

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	1
		ILLINOIS	CONTRACT NO. 91648	

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED SUPERSTRUCTURE REPLACEMENT LOCAL BRIDGE FORMULA PROGRAM



INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES AND COMMITMENTS
- 3 ALIGNMENT, TIES, AND BENCHMARKS
- 4-5 SUMMARY OF QUANTITIES
- 6 SCHEDULE OF QUANTITIES
- 7 TYPICAL SECTIONS
- 8 PLAN & PROFILE
- 9-20 STRUCTURE PLANS

HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 515001-04 NAME PLATE FOR BRIDGES
- 701901-09 TRAFFIC CONTROL DEVICES
- 725001-01 OBJECT AND TERMINAL MARKERS
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

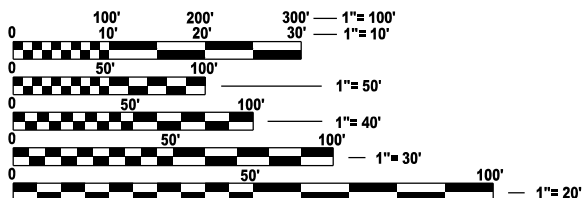
**TR 155 OVER STONY CREEK
SECTION 23-17133-00-BR
OGDEN TOWNSHIP
CHAMPAIGN COUNTY
PROJECT UFBJ(249)**

C-95-013-25

UTILITIES

EASTERN ILLINI ELECTRIC COOP
CONTACT: BRAD SMITH
PHONE: 217-379-2131 EXT. 0431
EMAIL: BRAD.SMITH@EIEC.COOP

FRONTIER COMMUNICATIONS
CONTACT: KALIN HINSHAW
PHONE: 815-895-1515
EMAIL: KALIN.HINSHAW@FTR.COM

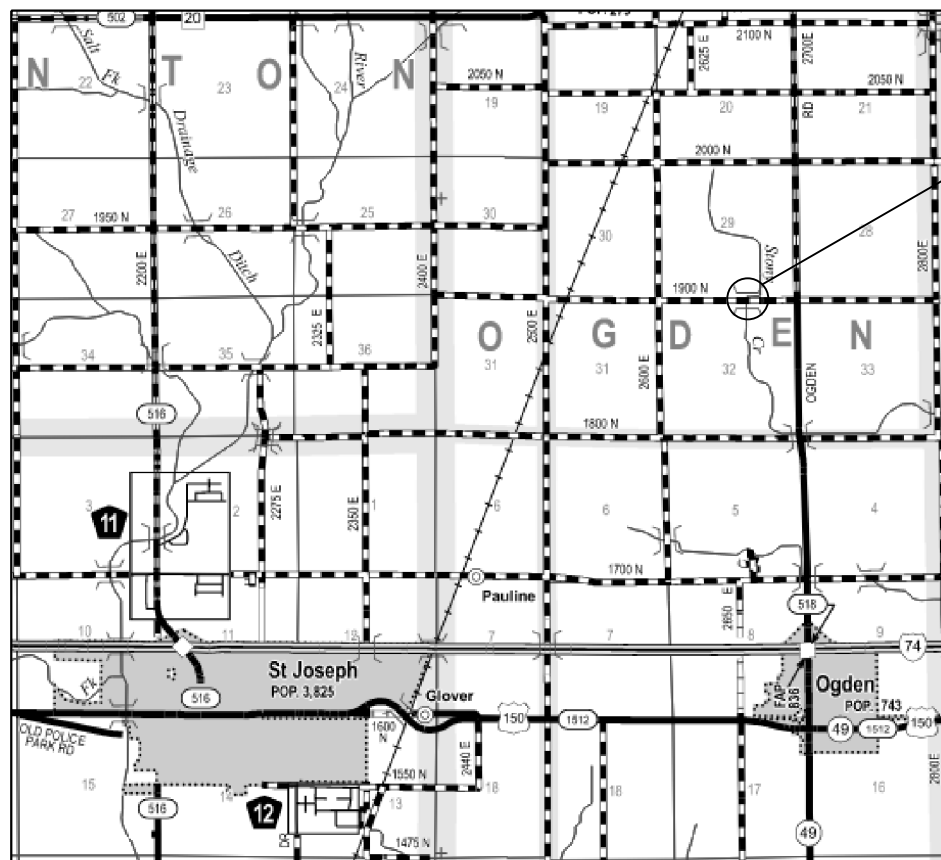


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

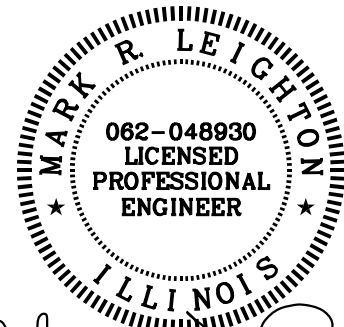
PROJECT MANAGER: MARK R. LEIGHTON, P.E., P.L.S.

CONTRACT NO. 91648



GROSS LENGTH = 80.00 FT. = 0.015 MILE
NET LENGTH = 80.00 FT. = 0.015 MILE

**PROPOSED
SUPER REPLACEMENT
SN 010-4192
BEGINS STA. 9+60.00
ENDS STA. 10+30.00**



Mark R. Leighton
Expires: 11/30/2026 2-26-24

**FUNCTIONAL CLASSIFICATION
LOCAL ROAD
ADT = 50 (2021)
DESIGN SPEED = 30 MPH**

APPROVED 3/7 20 24
[Signature]
COUNTY ENGINEER

APPROVED 3/7 20 24
[Signature]
ROAD COMMISSIONER

PASSED March 27 20 24
Kensil A. Garnett
DISTRICT FIVE ENGINEER OF
LOCAL ROADS AND STREETS

Released For Bid Based on Limited Review

March 27 20 24
Kensil A. Garnett
REGION THREE ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WORK CONSISTS OF THE REMOVAL OF EXISTING PRECAST DECK BEAMS AND REPLACEMENT WITH PPC DECK BEAMS, SUBSTRUCTURE REHABILITATION, AND THE NECESSARY BACKFILL AND INCIDENTAL APPROACH WORK FOR S.N. 010-4192 AT STA. 10+00.00.

GENERAL NOTES

1. EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.
2. ALL ELEVATIONS ARE BASED ON NAVD 88-DATUM.
3. ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF CONTRACT ITEMS INVOLVED.
4. THE FOLLOWING APPLICATION RATES HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:
 TEMPORARY EROSION CONTROL SEEDING: 100 LB/ACRE
 AGGREGATE BASE COURSE: 2.05 TONS/CU YD
 AGGREGATE SURFACE COURSE: 2.05 TONS/CU YD
 RIPRAP: 1.75 TONS/CU YD
5. THE CONTRACTOR'S OPERATIONS AND TEMPORARY STORAGE ACTIVITIES SHALL BE LIMITED TO THE WORK AREA AND/OR CONSTRUCTION LIMITS. ANY ADDITIONAL STAGING AREAS ADJACENT TO THE PROJECT AREA ARE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER AND MUST NOT CONFLICT WITH EXISTING SIDE ROADS, INTERSECTIONS, DRIVEWAYS, OR DRAINAGE. ALL OPERATIONS SHALL BE SUBJECT TO REGULATORY REQUIREMENTS PERMITTED FOR THIS PROJECT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR COMPLIANCE WITH THE ABOVE REQUIREMENTS.
6. DISTURBED AREAS SHALL RECEIVE PERMANENT STABILIZATION WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION ACTIVITIES. TEMPORARY STABILIZATION OF WORK AREAS IS REQUIRED FOR ALL AREAS REMAINING UNDISTURBED FOR 14 DAYS, UNLESS WORK RESUMES PRIOR TO 21 DAYS. TEMPORARY STABILIZATION MUST BE APPROVED BY THE ENGINEER.
7. THE CONTRACTOR SHALL RELOCATE OR REMOVE AND REPLACE ALL SIGNS THAT INTERFERE WITH THE CONSTRUCTION OPERATIONS AND TEMPORARILY RESET ALL SUCH SIGNS DURING ALL STAGES OF CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DETERMINE THE PERMANENT LOCATION FOR EXISTING SIGNS TO BE RE-ERECTED.
8. CONTRACTOR SHALL FOLLOW CONSTRUCTION REQUIREMENTS OF SECTION 611 WHEN EXISTING FIELD TILE IS ENCOUNTERED. ALL FIELD TILES ENCOUNTERED SHALL BE CAREFULLY PRESERVED, REPAIRED AND CONNECTED TO THE PROPOSED DRAINAGE STRUCTURES, SEWERS OR DITCHES AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS DRAINAGE ITEMS OR AS DIRECTED BY THE ENGINEER.
9. THE LOCATIONS OF EXISTING WATER MAINS, GAS MAINS, SEWERS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT THEY ARE NOT GUARANTEED. UNLESS ELEVATIONS ARE SHOWN. ALL UTILITY LOCATIONS SHOWN ON THE CROSS SECTIONS ARE BASED ON THE APPROXIMATE DEPTH SUPPLIED BY THE UTILITY COMPANY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION.
10. EMBANKMENTS ON HILLSIDES OR SLOPES SHALL BE CONSTRUCTED ACCORDING TO ARTICLE 205.03.
11. CONTRACTOR SHALL VERIFY THE LENGTH OF REQUIRED PIPE CULVERTS AND PIPE DRAINS PRIOR TO ORDERING.
12. WHERE PERMANENT SURVEY MARKERS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE DISTURBED. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AN AUTHORIZED SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THE LOCATION.
13. THE CONTRACTOR SHALL USE CARE IN ALL REMOVAL ACTIVITIES NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
14. A UNIFORMLY STRAIGHT SAW CUT SHALL BE MADE AT LOCATIONS WHERE PROPOSED CONTROLLED LOW-STRENGTH MATERIAL LIMITS MEET THE EXISTING OIL & CHIP SURFACES. THE SAW CUT SHALL BE MADE FULL DEPTH THROUGH THE EXISTING SURFACE. THIS WORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT ITEMS INVOLVED AND NO EXTRA COMPENSATION WILL BE ALLOWED.

COMMITMENTS

1. THERE ARE NO COMMITMENTS ON THIS PROJECT.

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design firm
 no. 184001036

 engineers + planners + land surveyors

USER NAME = bjohnson	DESIGNED - BJJ	REVISED -
	DRAWN - BJJ	REVISED -
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PLOT DATE = 2/15/2024	DATE -	REVISED -

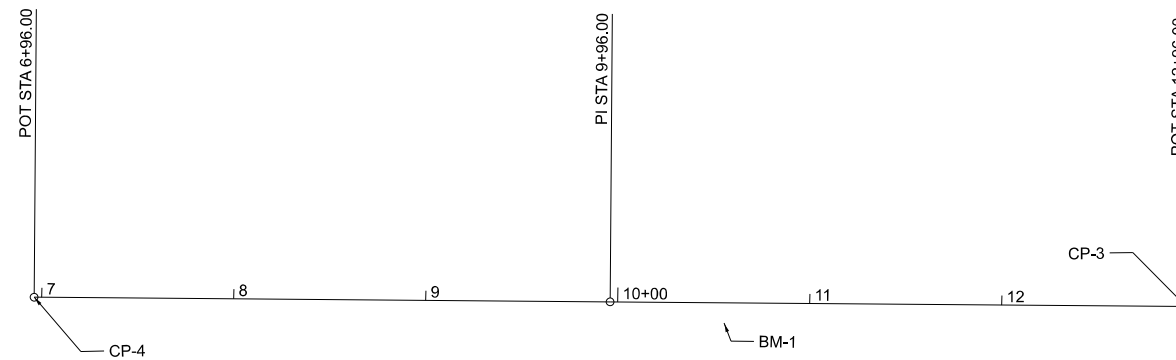
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND COMMITMENTS
TR 155 OVER STONY CREEK

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	2
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				

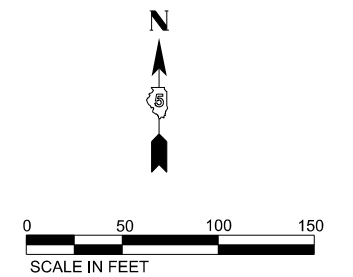
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BM-1
 SPIKE IN N. FACE OF 1ST PP E. OF BRIDGE
 ELEVATION = 676.00

CP-3 - PT. 3
 SET MAG NAIL +/- 2' FROM S. EDGE O/C ROAD 1900N (+/- 13+15)
 ELEVATION = 677.25

CP-4 - PT. 4
 SET NAIL/ BOTTLE CAP +/- 2' FROM S. EDGE O/C ROAD 1900N (+/- 6+45)
 ELEVATION = 674.89



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PLOT DATE = 2/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES AND BENCHMARKS
 TR 155 OVER STONY CREEK

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	3
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				BRIDGE
				0013
				S.N. 010-4192
20200100	EARTH EXCAVATION	CU YD	40	40
20300100	CHANNEL EXCAVATION	CU YD	66	66
35101400	AGGREGATE BASE COURSE, TYPE B	TON	20	20
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1
50102400	CONCRETE REMOVAL	CU YD	0.2	0.2
50200100	STRUCTURE EXCAVATION	CU YD	20	20
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1296	1296
* 50900205	STEEL RAILING, TYPE S1	FOOT	96	96
51500100	NAME PLATES	EACH	1	1
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	44.1	44.1
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	5	5

* SPECIALTY ITEMS

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design firm
no. 184001036



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	DRAWN - BJJ	REVISED -
PLOT SCALE = 0.16666633 1/in.	CHECKED - MRL	REVISED -
PLOT DATE = 2/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
TR 155 OVER STONY CREEK

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	4
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 91648

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				BRIDGE
				0013 S.N. 010-4192
60103700	PIPE DRAINS, CORRUGATED STEEL 18"	FOOT	100	100
67100100	MOBILIZATION	L SUM	1	1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.25	0.25
X2810206	STONE RIPRAP, CLASS A3 (SPECIAL)	TON	192	192
X6110073	EXISTING FIELD TILE REMOVAL	FOOT	40	40
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1

* SPECIALTY ITEMS

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whks engineers • planners • land surveyors

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PLOT SCALE = 0.1866633" = 1 ft.	DRAWN - BJJ	REVISED -
PLOT DATE = 2/23/2024	CHECKED - MRL	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES
TR 155 OVER STONY CREEK**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	5
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				

LOCATION	20200100	20300100	FOR INFORMATION ONLY		EARTHWORK BALANCE WASTE(+)AND SHORTAGE (-)
	EARTH EXCAVATION	CHANNEL EXCAVATION	EXCAVATION TO BE USED IN EMBANKMENT (ADJUSTED FOR SHRINKAGE) (EXC. x 0.75)	EMBANKMENT (FILL)	
	CU. YD.	CU. YD.	CU. YD.	CU. YD.	
STA. 9+60.00 TO STA. 9+71.33	20		15	27	-12
STA. 9+71.33 TO STA. 10+20.67		66	* 25		25
STA. 10+20.67 TO STA. 10+30.00	20		15	28	-13
TOTAL	40	66	55	55	0

EARTH EXCAVATION SHRINKAGE FACTOR = 25%
 *CHANNEL EXCAVATION USED IN EMBANKMENT= 50%

35101400 AGGREGATE BASE COURSE, TYPE B

TR 155	TON
CL 9+60.00 TO CL 9+71.33	11
CL 10+20.67 TO CL 10+30.00	9
TOTAL	20

X2501000 SEEDING, CLASS 2 (SPECIAL)

TR 155	ACRE
LT 9+60.00 TO LT 9+71.33	0.03
LT 10+20.67 TO LT 10+30.00	0.03
RT 9+60.00 TO RT 9+71.33	0.03
RT 10+20.67 TO RT 10+30.00	0.03
* TOTAL PER MIN. DEGREE OF ACCURACY	TOTAL 0.25

60100060 CONCRETE HEADWALLS FOR PIPE DRAINS

TR 155	EACH
19' LT 9+88.00	1
24' RT 9+88.00	1
21' LT 9+93.00	1
21' RT 10+09.00	1
18' RT 10+10.00	1
TOTAL	5

X6110073 EXISTING FIELD TILE REMOVAL

TR 155	FOOT
LT 9+67.00 TO LT 9+87.00	20
RT 10+15.00 TO RT 10+35.00	20
TOTAL	40

60103700 PIPE DRAINS, CORRUGATED STEEL 18"

TR 155	FOOT
19' LT 9+70.00	20
24' RT 9+73.00	20
21' LT 9+73.00	20
21' RT 10+09.00	20
18' RT 10+10.00	20
TOTAL	100

X7011800 TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21

TR 155	L SUM
TOTAL	1

67100100 MOBILIZATION

TR 155	L SUM
TOTAL	1

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PLOT DATE = 2/15/2024	CHECKED - MRL	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES
TR 155 OVER STONY CREEK

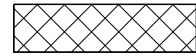
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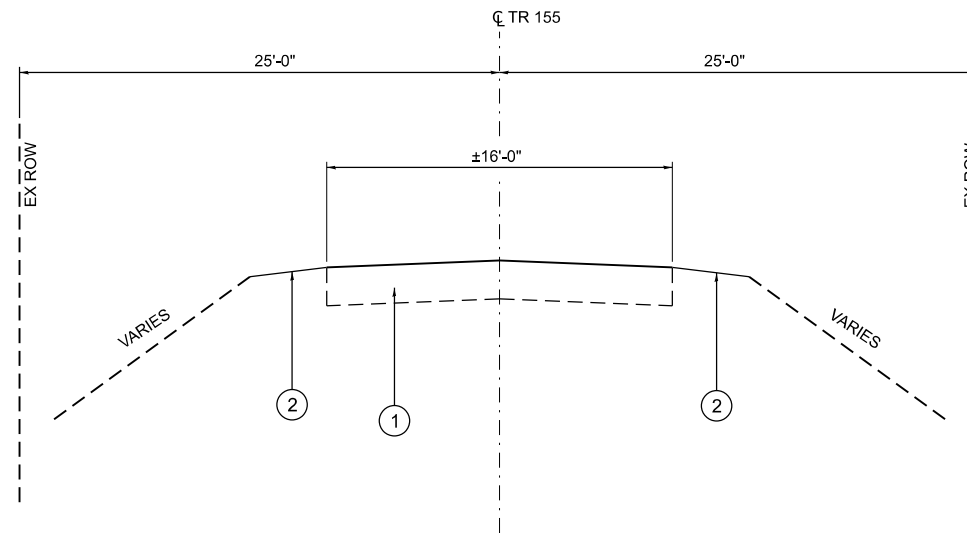
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155	23-17133-00-BR	CHAMPAIGN	20	6
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 91648

LEGEND

- ① EX OIL AND CHIP
- ② EX EARTH SHOULDER
- ③ PR AGGREGATE BASE COURSE, TYP B (8")
- ④ PR EARTH SHOULDERS

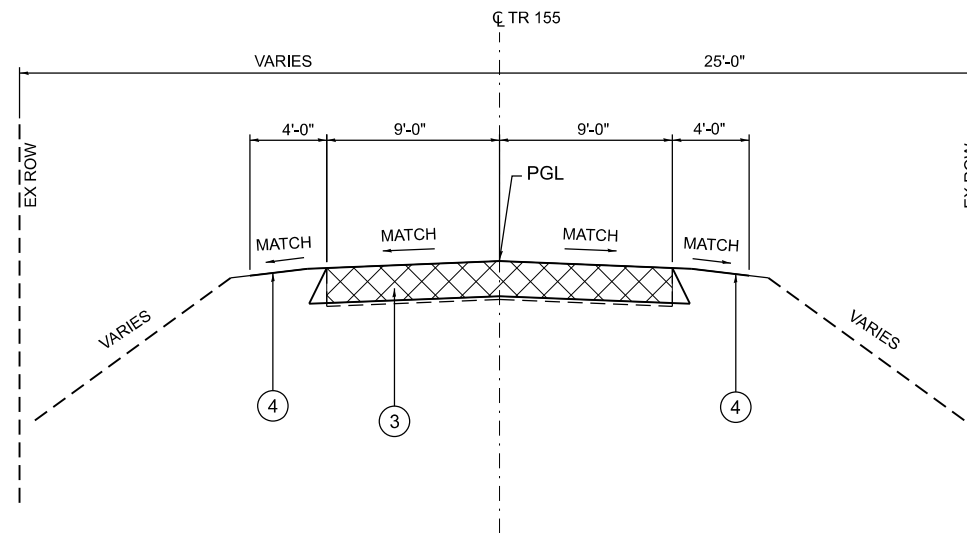
 TO BE REMOVED
(COST INCLUDED IN STRUCTURE EXCAVATION)



EXISTING TYPICAL SECTION

STA. 9+60.00 TO STA. 9+71.33
STA. 10+20.67 TO STA. 10+30.00
(LOOKING EAST)

BRIDGE OMISSION
STA. 9 + 71.33 TO 10 + 20.67



PROPOSED TYPICAL SECTION

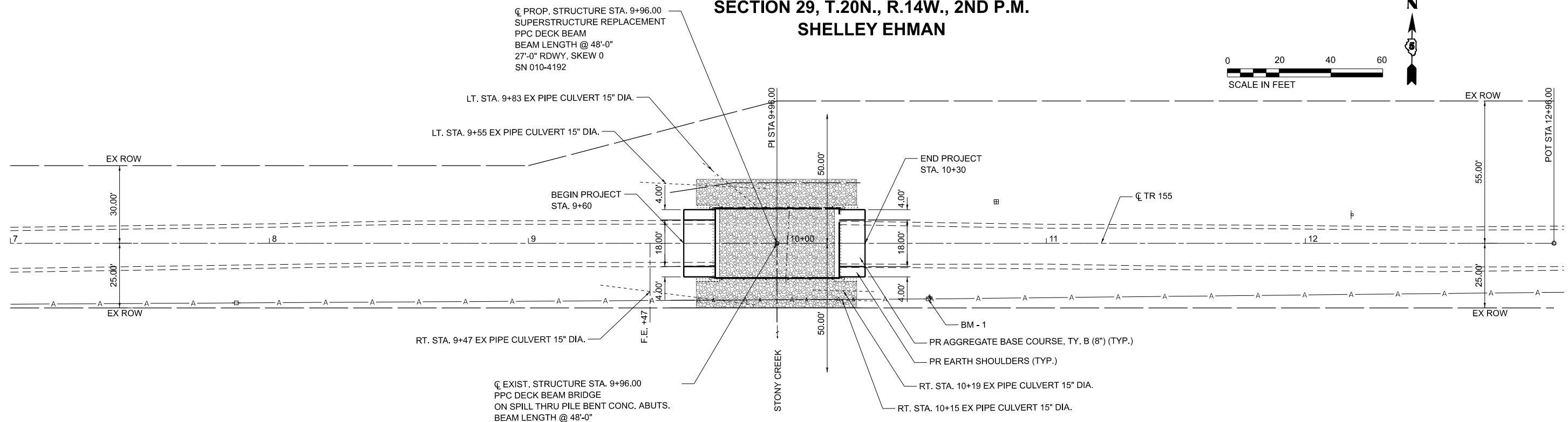
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STA. 10+20.67 TO STA. 10+30.00
(LOOKING EAST)

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PLOT DATE = 2/15/2024	DATE -	REVISED -

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	7
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				

**SECTION 29, T.20N., R.14W., 2ND P.M.
SHELLEY EHMAN**



CL PROP. STRUCTURE STA. 9+96.00
SUPERSTRUCTURE REPLACEMENT
PPC DECK BEAM
BEAM LENGTH @ 48'-0"
27'-0" RDWY, SKEW 0
SN 010-4192

LT. STA. 9+83 EX PIPE CULVERT 15" DIA.

LT. STA. 9+55 EX PIPE CULVERT 15" DIA.

BEGIN PROJECT
STA. 9+60

END PROJECT
STA. 10+30

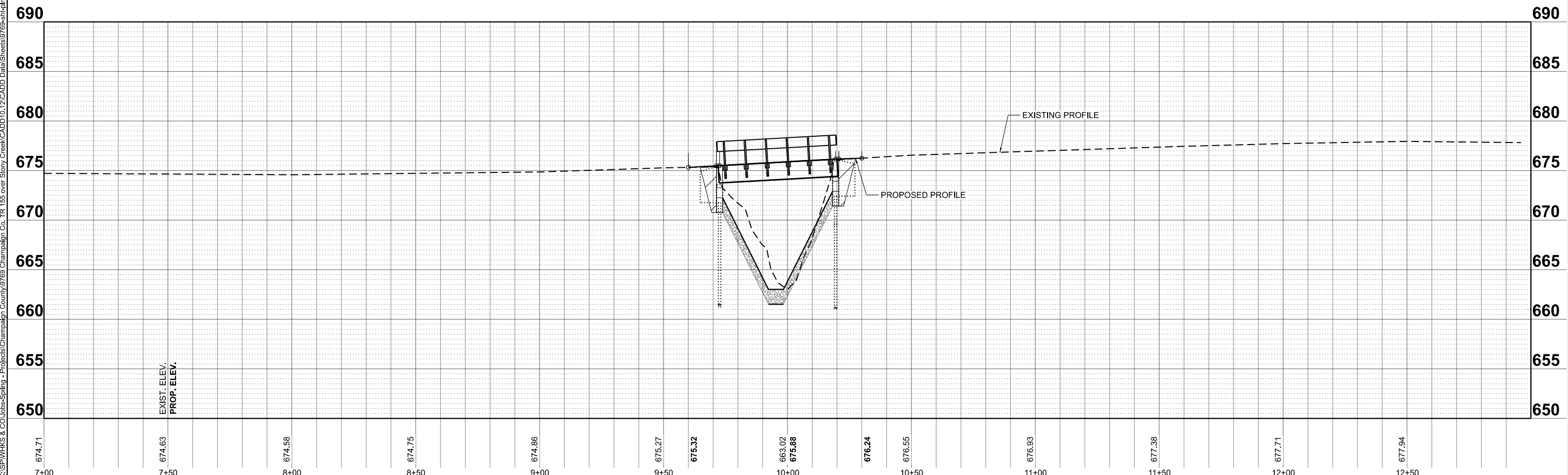
RT. STA. 9+47 EX PIPE CULVERT 15" DIA.

CL EXIST. STRUCTURE STA. 9+96.00
PPC DECK BEAM BRIDGE
ON SPILL THRU PILE BENT CONC. ABUTS.
BEAM LENGTH @ 48'-0"
27'-0" RDWY, SKEW 0
CONDUIT ATTACHED TO N. SIDE OF BRIDGE
SN 010-4192

**GLORIA EHMAN
SECTION 32, T.20N., R.14W., 2ND P.M.**

LEGEND
[Hatched Box] PROPOSED RIPRAP

MODEL: EX TR 155 - Plan 1 (Sheet)
FILE NAME: C:\SP\WHKS & CO\Jobs-Spring - Projects\Champaign County\9769 Champaign Co. TR 155 over Stony Creek\CADD\10.12\CADD Data\Sheets\9769-sh-plnpr.dgn



design firm
no. 184001036
whks
engineers + planners + land surveyors

USER NAME = bjohnson	DESIGNED - BJJ	REVISED -
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PLOT DATE = 2/15/2024	CHECKED - MRL	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PLAN & PROFILE
TR 155 OVER STONY CREEK**
SCALE: 1"=20'
SHEET OF SHEETS STA. 7+00.00 TO STA. 13+00.00

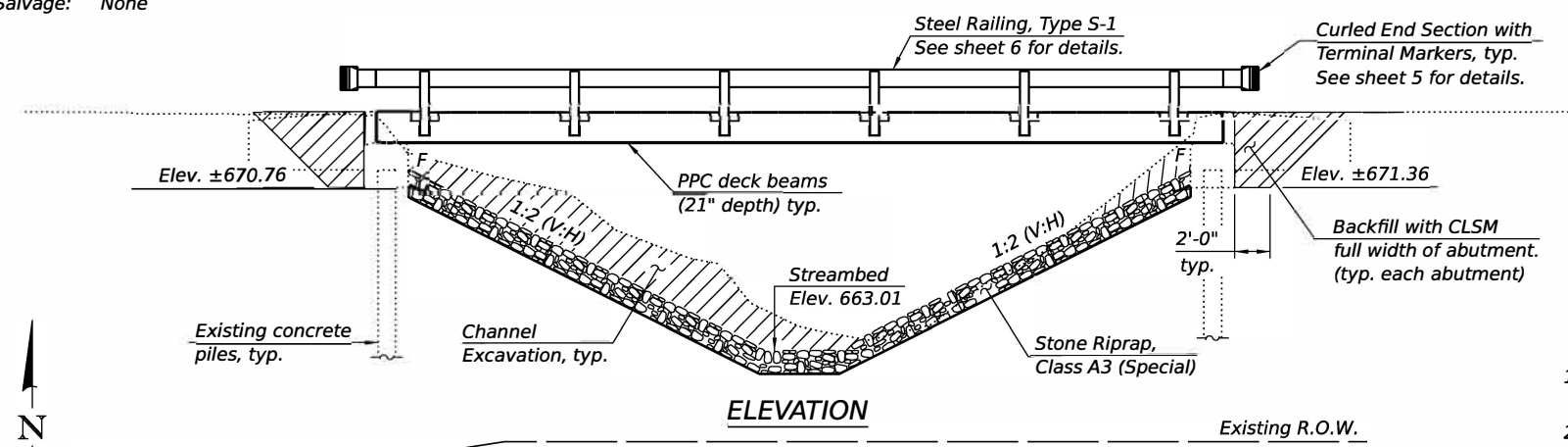
TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	8
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				

Benchmark: BM-1 - Sta. 10+54.91, 21.30' Rt. Spike in north face of 1st pole east of bridge. Elevation = 676.00
Existing Structure: SN 010-4192 was built in 1982 as Section 79-17548-05-BR, Station 9+96. The structure is a single span PPC Deck Beam bridge on pile-bent concrete abutments. The bridge is 49'-4" back-to-back of abutments with an out-to-out bridge width of 27'-0". The superstructure is to be removed and replaced. Road is to be closed and traffic detoured during construction.

Salvage: None

INDEX OF SHEETS

1. General Plan and Elevation
2. General Data
- 3.-4. 21" x 36" PPC Deck Beam Details
5. Superstructure Details
6. Steel Railing, Type S-1
7. Substructure Details
- 8.-12. Existing Plans (for information only)



SCOPE OF WORK

1. Remove and replace existing superstructure with nine (9) new 21" x 36" Precast Prestressed Concrete (PPC) Deck Beams.
2. Add new Type S-1 steel railing.
3. Modify wingwalls to accommodate new superstructure.
4. Streambed and bridge embankment to be armored with Stone Riprap, Class A3 (Special)

DESIGN SPECIFICATIONS (New Const.)

2020 AASHTO LRFD Bridge Design Specifications
9th Edition

LOADING HL-93 (New Const.)

Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS (Existing)

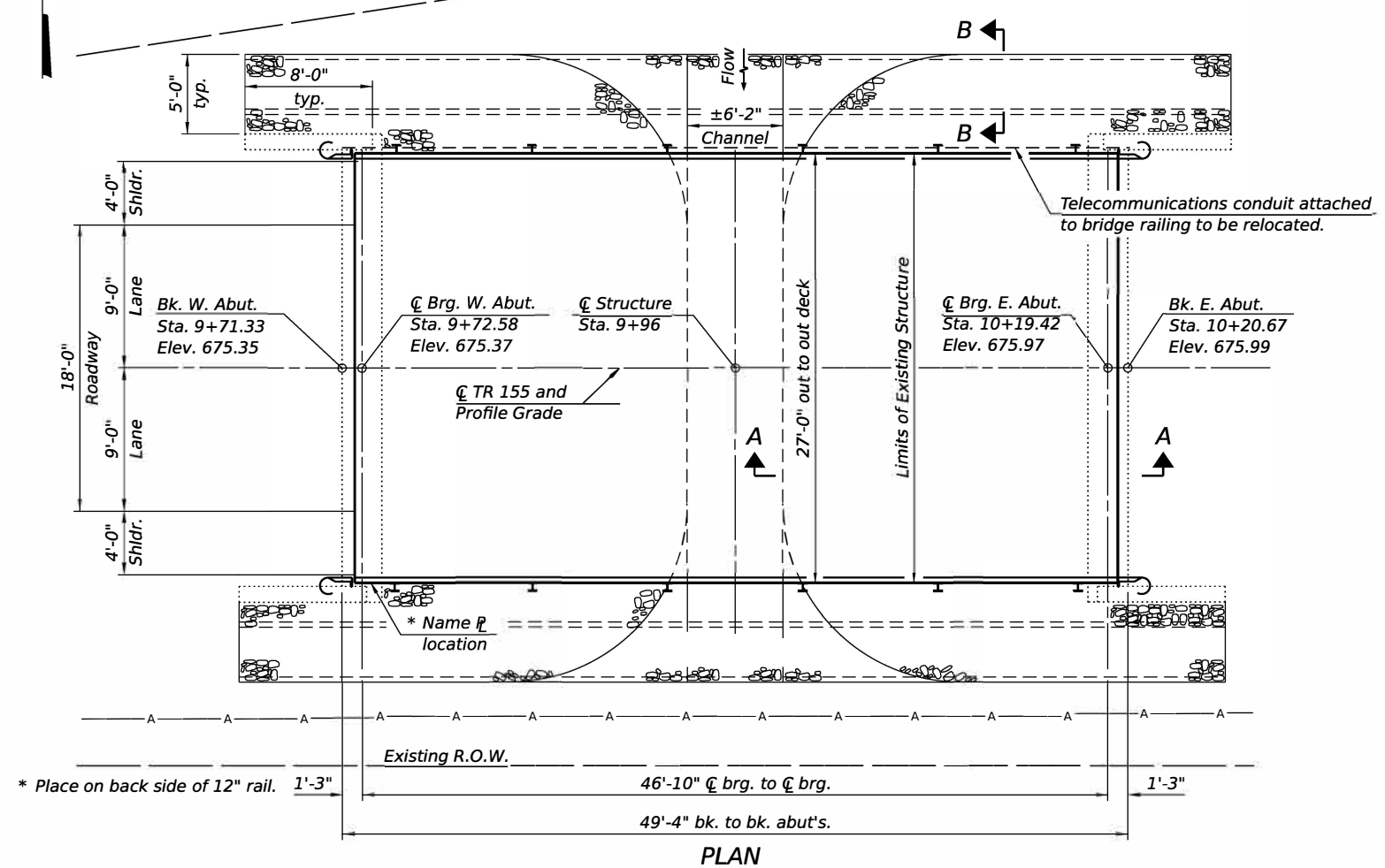
$f_c = 1,400$ psi
 $f_s = 20,000$ psi (Reinforcement)

PRECAST UNITS (New Construction)

$f_c = 6,000$ psi
 $f_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($1/2$ " low lax strands)
 $f_{pbt} = 201,960$ psi ($1/2$ " low lax strands)

SEISMIC DATA (Exist. Const.)

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.133g
 Design Spectral Acceleration at 1.0 sec. (S_{D5}) = 0.228g
 Soil Site Class = D



Notes:

1. See roadway plans for additional information not shown herein.
2. See Sheet 2 for Proposed Profile Grade and Sections A-A and B-B.

STONY CREEK
 RE-BUILT BY
 CHAMPAIGN COUNTY
 SEC. 23-17133-00-BR
 TR 155 STA. 9+96
 STR. NO. 010-4192 LOADING HL93

NAME PLATE

See Std. 515001

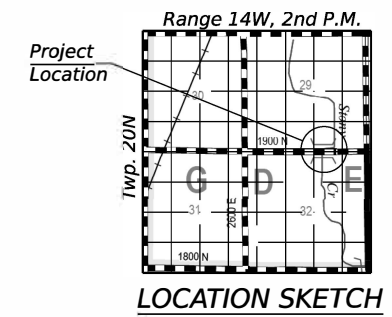
Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



Slade B. Chelban 2/26/2024
 Expires: 11/30/2024

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elev. (ft.)		Item 113
	W. Abut.	E. Abut.	
Q100	-	-	8
Q200	-	-	
Design	670.76	671.36	
Check	670.76	671.36	



GENERAL PLAN AND ELEVATION
TR 155 OVER STONY CREEK
SECTION 23-17133-00-BR
CHAMPAIGN COUNTY
STATION 9+96
STRUCTURE NO. 010-4192

FILE NAME: C:\P\WHKS & COLLABS\Spring - Project\Champaign County\TR 155 over Stony Creek\ZACAD\CAD_Sheets\SN 010_4192.dgn



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PLOT DATE = 2/26/2024	CHECKED = JLM	REVISED =
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

STRUCTURE NO. 010-4192

SHEET 1 OF 12 SHEETS

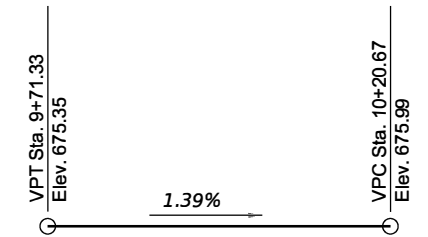
TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	9
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

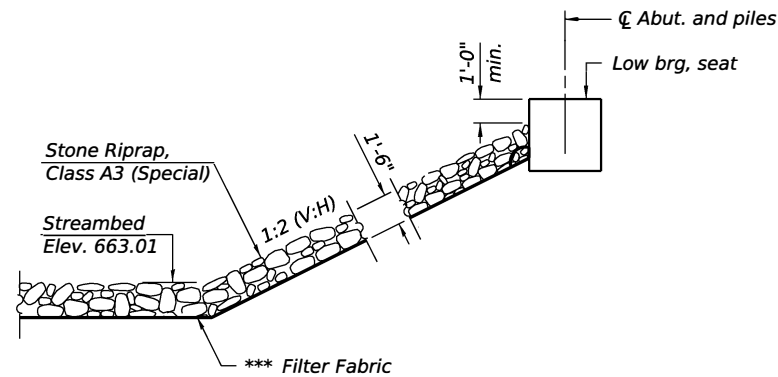
1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. The Contractor shall be responsible for diverting the water flow from the construction area using a method meeting the approval of the Engineer. This shall not be paid for separately but shall be included in the cost of the Contract.
4. Layout of the slope protection system, and streambed armoring shown herein, may be varied to suit ground conditions in the field as directed by the Engineer.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Channel Excavation	Cu. Yd.		66	66
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		0.2	0.2
Structure Excavation	Cu. Yd.		20	20
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,296		1,296
Steel Railing, Type S1	Foot	96		96
Name Plates	Each	1		1
Controlled Low-Strength Material	Cu. Yd.		44.1	44.1
Terminal Marker - Direct Applied	Each	4		4
Stone Riprap, Class A3 (Special)	Ton		192	192

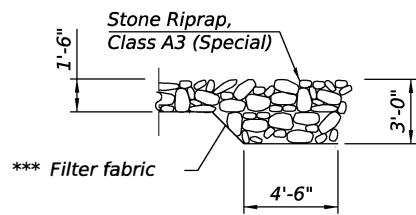


PROPOSED PROFILE GRADE
(Along C TR 155)

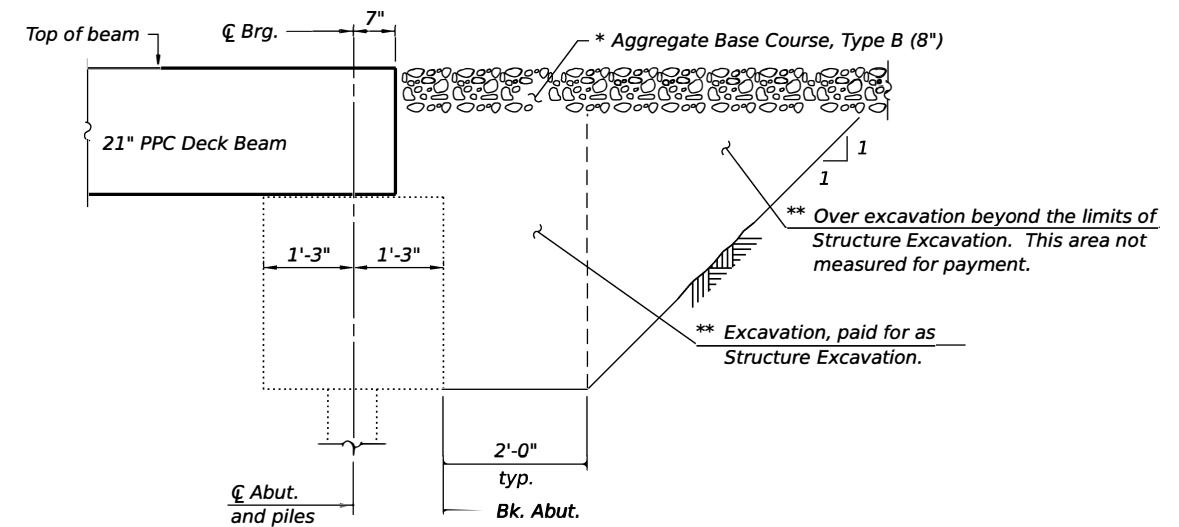


SECTION A-A

*** Cost included with Stone Riprap, Class A3 (Special). See Special Provisions.



SECTION B-B



SECTION AT ABUTMENT

- * See Roadway Plans
- ** Backfill with Controlled Low-Strength Material (CLSM) (Mix 2) full width of abutment cap only, typ. each abutment.

FILE NAME: C:\SP\WHKS & CO\Jobs-Spring - Projects\Champaign County\769 Champaign Co. TR 155 over Sbrny Creek\zccadd\CAD_Sheets\SN 010_4192.dgn



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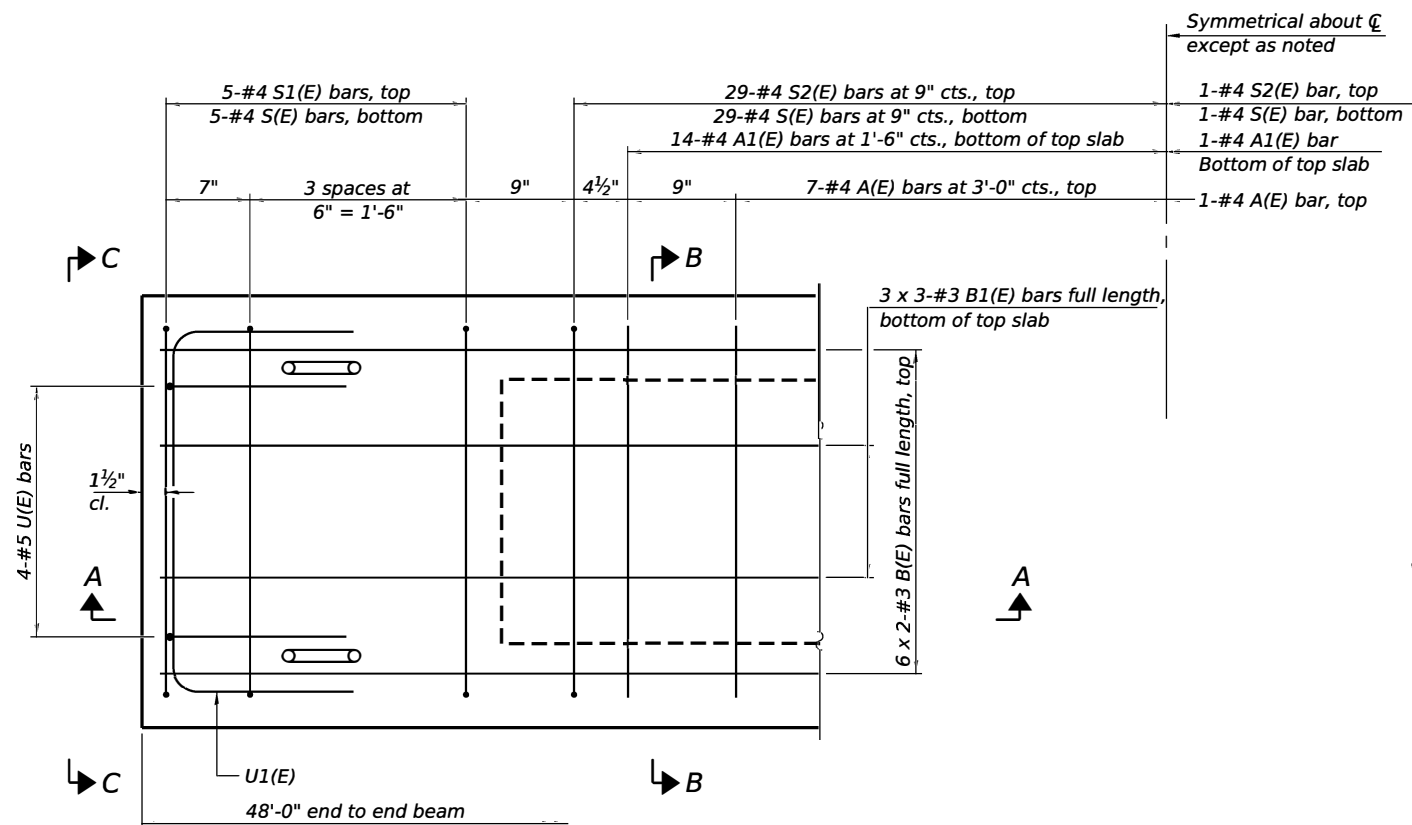
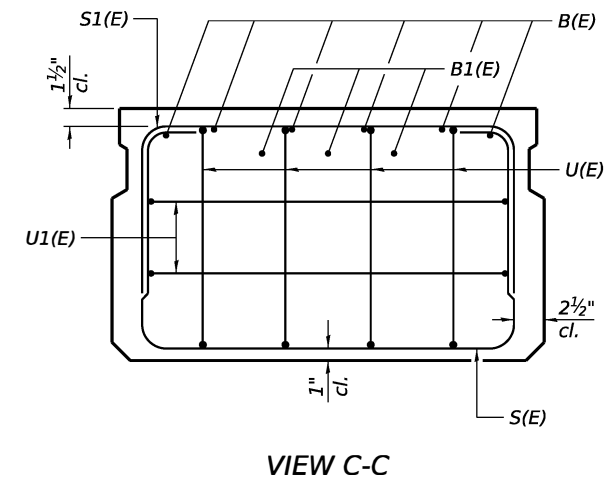
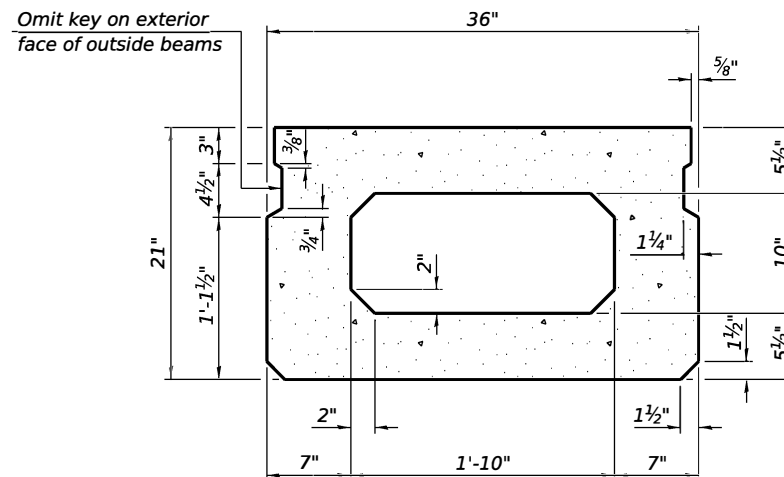
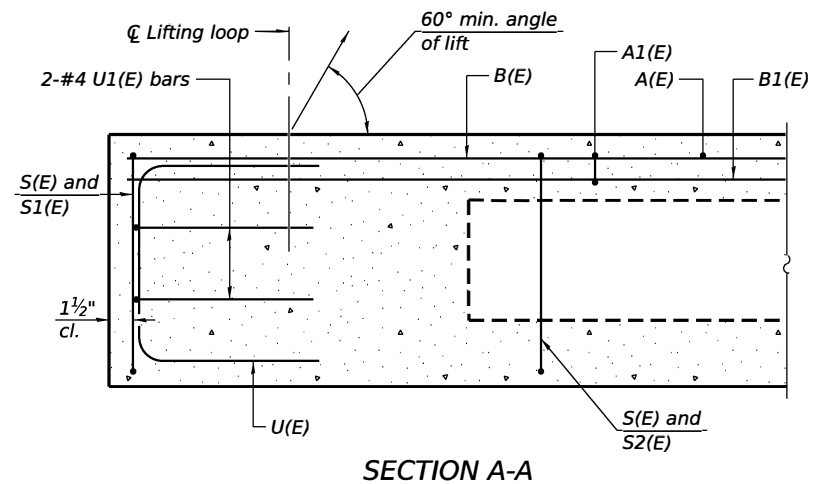
CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

GENERAL DATA
STRUCTURE NO. 010-4192

SHEET 2 OF 12 SHEETS

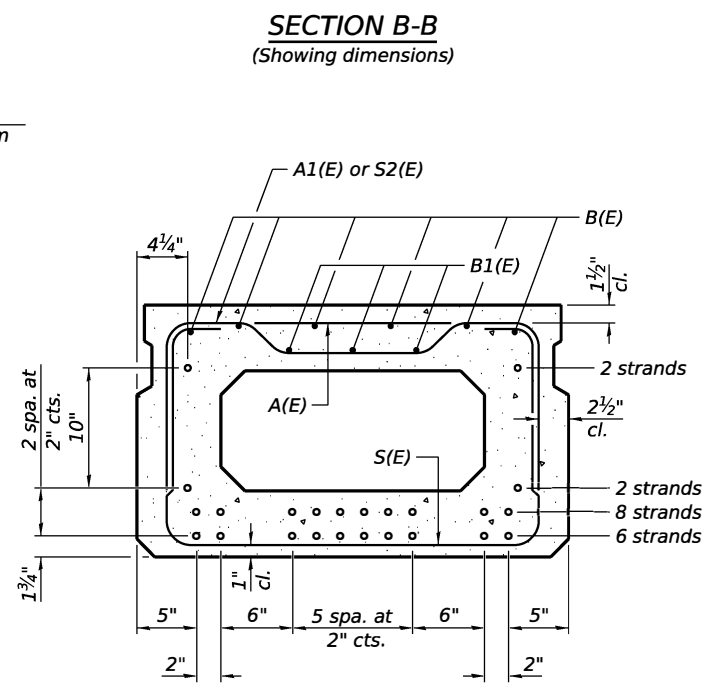
TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	10
CONTRACT NO. 91648				

ILLINOIS FED. AID PROJECT



Symmetrical about \bar{C} except as noted

- 1-#4 S2(E) bar, top
- 1-#4 S(E) bar, bottom
- 1-#4 A1(E) bar
- Bottom of top slab
- 1-#4 A(E) bar, top



SECTION B-B
(Showing reinforcement and permissible strand locations)
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	29	#4	2'-10"	~
B(E)	12	#3	24'-8"	—
B1(E)	9	#3	16'-11"	—
S(E)	69	#4	6'-5"	⌋
S1(E)	10	#4	4'-11"	⌋
S2(E)	59	#4	5'-2"	⌋
U(E)	8	#5	4'-0"	⌋
U1(E)	4	#4	5'-0"	⌋

MINIMUM BAR LAP
#3 bar = 1'-6"

- Notes:
1. Bars indicated thus 3 x 3-#3 etc. indicate 3 lines of bars with 3 lengths per line.
 2. See sheet 4 for additional detail and Bill of Material.

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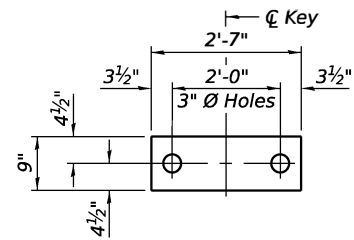


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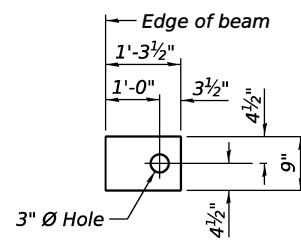
CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

21" x 36" PPC DECK BEAM
STRUCTURE NO. 010-4192
SHEET 3 OF 12 SHEETS

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	11
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				



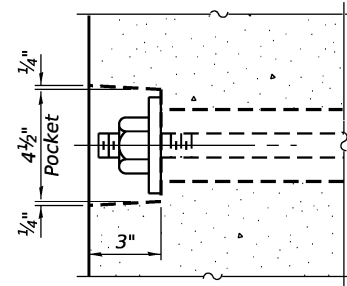
FABRIC BEARING PAD
(Interior)



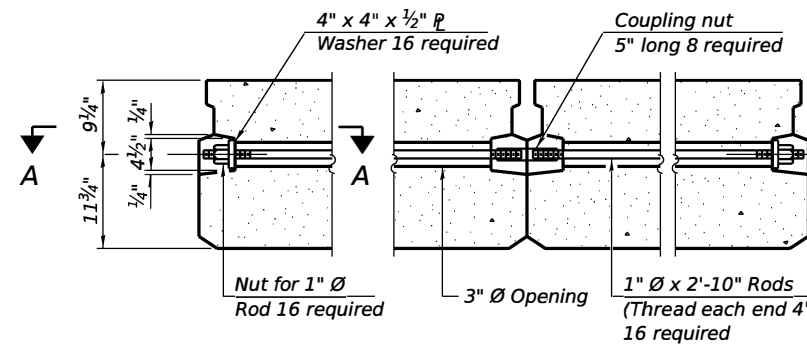
FABRIC BEARING PAD
(Exterior)

FIXED

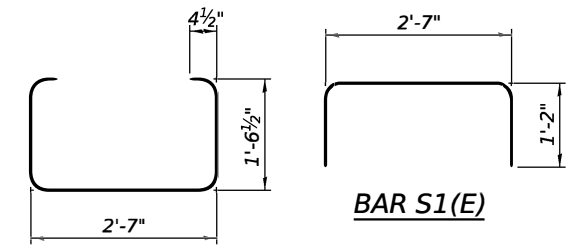
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pads shall be bonded to the substructure.



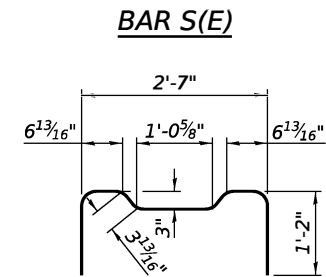
SECTION A-A



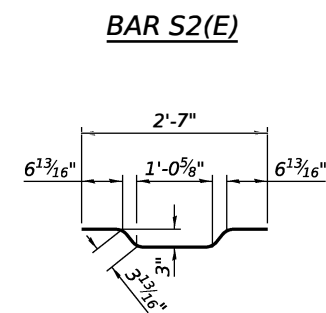
TYPICAL TRANSVERSE TIE ASSEMBLY



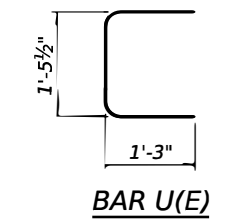
BAR S1(E)



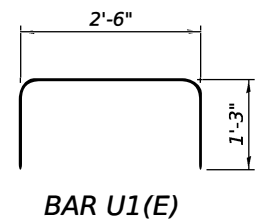
BAR S(E)



BAR S2(E)

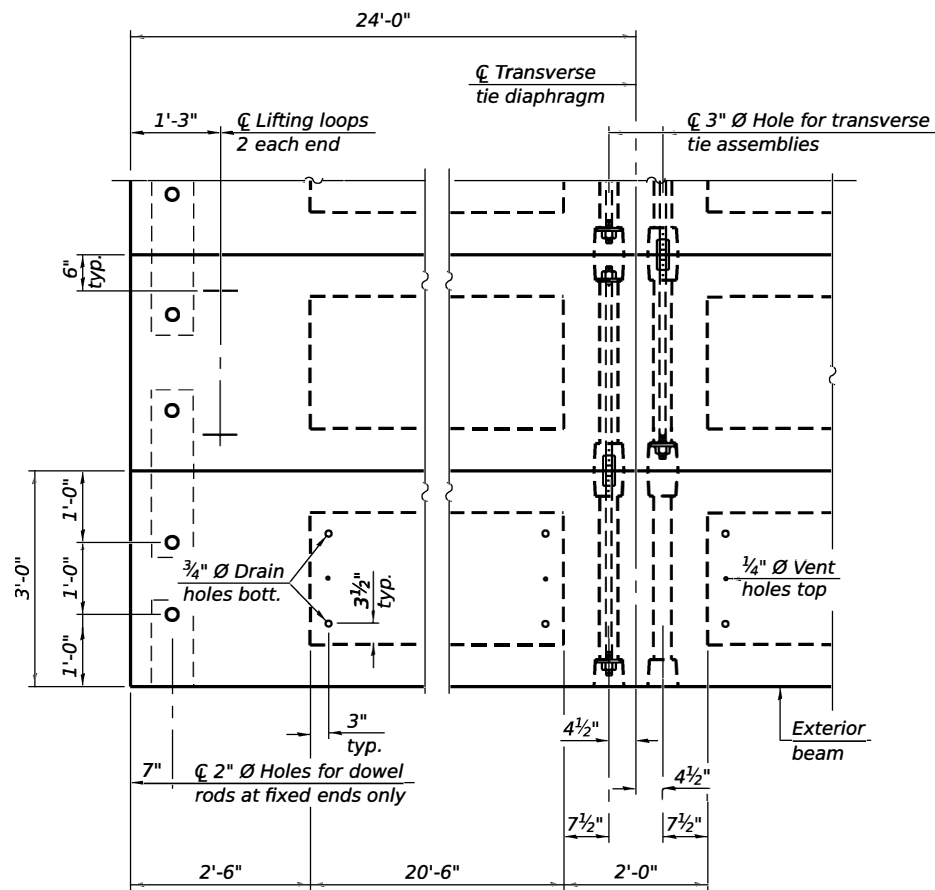


BAR U(E)



BAR U1(E)

BAR A1(E)

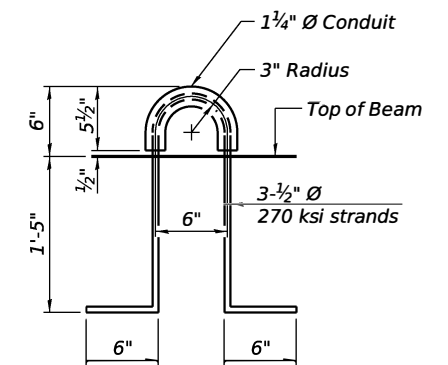


PLAN VIEW

Connect beams in pairs with the transverse tie configuration shown.

NOTES

1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
2. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
3. Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
4. A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
5. Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
6. Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
7. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,296
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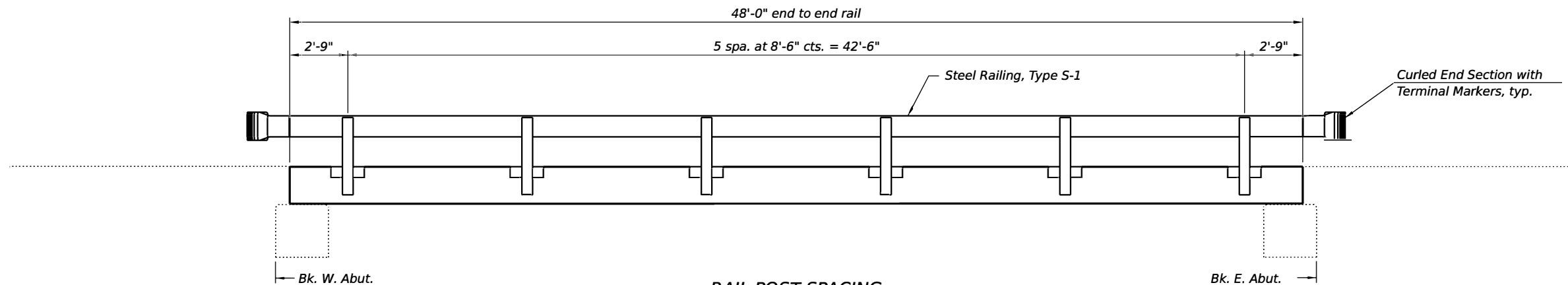
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

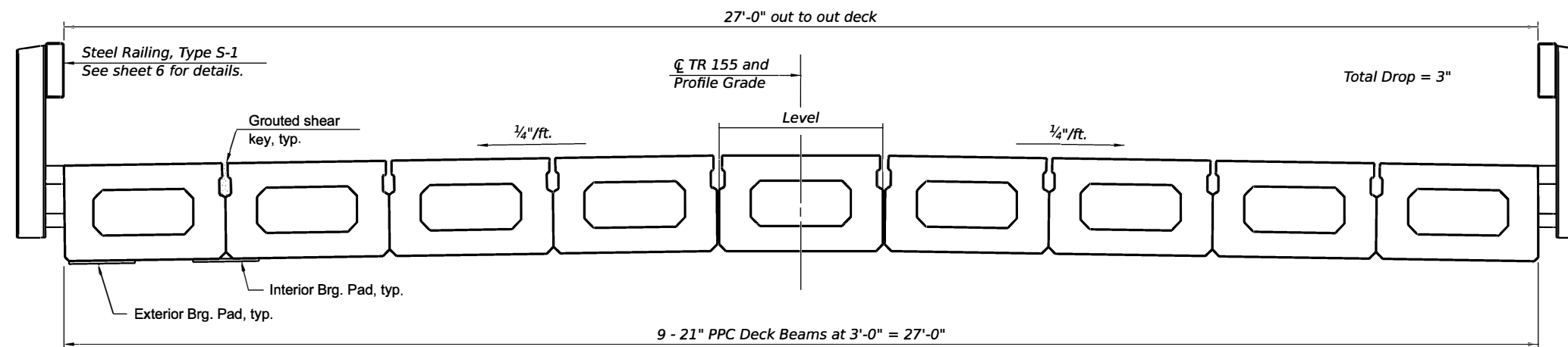
21" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 010-4192

SHEET 4 OF 12 SHEETS

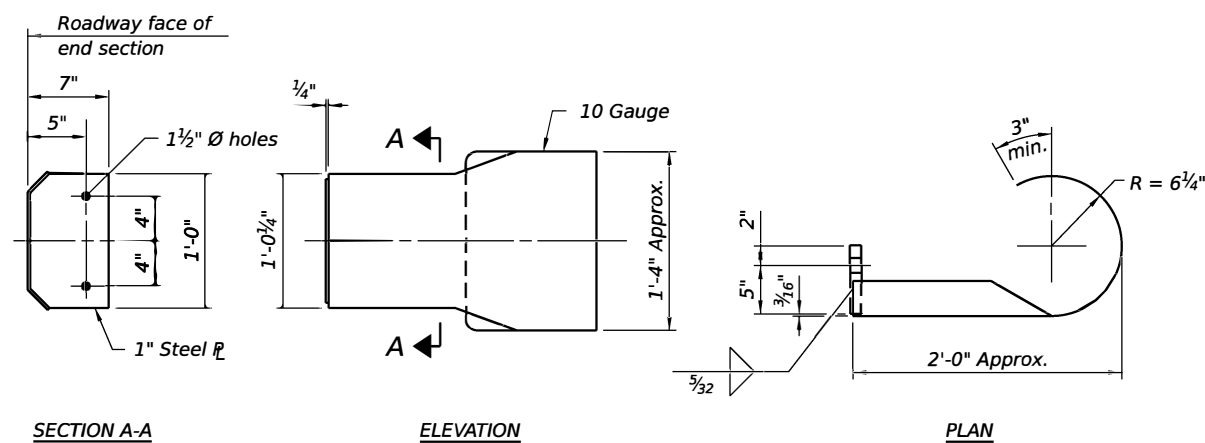
TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	12
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				



RAIL POST SPACING



CROSS SECTION



DETAILS OF CURLED END SECTION
(Cost included with Steel Railing, Type S-1.)

FILE NAME: C:\SP\WHKS & CO\Jobs-Spring - Projects\Champaign County\769 Champaign Co. TR 155 over Sbray Creek\23CADD\CAD_Sheets\SN 010_4192.dgn



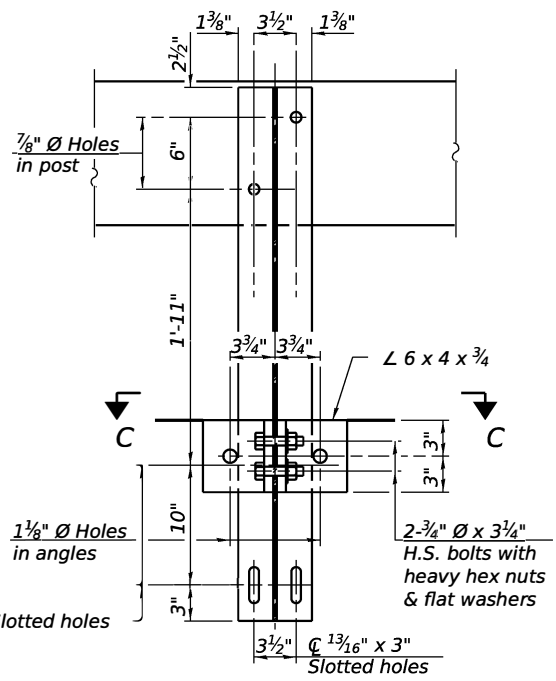
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

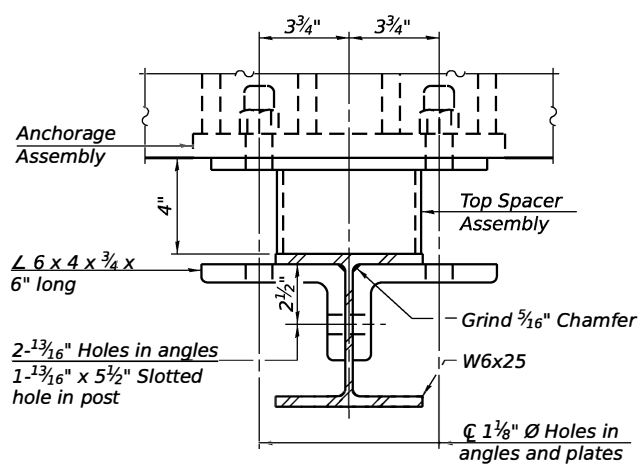
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 010-4192

SHEET 5 OF 12 SHEETS

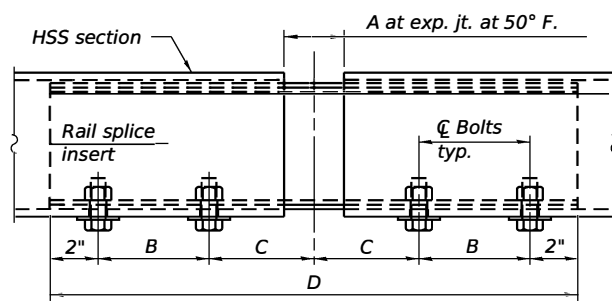
TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				



SECTION B-B



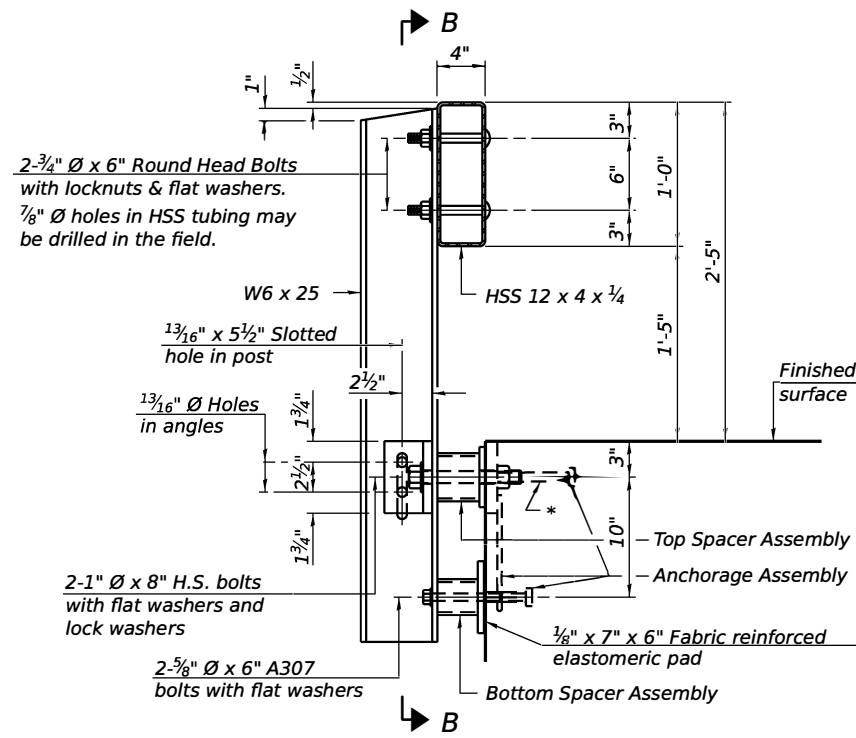
SECTION C-C



RAIL SPLICE ELEVATION

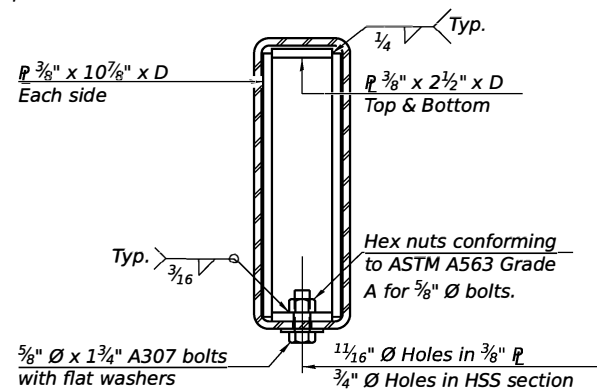
RAILING CRITERIA

NCHRP 350 Test Level	2
Railing Weight (nlf)	50

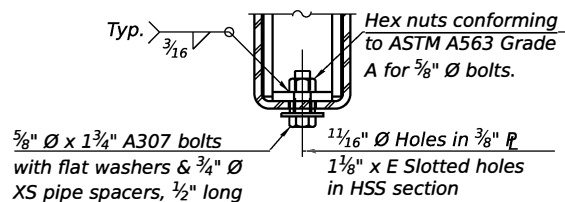


SECTION AT RAILING POST

* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down 1/2 inch to accommodate the top reinforcement bar placement.



SECTION AT RAIL SPLICE

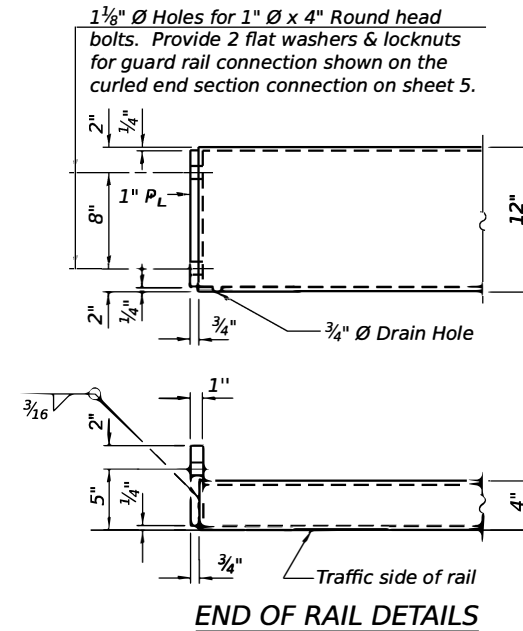


RAIL SPLICE CONNECTION AT EXPANSION JT.

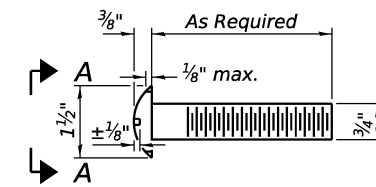
SPLICE DIMENSIONS

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤ 4"	2 1/2"	4 3/8"	4 3/8"	1'-10"	3 1/2"
Over Finger or Modular Jt.	≤ 9 1/2"	5 1/2"	7 3/8"	7 3/4"	2'-9 1/4"	5 1/2"
Over Finger or Modular Jt.	≤ 15"	8 3/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

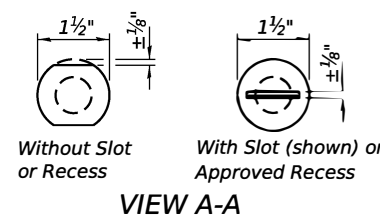
T = ; total movement along centerline of roadway at expansion joint.



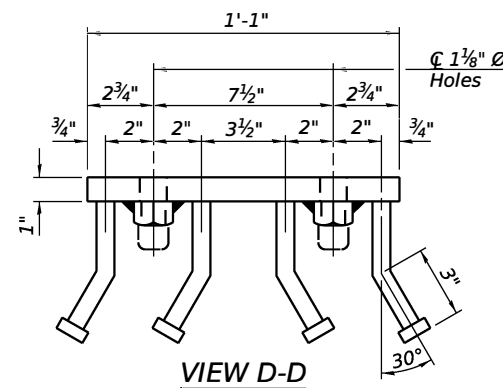
END OF RAIL DETAILS



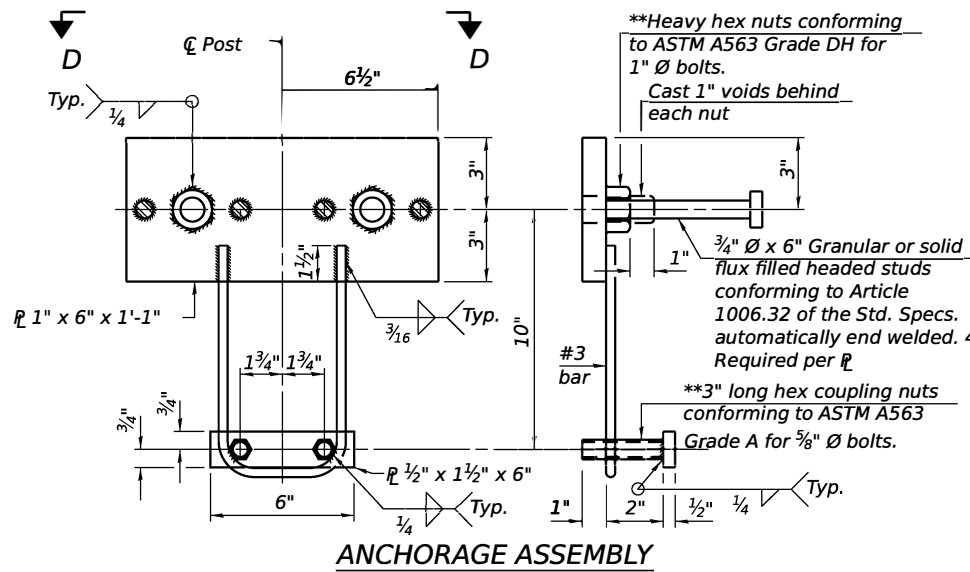
ROUND HEAD BOLT DETAIL



VIEW A-A



VIEW D-D

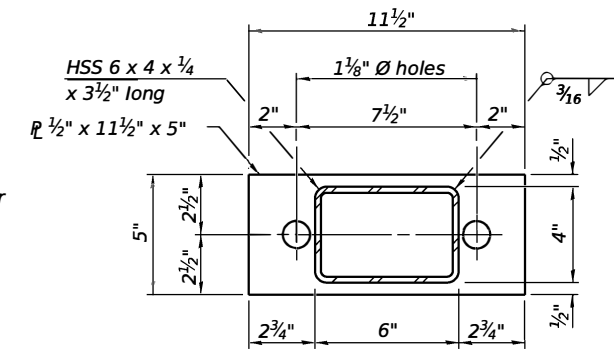


ANCHORAGE ASSEMBLY

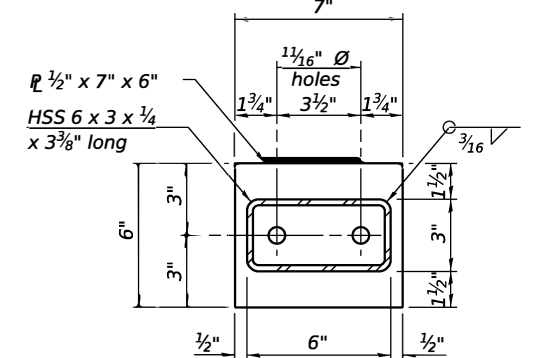
** Threaded areas shall be plugged or blocked off during casting of concrete.

Notes:

1. A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11 1/2", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than 1/4" (top) or 1/2" (bottom), longer bolts are required. Cost included with Steel Railing, Type S-1.
2. All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.
3. All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.
4. Rail splice inserts may be built out of 2 - 3/8" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.
5. All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	96

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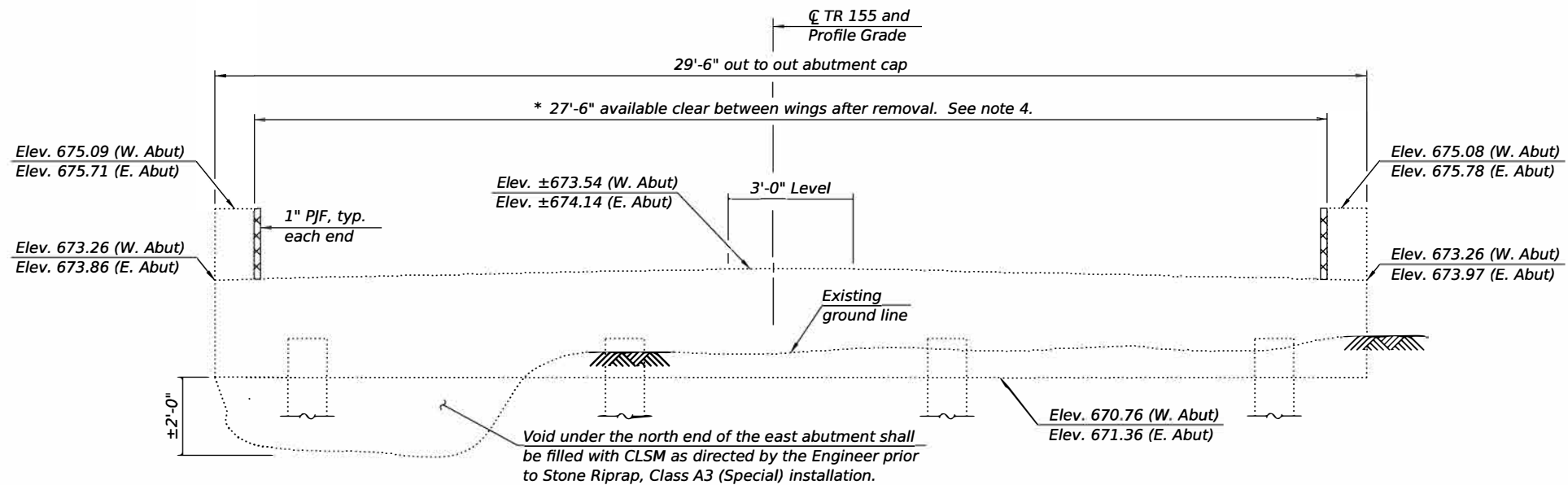
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 010-4192

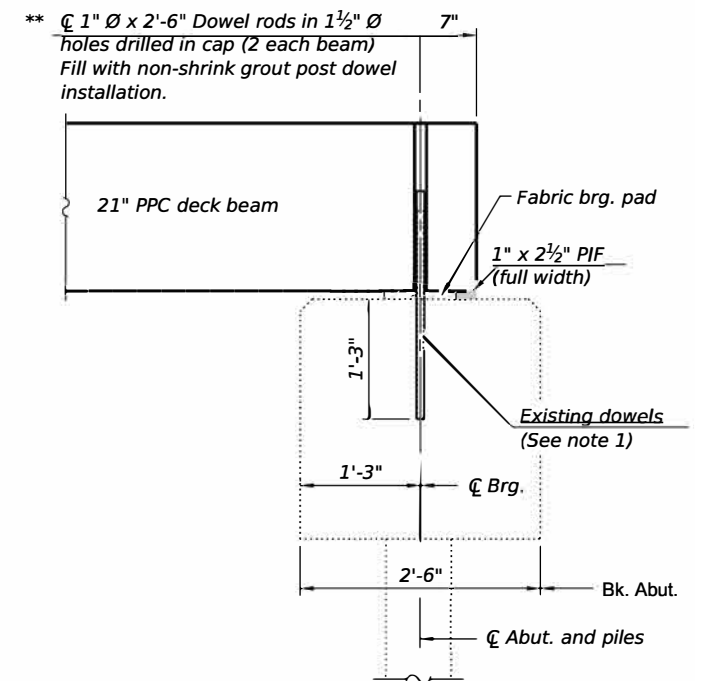
SHEET 6 OF 12 SHEETS

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	14
CONTRACT NO. 91648				
ILLINOIS FED. ROAD PROJECT				



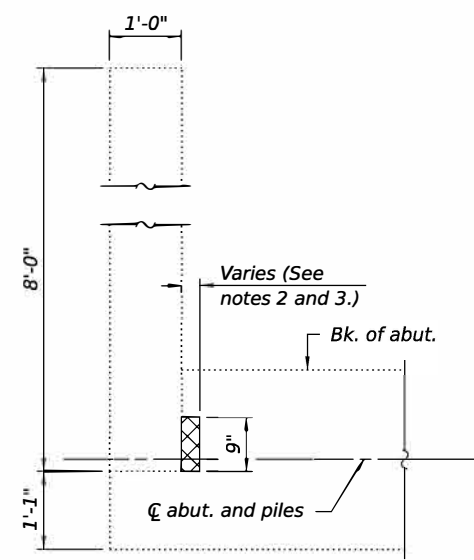
ABUTMENT ELEVATION

(West Abutment shown. East Abutment similar, unless otherwise noted.)
 * Dimensions determined from existing plans and shall be field verified by the Contractor prior to superstructure installation. (See Wingwall Removal Detail.)



SECTION THRU ABUTMENT

** If the Contractor encounters any conflicts with existing dowel rods, contact the Engineer of Record for further disposition.



WINGWALL REMOVAL DETAIL

(SW and NE wingwalls shown. SE and NW wingwalls similar.)

Notes:

- Burn existing dowels flush with top of cap. Grind existing dowels smooth and seal with epoxy. Epoxy used shall be approved by the Engineer. Cost is included with Removal of Existing Superstructure.
- Burn any existing reinforcement extending into the concrete removal limits flush with the remaining concrete surface. Grind existing reinforcement smooth and seal with epoxy. Epoxy used shall be approved by the Engineer. Cost is included with Concrete Removal.
- Removal of the wingwalls shall be completed in a manner such that the removal is the minimum necessary to allow for installation of the new superstructure as detailed herein. The Contractor shall provide sawing equipment adequate in size and horsepower to complete the required full-depth sawing operation. Chipping and/or hydraulic hammers are not allowed along the vertical wingwall removal lines. The resulting vertical surface of the wingwalls after concrete removal operations shall be smooth and plumb.
- The thickness of the preformed joint filler (PJF) may be increased if the expansion gap between exterior beams and wing walls is larger than anticipated after concrete removal operations. Cost is included with Precast Prestressed Concrete Deck Beams (21" depth).

LEGEND

Limits of Concrete Removal

BILL OF MATERIAL

(West Abutment)

Item	Unit	Total
Concrete Removal	Cu. Yd.	0.1
Controlled Low-Strength Material	Cu. Yd.	21.4

BILL OF MATERIAL

(East Abutment)

Item	Unit	Total
Concrete Removal	Cu. Yd.	0.1
Controlled Low-Strength Material	Cu. Yd.	22.7

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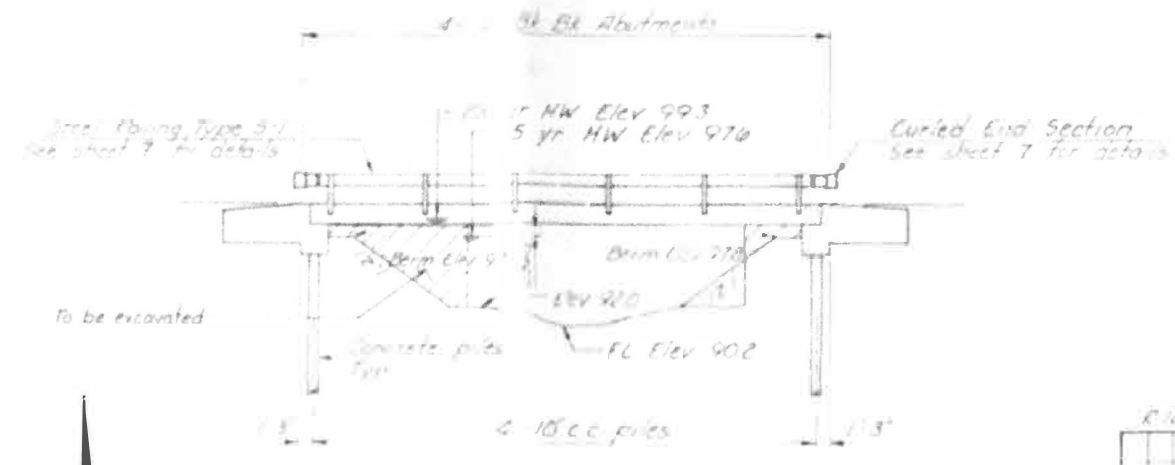
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

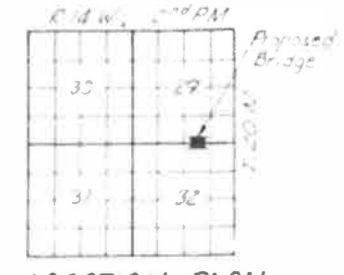
**SUBSTRUCTURE DETAILS
STRUCTURE NO. 010-4192**

SHEET 7 OF 12 SHEETS

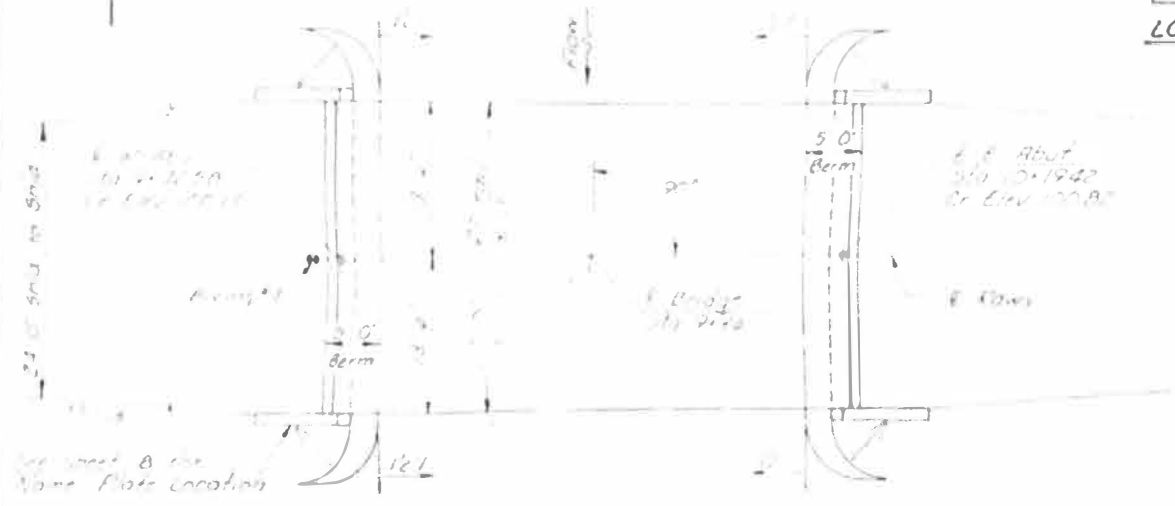
TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	15
CONTRACT NO. 91648			ILLINOIS FED. AID PROJECT	



ELEVATION



LOCATION PLAN



PLAN

DEPTH (ft)	N	QU	W	DESCRIPTION
100	7	35.5	25	Dark brown to black Silty Clay loam
95	6	21.8	25	Gray brown Silty Clay loam with pebbles & sand lenses
90	3	-	17	
85	2	11.8	13	Gray Silty Clay loam with pebbles & sand lenses
80	13	40.5	11	
75	13	61.5	10	
70	7	-	11	Gray medium Sand with silt lenses
65	11	-	14	
60	18	-	14	
55	5	13.8	12	
50	5	17.8	12	
45	9	18.8	13	Gray Silty Co. loam with pebbles & sand lenses
40	10	20.5	11	
35	5	45.5	13	
30	2	32.5	9	
25	13	38.5	10	
20	2	-	12	Gray medium to coarse Sand, some gravel

BORING DATA

- N - Standard Penetration Test - Blows per foot to drive 2" 30" split barrel sampler 10" with 140 lb hammer falling 30"
- QU - Unconfined Compressive Strength - t/sf
- W - Water Content - percentage of oven dry weight
- B - Blow Count
- F - Shear Failure
- S - Surface Water Elevation
- G - Groundwater Elevation of Completion

DESIGN STRESSES

- f_c - 5000 psi (Prestressed Beams)
- f_c - 4000 psi (Prestressed Beams)
- f_c - 1400 psi (Class X Concrete)
- f_s - 270,000 psi (Prestressed Strands)
- f_s - 189,000 psi (Prestressed Strands)
- f_s - 20,000 psi (Reinforcement Bars - Field Units)
- f_s - 30,000 psi (Reinforcement Bars - Precast Units)
- n = 9 (Class X Concrete)
- Leaving HS 20 44
- Design Specifications: AASHTO 1977, 1978, 1979, & 1980 Interims
- 25 lbs./Sq Ft included in dead load for future wearing surface

WATERWAY DATA

Drainage Area	1.42	Sq. Mi.
Design Discharge (15 yr)	260	CFS
Existing Opening (15 yr)	150	Sq. Ft.
Required Opening (15 yr)	190	Sq. Ft.
Proposed Opening (15 yr)	190	Sq. Ft.
Created Head (15 yr)	0.0	Ft.
100 yr Discharge	400	CFS
100 yr Created Head	0.0	Ft.

LETTERING FOR NAME PLATE

GENERAL NOTES

The contractor shall provide concrete test cylinders in accordance with Section 207.05 of the Standard Specifications for Road and Bridge Construction, Illinois, 2010 Edition.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	0.75		0.75
Class X Concrete	Cu Yd		117	117
Reinforcement Bars	Pound		2480	2480
Steel Piling Type 3-1	Lin Ft.	93		93
Concrete	Lin Ft.		145	145
Test Plate Concrete	Each		1	1
Name Plate	Each		1	1

GENERAL PLAN & ELEVATION
SECTION 23-17133-00-BR
OGDEN ROAD DISTRICT
CHAMPAIGN COUNTY
STATION 9+96
COLLINS AND RICE
CONSULTING ENGINEERS

FILE NAME: C:\P\WHKS & COLLAB\Spring - Projects\Champaign County\7169 Champaign Co. TR 155 over Stony Creek\ZACADD\CAD_Sheet\SN 010_4182.dgn



USER NAME = jmont	DESIGNED - GEM	REVISIONS -
	CHECKED - JLM	REVISIONS -
PLOT DATE = 2/28/2024	DRAWN - DLH	REVISIONS -
PLOT DATE = 8:29:05 AM	CHECKED - GEM/SBC	REVISIONS -

CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

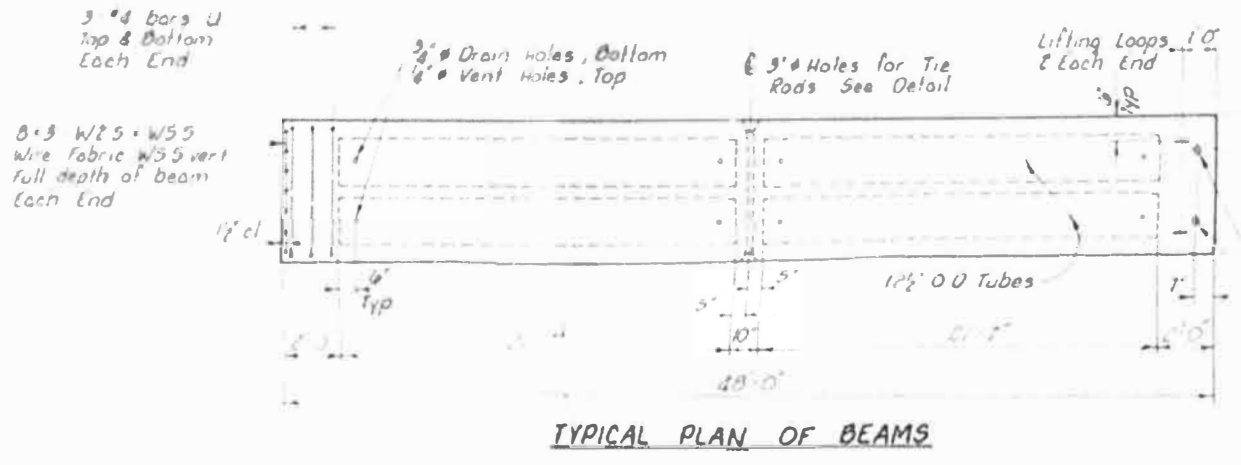
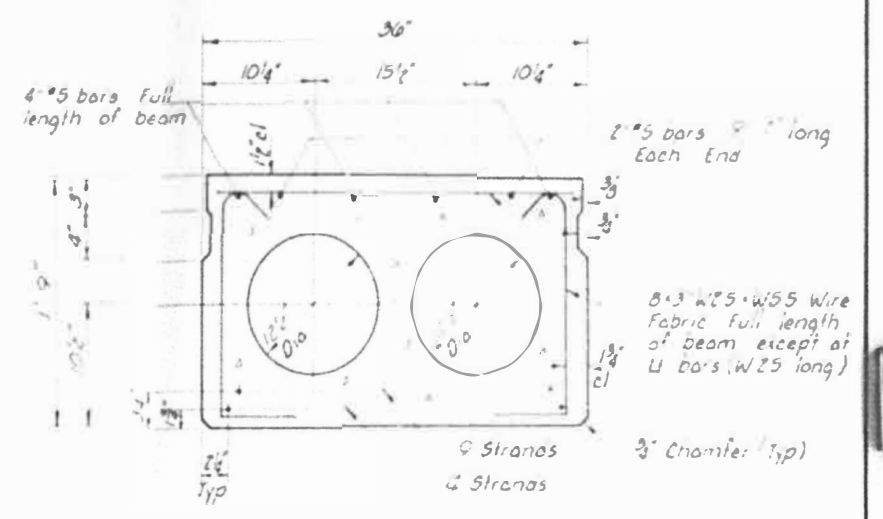
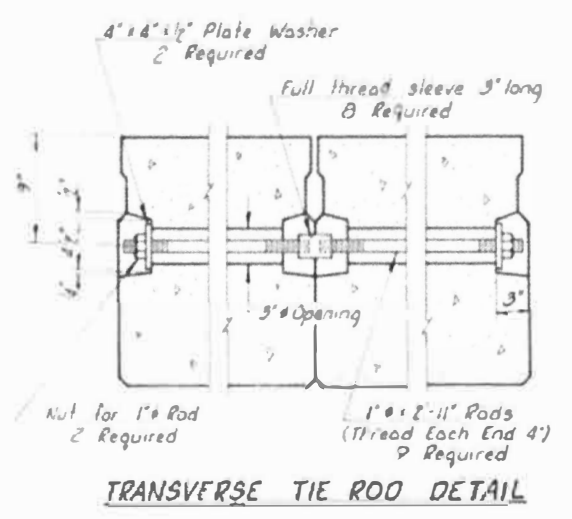
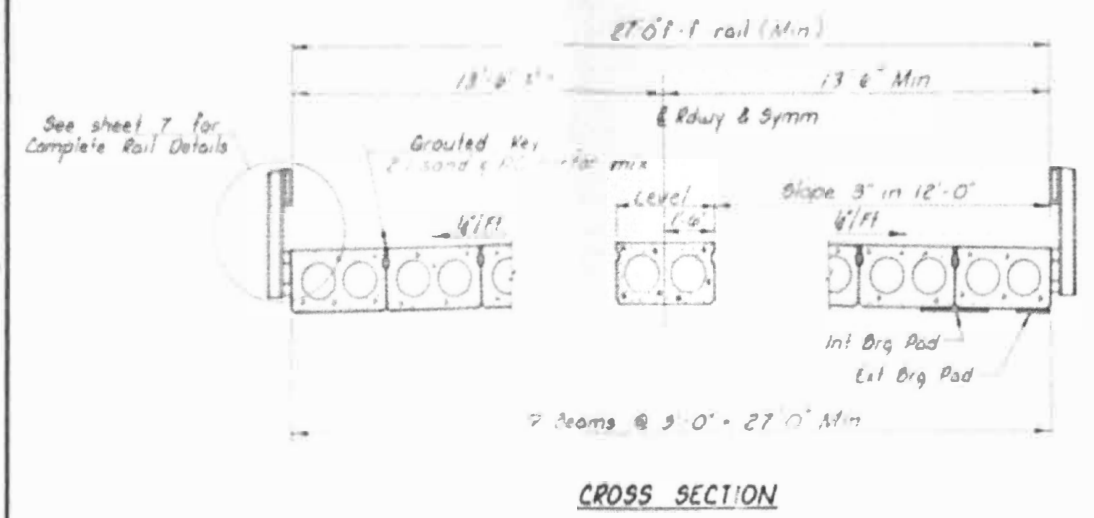
EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 010-4192

SHEET 8 OF 12 SHEETS

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	16
ILLINOIS FED. AID PROJECT				

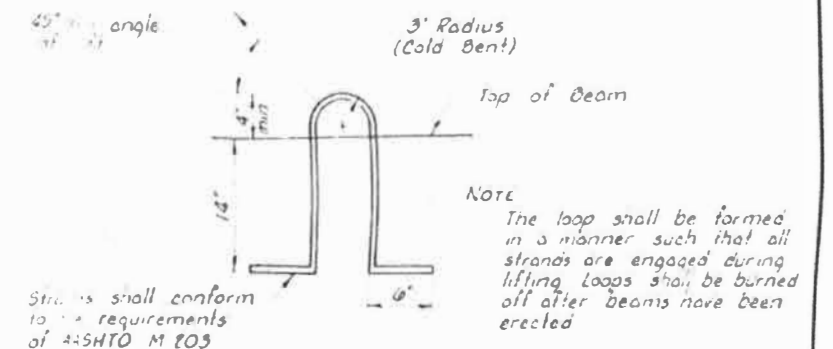
CONTRACT NO. 91648

NOTE: Drill key on exterior face of outside beams



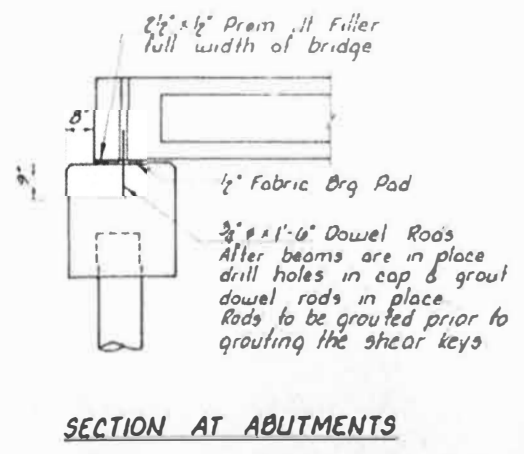
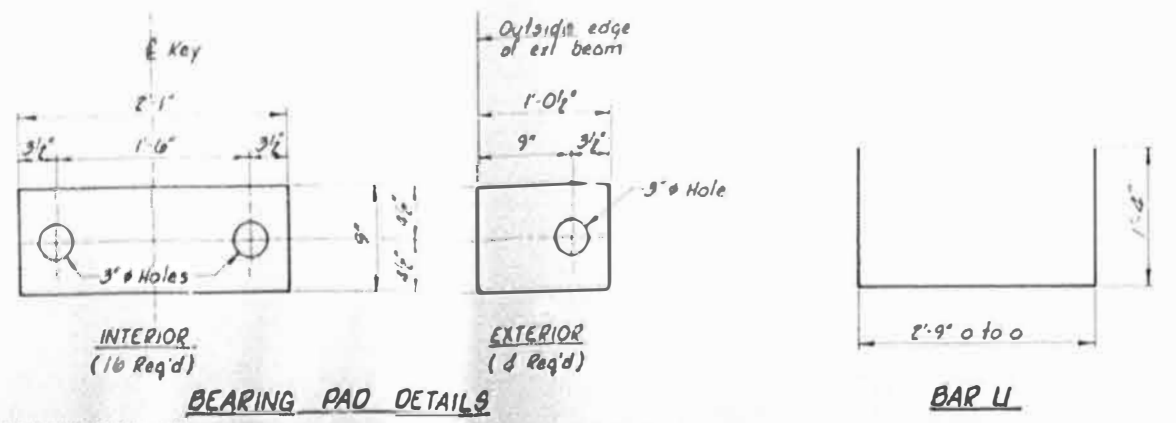
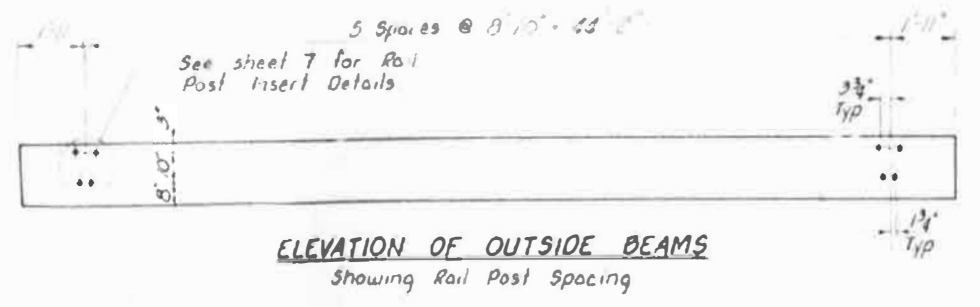
NOTES

Prestressing steel shall be non-galvanized high strength, stress relieved 7 wire strand, Grade 270.
 The nominal diameter shall be 1 1/2" and the nominal cross-sectional area shall be 0.153 sq in.
 Lifting loops shall be 7 wire stress-relieved, 2-1/2" x 270 ksi strands.
 The 1" rods in the transverse tie assembly shall be tightened to a snug fit & the threads set pockets that receive tie rod on outside shall be filled with grout after ties are in place.
 Reinforcement bars shall conform to AASHTO M 31 or M 53, Grade 60.
 The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" fabric adjusting shims or the dimensions of the Exterior Bearing Pad shall be provided for each bearing.



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (1 1/2" Depth)	Sq Ft	1296



SUPERSTRUCTURE
SECTION 79-17548-05-BR
OGDEN ROAD DISTRICT
CHAMPAIGN COUNTY
STATION 9+96

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED FS CHECKED TC
DATE 10-14-78

FILE NAME: C:\SPRINGS & COULDER SPRING - Project\Champaign County\9769 Champaign Co. TR 155 over Slurry Creek\CAD\CADD\CAD_Sheets\010_4192.dgn



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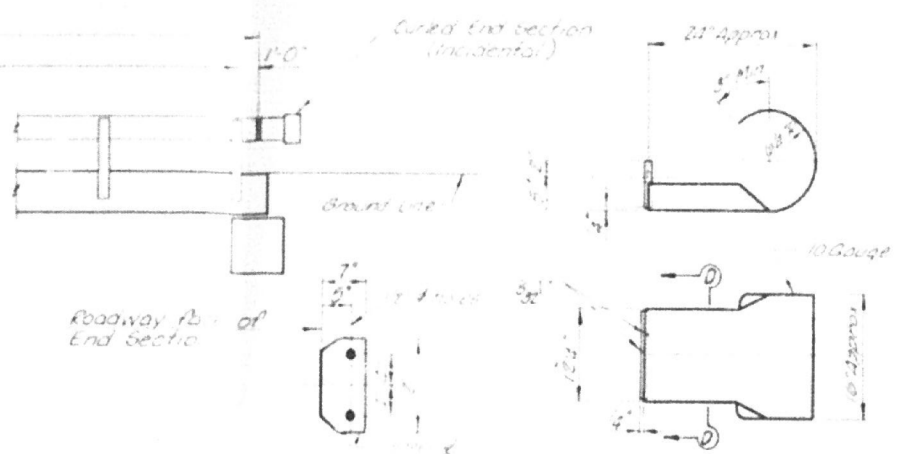
CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 010-4192

TR RTE. 155	SECTION 23-17133-00-BR	COUNTY CHAMPAIGN	TOTAL SHEETS 20	SHEET NO. 17
SHEET 9 OF 12 SHEETS			CONTRACT NO. 91648	
ILLINOIS FED. AID PROJECT				



ELEVATION



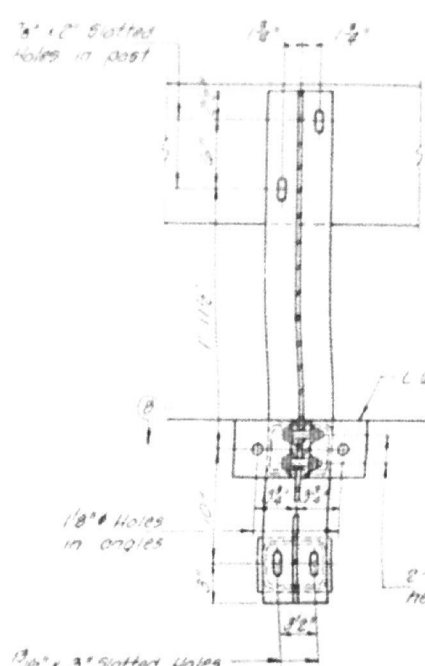
SECTION D-D

CURLED END SECTION DETAILS

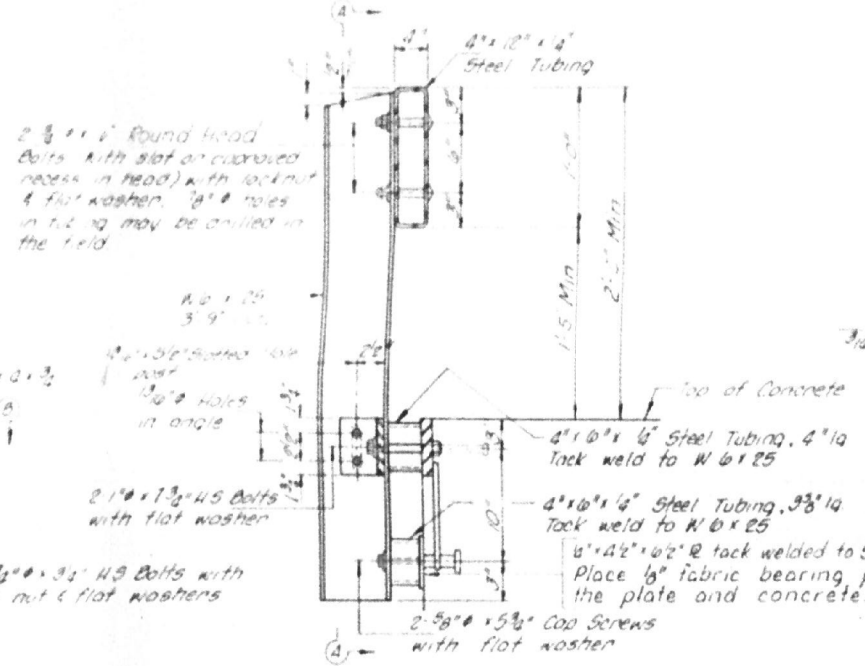
NOTES

Heavy structural steel tubing shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing.
 All other steel shapes and plates shall conform to the requirements of A 240 designation M-183 except posts and angles shall conform to A 240 M-123, Grade 50.
 Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A-307 except for high strength bolts, nuts and washers which shall conform to A 4340 designation M-104.
 All bolts, nuts, cap screws, washers and locknuts shall be galvanized in accordance with A 4340 designation M-104.
 All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with ASTM A-385 and A 4340 M-111. Galvanized rail shall not be painted.
 Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price of lined foot for STEEL RAILING, TYPE 5-1.
 All field drilled holes shall be coated with an approved zinc rich paint before erection.

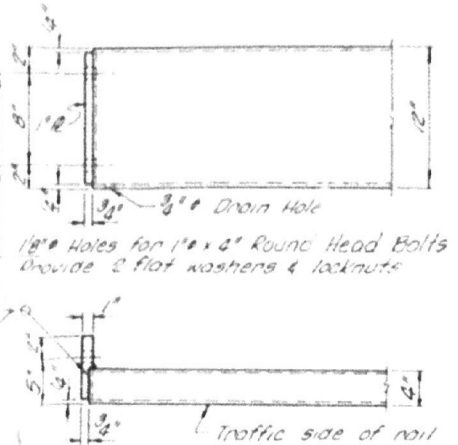
The 5/8" high strength bolts used to connect the 3/4" x 3/4" angles to the post shall be tightened in accordance with Art 507.04(q)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 1" cap screws in bottom of posts shall be tightened to a snug fit only, after the 5/8" high strength bolts have been tightened in accordance with Article 507.04(q)(3).



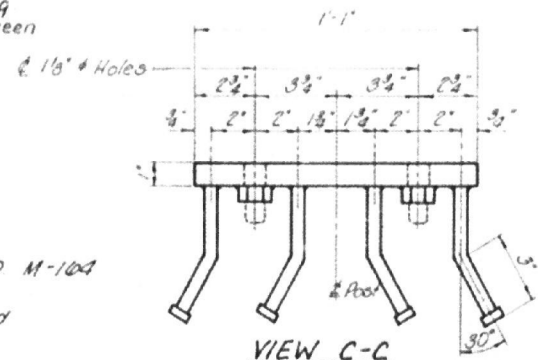
SECTION A-A



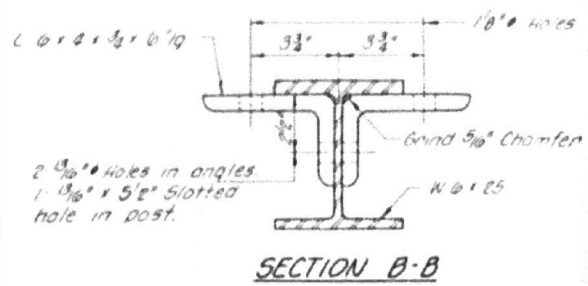
SECTION AT RAIL POST



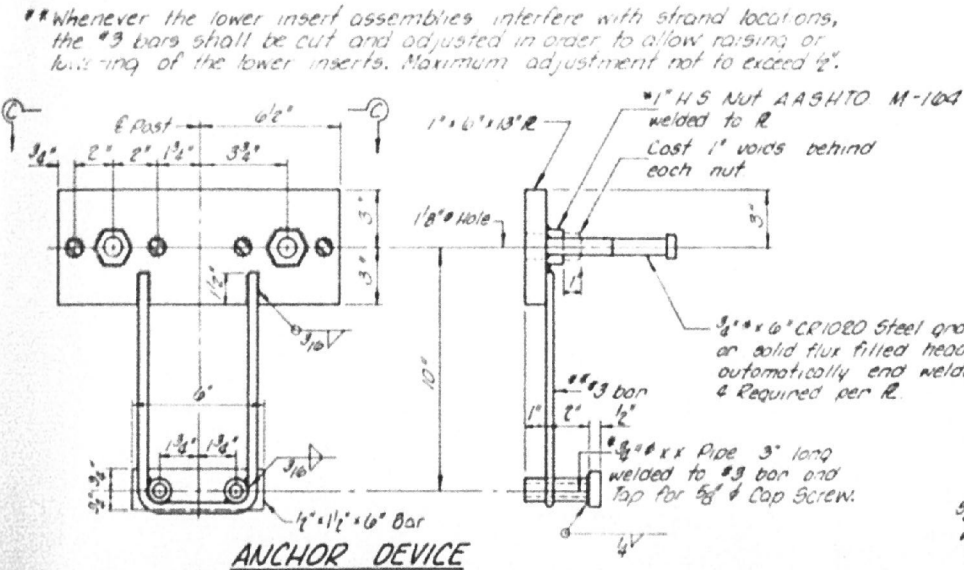
END OF RAIL DETAILS



VIEW C-C

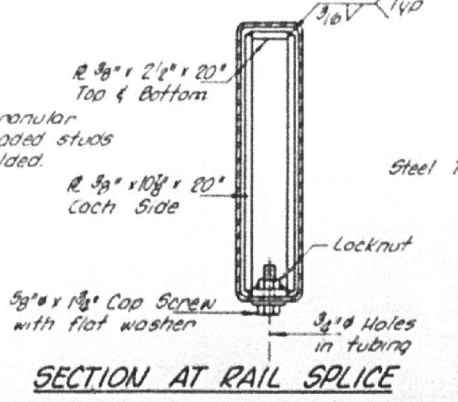


SECTION B-B

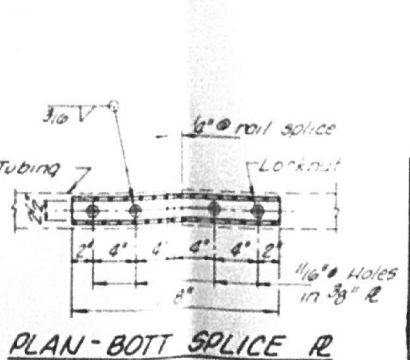


ANCHOR DEVICE

*Threaded areas shall be plugged or blocked off during casting of beam.



SECTION AT RAIL SPLICE



PLAN-BOTT SPLICE R

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 5-1	Lt Ft	93

RAILING DETAILS
 SECTION 79-17548-05-BR
 OGDEN ROAD DISTRICT
 CHAMPAIGN COUNTY
 STATION 9+96

COLLINS AND RICE
 CONSULTING ENGINEERS
 DESIGNED: FS
 CHECKED: TC
 DATE: 10-16-78 = 1484

FILE NAME: C:\SP\WHKS & CO\Jobs-Sparking - Projects\Champaign County\7917548-CADD\CAD_Sheets\SN 010_4192.dgn



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PLOT DATE = 2/26/2024	CHECKED - JLM	REVISED -
PLOT DATE = 8/29/12 AM	DRAWN - DLH	REVISED -
	CHECKED - GEM/SBC	REVISED -

CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

EXISTING PLANS (FOR INFORMATION ONLY)
STRUCTURE NO. 010-4192

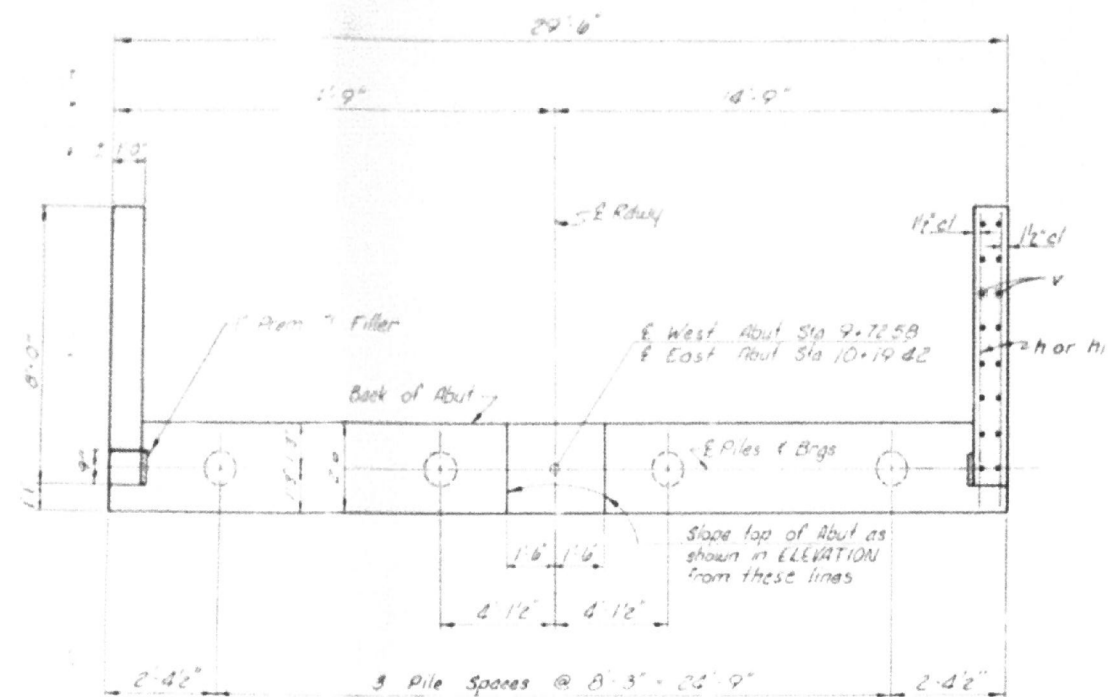
SHEET 10 OF 12 SHEETS

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	18

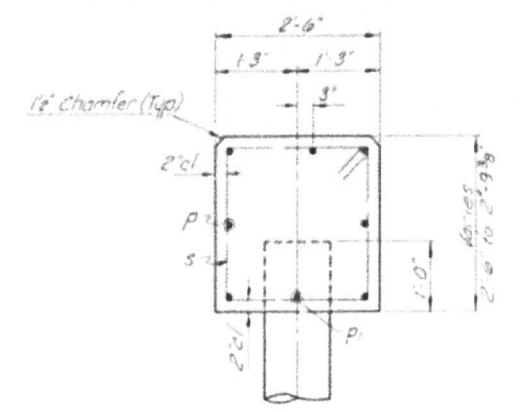
CONTRACT NO. 91648

ILLINOIS FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 155	79-17548-05-BR	CHAMPAIGN	9	8
FED. ROAD DIST. NO. 1	ILLINOIS PROJECT			



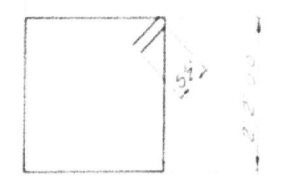
PLAN



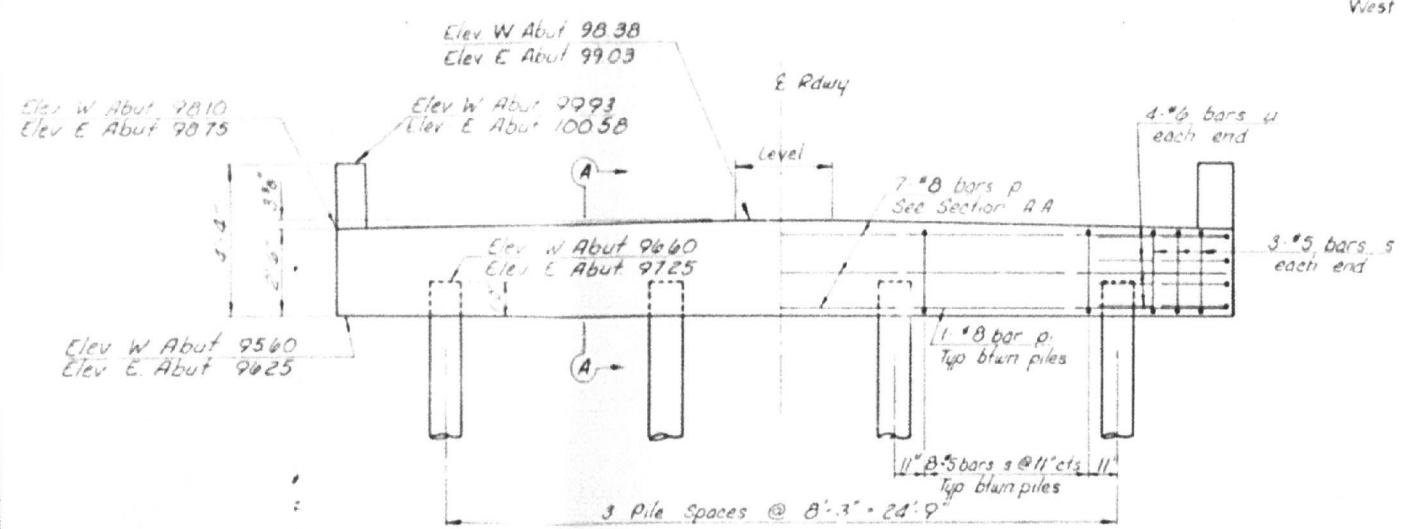
SECTION A-A



BAR U

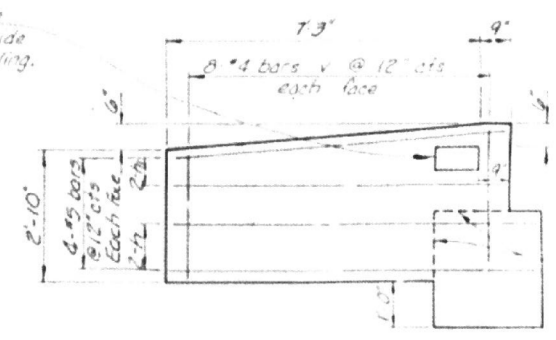


BAR S



ELEVATION

Name Plate shall be placed on the outside face of the South Wing, West Abutment.



WING ELEVATION

Concrete outside wings to be poured after drains are in place.

BILL OF MATERIAL - 2 ABUTS.

BAR	NO	SIZE	LENGTH	SHAPE
p	14	#8	29'-2"	—
u	6	#8	6'-10"	—
h	16	#5	8'-10"	—
h1	16	#5	7'-9"	—
v	24	#4	7'-8"	—
s	18	#6	12'-1"	—
s	60	#5	9'-7"	□
Class A Concrete		Cu. Yd.	17.7	
Reinforcement Bars		Round	2480	
Name Plates		Each	1	
Concrete Piles		Lin Ft	245	
Test Pile Concrete		Each	1	

See sheet 9 for pile alternates

PILE DATA

Type ————— Concrete
 No Req'd (2 Abuts) ————— 8 #
 Capacity ————— 37 Tons/Pile
 Est Length ————— 95 Feet/Pile
 *Includes one test pile to be driven in a permanent location at the East Abutment

ABUTMENTS
 SECTION 79-17548-05-BR
 OGDEN ROAD DISTRICT
 CHAMPAIGN COUNTY
 STATION 9+96
COLLINS AND RICE
 CONSULTING ENGINEERS

FILE NAME: C:\SP\WHKS & CO\Jobs-Sparking - Projects\Champaign County\7917548-05-ABUTMENTS\CADD\CAD_Sheets\SN_010_4192.dgn

Design Firm
 no. 184001036
whks
 engineers + planners + land surveyors

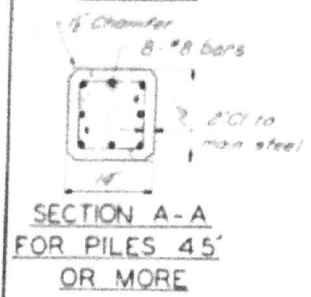
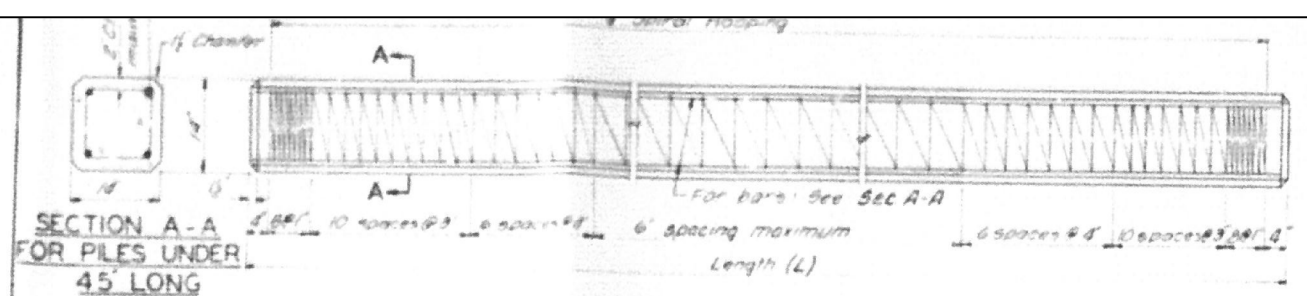
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 010-4192

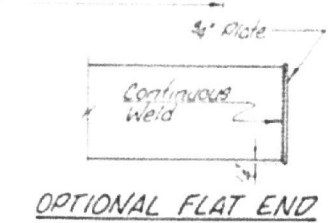
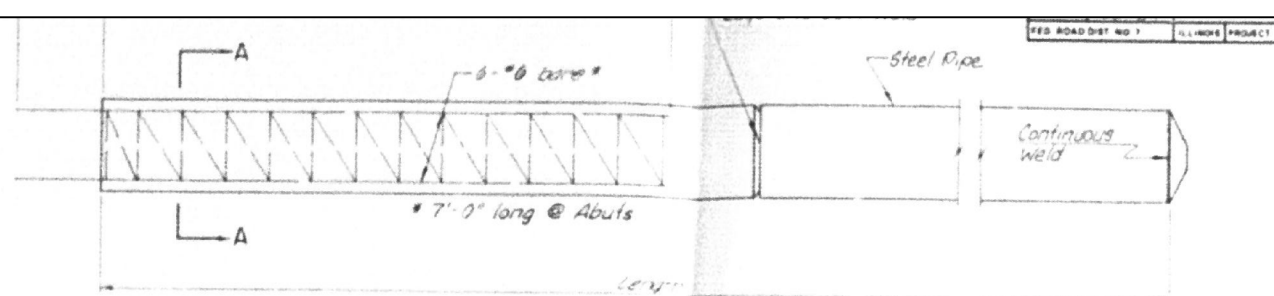
SHEET 11 OF 12 SHEETS

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	19
CONTRACT NO. 91648				
ILLINOIS FED. AID PROJECT				



Handling
 For pile lengths up to 45 ft use two slings placed at a distance of 0.21L* from each end. For piles longer than 45 ft use three slings placed at a distance of 0.12L* from each end and at mid-point of pile.
 *L = Over all length of pile to be handled

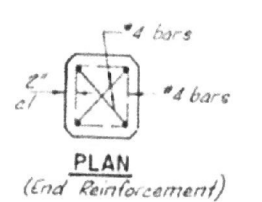
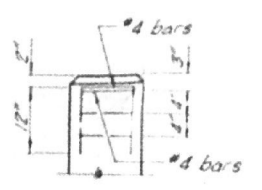
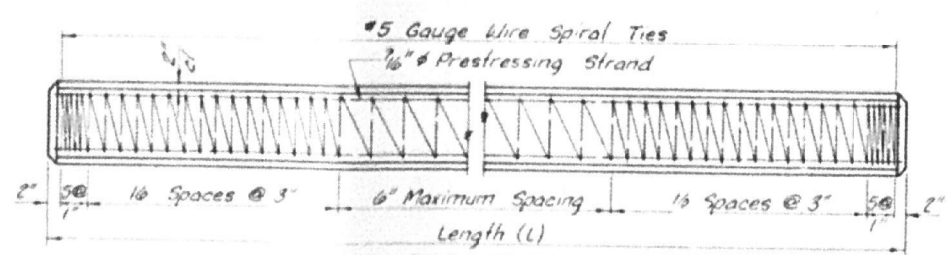
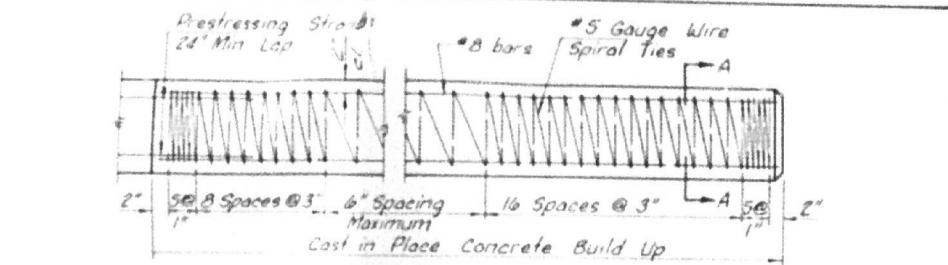
DETAIL OF PRECAST CONCRETE PILES



#3 spiral @ 11\"/>
 1 1/2 extra turns top and bottom
 Spiral to extend full length of vertical bars

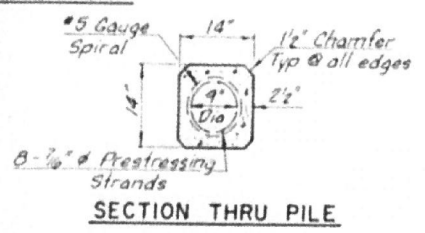
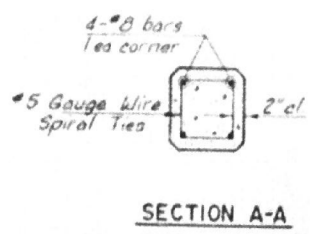
SECTION A-A
 Note: Coat of reinforcement in piling is incidental to the over all furnishing piles

DETAIL OF CAST IN PLACE CONCRETE PILES



DESIGN STRESSES

f_c'	= 5,000 psi
f_c'	= 4,000 psi
f_s'	= 270,000 psi (31,000 lbs)
f_s'	= 189,000 psi (21,700 lbs)
f_s'	= 270,000 psi (41,300 lbs)
f_s'	= 189,000 psi (28,900 lbs)



NOTES
 Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16\"/>
 For pile lengths up to 65', use two slings placed at a distance of 0.21L* from each end. For piles longer than 65', use three slings placed at a distance of 0.12L* from each end and at midpoint of pile.
 *L = Overall Length of Pile to be handled.

DETAIL OF PRECAST PRESTRESSED CONCRETE PILES

CONCRETE PILE ALTERNATES
 SECTION 79-1754B-05-BR
 OGDEN ROAD DISTRICT
 CHAMPAIGN COUNTY
 STATION 9+96

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED FS
 DRAWN TC
 CHECKED TC
 DATE 10-16-18 1484

FILE NAME: C:\SP\WHKS & CO\Jobs-Sparking - Projects\Champaign County\791754B-05-BR\9+96\22\CADD\CAD_Sheets\SN_010_4192.dgn

design firm
 no. 184001036

engineers • planners • land surveyors

USER NAME = jmont	DESIGNED - GEM	REVISED -
PLOT DATE = 2/26/2024	CHECKED - JLM	REVISED -
PLOT DATE = 8:28:19 AM	DRAWN - DLH	REVISED -
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CHAMPAIGN COUNTY HIGHWAY DEPARTMENT

EXISTING PLANS (FOR INFORMATION ONLY)
 STRUCTURE NO. 010-4192

SHEET 12 OF 12 SHEETS

TR RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	23-17133-00-BR	CHAMPAIGN	20	20

CONTRACT NO. 91648

ILLINOIS FED. AID PROJECT