

06-14-13 LETTING ITEM 129

INDEX OF SHEETS

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1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS AND ENTRANCE DETAILS
4.	PLAN AND PROFILE
5.-12.	STATION CROSS SECTIONS
13.-22.	BRIDGE PLANS
23.	BORINGS

HIGHWAY STANDARDS:

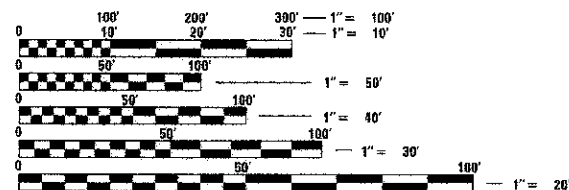
000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901-02	TRAFFIC CONTROL DEVICES
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL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

UTILITIES

TELEPHONE:
AT&T
210 N. LOCUST, FLOOR 2
CENTRALIA, IL 62081

WATER:
NORTHEAST WATER CO.
1018 JORDAN ST.
MT. VERNON, IL 62864
ATTN: THADDEUS STALEY

AMERIN IP
1800 W. MAIN
MARION, IL 62959
618-236-6207
ATTN: STEVE RALSTON



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.

CONTRACT NO. 99504

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

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

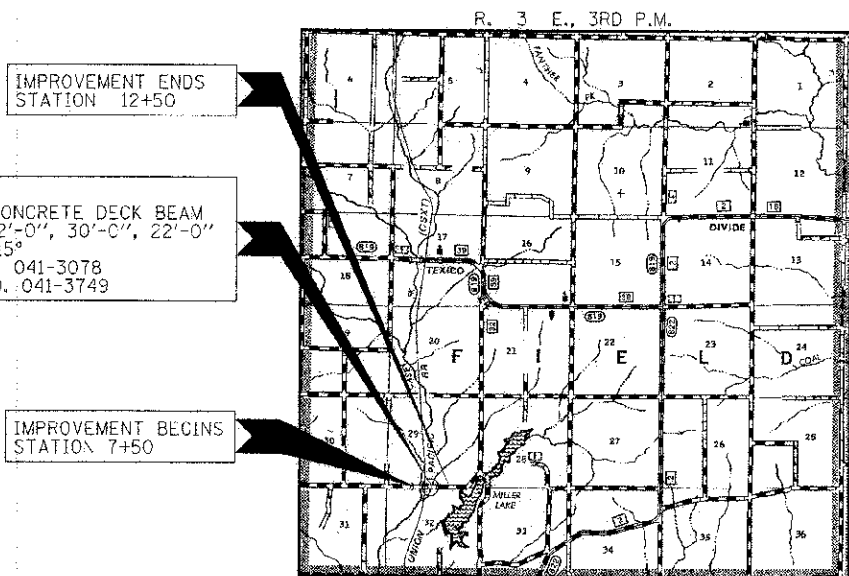
**PROJECT BROS-0081(062)
SECTION 09-07106-00-BR
FIELD ROAD DISTRICT
JEFFERSON COUNTY
T.R. 123 / EAST VIOLET ROAD
PROPOSED STRUCTURE NO. 041-3749
JOB NO. C-99-531-10**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 123	09-07106-00-BR	JEFFERSON	23	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 99504	



LOCATION OF SECTION INDICATED THUS: — ■ —

FUNCTIONAL CLASSIFICATION: LOCAL ROAD (0-250 ADT)
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 50 ADT (2013)



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE
NET LENGTH OF SECTION = 500 FEET = 0.096 MILES



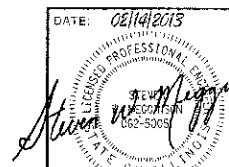
ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED: *[Signature]* MARCH 6 2013
COUNTY ENGINEER

APPROVED: *[Signature]* MARCH 6 2013
TOWNSHIP COMMISSIONER

PASSED: *[Signature]* MARCH 15 2013
DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS

Released For Bid Based on Limited Review: *[Signature]* MARCH 15 2013
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS
3095 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

EXPIRES: 11/30/2013

PROJECT NUMBER: 12.0135.130

DATE: 02/14/13

SUMMARY OF QUANTITIES			
CONSTRUCTION CODE	ITEM	0011	
		UNIT	TOTAL
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	50
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	50
20200100	EARTH EXCAVATION	CU YD	190
20300100	CHANNEL EXCAVATION	CU YD	290
20400800	FURNISHED EXCAVATION	CU YD	340
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	850
28000305	TEMPORARY DITCH CHECKS	FOOT	82
28100707	STONE DUMPED RIPRAP, CLASS A4	TON	320
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	460
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	43.2
50300280	CONCRETE ENCASEMENT	CU YD	14.2
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1,776
50800105	REINFORCEMENT BARS	POUND	4,340
50900205	STEEL RAILING, TYPE S1	FOOT	145
51201400	FURNISHING STEEL PILES HP10X42	FOOT	720
51202305	DRIVING PILES	FOOT	720
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	38
59300100	CONTROLLED LOW STRENGTH MATERIAL	CU YD	41
67100100	MOBILIZATION	L SUM	1
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

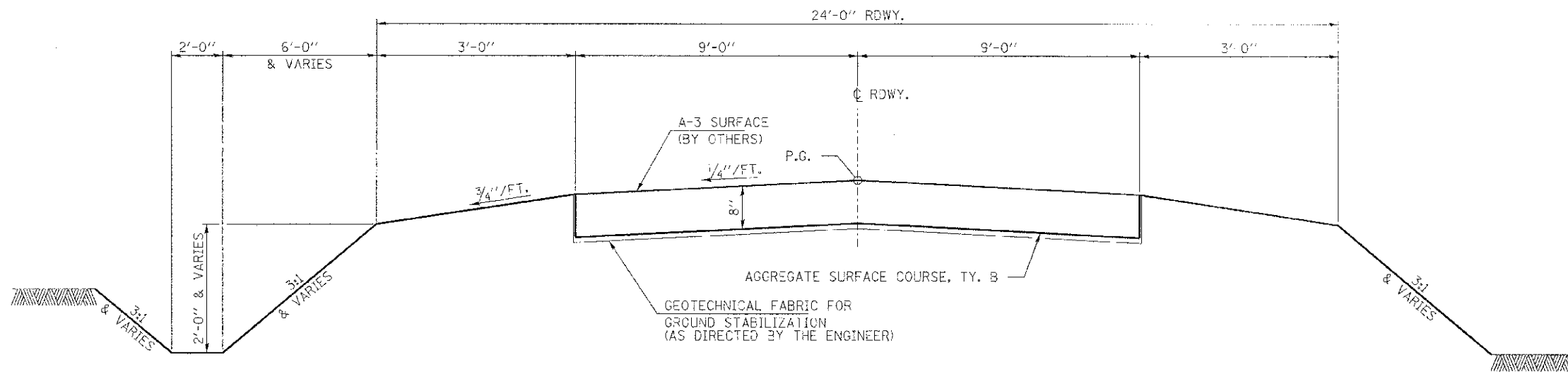
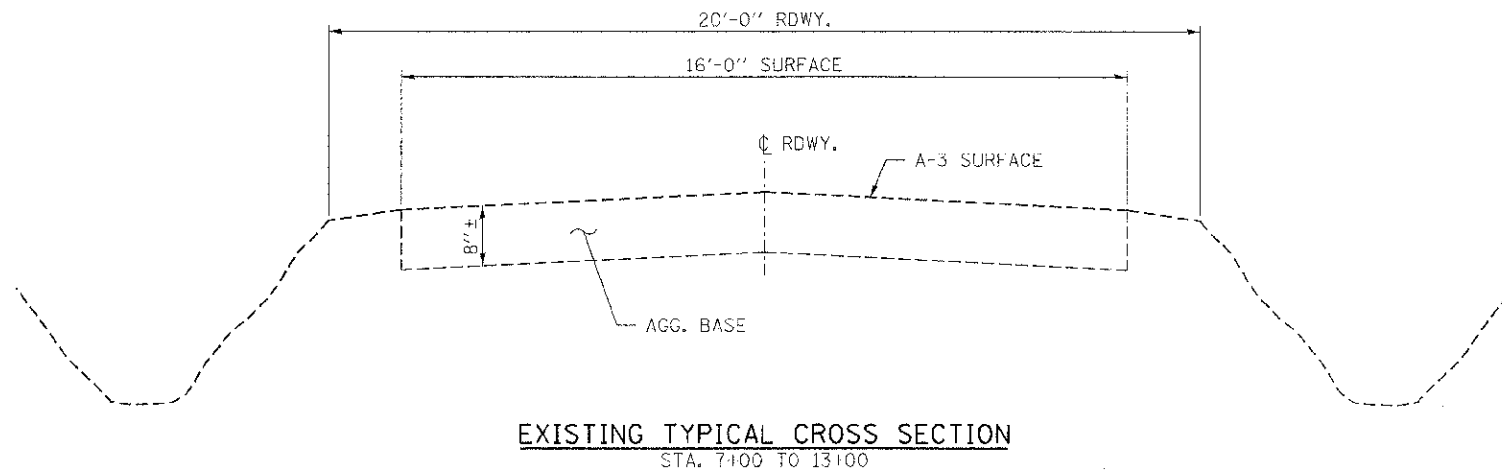
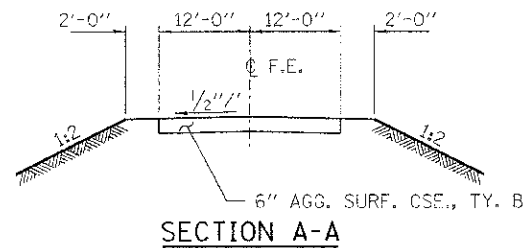
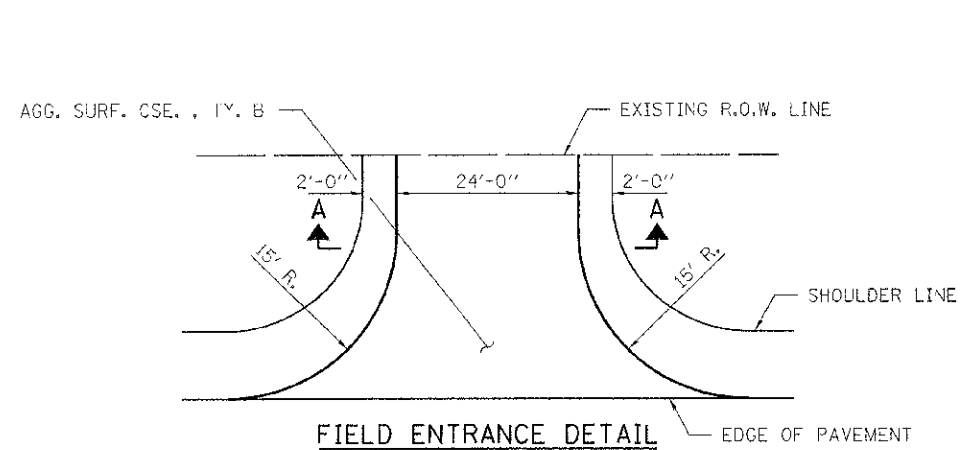
GENERAL NOTES

1. 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.
2. ALL CLEARING AND GRUBBING, FENCE REMOVAL AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL OF THE EXISTING BITUMINOUS SURFACE WILL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. PROPOSED DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
3. 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.
4. 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 ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
5. THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.
6. TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE ACCESS TO ADJUTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
8. 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
9. THE AREA TO BE SEEDDED SHALL CONSIST OF ALL EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER
SEEDING, CLASS 2 (SPECIAL) = 0.4 ACRES
10. 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.

ROADWAY SCHEDULE		
LOCATION	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	AGGREGATE SURFACE COURSE TYPE B
	21001000 SQ YD	40200800 TON
TR 123 / VIOLET ROAD		
STA 7+50 TO STA 9+59.52	418	191
STA 10+32.48 TO STA 12+50	431	197
FIELD ENTRANCE STA 7+75 LT		22
FIELD ENTRANCE STA 8+40 RT		23
FIELD ENTRANCE STA 12+50 RT		24
TOTAL	849	457
USE	850	460

EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) / SHORTAGE (-)
	20200100 CU YD	20300100 CU YD			CU YD		
TR 123 / VIOLET ROAD							
STA 7+50 TO STA 9+59.52	93		25.00%	100.00%	70	282	-212
STA 9+59.52 TO STA 10+32.48	0	290	25.00%	70.00%	152	0	152
STA 10+32.48 TO STA 12+50	95		25.00%	100.00%	71	347	-276
TOTAL	188	290			293	629	-336
USE	190	290					-340
						FURNISHED EXCAVATION	340 CU YD.

FILE NAME = 120135-011-000-001	USER NAME =	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT	SUMMARY OF QUANTITIES & GENERAL NOTES EAST VIOLET ROAD	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 200 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62769	PLOT SCALE =	DRAWN - R.D.H.	REVISED -			123	09-0116-00-BR	JEFFERSON	23	2	
HLR ILLINOIS PROFESSIONAL DESIGN FIRM 131 PEBBLE CREEK, 114-1000A	PLOT DATE = 2/14/2013	CHECKED - S.W.M.	REVISED -			FILED ROAD DISTRICT					CONTRACT NO. 99504
		DATE - 02/12/13	REVISED -			SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT BRG-0810829



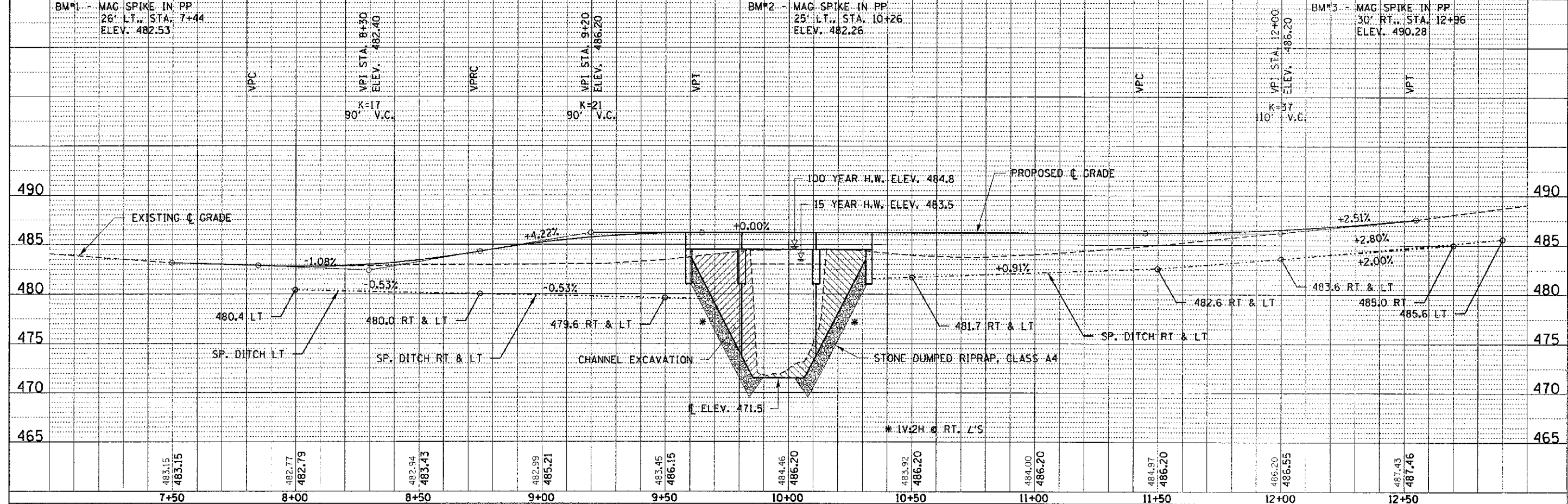
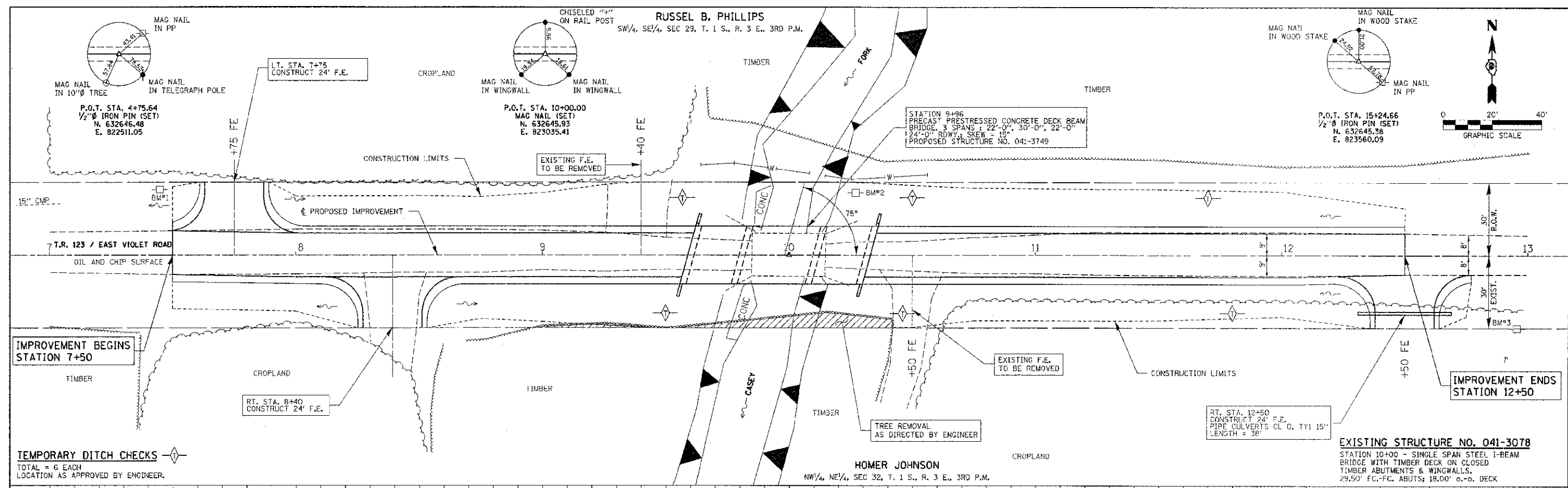
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

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

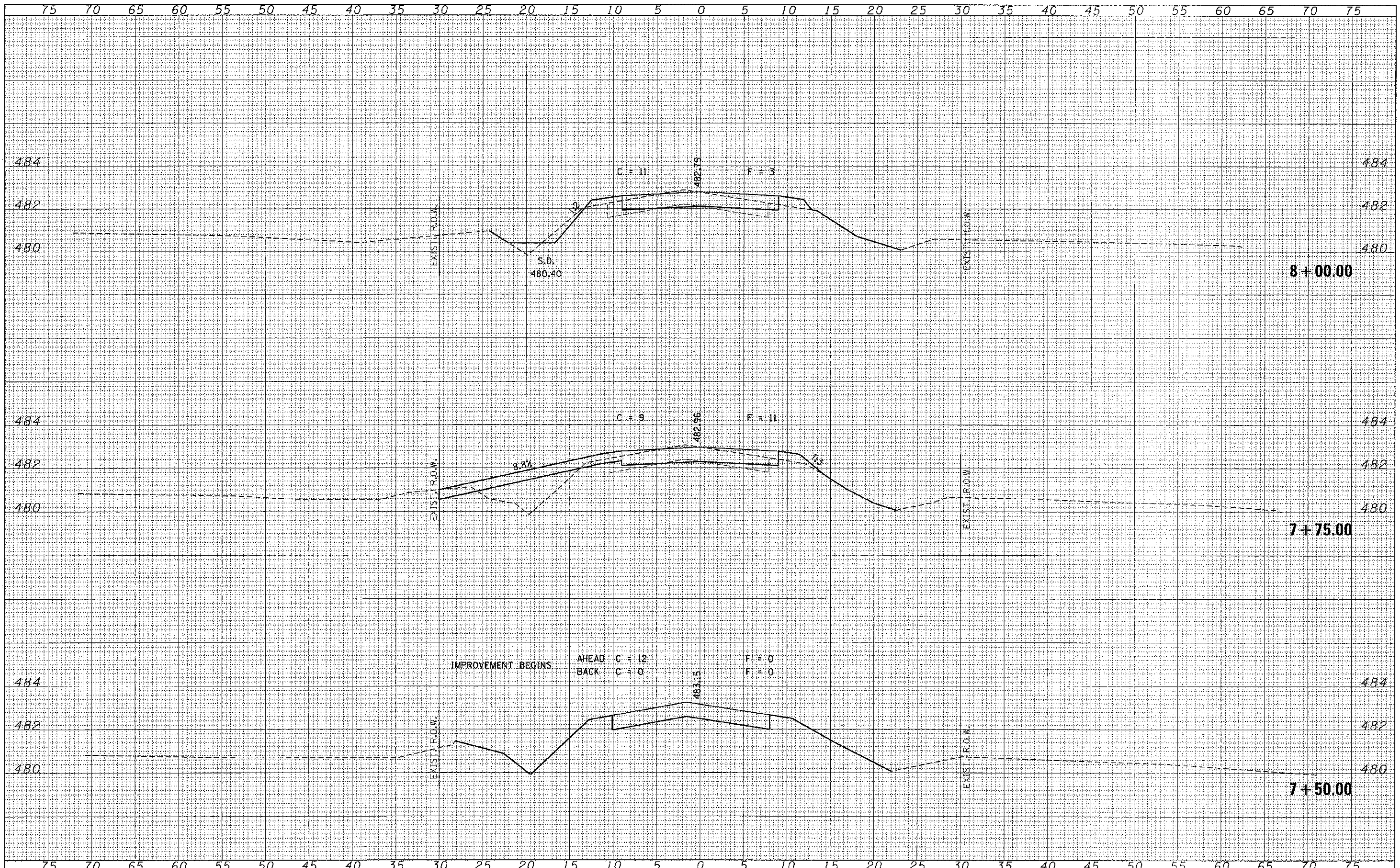
SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY
IS TO BE CONSTRUCTED FROM STA. 7+00 TO 7+50 AND FROM
STA. 12+00 TO 12+50 SEE SHEET 13 FOR TRANSITION AT BRIDGE.

F.I.F. NAME = 12813r-ent-typsecotter.dgn HAMPTON, LENZINI AND RENWICK, INC. 2365 STEVENSON DRIVE, SUITE 201 BURLINGAME, ILLINOIS 60010 ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 154-000660		USER NAME * PLOT SCALE * PI. DT. DATE = 2/14/2013	DESIGNED - J.W.F. DRAWN - L.G.C. CHECKED - S.W.M. DATE - 02/14/13	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT	TYPICAL CROSS SECTIONS AND ENTRANCE DETAILS EAST VIOLET ROAD SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.	F.R. SECTION COUNTY TOTAL SHEETS SHEET NO. 123 09-07106-00-BR JEFFERSON 23 3 FIELD ROAD DISTRICT CONTRACT NO. 99504 (ILLINOIS) FED. AID PROJECT BROS-00810621
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FILE NAME = 120135-ehb-pp.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT	PLAN & PROFILE EAST VIOLET ROAD	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3300 STEVENSON DRIVE, SUITE 207 SPRINGFIELD, ILLINOIS 62777	PLT SCALE =	DRAWN - L.G.C.	REVISED -			123	09-07106-00-BR	JEFFERSON	23	4	
ILLINOIS PROFESSIONAL DESIGN FIRM L2 / PE / SE CORP 184-00899	PLT DATE = 2/14/2013	CHECKED - S.W.M.	REVISED -			FIELD ROAD DISTRICT		CONTRACT NO. 99504		ILLINOIS FED. AID PROJECT BROS-0081062	
		DATE - 02/14/13	REVISED -			SCALE: H20V5	SHEET NO. 1 OF 1 SHEETS	STA. 7+00	TO STA. 12+50		



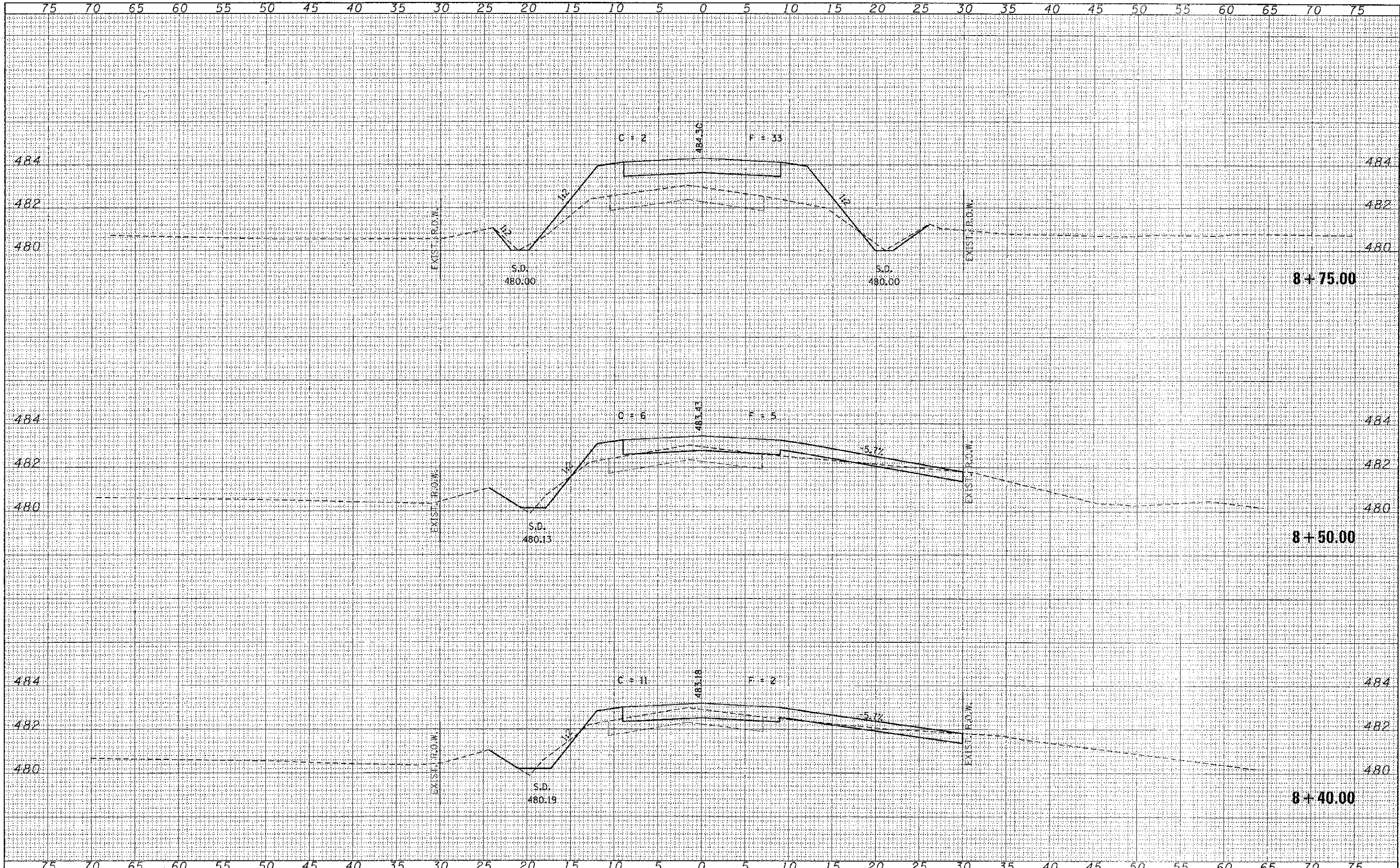
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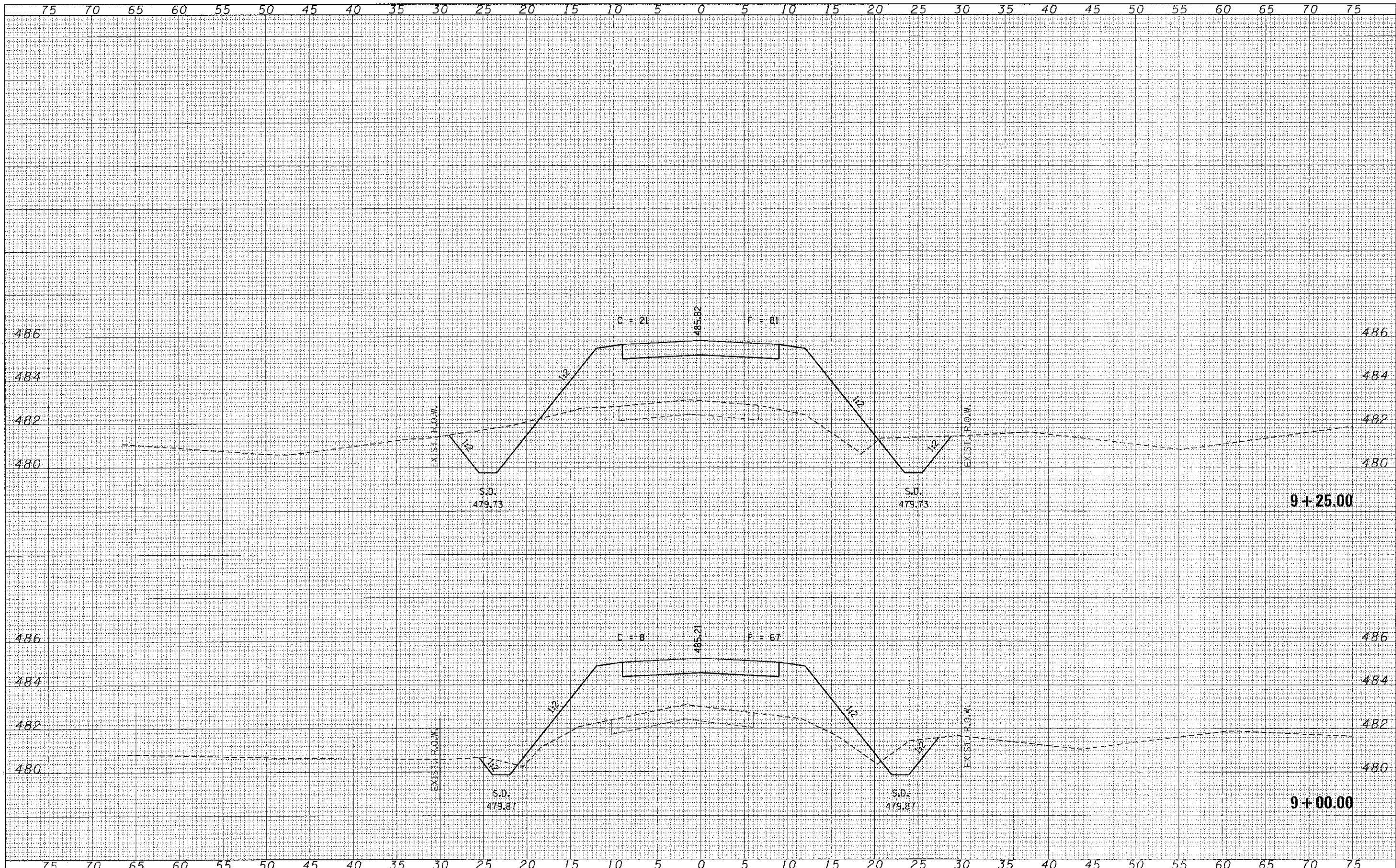
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ILLINOIS PROFESSIONAL DESIGN FIRM 137 WEST WASHINGTON SPRINGFIELD, ILLINOIS 62761	FLAT SCALE =	CHECKED - S.W.M.	REVISED -	FIELD ROAD DISTRICT	CONTRACT NO. 99504		ILLINOIS FED. AID PROJECT		
ILLR	PLAT DATE = 2/14/2013	DATE - 02/14/13	REVISED -	STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT					
				STATION CROSS SECTIONS EAST VIOLET ROAD				SCALE: SHEET NO. OF SHEETS STA. 7+50.00 TO STA. 8+00.00	

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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - L.G.C.	REVISED -		123	09-07106-00-BR	JEFFERSON	23	6		
1800 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILL. 62761-4009	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		FIELD ROAD DISTRICT		CONTRACT NO. 99504				
ILLINOIS PROFESSIONAL DESIGN FIRM 451 PL/SE CORP. 13402039	PLOT DATE = 2/14/2013	DATE - 02/14/13	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. 8+40.00 TO STA. 8+75.00	ILLINOIS FED. AID PROJECT			



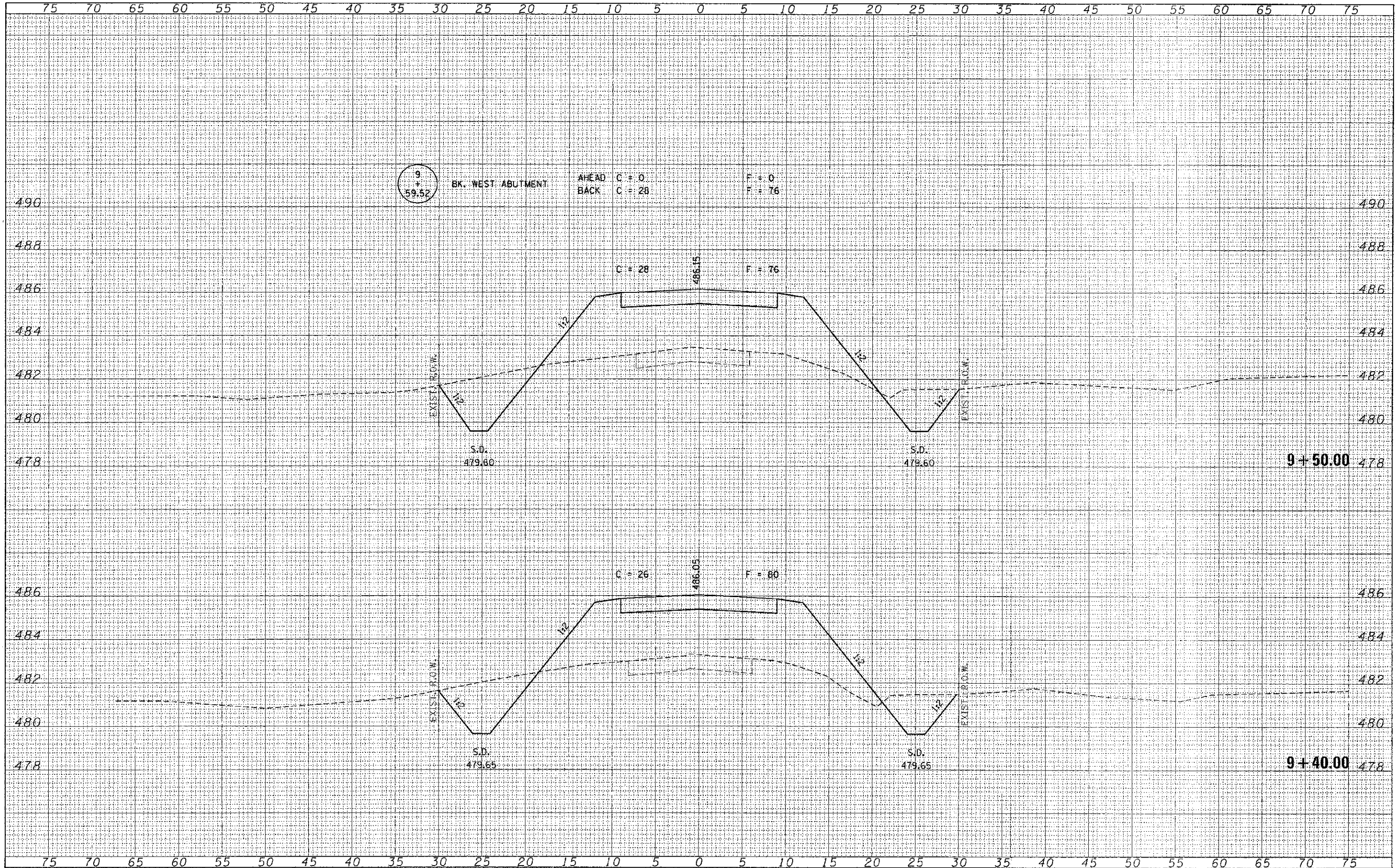
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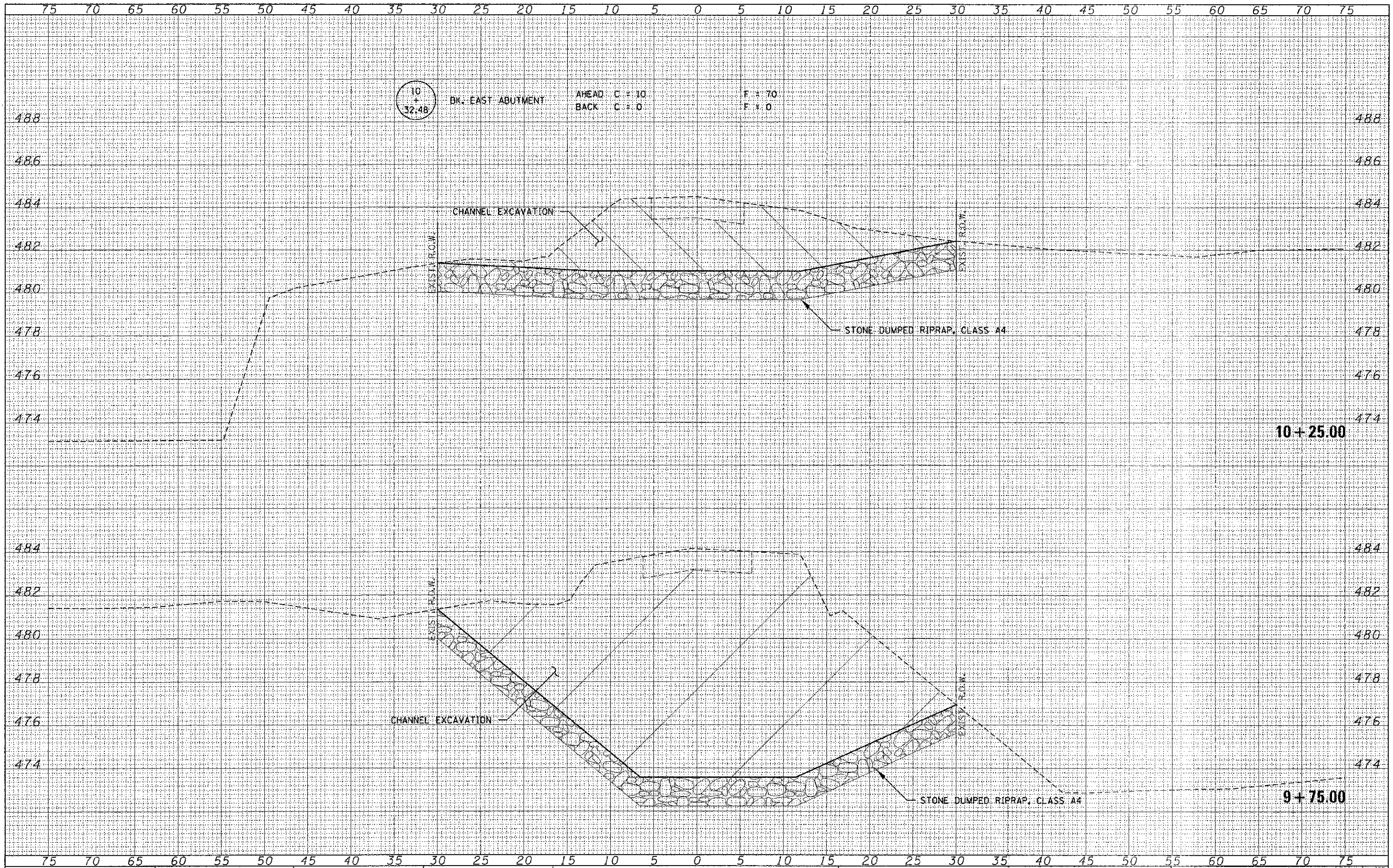
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HAMPTON, LENZINI AND RENWICK, INC.	PLOT SCALE =	DRAWN - L.G.C.	REVISED -		123	09-07106-00-BR	JEFFERSON	23	7		
1111 S. WASHINGTON ST. SUITE 201 SPRINGFIELD, ILLINOIS 62769	PLOT DATE = 2/14/2013	CHECKED - S.W.M.	REVISED -		SCALE:	SHEET NO. OF SHEETS	CONTRACT NO. 99504	ILLINOIS FED. AID PROJECT			
ILLINOIS PROFESSIONAL ENGINEERING FIRM 151 1/2 E. 66th ST. #14-300893	DATE - 02/14/13	DATE -	REVISED -		STA. 9+00.00 TO STA. 9+25.00						

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FILE NAME = 122105-01-0-0000.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS EAST VIOLET ROAD				T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - L.G.C.	REVISED -		123	09-07106-00-BR	JEFFERSON	23	8				
3845 STEVENSON DRIVE, SUITE 211		CHECKED - S.W.M.	REVISED -		FIELD ROAD DISTRICT	CONTRACT NO. 99504							
SPRINGFIELD, ILLINOIS 62761		DATE - 02/14/13	REVISED -		ILLINOIS FED. AID PROJECT								
ILLINOIS PROFESSIONAL DESIGN FIRM				SCALE:	SHEET NO.	OF	SHEETS	STA. 9+40.00	10	STA. 9+50.00			



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NOTE BOOK	
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NOTE BOOK	
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AREAS CHECKED	

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1110 S. SPRINGFIELD AVE. SUITE 201 SPRINGFIELD, ILLINOIS 62733		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L2 / PE / SE CORP. 15400390		DATE - 02/14/13	REVISED -
PLOT SCALE =			
PLOT DATE = 2/14/2013			

STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

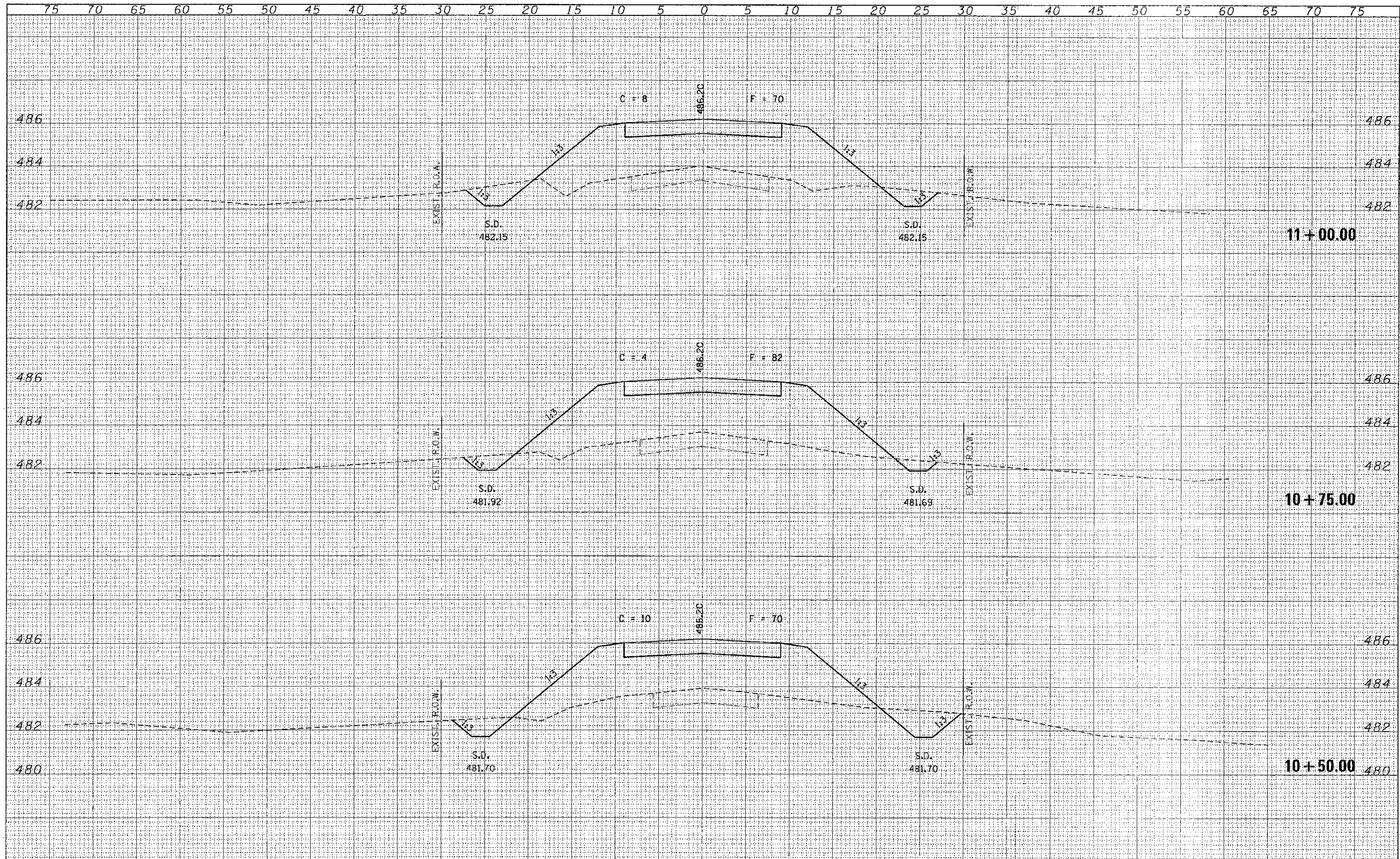
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STATION CROSS SECTIONS
EAST VIOLET ROAD

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123	09-07106-00-BR	JEFFERSON	23	9
FIELD ROAD DISTRICT		CONTRACT NO. 99504		ILLINOIS FED. AID PROJECT

DATE	
BY	
FINAL SURVEY	
SURVEYED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	

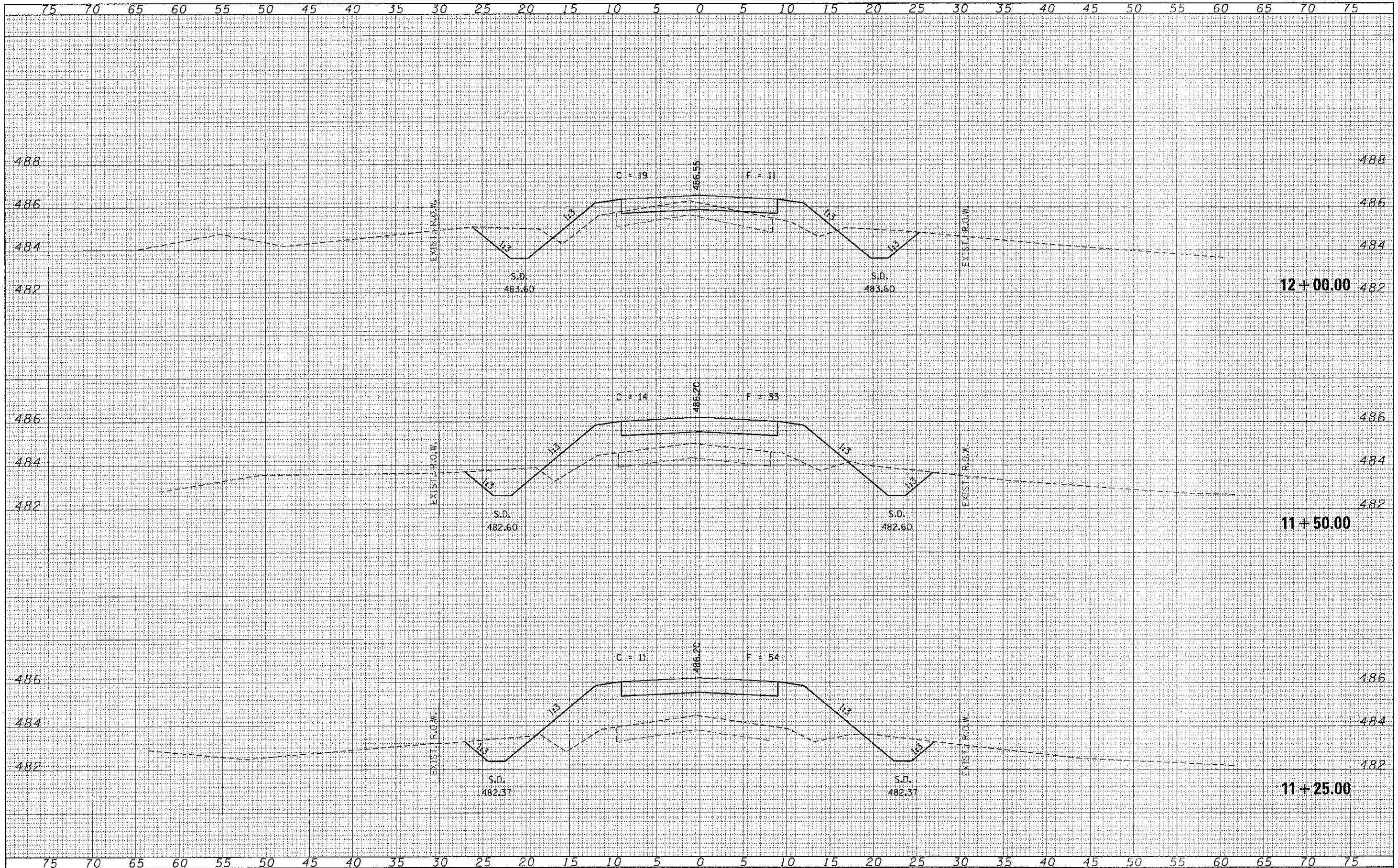
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BY	
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NOTE BOOK	
AREAS CHECKED	



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HAMPTON, LENZINI AND REHWICK, INC.		DRAWN - L.G.C.	REVISED -		123	09-07106-00-BR	JEFFERSON	23	10			
1111 S. STEVENSON STREET, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA. 10+50.00	TO STA. 11+00.00	CONTRACT NO. 99504	ILLINOIS FED. AID PROJECT
ILLINOIS PROFESSIONAL DESIGN FIRM LS/PE/SE CORP. 14-00049		DATE - 02/14/13	REVISED -									

FINAL	DATE
REVISED	BY
NOTED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS	
CHECKED	
NO.	

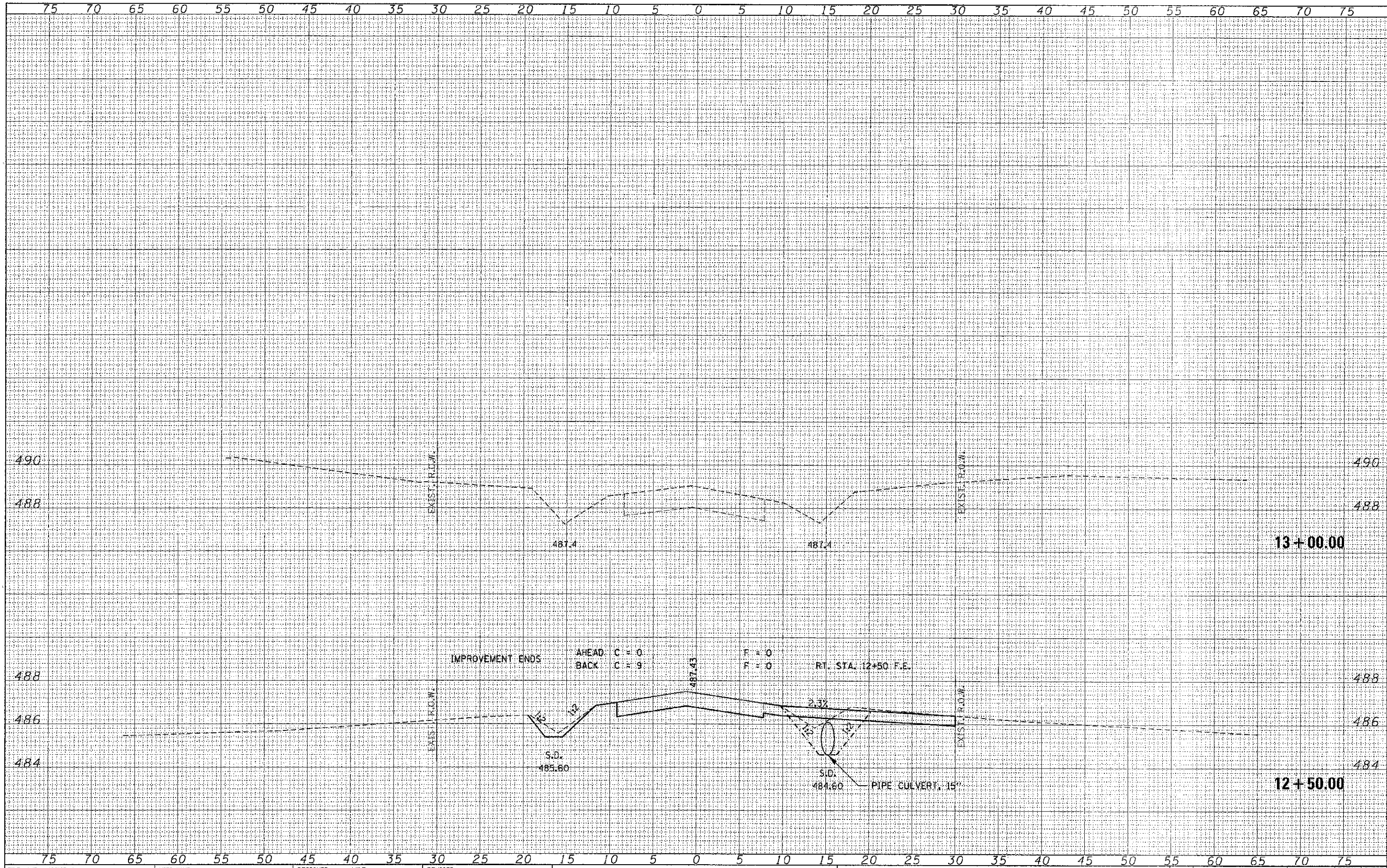
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3015 STEVENSON DRIVE SUITE 201 SPRINGFIELD, ILLINOIS 62706		CHECKED - S.W.M.	REVISED -		FIELD ROAD DISTRICT CONTRACT NO. 99504				
ILLINOIS PROFESSIONAL ENGINEER FIRM LST/PE/SE CORP. 18479203		DATE - 02/14/13	REVISED -		ILLINOIS FED. AID PROJECT				

NO.	DATE	BY
NO.	DATE	BY
NO.	DATE	BY

NO.	DATE	BY
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NO.	DATE	BY



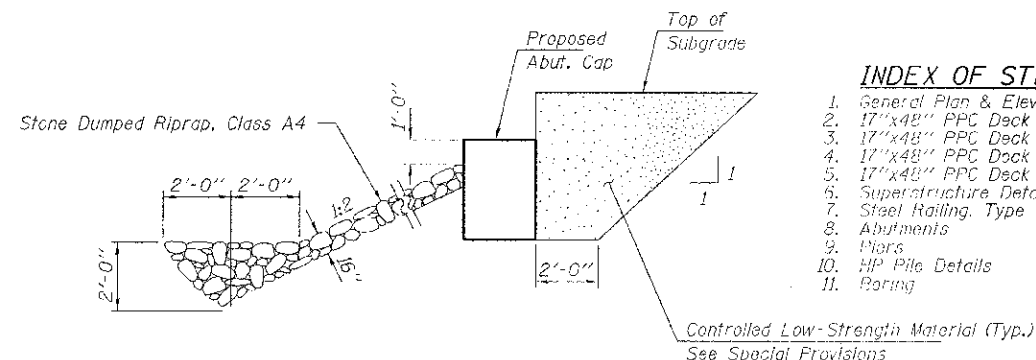
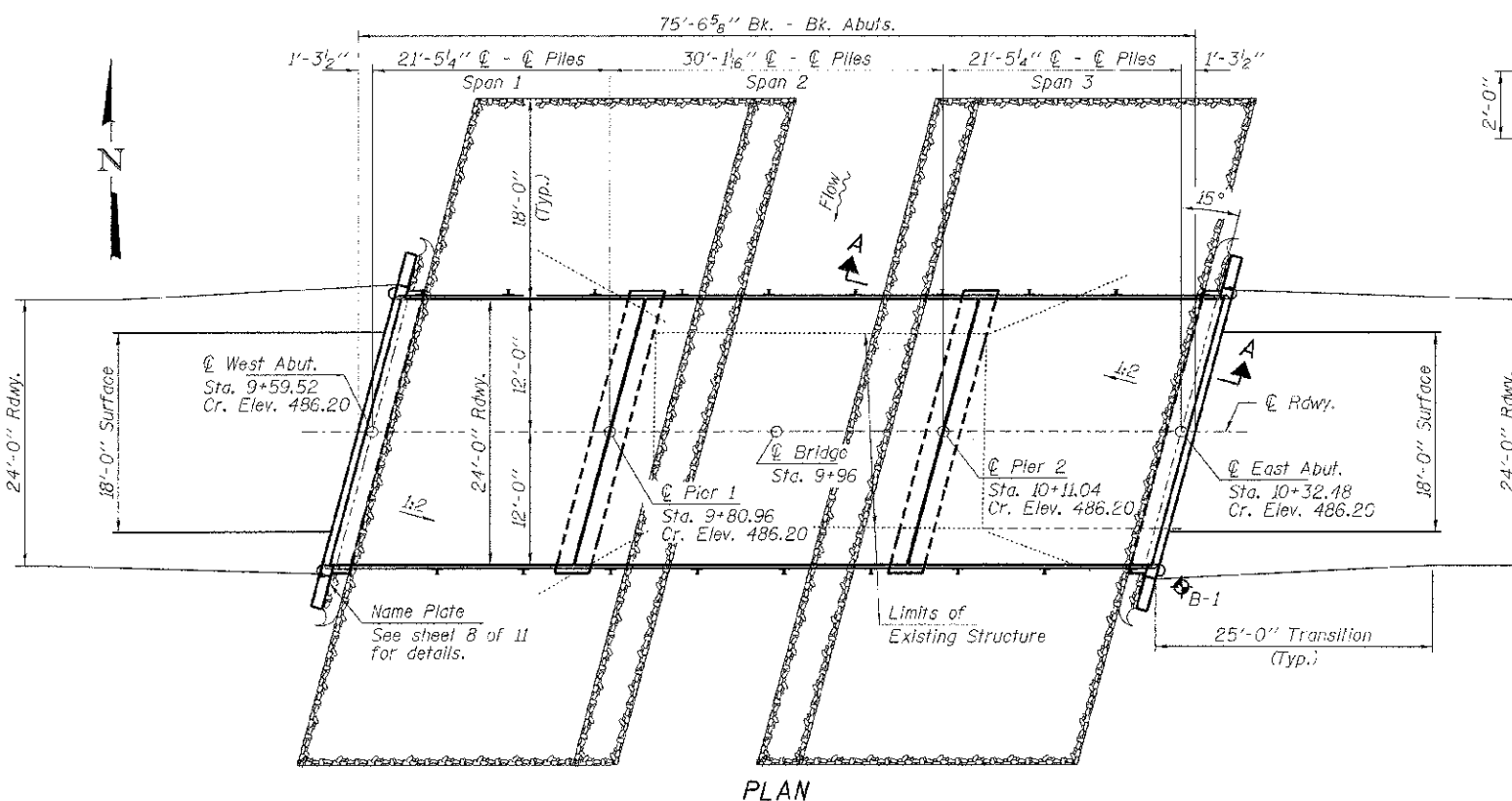
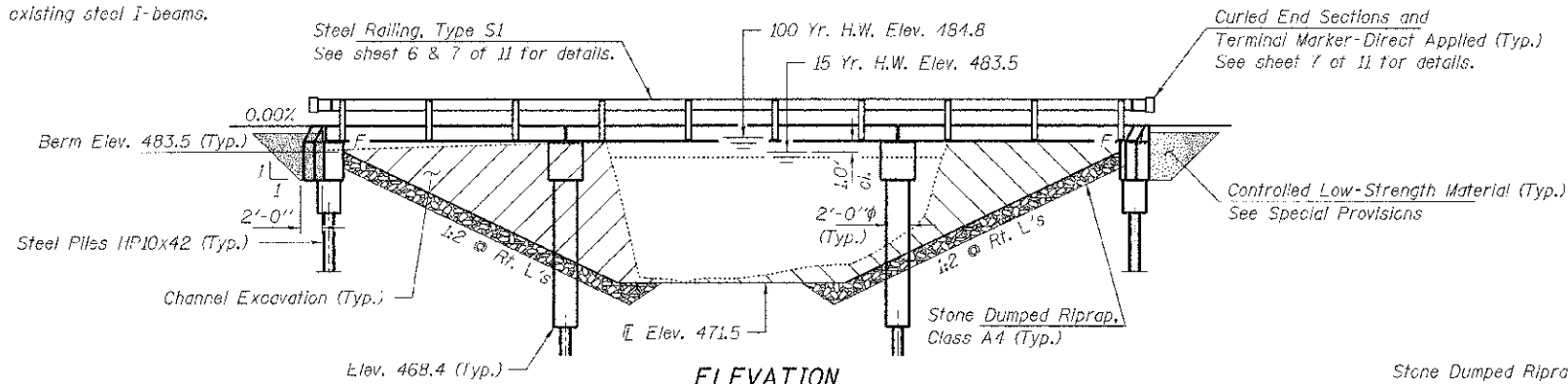
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BENCHMARK: Mag Spike in PP. 25' LT., Sta. 10+26 Elev. 482.26

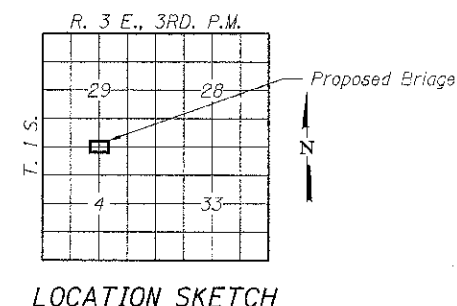
EXISTING STRUCTURE NO. 041-3078: A single span steel I-beam bridge with timber deck on closed timber abutments and wingwalls. 29.5' fc.-fc. abutts., 18.0' o.-o. deck.

Structure closed to traffic during construction.

Salvage existing steel I-beams.



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



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 and Piers 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. 17"x48" PPC Deck Beam - Spans 1 & 3
3. 17"x48" PPC Deck Beam Details - Spans 1 & 3
4. 17"x48" PPC Deck Beam - Span 2
5. 17"x48" PPC Deck Beam Details - Span 2
6. Superstructure Details
7. Steel Railing, Type S1
8. Abutments
9. Piers
10. HP Pile Details
11. Paving

CASEY FORK
BUILT 2011 BY
JEFFERSON COUNTY
SEC. 09-07106-00-BR
FIELD ROAD DISTRICT
STR. NO. 041-3749
LOADING HL-93

NAME PLATE
See Std. 515001

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.)

LOADING HL-93

Design Specifications: 2012 AASHTO LRFD with all applicable Interims.
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S₀₁) = 0.287g
Design Spectral Acceleration at 0.2 sec. (S₀₅) = 0.689g
Soil Site Class = D

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Prop.	Sq. Ft. Prop.	Natural H.W.E.		Head - Ft.		Headwater E.L.	
					Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	3194	280	470	483.22	1.15	0.52	484.37	483.74	
Base	100	5980	280	550	484.76	1.07	0.50	485.83	485.66	
Max. Calc.	500	8220	280	550	485.73	0.92	0.96	486.65	486.69	

Existing Low Grade Elev. 482.8 @ Sta. 8+00
Proposed Low Grade Elev. 482.8 @ Sta. 7+80

Drainage Area = 17.7 Sq. Mi.

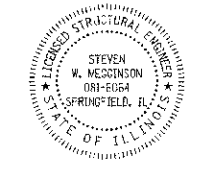
Low water approaches to remain in place.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	481.0	466.4	466.4	481.0

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."

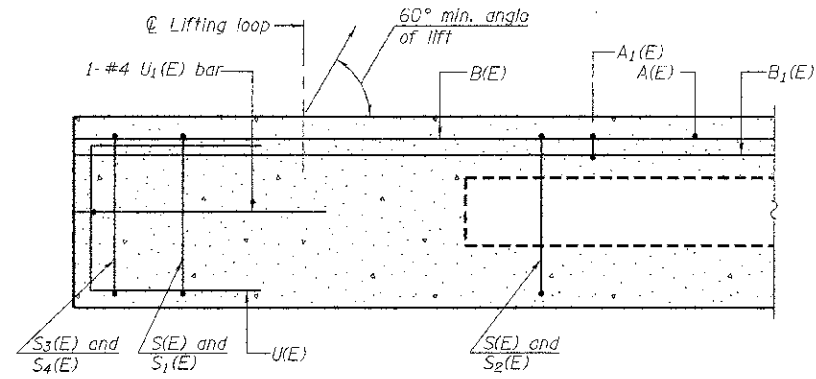
Steven W. McGinnis 02/14/2013
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



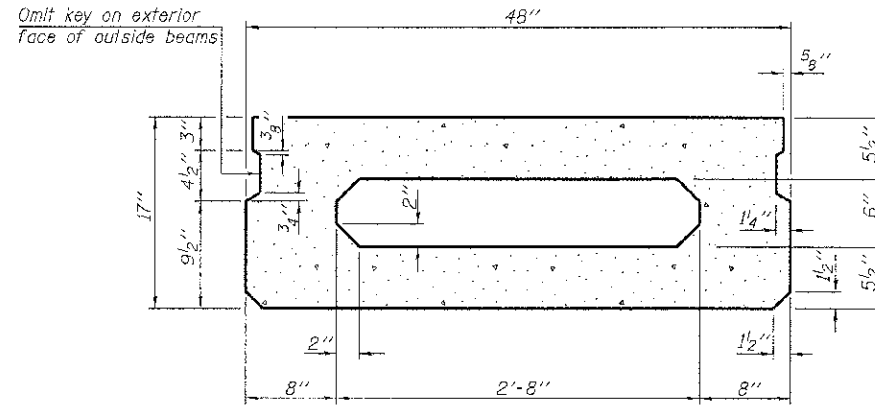
Expires 11-30-2014

TOTAL BILL OF MATERIAL

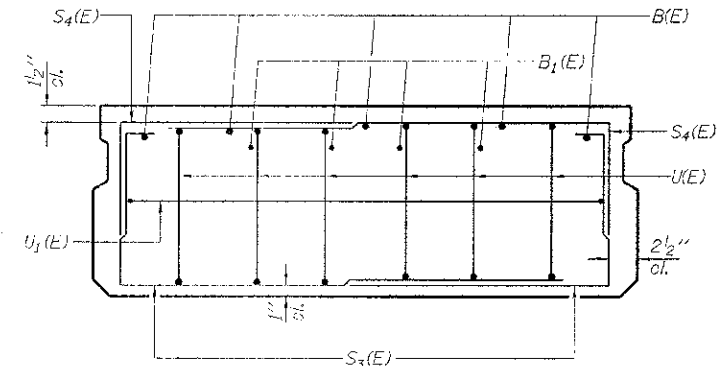
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			290
Stone Dumped Riprap, Class A4	Ton			320
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		43.2	43.2
Concrete Encasement	Cu. Yd.		14.2	14.2
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,776		1,776
Reinforcement Bars	Pound		4,340	4,340
Steel Railing, Type S1	Foot	145		145
Furnishing Steel Piles HP10x42	Foot		720	720
Driving Piles	Foot		720	720
Name Plates	Each		1	1
Controlled Low Strength Material	Cu. Yd.		41	41



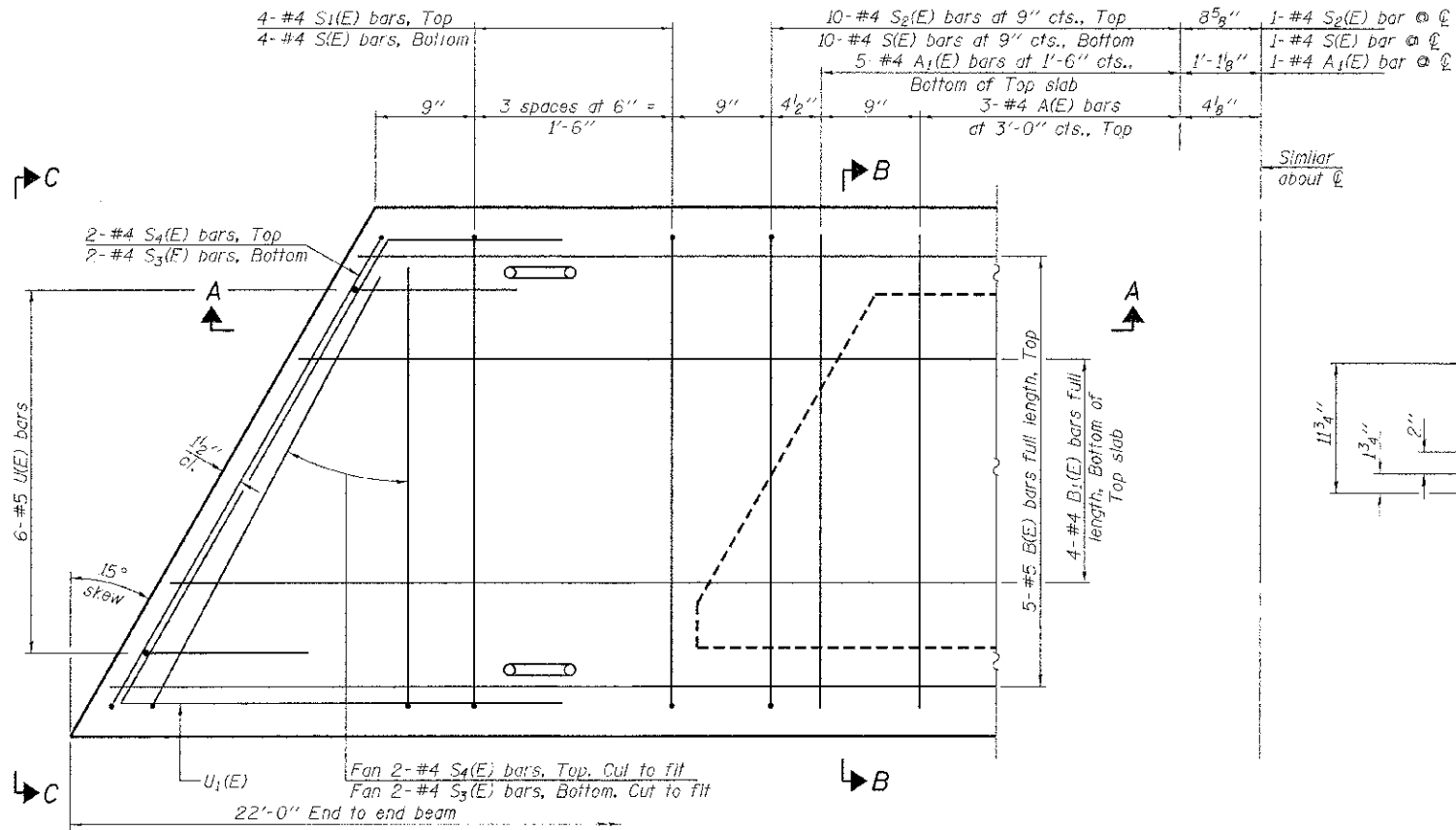
SECTION A-A



SECTION B-B
(Showing dimensions)

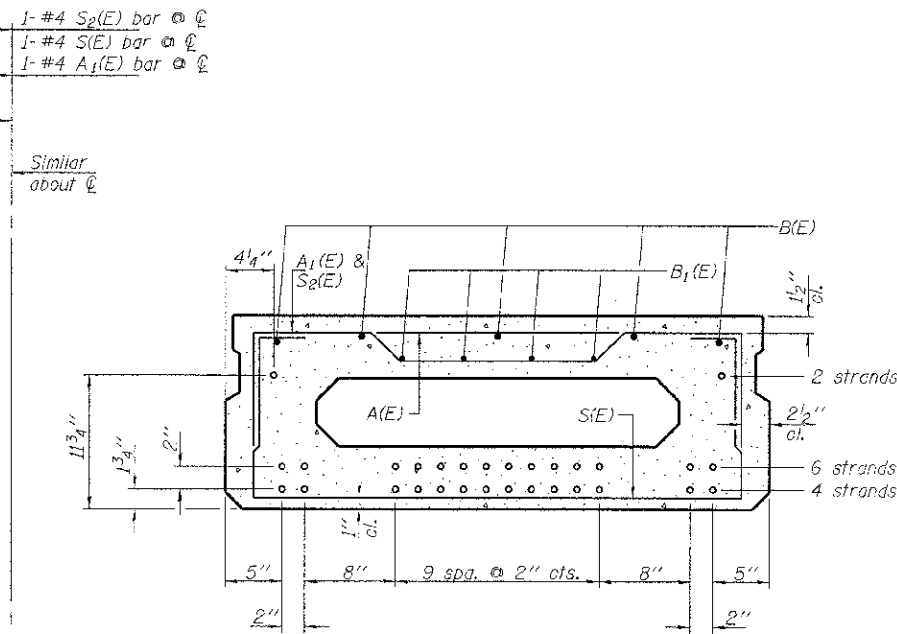


VIEW C-C



PLAN VIEW

Note: 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.



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
A1(E)	6	#4	3'-7"	—
A1(E)	11	#4	3'-10"	—
B1(E)	5	#5	21'-9"	—
B1(E)	4	#4	21'-9"	—
S1(E)	29	#4	6'-9"	U
S1(E)	8	#4	5'-3"	U
S2(E)	21	#4	5'-6"	U
S3(E)	8	#4	4'-4"	U
S4(E)	8	#4	3'-7"	U
U(E)	12	#5	3'-8"	C
U1(E)	2	#4	7'-1"	C

Note: See sheets 3 & 7 of 11 for additional details and Bill of Material.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

PD-1748-L

7-1-10

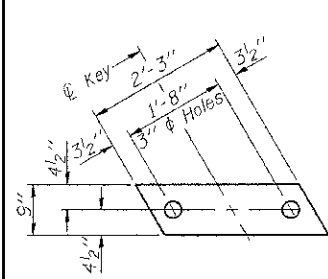
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200 E. EVERSHOEN DRIVE, SUITE 307 SPRINGFIELD, ILLINOIS 62703		DRAWN - D.A.B.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE / COM - 100-000000	PLOT DATE = 2/14/2013	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

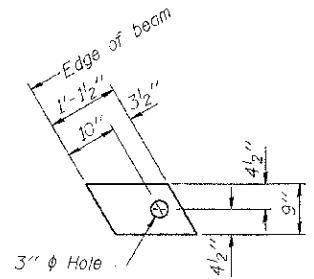
17" x 48" PPC DECK BEAM - SPANS 1 & 3
STRUCTURE NO. 041-3749

SHEET NO. 2 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
123	09-07106-00-BR	JEFFERSON	23	14
FIELD ROAD DISTRICT		CONTRACT NO. 99504		
ILLINOIS		FED. AID PROJECT BROS-0081062		



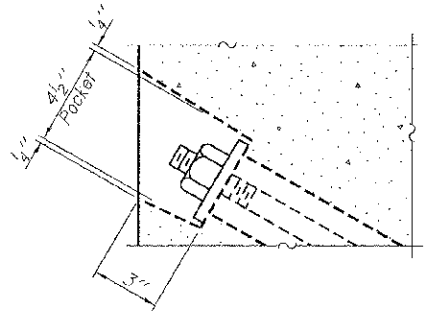
FABRIC BEARING PAD
(Interior - 20 Req'd.)



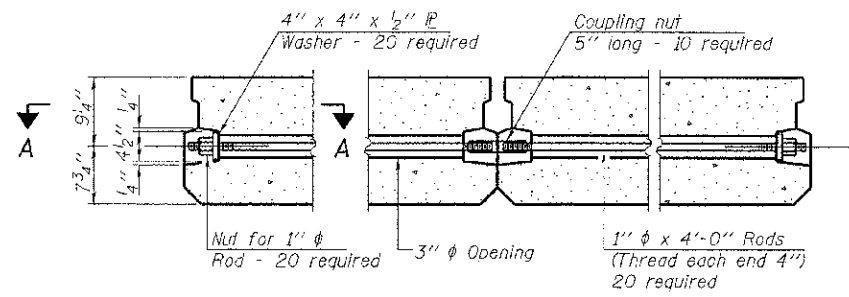
FABRIC BEARING PAD
(Exterior - 8 Req'd.)

FIXED

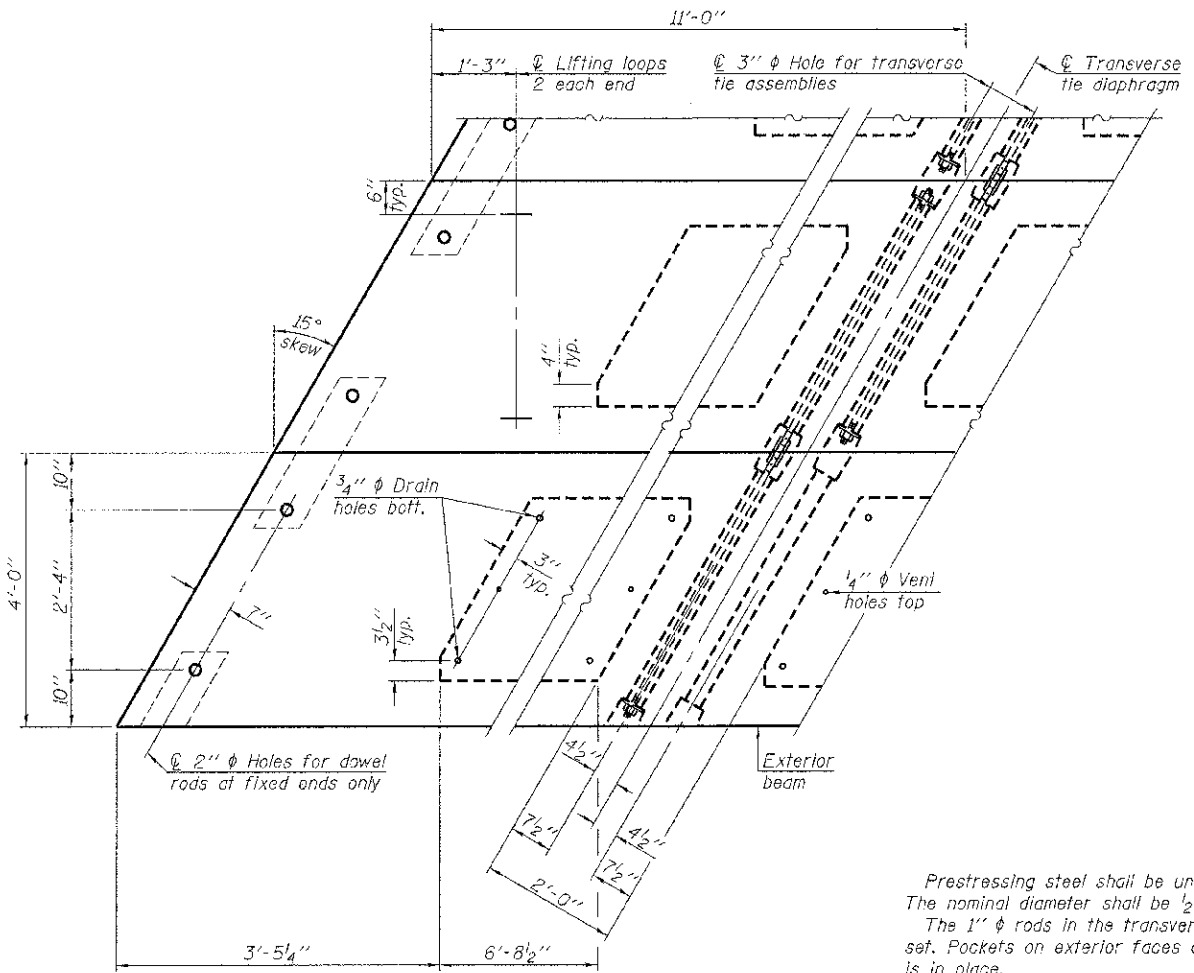
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

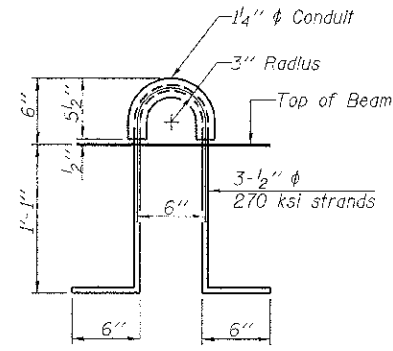


TYPICAL TRANSVERSE TIE ASSEMBLY

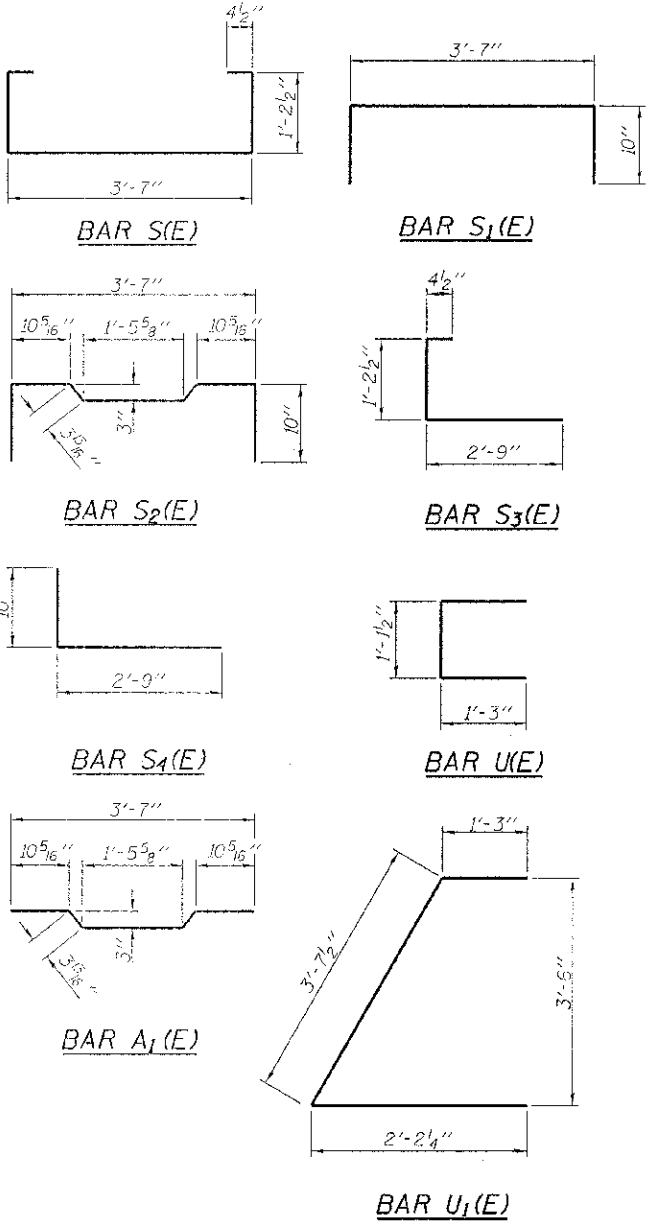


PLAN VIEW

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



LIFTING LOOP DETAIL



BILL OF MATERIAL - SPANS 1 & 3

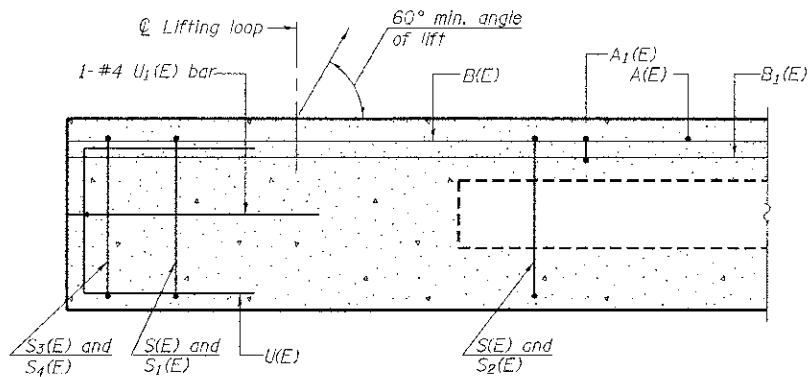
Precast Prestressed Cong. Deck Bms. (17" depth)	Sq. Ft.	1,056
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NOTES

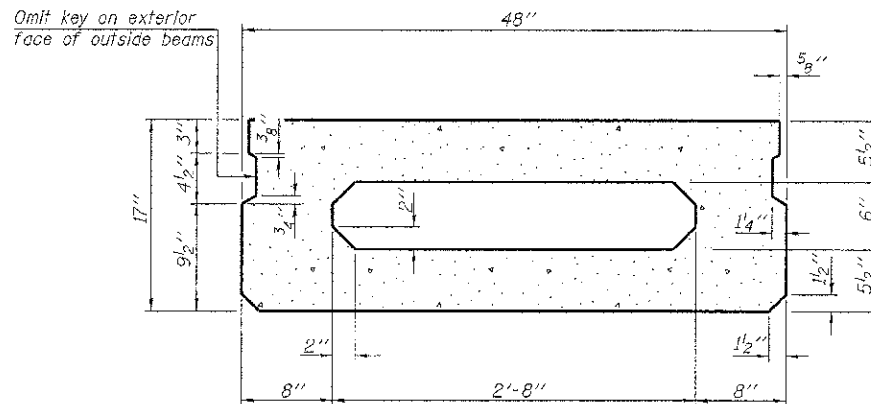
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior 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.
All reinforcement shall be epoxy coated.

PD-1748-LD 7-1-10

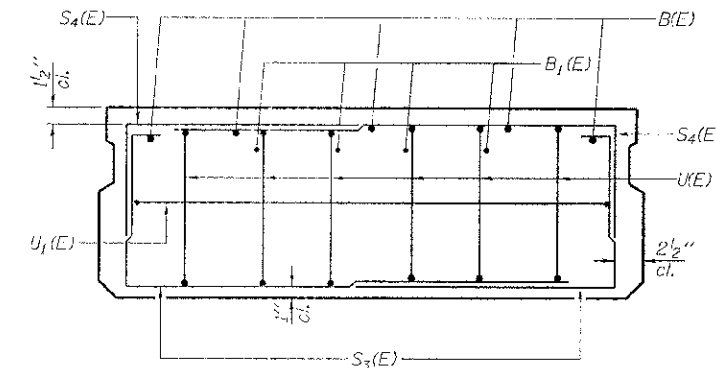
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HAMPTON, LENZINI AND RENWICK, INC.	2008 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	CHECKED - S.W.M.	REVISED -			123	09-07106-00-BR	JEFFERSON	23	15
ILLINOIS PROFESSIONAL DESIGNER #1-03 157 Pk 7 St. E. P.O. 184-00055	PLOT SCALE =	DRAWN - D.A.B.	REVISED -			FIELD ROAD DISTRICT		CONTRACT NO. 99504		
	PLOT DATE = 2/14/2013	CHECKED - S.W.M.	REVISED -			SHEET NO. 3 OF 11 SHEETS		ILLINOIS FED. AID PROJECT BR03-0081062		



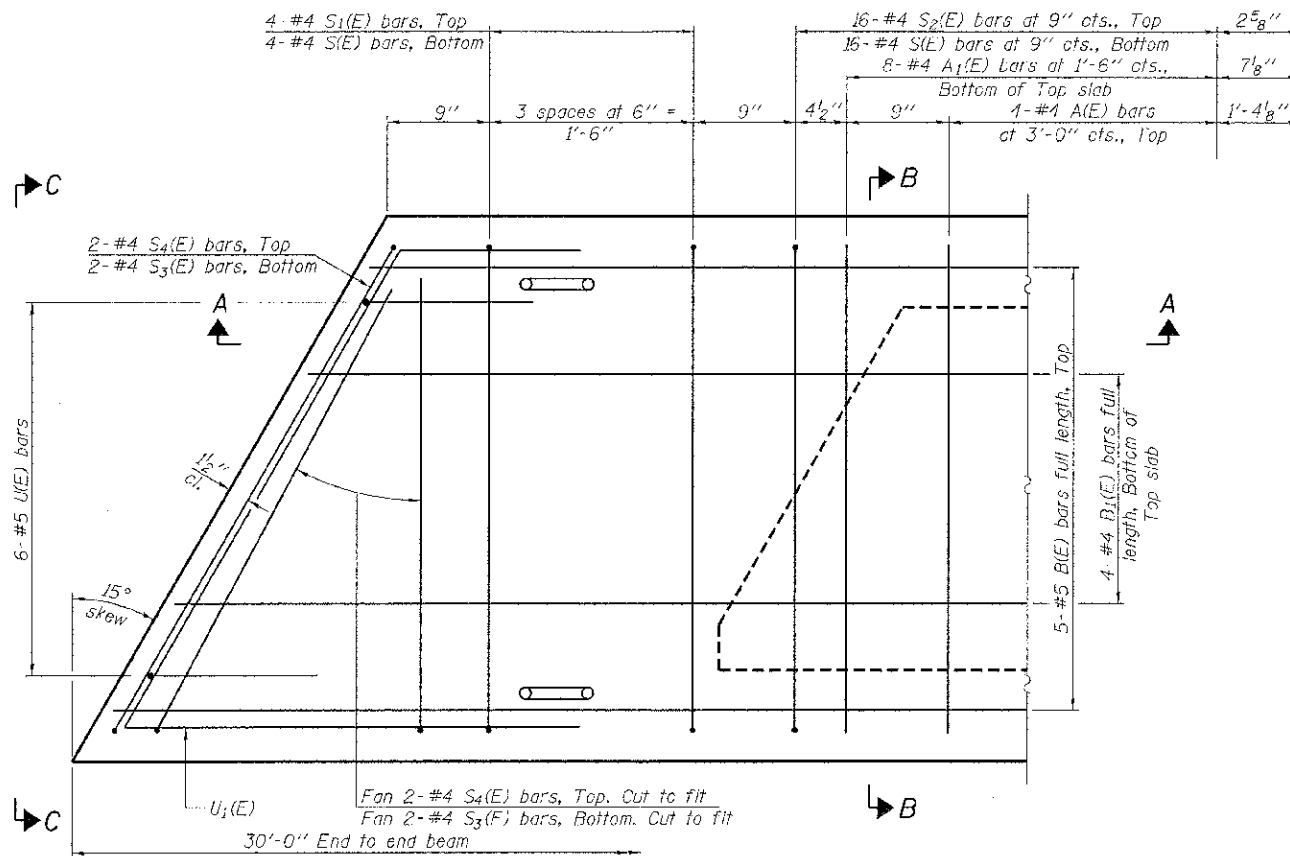
SECTION A-A



SECTION B-B
(Showing dimensions)



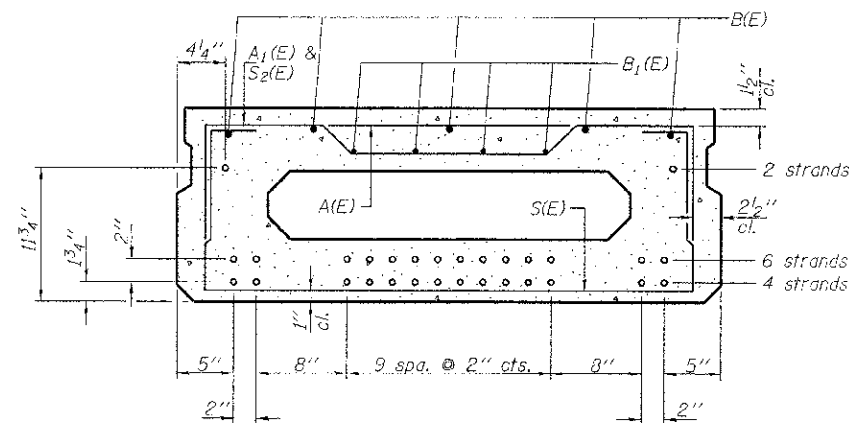
VIEW C-C



PLAN VIEW

Note: 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.

Similar about C-C



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)	8	#4	3'-7"	—
A1(E)	16	#4	3'-10"	—
B(E)	5	#5	29'-9"	—
B1(E)	4	#4	29'-9"	—
S(E)	40	#4	6'-9"	⌊
S1(E)	8	#4	5'-3"	⌊
S2(E)	32	#4	5'-6"	⌊
S3(E)	8	#4	4'-4"	⌊
S4(E)	8	#4	3'-7"	⌊
U(E)	12	#5	3'-8"	⌊
U1(E)	2	#4	7'-1"	⌊

Note: See sheets 5 & 7 of 11 for additional details and Bill of Material.

MINIMUM BAR LAP

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

PD-1748-L

7-1-10

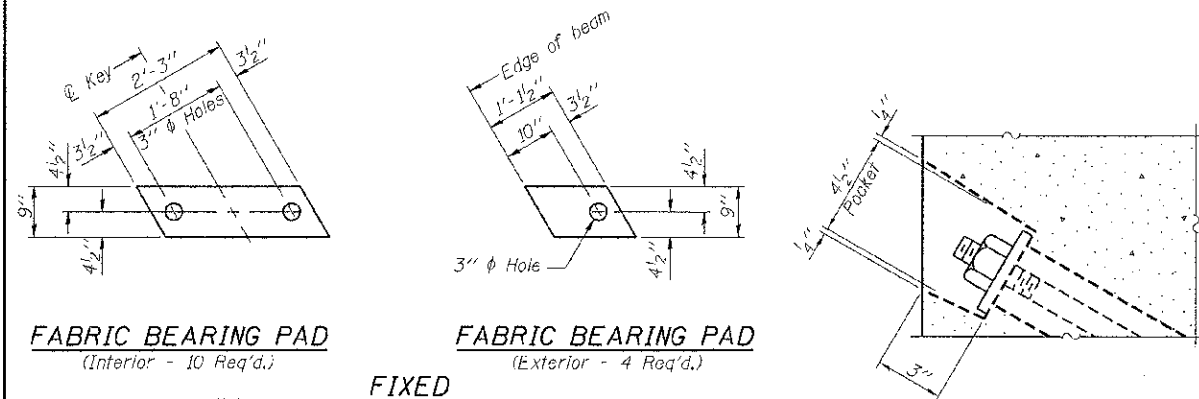
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ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE / SC / CP	PLLOT DATE = 2/14/2013	DRAWN - D.A.B.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

17" x 48" PPC DECK BEAM - SPAN 2
STRUCTURE NO. 041-3749

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
123	09-07106-00-BR	JEFFERSON	23	16
FIELD ROAD DISTRICT		CONTRACT NO. 99504		
ILLINOIS FED. AID PROJECT BR05-0081062D				

SHEET NO. 4 OF 11 SHEETS



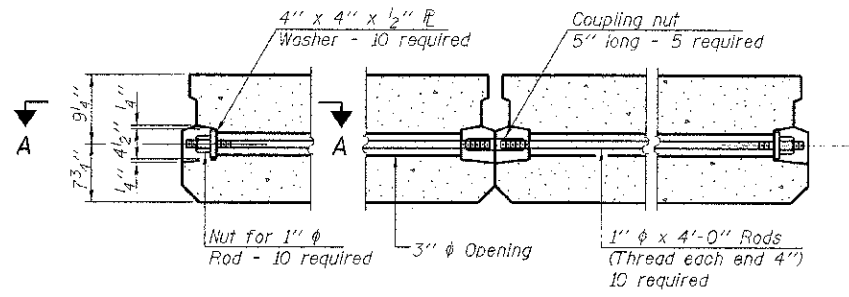
FABRIC BEARING PAD
(Interior - 10 Req'd.)

FABRIC BEARING PAD
(Exterior - 4 Req'd.)

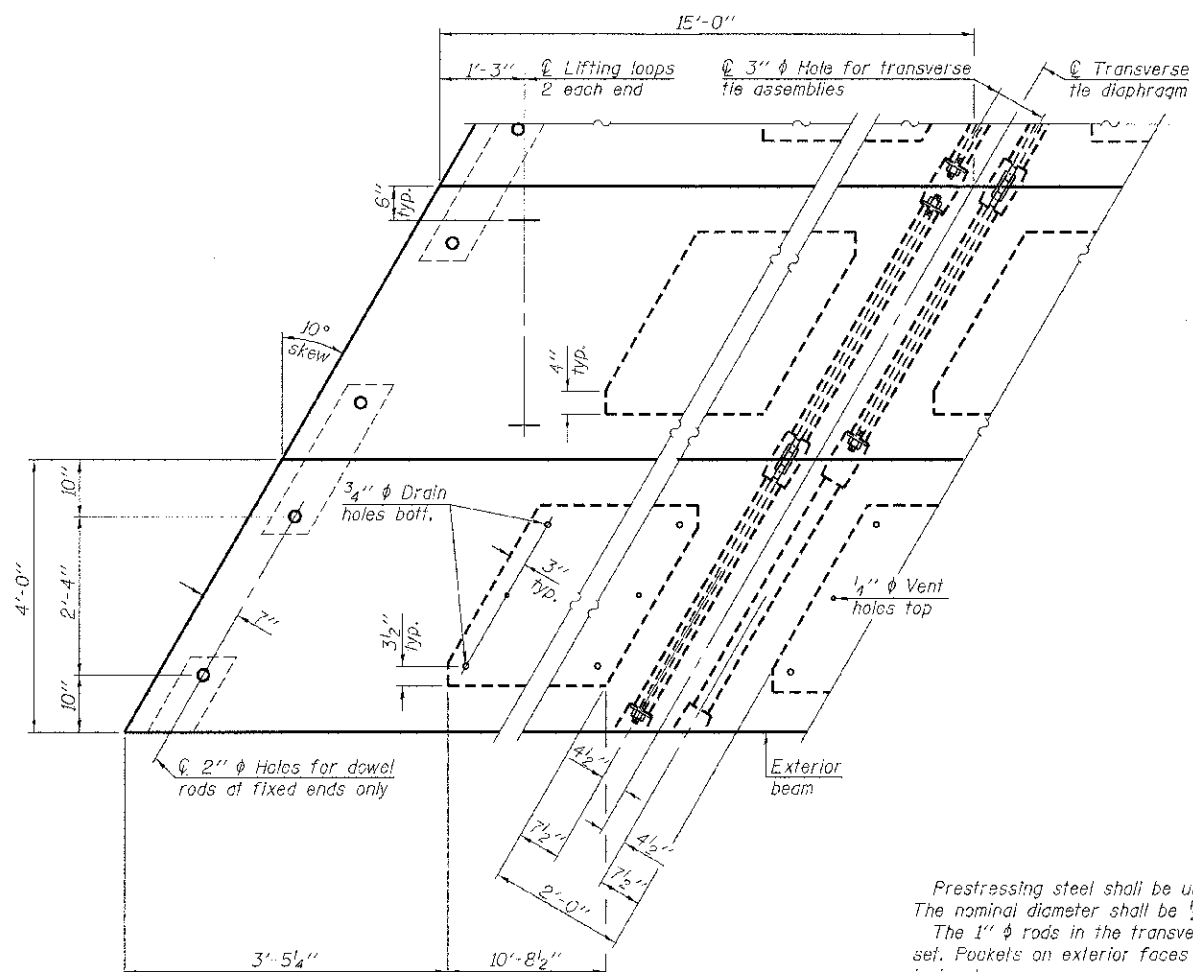
FIXED

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

SECTION A-A

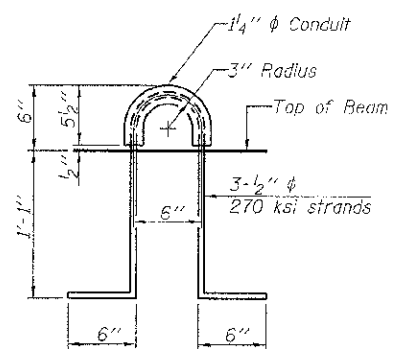
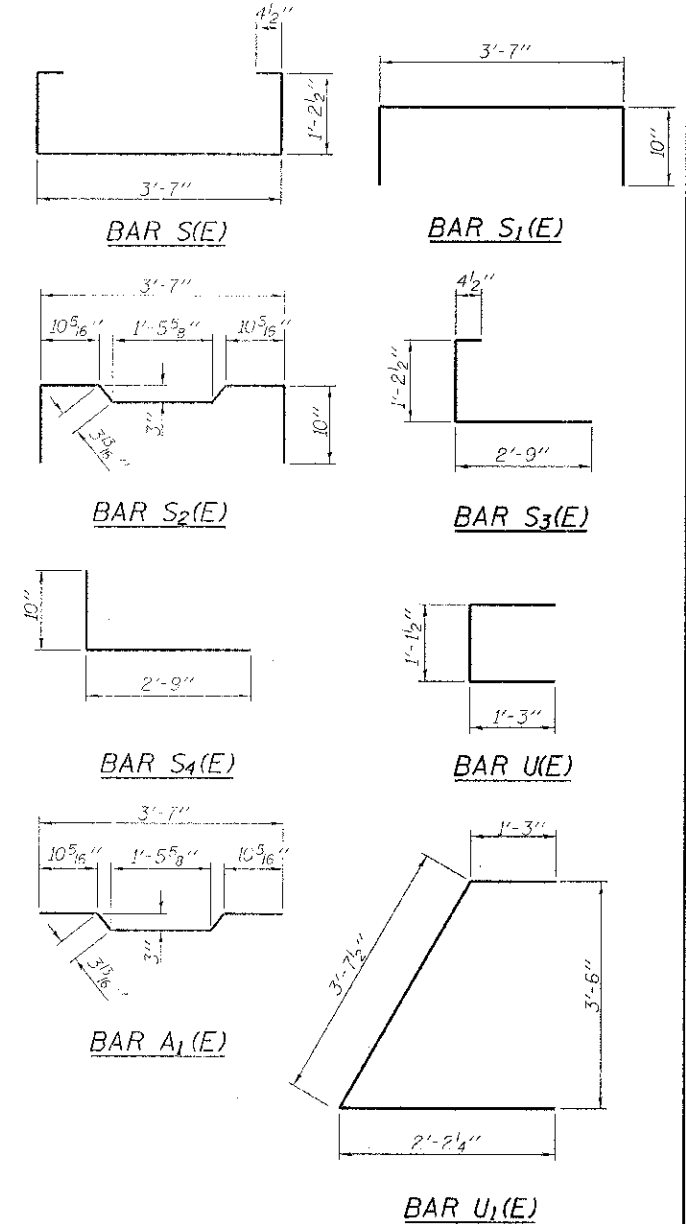


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

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



LIFTING LOOP DETAIL

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.
All reinforcement shall be epoxy coated.

BILL OF MATERIAL - SPAN 2

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	720
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PD-1748-LD 7-1-10

FILE NAME = 120135-eh-bridge.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -
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CHICAGO, ILL. 60611-1770	ILLINOIS PROFESSIONAL DESIGN FIRM	DRAWN - D.A.B.	REVISED -
157 P.E. SE CORP. 154-00058		CHECKED - S.W.M.	REVISED -

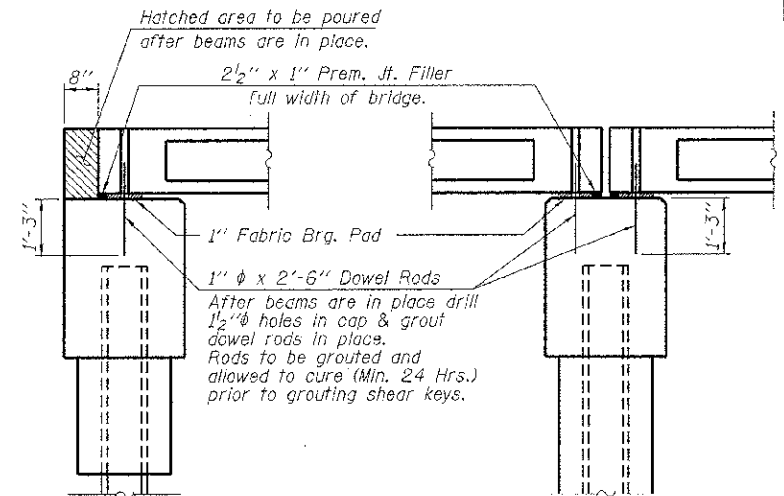
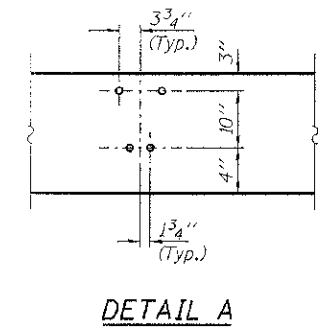
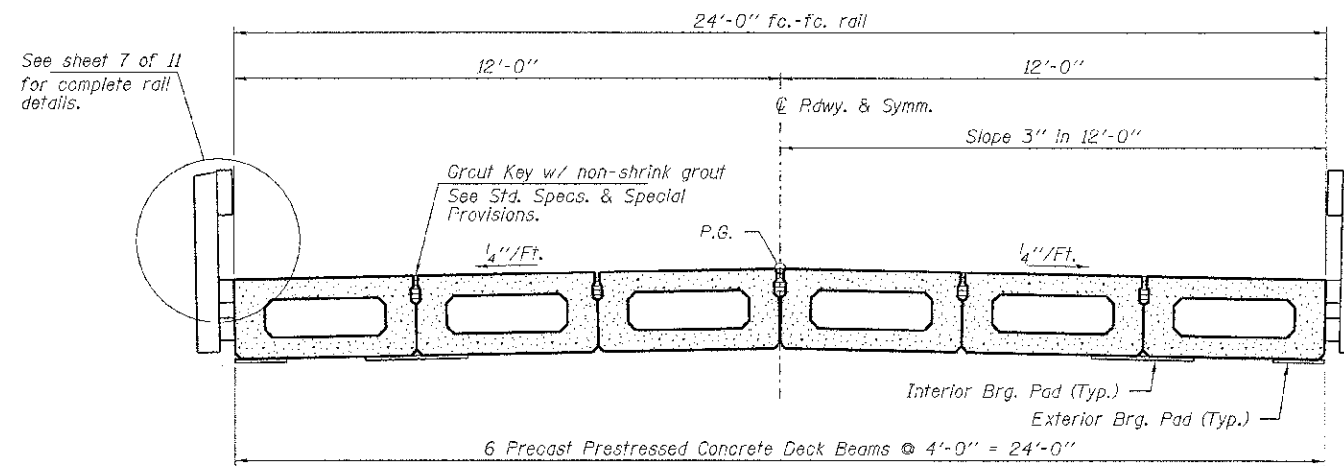
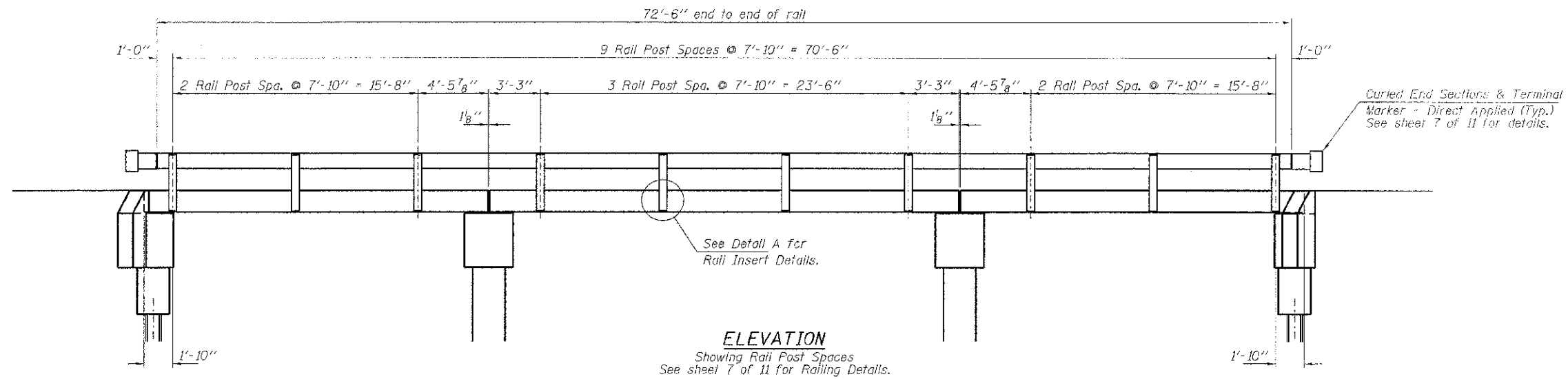
STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

17" x 48" PPC DECK BEAM DETAILS - SPAN 2
STRUCTURE NO. 041-3749

SHEET NO. 5 OF 11 SHEETS

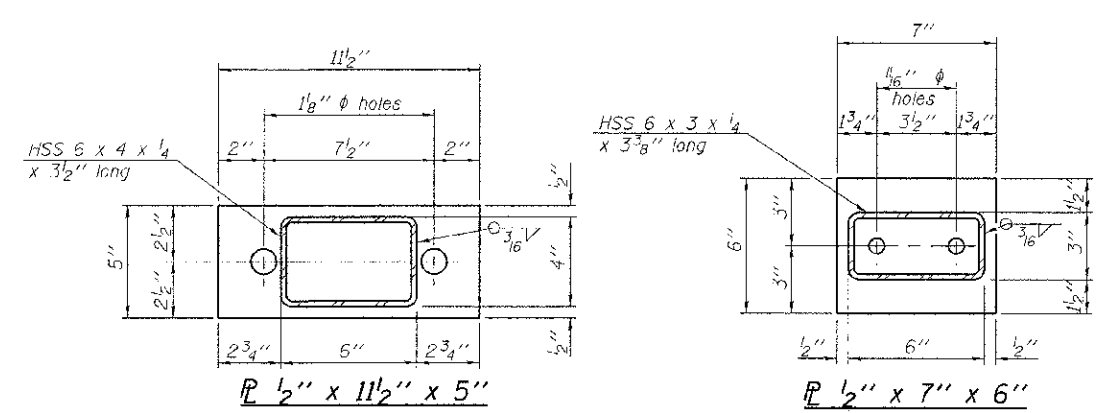
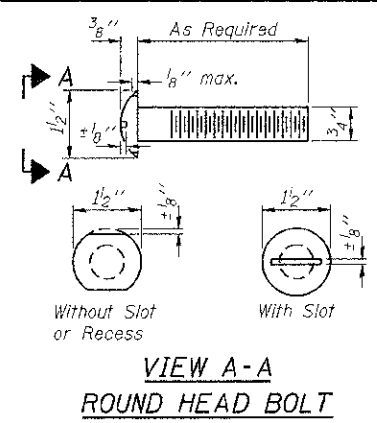
T.R.	SECTION	COUNTY	TOTAL SHEET NO.
123	09-07105-00-BR	JEFFERSON	23 17
FIELD ROAD DISTRICT	CONTRACT NO. 99504		

ILLINOIS FED. AID PROJECT BR05-008062

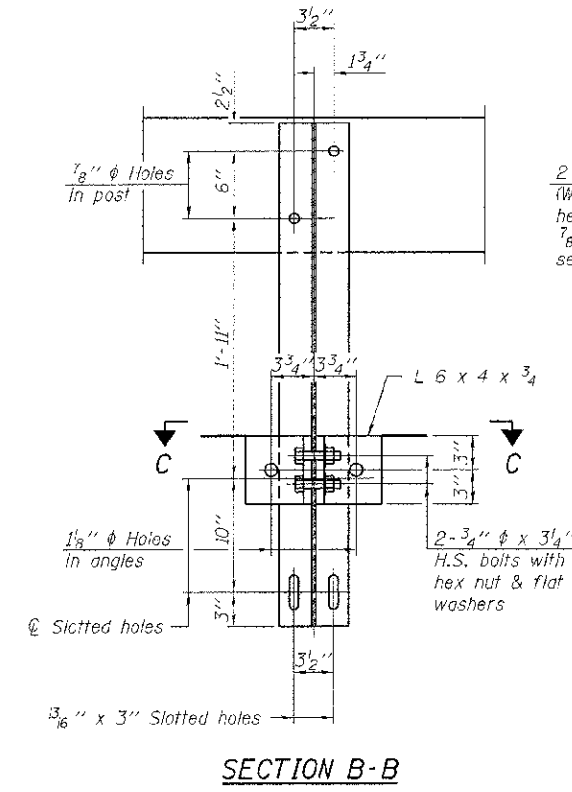
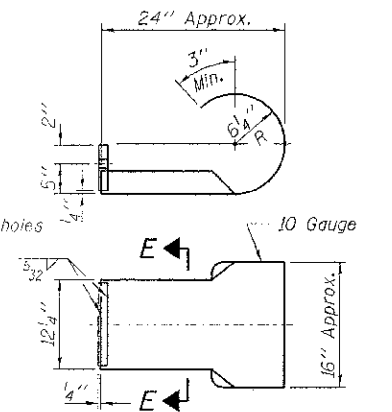
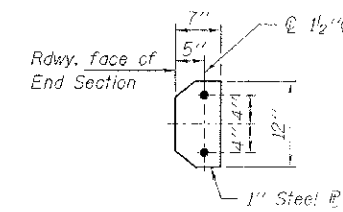


CROSS SECTION
See sheets 2 thru 5 of 11 for Superstructure.

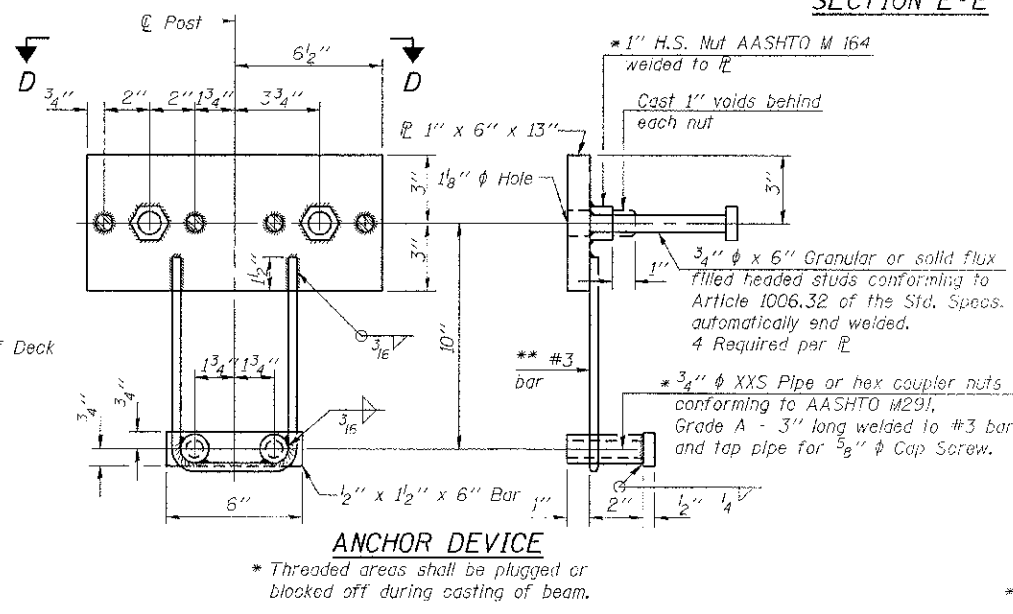
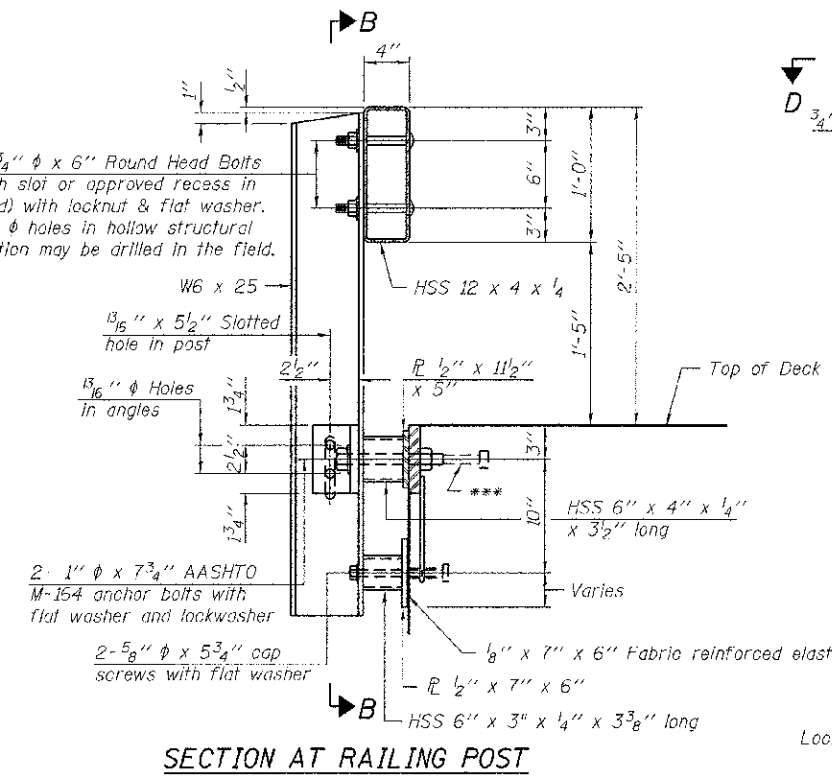
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HAMPTON, LENZIN AND RENWICK, INC. 1300 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761	PLCT SCALE =	CHECKED - S.W.M.	REVISED -			123	09-07106-00-BR	JEFFERSON	23	18
ILLINOIS PROFESSIONAL ENGINEER FIRM LS 17PE-0600RP 154,000320	PLCT DATE = 2/14/2013	DRAWN - D.A.B.	REVISED -			FIELD ROAD DISTRICT		CONTRACT NO. 99504		
		CHECKED - S.W.M.	REVISED -			ILLINOIS		FED. AID PROJECT BR05-00810621		
				SHEET NO. 6 OF 11 SHEETS						



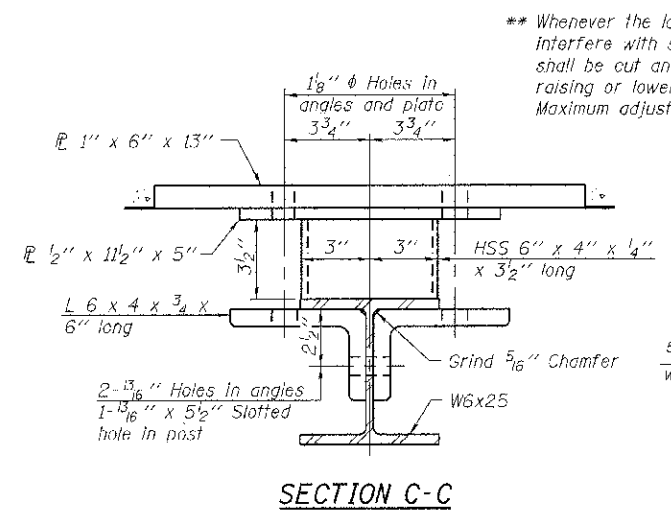
Note: Cost of curved end sections shall be included with the Steel Railing. (4 Required)



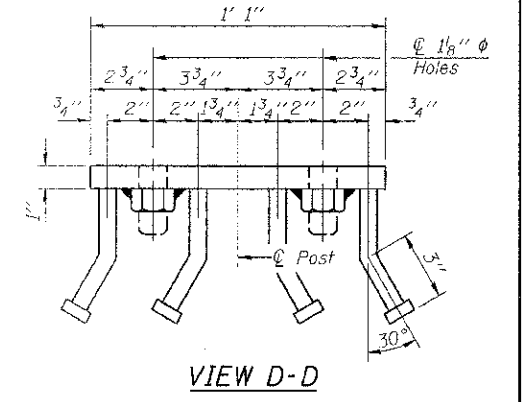
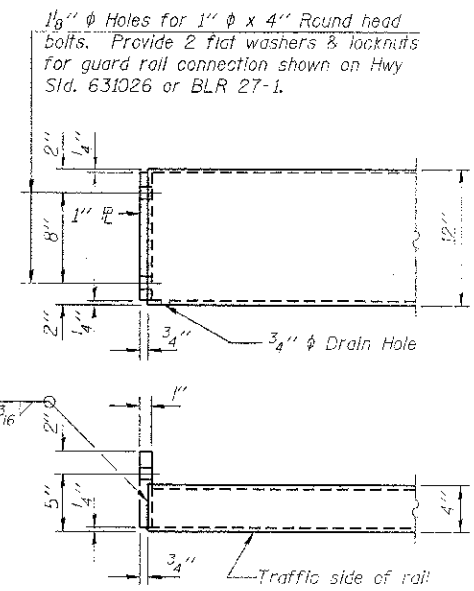
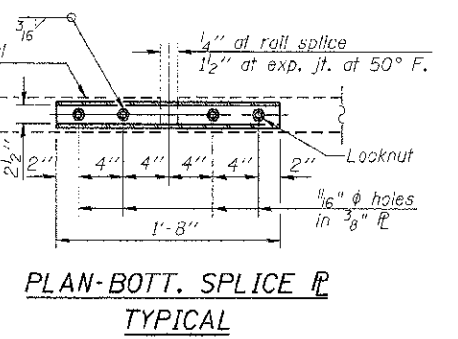
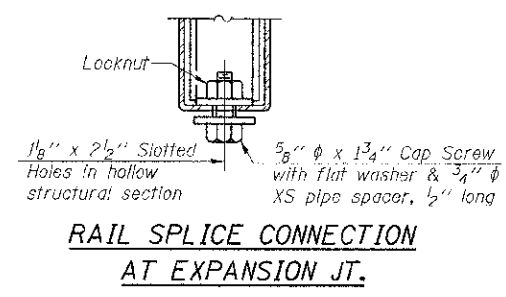
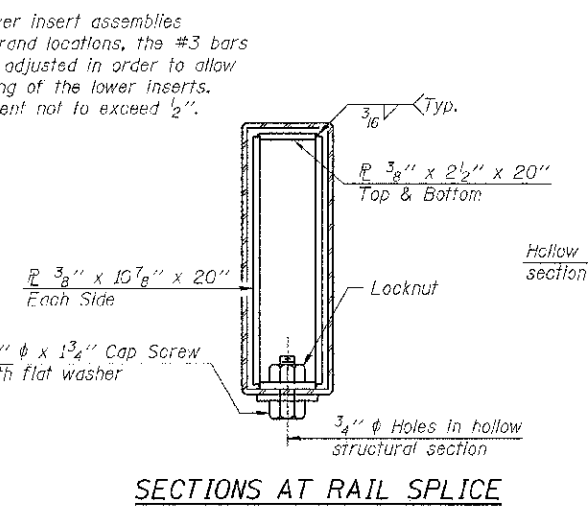
2-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



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.



** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	145

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

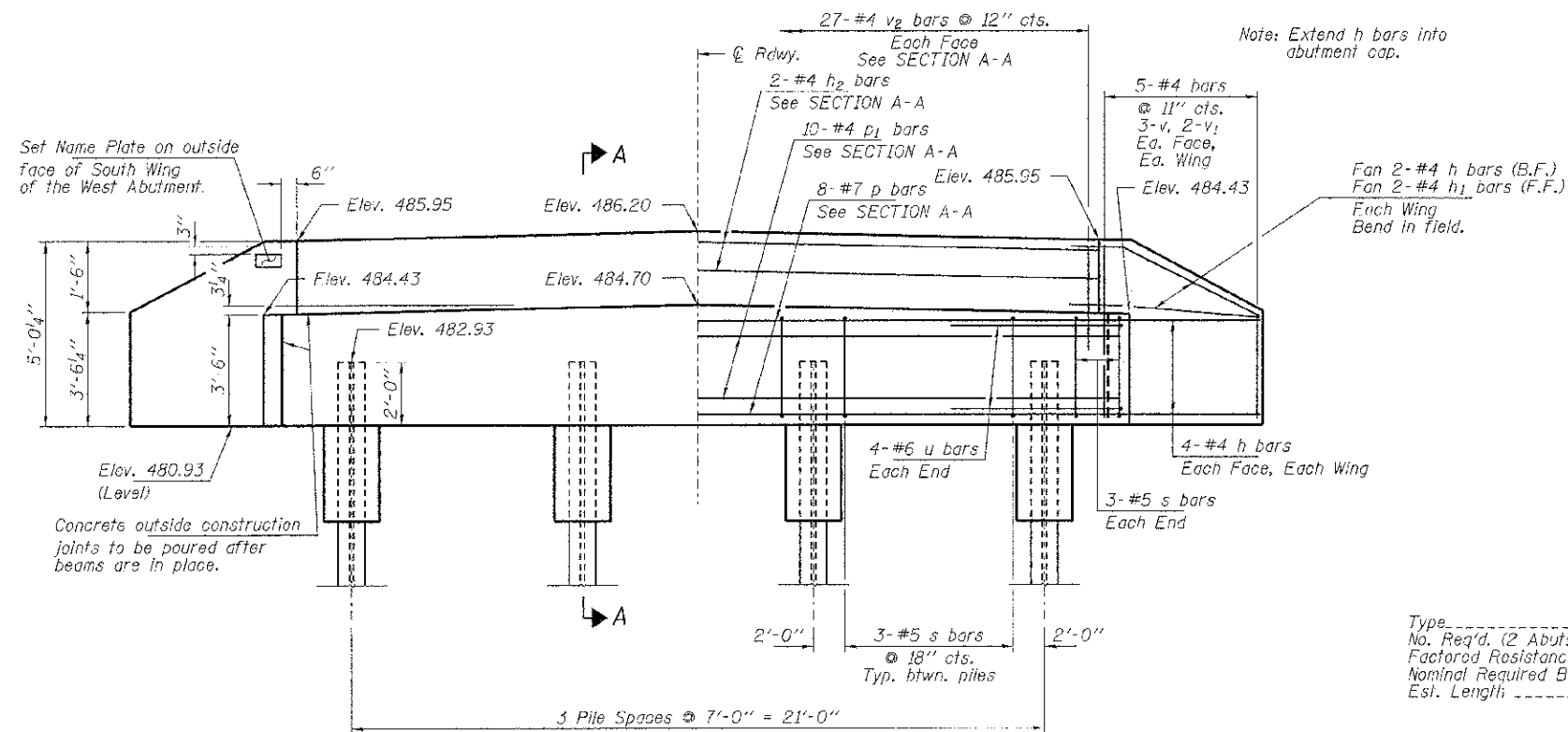
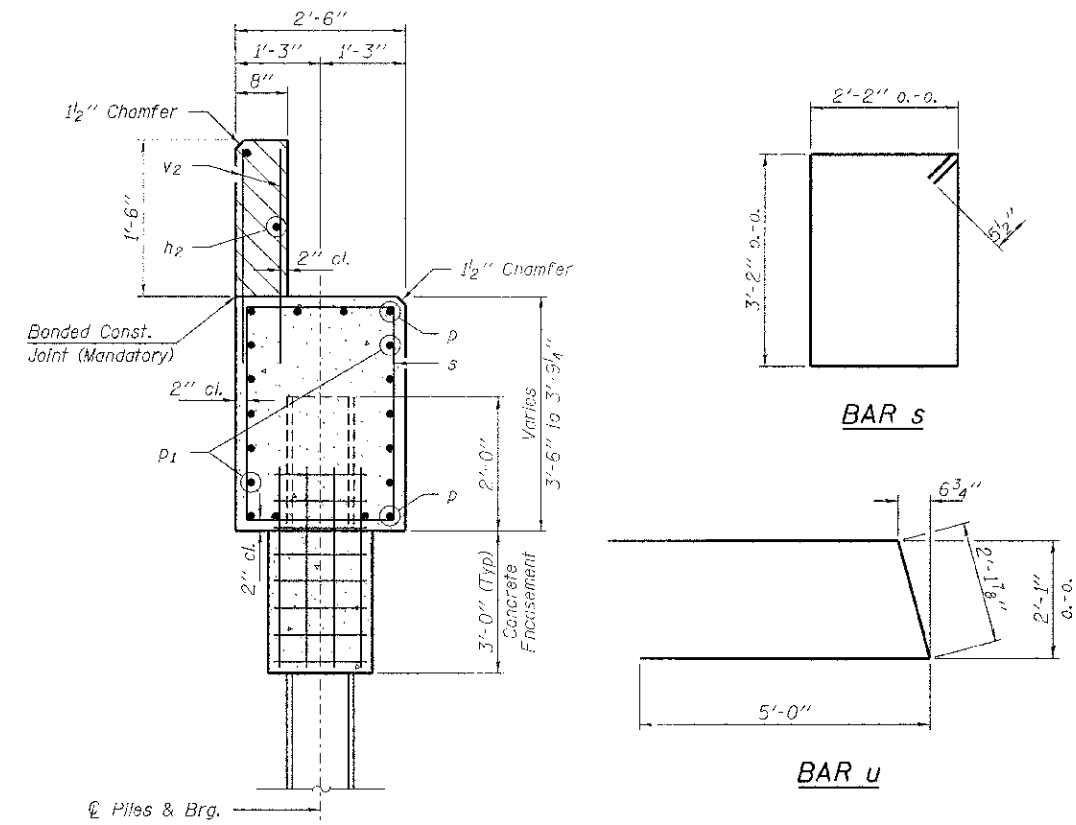
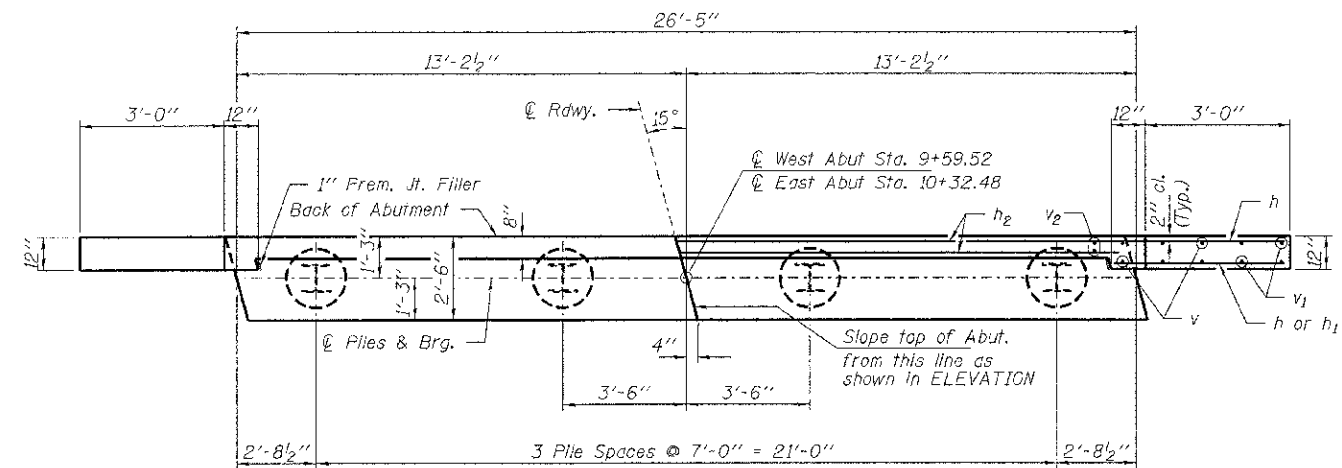
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HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, IL 61704-4070	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM 161 PE 136 CORP. 184100269	PLOT DATE = 2/14/2013	DRAWN - D.A.B.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
JEFFERSON COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S1
STRUCTURE NO. 041-3749

SHEET NO. 7 OF 11 SHEETS

F.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
123	09-07105-00-BR	JEFFERSON	23	19
FIELD ROAD DISTRICT				CONTRACT NO. 99504
ILLINOIS FED. AID PROJECT BR05-00310623				

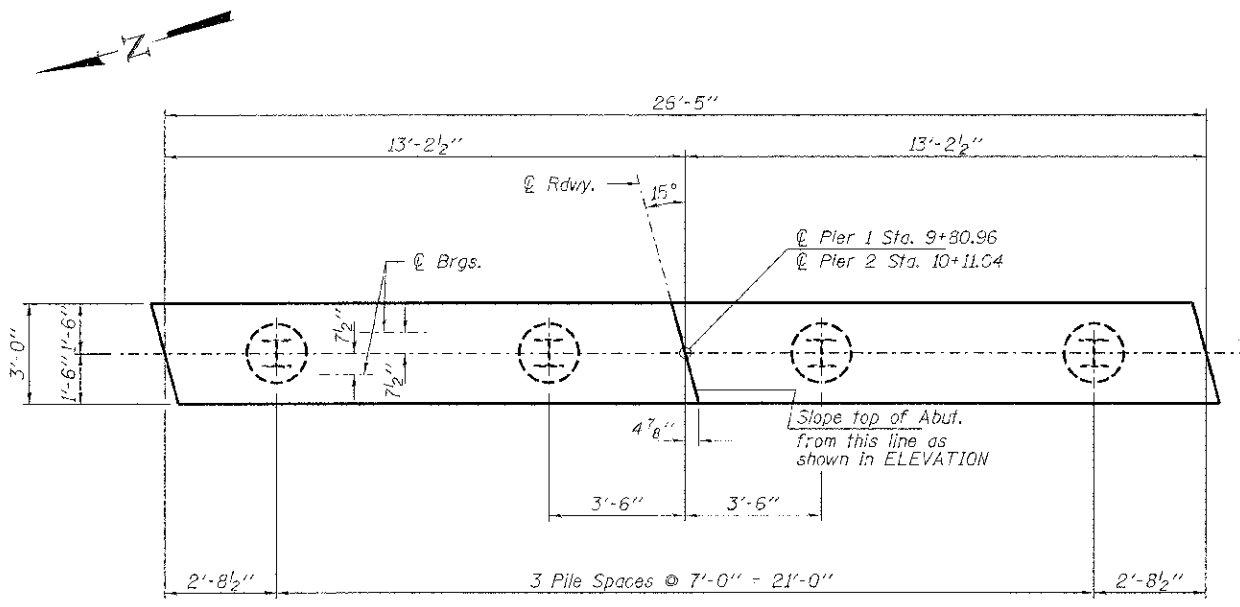


PILE DATA

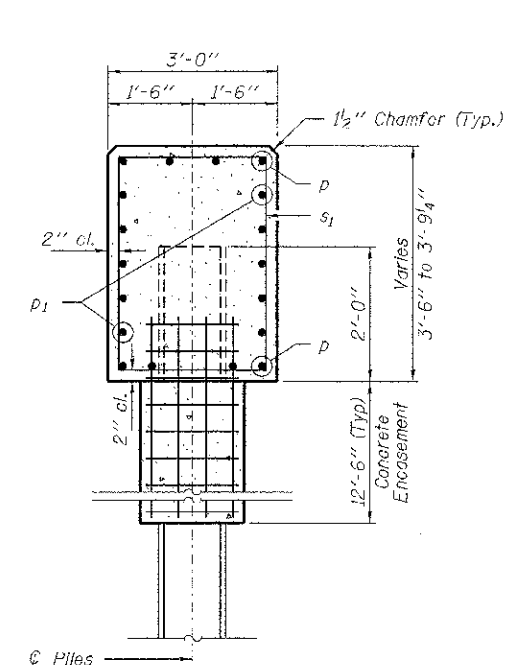
Type ----- Steel HP10x42
 No. Req'd. (2 Abuts.) ----- 8
 Factored Resistance Available (Rf) ----- 91 Kips/Pile
 Nominal Required Bearing (Rn) ----- 166 Kips/Pile
 Est. Length ----- 45 Ft/Pile

BILL OF MATERIAL - 2 ABUTS.

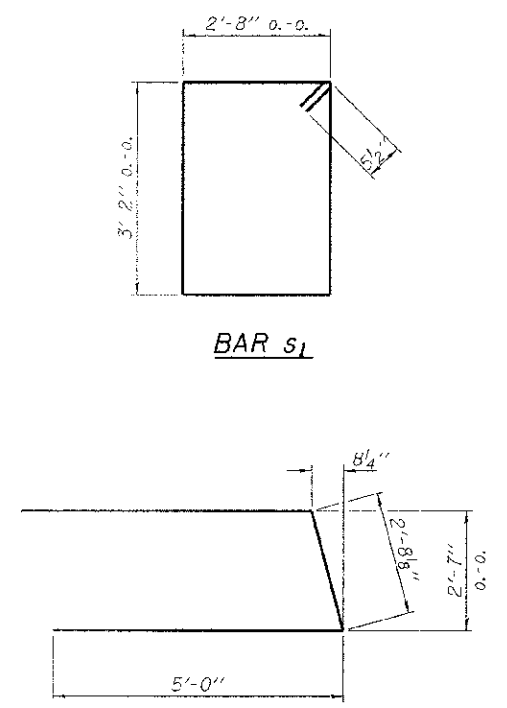
BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	5'-3"	—
h ₁	8	#4	3'-9"	—
h ₂	4	#4	26'-1"	—
p	16	#7	26'-1"	—
p ₁	20	#4	26'-1"	—
s	30	#5	11'-7"	□
u	16	#6	12'-2"	—
v	24	#4	4'-2"	—
v ₁	16	#4	3'-3"	—
v ₂	108	#4	2'-4"	—
Concrete Structures			Cu. Yd.	22.0
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,360
Steel Piles HP10x42			Foot	360
Name Plates			Each	1



PLAN

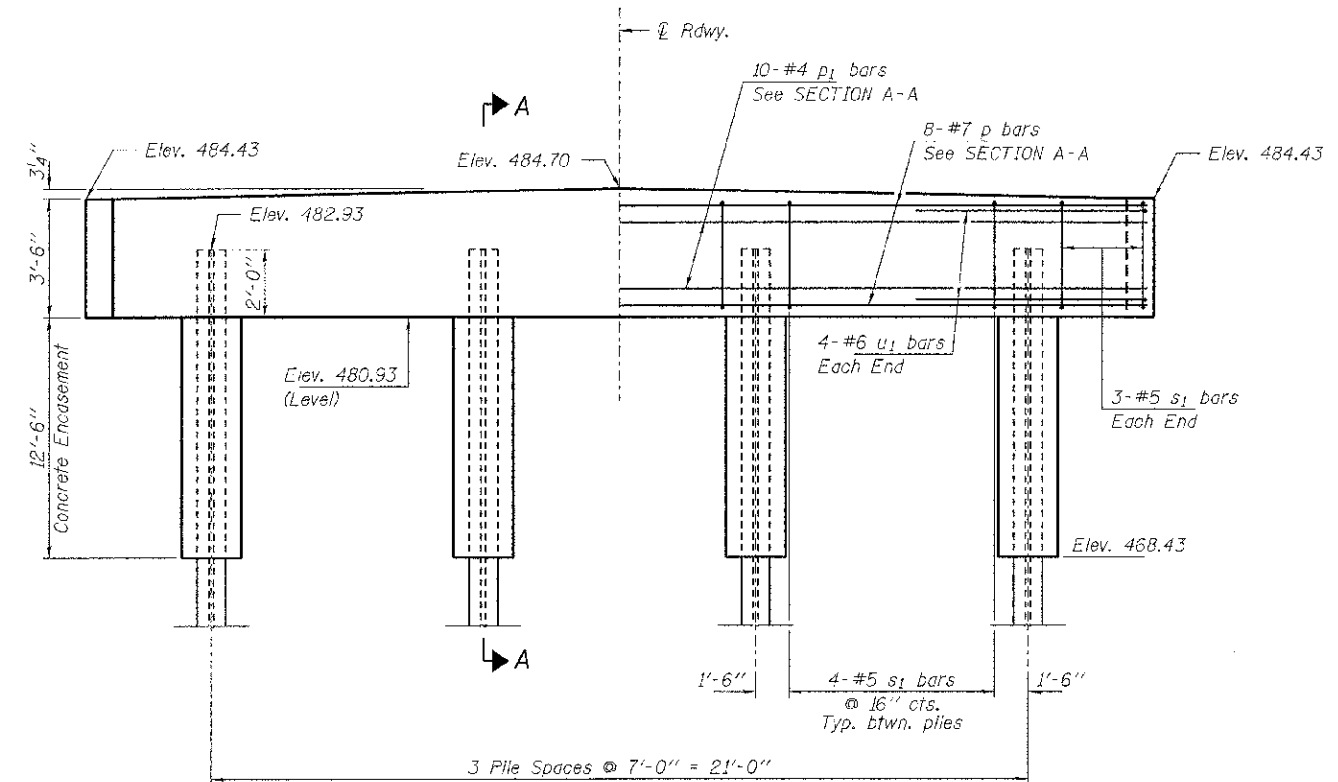


SECTION A-A



BAR s1

BAR u1



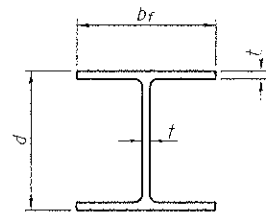
ELEVATION
(Looking East)

PILE DATA

Type ----- Steel HP10x42
 No. Req'd. (2 Piers) ----- 8
 Factored Resistance Available ----- 142 Kips/Pile
 Nominal Req'd Bearing ----- 259 Kips/Pile
 Est. Length ----- 45 Ft./Pile

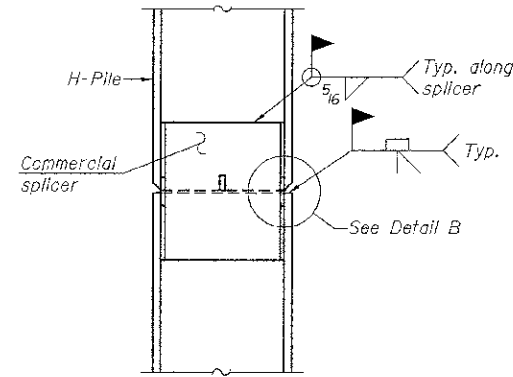
BILL OF MATERIAL - 2 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
p	16	#7	26'-1"	—
p1	20	#4	26'-1"	—
s1	36	#5	12'-7"	□
u1	16	#6	12'-9"	U
Concrete Structures			Cu. Yd.	21.2
Concrete Encasement			Cu. Yd.	11.4
Reinforcement Bars			Pound	1,980
Steel Piles HP10x42			Foot	360

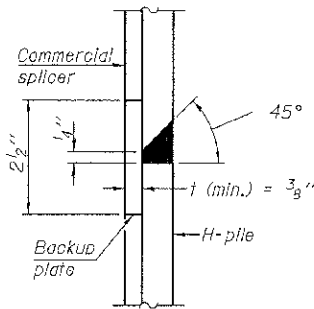


STEEL PILE TABLE

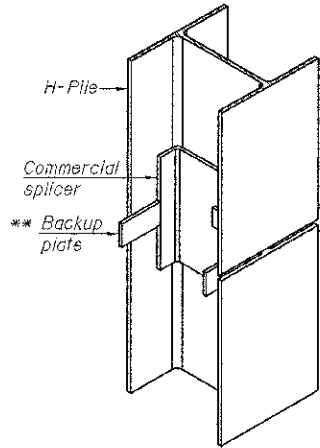
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

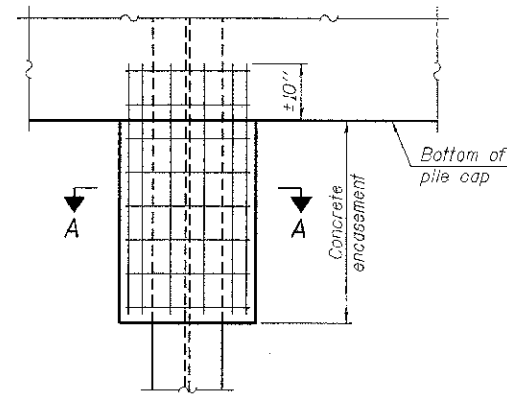


DETAIL "B"



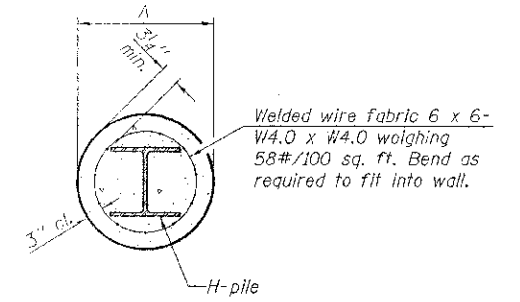
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



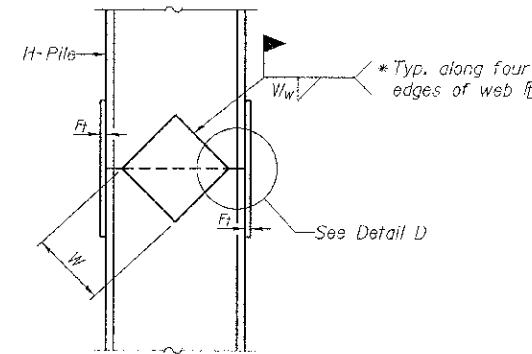
ELEVATION

PILE ENCASEMENT

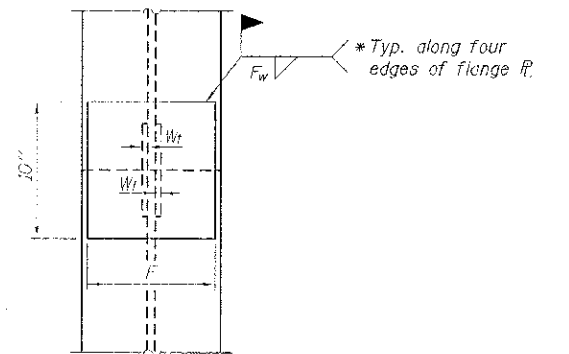


SECTION A-A

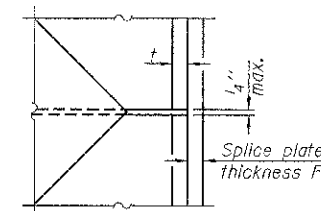
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



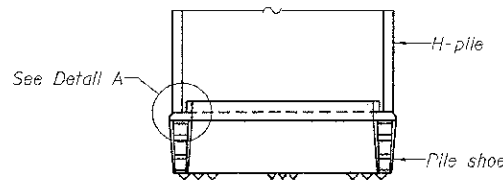
END VIEW



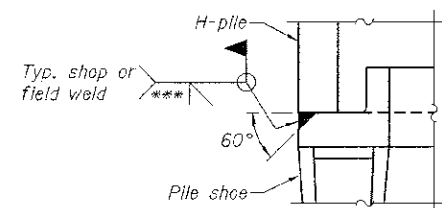
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8"	1 1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8"	1 1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5 8"	1 1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8"	1 1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5 8"	1 1/2"
x74	10"	7/8"	11/16"	6 1/2"	5 8"	1 1/2"
x53	10"	5/8"	1/2"	6 1/2"	1 1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1 1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1 1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1 1/2"	3/8"

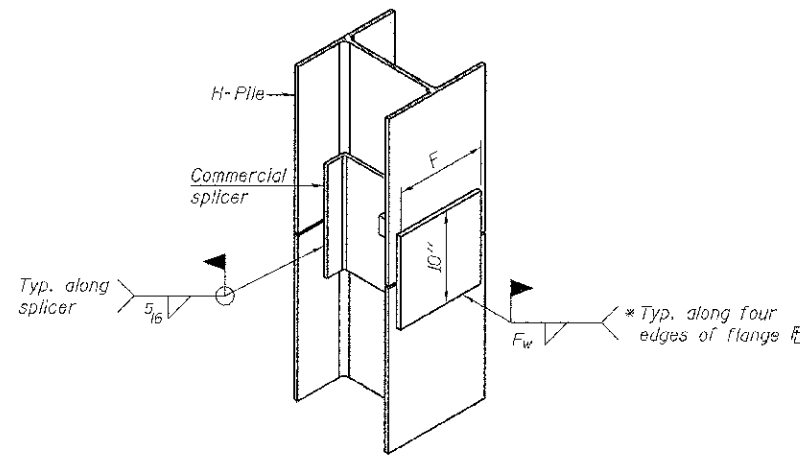


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

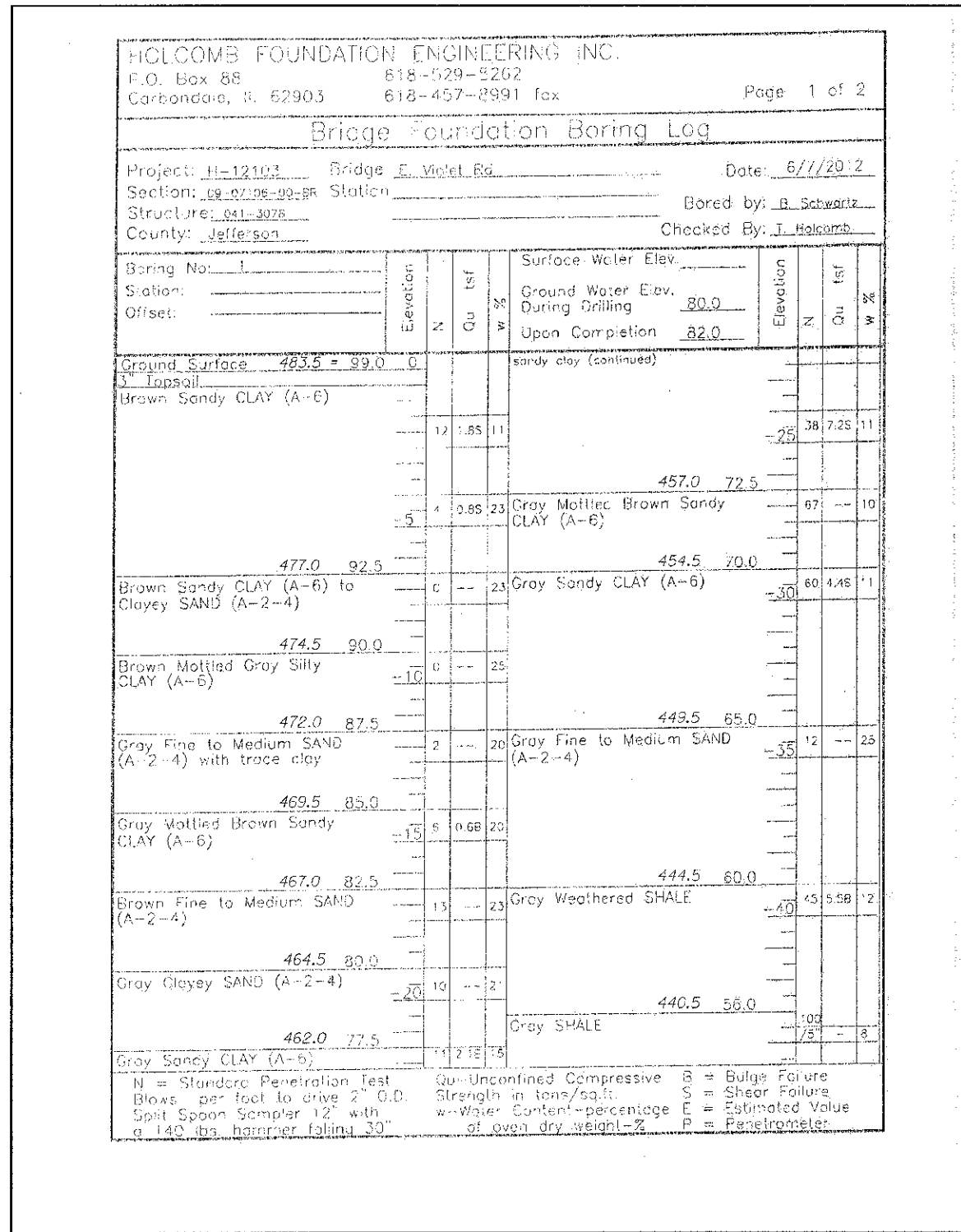
- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO #270 Grade 50.

F-HP

1-27-12

FILE NAME - 122135-sho-br.dwg	USER NAME =	DESIGNED - L.A.P.	REVISED -	STATE OF ILLINOIS JEFFERSON COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 041-3749	SHEET NO. 10 OF 11 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 1000 S. ST. LOUIS, ILLINOIS 62208 SPRINGFIELD, ILLINOIS 62703	CHECKED - S.W.M.	REVISED -	123				09-07106-00-BR	JEFFERSON	23	22	
PLLOT SCALE =	DRAWN - D.A.B.	REVISED -	FIELD ROAD DISTRICT				CONTRACT NO. 99504				
PLLOT DATE = 2/14/2213	CHECKED - S.W.M.	REVISED -	ILLINOIS FED. AID PROJECT BROS-0081062								



BORING 1

