

04-25-14 LETTING ITEM 103

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM
OFF SYSTEM BRIDGE**

**PROJECT BROS-0081(071)
SECTION 12-12121-00-BR
PENDLETON ROAD DISTRICT
JEFFERSON COUNTY
T.R. 476A / FALCON LANE
PROPOSED STRUCTURE NO. 041-3752
C-99-508-13**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 476A	12-12121-00-BR	JEFFERSON	21	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 99525		

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	PLAN AND PROFILE
5-12.	STATION CROSS SECTIONS
13-20.	BRIDGE PLANS
21.	BORINGS

HIGHWAY STANDARDS:

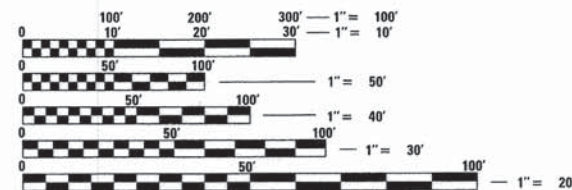
000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
635006-03	REFLECTOR & TERMINAL MARKER PLACEMENT
701901-02	TRAFFIC CONTROL DEVICES
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITIES

AT&T COMMUNICATIONS
3526 STATE ROUTE 161
ROOM 121
CENTRALIA, IL 62801

NORTHEAST WATER COMPANY
1018 JORDAN STREET
MT. VERNON, IL 62864

TRI-COUNTY ELECTRIC
3907 BROADWAY
P.O. BOX 309
MT. VERNON, IL 62864

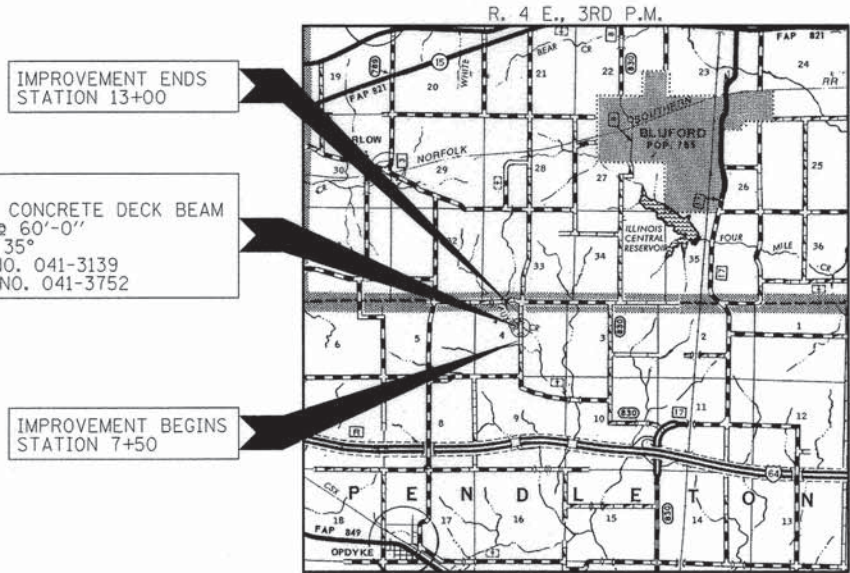


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



LOCATION OF SECTION INDICATED THIS: - ■ -

FUNCTIONAL CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 20 MPH
DESIGN TRAFFIC: 25 ADT (2013)



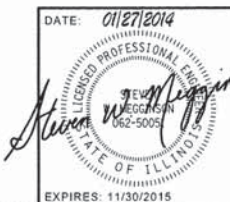
STA. 9+94
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SINGLE SPAN @ 60'-0"
24'-0" RDWY.; SKEW = 35°
EXISTING STRUCTURE NO. 041-3139
PROPOSED STRUCTURE NO. 041-3752

LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE
NET LENGTH OF SECTION = 550 FEET = 0.104 MILES



ILLINOIS DEPARTMENT OF TRANSPORTATION	
APPROVED	1-28 20 14 <i>Prof. [Signature]</i> COUNTY ENGINEER
APPROVED	1-28 20 14 <i>Ralph D. Kemp</i> TOWNSHIP COMMISSIONER
PASSED	1/31 20 14 <i>Dave W. Hill</i> DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	1-31 20 14 <i>Allyson L. Kain</i> DEPUTY DIRECTOR OF HIGHWAYS REGION FIVE ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	CONSTRUCTION CODE 0011	
		UNIT	TOTAL
^ 20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	57
^ 20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	107
20200100	EARTH EXCAVATION	CU YD	266
20300100	CHANNEL EXCAVATION	CU YD	95
20400800	FURNISHED EXCAVATION	CU YD	390
28000305	TEMPORARY DITCH CHECKS	FOOT	72
^ 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	550
^ 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	365
^ 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	28.6
50300280	CONCRETE ENCASMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,440
50800105	REINFORCEMENT BARS	POUND	2,980
* 50900205	STEEL RAILING, TYPE S1	FOOT	119
51201400	FURNISHING STEEL PILES HP10X42	FOOT	120
51202305	DRIVING PILES	FOOT	120
51500100	NAME PLATES	EACH	1
^ 59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	63
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
^ X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4

^ SEE SPECIAL PROVISIONS

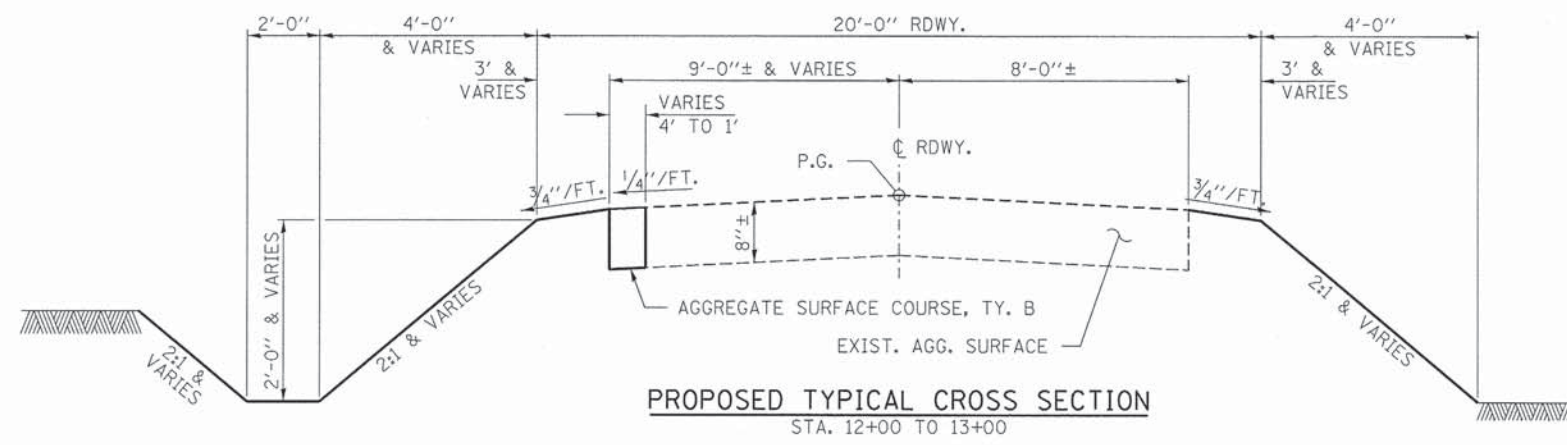
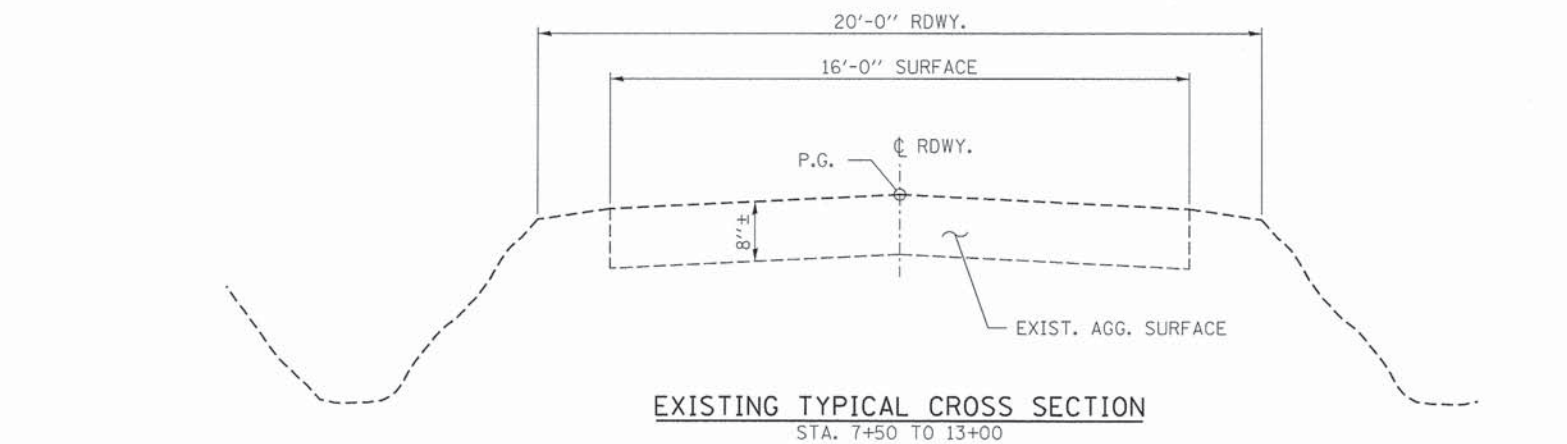
* SPECIALTY ITEMS

ROADWAY SCHEDULE	
LOCATION	AGGREGATE SURFACE COURSE TYPE B
	40200800
	TON
TR 476A/FALCON LANE	
STA 7+50 TO STA 9+63.19	193
STA 10+24.81 TO STA 13+00	168
TOTAL	361
USE	365

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2012," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING, FENCE REMOVAL AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL AND DISPOSAL OF THE EXISTING AGGREGATE SURFACE WILL BE PAID FOR AS EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE LOCATION OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE. BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL COMPANIES AND BY FIELD INSPECTION.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
- THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.
- TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER. ANY TREES ALREADY FELLED SHALL BE MEASURED AND REMOVED AS PER SPECIAL PROVISIONS.
- TREE REMOVAL AND REMOVAL OF THE EXISTING TIMBER DECK IS PROHIBITED BETWEEN APRIL 1 AND SEPTEMBER 30. SEE SPECIAL PROVISIONS
- THE EXISTING STRUCTURE WAS INVESTIGATED FOR PRESENCE OF ASBESTOS DURING THE PRELIMINARY DESIGN PHASE AND WAS FOUND TO NOT CONTAIN ASBESTOS. DOCUMENTATION CONFIRMING THIS FINDING WAS PROVIDED TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION AT THAT TIME TO CLEAR THIS PROJECT FOR APPROVAL
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES.
AGGREGATE SURFACE COURSE, TYPE B 2.05 TON/CU YD
STONE DUMPED RIPRAP, CLASS A4 1.75 TON/CU YD
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER
SEEDING, CLASS 2 (SPECIAL) = 0.4 ACRES

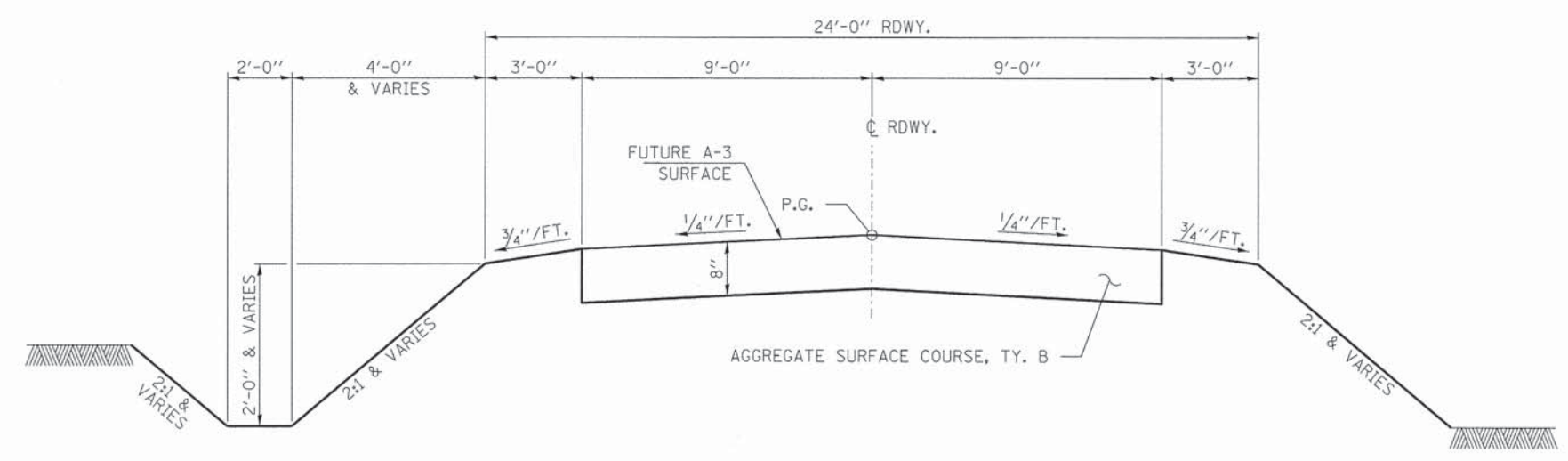
EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) / SHORTAGE (-)
	20200100	20300100			CU YD		CU YD
TR 476A/FALCON LANE							
STA 7+50 TO STA 9+63.19	124		25.00%	100.00%	93	391	-298
STA 9+63.19 TO STA 10+24.81		95	25.00%	70.00%	50	0	50
STA 10+24.81 TO STA 13+00	142		25.00%	100.00%	107	247	-140
TOTAL	266	95			250	638	-388
USE	266	95					-390
					FURNISHED EXCAVATION	390	CU.YD.



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITION LEFT EDGE OF PAVEMENT FROM
9' LT. AT STA. 12+00 TO 8' AT STA. 13+00

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS



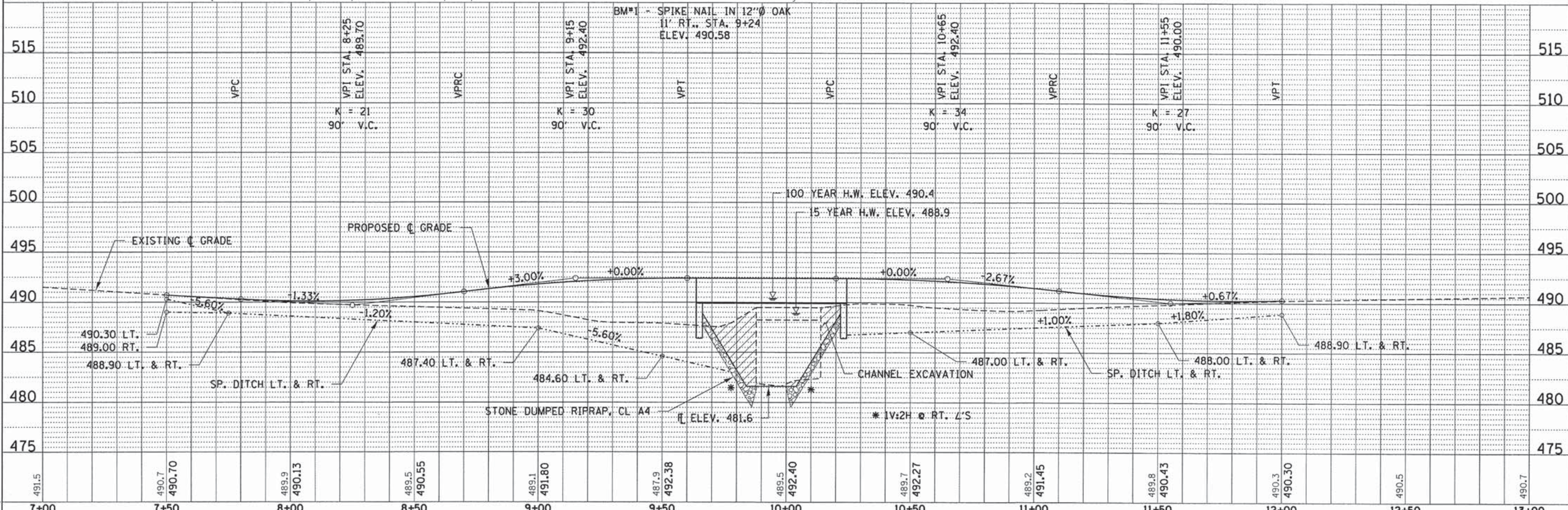
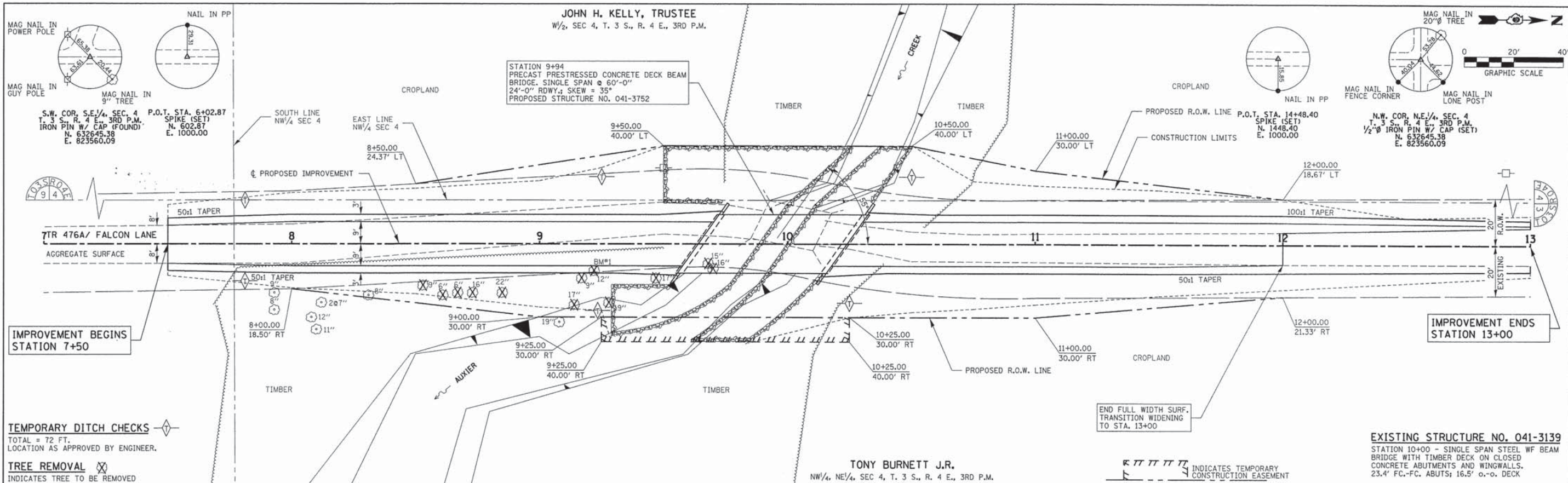
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION
STA. 7+50 TO 12+00

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY
IS TO BE CONSTRUCTED FROM STA. 7+50 TO 8+00. TRANSITION RIGHT
PAVEMENT FROM 9' AT STA. 11+50 TO EXISTING PAVEMENT AT STA. 12+00.
SEE SHEET 13 FOR TRANSITION AT BRIDGE.

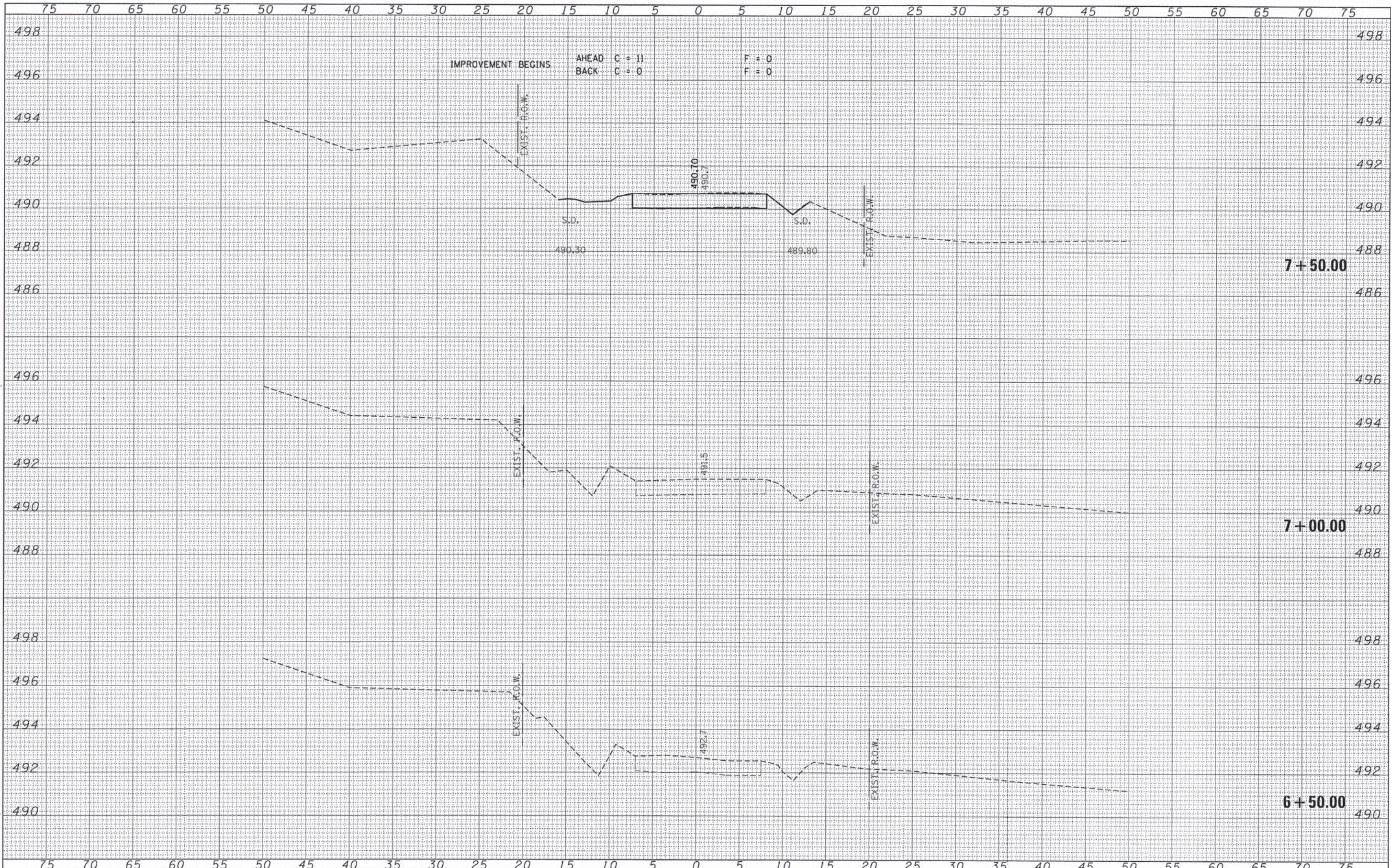
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HAMPTON, LENZINI AND RENWICK, INC. 2000 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761		DRAWN - R.D.H.	REVISED -		476A	12-12121-00-BR	JEFFERSON	21	3			
ILR ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		PENDLETON ROAD DISTRICT	CONTRACT NO. 99525						
	PLOT DATE = 1/27/2014	DATE = 01/27/14	REVISED -		SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.			[ILLINOIS FED. AID PROJECT BR05-0081071]				



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HAMPTON, LENZINI AND RENWICK, INC. 300 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761	PLLOT SCALE =	DRAWN - L.G.C.	REVISED -			476A	12-12121-00-BR	JEFFERSON	21	4
ILLINOIS PROFESSIONAL DESIGN FIRM 15 / 99 / 88 CORP. 184.02989	PLLOT DATE = 1/27/2014	CHECKED - S.W.M.	REVISED -			PENDLETON ROAD DISTRICT		CONTRACT NO. 99525		
		DATE - 01/27/14	REVISED -			SCALE: 20H:5V		SHEET NO. 1 OF 1 SHEETS STA. 7+00.00 TO STA. 13+00.00		

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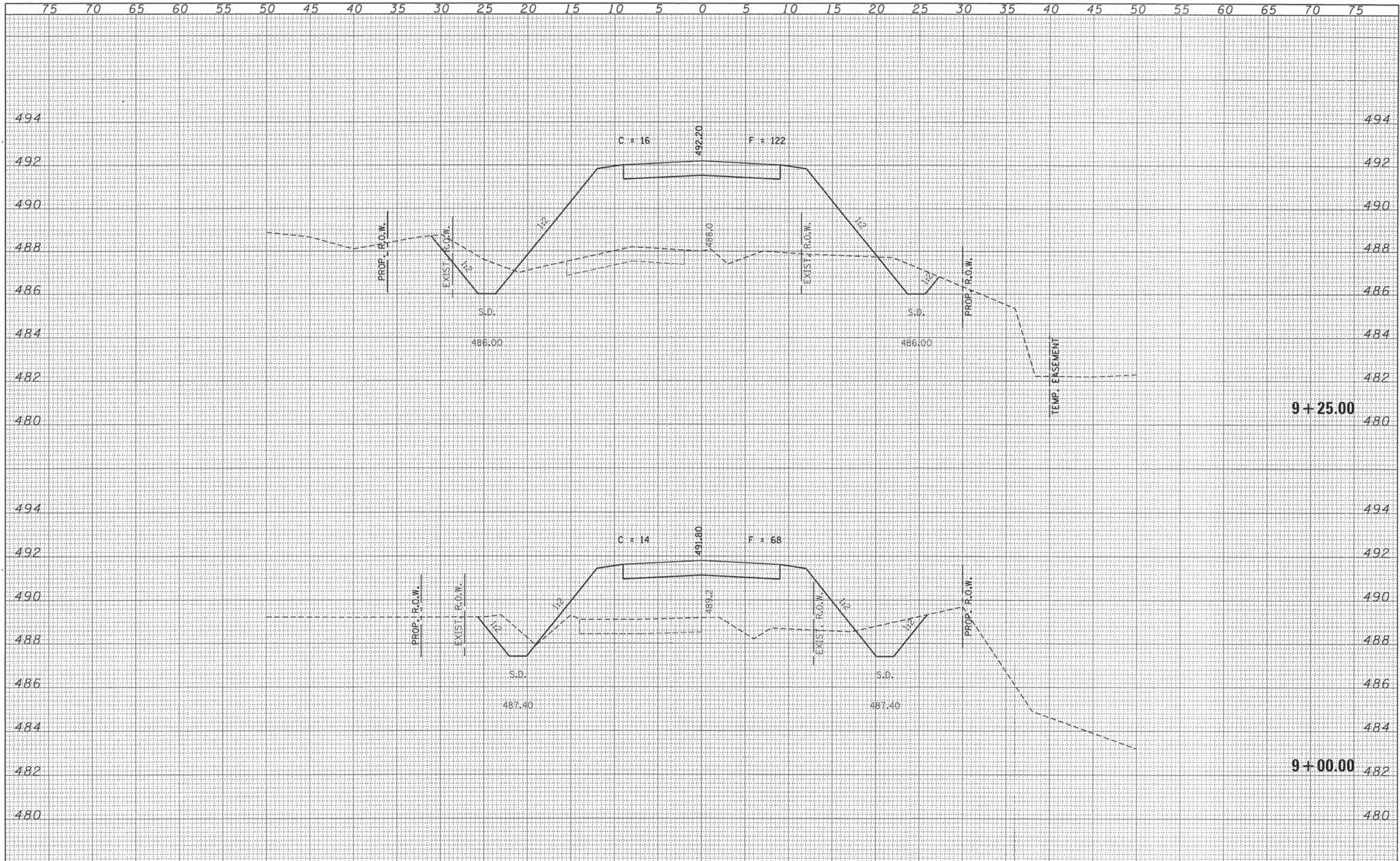
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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - L.G.C.	REVISED -		476A	12-12121-00-BR	JEFFERSON	21	5			
3005 E. BISHOP DRIVE, SUITE 207 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		PENDLETON ROAD DISTRICT			CONTRACT NO. 99525				
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE COMP. 184-000899	PLOT DATE = 1/27/2014	DATE - 01/27/14	REVISED -		SCALE: 5Hx2V	SHEET NO. 1 OF 8 SHEETS	STA. 6+50.00 TO STA. 7+50.00	[ILLINOIS] FED. AID PROJECT BROS-0081071				



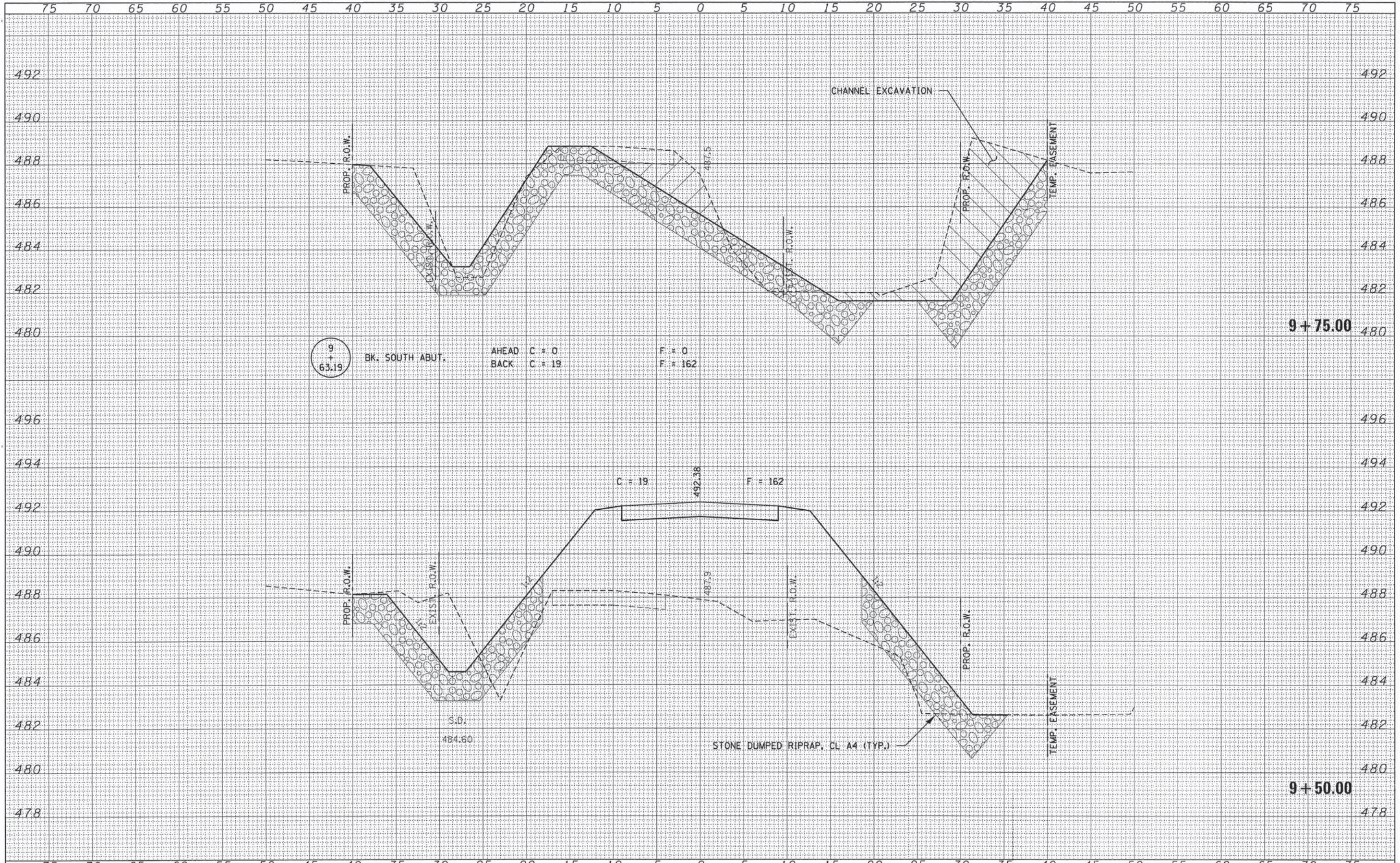
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HAMPTON, LENZINI AND RENWICK, INC. 5055 REVEREND DRIVE, SUITE 207 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - L.G.C.	REVISED -		T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ILR ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184-000989	PLOT DATE = 1/27/2014	CHECKED - S.W.M.	REVISED -		476A	12-12121-00-BR	JEFFERSON	21	7
	DATE = 01/27/14	DATE - 01/27/14	REVISED -		PENDLETON ROAD DISTRICT		CONTRACT NO. 99525	[ILLINOIS] FED. AID PROJECT BR05-008107D	
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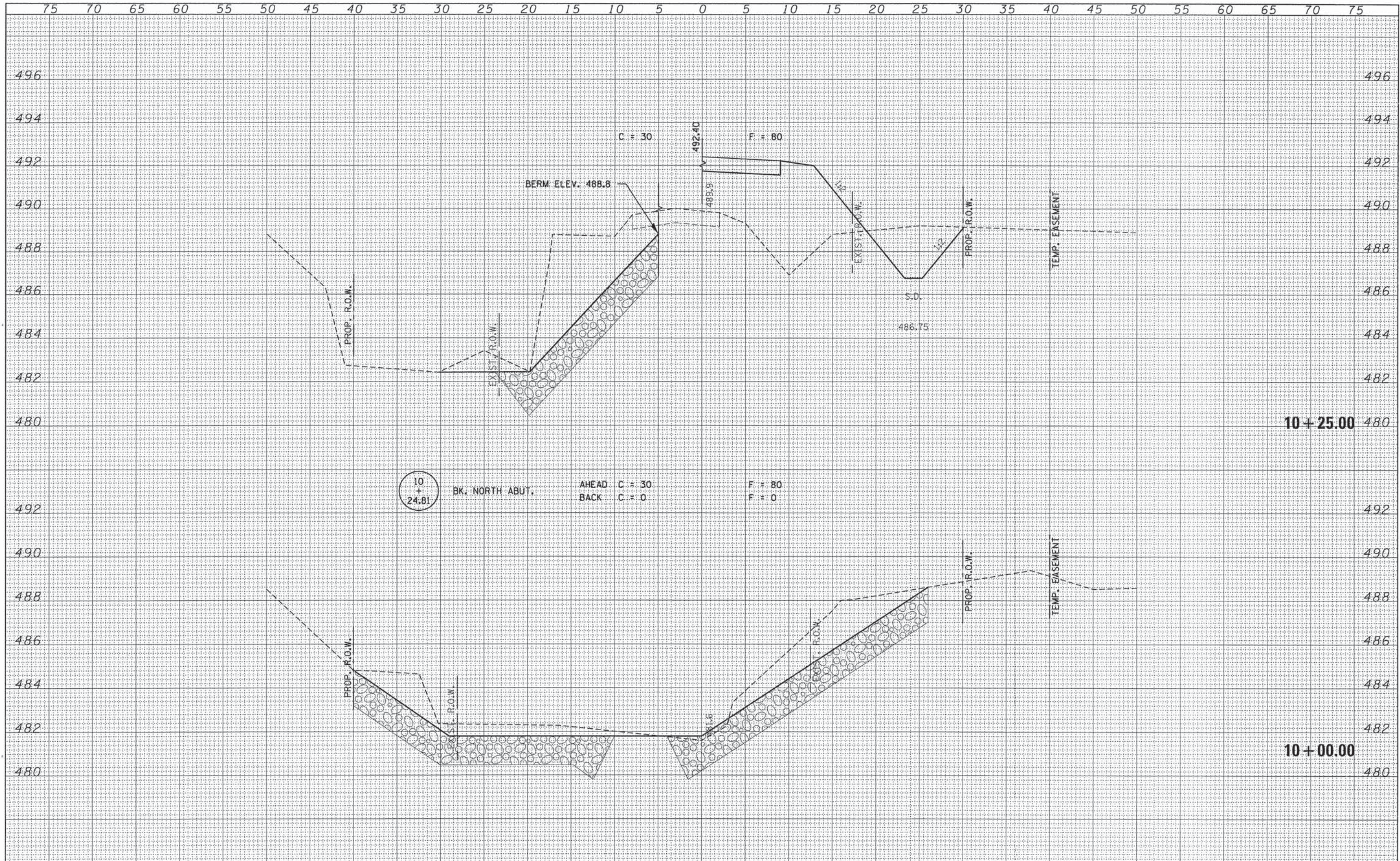
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HAMPTON, LENZINI AND RENWICK, INC. 1005 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - L.G.C.	REVISED -		T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184.00099	PLOT DATE = 1/27/2014	CHECKED - S.W.M.	REVISED -		476A	12-12121-00-BR	JEFFERSON	21	8
		DATE - 01/27/14	REVISED -		PENDLETON ROAD DISTRICT		CONTRACT NO. 99525		(ILLINOIS) FED. AID PROJECT BROS-0081071

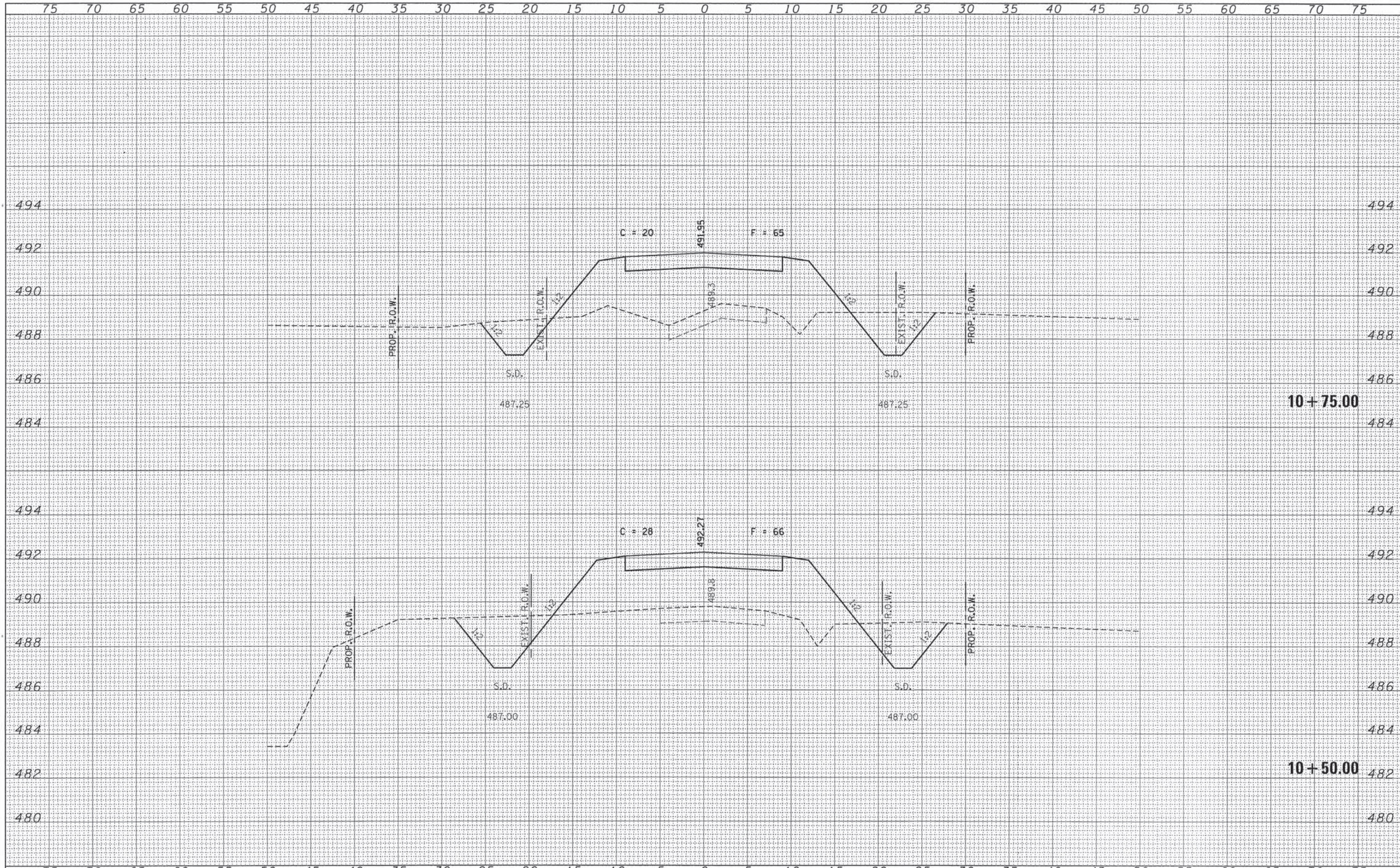
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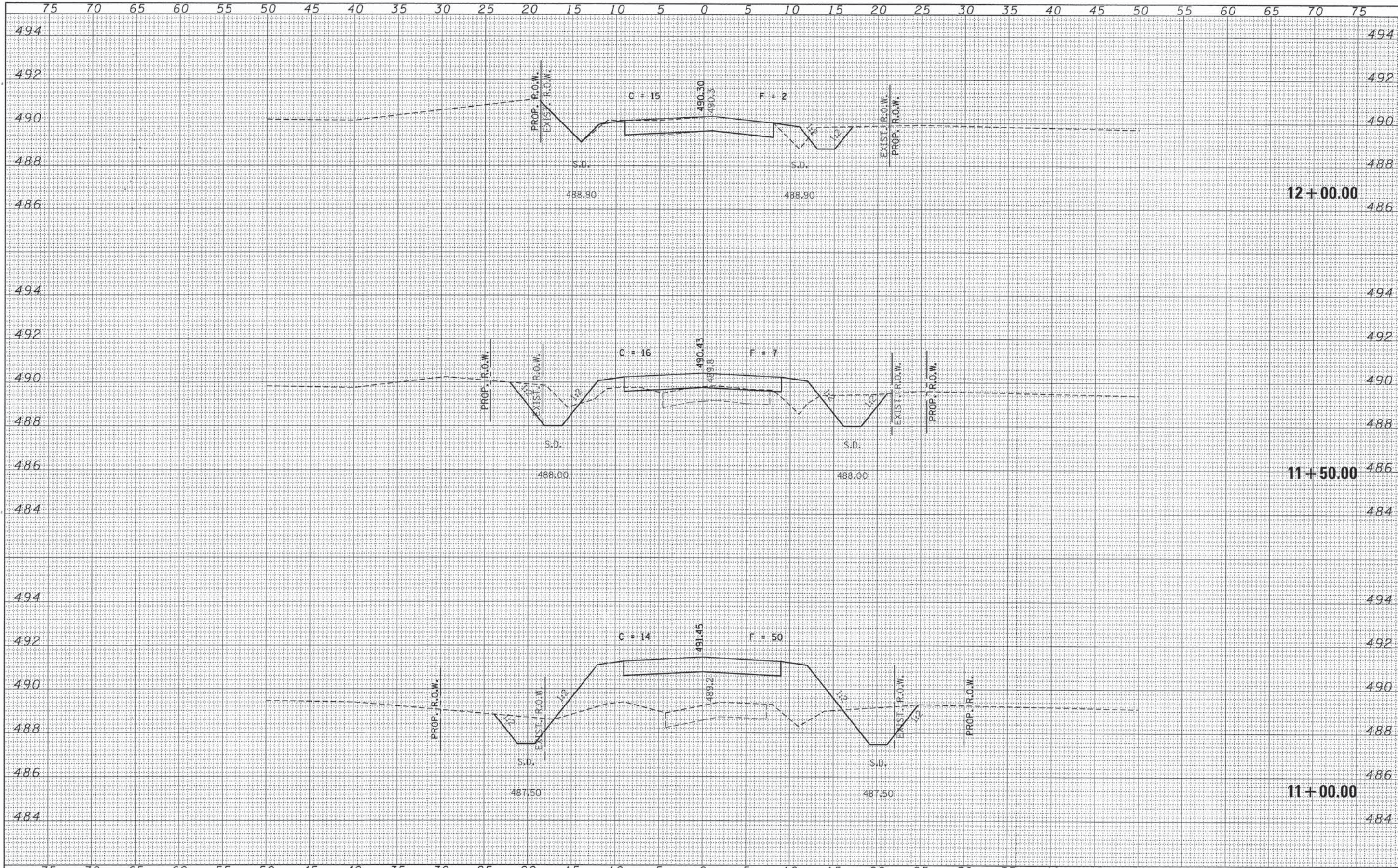
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157 / PE / SE CORP. 184-00999	PLOT DATE = 1/27/2014	DATE - 01/27/14	REVISED -		PENDLETON ROAD DISTRICT		CONTRACT NO. 99525		
				SCALE: 5H:2V	SHEET NO. 5 OF 8 SHEETS		STA. 10+00.00 TO STA. 10+25.00		[ILLINOIS] FED. AID PROJECT BROS-008107D



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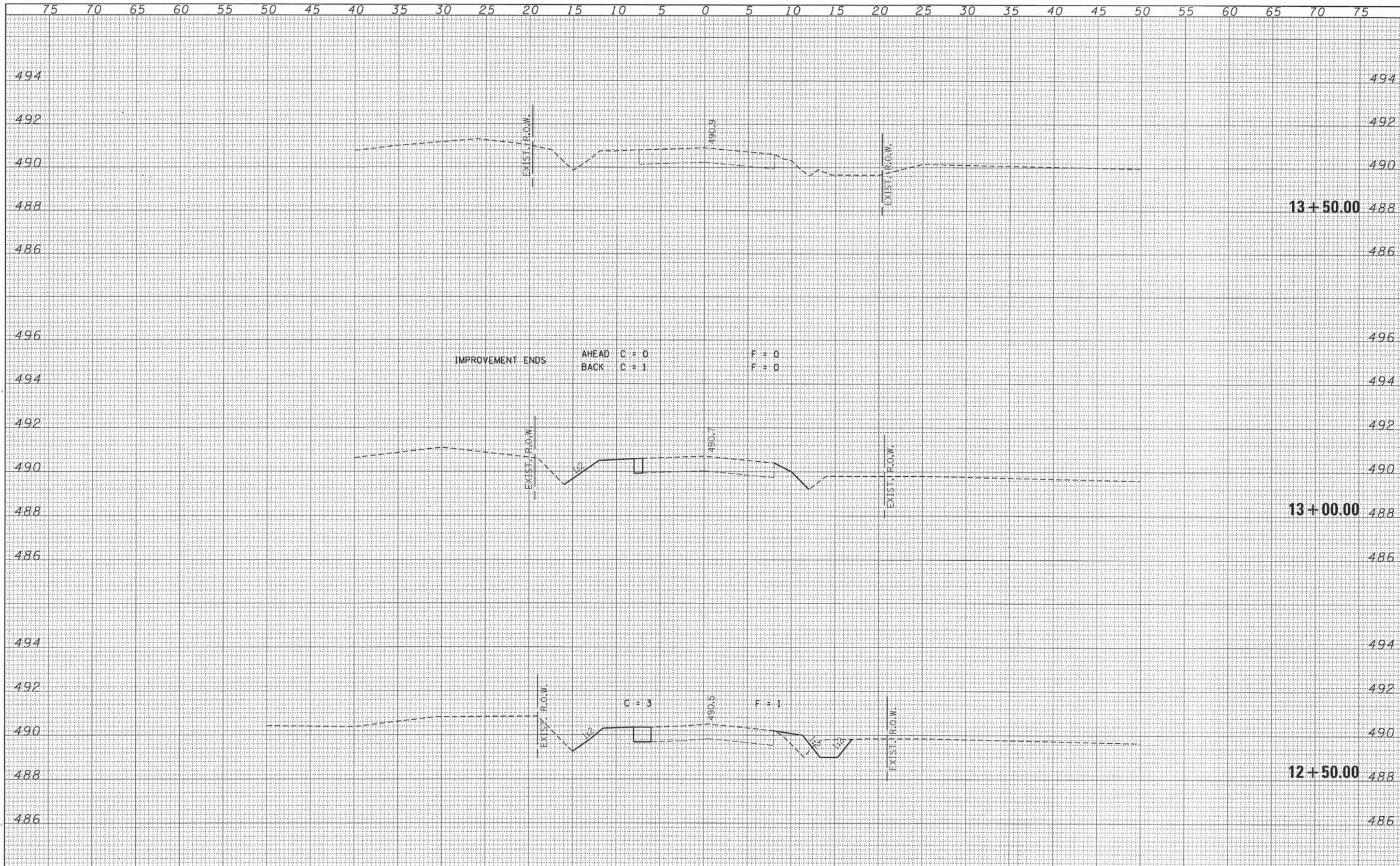
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62769 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE COMP. 184.000889	PLOT SCALE =	DRAWN - L.G.C.	REVISED -		T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT DATE = 1/27/2014		CHECKED - S.W.M.	REVISED -		476A	12-12121-00-BR	JEFFERSON	21	10
DATE - 01/27/14		DATE - 01/27/14	REVISED -		PENDLETON ROAD DISTRICT		CONTRACT NO. 99525		
					SCALE: 5H:2V	SHEET NO. 6 OF 8 SHEETS		STA. 10+50.00 TO STA. 10+75.00	
					ILLINOIS FED. AID PROJECT BROS-00810711				



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HAMPTON, LENZINI AND RENWICK, INC. 308 E. WASHINGTON DRIVE SUITE 807 SPRINGFIELD, ILLINOIS 62763		DRAWN - L.G.C.	REVISED -	476A	12-12121-00-BR	JEFFERSON	21	11
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE COMP. 184.000999	PLOT SCALE =	CHECKED - S.W.M.	REVISED -	PENDELTON ROAD DISTRICT CONTRACT NO. 99525				
	PLOT DATE = 1/27/2014	DATE - 01/27/14	REVISED -	[ILLINOIS] FED. AID PROJECT BR05-00810711				
STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT				STATION CROSS SECTIONS				
				SCALE: 5Hx2V	SHEET NO. 7 OF 8 SHEETS	STA. 11+00.00 TO STA. 12+00.00		



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ILLINOIS PROFESSIONAL DESIGN FIRM		CHECKED - S.W.M.	REVISED -		476A	12-12121-00-BR	JEFFERSON	21	12
1305 E. WENGER DRIVE, SUITE 201		DATE - 01/27/14	REVISED -		PENDLETON ROAD DISTRICT		CONTRACT NO. 99525		
SPRINGFIELD, ILLINOIS 62703					SCALE: 5Hx2V		SHEET NO. 8 OF 8 SHEETS		STA. 12+50.00 TO STA. 13+50.00

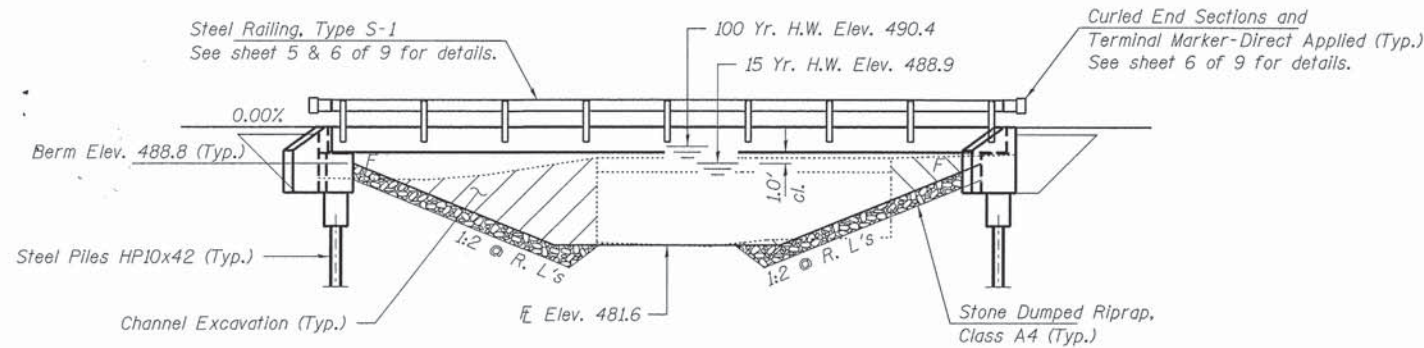
(ILLINOIS) FED. AID PROJECT BROS-0081107D

BENCHMARK: Spike Nail in 12" oak. 11' RT., Sta. 9+24 Elev. 490.58

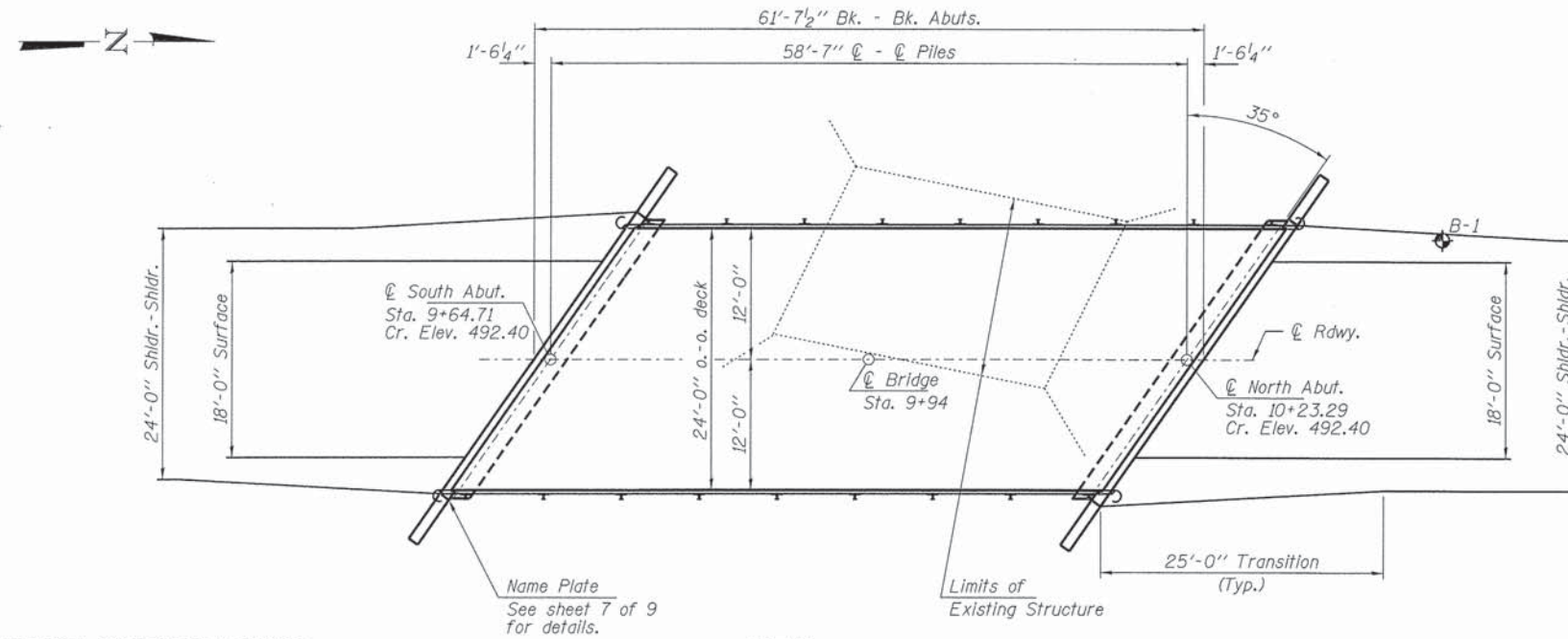
EXISTING STRUCTURE NO. 041-3139: A single span steel wide flange beam bridge with timber deck on closed concrete abutments and wingwalls. 23.4' fc.-fc. abuts., 16.5' o.-o. deck.

Structure closed to traffic during construction.

Steel beams shall be salvaged by contractor. See Special Provisions.



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with all applicable interims.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" low lax. strands)
fpbt = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.218g
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.610g
Soil Site Class = C

Design Scour Elevations (ft.)		
	S. Abut.	N. Abut.
Q100	486.3	486.3

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design (Existing Overtop)	15	1160	160	220	488.88	0.27	0.58	489.15	489.46	
Base (Proposed Overtop)	100	1990	160	270	490.42	0.62	0.68	491.04	491.10	
Max. Calc.	500	2800	160	270	490.89	0.62	0.97	491.51	491.86	

Drainage Area = 1.94 Sq. Mi. Existing Low Grade Elev. 489.2 @ Sta. 11+00 Proposed Low Grade Elev. 490.4 @ Sta. 8+10

10 Year Velocity through Existing Bridge = 6.3 Tps 10 Year Velocity through Proposed Bridge = 5.0 Tps

I certify that to the best of my knowledge, information and belief, this bridge 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."

Steven W. Megginson 01/27/2014
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



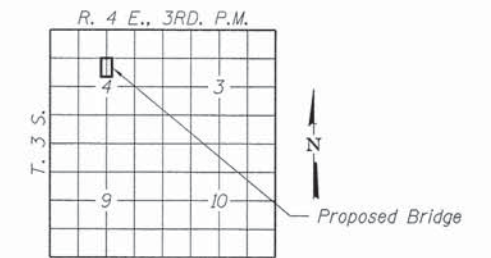
Expires 11-30-2014

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. Riprap Layout
3. 27"x48" PPC Deck Beam
4. 27"x48" PPC Deck Beam Details
5. Superstructure Details
6. Steel Railing, Type S-1
7. Abutments
8. HP Pile Details
9. Boring



LOCATION SKETCH

AUXIER CREEK
BUILT 2011 BY
JEFFERSON COUNTY
SEC. 12-12121-00-BR
PENDLETON ROAD DISTRICT
STR. NO. 041-3752
LOADING HL-93

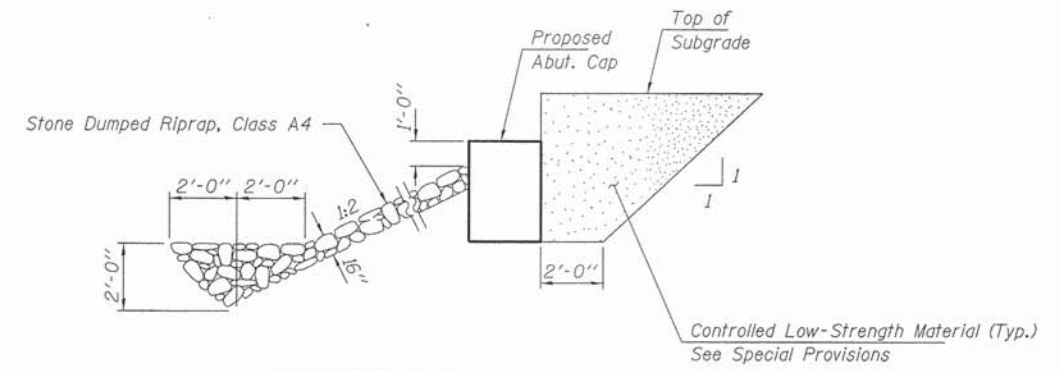
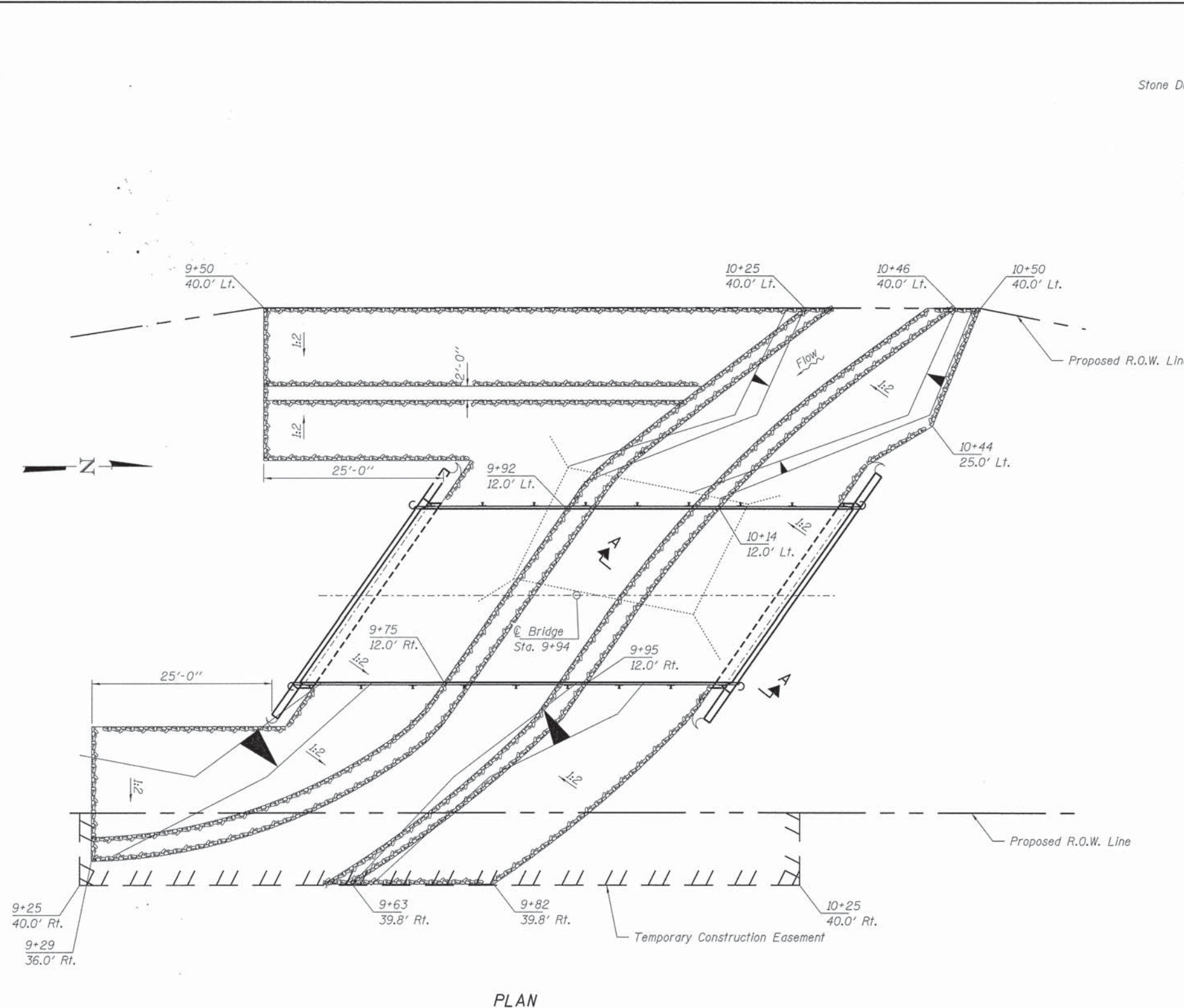
NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			95
Stone Dumped Riprap, Class A4	Ton			550
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		28.6	28.6
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,440		1,440
Reinforcement Bars	Pound		2,980	2,980
Steel Railing, Type S-1	Foot	119		119
Furnishing Steel Piles HP10x42	Foot		120	120
Driving Piles	Foot		120	120
Name Plates	Each		1	1
Controlled Low Strength Material	Cu. Yd.		63	63

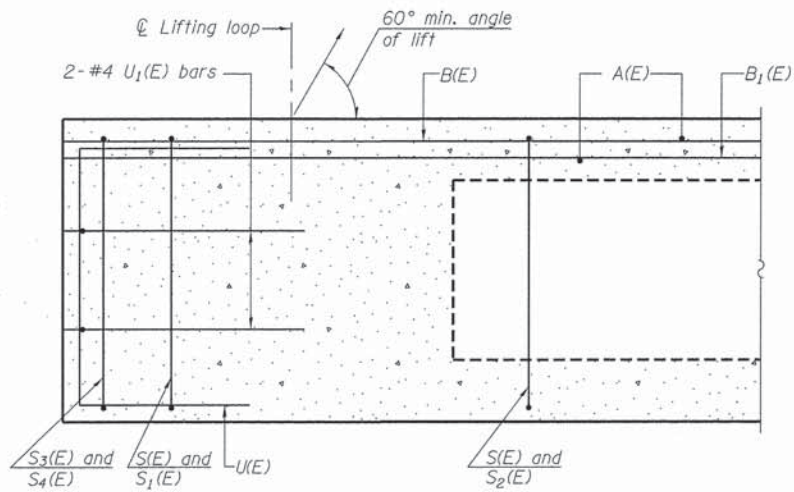
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		CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT BROS-008107U				



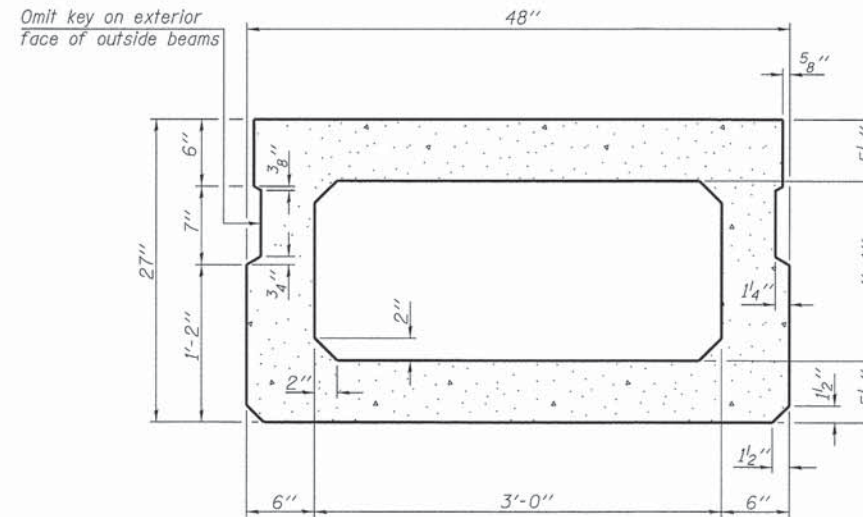
SECTION A-A
 Note: See Special Provisions for Stone Dumped Riprap, Class A4.

PLAN

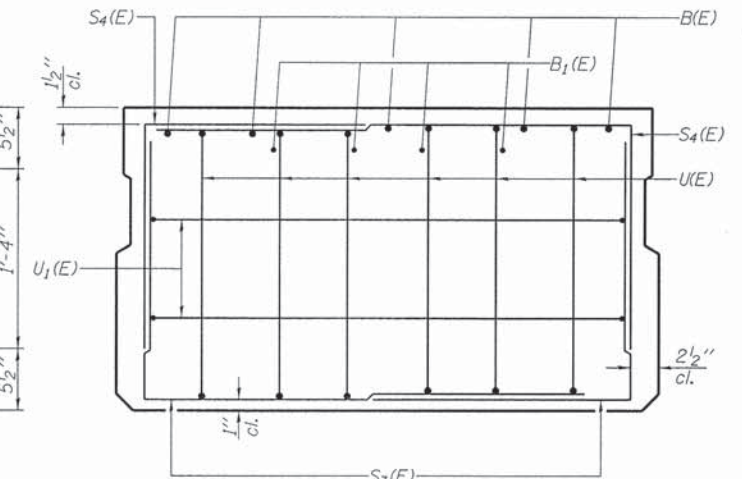
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						SHEET NO. 2 OF 9 SHEETS				



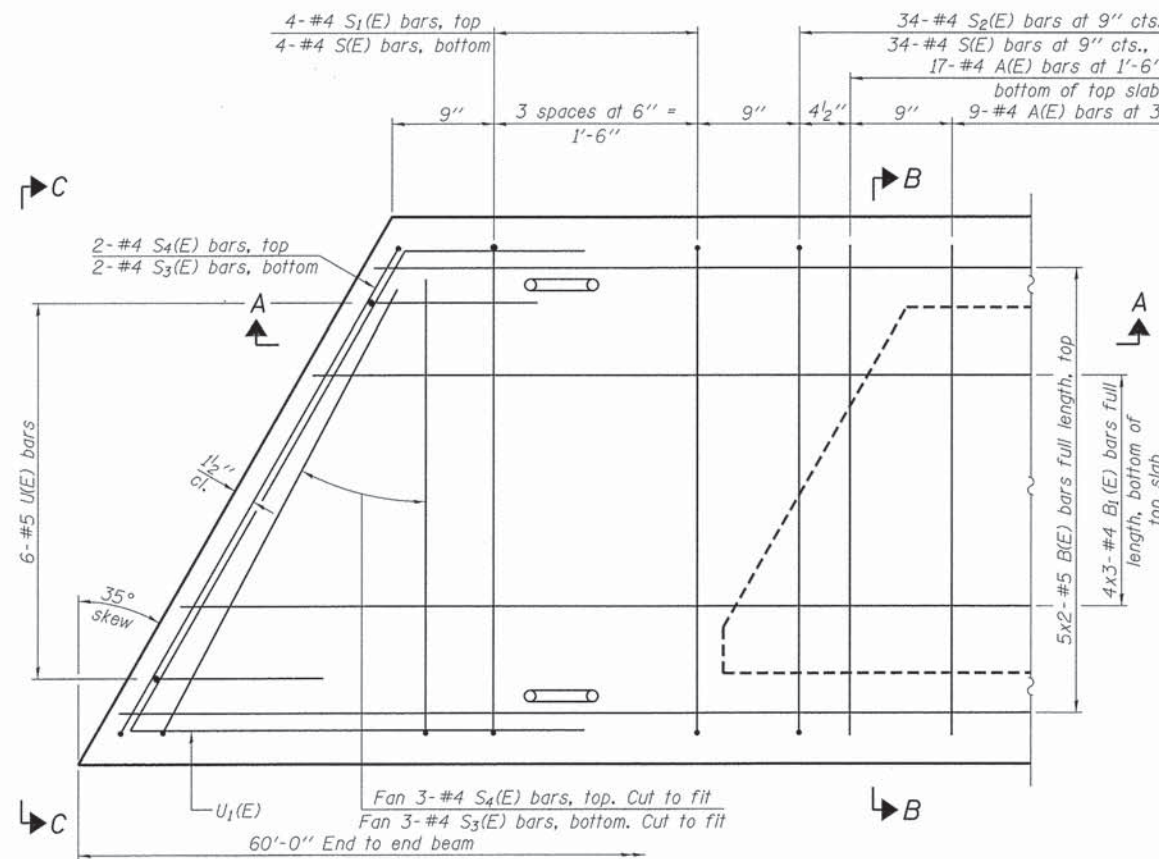
SECTION A-A



SECTION B-B
(Showing dimensions)

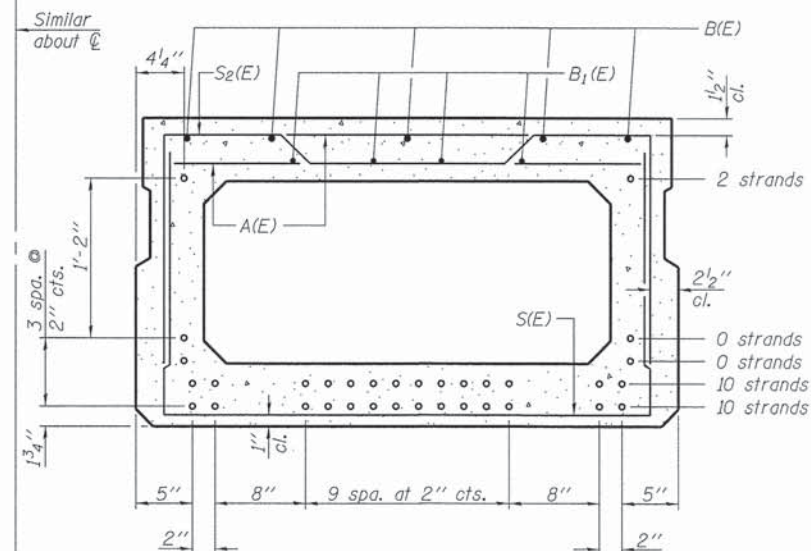


VIEW C-C



PLAN VIEW

NOTES:
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.
Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.



SECTION B-B

(Showing reinforcement and permissible strand locations)
Note: 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)	53	#4	3'-7"	—
B(E)	10	#5	31'-2"	—
B1(E)	12	#4	21'-3"	—
S(E)	77	#4	7'-5"	—
S1(E)	8	#4	6'-11"	┌┐
S2(E)	69	#4	7'-2"	┌┐
S3(E)	10	#4	5'-0"	┌┐
S4(E)	10	#4	4'-9"	┌┐
U(E)	12	#5	4'-6"	┌┐
U1(E)	4	#4	8'-7"	┌┐

Note: See sheet 4 & 5 of 9 for additional details and Bill of Material.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

PD-2748-L

7-1-10

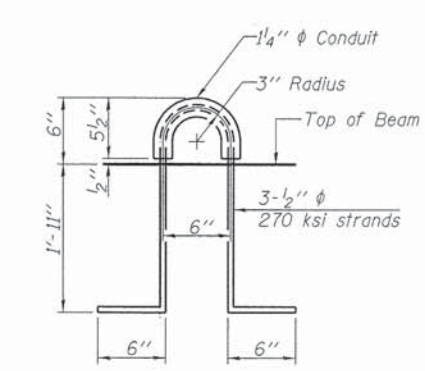
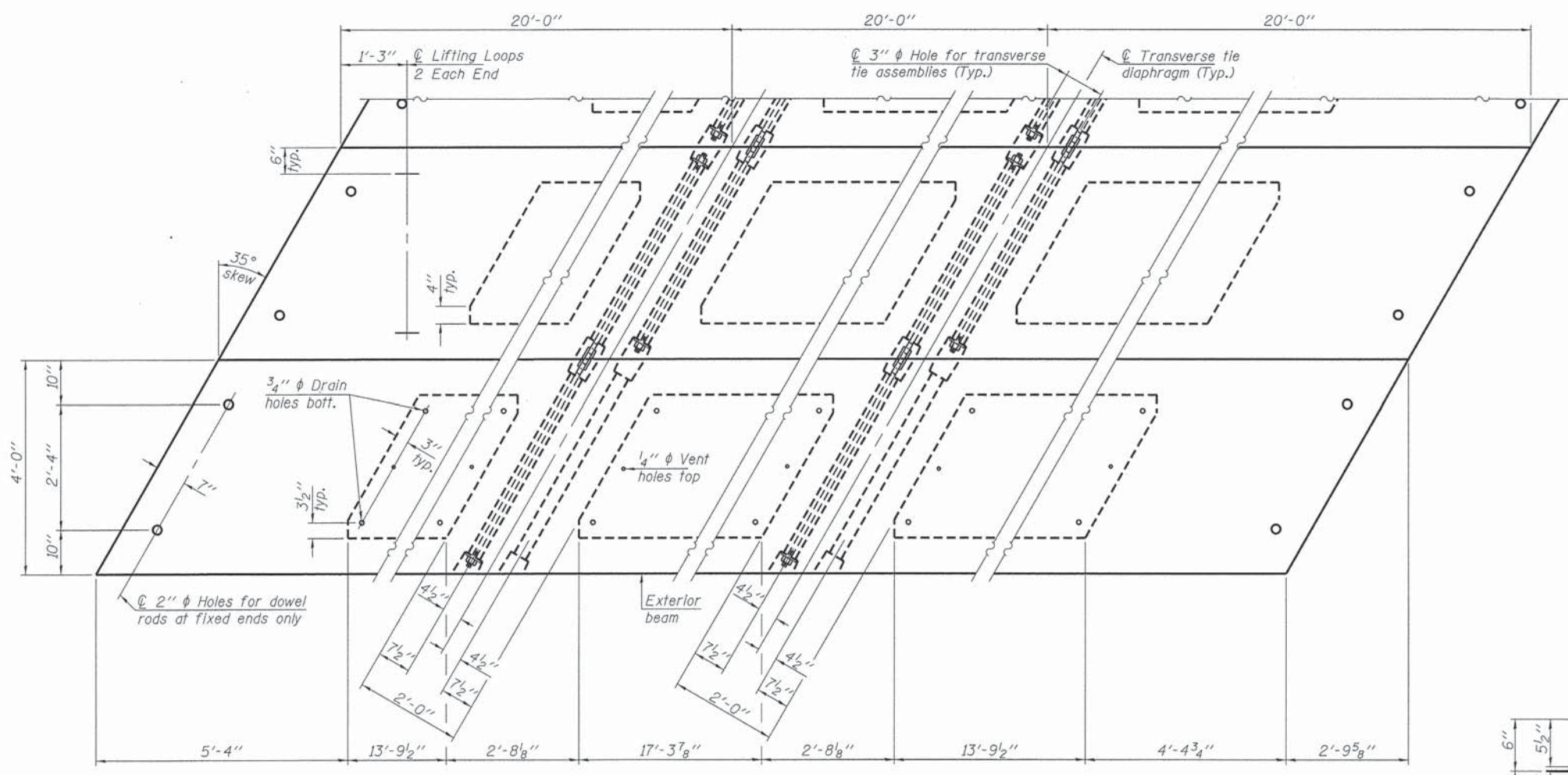
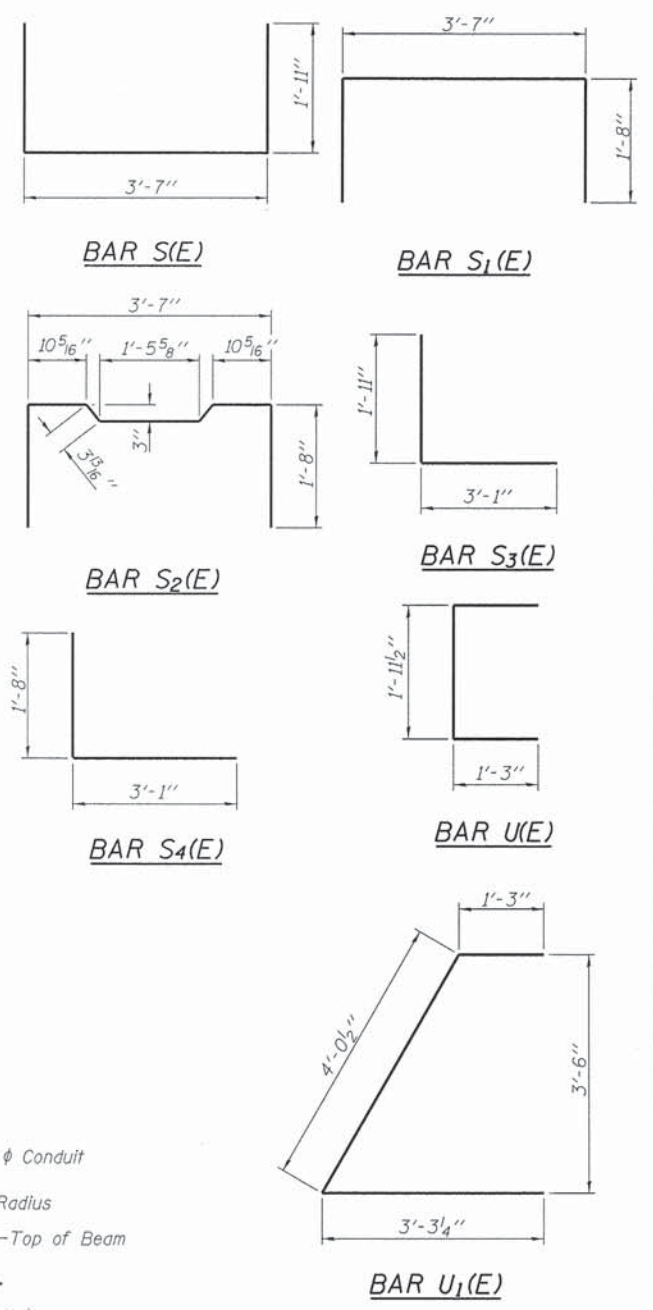
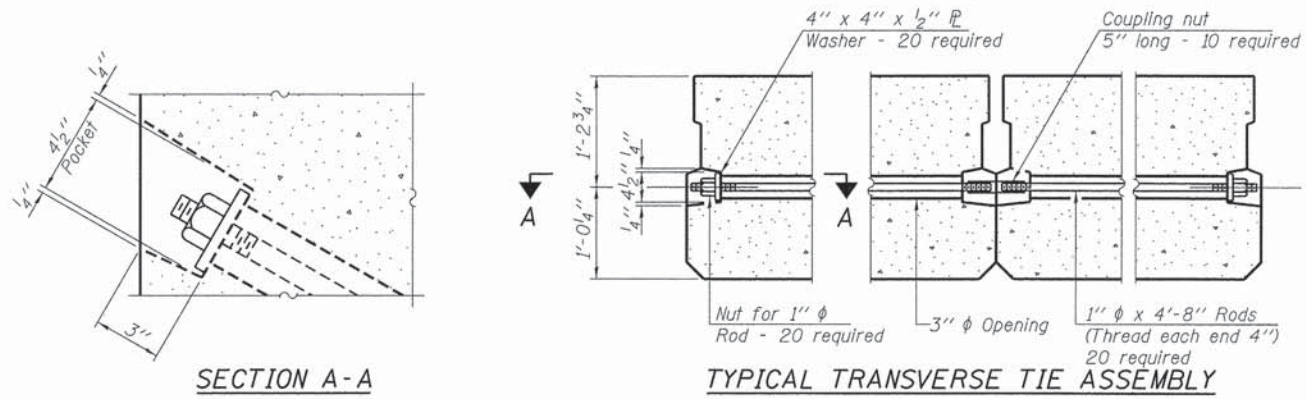
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STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

27" x 48" PPC DECK BEAM
STRUCTURE NO. 041-3752

SHEET NO. 3 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
476A	12-12121-00-BR	JEFFERSON	21	15
PENDLETON ROAD DISTRICT			CONTRACT NO. 99525	
[ILLINOIS] FED. AID PROJECT BROS-008107D				



PLAN VIEW

NOTES

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. 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.
 Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
 A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
 Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
 Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
 Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
 Reinforcement bars designated (E) shall be epoxy coated.

Note: Connect beams in pairs with the transverse tie configuration shown.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,440
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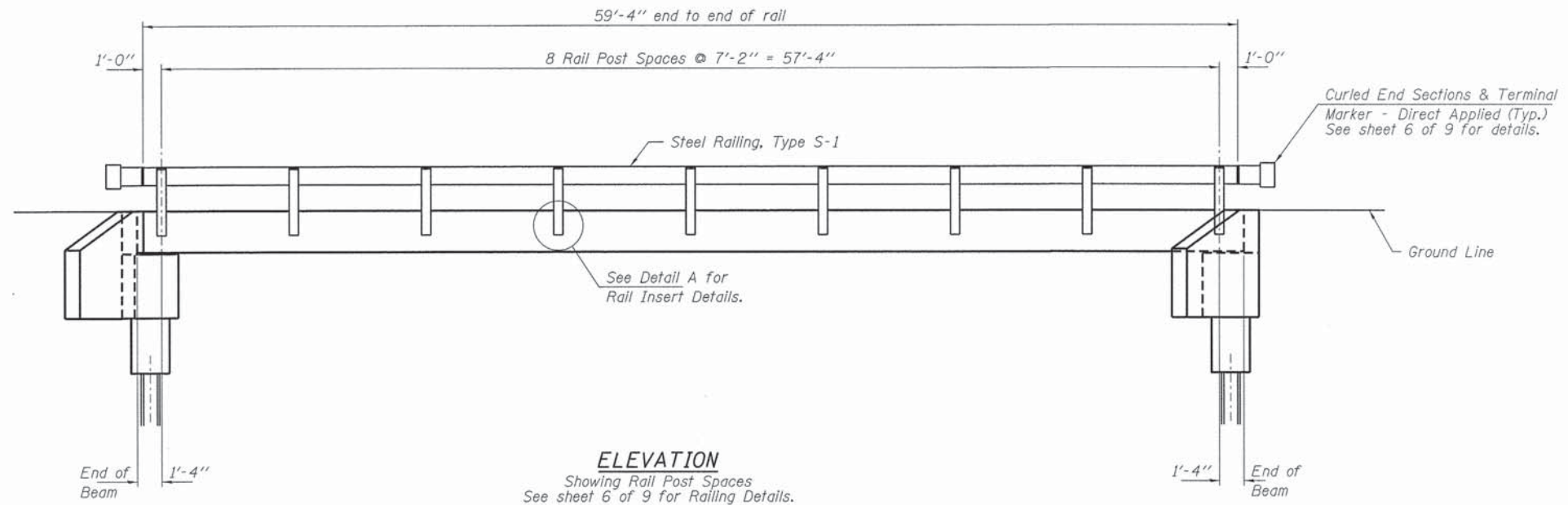
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SPRINGFIELD, ILLINOIS 62763		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
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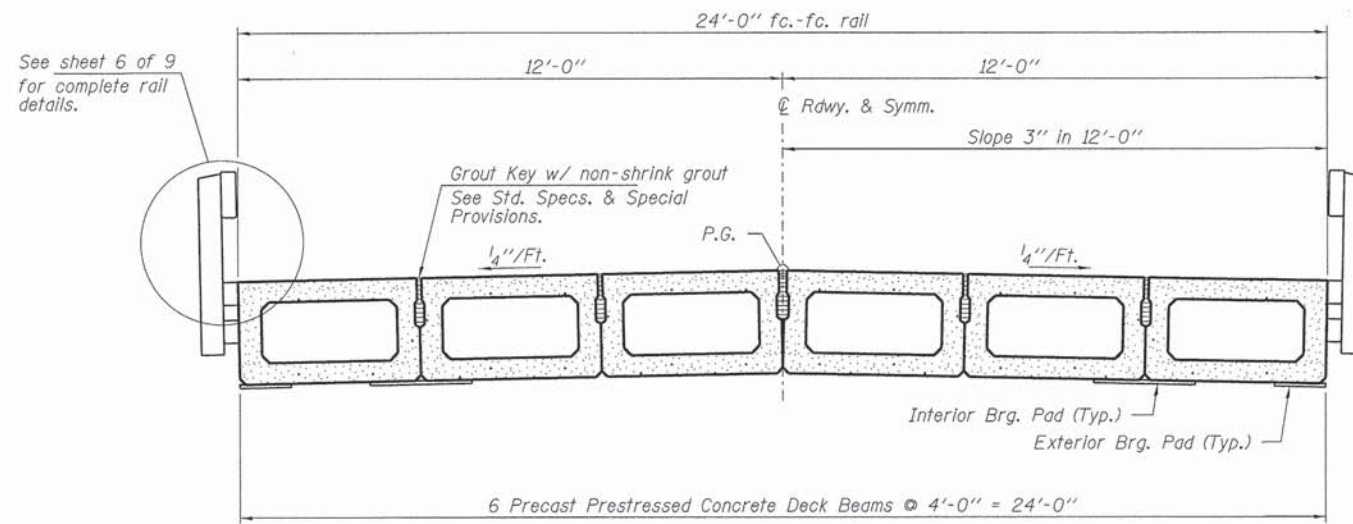
STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

27" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 041-3752
SHEET NO. 4 OF 9 SHEETS

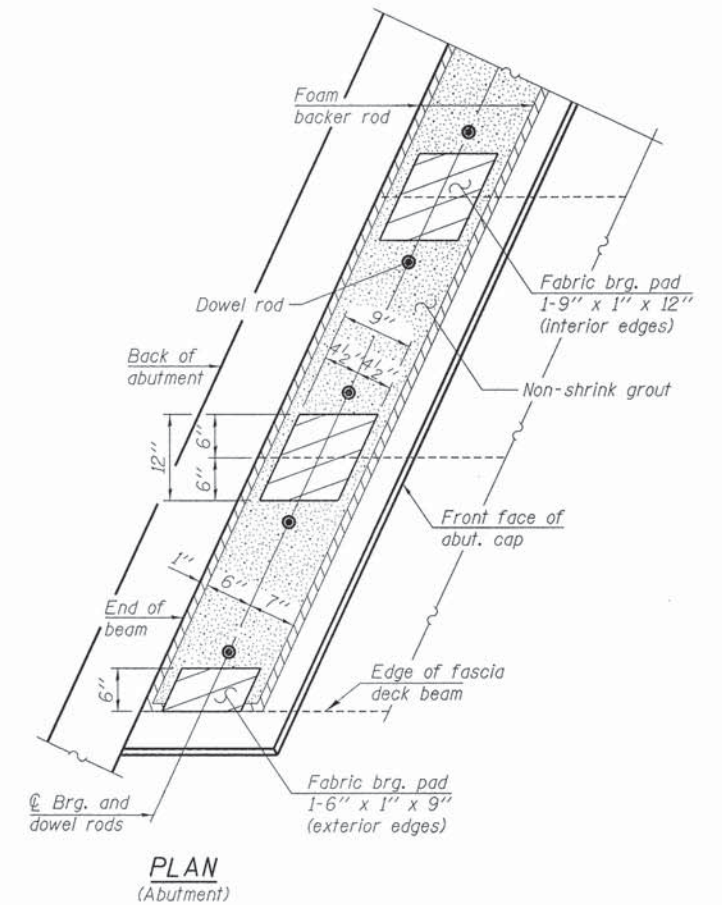
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PENDLETON ROAD DISTRICT		CONTRACT NO. 99525		
(ILLINOIS) FED. AID PROJECT BROS-008107D				



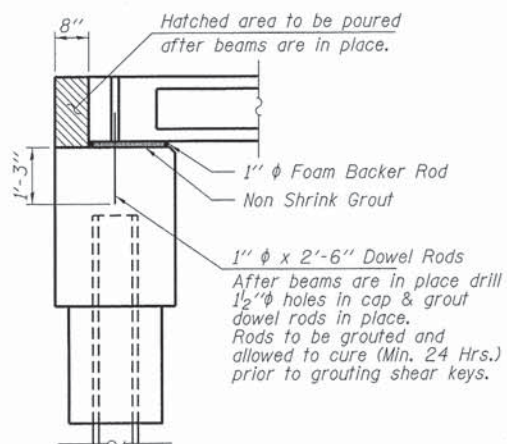
ELEVATION
 Showing Rail Post Spaces
 See sheet 6 of 9 for Railing Details.



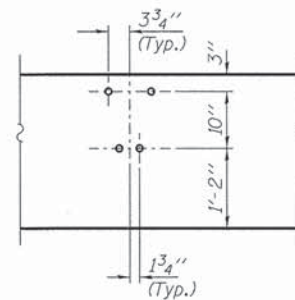
CROSS SECTION
 See sheets 3 & 4 of 9 for Superstructure.



PLAN
 (Abutment)



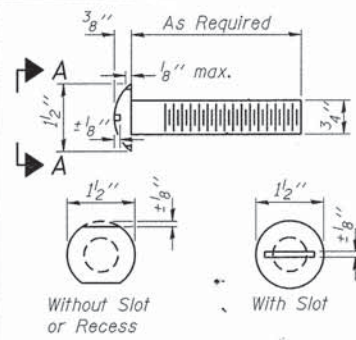
SECTION AT ABUTMENTS
 @ Rt. L's



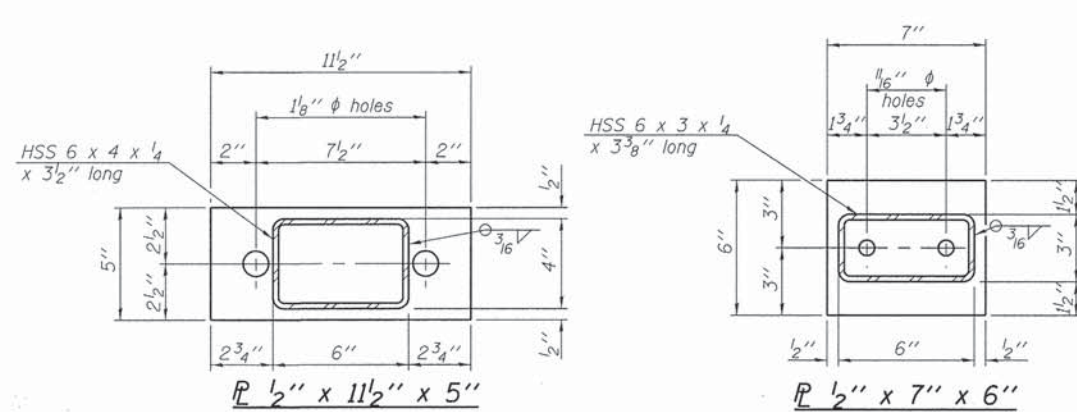
DETAIL A

Notes:
 The bearing seat surfaces shall be adjusted by shimming the bearing to assure firm and even bearing prior to placement of grout. 2-1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shown shall be provided for each bearing.

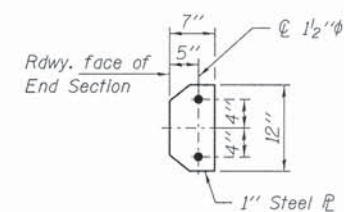
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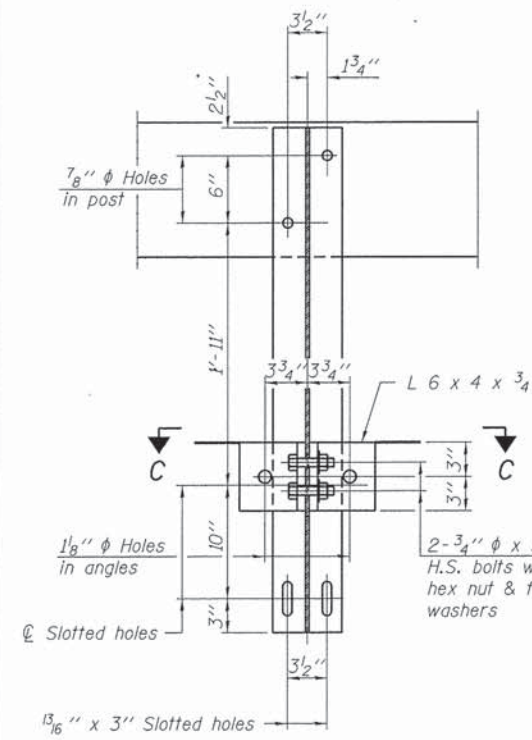
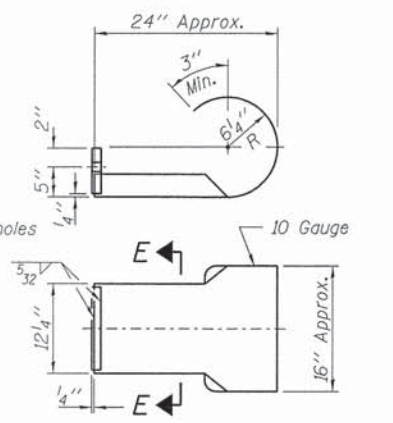
**VIEW A-A
ROUND HEAD BOLT**



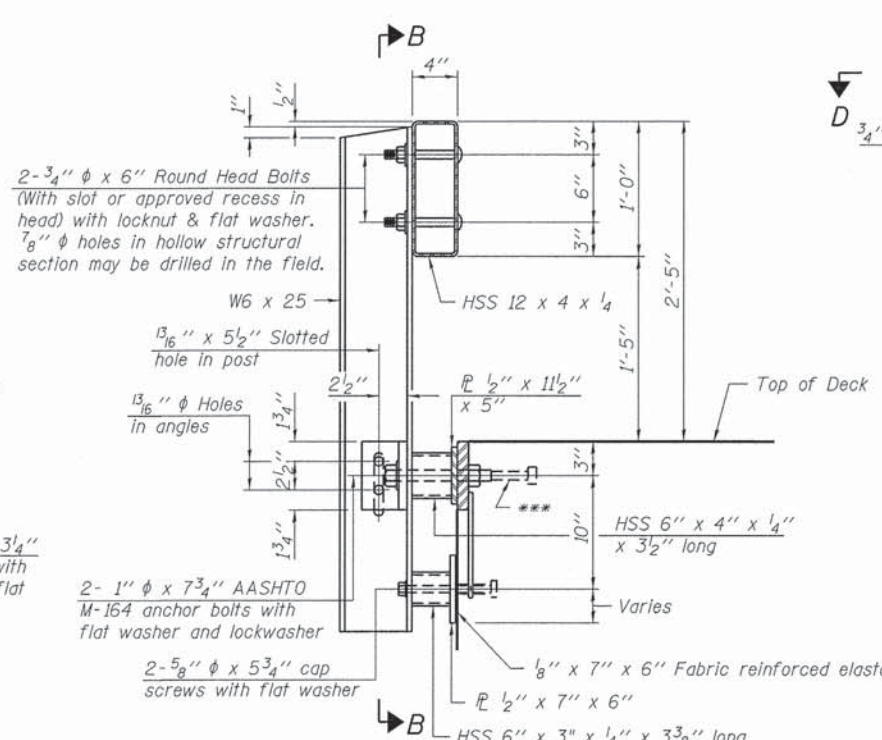
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



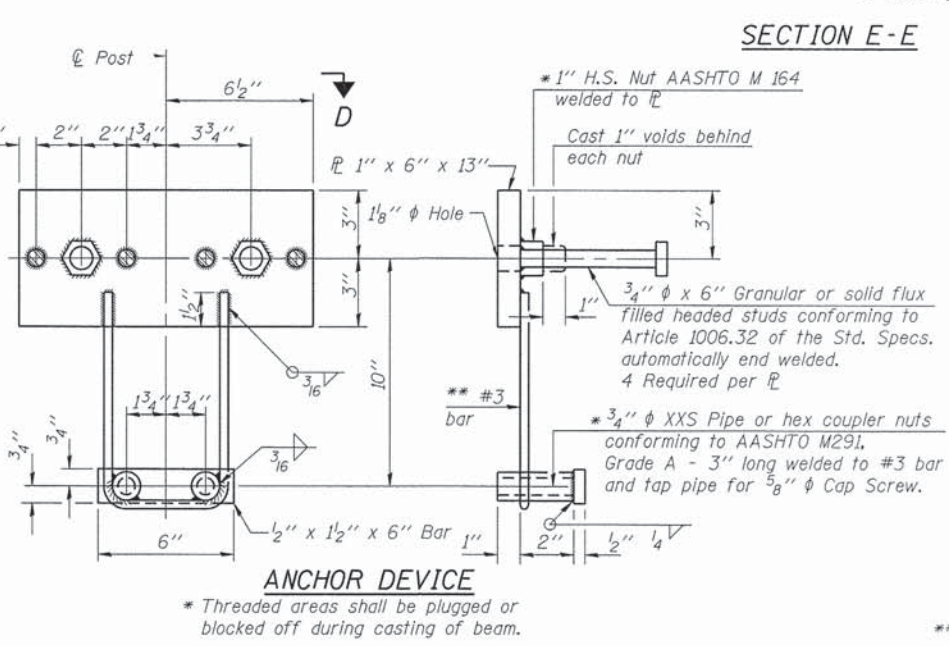
**SECTION E-E
CURLED END SECTION DETAILS**



SECTION B-B

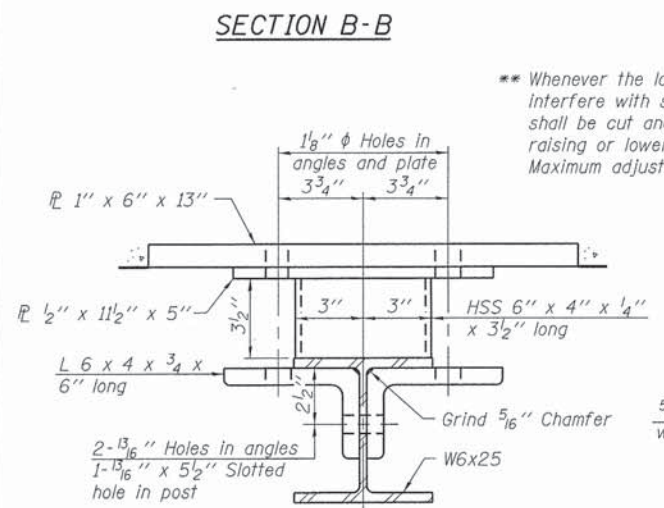


SECTION AT RAILING POST

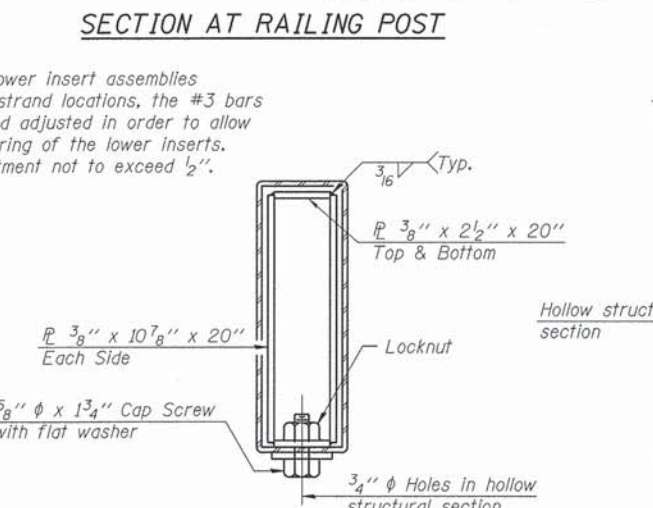


ANCHOR DEVICE

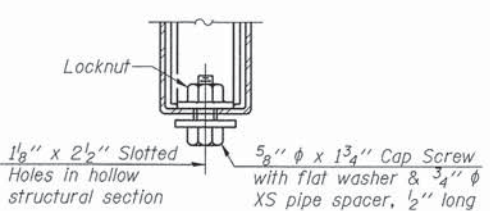
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection. For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



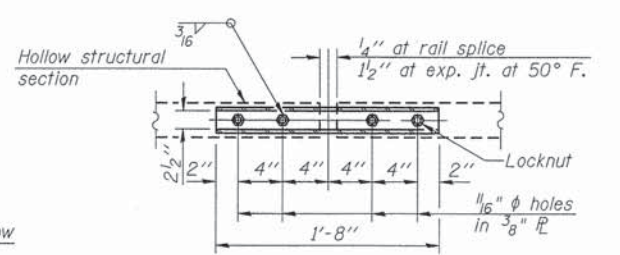
SECTION C-C



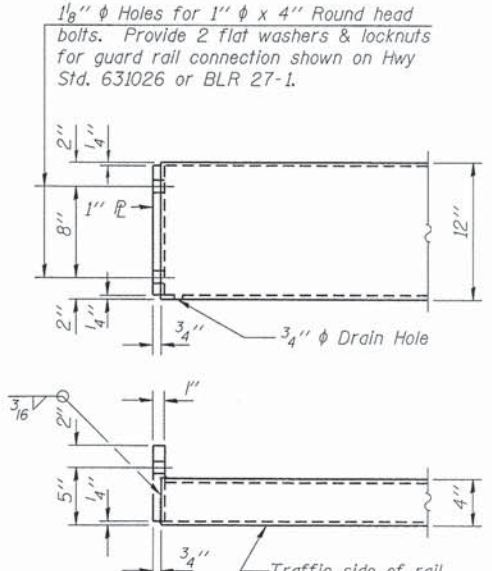
SECTIONS AT RAIL SPLICE



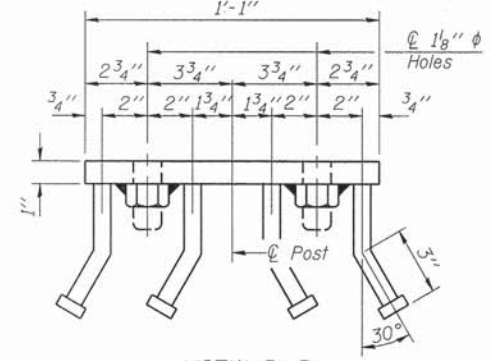
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



**PLAN-BOTT. SPLICE R
TYPICAL**



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	119

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

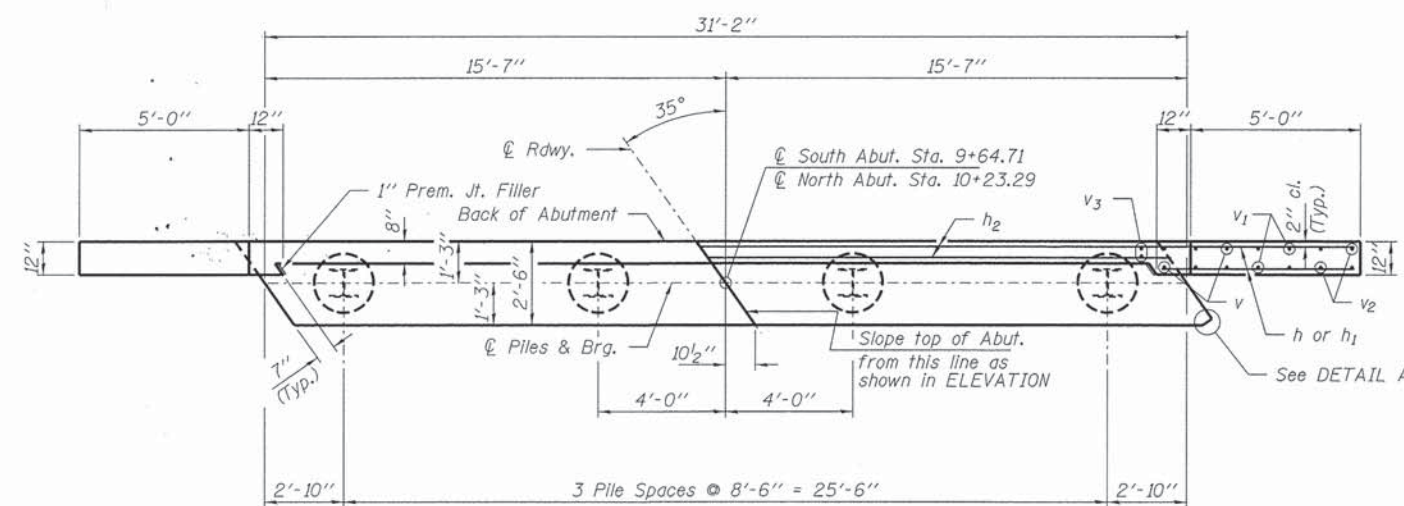
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**STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT**

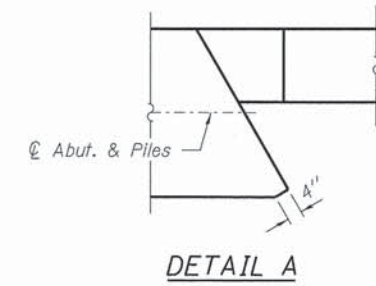
**STEEL RAILING, TYPE S-1
STRUCTURE NO. 041-3752**

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT BR05-008(1071)				

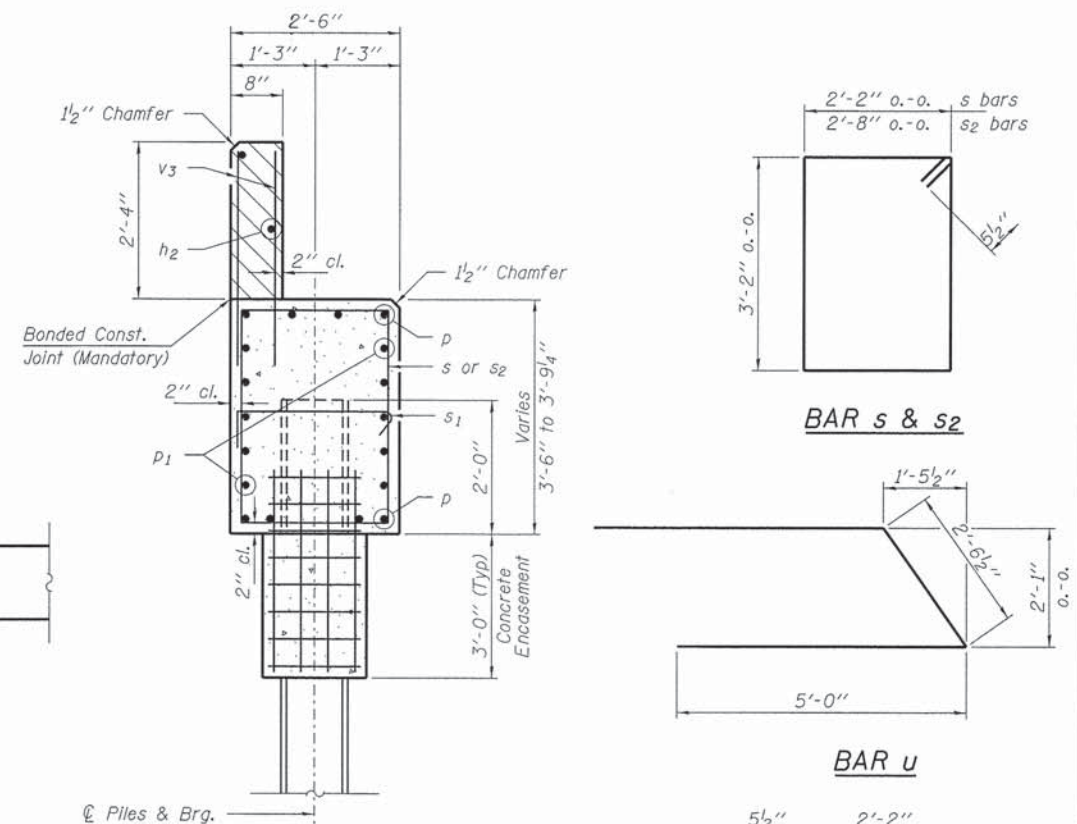
SHEET NO. 6 OF 9 SHEETS



PLAN

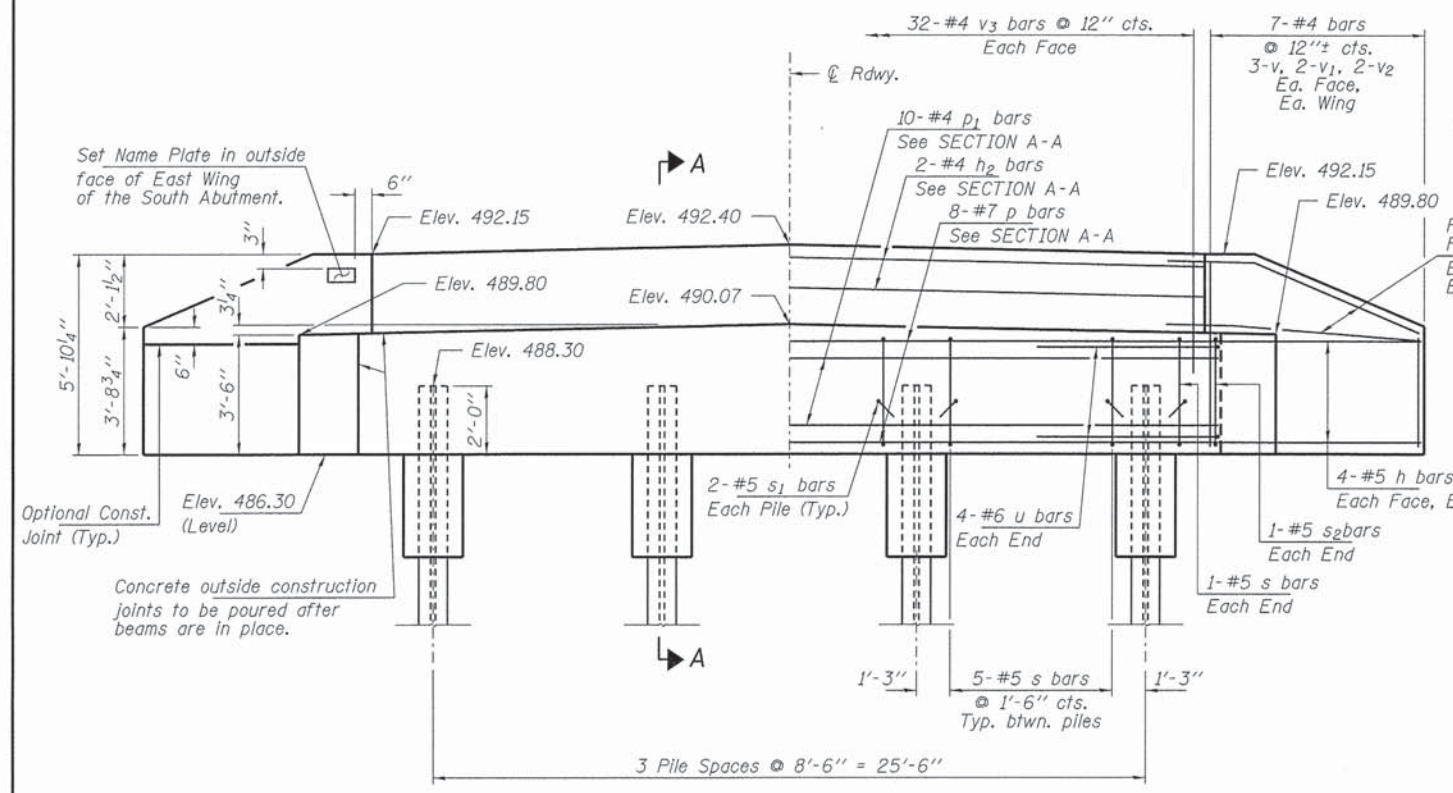


DETAIL A



SECTION A-A

Hatched area to be poured after beams are in place.



ELEVATION

Note: Extend h bars into abutment cap.

PILE DATA

Type ----- Steel HP10x42
 No. Req'd. (2 Abuts.) ----- 8
 Factored Resistance Available (Rf) ----- 184 Kips/Pile
 Nominal Required Bearing (Rn) ----- 335 Kips/Pile
 Est. Length ----- 15 Ft/Pile

Note: Piles shall be driven below a Minimum Pile Tip Elev. 475.0

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	7'-3"	—
h1	8	#4	5'-9"	—
h2	4	#4	30'-10"	—
p	16	#7	30'-10"	—
p1	20	#4	30'-10"	—
s	34	#5	11'-7"	□
s1	16	#5	3'-2"	┌
s2	4	#5	12'-7"	□
u	16	#6	12'-7"	┌
v	24	#4	5'-1"	—
v1	16	#4	4'-3"	—
v2	16	#4	3'-6"	—
v3	128	#4	3'-2"	—
Concrete Structures			Cu. Yd.	28.6
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,980
Steel Piles HP10x42			Foot	120
Name Plates			Each	1

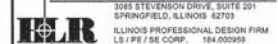
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 PLOT DATE = 1/27/2014

DESIGNED - L.A.P.
 CHECKED - S.W.M.
 DRAWN - R.D.H.
 CHECKED - S.W.M.
 PLOT SCALE =
 PLOT DATE = 1/27/2014

STATE OF ILLINOIS
 JEFFERSON COUNTY HIGHWAY DEPARTMENT

ABUTMENTS
 STRUCTURE NO. 041-3752
 SHEET NO. 7 OF 9 SHEETS

T.R. SECTION COUNTY TOTAL SHEETS SHEET NO.
 476A 12-12121-00-BR JEFFERSON 21 19
 PENDLETON ROAD DISTRICT CONTRACT NO. 99525
 [ILLINOIS] FED. AID PROJECT BROS-008107H



HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-13194 Bridge Co Rd 2150E over Auxier Cr Date: 9-10-2013
Section: 12-12121-00-BR Station _____
Structure: _____ Bored by: B. Schwartz
County: Lawrence Checked By: T. Holcomb

Boring No: <u>1</u>	Station: _____	Offset: _____	Surface Water Elev. _____			Elevation	N	Qu	tsf	w %	Ground Water Elev. _____			
			During Drilling <u>dry</u>								Elevation	N	Qu	tsf
			Upon Completion <u>dry</u>											
Ground Surface (487.8) 99.0			0											
4" Topsoil														
Brown Clayey SILT (A-4)														
				2	0.65	22								
		(482.8) 94.0	-5	3	0.65	18								
Brown Silty CLAY (A-6) with sand														
		(480.8) 92.0		53	--	12								
Brown Mottled Gray Weathered Sandy SHALE														
		(479.3) 90.5												
Gray Mottled Brown Sandy SHALE														
		(476.8) 88.0	-10	100	3	--	8							
Gray Sandy SHALE														
		(472.8) 84.0	-15	100	6	--	8							
End of Boring @ -15.0'														

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu - Unconfined Compressive Strength in tons/sq.ft.
w - Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING