tight against top and bottom flanges and include space tubes to minimize damage to galvanizing during removal. Cost included with Furnishing and Erecting Structural Steel

"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.

**Notes:**  
 See sheet 24 of 49 for field splice details, top of web elevations, camber diagram and Section A-A.  
 For Section at abutments and piers, see sheet 24 of 49.  
 For cross frame details, see sheet 25 of 49.  
 See sheet 26 of 49 for girder moment and shear table.



**BACON | FARMER | WORKMAN**  
 ENGINEERS & ARCHITECTS, INC.

USER NAME	DESIGNED - FAM	REVISED -
PLOT SCALE	CHECKED - GBR	REVISED -
PLOT DATE	DRAWN - FAM	REVISED -
	CHECKED - GBR	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

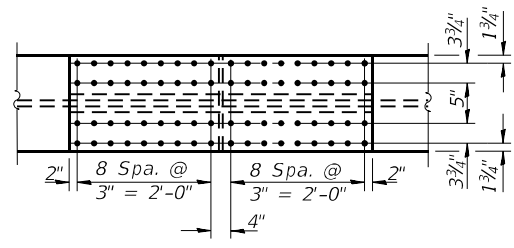
**STRUCTURAL STEEL**  
**STRUCTURE NO. 088-0030**

SHEET NO. 23 OF 49 SHEETS

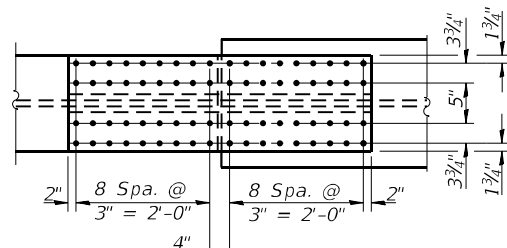
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	57
CONTRACT NO. 68698				

ILLINOIS FED. AID PROJECT

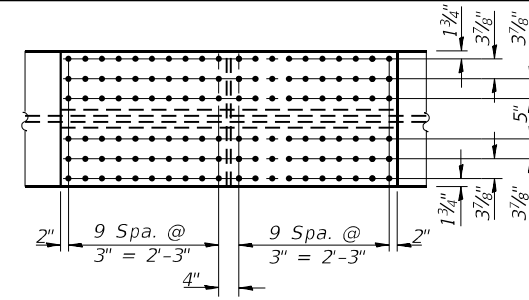
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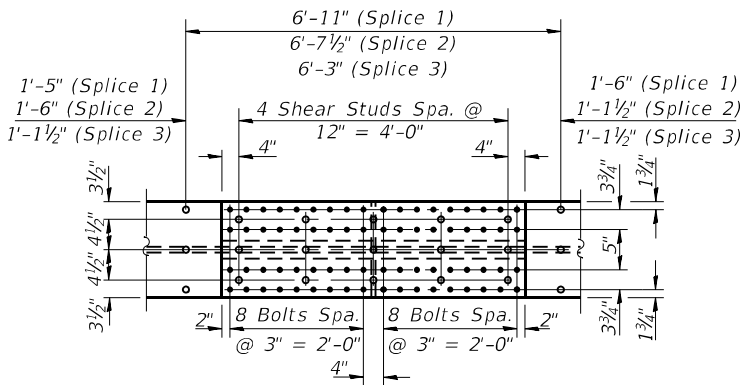
BOTTOM FLANGE



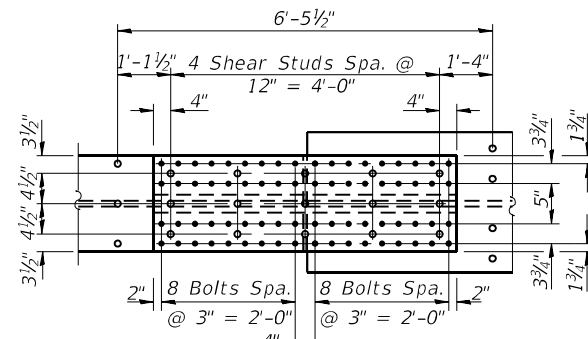
BOTTOM FLANGE



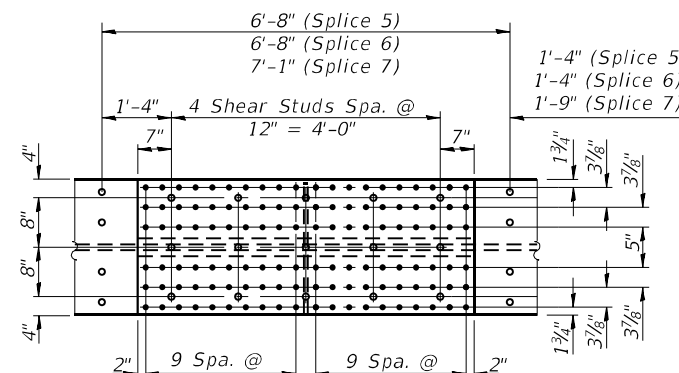
BOTTOM FLANGE



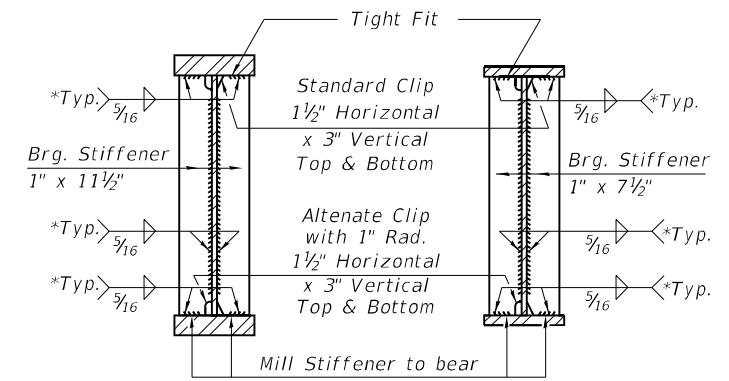
TOP FLANGE



TOP FLANGE



TOP FLANGE



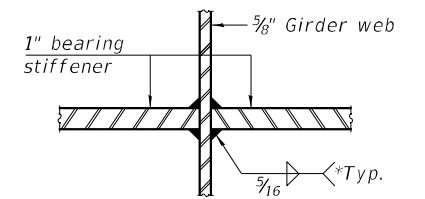
SECTION AT WEST ABUT. & PIER 2

SECTION AT EAST ABUT. & PIER 1

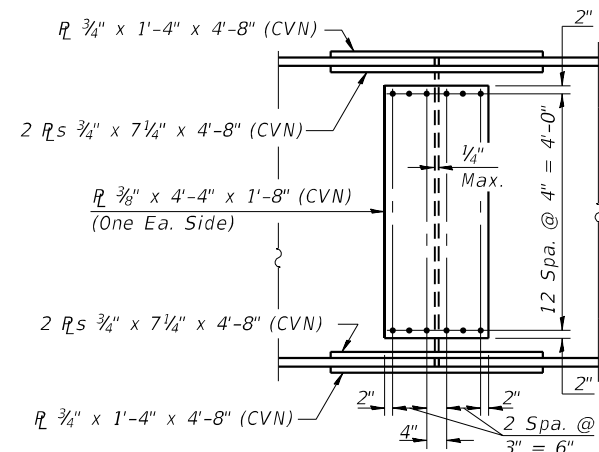
(No. plates required = 24)

(No. plates required = 24)

\* Stop 1/4" (±1/8") from edges as shown, typical.



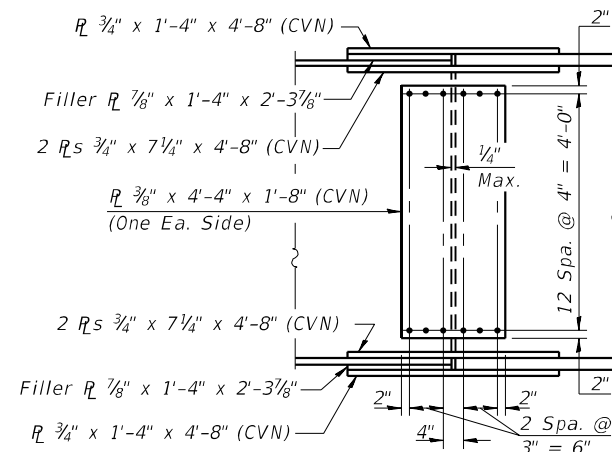
WEB WELD DETAILS AT BEARING STIFFENERS



ELEVATION

FIELD SPLICE I DETAIL

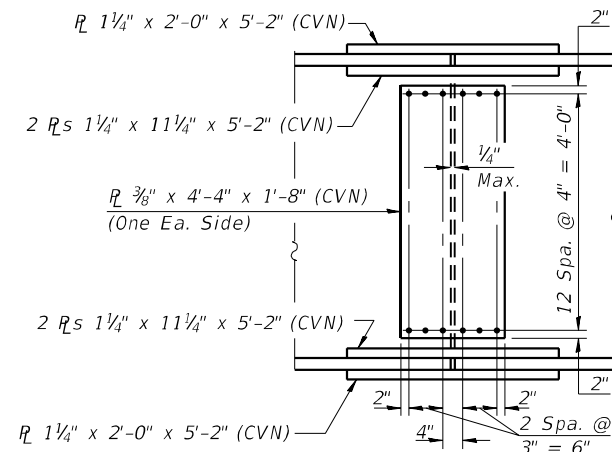
For Splice 1, 2 & 3  
(18 Required)



ELEVATION

FIELD SPLICE II DETAIL

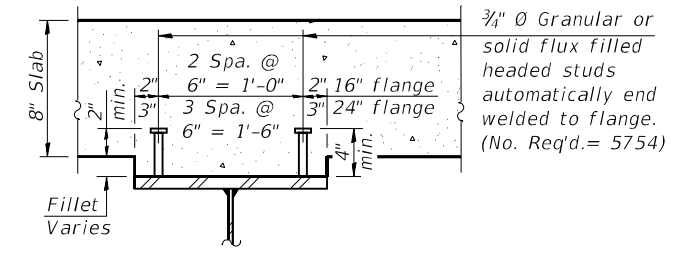
For Splice 4  
(6 Required)



ELEVATION

FIELD SPLICE III DETAIL

For Splice 5, 6 & 7  
(18 Required)



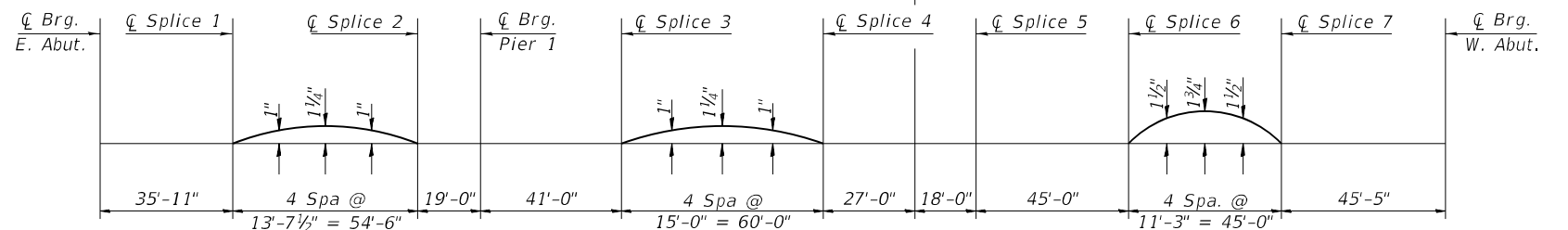
SECTION A-A

Notes:  
 Use 7/8" Ø H.S. bolts with 1 1/16" Ø holes for all splice connections.  
 "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.  
 All splice plates shall be AASHTO M 270 Grade 50.

**\*\*TOP OF WEB ELEVATIONS**

Location	℄ Brg. W. Abut.	℄ Splice 1	℄ Splice 2	℄ Pier 1	℄ Splice 3	℄ Splice 4	℄ Pier 2	℄ Splice 5	℄ Splice 6	℄ Splice 7	℄ Brg. E. Abut.
Girder 1	662.01	661.21	659.87	659.41	658.41	656.89	656.29	655.89	655.00	653.93	652.75
Girder 2	662.03	661.23	659.88	659.42	658.42	656.91	656.31	655.91	655.01	653.95	652.76
Girder 3	662.02	661.22	659.88	659.41	658.41	656.90	656.30	655.90	655.00	653.94	652.75
Girder 4	661.91	661.11	659.77	659.30	658.30	656.79	656.19	655.79	654.90	653.83	652.64
Girder 5	661.70	660.91	659.56	659.10	658.10	656.58	655.98	655.58	654.69	653.62	652.44
Girder 6	661.47	660.67	659.33	658.86	657.86	656.35	655.75	655.35	654.45	653.39	652.21

\*\*For fabrication use only.



CAMBER DIAGRAM

(Sheet 1 of 3)



USER NAME =	DESIGNED - FAM	REVISED -
PLOT SCALE =	CHECKED - GBR	REVISED -
PLOT DATE = 6/24/2022	DRAWN - FAM	REVISED -
	CHECKED - GBR	REVISED -

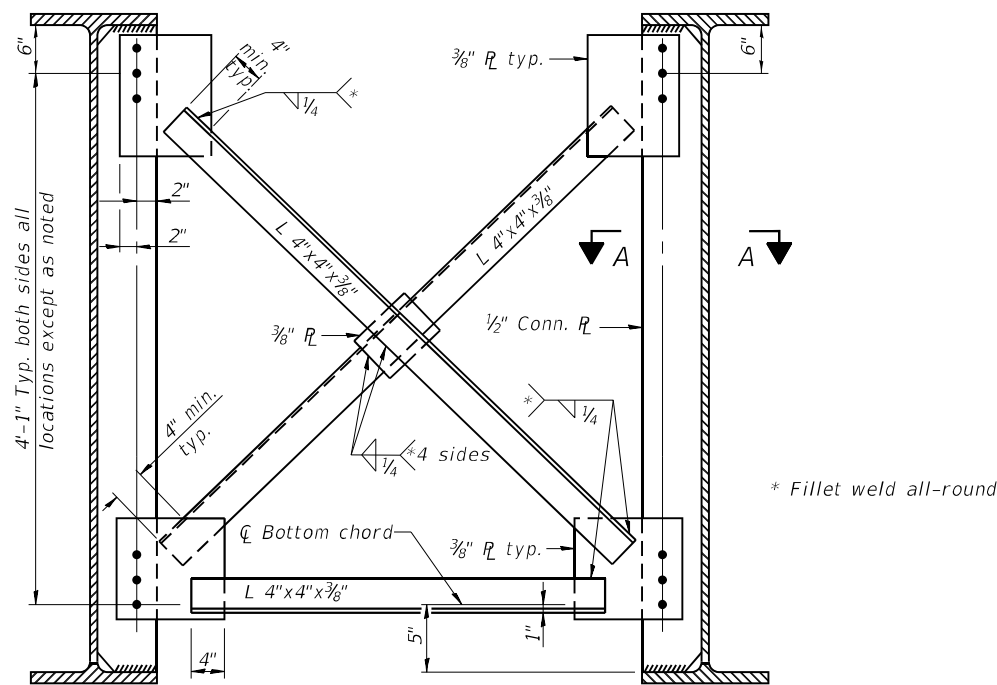
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS  
STREET NO. 088-0030

SHEET NO. 24 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 58
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

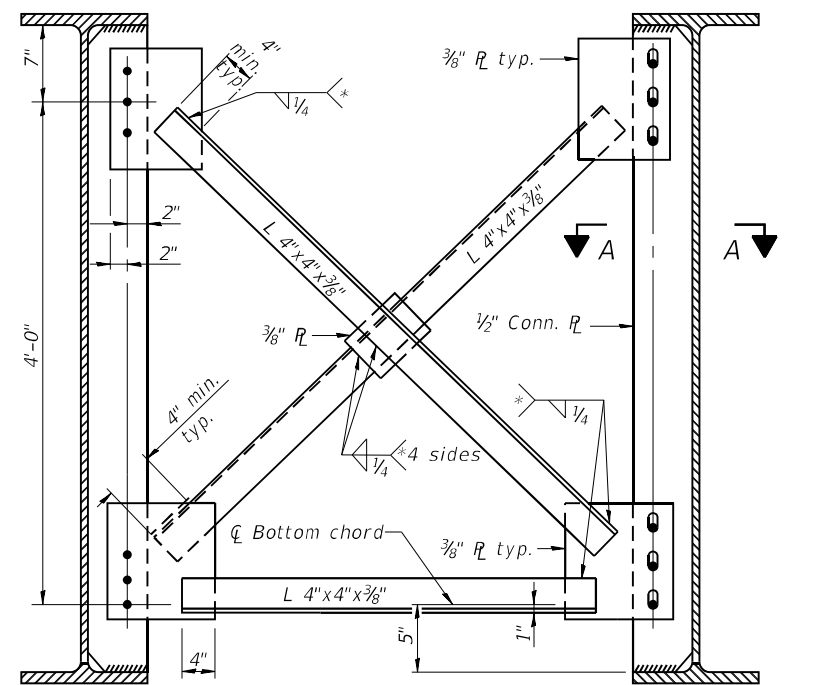
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**TYPICAL INTERIOR CROSS FRAME (CF)**

(No. Req'd. = 76)

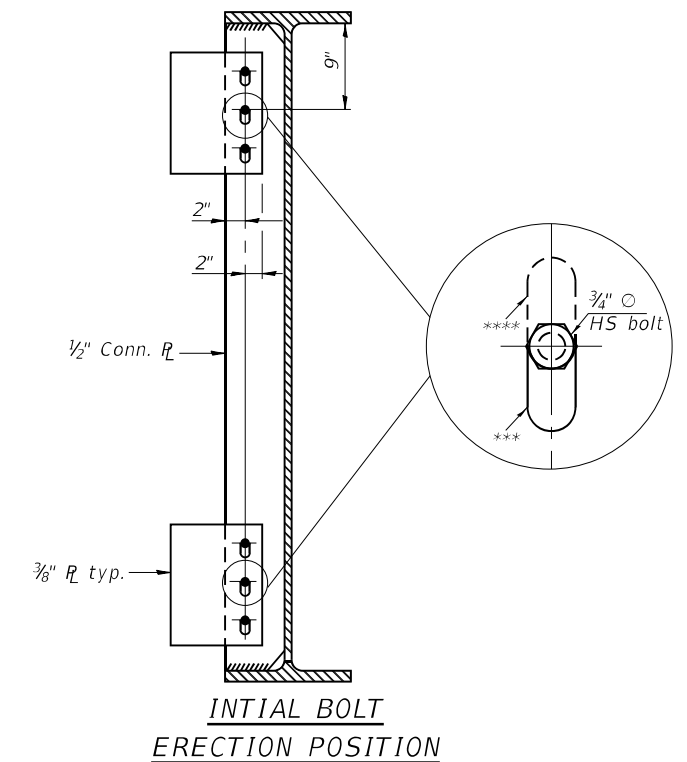
3/4" Ø HS bolts with 1 5/16" Ø hole shall be provided for all cross frames connections except as noted.  
 Two hardened washers required for each set of oversized holes.



**TYPICAL CROSS FRAME AT STAGE CONSTRUCTION BAY (GIRDER 4-5, CF1)**

(Showing Final Erection Position)  
 (Looking West)  
 (No. Req'd. = 19)

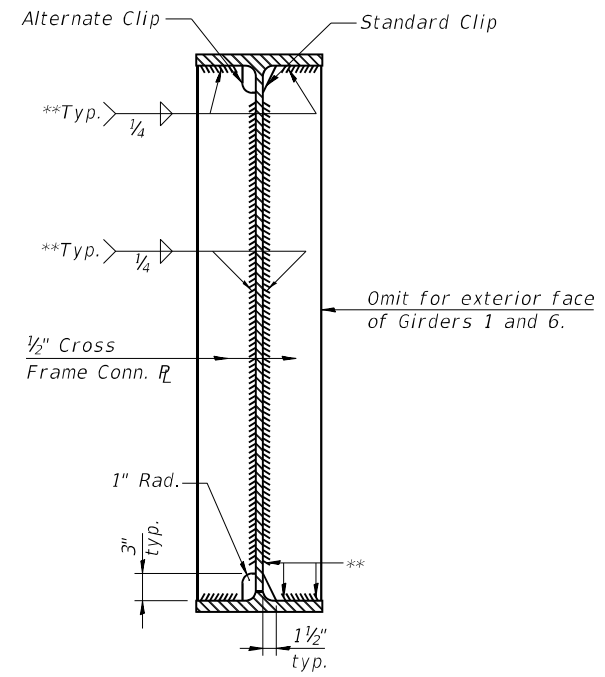
3/4" Ø HS bolts with 1 5/16" Ø hole shall be provided for all cross frames connections except as noted. 1 3/16" x 1 7/8" vertical slotted holes shall be provided for both connection plates on south side of girder 4 to accommodate the differential displacement between girder 3 and 4 due to stage construction. The bolts in slotted holes shall be finger tightened until the second stage pour is completed. Position slots so bolts move from one end with no concrete load to the opposite end under the deck load. The slotted holes in the connection plates shall be positioned as shown to allow the bolts move to final erection position under deck load. The holes shall be positioned to allow maximum bolt displacement without laterally stressing the girders.  
 Two hardened washers required for each set of oversized holes.  
 See Framing Plans on Sheet 23 of 49 for cross frame orientation.



**INITIAL BOLT ERECTION POSITION**

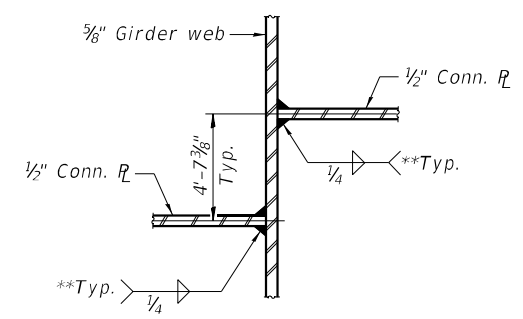
(South Side Girder 4)

\*\*\* Slotted hole in cross frame connection plate  
 \*\*\*\* Slotted hole in girder connection plate

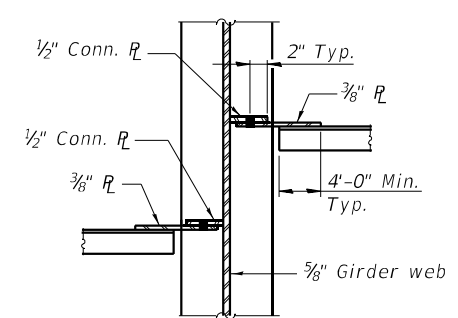


**WELD LIMITS AND CLIP DETAILS AT CONNECTION PLATE LOCATIONS**

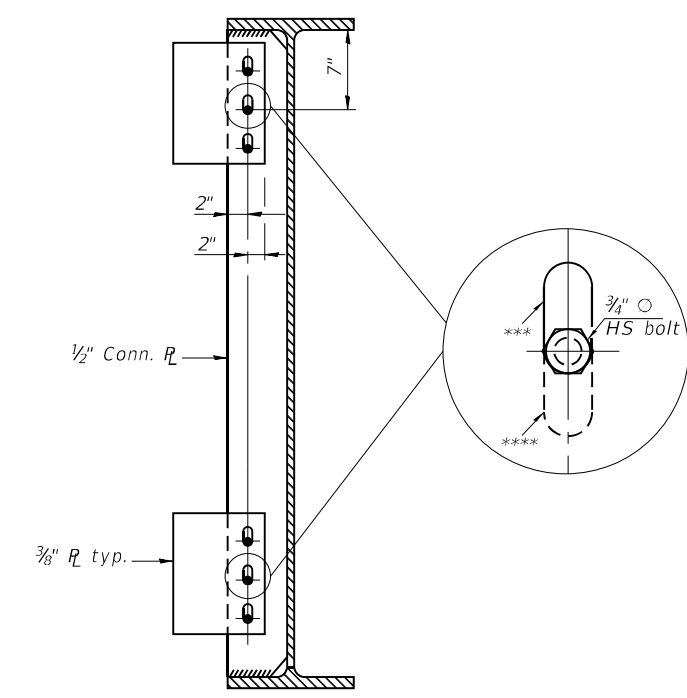
\*\* Stop welds 1/4" (±1/8") from edges as shown, typical.  
 Note:  
 See Sheet 24 of 49 for weld limits, clip details and web weld details for bearing stiffener.



**WEB WELD DETAILS FOR CONNECTION PLATES**



**SECTION A-A**



**FINAL BOLT ERECTION POSITION AFTER STAGE II DECK POUR**

(South Side Girder 4)

(Sheet 2 of 3)



**BACON | FARMER | WORKMAN**  
 ENGINEERS & ARCHITECTS, INC.

USER NAME	DESIGNED - FAM	REVISED -
PLOT SCALE	CHECKED - GBR	REVISED -
PLOT DATE	DRAWN - FAM	REVISED -
	CHECKED - GBR	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL DETAILS  
 STRUCTURE NO. 088-0030**

SHEET NO. 25 OF 49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	59
CONTRACT NO. 68698				

ILLINOIS FED. AID PROJECT

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INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp.2	Pier 2	0.6 Sp.3
Is	(in <sup>4</sup> )	41021	41021	41021	97418	97418
Ic(n)	(in <sup>4</sup> )	88797	88797	88797	164407	164407
Ic(3n)	(in <sup>4</sup> )	66227	66227	66227	127961	127961
Ic(cr)	(in <sup>4</sup> )	---	48527	---	105639	---
Ss	(in <sup>2</sup> )	1325	1325	1325	3056	3056
Sc(n)	(in <sup>2</sup> )	1760	7688	1760	9486	3541
Sc(3n)	(in <sup>2</sup> )	1604	3199	1604	5071	3322
Sc(cr)	(in <sup>2</sup> )	---	1739	---	3513	---
DC1	(k/')	0.962	0.962	0.962	1.207	1.207
MDC1	(k)	960	-1120	228	-2556	2388
DC2	(k/')	0.175	0.175	0.175	0.175	0.175
MDC2	(k)	172	-198	69	-380	342
DW	(k/')	0.300	0.300	0.300	0.300	0.300
MDW	(k)	295	-340	119	-651	587
LLDF		0.542	0.542	0.542	0.542	0.542
M <sub>L + IM</sub>	(k)	1483	-1206	1413	-1803	2320
Mu (Strength I)	(k)	4453	-4268	3023	-7802	8353
Øf Mn	(k)	8935	---	9377	---	16902
fs DC1	(ksi)	8.71	10.16	2.07	10.04	9.38
fs DC2	(ksi)	1.29	1.37	0.52	1.30	1.24
fs DW	(ksi)	2.21	2.35	0.89	2.22	2.12
fs (L+IM)	(ksi)	10.11	8.32	9.63	6.16	7.86
fs (Service II)	(ksi)	25.35	14.62	16.00	15.44	22.96
0.95Rh Fyf	(ksi)	47.50	47.50	47.50	47.50	47.50
fs (Total)(Strength I)	(ksi)	---	32.50	---	28.29	---
Øf Fn	(ksi)	---	41.80	---	41.80	---
Vf	(k)	64.0	72.9	52.3	71.2	69.1

GIRDER REACTION TABLE								
	East Abutment		Pier 1		Pier 2		West Abutment	
	Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF	0.713	0.538	0.713	0.538	0.713	0.538	0.713	0.538
OCF	----	1.14	----	----	----	----	----	1.14
RDC1*	(k) 86.47	88.48	116.3	122.0	189.6	197.2	119.0	121.9
RDC2	(k) 7.76	7.76	21.17	21.17	28.52	28.52	10.95	10.94
RDW	(k) 13.30	13.29	36.29	36.30	48.88	48.90	18.77	18.76
R <sub>L</sub>	(k) 69.70	59.95	128.5	97.03	150.4	113.5	79.24	68.15
R <sub>IM</sub>	(k) 15.24	13.10	24.10	18.15	26.71	20.22	15.70	13.50
RTotal	(k) 192.5	182.6	326.4	294.7	444.1	408.3	243.7	233.3

\* Girder reactions at abutments include dead loads due approach slab and semi-integral abutment diaphragm.

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.<sup>4</sup> and in.<sup>2</sup>).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.<sup>4</sup> and in.<sup>3</sup>).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).  
 MDC1: Un-factored moment due to non-composite dead load (kip-ft.).  
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M<sub>L + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).  
 1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M<sub>L + IM</sub>

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
 MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
 MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
 MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).  
 M<sub>L + IM</sub> / Sc(n) or M<sub>L + IM</sub> / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).  
 fsDC1 + fsDC2 + fsDW + 1.3 fs(L + IM)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
 1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(L + IM)

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

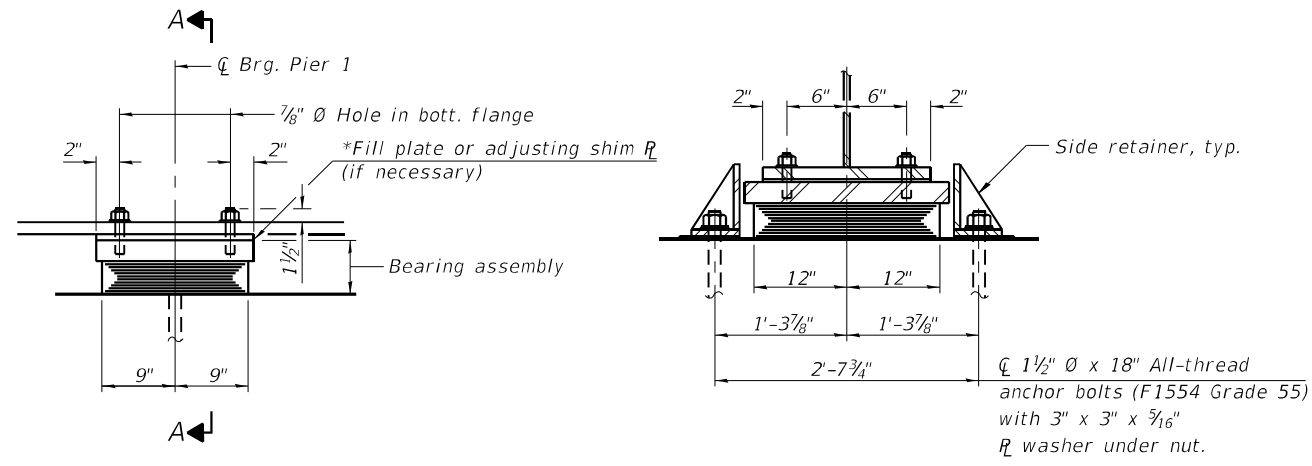
LLDF: Live Load Distribution Factor  
 OCF: Obtuse Correction Factor

(Sheet 3 of 3)

	BACON   FARMER   WORKMAN ENGINEERS & ARCHITECTS, INC. <small>401 NORTH FLORISSANT STREET          SUITE 1000          CHICAGO, ILLINOIS 60610</small>	USER NAME - DESIGNED - FAM CHECKED - GBR PLOT SCALE - DRAWN - FAM PLOT DATE - 6/24/2022 CHECKED - GBR REVISED -	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>STRUCTURAL STEEL DETAILS</b> <b>STRUCTURE NO. 088-0030</b>	F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 60	CONTRACT NO. 68698
	SHEET NO. 26 OF 49 SHEETS						ILLINOIS FED. AID PROJECT				



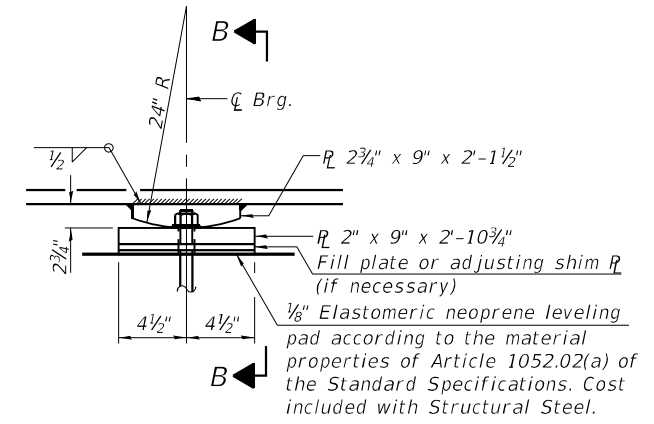
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ELEVATION AT PIER

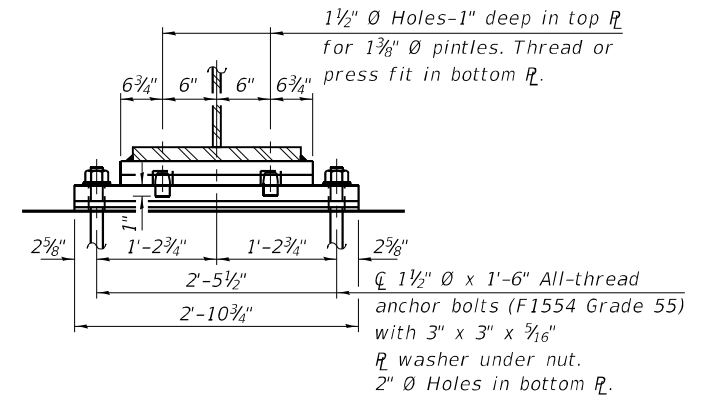
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. AT PIER 1

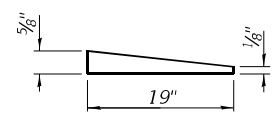


ELEVATION AT PIER

FIXED BEARING AT PIER 2

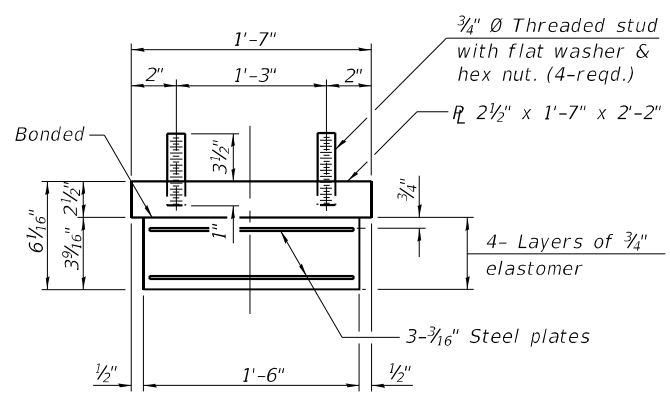


SECTION B-B



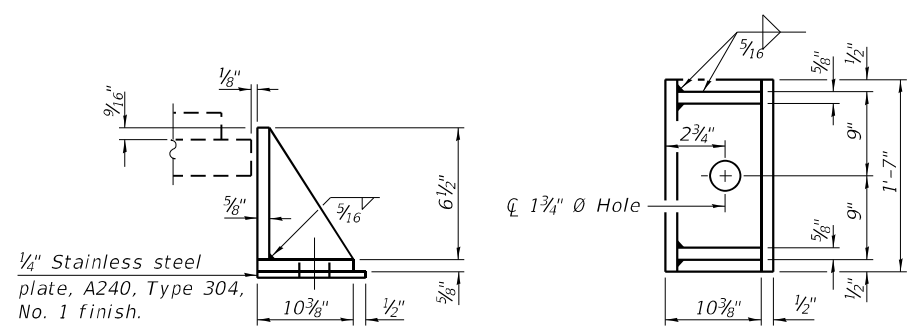
\*SLOPE ADJUSTING FILL PLATE

(Place thicker section at Span 1 side of all elastomeric bearings at Pier 1)



BEARING ASSEMBLY AT PIER 1

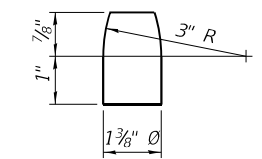
Note:  
 Shim plates shall not be placed under bearing assembly.



SIDE RETAINER AT PIER 1

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Notes:  
 Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
 Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
 The bearing plates and pintles shall be AASHTO M 270 Grade 50.  
 All bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M 111 or M 232 as applicable.  
 Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



PINTLE

FILL PLATE THICKNESS

	Pier 1	Pier 2
Girder 1	---	---
Girder 2	1/8"	1/8"
Girder 3	---	---
Girder 4	---	---
Girder 5	---	---
Girder 6	---	---

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18
Anchor Bolts, 1 1/4" Ø	Each	24
Anchor Bolts, 1 1/2" Ø	Each	24



BACON | FARMER | WORKMAN  
 ENGINEERS & TESTERS, INC.  
 401 NORTH FLORISSANT STREET  
 MARIETTA, ILLINOIS 60157  
 PHONE: 618-242-8800

USER NAME	DESIGNED	REVISIONS
FAM	FAM	---
GBR	GBR	---
FAM	FAM	---
GBR	GBR	---

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

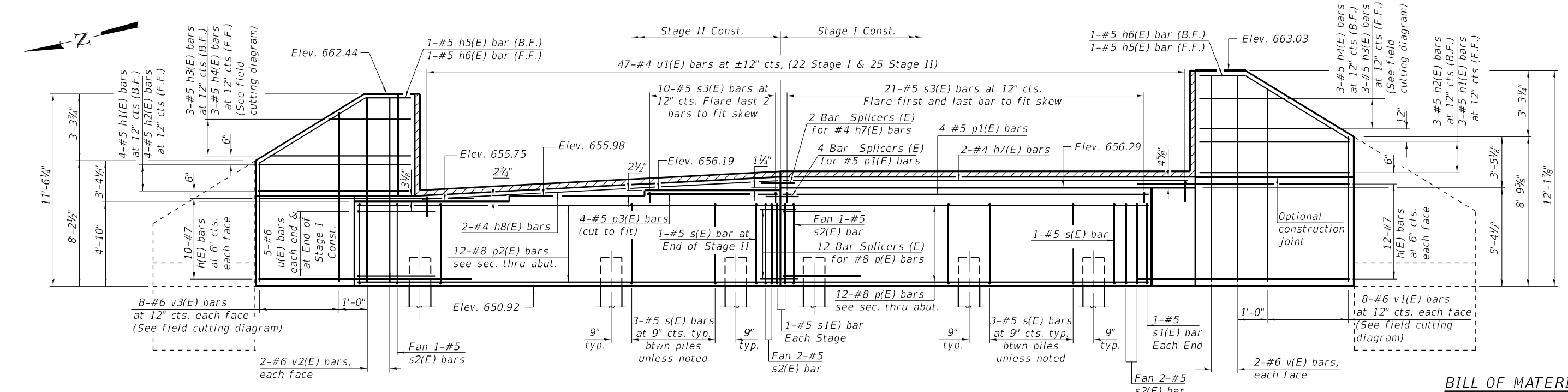
BEARING DETAILS  
 STRUCTURE NO. 088-0030

SHEET NO. 28 OF 49 SHEETS

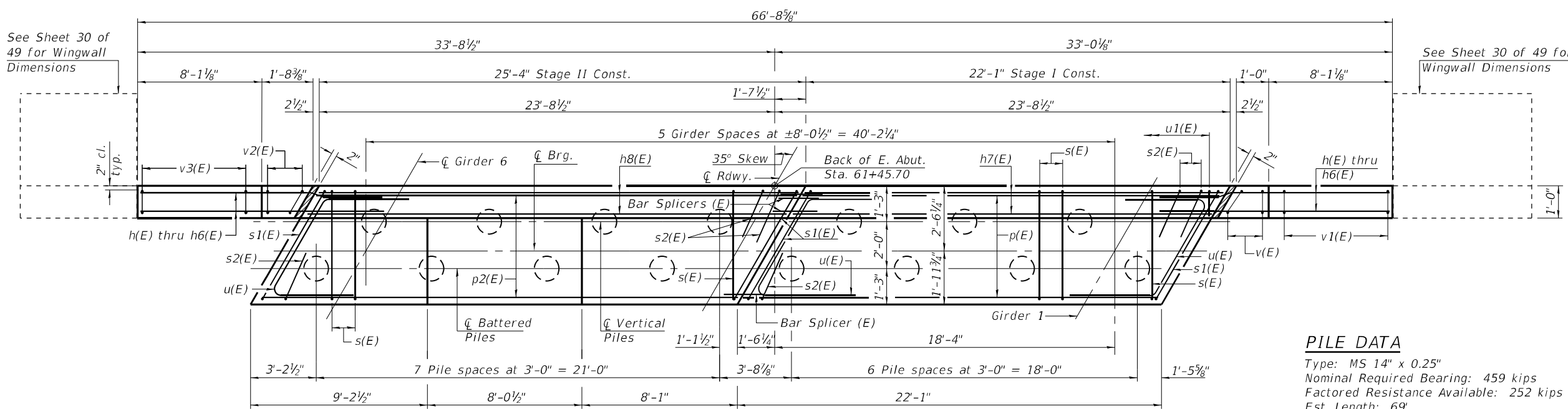
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	62

CONTRACT NO. 68698  
 ILLINOIS FED. AID PROJECT

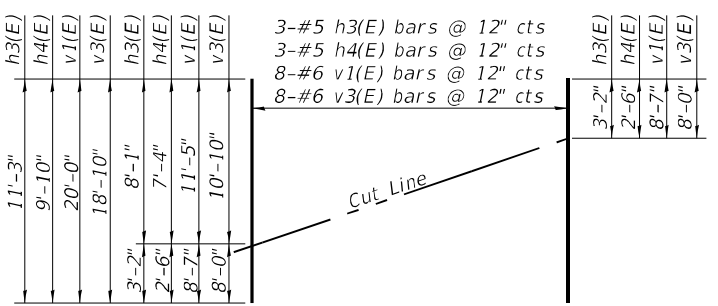
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**ELEVATION**  
(Looking east)

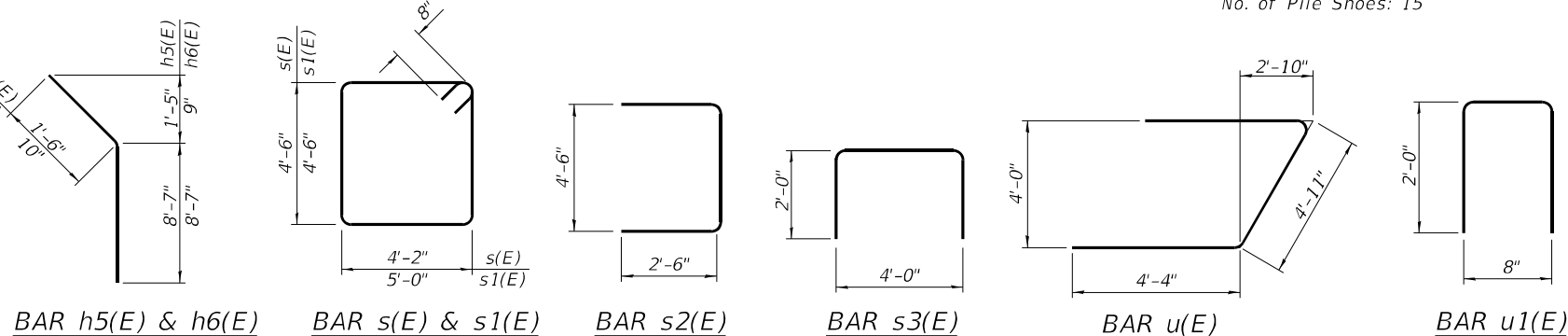


**PLAN**



**FIELD CUTTING DIAGRAM**

Order h3(E), h4(E), v1(E) and v3(E) full length. Cut as shown and use remainder of bars in opposite wing.



**BAR h5(E) & h6(E)**    **BAR s(E) & s1(E)**    **BAR s2(E)**    **BAR s3(E)**    **BAR u(E)**    **BAR u1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	44	#7	13'-8"	—
h1(E)	7	#5	9'-5"	—
h2(E)	7	#5	8'-9"	—
h3(E)	3	#5	11'-3"	—
h4(E)	3	#5	9'-10"	—
h5(E)	2	#5	10'-1"	—
h6(E)	2	#5	9'-5"	—
h7(E)	2	#4	21'-9"	—
h8(E)	2	#4	25'-0"	—
p(E)	12	#8	21'-9"	—
p1(E)	4	#5	21'-9"	—
p2(E)	12	#8	25'-0"	—
p3(E)	4	#5	10'-9"	—
s(E)	41	#5	18'-8"	□
s1(E)	4	#5	20'-4"	□
s2(E)	6	#5	9'-6"	□
s3(E)	31	#5	8'-0"	□
u(E)	15	#6	13'-7"	┘
u1(E)	47	#4	4'-8"	┘
v(E)	4	#6	11'-9"	—
v1(E)	8	#6	20'-0"	—
v2(E)	4	#6	11'-2"	—
v3(E)	8	#6	18'-10"	—
Structure Excavation	Cu. Yd.		72.0	
Concrete Structures	Cu. Yd.		48.6	
Reinforcement Bars, Epoxy Coated	Pound		5430	
Furnishing Metal Shell Piles, 14" x 0.25"	Foot		966	
Driving Piles	Foot		966	
Test Pile, Metal Shell	Each		1	
Pile Shoes	Each		15	

**PILE DATA**

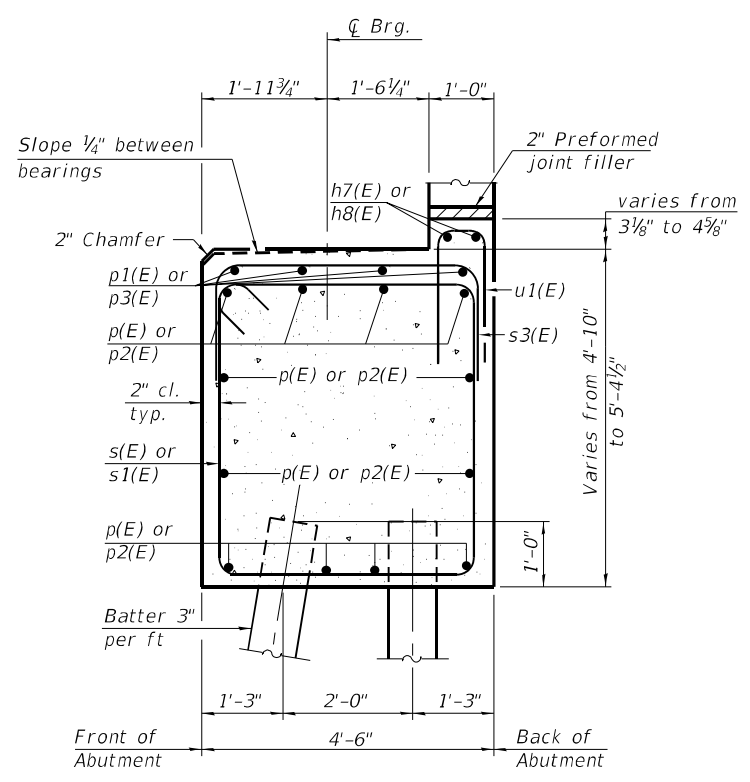
Type: MS 14" x 0.25"  
 Nominal Required Bearing: 459 kips  
 Factored Resistance Available: 252 kips  
 Est. Length: 69'  
 No. Production Piles: 14  
 No. Test Piles: 1  
 No. of Pile Shoes: 15

Notes:  
 Pour steps monolithically with cap.  
 B.F. denotes Back Face.  
 E.F. denotes Each Face.  
 F.F. denotes Front Face.  
 For Section Thru Abut., see Sheet 30 of 49.  
 For Anchor Bolt Layout, see Sheet 30 of 49.  
 For details of piles, see Sheet 37 of 49.

(Sheet 1 of 2)

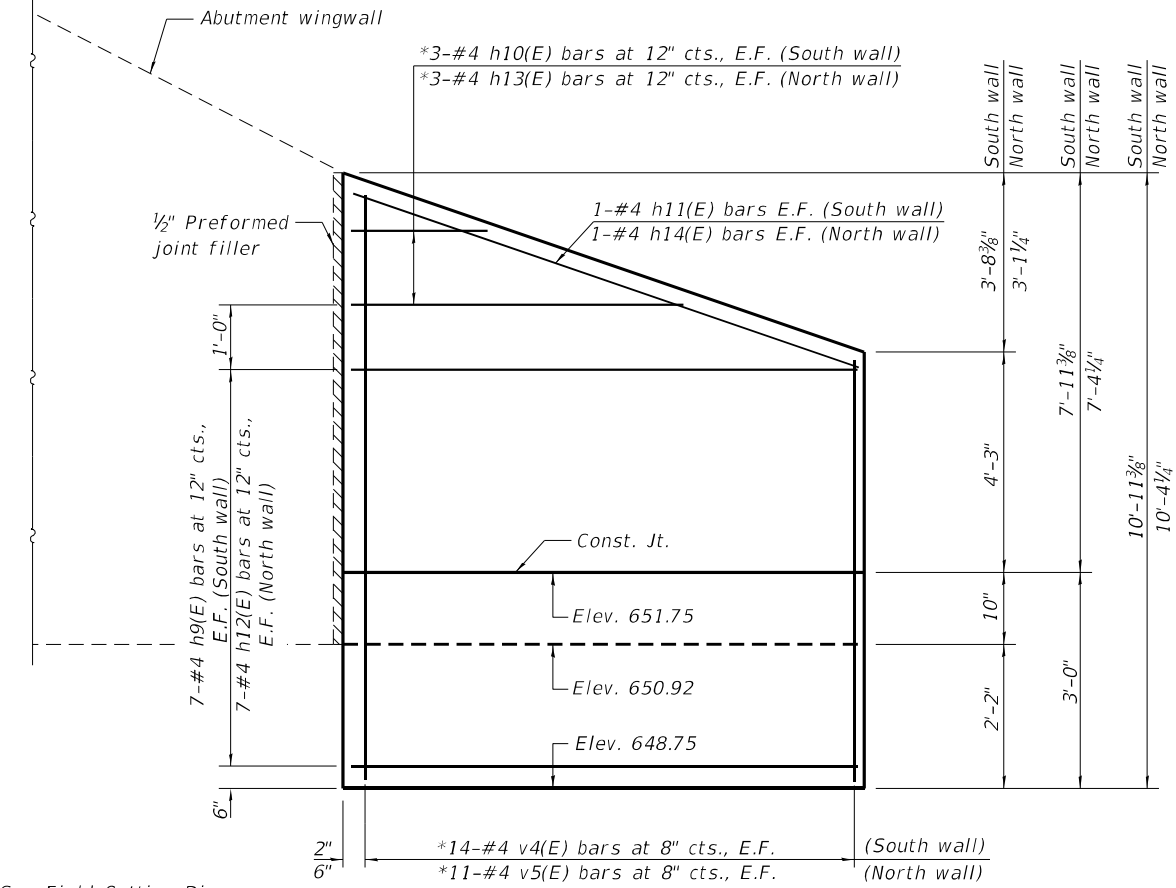


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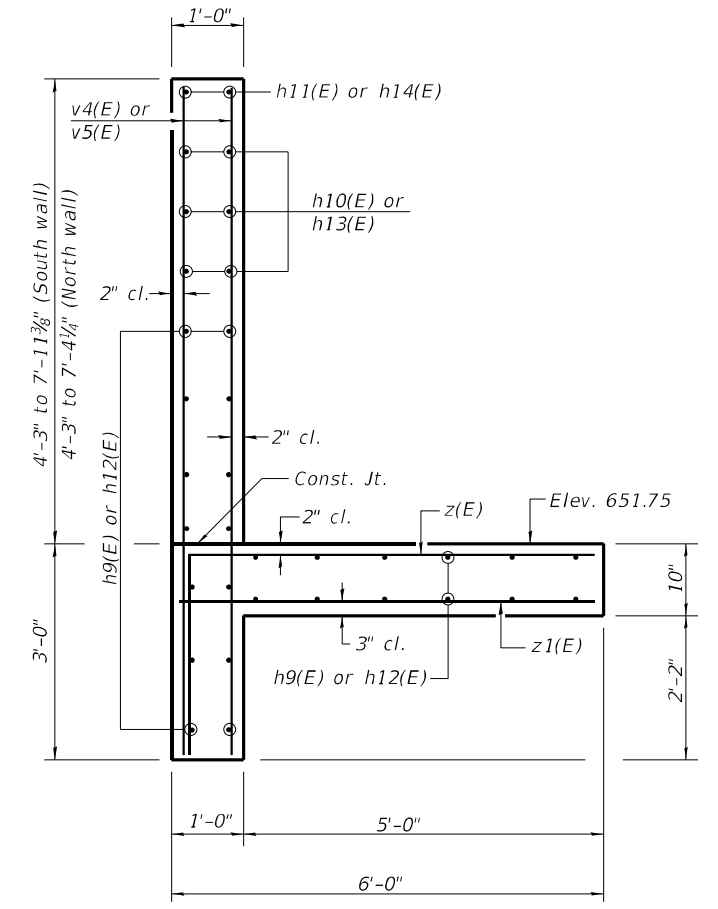


**SEC. THRU ABUT.**

Dimensions at right angles to abutment.

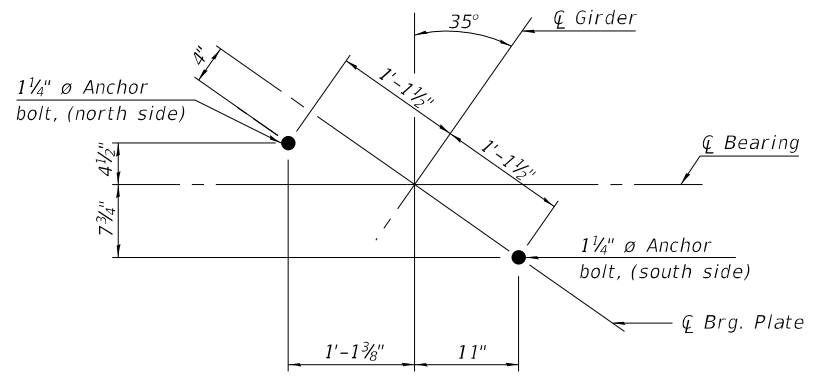


**ELEVATION - WINGWALL EXTENSION**

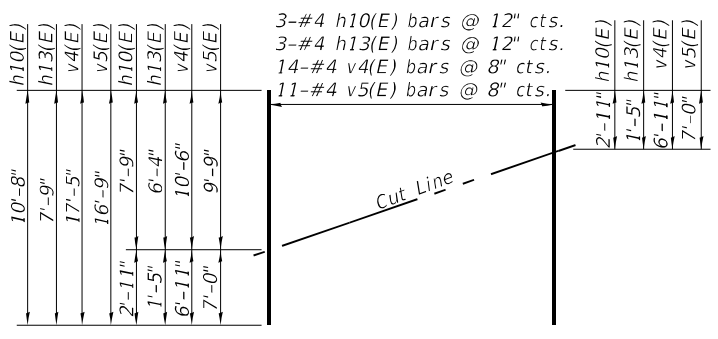


**SECTION A-A**

Maximum Applied Service Bearing Pressure,  $Q_{max} = 2121$  psf

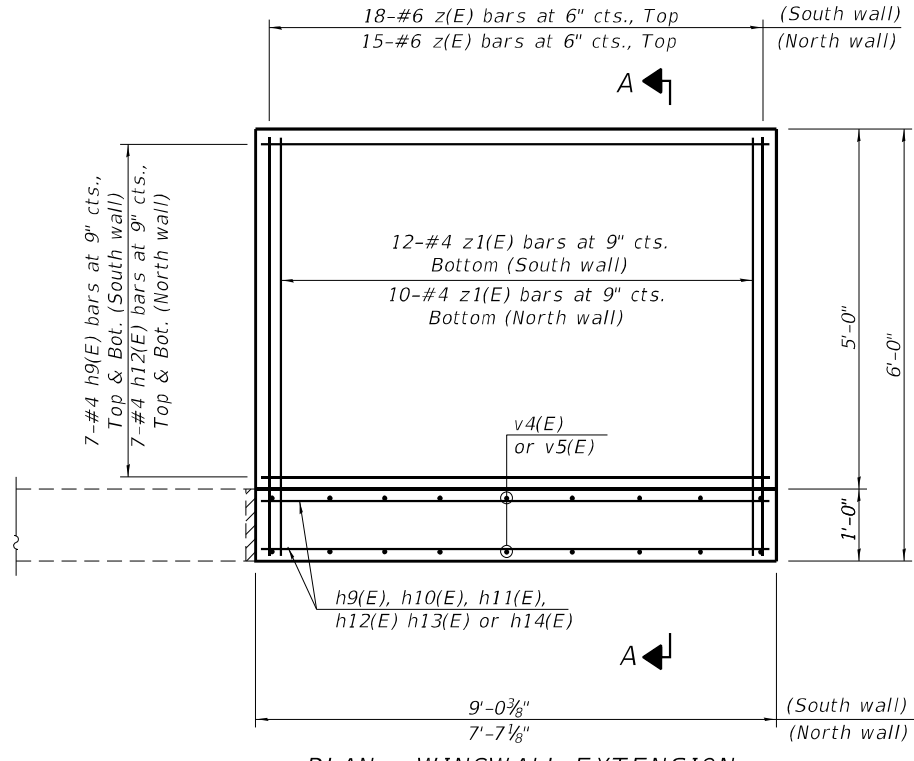


**ANCHOR BOLT DETAIL**

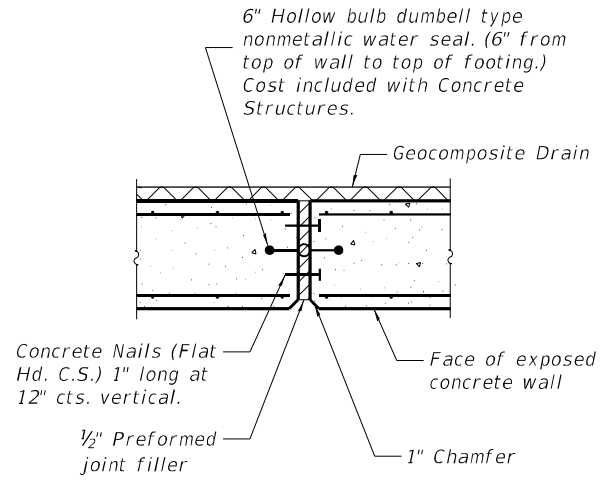


**FIELD CUTTING DIAGRAM**

Order h10(E), h13(E), v4(E) and v5(E) full length.  
 Cut as shown and use remainder of bars in opposite face.



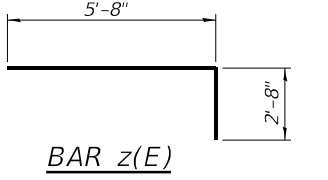
**PLAN - WINGWALL EXTENSION**



**EXPANSION JOINT DETAIL**

**BILL OF MATERIAL  
 2 WINGWALL EXTENSIONS**

Bar	No.	Size	Length	Shape	
h9(E)	28	#4	8'-8"	—	
h10(E)	3	#4	10'-8"	—	
h11(E)	2	#4	9'-4"	—	
h12(E)	28	#4	7'-3"	—	
h13(E)	3	#4	7'-9"	—	
h14(E)	2	#4	7'-10"	—	
v4(E)	14	#4	17'-5"	—	
v5(E)	11	#4	16'-9"	—	
z(E)	33	#6	8'-4"	┌	
z1(E)	22	#4	5'-8"	┌	
Concrete Structures				Cu. Yd.	8.1
Reinforcement Bars, Epoxy Coated				Pound	1140



**BAR z(E)**

(Sheet 2 of 2)



**BACON FARMER WORKMAN**  
 ENGINEERS & ARCHITECTS, INC.

USER NAME	DESIGNED	REVISIONS
PILOT SCALE	CHECKED	REVISIONS
PILOT DATE	DRAWN	REVISIONS
	CHECKED	REVISIONS

DESIGNED	FAM
CHECKED	GBR
DRAWN	FAM
CHECKED	GBR

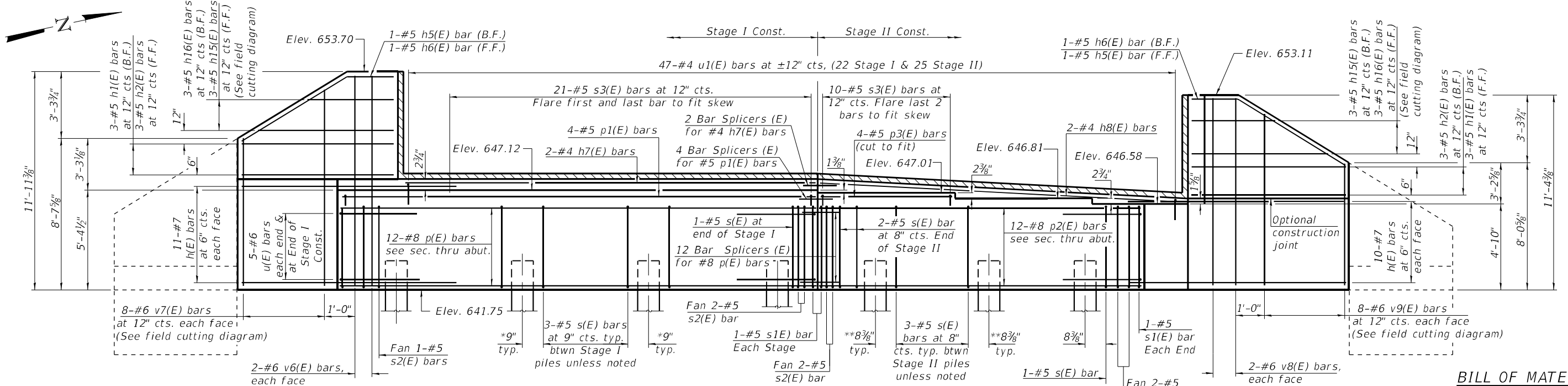
REVISIONS	—
REVISIONS	—
REVISIONS	—
REVISIONS	—

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT DETAILS & WINGWALL EXTENSION  
 STRUCTURE NO. 088-0030**

SHEET NO. 30 OF 49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	64
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



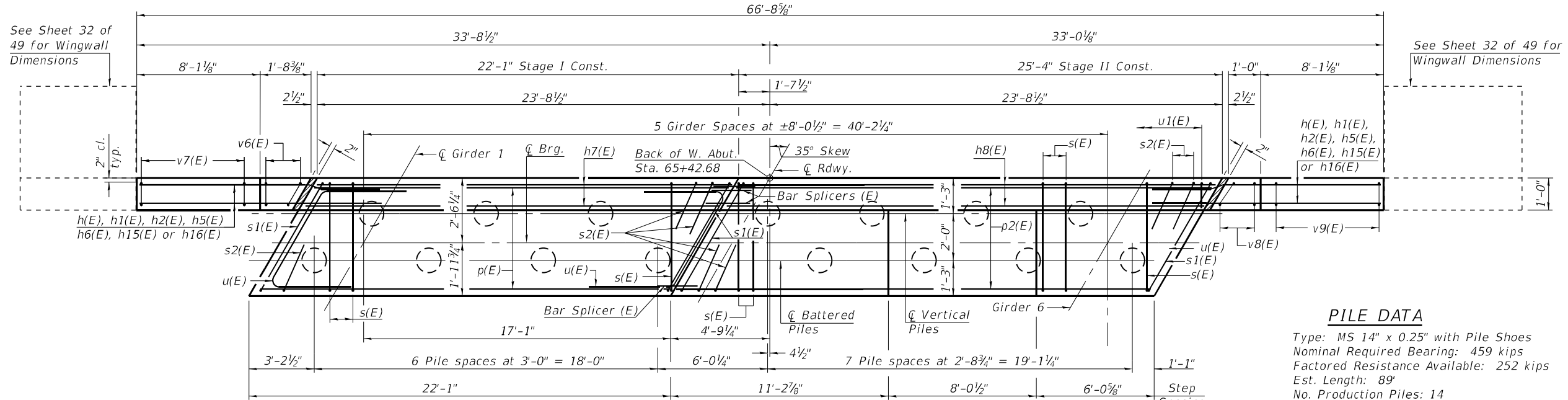
**ELEVATION**  
(Looking west)

**BILL OF MATERIAL**

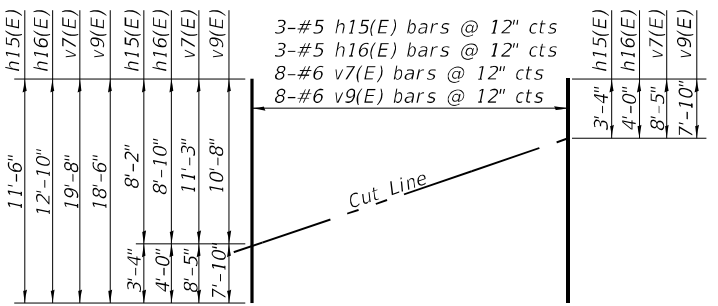
Bar	No.	Size	Length	Shape
h(E)	42	#7	13'-8"	—
h1(E)	6	#5	9'-5"	—
h2(E)	6	#5	8'-9"	—
h5(E)	2	#5	10'-1"	—
h6(E)	2	#5	9'-5"	—
h7(E)	2	#4	21'-9"	—
h8(E)	2	#4	25'-0"	—
h15(E)	3	#5	11'-6"	—
h16(E)	3	#5	12'-10"	—
p(E)	12	#8	21'-9"	—
p1(E)	4	#5	21'-9"	—
p2(E)	12	#8	25'-0"	—
p3(E)	4	#5	10'-9"	—
s(E)	43	#5	18'-8"	—
s1(E)	4	#5	20'-4"	—
s2(E)	7	#5	9'-6"	—
s3(E)	31	#5	8'-0"	—
u(E)	15	#6	13'-7"	—
u1(E)	47	#4	4'-8"	—
v6(E)	4	#6	11'-7"	—
v7(E)	8	#6	19'-8"	—
v8(E)	4	#6	11'-0"	—
v9(E)	8	#6	18'-6"	—
Structure Excavation			Cu. Yd.	107.0
Concrete Structures			Cu. Yd.	48.4
Reinforcement Bars, Epoxy Coated			Pound	5400
Furnishing Metal Shell Piles, 14" x 0.25"			Foot	1246
Driving Piles			Foot	1246
Test Pile, Metal Shell			Each	1
Pile Shoes			Each	15

**PILE DATA**

Type: MS 14" x 0.25" with Pile Shoes  
 Nominal Required Bearing: 459 kips  
 Factored Resistance Available: 252 kips  
 Est. Length: 89'  
 No. Production Piles: 14  
 No. Test Piles: 1  
 No. of Pile Shoes: 15

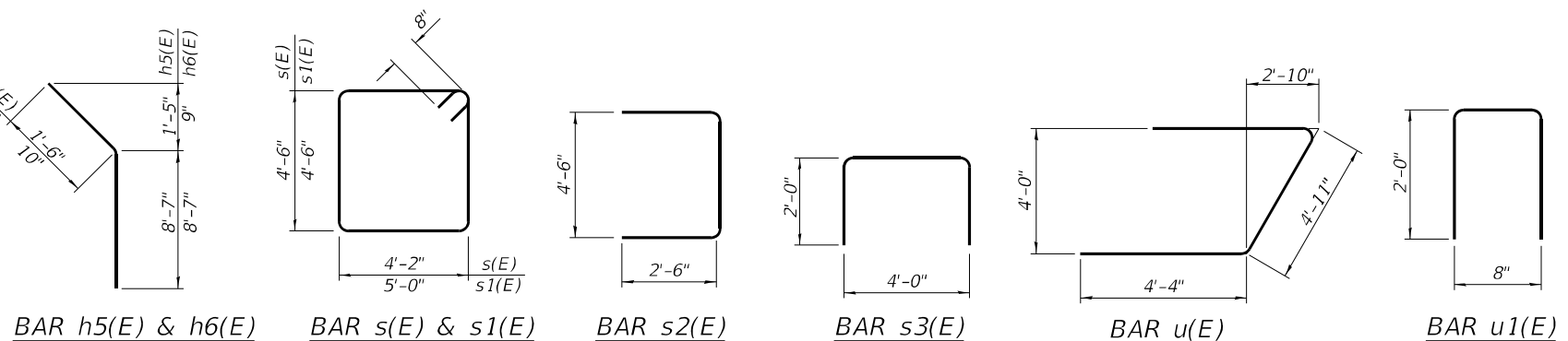


**PLAN**



**FIELD CUTTING DIAGRAM**

Order h15(E), h16(E), v7(E) and v9(E) full length. Cut as shown and use remainder of bars in opposite wing.

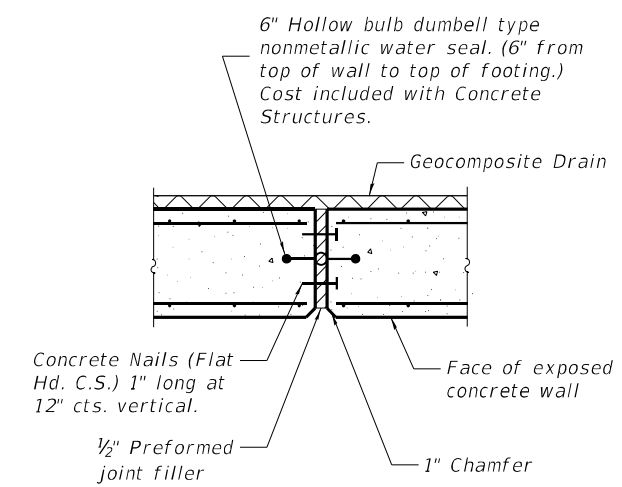
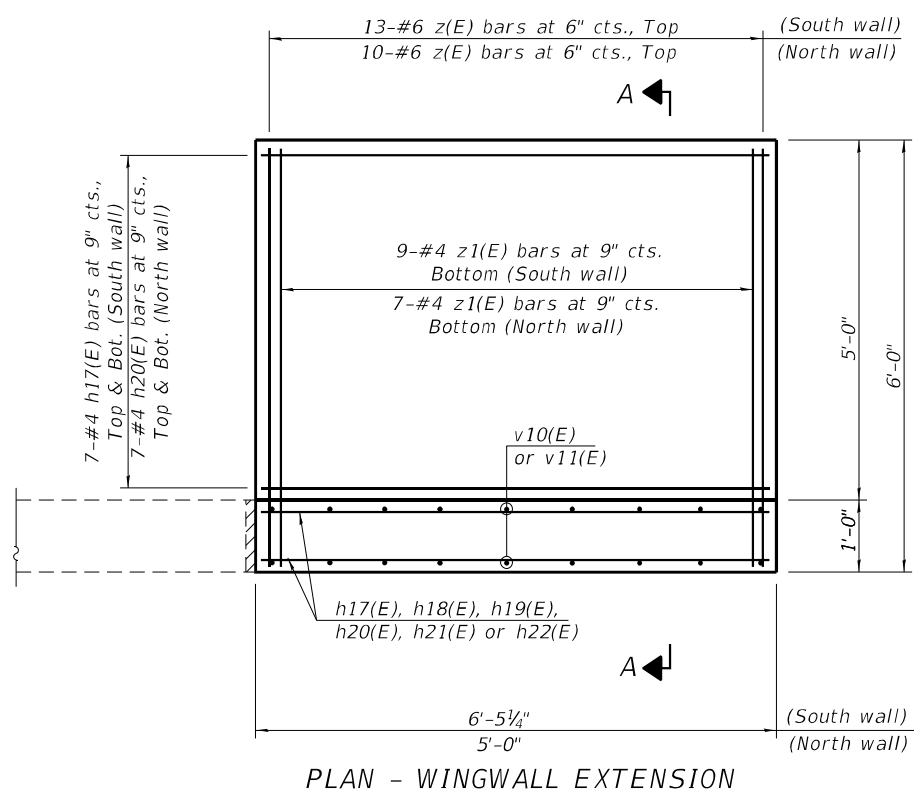
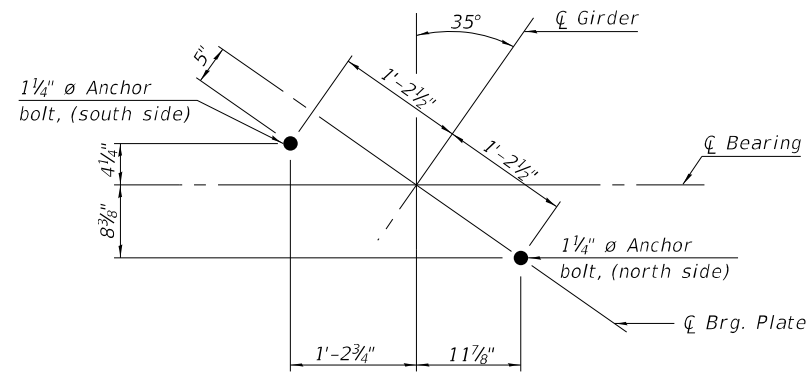
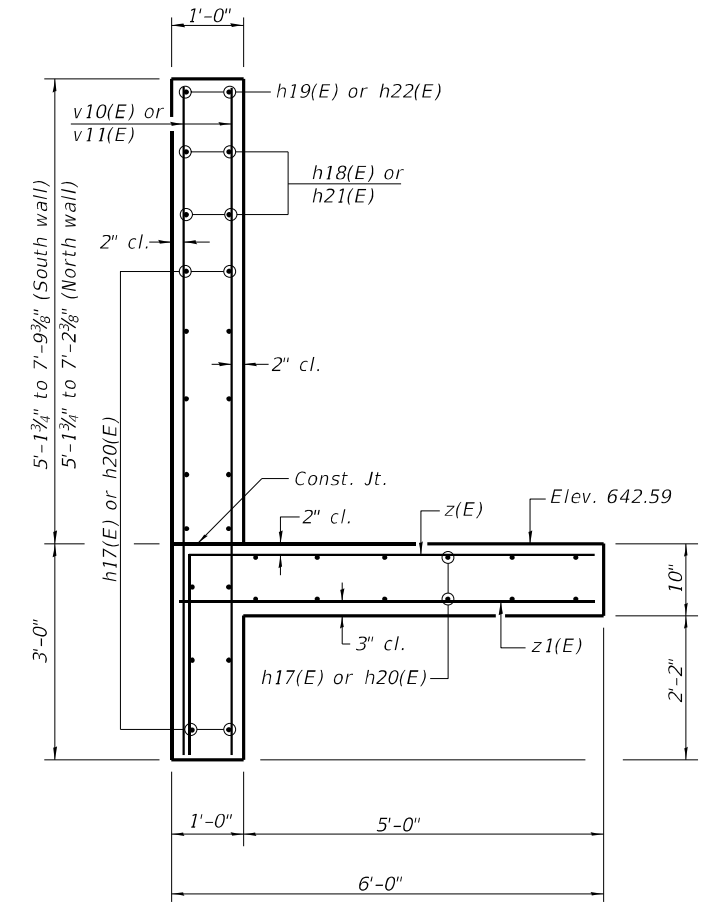
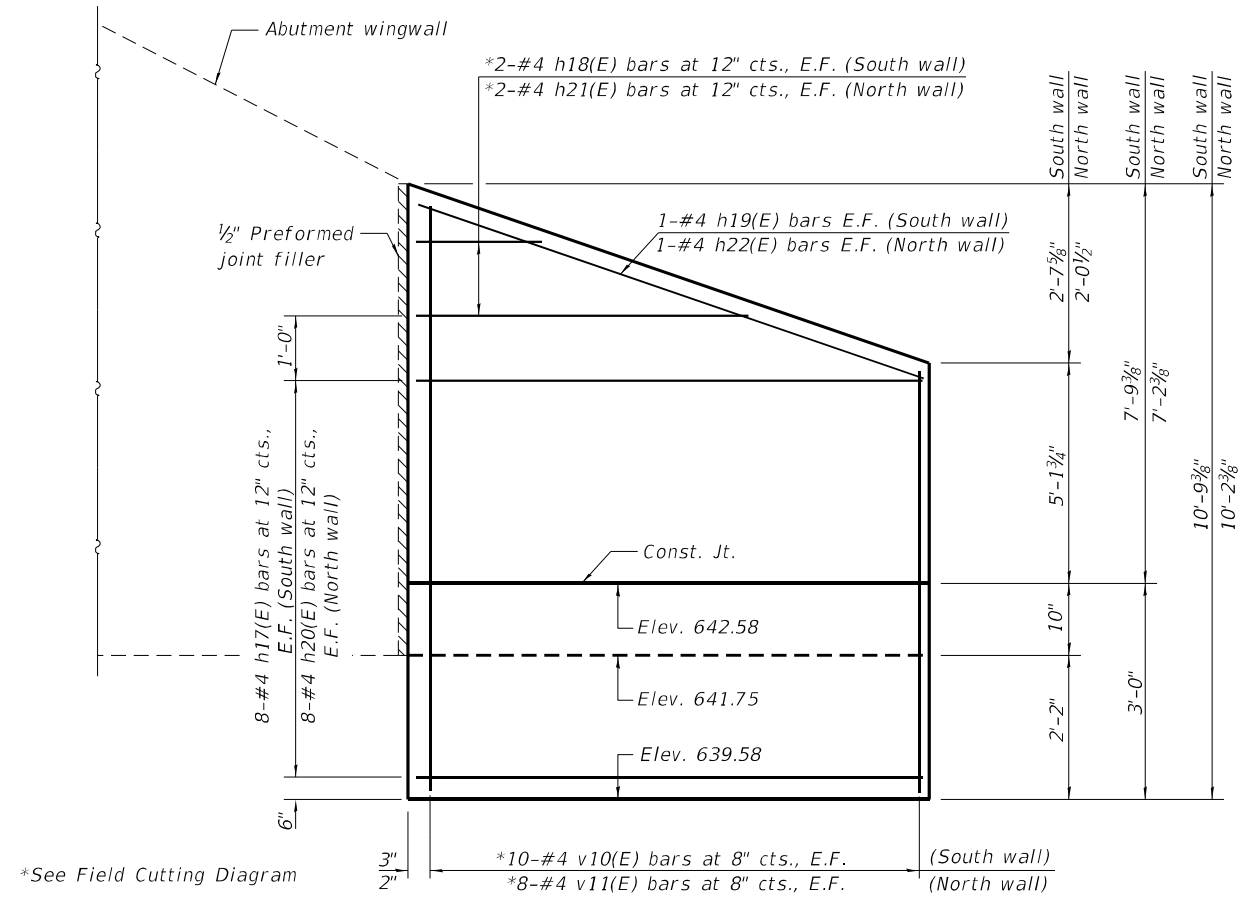
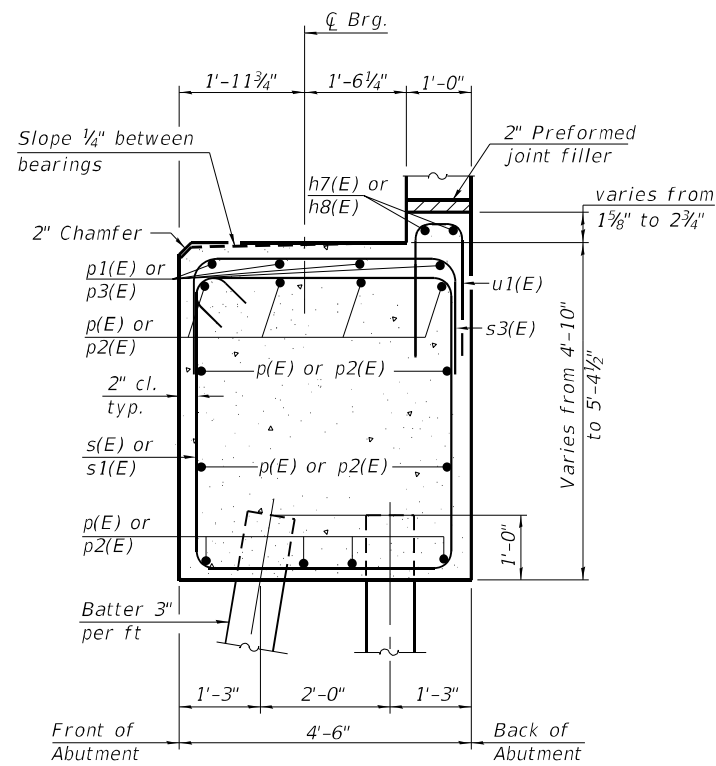


**BAR h5(E) & h6(E)**    **BAR s(E) & s1(E)**    **BAR s2(E)**    **BAR s3(E)**    **BAR u(E)**    **BAR u1(E)**

(Sheet 1 of 2)

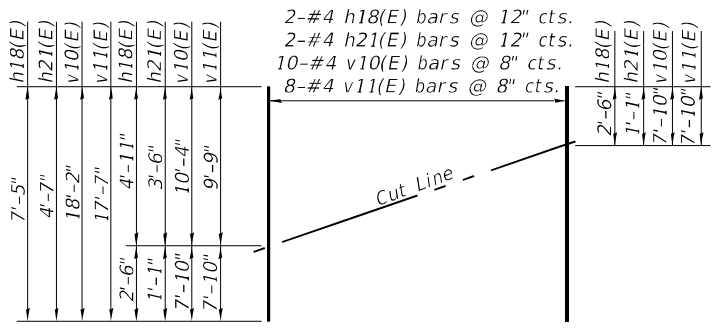
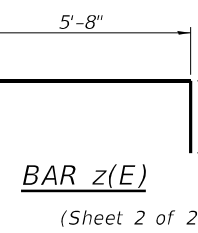
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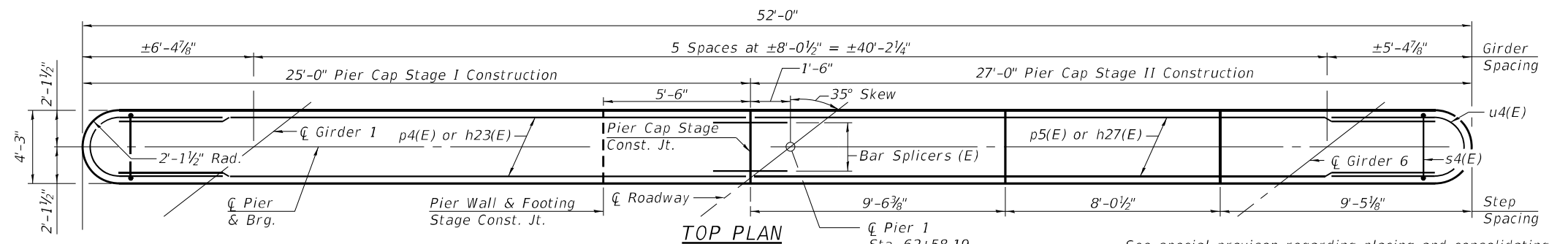
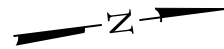
**BILL OF MATERIAL**  
**2 WINGWALL EXTENSIONS**

Bar	No.	Size	Length	Shape
h17(E)	30	#4	6'-1"	—
h18(E)	2	#4	7'-5"	—
h19(E)	2	#4	6'-7"	—
h20(E)	30	#4	4'-8"	—
h21(E)	2	#4	4'-7"	—
h22(E)	2	#4	5'-0"	—
v10(E)	10	#4	18'-2"	—
v11(E)	8	#4	17'-7"	—
z(E)	23	#6	8'-4"	┌
z1(E)	16	#4	5'-8"	—
Concrete Structures			Cu. Yd.	5.8
Reinforcement Bars, Epoxy Coated			Pound	820

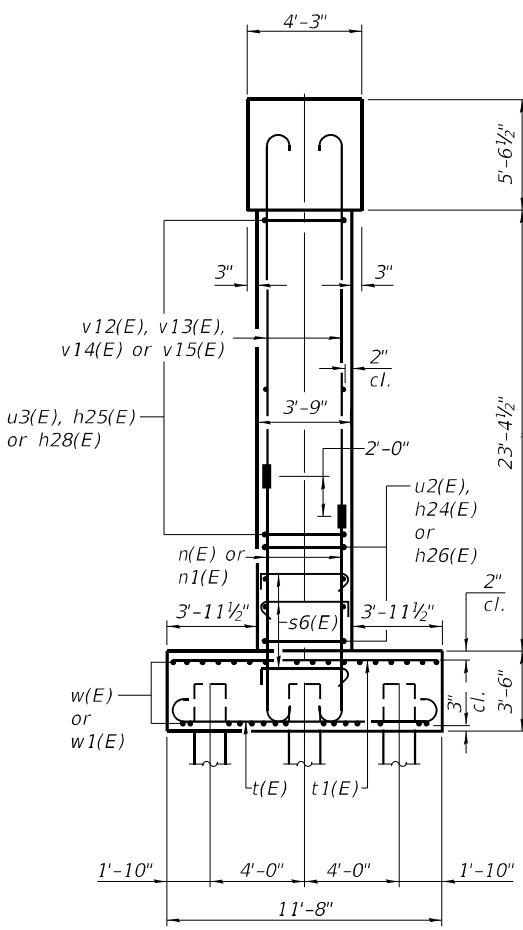


**PILE DATA**

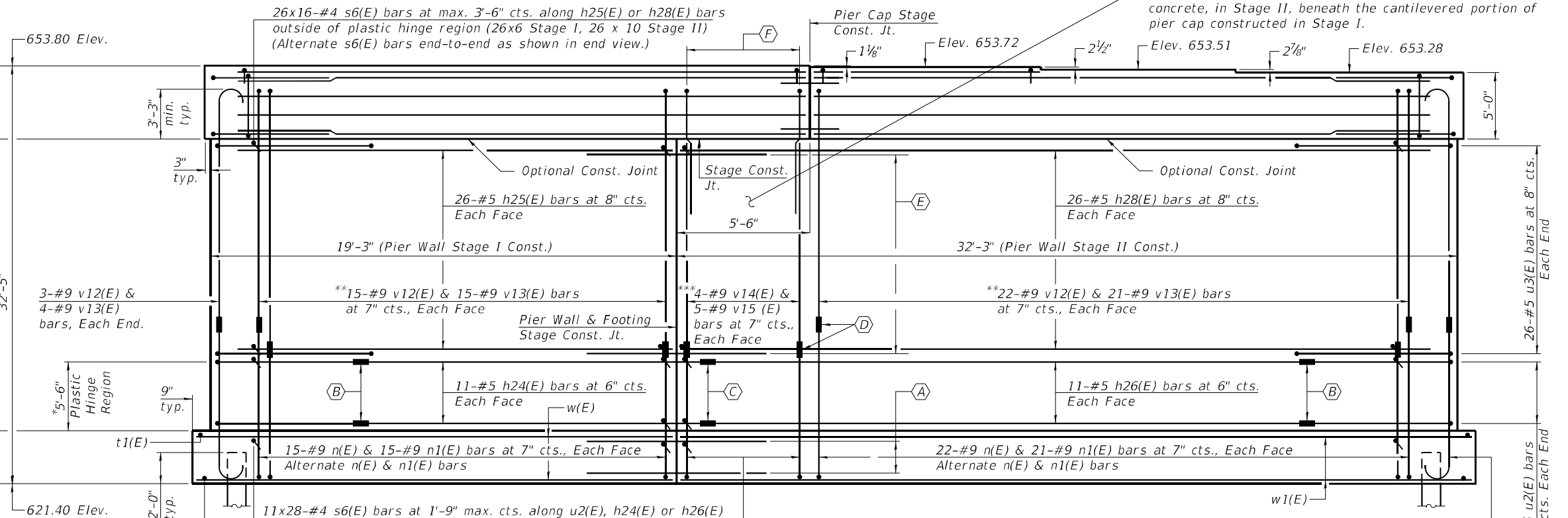
Type: MS 16" x 0.375" with Pile Shoes  
 Nominal Required Bearing: 654 kips  
 Factored Resistance Available: 304 kips  
 Est. Length: 68'  
 No. Production Piles: 37 (18 Stage I; 19 Stage II)  
 No. Test Piles: 1 (Stage I)  
 No. Pile Shoes: 38



**TOP PLAN**



**END VIEW**

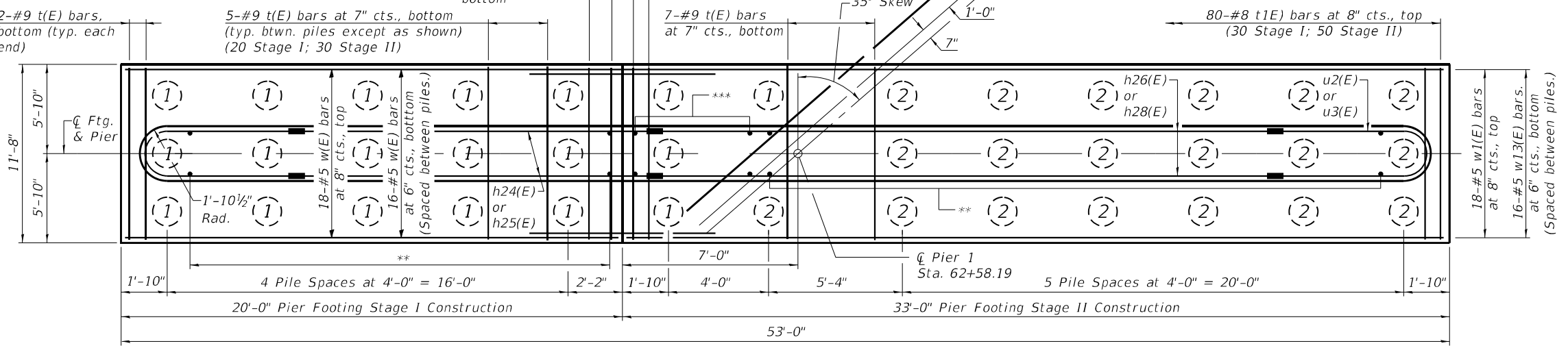


**ELEVATION**  
(Looking West)

\*Lap splicing of reinforcement is prohibited within region.  
 \*\*v12(E) bars spliced with n(E) bars. v13(E) bars spliced with n1(E) bars.  
 \*\*\*v14(E) bars spliced with n1(E) bars. v15(E) bars spliced with n(E) bars

Notes:  
 Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.  
 For pier cap reinforcement, bar details, anchor bolt layout, and Bill of Materials, see sheet 34 of 49.  
 For details of piles, see sheet 37 of 49.  
 For bar splicer & mechanical splicer details, see sheet 38 of 49.  
 s6(E) bars indicated 11x28-#4 etc. indicates 11 rows of bars with 28 bars per row.

- (A) 34 - Bar Splicers (E) for #5 w(E) bars
- (B) 11 - Mechanical Splicers (E) for #5 u2(E) bars, Each Face
- (C) 11 - Mechanical Splicers (E) for #5 h24(E) bars, Each Face
- (D) 178 - Mechanical Splicers (E) for #9 n(E) & n1(E) bars
- (E) 26 - Bar Splicers (E) for #5 h25(E) bars, Each Face
- (F) 9 - Hooked Bar Splicers (E) for #9 v14(E) and v15(E) bars, Each Face
- (1) - Piles driven in Stage I
- (2) - Piles driven in Stage II



**FOOTING PLAN**

(Sheet 1 of 2)

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

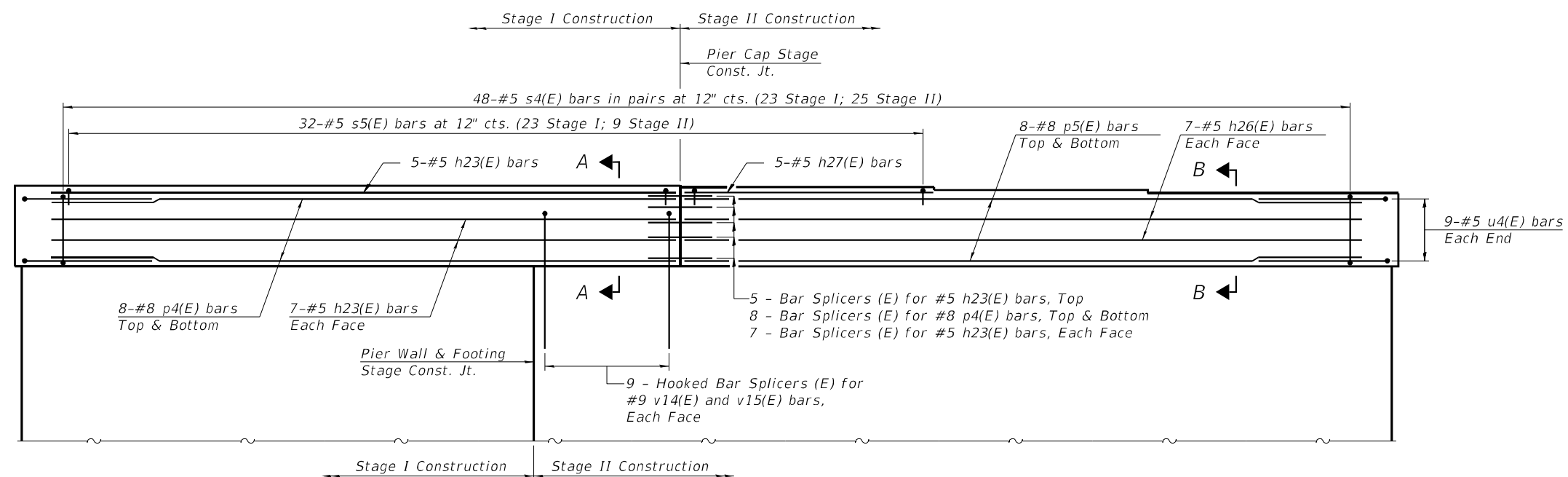
PIER 1  
 STRUCTURE NO. 088-0030

FA. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	67
CONTRACT NO. 68698				

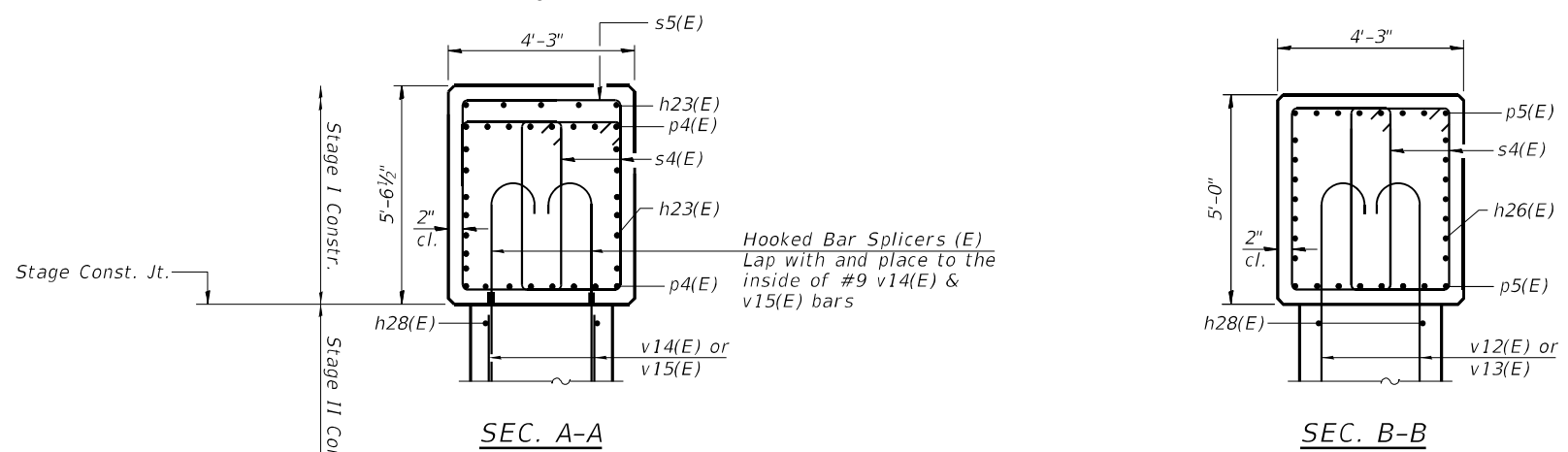
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BACON FARMER WORKMAN  
 ENGINEERS & ARCHITECTS, INC.  
 411 NORTH CLAYTON STREET  
 MARIETTA, GEORGIA 30067  
 PHONE: 770-426-1100

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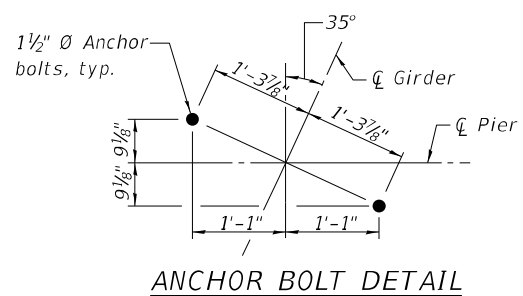
**ELEVATION - PIER CAP REINFORCEMENT**  
(Looking West)



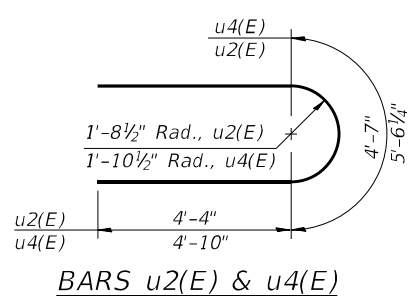
\*Bar length provided is to the center of the mechanical splicer. The Contractor shall adjust the bar length as required for the selected splicer.

**BILL OF MATERIAL**

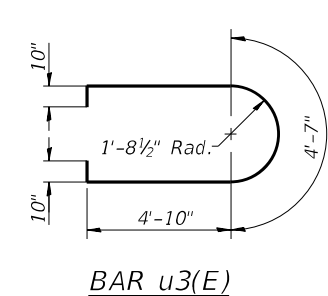
Bar	No.	Size	Length	Shape
h23(E)	19	#5	22'-9"	—
h24(E)	22	#5	14'-4"	—
h25(E)	52	#5	17'-3"	—
h26(E)	36	#5	24'-9"	—
h27(E)	5	#5	9'-2"	—
h28(E)	52	#5	30'-3"	—
n(E)	88	#9	13'-0"	U
n1(E)	90	#9	11'-0"	U
p4(E)	16	#8	22'-9"	—
p5(E)	16	#8	24'-9"	—
s4(E)	96	#5	15'-3"	□
s5(E)	32	#5	7'-11"	□
s6(E)	752	#4	4'-2"	□
t(E)	66	#9	13'-10"	U
t1(E)	80	#8	11'-4"	—
u2(E)	22	#5	13'-3"	U
u3(E)	52	#5	15'-11"	U
u4(E)	18	#5	15'-4"	U
v12(E)	80	#9	19'-5"	U
v13(E)	80	#9	21'-5"	U
v14(E)	8	#9	16'-9"	—
v15(E)	10	#9	14'-9"	—
w(E)	34	#5	19'-8"	—
w1(E)	34	#5	32'-8"	—
Cofferdam Excavation			Cu. Yd.	318
Cofferdam Type 2 (Location - 1)			Each	1
Concrete Structures			Cu. Yd.	288.0
Seal Coat Concrete			Cu. Yd.	99.3
Reinforcement Bars, Epoxy Coated			Pound	38410
Furnishing Metal Shell Piles (16" x 0.375")			Foot	2516
Driving Piles			Foot	2516
Test Pile Metal Shells			Each	1
Pile Shoes			Each	38



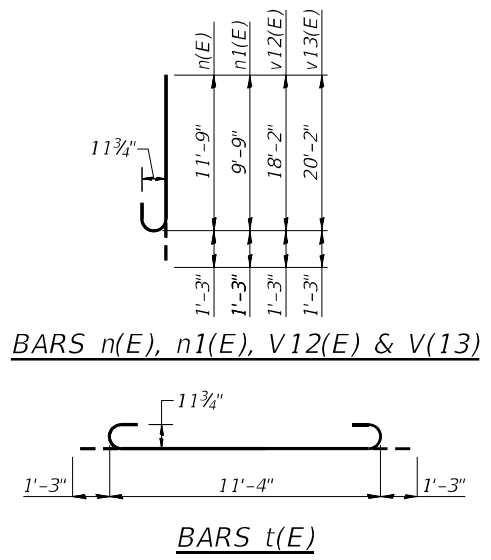
**ANCHOR BOLT DETAIL**



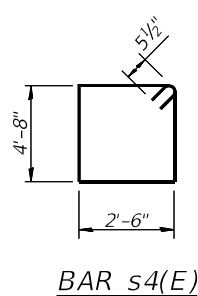
**BARS u2(E) & u4(E)**



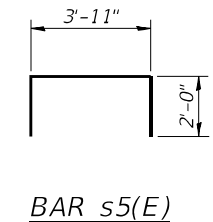
**BAR u3(E)**



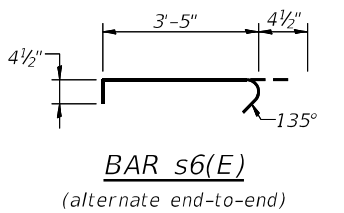
**BARS n(E), n1(E), v12(E) & v13(E)**



**BAR s4(E)**



**BAR s5(E)**



**BAR s6(E)**  
(alternate end-to-end)

(Sheet 2 of 2)



**BACON | FARMER | WORKMAN**  
ENGINEERS & TESTERS, INC.

USER NAME	DESIGNED - FAM	REVISED -
PLOT SCALE	CHECKED - JGY	REVISED -
PLOT DATE	DRAWN - JGY	REVISED -
	CHECKED - GBR	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

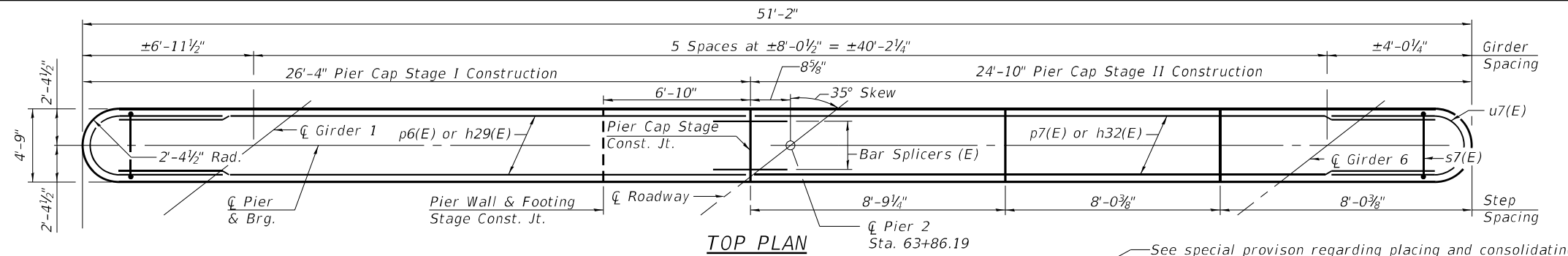
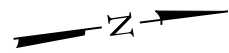
**PIER 1**  
**STRUCTURE NO. 088-0030**

SHEET NO. 34 OF 49 SHEETS

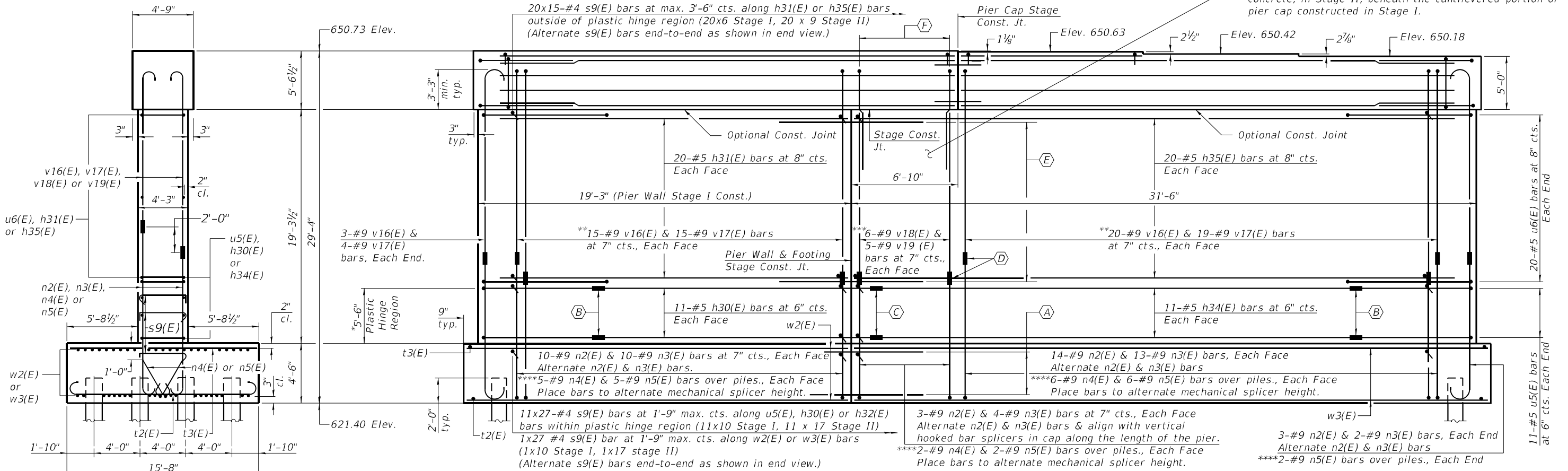
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	68
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

**PILE DATA**

Type: MS 16" x 0.375" with Pile Shoes  
 Nominal Required Bearing: 689 kips  
 Factored Resistance Available: 255 kips  
 Est. Length: 66'  
 No. Production Piles: 50 (25 Stage I; 25 Stage II)  
 No. Test Piles: 1 (Stage I)  
 No. Pile Shoes: 51



**TOP PLAN**  
Sta. 63+86.19



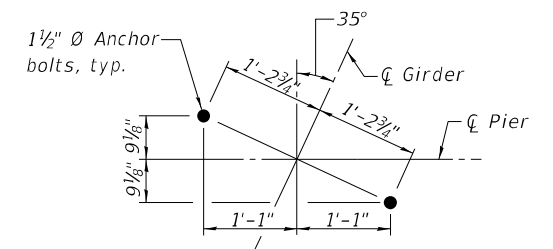
**ELEVATION**  
(Looking West)

**Notes:**

Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 See sheet 34 of 49 for Section A-A & B-B, bar details & Bill of Materials.  
 For details of piles, see sheet 37 of 49.  
 For bar splicer & mechanical splicer details, see sheet 38 of 49.  
 s9(E) bars indicated 11x27-#4 etc. indicates 11 rows of bars with 27 bars per row.

- (A) 46 - Bar Splicers (E) for #5 w2(E) bars
- (B) 11 - Mechanical Splicers (E) for #5 u5(E) bars, Each Face
- (C) 11 - Mechanical Splicers (E) for #5 h30(E) bars, Each Face
- (D) 174 - Mechanical Splicers (E) for #9 n2(E), n3(E), n4(E) or n5(E) bars
- (E) 20 - Bar Splicers (E) for #5 h31(E) bars, Each Face
- (F) 11 - Hooked Bar Splicers (E) for #9 v18(E) and v19(E) bars, Each Face

\*Lap splicing of reinforcement is prohibited within region.  
 \*\*v16(E) bars spliced with n2(E) or n4(E) bars. v17(E) bars spliced with n3(E) or n5(E) bars.  
 \*\*\*v18(E) bars spliced with n3(E) or n5(E) bars. v19(E) bars spliced with n2(E) or n4(E) bars  
 \*\*\*\*At locations where piles interfere with n2(E) bars use n4(E) bars. At locations where piles interfere n3(E) use n5(E) bars.



**ANCHOR BOLT DETAIL**

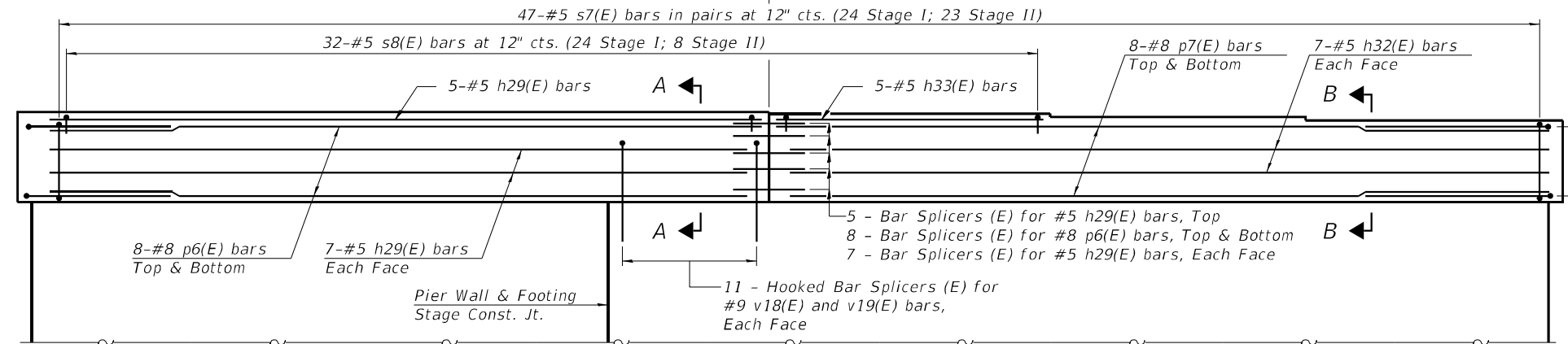
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	USER NAME - _____ PLOT SCALE - _____ PLOT DATE - _____	DESIGNED - FAM CHECKED - JGY DRAWN - JGY CHECKED - GBR	REVISED - _____ REVISED - _____ REVISED - _____ REVISED - _____	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PIER 2</b> <b>STRUCTURE NO. 088-0030</b>	F.A. RT# - 643 SECTION - 11B (BR-1)	COUNTY - STARK	TOTAL SHEETS - 113 SHEET NO. - 69
	SHEET NO. 35 OF 49 SHEETS						ILLINOIS FED. AID PROJECT CONTRACT NO. 68698	

Stage I Construction Stage II Construction

Pier Cap Stage Const. Jt.

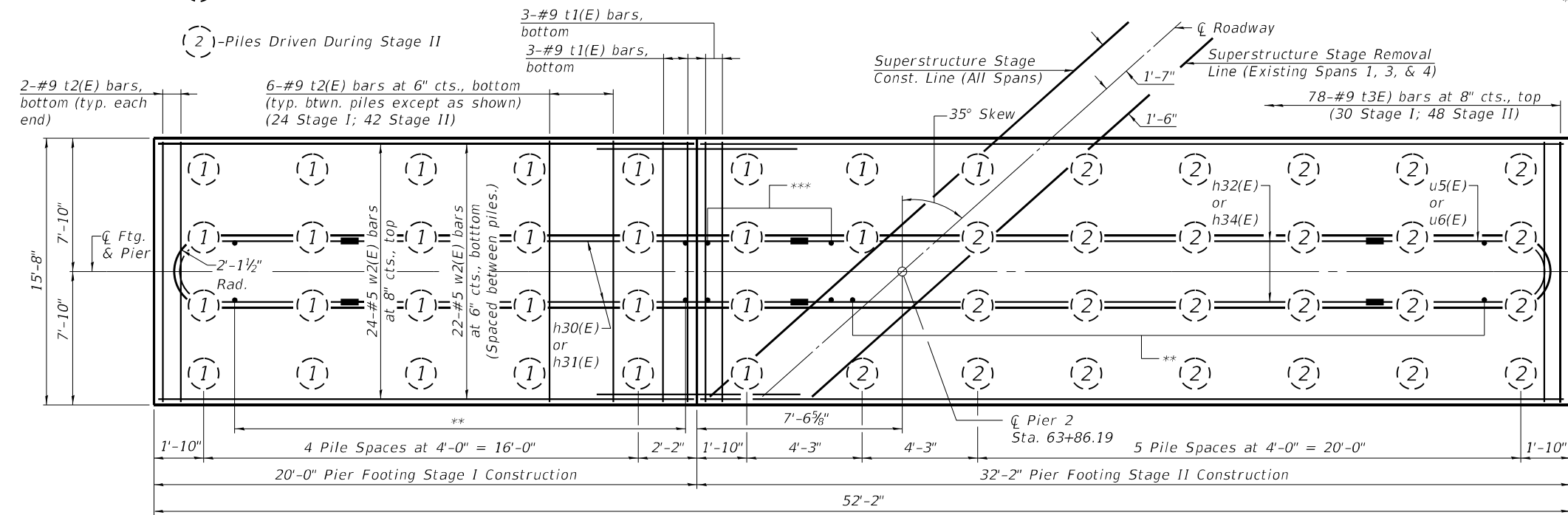


**ELEVATION - PIER CAP REINFORCEMENT**  
(Looking West)

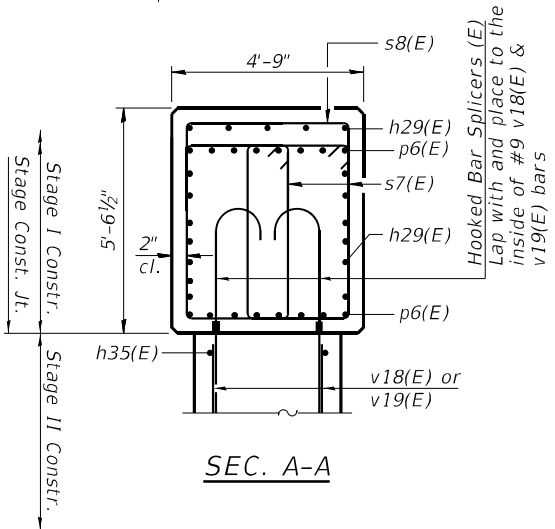
\*Bar length provided is to the center of the mechanical splicer. The Contractor shall adjust the bar length as required for the selected splicer.  
\*\*v16(E) bars spliced with n2(E) or n4(E) bars. v17(E) bars spliced with n3(E) or n5(E) bars.  
\*\*\*v18(E) bars spliced with n3(E) or n5(E) bars. v19(E) bars spliced with n2(E) or n4(E) bars

(1) - Piles Driven During Stage I

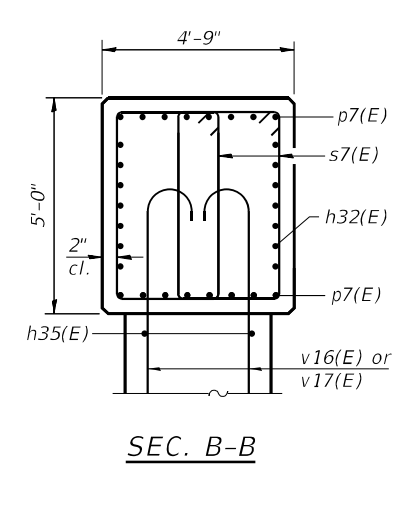
(2) - Piles Driven During Stage II



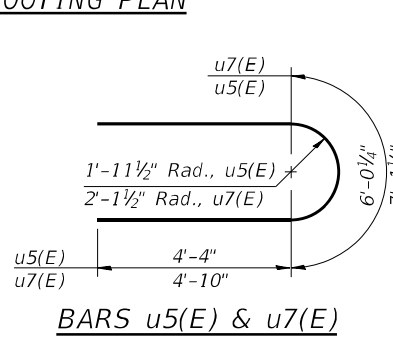
**FOOTING PLAN**



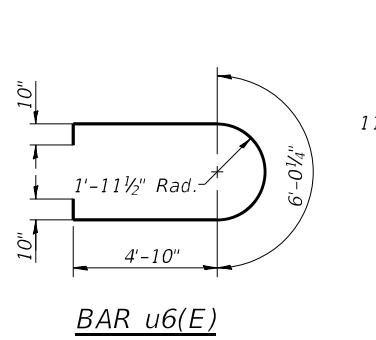
**SEC. A-A**



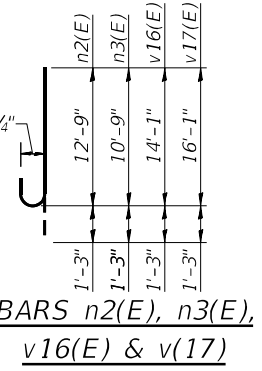
**SEC. B-B**



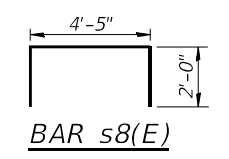
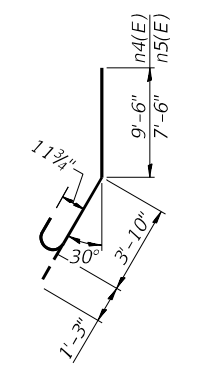
**BARS u5(E) & u7(E)**



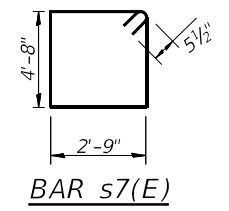
**BAR u6(E)**



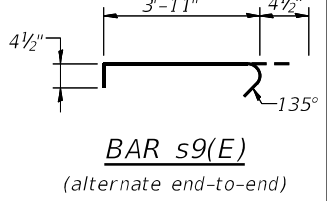
**BARS n2(E), n3(E), v16(E) & v17(E)**



**BAR s8(E)**



**BAR s7(E)**



**BAR s9(E)**  
(alternate end-to-end)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h29(E)	19	#5	23'-10"	—
h30(E)	22	#5	14'-2"	—
h31(E)	40	#5	17'-0"	—
h32(E)	14	#5	22'-4"	—
h33(E)	5	#5	7'-10"	—
h34(E)	22	#5	23'-8"	—
h35(E)	40	#5	29'-3"	—
n2(E)	60	#9	14'-0"	U
n3(E)	58	#9	12'-0"	U
n4(E)	26	#9	14'-7"	U
n5(E)	30	#9	12'-7"	U
p6(E)	16	#8	23'-10"	—
p7(E)	16	#8	22'-4"	—
s7(E)	94	#5	15'-9"	□
s8(E)	32	#5	8'-5"	□
s9(E)	624	#4	4'-8"	□
t2(E)	76	#9	17'-10"	U
t3(E)	78	#9	15'-4"	—
u5(E)	22	#5	14'-9"	U
u6(E)	40	#5	17'-5"	U
u7(E)	18	#5	16'-10"	U
v16(E)	76	#9	15'-4"	U
v17(E)	76	#9	17'-4"	U
v18(E)	12	#9	12'-8"	—
v19(E)	10	#9	10'-8"	—
w2(E)	46	#5	19'-8"	—
w3(E)	46	#5	31'-10"	—
Cofferdam Excavation		Cu. Yd.	843	
Cofferdam Type 2 (Location - 2)		Each	1	
Concrete Structures		Cu. Yd.	335.0	
Seal Coat Concrete		Cu. Yd.	122.8	
Reinforcement Bars, Epoxy Coated		Pound	39030	
Furnishing Metal Shell Piles (16" x 0.375")		Foot	3300	
Driving Piles		Foot	3300	
Test Pile Metal Shells		Each	1	
Pile Shoes		Each	51	

MODEL: Default  
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USER NAME	DESIGNED - FAM	REVISED -
PLOT SCALE	CHECKED - JGY	REVISED -
PLOT DATE	DRAWN - JGY	REVISED -
	CHECKED - GBR	REVISED -

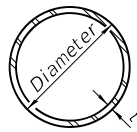
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER 2  
STRUCTURE NO. 088-0030

SHEET NO. 36 OF 49 SHEETS

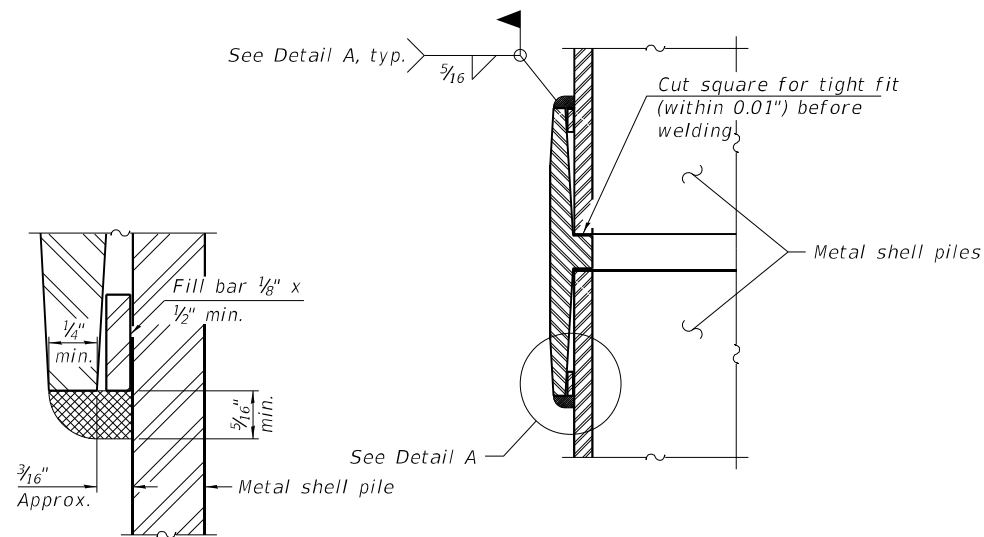
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	70
CONTRACT NO. 68698				

ILLINOIS FED. AID PROJECT

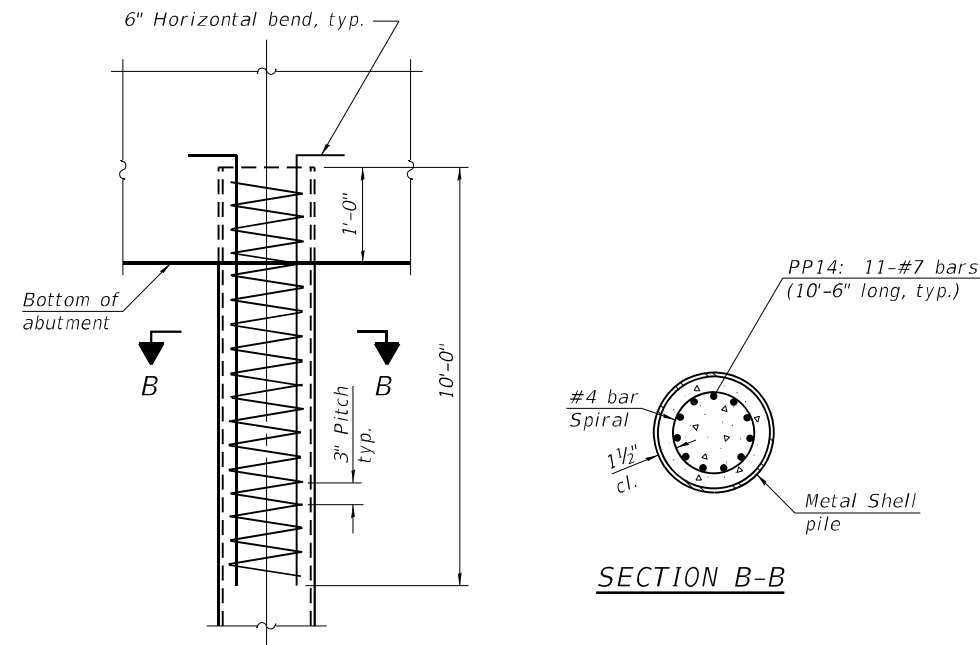


**METAL SHELL PILE TABLE**

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)
PP14	0.250"	36.71	0.0368
PP16	0.375"	62.64	0.0470



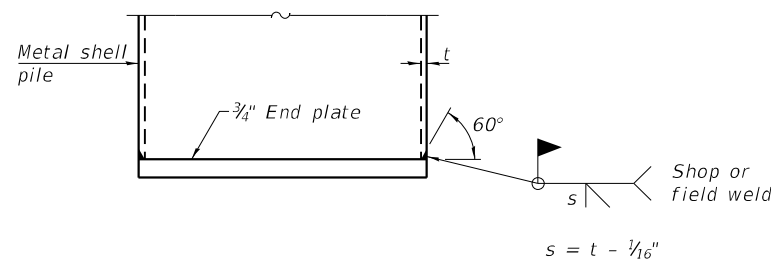
**DETAIL A**



**ELEVATION**

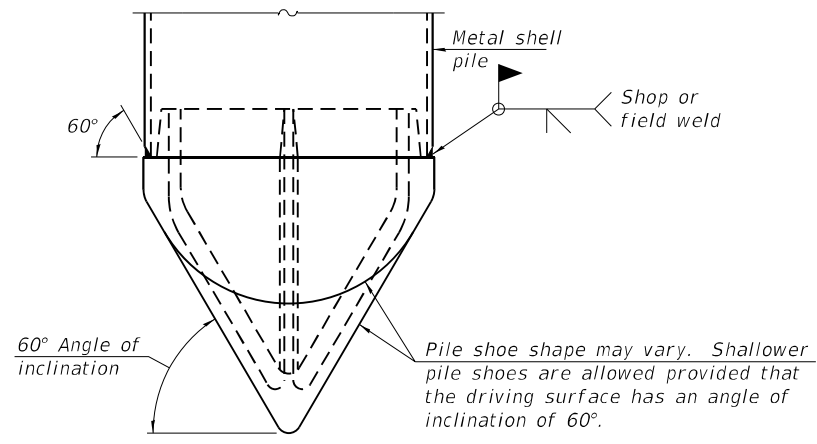
**SECTION B-B**

**REINFORCEMENT AT ABUTMENTS**



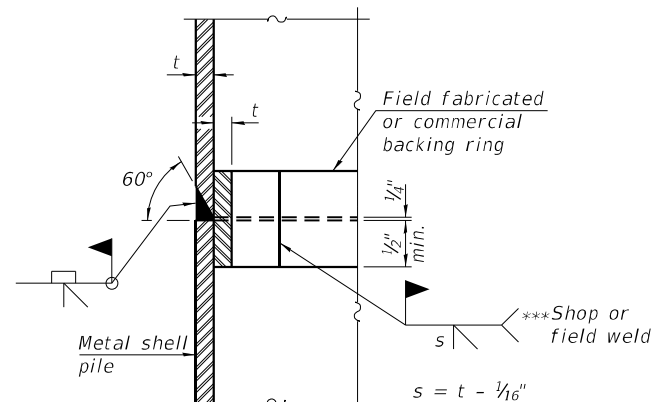
**END PLATE ATTACHMENT**

**WELDED COMMERCIAL SPLICE**  
 Notes:  
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.  
 Pile segments shall be driven to solid contact with splicer before welding.



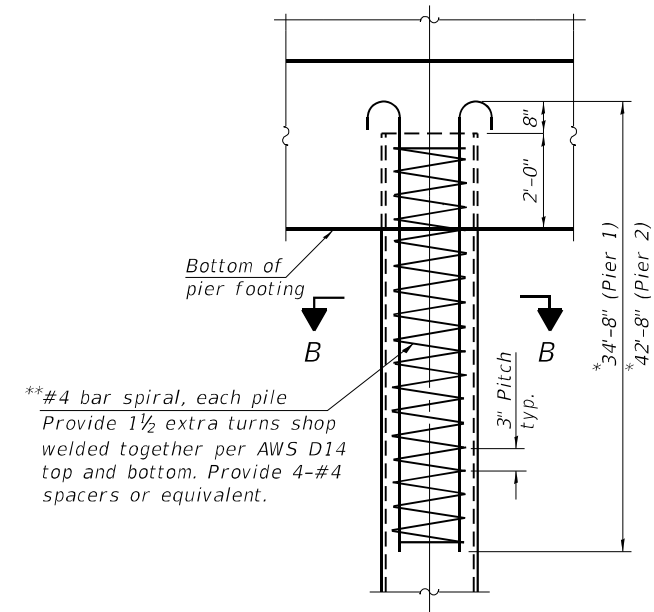
**PILE SHOE ATTACHMENT**

(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).

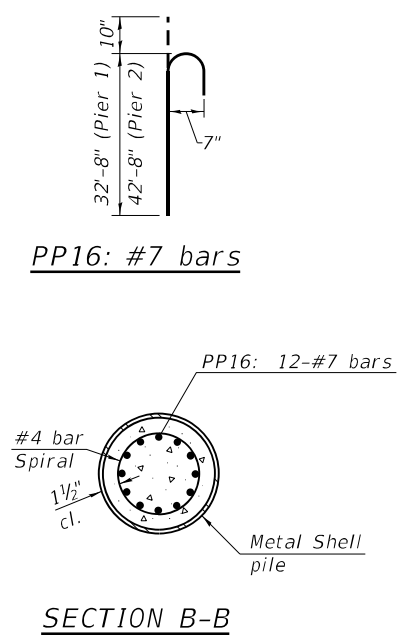


**COMPLETE PENETRATION WELD SPLICE**

\*\*\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



**ELEVATION**



**SECTION B-B**

**REINFORCEMENT AT PIERS**

\*Splicing of reinforcement will not be allowed.  
 \*\*Allowable substitution: Provide 1 1/2 extra turns top and bottom with 135 degree standard hook into core at ends of spiral.

Note:  
 The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**METAL SHELL PILE DETAILS  
 STRUCTURE NO. 088-0030**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	71
CONTRACT NO. 68698				

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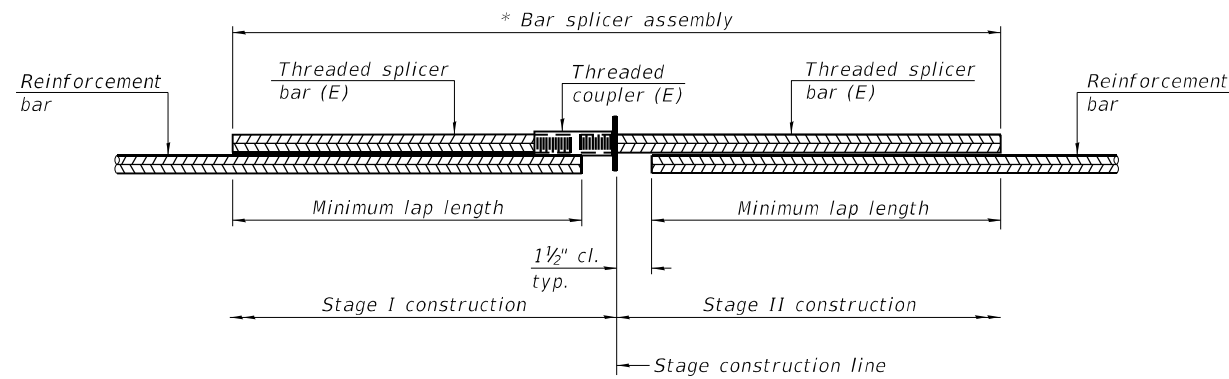
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CHECKED	GBR	REVISED	-	-
PLOT SCALE	DRAWN	FAM	REVISED	-
PLOT DATE	CHECKED	GBR	REVISED	-

SHEET NO. 37 OF 49 SHEETS

ILLINOIS FED. AID PROJECT



MODEL: Default  
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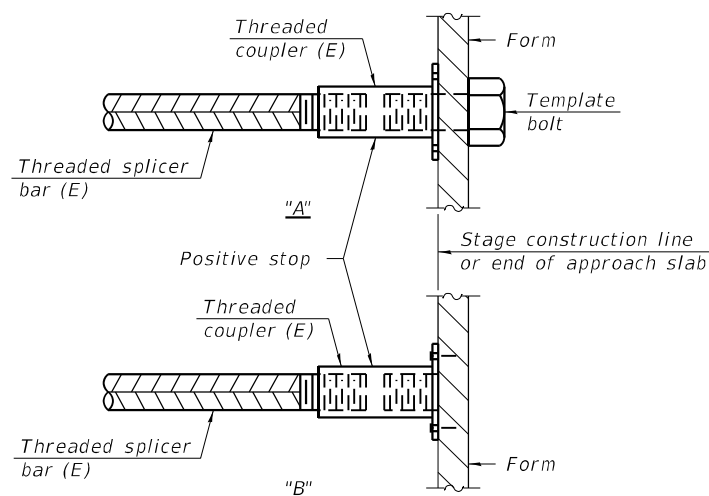
**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

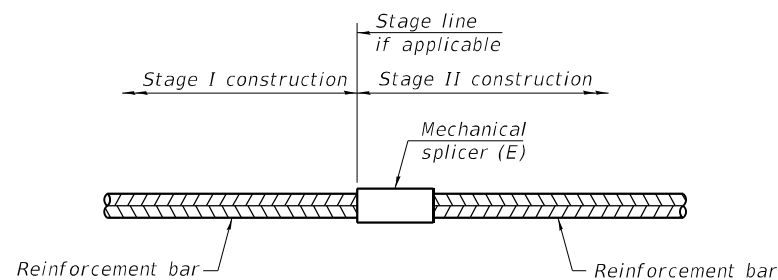
Location	Bar size	No. assemblies required	Minimum lap length
Top of Slab	#5	722	3'-1"
Bottom of Slab	#5	470	3'-6"
E. Abut. Diaph.	#6	7	4'-0"
E. Abut. Diaph.	#4	2	2'-5"
W. Abut. Diaph.	#6	7	4'-0"
W. Abut. Diaph.	#4	2	2'-5"
E. Approach (C.W.S.)	#5	13	3'-1"
E. Approach (C.W.S.)	#4	12	2'-5"
W. Approach (C.W.S.)	#5	13	3'-1"
W. Approach (C.W.S.)	#4	12	2'-5"
E. Approach Footing	#5	40	3'-2"
W. Approach Footing	#5	40	3'-2"
E. Abut. Cap	#8	12	5'-9"
E. Abut. Cap	#5	4	3'-7"
E. Abut. Cap	#4	2	2'-5"
W. Abut. Cap	#8	12	5'-9"
W. Abut. Cap	#5	4	3'-7"
W. Abut. Cap	#4	2	2'-5"
Pier 1 Cap	#8	16	5'-9"
Pier 1 Cap	#5	19	3'-7"
Pier 1 Wall	#5	52	3'-7"
Pier 1 Footing	#5	34	3'-7"
Pier 2 Cap	#8	16	5'-9"
Pier 2 Cap	#5	19	3'-7"
Pier 2 Wall	#5	40	3'-7"
Pier 2 Footing	#5	46	3'-7"

Note  
 C.W.S. means Concrete Wearing Surface



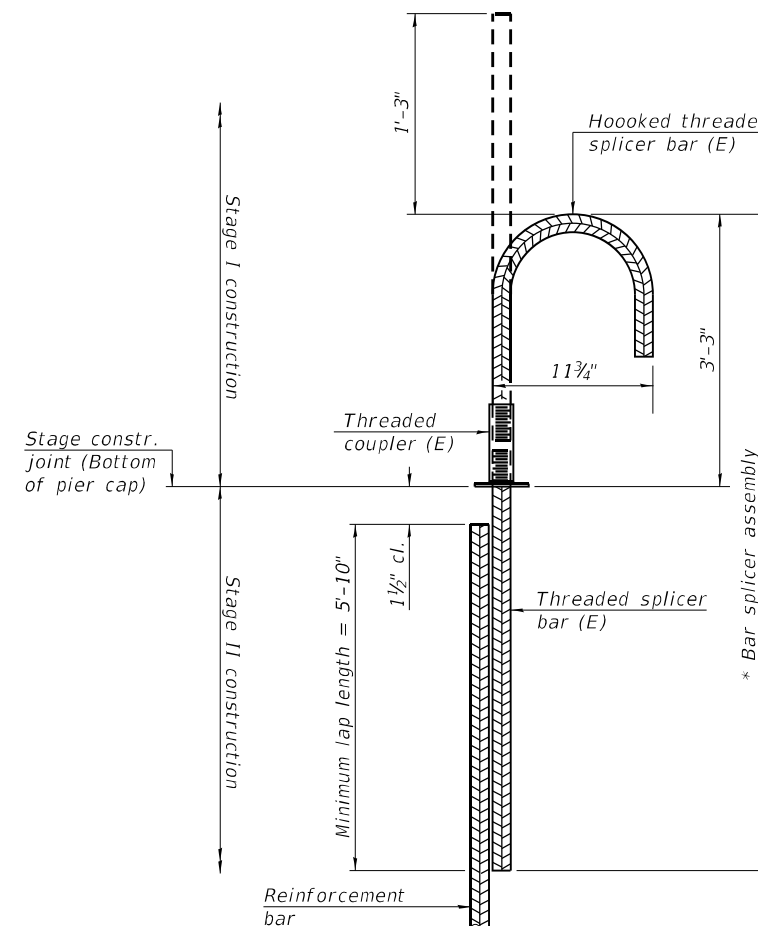
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required
E. Abut. Diaph.	#6	6
W. Abut. Diaph.	#6	6
Pier 1 Wall	#5	66
Pier 1 Wall	#9	178
Pier 2 Wall	#6	66
Pier 2 Wall	#6	174



**HOOKED BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

Location	Bar size	No. assemblies required
Pier 1	#9	18
Pier 2	#9	22

Notes:  
 Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.



USER NAME =	DESIGNED - FAM	REVISED -
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PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

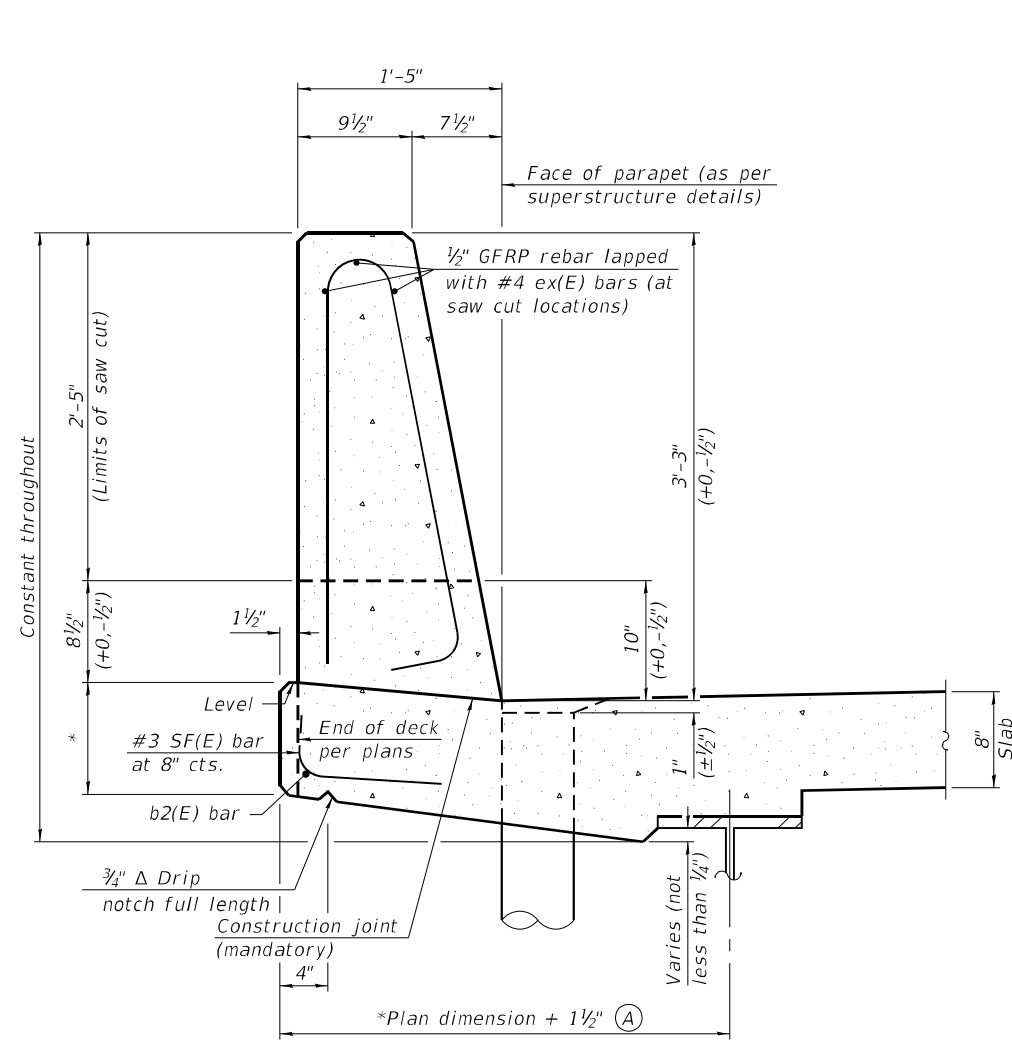
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 088-0030

SHEET NO. 38 OF 49 SHEETS

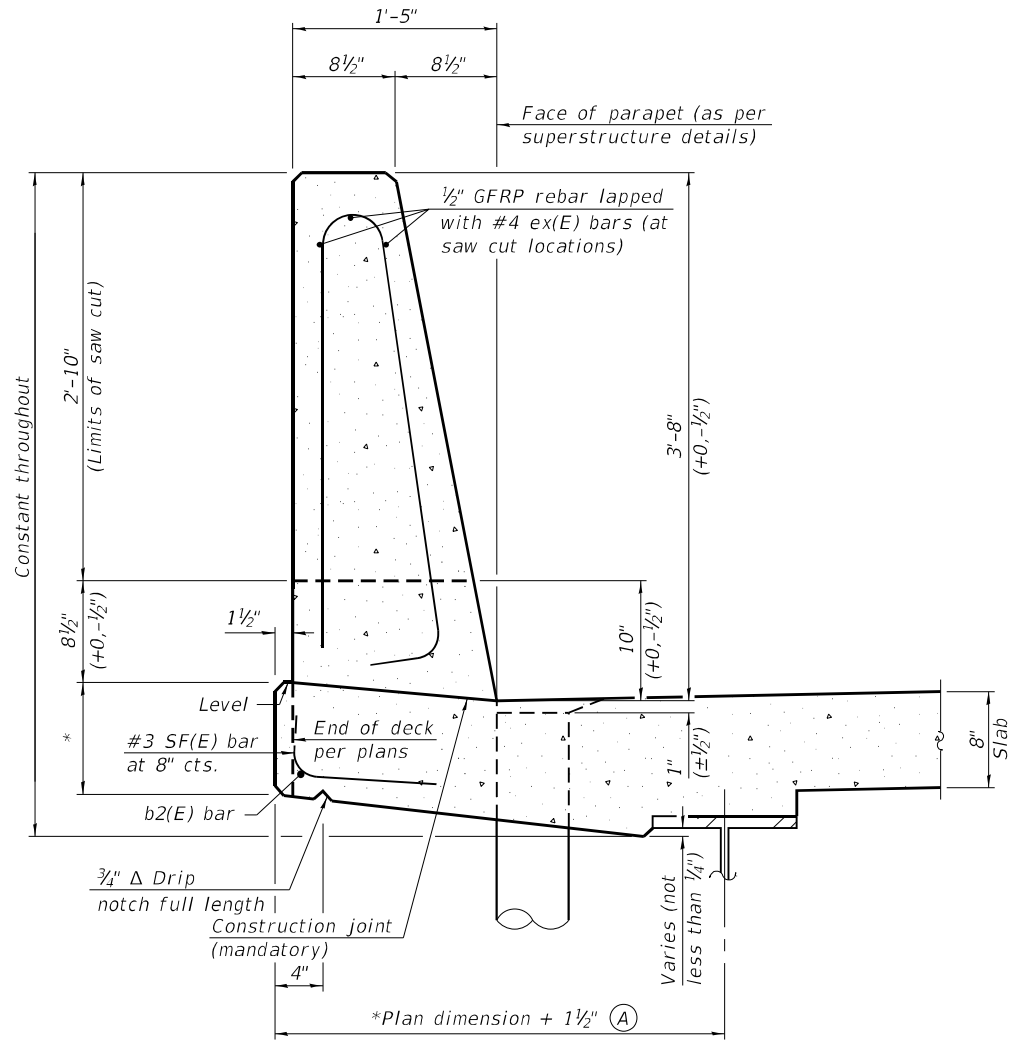
F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 72
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

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**39" CONSTANT-SLOPE  
 PARAPET SECTION**

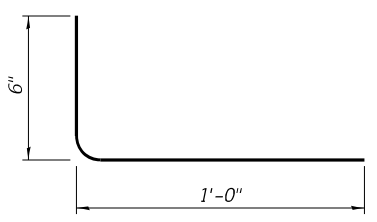
(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



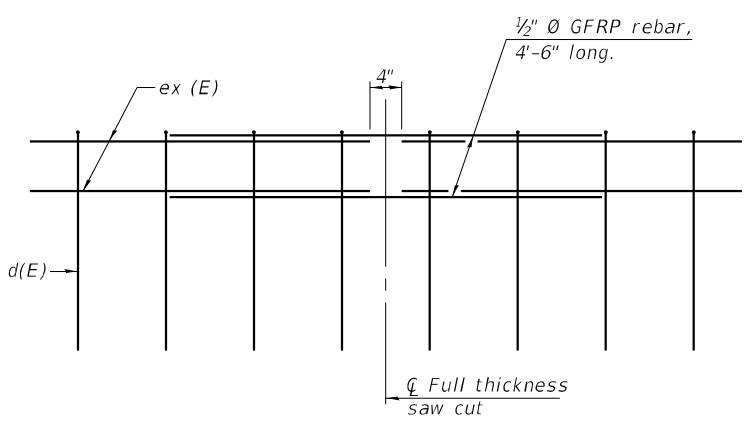
**44" CONSTANT-SLOPE  
 PARAPET SECTION**

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)

\*See Superstructure Details.



**#3 (E) BAR**



**GFRP REBAR STIFFENING DETAIL**

(Place as shown in parapet section at each parapet joint location.)

Notes:  
 All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.  
 Place full depth aluminum sheets as shown on superstructure details.  
 Replace all cork joint filler locations with a full thickness saw cut.  
 Steel superstructure shown. Other superstructure types similar.

SFP 39-44

1-1-2020



USER NAME =	DESIGNED - FAM	REVISED -
CHECKED - GBR	REVISIONS -	
PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CONCRETE PARAPET SLIPFORMING OPTION  
 STRUCTURE NO. 088-0030**

SHEET NO. 39 OF 49 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	11B (BR-1)	STARK	113	73
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



### SOIL BORING LOG

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION W. Abut. SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO.	BORING NO.	Station	Offset	Ground Surface Elev.	ft	(ft)	(/6")	(tsf)	(%)	Surface Water Elev.	ft	Stream Bed Elev.	ft	Groundwater Elev.:	ft	First Encounter	ft	Upon Completion	ft	After	Hrs.	(ft)	(/6")	(tsf)	(%)	
088-0030	B-1	63+00	13.00ft RT	651.93						631.45	630.75			629.9		NA										
Asphalt - 8 inches, Base Course - 6 inches																										
Brown and Gray, Moist CLAY (Fill), trace sand																										
Black, Moist SANDY LOAM (Fill), trace organics																										
Dark Brown to Black, Moist SANDY LOAM (Fill) with buried topsoil																										
Medium Stiff Dark Brown, Moist SANDY CLAY LOAM																										
Very Loose to Loose Brown to Gray, Moist to Wet Medium to Coarse SAND																										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)



### SOIL BORING LOG

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION W. Abut. SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO.	BORING NO.	Station	Offset	Ground Surface Elev.	ft	(ft)	(/6")	(tsf)	(%)	Surface Water Elev.	ft	Stream Bed Elev.	ft	Groundwater Elev.:	ft	First Encounter	ft	Upon Completion	ft	After	Hrs.	(ft)	(/6")	(tsf)	(%)	
088-0030	B-1	63+00	13.00ft RT	651.93						631.45	630.75			629.9		NA										
Soft to Medium Stiff Gray, Moist SILTY CLAY LOAM (continued)																										
Switched to mud rotary at 45 ft.																										
Stiff to Very Stiff Gray, Moist CLAY LOAM, trace gravel (continued)																										
Stiff to Very Stiff Gray, Moist CLAY LOAM, trace gravel																										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)



### SOIL BORING LOG

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION W. Abut. SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO.	BORING NO.	Station	Offset	Ground Surface Elev.	ft	(ft)	(/6")	(tsf)	(%)	Surface Water Elev.	ft	Stream Bed Elev.	ft	Groundwater Elev.:	ft	First Encounter	ft	Upon Completion	ft	After	Hrs.	(ft)	(/6")	(tsf)	(%)	
088-0030	B-1	63+00	13.00ft RT	651.93						631.45	630.75			629.9		NA										
Loose Gray, Wet Fine SAND (continued)																										
Extremely Dense Gray, Wet Coarse SAND with gravel																										
End of Boring																										
Loose Gray, Wet Fine SAND																										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)

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SOIL BORING LOG

Page 1 of 3 Date 11/30/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC
SECTION (11B) BR-1 LOCATION W. Abut. SEC. 34. TWP. 13N. RNG. 6E.
COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns for Depth (ft), Blows (6"), UCS (tsf), Moisture (%), and Soil Description. Includes data for various soil layers like Dark Brown Moist SANDY LOAM and Loose Brown Moist Medium to Coarse SAND.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Page 2 of 3 Date 11/30/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC
SECTION (11B) BR-1 LOCATION W. Abut. SEC. 34. TWP. 13N. RNG. 6E.
COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns for Depth (ft), Blows (6"), UCS (tsf), Moisture (%), and Soil Description. Includes data for layers like Stiff to Very Stiff Gray, Moist CLAY LOAM and Loose Brown, Moist Medium to Coarse SAND.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Page 3 of 3 Date 11/30/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC
SECTION (11B) BR-1 LOCATION W. Abut. SEC. 34. TWP. 13N. RNG. 6E.
COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns for Depth (ft), Blows (6"), UCS (tsf), Moisture (%), and Soil Description. Includes data for layers like Stiff to Very Stiff Gray, Moist CLAY LOAM and Extremely Dense Gray, Wet Coarse SAND, with gravel.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

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Table with columns for USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISED, and REVISIONS.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS STRUCTURE NO. 088-0030 SHEET NO. 41 OF 49 SHEETS

Table with columns for F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., and CONTRACT NO.



# SOIL BORING LOG

Date 12/1/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION Pier 2, SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 088-0030  
Station 63+00

BORING NO. B-3  
Station 63+90  
Offset 24.00ft RT  
Ground Surface Elev. 638.43 ft

Surface Water Elev. 631.45 ft  
Stream Bed Elev. 630.75 ft

Groundwater Elev.:  
First Encounter 627.4 ft  
Upon Completion NA ft  
After - Hrs. -

DEPTH (ft)	SOIL DESCRIPTION	BLOWS (6")	UNCONSOLIDATED QUANTITY (tsf)	MOISTURE (%)	DEPTH (ft)	SOIL DESCRIPTION	BLOWS (6")	UNCONSOLIDATED QUANTITY (tsf)	MOISTURE (%)
0	Dark Brown, Moist SANDY LOAM with Topsoil	0		21	0	Dark Brown, Moist SANDY LOAM with Topsoil	0		21
1	Soft to Stiff Dark Brown, Moist SANDY CLAY LOAM	1	2.0	25	1	Soft to Stiff Dark Brown, Moist SANDY CLAY LOAM	1	2.0	25
3		3	P		3		3	P	
1		1			1		1		
2		2	0.4	32	2		2	0.4	32
3		3	B		3		3	B	
1		1			1		1		
2		2	0.4	27	2		2	0.4	27
3		3	B		3		3	B	
3	Loose Brown, Moist to Wet Medium to Coarse SAND, trace gravel	3		15	3	Loose Brown, Moist to Wet Medium to Coarse SAND, trace gravel	3		15
4		4			4		4		
2	Very Loose to Medium Dense Brown, Wet Coarse SAND, with gravel	2		16	2	Very Loose to Medium Dense Brown, Wet Coarse SAND, with gravel	2		16
1		1			1		1		
2		2			2		2		
5		5		17	5		5		17
6		6			6		6		
0		0			0		0		
12		12		13	12		12		13
6		6			6		6		
2		2			2		2		
1	Stiff to Very Stiff Gray, Moist CLAY LOAM, trace gravel	1		17	1	Stiff to Very Stiff Gray, Moist CLAY LOAM, trace gravel	1		17
1		1			1		1		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 12/1/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION Pier 2, SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 088-0030  
Station 63+00

BORING NO. B-3  
Station 63+90  
Offset 24.00ft RT  
Ground Surface Elev. 638.43 ft

Surface Water Elev. 631.45 ft  
Stream Bed Elev. 630.75 ft

Groundwater Elev.:  
First Encounter 627.4 ft  
Upon Completion NA ft  
After - Hrs. -

DEPTH (ft)	SOIL DESCRIPTION	BLOWS (6")	UNCONSOLIDATED QUANTITY (tsf)	MOISTURE (%)	DEPTH (ft)	SOIL DESCRIPTION	BLOWS (6")	UNCONSOLIDATED QUANTITY (tsf)	MOISTURE (%)
0	Stiff to Very Stiff Gray, Moist CLAY LOAM, trace gravel	0		16	0	Stiff to Very Stiff Gray, Moist CLAY LOAM, trace gravel	0		16
10		10			10		10		
9		9	3.8	13	9		9	3.8	13
12		12	S		12		12	S	
7		7			7		7		
9		9	3.9	13	9		9	3.9	13
12		12	S		12		12	S	
7		7			7		7		
11		11	3.0	16	11		11	3.0	16
14		14	P		14		14	P	
8		8			8		8		
11		11	3.2	14	11		11	3.2	14
15		15	S		15		15	S	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)

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USER NAME =	DESIGNED - FAM	REVISED -
CHECKED - GBR	REVISIONS -	
PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS  
STRUCTURE NO. 088-0030  
SHEET NO. 42 OF 49 SHEETS

F.A.P. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 76
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				



SOIL BORING LOG

Date 12/2/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC
SECTION (11B) BR-1 LOCATION E. Abut. SEC. 34, TWP. 13N, RNG. 6E.
COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns for Depth, Blows, UCS, Moisture, and Soil Description. Includes data for surface water, stream bed, groundwater, and soil layers like Dark Brown, Moist CLAY (Fill) with Topsoil.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 12/2/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC
SECTION (11B) BR-1 LOCATION E. Abut. SEC. 34, TWP. 13N, RNG. 6E.
COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns for Depth, Blows, UCS, Moisture, and Soil Description. Includes notes like 'Noted thin layer of gravelly sand at 44 ft.' and 'Switched to mud rotary at 50 ft.'

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 12/2/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC
SECTION (11B) BR-1 LOCATION E. Abut. SEC. 34, TWP. 13N, RNG. 6E.
COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns for Depth, Blows, UCS, Moisture, and Soil Description. Includes 'End of Boring' at 554.25 ft.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)

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SOIL BORING LOG

Date 12/5/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION E. Abut. SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns: STRUCT. NO., BORING NO., Station, Offset, Ground Surface Elev., and soil properties (D, B, U, M, P, L, O, W, S, T, H, S, Qu, I, S, T).

Main soil log table with columns for depth (ft), blow count (blows/6"), and soil description (e.g., Dark Brown, Moist CLAY, with topsoil).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 12/5/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION E. Abut. SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns: STRUCT. NO., BORING NO., Station, Offset, Ground Surface Elev., and soil properties (D, B, U, M, P, L, O, W, S, T, H, S, Qu, I, S, T).

Main soil log table with columns for depth (ft), blow count (blows/6"), and soil description (e.g., Very Stiff Gray, Moist CLAY LOAM, trace gravel).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 12/5/11

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY KSC

SECTION (11B) BR-1 LOCATION E. Abut. SEC. 34, TWP. 13N, RNG. 6E.

COUNTY Stark DRILLING METHOD HSA HAMMER TYPE AUTO

Table with columns: STRUCT. NO., BORING NO., Station, Offset, Ground Surface Elev., and soil properties (D, B, U, M, P, L, O, W, S, T, H, S, Qu, I, S, T).

Main soil log table with columns for depth (ft), blow count (blows/6"), and soil description (e.g., Very Stiff Gray, Moist CLAY LOAM, with gravel).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, form 137 (Rev. 8-99)

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Bottom section containing logos (BFW, BACON | FARMER | WORKMAN), project details (STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION, SOIL BORING LOGS, STRUCTURE NO. 088-0030), and a metadata table with columns for USER NAME, DESIGNED, CHECKED, DRAWN, PLOT DATE, REVISED, SHEETS, and SHEET NO.







### SOIL BORING LOG

Page 3 of 4

Date 12/9/20

ROUTE FAP 643 (IL 17/91) DESCRIPTION Rock probe boring LOGGED BYMRK(Terracon)

SECTION (11B)(BR-1) LOCATION SE 1/4, SEC. 34, TWP. 13N, RNG. 6E, 4<sup>th</sup> PM

COUNTY Stark DRILLING METHOD HSA to 40' then mud rotary HAMMER TYPE AUTO

STRUCT. NO. 088-0002 (EX)  
088-0030 (PR)  
Station 63+00 (EX), 63+44 (PR)

BORING NO. B-5P  
Station 61+07  
Offset 34.0 ft RT  
Ground Surface Elev. 661.00 ft

DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	Failure Mode	Soil Description	ELEVATION (ft)	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	Failure Mode	Soil Description	ELEVATION (ft)
13	4			GRAVELLY SANDY CLAY LOAM, with sand seams and pea gravel, gray, very stiff to hard	574.25	13	4			CLAY LOAM, trace sand and gravel, gray, stiff to very stiff (continued)	554.25
24	6	10				24	6	1.3	17		
33	9					33	9	P			
574.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	574.25	554.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	554.25
7	10					7	10				
9	26	2.3	16			9	26	3.0	18		
14	25	B				14	25	B			
574.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	574.25	545.50				CLAYEY SHALE, greenish gray	545.50
7	50	1.5	17			7	50		12		
9	26	B				9	26				
12	25					12	25				
574.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	574.25	545.50				CLAYEY SHALE, greenish gray	545.50
5	11	1.3	18			5	11				
8	11	B				8	11				
11						11					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)



### SOIL BORING LOG

Page 4 of 4

Date 12/9/20

ROUTE FAP 643 (IL 17/91) DESCRIPTION Rock probe boring LOGGED BYMRK(Terracon)

SECTION (11B)(BR-1) LOCATION SE 1/4, SEC. 34, TWP. 13N, RNG. 6E, 4<sup>th</sup> PM

COUNTY Stark DRILLING METHOD HSA to 40' then mud rotary HAMMER TYPE AUTO

STRUCT. NO. 088-0002 (EX)  
088-0030 (PR)  
Station 63+00 (EX), 63+44 (PR)

BORING NO. B-5P  
Station 61+07  
Offset 34.0 ft RT  
Ground Surface Elev. 661.00 ft

DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	Failure Mode	Soil Description	ELEVATION (ft)	DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	Failure Mode	Soil Description	ELEVATION (ft)
13	4			GRAVELLY SANDY CLAY LOAM, with sand seams and pea gravel, gray, very stiff to hard	574.25	13	4			CLAY LOAM, trace sand and gravel, gray, stiff to very stiff (continued)	554.25
24	6	10				24	6	1.3	17		
33	9					33	9	P			
574.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	574.25	545.50				CLAYEY SHALE, greenish gray	545.50
7	10					7	10				
9	26	2.3	16			9	26	3.0	18		
14	25	B				14	25	B			
574.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	574.25	545.50				CLAYEY SHALE, greenish gray	545.50
7	50	1.5	17			7	50		12		
9	26	B				9	26				
12	25					12	25				
574.25				CLAY LOAM, trace sand and gravel, gray, stiff to very stiff	574.25	545.50				CLAYEY SHALE, greenish gray	545.50
5	11	1.3	18			5	11				
8	11	B				8	11				
11						11					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)

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CHECKED - GBR	REVISED -	
PLOT SCALE =	DRAWN - FAM	REVISED -
PLOT DATE = 6/24/2022	CHECKED - GBR	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS  
STRUCTURE NO. 088-0030  
SHEET NO. 46 OF 49 SHEETS

FAP. RTE. 643	SECTION 11B (BR-1)	COUNTY STARK	TOTAL SHEETS 113	SHEET NO. 80
CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	



# SOIL BORING LOG

Date 4/9/14

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY JJR  
 SECTION (11B) BR-1 LOCATION Pier 1, SEC. 34, TWP. 13N, RNG. 6E.  
 Latitude 41.062913, Longitude 89.795191  
 COUNTY Stark DRILLING METHOD MUD ROTARY HAMMER TYPE AUTO

STRUCT. NO.	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev.	DEPT H	BLOW S	UCS Qu	MOIST
Station	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
088-0030 63+00					631.45 630.75				
BORING NO. <u>B-6</u> Station <u>62+29</u> Offset <u>11.00ft RT</u> Ground Surface Elev. <u>640.85</u> ft					Groundwater Elev.: First Encounter <u>634.9</u> ft Upon Completion <u>NA</u> ft After <u>-</u> Hrs.				
Loose to Medium Dense Dark Brown, Moist SANDY LOAM	4 8 6			16		1 2 3	1.5 P		28
636.35	3			18		2 3	1.5 P		33
Loose Brown, Moist SAND	3					3			
634.85	2 3			23		3 5	1.5 P		25
Medium Dense Brown, Moist SANDY LOAM					612.35	16			
631.85	4 7			22		9 13	5.0 B		13
Medium Dense Brown, Moist SAND	4 6 9			18					
626.85	6 7			20		15 20	3.0 P		23
Medium Dense Brown, Moist SANDY LOAM	7 6 5			27					
623.85	2 2			28		9 10 16	4.0 P		22
Stiff Gray, Moist SILTY CLAY LOAM									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
 BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 4/9/14

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY JJR  
 SECTION (11B) BR-1 LOCATION Pier 1, SEC. 34, TWP. 13N, RNG. 6E.  
 Latitude 41.062913, Longitude 89.795191  
 COUNTY Stark DRILLING METHOD MUD ROTARY HAMMER TYPE AUTO

STRUCT. NO.	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev.	DEPT H	BLOW S	UCS Qu	MOIST
Station	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
088-0030 63+00					631.45 630.75				
BORING NO. <u>B-6</u> Station <u>62+29</u> Offset <u>11.00ft RT</u> Ground Surface Elev. <u>640.85</u> ft					Groundwater Elev.: First Encounter <u>634.9</u> ft Upon Completion <u>NA</u> ft After <u>-</u> Hrs.				
Very Stiff to Hard Gray, Moist CLAY LOAM, trace gravel (continued)						7 9 14	4.0 P		22
						7 9 12	3.5 B		14
						6 9 12	3.5 B		14
						7 8 10	3.1 B		14
						7 8 10	3.1 B		15
						5 6 8	2.1 B		15
						7 7 11	2.1 B		17

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
 BBS, form 137 (Rev. 8-99)



# SOIL BORING LOG

Date 4/9/14

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY JJR  
 SECTION (11B) BR-1 LOCATION Pier 1, SEC. 34, TWP. 13N, RNG. 6E.  
 Latitude 41.062913, Longitude 89.795191  
 COUNTY Stark DRILLING METHOD MUD ROTARY HAMMER TYPE AUTO

STRUCT. NO.	DEPT H	BLOW S	UCS Qu	MOIST	Surface Water Elev.	DEPT H	BLOW S	UCS Qu	MOIST
Station	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
088-0030 63+00					631.45 630.75				
BORING NO. <u>B-6</u> Station <u>62+29</u> Offset <u>11.00ft RT</u> Ground Surface Elev. <u>640.85</u> ft					Groundwater Elev.: First Encounter <u>634.9</u> ft Upon Completion <u>NA</u> ft After <u>-</u> Hrs.				
Very Stiff to Hard Gray, Moist CLAY LOAM, trace gravel (continued)						5 7 10	2.5 B		18
						8 7 10	3.1 B		17
End of Boring	550.85	-90							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
 BBS, form 137 (Rev. 8-99)

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SOIL BORING LOG

Date 4/8/14

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY JJR
SECTION (11B) BR-1 LOCATION Pier 2, SEC. 34, TWP. 13N, RNG. 6E
Latitude 41.063064, Longitude 09.795670
COUNTY Stark DRILLING METHOD MUD ROTARY HAMMER TYPE AUTO

Table with columns for Depth (ft), Blows (6"), UCS (tsf), Moisture (%), and Soil Description. Includes data for Topsoil, Sandy Loam, and Sand layers.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 4/8/14

ROUTE F.A Route 643 (S.B.I-30) DESCRIPTION IL Rt. 17/IL Rt. 91 over Spoon River LOGGED BY JJR
SECTION (11B) BR-1 LOCATION Pier 2, SEC. 34, TWP. 13N, RNG. 6E
Latitude 41.063064, Longitude 09.795670
COUNTY Stark DRILLING METHOD MUD ROTARY HAMMER TYPE AUTO

Table with columns for Depth (ft), Blows (6"), UCS (tsf), Moisture (%), and Soil Description. Includes data for Clay Loam and Sand layers.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 4/8/14

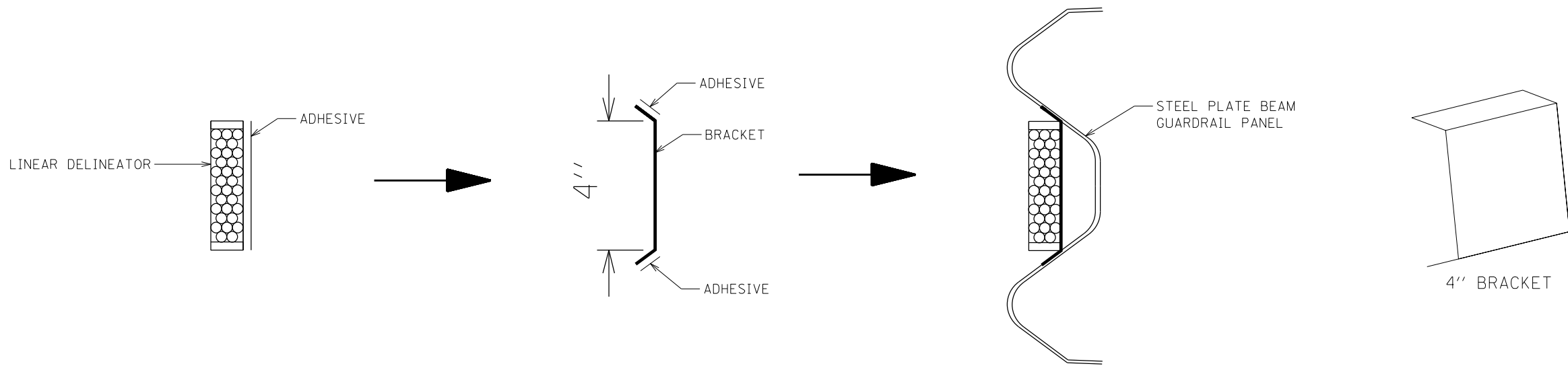
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SECTION (11B) BR-1 LOCATION Pier 2, SEC. 34, TWP. 13N, RNG. 6E
Latitude 41.063064, Longitude 09.795670
COUNTY Stark DRILLING METHOD MUD ROTARY HAMMER TYPE AUTO

Table with columns for Depth (ft), Blows (6"), UCS (tsf), Moisture (%), and Soil Description. Includes data for Clay Loam and Sand layers.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

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**LINEAR DELINEATOR APPLICATION TO STANDARD GALVANIZED GUARDRAIL**

LINEATOR DELINEATOR SHALL BE APLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS

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	DRAWN -	REVISED -
PLOT SCALE = 99.9989 ' / in.	CHECKED -	REVISED -
PLOT DATE = 6/14/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LINEATOR DELINEATOR APPLICATION  
TO STANDARD GALVANIZED GUARDRAIL**

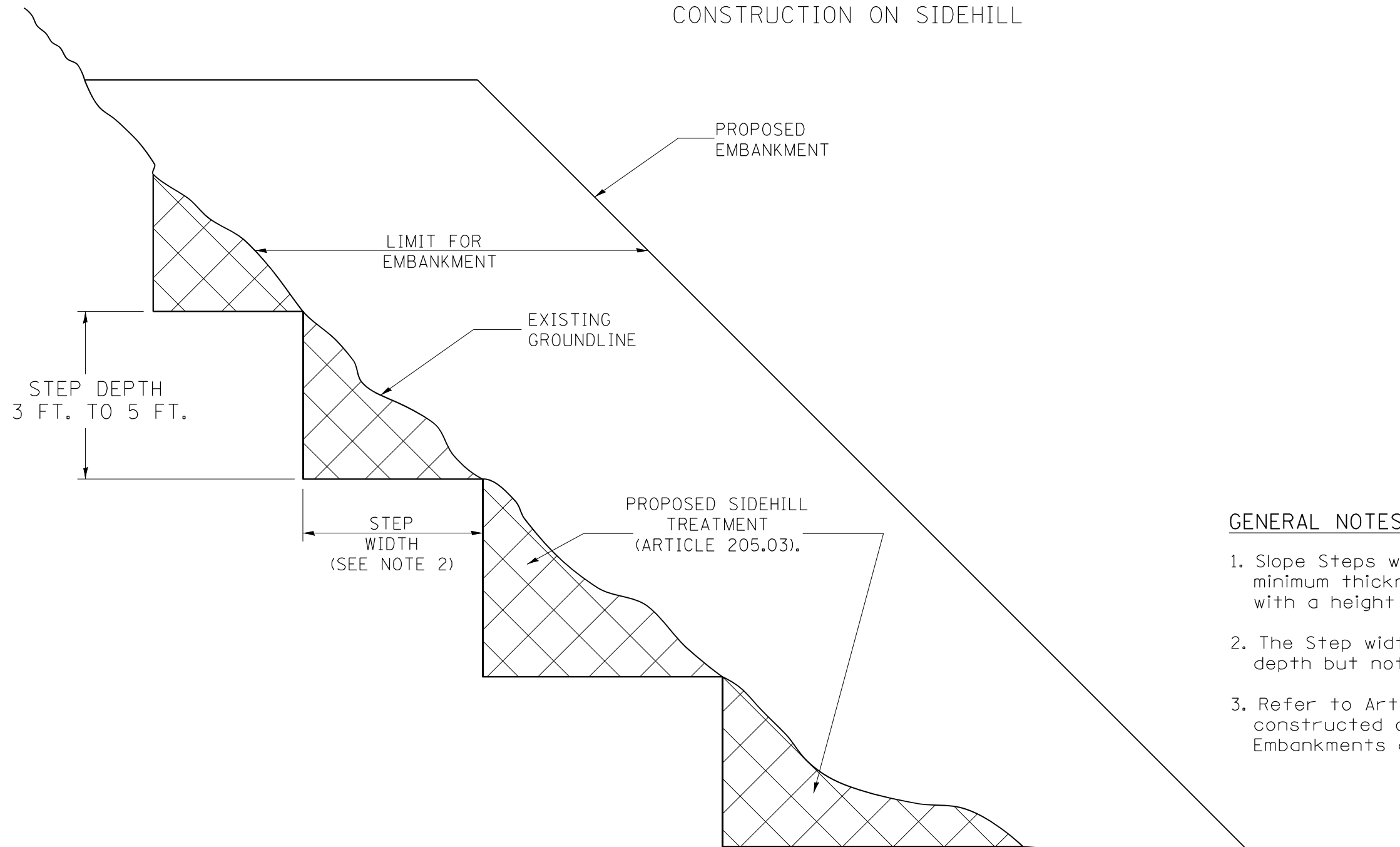
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	84
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 68698

# SLOPE STEPS DETAIL

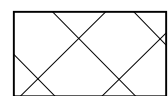
## TYPICAL CROSS-SECTION EMBANKMENT CONSTRUCTION ON SIDEHILL



### GENERAL NOTES:

1. Slope Steps will be required for all 12(300) minimum thickness "sliver fills" and on all fills with a height of 10 feet or greater.
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

### REPLACEMENT MATERIAL:



STANDARD EMBANKMENT  
(IN ACCORDANCE WITH  
205 OF THE STANDARD SPECIFICATION).

All dimensions are in inches (millimeters)  
unless otherwise noted.

1-1-97	RENUM. L-5.03, NEW REVISION BOX, REVISED TITLE BOX, REVISED GENERAL NOTES.	T.P.
10-16-06	REVISED TO 2007 SPEC.	M.A.
5-30-18	MINOR CORRECTION	R.D.

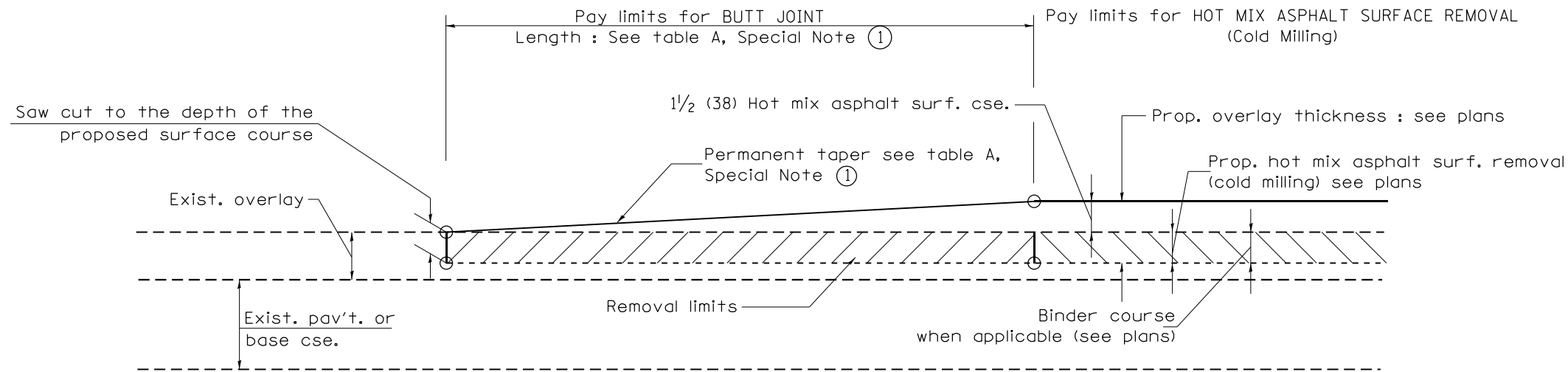
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SLOPE STEPS DETAIL**

NOT TO SCALE

CADD STD. 205001-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	85
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



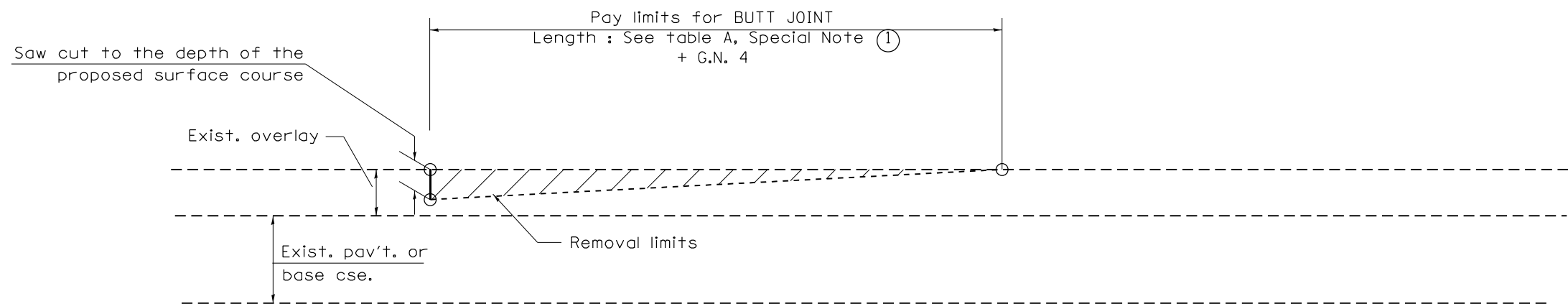
**CASE 1 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)**

**TABLE A  
TAPER RATES**

SPECIAL NOTE NUMBER	ELEMENT	MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS	ALL OTHERS
①	BUTT JOINT TAPER RATE	1:480	1:240
②	TEMPORARY RAMP TAPER RATE	1:80	1:40

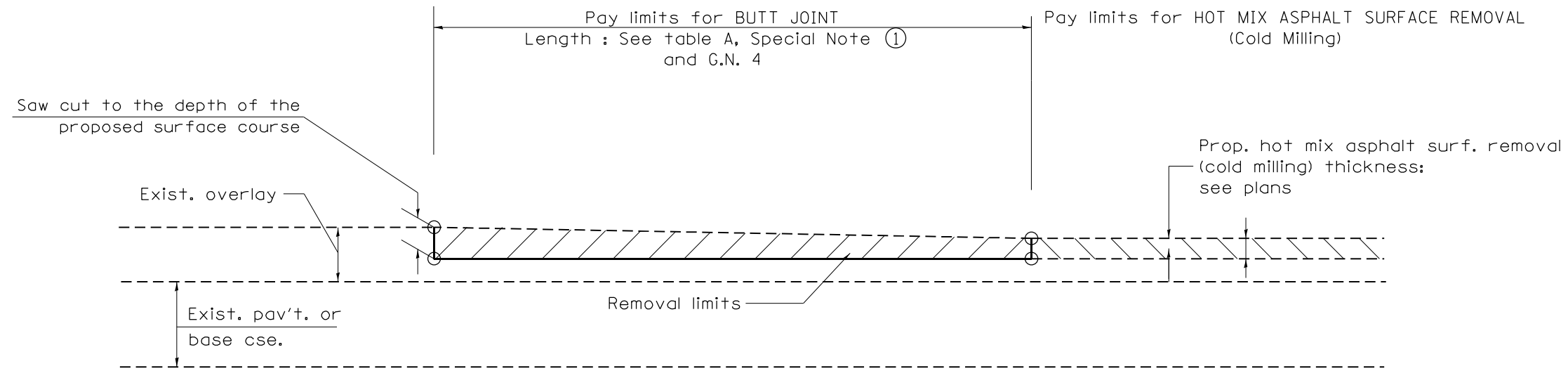
**GENERAL NOTES**

1. The work shall be done in accordance with Article 406.08 and the Special Provision for Butt Joints.
2. The pavement surface to be removed may be either bituminous or P.C. concrete. The work shall be performed in accordance with Article 440.04 and the Special Provisions for Butt Joints.
3. The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.05.
4. The length of butt joint is based on the taper rate times change in cold milling depth within the butt joint pay limits, unless otherwise indicated.
5. Temporary ramps are paid for separately and not included in the cost of the butt joints.

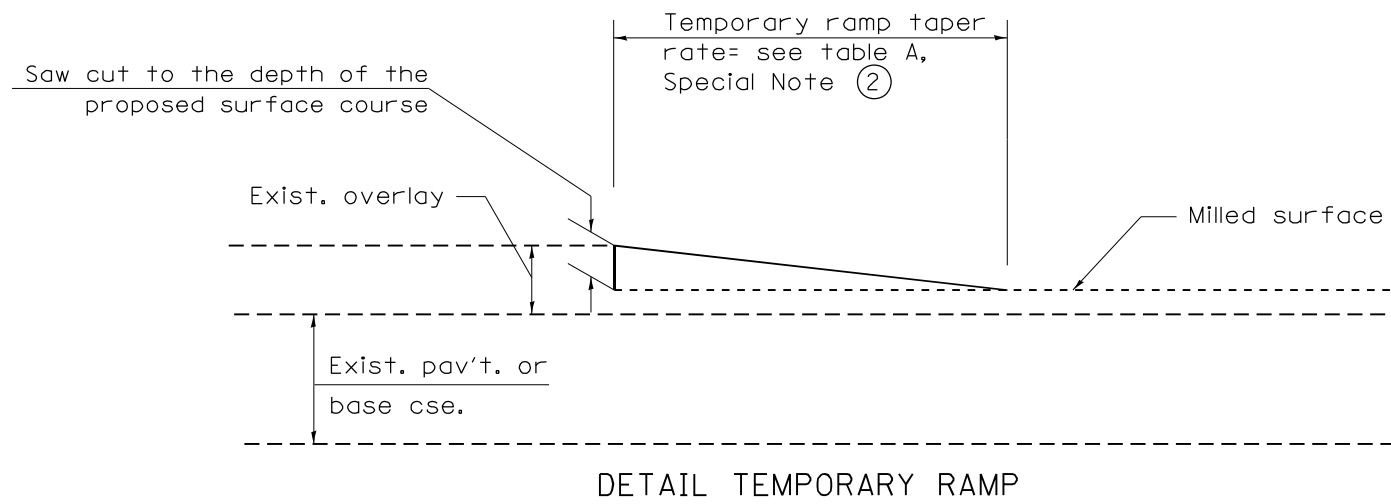


**CASE 2 : NO HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)**

All dimensions are in inches (millimeters) unless otherwise noted.



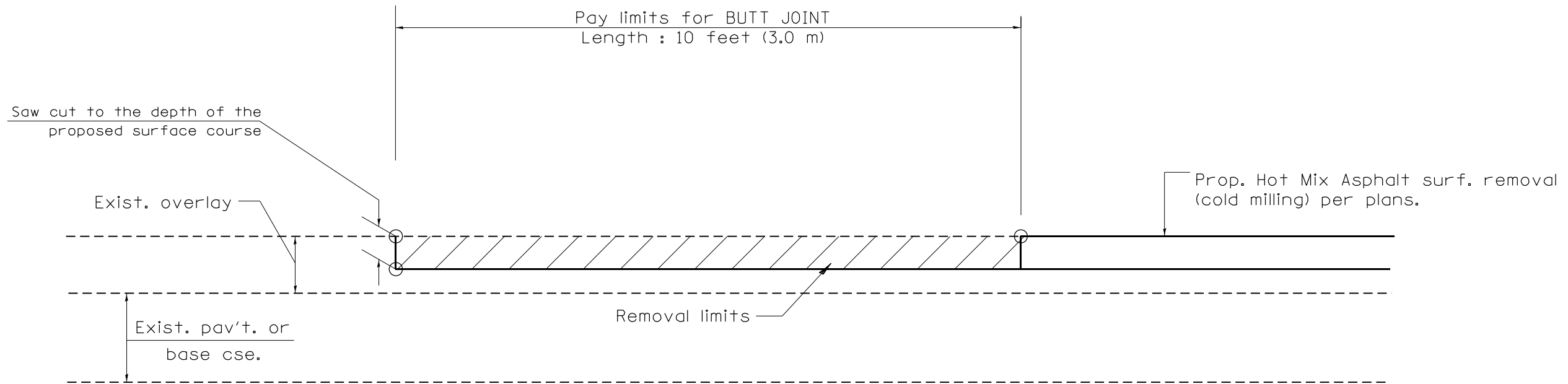
**CASE 3 : HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)  
TIE-IN TO EXISTING BITUMINOUS TAPER**



All dimensions are in inches (millimeters) unless otherwise noted.

				<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>BUTT JOINTS</b>		SHT. 2 OF 3 CADD STD. 406101-D4		<table border="1"> <tr> <th>F.A.P. RTE.</th> <th>SECTION</th> <th>COUNTY</th> <th>TOTAL SHEETS</th> <th>SHEET NO.</th> </tr> <tr> <td>643</td> <td>(11B)BR-1</td> <td>STARK</td> <td>113</td> <td>87</td> </tr> </table>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	643	(11B)BR-1	STARK	113	87
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.																	
643	(11B)BR-1	STARK	113	87																	
				NOT TO SCALE				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		CONTRACT NO. 68698											

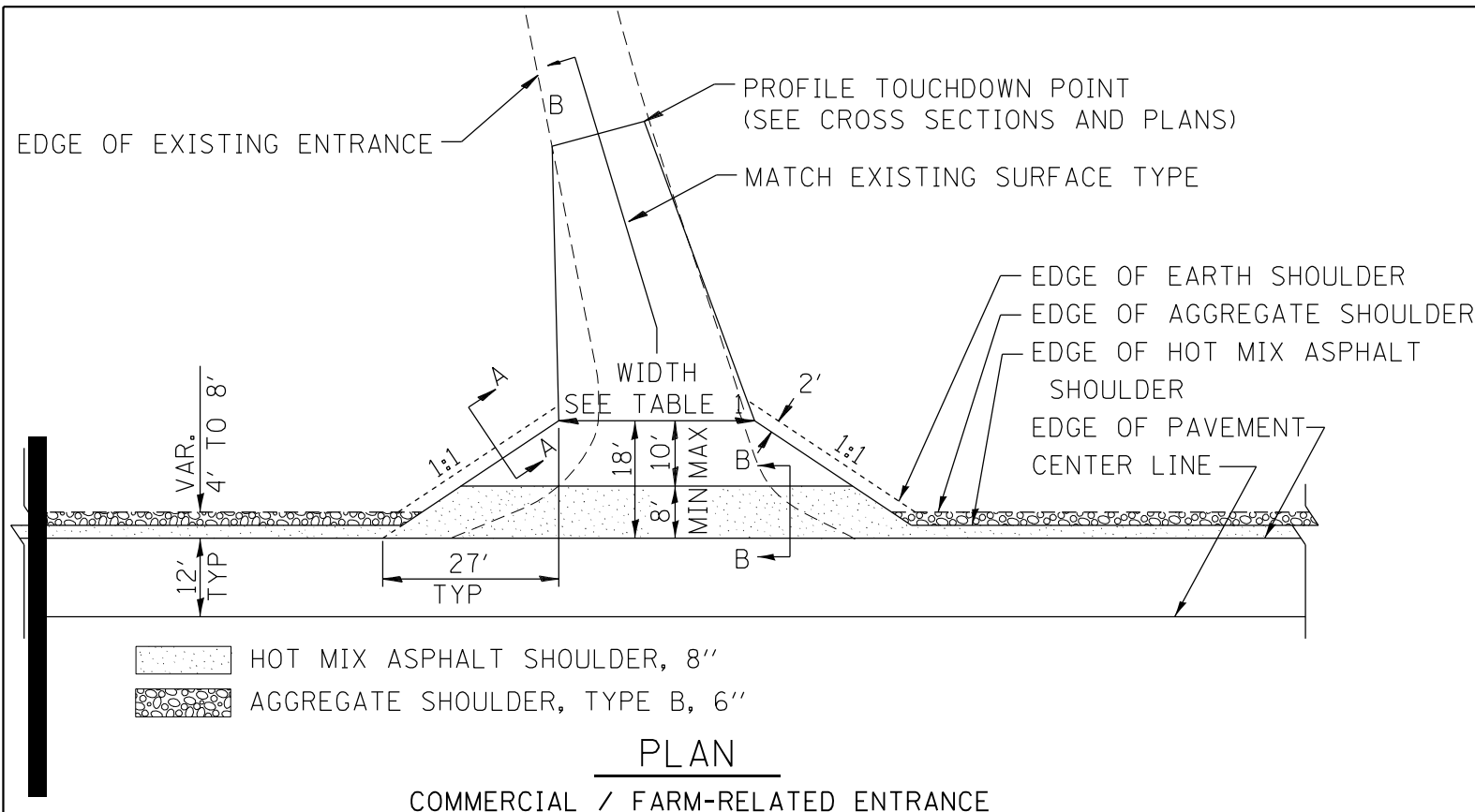




CASE 4 : SINGLE LIFT OVERLAY WITH EQUIVALENT DEPTH  
HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)  
TIE-IN TO EXISTING BITUMINOUS TAPER

All dimensions are in inches (millimeters) unless otherwise noted.

				<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>BUTT JOINTS</b>		SHT. 3 OF 3 CADD STD. 406101-D4	
				NOT TO SCALE				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
643	(11B)BR-1	STARK	113	88	CONTRACT NO. 68698				



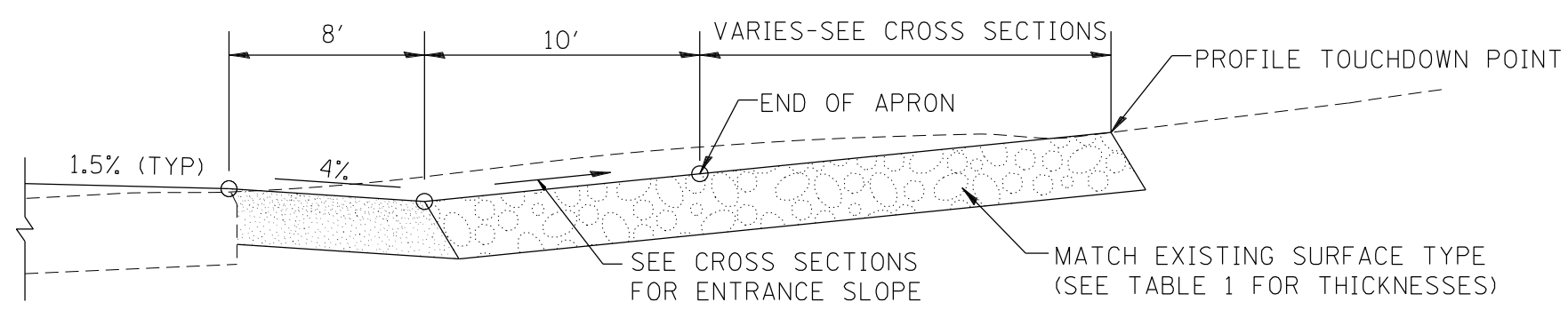
HOT MIX ASPHALT SHOULDER, 8"  
 AGGREGATE SHOULDER, TYPE B, 6"

**PLAN**

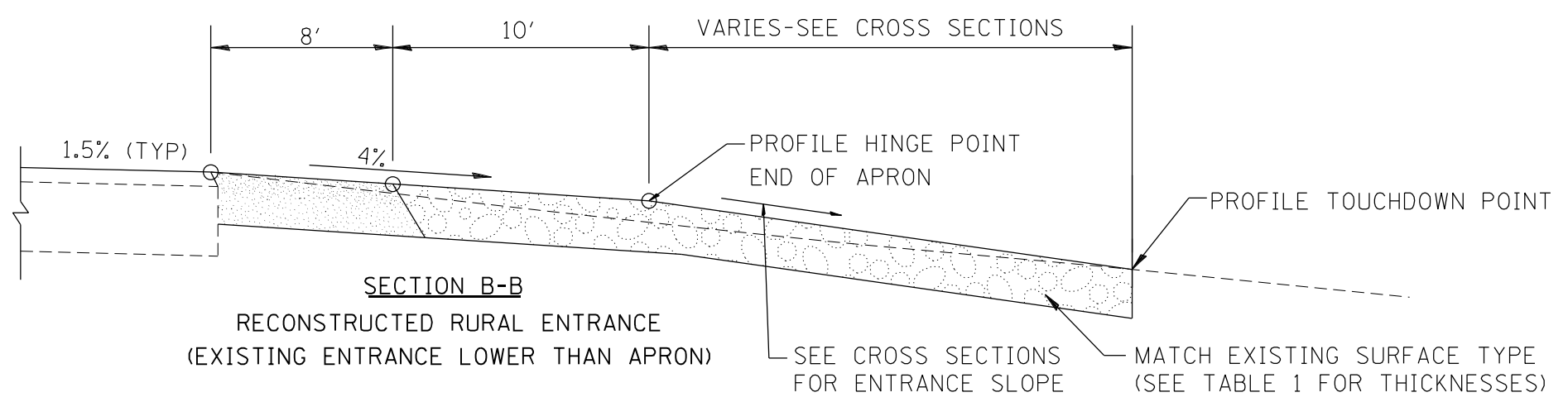
COMMERCIAL / FARM-RELATED ENTRANCE

TABLE 1						
RURAL ENTRANCE DESIGN						
ELEMENT	NON-COMMERCIAL		NON-COMMERCIAL W/ LARGE FARM EQUIPMENT		COMMERCIAL	
					1-WAY OPERATION	2-WAY OPERATION
WIDTH (W)	12'(3.6m) Min.	24'(7.2m) Max.	20' (6.1m)Min.	30'(9.0m)Max.	14'(4.3m) Min.	24'(7.2m) Max.
FLARE						1:1.5
MAX. GRADE (G)	12%		12%		10%	

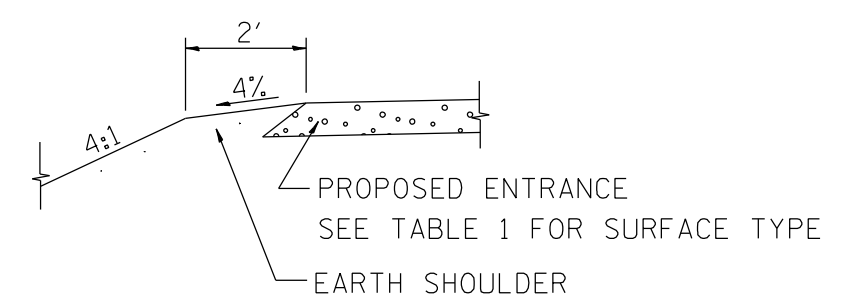
SURFACE TYPE			
INCIDENTAL HOT MIX ASPHALT SURFACING	6"	—	8"
AGGREGATE SURFACE COURSE	6"	8"	—
PCC DRIVEWAY PAVEMENT	6"	—	7"



**SECTION B-B**  
 RECONSTRUCTED RURAL ENTRANCE  
 (EXISTING ENTRANCE HIGHER THAN APRON)



**SECTION B-B**  
 RECONSTRUCTED RURAL ENTRANCE  
 (EXISTING ENTRANCE LOWER THAN APRON)



**SECTION A-A**  
 SHOULDER TREATMENT FOR RURAL ENTRANCES

GENERAL NOTES

- ENTRANCES SHALL SLOPE AWAY FROM THE PAVEMENT AT A RATE EQUAL TO THE SHOULDER SLOPE FOR A MINIMUM DISTANCE OF 8'.
- A MINIMUM 8' PAVED SHOULDER SHALL BE CONSTRUCTED BETWEEN LOCATIONS WHERE THE RURAL ENTRANCE IS LESS THAN 50' FROM AN ADJACENT SIDEROAD, ENTRANCE OR MAILBOX TURNOUT.
- A TAPER RATE OF 5:1 IS DESIRABLE WHEN TRANSITING FROM THE RURAL ENTRANCE WIDTH SHOWN IN TABLE 1, TO THE EXISTING ENTRANCE WIDTH.

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-103.06, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.
07-01-97	REVISE DESIGNER NOTES	J.A.	9-15-15	UPDATED TABLE 1	R.D.
01-17-03	ADJUST DESIGN, CHANGE ENTRANCE	JATR	2-29-16	MINOR CORRECTIONS	R.D.
09-15-05	RADIUS FOR FLARE	M.M.A.	5-9-17	CHANGED TAPER RATE	R.D.

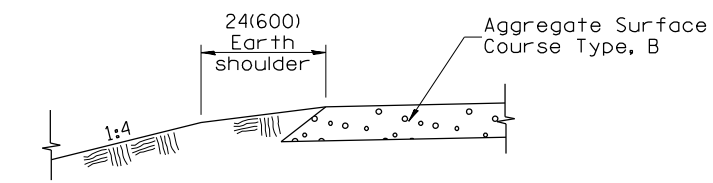
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

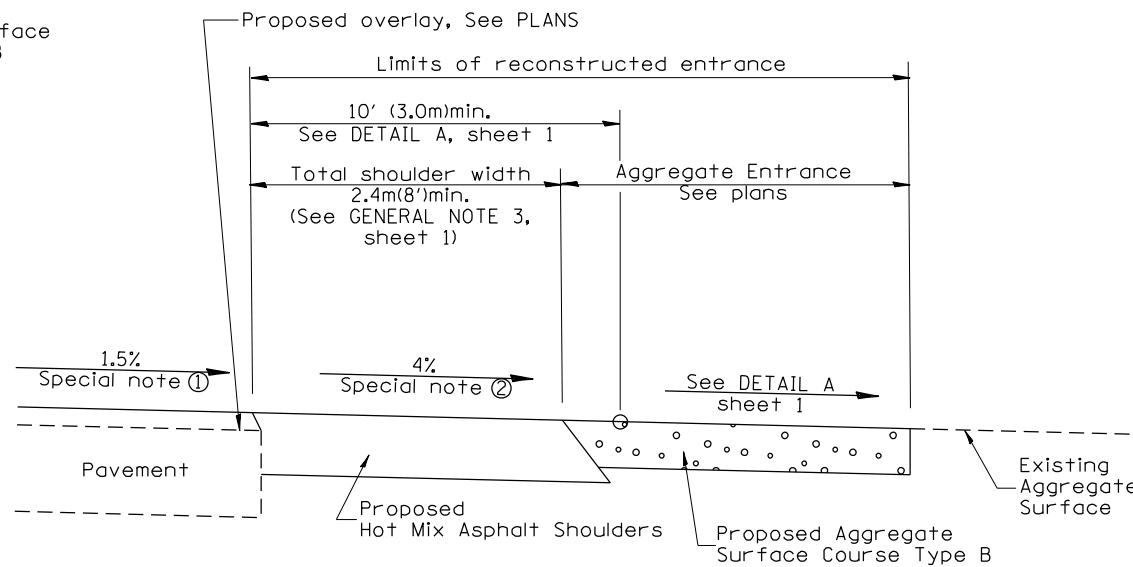
RURAL ENTRANCES FOR "3R" PROJECTS

SHT. 1 OF 2  
CADD STD. 406301-D4

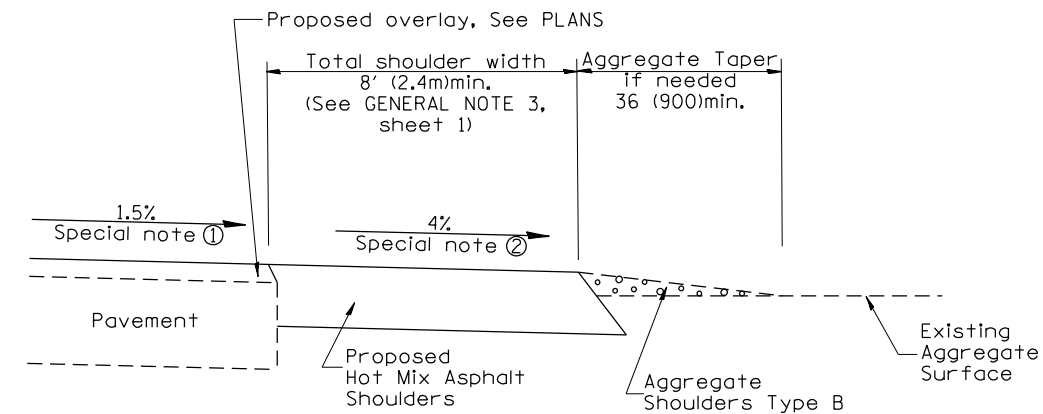
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	89
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



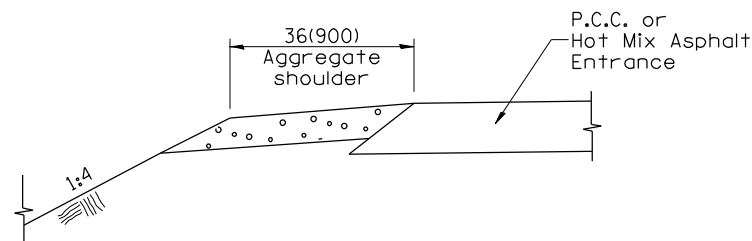
**SECTION A-A**  
SHOULDER TREATMENT FOR AGGREGATE ENTRANCES



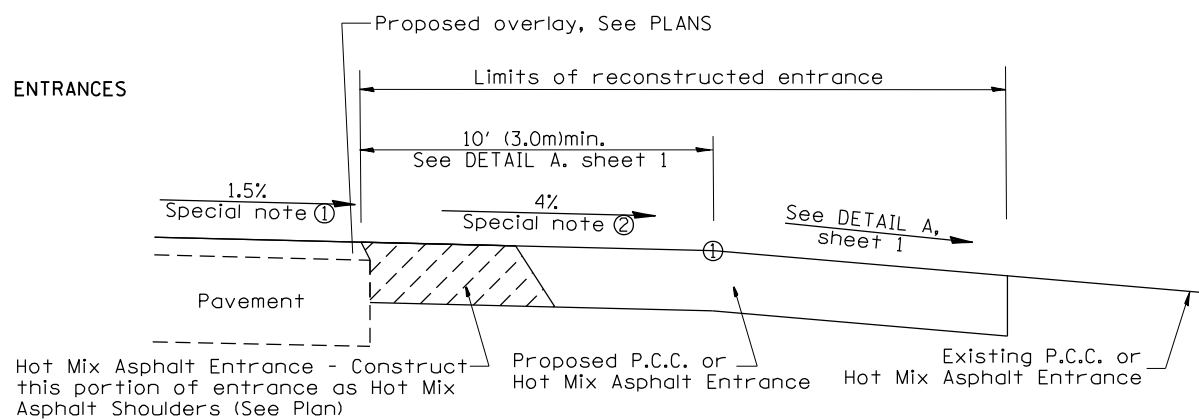
**SECTION B-B**  
RECONSTRUCTED AGGREGATE ENTRANCE



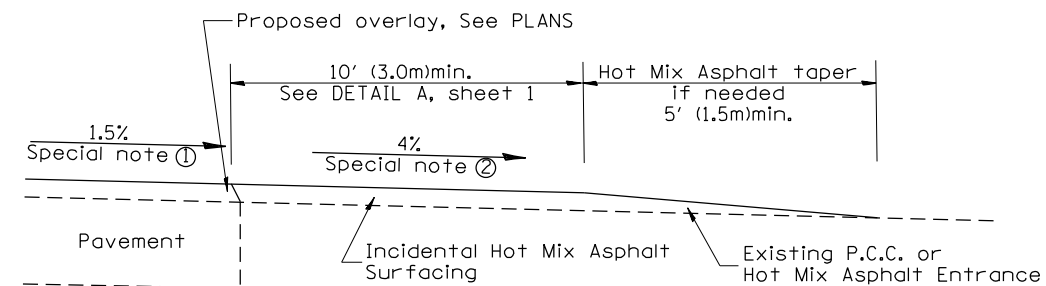
**SECTION B-B**  
EXISTING AGGREGATE ENTRANCE



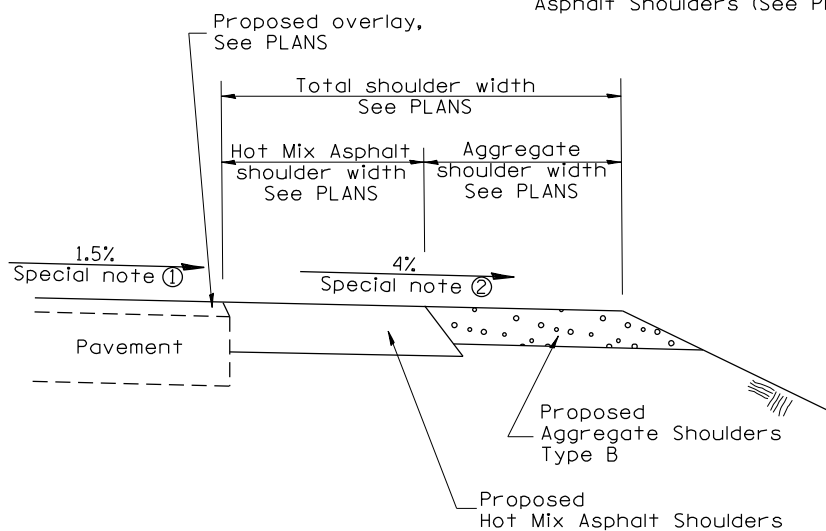
**SECTION C-C**  
SHOULDER TREATMENT FOR P.C.C. OR HOT MIX ASPHALT ENTRANCES



**SECTION D-D**  
RECONSTRUCTED P.C.C. OR HOT MIX ASPHALT ENTRANCE



**SECTION D-D**  
EXISTING P.C.C. OR HOT MIX ASPHALT ENTRANCE



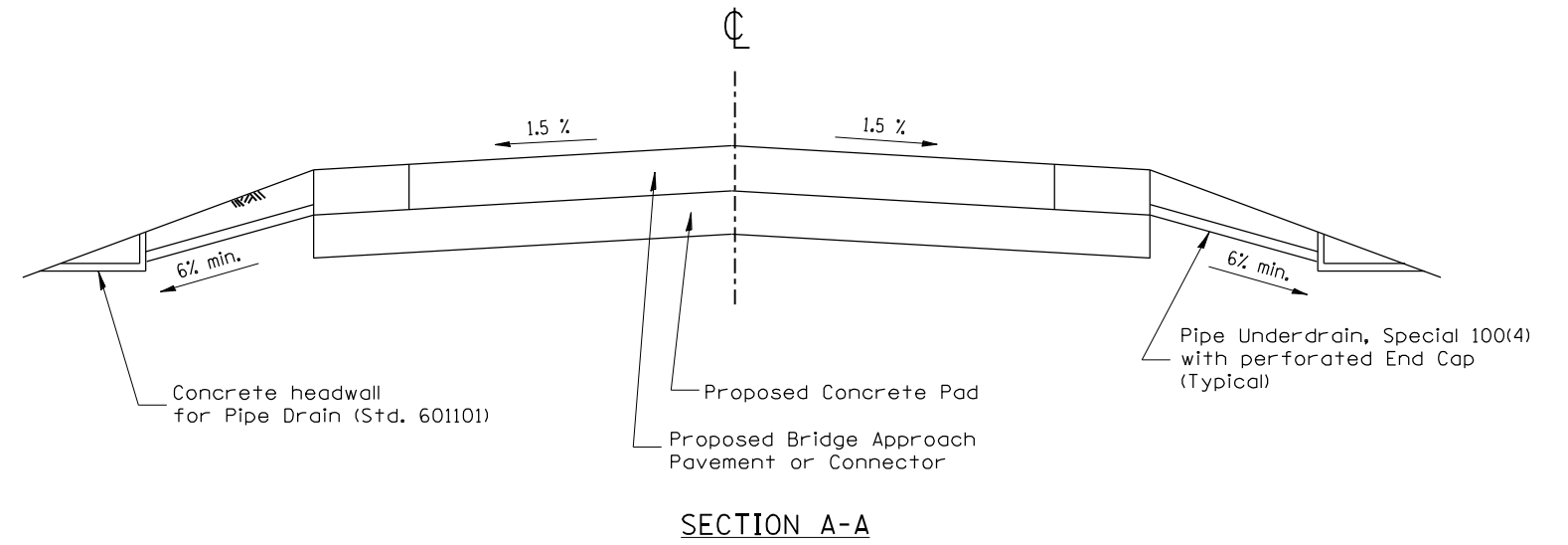
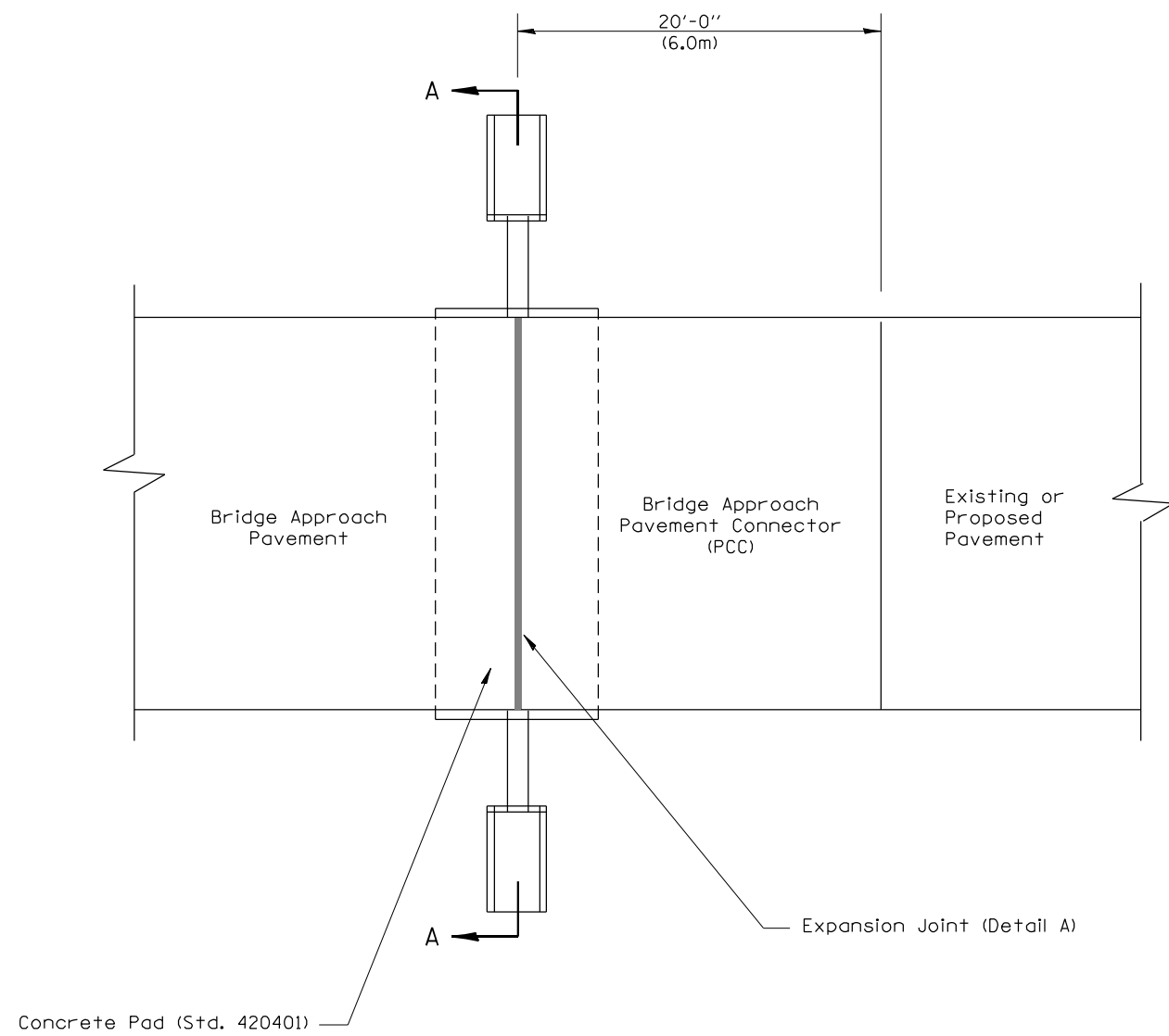
**SECTION E-E**  
MAINLINE SHOULDER TREATMENT

**SPECIAL NOTES**

- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See PLANS for cross-slope on superelevated horizontal curves.
- ② The shoulder slope shall control the entrance profile for a distance of 10' (3.0m) minimum from the pavement edge. The shoulder cross-slope is 4% for tangent alignment. Through superelevated curves, the maximum pavement-shoulder breakover should not be greater than 10% for shoulders 6' (1.8m) and wider and 12% for shoulders 4' (1.2m) and less. Where 12' (366cm) paved shoulders are provided, the breakover should be at the edge of the paved shoulder rather than at the pavement edge.

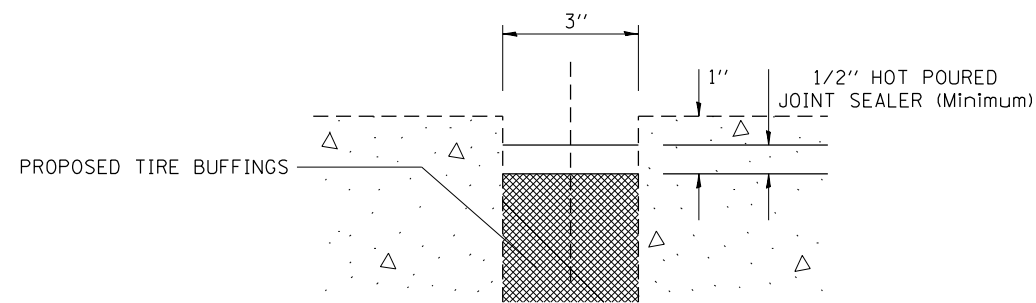
All dimensions are in inches (millimeters) unless otherwise noted.

<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>				<b>RURAL ENTRANCES FOR "3R" PROJECTS</b>				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				NOT TO SCALE				643	(11B)BR-1	STARK	113	90
				SHT. 2 OF 2 CADD STD. 406301-D4				CONTRACT NO. 68698				
								FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



GENERAL NOTES:

1. All work shall be done as directed by the Engineer.
2. All work shall be done in accordance with Standard 420401 except as shown herein.
3. The concrete headwalls and pipe underdrain special will be in accordance with Section 601.
4. This work will be paid for in feet of PIPE UNDERDRAIN, SPECIAL, 4", and each of CONCRETE HEADWALL FOR PIPE DRAIN.



JOINT DETAIL

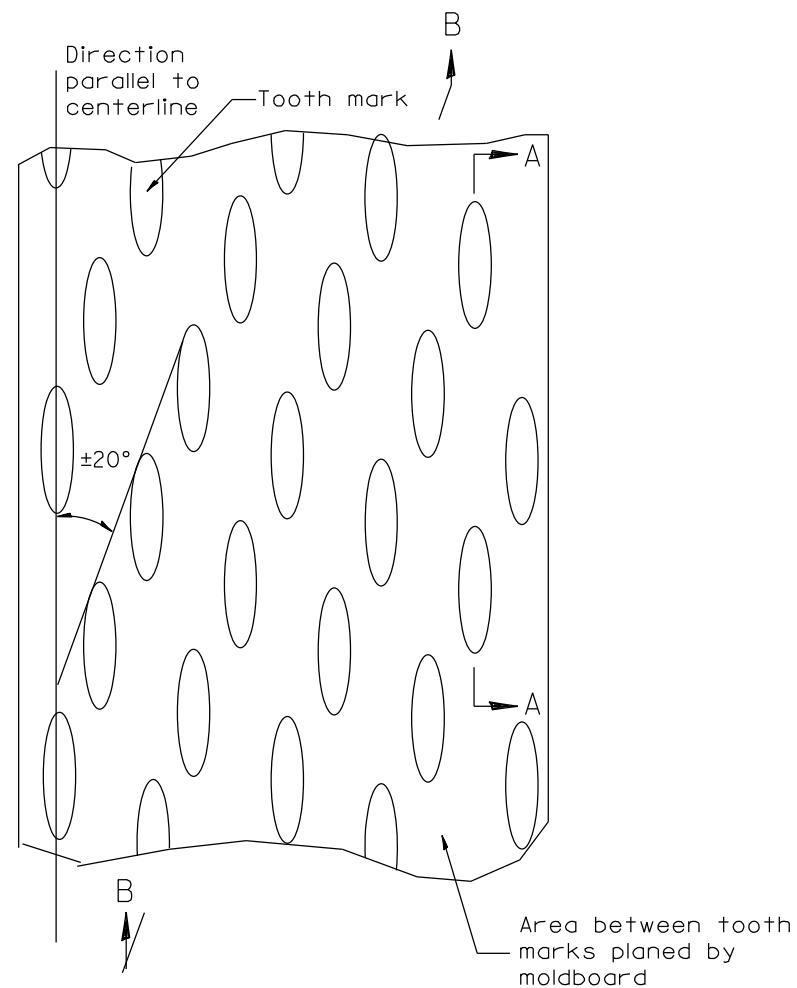
All dimensions are in inches (millimeters) unless otherwise noted.


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH DETAIL

NOT TO SCALE

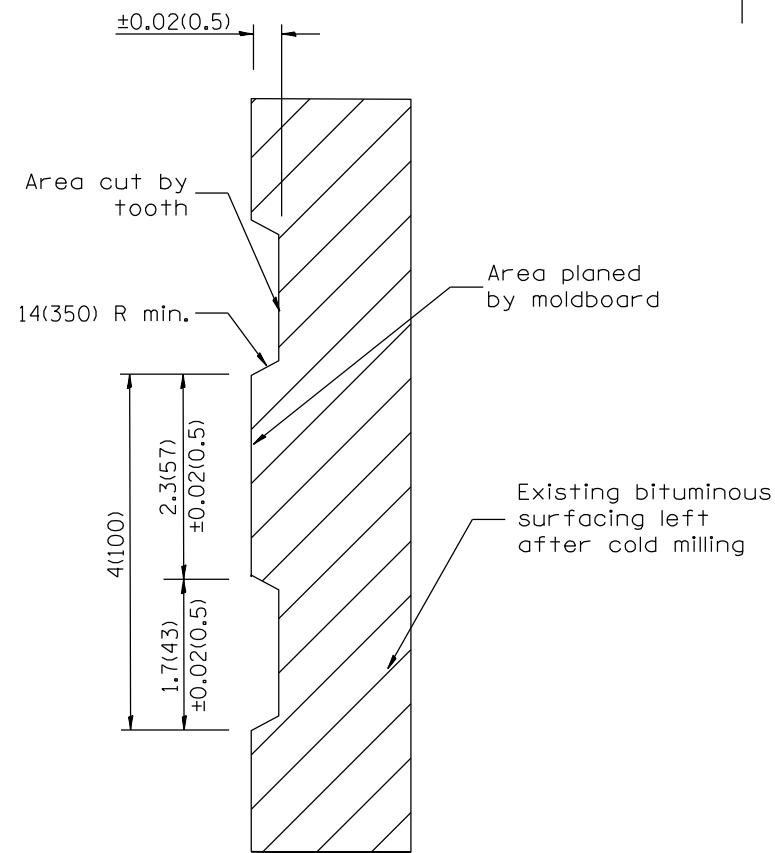
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	91
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 68698	



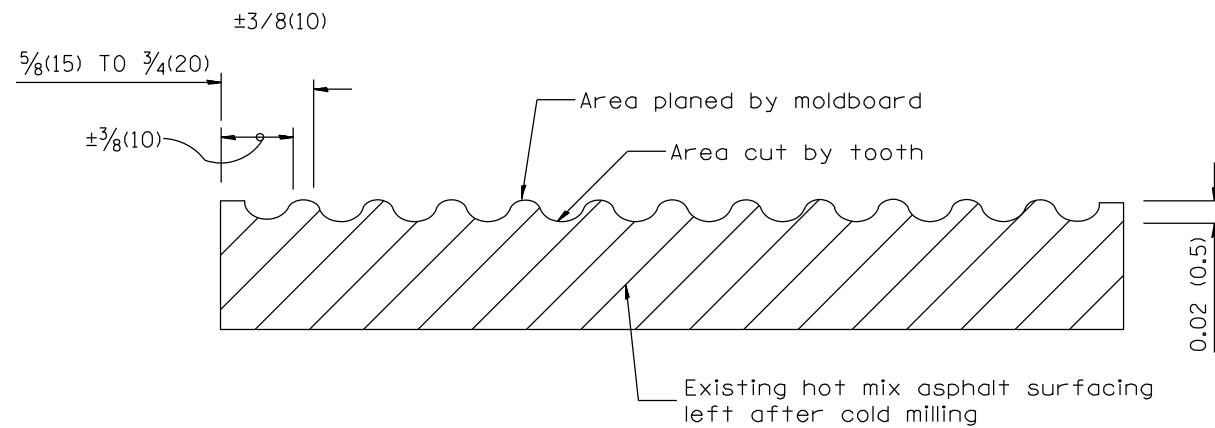
PLAN

General notes:

1. Coldmilling shall consist of two processes: Cutting with carbide teeth mounted on a rotating drum, and planing with a moldboard mounted immediately behind the cutting drum.
2. Other similar patterns will be acceptable if they consist of a smooth, flat, planed surface interspersed with a pattern of discontinuous longitudinal striations.



SECTION A-A



SECTION B-B PROJECTED  
PERPENDICULAR TO CENTERLINE

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-104.01, NEW REVISION BOX	T.P.
04-20-98	REMOVED MILLING DETAIL FROM STANDARD	J.A.
09-08-98	CORRECT NOTE LEADER PLACEMENT	R.W.
10-16-06	REVISED TO 2007 SPEC.	M.A.

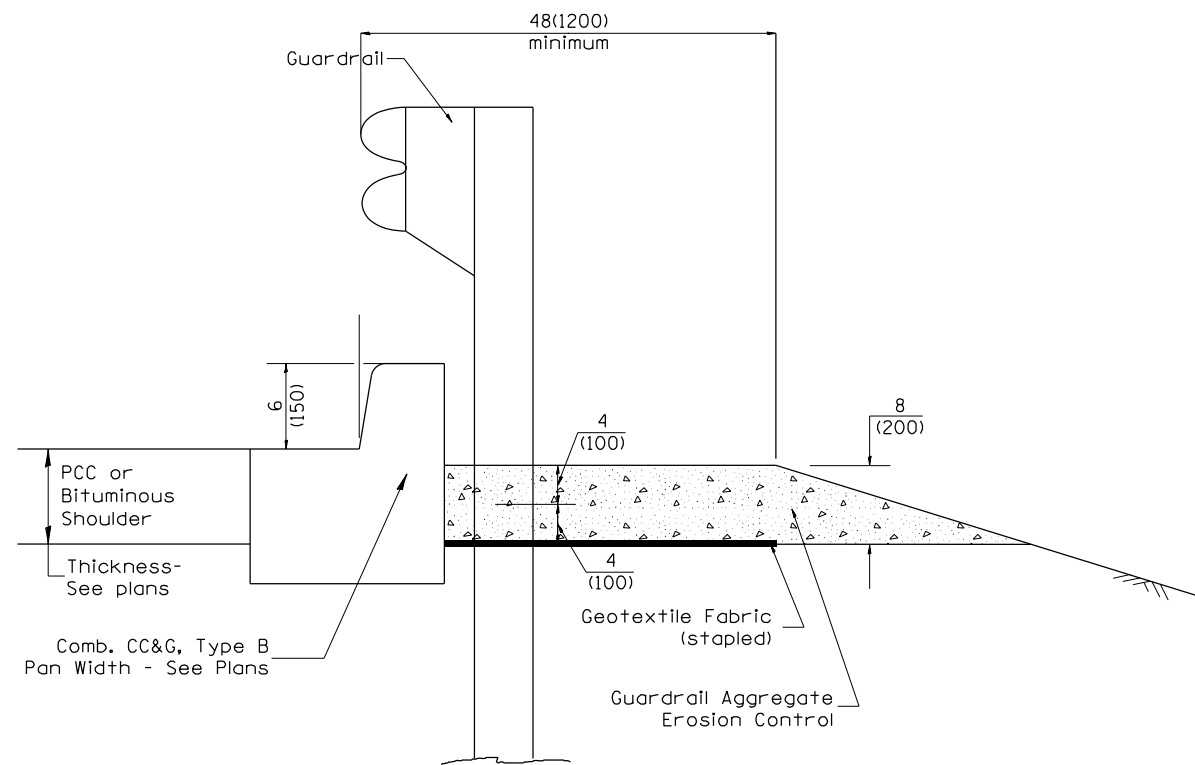
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

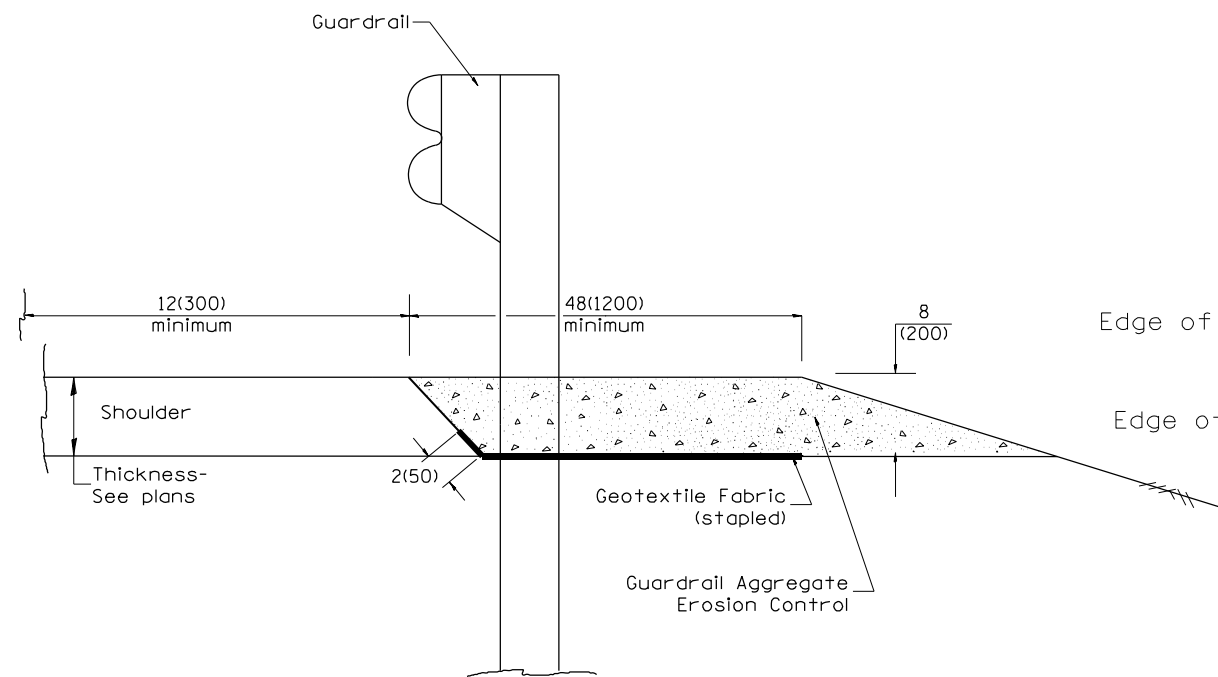
NOT TO SCALE

CADD STD. 440001-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	92
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



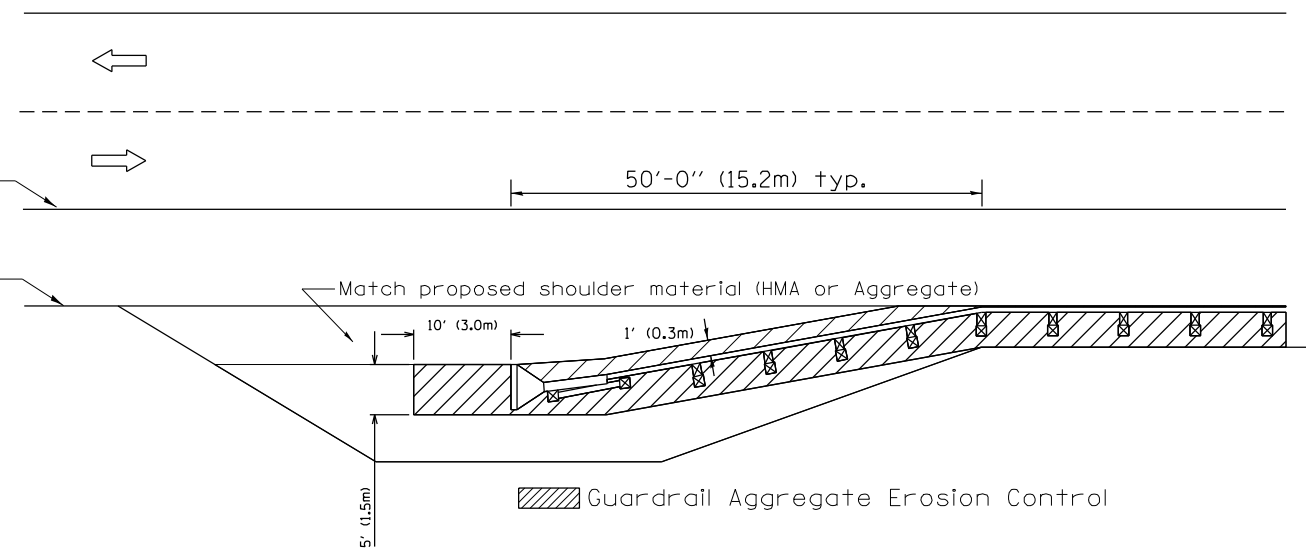
**TYPICAL SECTION WITH COMBINATION CONCRETE CURB & GUTTER**



**TYPICAL SECTION WITHOUT EROSION CONTROL CURB**

**GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL**

1. This work shall consist of grading as needed, furnishing and installing geotextile fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
3. After the area has been prepared, and in a dry condition, the Geotextile fabric shall be placed with a 12(300) minimum overlap. A knife cut for guardrail post installation is necessary.
4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and Aggregate are in place. If the guardrail is placed after the Geotextile Fabric and Aggregate, then any voids must be filled and the aggregate returned to line and grade.
6. Materials shall meet the following requirements:
  - A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01(c) of the Standard Specifications.
  - B. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.



All dimensions are in inches (millimeters) unless otherwise noted.

03-07-11	ADDED DETAIL SHOWING PLAN VIEW	R.D.	5-30-18	CHANGE B CURB TO CC&G	R.D.
08-10-12	REVISED CURB "B" AND AGGREGATE	R.D.	07-16-19	SPELLING CORRECTIONS	R.D.
07-15-15	ADDRESSED SHOULDER INLET CURB	R.D.			
01-26-17	REVISED	R.D.			

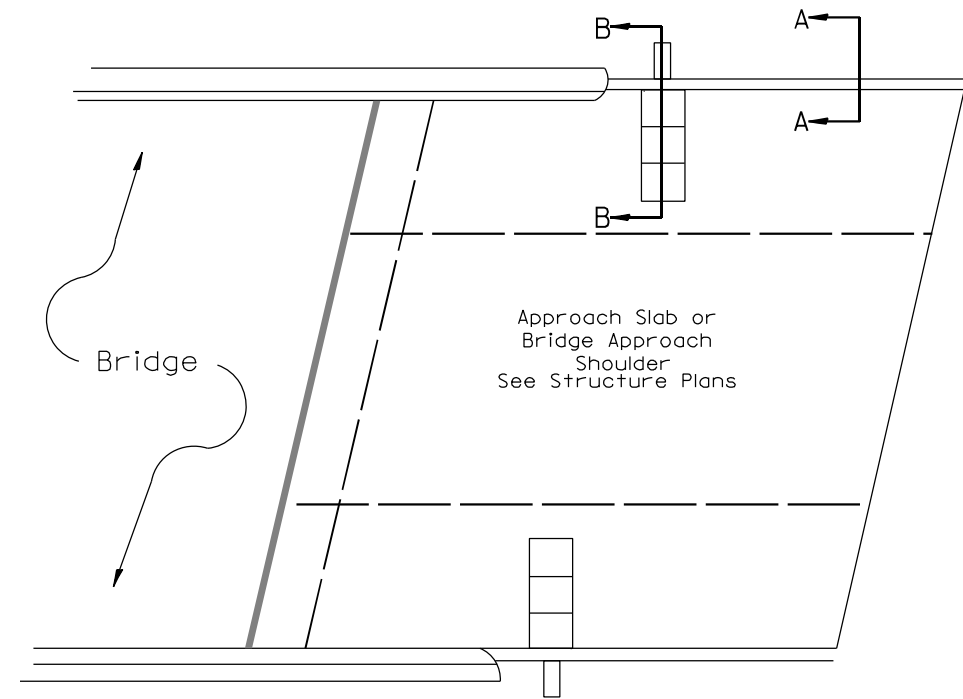
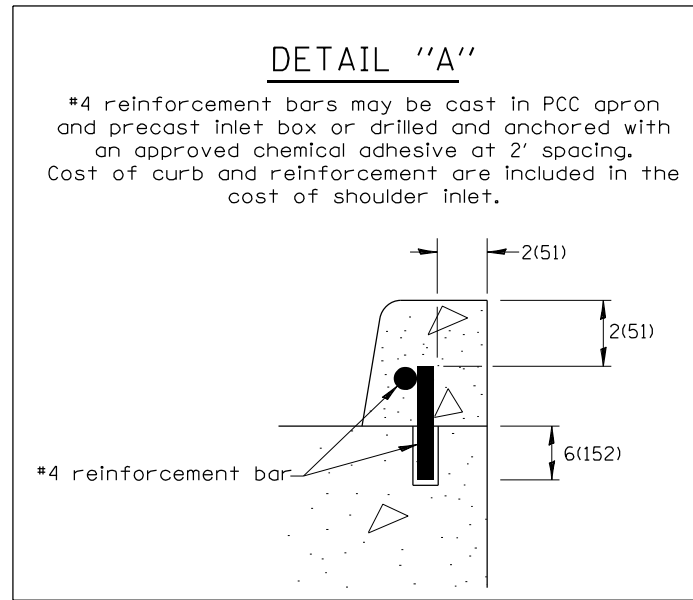
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

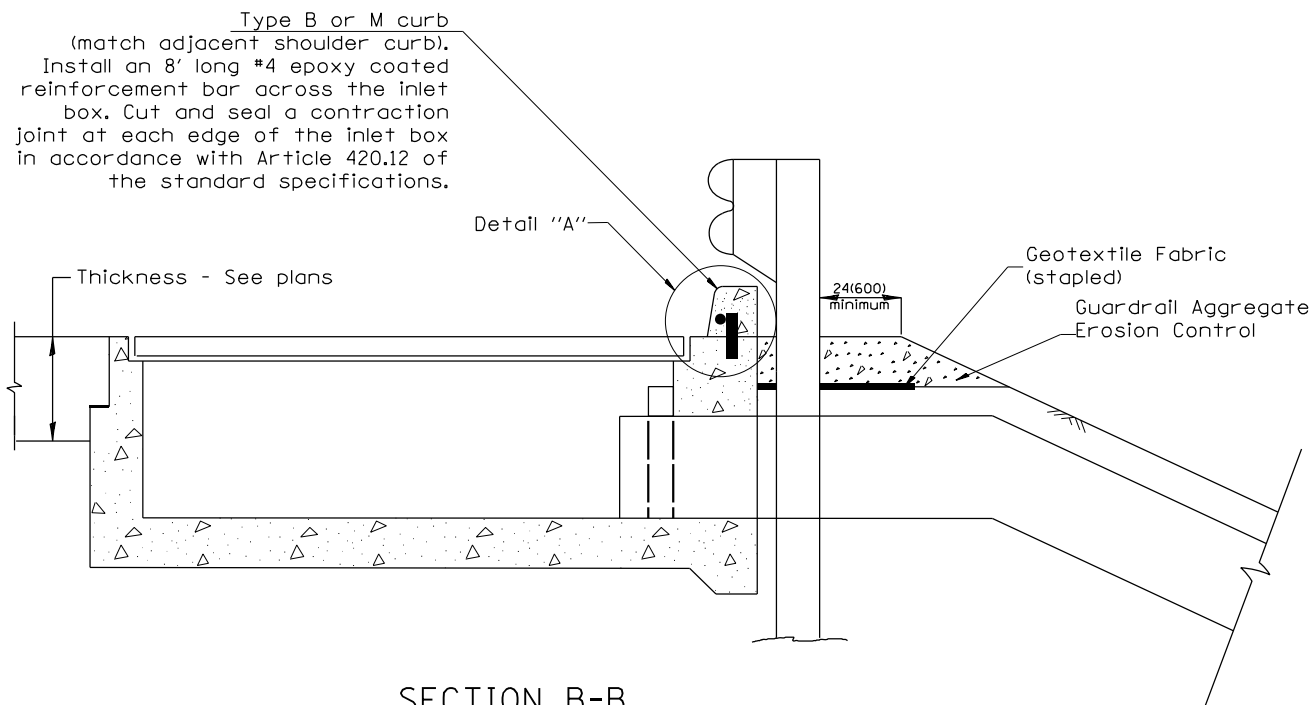
**GUARDRAIL EROSION CONTROL TREATMENTS**

SHT. 1 OF 2  
CADD STD. 630101-D4

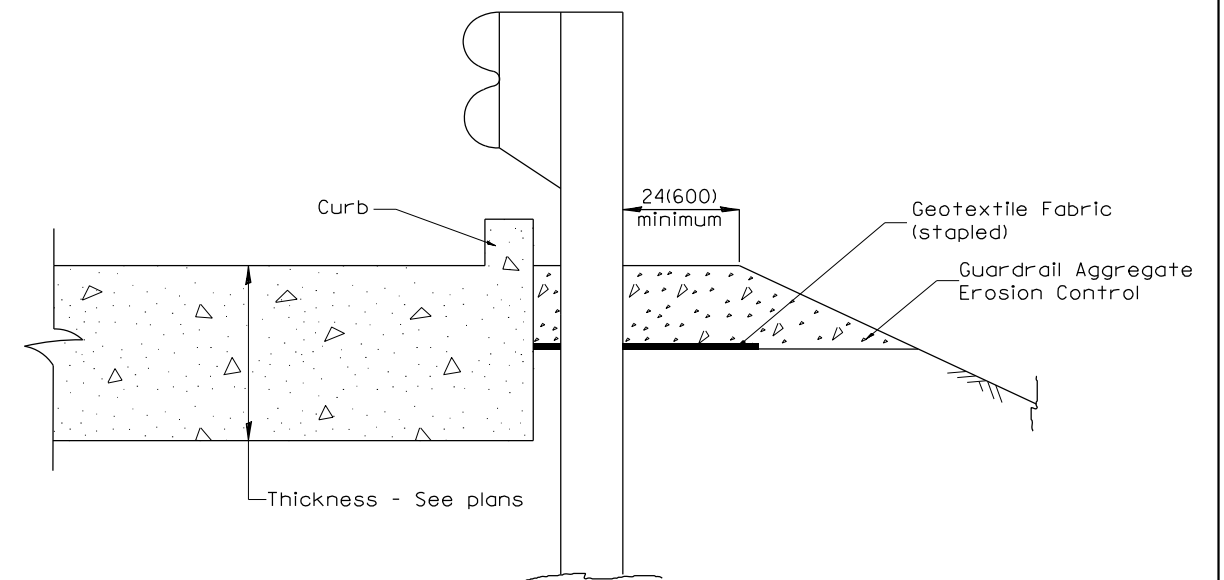
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	93
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



**PLAN VIEW**  
**APPROACH SLAB OR SHOULDER PLACEMENT**



**SECTION B-B**  
**TYPICAL SECTION AT INLETS**  
**TYPE E, F & G (HIGHWAY STANDARD 610001)**



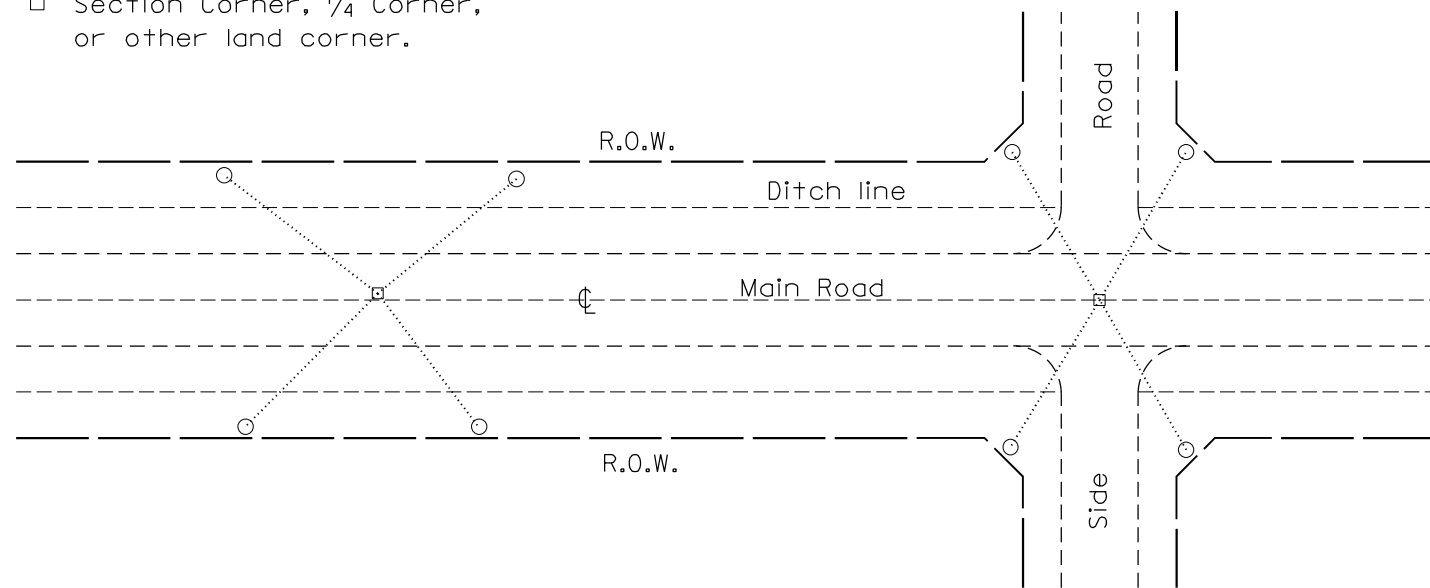
**SECTION A-A**  
**TYPICAL SECTION WITH BRIDGE APPROACH CURB**

All dimensions are in inches (millimeters) unless otherwise noted.

<b>STATE OF ILLINOIS</b>				<b>GUARDRAIL EROSION CONTROL TREATMENTS</b>				SHT. 2 OF 2	
<b>DEPARTMENT OF TRANSPORTATION</b>				NOT TO SCALE				CADD STD. 630101-D4	
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
643	(11B)BR-1	STARK	113	94	CONTRACT NO. 68698				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT							

**PERMANENT SURVEY TIES**

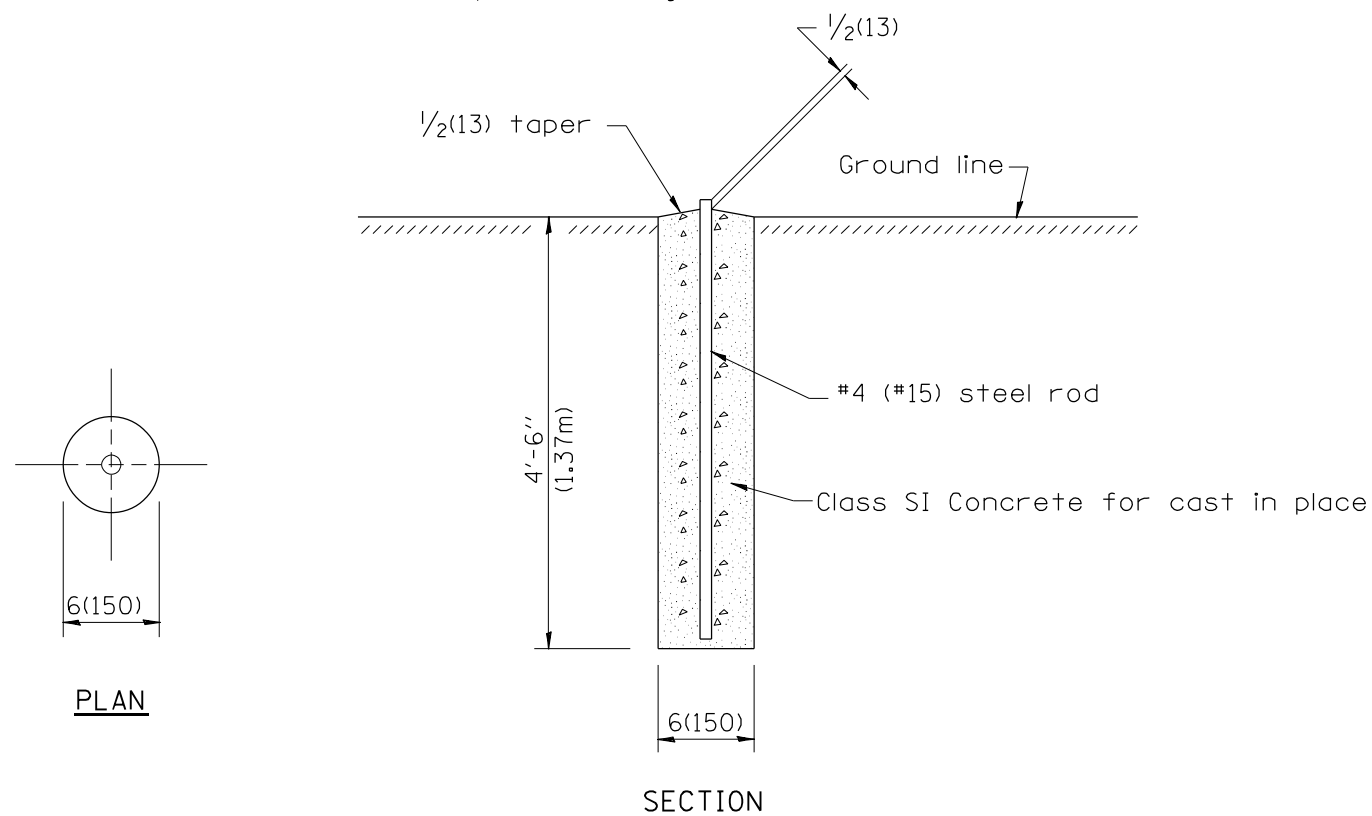
- Permanent Survey Tie
- Section Corner, 1/4 Corner, or other land corner.



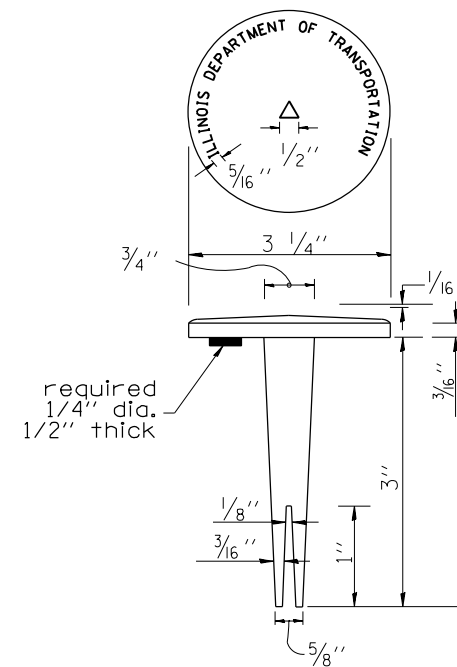
**TYPICAL APPLICATION**

**GENERAL NOTES**

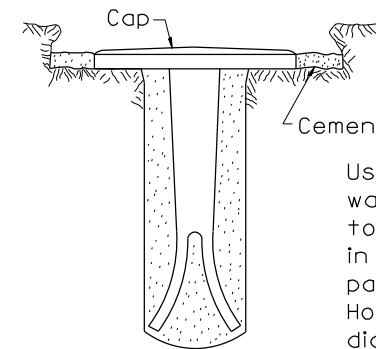
1. The marker shall be cast in place of Class SI Concrete.
2. Tie marker shall be installed after the final seeding has been completed unless otherwise specified by the Engineer.
3. The tie distances to the section corner shall be measured and recorded by the surveyor setting the PSM. All ties shall be turned over to the IDOT Chief of Surveys or Chief of Plats for recordation.
4. All documentation shall be performed by a PLS



**PERMANENT SURVEY MARKERS**

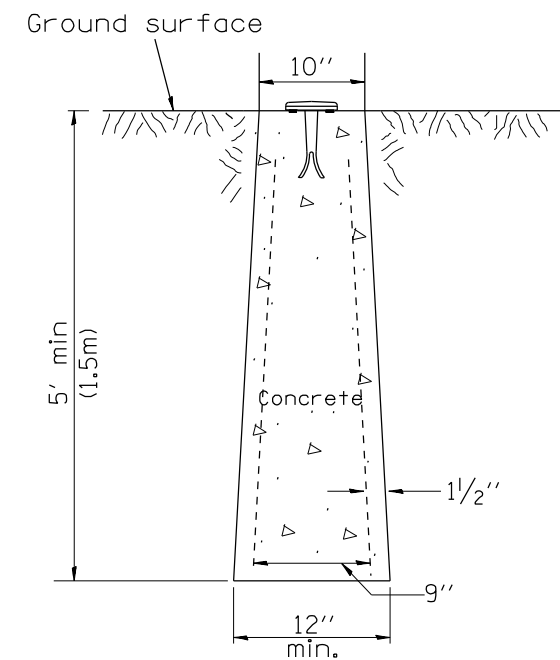


**BRASS TABLET**



Tablet constructed in rock ledge or concrete.

**TYPE I**



**TYPE II  
CAST-IN-PLACE MARKER**

**GENERAL NOTES**

1. All type II markers shall be cast in place, and precast markers will not be allowed.
2. Two permanent magnets, each having a diameter of 3/4 (19) and a thickness of 1/4 (6), or equivalent, shall be attached to the underside of the tablet with an approved epoxy bonding agent.
3. The location of the markers shall be in accordance with the plans in general, the markers will be placed at the P.T.'s, P.C.'s, and P.I.'s located within the R.O.W. of horizontal curves and spaces along the tangents in a way that a minimum of two markers are always inter-visible, and not to exceed 1000' (300m).
4. The markers shall be placed under the direction of the Engineer and shall be installed in a workmanlike manner in order that there will be no further settlement or horizontal shifting. The monuments shall be placed in a way that the survey point will fall within the portion of the plaque provided for that purpose.
5. The project designation, the centerline station, the survey point, and the elevation shall be permanently marked by the use of metal dies after marker has been installed.

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. D-3.01, NEW REVISION BOX, REVISED	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.
	TITLE BOX, ADD DESIGNER NOTE		01-04-11	REVISED FOR CORRECTIONS	R.D.
07-07-98	ADD DESIGNER NOTE	J.A.	08-21-13	CHANGED MIN. DIAMETER	R.D.
05-24-06	REMOVED GEN. NOTE UNDER TIES	M.A.	08-25-15	REVISED MATERIAL	R.D.

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

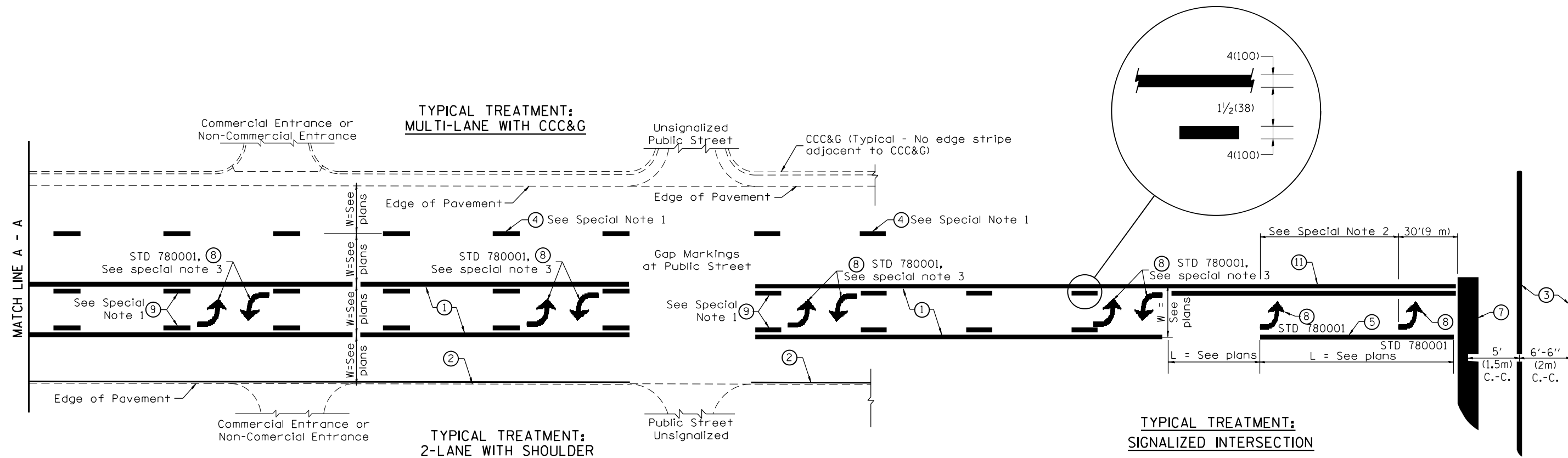
NOT TO SCALE

**PERMANENT SURVEY TIE &  
PERMANENT SURVEY MARKERS TY.I - TY.II**

CADD STD. 667101-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	95
				CONTRACT NO. 68698
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				





**FLUSH PAVED MEDIAN: TWO-WAY LEFT TURN LANE WITH ONE-WAY LEFT TURN LANE AT SIGNALIZED INTERSECTION**

**TYPICAL PAVEMENT MARKING LEGEND**

(Note: This is a District Standard Legend. Some elements may not apply to specific project.)

- ① 4(100) Solid (Yellow)
- ② 4(100) Solid (White)
- ③ 2-6(150) Crosswalk @ 6'-6" (2m)min C.-C. (White)  
2-8(200) Crosswalk @ 6'-6" (2m)min C.-C. (White) (When traffic signals are present.)
- ④ 6(150) Skip-Dash (White) (See Special Note 1)
- ⑤ 8(200) Solid (White)
- ⑥ 12(300) Diagonal (White) (Item ⑥ is shown on Std. 780001)
- ⑦ 24(600) Stop Bar (White)
- ⑧ Letters & Arrows (See Std. 780001 and Special Notes 2 & 3)
- ⑨ 4(100) Skip-Dash (Yellow) (See Special Note 1)
- ⑩ 12(300) Diagonal (Yellow) (See Table A) (See Table A)
- ⑪ 4(100) Double Solid (Yellow) (See Table A)

**SPECIAL NOTES**

- Skip-Dash markings will be centered between both ends of city blocks and shall be placed in alignment transversely across the pavement.
- The following shall apply to arrows located in one-way left turn lanes:
  - A minimum of two (2) arrows is required.
  - The maximum spacing between arrows is 80' (24 m).
  - Arrows shall be evenly spaced if three (3) or more are required.
- The following shall apply to arrow pairs located in two-way left turn lanes:
  - A minimum of two (2) arrow pairs is required.
  - The maximum spacing between arrow pairs is 200' (61 m).
  - Arrow pairs shall be evenly spaced if three (3) or more are required.
  - The spacing between Bi Directional Left Turn Arrows is 33' (10 m).

**GENERAL NOTES**

- Refer to State Standard 780001 for additional Pavement Markings including letters & arrows.
- See Plans for Pavement Markings adjacent to curbed islands and medians, and through lane reductions.
- Refer to Article 780.13 for letter, number and symbol areas (sq. ft.)
- Areas are grooved 1" beyond each edge for the following symbols:  
Through Arrow= 14.8 sq. ft.  
Large Left or Right Arrow= 21.9 sq. ft.  
2 Arrow Combination Left (or Right) and Through= 34.9 sq. ft.  
Wrong Way Arrow= 29.5 sq. ft.  
Railroad Crossing Symbol= 69.8 sq. ft.  
(For further information, refer to BDE Special Provision: Grooving for Recessed Pavement Markings)

01-01-97	RENUM. F-8.03, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.	
02-07-97	ADD BI DIRECTIONAL DIMENSION	J.A.	2/29/16	ADDED GROOVING AREAS	R.D.
10-97	CORRECT BI DIRECTIONAL DIMENSION	J.A.	07-16-19	SPELLING CORRECTIONS	R.D.
08-02	ADD CROSSWALK DMNS. WITH T.S.	M.A.			

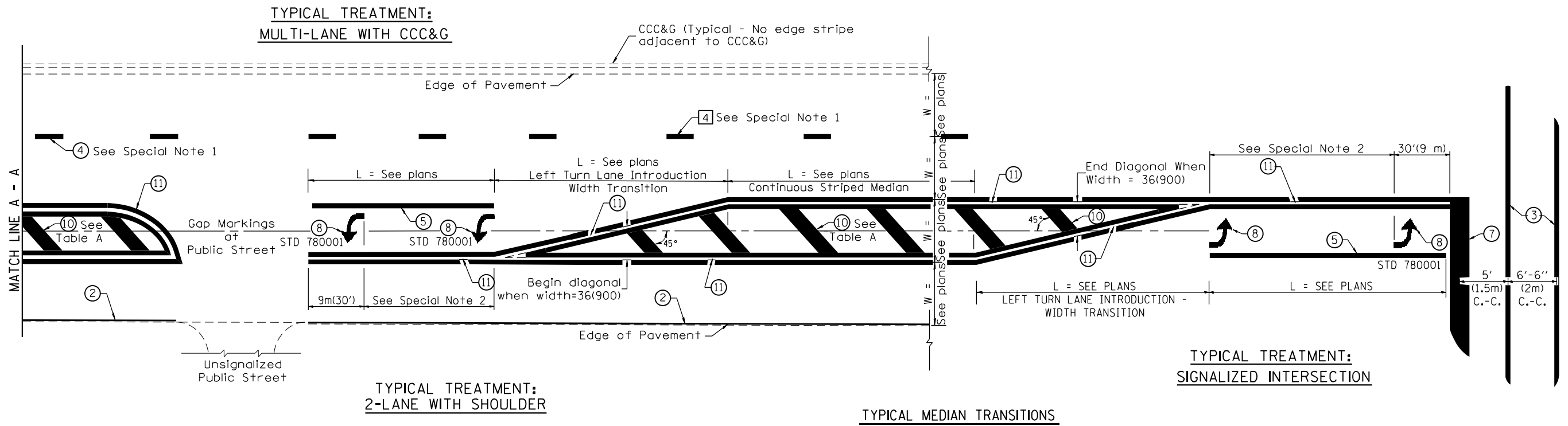
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

**TYPICAL PAVEMENT MARKINGS**

SHT. 1 OF 2  
CADD STD. 780001-D4

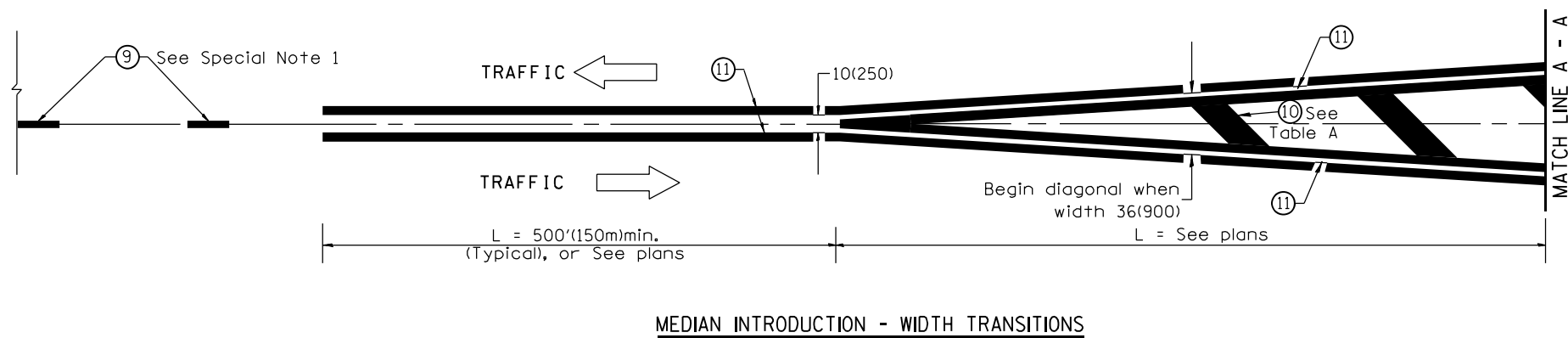
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643	(11B)BR-1	STARK	113	96
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68698	



**FLUSH PAVED MEDIAN: RESTRICTED LEFT TURN LANE**

**TABLE A**  
RECOMMENDED SPACING BETWEEN DIAGONAL LINES

SPEED LIMIT RANGE	CONTINUOUS	INTERSECTION CHANNELIZATION (Includes Width Transitions for Median and Left Turn Lane Introductions)
Less Than 30 mph (50 km/h)	50' (15m)	15' (5m)
30 - 45 mph (50 - 70 km/h)	75' (23m)	20' (6m)
Over 45 mph (70 km/h)	150' (46m)	30' (9m)

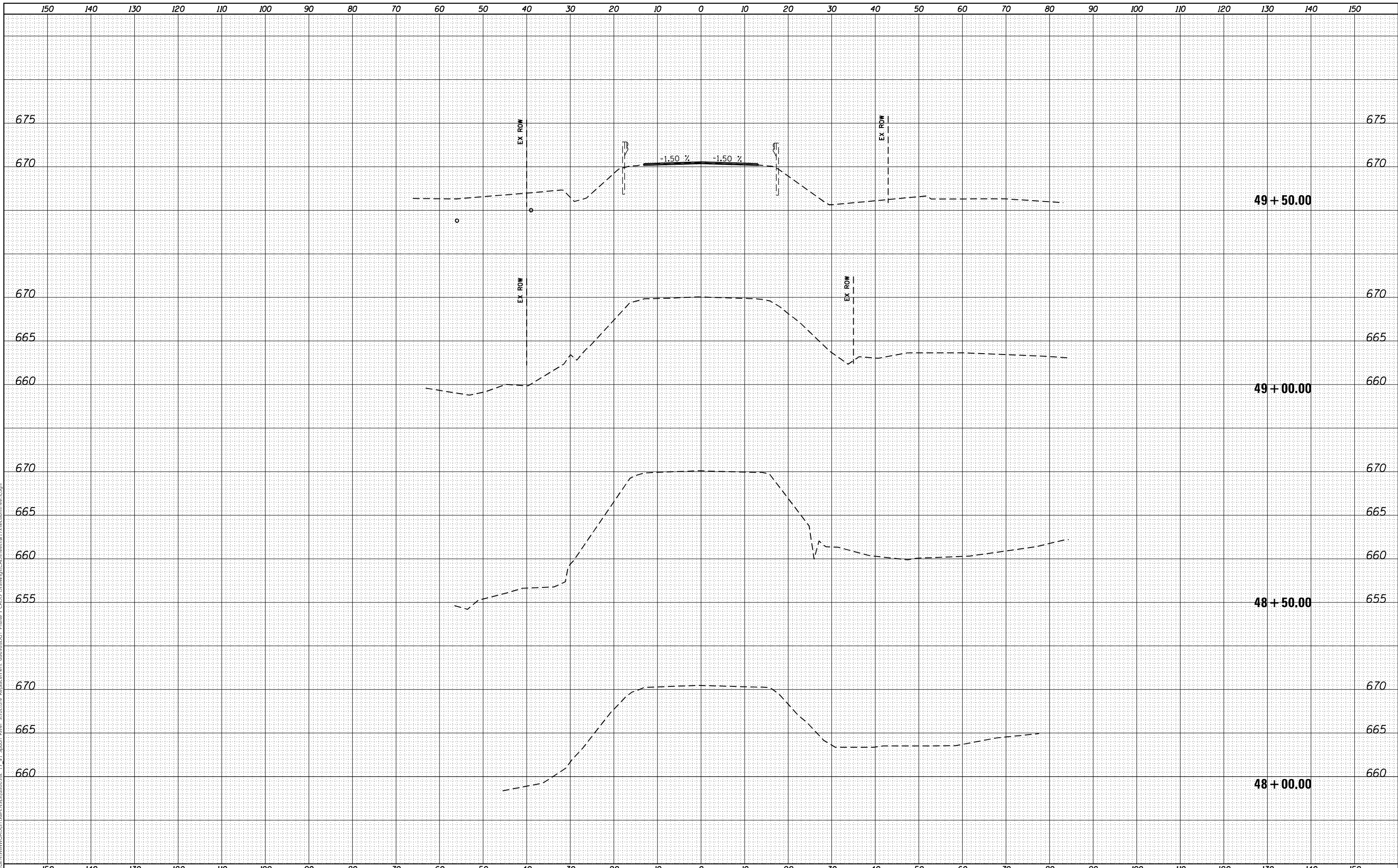


All dimensions are in inches (millimeters) unless otherwise noted.

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 DEPARTMENT OF TRANSPORTATION**

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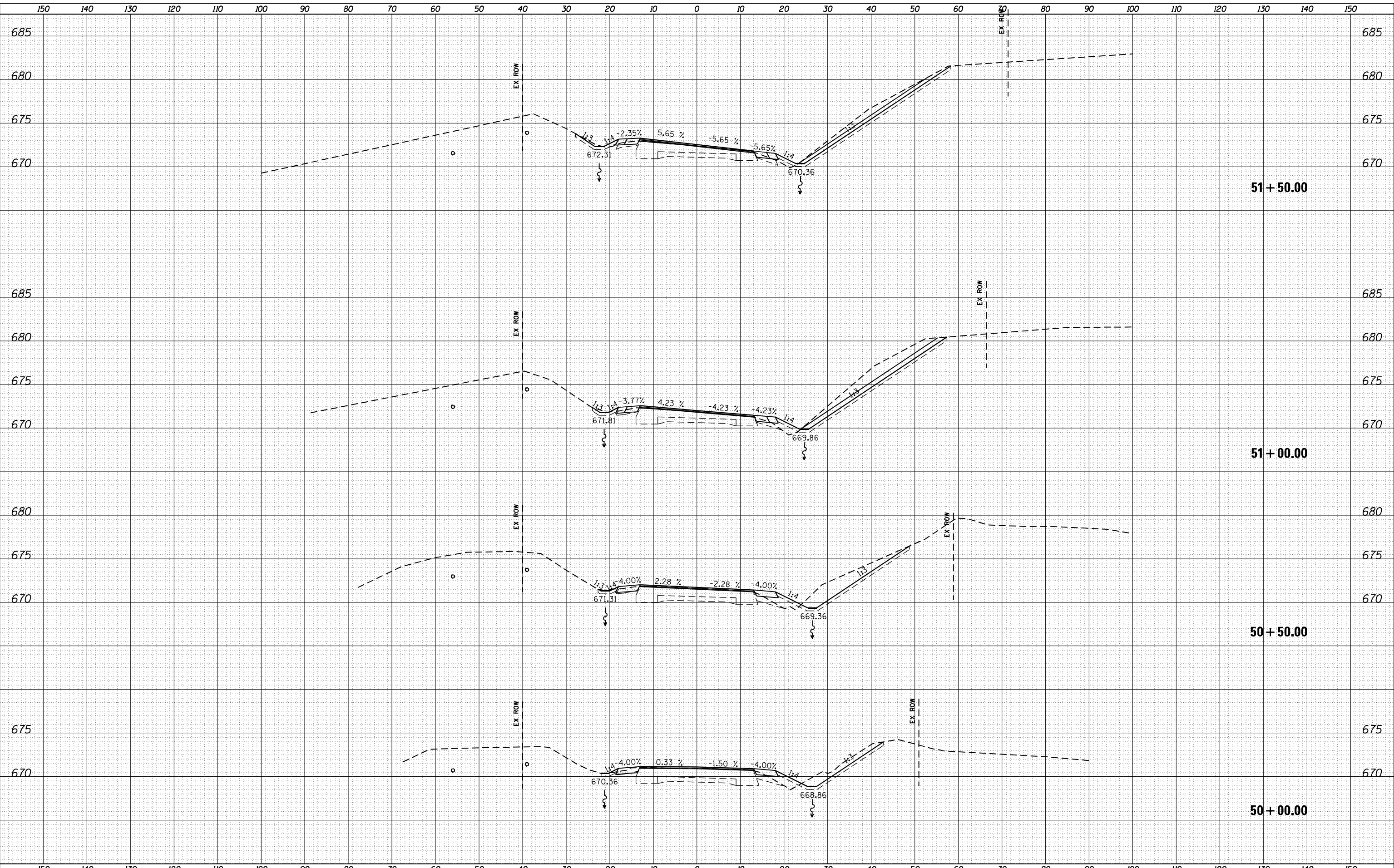
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			CONTRACT NO. 68698	
		ILLINOIS FED. AID PROJECT		

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DEPARTMENT OF TRANSPORTATION**

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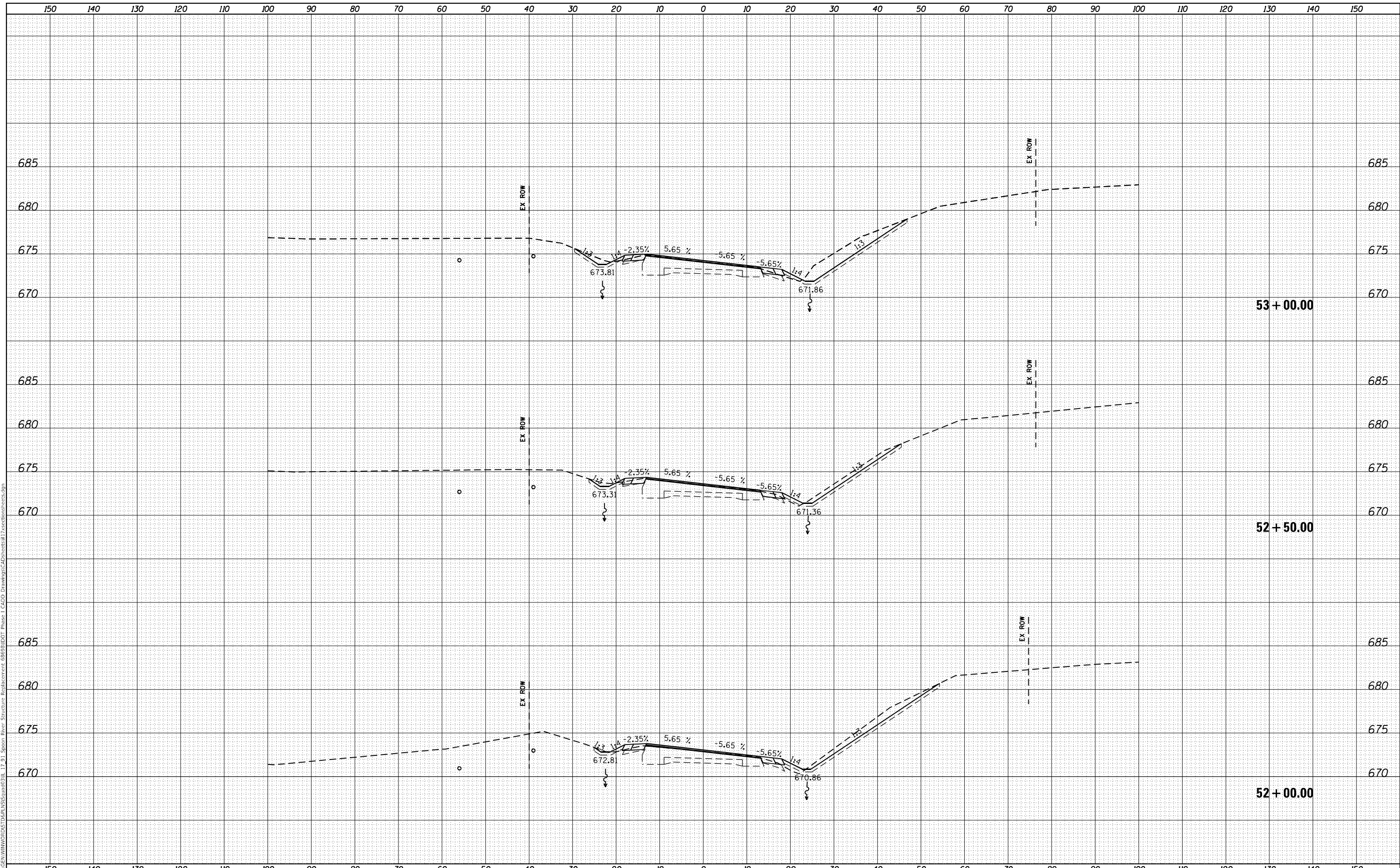
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			CONTRACT NO. 68698	
		ILLINOIS	FED. AID PROJECT	

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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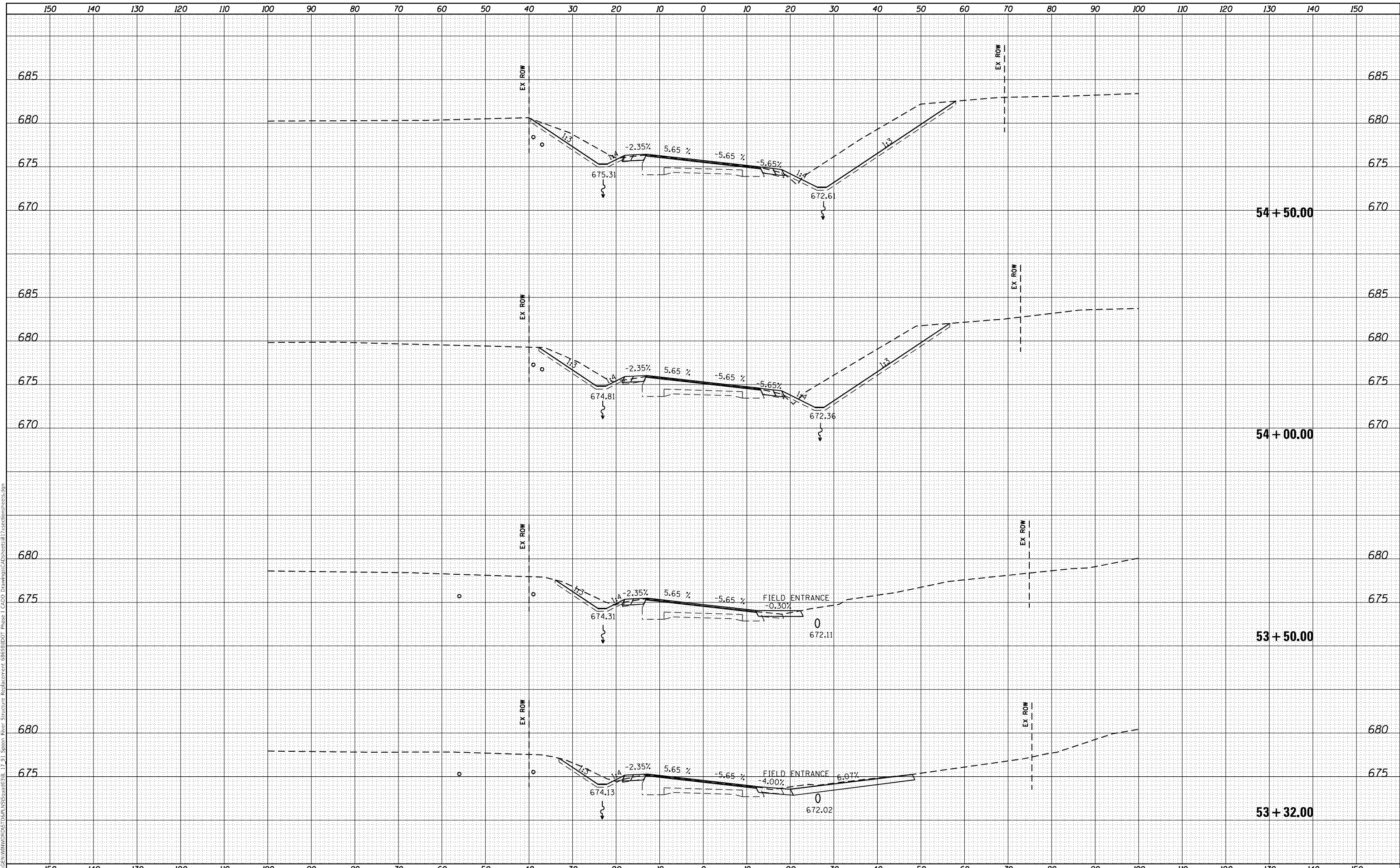
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CONTRACT NO. 68698				
ILLINOIS		FED. AID PROJECT		

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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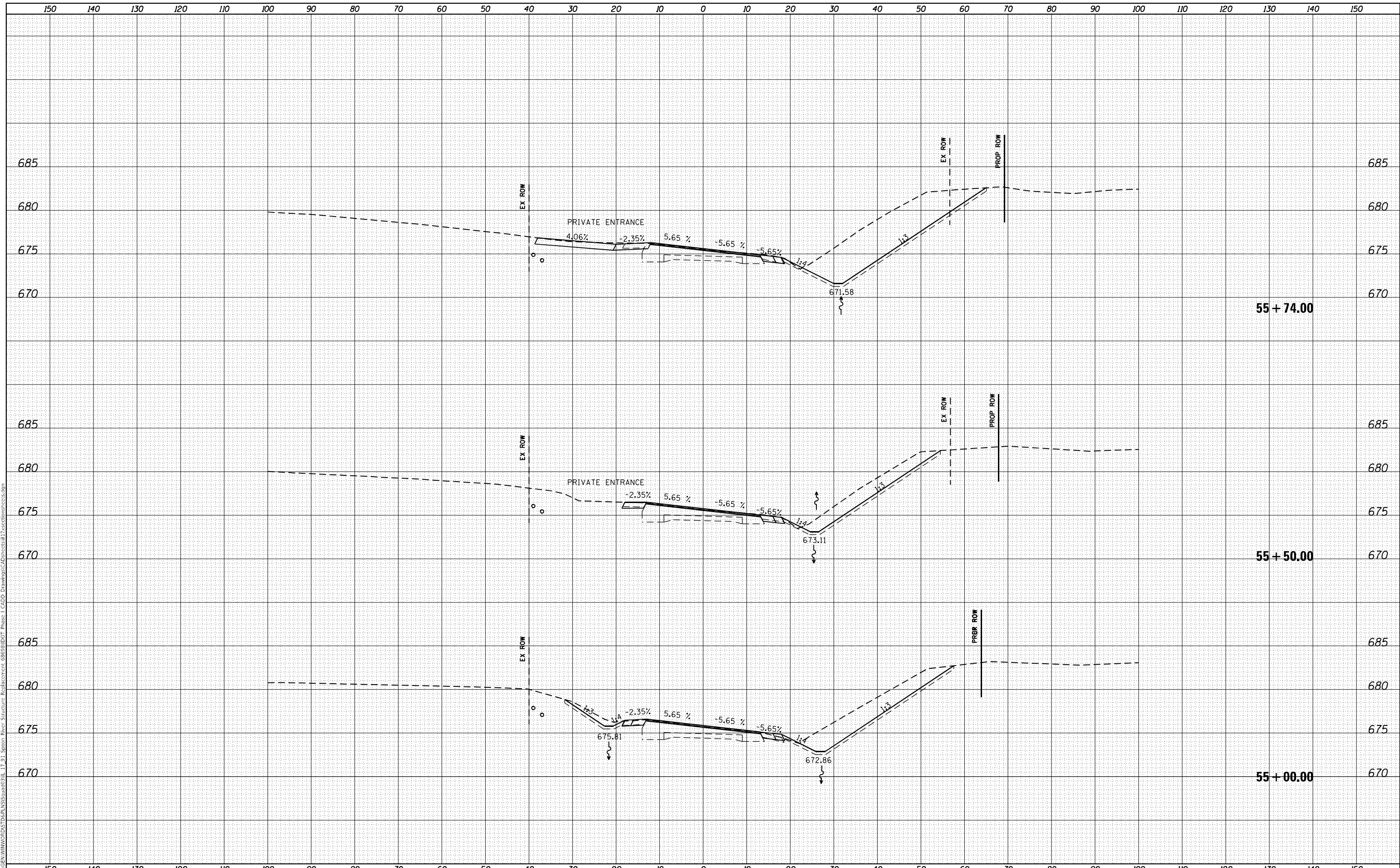
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CONTRACT NO. 68698			ILLINOIS FED. AID PROJECT	

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DEPARTMENT OF TRANSPORTATION**

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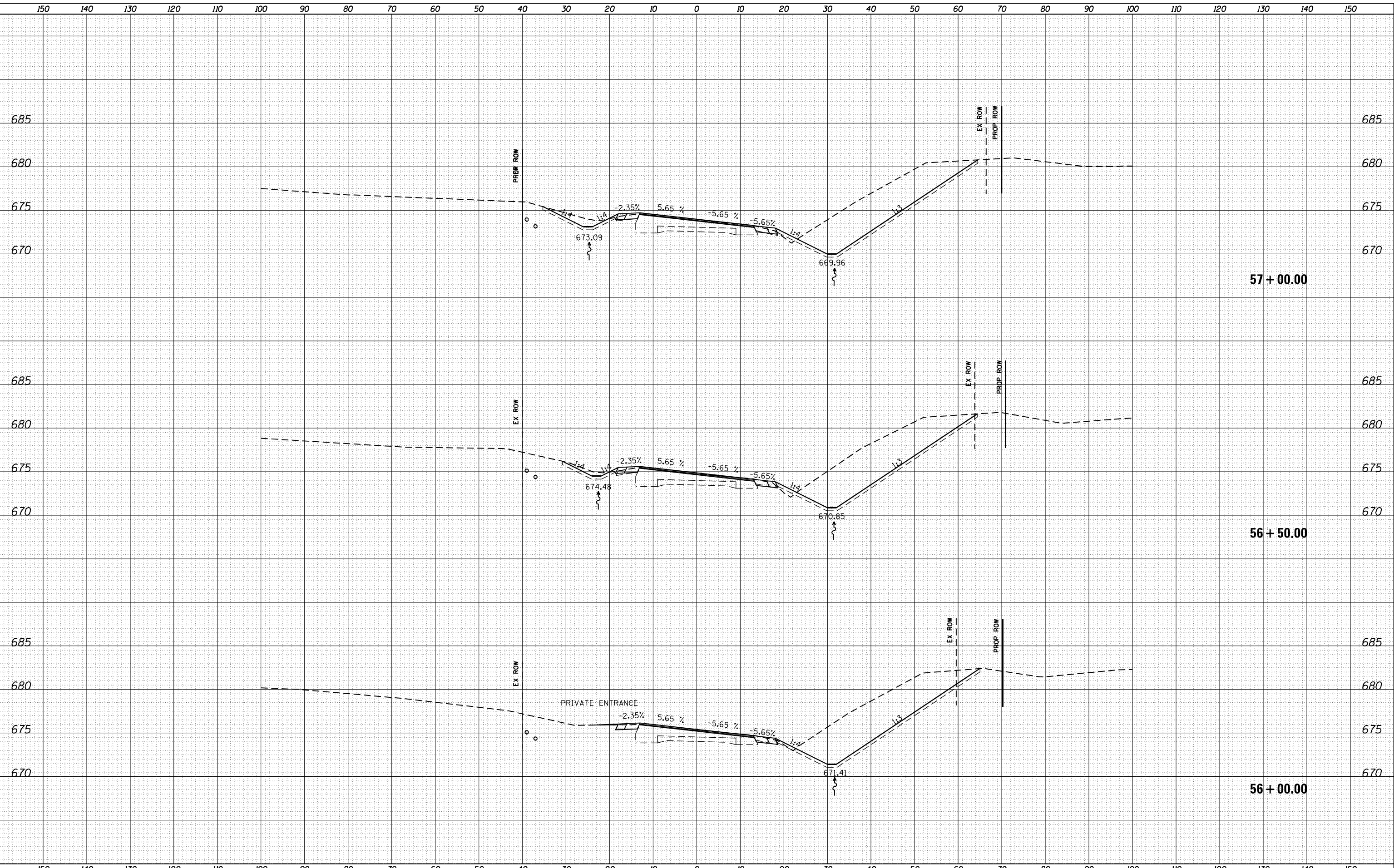
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ILLINOIS FED. AID PROJECT				

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL 17/L 91  
 CROSS SECTIONS**

SCALE: SHEET 6 OF 16 SHEETS STA. 56+00.00 TO STA. 57+00.00

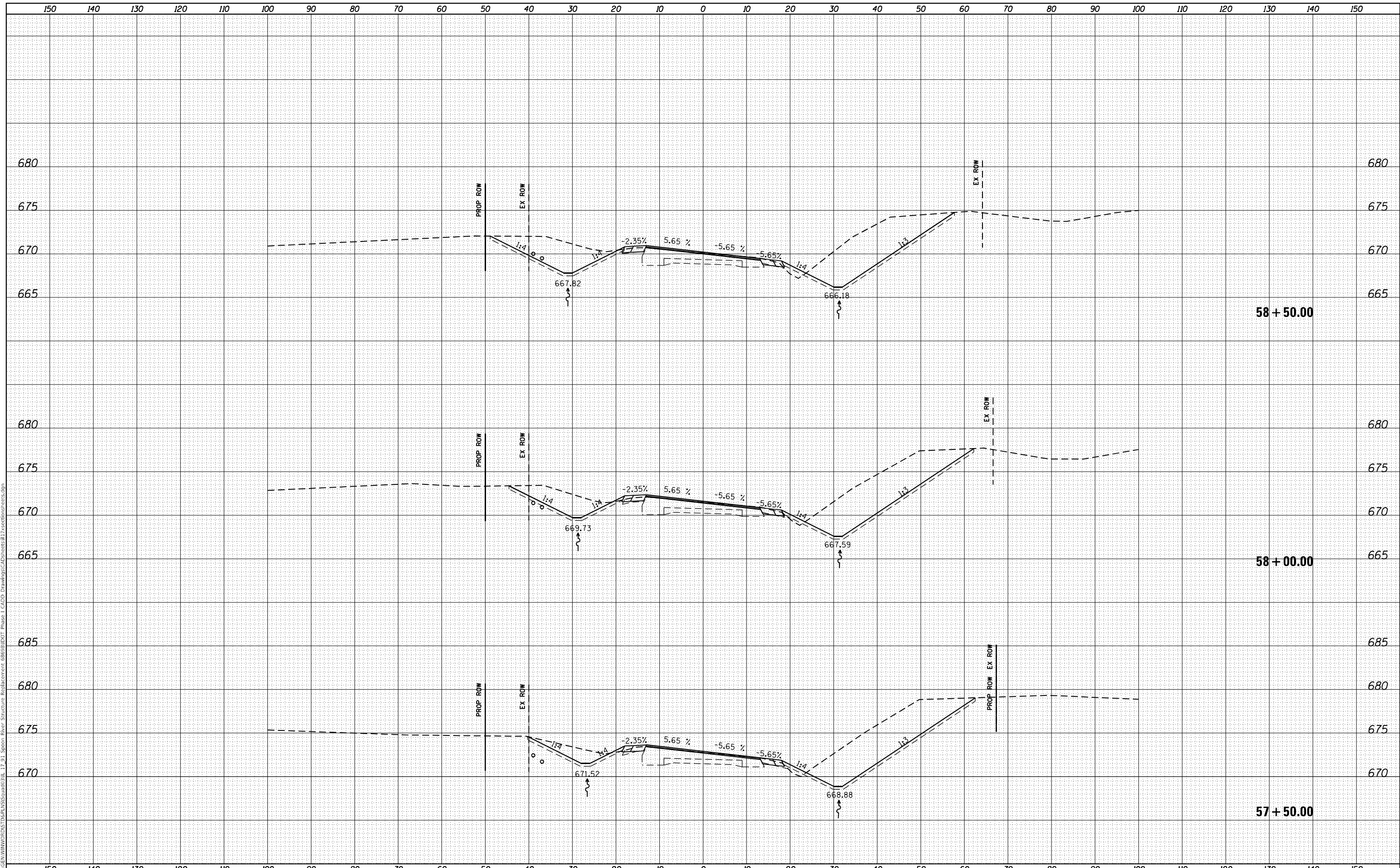
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		ILLINOIS FED. AID PROJECT		



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 DEPARTMENT OF TRANSPORTATION**

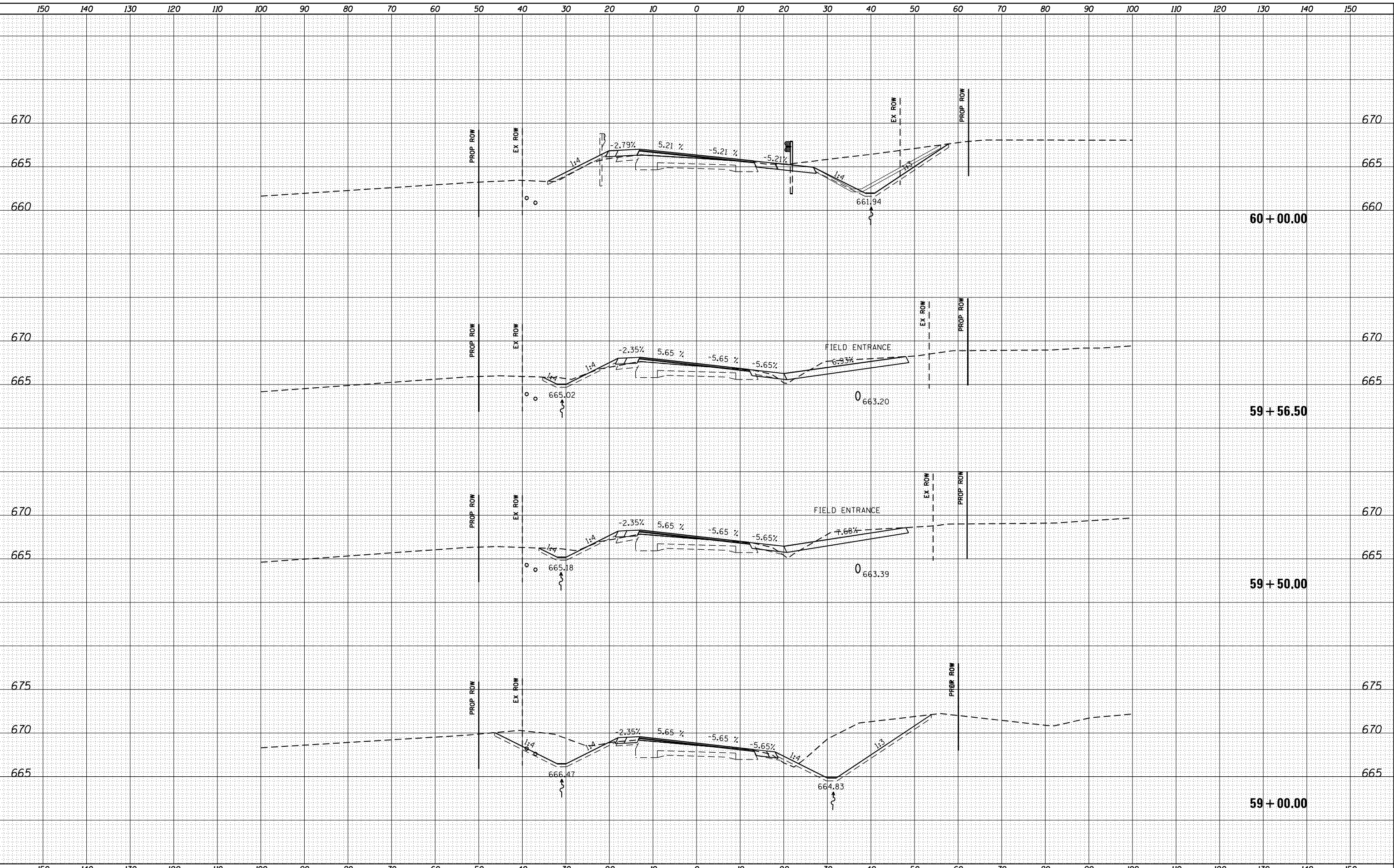
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			CONTRACT NO. 68698	
		ILLINOIS FED. AID PROJECT		

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 17/L 91  
CROSS SECTIONS**

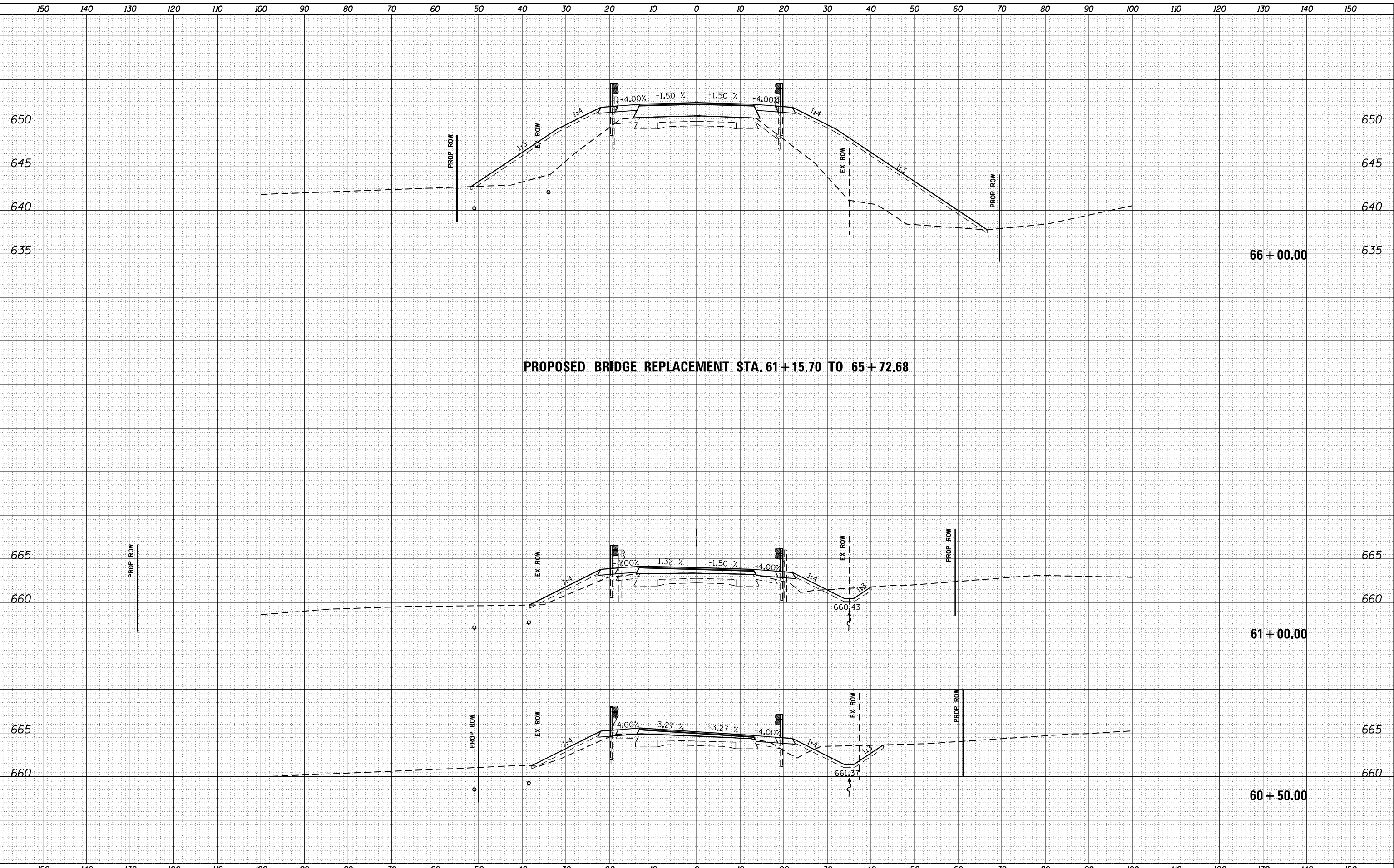
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CONTRACT NO. 68698				
ILLINOIS		FED. AID PROJECT		

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**PROPOSED BRIDGE REPLACEMENT STA. 61+15.70 TO 65+72.68**

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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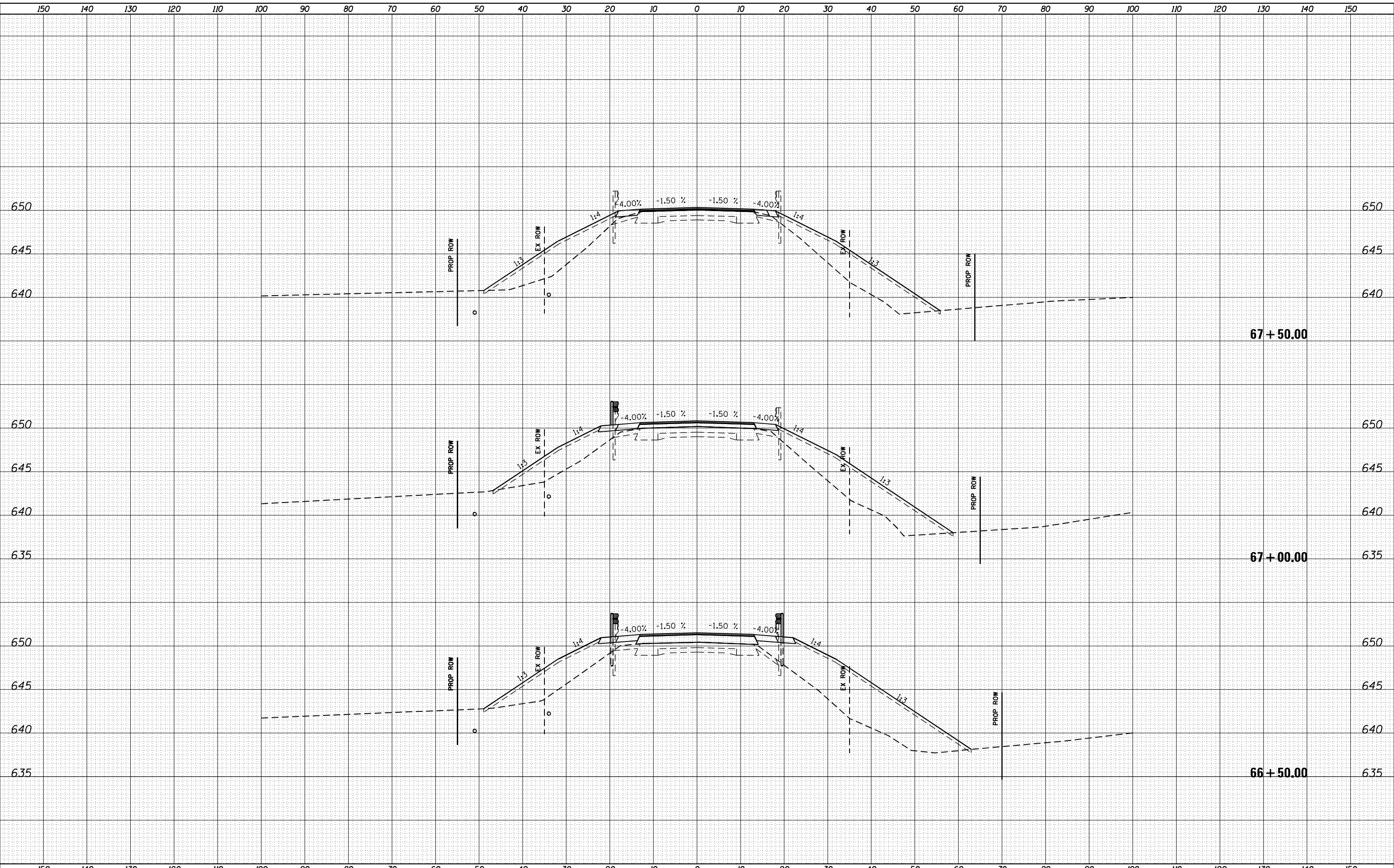
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			CONTRACT NO. 68698	
ILLINOIS FED. AID PROJECT				

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL 17/L 91  
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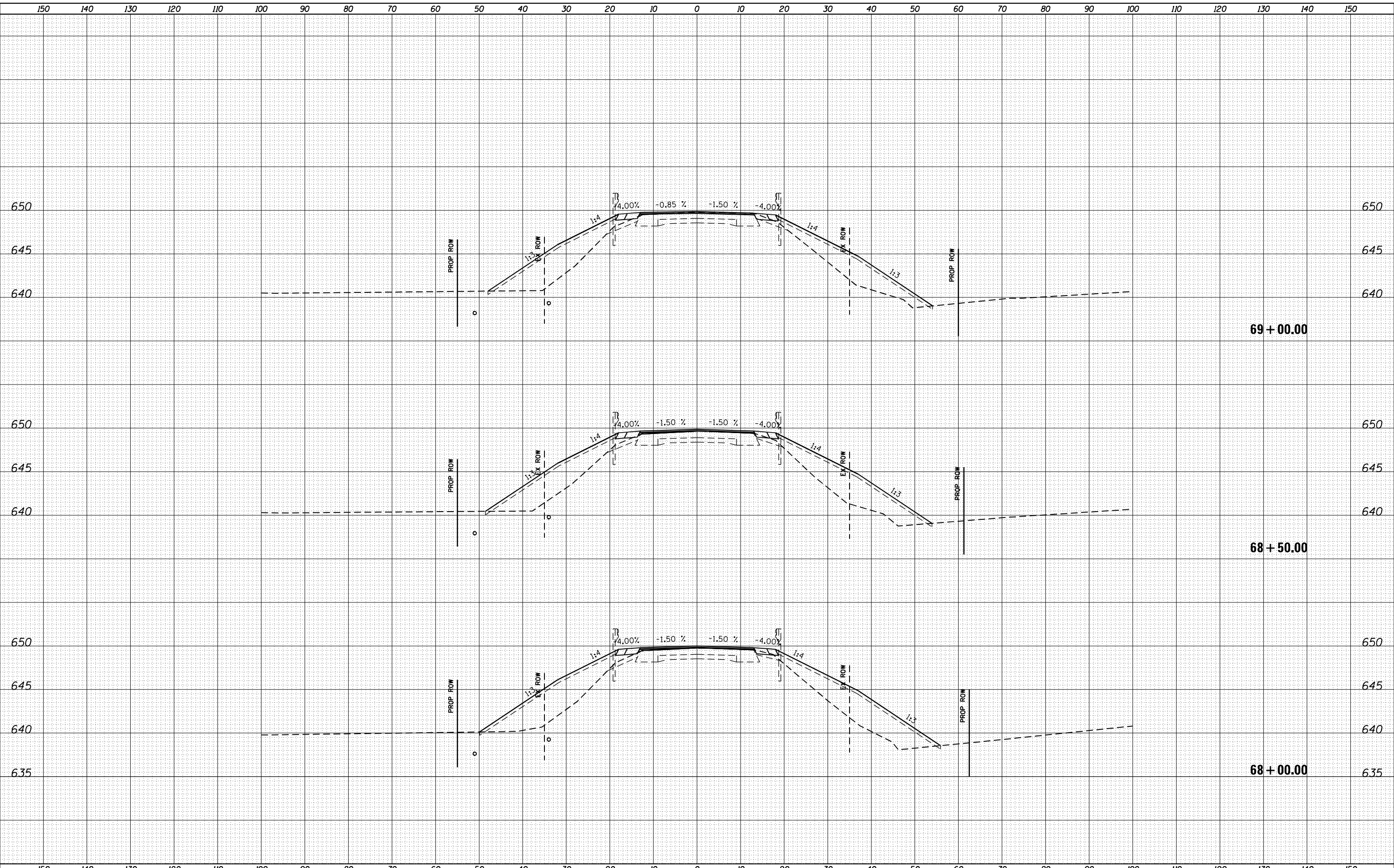
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	107
CONTRACT NO. 68698				
ILLINOIS FED. AID PROJECT				

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**STATE OF ILLINOIS  
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**IL 17/L 91  
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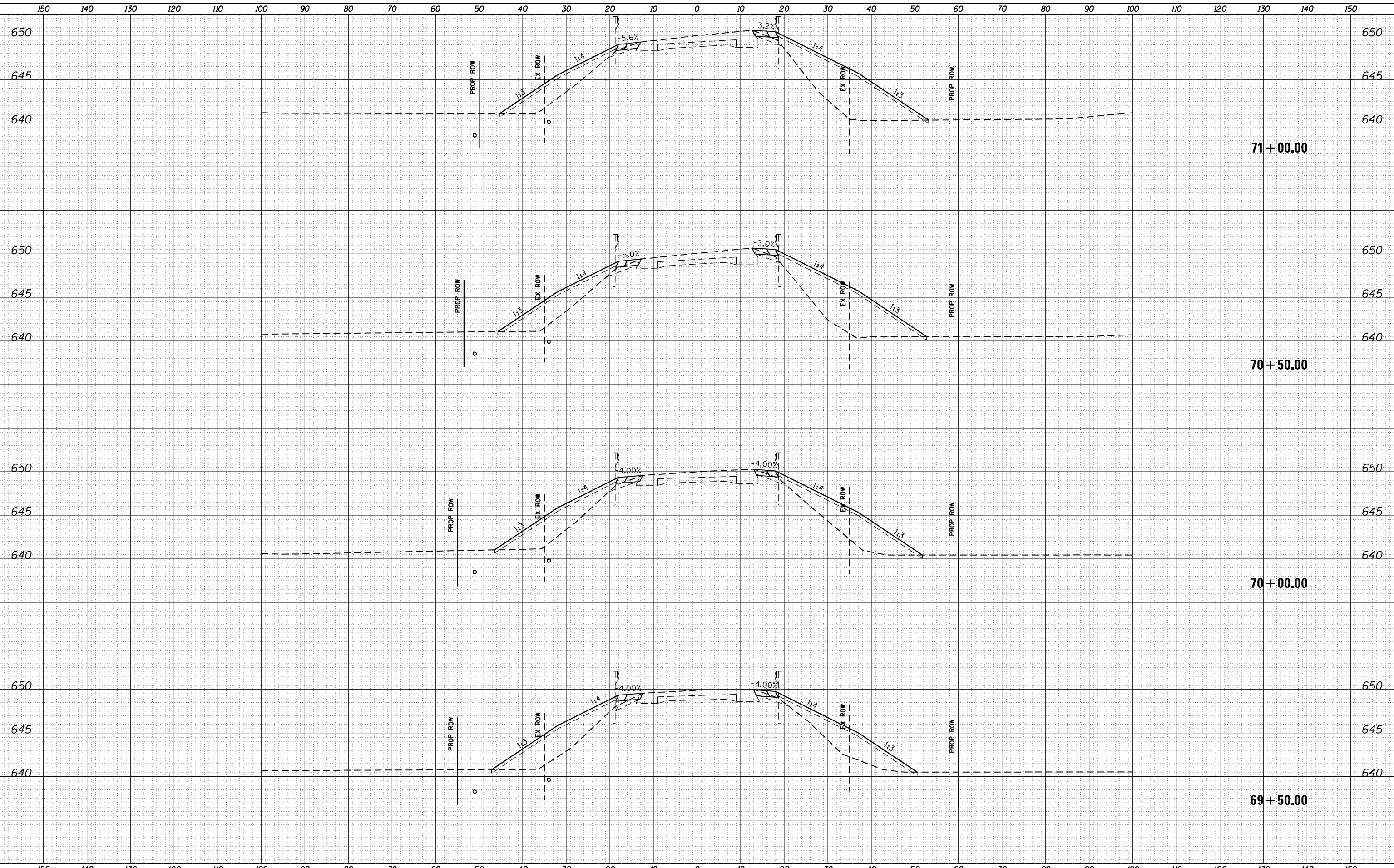
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				CONTRACT NO. 68698
				ILLINOIS FED. AID PROJECT

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**STATE OF ILLINOIS  
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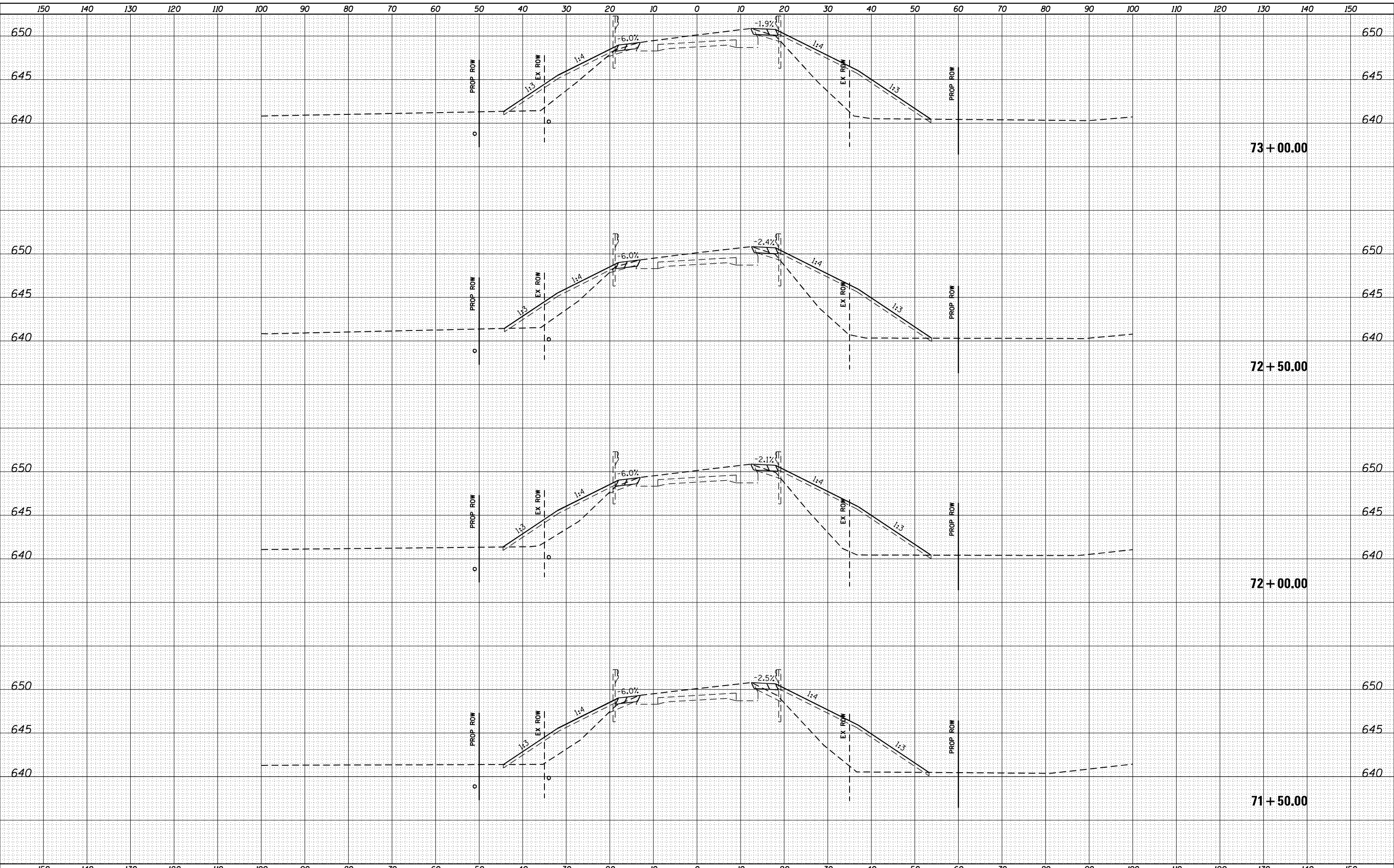
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			CONTRACT NO. 68698	
		ILLINOIS	FED. AID PROJECT	

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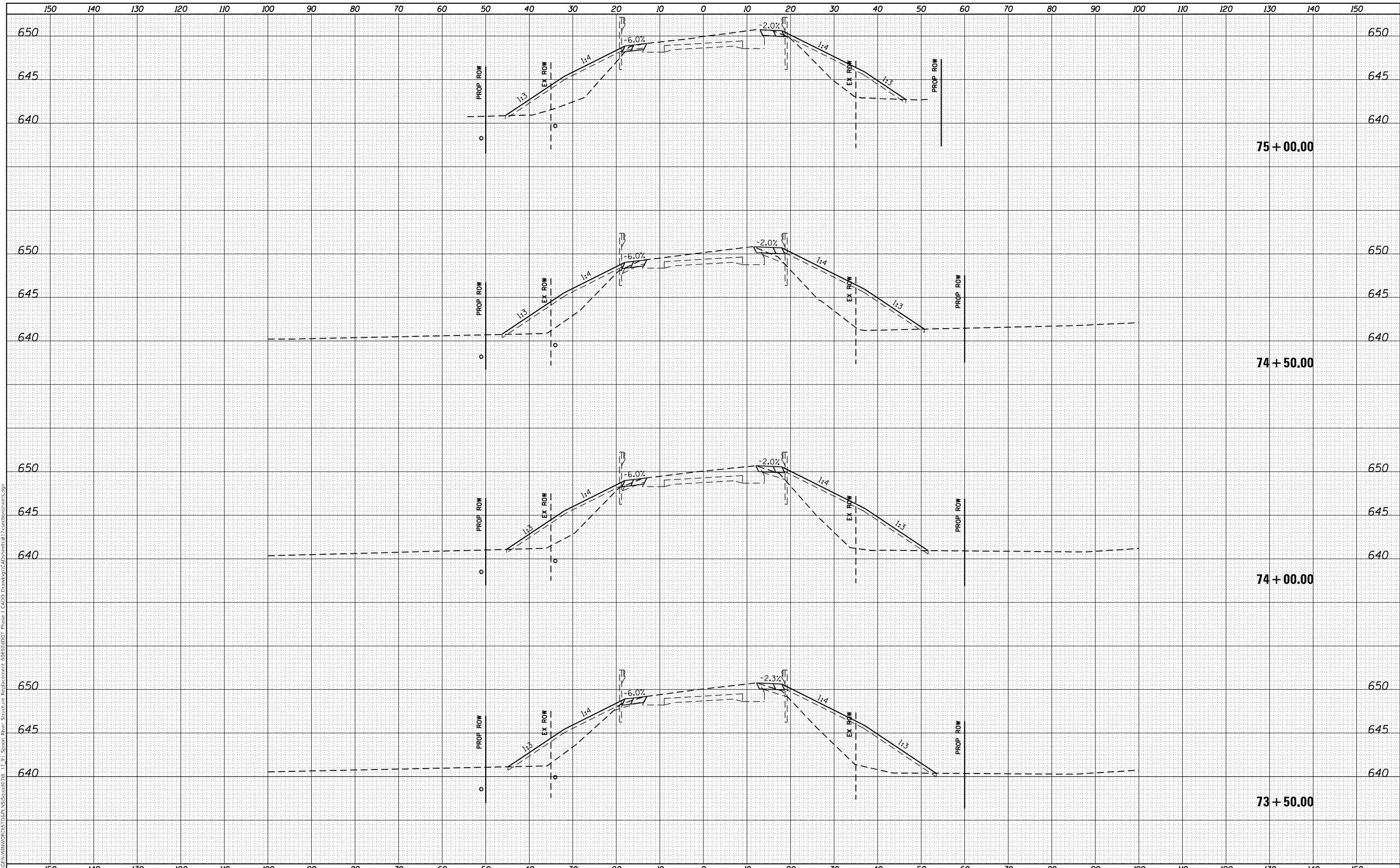


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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 17/L 91  
CROSS SECTIONS**

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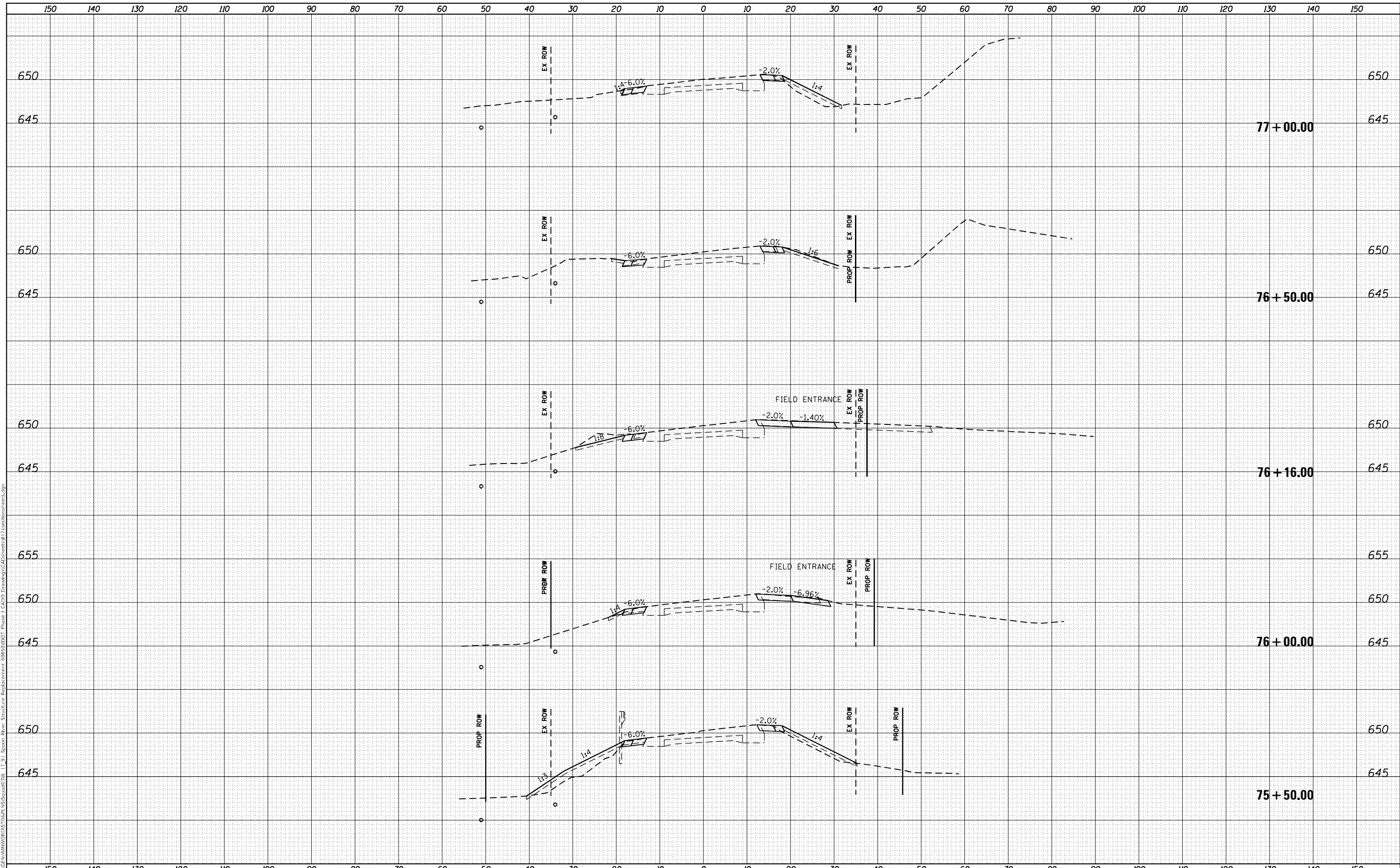
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			CONTRACT NO. 68698	
		ILLINOIS	FED. AID PROJECT	



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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CROSS SECTIONS**

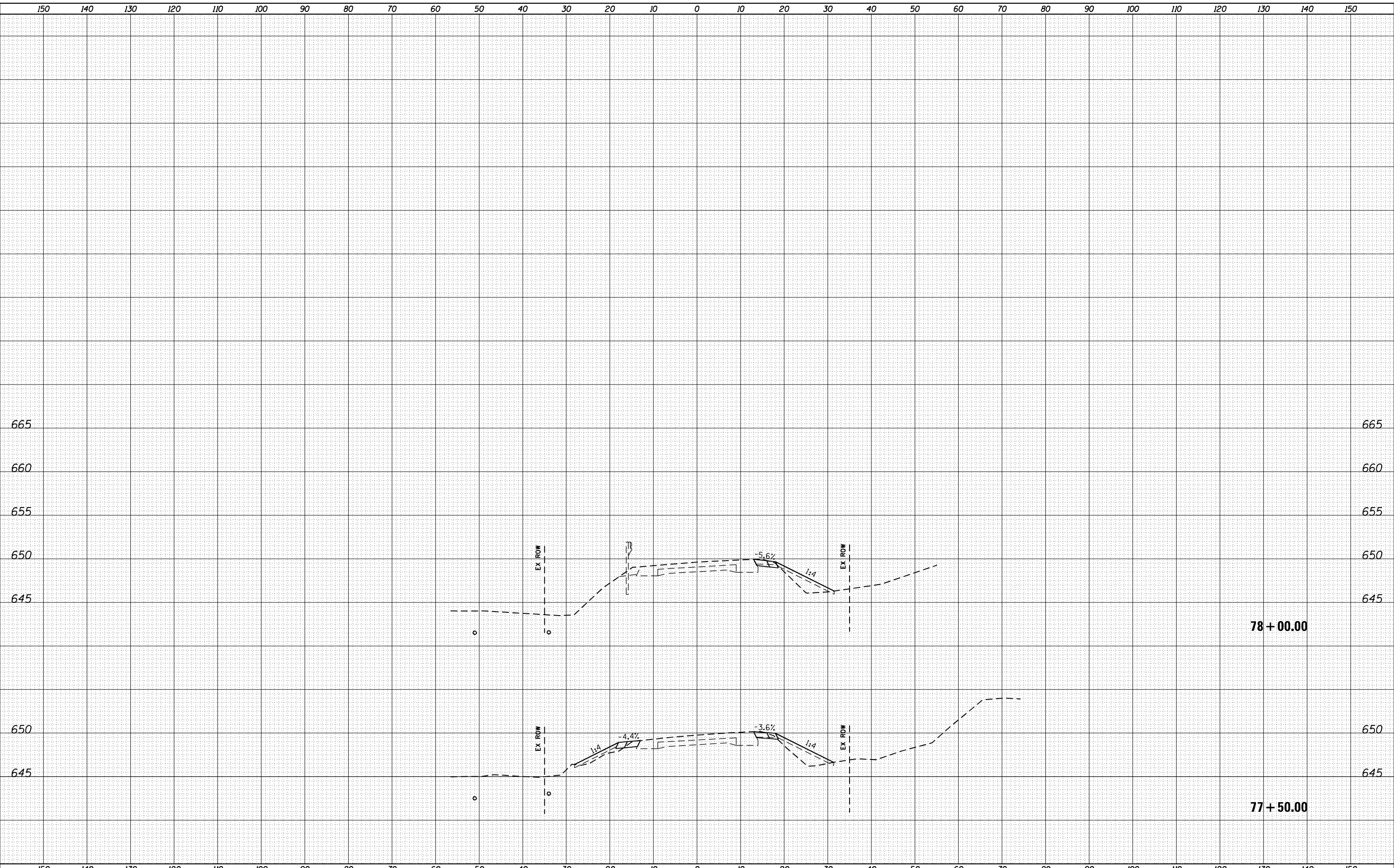
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				CONTRACT NO. 68698
				ILLINOIS FED. AID PROJECT

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USER NAME = Vonachenjc	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 20,0000 * / in.	CHECKED -	REVISED -
PLOT DATE = 6/14/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL 171L 91  
 CROSS SECTIONS**

SCALE: SHEET 16 OF 16 SHEETS STA. 77+50.00 TO STA. 78+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
643	(11B)BR-1	STARK	113	113
			CONTRACT NO. 68698	
		ILLINOIS	FED. AID PROJECT	