

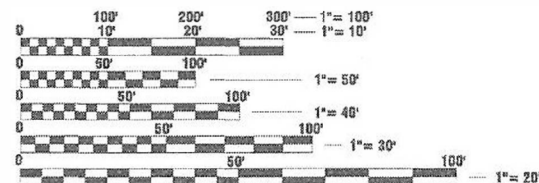
01-20-2023 LETTING ITEM 135

SEE SHEET 2 FOR SHEET INDEX

STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
515001-04	NAME PLATE FOR BRIDGES
601001-05	PIPE UNDERDRAINS
601101-02	CONCRETE HEADWALL FOR PIPE UNDERDRAIN
631026-06	TRAFFIC BARRIER TERMINAL, TYPE 5
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701901-08	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
725001-01	OBJECT AND TERMINAL MARKERS
728001-01	SIGN SUPPORT TELESCOPING STEEL
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITY CONTACT INFORMATION			
UTILITY	COMPANY	CONTACT	PHONE NUMBER
ELECTRIC	COMED	RONALD KONOPASEK	309-883-4400
COMMUNICATIONS	FRONTIER	DON BALMORE	815-544-6171
COMMUNICATIONS	MEDIACOM	CHRIS MINARD	815-597-5103



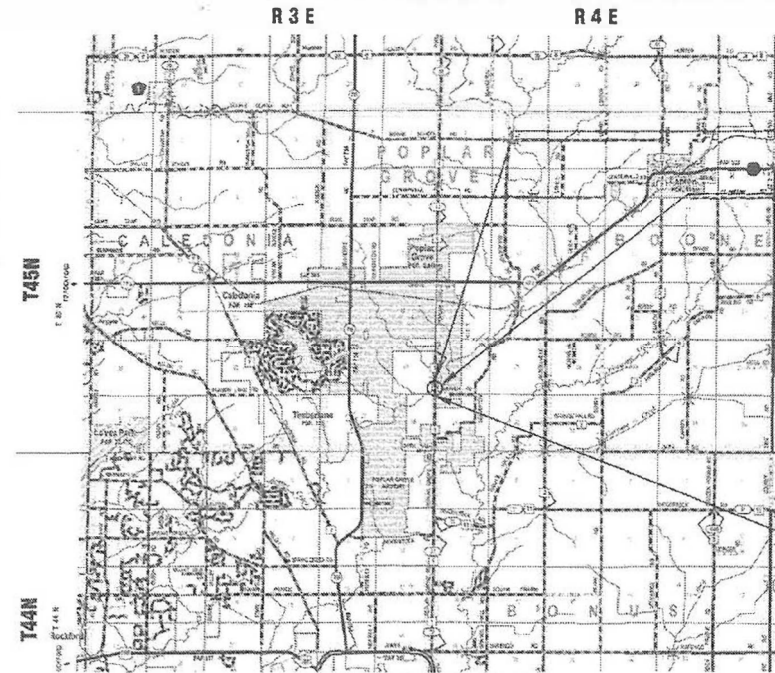
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



Chad Clauson 11-11-2023 DATE
CHAD T. CLAUSON
DIXON, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-071543
EXPIRES 11-30-2023

SURFACE TRANSPORTATION PROGRAM PLANS FOR PROPOSED STRUCTURE REPLACEMENT (FAU 5011) POPLAR GROVE ROAD OVER BEAVER CREEK SECTION 19-00113-00-BR BOONE COUNTY PROJECT NO. N66N(285) JOB NO C-92-099-21 CONTRACT NO. 85732



LOCATION MAP NOT TO SCALE

GROSS LENGTH OF SECTION = 655 FEET (0.12 MILE)
NET LENGTH OF SECTION = 655 FEET (0.12 MILE)

END IMPROVEMENT
STA 22+00
SECTION 19-00113-00-BR
STATION 18+50
PROPOSED STRUCTURE
#004-3103 TWO SPAN
PRESTRESSED I BEAM BRIDGE
WITH INTEGRAL ABUTMENTS AT 30
DEG. SKEW 133'-2" BK.-BK.

EXISTING STRUCTURE #004-3002
BUILT 1956. EXISTING
STRUCTURE IS A THREE SPAN
CONCRETE SLAB BRIDGE.
OVERALL LENGTH IS 117 FEET.
BRIDGE WIDTH IS 24 FEET
OUT-OUT OF DECK. EXISTING
STRUCTURE TO BE REMOVED AND
REPLACED.

BEGIN IMPROVEMENTS
STA 14+50

DESIGN CRITERIA

ROADWAY	DESIGN CLASSIFICATION	ADT	DESIGN SPEED
FAU 5011	MINOR ARTERIAL	3300 (5% TRUCKS)	55 mph



www.wendlergs.com ph: 815.288.2261
Illinois Professional Design Firm No. 184-003048

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	1
			CONTRACT NO. 85732	



LOCATION OF SECTION INDICATED THIS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED November 10 20 22

[Signature]
COUNTY ENGINEER

PASSED 11/16 20 22

[Signature]
DISTRICT 2 ENGINEER OF LOCAL ROADS & STREETS

RELEASED FOR BID BASED ON LIMITED REVIEW 11/16 20 22

[Signature]
REGION 2 ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GENERAL NOTES:

1. THE FINAL TOP FOUR INCHES OF SOIL IN ANY RIGHT-OF-WAY AREA DISTURBED BY THE CONTRACTOR MUST BE CAPABLE OF SUPPORTING VEGETATION. THE SOIL MUST BE FROM THE A HORIZON (ZERO TO 2' DEEP) OF SOIL PROFILES OF LOCAL SOILS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES BID AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
2. ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.
3. FERTILIZER NUTRIENTS SHALL BE APPLIED AT THE RATE SPECIFIED IN SECTIONS 250 AND 252 OF THE STANDARD SPECIFICATIONS. THIS SHALL BE INCLUDED IN THE COST OF THE SEEDING OR SODDING.
4. ALL EMBANKMENT CONSTRUCTED OF COHESIVE SOIL SHALL BE CONSTRUCTED WITH NOT MORE THAN 110% OF OPTIMUM MOISTURE CONTENT, DETERMINED BY THE STANDARD PROCTOR TEST. COHESIVE SOIL SHALL BE DEFINED AS ANY SOIL WHICH CONTAINS GREATER THAN 10% PARTICLES BY WEIGHT PASSING THE #200 SIEVE. THE 110% OF OPTIMUM MOISTURE LIMIT MAY BE WAIVED IN FREE-DRAINING GRANULAR MATERIAL WHEN APPROVED BY THE ENGINEER.
5. SAW CUTS AND PAVEMENT REMOVAL SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM EARTH EXCAVATION (SPECIAL).
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.37 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON-EMERGENCY WORK. THE JULIE NUMBER IS 800-892-0123. THE UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS ARE LISTED ON THE COVER SHEET.
7. THE APPLICABLE PORTIONS OF ARTICLE 105.07 OF THE STANDARD SPECIFICATION SHALL APPLY EXCEPT FOR THE FOLLOWING: THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE VERTICAL DEPTHS OF THE UNDERGROUND UTILITIES WHICH MAY INTERFERE WITH CONSTRUCTION OPERATIONS. THIS WORK WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICE FOR THE ITEM OF CONSTRUCTION INVOLVED.
8. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT AND COORDINATE HIS ACTIVITIES WITH THE UTILITIES BY CONTACTING: JULIE - 800/892-0123. UTILITY CONTACT INFORMATION CAN BE FOUND ON THE COVER SHEET.
9. EXCAVATION NECESSARY FOR PLACEMENT OF RIPRAP SHALL BE INCLUDED IN COST OF STONE RIPRAP UNLESS OTHERWISE NOTED.
10. EXCAVATION NECESSARY FOR REMOVAL OF EXISTING STRUCTURES SHALL BE INCLUDED IN COST OF REMOVAL OF EXISTING STRUCTURES UNLESS OTHERWISE NOTED.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

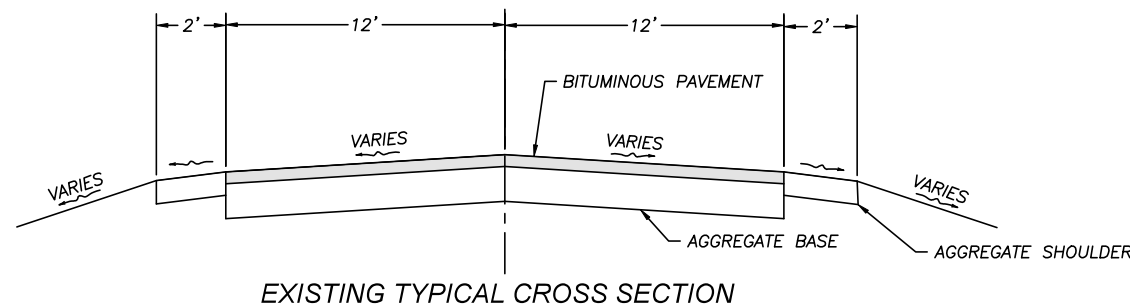
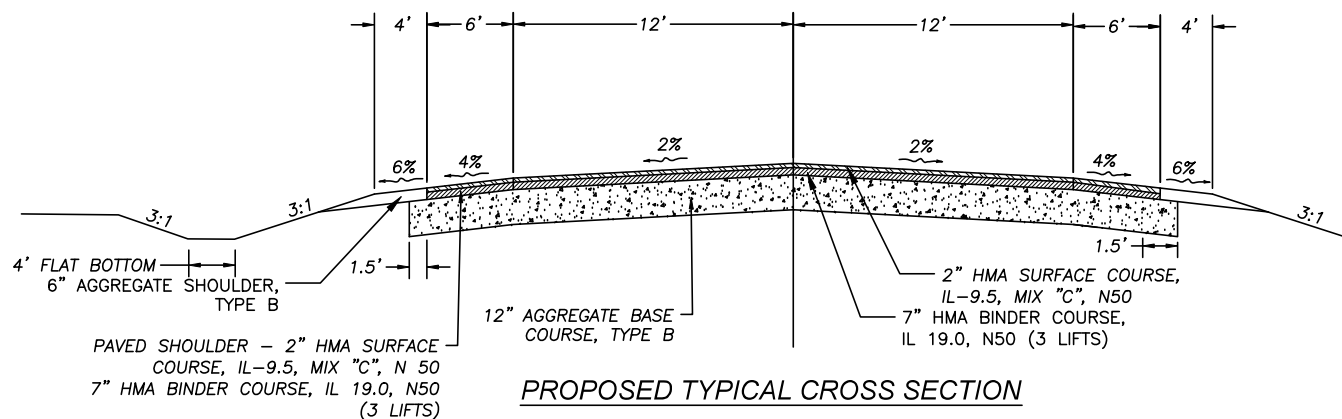
GRANULAR MATERIALS	2.05 TONS / CU YD
HOT MIX ASPHALT	112 LBS / SY-INCH
BITUMINOUS MATERIALS (PRIME COAT) (ON GRAVEL)	0.25 LBS / SF
BITUMINOUS MATERIALS (TACK COAT) (BETWEEN LIFTS)	0.025 LBS / SF
TEMPORARY EROSION CONTROL SEEDING	100 LBS / ACRE / APPLICATION

INDEX OF SHEETS

SHEET NUMBER	SHEET TITLE
1	COVER
2	GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	SCHEDULE OF QUANTITIES
5	PLAN AND PROFILE
6	EROSION CONTROL PLAN
7	BRIDGE GRADING PLAN
8	CROSS SECTIONS (1 OF 6)
9	CROSS SECTIONS (2 OF 6)
10	CROSS SECTIONS (3 OF 6)
11	CROSS SECTIONS (4 OF 6)
12	CROSS SECTIONS (5 OF 6)
13	CROSS SECTIONS (6 OF 6)
14	GENERAL PLAN AND ELEVATION
15	STRUCTURE DETAILS
16	SUPERSTRUCTURE (S.N. 004-3103)
17	SUPERSTRUCTURE DETAILS (S.N. 004-3103)
18	ABUTMENT DIAPHRAGM DETAILS (S.N. 004-3103)
19	PIER DIAPHRAGM DETAILS (S.N. 004-3103)
20	FRAMING PLAN
21	FRAMING PLAN DETAILS
22	DECK ELEVATIONS LAYOUT
23	TOP OF SLAB ELEVATIONS (1 OF 2)
24	TOP OF SLAB ELEVATIONS (2 OF 2)
25	TOP OF APPROACH SLAB ELEVATIONS
26	BRIDGE APPROACH SLAB (S.N. 004-3103)
27	BRIDGE APPROACH SLAB DETAILS (S.N. 004-3103)
28	IL 27N BEAM (S.N. 004-3103)
29	IL 27N BEAM DETAILS (S.N. 004-3103)
30	PARAPET RAILING (S.N. 004-3103)
31	ABUTMENT DETAILS
32	PIER DETAILS
33	PILE DETAILS
34	BORINGS (1 OF 4)
35	BORINGS (2 OF 4)
36	BORINGS (3 OF 4)
37	BORINGS (4 OF 4)
38	TRAFFIC CONTROL PLAN

HMA MIXTURE REQUIREMENT TABLE

	BINDER	SURFACE
PG GRADE	PG 58-28	PG 58-28
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 19.0	IL 9.5
FRICTION AGGREGATE		MIXTURE C
DENSITY METHOD	CORES	CORES
MIXTURE WEIGHT	112#/SY/IN	112#/SY/IN
QUALITY	QC/QA	QC/QA



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	USER NAME = chad.clouston	DESIGNED - CTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	FAU RTE. = 5011	SECTION = 19-00113-00-BR	COUNTY = BOONE	TOTAL SHEETS = 38	SHEET NO. = 2
	PLOT SCALE = -	DRAWN - CTC	REVISED -			SCALE: 1"=30	SHEET - OF - SHEETS	STA. -	TO STA. -	CONTRACT NO = 85732-
	PLOT DATE = 12/5/22	CHECKED - SAB	REVISED -							
	FILE NAME = cover-2200007.dwg	DATE = 11/11/2022	REVISED -							

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE 0010

ITEM NUMBER	CODE	ITEM	UNIT	QUANTITY
1	20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	60
2	20300100	CHANNEL EXCAVATION	CU YD	1611
3	20400800	FURNISHED EXCAVATION	CU YD	547
4	25100630	EROSION CONTROL BLANKET	SQ YD	3,339
5	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	70
6	28000305	TEMPORARY DITCH CHECKS	FOOT	90
7	28000400	PERIMETER EROSION BARRIER	FOOT	990
8	28200200	FILTER FABRIC	SQ YD	839
9	30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	80
10	35102400	AGGREGATE BASE COURSE, TYPE B 12"	SO YD	2,423
11	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	5,755
12	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	2303
13	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	1,029
14	40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	294.2
15	42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	192
16	48101500	AGGREGATE SHOULDERS, TYPE B 6"	SO YD	128
17	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
18	50200100	STRUCTURE EXCAVATION	CU YD	250
19	50200300	COFFERDAM EXCAVATION	CU YD	72
20	50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1
21	50300100	FLOOR DRAINS	EACH	16
22	50300225	CONCRETE STRUCTURES	CU YD	149.7
23	50300255	CONCRETE SUPERSTRUCTURE	CU YD	218.9
24	50300260	BRIDGE DECK GROOVING	SQ YD	638
25	50300300	PROTECTIVE COAT	SQ YD	873
26	50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	109
27	50901750	PARAPET RAILING	FOOT	308
28	51200959	FURNISHING METAL SHELL PILES 14" X 0.312"	FOOT	970
29	51202305	DRIVING PILES	FOOT	970

ITEM NUMBER	CODE	ITEM	UNIT	QUANTITY	
30	51203200	TEST PILE METAL SHELLS	EACH	3	
31	51500100	NAME PLATES	EACH	1	
32	58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	146	
33	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	66	
34	60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	189	
Δ	35	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	450
Δ	36	63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	2
Δ	37	63100095	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2
Δ	38	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
Δ	39	63200310	GUARDRAIL REMOVAL	FOOT	308.4
Δ	40	67100100	MOBILIZATION	L SUM	1
Δ	41	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
Δ	42	78008210	POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4"	FOOT	1,690
Δ	43	78011025	GROOVING FOR RECESSED PAVEMENT MARKING 5"	FOOT	1,690
Δ	44	78200006	GUARDRAIL REFLECTORS, TYPE B	EACH	10
Δ	45	78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	6
*	46	X2020410	EARTH EXCAVATION (SPECIAL)	CU YD	885
*	47	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.70
*	48	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
*	49	Z0013798	CONSTRUCTION LAYOUT	L SUM	1
*	50	XX004565	GROUTED RIPRAP	SQ YD	839
*	51	XX009562	ERECTING PRECAST PRESTRESSED CONCRETE BEAMS, IL27N	L SUM	1
*	52	XX009563	REINFORCEMENT BARS, EPOXY COATED (SPECIAL)	POUND	130,180
# *	53	Z0076600	TRAINEES	Hour	1000
# *	54	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	Hour	1000

Δ SPECIALTY ITEM
* SEE SPECIAL PROVISIONS
#0042

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

F.A.U. RTE. 5011	SECTION 19-00113-00-BR	COUNTY BOONE	TOTAL SHEETS 38	SHEET NO. 3
CONTRACT NO 85732			ILLINOIS FED. AID PROJECT	

BENCHMARK INFORMATION

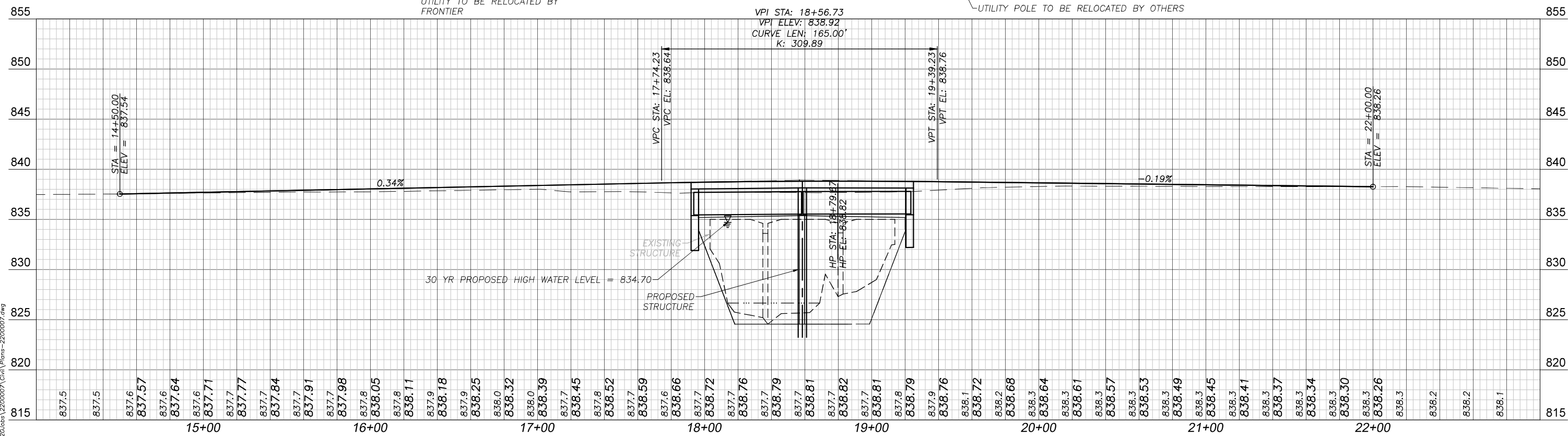
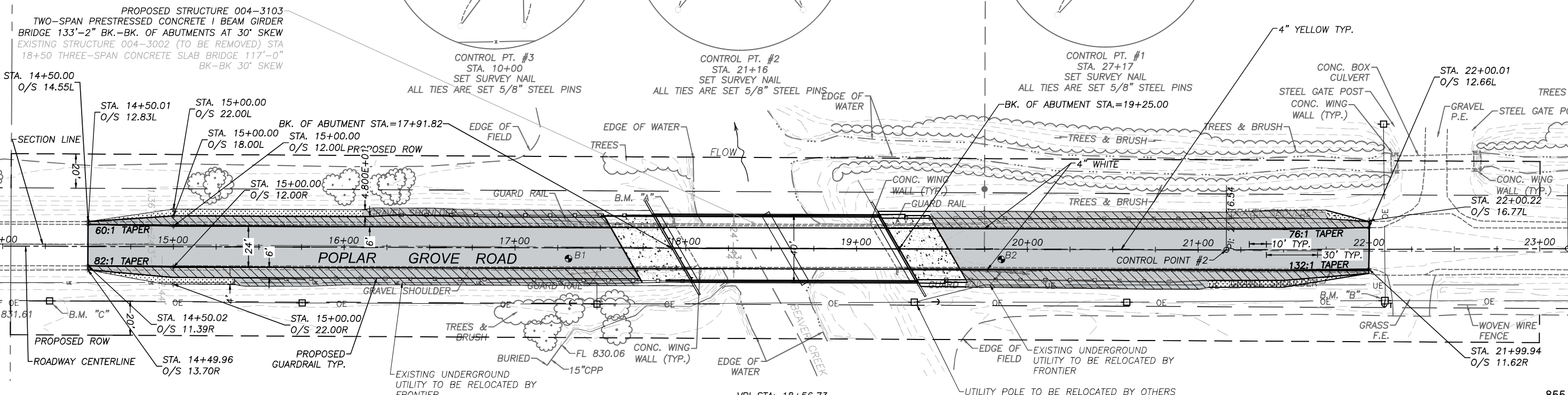
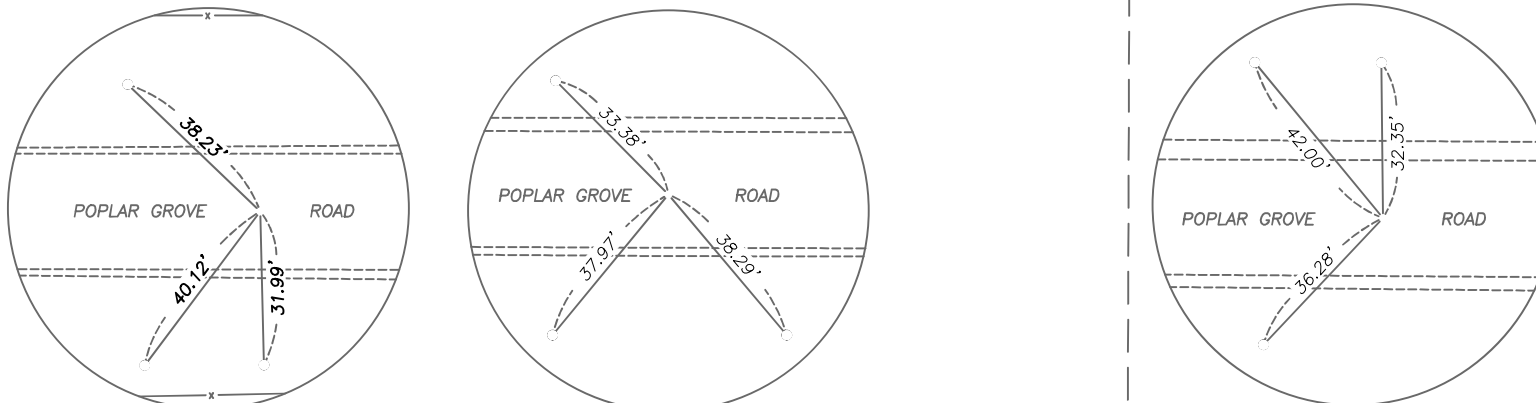
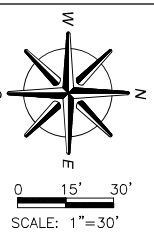
B.M. "A" - FOUND CHISELED "□" AT N.W. CORNER OF EXISTING BRIDGE. ELEV = 837.85

B.M. "B" - SET R.R. SPIKE IN WEST SIDE OF 3RD. POWER POLE (WITH TRANSFORMER) NORTH OF EXISTING BRIDGE, EAST SIDE OF POPLAR GROVE ROAD. ELEV = 837.88

B.M. "C" - SET R.R. SPIKE IN WEST SIDE OF 3RD. POWER SOUTH OF EXISTING BRIDGE, EAST SIDE OF POPLAR GROVE ROAD. ELEV = 835.06

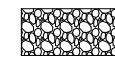
LEGEND

- HMA PAVEMENT (SEE TYPICAL CROSS SECTIONS)
- HMA SHOULDER (SEE TYPICAL CROSS SECTIONS)
- AGGREGATE SHOULDER (SEE TYPICAL CROSS SECTION)
- CONCRETE APPROACH SLAB

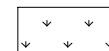


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FILE NAME = plans-2200007.dwg	DATE - 11/11/2022	REVISED -				ILLINOIS FED. AID PROJECT				

LEGEND



GROUTED RIPRAP



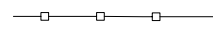
SEEDING, CLASS 2 SPECIAL WITH EROSION CONTROL BLANKET



TEMPORARY DITCH CHECK



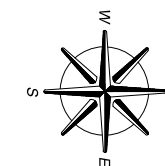
INLET AND PIPE PROTECTION



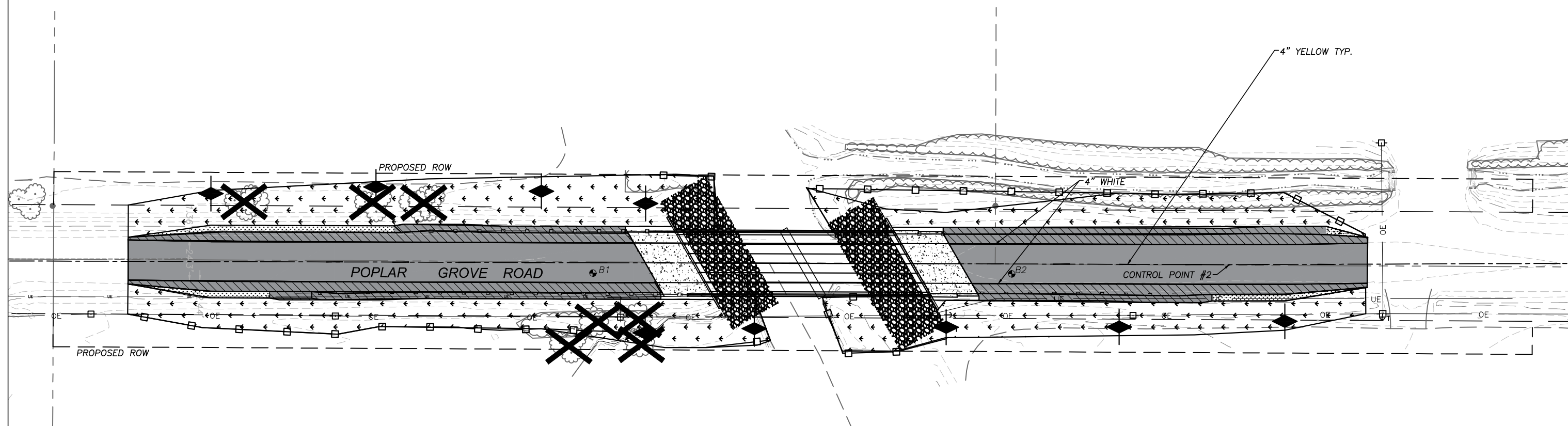
PERIMETER EROSION BARRIER



TREES REMOVED BY OTHERS. STUMP REMOVAL TO BE PERFORMED BY THE CONTRACTOR (INCIDENTAL TO EARTH EXCAVATION (SPECIAL))



0 15' 30'
SCALE: 1"=30'



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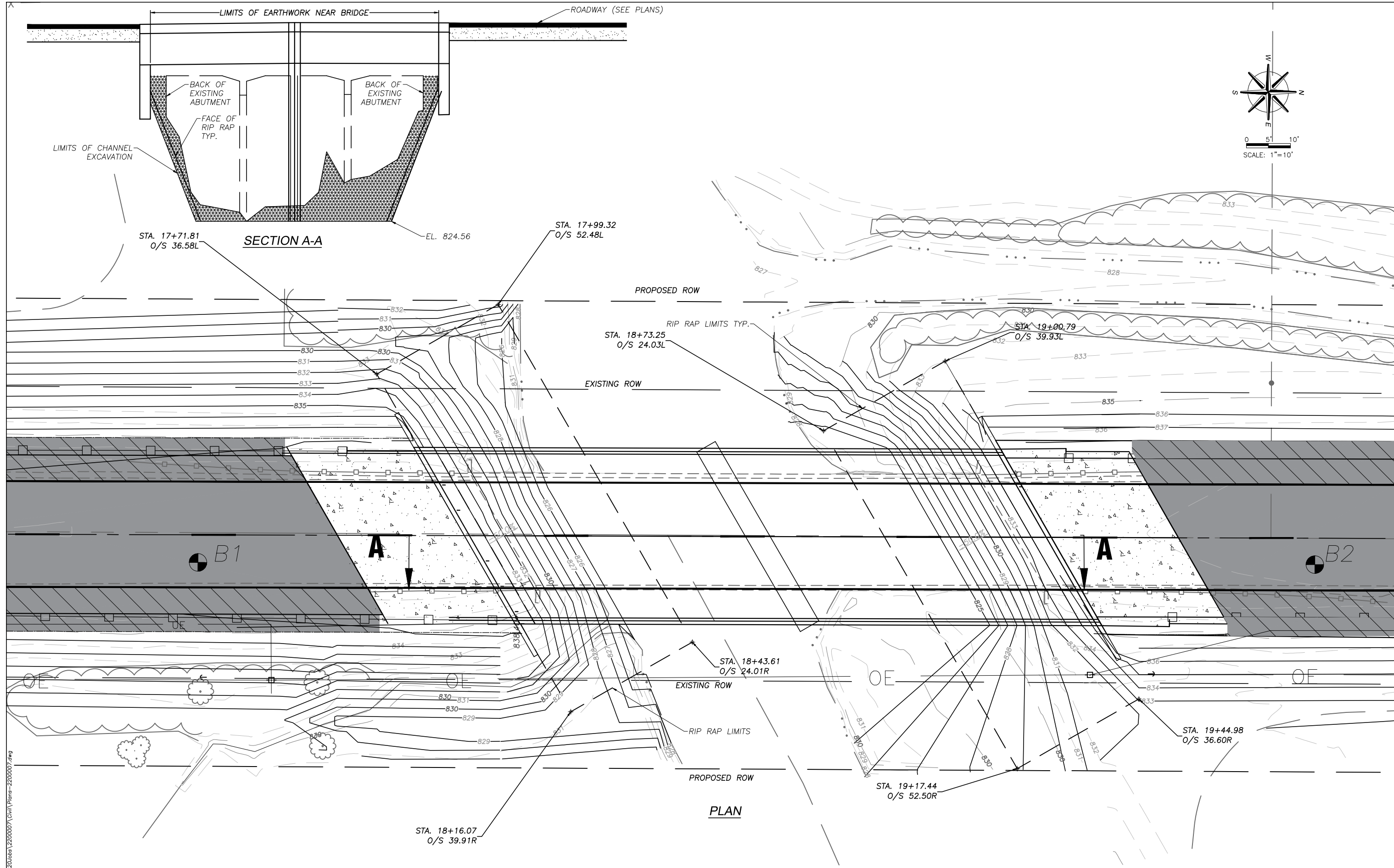
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EROSION CONTROL PLAN

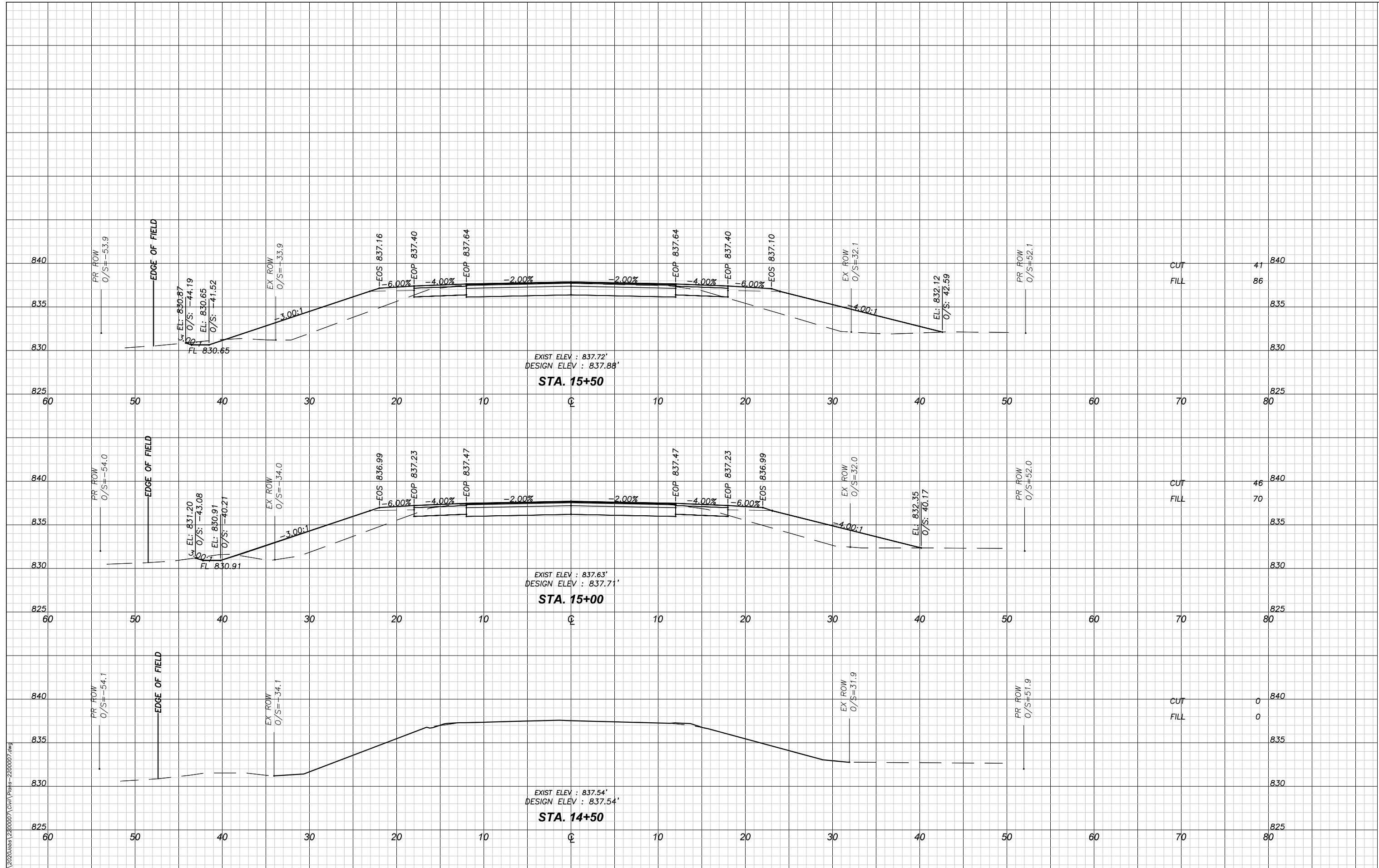
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FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	6
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				




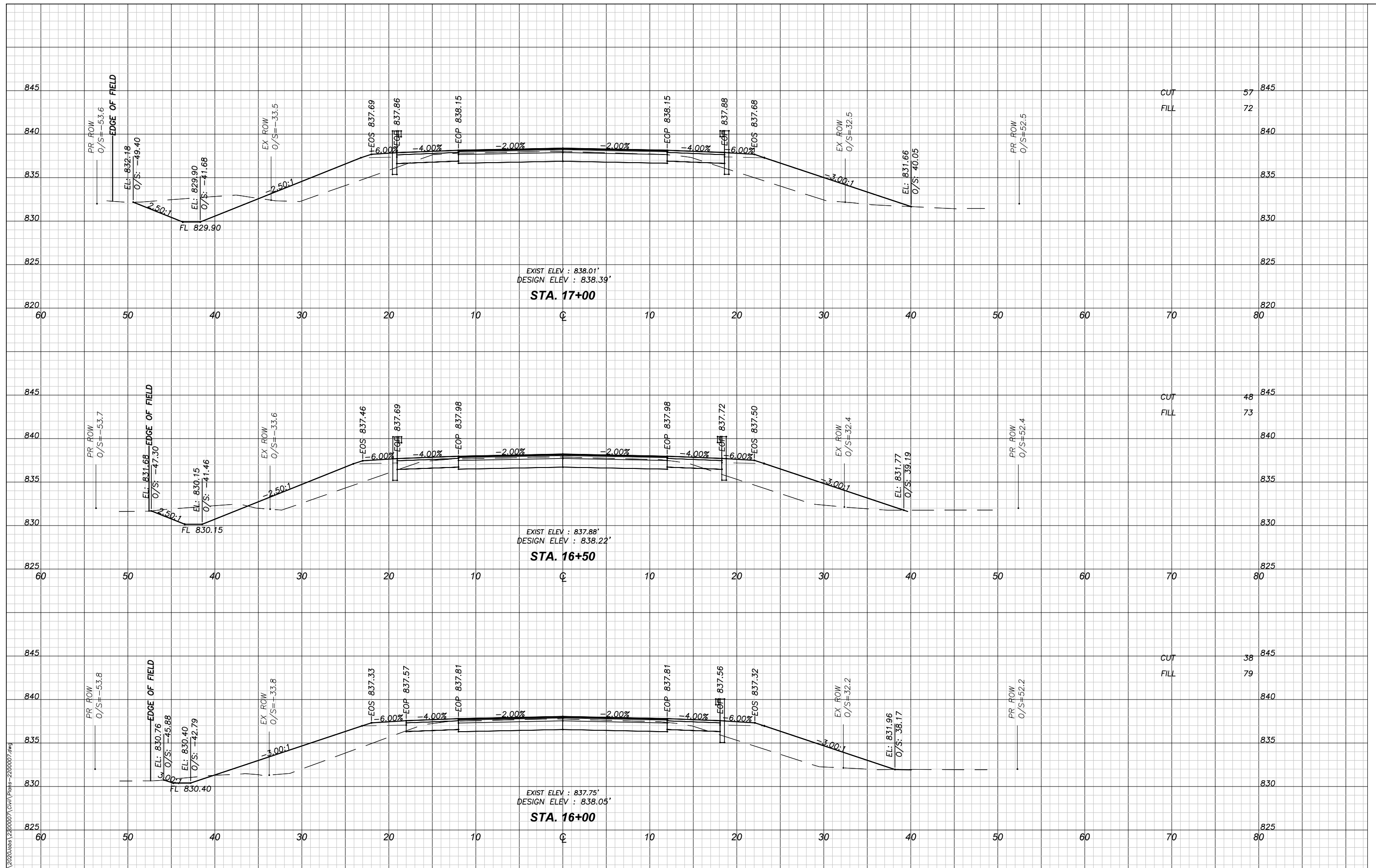
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ILLINOIS FED. AID PROJECT											CONTRACT NO 85732				



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 <p>www.wendler.com ph: 815.288.2261</p>	USER NAME = chad.clouston PLOT SCALE = - PLOT DATE = 12/5/22 FILE NAME = plans-2200007.dwg	DESIGNED - CTC DRAWN - CTC CHECKED - SAB DATE - 11/11/2022	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS (1 OF 6)		FAU RTE. = 5011	SECTION = 19-00113-00-BR	COUNTY = BOONE	TOTAL SHEETS = 38	SHEET NO. = 8
					SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -	CONTRACT NO = 85732	ILLINOIS FED. AID PROJECT =				



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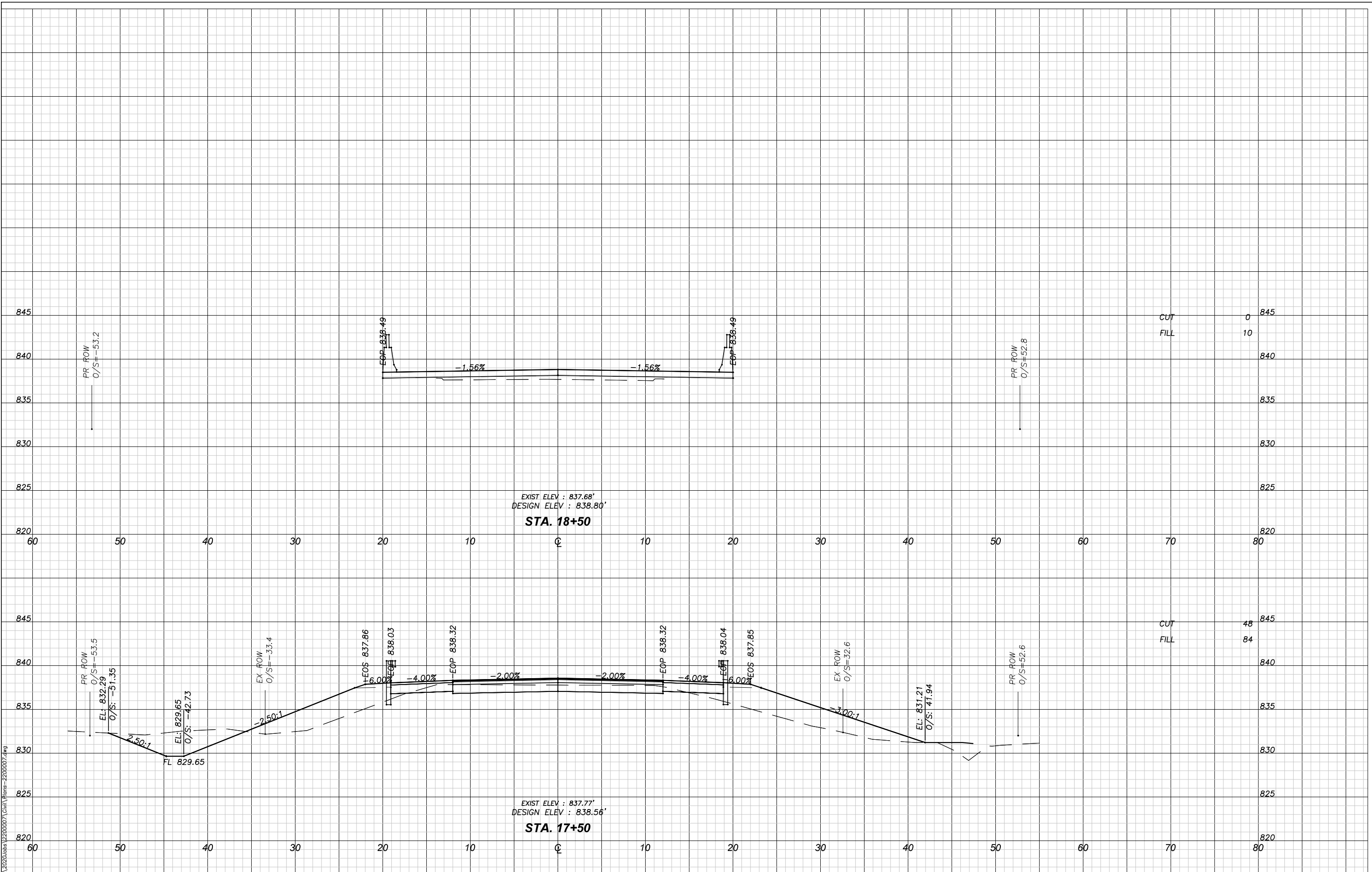
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS (2 OF 6)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	9
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



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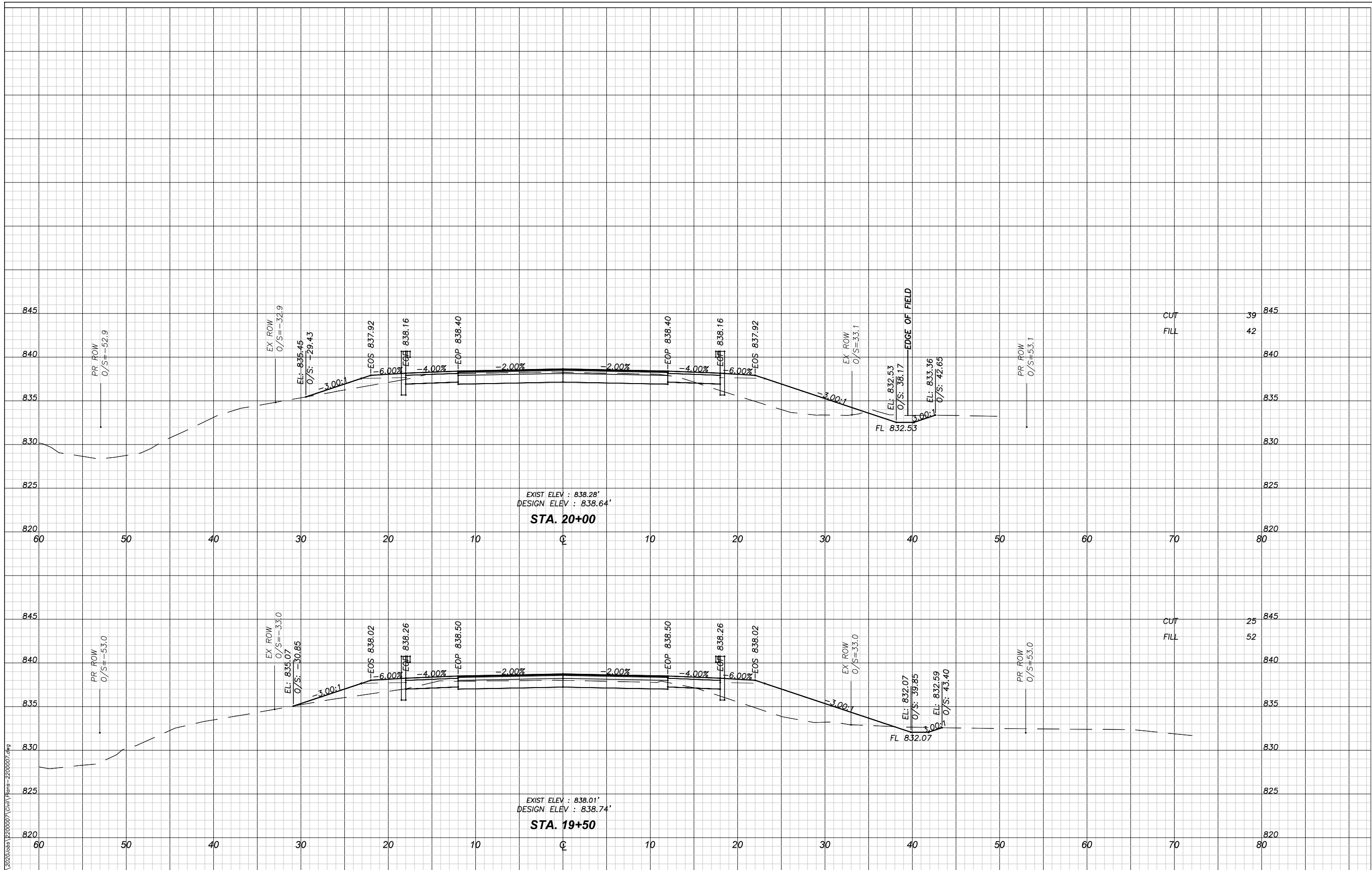
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FILE NAME = plans-2200007.dwg	DATE - 11/11/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS (3 OF 6)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	10
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



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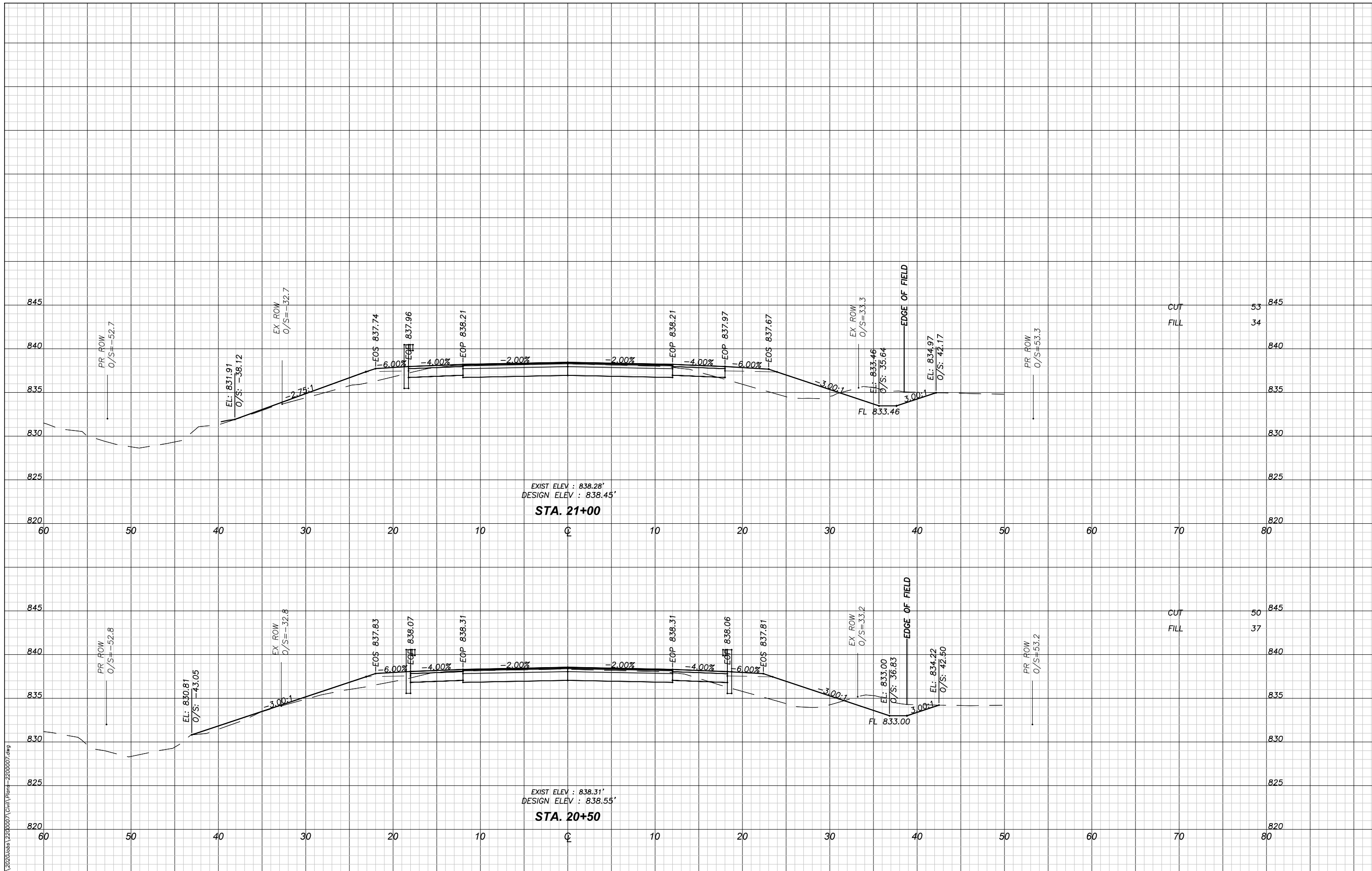
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PLOT DATE = 12/5/22	CHECKED - SAB	REVISED -
FILE NAME = plans-2200007.dwg	DATE - 11/11/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS (4 OF 6)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	11
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



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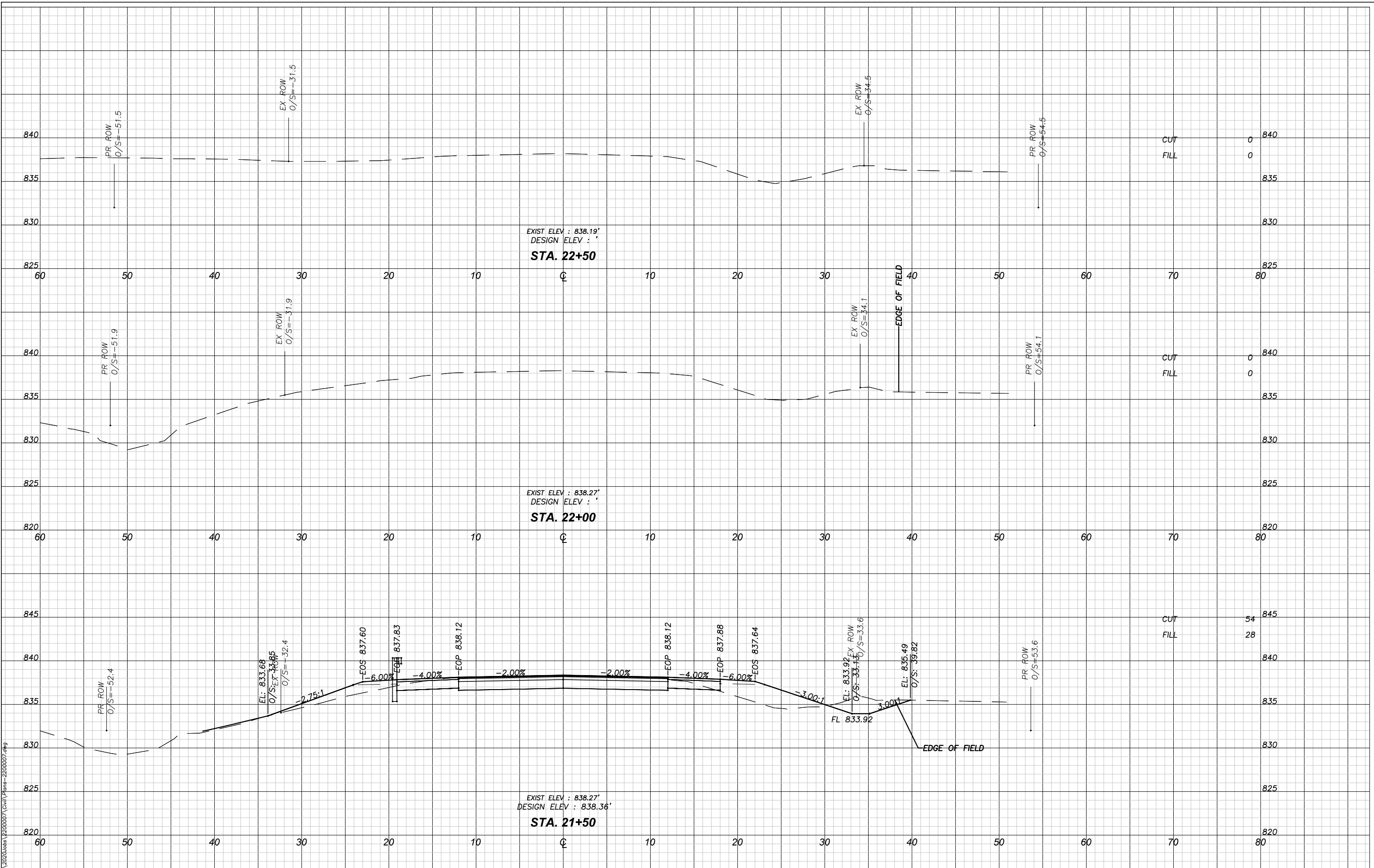
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS (5 OF 6)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	12
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



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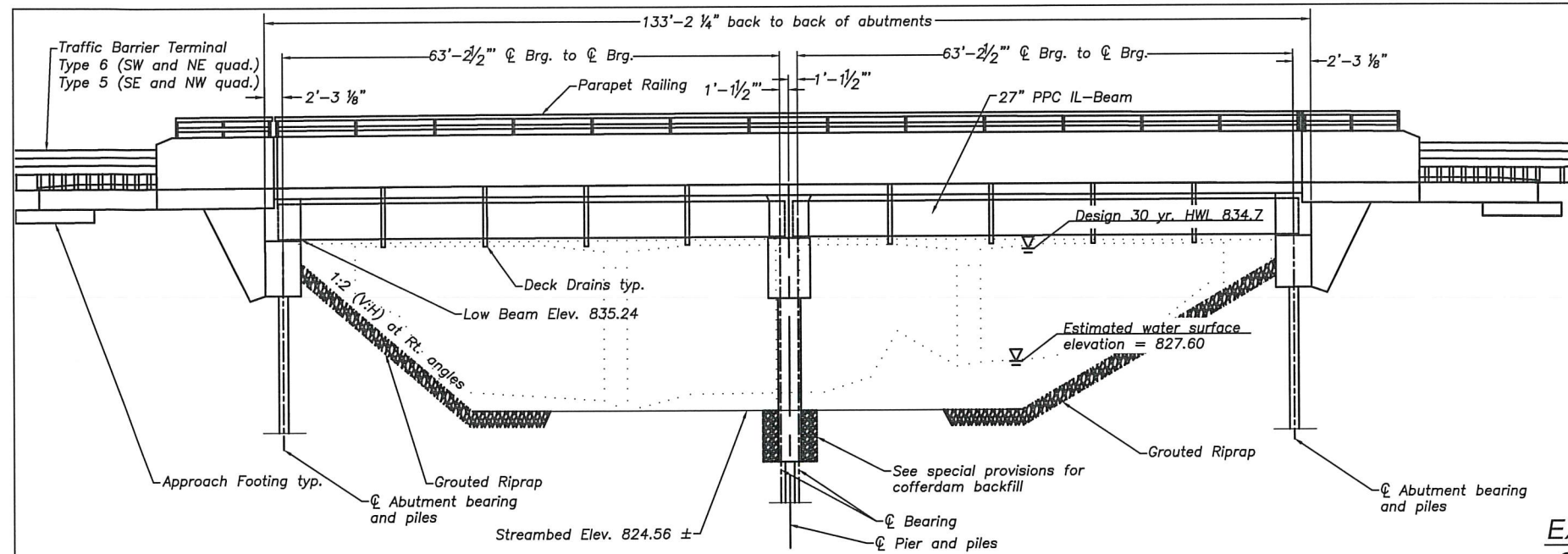
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

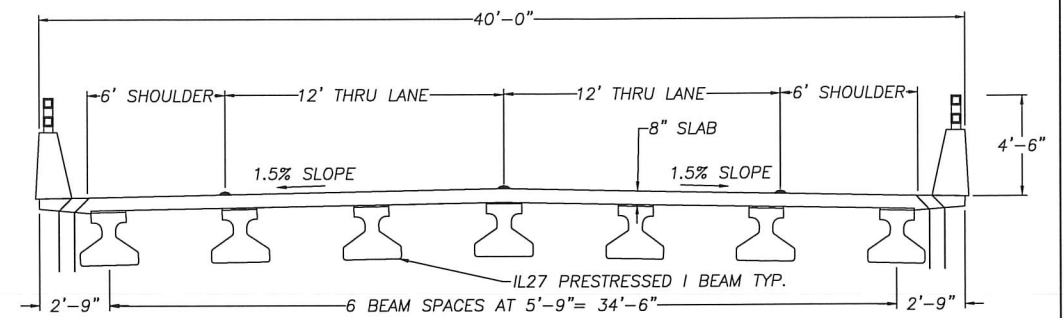
CROSS SECTIONS (6 OF 6)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	13
CONTRACT NO				
ILLINOIS FED. AID PROJECT				



ELEVATION



DESIGN SCOUR ELEVATION TABLE

EVENT/LIMIT STATE	DESIGN SCOUR ELEVATIONS (FT.)			
	N. ABUTMENT	PIER	S. ABUTMENT	ITEM 113
CHECK	806.35	819.96	820.17	8

EXISTING STRUCTURE

S/N 004-3002:
 3-SPAN REINFORCED CONCRETE SLAB BRIDGE
 SUPPORTED ON PILE BENT ABUTMENT & PIERS
 117'-0" BK.-BK. ABUTMENTS
 30° SKEW
 TO BE REMOVED

SALVAGE: NONE

DESIGN STRESSES

FIELD UNITS
 f'c = 5,000 psi (Superstructure)
 f'c = 3,500 psi (Substructure)
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.057g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.103g
 Soil Site Class = D

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications 9th Edition

LOADING HL-93

75 psf pedestrian load
 Allow 50#/sq. ft. for future wearing surface.

WENDLER ENGINEERING SERVICES, INC.
 Illinois Professional Design Firm No. 184-000848

SCOTT A. BROWN
 LICENSED STRUCTURAL ENGINEER
 STATE OF ILLINOIS
 081-005981

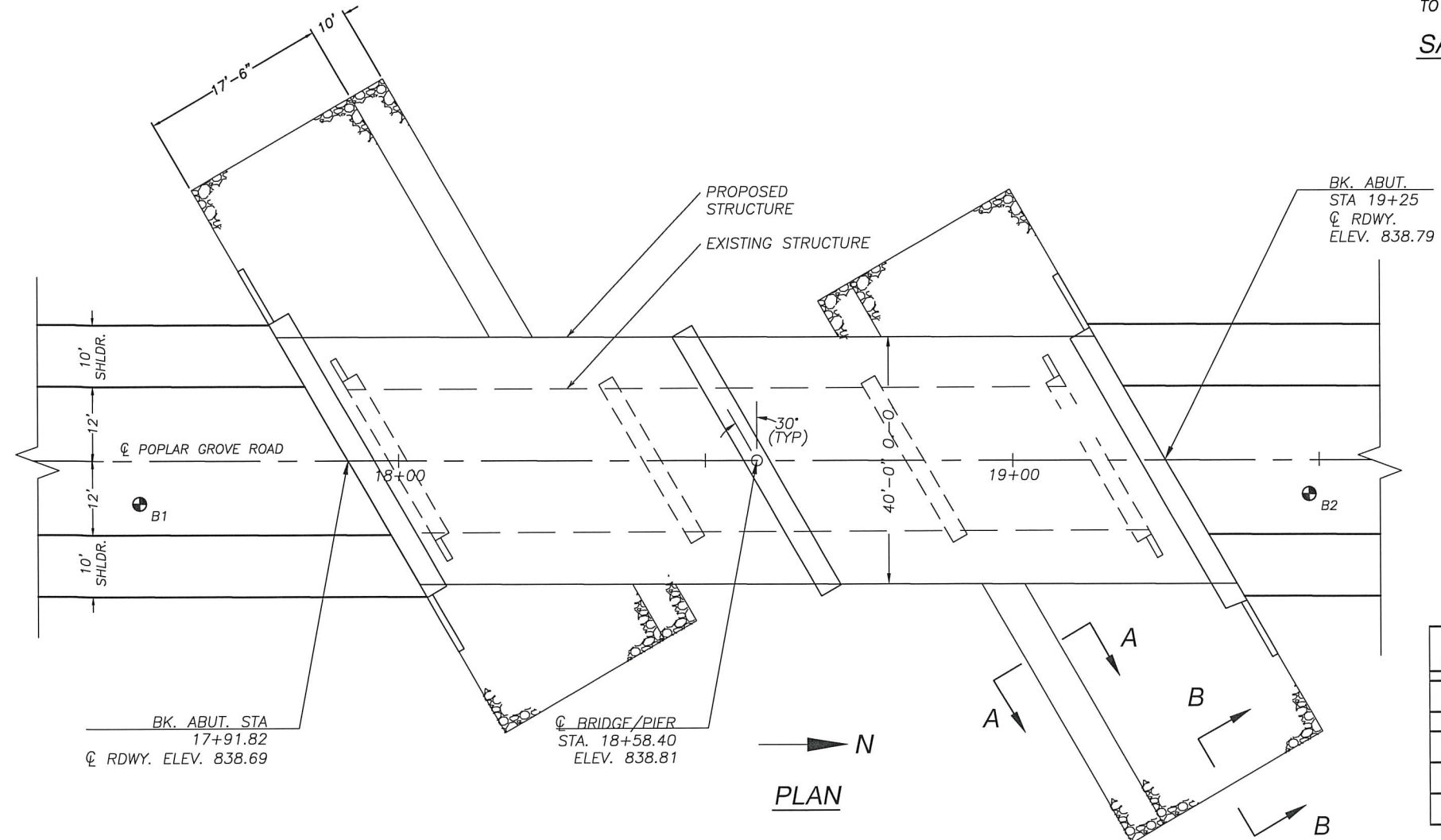
12/5/22
 DATE

SCOTT A. BROWN
 DIXON, ILLINOIS
 ILLINOIS LICENSED STRUCTURAL ENGINEER NO. 081-005981
 EXPIRES 11-30-2024

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE/BOX CULVERT DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT "AASHTO LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES".

WATERWAY INFORMATION

Frequency		Q (cfs)	Opening Sq. Ft.		Natural H.W.E.	Head-Ft.		Headwater El.	
Year	Year		Existing	Proposed		Existing	Proposed	Existing	Proposed
Drainage Area = 45.13 sq. miles									
Existing Low Grade Elev. = 837.6 at Roadway Sta. 17+80									
Proposed Low Grade Elev. = 838.48 at Roadway Sta. 18+00									
Flood	30	2334	585	618	834.5	0.2	0.2	834.7	834.7
Design	100	3020	629	671	835.1	0.4	0.4	835.5	835.5
Base	500	3930	629	671	835.8	0.6	0.6	836.4	836.4



PLAN

F:\2020\cadd\2200007\Civil\Structure-2200007.dwg

	USER NAME = chad_cleuson	DESIGNED - CTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION		FAU RTE. 5011	SECTION 19-00113-00-BR	COUNTY BOONE	TOTAL SHEETS 38	SHEET NO. 14
	PLOT SCALE = -	DRAWN - CTC	REVISED -		SCALE: 1"=30'	SHEET - OF - SHEETS	STA. - TO STA. -	CONTRACT NO 85732		ILLINOIS FED. AID PROJECT -	
	PLOT DATE = 12/5/22	CHECKED - SAB	REVISED -								
	FILE NAME = structure-2200007.dwg	DATE - 11/11/2022	REVISED -								

GENERAL NOTES

Structural Steel shall be according to the following:
 W-shapes.....AASHTO M 270 Grade 50W
 C-shapes, L-shapes & plates.....AASHTO M 270 Grade 50W

Reinforcement bars designated (E) shall be epoxy coated.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

All construction joints shall be bonded.

Cost for removal of existing bridge rail is included in cost for Removal of Existing Structures.

Excavation of earth necessary to perform removal of existing structures will not be measured for payment. Cost is included in Removal of Existing Structures.

Excavation for Granular Backfill for Structures shall not be paid separately but considered included in the unit price bid for GRANULAR BACKFILL FOR STRUCTURES.

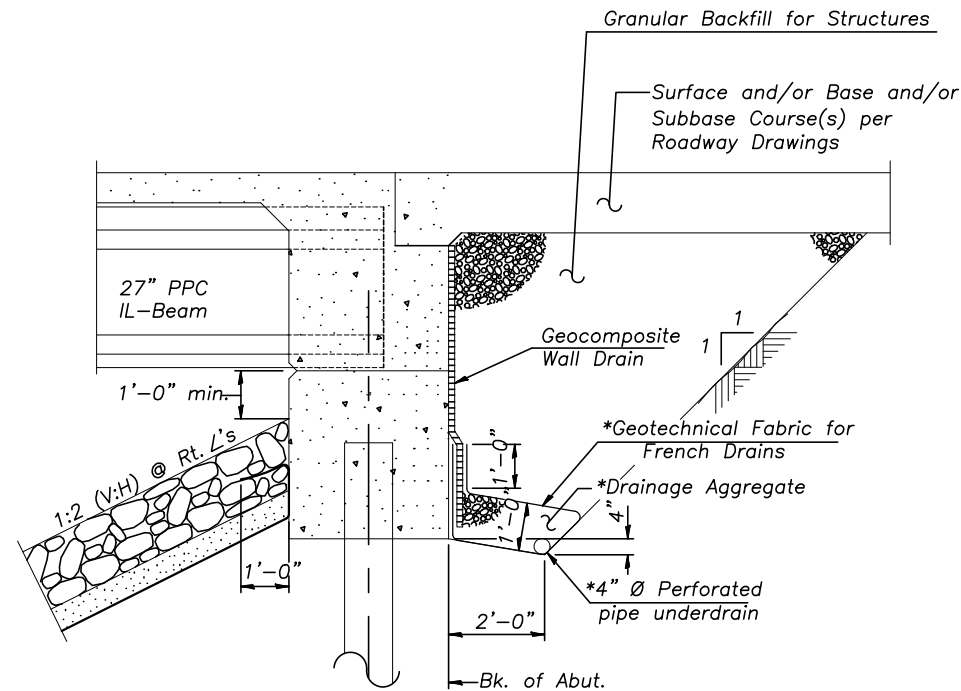
Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

The proposed improvements are covered under Illinois Department of Natural Resources (IDNR) Statewide Permit Number 2.

The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except construction as shown in the plans. This shall include the placement of materials for run-arounds, causeways, ect.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

Slipform parapet shall not be permitted



SECTION THRU INTEGRAL ABUTMENT
 (Horiz. dim. @ RtL's)

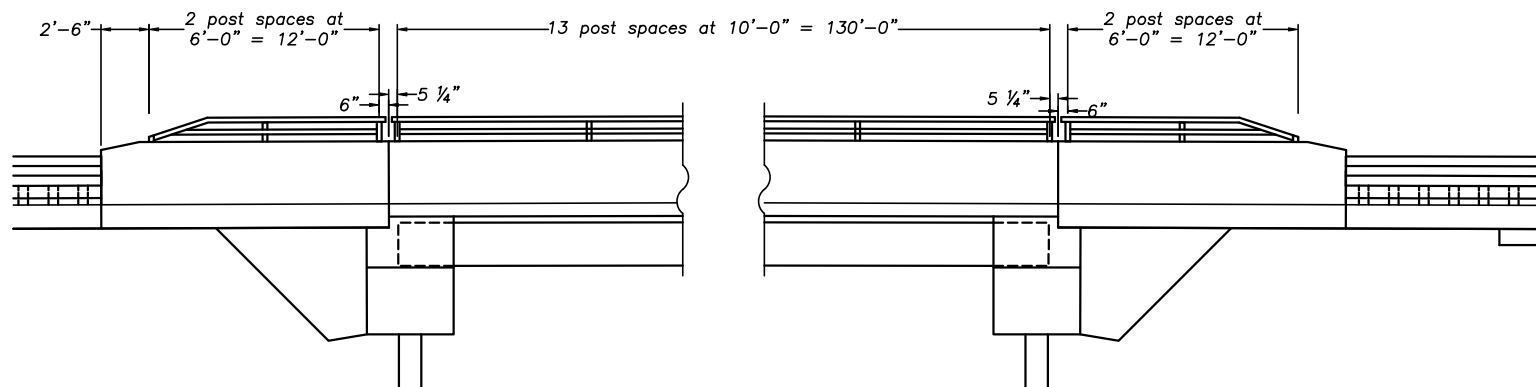
*Included in the cost of Pipe Underdrains for Structures.
 (See Special Provisions)

Note:
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

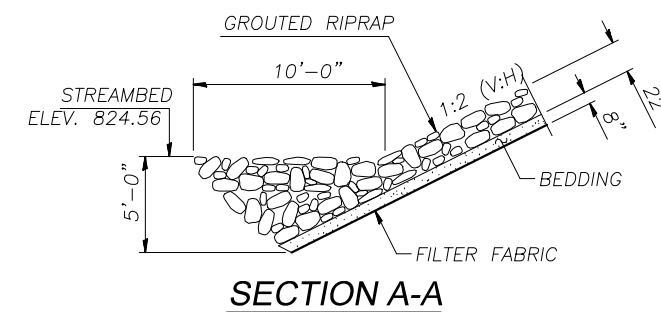
STRUCTURE BILL OF MATERIALS

BEAVER CREEK
 BUILT 2023 BY
 BOONE COUNTY
 SEC. 19-00113-00-BR
 POPLAR GROVE ROAD STA. 18+58.14
 STR. NO. 004-3103 LOADING HL-93

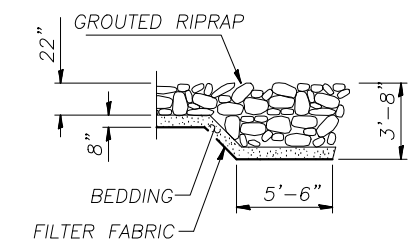
LETTERING FOR NAME PLATE
 See Std. 515001-03



PARAPET RAILING POST SPACING DETAIL



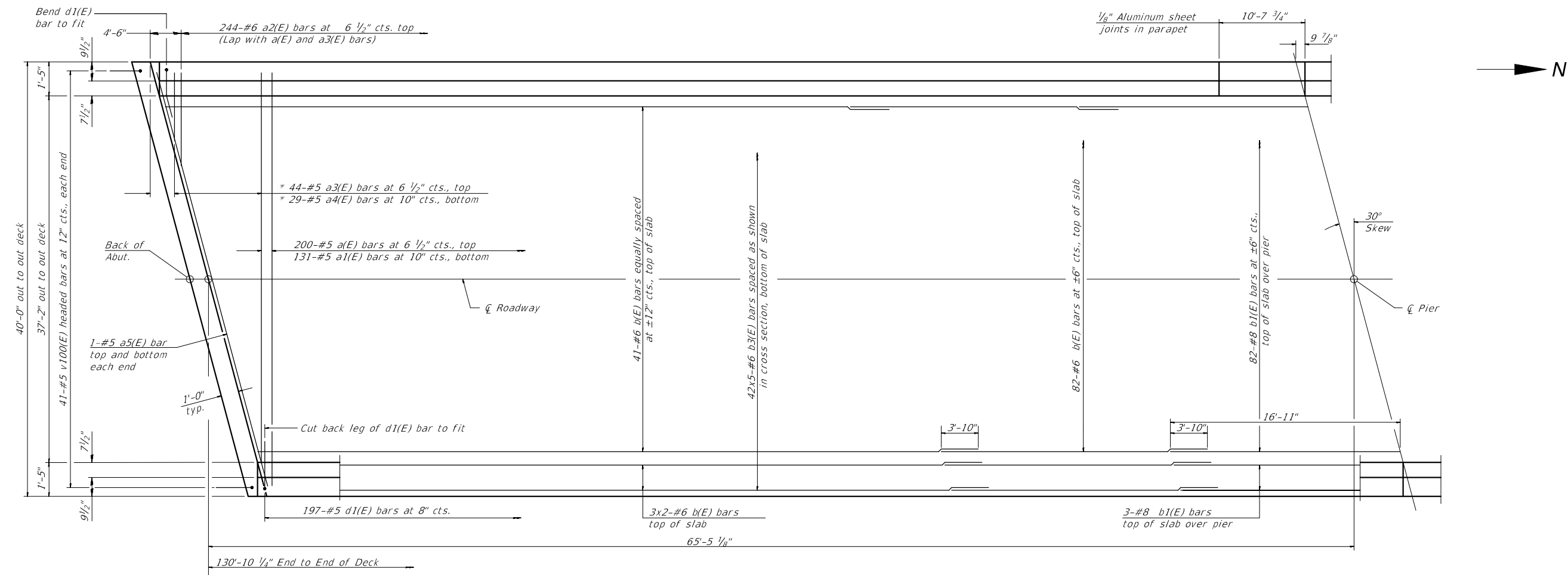
SECTION A-A



SECTION B-B

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www.wendlergs.com	PH: 815.288.2261	FILE NAME = structure-2200007.dwg	DATE = 11/11/2022	REVISED -	SCALE: 1"=30'	SHEET - OF - SHEETS	STA. -	TO STA. -	ILLINOIS FED. AID PROJECT		



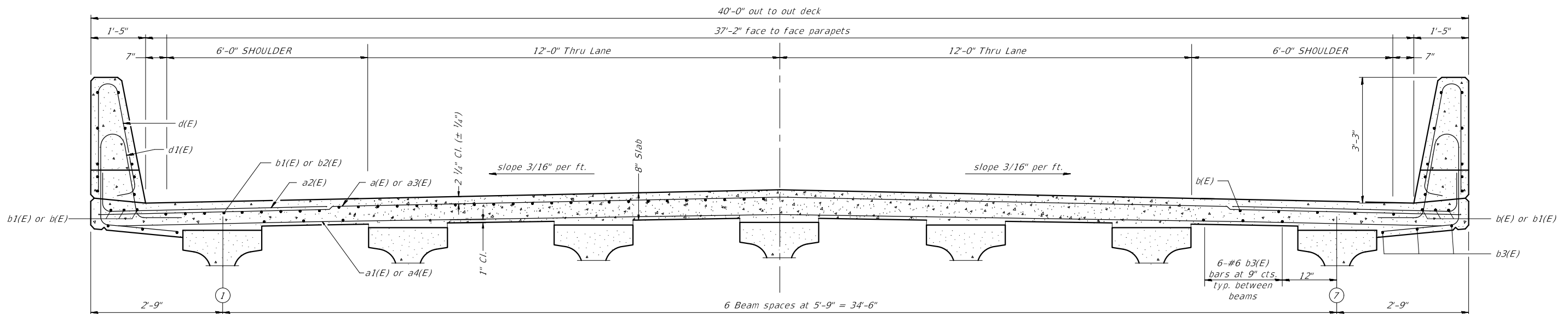
PARTIAL PLAN

MINIMUM BAR LAP

- #5 bar = 3'-6"
- #6 bar = 3'-10"
- #8 bar = 6'-2"

* See Field Cutting Diagram on sheet 17 of 38.

Notes:
See sheet Superstructure Details for Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



CROSS SECTION

(Looking North)

SI-IL2772N-2-R($\leq 30^\circ$) 6-15-2019



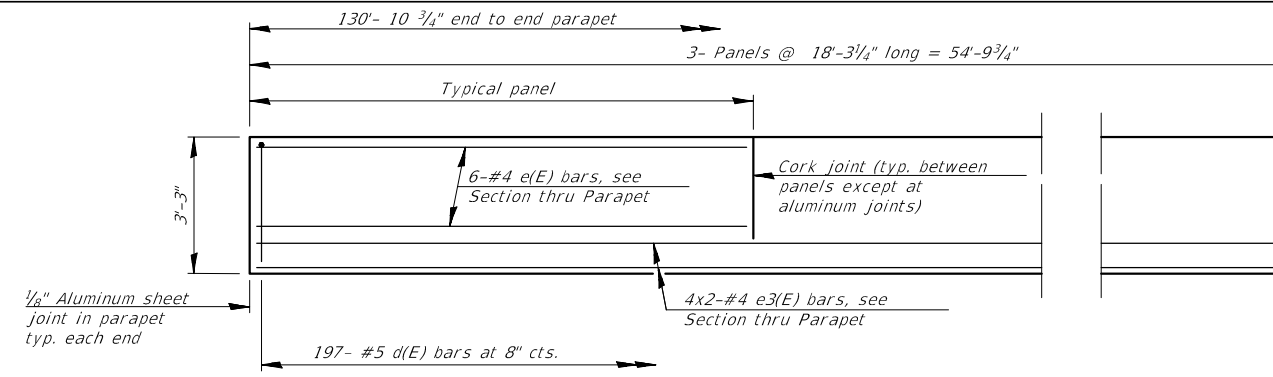
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

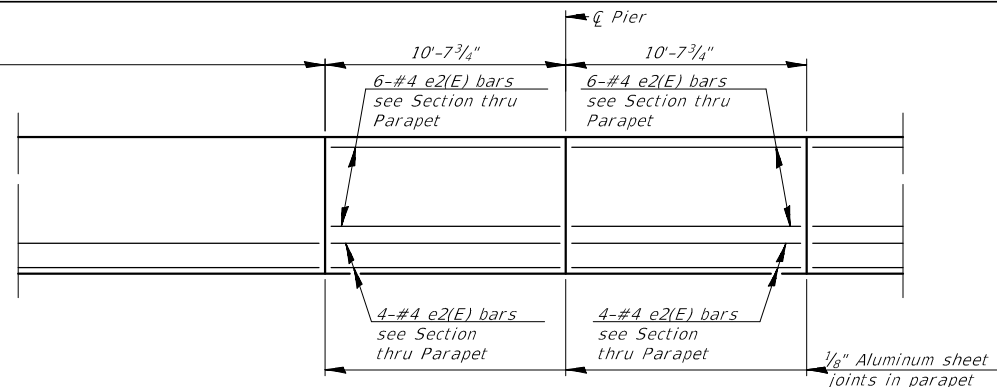
SUPERSTRUCTURE

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

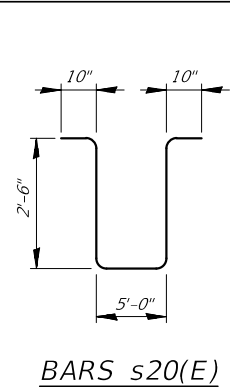
FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	16
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



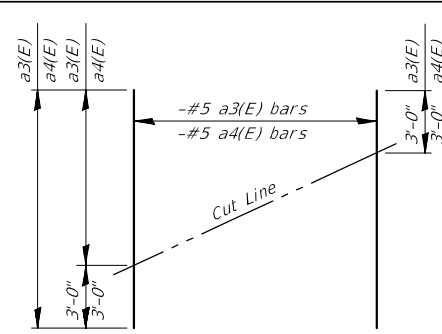
INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS

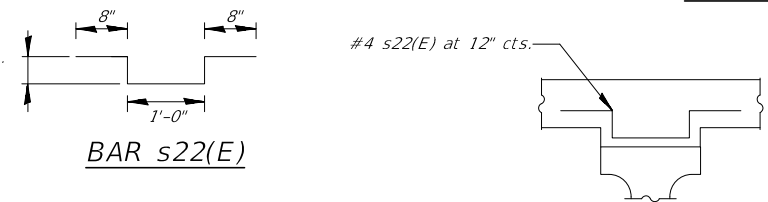


BARS s20(E)



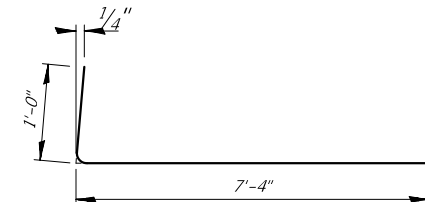
FIELD CUTTING DIAGRAM

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



BAR s22(E)

FILLET REINFORCEMENT



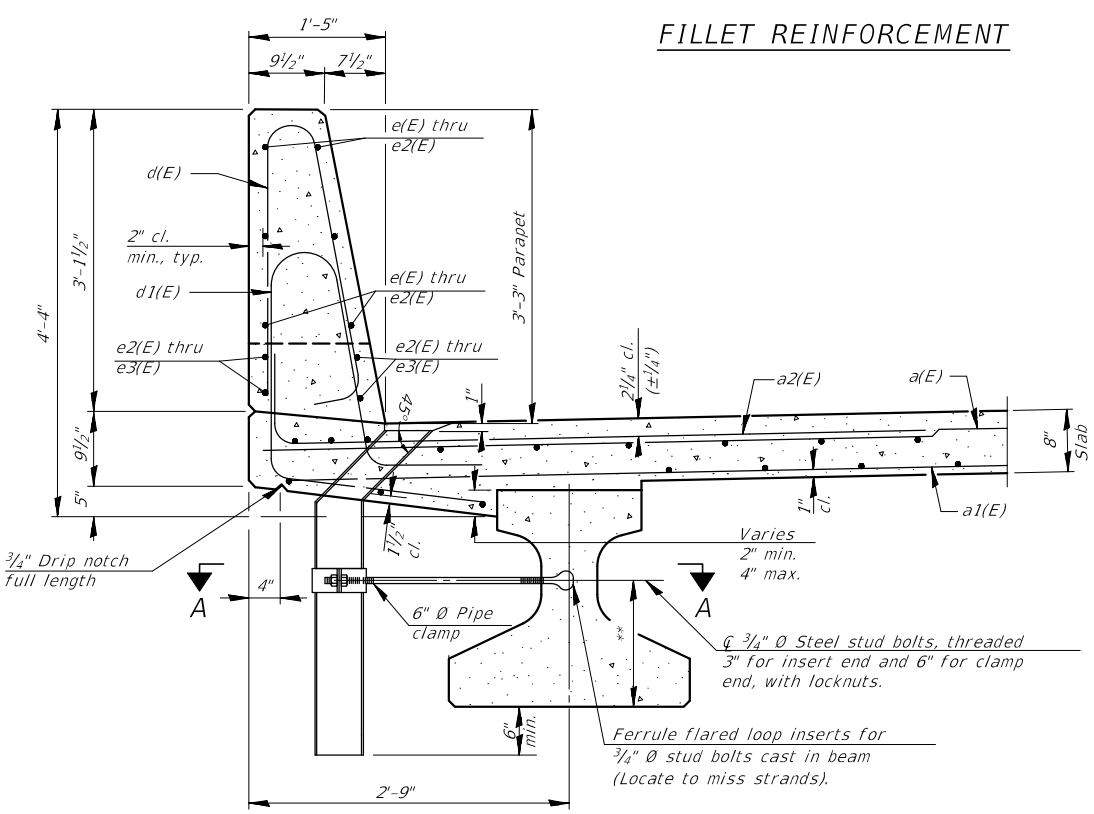
BAR a2(E)

MINIMUM BAR LAP
#4 bar = 2'-5"

SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	200	#5	39'-9"	—
a1(E)	131	#5	39'-9"	—
a2(E)	488	#6	8'-4"	—
a3(E)	44	#5	39'-9"	—
a4(E)	29	#5	39'-9"	—
a5(E)	4	#5	45'-8"	—
b(E)	270	#6	28'-2"	—
b1(E)	88	#8	33'-10"	—
b3(E)	210	#6	29'-4"	—
d(E)	394	#5	6'-5"	—
d1(E)	394	#5	8'-5"	—
e(E)	72	#4	17'-11"	—
e2(E)	40	#4	10'-3"	—
e3(E)	32	#4	29'-7"	—
m10(E)	8	#6	45'-10"	—
m11(E)	24	#6	5'-7"	—
m12(E)	8	#6	2'-7"	—
m13(E)	12	#6	3'-8"	—
m14(E)	4	#6	1'-7"	—
m15(E)	28	#5	4'-0"	—
m20(E)	12	#6	3'-8"	—
m21(E)	24	#6	5'-7"	—
m22(E)	14	#5	4'-0"	—
s10(E)	60	#5	8'-4"	—
s11(E)	60	#5	8'-11"	—
s12(E)	56	#5	7'-9"	—
s20(E)	24	#5	11'-8"	—
s21(E)	24	#5	10'-1"	—
s22(E)	931	#4	3'-1"	—
v100(E)	82	#5	3'-1"	—
Reinforcement Bars, Epoxy Coated (Special)		Lbs.	65,100***	
Concrete Superstructure		Cu. Yds.	211.1	

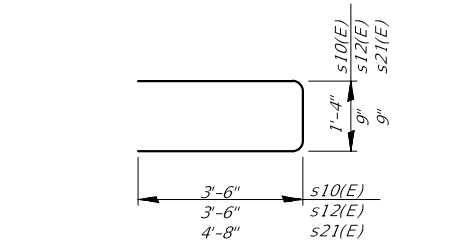
***BARS TO BE SUPPLIED BY OTHERS
Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.



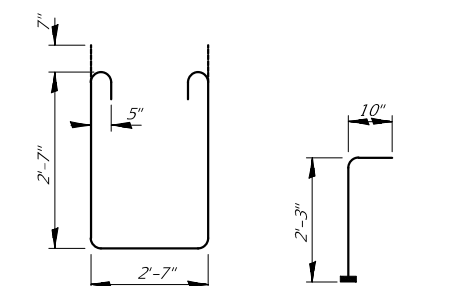
SECTION THRU PARAPET

**For insert locations, see sheet 21.

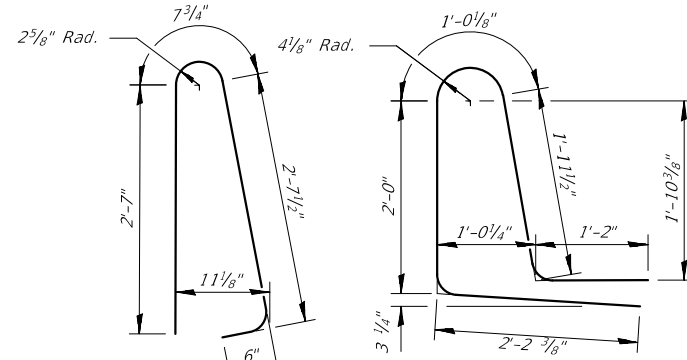
Notes:
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
The exterior surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.
The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.
The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.
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.



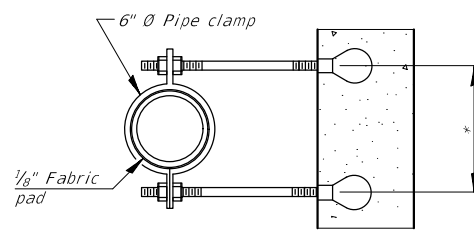
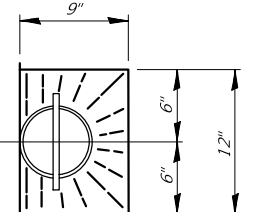
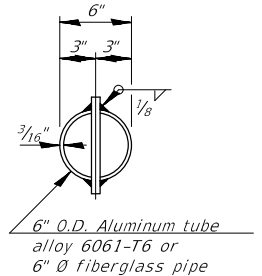
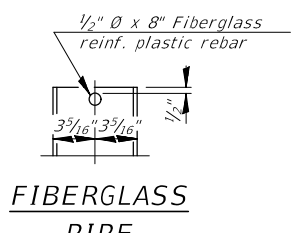
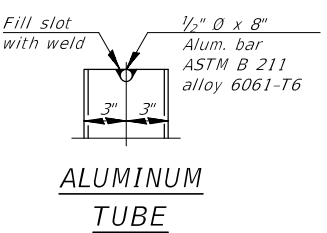
BARS s10(E), s12(E) & s21(E)



BAR s11(E) BAR v100(E) (Headed)



BAR d(E) BAR d1(E)



SECTION A-A

SDI-IL27-2 6-15-2019



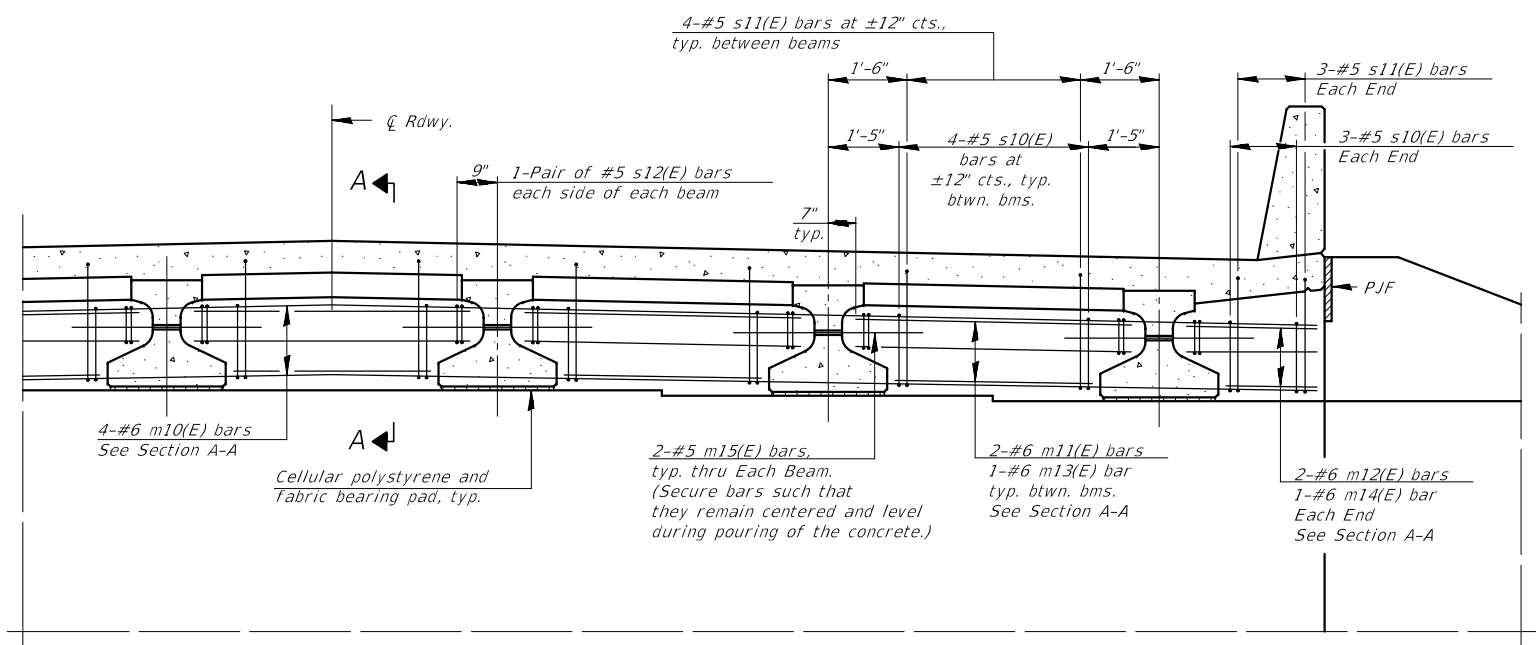
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

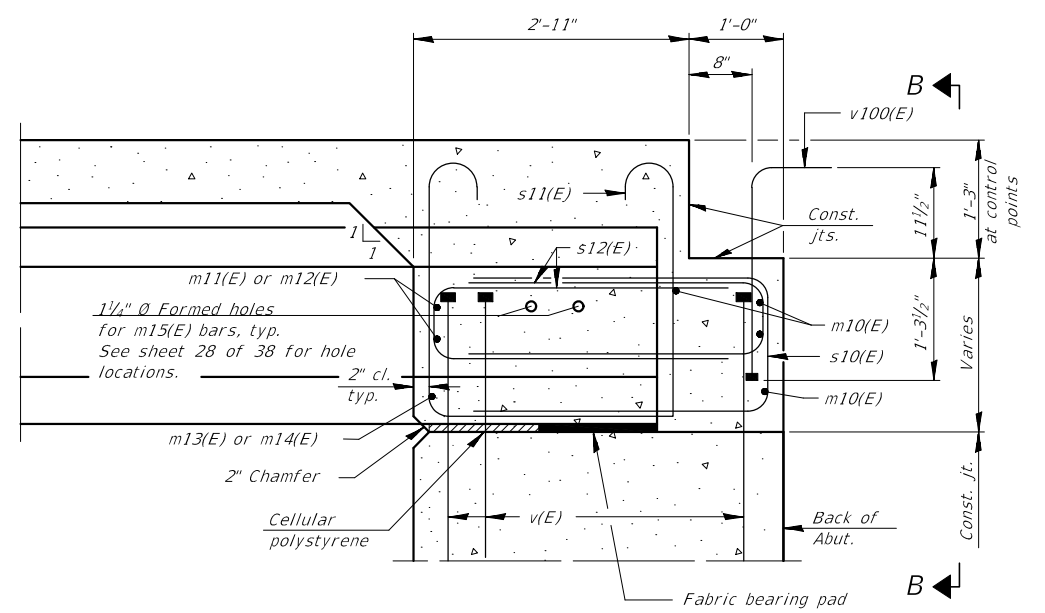
SUPERSTRUCTURE DETAILS

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

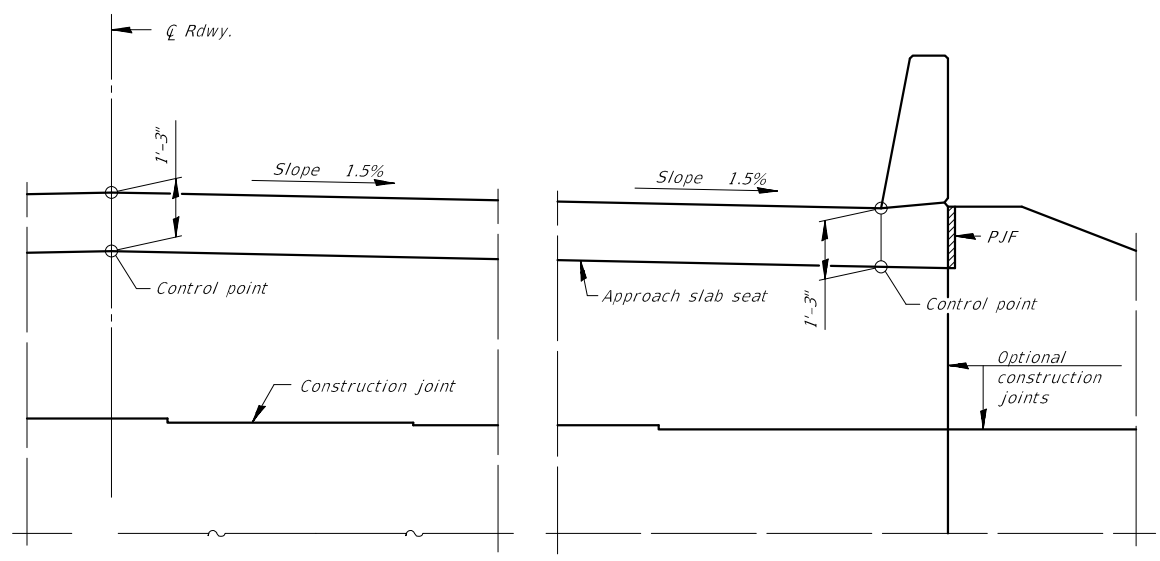
FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



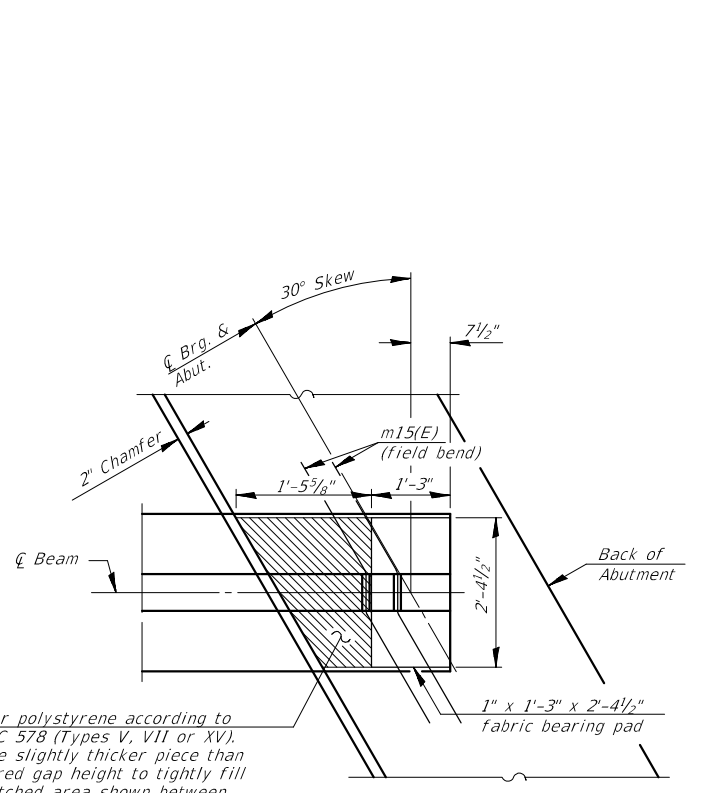
DIAPHRAGM AT ABUTMENT



SECTION A-A
(at Rt. L's)

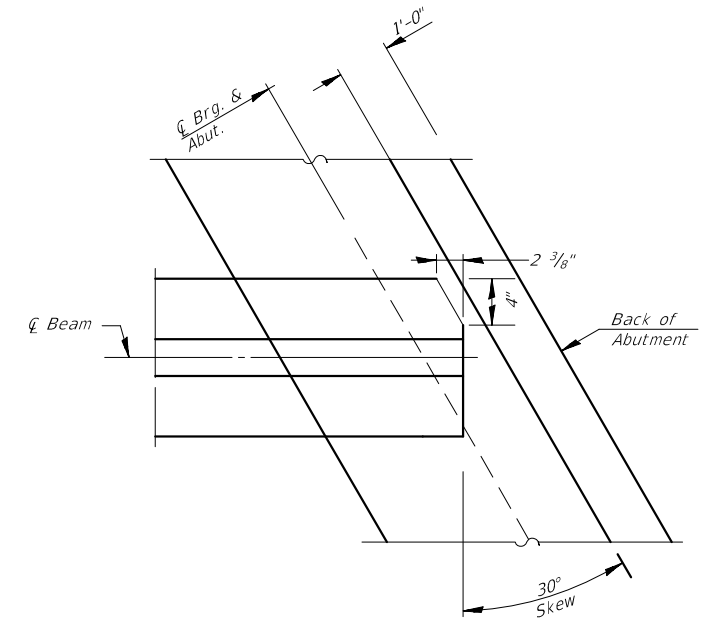


VIEW B-B



Cellular polystyrene according to ASTM C 578 (Types V, VII or XV). Provide slightly thicker piece than measured gap height to tightly fill the hatched area shown between abutment cap and bottom of beam.

PLAN AT ABUTMENT
(Showing bottom flange of beam)



TOP FLANGE CLIPPING DETAIL

Notes:
See sheet 18 of 38 for superstructure details and Bill of Material.
The s10(E), s11(E) and s12(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
The approach slab seat shall have a constant slope determined from the control points shown.
Cost of cellular polystyrene is included with Concrete Superstructure.

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DIA-IL27-R

6-15-2019



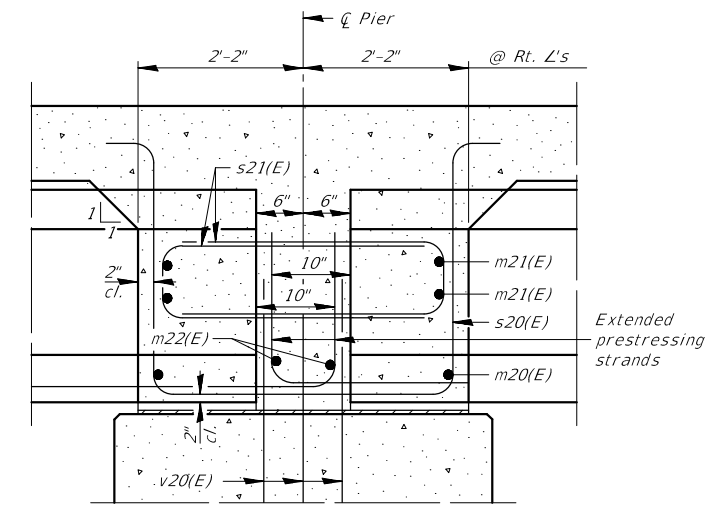
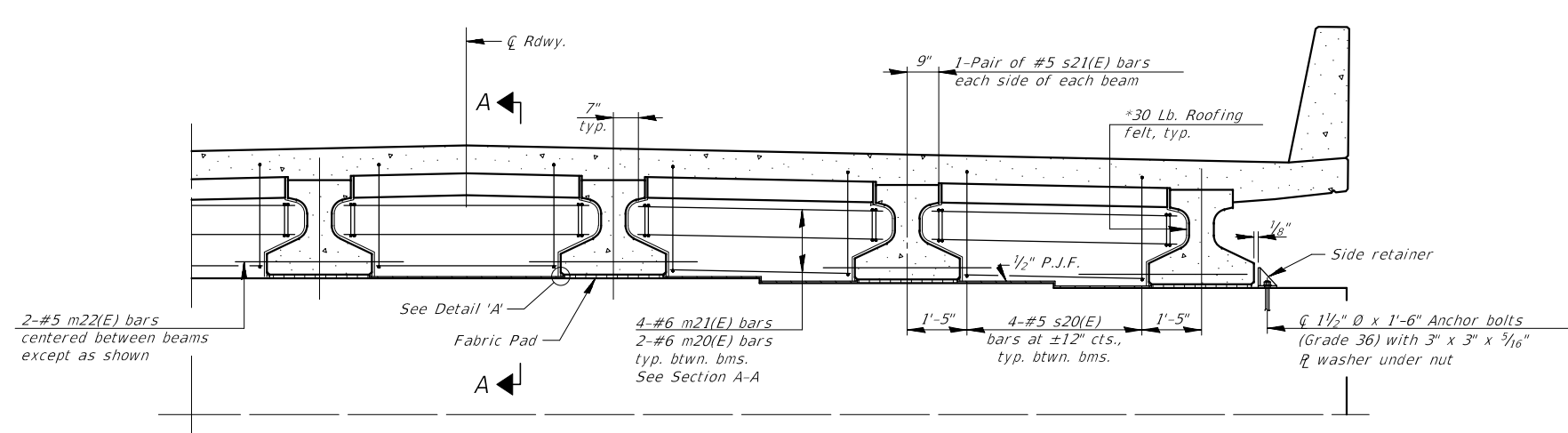
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FILE NAME = superstructure-2200007.dwg	DATE - 11/11/2022	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NO. 004-3103

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

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

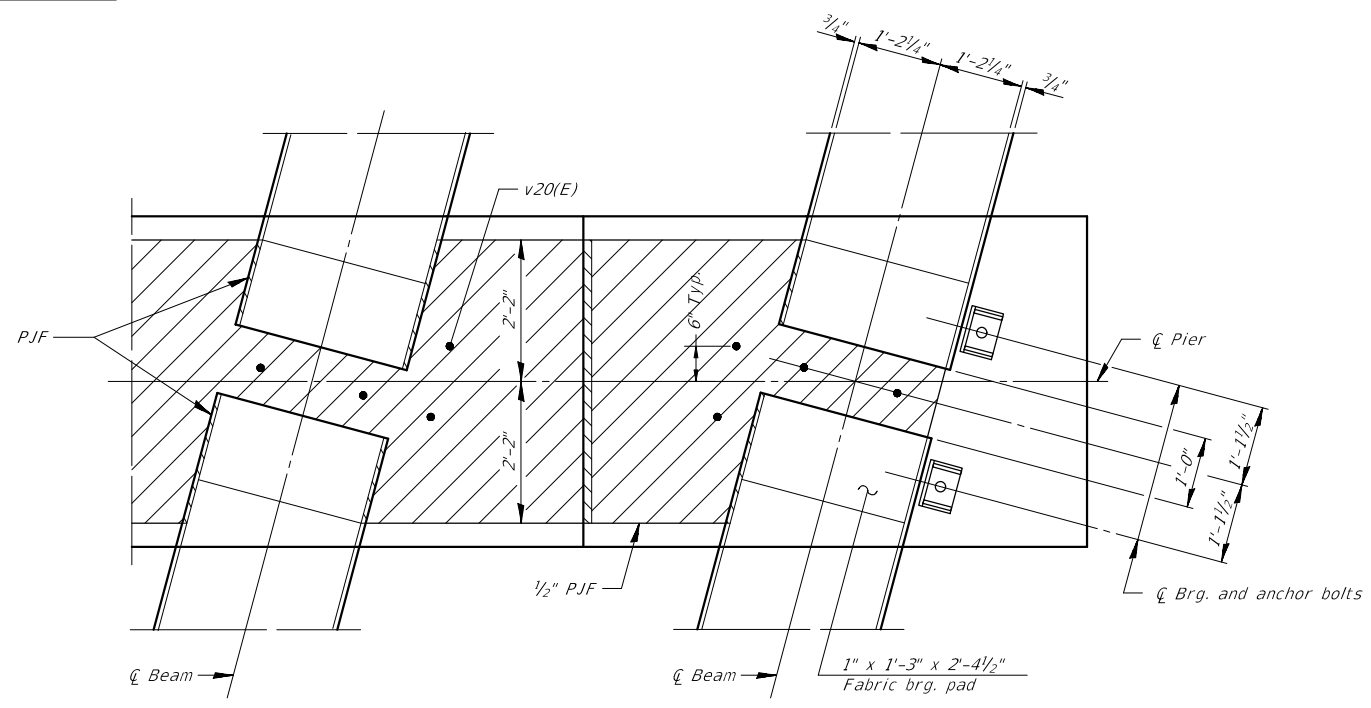
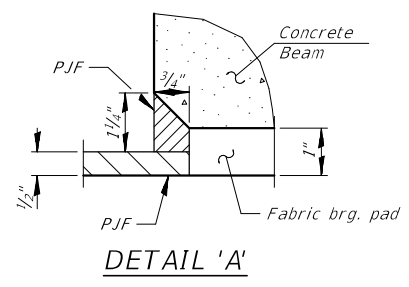


DIAPHRAGM AT PIER

*Bonded to sides of beams embedded into diaphragm.

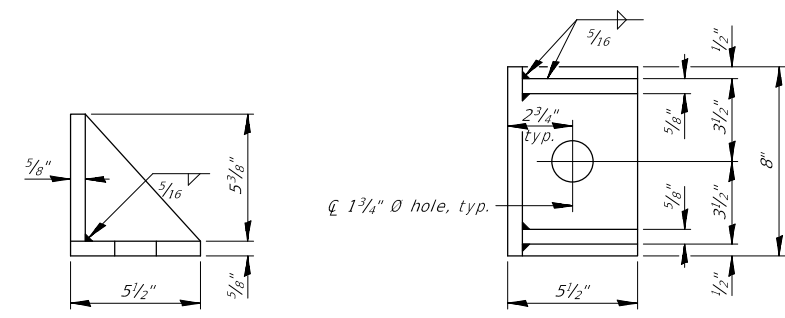
SECTION A-A

(Dimensions along ϕ of beam except as shown)



PLAN AT PIER

(Showing bearing pads and P.J.F. details)



SIDE RETAINER

(2 required each side of pier).
 Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Notes:
 See sheet 17 of 38 for superstructure details and Bill of Material.
 Cost of 30 Lb. roofing felt is included with Concrete Superstructure.
 The s20(E) and s21(E) bars shall be placed parallel to the beams.
 Spacing for these bars shall be at right angles to the beams.
 Anchor bolts and side retainers shall be according to Article 521.06 of the Standard Specifications. Side retainers shall be hot dip galvanized.
 Anchor bolts and side retainers shall be installed as each exterior beam is erected unless an equivalent temporary means of lateral restraint is used.
 All side retainers and anchor bolts, nuts and washers shall be furnished by the contractor and shall be incidental to Concrete Structures.

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DFP-IL27-R

8-13-2021



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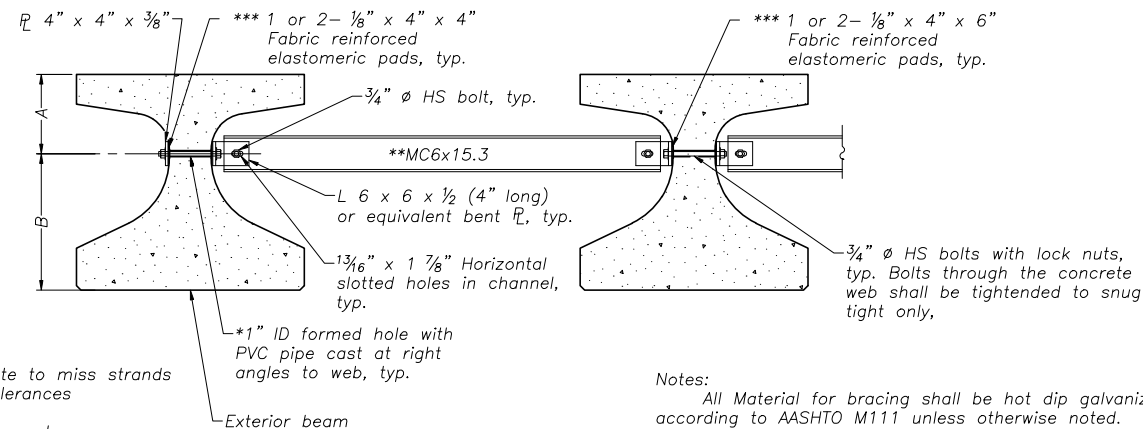
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DIAPHRAGM DETAILS
STRUCTURE NO. 004-3103

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

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	19
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

BEAM	A	B
IL27	1' 1/4"	1' - 3/4"



* Fabricator shall locate to miss strands within permissible tolerances

** Alternate MC6x18 channels are permitted to facilitate material acquisition.

*** Place pads as necessary to provide a flat mounting surface between the steel and concrete

**PERMANENT BRACING (PB-1)
DETAILS FOR IL 27 BEAMS**

Notes:

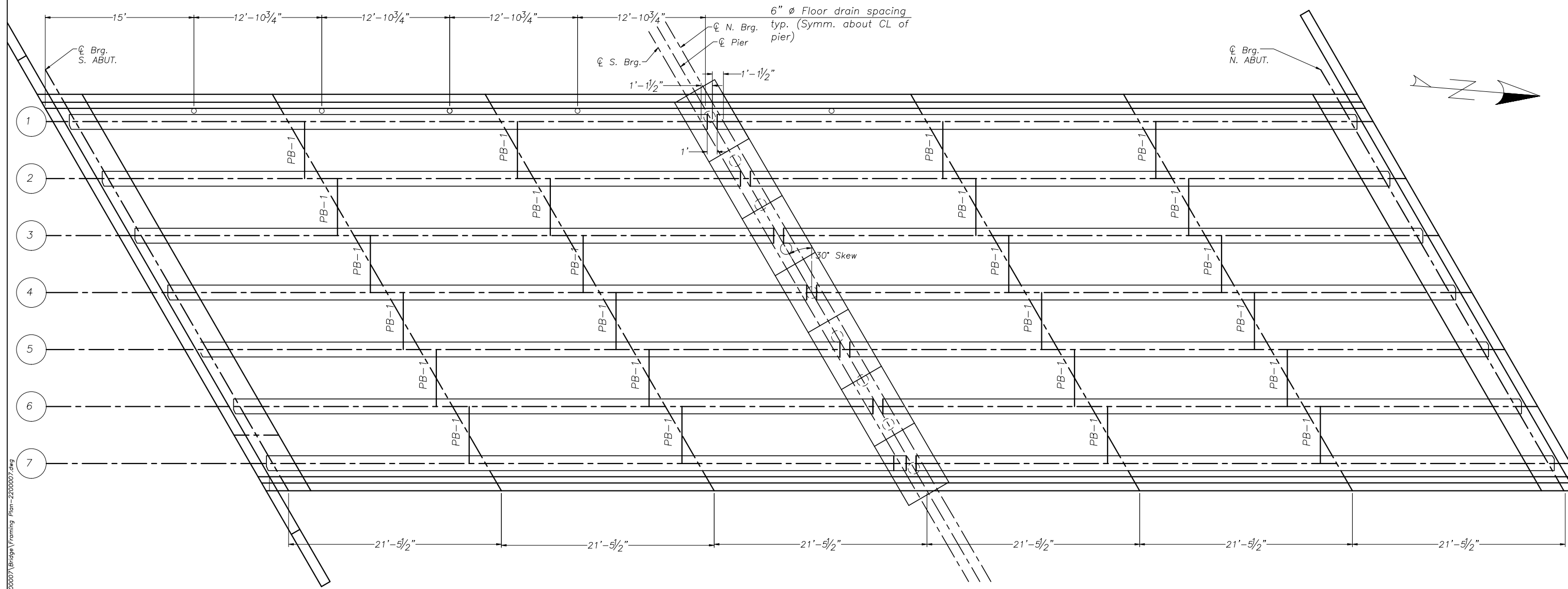
All Material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes.

All holes shall be 1/16 inch unless otherwise noted. 3/16 inch x 3 inch plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection. Permanent bracing shall not be paid for separately, but shall be included in the cost of Erecting Precast Prestressed Concrete Beams.

TOP OF BEAM ELEVATIONS		S. Abut.	Pier S. Brg.	Pier N. Brg.	N. Abut.
Beam	1	837.49	837.58	837.55	837.63
Beam	2	837.59	837.68	837.68	837.71
Beam	3	837.69	837.77	837.77	837.80
Beam	4	837.80	837.87	837.87	837.89
Beam	5	837.71	837.77	837.78	837.79
Beam	6	837.63	837.69	837.65	837.69
Beam	7	837.55	837.60	837.60	837.60

TOP OF BEAM ELEVATIONS TABLE



FRAMING PLAN



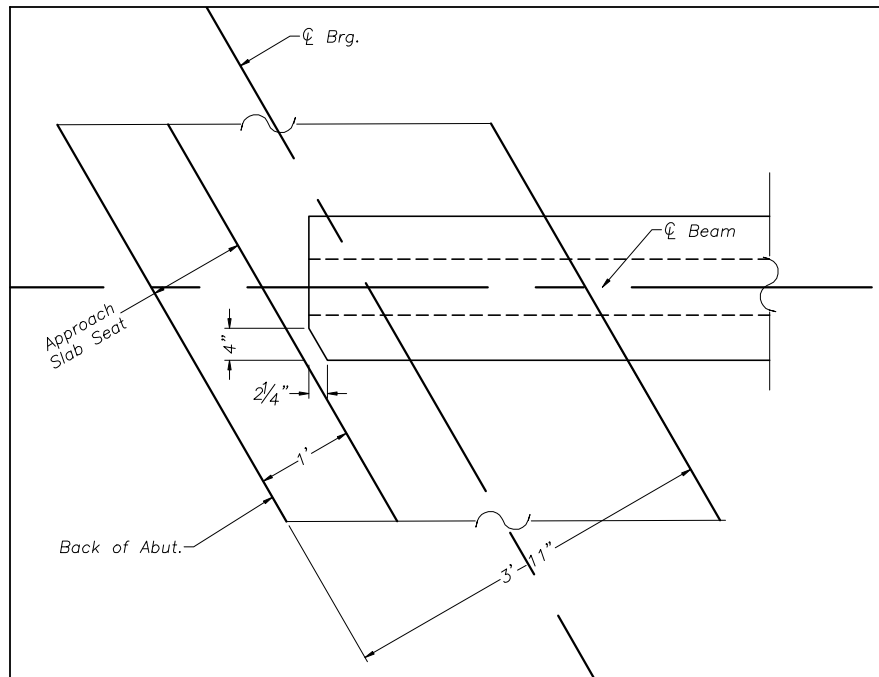
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

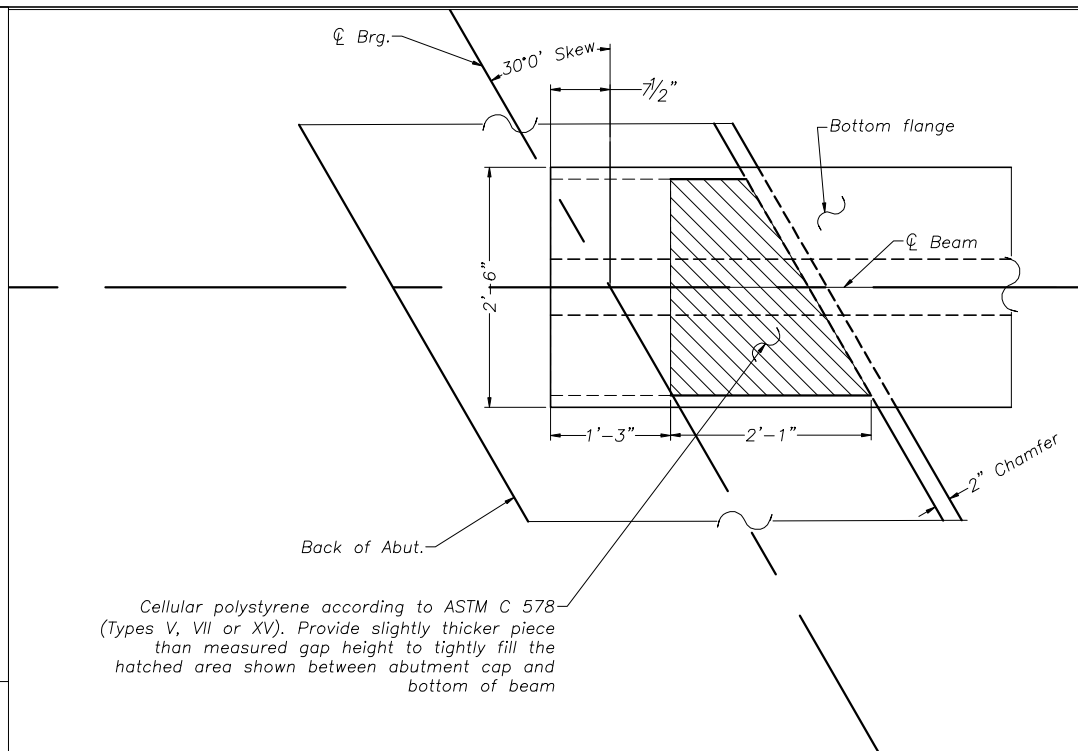
FRAMING PLAN

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

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-01-BR	BOONE	38	20
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



TOP FLANGE ABUTMENT
PLAN - CLIPPED



Cellular polystyrene according to ASTM C 578 (Types V, VII or XV). Provide slightly thicker piece than measured gap height to tightly fill the hatched area shown between abutment cap and bottom of beam

PLAN AT ABUTMENT
(Showing bottom flange of beam)

- I: Non-composite moment of inertia of beam section (in⁴)
- I': Composite moment of inertia of beam section (in⁴)
- Sb: Non-composite section modulus for the bottom fiber of the prestressed beam (in³).
- Sb': Composite section modulus for the bottom fiber of the prestressed beam (in³).
- St: Non-composite section modulus for the top fiber of the prestressed beam (in³).
- St': Composite section modulus for the top fiber of the prestressed beam (in³)
- DC1: Un-factored non-composite dead load (kips/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 LL+IM: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft).

INTERIOR BEAM MOMENT TABLE		
	0.4 Sp. 1 0.6 Sp. 2	Pier
I (in ⁴)	33879	-
I' (in ⁴)	117879	-
Sb (in ³)	3060	-
Sb' (in ³)	5876	-
St (in ³)	2127	-
St' (in ³)	16935	-
DC1 (k/')	1.895	1.895
MDC1 ('k)	522.9	0.0
DC2 (k/')	0.225	0.225
MDC2 ('k)	62.8	112.3
DW (k/')	0.288	0.288
MDW ('k)	80.3	144
MLL+IM ('k)	696.4	644.9

INTERIOR BEAM REACTION TABLE		
	Abutment	Pier
RDC1 (k)	32.1	32.1
RDC2 (k)	5.3	8.6
RDW (k)	6.8	121.8
RLL+IM (k)	77.8	90.6
R TOTAL (k)	122.0	253.1

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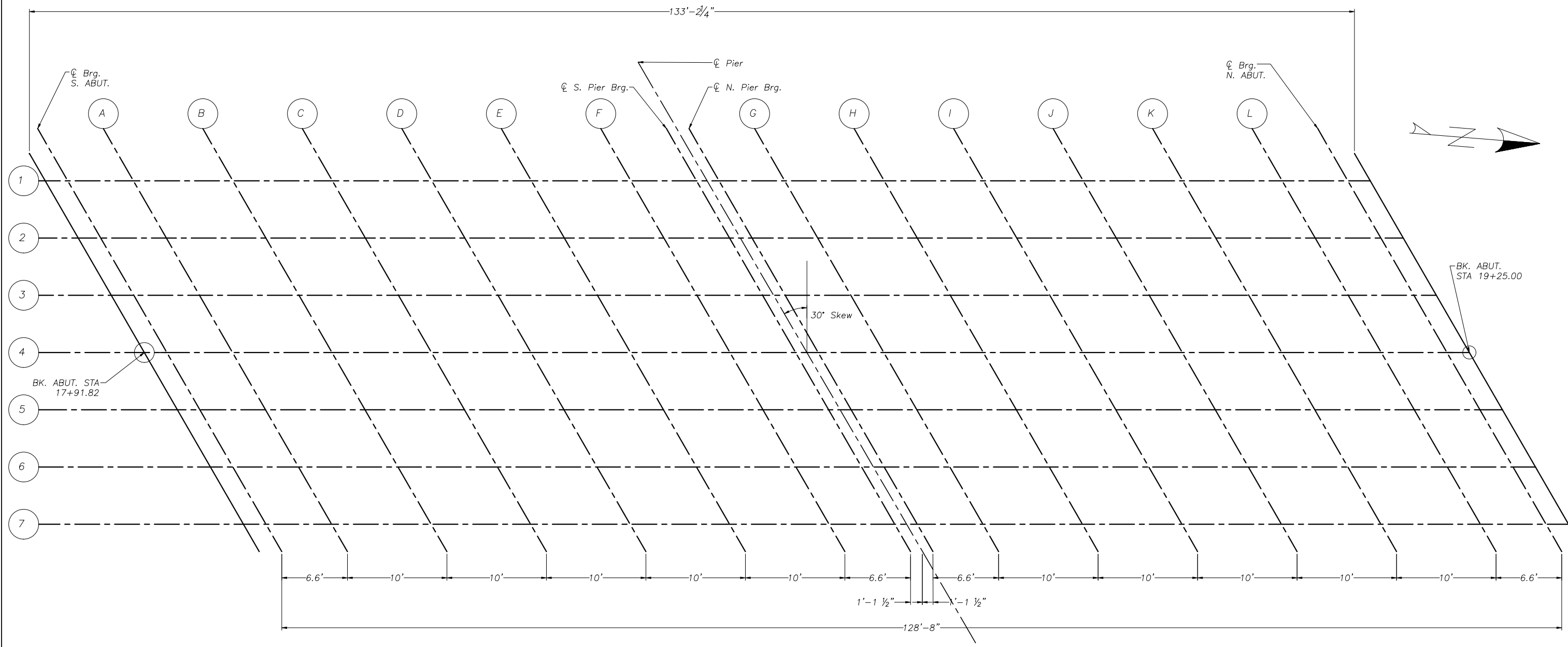


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STATE OF ILLINOIS
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FRAMING PLAN DETAILS	
SCALE: 1"=30	SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE. 5011	SECTION 19-00113-01-BR	COUNTY BOONE	TOTAL SHEETS 38	SHEET NO. 21
CONTRACT NO 85732			ILLINOIS FED. AID PROJECT -	



PLAN

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DECK ELEVATIONS LAYOUT			
SCALE: 1"=30'	SHEET -	OF - SHEETS	STA. - TO STA. -

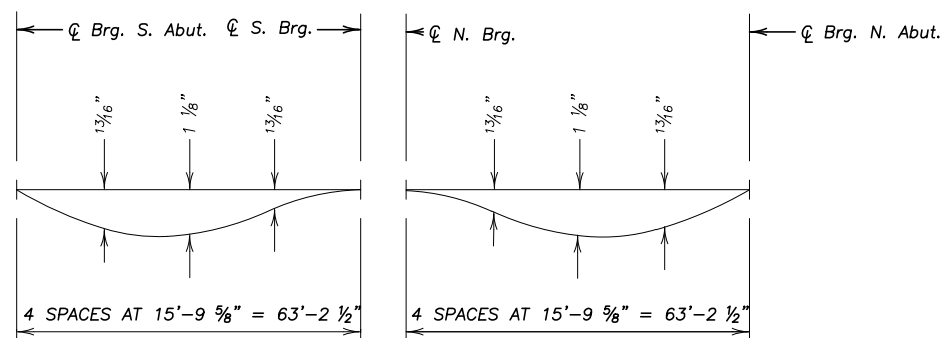
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5011	19-00113-01-BR	BOONE	38	22
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

BEAM 6

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk S Abut	17 + 98.46	11.500	838.53	838.53
CL Brg S. Abutment	18 + 0.72	11.500	838.54	838.54
A	18 + 7.32	11.500	838.55	838.59
B	18 + 17.32	11.500	838.58	838.65
C	18 + 27.32	11.500	838.60	838.69
D	18 + 37.32	11.500	838.61	838.70
E	18 + 47.32	11.500	838.62	838.70
F	18 + 57.32	11.500	838.63	838.67
Pier CL S. Brg.	18 + 63.92	11.500	838.64	838.64
Pier CL N. Brg.	18 + 66.17	11.500	838.64	838.64
G	18 + 72.77	11.500	838.64	838.67
H	18 + 82.77	11.500	838.64	838.71
I	18 + 92.77	11.500	838.64	838.73
J	19 + 2.77	11.500	838.63	838.73
K	19 + 12.77	11.500	838.62	838.70
L	19 + 22.77	11.500	838.61	838.65
CL Brg N. Abutment	19 + 29.37	11.500	838.60	838.60
Bk N Abut	19 + 31.64	11.500	838.60	838.60

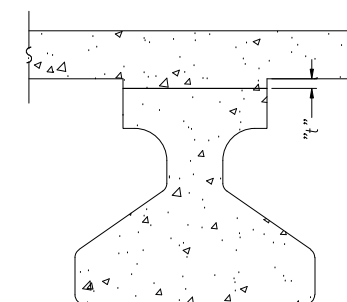
BEAM 7

Location	Station	Offset	Theoretical Grade	Theoretical Grade Adjusted for Dead Load Deflection
Bk S Abut	18 + 1.78	17.250	838.45	838.45
CL Brg S. Abutment	18 + 4.04	17.250	838.45	838.46
A	18 + 10.64	17.250	838.47	838.51
B	18 + 20.64	17.250	838.49	838.57
C	18 + 30.64	17.250	838.51	838.60
D	18 + 40.64	17.250	838.52	838.62
E	18 + 50.64	17.250	838.54	838.61
F	18 + 60.64	17.250	838.54	838.58
Pier CL S. Brg.	18 + 67.24	17.250	838.55	838.55
Pier CL N. Brg.	18 + 69.49	17.250	838.55	838.55
G	18 + 76.09	17.250	838.55	838.59
H	18 + 86.09	17.250	838.55	838.62
I	18 + 96.09	17.250	838.55	838.64
J	19 + 6.09	17.250	838.54	838.63
K	19 + 16.09	17.250	838.53	838.61
L	19 + 26.09	17.250	838.52	838.55
CL Brg N. Abutment	19 + 32.69	17.250	838.51	838.51
Bk N Abut	19 + 34.96	17.250	838.50	838.50



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 IN TABLES.



To determine "t": After all precast prestressed beams have been erected, elevations of the top of flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on the following sheet, minus 8" slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

t min = ±1 1/8"
t max = ±4 1/2"

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TOP OF SLAB ELEVATIONS (2 OF 2)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-01-BR	BOONE	38	24
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

North Approach Slab Along Centerline

Location	Station	Offset	Grade
N. END OF N. APP. SLAB	19 + 53.84	0.000	838.73
N1	19 + 43.84	0.000	838.75
N2	19 + 33.84	0.000	838.77
S. END OF N. APP. SLAB	19 + 23.84	0.000	838.79

North Approach Slab Along West Edge of Shoulder

Location	Station	Offset	Grade
N. END OF N. APP. SLAB	19 + 43.11	18.583	838.47
N1	19 + 33.11	18.583	838.48
N2	19 + 23.11	18.583	838.50
S. END OF N. APP. SLAB	19 + 13.11	18.583	838.51

North Approach Slab Along East Edge of Shoulder

Location	Station	Offset	Grade
N. END OF N. APP. SLAB	19 + 64.57	18.583	838.41
N1	19 + 54.57	18.583	838.44
N2	19 + 44.57	18.583	838.46
S. END OF N. APP. SLAB	19 + 34.57	18.583	838.48

South Approach Slab Along Centerline

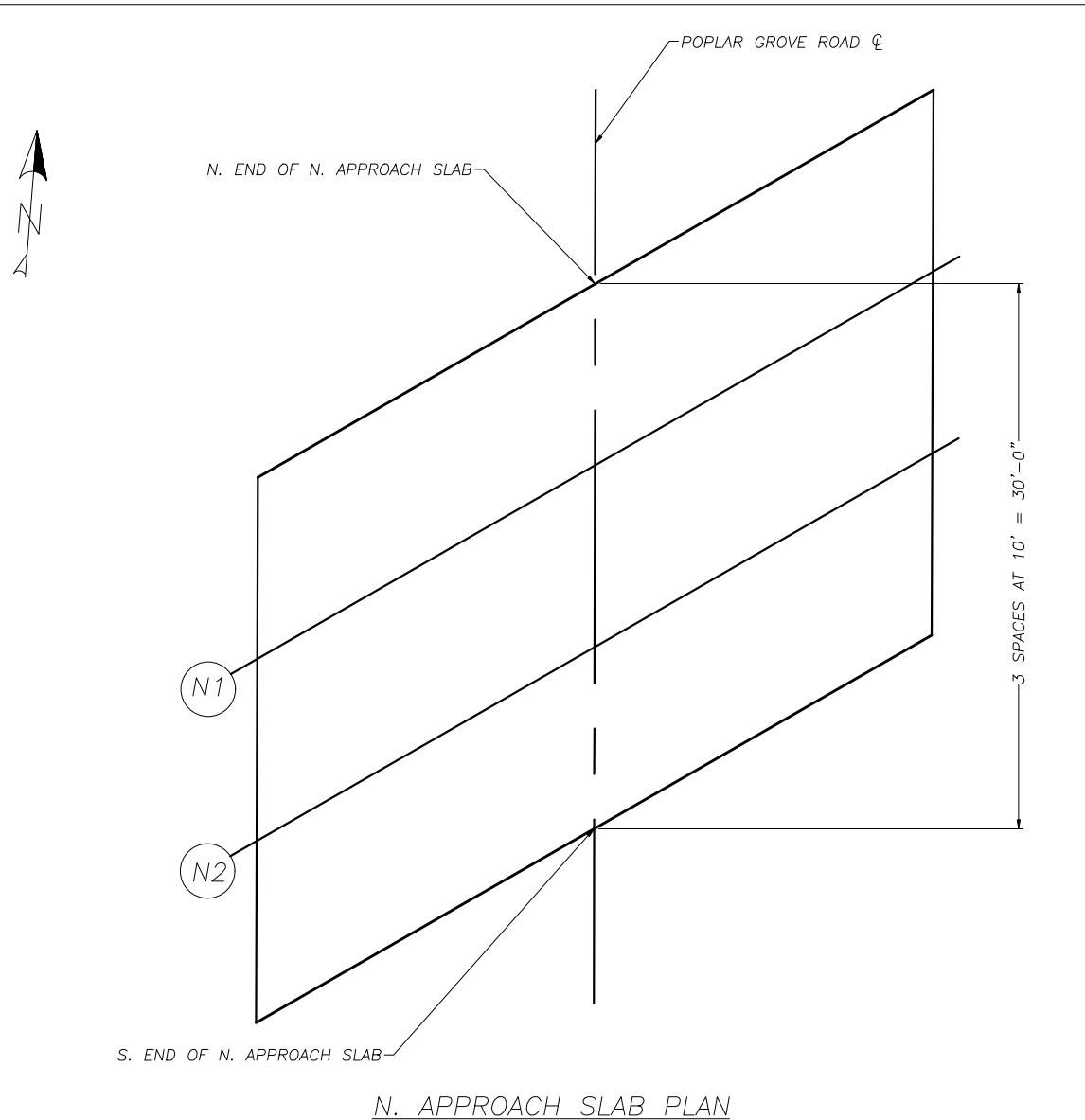
Location	Station	Offset	Grade
S. END OF S. APP. SLAB	17 + 62.97	0.000	838.60
S1	17 + 72.97	0.000	838.64
S2	17 + 82.97	0.000	838.67
N. END OF S. APP. SLAB	17 + 92.97	0.000	838.70

South Approach Slab Along West Edge of Shoulder

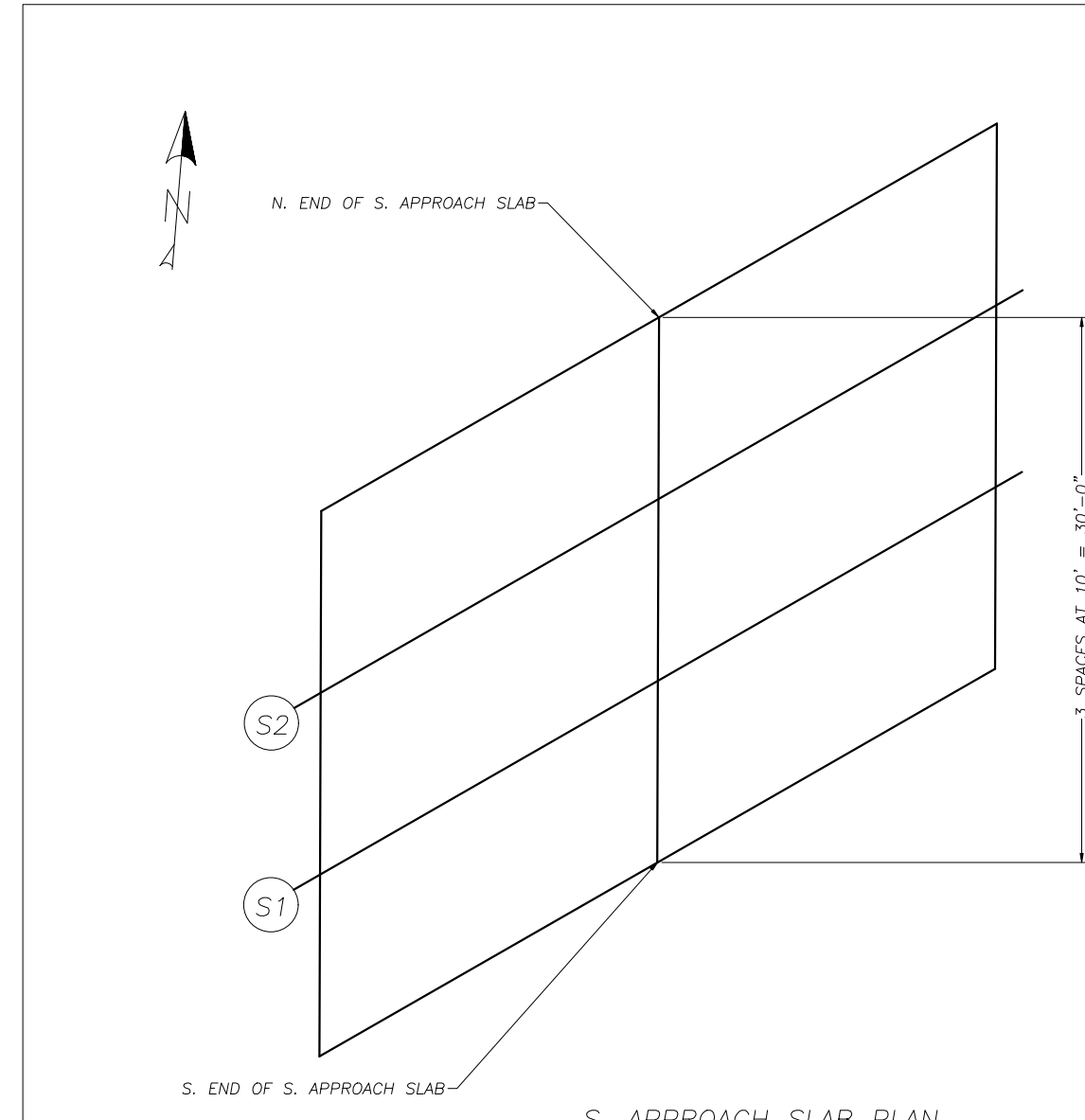
Location	Station	Offset	Grade
S. END OF S. APP. SLAB	17 + 52.24	18.583	838.27
S1	17 + 62.24	18.583	838.31
S2	17 + 72.24	18.583	838.34
N. END OF S. APP. SLAB	17 + 82.24	18.583	838.38

South Approach Slab Along East Edge of Shoulder

Location	Station	Offset	Grade
S. END OF S. APP. SLAB	17 + 73.70	18.583	838.35
S1	17 + 83.70	18.583	838.38
S2	17 + 93.70	18.583	838.41
N. END OF S. APP. SLAB	18 + 3.70	18.583	838.44



N. APPROACH SLAB PLAN



S. APPROACH SLAB PLAN

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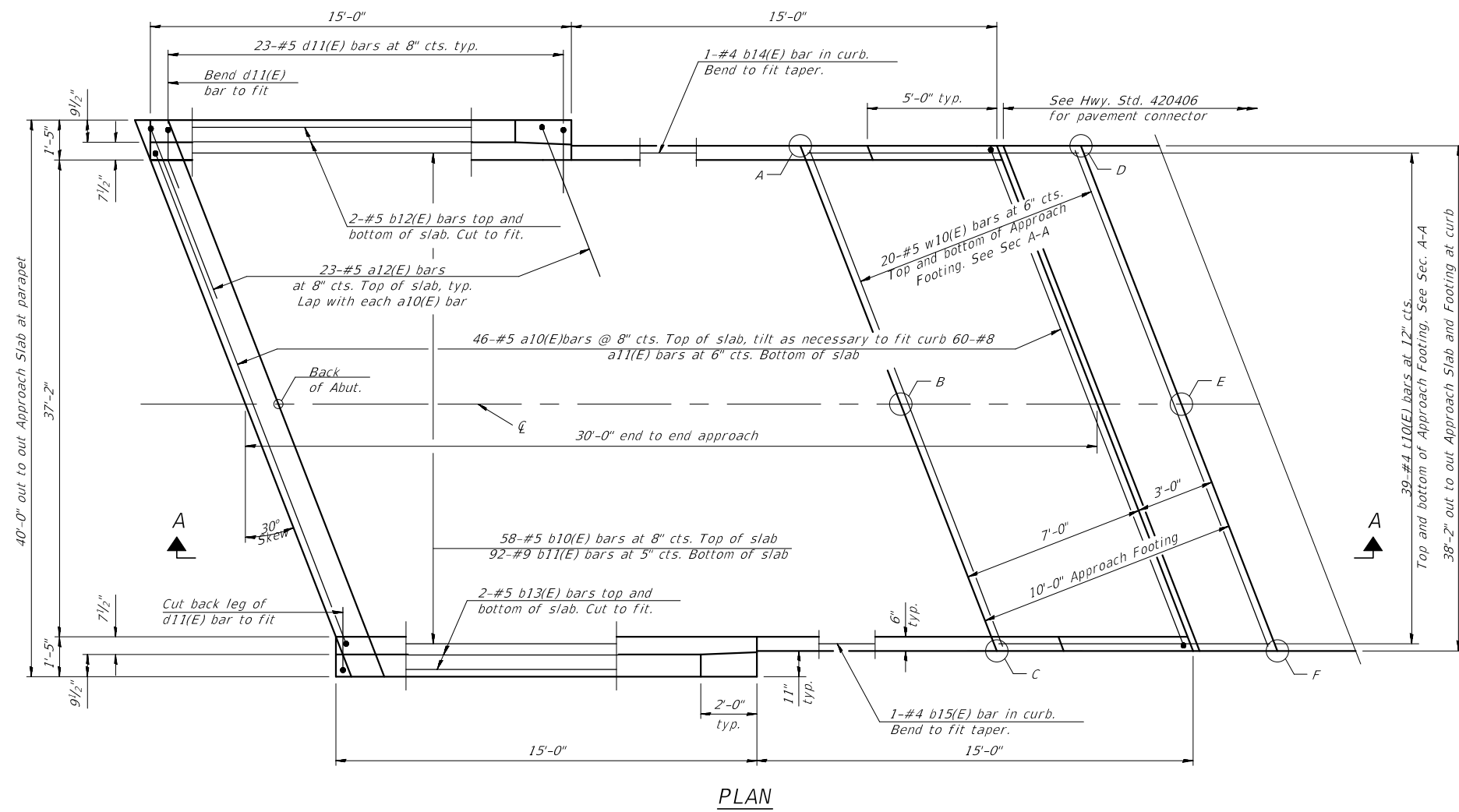
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS

SCALE: 1"=30' SHEET - OF - SHEETS STA. - TO STA. -

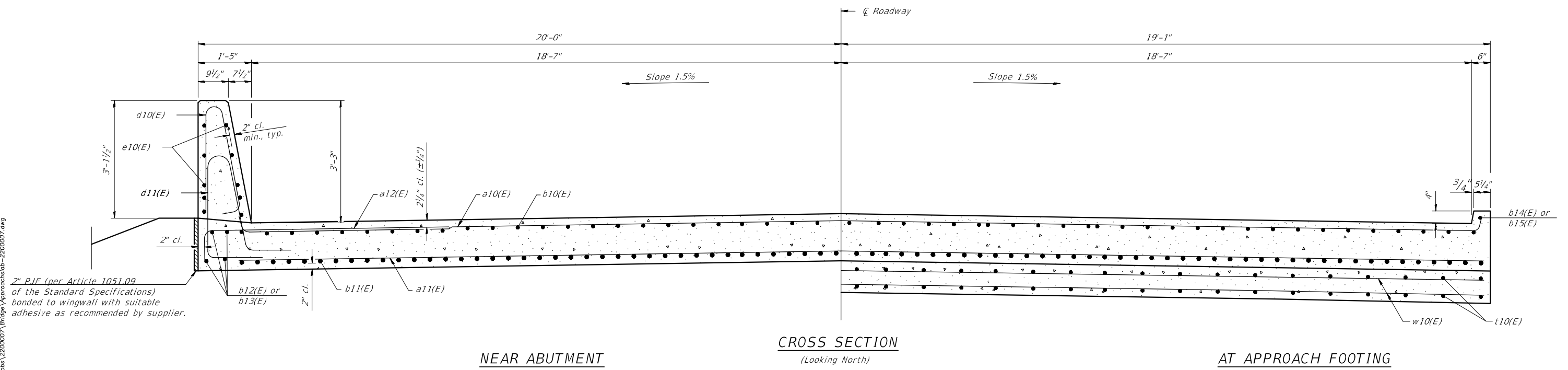
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5011	19-00113-01-BR	BOONE	38	25
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	South Approach		North Approach	
	Top	Bottom	Top	Bottom
A	837.05	836.22	837.23	836.40
B	837.38	836.55	837.50	836.67
C	837.12	836.29	837.19	836.35
D	837.00	836.17	837.21	836.37
E	837.34	836.50	837.47	836.64
F	837.09	836.25	837.15	836.32

PLAN



NEAR ABUTMENT

CROSS SECTION (Looking North)

AT APPROACH FOOTING

BAIA-CIP-39CS-R(≤30°) 6-15-2019



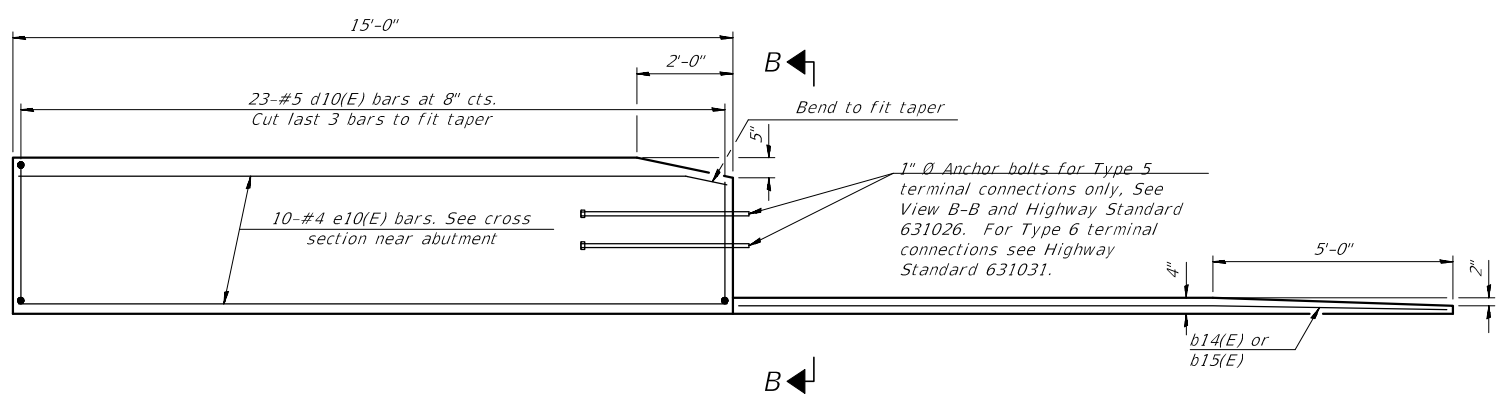
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB (S.N. 004-3103)

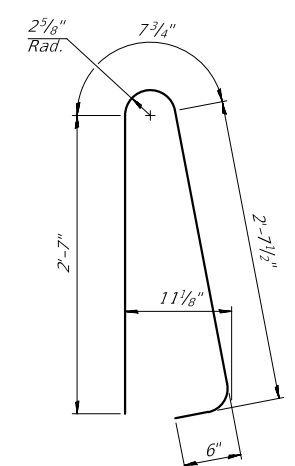
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CONTRACT NO 85732			ILLINOIS FED. AID PROJECT	

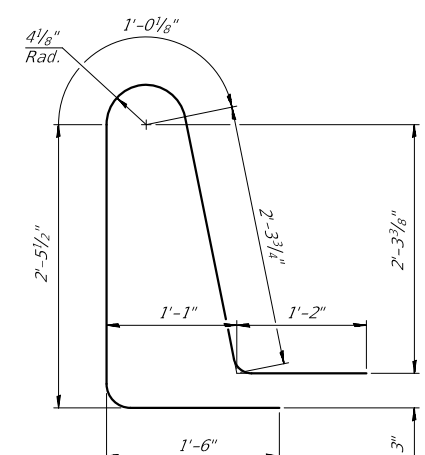


INSIDE ELEVATION OF PARAPET AND CURB

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.
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 15 of 38.

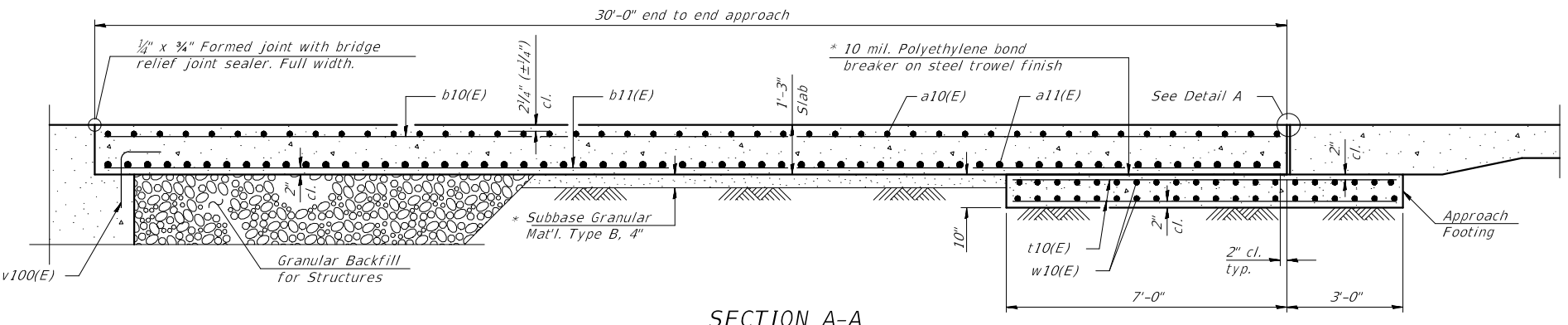


BAR d10(E)

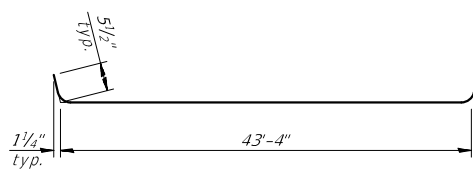


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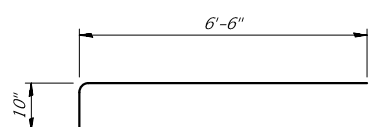
**TWO APPROACHES
BILL OF MATERIAL**



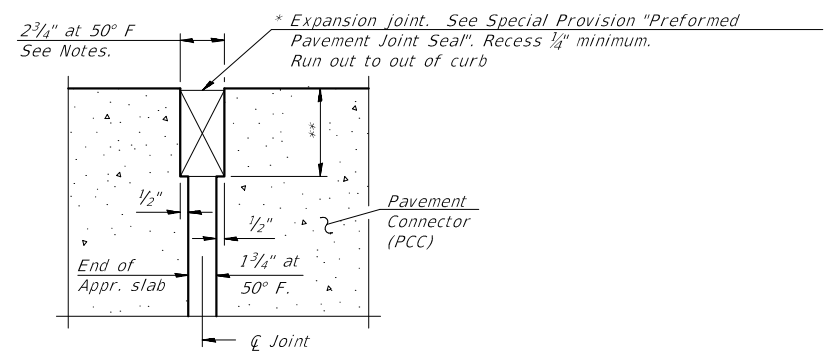
SECTION A-A



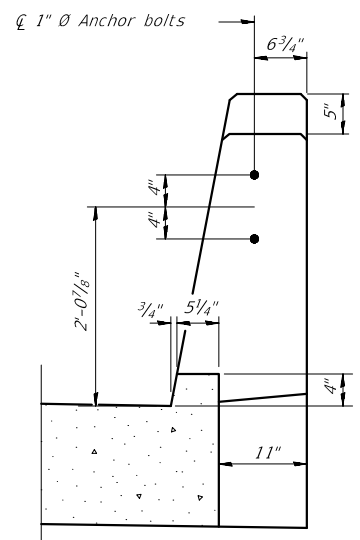
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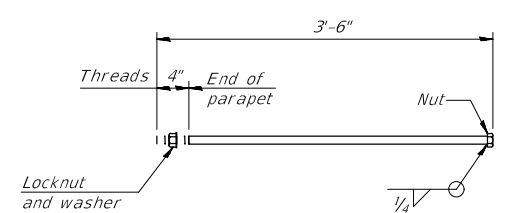
BAR a12(E)



**DETAIL A
(@ Rt. L's)**



VIEW B-B



*** 1" Ø ANCHOR BOLT**

(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

* Cost included with Concrete Superstructure (Approach Slab).
** Per manufacturer recommendations

BAIA-CIP-39CS-R($\leq 30^\circ$) 6-15-2019



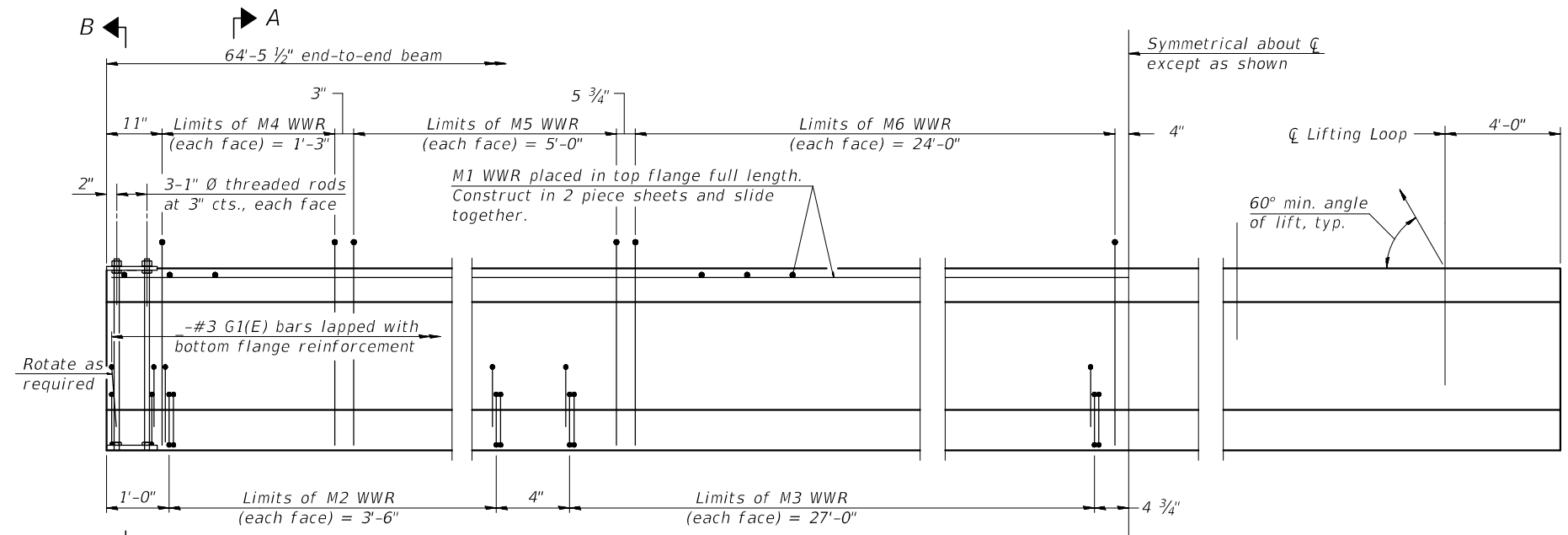
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

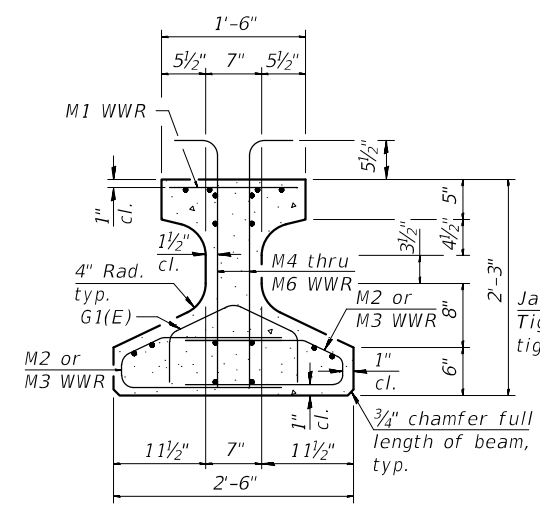
BRIDGE APPROACH SLAB DETAILS (S.N. 004-3103)

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

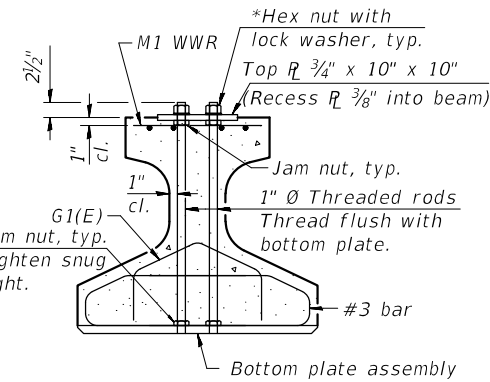
FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	27
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



ELEVATION OF BEAM
(Showing reinforcement & dimensions)

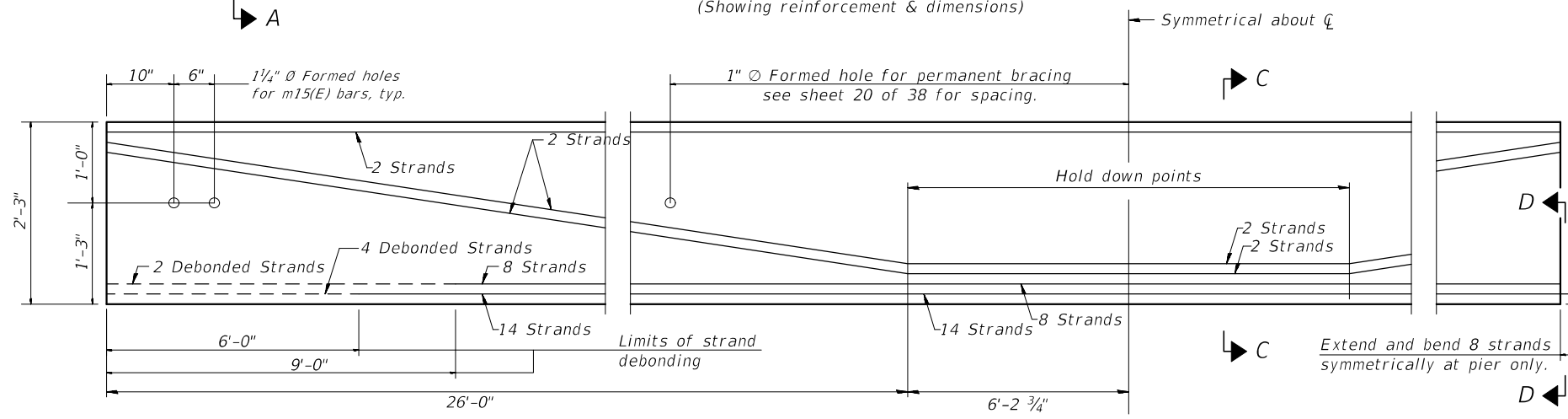


SECTION A-A

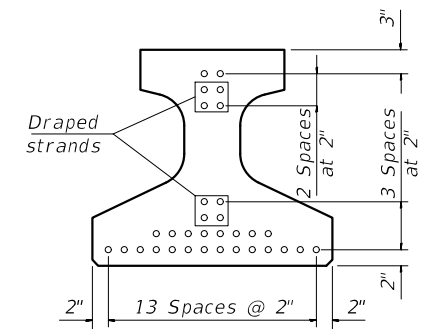


SECTION B-B

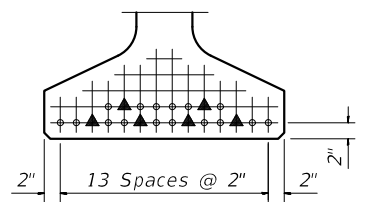
*Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(28-0.6" Ø 270 ksi strands)



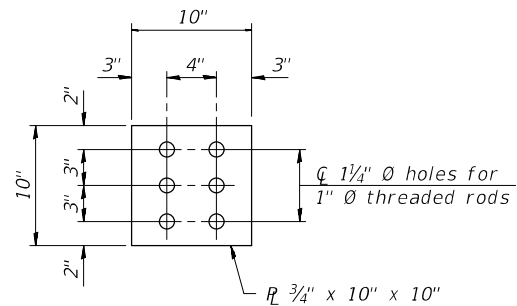
VIEW D-D

○ Fully bonded strand
▲ Partially debonded strand

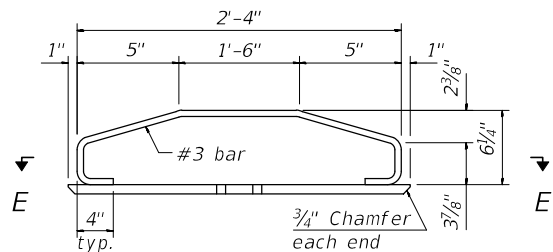
FOR INFORMATION ONLY. BEAMS TO BE FURNISHED BY OTHERS AS PART OF SEPARATE CONTRACT

F:\2020\cases\2200007\Bridge\Beam PLANS-2200007.dwg

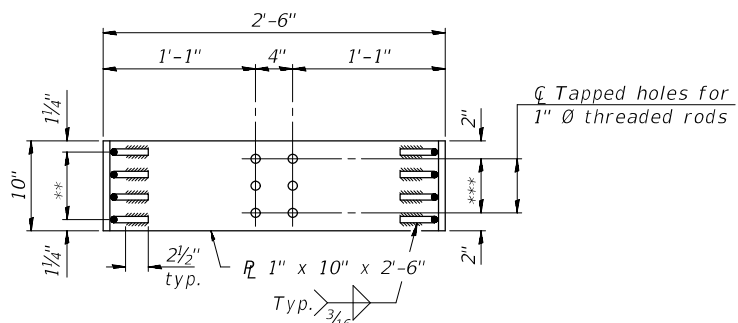
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www.wendlergs.com	PLOT DATE = 12/5/22	CHECKED - SAB	REVISED -							
	FILE NAME = beam plans-2200007.dwg	DATE - 12/5/2022	REVISED -							



PLAN - TOP PLATE



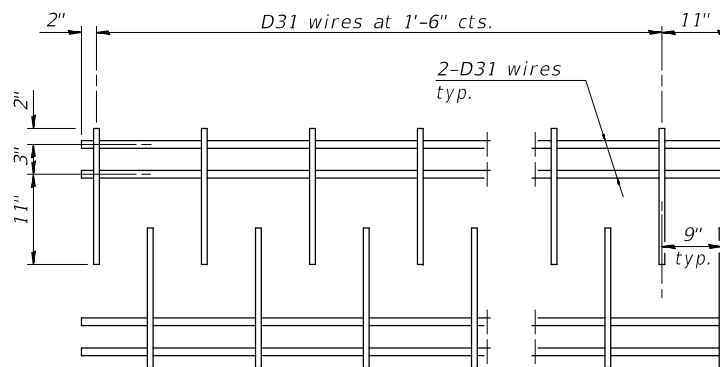
ELEVATION - BOTTOM PLATE ASSEMBLY



SECTION E-E

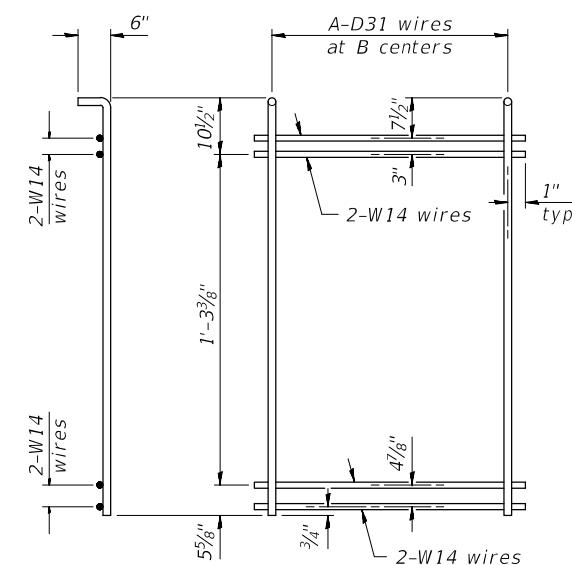
** 3 Spaces at 2 1/2" = 7 1/2"

*** 2 Spaces at 3" = 6"



M1 WWR DETAIL

When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").



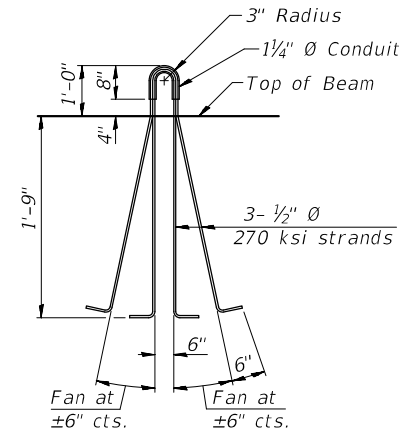
M4 THRU M6 WWR DETAIL

(See Table of Dimensions)

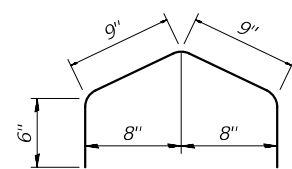
TABLE OF DIMENSIONS
(WWR tables are based on Grade 70.)

SPANS 1 and 2

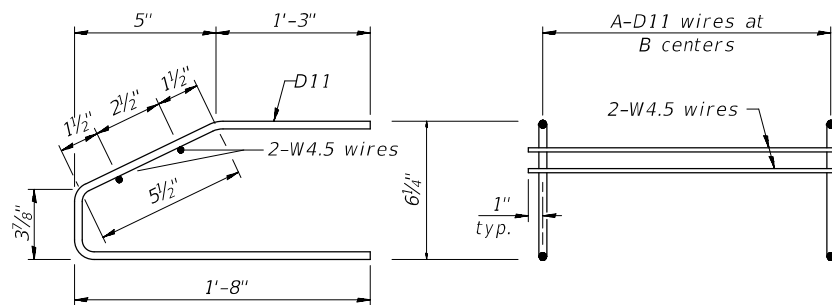
WWR	A	B
M2	15	3"
M3	28	1'-0"
M4	6	3"
M5	11	6"
M6	25	1'-0"



LIFTING LOOP DETAIL



BAR G1(E)

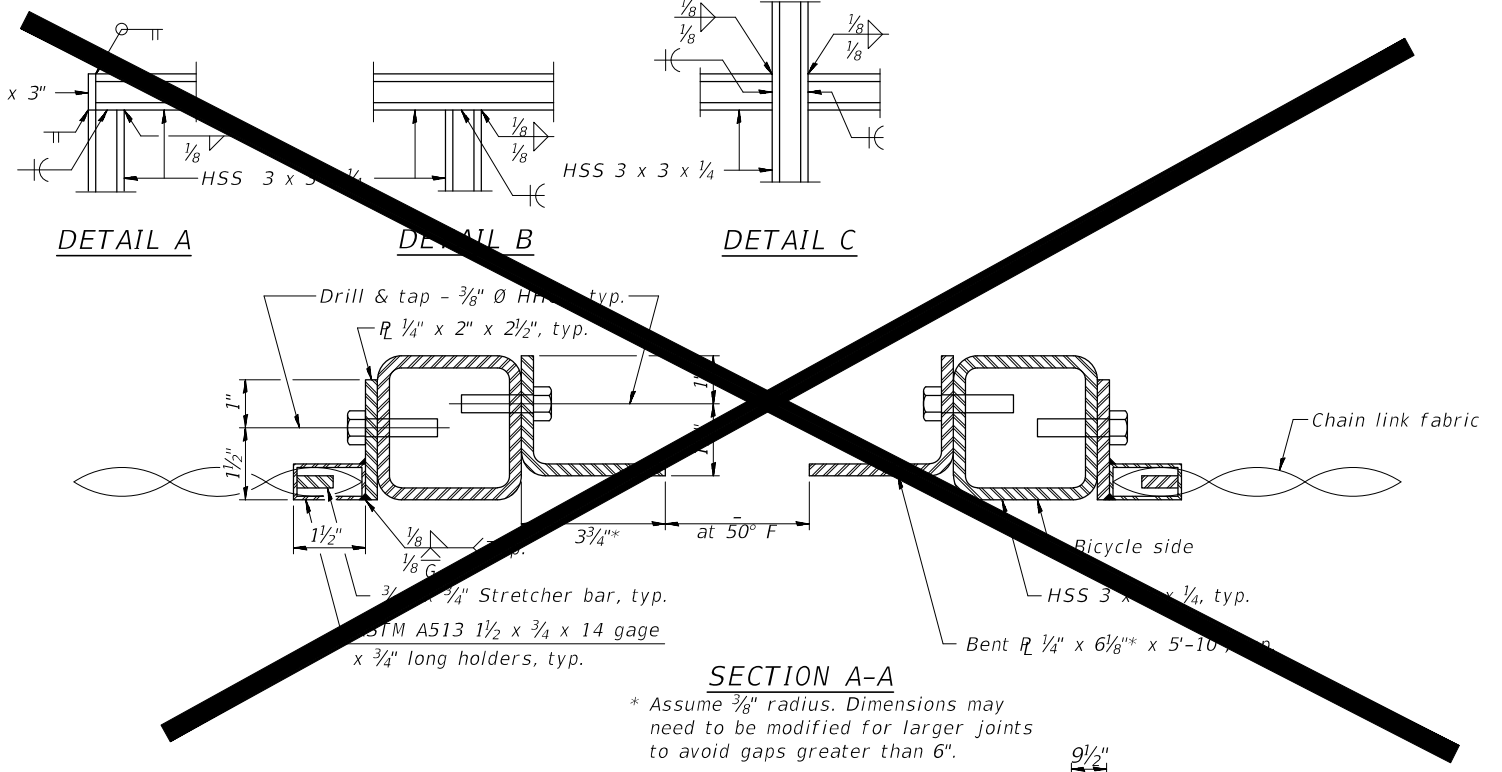
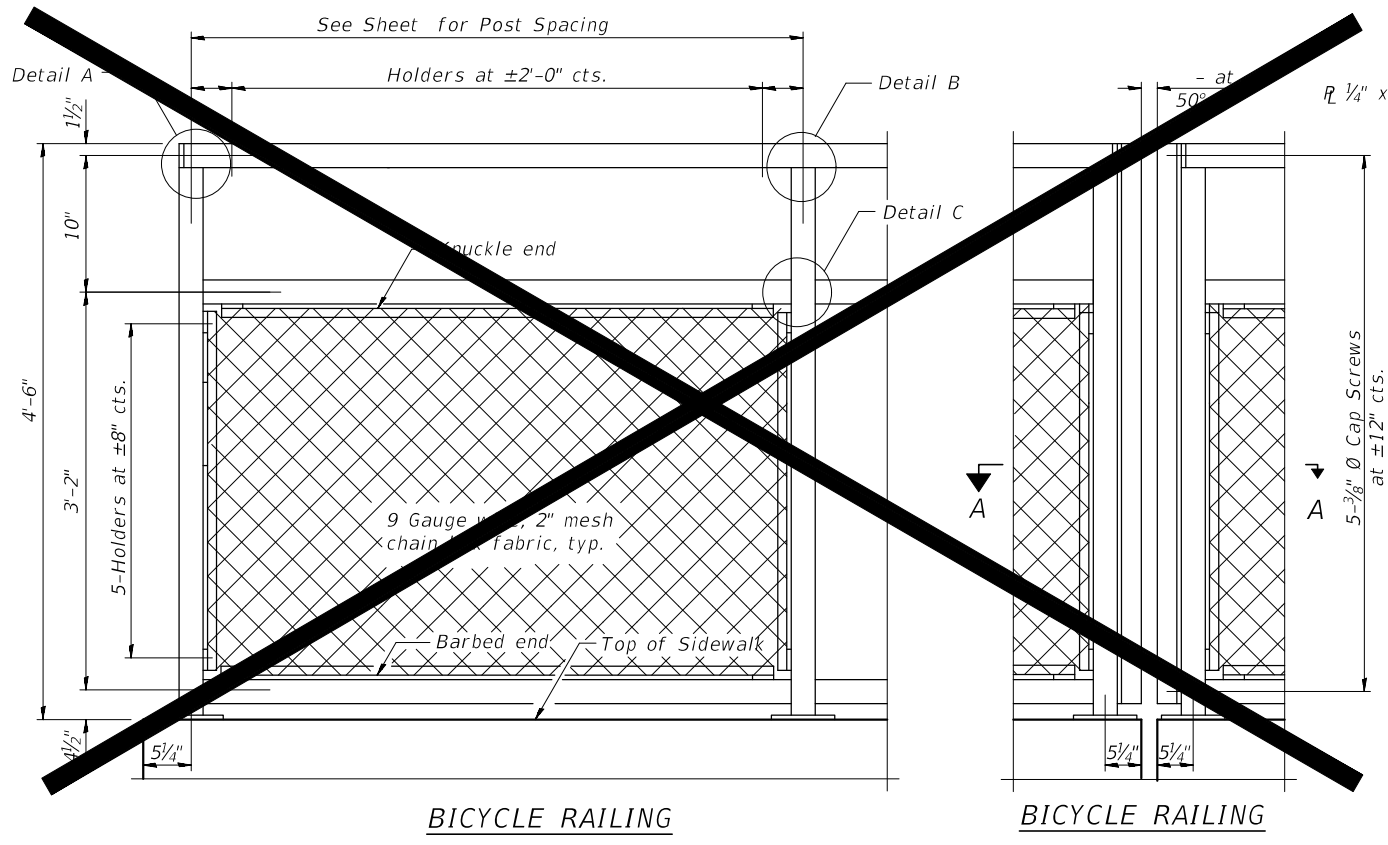


M2 AND M3 WWR DETAIL

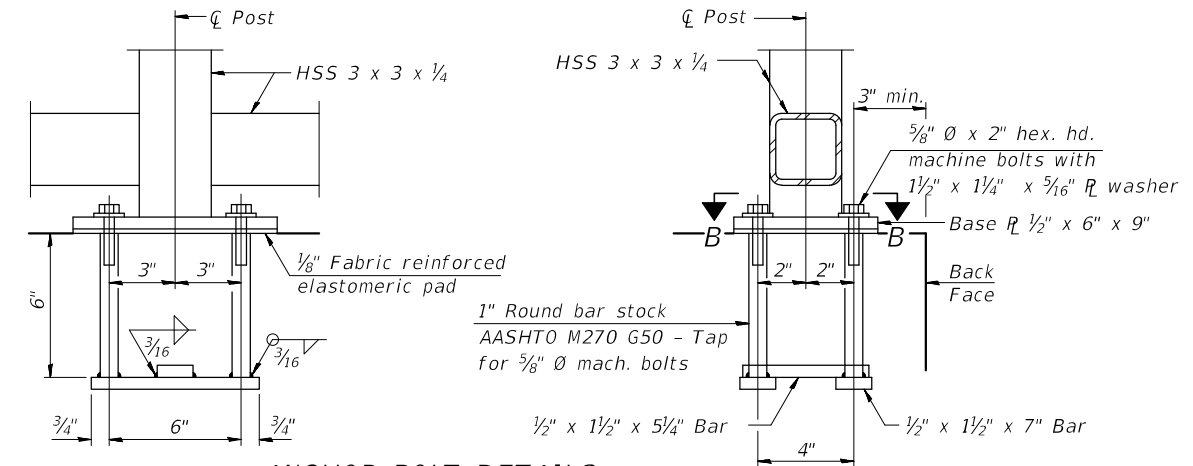
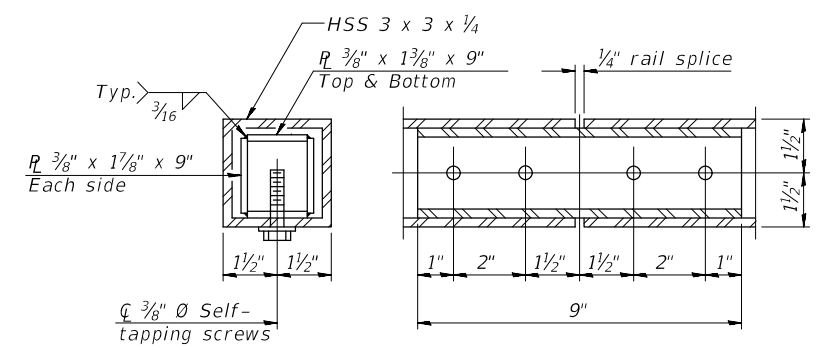
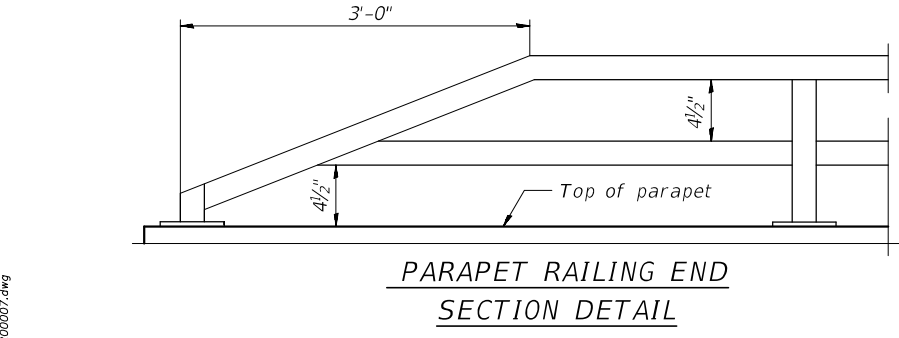
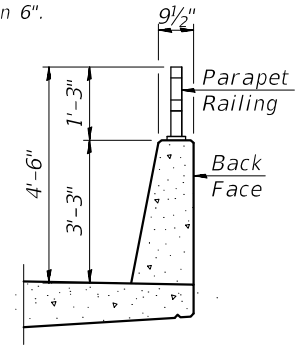
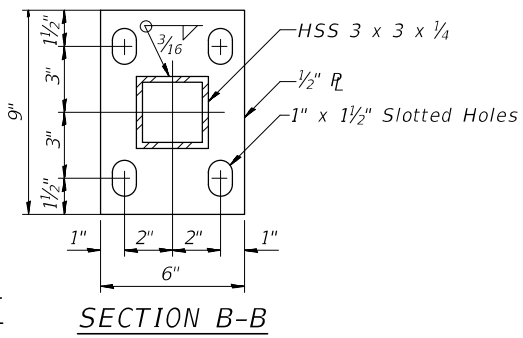
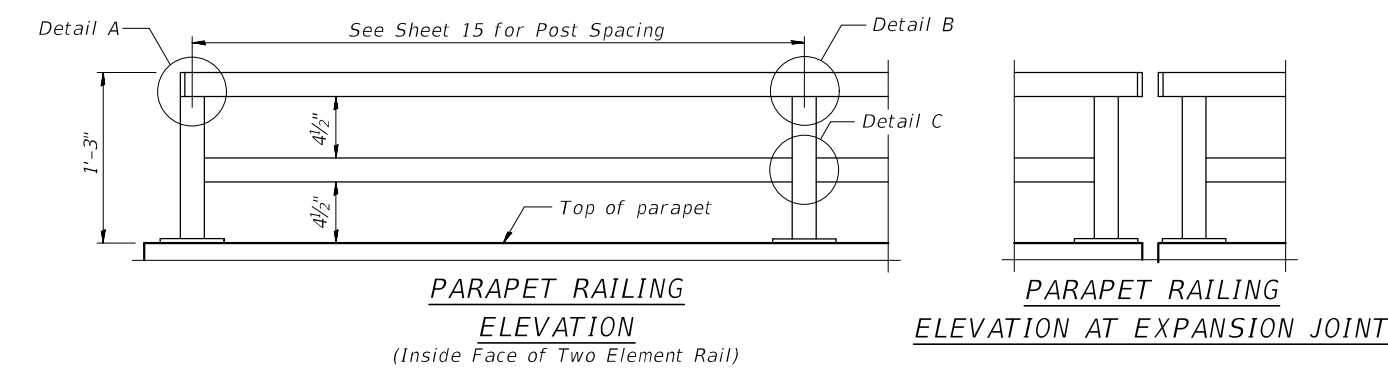
(See Table of Dimensions)

FOR INFORMATION ONLY. BEAMS TO BE FURNISHED BY OTHERS AS PART OF SEPARATE CONTRACT

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* Assume 3/8" radius. Dimensions may need to be modified for larger joints to avoid gaps greater than 6".



In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" Ø anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

Item	Unit	Quantity
Parapet Railing	Foot	308

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

RAILING CRITERIA

NCHRP 350 Test Level	4
Railing Weight (plf)	25
Bicycle Railing Weight (plf)	50
Max Post Spacing	10'-0"

Notes:
Place reinforcement bars to miss anchor rod locations. CVN testing is not required for the HSS tubing used in the Bicycle Railing.
All HSS tubing used for the Parapet Railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

R-29 10-12-2021



USER NAME = chod.clouson	DESIGNED - CC	REVISED -
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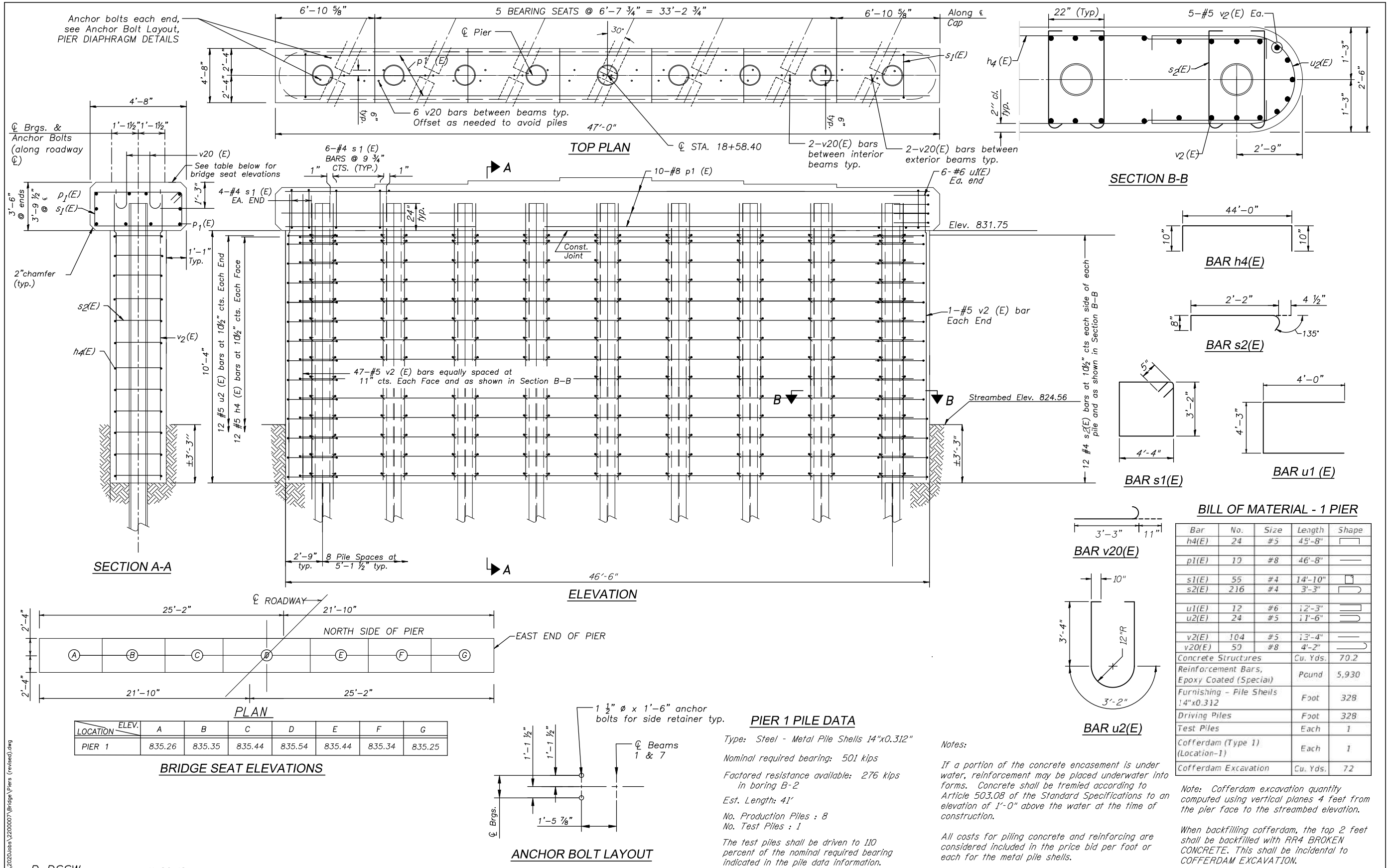
BOONE COUNTY HIGHWAY DEPARTMENT

PARAPET RAILING (S.N. 004-3103)

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	30

CONTRACT NO 85732
ILLINOIS FED. AID PROJECT

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



Anchor bolts each end, see Anchor Bolt Layout, PIER DIAPHRAGM DETAILS

Brigs. & Anchor Bolts (along roadway)

2" chamfer (typ.)

SECTION A-A

TOP PLAN

SECTION B-B

ELEVATION

PLAN

ANCHOR BOLT LAYOUT

BILL OF MATERIAL - 1 PIER

Bar	No.	Size	Length	Shape	
h4(E)	24	#5	45'-8"	□	
p1(E)	10	#8	46'-8"	—	
s1(E)	55	#4	14'-10"	□	
s2(E)	216	#4	3'-3"	□	
u1(E)	12	#6	12'-3"	□	
u2(E)	24	#5	17'-6"	□	
v2(E)	104	#5	13'-4"	—	
v20(E)	50	#8	4'-2"	—	
Concrete Structures				Cu. Yds.	70.2
Reinforcement Bars, Epoxy Coated (Special)				Pound	5,930
Furnishing - Pile Shells 14"x0.312				Foot	328
Driving Piles				Foot	328
Test Piles				Each	1
Cofferdam (Type 1) (Location-1)				Each	1
Cofferdam Excavation				Cu. Yds.	72

PIER 1 PILE DATA

Type: Steel - Metal Pile Shells 14"x0.312"
 Nominal required bearing: 501 kips
 Factored resistance available: 276 kips in boring B-2
 Est. Length: 41'
 No. Production Piles : 8
 No. Test Piles : 1
 The test piles shall be driven to 110 percent of the nominal required bearing indicated in the pile data information.

Notes:

If a portion of the concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water at the time of construction.

All costs for piling concrete and reinforcing are considered included in the price bid per foot or each for the metal pile shells.

Note: Cofferdam excavation quantity computed using vertical planes 4 feet from the pier face to the streambed elevation.

When backfilling cofferdam, the top 2 feet shall be backfilled with RR4 BROKEN CONCRETE. This shall be incidental to COFFERDAM EXCAVATION.

LOCATION	ELEV.	A	B	C	D	E	F	G
PIER 1		835.26	835.35	835.44	835.54	835.44	835.34	835.25

BRIDGE SEAT ELEVATIONS

P-DSSW 11-26-12



USER NAME = chad.clouston	DESIGNED - CC	REVISED -
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PLOT DATE = 83-31-2016	CHECKED - SB	REVISED -
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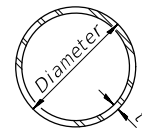
BOONE COUNTY HIGHWAY DEPARTMENT

PIER S.N. 004-3103

FAU	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	32
CONTRACT NO.				85732

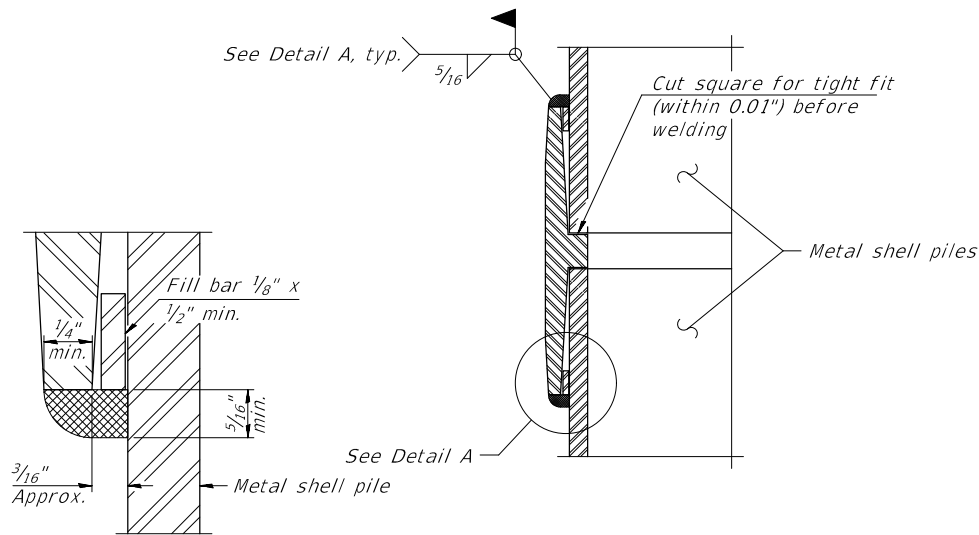
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ILLINOIS FED. AID PROJECT

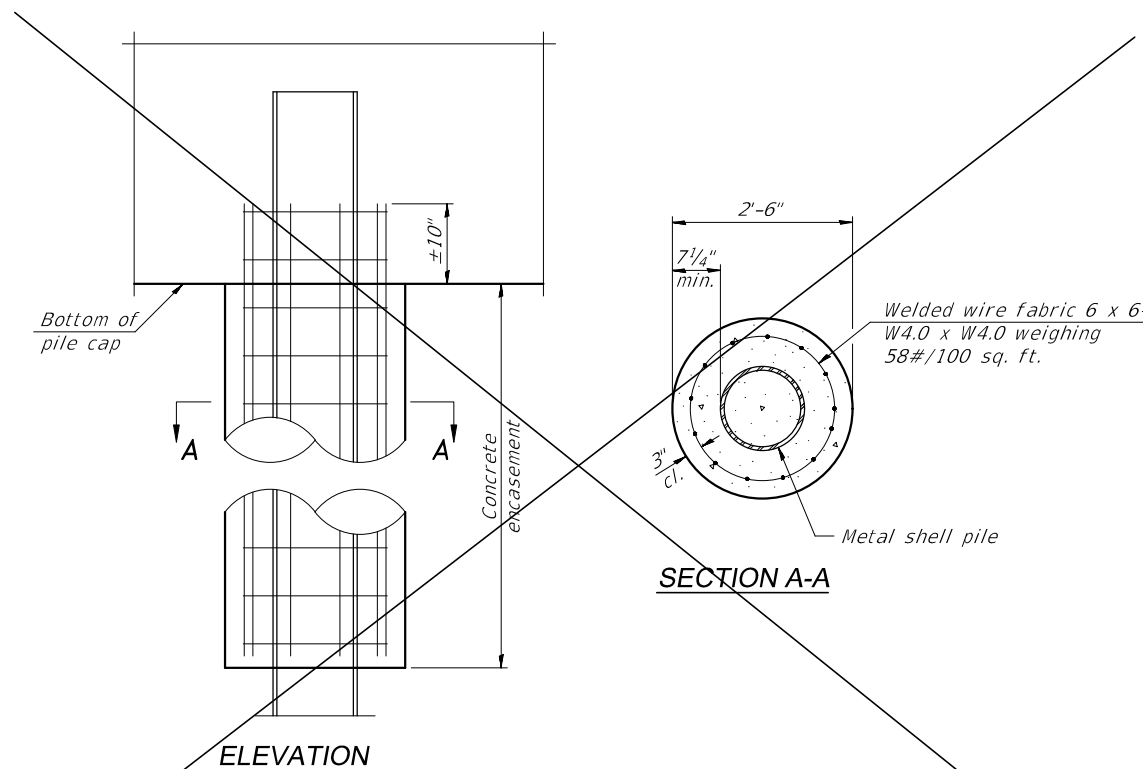


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



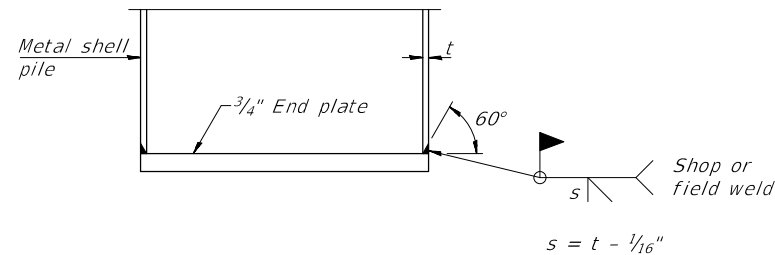
DETAIL A



ELEVATION

SECTION A-A

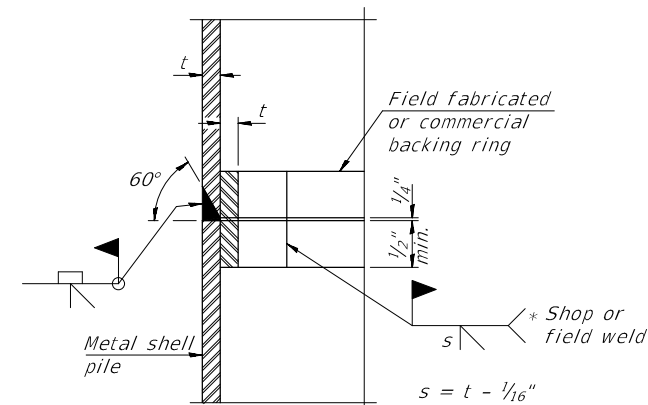
INDIVIDUAL PILE CONCRETE ENCASEMENT AT PIERS



END PLATE ATTACHMENT

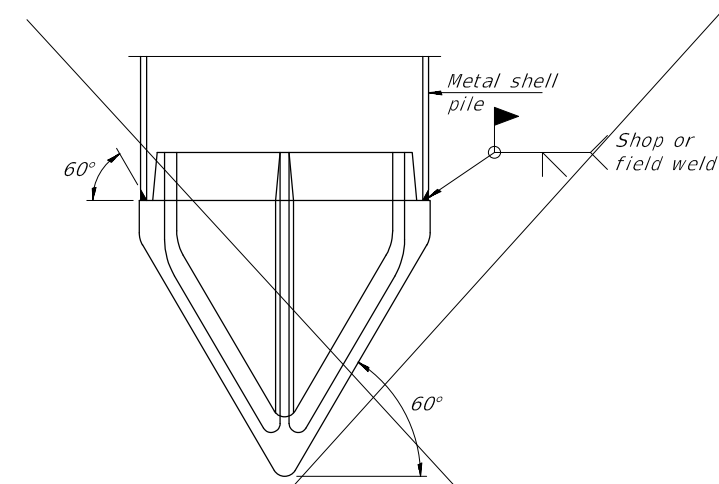
WELDED COMMERCIAL SPLICE

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.



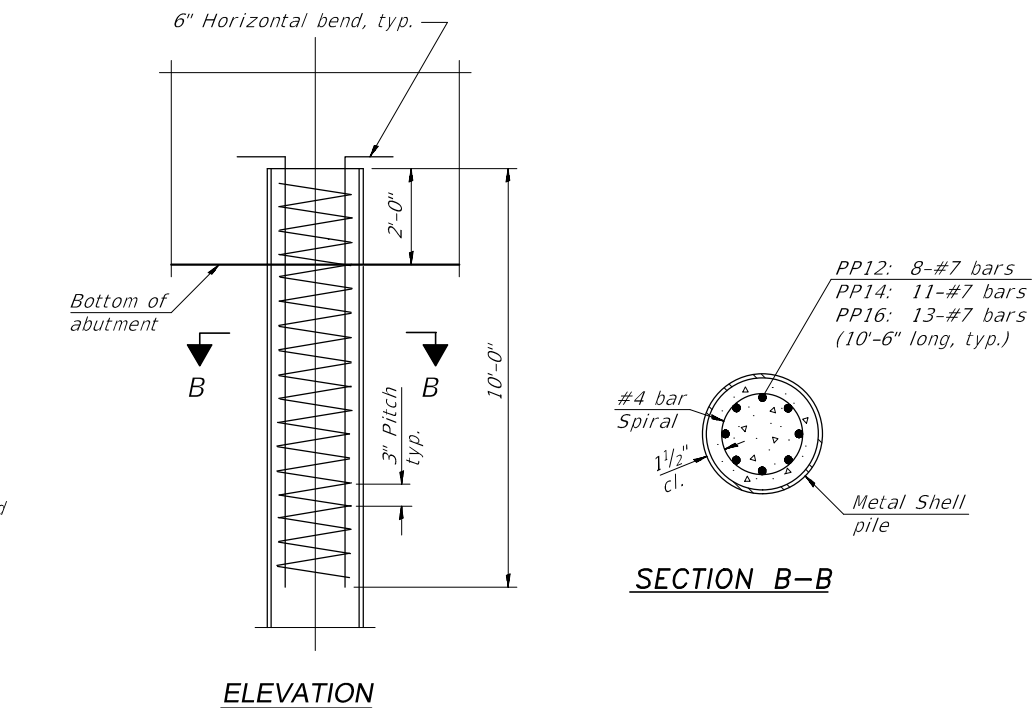
COMPLETE PENETRATION WELD SPLICE

* 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.



PILE SHOE ATTACHMENT

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 90-60 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.



ELEVATION

SECTION B-B

REINFORCEMENT AT ABUTMENTS

Note:

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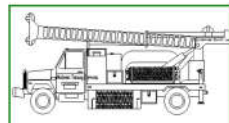
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FILE NAME = abutment-2200007.dwg	DATE - 12/5/2022	REVISED -

BOONE COUNTY HIGHWAY DEPARTMENT

PILE DETAILS STRUCTURE NO. 004-3103

FAU RTE. 5011	SECTION 19-06126-00-BR	COUNTY BOONE	TOTAL SHEETS 38	SHEET NO. 33
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

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



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 1 of 4

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

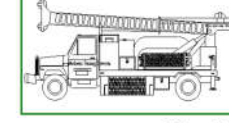
Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-1
Surface Elev. 99.92 737.64
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
South Abutment: 70' S. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
99.92	7" of Asphalt								Randy Safranski Diedrich D-120		
98.92	15" of Aggregate		1								
97.92	Stiff Brown Gravely Silty Clay Fill		2								
96.92		3	1	SS	---	9	---	12			
95.92		4									
94.92	Medium Stiff Black Silty Clay		5	2	SS	0.8	4	B/S		33	
93.92		6									
92.92	Medium Stiff Black/Gray Silty Clay		7								
91.92		8	3	SS	0.8	5	B	33			
90.92	Soft Gray Sandy Clay with Roots		9								
89.92		10	4	SS	0.4	4	B	33			
88.92		11									
87.92	Medium Dense Gray Coarse Gravel		12								
86.92		13	5	SS	---	6	---	20			
85.92		14									
84.92	Soft Gray Sandy Clay		15	6	SS	---	26	---		9	
83.92		16									
82.92	Soft Gray Sandy Clay		17								
81.92		18	7	SS	---	26	---	9			
80.92			19								
79.92			20	8	SS	0.4	3	B	16		

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 2 of 4

Phone: 815-223-6696
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e-mail: mts37@comcast.net

Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-1
Surface Elev. 99.92
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
South Abutment: 70' S. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
78.92	Soft Gray Sandy Clay								Randy Safranski Diedrich D-120		
77.92	Stiff Gray Silty Clay Loam Till		22								
76.92		23	9	SS	1.4	8	B	11			
75.92		24									
74.92	Very Stiff Gray Silty Clay Loam Till		25	10	SS	1.7	9	B		10	
73.92		26									
72.92	Soft Gray Sandy Clay with Roots		27								
71.92		28									
70.92		29									
69.92	Medium Dense Gray Coarse Gravel		30	11	SS	2.0	20	B/S		10	
68.92		31									
67.92	Soft Gray Sandy Clay		32								
66.92		33									
65.92		34									
64.92	Very Stiff Gray Silty Clay Loam Till		35	12	SS	2.0	24	B		10	
63.92		36									
62.92	Soft Gray Sandy Clay		37								
61.92		38									
60.92	Soft Gray Sandy Clay		39								
59.92		40	13	SS	2.3	29	S	9			
58.92			41								

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.

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Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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e-mail: mts37@comcast.net

Sheet 3 of 4

Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-1
Surface Elev. 99.92
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
South Abutment: 70' S. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
57.92										Randy Safranski Diedrich D-120	
56.92	Hard Gray Sandy Loam Till with Sand & Gravel Layers		43								
55.92			44								
54.92			45	14	SS	---	60	---	9		
53.92			46								
52.92			47								
51.92			48								
50.92			49								
49.92			50	15	SS	---	66	---	8		
48.92			51								
47.92			52								
46.92			53								
45.92			54								
44.92	Hard Gray Sandy Loam Till with Sand & Gravel Layers & Cobbles		55	16	SS	---	45	---	9		
43.92			56								
42.92			57								
41.92			58								
40.92			59								
39.92			60	17	SS	---	41	---	9		
38.92			61								
37.92			62								

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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Sheet 4 of 4

Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103


Boring No. B-1
Surface Elev. 99.92
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
South Abutment: 70' S. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
36.92										Randy Safranski Diedrich D-120	
35.92	Hard Gray Sandy Loam Till with Sand & Gravel Layers		64								
34.92			65	18	SS	---	65	---	8		
33.92			66								
32.92			67								
31.92			68								
30.92			69								
29.92			70								
28.92			71	19	SS	---	48	---	9		
27.92			72								
26.92			73								
25.92			74								
24.92			75	20	SS	---	47	---	9		
23.92	Boring Terminated		76								
22.92			77								
21.92			78								
20.92			79								
19.92			80								
18.92			81								
17.92			82								
16.92			83								

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.

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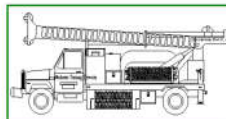
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SOIL BORINGS

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

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	19-00113-00-BR	BOONE	38	35
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 1 of 4

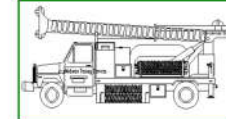
Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-2
Surface Elev. 99.84 **838.22**
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
North Abutment: 68' N. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
99.84	6.5" of Asphalt									Randy Safranski Diedrich D-120	
98.84	9" of Aggregate		1								
97.84	Stiff Brown Gravely Silty Clay Fill		2								
96.84			3	1	SS	---	11	---	11		
95.84	Stiff Black Silty Clay		4								
94.84			5	2	SS	1.0	9	B/S	30		
93.84	Stiff Black Silty Clay with Cobbles		6								
92.84			7								
91.84			8	3	SS	1.0	9	B	31		
90.84	Medium Dense Brown Coarse Sand & Gravel		9								
89.84			10	4	SS	---	18	---	9		
88.84	Stiff Gray Silty Clay Loam Till		11								
87.84			12								
86.84			13	5	SS	---	21	---	9		
85.84	Stiff Gray Silty Clay Loam Till		14								
84.84			15	6	SS	---	20	---	9		
83.84	Stiff Gray Silty Clay Loam Till		16								
82.84			17								
81.84			18	7	SS	---	15	---	15		
80.84	Stiff Gray Silty Clay Loam Till		19								
79.84			20	8	SS	1.4	11	B	14		

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Sheet 2 of 4

Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-2
Surface Elev. 99.84
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
North Abutment: 68' N. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
78.84	Stiff Gray Silty Clay Loam Till		22							Randy Safranski Diedrich D-120	
77.84	Very Stiff Gray Silty Clay Loam Till with Cobbles		23	9	SS	3.0	23	S	9		
76.84			24								
75.84	Hard Gray Silty Clay Till		25	10	SS	3.5	26	S	9		
74.84			26								
73.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams		27								
72.84			28								
71.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		29								
70.84			30	11	SS	5.4	48	S	8		
69.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		31								
68.84			32								
67.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		33								
66.84			34								
65.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		35	12	SS	3.0	24	S	10		
64.84			36								
63.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		37								
62.84			38								
61.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		39								
60.84			40	13	SS	3.2	26	S	10		
59.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		41								
58.84			42								

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.

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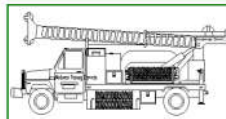
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SOIL BORINGS

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	19-00113-00-BR	BOONE	38	36
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 3 of 4

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

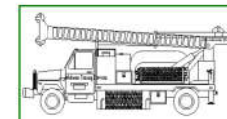
Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-2
Surface Elev. 99.84
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
North Abutment: 68' N. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
57.84										Randy Safranski Diedrich D-120	
56.84	Very Stiff Gray Silty Clay Loam Till with Sand Seams & Cobbles		43								
55.84			44								
54.84			45	14	SS	---	38	---	9		
53.84			46								
52.84			47								
51.84	Hard Gray Sandy Loam Till with Sand & Gravel Layers		48								
50.84			49								
49.84			50	15	SS	---	70	---	8		
48.84			51								
47.84			52								
46.84			53								
45.84			54								
44.84			55	16	SS	---	62	---	9		
43.84			56								
42.84			57								
41.84			58								
40.84			59								
39.84			60								
38.84			61	17	SS	---	55	---	10		
37.84			62								

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 4 of 4

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Client: Wendler Engineering Services, Inc.
Project Name: Boone Co Br. on Poplar Grove Rd. N. of Beaver Rd.
Project Site: Existing Structure No.: 004-3002
Proposed Structure No.: 004-3103

Boring No. B-2
Surface Elev. 99.92
Auger Depth 76.00 Rotary Depth NA
Start Date 04/13/21 Finish Date 04/13/21

Location: Poplar Grove Twp.
North Abutment: 68' N. of Center & 6' E. of Centerline

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
36.92										Randy Safranski Diedrich D-120	
35.92	Hard Gray Sandy Loam Till with Sand & Gravel Layers		64								
34.92			65	18	SS	---	55	---	9		
33.92			66								
32.92			67								
31.92			68								
30.92			69								
29.92			70	19	SS	---	31	---	9		
28.92			71								
27.92			72								
26.92			73								
25.92			74								
24.92			75	20	SS	---	50	---	9		
23.92			76								
22.92			77								
21.92			78								
20.92			79								
19.92			80								
18.92			81								
17.92			82								
16.92			83								

Groundwater Data: Water after auger removal 11-feet below top of ground elevation.
Comments: Assumed Center of existing Bridge to be elevation 100.00.

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FILE NAME = borings-2200007.dwg	DATE - 11/11/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

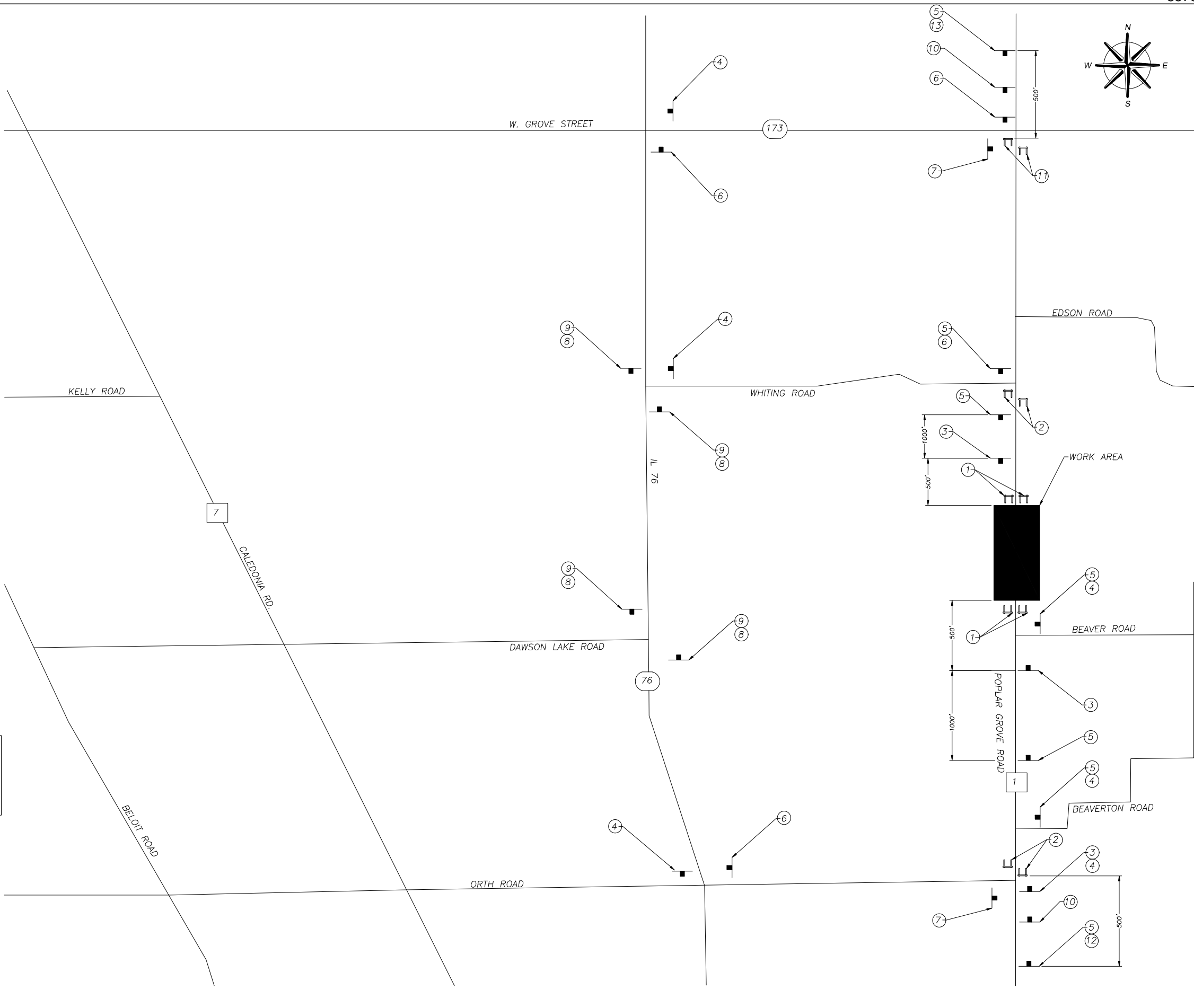
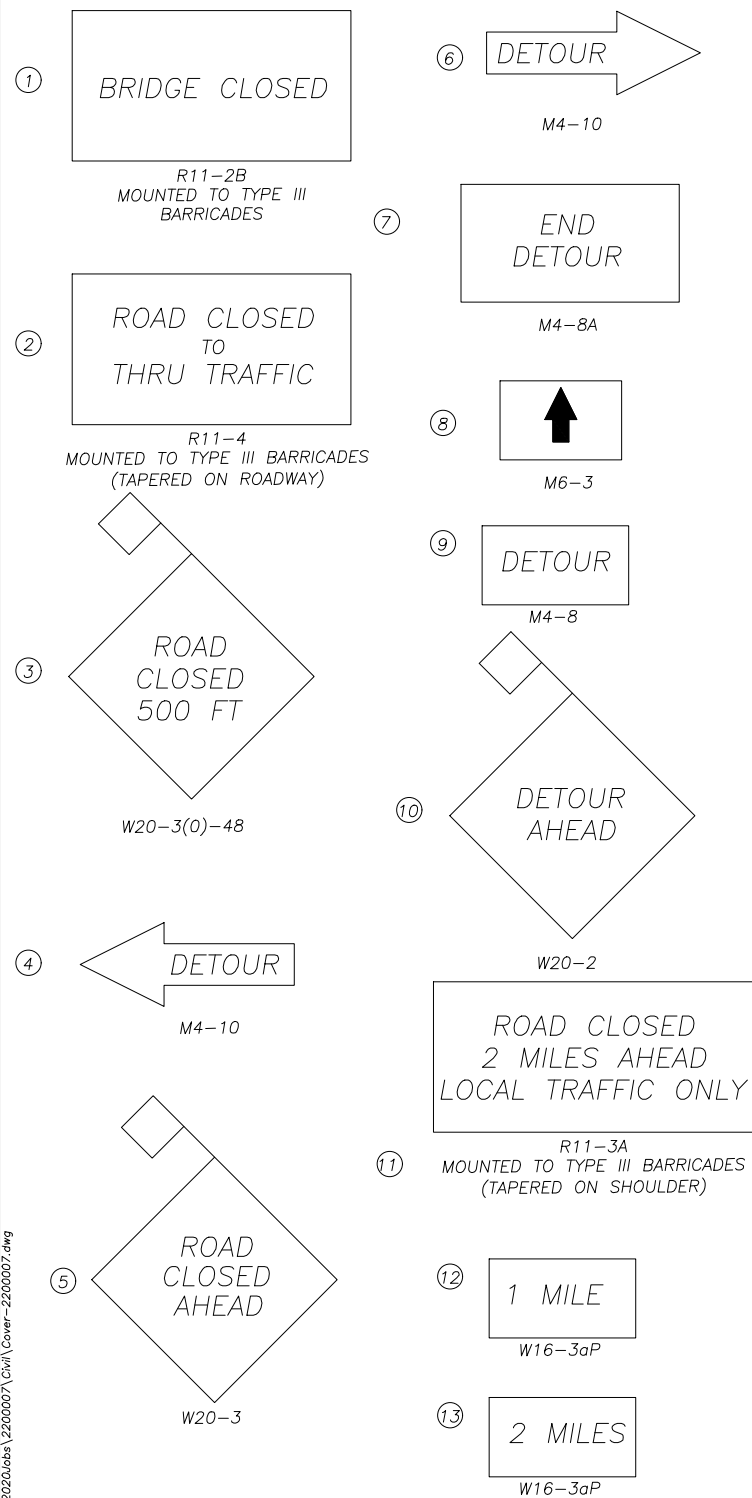
SOIL BORINGS

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	19-00113-00-BR	BOONE	38	37
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

NOTES:

- TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH B.L.R. 21
- ALL TRAFFIC CONTROL SIGNS MUST BE IN PLACE PRIOR TO ROAD CLOSURE
- CONTRACTOR SHALL NOTIFY COUNTY AT LEAST TWO WEEKS PRIOR TO ROAD CLOSURE. CONTRACTOR MUST RECEIVE WRITTEN APPROVAL FROM THE COUNTY PRIOR TO ROAD CLOSURE.
- ALL SIGNS AND BARRICADES SHALL MEET THE REQUIREMENTS OF HIGHWAY STANDARD 701901
- ALL WARNING SIGNS SHALL HAVE A MINIMUM DIMENSIONS OF 48X48 AND HAVE A BLACK LEGEND ON AN ORANGE REFLECTORIZED BACKGROUND
- TYPE III BARRICADES SHALL BE POSITIONED AS SHOWN IN THE "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD" DETAIL ON HIGHWAY STANDARD 701901.



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FILE NAME = cover-2200007.dwg	DATE - 12/5/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONTROL PLAN

SCALE: 1"=1500' SHEET - OF - SHEETS STA. - TO STA. -

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	38
CONTRACT NO 85732				
ILLINOIS FED. AID PROJECT				