

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED  
HIGHWAY IMPROVEMENT**

FAS ROUTE 858 (ROOTS ROAD)  
SECTION 12VB-1I  
PROJECT: ACBS-0858(300)  
RANDOLPH COUNTY

BRIDGE REHABILITATION

C-98-045-05

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-1I	RANDOLPH	72	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 76409	

\* 72 + 2 = 74

D-98-026-05



LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED June 27, 2014  
Jeffrey Z. Ke...  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

Aug 15, 2014  
John D. Baranzelle PE  
ENGINEER OF DESIGN AND ENVIRONMENT

Aug 15, 2014  
Onor Osman PE  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

BERNARDIN \* LOCHMUELLER & ASSOCIATES, INC.  
3 OAK DRIVE  
MARYVILLE, ILLINOIS 62062  
PHONE (618) 288-4665  
FAX (618) 288-4666

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OF THE STATE OF ILLINOIS**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

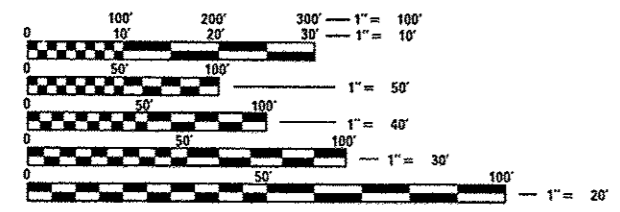
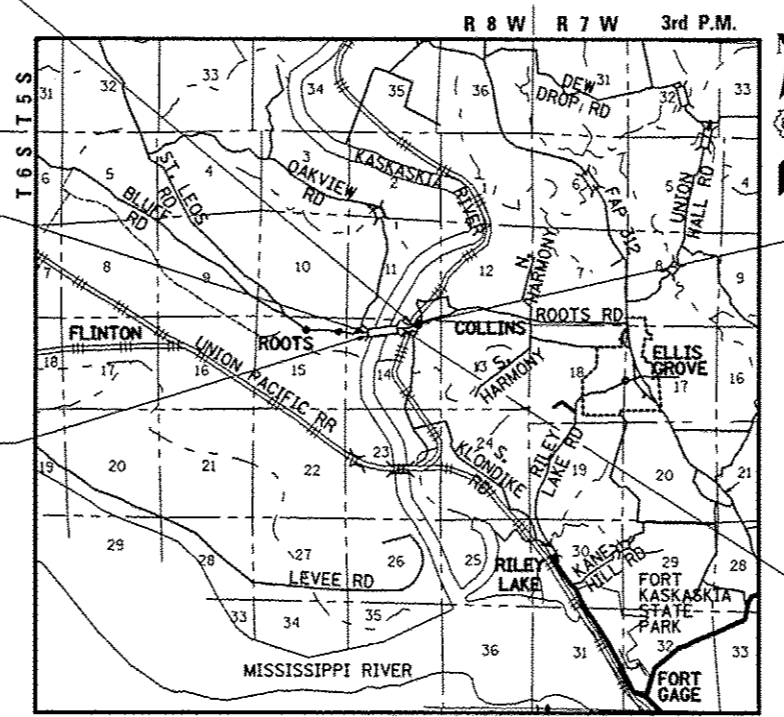
SECTION 12VB-1I INCLUDES THE REMOVAL AND REPLACEMENT OF THE EXISTING CONCRETE DECK ON THE EXISTING STEEL BEAMS AND SUBSTRUCTURE UNITS FOR THE STRUCTURE CARRYING ROOTS ROAD OVER UNION PACIFIC RAILROAD. THIS WORK ALSO INCLUDES RECONSTRUCTION OF THE BRIDGE APPROACH SLABS.  
STA. 650+10.50  
SN 079-0020

SECTION 12VB-1I BEGINS STA 624+34.70

SECTION 12VB-1I INCLUDES BRIDGE REPAIRS FOR THE STRUCTURE CARRYING ROOTS ROAD OVER THE KASKASKIA RIVER  
STA. 631+60.00  
SN 079-0019

SECTION 12VB-1I ENDS STA 652+10.00

RESURFACING OMISSION STA. 638+84.70 TO STA 648+11.00



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 ENGINEER: PATTI LEBEAU (618) 346-3179  
PROJECT MANAGER: HERVE GELIN (618) 346-3323

CONTRACT NO. 76409

ADT: 475 (2012) COLLECTOR  
ADT: 975 (2023)  
13.3% TRUCKS

LOCATION MAP  
ELLIS GROVE TOWNSHIP  
GRAPHIC SCALE IN MILES

GROSS SECTION LENGTH = 2775.30 FEET = 0.525 MILES  
OMISSION LENGTH = 926.30 FEET = 0.175 MILES  
NET SECTION LENGTH = 1850.00 FEET = 0.350 MILES

LATITUDE  
SN 079-0019 38°01' 0.13"  
SN 079-0020 38°01' 2.98"

LONGITUDE  
89°57' 34.11"  
89°57' 2.40"



Brian R. Mueller 02-18-2014  
ILLINOIS PROFESSIONAL ENGINEER NO. 062-052018 DATE  
EXP. 11-30-2015

**GENERAL NOTES**

- ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.
  - ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF 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 EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
  - ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF THE FACILITIES MAY ALSO BE OBTAINED BY CALLING J.U.L.L.E. AND FOR NON-J.U.L.L.E. MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
    - \*AMERENIP
    - \*EGYPTIAN ELECTRIC COOPERATIVE ASSOCIATION
    - \*HARRISONVILLE TELEPHONE CO.
    - GAS AND ELECTRIC
    - ELECTRIC
    - COMMUNICATIONS
- MEMBERS OF J.U.L.L.E. (800) 892-0123 ARE INDICATED BY \*  
NON-J.U.L.L.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
- IN ADDITION TO SURVEYS, SOME OF THE PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING CONDITIONS HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
  - PROVISIONS HAVE BEEN INCLUDED ON THE PLANS FOR THE PLACEMENT OF STONE DUMPED RIPRAP AT EROSION PROBLEM AREAS. BEDDING AND FILTER FABRIC WILL BE REQUIRED FOR THESE INSTALLATIONS. THE ERODED AREAS SHALL BE GRADED AND ALL DEBRIS, BRANCHES AND STUMPS SHALL BE REMOVED IN A MANNER MEETING THE APPROVAL OF THE ENGINEER. THE COST OF ALL EXCAVATION AND REMOVAL OF DEBRIS, BRANCHES AND STUMPS WILL BE CONSIDERED AS INCLUDED IN STONE DUMPED RIPRAP, CLASS A4.
  - FILTER FABRIC WILL BE REQUIRED FOR RIPRAP LOCATIONS INCLUDING THE EROSION AREAS AT STA 633+94 RT AND 647+58 RT
  - THE QUANTITY FOR PERMANENT PAVEMENT MARKING HAS BEEN INCREASED BY A FACTOR OF 2 TO ACCOUNT FOR TEMPORARY PAVEMENT MARKING.

**COMMITMENT**

THE BUREAU OF CONSTRUCTION SHALL NOTIFY LOCAL OFFICIALS OF THE UPCOMING DETOUR PRIOR TO CLOSURE.

MIXTURE REQUIREMENTS		
THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT		
LOCATION ISN	FAS ROUTE 658 (ROOTS ROAD)	
MIXTURE USE	SURFACE COURSE	BINDER COURSE
AC/PG	PG 64-22	PG 64-22
RAP 2 <sub>1/2</sub> (MAX)	SEE SPEC.	SEE SPEC.
DESIGN AIR VOIDS <sub>1</sub>	4.0% @ NDES+70	4.0% @ NDES+70
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5	IL 19.0
FRICITION AGGREGATE <sub>2</sub>	MIXTURE C	MIXTURE B

PLAN QUANTITIES FOR HOT-MIX ASPHALT SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/50 YD<sup>3</sup>/IN.

**INDEX OF SHEETS**

1	COVER SHEET
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25-29	GUARDRAIL DETAILS
30	MISCELLANEOUS DETAILS
31	DETOUR PLAN
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**HIGHWAY STANDARDS**

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- 001001-02
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- 280001-07
- 420401-10
- 482011-03
- 518001-03
- 542401-01
- 601101-01
- 630001-10
- 630301-06
- 631031-12
- 631032-08
- 638006-03
- 638011-02
- 701006-05
- 701201-04
- 701311-03
- 701901-03
- 780001-04
- 781001-03
- BLR 21-9
- BLR 22-7

FILE NAME - #10	USER NAME - #USER#	DESIGNED - JWS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, STANDARDS, AND INDEX OF SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - PDB	REVISED -	058			12VB-II	RANDOLPH	72	2	
	CHECKED - BRM	REVISED -	CONTRACT NO. 76409							
	DATE - 03-28-11	REVISED -	ILLINOIS FED. AID PROJECT							
	PLOT SCALE - #SCALE#			SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				80% FED 20% STATE		CONSTRUCTION CODE	
				ROADWAY 0004	BRIDGE SN 079-0020 0014	BRIDGE SN 079-0019 0014	
25000200	SEEDING, CLASS 2	ACRE	0.25	0.25			
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23	23			
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23	23			
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23	23			
25100105	MULCH, METHOD 1	ACRE	0.25	0.25			
28000200	EARTH EXCAVATION FOR EROSION CONTROL	CU YD	4	4			
28000400	PERIMETER EROSION BARRIER	FOOT	1252	1252			
28001000	AGGREGATE (EROSION CONTROL)	TON	2	2			
28100107	STONE RIPRAP, CLASS A4	SO YD	105		105		
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	300		300		
28200200	FILTER FABRIC	SO YD	341	236	105		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	296	296			
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	519	58		461	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				80% FED 20% STATE		CONSTRUCTION CODE	
				ROADWAY 0004	BRIDGE SN 079-0020 0014	BRIDGE SN 079-0019 0014	
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SO YD	43	43			
44000100	PAVEMENT REMOVAL	SO YD	94	94			
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	39	39			
48101200	AGGREGATE SHOULDERS, TYPE B	TON	6	6			
50102400	CONCRETE REMOVAL	CU YD	25.1		18.6	6.5	
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	1		1		
50105220	PIPE CULVERT REMOVAL	FOOT	12	12			
50157300	PROTECTIVE SHIELD	SO YD	303		303		
50200100	STRUCTURE EXCAVATION	CU YD	482		482		
50300225	CONCRETE STRUCTURES	CU YD	79.2		79.2		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	366.1		359.2	6.9	
50300260	BRIDGE DECK GROOVING	SO YD	904		904		
50300300	PROTECTIVE COAT	SO YD	1189		1189		
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3500		3500		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED 20% STATE		
				ROADWAY 0004	BRIDGE SN 079-0020 0014	BRIDGE SN 079-0019 0014
50500505	STUD SHEAR CONNECTORS	EACH	2445		2445	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	98990		97910	1080
50800515	BAR SPLICERS	EACH	66		66	
50900200	STEEL RAILING, TYPE 2399	FOOT	2664			2664
51500100	NAME PLATES	EACH	1		1	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	179.9		102	77.9
52000216	FINGER PLATE EXPANSION JOINT, 5"	FOOT	62.5			62.5
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10		10	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	5		5	
52100505	ANCHOR BOLTS, 5/8"	EACH	20		20	
52100520	ANCHOR BOLTS, 1"	EACH	10		10	
58100200	WATERPROOFING MEMBRANE SYSTEM	SO YD	4116			4116
58700300	CONCRETE SEALER	SO FT	550.6		550.6	
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	96		96	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED 20% STATE		
				ROADWAY 0004	BRIDGE SN 079-0020 0014	BRIDGE SN 079-0019 0014
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	3414	3414		
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4		
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	6	6		
63200310	GUARDRAIL REMOVAL	FOOT	3832	3832		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	7	7		
67100100	MOBILIZATION	L SUM	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	2		
78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	10548	10548		
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	4	4		
78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	21	21		
78200410	GUARDRAIL MARKERS, TYPE A	EACH	38	38		
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	6	6		

\* SPECIALTY ITEMS

FILE NAME * #FILE#	USER NAME * #USER#	DESIGNED - JLS	REVISED - 12-20-2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			P.A.S. RTE. 858	SECTION 12VB-11	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 3A
PLOT SCALE * #SCALE#		CHECKED - BRM	REVISED -					SCALE:	SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT
PLOT DATE * #DATE#		DATE - 03-28-11	REVISED -									

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				80% FED 20% STATE				
				ROADWAY 0004	BRIDGE SN 079-0020 0014	BRIDGE SN 079-0019 0014		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	25	25				
X0550300	SLOPE WALL BREAKING	SO YD	790		790			
X2810808	STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)	TON	436	436				
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	5750	5750				
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	215		215			
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1				
X8260110	NAVIGATION LIGHTING SYSTEM	L SUM	1	1				
XZ193505	VERTICAL CLEARANCE GAUGE	EACH	2			2		
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	5		5			
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	5907		5907			
Z0004552	APPROACH SLAB REMOVAL	SO YD	129	129				
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1		1			
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1		1			
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	60			60		
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	896			896		

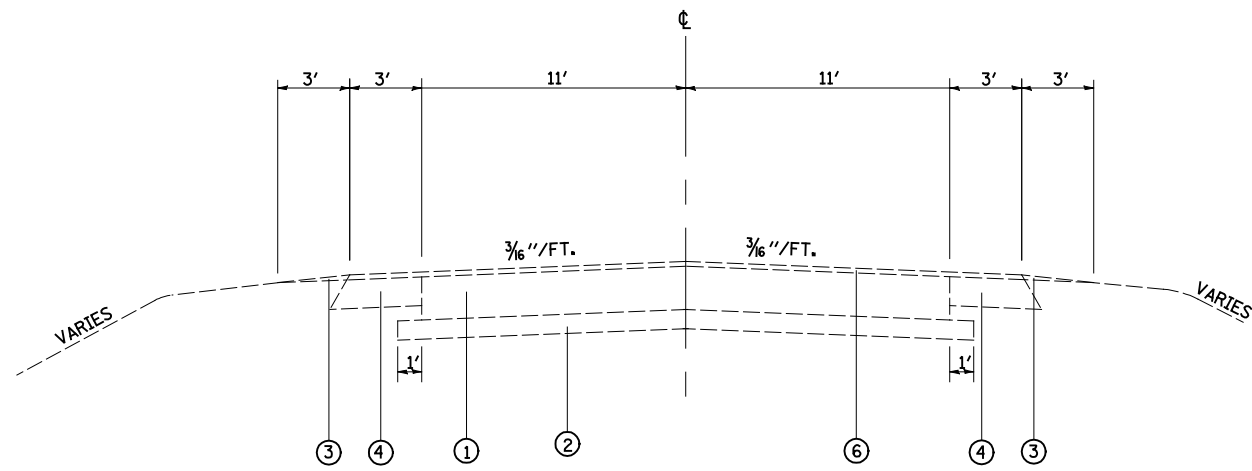
\* SPECIALTY ITEM

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE				
				80% FED 20% STATE				
				ROADWAY 0004	BRIDGE SN 079-0020 0014	BRIDGE SN 079-0019 0014		
Z0016702	DETOUR SIGNING	L SUM	1	1				
Z0031200	JACKING AND CRIBBING	EACH	10		10			
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	102		102			
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1				
Z0058668	GRADING AND SHAPING FORESLOPES	SO YD	936	936				
Z0076600	TRAINEES	HOOR	3000			3000		
Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOOR	3000			3000		

φ 0042

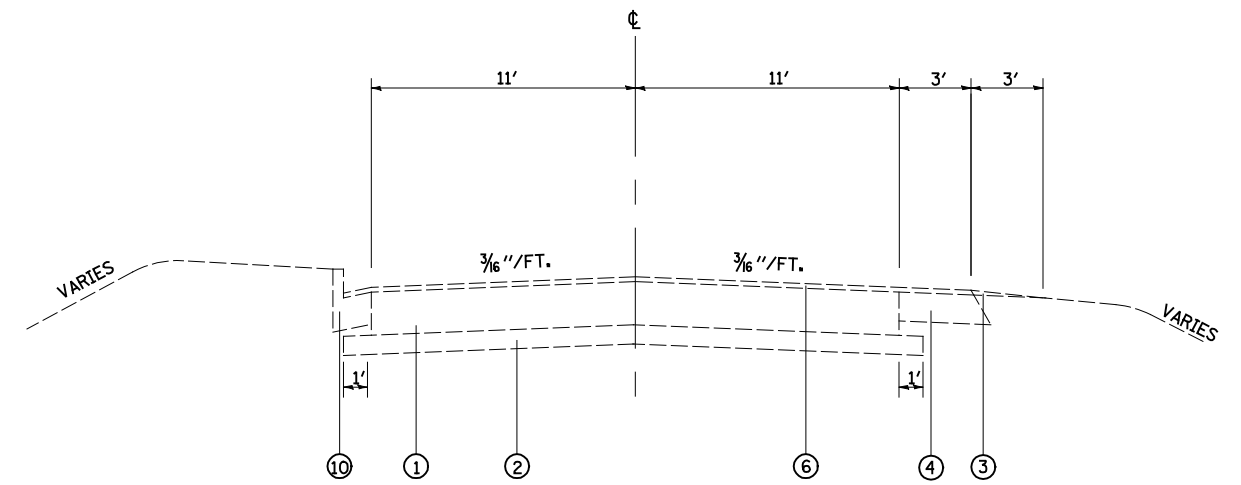
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#FILE#		DRAWN - PDB	REVISED -			058	12VB-II	RANDOLPH	72	30
PLOT SCALE		CHECKED - BRW	REVISED -			CONTRACT NO. 76409				
PLOT DATE		DATE - 03-28-11	REVISED -			ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 3 OF 3 SHEETS STA. TO STA.



**EXISTING TYPICAL SECTION**

STA. 624+34.70 TO STA. 624+94.23  
 STA. 651+17.50 TO STA. 652+10.00



**EXISTING TYPICAL SECTION**

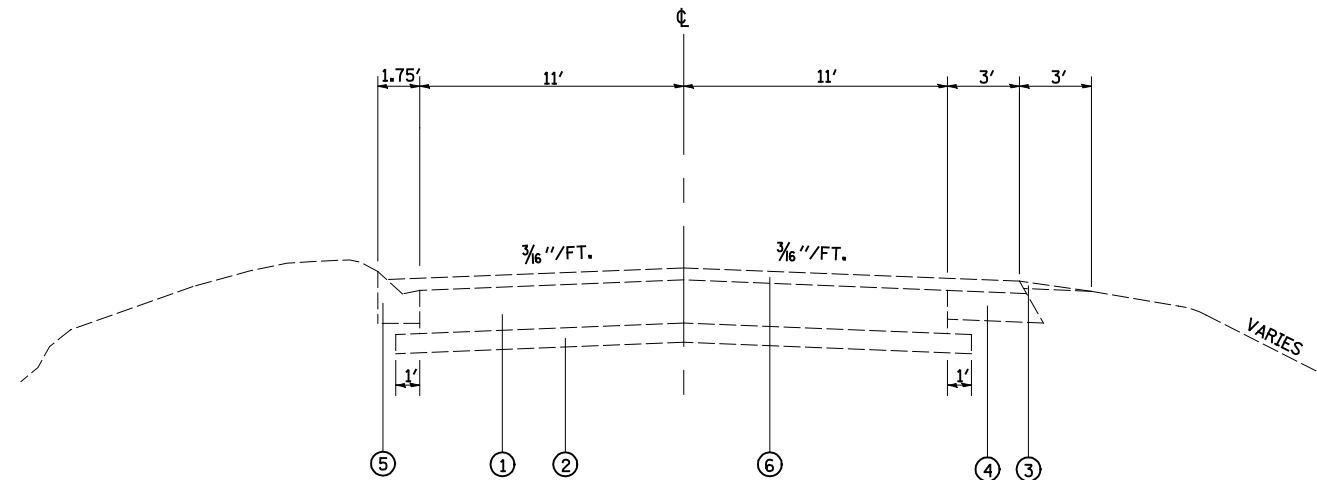
STA. 638+25.97 TO STA. 638+84.70  
 STA. 648+84.26 TO STA. 649+03.50

**NOTES:**

STA. 624+94.23 TO STA. 638+25.97 (SN 079-0019)  
 STA. 649+03.50 TO STA. 651+17.50 (SN 079-0020)

**LEGEND**

- ① EXISTING PCC PAVEMENT 9"
- ② EXISTING SUB-BASE GRANULAR MATERIAL TYPE A, 4"
- ③ EXISTING AGGREGATE WEDGE SHOULDERS
- ④ EXISTING HMA SHOULDER 6"
- ⑤ EXISTING CONCRETE GUTTER TYPE B
- ⑥ EXISTING HMA RESURFACING, 2 1/2" AND VARIES
- ⑦ PROPOSED HMA SURFACE COURSE MIX C, N70, 2" AND VARIES, SEE MISCELLANEOUS DETAILS
- ⑧ PROPOSED AGGREGATE SHOULDER, TYPE B
- ⑨ PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
- ⑩ EXISTING COMBINATION CONCRETE CURB AND GUTTER



**EXISTING TYPICAL SECTION**

STA. 638+84.70 TO STA. 648+84.26

FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TYPICAL SECTIONS</b>			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILEL#		DRAWN - PDB	REVISED -		858	12VB-II	RANDOLPH	72	4			
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -		SCALE: SHEET NO. 1 OF 2 SHEETS STA. TO STA.			CONTRACT NO. 76409				
	PLOT DATE = 12/20/2011	DATE - 03-28-11	REVISED -		ILLINOIS FED. AID PROJECT							







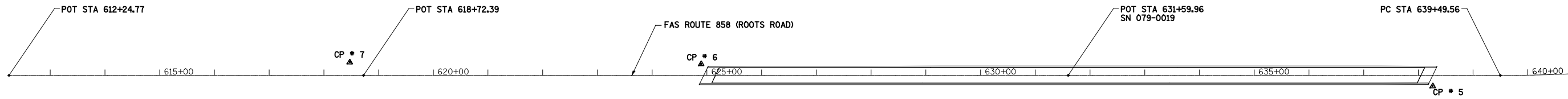
**FAS 858 ROOTS ROAD**

DESCRIPTION	COORDINATE	
	NORTHING	EASTING
POT STA 612+24.77	491588.45	355308.05
POT STA 618+72.39	491625.32	355954.62
POT STA 631+59.96	491698.63	357240.10
PC STA 639+49.56	491743.59	358028.42
PT STA 642+99.99	491763.54	358378.28
PT STA 646+46.95	491867.23	358713.02
POT STA 650+10.50	491974.80	359060.28
POT STA 654+47.21	492104.02	359477.44
POT STA 662+33.97	492336.82	360228.97

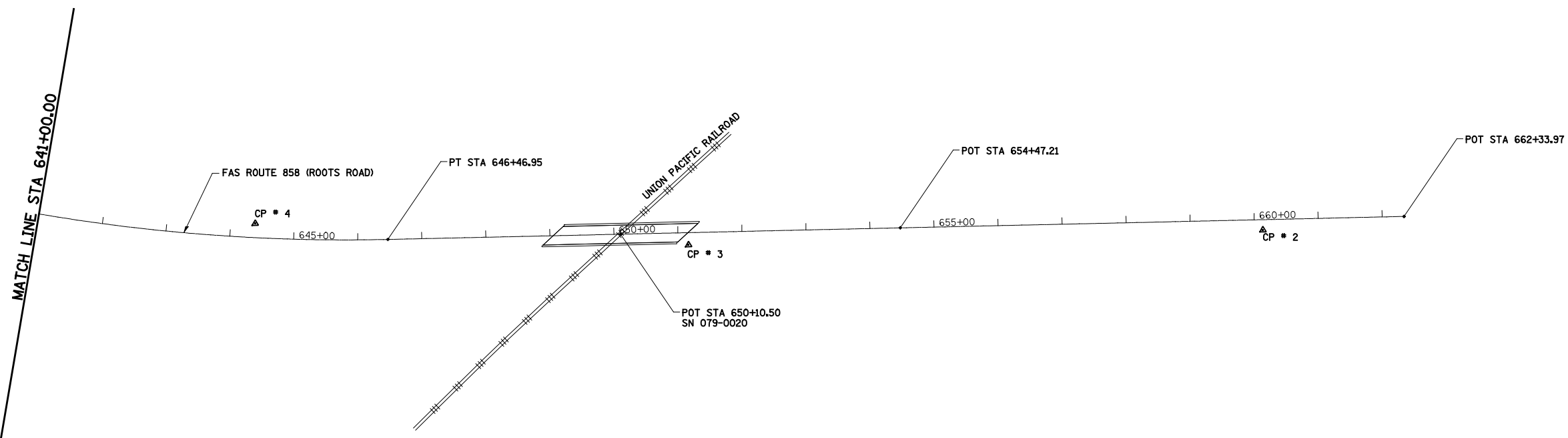
**CONTROL POINTS**

CONTROL POINT	COORDINATE	
	NORTHING	EASTING
CP #2	492256.06	360023.05
CP #3	491987.77	359166.91
CP #4	491834.37	358507.15
CP #5	491717.01	357906.51
CP #6	491681.19	356569.65
CP #7	491647.65	355928.40

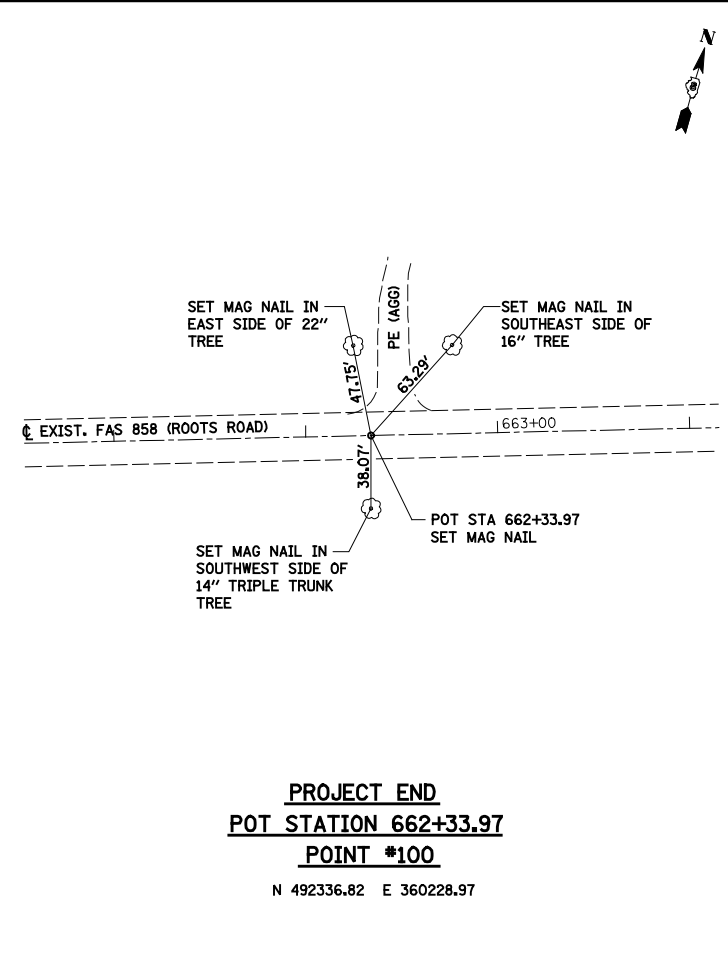
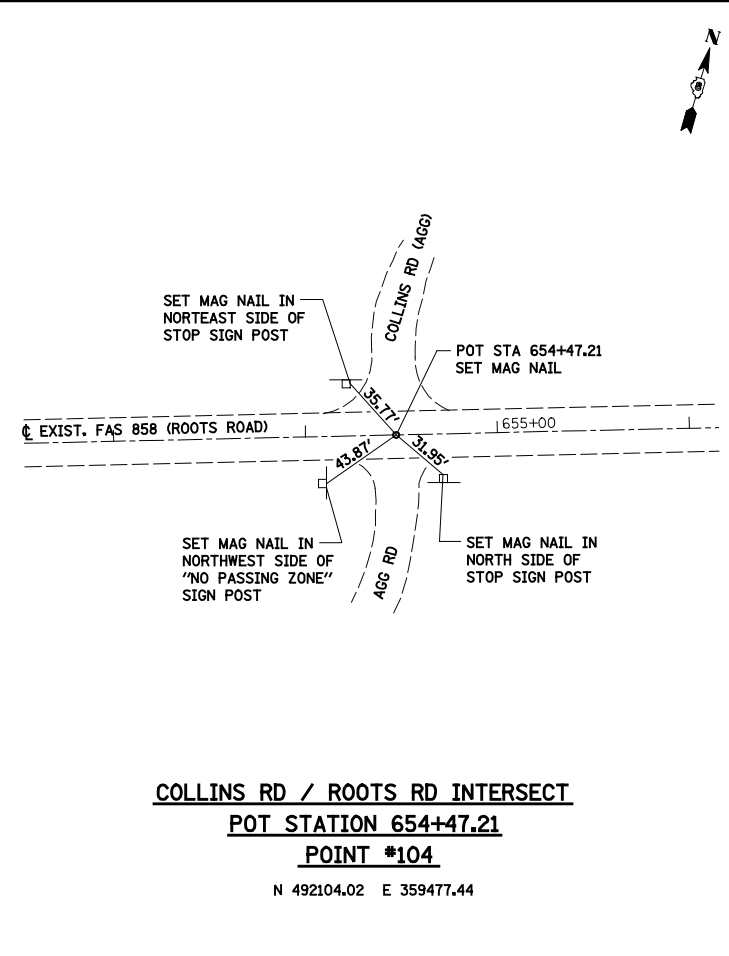
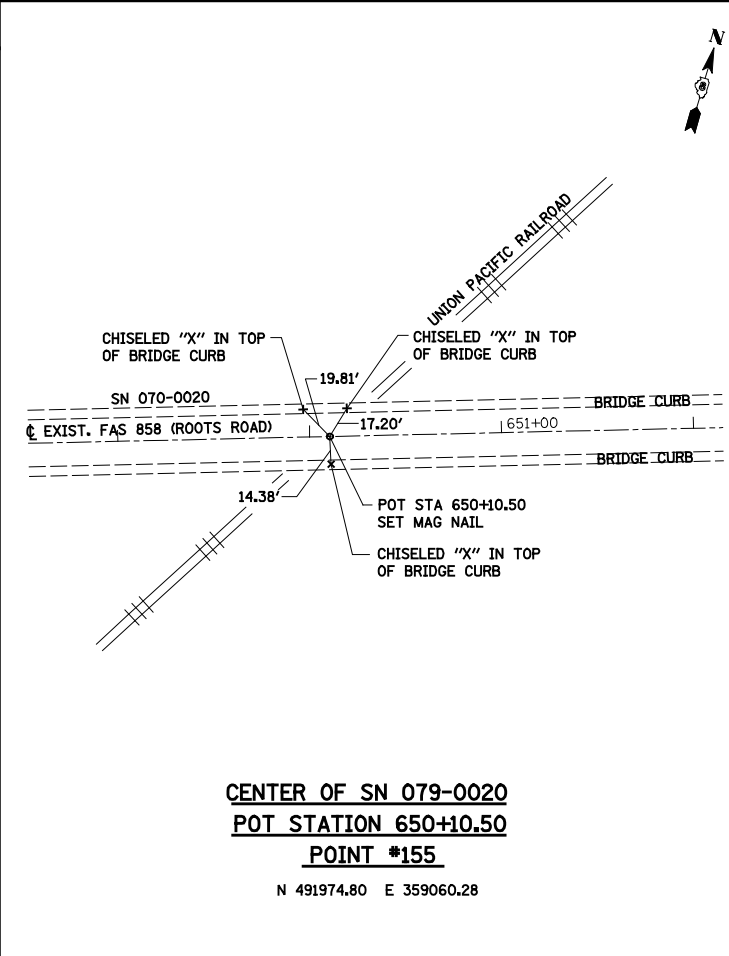
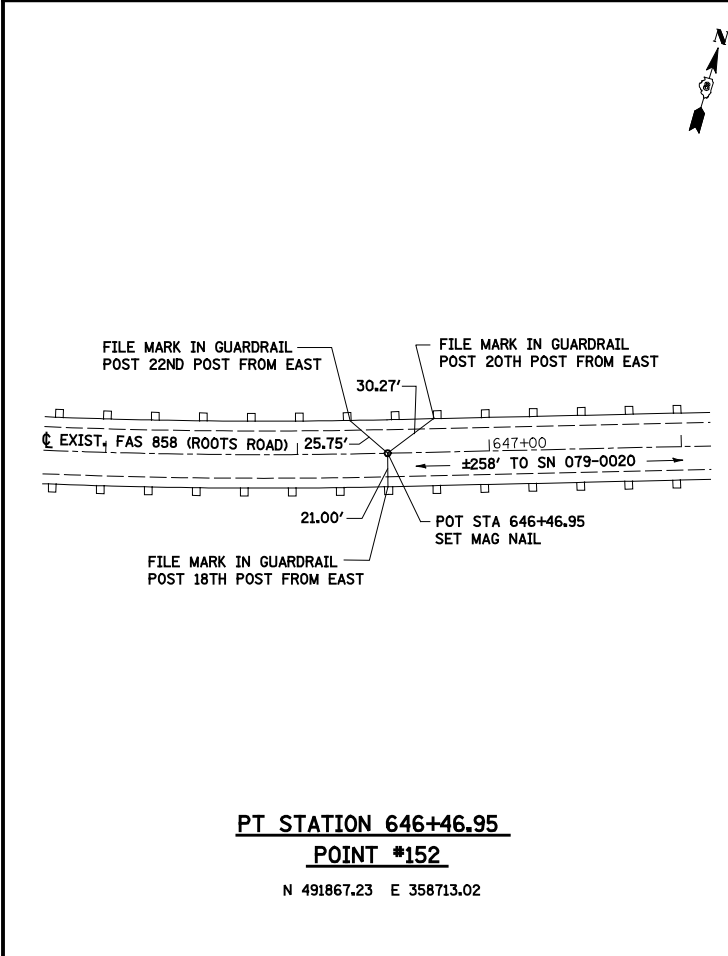
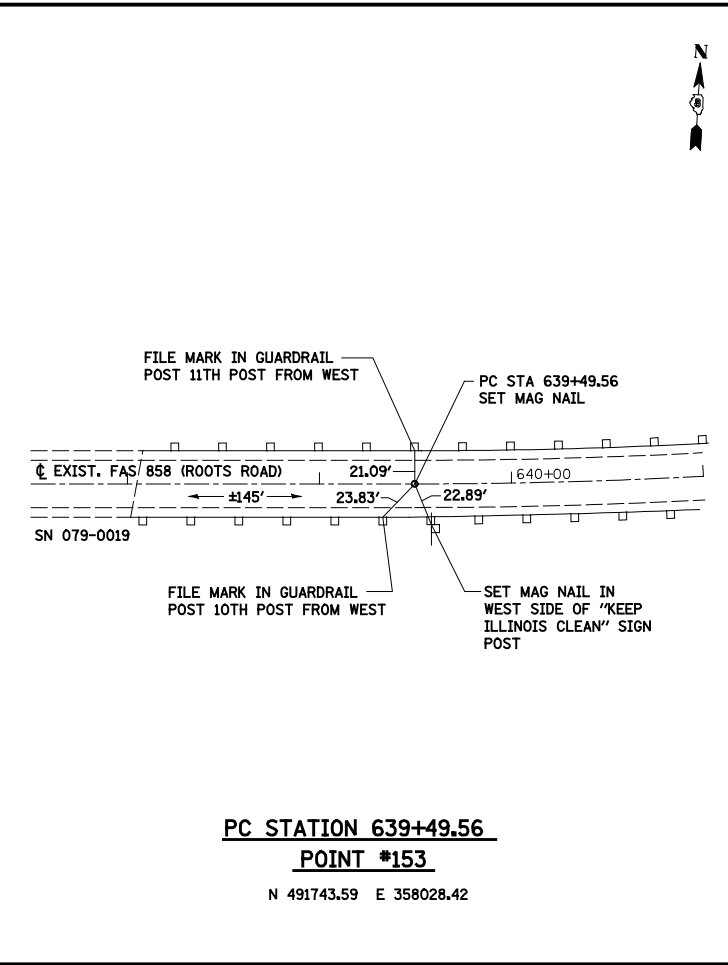
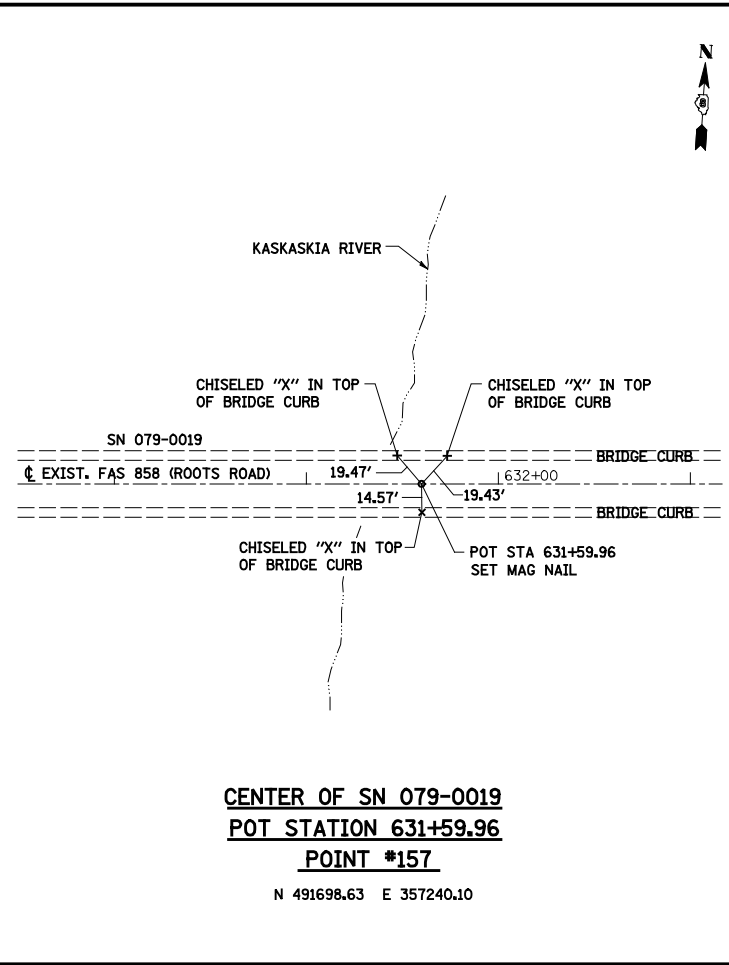
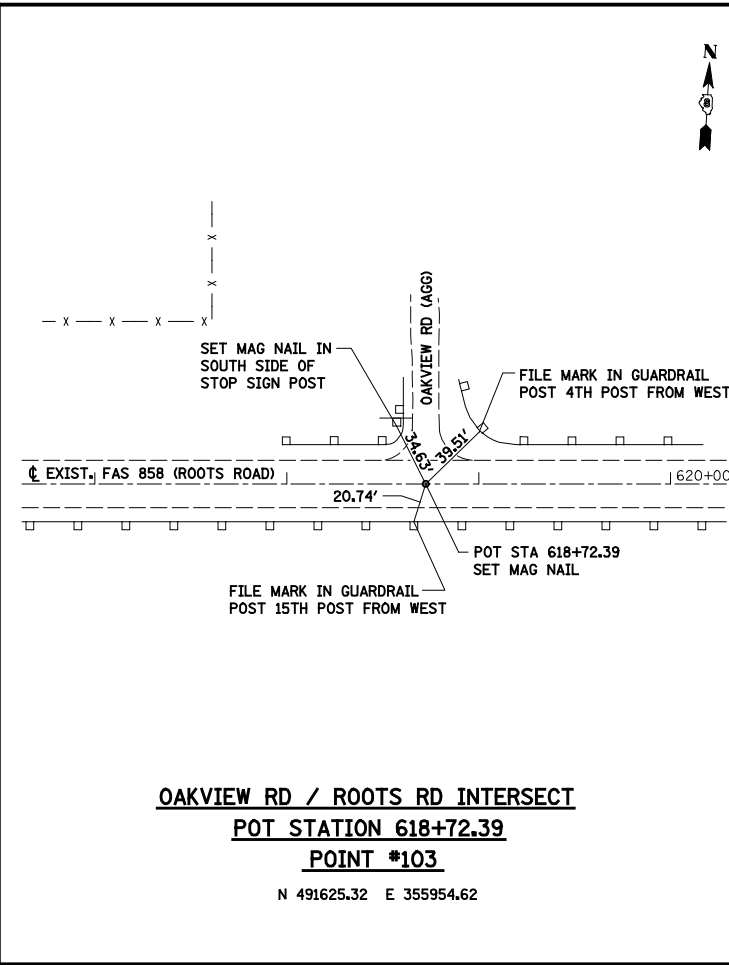
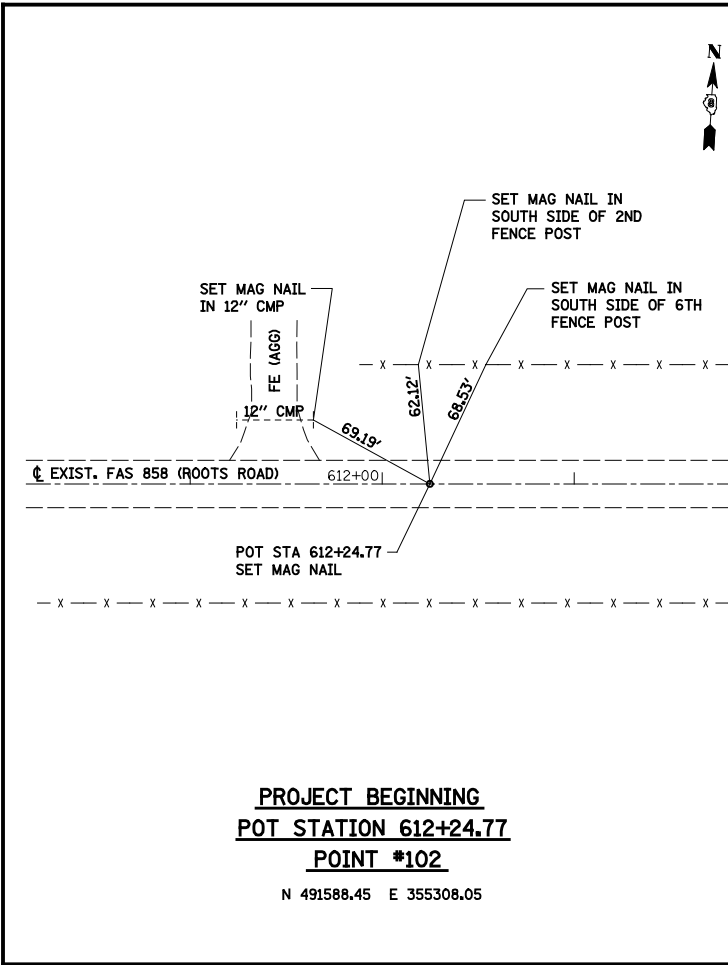
EXISTING CURVE C-1  
 PI STA. = 642+99.99  
 $\Delta = 13^\circ 56' 50''$  (LT)  
 D = 2' 00' 00"  
 R = 2,864.90'  
 T = 350.43'  
 L = 697.39'  
 E = 21.35'  
 P.C. STA = 639+49.56  
 P.T. STA = 646+46.95



- BENCHMARK \* ROOTS-2      BENCHMARK \* ROOTS-3      BENCHMARK \* ROOTS-4      BENCHMARK \* ROOTS-5
- CUT "□" ON BRIDGE CURB @ N.W. CORNER OF ROOTS ROAD BRIDGE (SN 079-0020) ELEV 429.14
- CUT "□" ON BRIDGE CURB @ N.E. CORNER OF ROOTS ROAD BRIDGE (SN 079-0019) ELEV 420.87
- CUT "□" ON BRIDGE CURB @ N.W. CORNER OF ROOTS ROAD BRIDGE (SN 079-0019) ELEV 412.19
- RAILROAD SPIKE IN POWER POLE ON SOUTH SIDE OF ROOTS ROAD ± 0.33 MILES WEST OF WEST END OF SN 079-0019 ELEV 389.15



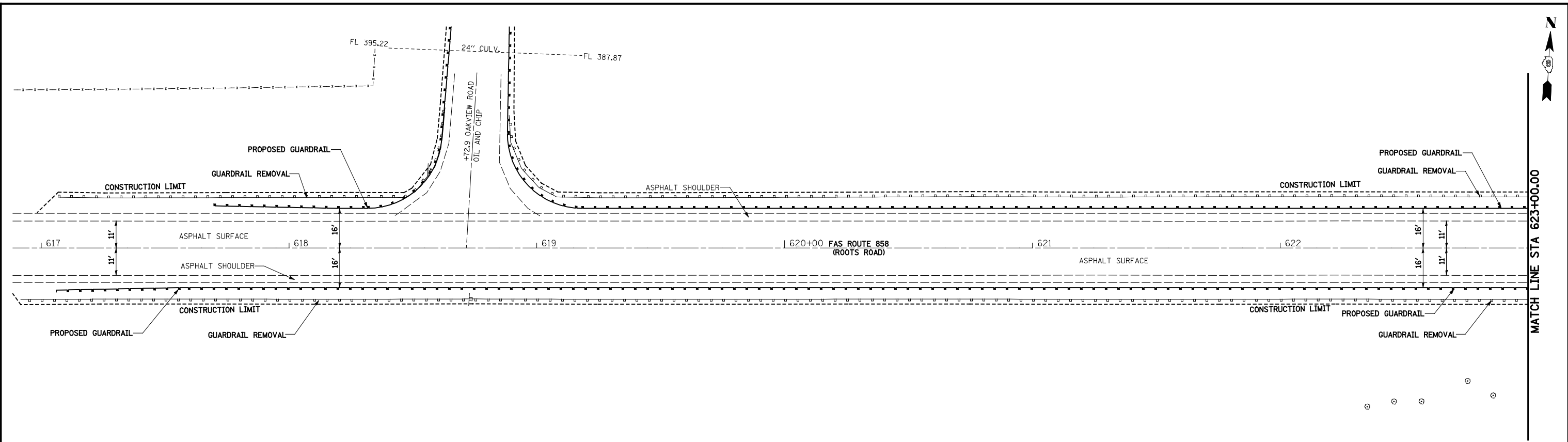
FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HORIZONTAL CONTROL &amp; TIE POINTS, FAS 858 (ROOTS ROAD)</b>			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S:\Projects\409-0028-DHY Roots Rd Final\plans\dgn\CADD	Sheets\0876409-sh1-ATB.dgn	DRAWN - PDB	REVISED -					858	12VB-II	RANDOLPH	72	7
PLOT SCALE = 200.0000' / IN.	CHECKED - BRM	REVISIED -	REVISIED -		CONTRACT NO. 76409							
PLOT DATE = 12/20/2011	DATE - 03-28-11	REVISIED -	REVISIED -		SCALE: 1"=100'	SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		



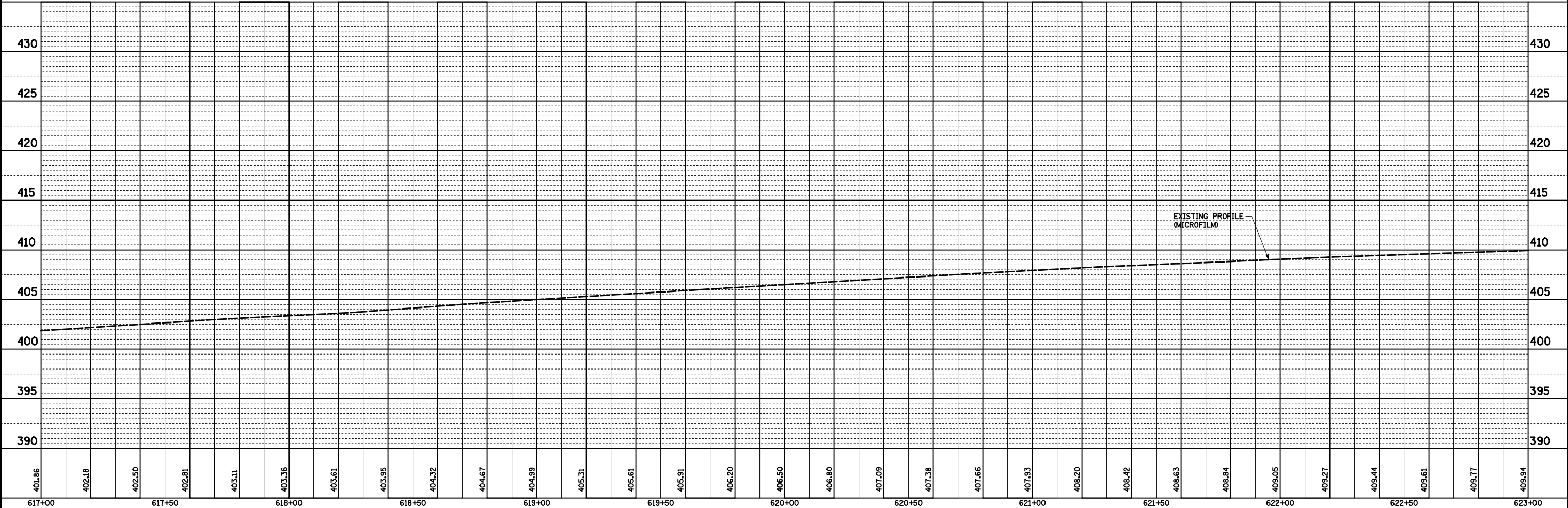
FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HORIZONTAL CONTROL &amp; TIE POINTS, FAS 858 (ROOTS ROAD)</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
St:\Projects\409-0028-DHY Roots Rd Final	plans\dgn\CADD Sheets\0876409-sht-ATB.dgn	DRAWN - WJS	REVISED -				858	12VB-II	RANDOLPH	72	8		
	PLOT SCALE = 200.0000' / IN.	CHECKED - BRM	REVISED -				<b>CONTRACT NO. 76409</b>						
	PLOT DATE = 12/20/2011	DATE - 09-19-11	REVISED -				ILLINOIS FED. AID PROJECT						

PLAN	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	CADD FILE NAME		

PROFILE	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	CADD FILE NAME		



NOTE:  
 SEE GUARDRAIL DETAIL SHEETS FOR EXISTING AND PROPOSED GUARDRAIL.  
 FOR RIGHT OF WAY INFORMATION SEE RIGHT OF WAY PLAN SHEETS



FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -
S:\Projects\409-0028-DHY Roots Rd Final\plans\dgn\CADD	Sheet\0876409-sh1-plan-profile.dgn	DRAWN - PDB	REVISED -
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -
	PLOT DATE = 12/21/2011	DATE - 3-23-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

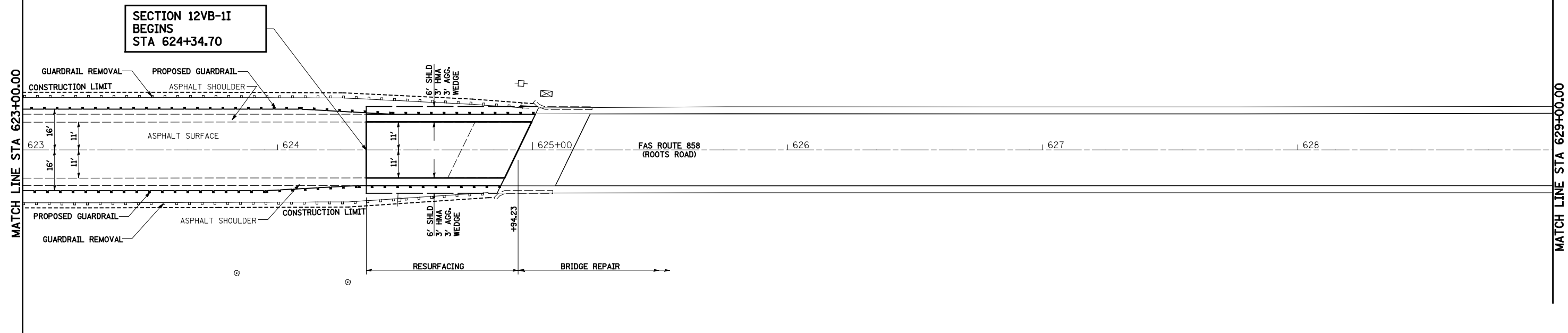
**PLAN AND PROFILE**

SCALE: 1"=20'      SHEET NO. 1 OF 6 SHEETS      STA. 620+00.00 TO STA. 623+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	9
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	



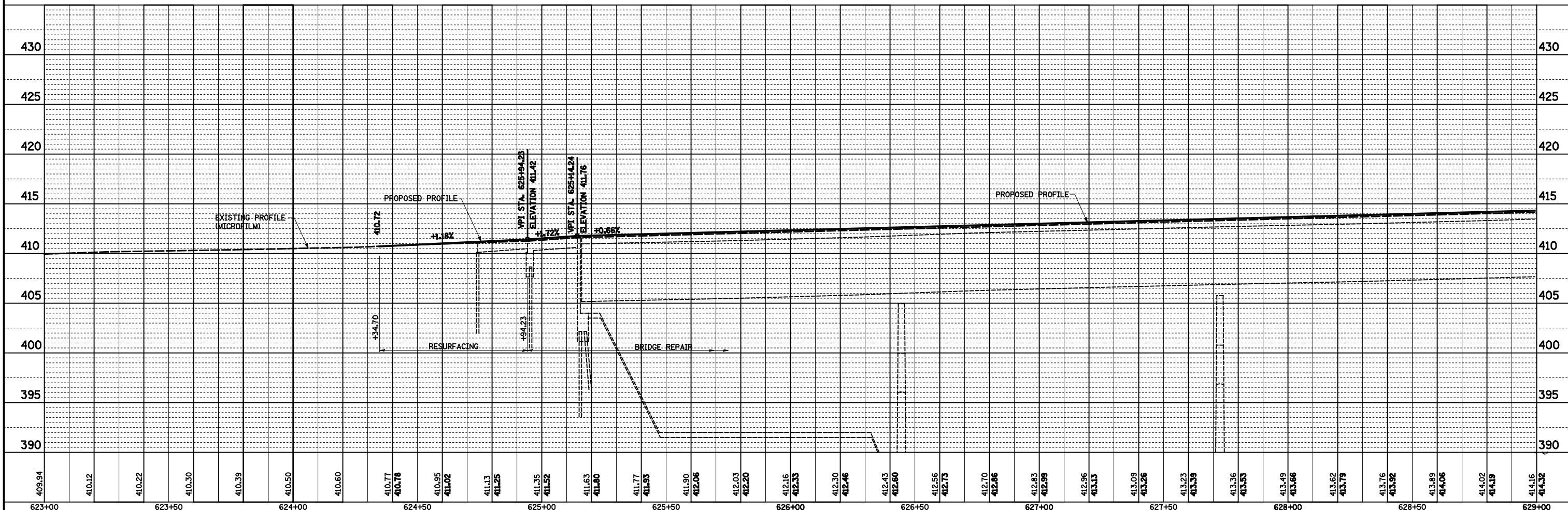
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	PLOTTED		
	NOTED		
	CHECKED		
	FILE NAME		
	NO.		



NOTE:  
SEE GUARDRAIL DETAIL SHEETS FOR EXISTING AND PROPOSED GUARDRAIL.  
FOR RIGHT OF WAY INFORMATION SEE RIGHT OF WAY PLAN SHEETS



PROFILE	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE		
	NOTATIS CHFD		
	NO.		



FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -
S:\Projects\409-0028-DHY Roots Rd Final\plans\dgn\CADD	Sheet\0876409-sh1-plan-profile.dgn	DRAWN - PDB	REVISED -
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -
	PLOT DATE = 12/20/2011	DATE - 3-23-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE**

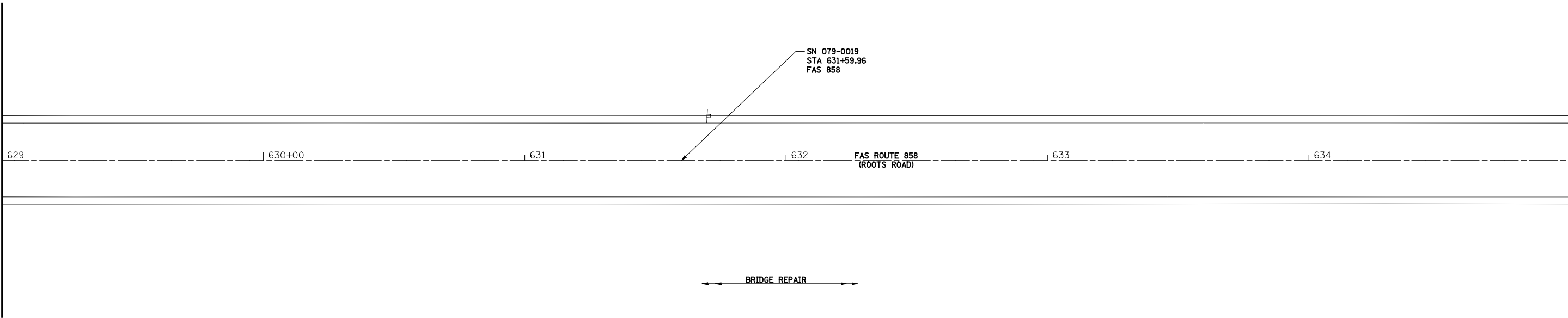
SCALE: 1"=20' SHEET NO. 2 OF 6 SHEETS STA. 623+00.00 TO STA. 629+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	10
CONTRACT NO. 76409				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



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

MATCH LINE STA 629+00.00

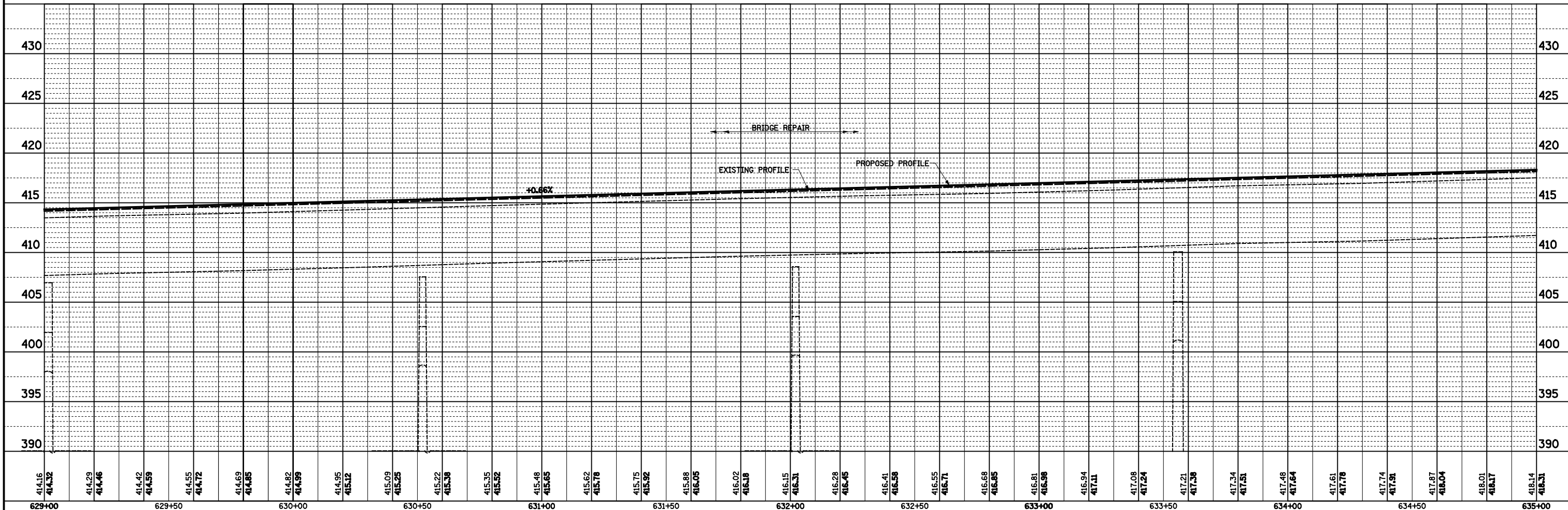


MATCH LINE STA 635+00.00

NOTE:  
 SEE GUARDRAIL DETAIL SHEETS FOR EXISTING AND PROPOSED GUARDRAIL.  
 FOR RIGHT OF WAY INFORMATION SEE RIGHT OF WAY PLAN SHEETS



PROFILE	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	NOTE BOOK		
	NO.		
	STRUCTURE		
	NOTATION CHFD		



FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PLAN AND PROFILE</b>		F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 11	
SA\Projects\409-0028-DHY Route Rd Fhd\plans\dgn\CADD	Sheet\0876409-ah-1-plan-profile.dgn	DRAWN - PDB	REVISED -		SCALE: 1"=20'	SHEET NO. 3 OF 6 SHEETS	STA. 629+00.00 TO STA. 635+00.00	CONTRACT NO. 76409				
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							
	PLOT DATE = 12/20/2011	DATE - 3-23-11	REVISED -									

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

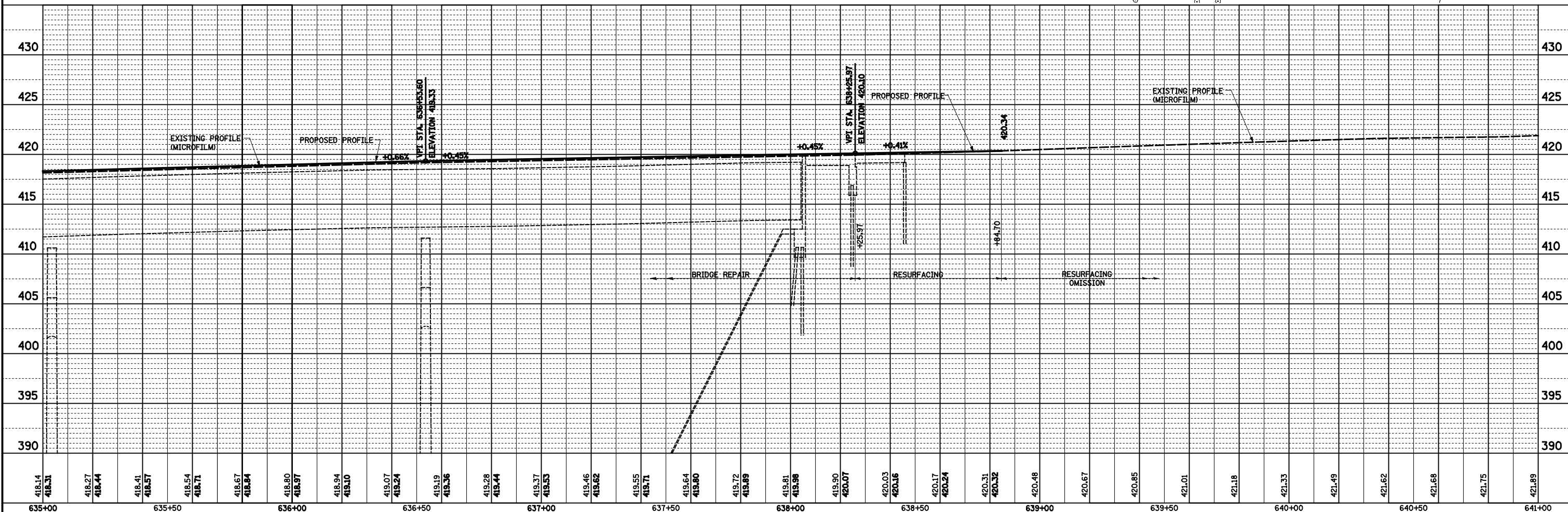
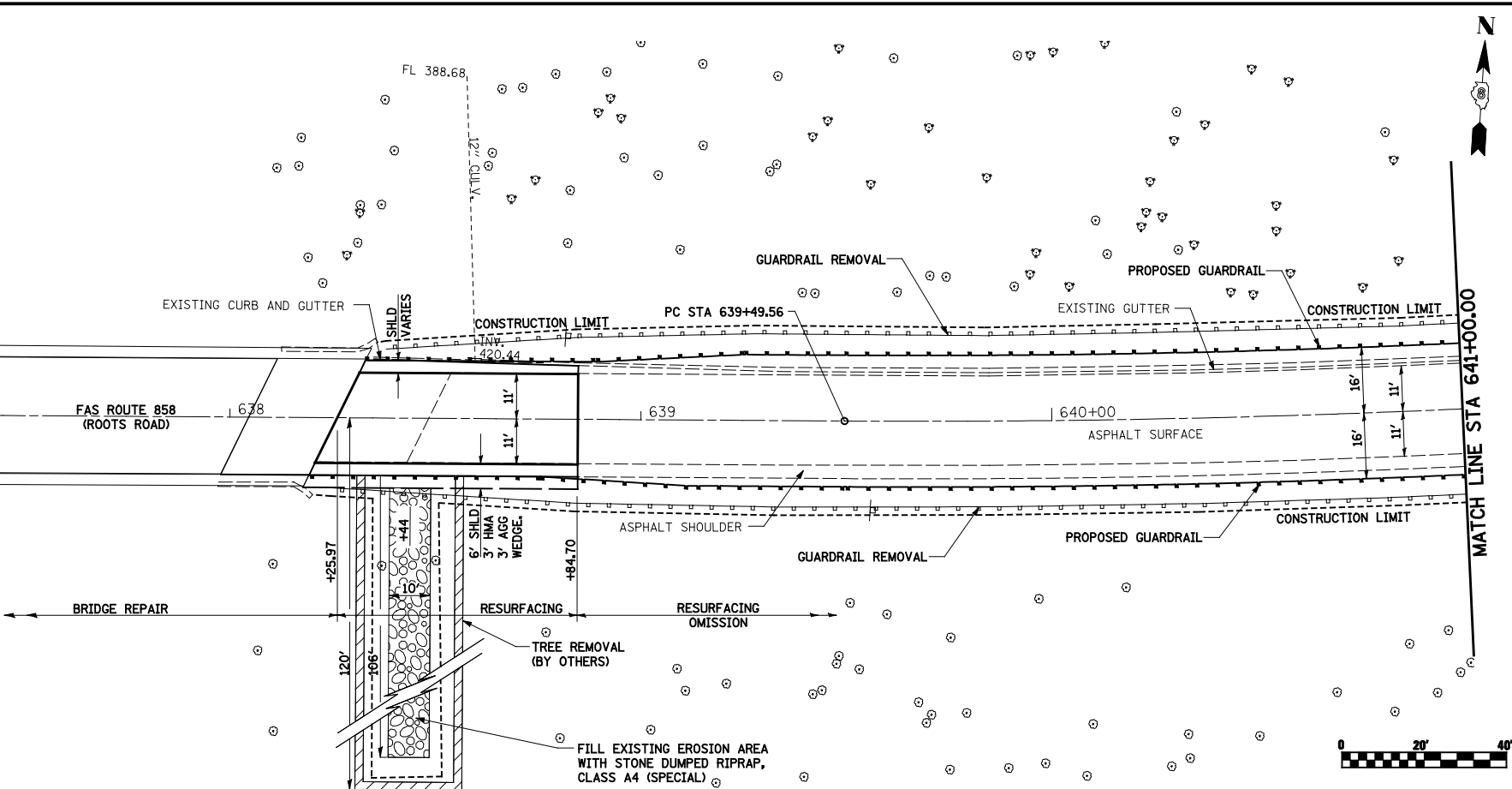
PROFILE	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	NOTE BOOK		
	NO.		
	CADD FILE NAME		

MATCH LINE STA 635+00.00

MATCH LINE STA 641+00.00

**EXISTING CURVE C-1**  
 PI STA. = 642+99.99  
 $\Delta = 13^\circ 56' 50''$  (LT)  
 $D = 2^\circ 00' 00''$   
 $R = 2,864.90'$   
 $T = 350.43'$   
 $L = 697.39'$   
 $E = 21.35'$   
 P.C. STA = 639+49.56  
 P.T. STA = 646+46.95

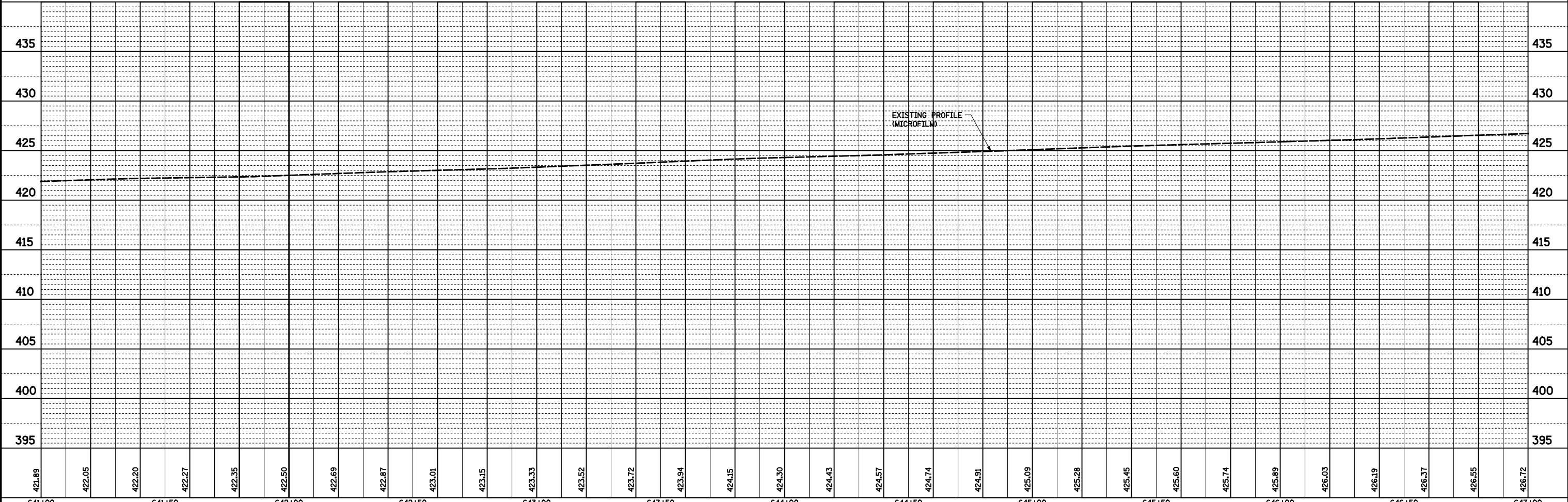
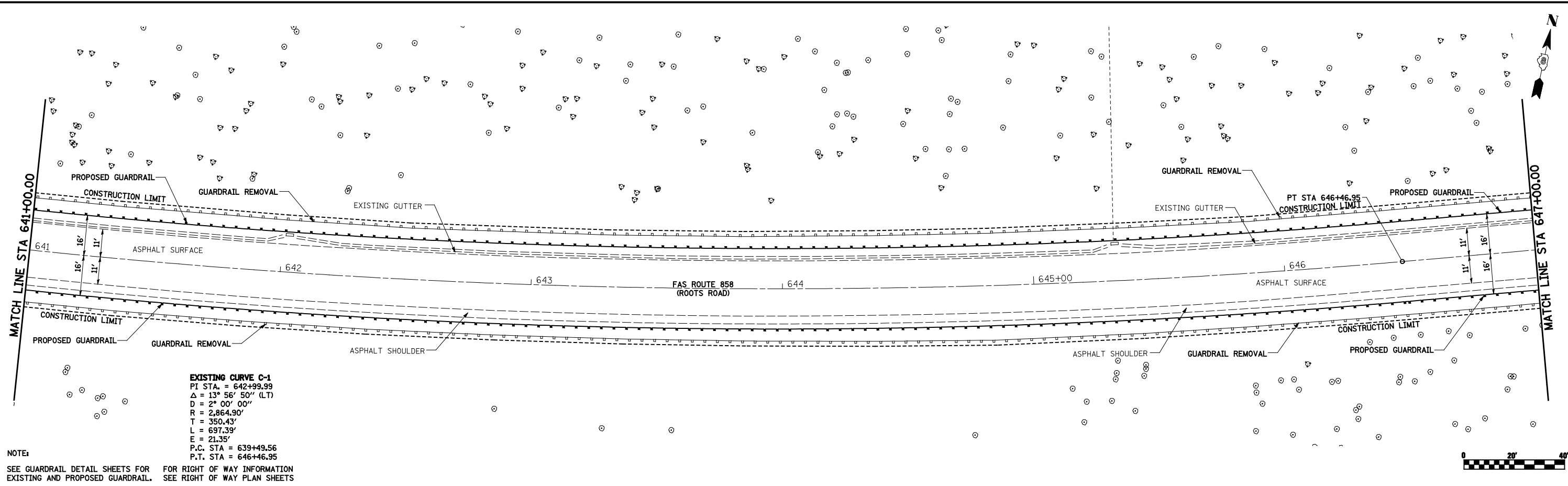
NOTE:  
 SEE GUARDRAIL DETAIL SHEETS FOR EXISTING AND PROPOSED GUARDRAIL.  
 FOR RIGHT OF WAY INFORMATION SEE RIGHT OF WAY PLAN SHEETS



FILE NAME =	USER NAME = john	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PLAN AND PROFILE</b>		F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 12	
SA\Projects\409-0028-DHY Route Rd Final\plans\dgn\CADD	Sheets\0876409-ah-1-plan-profile.dgn	DRAWN - PDB	REVISED -		SCALE: 1"=20'	SHEET NO. 4 OF 6 SHEETS	STA. 635+00.00 TO STA. 641+00.00	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	<b>CONTRACT NO. 76409</b>	
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -									
	PLOT DATE = 2/10/2014	DATE - 3-23-11	REVISED -									

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

PROFILE	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE		
	NOTATIS CHFD		
	NO.		



FILE NAME =	USER NAME = john	DESIGNED - JWS	REVISED -
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	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -
	PLOT DATE = 2/10/2014	DATE - 3-23-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

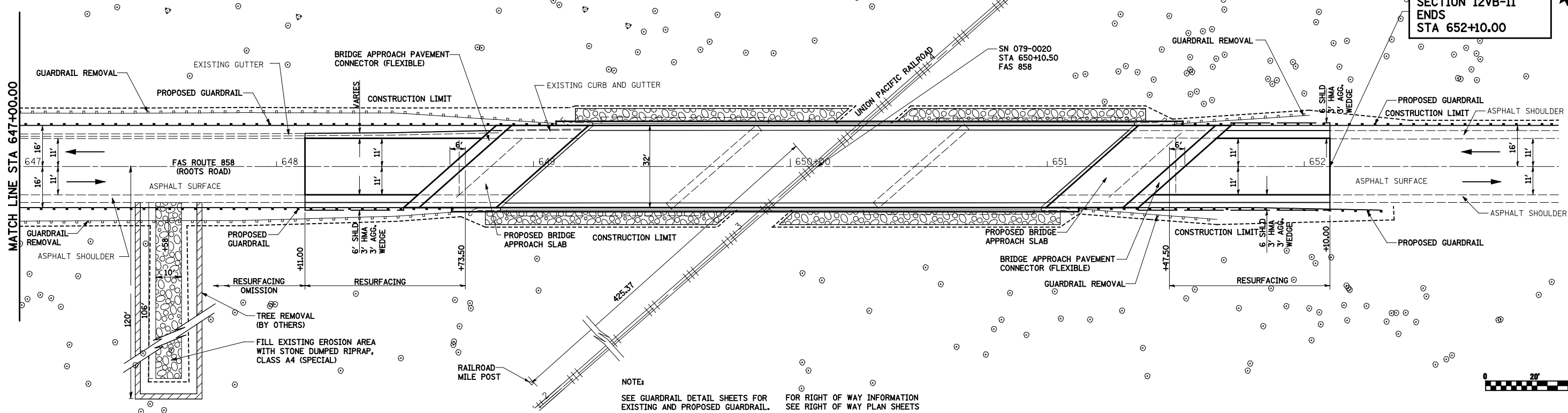
**PLAN AND PROFILE**

SCALE: 1"=20'      SHEET NO. 5 OF 6 SHEETS      STA. 641+00.00 TO STA. 647+00.00

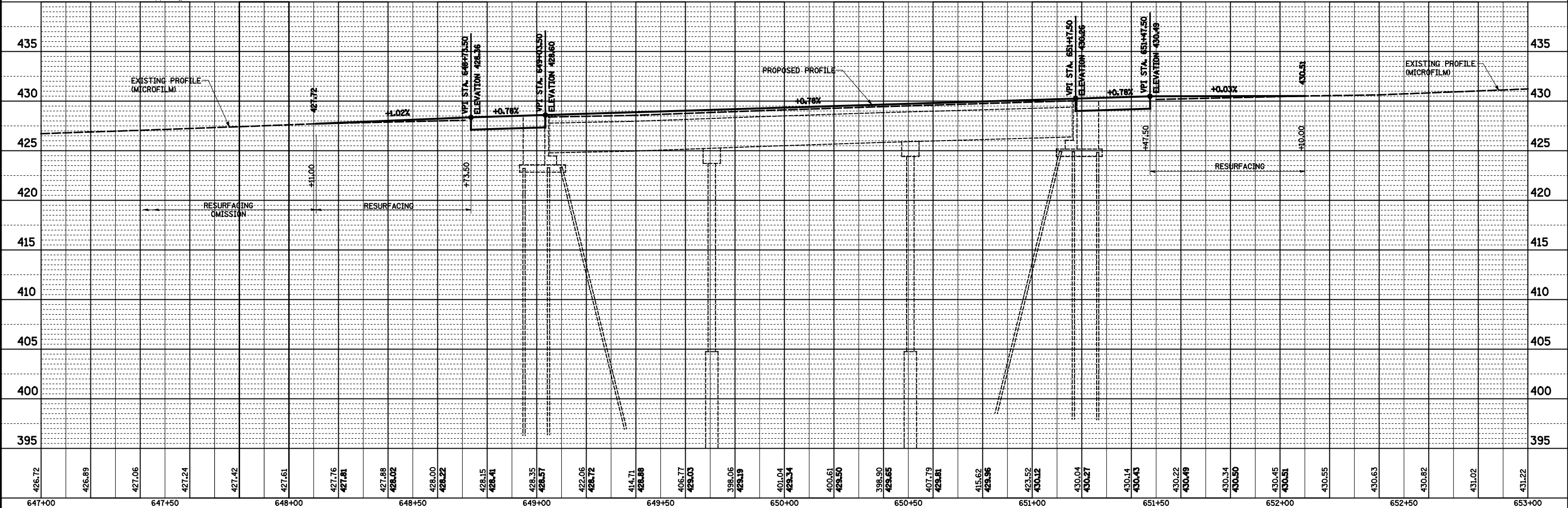
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	13
CONTRACT NO. 76409				
FED. ROAD DIST. NO.    ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOT AT THIS OFFICE		
	NOTE BOOK NO.		
	CHECKED BY		
	DATE		

PROFILE	SURVEYED EXISTING	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOT AT THIS OFFICE		
	NOTE BOOK NO.		
	CHECKED BY		
	DATE		



NOTE:  
SEE GUARDRAIL DETAIL SHEETS FOR EXISTING AND PROPOSED GUARDRAIL.  
FOR RIGHT OF WAY INFORMATION SEE RIGHT OF WAY PLAN SHEETS



FILE NAME =	USER NAME = john	DESIGNED - JWS	REVISED -
S:\Projects\409-0028-DHY Route Rd Final\plans\dgn\CADD	Sheet\0876409-sh1-plan-profile.dgn	DRAWN - PDB	REVISED -
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -
	PLOT DATE = 2/10/2014	DATE - 3-23-11	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE**  
SCALE: 1"=20' SHEET NO. 6 OF 6 SHEETS STA. 647+00.00 TO STA. 653+00.00

F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 14
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	



# EROSION CONTROL & SEDIMENT CONTROL NOTES

ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLANS. PRIOR TO APPROVAL AND USE OF THE PRODUCT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE THE MANUFACTURER RECOMMENDED INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

TEMPORARY SEEDING SHALL BE COMPLETED ON A WEEKLY BASIS ON EXPOSED GROUND AND WILL NOT BE PAID FOR SEPARATELY BUT CONSIDERED AS INCLUDED IN THE PERMANENT SEEDING ITEMS.

ALL AREAS DISTURBED FOR ANY REASON SHALL BE PERMANENTLY SEEDDED AS DIRECTED BY THE ENGINEER. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEEDDED AT THE CONTRACTOR'S EXPENSE.

FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE.

FAS ROUTE 858  
(ROOTS ROAD)

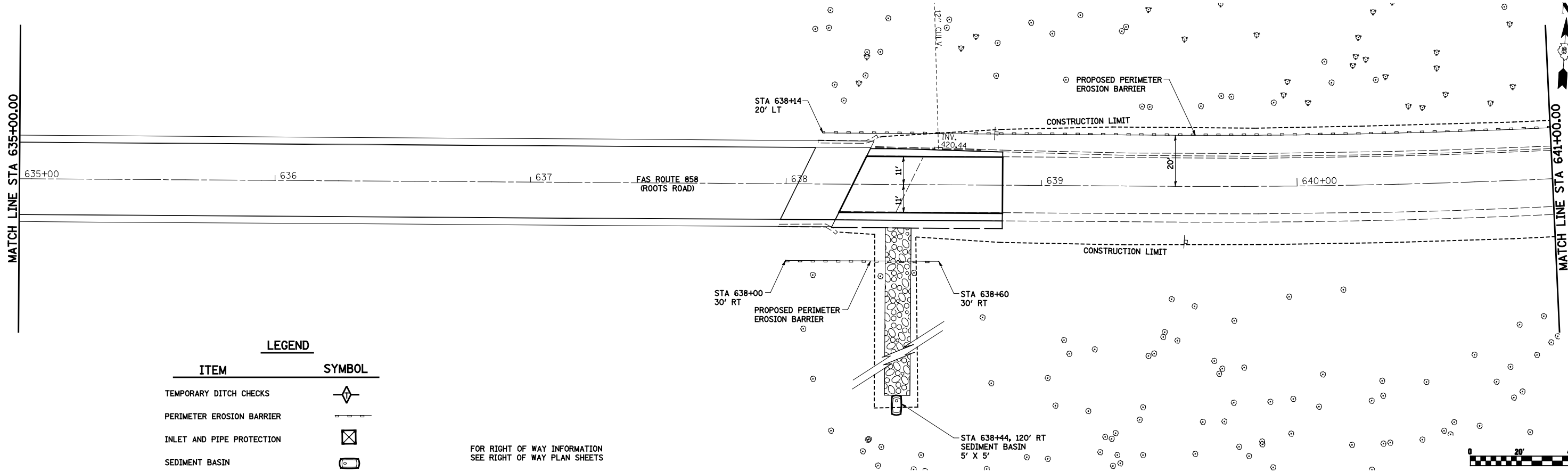
| 632 | 633 | 634



MATCH LINE STA 635+00.00

FOR RIGHT OF WAY INFORMATION  
SEE RIGHT OF WAY PLAN SHEETS

MATCH LINE STA 635+00.00



MATCH LINE STA 641+00.00

### LEGEND

ITEM	SYMBOL
TEMPORARY DITCH CHECKS	
PERIMETER EROSION BARRIER	
INLET AND PIPE PROTECTION	
SEDIMENT BASIN	

FOR RIGHT OF WAY INFORMATION  
SEE RIGHT OF WAY PLAN SHEETS

FILE NAME =  
#FILEL#

USER NAME = Paul  
PLOT SCALE = 40.0000' / IN.  
PLOT DATE = 12/20/2011

DESIGNED - JWS  
DRAWN - PDB  
CHECKED - BRM  
DATE - 03-28-11

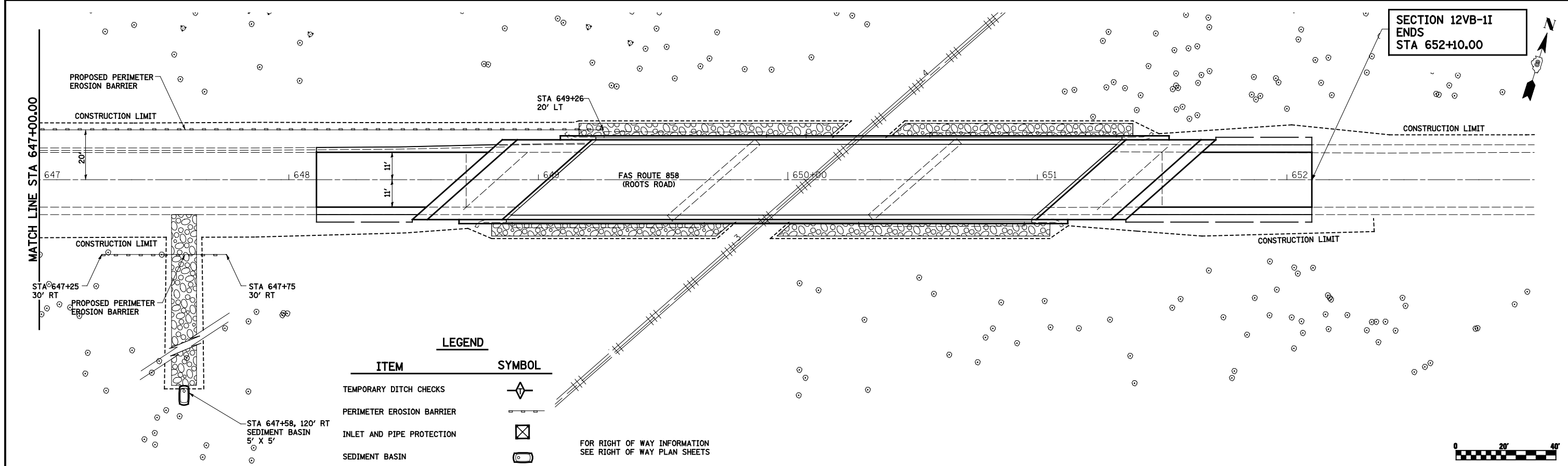
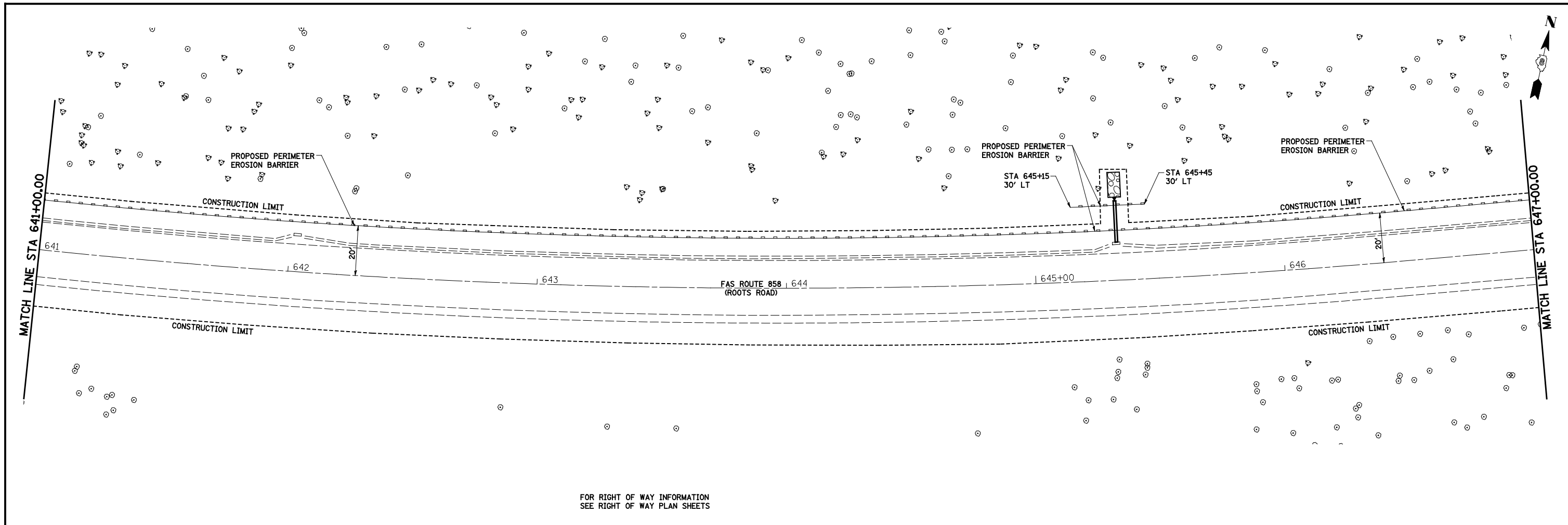
REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EROSION AND SEDIMENT CONTROL PLAN**

SCALE: 1"=20'      SHEET NO. 1 OF 2 SHEETS      STA. 629+00.00 TO STA. 641+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-11	RANDOLPH	72	15
<b>CONTRACT NO. 76409</b>				
ILLINOIS FED. AID PROJECT				



**LEGEND**

ITEM	SYMBOL
TEMPORARY DITCH CHECKS	
PERIMETER EROSION BARRIER	
INLET AND PIPE PROTECTION	
SEDIMENT BASIN	



FILE NAME =  
#FILEL#

USER NAME = Paul  
PLOT SCALE = 40.0000' / IN.  
PLOT DATE = 12/20/2011

DESIGNED - JWS  
DRAWN - PDB  
CHECKED - BRM  
DATE - 03-28-11

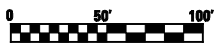
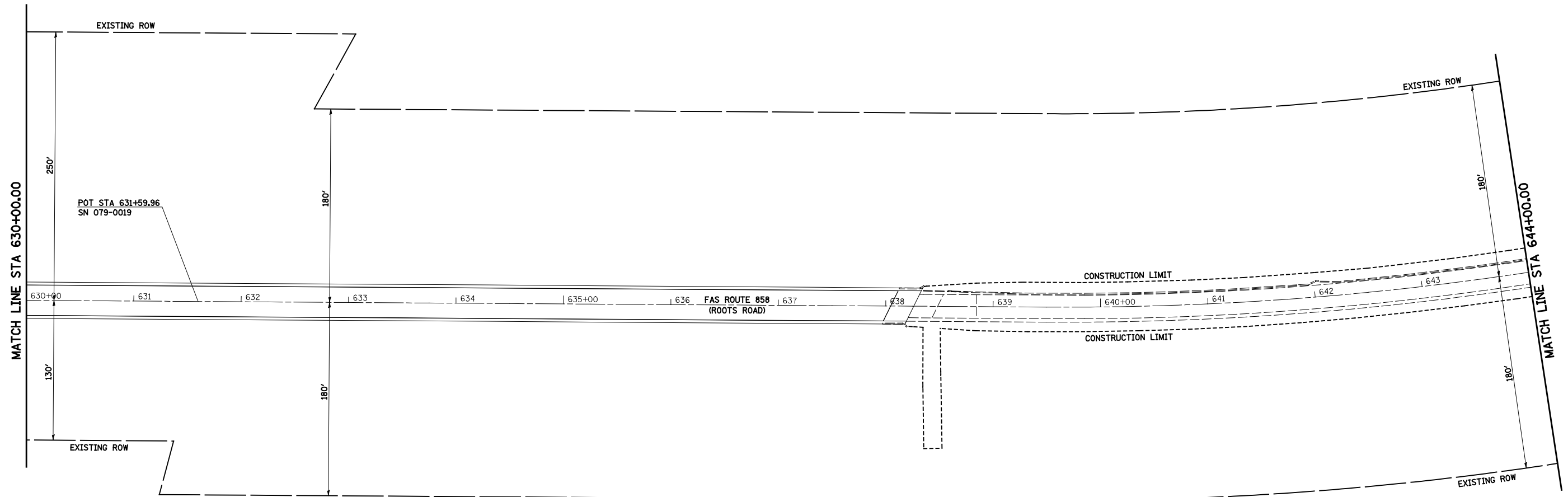
REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EROSION AND SEDIMENT CONTROL PLAN**  
SCALE: 1"=20'  
SHEET NO. 2 OF 2 SHEETS  
STA. 641+00.00 TO STA. 653+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	16
CONTRACT NO. 76409				
ILLINOIS FED. AID PROJECT				





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		DRAWN - WJS	REVISED -
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	PLOT DATE = 12/20/2011	DATE - 9-26-11	REVISED -

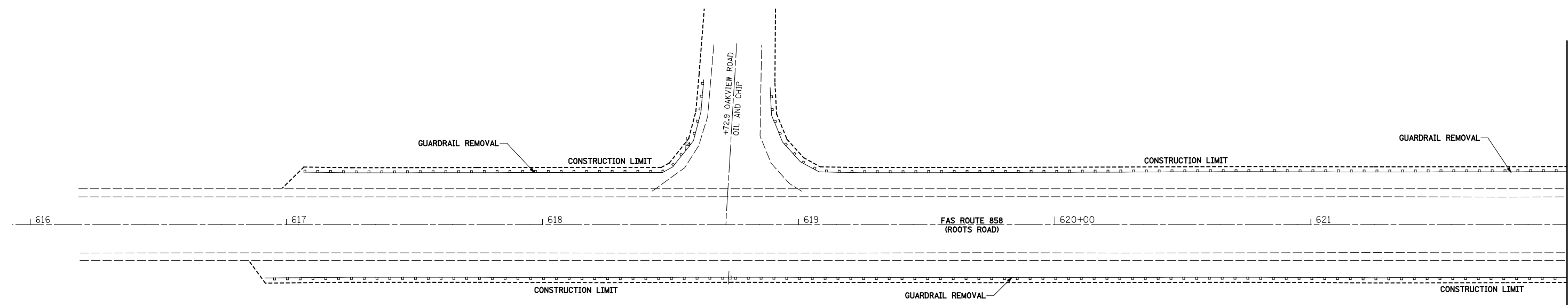
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**RIGHT OF WAY PLAN - FAS 858 (ROOTS ROAD)**

SCALE: 1"=50'      SHEET NO. 2 OF 3 SHEETS      STA. 630+00.00 TO STA. 644+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	18
<b>CONTRACT NO. 76409</b>				
ILLINOIS FED. AID PROJECT				





MATCH LINE STA 622+00.00

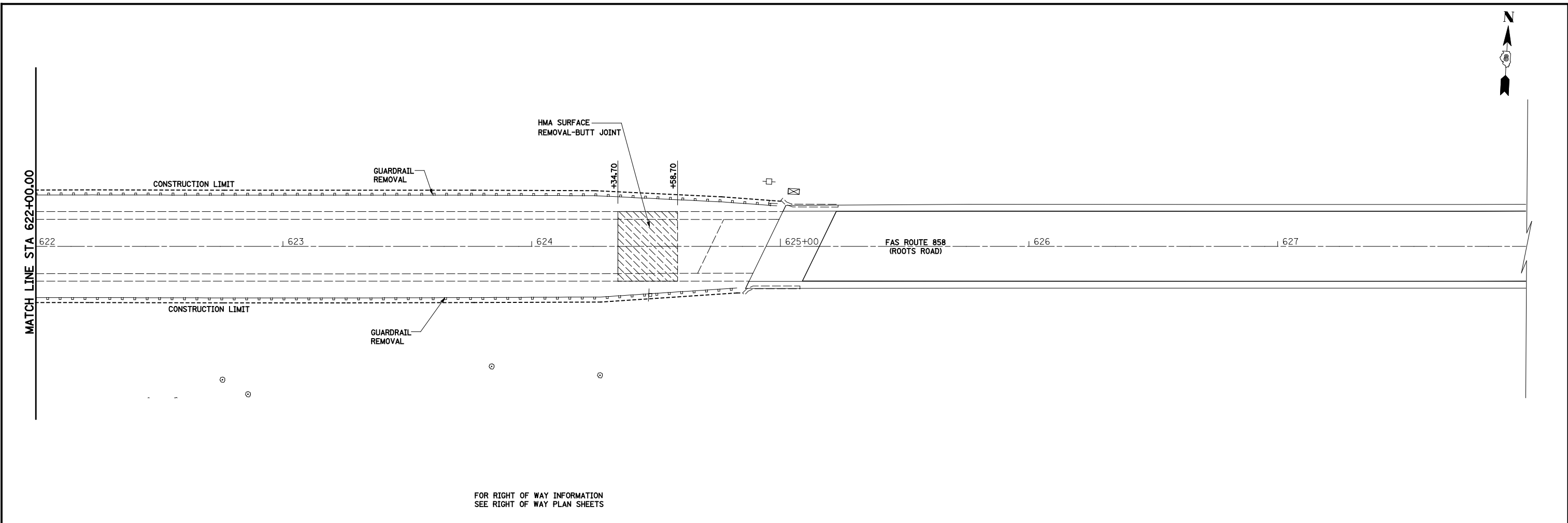
**LEGEND**

- |  |                       |  |  |
|--|-----------------------|--|--|
|  | APPROACH SLAB REMOVAL |  | COMBINATION CURB AND GUTTER REMOVAL        |
|  | PAVEMENT REMOVAL      |  | HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT |

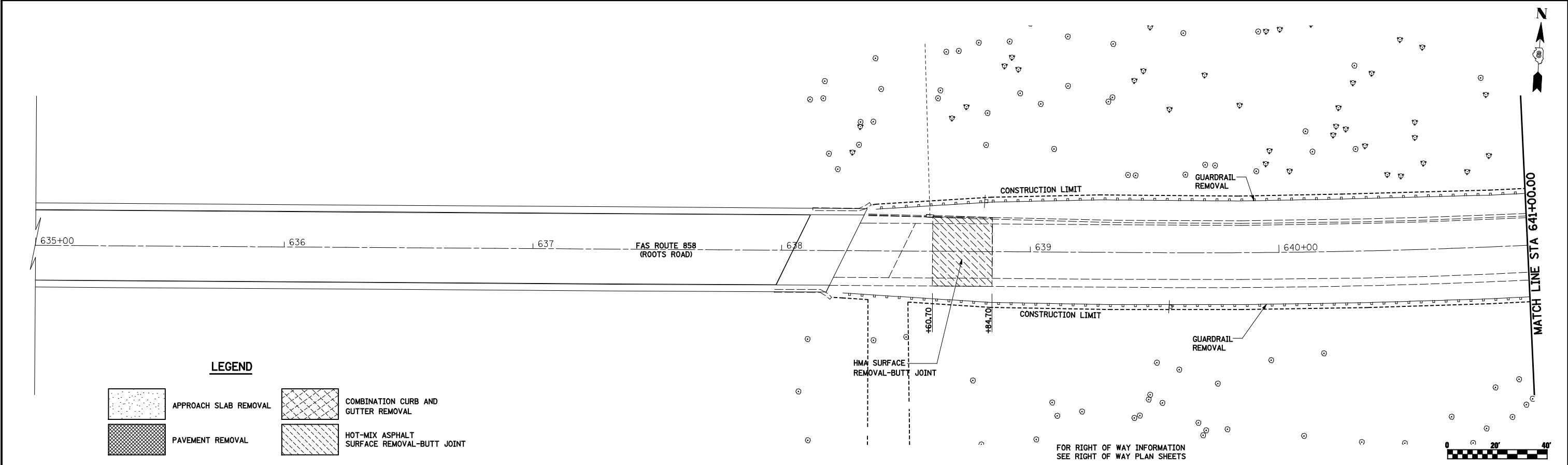
FOR RIGHT OF WAY INFORMATION  
SEE RIGHT OF WAY PLAN SHEETS



FILE NAME = #FILEL#	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REMOVAL ITEMS - FAS 858 (ROOTS ROAD)</b>			F.A.S. RTE. 858	SECTION 12VB-1I	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 20
	PLOT SCALE = 40.0000' / IN.	DRAWN - PDB	REVISED -		SCALE: 1"=20'	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.	<b>CONTRACT NO. 76409</b>			
	PLOT DATE = 12/20/2011	CHECKED - BRM	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE - 03-28-11	REVISED -									



FOR RIGHT OF WAY INFORMATION  
SEE RIGHT OF WAY PLAN SHEETS



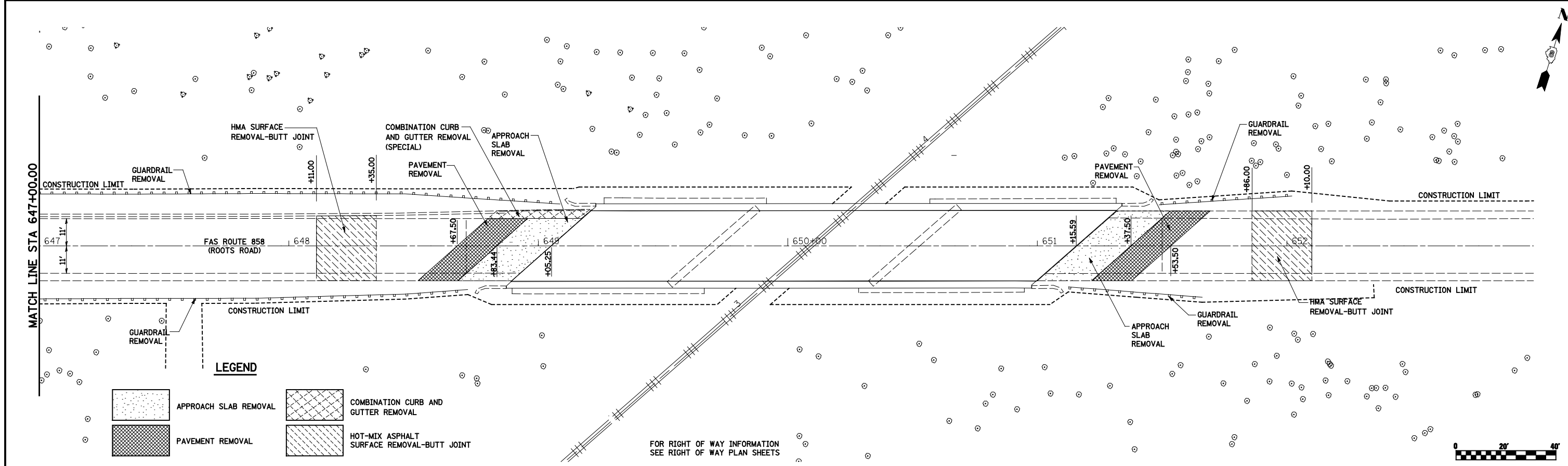
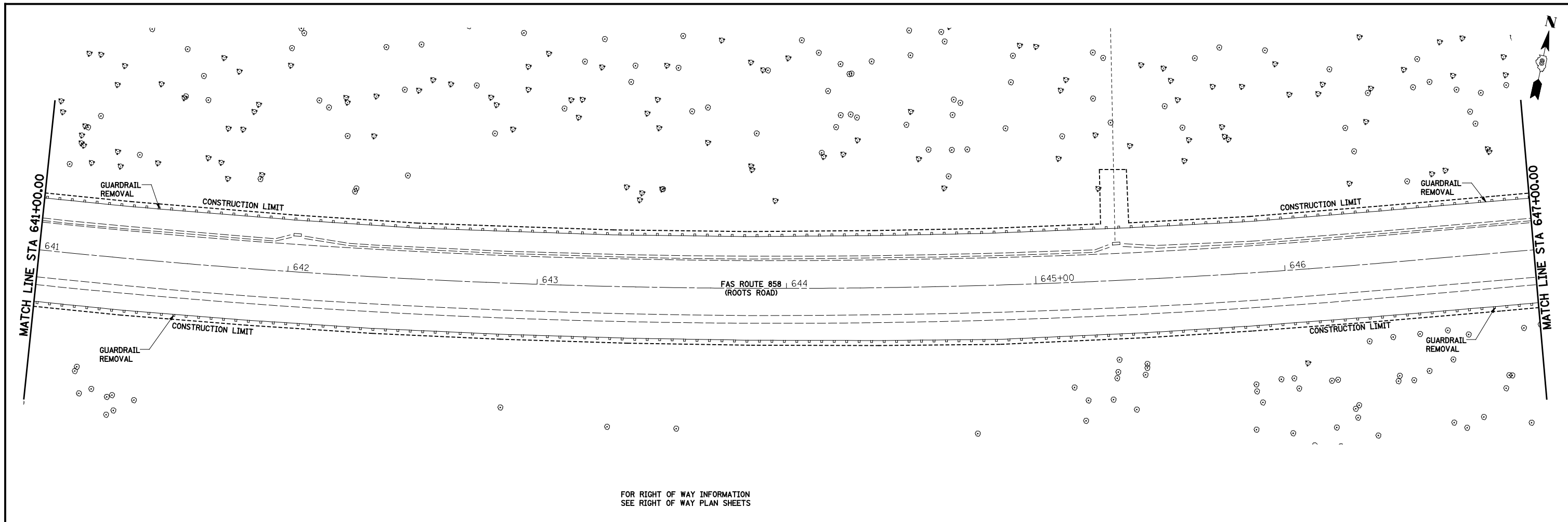
**LEGEND**

- APPROACH SLAB REMOVAL
- COMBINATION CURB AND GUTTER REMOVAL
- PAVEMENT REMOVAL
- HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT

FOR RIGHT OF WAY INFORMATION  
SEE RIGHT OF WAY PLAN SHEETS



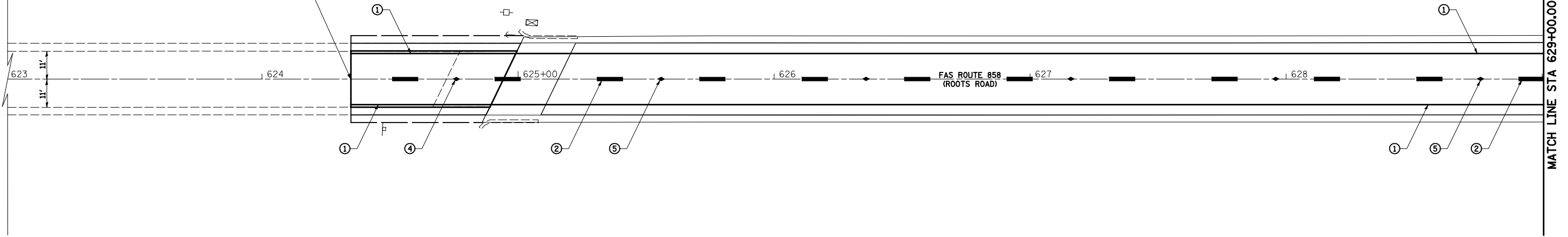
FILE NAME = #FILE#	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REMOVAL ITEMS - FAS 858 (ROOTS ROAD)</b>			F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 21
	PLOT SCALE = 40.0000' / IN.	DRAWN - PDB	REVISED -		SCALE: 1"=20'	SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.	CONTRACT NO. 76409			
	PLOT DATE = 12/20/2011	CHECKED - BRM	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE - 03-28-11	REVISED -									



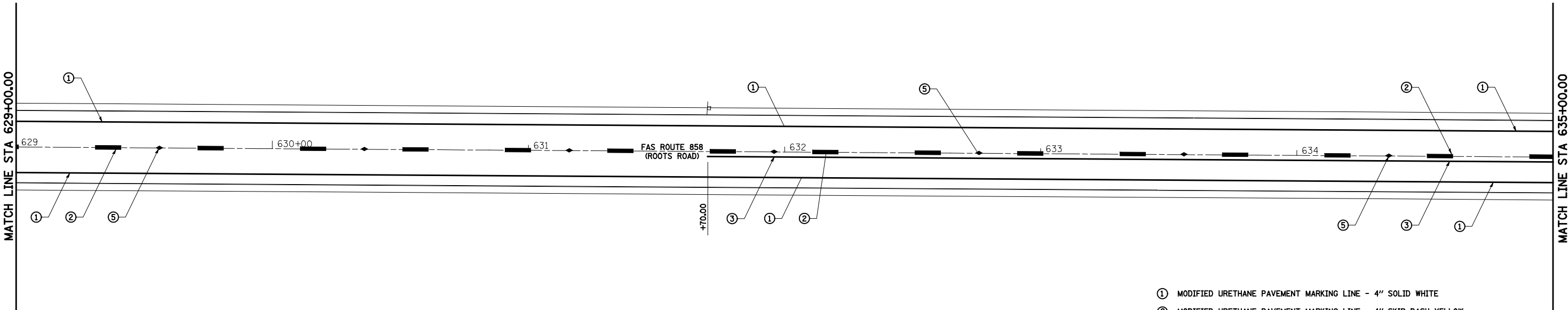
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	PLOT SCALE = 40.0000' / IN.	DRAWN - PDB	REVISED -		SCALE: 1"=20'	SHEET NO. 3 OF 3 SHEETS	STA. TO STA.	CONTRACT NO. 76409				
	PLOT DATE = 12/20/2011	CHECKED - BRM	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE - 03-28-11	REVISED -									



SECTION 12VB-1I  
 BEGINS  
 STA 624+34.70



MATCH LINE STA 629+00.00



MATCH LINE STA 635+00.00

- ① MODIFIED URETHANE PAVEMENT MARKING LINE - 4" SOLID WHITE
- ② MODIFIED URETHANE PAVEMENT MARKING LINE - 4" SKIP DASH YELLOW
- ③ MODIFIED URETHANE PAVEMENT MARKING LINE - 4" SOLID YELLOW
- ④ RAISED REFLECTIVE PAVEMENT MARKERS - AMBER, TWO-WAY
- ⑤ RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE) - AMBER, TWO-WAY



FILE NAME =  
 #FILEL#

USER NAME = john  
 PLOT SCALE = 40.0000' / IN.  
 PLOT DATE = 2/10/2014

DESIGNED - JWS  
 DRAWN - WJS  
 CHECKED - BRM  
 DATE - 09-19-11

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

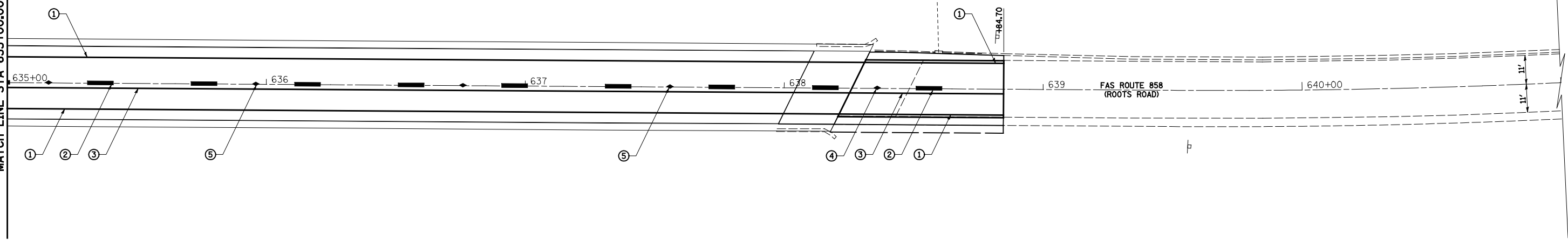
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING - FAS 858 (ROOTS ROAD)**  
 SCALE: 1"=20' SHEET NO. 1 OF 2 SHEETS STA. 623+00.00 TO STA. 635+00.00

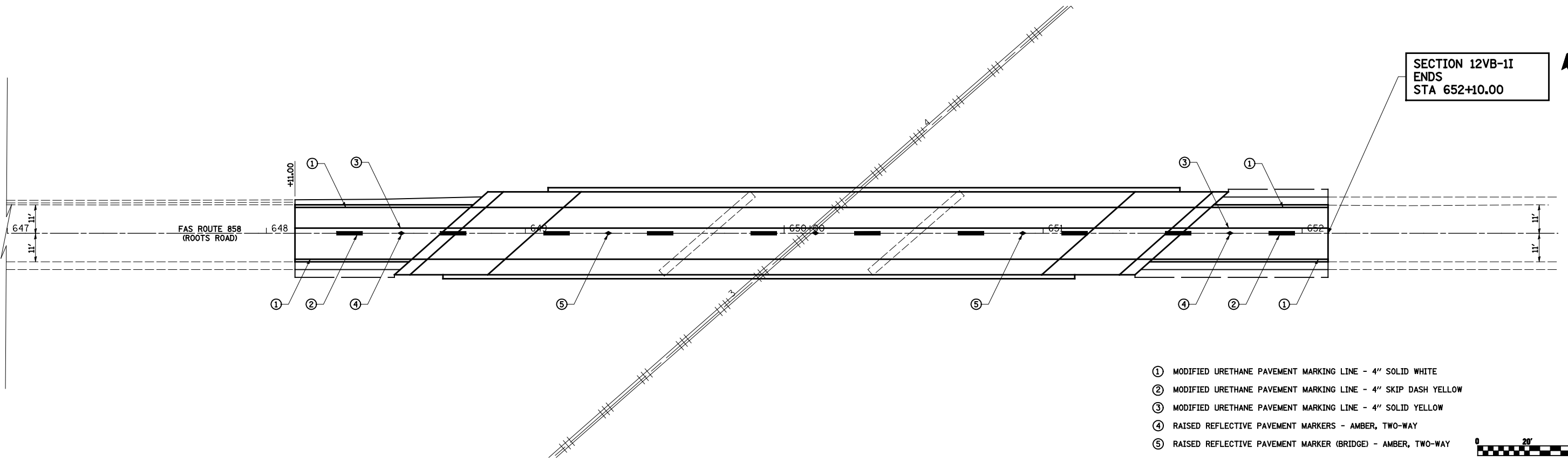
F.A.S. RTE. 858	SECTION 12VB-1I	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 23
CONTRACT NO. 76409			ILLINOIS FED. AID PROJECT	



MATCH LINE STA 635+00.00



SECTION 12VB-1I  
ENDS  
STA 652+10.00



- ① MODIFIED URETHANE PAVEMENT MARKING LINE - 4" SOLID WHITE
- ② MODIFIED URETHANE PAVEMENT MARKING LINE - 4" SKIP DASH YELLOW
- ③ MODIFIED URETHANE PAVEMENT MARKING LINE - 4" SOLID YELLOW
- ④ RAISED REFLECTIVE PAVEMENT MARKERS - AMBER, TWO-WAY
- ⑤ RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE) - AMBER, TWO-WAY



FILE NAME =  
#FILE#

USER NAME = john  
PLOT SCALE = 40.0000' / IN.  
PLOT DATE = 2/10/2014

DESIGNED - JWS  
DRAWN - PDB  
CHECKED - BRM  
DATE - 03-28-11

REVISED -  
REVISED -  
REVISED -  
REVISED -

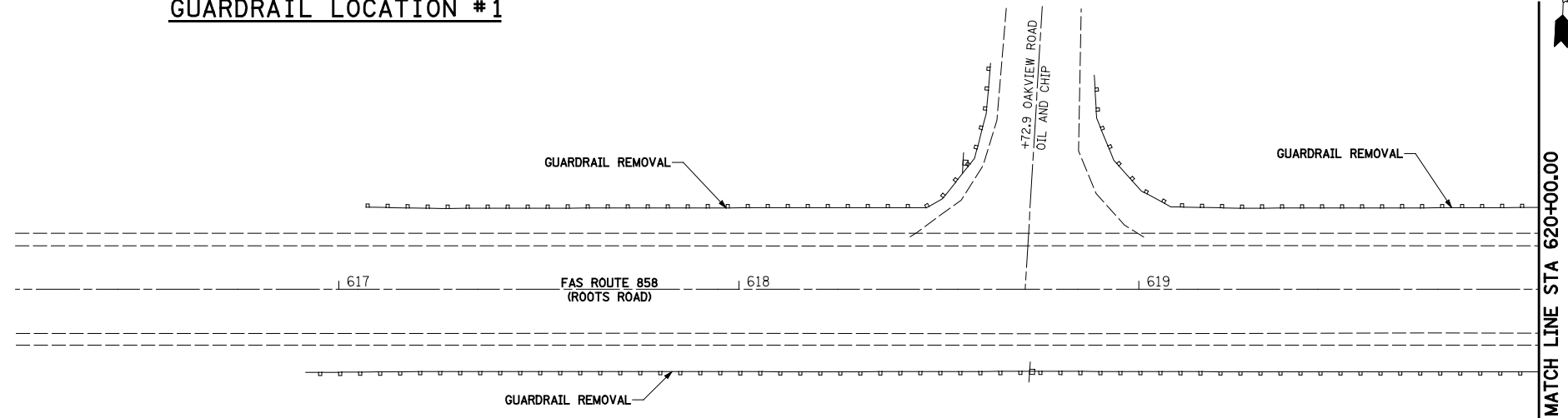
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING - FAS 858 (ROOTS ROAD)**

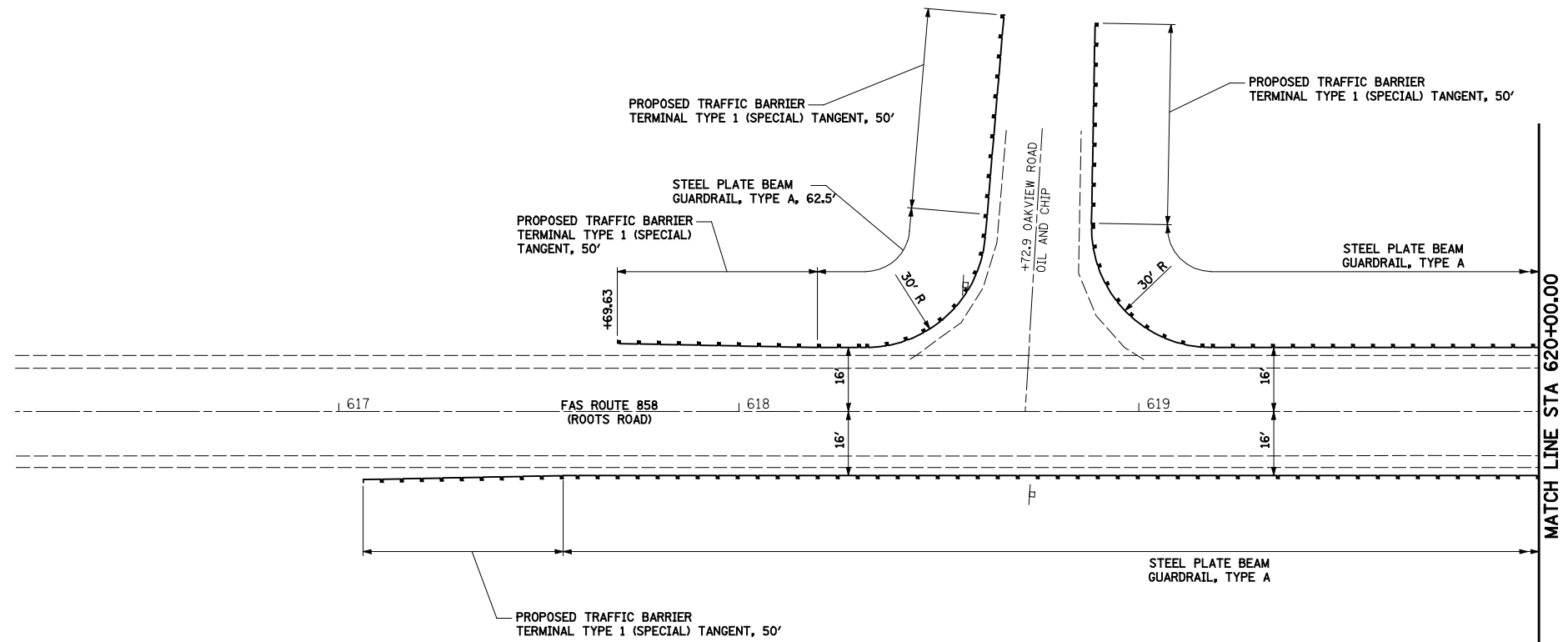
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-1I	RANDOLPH	72	24
CONTRACT NO. 76409				
ILLINOIS FED. AID PROJECT				

**GUARDRAIL LOCATION #1**



**EXISTING CONDITION**



**PROPOSED CONDITION**

FILE NAME = #FILEL#	USER NAME = Paul	DESIGNED - JWS	REVISED -
		DRAWN - PDB	REVISED -
		CHECKED - BRM	REVISED -
		DATE - 03-28-11	REVISED -

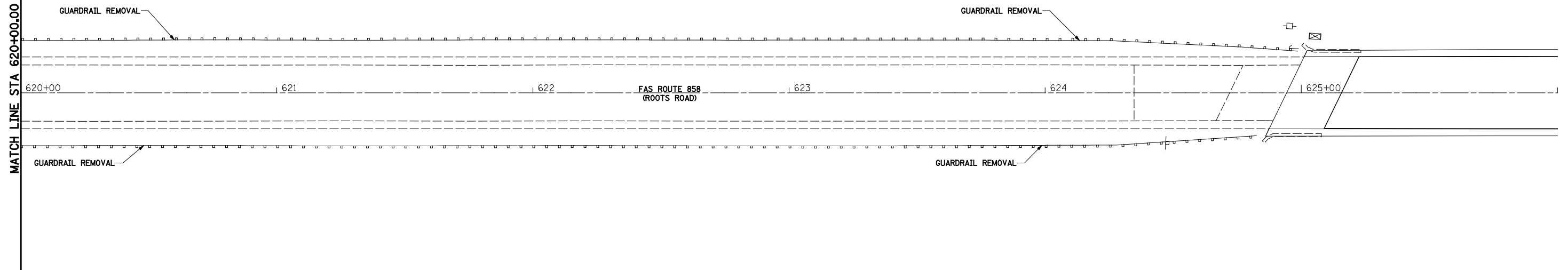
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL DETAILS  
FAS 858, ROOTS ROAD**

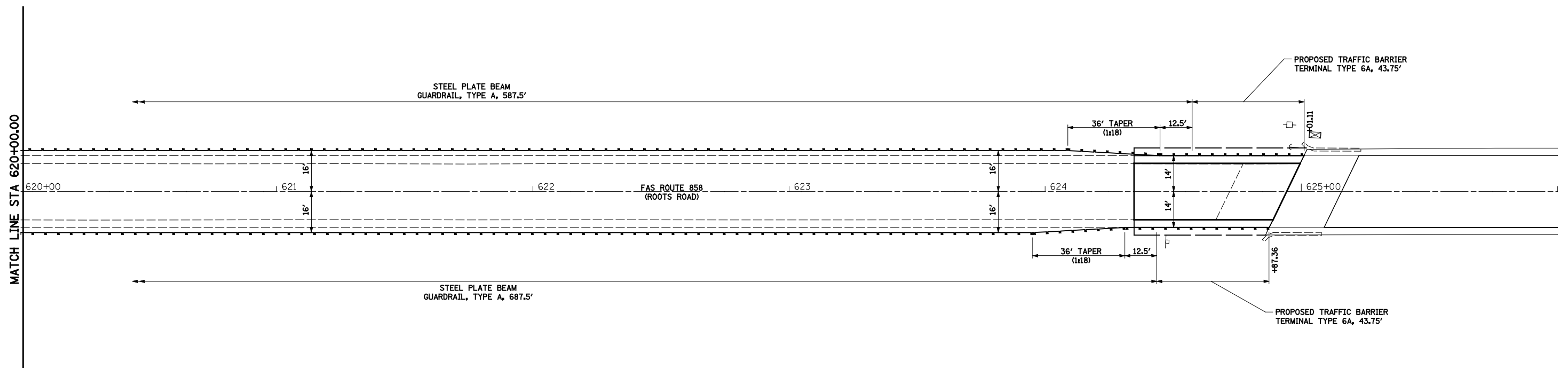
SCALE: 1"=20' SHEET NO. 1 OF 5 SHEETS STA. 614+00.00 TO STA. 620+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	25
CONTRACT NO. 76409				
ILLINOIS FED. AID PROJECT				

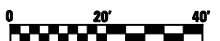
**GUARDRAIL LOCATION #1**



**EXISTING CONDITION**

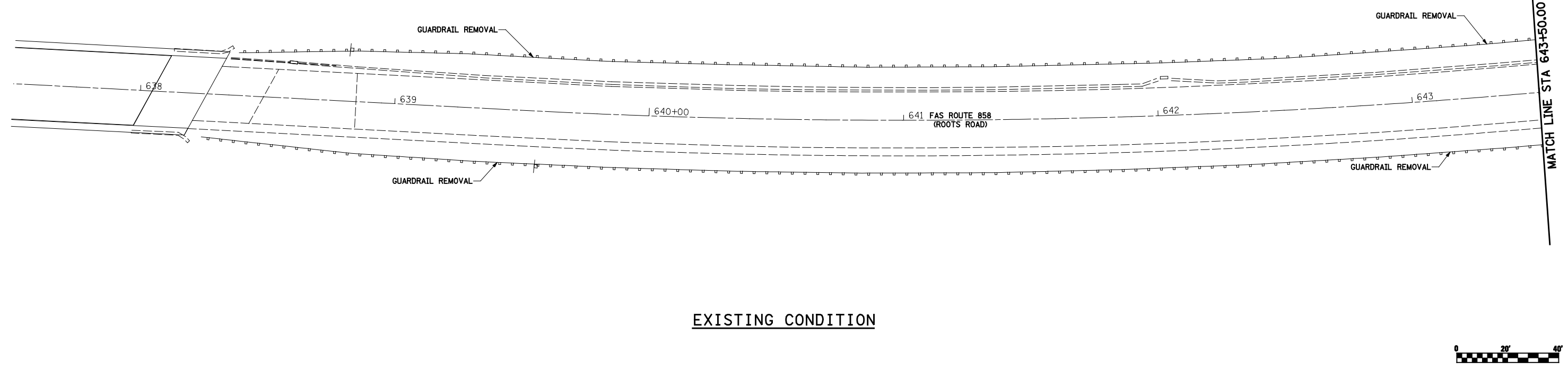


**PROPOSED CONDITION**

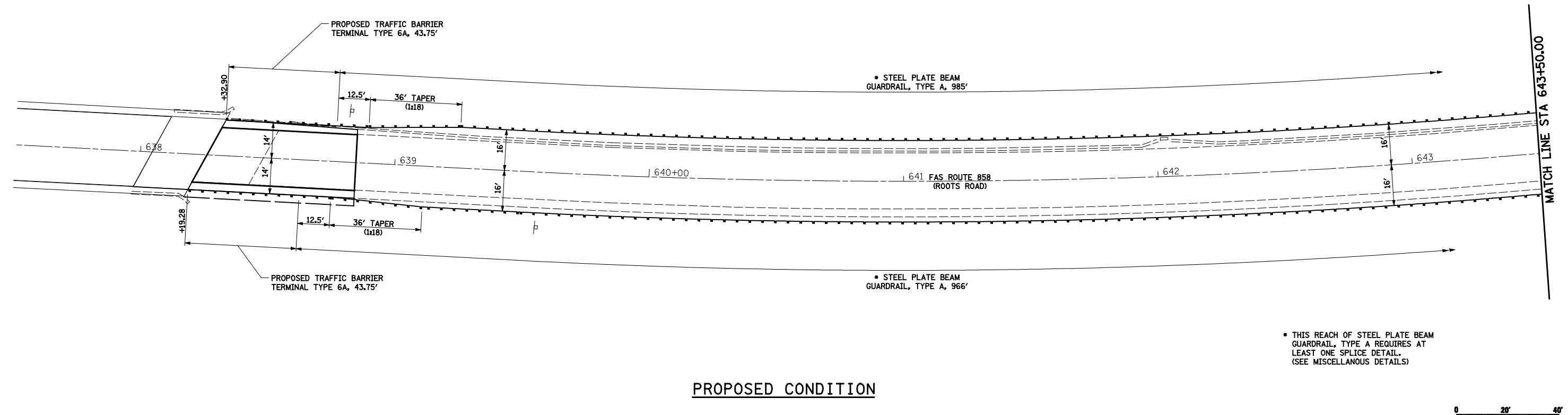


FILE NAME = #FILEL#	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GUARDRAIL DETAILS FAS 858, ROOTS ROAD</b>		F.A.S. RTE. 858	SECTION 12VB-1I	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 26
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -				<b>CONTRACT NO. 76409</b>				
PLOT DATE = 12/20/2011	DATE - 03-28-11	REVISED -	SCALE: 1"=20'		SHEET NO. 2 OF 5 SHEETS	STA. 620+00.00 TO STA. 626+00.00	ILLINOIS FED. AID PROJECT				

## GUARDRAIL LOCATION #2



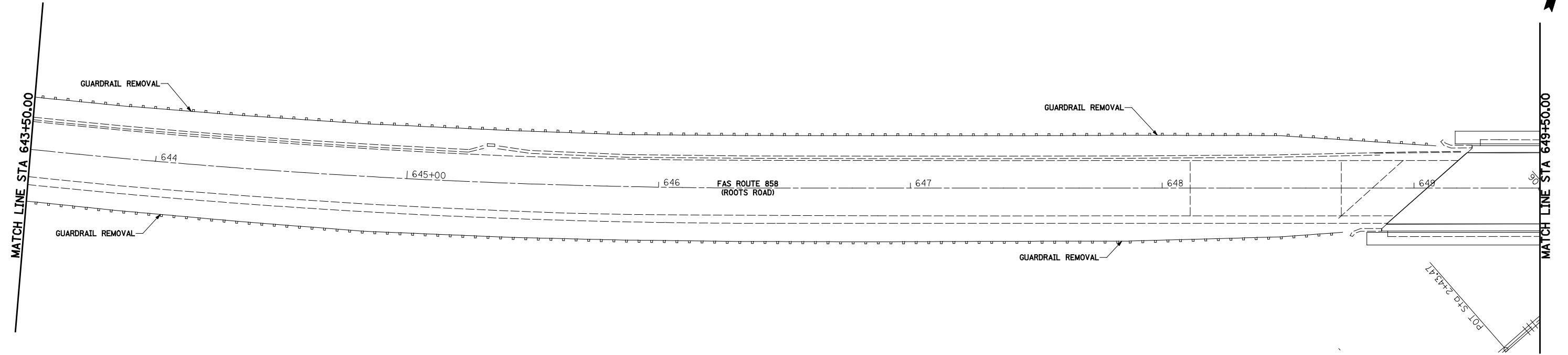
### EXISTING CONDITION



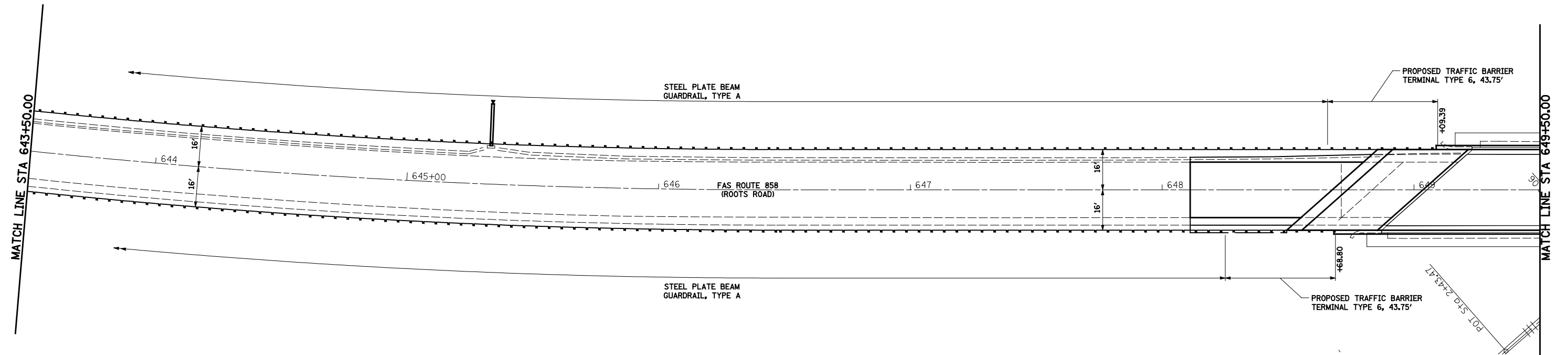
### PROPOSED CONDITION

FILE NAME = #FILEL#	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GUARDRAIL DETAILS FAS 858, ROOTS ROAD</b>	F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 27		
PLOT SCALE = 40.0000' / IN.		CHECKED - BRM	REVISED -			SCALE: 1"=20'	SHEET NO. 3 OF 5 SHEETS	STA. 637+50.00 TO STA. 643+50.00	CONTRACT NO. 76409		ILLINOIS FED. AID PROJECT	
PLOT DATE = 12/20/2011		DATE - 03-28-11	REVISED -									

**GUARDRAIL LOCATION #2**



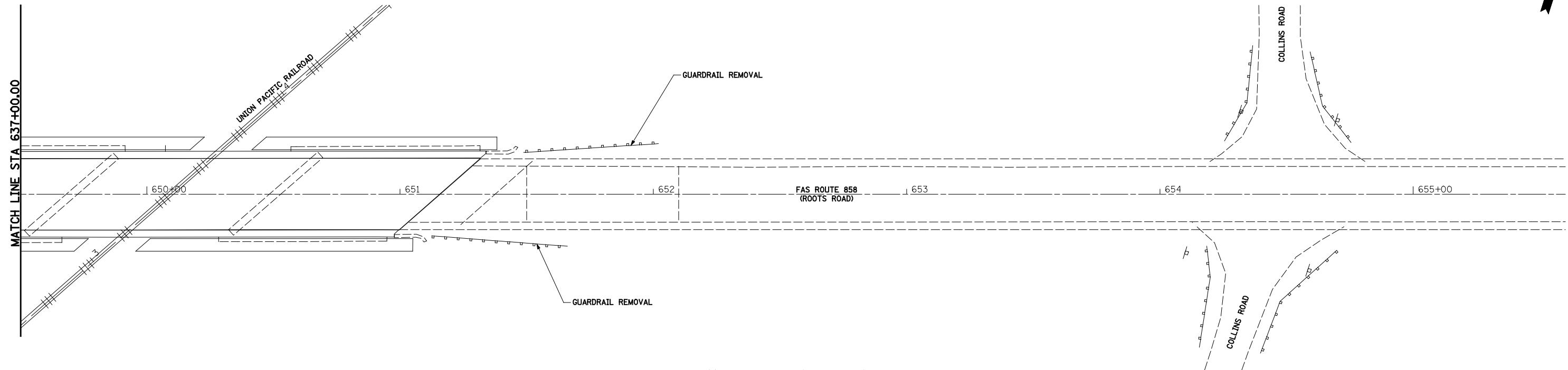
**EXISTING CONDITION**



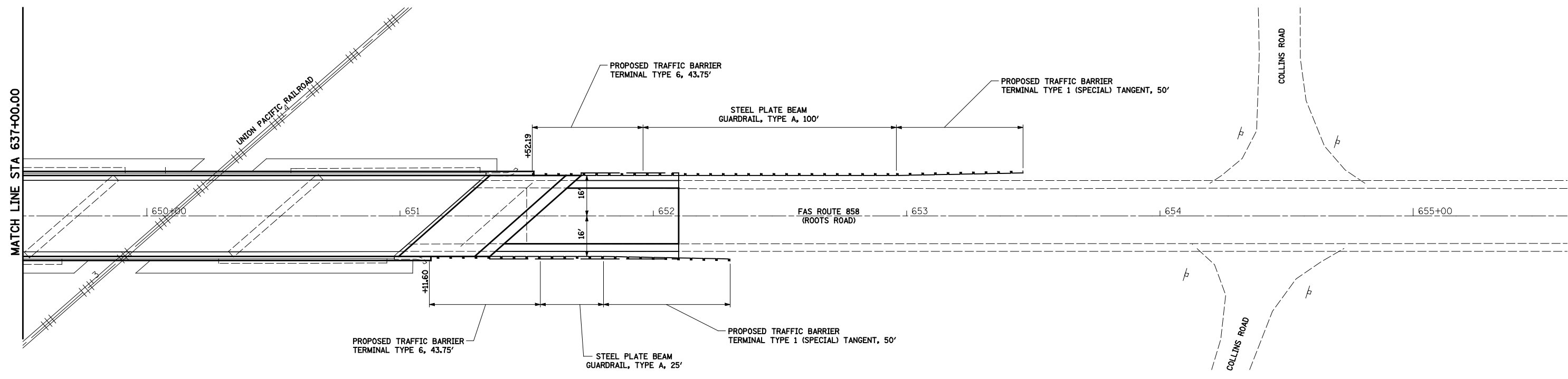
**PROPOSED CONDITION**

FILE NAME = #FILEL#	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GUARDRAIL DETAILS FAS 858, ROOTS ROAD</b>		F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 28	
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -		SCALE: 1"=20'	SHEET NO. 4 OF 5 SHEETS	STA. 643+50.00 TO STA. 649+50.00	<b>CONTRACT NO. 76409</b>		ILLINOIS FED. AID PROJECT		
PLOT DATE = 12/20/2011	DATE - 03-28-11	REVISED -	REVISED -									

**GUARDRAIL LOCATION #3**



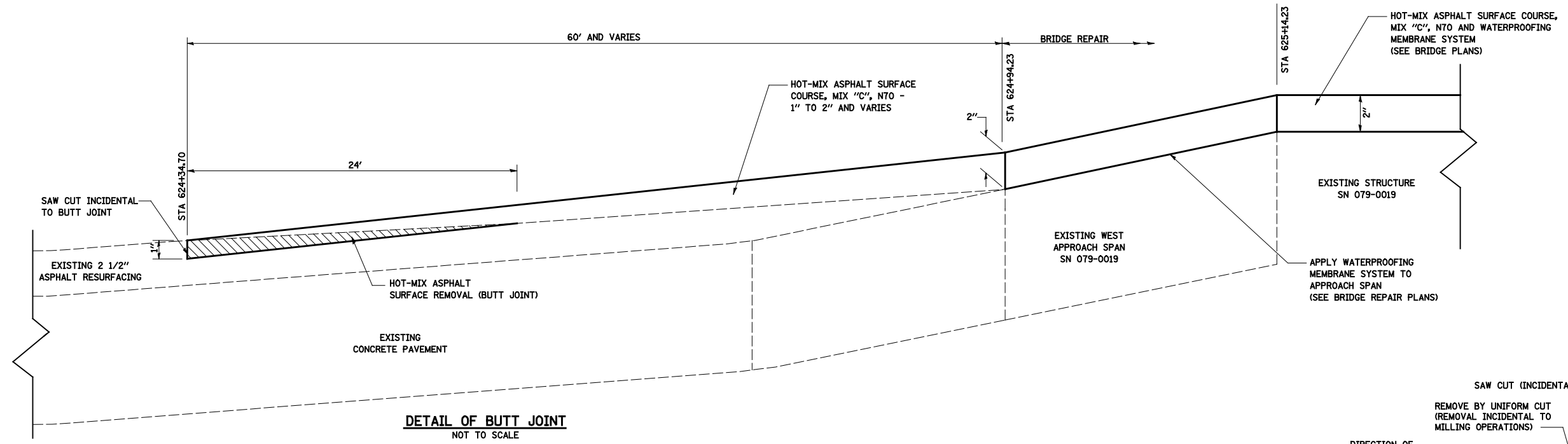
**EXISTING CONDITION**



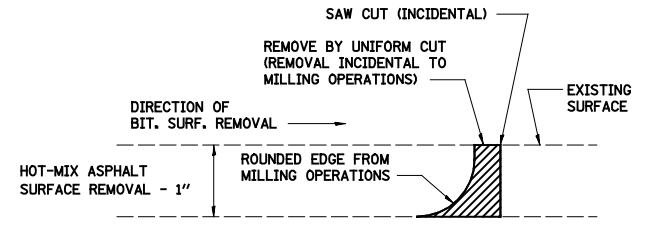
**PROPOSED CONDITION**



FILE NAME =	USER NAME = Paul	DESIGNED - JWS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GUARDRAIL DETAILS FAS 858, ROOTS ROAD</b>	F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 29		
#FILEL#	PLOT SCALE = 40.0000' / IN.	DRAWN - PDB	REVISED -			SCALE: 1"=20'	SHEET NO. 5 OF 5 SHEETS	STA. 649+50.00 TO STA. 655+60.00	CONTRACT NO. 76409			
	PLOT DATE = 12/20/2011	CHECKED - BRM	REVISED -			ILLINOIS FED. AID PROJECT						
		DATE - 03-28-11	REVISED -									

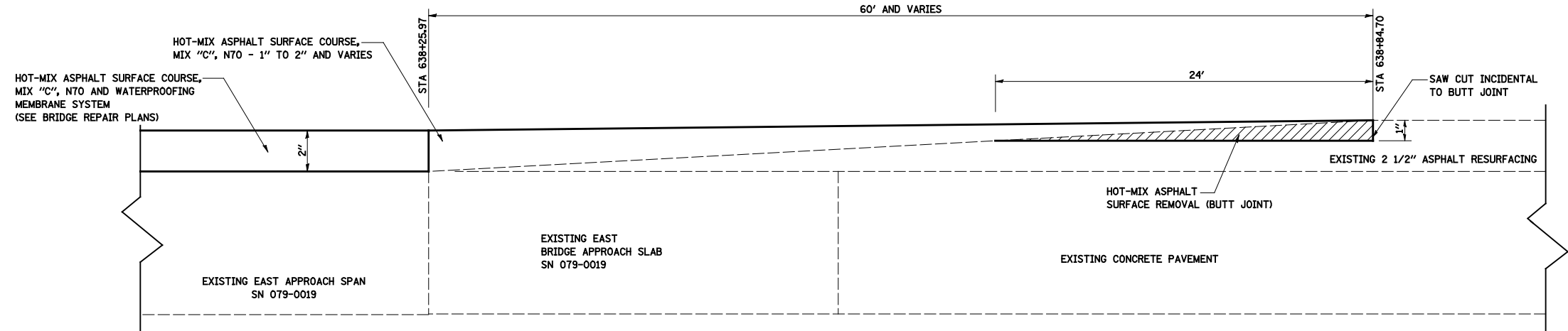


**DETAIL OF BUTT JOINT**  
NOT TO SCALE

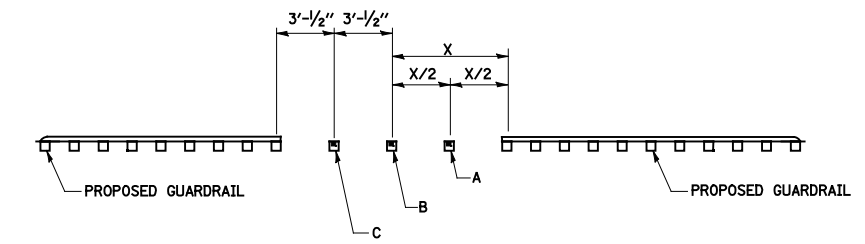


NOTE: WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE, THEN A SAW CUT SHALL BE USED TO MANUFACTURE A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL. THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE USE OF THIS DETAIL.

**BITUMINOUS DETAIL AT BUTT JOINTS**  
NOT TO SCALE

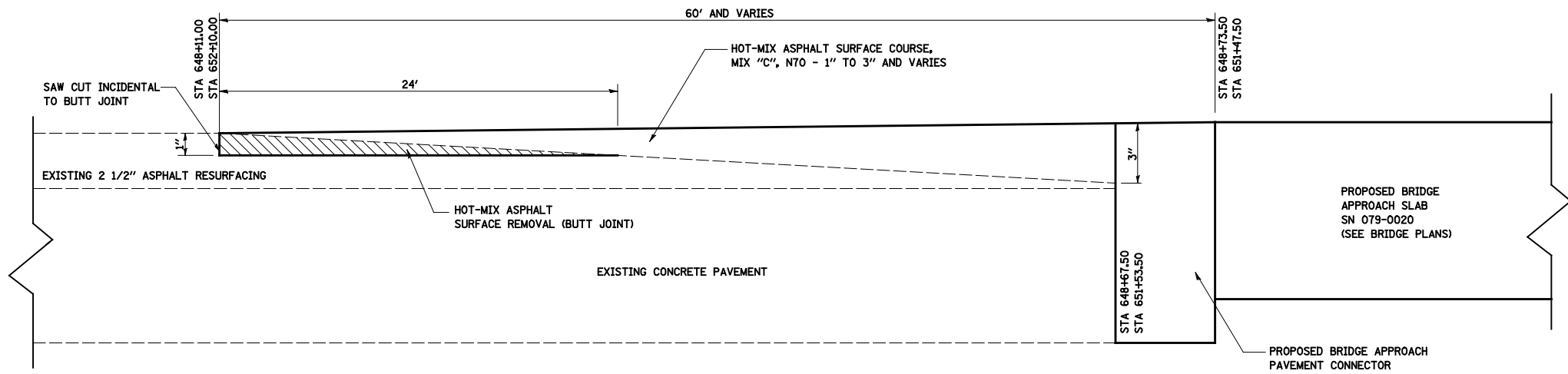


**DETAIL OF BUTT JOINT**  
NOT TO SCALE



**GUARDRAIL SPLICE DETAIL**

1. INSTALL POST B HALF WAY BETWEEN POST A AND C.
2. FIELD DRILL RAIL ELEMENT AT B AND A AND ATTACH USING NEW BOLTS, NUTS AND WASHERS. PAINT DRILLED HOLES WITH ZINC-RICH PAINT.
3. INSTALL VARIABLE LENGTH RAIL TO SPAN GAP BETWEEN POST A AND C, USING NEW SPLICE PLATES, BOLTS AND NUTS. ADJUST POST SPACING SO THAT X/2 IS BETWEEN 3'- 1/2" TO 6'- 3"
4. THE COST OF CONNECTING THE PROPOSED GUARDRAIL SHALL BE INCLUDED IN THE COST OF THE ASSOCIATED GUARDRAIL PAY ITEMS.

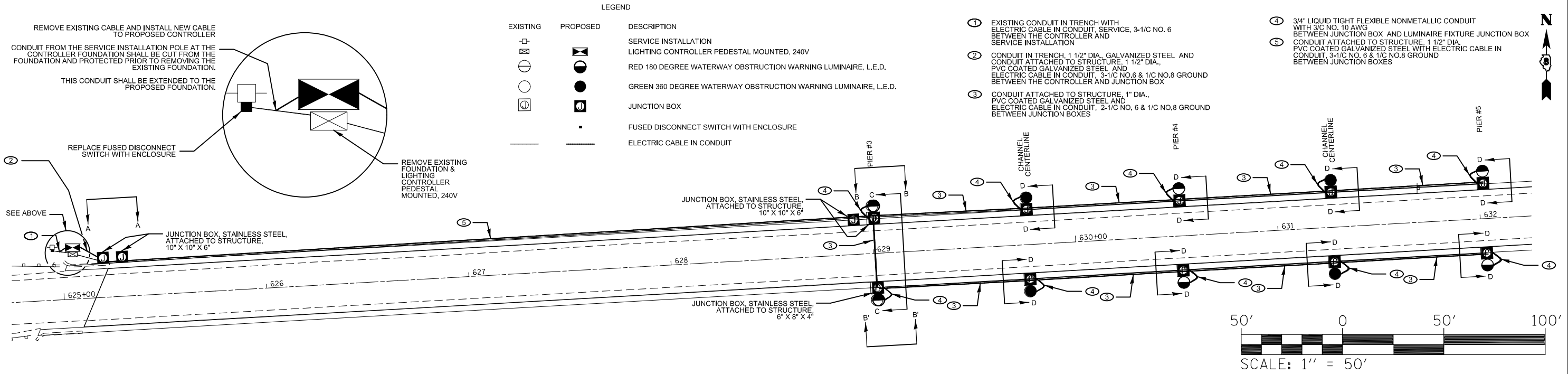


**DETAIL OF BUTT JOINT**  
NOT TO SCALE

FILE NAME =	USER NAME = Paul	DESIGNED - ESW	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>MISCELLANEOUS DETAILS</b>			F.A.S. RTE. 858	SECTION 12VB-II	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 30
S:\Projects\409-0028-DHY_Roots_Rd_Fln\plans\dgn\CADD	Sheets\0876409-eh1-misc.dgn	DRAWN - PDB	REVISED -		SCALE: 1"=20'	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	<b>CONTRACT NO. 76409</b>			
	PLOT SCALE = 40.0000' / IN.	CHECKED - BRM	REVISED -						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			
	PLOT DATE = 12/20/2011	DATE - 03-28-11	REVISED -									



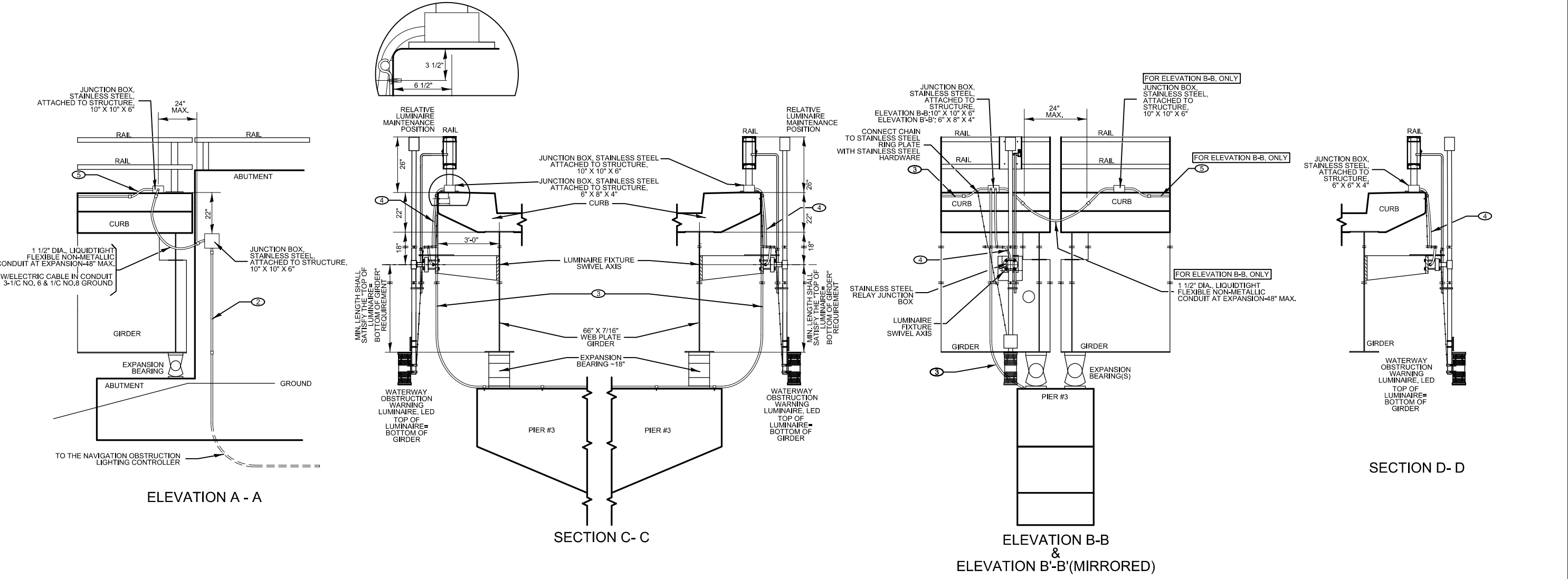




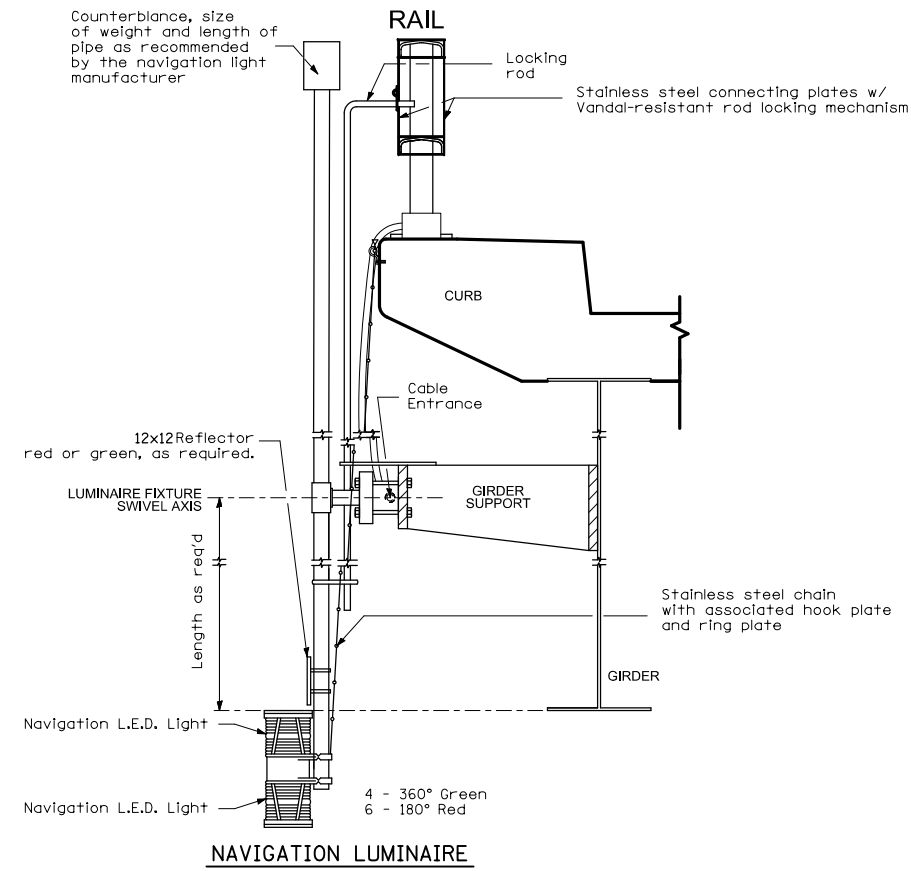
LEGEND

EXISTING	PROPOSED	DESCRIPTION
		SERVICE INSTALLATION
		LIGHTING CONTROLLER PEDESTAL MOUNTED, 240V
		RED 180 DEGREE WATERWAY OBSTRUCTION WARNING LUMINAIRE, L.E.D.
		GREEN 360 DEGREE WATERWAY OBSTRUCTION WARNING LUMINAIRE, L.E.D.
		JUNCTION BOX
		FUSED DISCONNECT SWITCH WITH ENCLOSURE
		ELECTRIC CABLE IN CONDUIT

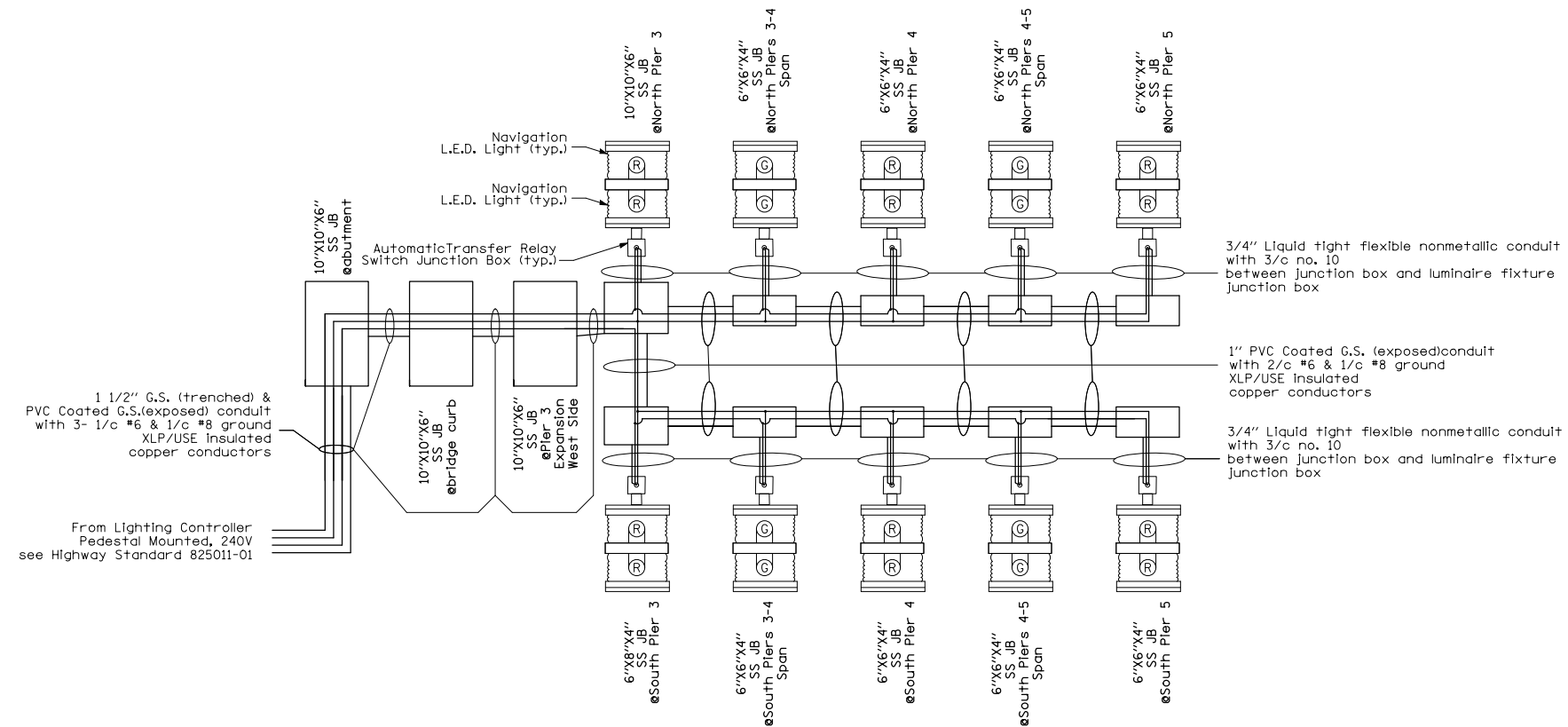
- 1 EXISTING CONDUIT IN TRENCH WITH ELECTRIC CABLE IN CONDUIT. SERVICE, 3-1/C NO. 6 BETWEEN THE CONTROLLER AND SERVICE INSTALLATION
- 2 CONDUIT IN TRENCH, 1 1/2" DIA., GALVANIZED STEEL AND CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., PVC COATED GALVANIZED STEEL AND ELECTRIC CABLE IN CONDUIT, 3-1/C NO.6 & 1/C NO.8 GROUND BETWEEN THE CONTROLLER AND JUNCTION BOX
- 3 CONDUIT ATTACHED TO STRUCTURE, 1" DIA., PVC COATED GALVANIZED STEEL AND ELECTRIC CABLE IN CONDUIT, 2-1/C NO. 6 & 1/C NO.8 GROUND BETWEEN JUNCTION BOXES
- 4 3/4" LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT WITH 3/C NO. 10 AWG BETWEEN JUNCTION BOX AND LUMINAIRE FIXTURE JUNCTION BOX
- 5 CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., PVC COATED GALVANIZED STEEL WITH ELECTRIC CABLE IN CONDUIT, 3-1/C NO. 6 & 1/C NO.8 GROUND BETWEEN JUNCTION BOXES



FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>NAVIGATION LIGHTING SYSTEM 1 OF 2</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN -	REVISED -		858	12VB-II	RANDOLPH	72	32		
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	PLOT DATE = #DATE*	DATE -	REVISED -		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT						



NAVIGATION LUMINAIRE



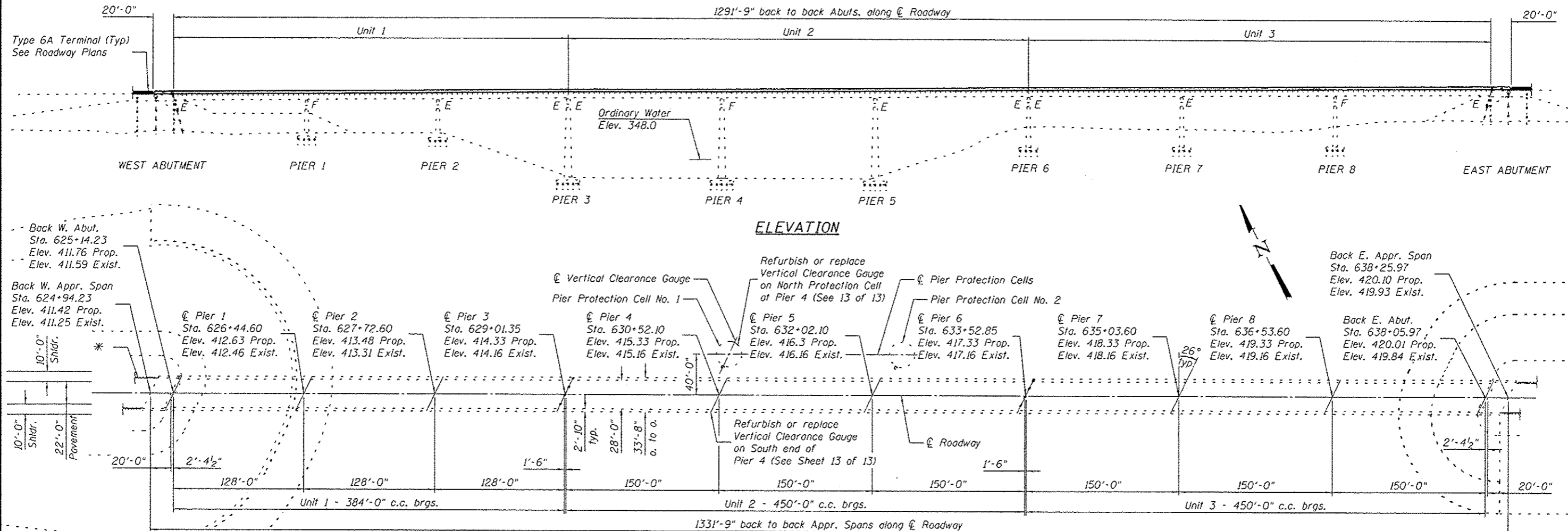
WIRING DIAGRAM FOR NAVIGATION LIGHTING

FILE NAME =	USER NAME = #USER*	DESIGNED - ___	REVISED - ___	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>NAVIGATION LIGHTING SYSTEM 2 OF 2</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - ___	REVISED - ___				858	12VB-II	RANDOLPH	12	33
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	PLOT DATE = #DATE*	DATE - _____	REVISED - ___		FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

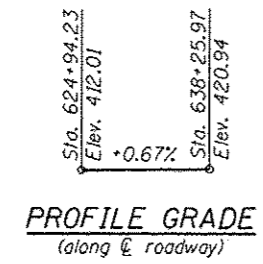
Existing Structure: S.N. 079-0019, originally constructed in 1961 as F.A. Route 182 Sec. 12-D-E-F & P at Station 631+60, using steel beams with 7" concrete deck, nine spans, 1,291'-9" back to back of abutments, 33'-8" out to out width, vaulted abutments on piles and hammerhead piers with footings on piles. Various repairs and maintenance between 1998 and 2011 including elastomeric bearing replacement, deck drains extended and plugged, beam straightening and deck patching.

Structure improvements include deck patching, placing waterproofing and asphalt overlay, replacing expansion joints, installing finger joint retrofit plates and bridge rails.

Road to be closed and traffic detoured during construction.



\* Traffic Barrier Terminal Type 6A (Std. 631032) (typ.) See Roadway Plans

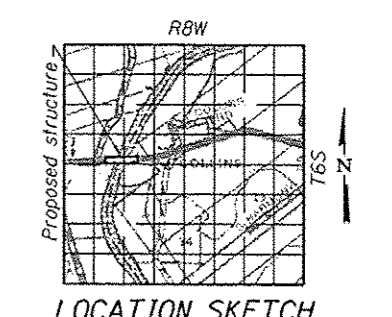


**GENERAL NOTES:**

- All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- The deck surface shall have its final finish lined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructures.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Reinforcement bars designated (E) shall be epoxy coated.

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.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when joint is poured at a temperature other than 50°F.



Signed: *[Signature]*  
Date: 5/9/2014  
License Expires: 11/30/2014

**GENERAL PLAN & ELEVATION**  
**ROOTS ROAD OVER KASKASKIA RIVER**  
**F.A.S. ROUTE 858-SEC. 12VB-II**  
**RANDOLPH COUNTY**  
**STATION 631+60**  
**STRUCTURE NO. 079-0019**

**INDEX OF SHEETS**

- General Plan & Elevation
- Cross Section
- Joint Details at Abutments
- Preformed Joint Strip Seal
- Finger Plate Details at Pier No. 3 & Pier No. 6
- Deck Patching Survey Unit 1
- Deck Patching Survey Unit 2
- Deck Patching Survey Unit 3
- Deck Patching Survey Unit 4
- Deck Patching Survey Unit 5
- Deck Patching Survey Unit 6
- Deck Patching Survey Unit 7
- Deck Patching Survey Unit 8
- Deck Patching Survey Unit 9
- Deck Patching Survey Unit 10
- Deck Patching Survey Unit 11
- Deck Patching Survey Unit 12
- Deck Patching Survey Unit 13
- Vertical Clearance Gauge Details

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Hot-Mix Asphalt Surface Course, Mix "C", N70	Ton	461
Concrete Removal	Cu. Yd.	6.5
Concrete Superstructure	Cu. Yd.	6.9
Reinforcement Bars, Epoxy Coated	Pound	1080
Steel Railing Type 2399	Foot	2,664
Preformed Joint Strip Seal	Foot	78
Finger Plate Expansion Joint, 5"	Foot	62.5
Waterproofing Membrane System	Sq. Yd.	4,116
Vertical Clearance Gage	Each	2
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	60
Deck Slab Repair (Partial)	Sq. Yd.	896

PRINT DATE: 6/26/2014 2:33:45 PM C:\Users\adilinneman\Desktop\10790019-001-00E.dgn

**EFK Moen, LLC**  
Civil Engineering Design  
303 Fontaines Parkway, Suite 240  
Fairview Heights, IL 62708  
Phone 618-206-4250

USER NAME = edl	DESIGNED - CTW	REVISED -
PLLOT SCALE = @2 1/4" = 1'	CHECKED - CDL	REVISED -
PLLOT DATE = 6/26/2014	DRAWN - DP	REVISED -
	DATE - 6/26/2014	REVISED -

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

SHEET NO. 1 OF 13 SHEETS

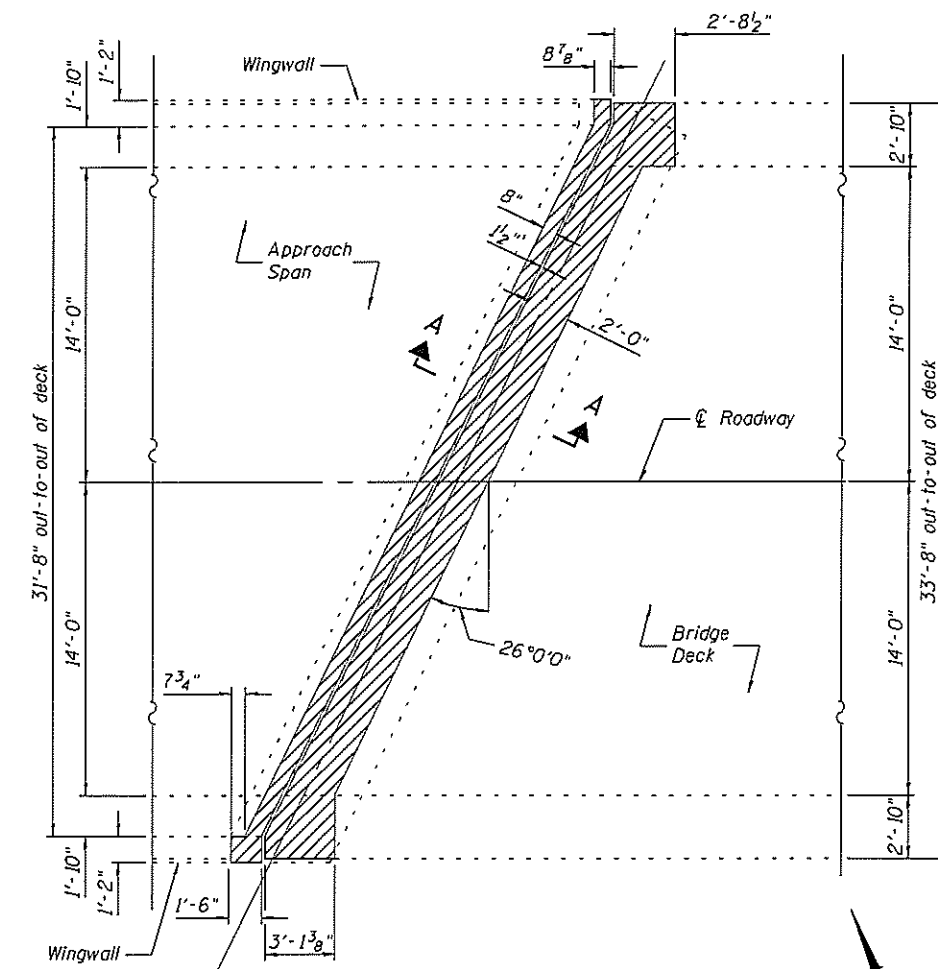
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	34
CONTRACT NO. 76409			ILLINOIS FED. AID PROJECT	



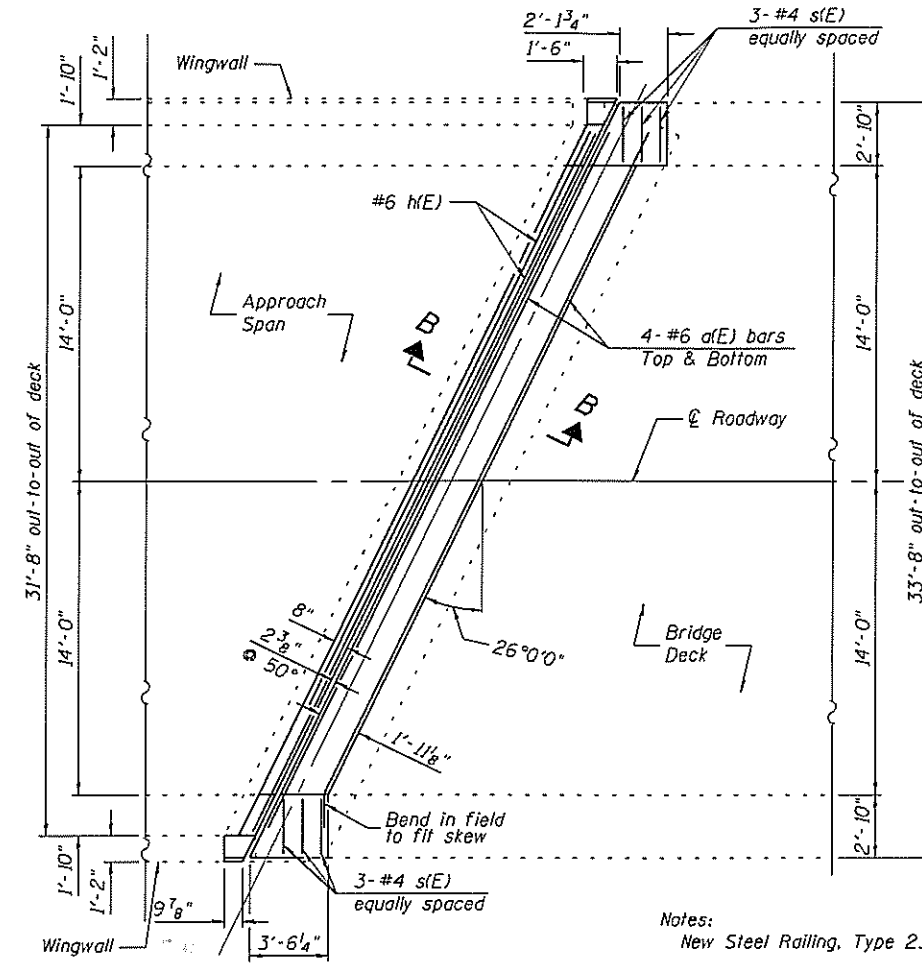
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a(E)	16	#6	34'-2"	—	
h(E)	4	#6	34'-10"	—	
s(E)	12	#4	6'-6"	∟	
Concrete Removal				Cu. Yd.	6.5
Reinforcement Bars, Epoxy Coated				Pound	1080
Concrete Superstructure				Cu. Yd.	6.9

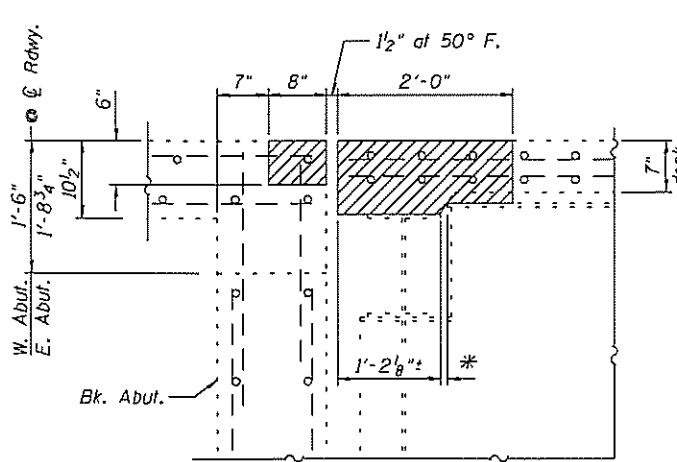
Note:  
Quantities include both abutments.



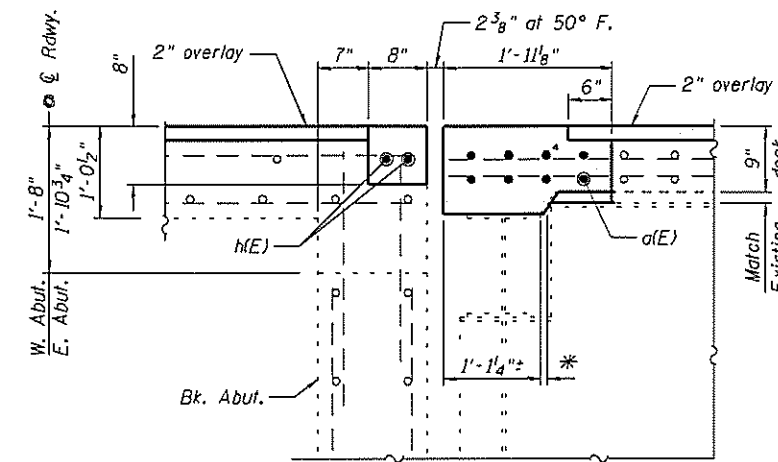
**CONCRETE REMOVAL**  
(W. Abut shown, E. Abut similar)



**CONCRETE REPLACEMENT**  
(W. Abut shown, E. Abut similar)



**SECTION A-A**  
\*Varies



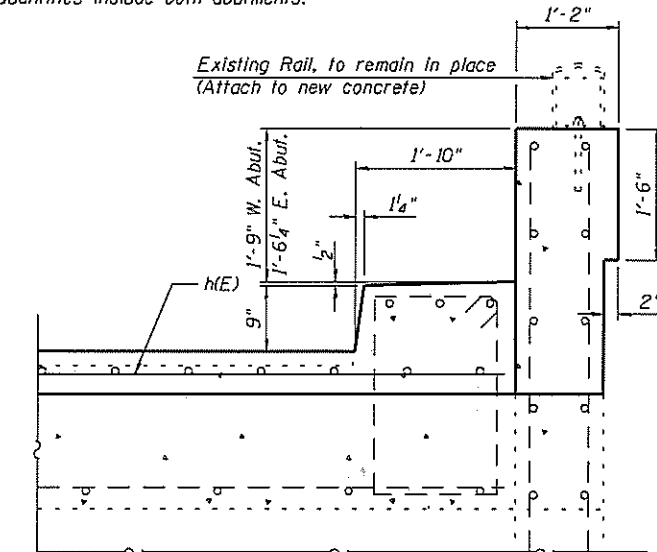
**SECTION B-B**  
\*Varies

Concrete Removal

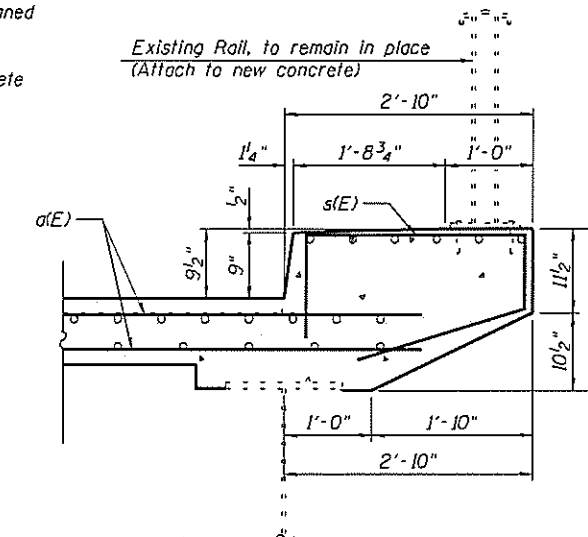
Notes:  
New Steel Railing, Type 2399 not shown for clarity.

Existing rail post anchors shall be cleaned and cast into the reconstructed curb at expansion joint locations (2 rail post, at each corner). Cost included with concrete superstructure.

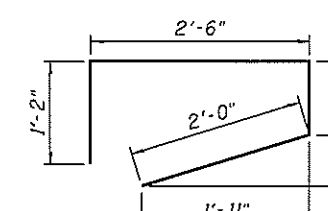
Removal and reinstallation of guardrail sections will be necessary for construction of the expansion joints. All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for concrete superstructure.



**SECTION THRU WING AT ABUTMENT**



**SECTION THRU CURB ON BRIDGE**



**BAR s(E)**

PRINT DATE: 5/9/2014 7:02:24 AM z:\1015\bia\dot\roads\road\design\bridge\final\plotsheets\979819-803-Abutments.dgn

**EFK Moen, LLC**  
Civil Engineering Design  
303 Fontaine Parkway, Suite 240  
Fairview Heights, IL 62138  
Phone 618-206-4150

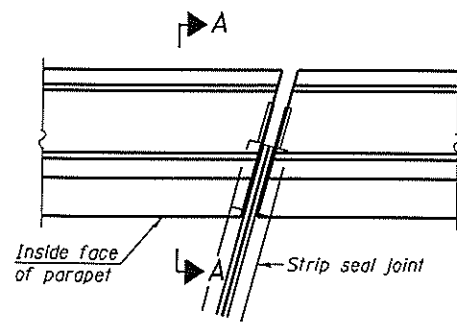
USER NAME - cdl	DESIGNED - CTW	REVISED -
PLDT SCALE = 0:2 1/2" = 1" IN.	CHECKED - CDL	REVISED -
PLDT DATE = 5/9/2014	DRAWN - DP	REVISED -
	DATE - 5/9/2014	REVISED -

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

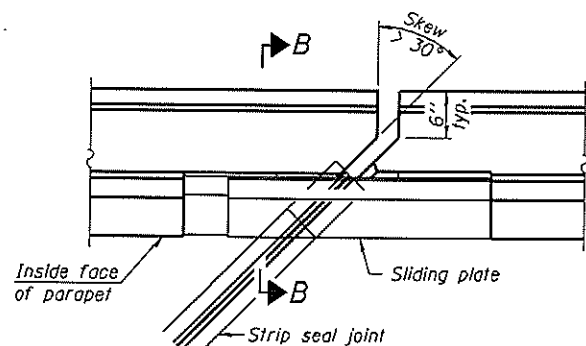
**JOINT DETAILS AT ABUTMENTS**  
**STRUCTURE NO. 079-0019**

SHEET NO. 3 OF 13 SHEETS

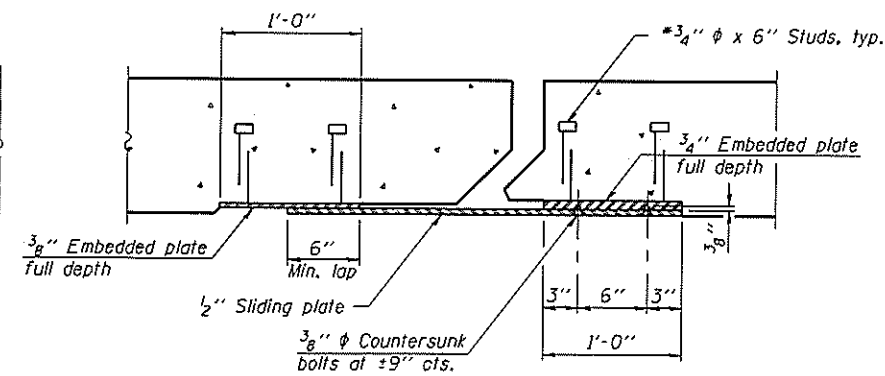
F.A.S. R.T.E. 858	SECTION 12VB-11	COUNTY RANDOLPH	TOTAL SHEETS 12	SHEET NO. 36
			CONTRACT NO. 76409	
ILLINOIS FED. AID PROJECT				



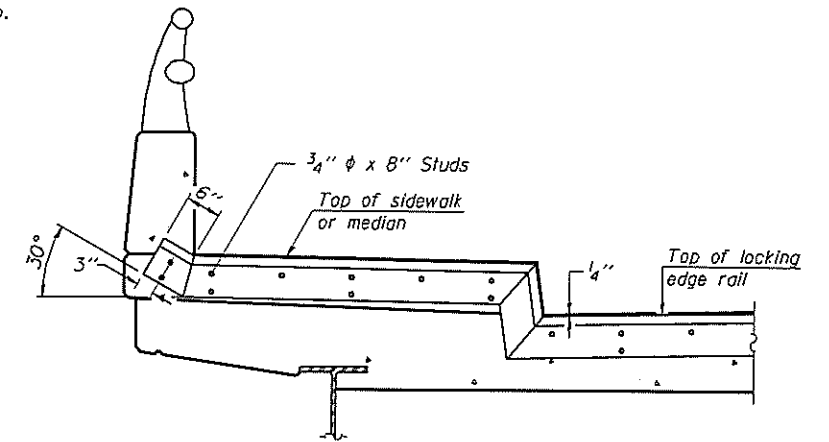
**PLAN**  
(For skews  $\leq 30^\circ$ )



**PLAN**  
(For skews  $> 30^\circ$ )  
Showing point block

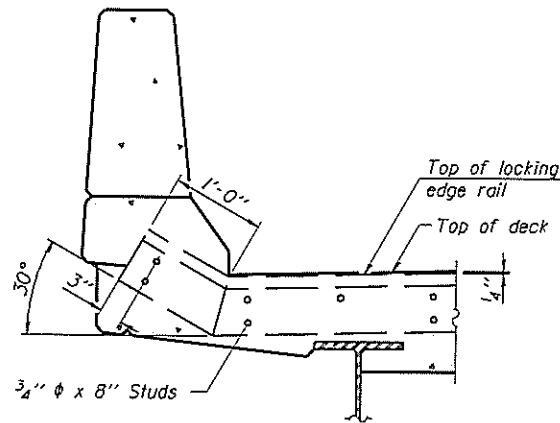


**SECTION C-C**

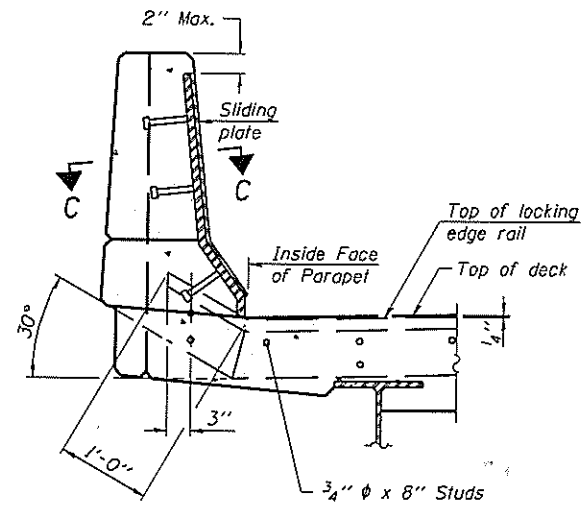


**TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN**

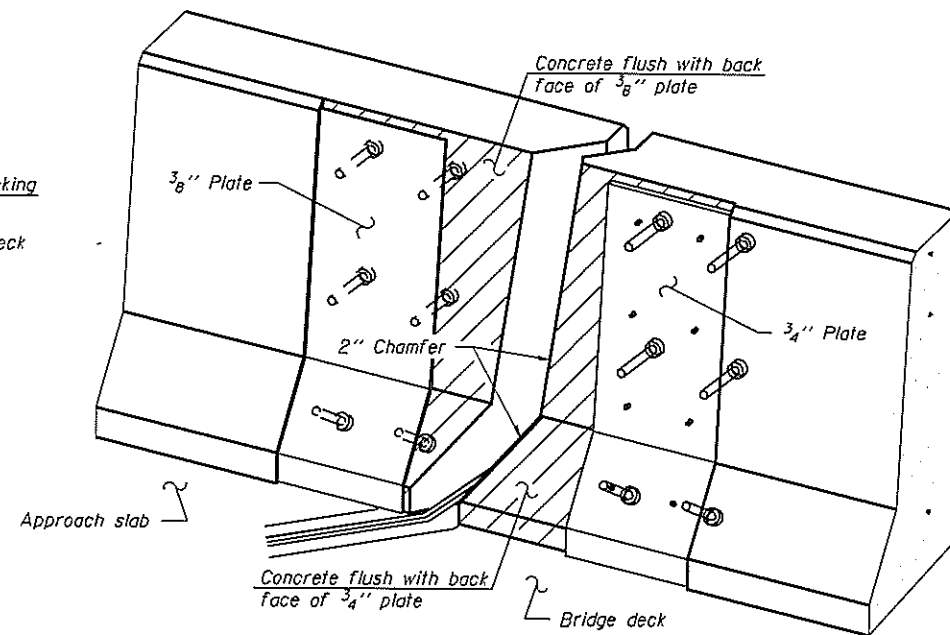
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



**SECTION A-A**



**SECTION B-B**



**TRIMETRIC VIEW**  
(Showing back plates only)

**Notes:**  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

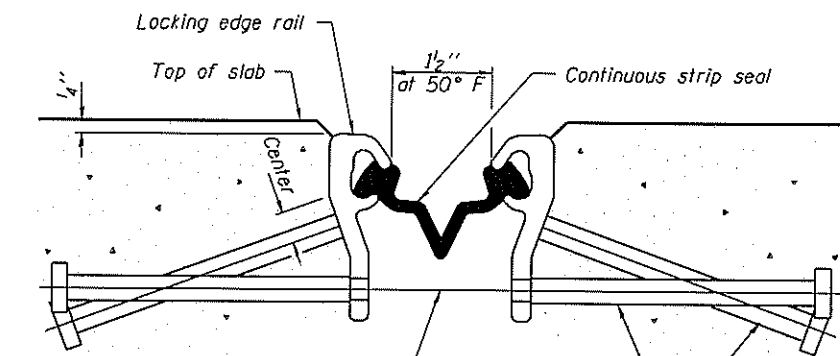
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The inside of the Locking Edge Rail groove shall be free of weld residue.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews  $> 30^\circ$  included in the cost of Preformed Joint Strip Seal.



**SECTION THRU STRIP SEAL JOINT**

1/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

Place 1/2"  $\phi$  x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

**LOCKING EDGE RAIL**

**LOCKING EDGE RAIL SPLICE**

\* Omit weld at seal opening.

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	78

**EFK Moen, LLC**  
Civil Engineering Design  
303 Fountain Parkway, Suite 240  
Fairview Heights, IL 62208  
Phone 618-206-4250

USER NAME - cdl	DESIGNED - CTW	REVISED -
PLOT SCALE - 0:2 1/2" = 1' IN.	CHECKED - CDL	REVISED -
PLOT DATE - 5/9/2014	DRAWN - DP	REVISED -
	DATE - 5/9/2014	REVISED -

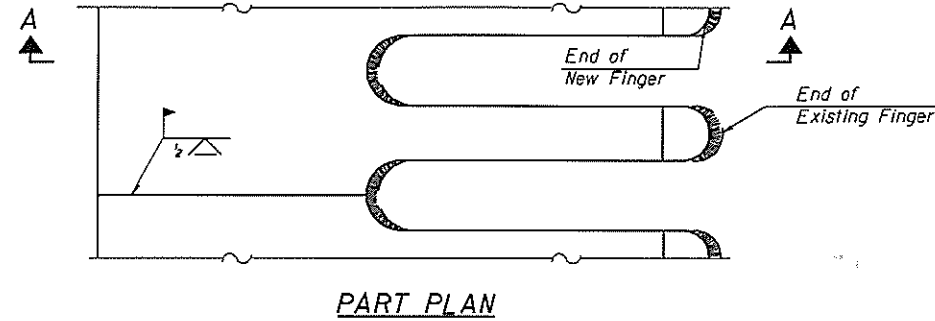
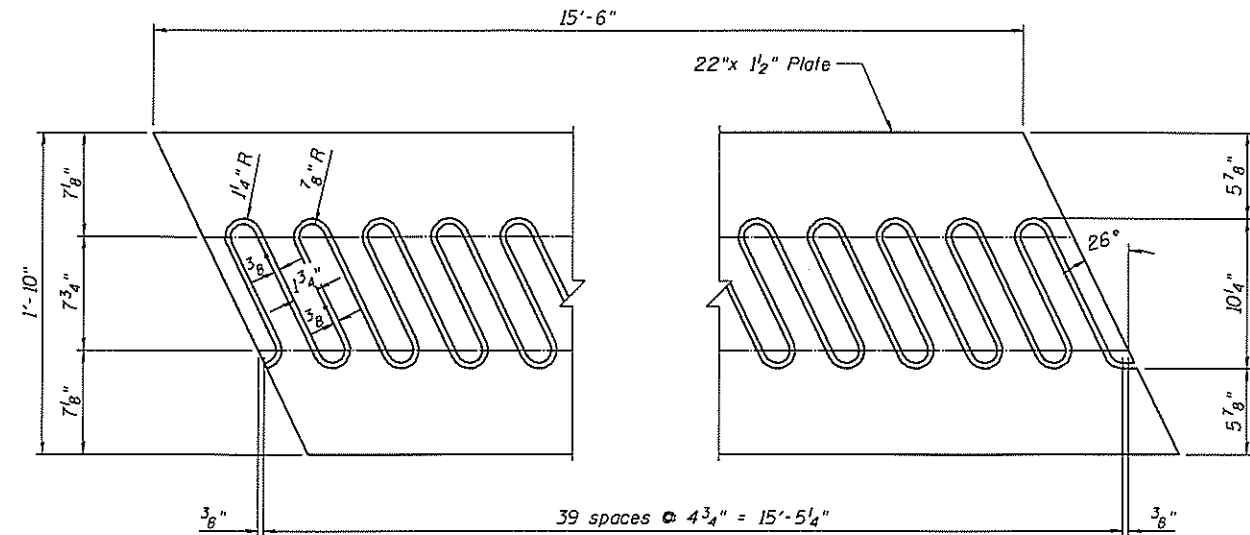
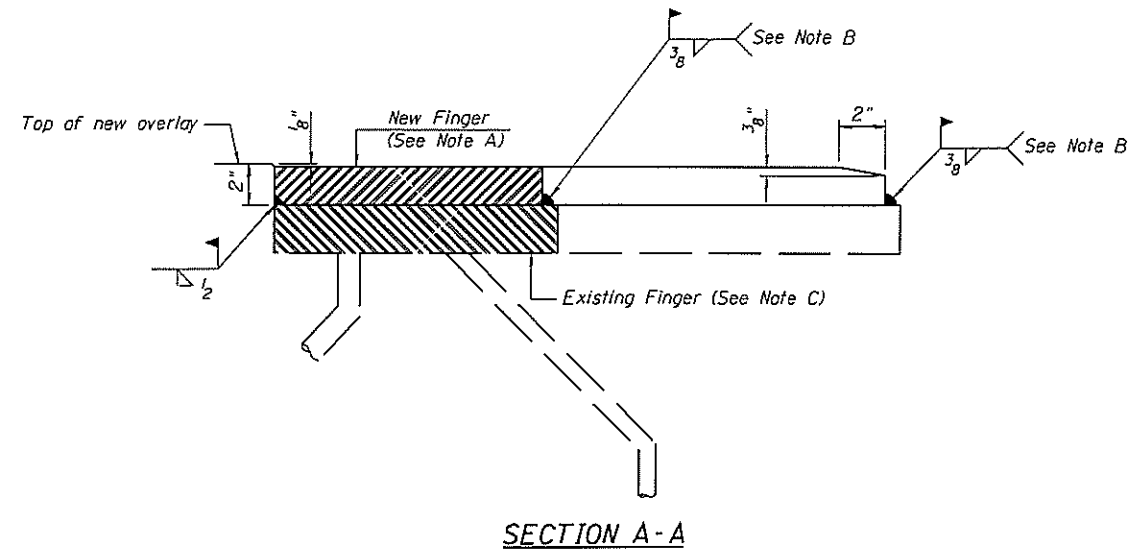
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 079-0019

SHEET NO. 4 OF 13 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
B58	12VB-11	RANDOLPH	T2	37
				CONTRACT NO. 76409
ILLINOIS FED. AID PROJECT				

PRINT DATE: 5/9/2014 7:01:49 AM Z:\11813 BLD IDOT Reots Road\Bldge\Final\Plotsheets\107\0819-084-Strip Seal Details.dwg



**Notes:**

- A. New Finger shall be blast cleaned to SSPC SP 10 and shop painted with the inorganic zinc rich primer.
- B. Fillet weld sizes at ends (tips) and cratches of fingers shall vary from 3/8" near center to 3/16" minimum near edges as new and existing plates converge.
- C. Existing Finger widths and exact locations must be field verified. A template shall be made to insure alignment. Remove foreign material that would prevent uniform contact between new and existing plates by method approved by the Engineer.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Finger Plate Expansion Joint, 5"	Foot	62.5

PRINT DATE: 5/9/2014 7:02:28 AM z:\11915 b16 1601-rects-rced\adgn\br\rdga\Trms\plotsheets\1770019-000-Finger-Plate.dgn

**EFK Moen, LLC**  
 Civil Engineering Design  
 303 Fountain Parkway, Suite 240  
 Fairview Heights, IL 62208  
 Phone 618-206-4250

USER NAME = cd1	DESIGNED - CTW	REVISED -
PLOT SCALE = 0:2 1" = 10'	CHECKED - CDL	REVISED -
PLOT DATE = 5/9/2014	DRAWN - DP	REVISED -
	DATE - 5/9/2014	REVISED -

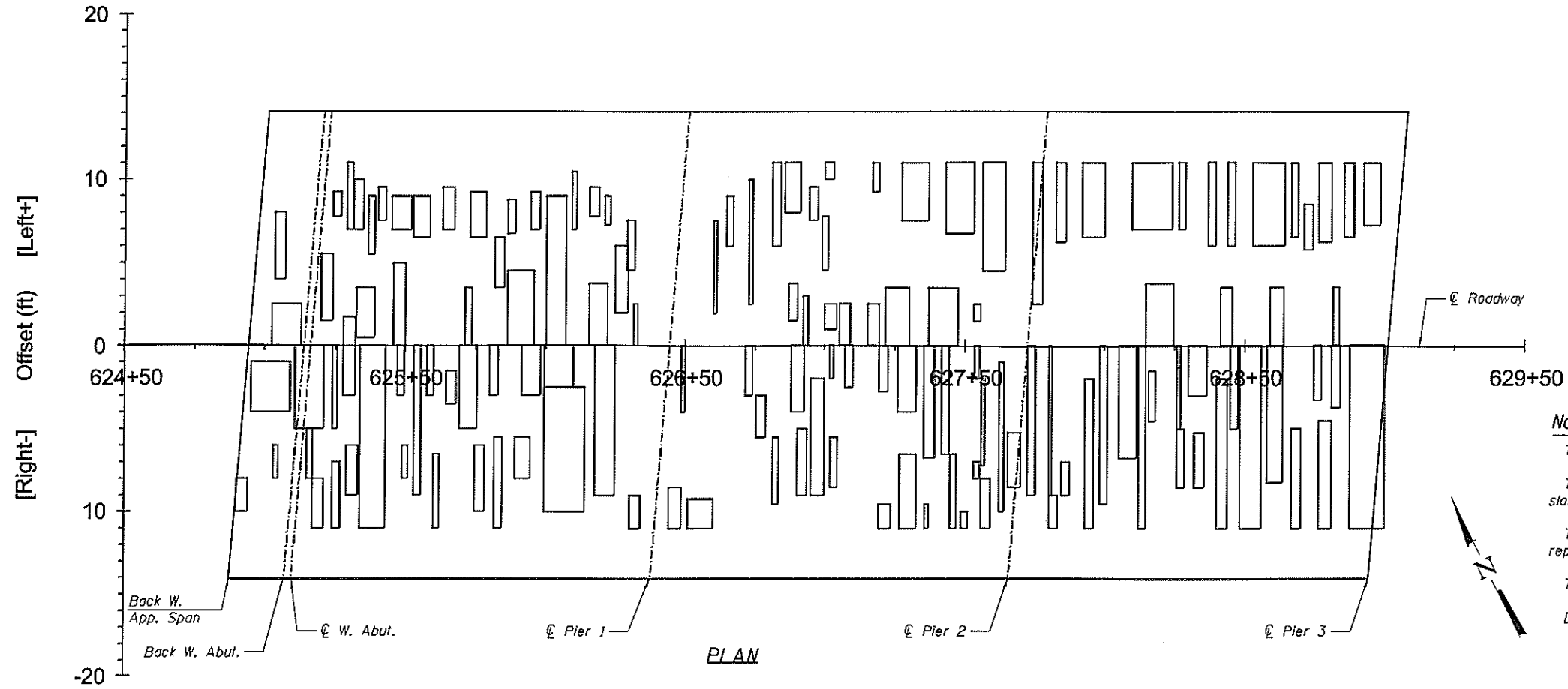
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

FINGER PLATE DETAILS AT PIER NO. 3 & PIER NO. 6  
 STRUCTURE NO. 079-0019

SHEET NO. 5 OF 13 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-11	RANDOLPH	72	38
			CONTRACT NO. 76409	
ILLINOIS FED. AID PROJECT				





- UNIT 1**
- Deck Slab Repair (Partial) 298 sq. yd.
  - Deck Slab Repair (Full Depth, Type I) 0 sq. yd.
  - Deck Slab Repair (Full Depth, Type II) 0 sq. yd.

**Notes**

The areas of deck repairs are estimated.

The deck survey and schedule shows 298 sq. yds. of partial depth deck slab repairs. Plan quantities have been increased by 20% (to 358 sq. yds.).

The deck survey and schedule shows 0 sq. yds. of full depth deck slab repairs. Plan quantities have been increased to 18 sq. yds.

The Engineer shall show actual patch locations on as-built plans.

Deck Survey 3-16-2011




Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sy)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
1	625+45	625+52	7 Lt	9 Lt	7	2	1.56	P	
2	625+46	625+50	0 Lt	5 Lt	4.25	5	2.36	P	
3	625+53	625+59	6.5 Lt	9 Lt	5.75	2.5	1.60	P	
4	625+63	625+68	7 Lt	9.5 Lt	4.25	2.5	1.18	P	
5	625+71	625+74	0 Lt	3.5 Lt	2.75	3.5	1.07	P	
6	625+73	625+79	6.5 Lt	9.25 Lt	5.5	2.75	1.68	P	
7	625+82	625+85	3.5 Lt	6.5 Lt	3.5	3	1.17	P	
8	625+86	625+89	6.75 Lt	8.75 Lt	3	2	0.67	P	
9	625+95	625+98	7 Lt	9.25 Lt	3.25	2.25	0.81	P	
10	626+00	626+07	0 Lt	9 Lt	7	9	7.00	P	
11	626+09	626+11	7 Lt	10.5 Lt	2	3.5	0.78	P	
12	626+16	626+19	7.75 Lt	9.5 Lt	3.5	1.75	0.68	P	
13	626+16	626+22	0 Lt	3.75 Lt	6.5	3.75	2.71	P	
14	626+21	626+23	7.25 Lt	9 Lt	2	1.75	0.39	P	
15	626+25	626+30	2 Lt	6 Lt	4.5	4	2.00	P	
16	626+29	626+32	4.5 Lt	7.5 Lt	2.75	3	0.92	P	
17	626+32	626+33	0 Lt	2.5 Lt	1.5	2.5	0.42	P	
18	626+60	626+61	2 Lt	7.5 Lt	1	5.5	0.61	P	
19	626+65	626+67	6 Lt	9 Lt	2.5	3	0.83	P	
20	626+73	626+74	2.5 Lt	10 Lt	1.25	7.5	1.04	P	
21	626+81	626+84	6 Lt	11 Lt	3	5	1.67	P	
22	626+86	626+91	8 Lt	11 Lt	5.5	3	1.83	P	
23	625+86	625+96	0 Lt	4.5 Lt	9.5	4.5	4.75	P	
24	626+87	626+90	1.5 Lt	3.75 Lt	3	2.25	0.75	P	

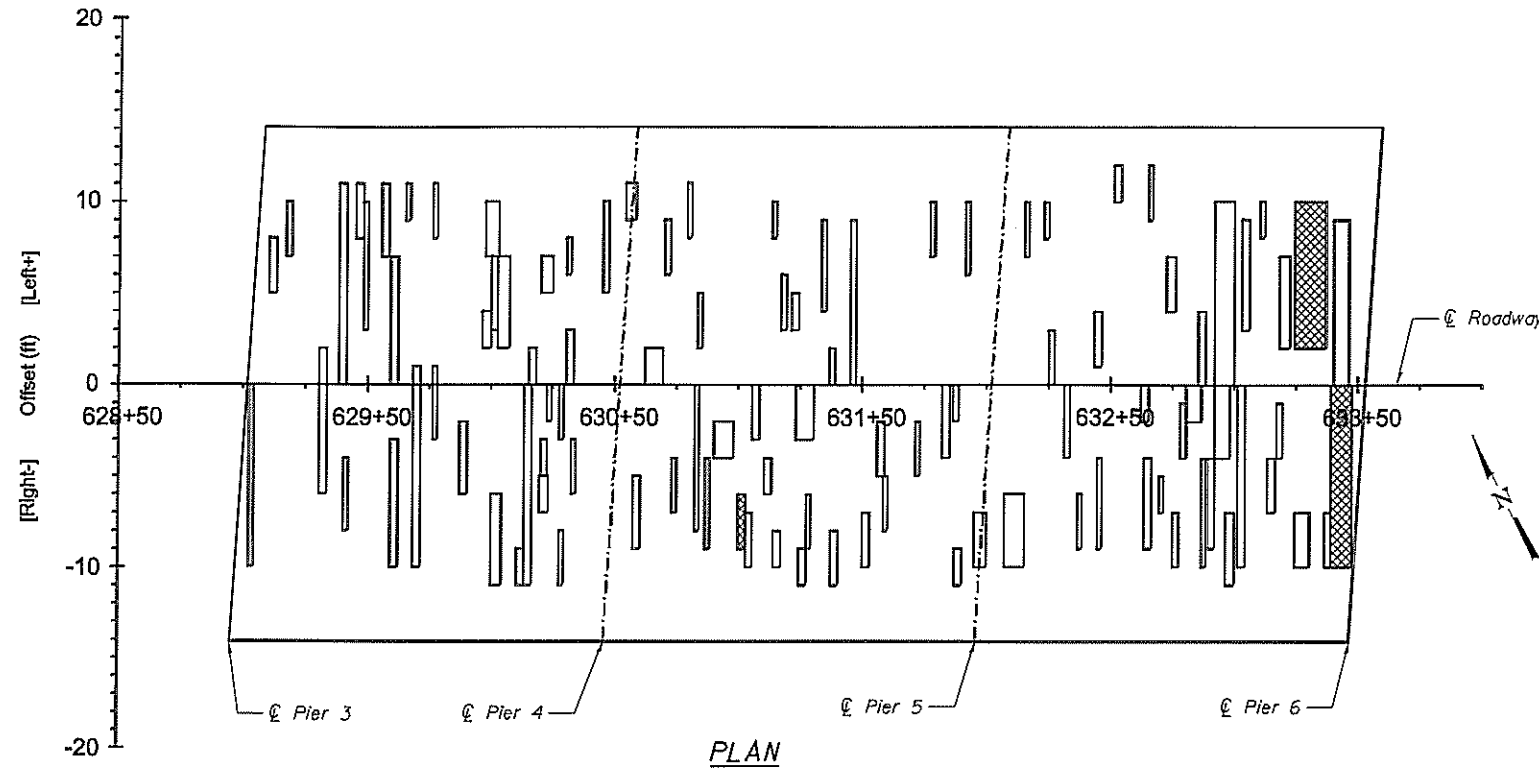
Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sy)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
25	626+92	626+94	0 Lt	3 Lt	2	3	0.67	P	
26	626+94	626+98	7.5 Lt	9.5 Lt	3.25	2	0.72	P	
27	626+99	627+01	4.5 Lt	7.75 Lt	2.25	3.25	0.81	P	
28	627+00	627+03	10 Lt	11 Lt	3	1	0.33	P	
29	627+00	627+04	1 Lt	2.5 Lt	4	1.5	0.67	P	
30	627+05	627+09	0 Lt	2.5 Lt	4	2.5	1.11	P	
31	627+15	627+20	0 Lt	2.5 Lt	4.5	2.5	1.25	P	
32	627+17	627+19	9.25 Lt	11 Lt	2.25	1.75	0.44	P	
33	627+22	627+30	0 Lt	3.5 Lt	8.5	3.5	3.31	P	
34	627+27	627+37	7.5 Lt	11 Lt	10	3.5	3.89	P	
35	627+37	627+48	0 Lt	3.5 Lt	10.5	3.5	4.08	P	
36	627+43	627+53	6.75 Lt	11 Lt	10.25	4.25	4.84	P	
37	627+53	627+56	2.5 Lt	1.5 Lt	2.25	1	0.25	P	
38	627+56	627+65	4.5 Lt	11 Lt	8.25	6.5	5.96	P	
39	627+74	627+78	2.5 Lt	11 Lt	3.5	8.5	3.31	P	
40	627+83	627+86	6.25 Lt	11 Lt	3.5	4.75	1.85	P	
41	627+92	628+00	6.5 Lt	11 Lt	8	4.5	4.00	P	
42	628+10	628+24	7 Lt	11 Lt	14.5	4	6.44	P	
43	628+15	628+25	0 Lt	3.75 Lt	10	3.75	4.17	P	
44	628+27	628+29	7 Lt	11 Lt	2.5	4	1.11	P	
45	628+37	628+40	6 Lt	11 Lt	2.5	5	1.39	P	
46	628+42	628+46	0 Lt	3.5 Lt	4	3.5	1.56	P	
47	628+44	628+47	6 Lt	11 Lt	2.5	5	1.39	P	
48	628+53	628+65	6 Lt	11 Lt	11.5	5	6.39	P	

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**UNIT 2**

-  Deck Slab Repair (Partial) 135 sq. yd.
-  Deck Slab Repair (Full Depth, Type I) 0 sq. yd.
-  Deck Slab Repair (Full Depth, Type II) 22 sq. yd.



**Notes**

The areas of deck repairs are estimated.

The deck survey and schedule shows 135 sq. yds. of partial depth deck slab repairs. Plan quantities have been increased by 20% (to 162 sq. yds.)

The deck survey and schedule shows 22 sq. yds. of full depth deck slab repairs. Plan quantities have been increased by 50% (to 33 sq. yds.)

The Engineer shall show actual patch locations on as-built plans.

Deck Survey 3-16-2011

Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sy)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
1	629+02	629+04	0 Rt	10 Rt	2	10	2.22	P	
2	629+10	629+13	5 Lt	8 Lt	3	3	1.00	P	
3	629+17	629+19	7 Lt	10 Lt	2	3	0.67	P	
4	629+30	629+33	2 Lt	6 Rt	3	8	2.67	P	
5	629+38	629+41	0 Lt	11 Lt	3	11	3.67	P	
6	629+40	629+42	4 Rt	8 Rt	2	4	0.89	P	
7	629+45	629+48	8 Lt	11 Lt	3	3	1.00	P	
8	629+48	629+50	3 Lt	10 Lt	2	7	1.56	P	
9	629+55	629+58	7 Lt	11 Lt	3	4	1.33	P	
10	629+59	629+62	0 Lt	7 Lt	3	7	2.33	P	
11	629+59	629+62	3 Rt	10 Rt	3	7	2.33	P	
12	629+65	629+67	9 Lt	11 Lt	2	2	0.44	P	
13	629+68	629+71	1 Lt	10 Rt	3	11	3.67	P	
14	629+76	629+78	1 Lt	3 Rt	2	4	0.89	P	
15	629+76	629+78	8 Lt	11 Lt	2	3	0.67	P	
16	629+87	629+90	2 Rt	6 Rt	3	4	1.33	P	
17	629+96	630+00	2 Lt	4 Lt	4	2	0.89	P	
18	629+97	630+03	7 Lt	10 Lt	6	3	2.00	P	
19	630+00	630+04	6 Rt	11 Rt	4	5	2.22	P	
20	630+02	630+07	2 Lt	7 Lt	5	5	2.78	P	
21	630+10	630+13	9 Rt	11 Rt	3	2	0.67	P	
22	630+00	630+02	3 Lt	7 Lt	2	4	0.89	P	
23	630+13	630+16	0 Rt	11 Rt	3	11	3.67	P	
24	630+15	630+18	0 Lt	2 Lt	3	2	0.67	P	

Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sy)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
25	630+19	630+23	5 Rt	7 Rt	4	2	0.89	P	
26	630+20	630+22	3 Rt	5 Rt	2	2	0.44	P	
27	630+22	630+24	0 Rt	2 Rt	2	2	0.44	P	
28	630+20	630+25	5 Lt	7 Lt	5	2	1.11	P	
29	630+27	630+29	0 Rt	3 Rt	2	3	0.67	P	
30	630+27	630+29	8 Rt	11 Rt	2	3	0.67	P	
31	630+30	630+33	0 Lt	3 Lt	3	3	1.00	P	
32	630+30	630+32	6 Lt	8 Lt	2	2	0.44	P	
33	630+32	630+34	3 Rt	6 Rt	2	3	0.67	P	
34	630+45	630+47	5 Lt	10 Lt	2	5	1.11	P	
35	630+54	630+58	9 Lt	11 Lt	4	2	0.89	P	
36	630+57	630+60	5 Rt	9 Rt	3	4	1.33	P	
37	630+62	630+69	0 Lt	2 Lt	7	2	1.56	P	
38	630+70	630+72	6 Lt	9 Lt	2	3	0.67	P	
39	630+73	630+75	4 Rt	7 Rt	2	3	0.67	P	
40	630+79	630+81	8 Lt	11 Lt	2	3	0.67	P	
41	630+82	630+84	0 Rt	8 Rt	2	8	1.78	P	
42	630+83	630+85	2 Lt	5 Lt	2	3	0.67	P	
43	630+86	630+88	4 Rt	9 Rt	2	5	1.11	P	
44	630+90	630+98	2 Rt	4 Rt	8	2	1.78	P	
45	631+00	631+03	6 Rt	9 Rt	3	3	1.00	F	Type II
46	631+03	631+05	7 Rt	10 Rt	2	3	0.67	P	
47	631+05	631+08	0 Rt	3 Rt	3	3	1.00	P	
48	631+10	631+13	4 Rt	6 Rt	3	2	0.67	P	

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Civil Engineering Design  
363 Fountains Parkway, Suite 240  
Fairview Heights, IL 62208  
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PLDT DATE = 5/9/2014	DRAWN - DP	REVISD -
	DATE - 5/9/2014	REVISD -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING SURVEY UNIT 2  
STRUCTURE NO. 079-0019**

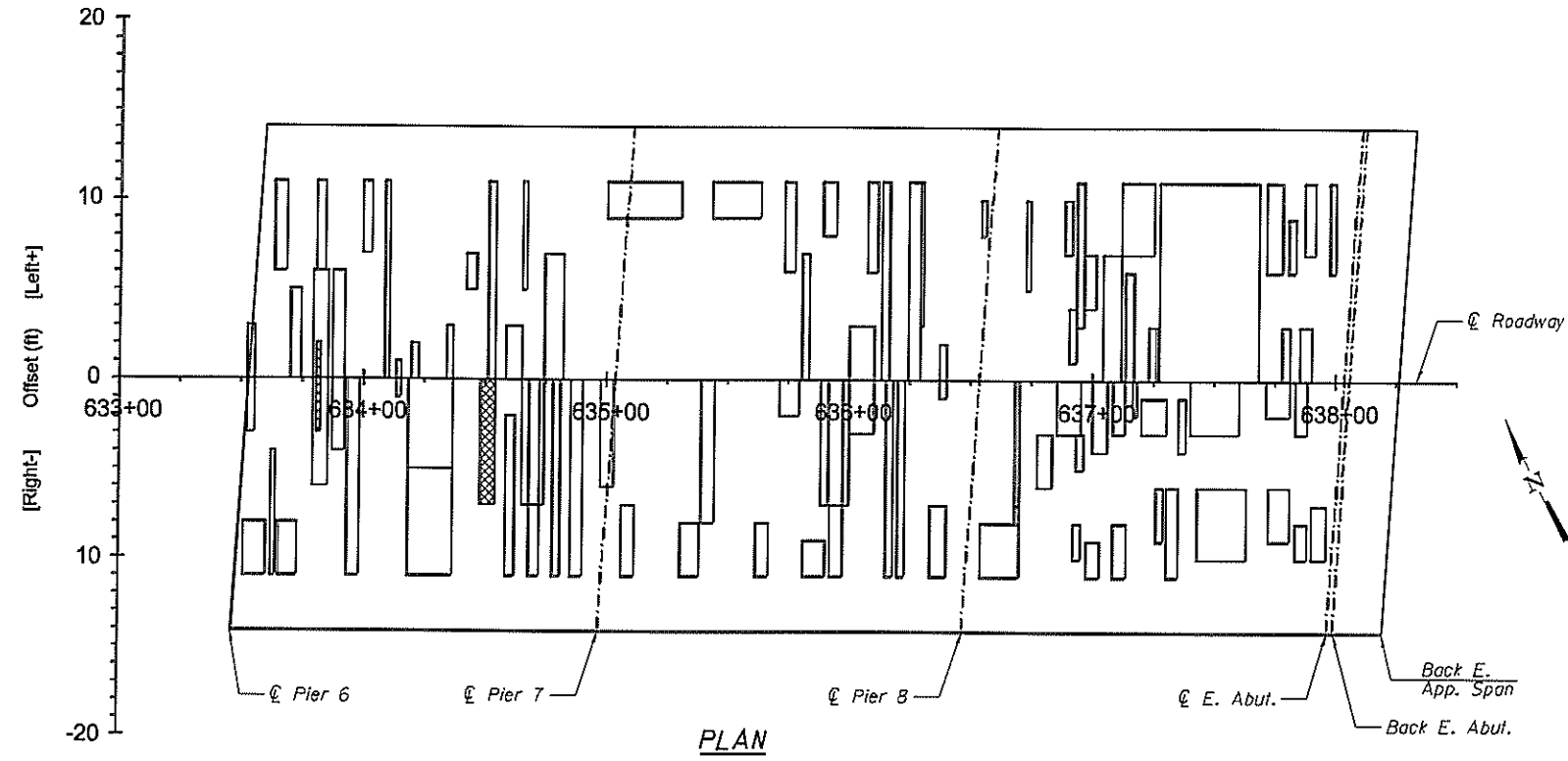
SHEET NO. 8 OF 13 SHEETS

F.A.S. RTE. 85B	SECTION 12VB-11	COUNTY RANDOLPH	TOTAL SHEETS 72	SHEET NO. 41
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	



**UNIT 3**

- Deck Slab Repair (Partial) 313 sq. yd.
- Deck Slab Repair (Full Depth, Type I) 0 sq. yd.
- Deck Slab Repair (Full Depth, Type II) 6 sq. yd.



**Notes**

- The areas of deck repairs are estimated.
- The deck survey and schedule shows 313 sq. yds. of partial depth deck slab repairs. Plan quantities have been increased by 20% (to 376 sq. yds.)
- The deck survey and schedule shows 6 sq. yds. of full depth deck slab repairs. Plan quantities have been increased by 50% (to 9 sq. yds.)
- The Engineer shall show actual patch locations on as-built plans.
- Deck Survey 3-16-2011

Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sy)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
1	633+52	633+55	3 Lt	3 Rt	3	6	2.00	P	
2	633+51	633+60	8 Rt	11 Rt	9	3	3.00	P	
3	633+62	633+64	4 Rt	11 Rt	2	7	1.56	P	
4	633+65	633+73	8 Rt	11 Rt	8	3	2.67	P	
5	633+70	633+74	0 Lt	5 Lt	4	5	2.22	P	
6	633+63	633+68	6 Lt	11 Lt	5	5	2.78	P	
7	633+79	633+85	0 Lt	6 Lt	6	6	4.00	P	
8	633+79	633+85	0 Rt	6 Rt	6	6	4.00	P	
9	633+80	633+84	6 Lt	11 Lt	4	5	2.22	P	
10	633+87	633+92	6 Lt	4 Rt	5	10	5.56	P	
11	633+80	633+82	2 Lt	3 Rt	2	5	1.11	F	Type II
12	633+93	633+98	0 Rt	11 Rt	5	11	6.11	P	
13	633+99	634+03	7 Lt	11 Lt	4	4	1.78	P	
14	634+08	634+10	0 Lt	11 Lt	2	11	2.44	P	
15	634+13	634+15	1 Lt	1 Rt	2	2	0.44	P	
16	634+18	634+36	0 Rt	5 Rt	18	5	10.00	P	
17	634+18	634+36	5 Rt	11 Rt	18	6	12.00	P	
18	634+19	634+22	0 Lt	2 Lt	3	2	0.67	P	
19	634+34	634+36	0 Lt	3 Lt	2	3	0.67	P	
20	634+42	634+46	5 Lt	7 Lt	4	2	0.89	P	
21	634+48	634+54	0 Rt	7 Rt	6	7	4.67	F	Type II
22	634+51	634+54	0 Lt	11 Lt	3	11	3.67	P	
23	634+58	634+62	2 Rt	11 Rt	4	9	4.00	P	
24	634+65	634+68	0 Rt	7 Rt	3	7	2.33	P	

Patch #	Start Sta	End Sta	Offsets (ft)		Length (ft.)	Width (ft.)	Area (sy)	Full or Partial Depth	Type I or II (Full Depth)
			From	To					
25	634+72	634+74	0 Rt	7 Rt	2	7	1.56	P	
26	634+68	634+72	7 Rt	11 Rt	4	4	1.78	P	
27	634+58	634+65	0 Lt	3 Lt	7	3	2.33	P	
28	634+65	634+67	5 Lt	11 Lt	2	6	1.33	P	
29	634+74	634+82	0 Lt	7 Lt	8	7	6.22	P	
30	634+78	634+81	0 Rt	11 Rt	3	11	3.67	P	
31	634+85	634+90	0 Rt	11 Rt	5	11	6.11	P	
32	634+97	635+03	0 Rt	6 Rt	6	6	4.00	P	
33	635+06	635+11	7 Rt	11 Rt	5	4	2.22	P	
34	635+00	635+30	9 Lt	11 Lt	30	2	6.67	P	
35	635+30	635+38	8 Rt	11 Rt	8	3	2.67	P	
36	635+39	635+44	0 Rt	8 Rt	5	8	4.44	P	
37	635+43	635+63	9 Lt	11 Lt	20	2	4.44	P	
38	635+61	635+67	8 Rt	11 Rt	6	3	2.00	P	
39	635+71	635+79	0 Rt	2 Rt	8	2	1.78	P	
40	635+81	635+90	9 Rt	11 Rt	9	2	2.00	P	
41	635+88	635+91	0 Rt	7 Rt	3	7	2.33	P	
42	635+92	635+97	7 Rt	11 Rt	5	4	2.22	P	
43	635+97	636+00	0 Rt	7 Rt	3	7	2.33	P	
44	635+73	635+77	6 Lt	11 Lt	4	5	2.22	P	
45	635+80	635+83	0 Lt	7 Lt	3	7	2.33	P	
46	635+89	635+94	8 Lt	11 Lt	5	3	1.67	P	
47	636+00	636+10	3 Lt	3 Rt	10	6	6.67	P	
48	636+07	636+11	6 Lt	11 Lt	4	5	2.22	P	

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**EFK Moen, LLC**  
 Civil Engineering Design  
 303 Fountain Parkway, Suite 240  
 Fairview Heights, IL 62168  
 Phone 618-306-4256

USER NAME = cdl	DESIGNED - CTW	REVISOR -
PLLOT SCALE = 0:2.0000' = 1" IN.	CHECKED - CDL	REVISIONS -
PLLOT DATE = 5/9/2014	DRAWN - DP	REVISIONS -
	DATE - 5/9/2014	REVISIONS -

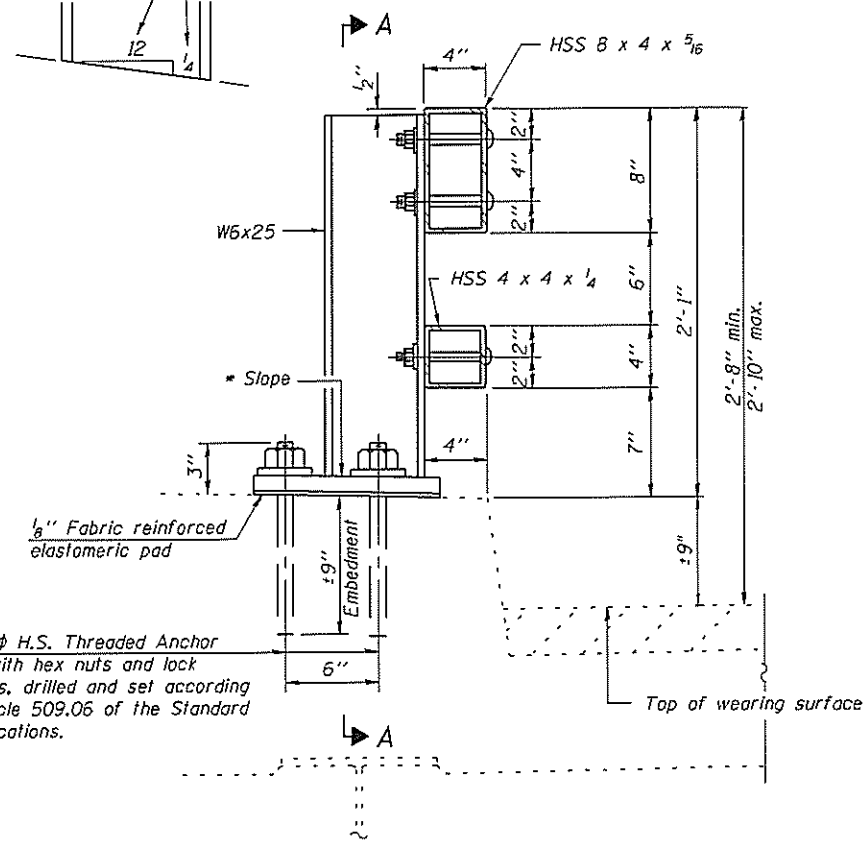
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING SURVEY UNIT 3**  
**STRUCTURE NO. 079-0019**  
 SHEET NO. 10 OF 13 SHEETS

F.A.S. RTE. 858	SECTION 12VB-11	COUNTY RANDOLPH	TOTAL SHEETS 12	SHEET NO. 43
CONTRACT NO. 76409			ILLINOIS FED. AID PROJECT	



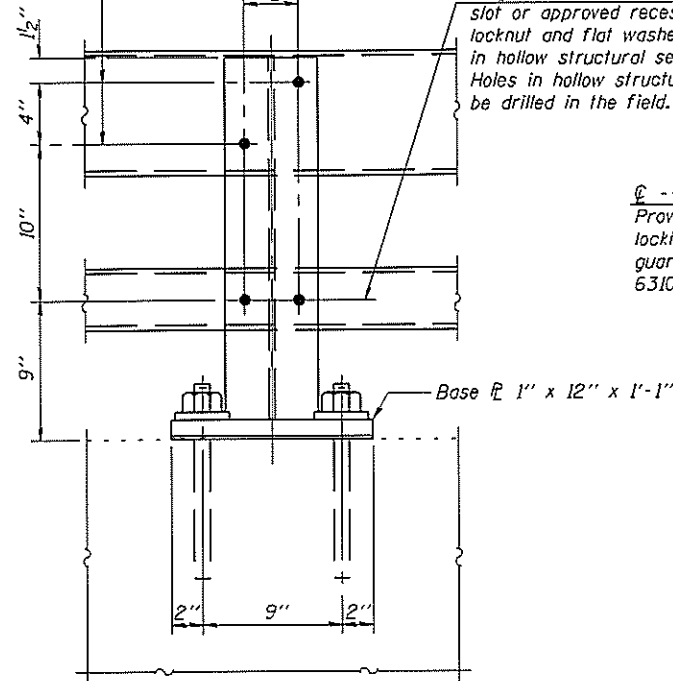
\* Cut bottom end of post to curb slope.



SECTION AT RAIL POST

4- 1"  $\phi$  H.S. Threaded Anchor Rods with hex nuts and lock washers, drilled and set according to Article 509.06 of the Standard Specifications.

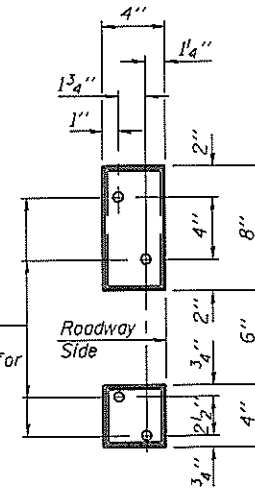
2- 3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 7/8"  $\phi$  Holes in tubing and posts. Holes in hollow structural section may be drilled in the field.



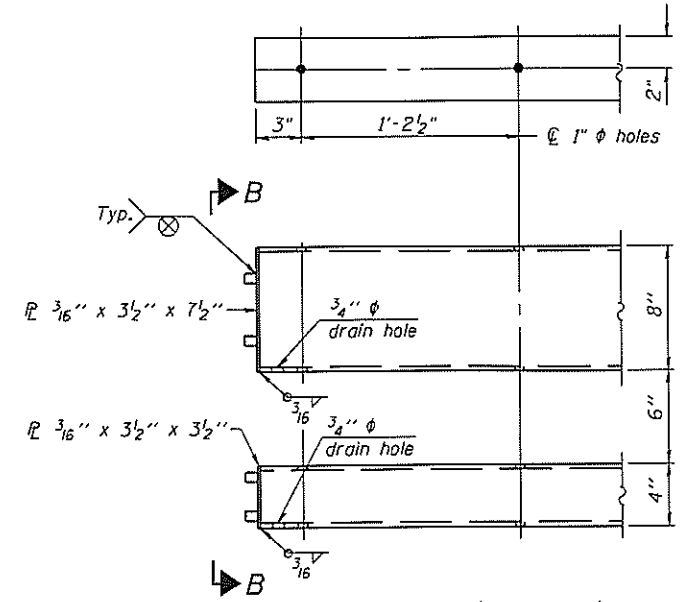
SECTION A-A

2- 1/2"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 5/8"  $\phi$  Holes in hollow structural section and post. Holes in hollow structural section may be drilled in the field.

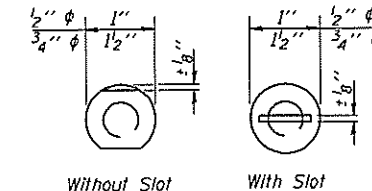
4- 5/8" reduced base welded studs. Provide 4- 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032 (See Roadway Plans).



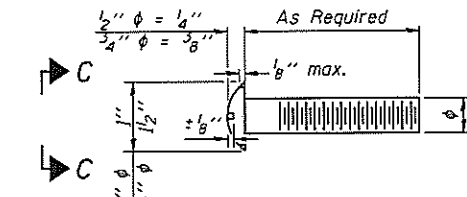
VIEW B-B



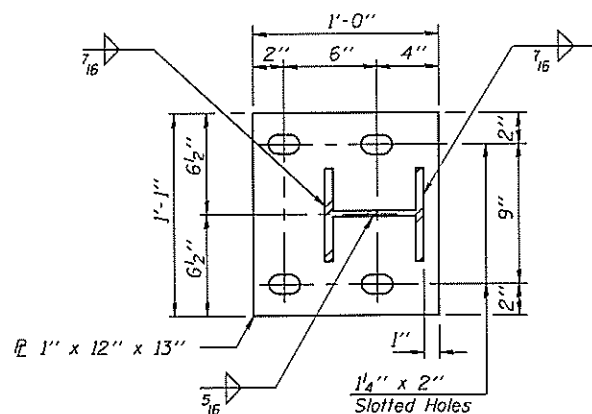
END OF RAIL DETAILS



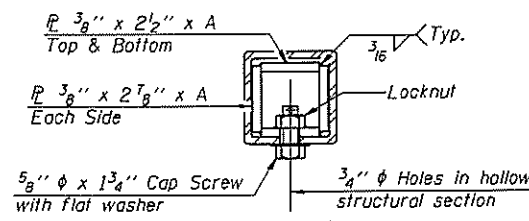
VIEW C-C



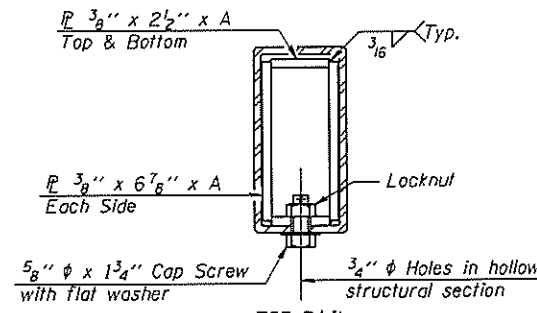
DETAIL OF 1/2"  $\phi$  & 3/4"  $\phi$  ROUND HEAD BOLTS



BASE PLATE DETAIL

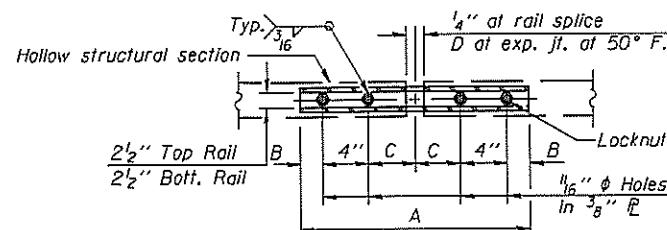


BOTTOM RAIL

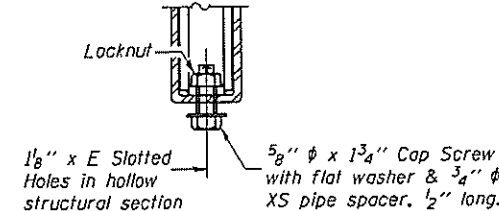


TOP RAIL

SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.  
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.  
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1 1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	2664

R-31

7-1-10

(6'-3" Maximum Post Spacing)

EFK Moen, LLC  
 Civil Engineering Design  
 303 Fountain Parkway, Suite 240  
 Fairview Heights, IL 62208  
 Phone 618-206-4150

USER NAME	DESIGNED	CHECKED	DATE
cdl	CTW	CDL	5/9/2014
		DP	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE 2399  
 STRUCTURE NO. 079-0019

SHEET NO. 12 OF 13 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
B58	12VB-11	RANDOLPH	T2	45

(ILLINOIS) FED. AID PROJECT CONTRACT NO. 76409

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**GENERAL NOTES**

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8 in.  $\phi$  holes 15/16 in.  $\phi$ , unless otherwise noted.

No field welding is permitted except as specified in the contract documents.  
The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

Reinforcement bars designated (E) shall be epoxy coated.  
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

If the Contractor elects to use cantilever forming brackets on the exterior beams, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

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 work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

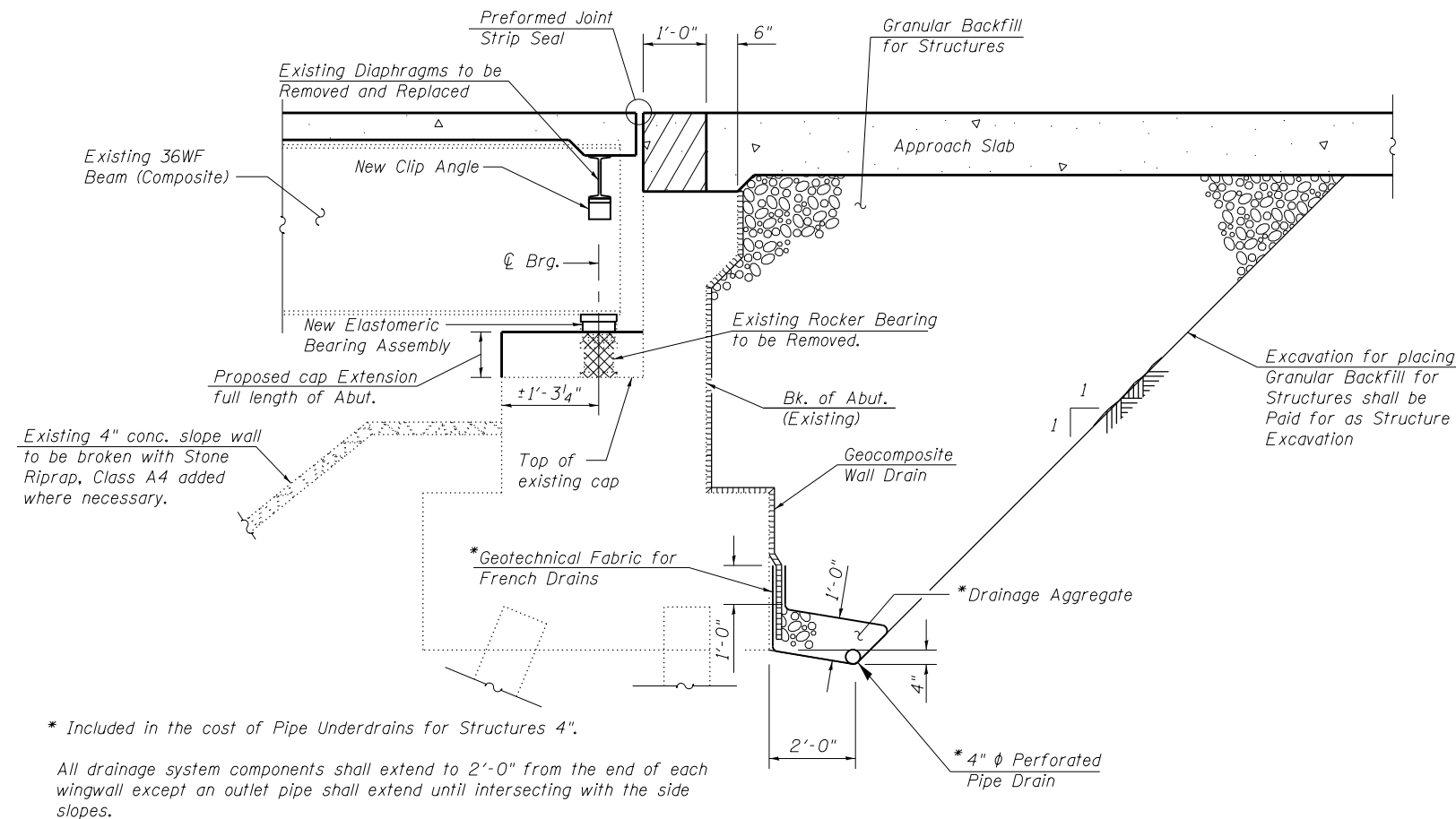
Concrete Sealer shall be applied to the designated areas of the Substructure.  
The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Cleaning and painting all of the structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All existing steel shall be cleaned per Near White Blast Cleaning - SSPC-SP10. All existing steel shall be painted according to the requirements of Paint System 1 OZ/E/U. The color of the final finish coat for all interior steel surfaces Gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Gray Munsell No. 5B 7/1.

The Organic Zinc Rich Primer / Epoxy / Urethane paint system shall be used for painting new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, and field installed fasteners all of which shall be touched up and finished coated in the field. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No. 5B 7/1.

A minimum of 1 air monitor will be required to monitor abrasive blasting operations at this site. See Special Provision for "Containment and Disposal of Lead Paint Cleaning Residues."



\* Included in the cost of Pipe Underdrains for Structures 4".

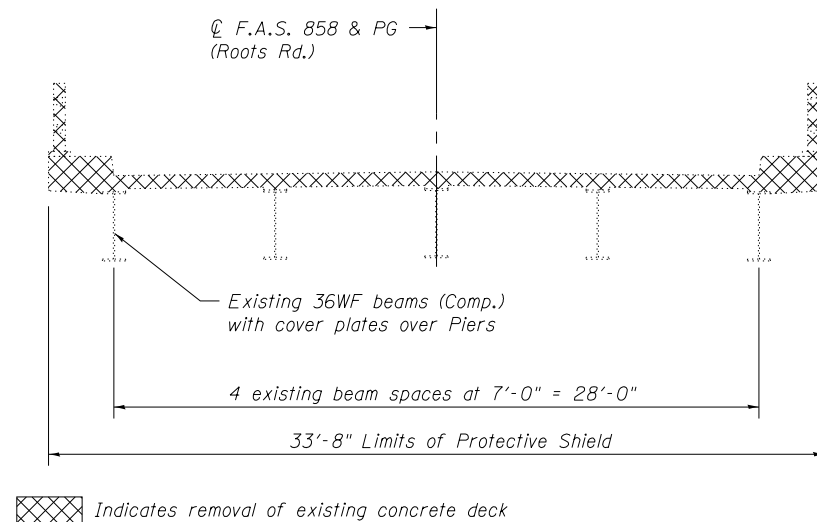
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes.

**SECTION THRU EXISTING ABUTMENT**

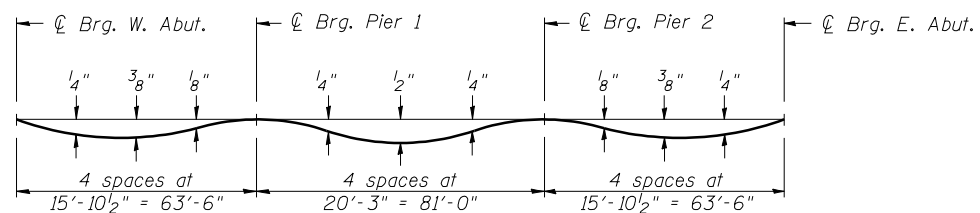
(Horiz. dim. @ Rt. L's)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		105	105
Stone Dumped Riprap, Class A4	Ton		300	300
Filter Fabric	Sq. Yd.		105	105
Concrete Removal	Cu. Yd.		18.6	18.6
Removal of Existing Concrete Deck	Each	1		1
Protective Shield	Sq. Yd.	303		303
Structure Excavation	Cu. Yd.		482	482
Concrete Structures	Cu. Yd.		79.2	79.2
Concrete Superstructure	Cu. Yd.	359.2		359.2
Bridge Deck Grooving	Sq. Yd.		904	904
Protective Coat	Sq. Yd.		1189	1189
Furnishing and Erecting Structural Steel	Pound	3500		3500
Stud Shear Connectors	Each	2445		2445
Reinforcement Bars, Epoxy Coated	Pound	92,180	5,730	97,910
Bar Splicers	Each		66	66
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	102		102
Elastomeric Bearing Assembly, Type I	Each	10		10
Elastomeric Bearing Assembly, Type II	Each	5		5
Anchor Bolts, 5/8"	Each	20		20
Anchor Bolts, 1"	Each	10		10
Concrete Sealer	Sq. Ft.		550.6	550.6
Geocomposite Wall Drain	Sq. Yd.		96	96
Slope Wall Breaking	Sq. Yd.	790		790
Granular Backfill for Structures	Cu. Yd.		215	215
Jack and Remove Existing Bearings	Each	5		5
Structural Steel Removal	Pound	5907		5907
Containment and Disposal of Lead Paint Cleaning Residues No.1	L. Sum	1		1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1		1
Pipe Underdrains for Structures 4"	Foot		102	102
Jacking and Cribbing	Each		10	10



**CROSS SECTION**  
(Showing Structure Removal)

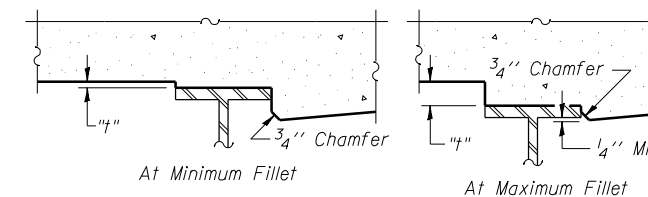


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

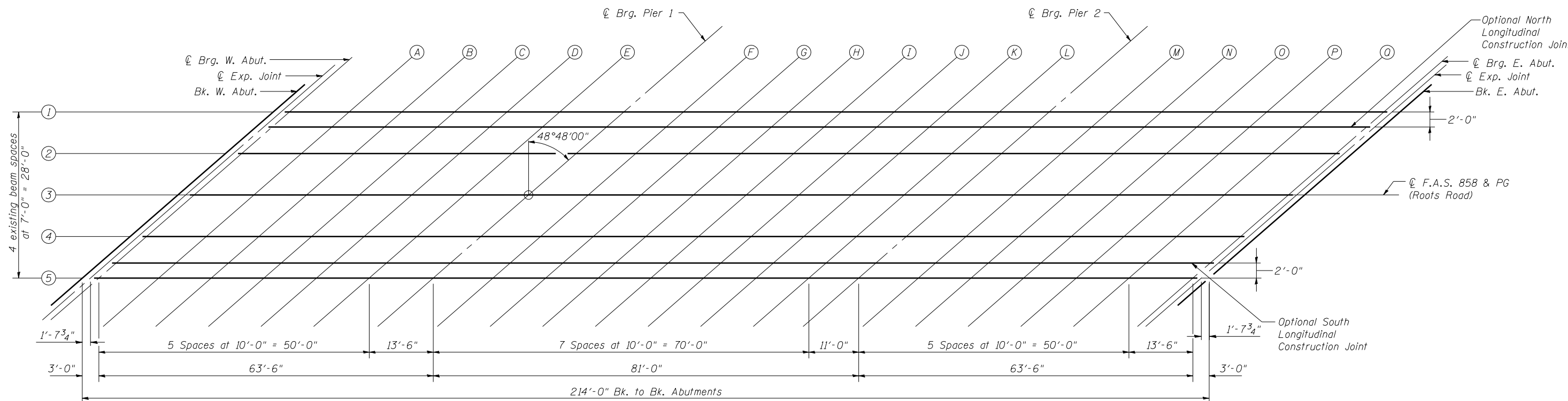
Note:

The above deflections are not to be used in the field if the engineer is working from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" as shown on sheets 4 and 5 of 26.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets 4 and 5 of 26. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 and 5 of 26, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**ELEVATION LOCATION PLAN**

FILE NAME = \sheet 03 (top of slab elev)ldgn BERNARDEN LOGGHEMILLER & ASSOCIATES, INC. 3 OAK DRIVE MARYVILLE, ILLINOIS 62458 PHONE (618) 399-4000 FAX (618) 399-4000	USER NAME = bselbel Illinois Design Firm Number 184,001670	DESIGNED - BB CHECKED - ACS	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS STRUCTURE NO. 079-0020</b>	F.A.S. RTE. = 858	SECTION = 12VB-11	COUNTY = RANDOLPH	TOTAL SHEETS = 72	SHEET NO. = 49
	PLOT SCALE = PLOT DATE = 11:46:38 AM 12/20/2011	DRAWN - WJS CHECKED - CJF	SHEET NO. 3 OF 26 SHEETS			CONTRACT NO. 76409 ILLINOIS FED. AID PROJECT				

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	649+19.49	-14.00	428.48	428.48
☉ Expansion Joint	649+21.15	-14.00	428.50	428.50
☉ Brg. West Abut.	649+22.49	-14.00	428.51	428.51
A	649+32.49	-14.00	428.58	428.60
B	649+42.49	-14.00	428.66	428.69
C	649+52.49	-14.00	428.74	428.77
D	649+62.49	-14.00	428.82	428.84
E	649+72.49	-14.00	428.90	428.91
Pier 1	649+85.99	-14.00	429.00	429.00
F	649+95.99	-14.00	429.08	429.09
G	650+05.99	-14.00	429.16	429.18
H	650+15.99	-14.00	429.24	429.27
I	650+25.99	-14.00	429.31	429.36
J	650+35.99	-14.00	429.39	429.43
K	650+45.99	-14.00	429.47	429.50
L	650+55.99	-14.00	429.55	429.56
Pier 2	650+66.99	-14.00	429.63	429.63
M	650+76.99	-14.00	429.71	429.72
N	650+86.99	-14.00	429.79	429.81
O	650+96.99	-14.00	429.87	429.90
P	651+06.99	-14.00	429.95	429.97
Q	651+16.99	-14.00	430.02	430.05
☉ Brg. East Abut.	651+30.49	-14.00	430.13	430.13
☉ Expansion Joint	651+31.84	-14.00	430.14	430.14
Bk. of East Abut.	651+33.49	-14.00	430.15	430.15

**OPTIONAL NORTH LONGITUDINAL  
CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	649+17.21	-12.00	428.51	428.51
☉ Expansion Joint	649+18.86	-12.00	428.52	428.52
☉ Brg. West Abut.	649+20.21	-12.00	428.53	428.53
A	649+30.21	-12.00	428.61	428.62
B	649+40.21	-12.00	428.69	428.71
C	649+50.21	-12.00	428.76	428.79
D	649+60.21	-12.00	428.84	428.86
E	649+70.21	-12.00	428.92	428.93
Pier 1	649+83.71	-12.00	429.03	429.03
F	649+93.71	-12.00	429.10	429.12
G	650+03.71	-12.00	429.18	429.21
H	650+13.71	-12.00	429.26	429.29
I	650+23.71	-12.00	429.34	429.38
J	650+33.71	-12.00	429.42	429.45
K	650+43.71	-12.00	429.49	429.52
L	650+53.71	-12.00	429.57	429.59
Pier 2	650+64.71	-12.00	429.66	429.66
M	650+74.71	-12.00	429.74	429.74
N	650+84.71	-12.00	429.81	429.83
O	650+94.71	-12.00	429.89	429.92
P	651+04.71	-12.00	429.97	430.00
Q	651+14.71	-12.00	430.05	430.07
☉ Brg. East Abut.	651+28.21	-12.00	430.15	430.15
☉ Expansion Joint	651+29.55	-12.00	430.16	430.16
Bk. of East Abut.	651+31.21	-12.00	430.18	430.18

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	649+11.50	-7.00	428.54	428.54
☉ Expansion Joint	649+13.15	-7.00	428.55	428.55
☉ Brg. West Abut.	649+14.50	-7.00	428.56	428.56
A	649+24.50	-7.00	428.64	428.66
B	649+34.50	-7.00	428.72	428.75
C	649+44.50	-7.00	428.80	428.83
D	649+54.50	-7.00	428.88	428.90
E	649+64.50	-7.00	428.95	428.96
Pier 1	649+78.00	-7.00	429.06	429.06
F	649+88.00	-7.00	429.14	429.15
G	649+98.00	-7.00	429.21	429.24
H	650+08.00	-7.00	429.29	429.33
I	650+18.00	-7.00	429.37	429.42
J	650+28.00	-7.00	429.45	429.49
K	650+38.00	-7.00	429.53	429.55
L	650+48.00	-7.00	429.60	429.62
Pier 2	650+59.00	-7.00	429.69	429.69
M	650+69.00	-7.00	429.77	429.78
N	650+79.00	-7.00	429.85	429.86
O	650+89.00	-7.00	429.92	429.95
P	650+99.00	-7.00	430.00	430.03
Q	651+09.00	-7.00	430.08	430.10
☉ Brg. East Abut.	651+22.50	-7.00	430.19	430.19
☉ Expansion Joint	651+23.84	-7.00	430.20	430.20
Bk. of East Abut.	651+25.50	-7.00	430.21	430.21

**☉ FAS 858, PROFILE GRADE & BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	649+03.50	0.00	428.59	428.59
☉ Expansion Joint	649+05.15	0.00	428.60	428.60
☉ Brg. West Abut.	649+06.50	0.00	428.61	428.61
A	649+16.50	0.00	428.69	428.70
B	649+26.50	0.00	428.77	428.79
C	649+36.50	0.00	428.84	428.87
D	649+46.50	0.00	428.92	428.94
E	649+56.50	0.00	429.00	429.01
Pier 1	649+70.00	0.00	429.11	429.11
F	649+80.00	0.00	429.18	429.20
G	649+90.00	0.00	429.26	429.29
H	650+00.00	0.00	429.34	429.38
I	650+10.00	0.00	429.42	429.46
J	650+20.00	0.00	429.50	429.53
K	650+30.00	0.00	429.57	429.60
L	650+40.00	0.00	429.65	429.67
Pier 2	650+51.00	0.00	429.74	429.74
M	650+61.00	0.00	429.82	429.82
N	650+71.00	0.00	429.89	429.91
O	650+81.00	0.00	429.97	430.00
P	650+91.00	0.00	430.05	430.08
Q	651+01.00	0.00	430.13	430.15
☉ Brg. East Abut.	651+14.50	0.00	430.23	430.23
☉ Expansion Joint	651+15.85	0.00	430.24	430.24
Bk. of East Abut.	651+17.50	0.00	430.26	430.26

OPTIONAL SOUTH LONGITUDINAL  
CONSTRUCTION JOINT

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	648+95.50	7.00	428.42	428.42
☉ Expansion Joint	648+97.16	7.00	428.43	428.43
☉ Brg. West Abut.	648+98.50	7.00	428.44	428.44
A	649+08.50	7.00	428.52	428.53
B	649+18.50	7.00	428.59	428.62
C	649+28.50	7.00	428.67	428.70
D	649+38.50	7.00	428.75	428.77
E	649+48.50	7.00	428.83	428.84
Pier 1	649+62.00	7.00	428.93	428.93
F	649+72.00	7.00	429.01	429.02
G	649+82.00	7.00	429.09	429.12
H	649+92.00	7.00	429.17	429.20
I	650+02.00	7.00	429.25	429.29
J	650+12.00	7.00	429.32	429.36
K	650+22.00	7.00	429.40	429.43
L	650+32.00	7.00	429.48	429.49
Pier 2	650+43.00	7.00	429.57	429.57
M	650+53.00	7.00	429.64	429.65
N	650+63.00	7.00	429.72	429.74
O	650+73.00	7.00	429.80	429.83
P	650+83.00	7.00	429.88	429.91
Q	650+93.00	7.00	429.96	429.98
☉ Brg. East Abut.	651+06.50	7.00	430.06	430.06
☉ Expansion Joint	651+07.85	7.00	430.07	430.07
Bk. of East Abut.	651+09.50	7.00	430.08	430.08

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	648+87.51	14.00	428.23	428.23
☉ Expansion Joint	648+89.16	14.00	428.25	428.25
☉ Brg. West Abut.	648+90.51	14.00	428.26	428.26
A	649+00.51	14.00	428.33	428.35
B	649+10.51	14.00	428.41	428.44
C	649+20.51	14.00	428.49	428.52
D	649+30.51	14.00	428.57	428.59
E	649+40.51	14.00	428.65	428.66
Pier 1	649+54.01	14.00	428.75	428.75
F	649+64.01	14.00	428.83	428.84
G	649+74.01	14.00	428.91	428.93
H	649+84.01	14.00	428.99	429.02
I	649+94.01	14.00	429.06	429.11
J	650+04.01	14.00	429.14	429.18
K	650+14.01	14.00	429.22	429.25
L	650+24.01	14.00	429.30	429.31
Pier 2	650+35.01	14.00	429.38	429.38
M	650+45.01	14.00	429.46	429.47
N	650+55.01	14.00	429.54	429.56
O	650+65.01	14.00	429.62	429.65
P	650+75.01	14.00	429.70	429.72
Q	650+85.01	14.00	429.77	429.80
☉ Brg. East Abut.	650+98.51	14.00	429.88	429.88
☉ Expansion Joint	650+99.86	14.00	429.89	429.89
Bk. of East Abut.	651+01.51	14.00	429.90	429.90

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut.	648+89.79	12.00	428.29	428.29
☉ Expansion Joint	648+91.45	12.00	428.31	428.31
☉ Brg. West Abut.	648+92.79	12.00	428.32	428.32
A	649+02.79	12.00	428.39	428.41
B	649+12.79	12.00	428.47	428.50
C	649+22.79	12.00	428.55	428.58
D	649+32.79	12.00	428.63	428.65
E	649+42.79	12.00	428.71	428.72
Pier 1	649+56.29	12.00	428.81	428.81
F	649+66.29	12.00	428.89	428.90
G	649+76.29	12.00	428.97	428.99
H	649+86.29	12.00	429.05	429.08
I	649+96.29	12.00	429.12	429.17
J	650+06.29	12.00	429.20	429.24
K	650+16.29	12.00	429.28	429.31
L	650+26.29	12.00	429.36	429.37
Pier 2	650+37.29	12.00	429.44	429.44
M	650+47.29	12.00	429.52	429.53
N	650+57.29	12.00	429.60	429.62
O	650+67.29	12.00	429.68	429.71
P	650+77.29	12.00	429.76	429.78
Q	650+87.29	12.00	429.83	429.86
☉ Brg. East Abut.	651+00.79	12.00	429.94	429.94
☉ Expansion Joint	651+02.14	12.00	429.95	429.95
Bk. of East Abut.	651+03.79	12.00	429.96	429.96

NORTH EDGE OF SHOULDER

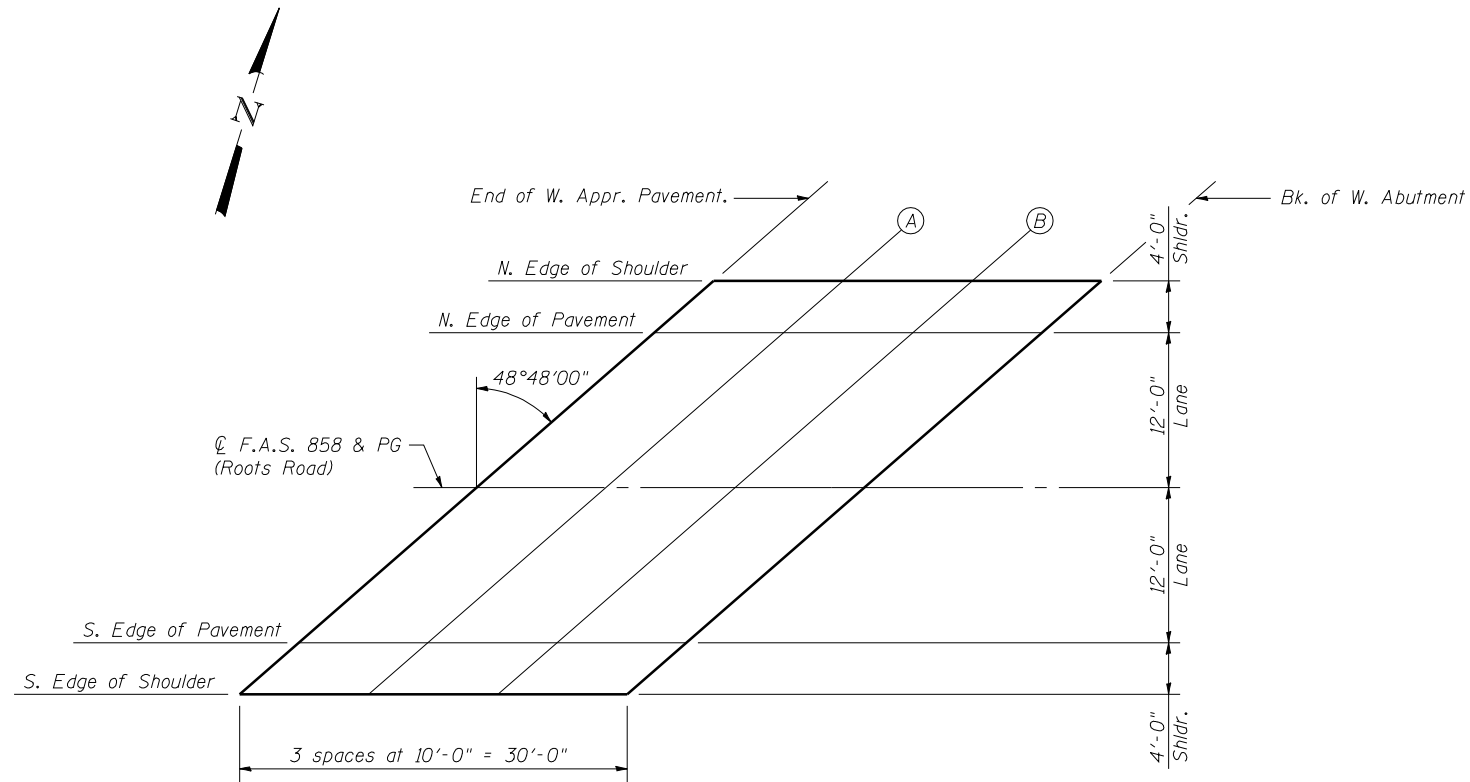
Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pvmt.	648+91.78	-16.00	428.23
A	649+01.78	-16.00	428.30
B	649+11.78	-16.00	428.38
Back of West Abutment	649+21.78	-16.00	428.46

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pvmt.	648+87.21	-12.00	428.27
A	648+97.21	-12.00	428.35
B	649+07.21	-12.00	428.43
Back of West Abutment	649+17.21	-12.00	428.51

℄ F.A.S. 858 & PG (ROOTS ROAD)

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pvmt.	648+73.50	0.00	428.35
A	648+83.50	0.00	428.43
B	648+93.50	0.00	428.51
Back of West Abutment	649+03.50	0.00	428.59



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pvmt.	648+59.79	12.00	428.03
A	648+69.79	12.00	428.13
B	648+79.79	12.00	428.21
Back of West Abutment	648+89.79	12.00	428.29

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
End of West Appr. Pvmt.	648+55.22	16.00	427.90
A	648+65.22	16.00	428.00
B	648+75.22	16.00	428.10
Back of West Abutment	648+85.22	16.00	428.17

NORTH EDGE OF SHOULDER

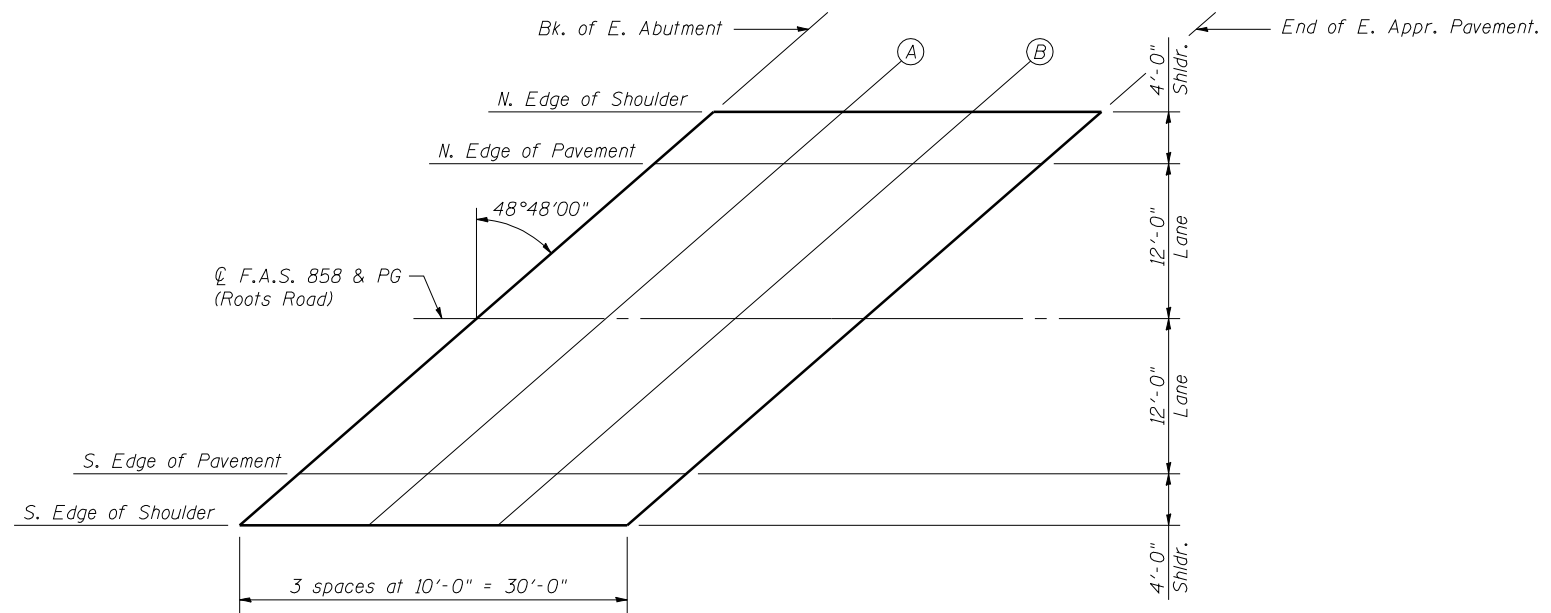
Location	Station	Offset	Theoretical Grade Elevations
Back of East Abutment	651+35.78	-16.00	430.13
A	651+45.78	-16.00	430.21
B	651+55.78	-16.00	430.22
End of East Appr. Pvmt.	651+65.78	-16.00	430.23

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abutment	651+31.21	-12.00	430.18
A	651+41.21	-12.00	430.25
B	651+51.21	-12.00	430.30
End of East Appr. Pvmt.	651+61.21	-12.00	430.31

℄ F.A.S. 858 & PG (ROOTS ROAD)

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abutment	651+17.50	0.00	430.26
A	651+27.50	0.00	430.33
B	651+37.50	0.00	430.41
End of East Appr. Pvmt.	651+47.50	0.00	430.49



SOUTH EDGE OF PAVEMENT

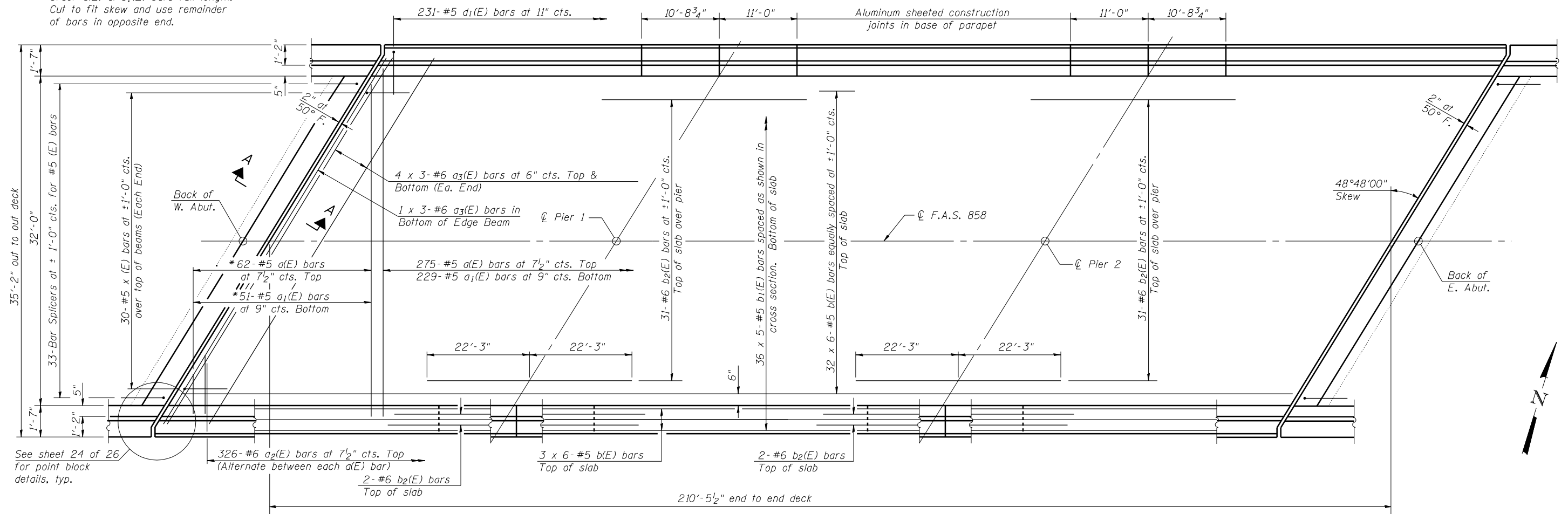
Location	Station	Offset	Theoretical Grade Elevations
Back of East Abutment	651+03.79	12.00	429.96
A	651+13.79	12.00	430.04
B	651+23.79	12.00	430.12
End of East Appr. Pvmt.	651+33.79	12.00	430.20

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
Back of East Abutment	650+99.22	16.00	429.84
A	651+09.22	16.00	429.92
B	651+19.22	16.00	430.00
End of East Appr. Pvmt.	651+29.22	16.00	430.08

PLAN

\* Order a(E) & a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.



**MINIMUM BAR LAP**

#5 bar = 2'-6"  
#6 bar = 3'-0"

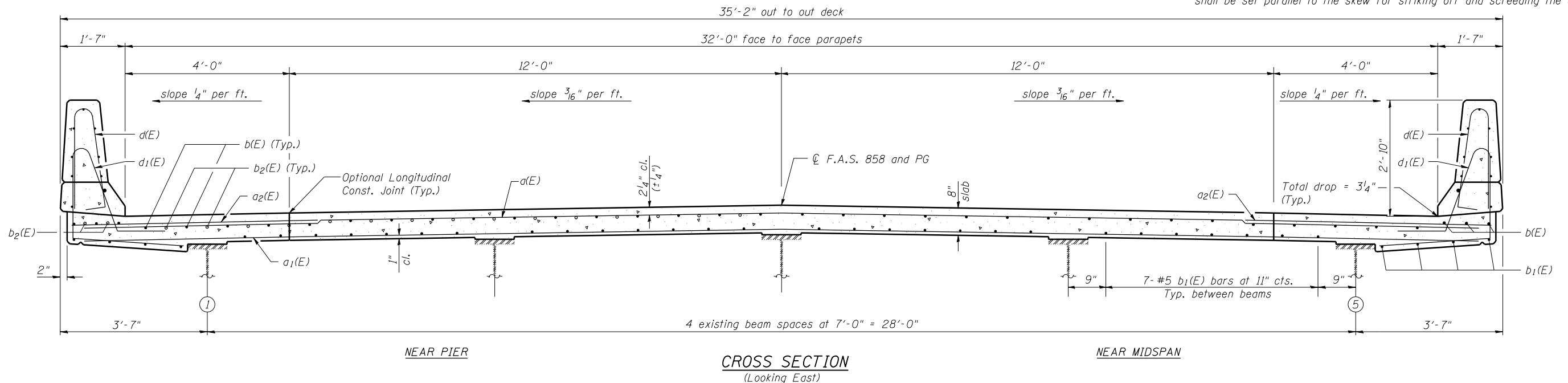
**PLAN**

**Notes:**

See sheet 9 of 26 for superstructure details and Bill of Material.  
Bars indicated thus 32 x 6-#5 etc. indicates 32 lines of #5 bars with 6  
lengths per line.

See sheet 9 of 26 for x<sub>1</sub>(E), x<sub>2</sub>(E), and parapet reinforcement.  
For Section A-A see sheet 9 of 26.

The concrete for bridge decks finished according to Article 503.16(a) of the  
Standard Specifications shall be placed and compacted parallel to the skew in  
uniform increments along centerline of bridge. The machine used for finishing  
shall be set parallel to the skew for striking off and screeding the concrete.



FILE NAME = \\_sheet 08 (superstruct)1.dgn

USER NAME = bselbel

DESIGNED - BB

REVISED -

Illinois Design Firm Number 184,001670

CHECKED - ACS

REVISED -

PLOT SCALE =

DRAWN - WJS

REVISED -

PLOT DATE = 11/19/15 AM 12/20/2011

CHECKED - CJF

REVISED -

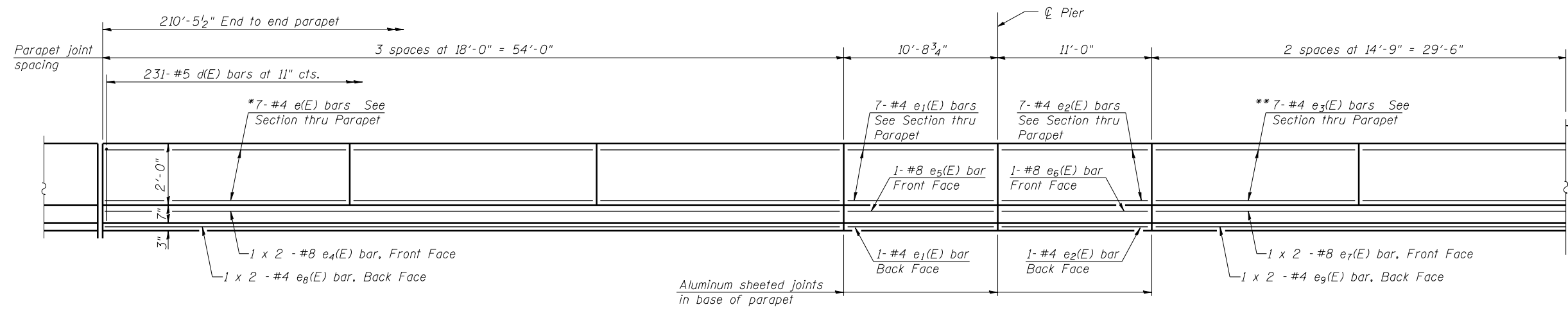
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE  
STRUCTURE NO. 079-0020**

SHEET NO. 8 OF 26 SHEETS

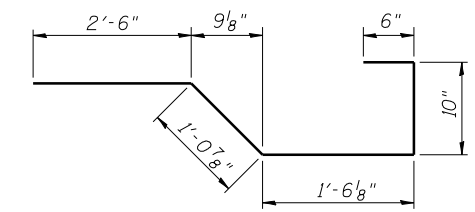
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-11	RANDOLPH	72	54
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	



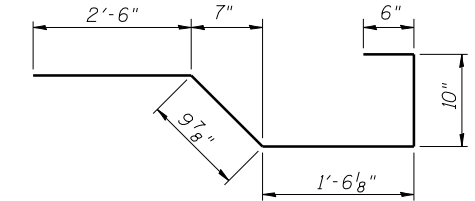


INSIDE ELEVATION OF PARAPET

\*e(E) bars typical in 18'-0" segments  
 \*\*e<sub>3</sub>(E) bars typical in 14'-9" segments



BAR x<sub>1</sub>(E)

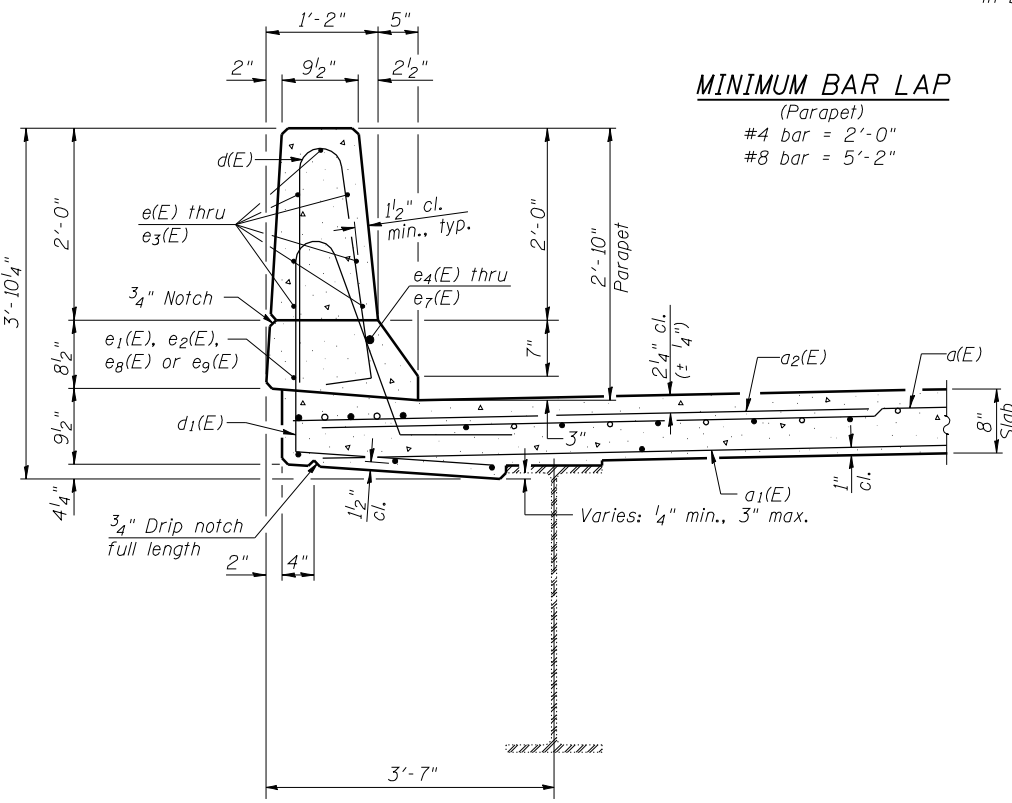


BAR x<sub>2</sub>(E)

SUPERSTRUCTURE BILL OF MATERIAL

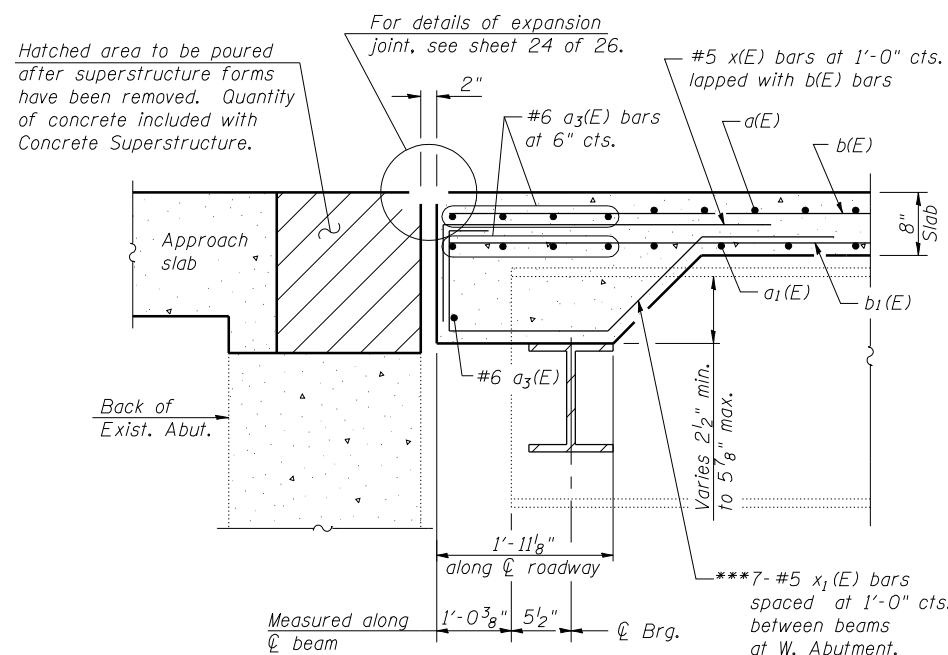
Bar	No.	Size	Length	Shape
a(E)	337	#5	34'-7"	
a <sub>1</sub> (E)	280	#5	34'-3"	
a <sub>2</sub> (E)	652	#6	6'-6"	
a <sub>3</sub> (E)	54	#6	19'-4"	
b(E)	228	#5	37'-2"	
b <sub>1</sub> (E)	180	#5	44'-1"	
b <sub>2</sub> (E)	70	#6	44'-6"	
d(E)	462	#5	5'-7"	
d <sub>1</sub> (E)	462	#5	8'-4"	
e(E)	84	#4	17'-9"	
e <sub>1</sub> (E)	32	#4	10'-5"	
e <sub>2</sub> (E)	32	#4	10'-9"	
e <sub>3</sub> (E)	56	#4	14'-6"	
e <sub>4</sub> (E)	8	#8	29'-5"	
e <sub>5</sub> (E)	4	#8	10'-5"	
e <sub>6</sub> (E)	4	#8	10'-9"	
e <sub>7</sub> (E)	4	#8	32'-0"	
e <sub>8</sub> (E)	8	#4	27'-11"	
e <sub>9</sub> (E)	4	#4	30'-5"	
x(E)	60	#5	4'-1"	
x <sub>1</sub> (E)	28	#5	6'-5"	
x <sub>2</sub> (E)	28	#5	6'-2"	
Reinforcement Bars, Epoxy Coated			Pound	62,640
Concrete Superstructure			Cu. Yds.	257.6

Bars indicated thus 1 x 2 -#8 etc. indicates 1 line of #8 bars with 2 lengths per line.  
 Place x<sub>1</sub>(E) and x<sub>2</sub>(E) bars parallel to beams.



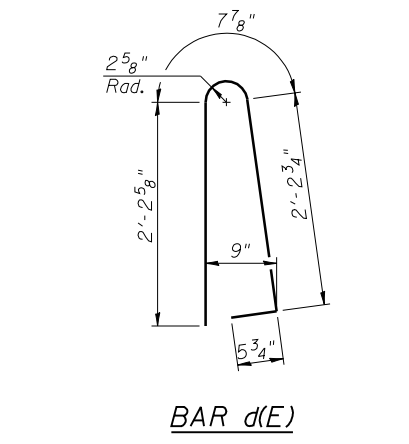
SECTION THRU PARAPET

MINIMUM BAR LAP (Parapet)  
 #4 bar = 2'-0"  
 #8 bar = 5'-2"

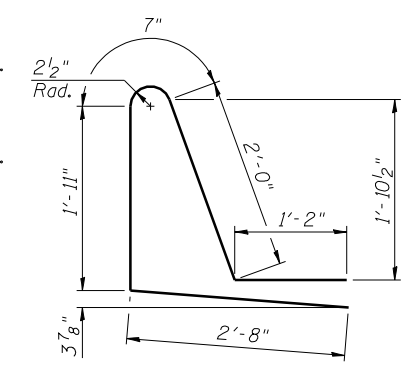


SECTION A-A

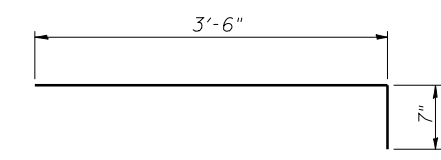
\*\*\*Tilt x<sub>1</sub>(E) and x<sub>2</sub>(E) bars as required to maintain clearance.



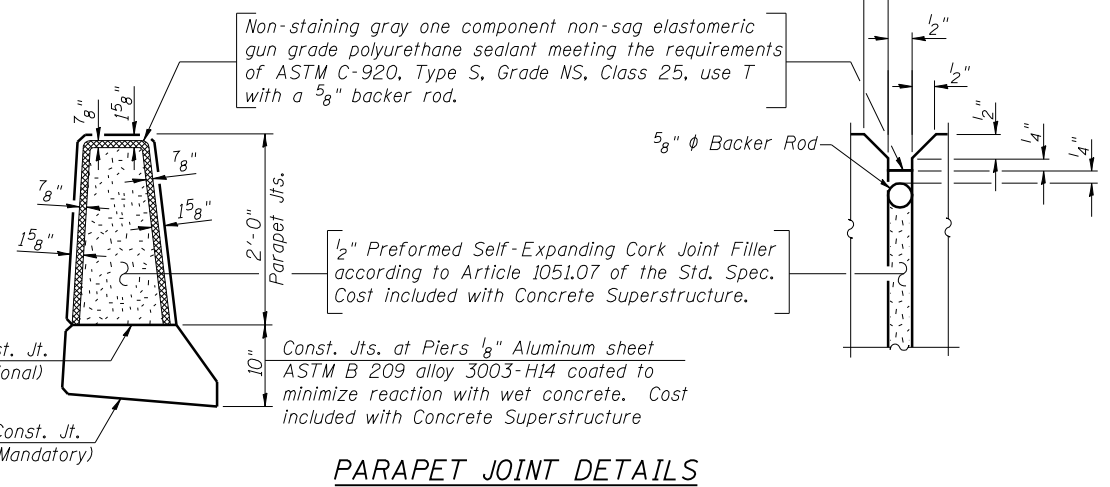
BAR d(E)



BAR d<sub>1</sub>(E)

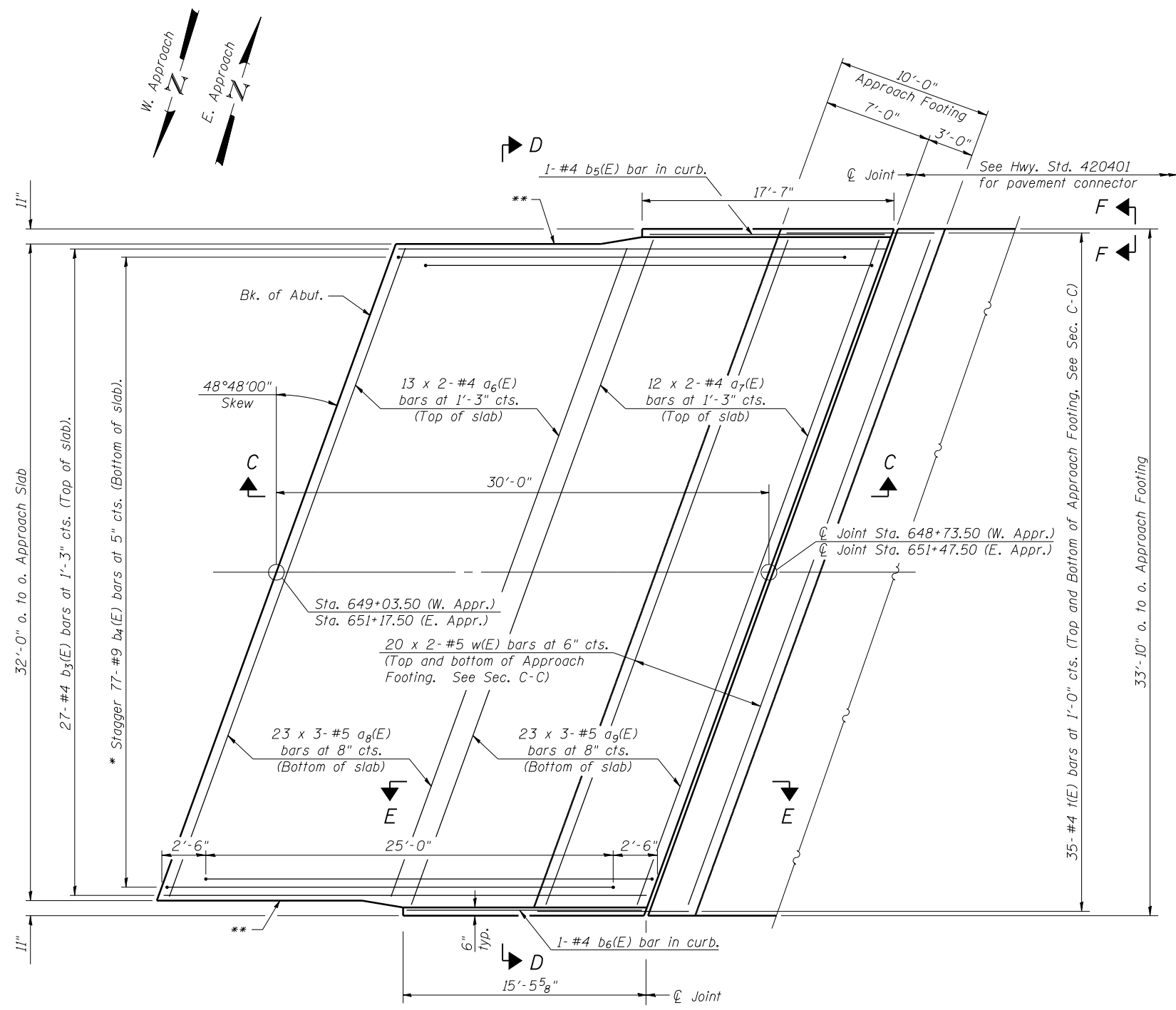


BAR x(E)



PARAPET JOINT DETAILS

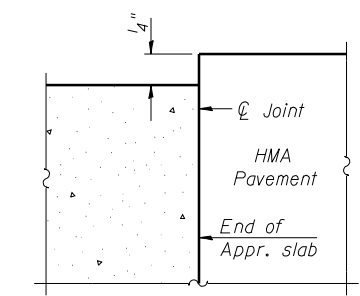
Notes:  
 See sheet 11 of 26 for Sections C-C & D-D and View E-E.  
 $a_6(E)$  thru  $a_9(E)$  bar spacings measured along  $\varnothing$  Rdwy.  
 Bars indicated thus 13 x 5-#5 etc. indicates 13 lines of #5 bars with 3 lengths per line.



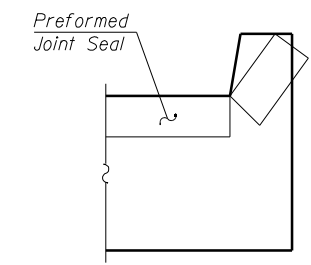
**PLAN**

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

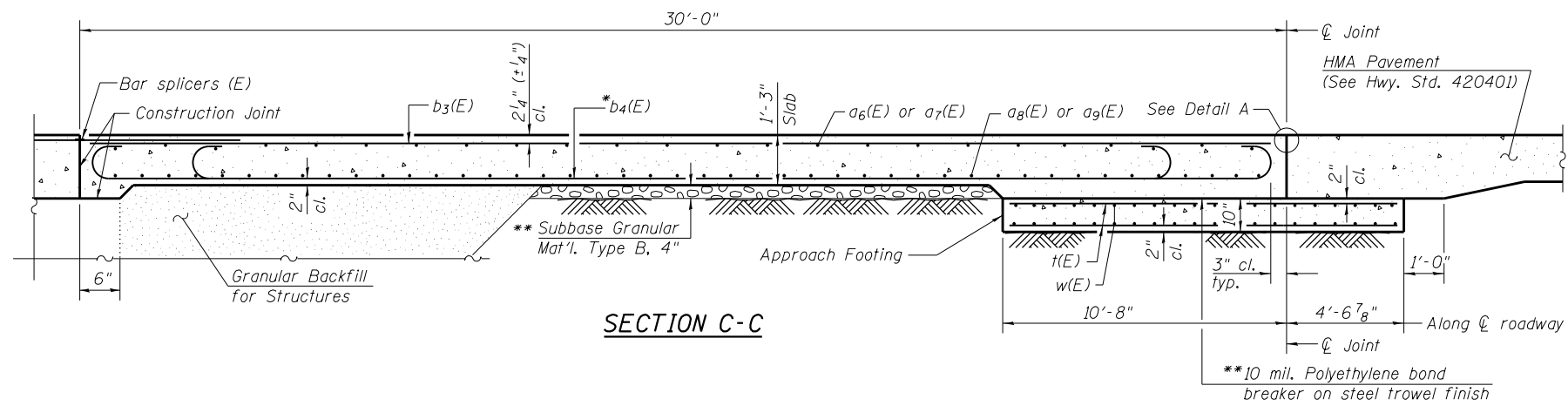
\* Tilt #9  $b_4(E)$  bars as required to maintain clearance.  
 \*\* Closed cell joint filler according to Article 1051.09 of the Standard Specifications: full depth of slab, full length of parapet. Typ. each parapet.



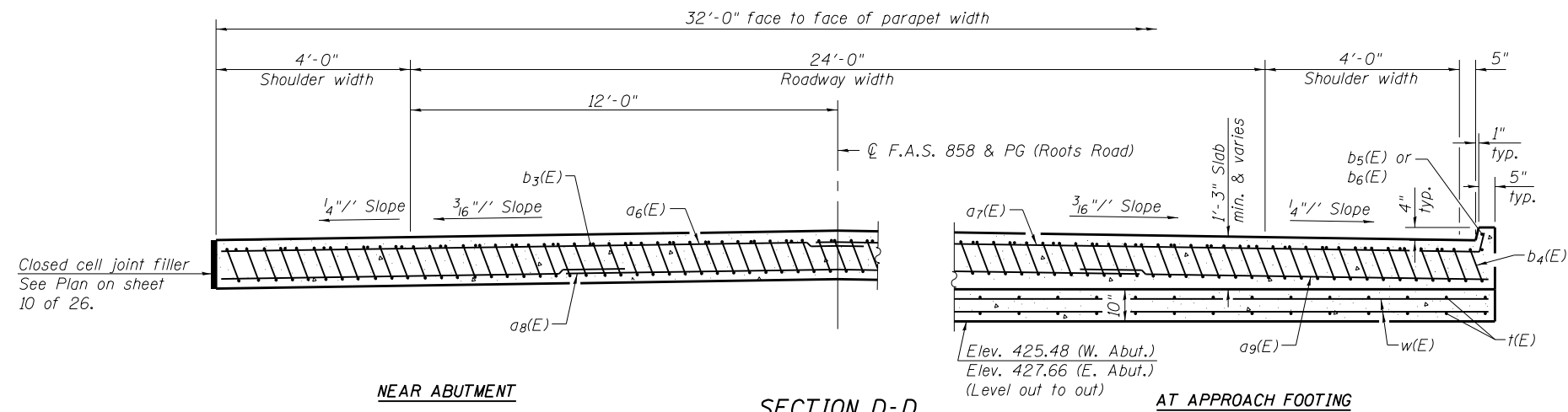
**FLEXIBLE PAVEMENT  
 DETAIL A**



**VIEW F-F**  
 Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



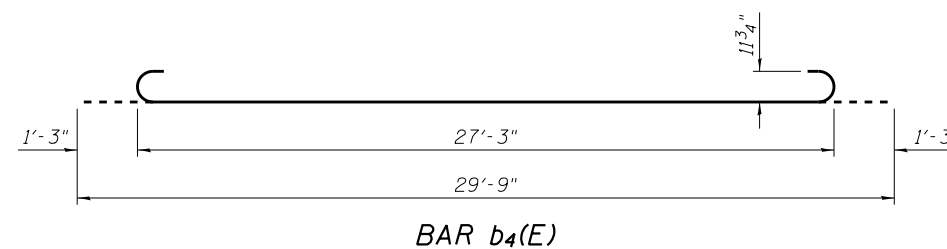
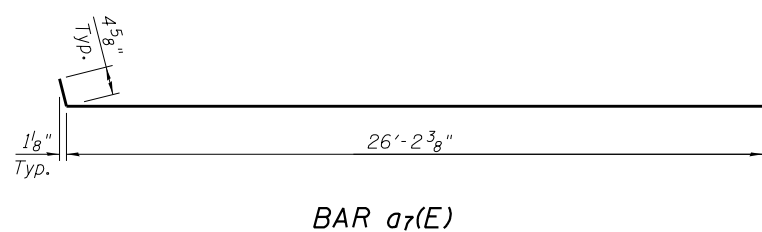
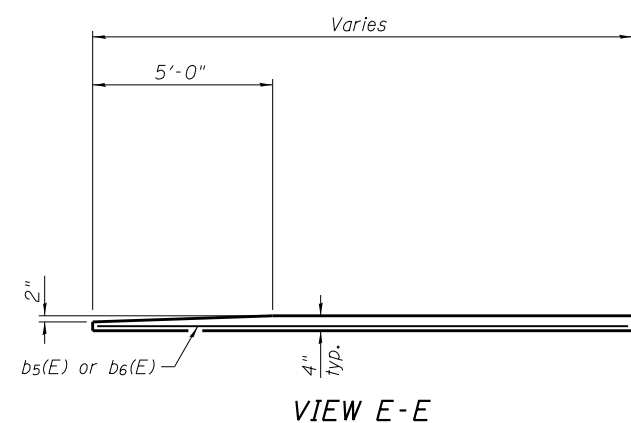
Notes:  
 See sheet 10 of 26 for Detail A.  
 Approach slab concrete shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 26 of 26.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 26.

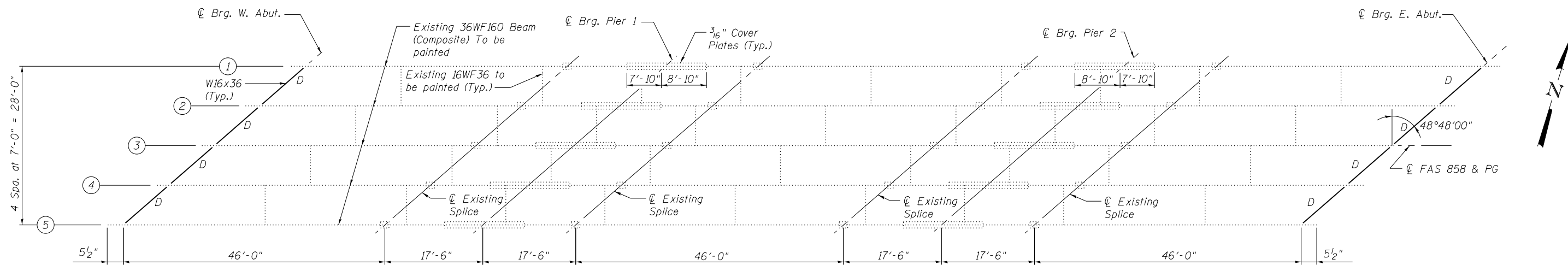


\* Tilt #9 b4(E) bars as required to maintain clearance.  
 \*\* Cost included with Concrete Superstructure.

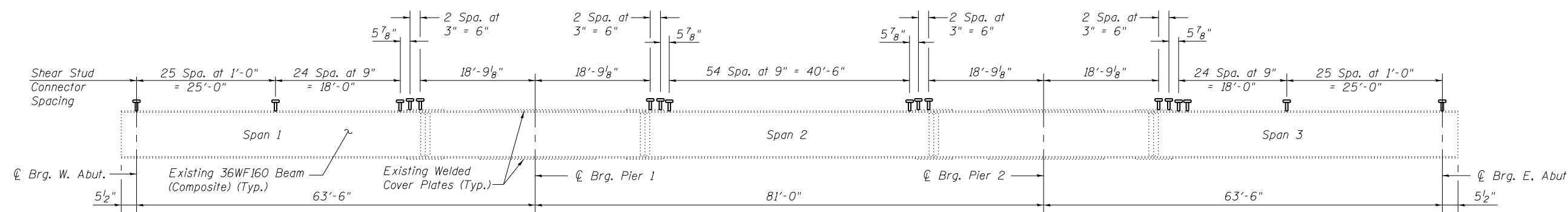
**TWO APPROACHES  
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a6(E)	52	#4	25'-3"	—
a7(E)	48	#4	26'-7"	—
a8(E)	138	#5	17'-10"	—
a9(E)	138	#5	18'-8"	—
b3(E)	54	#4	29'-8"	—
b4(E)	154	#9	29'-9"	—
b5(E)	2	#4	17'-3"	—
b6(E)	2	#4	15'-1"	—
t(E)	140	#4	14'-11"	—
w(E)	160	#5	26'-9"	—
Concrete Superstructure			Cu. Yd.	101.6
Concrete Structures			Cu. Yd.	31.8
Reinforcement Bars, Epoxy Coated			Pound	29,540

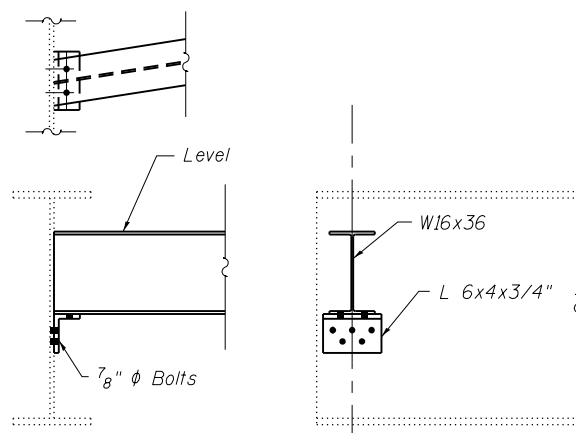




**FRAMING PLAN**



**BEAM ELEVATION**



**DIAPHRAGM D DETAILS**

(8 Required)

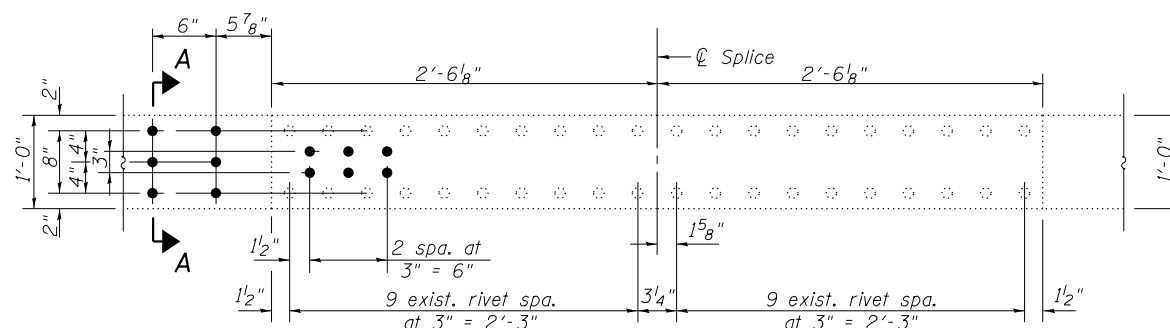
**Notes:**

Diaphragm and clip angles shall be paid for as Furnishing and Erecting Structural Steel.

All new fasteners shall be high strength bolts. Holes shall be subpunched or subdrilled  $\frac{1}{16}$ " dia. and reamed in the field to  $\frac{1}{8}$ " dia. for  $\frac{7}{8}$ " dia. bolts, unless otherwise noted. Cost included with Furnishing and Erecting Structural Steel.

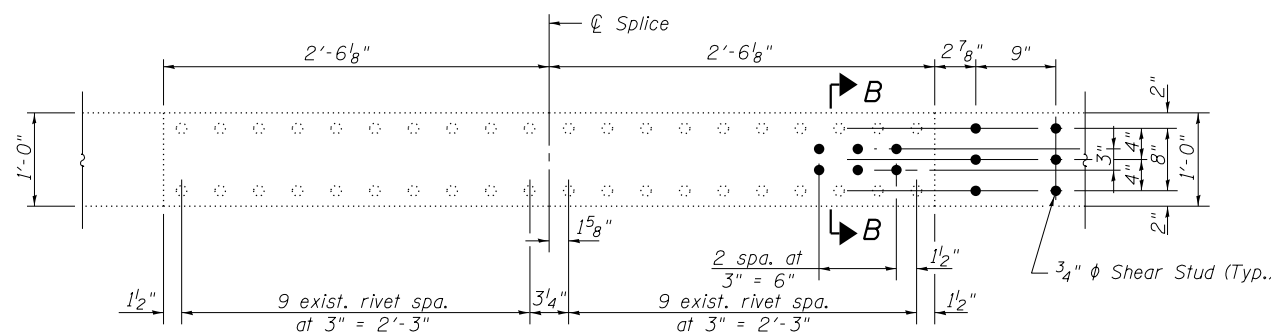
Two hardend washers shall be required over all oversized holes for diaphragms.

Removal of existing diaphragms, angles and rivets shall be included in the cost of Structural Steel Removal.

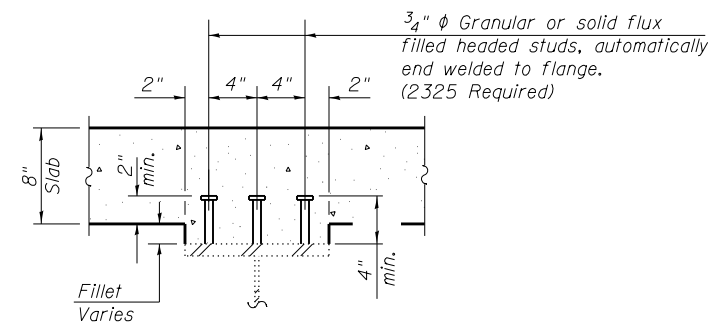


**SPAN 1 & 3 SPLICE & SHEAR STUD LAYOUT**

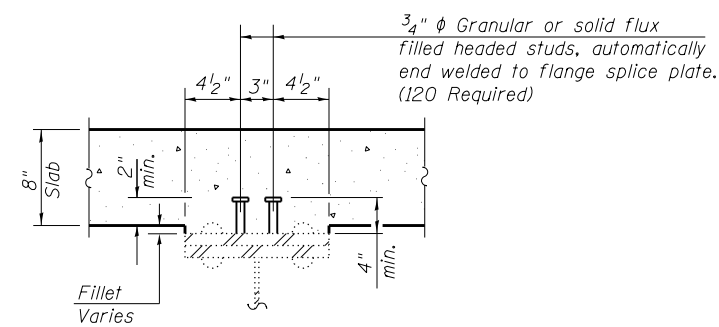
(Span 1 shown, Span 3 Similar)



**SPAN 2 SPLICE & SHEAR STUD LAYOUT**



**SECTION A-A**



**SECTION B-B**

FILE NAME = 0790020-76409-012-Struct Steel.dwg	USER NAME = bselbel	DESIGNED - BB	REVISED -
BERNHARDEN LOCHMUELLER & ASSOCIATES, INC. 3 OAK DRIVE MARYVILLE, IL 62446 PHONE (618) 281-4666 FAX (618) 281-4666	Illinois Design Firm Number 184,001670	CHECKED - ACS	REVISED -
	PLOT SCALE =	DRAWN - WJS	REVISED -
	PLOT DATE = 11/33:55 AM 8/13/2014	CHECKED - CJF	REVISED -

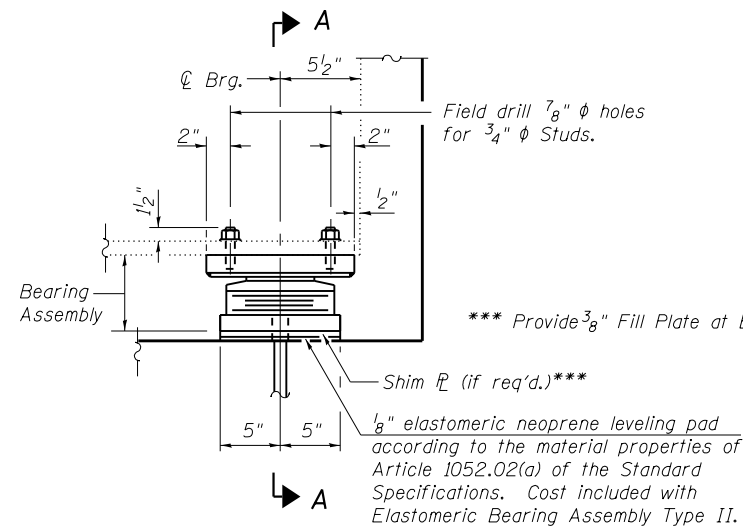
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL DETAILS  
STRUCTURE NO. 079-0020**

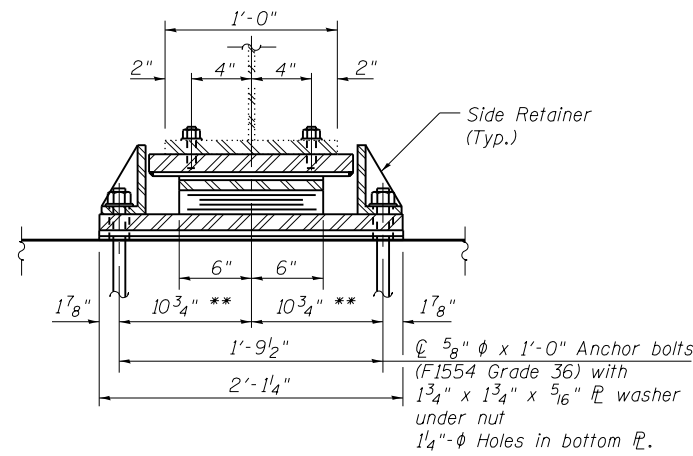
SHEET NO. 12 OF 26 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	58
CONTRACT NO. 76409				
ILLINOIS FED. AID PROJECT				



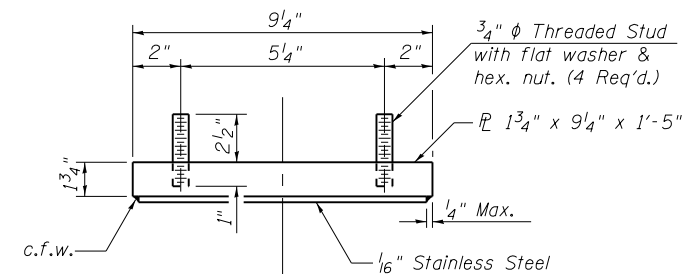


ELEVATION AT E. ABUT.

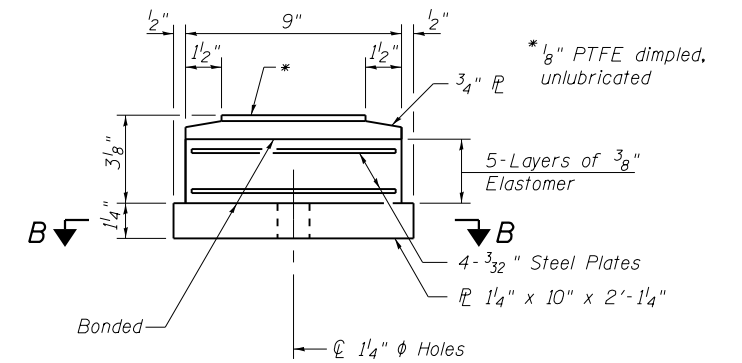


SECTION A-A

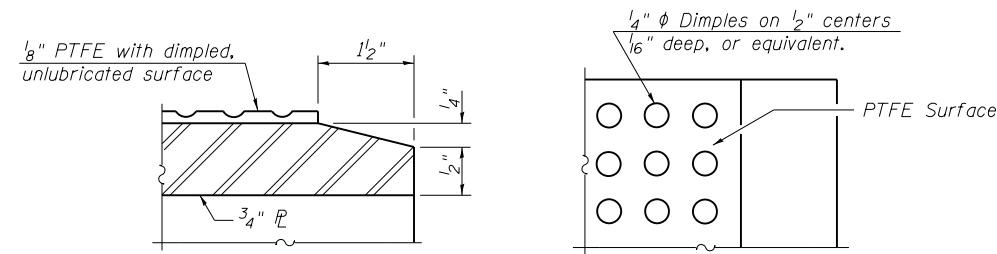
\*\* See Sheet 18 of 26 for Bolt Placement



TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY

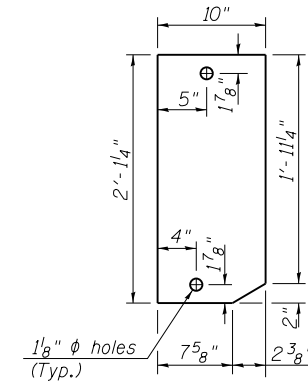


SECTION THRU PTFE

PLAN-PTFE SURFACE

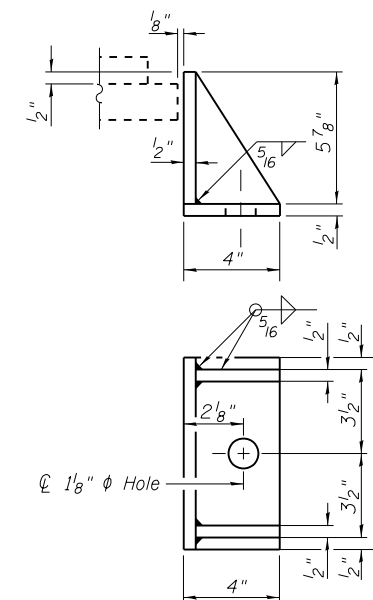
TYPE II ELASTOMERIC EXP. BRG.

(5 at East Abutment)



SECTION B-B

(Showing Bottom Plate)



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates at W. Abut. & E. Abut.

Notes:

Shim plates shall not be placed under Type I Bearing Assembly.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I and Elastomeric Bearing Assembly, Type II.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

The  $\frac{1}{8}$ " PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of  $\frac{1}{8}$ " PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

See sheet 22 of 26 for Side Retainer details for Pier 1.

Two  $\frac{1}{8}$ " adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

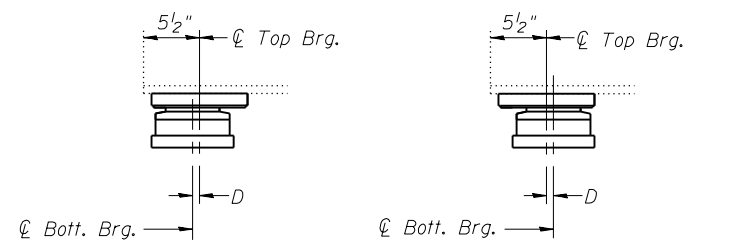
The Anchor Bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Elastomeric Bearing Assembly, Type II	Each	5
Anchor Bolts, $\frac{5}{8}$ "	Each	20
Anchor Bolts, 1"	Each	10
Furnishing and Erecting Structural Steel	Pound	3,500

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 & 2	0.5 Sp. 2
$I_s$	(in <sup>4</sup> )	9760	13898	9760
$I_c(n)$	(in <sup>4</sup> )	26098	-	26098
$I_c(3n)$	(in <sup>4</sup> )	18938	-	18938
$S_s$	(in <sup>3</sup> )	542	749	542
$S_c(n)$	(in <sup>3</sup> )	804	-	804
$S_c(3n)$	(in <sup>3</sup> )	722	-	722
$\phi$	(k/')	0.90	0.93	0.90
$M \phi$	(k)	233	504	235
$s \phi$	(k/')	0.20	0.20	0.20
$M_s \phi$	(k)	58	96	68
$M_t$	(k)	466	318	524
$M_l$	(k)	126	81	126
$\phi_3 [M_t + l]$	(k)	987	665	1083
$M_o$	(k)	1661	1645	1807
$M_u$	(k)	3170	-	3170
$f_s \phi$ non-comp	(ksi)	5.2	8.1	5.2
$f_s \phi$ (comp)	(ksi)	1.0	1.5	1.1
$f_s \phi_3 [M_t + M_l]$	(ksi)	14.7	10.7	16.3
$f_s$ (Overload)	(ksi)	20.9	20.3	22.6
$f_s$ (Total)	(ksi)	-	26.4	-
VR	(k)	59	-	45

INTERIOR BEAM REACTION TABLE			
	Abut.	Pier	
$R \phi$	(k)	25.4	88.9
$R_t$	(k)	42.8	50.3
$R_l$	(k)	11.4	12.8
$R_{Total}$	(k)	79.6	152.0



BELOW 50°F.

(Move bott. brg. away from fixed brg.)

ABOVE 50°F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

$D = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

FILE NAME = 0790020-76409-014-Brg Dtlis.dgn

USER NAME = ckatveit

DESIGNED - BB

REVISED -

Illinois Design Firm Number 184,001670

CHECKED - ACS

REVISED -

PLOT SCALE =

DRAWN - WJS

REVISED -

PLOT DATE = 1:34:06 PM 7/28/2014

CHECKED - CJF

REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS  
STRUCTURE NO. 079-0020

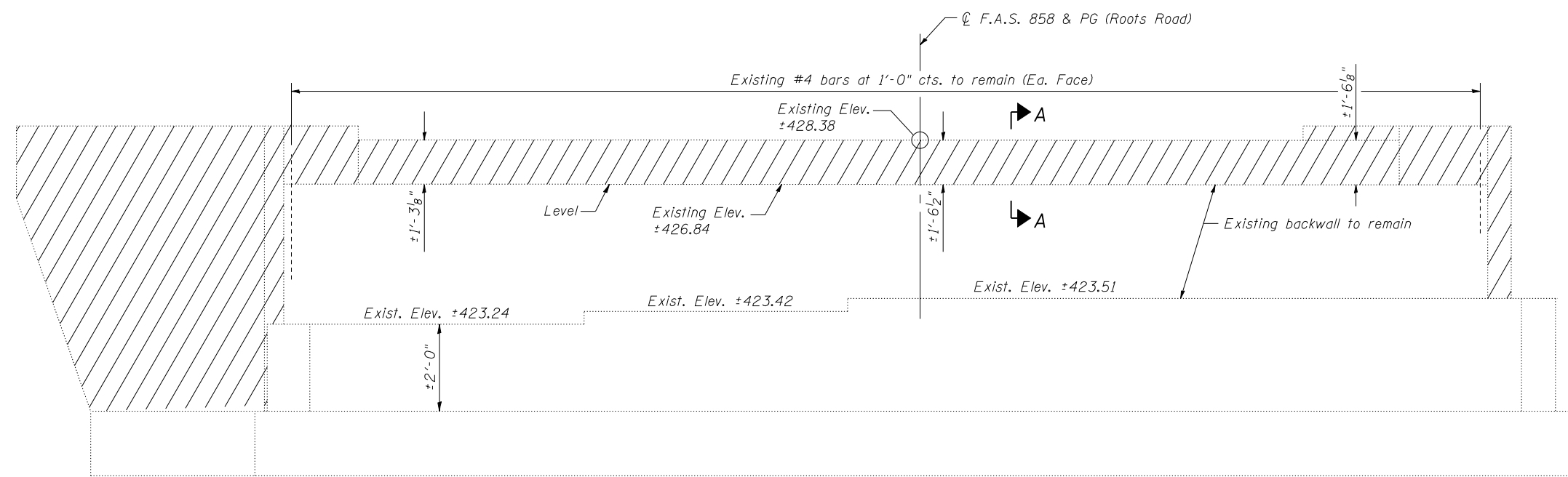
SHEET NO. 14 OF 26 SHEETS

F.A.S. SECTION COUNTY TOTAL SHEETS SHEET NO.

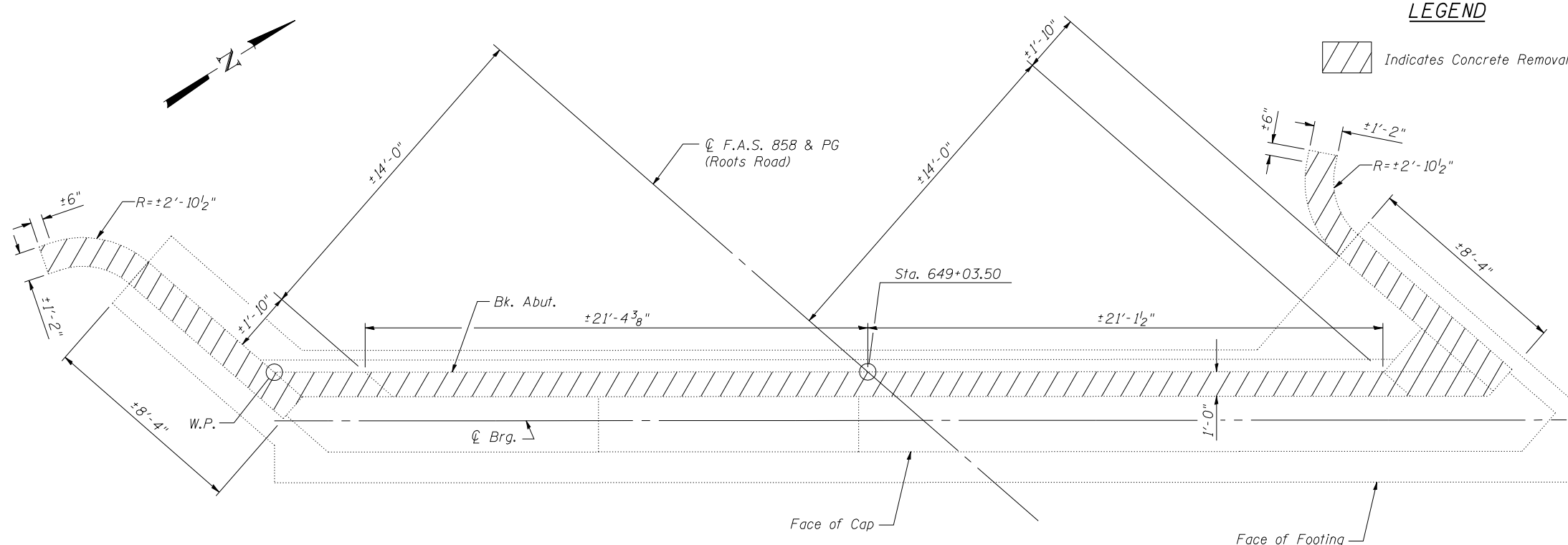
858 12VB-II RANDOLPH 72 60

CONTRACT NO. 76409

ILLINOIS FED. AID PROJECT

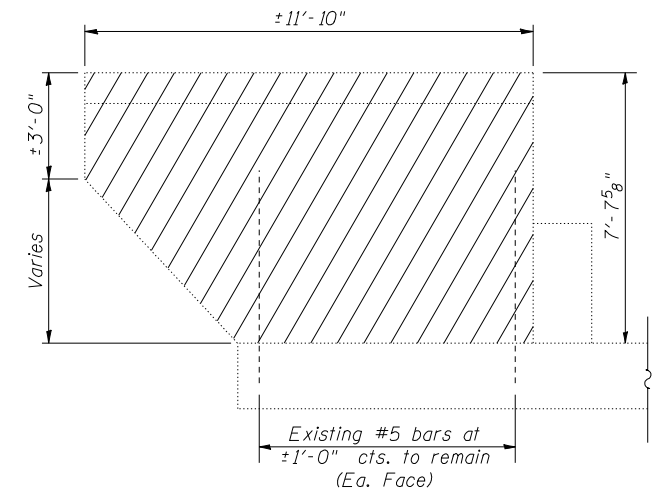


**ELEVATION**  
(W. Abut Looking West)

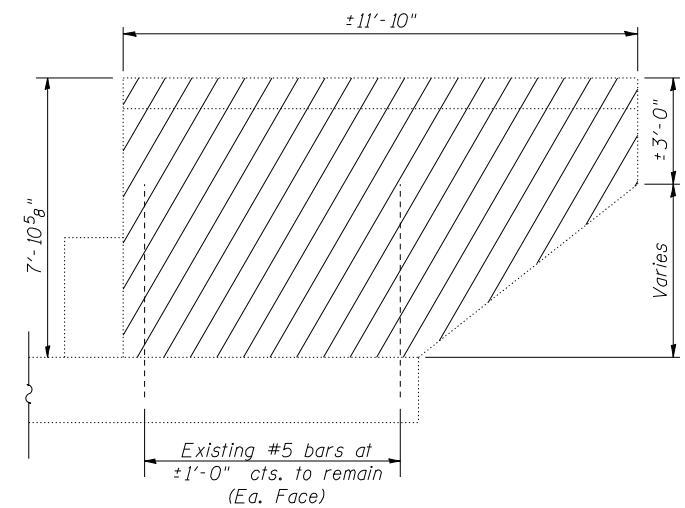


**PLAN**

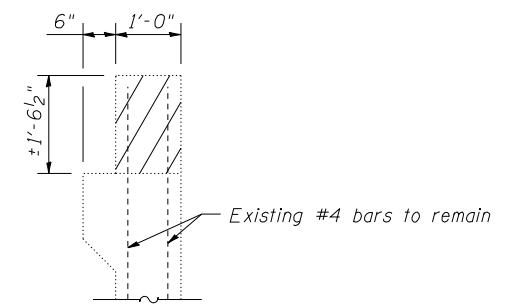
**LEGEND**  
 Indicates Concrete Removal



**SOUTH WING WALL**



**NORTH WING WALL**

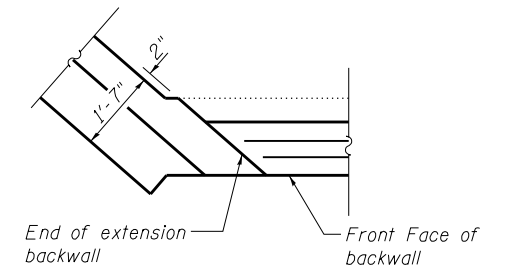
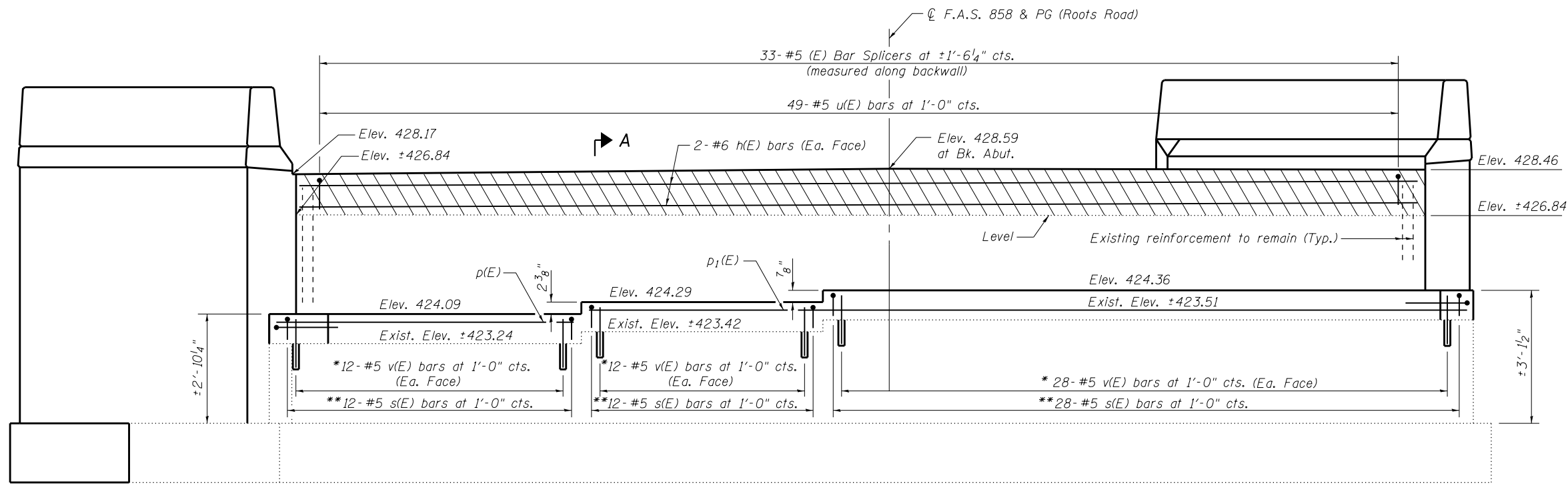


**SECTION A-A**

**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	9.2

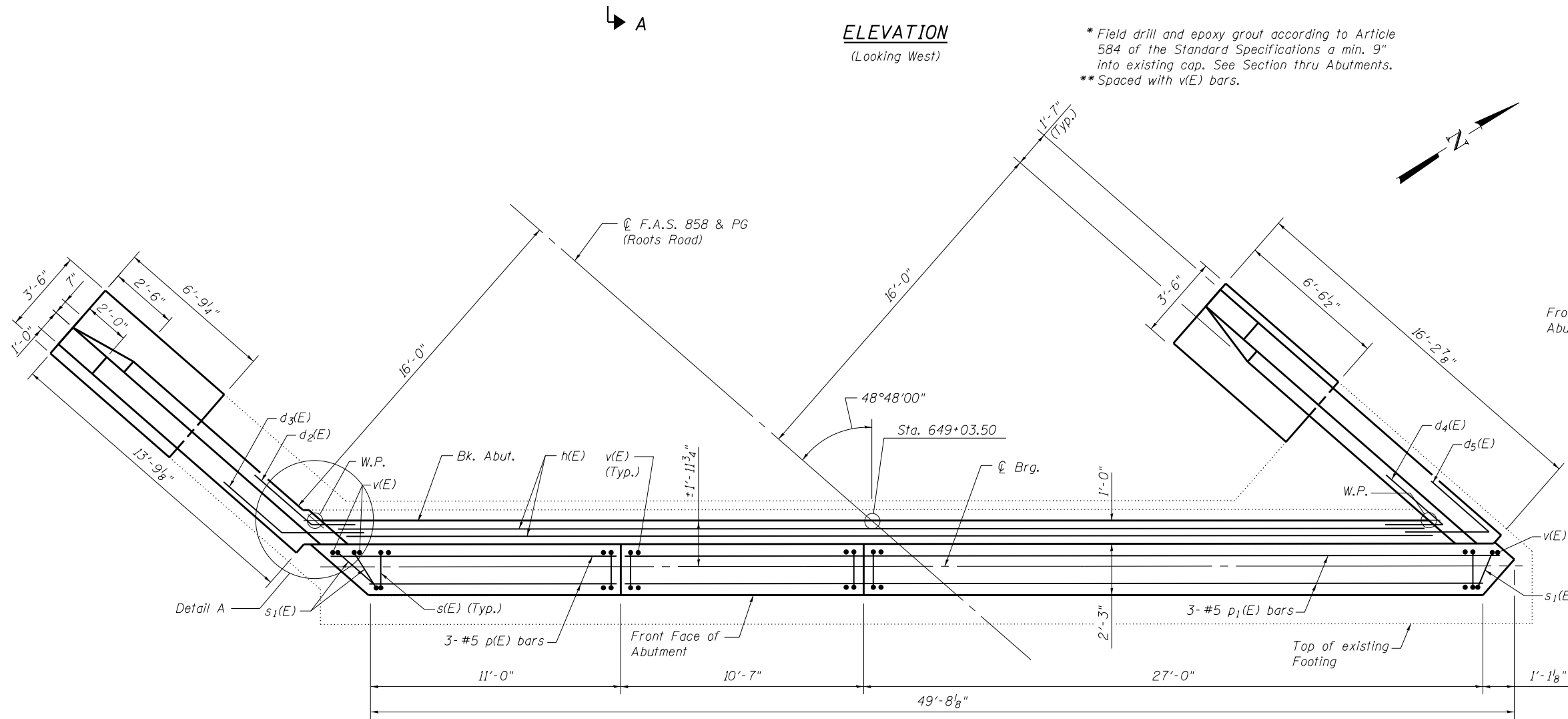
**Notes:**  
 Existing reinforcement at the abutments shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
 Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in Concrete Removal.



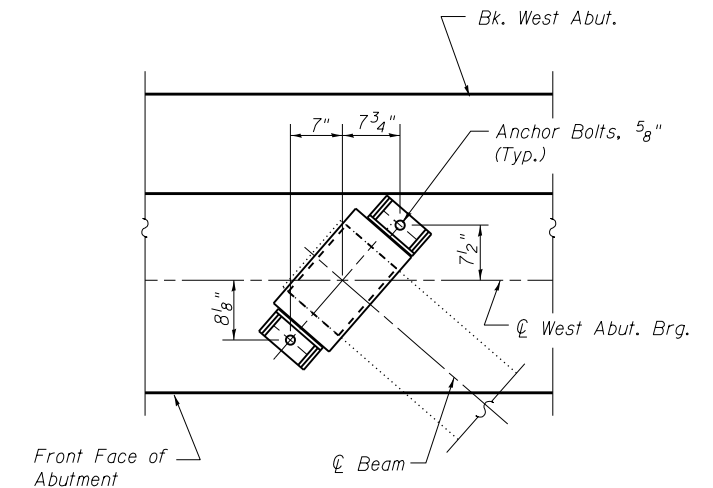
**DETAIL A**

**ELEVATION**  
(Looking West)

\* Field drill and epoxy grout according to Article 584 of the Standard Specifications a min. 9" into existing cap. See Section thru Abutments.  
\*\* Spaced with v(E) bars.



**PLAN**



**ANCHOR BOLT DETAIL  
WEST ABUTMENT**

Notes:  
Cut p(E) and p1(E) bars to fit with 2" clear.  
For Section A-A, Bar Bends and Bill of Material see sheet 20 of 26.  
Hatched area quantity of concrete included with Concrete Superstructure.  
Space reinforcement to miss Anchor Bolts.  
Bars shall be drilled and grouted according to Section 584 of the Standard Specifications.  
See sheet 19 of 26 for Wing Wall Details.

FILE NAME = 0790020-76409-016-W Abut Dtlis.dwg	USER NAME = ckatveit	DESIGNED - BB	REVISED -
BERNHARDEN * LOCHMUELLER & ASSOCIATES, INC.	Illinois Design Firm Number 184,001670	CHECKED - ACS	REVISED -
3 OAK DRIVE		DRAWN - WJS	REVISED -
MARYVILLE, IL 62430-6242		CHECKED - CJF	REVISED -
PHONE (618) 298-4666			
FAX (618) 298-4666			
PLOT SCALE =			
PLOT DATE = 1:36:22 PM 7/28/2014			

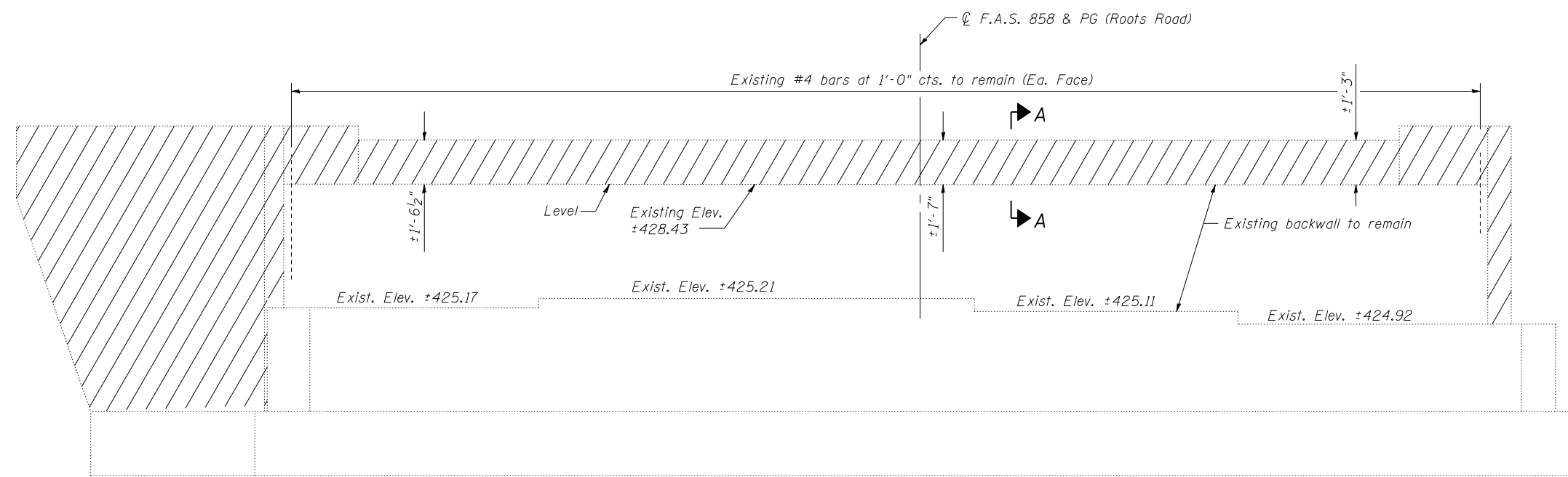
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT  
STRUCTURE NO. 079-0020**

SHEET NO. 16 OF 26 SHEETS

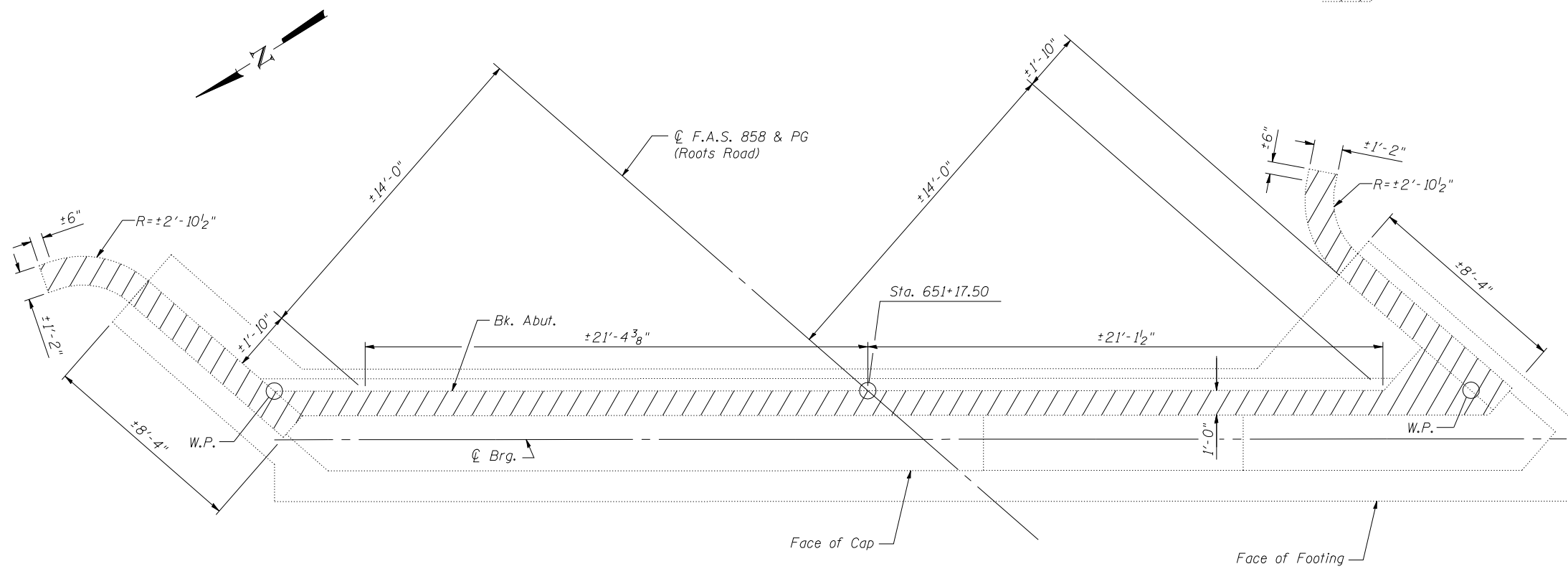
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	62
CONTRACT NO. 76409				
ILLINOIS FED. AID PROJECT				





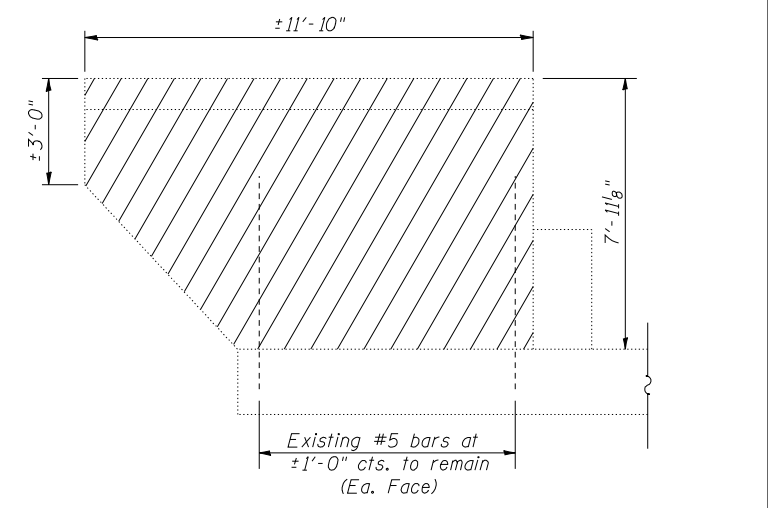
**ELEVATION**  
(E. Abut. Looking East)

**LEGEND**  
 Indicates Concrete Removal

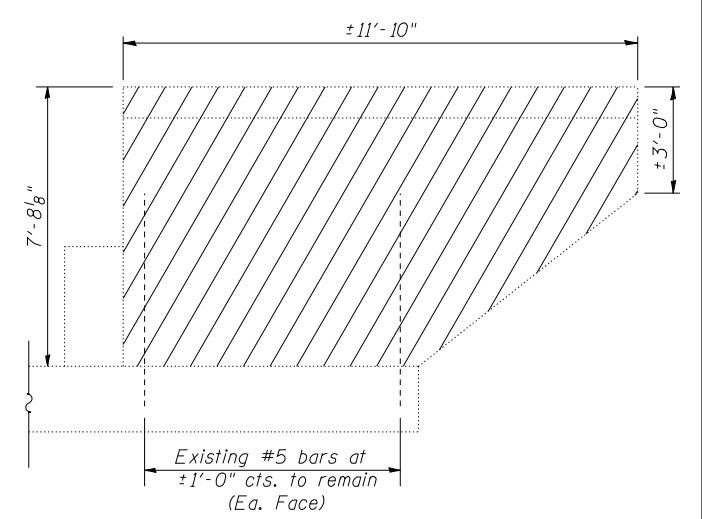


**PLAN**

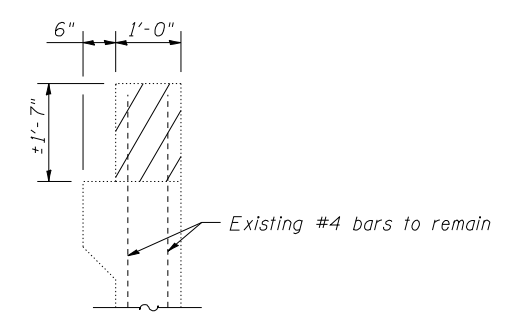
**Notes:**  
 Existing reinforcement at the abutments shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
 Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in Concrete Removal.



**NORTH WING WALL**



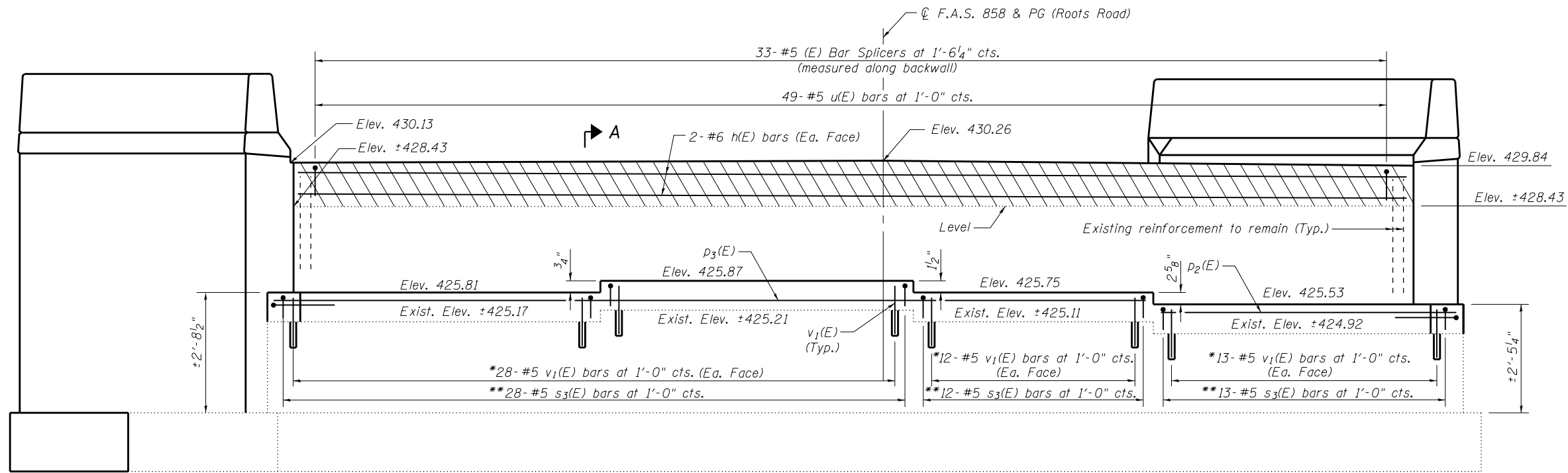
**SOUTH WING WALL**



**SECTION A-A**

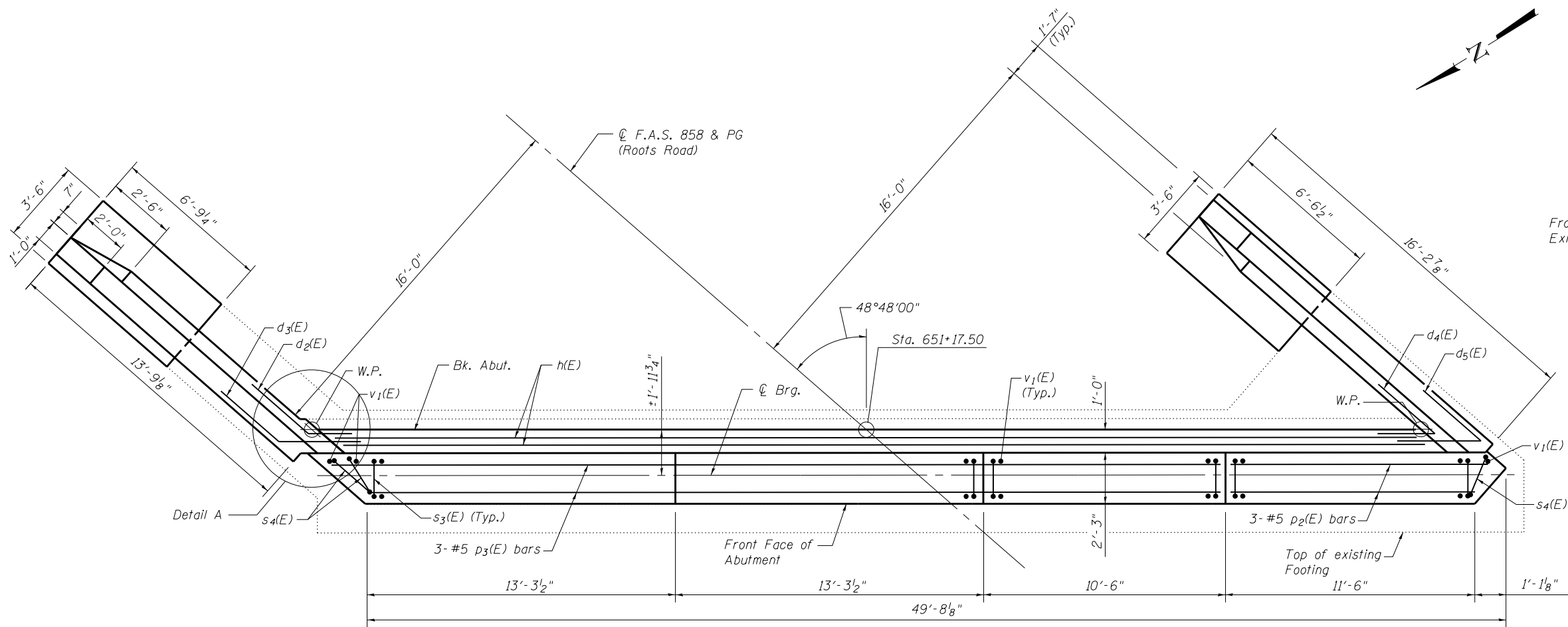
**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	9.4

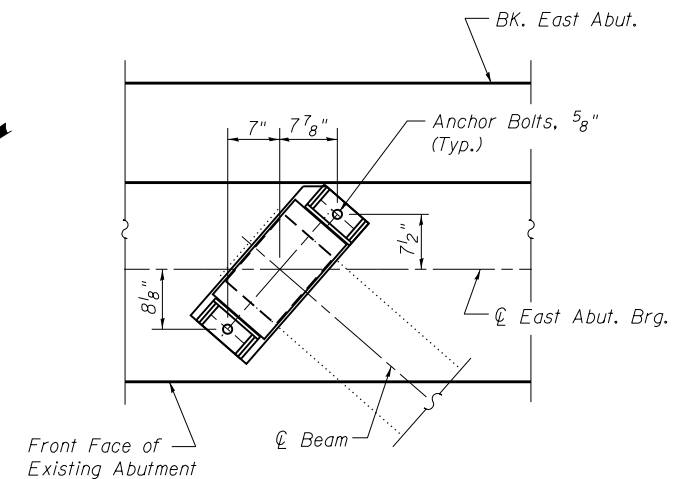


**ELEVATION**  
(Looking East)

\* Field drill and epoxy grout according to Article 584 of the Standard Specifications a min. 9" into existing cap. See Section thru Abutments.  
\*\* Spaced with  $v_1(E)$  bars.



**PLAN**



**ANCHOR BOLT DETAIL  
EAST ABUTMENT**

Notes:  
Cut  $p_2(E)$  and  $p_3(E)$  bars to fit with 2" clear.  
For Section A-A, Bar Bends and Bill of Material see sheet 20 of 26.  
Hatched area quantity of concrete included with Concrete Superstructure.  
Space reinforcement to miss Anchor Bolts.  
Bars shall be drilled and grouted according to Section 584 of the Standard Specifications.  
See sheet 19 of 26 for Wing Wall Details.  
See sheet 16 of 26 for Detail A.

FILE NAME = 0790020-76409-018-E Abut Dtl.sgn  
USER NAME = ckatveit  
DESIGNED - BB  
CHECKED - ACS  
DRAWN - WJS  
CHECKED - CJF  
PLOT SCALE =  
PLOT DATE = 1:38:20 PM 7/28/2014  
BERNHARDEN LOCHMUELLER & ASSOCIATES, INC.  
3 OAK DRIVE  
MARYVILLE, IL 62428  
PHONE (618) 281-4666  
FAX (618) 281-4666

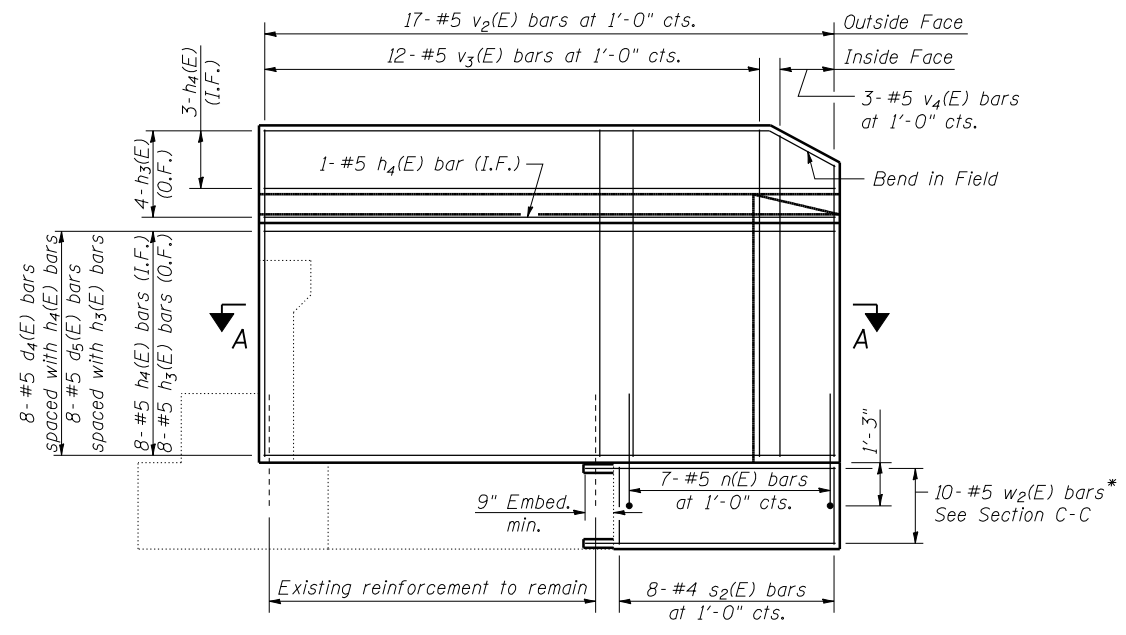
DESIGNED - BB  
CHECKED - ACS  
DRAWN - WJS  
CHECKED - CJF  
REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT  
STRUCTURE NO. 079-0020**

SHEET NO. 18 OF 26 SHEETS

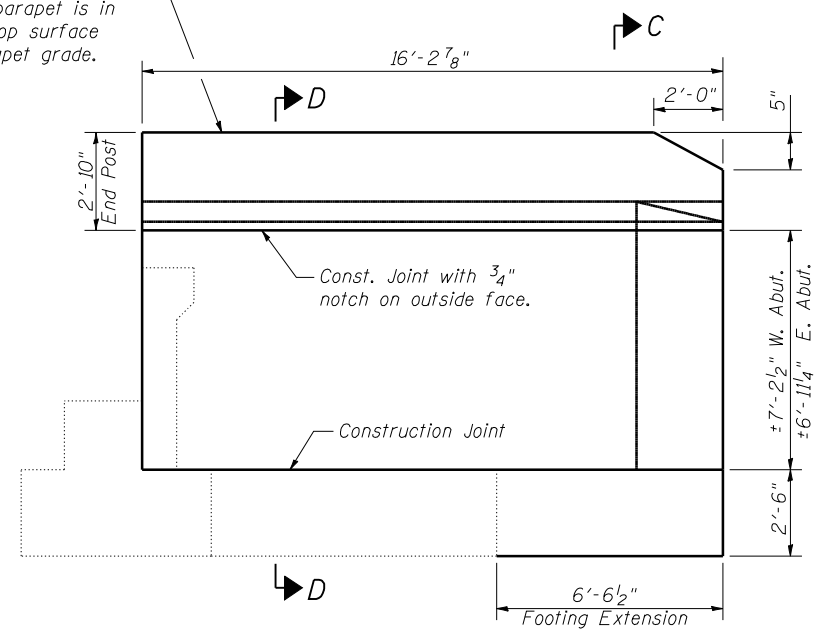
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	64
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	



**WING WALL ELEVATION**

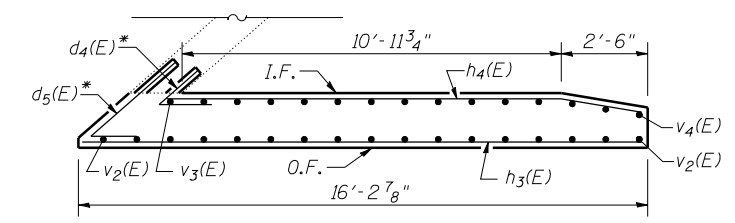
West Abutment, North Wing  
East Abutment, South Wing  
(Showing Reinforcement)

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.

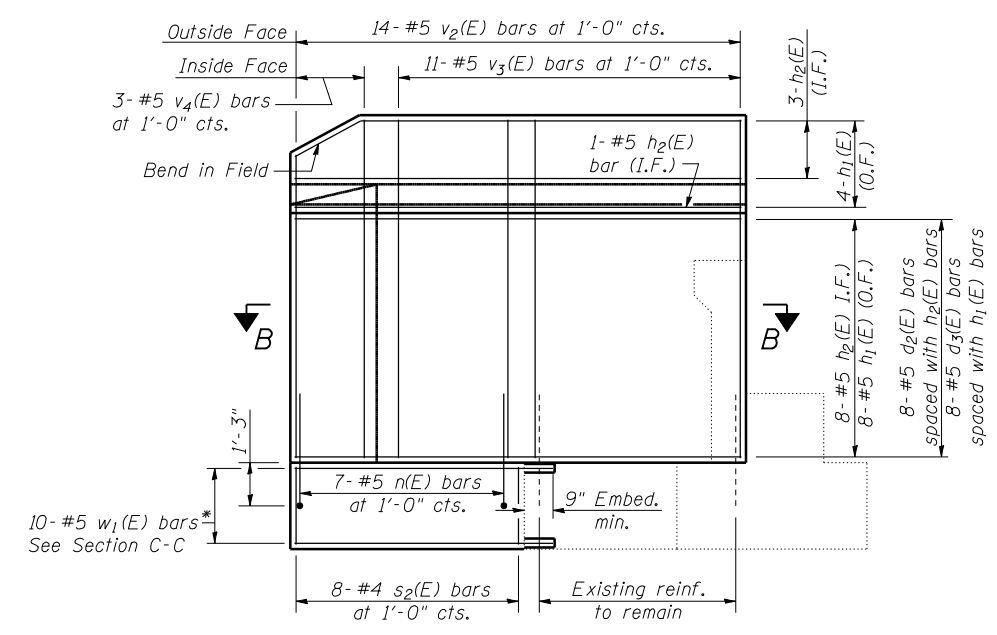


**WING WALL ELEVATION**

West Abutment, North Wing  
East Abutment, South Wing  
(Showing Dimensions)



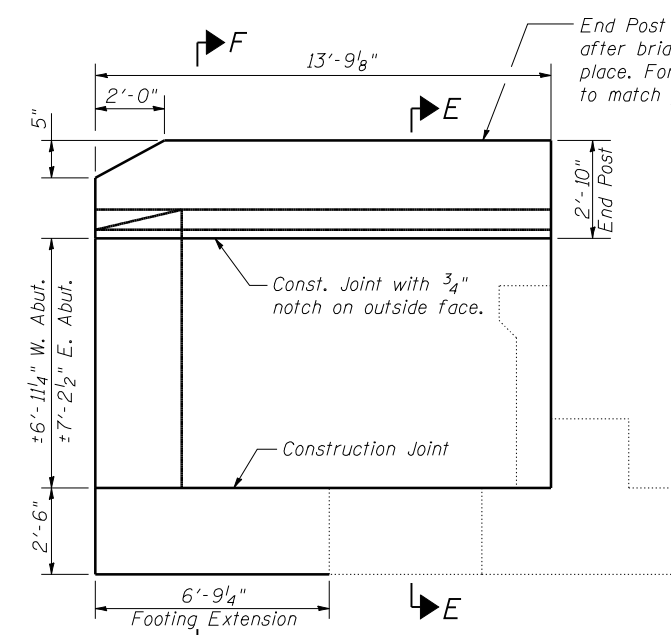
**SECTION A-A**



**WING WALL ELEVATION**

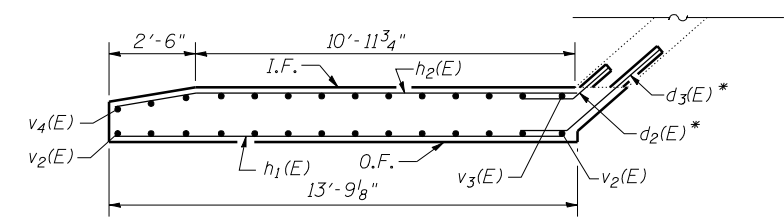
West Abutment, South Wing  
East Abutment, North Wing  
(Showing Reinforcement)

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



**WING WALL ELEVATION**

West Abutment, South Wing  
East Abutment, North Wing  
(Showing Dimensions)



**SECTION B-B**

Notes:  
I.F. indicates inside face  
O.F. indicates outside face  
For Sections C-C and D-D see sheet 20 of 26.  
Order v<sub>2</sub>(E), v<sub>3</sub>(E) & v<sub>4</sub>(E) bars full length and cut to fit in field.

\* Bars shall be field drilled & epoxy grouted according to Article 584 of the Standard Specifications a min. of 9" into existing structure. d<sub>2</sub>(E) thru d<sub>5</sub>(E) bars to be field drilled and epoxy grouted 9" min. into existing backwall.

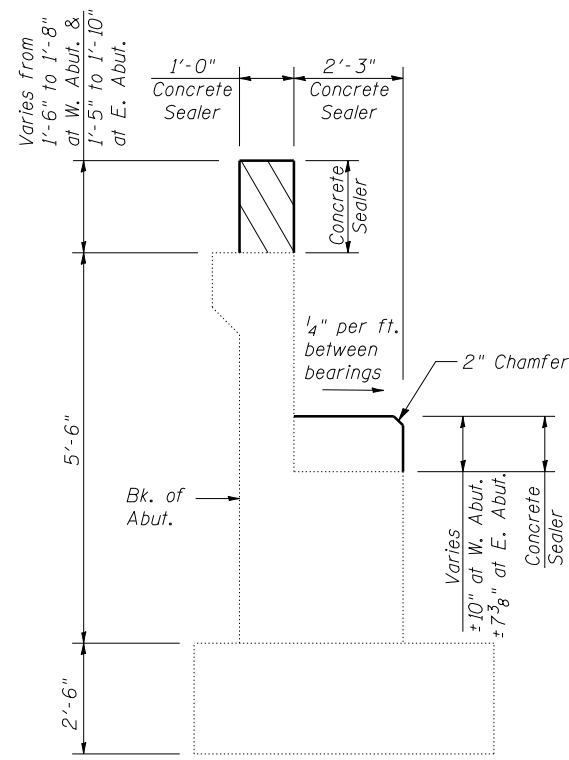
FILE NAME = \sheet 19 (Abutment dtls).dgn	USER NAME = bselbel	DESIGNED - BB	REVISED -
BERNHARDT LOGGEMULLER & ASSOCIATES, INC. 3 OAK DRIVE MARYVILLE, ILLINOIS 62458 PHONE (618) 391-4000 FAX (618) 391-4000	Illinois Design Firm Number 184,001670	CHECKED - ACS	REVISED -
	PLOT SCALE =	DRAWN - WJS	REVISED -
	PLOT DATE = 1/2/19 PM 12/20/2011	CHECKED - CJF	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT DETAILS  
STRUCTURE NO. 079-0020**

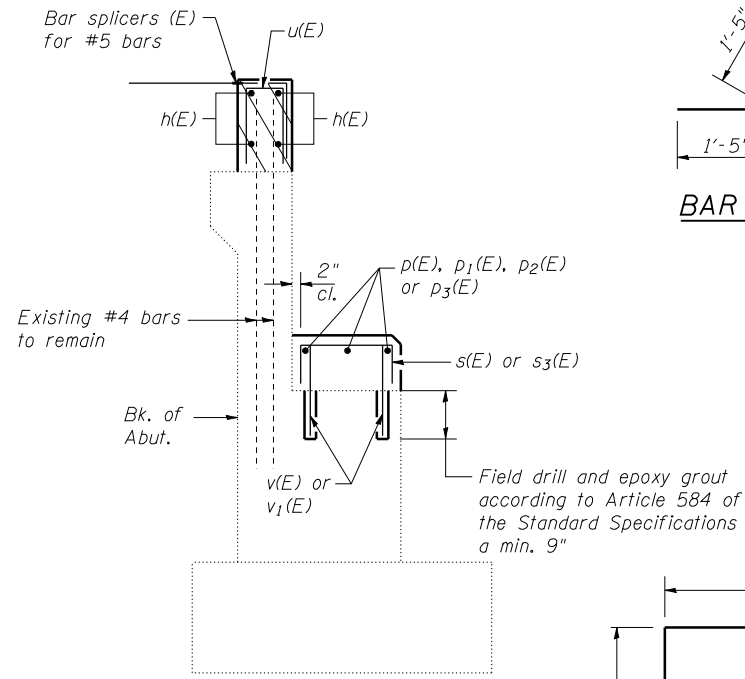
SHEET NO. 19 OF 26 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-11	RANDOLPH	72	65
				CONTRACT NO. 76409
ILLINOIS FED. AID PROJECT				

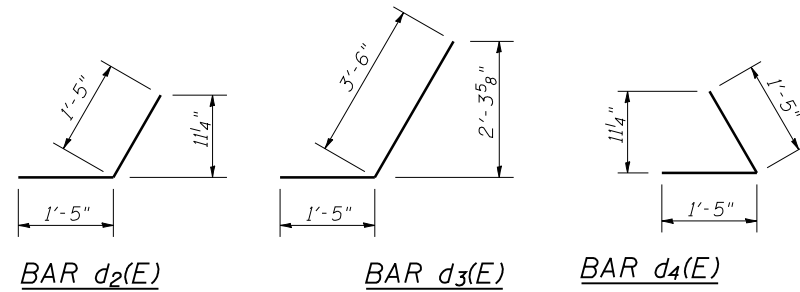


Dimensions at Rt. L

**SECTION A-A THRU ABUTMENT  
SHOWING OUTLINE**



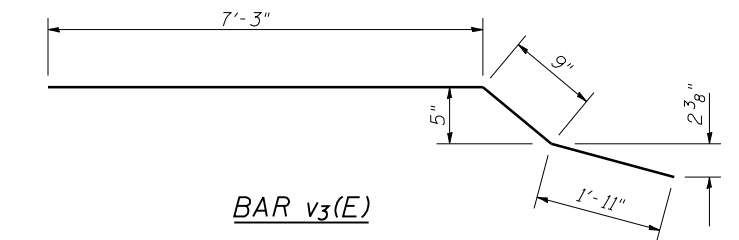
**SECTION A-A THRU ABUTMENT  
SHOWING REINFORCEMENT**



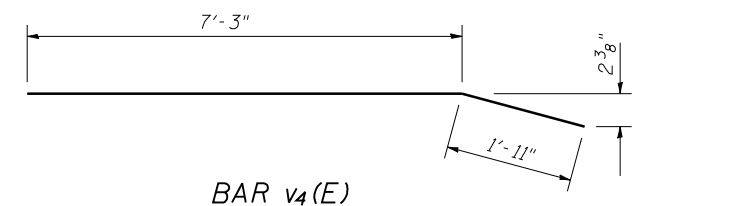
**BAR d<sub>2</sub>(E)**

**BAR d<sub>3</sub>(E)**

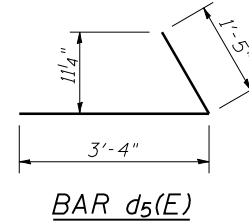
**BAR d<sub>4</sub>(E)**



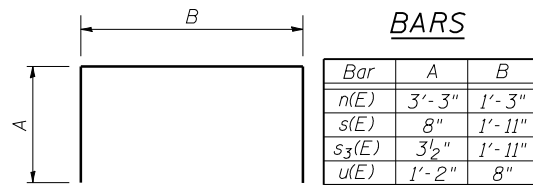
**BAR v<sub>3</sub>(E)**



**BAR v<sub>4</sub>(E)**

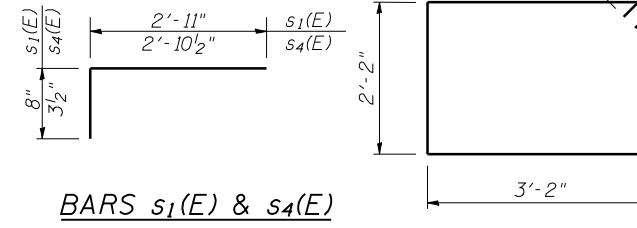


**BAR d<sub>5</sub>(E)**



**BARS**

Bar	A	B
n(E)	3'-3"	1'-3"
s(E)	8"	1'-11"
s <sub>3</sub> (E)	3 1/2"	1'-11"
u(E)	1'-2"	8"



**BARS s<sub>1</sub>(E) & s<sub>4</sub>(E)**

**BAR s<sub>2</sub>(E)**

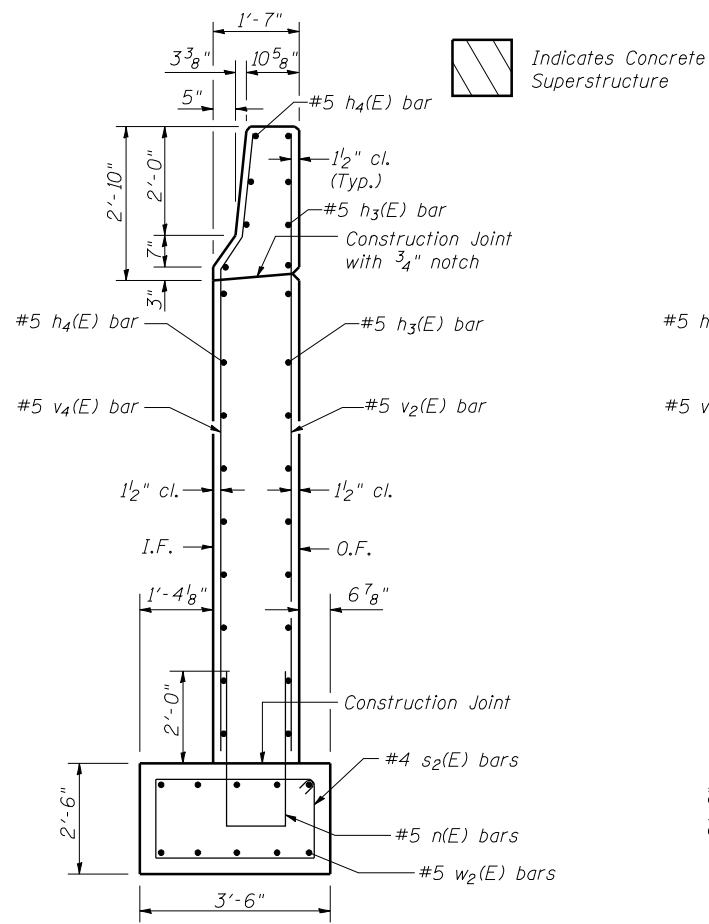
**BILL OF MATERIAL  
TWO ABUTMENTS**

Bar	No.	Size	Length	Shape
d <sub>2</sub> (E)	16	#5	2'-10"	└─┘
d <sub>3</sub> (E)	16	#5	4'-11"	└─┘
d <sub>4</sub> (E)	16	#5	2'-10"	└─┘
d <sub>5</sub> (E)	16	#5	4'-9"	└─┘
h(E)	8	#6	48'-3"	—
h <sub>1</sub> (E)	24	#5	12'-11"	—
h <sub>2</sub> (E)	24	#5	13'-4"	—
h <sub>3</sub> (E)	24	#5	16'-2"	—
h <sub>4</sub> (E)	24	#5	13'-9"	—
n(E)	28	#5	7'-9"	└─┘
p(E)	3	#5	12'-11"	—
p <sub>1</sub> (E)	3	#5	38'-2"	—
p <sub>2</sub> (E)	3	#5	12'-1"	—
p <sub>3</sub> (E)	3	#5	39'-0"	—
s(E)	52	#5	3'-3"	└─┘
s <sub>1</sub> (E)	3	#5	3'-7"	└─┘
s <sub>2</sub> (E)	32	#4	11'-5"	└─┘
s <sub>3</sub> (E)	53	#5	2'-6"	└─┘
s <sub>4</sub> (E)	3	#5	3'-2"	└─┘
u(E)	98	#5	3'-0"	└─┘
v(E)	107	#5	1'-5"	—
v <sub>1</sub> (E)	109	#5	1'-2"	—
v <sub>2</sub> (E)	62	#5	9'-10"	—
v <sub>3</sub> (E)	46	#5	9'-11"	—
v <sub>4</sub> (E)	12	#5	9'-2"	—
w <sub>1</sub> (E)	20	#5	7'-4"	—
w <sub>2</sub> (E)	20	#5	7'-1"	—
Concrete Sealer		Sq. Ft.	550.6	
Structure Excavation		Cu. Yd.	482	
Concrete Structures		Cu. Yd.	46.4	
Reinforcement Bars, Epoxy Coated		Pound	5500	
Bar Splicers		Each	66	

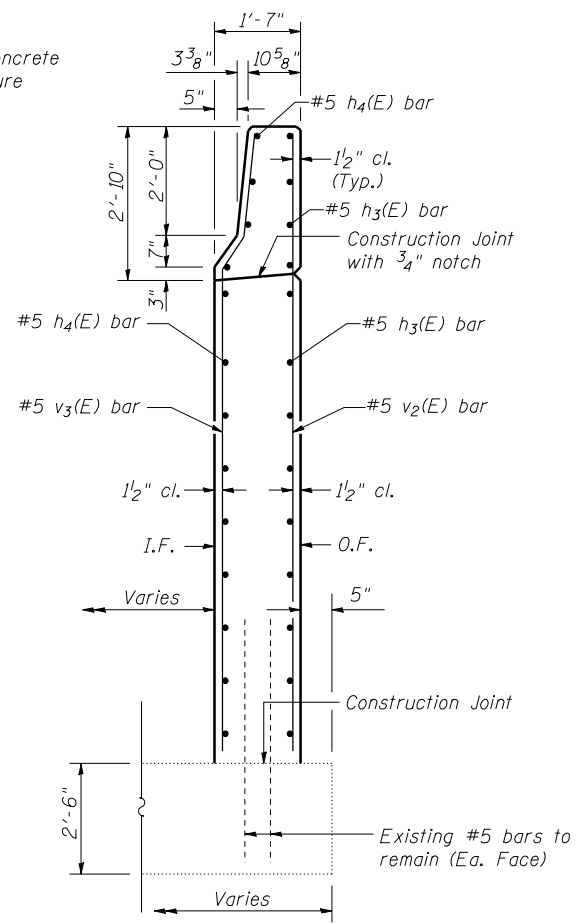
For details of Bar Splicers, see sheet 26 of 26. Order v<sub>2</sub>(E), v<sub>3</sub>(E) & v<sub>4</sub>(E) bars full length and cut to fit in field.

Quantity of concrete in end post included with Concrete Superstructure on sheet 9 of 26.

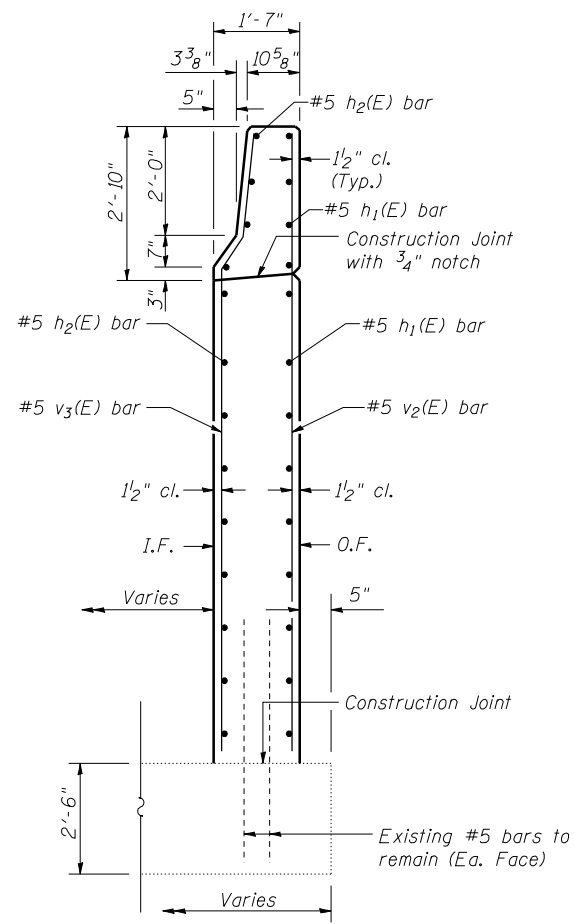
Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included with Concrete Superstructure.



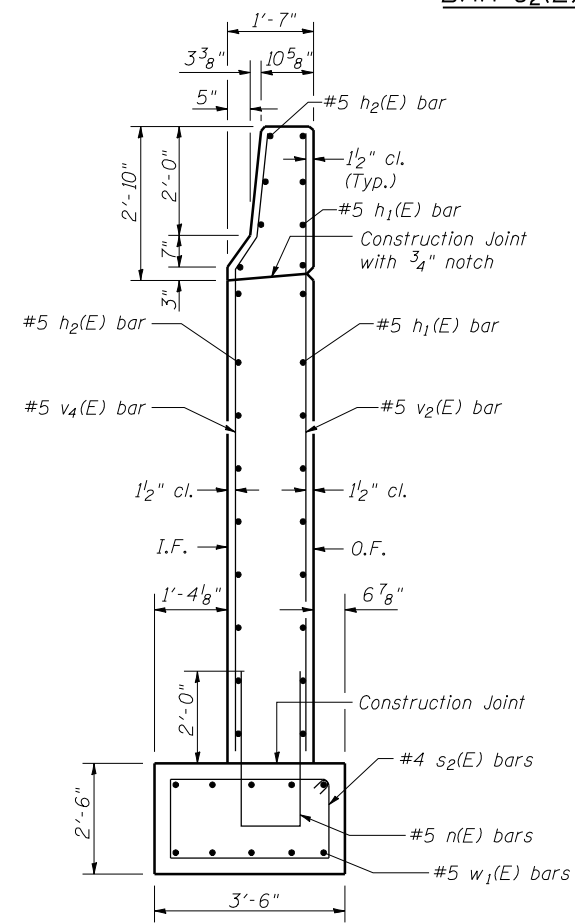
**SECTION C-C**



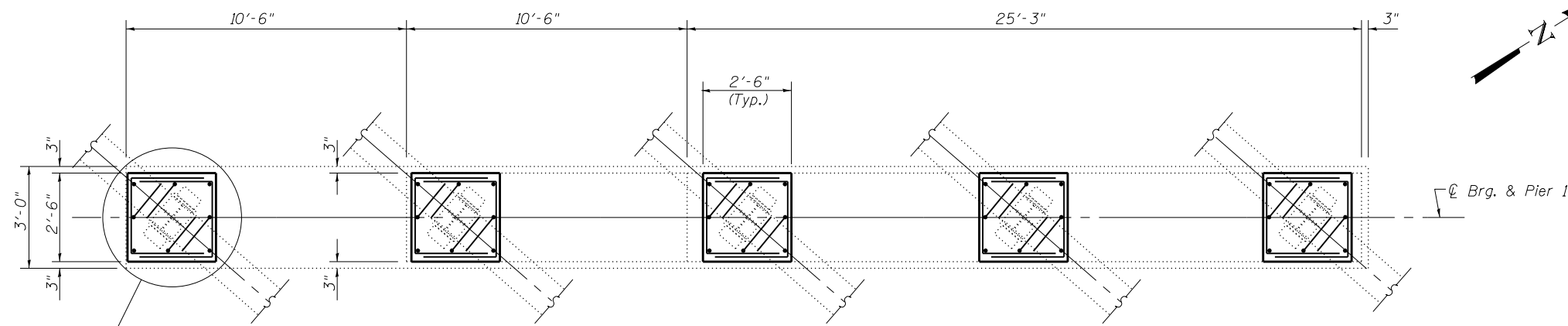
**SECTION D-D**



**SECTION E-E**



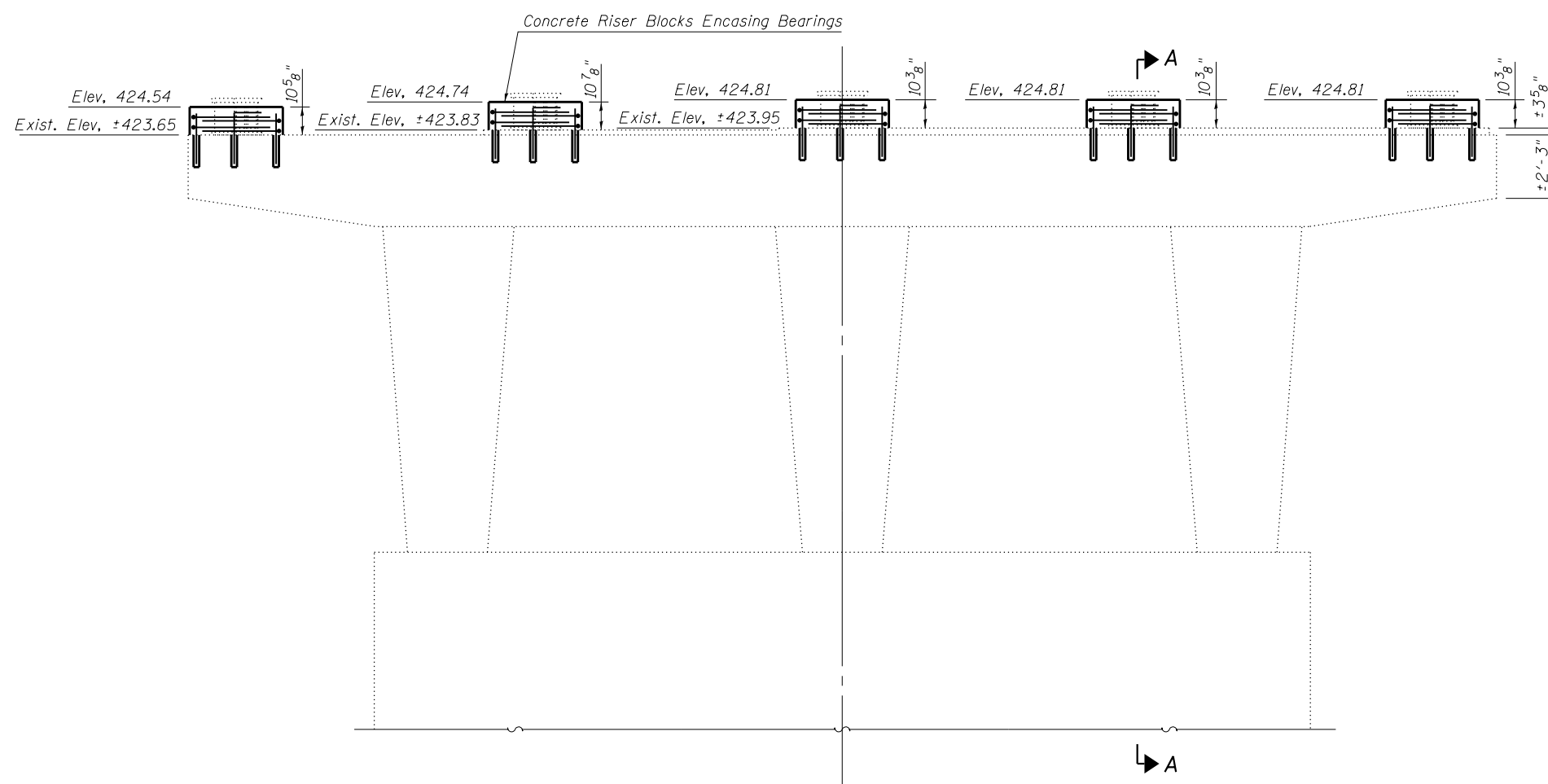
**SECTION F-F**



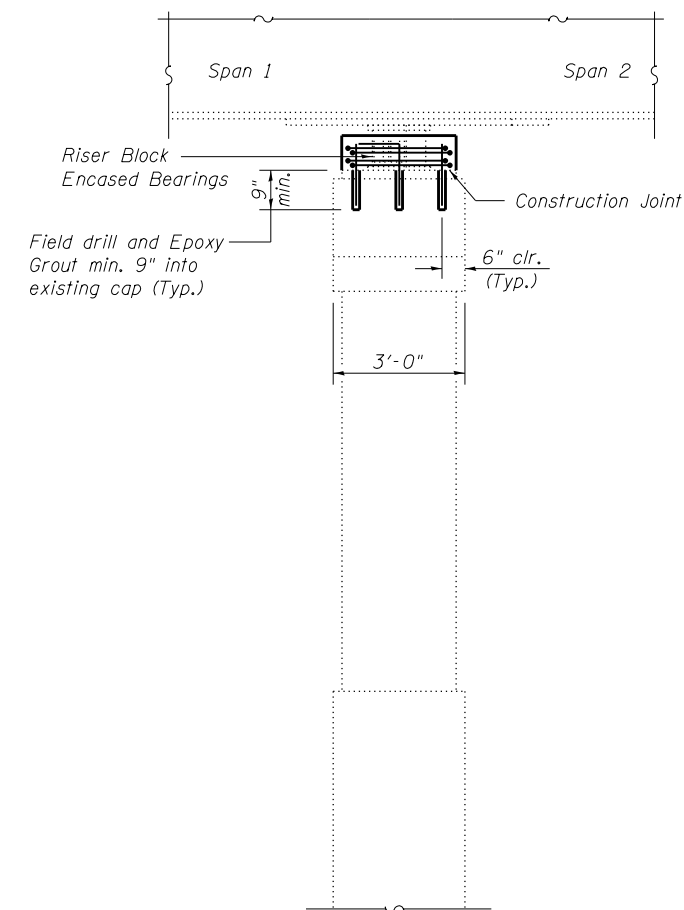
See Detail A (Typ.)  
See sheet 22 of 26.

**PLAN PIER CAP**  
(New Side Retainers not shown for clarity)

Notes:  
Bars shall be drilled and grouted according to Section 584 of the Standard Specifications.



**ELEVATION PIER 1**  
(Looking West)



**SECTION A-A**  
(Showing Bearings and Superstructure)

FILE NAME = 0790020-76409-021-Pier 1.dgn

USER NAME = ckatveit

DESIGNED - BB

REVISED -

Illinois Design Firm Number 184,001670

CHECKED - ACS

REVISED -

PLOT SCALE =

DRAWN - WJS

REVISED -

PLOT DATE = 1:40:44 PM 7/28/2014

CHECKED - CJF

REVISED -



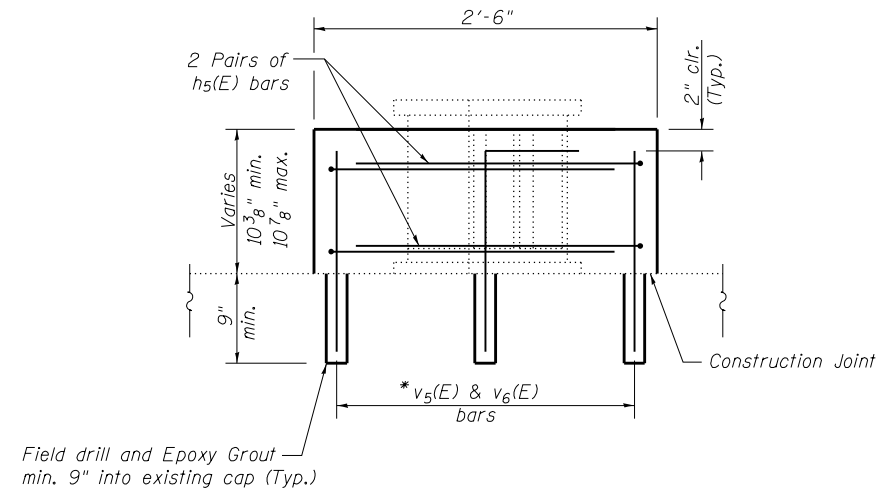
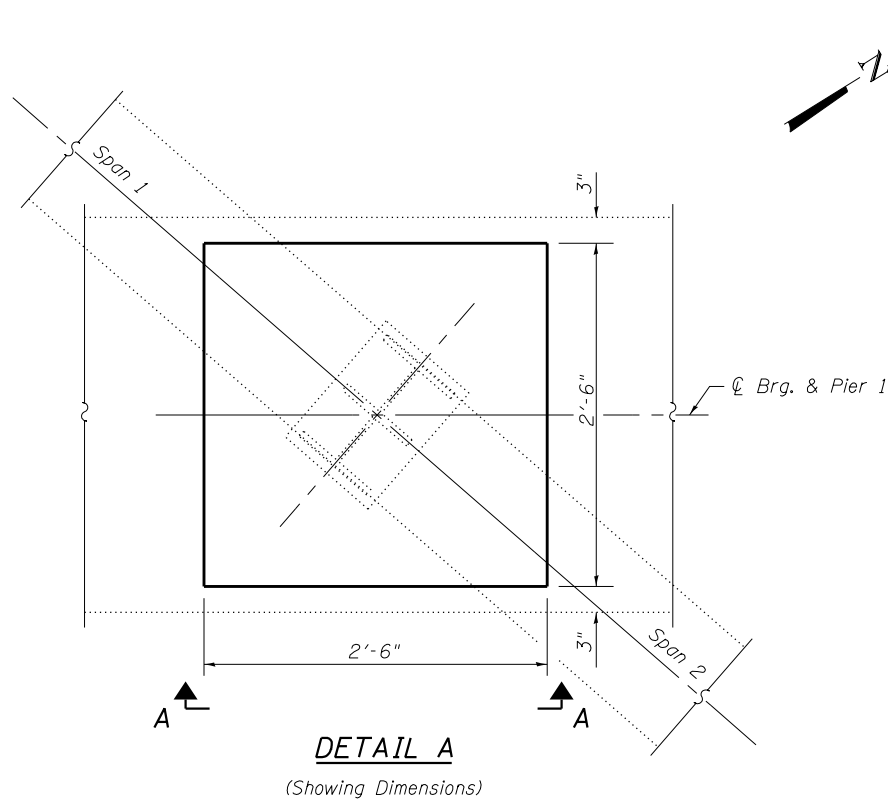
BERNARZEN LOCHMULLER & ASSOCIATES, INC.  
3 OAK DRIVE  
MARYVILLE, ILLINOIS 62442  
PHONE (618) 284-4666  
FAX (618) 284-4666

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

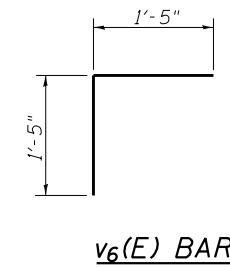
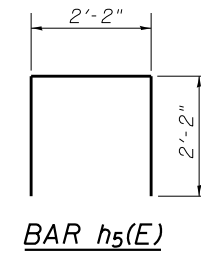
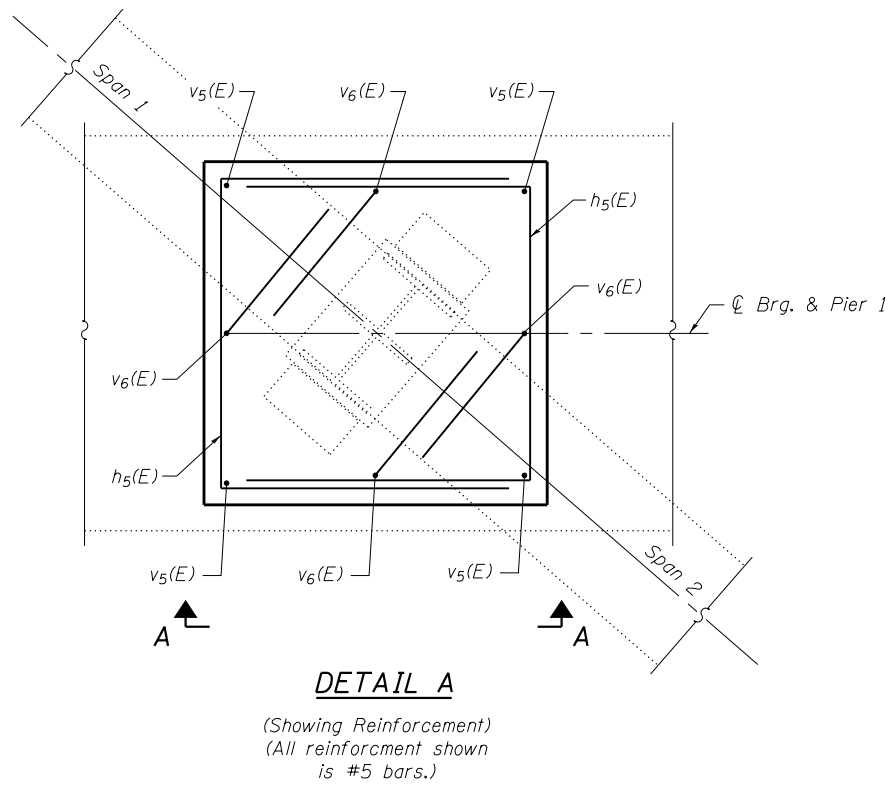
**PIER 1 DETAILS**  
**STRUCTURE NO. 079-0020**

SHEET NO. 21 OF 26 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-1I	RANDOLPH	72	67
CONTRACT NO. 76409				
ILLINOIS FED. AID PROJECT				



\*Bars shall be drilled and grouted according to Section 584 of the Standard Specifications.



**MIN BAR LAP**  
#5 bar = 2'-0"

**BILL OF MATERIAL  
PIER 1**

Bar	No.	Size	Length	Shape
h <sub>5</sub> (E)	20	#5	6'-6"	┌
v <sub>5</sub> (E)	20	#5	1'-5"	—
v <sub>6</sub> (E)	20	#5	2'-10"	└
Concrete Structures			Cu. Yd.	1.0
Reinforcement Bars, Epoxy Coated			Pound	230

FILE NAME = 0790020-76409-022-Pier 1.dgn

USER NAME = ckatveit

DESIGNED - BB

REVISED -



BERNARZEN LOCHMULLER & ASSOCIATES, INC.  
3 OAK DRIVE  
MARYVILLE, ILLINOIS 62442  
PHONE (618) 281-4666  
FAX (618) 281-4666

Illinois Design Firm Number 184,001670

CHECKED - ACS

REVISED -

PLOT SCALE =

DRAWN - WJS

REVISED -

CHECKED - CJF

REVISED -

PLOT DATE = 1:50:49 PM 7/28/2014

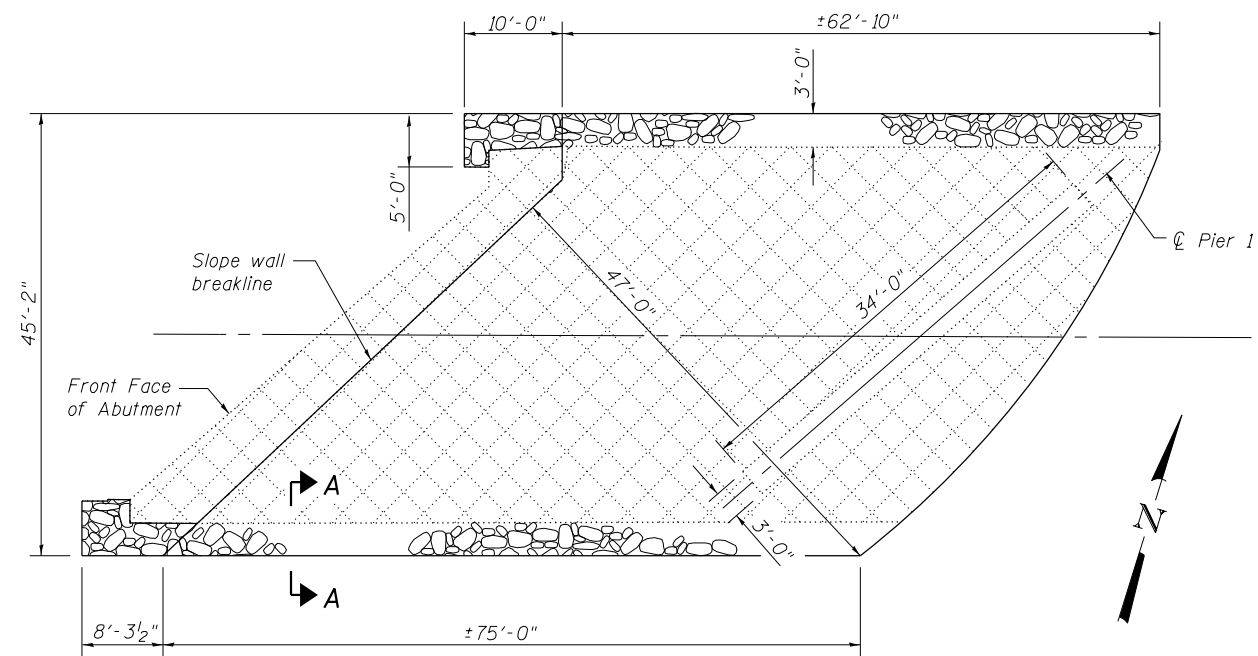
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 1 DETAILS  
STRUCTURE NO. 079-0020**

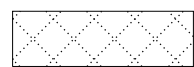
SHEET NO. 22 OF 26 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	68
CONTRACT NO. 76409				

ILLINOIS FED. AID PROJECT



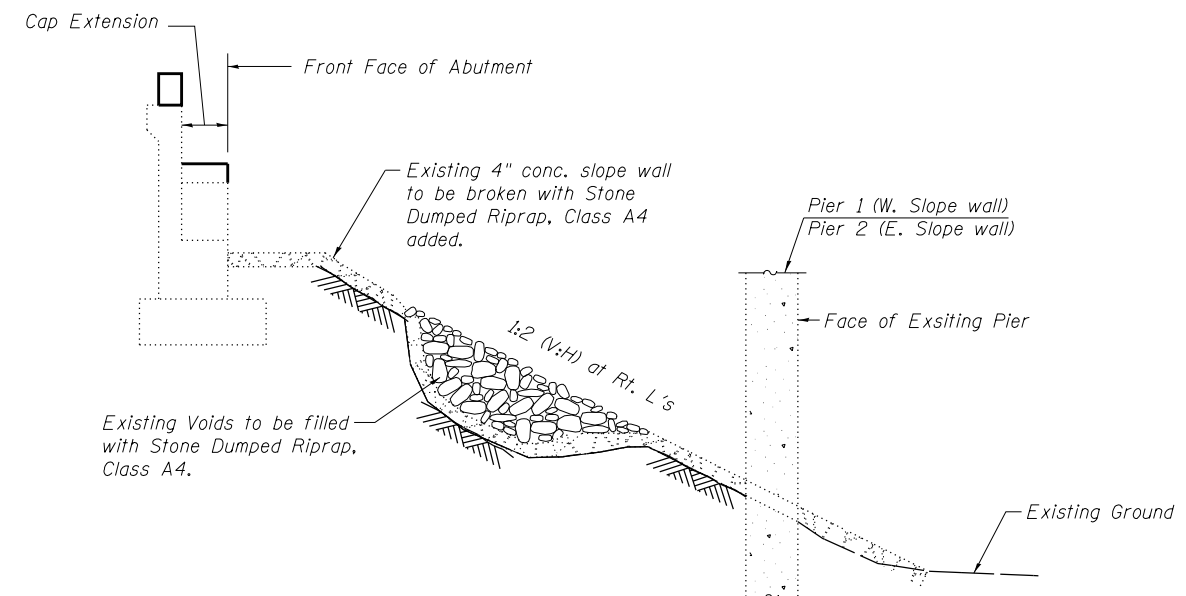
**WEST SLOPE WALL PLAN**  
(Showing Dimensions along Slope Wall)



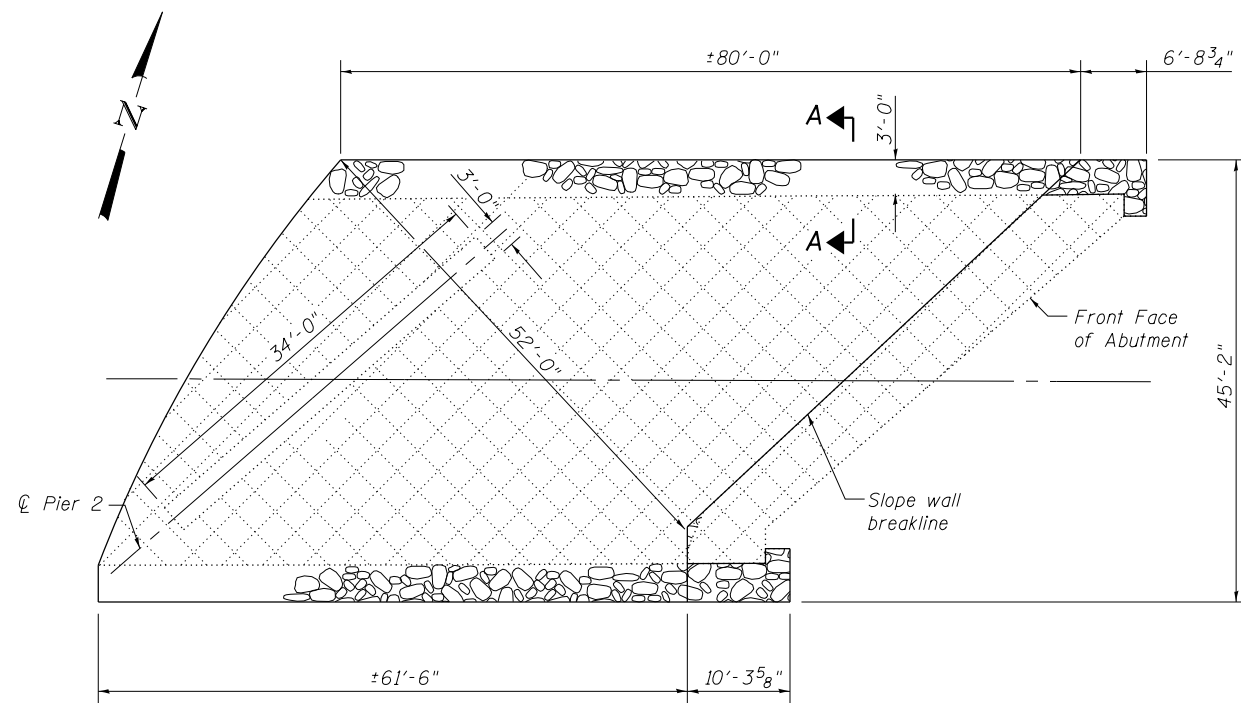
Existing 4" conc. slope wall to be broken with Stone Dumped Riprap, Class A4 added



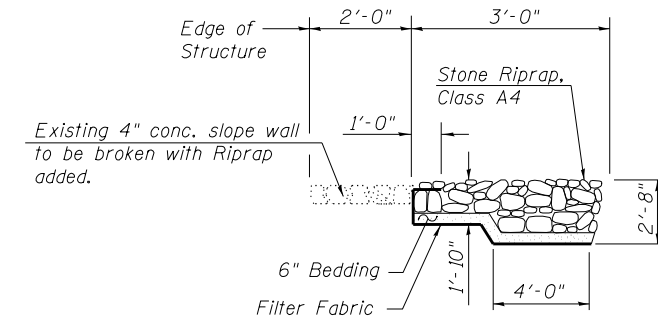
Stone Riprap, Class A4



**TYPICAL SECTION THRU CONCRETE SLOPE WALL**



**EAST SLOPE WALL PLAN**  
(Showing Dimensions along Slope Wall)



**SECTION A-A**

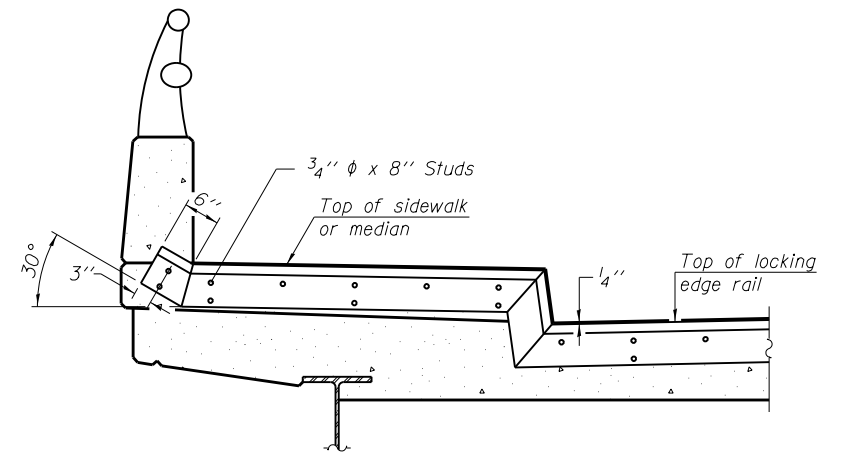
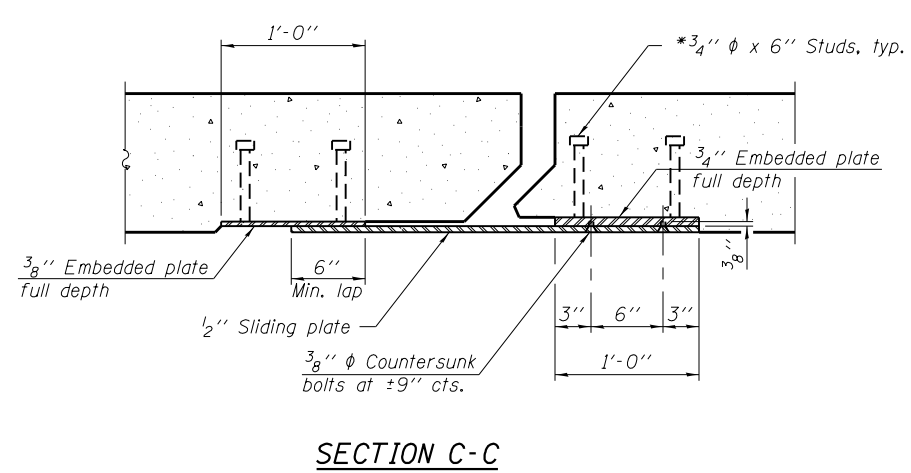
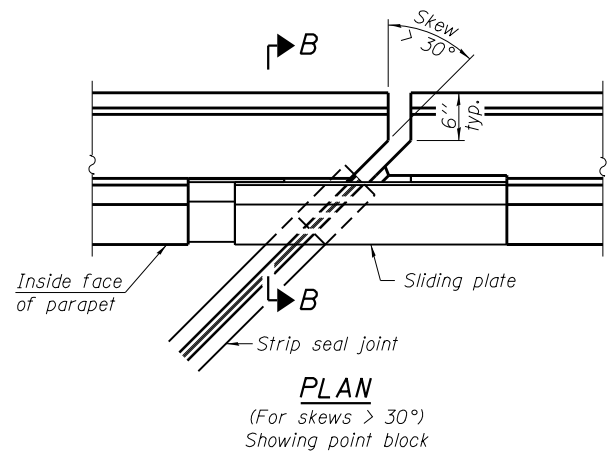
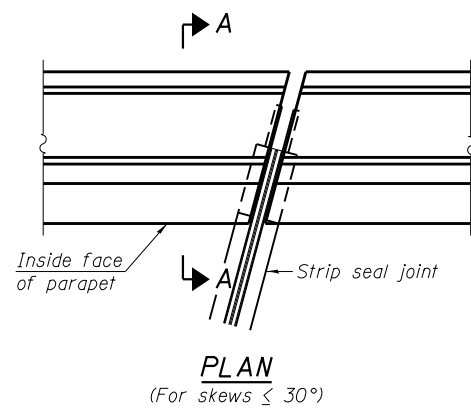
**BILL OF MATERIAL**  
**TWO SLOPE WALLS**

Item	Unit	Total
Stone Dumped Riprap, Class A4	Tons	300
Slope Wall Breaking	Sq. Yd.	790
Stone Riprap, Class A4	Sq. Yd.	105
Filter Fabric	Sq. Yd.	105

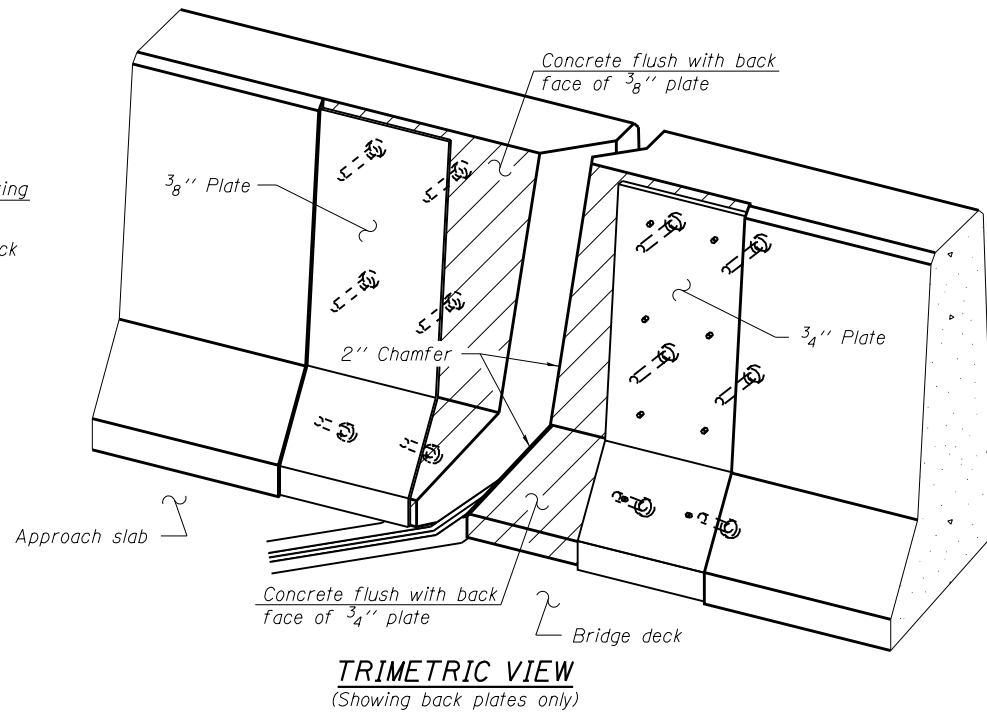
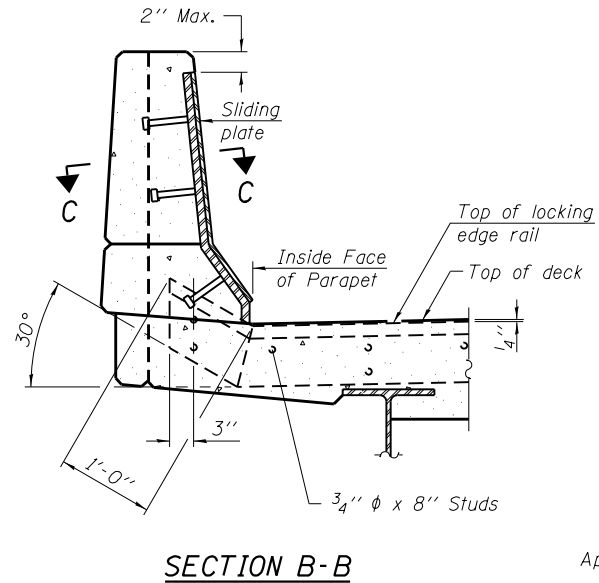
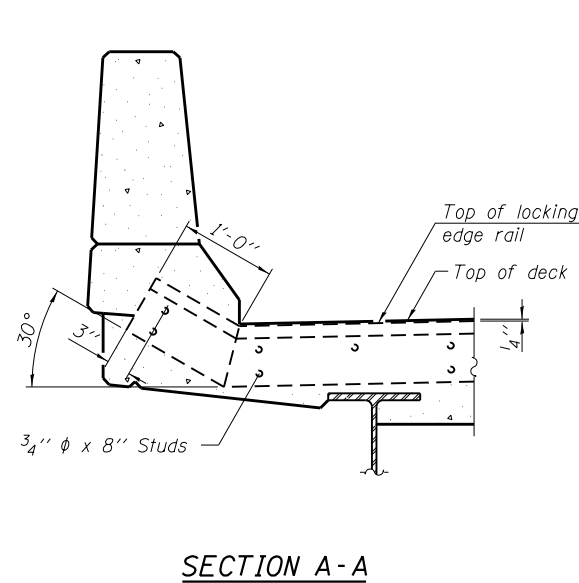
**Notes:**

The Existing Slope Wall shall be broken and graded with Stone Dumped Riprap, Class A4 according to the Special Provisions Slope Wall Breaking and Stone Dumped Riprap, Class A4.

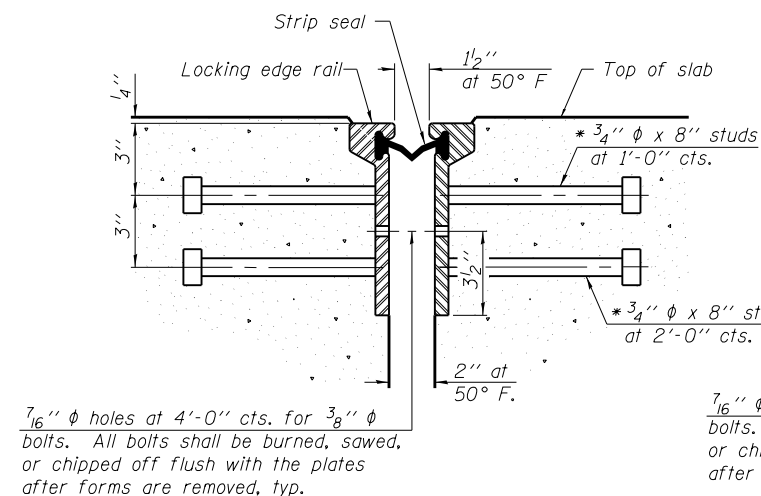
The quantity of Stone Dumped Riprap, Class A4 has been estimated to be 20% of the Exposed Slopewall and 3'-0" deep. The actual quantity of Stone Dumped Riprap, Class A4 will vary in the field.



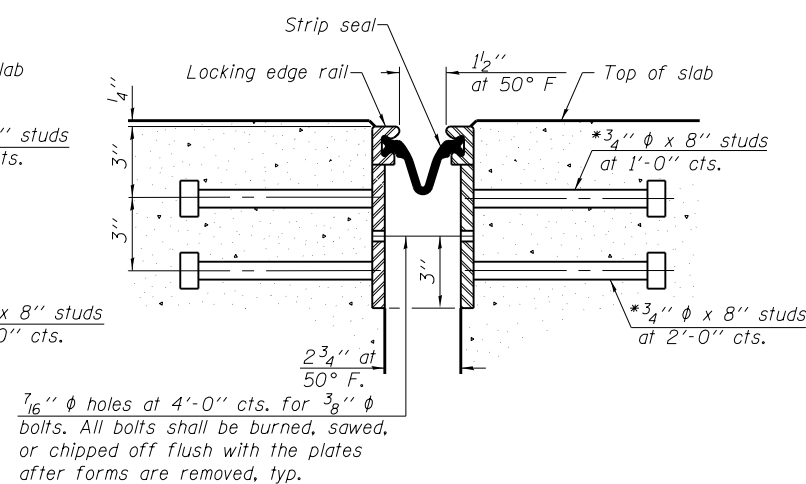
**TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN**  
 Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



**Notes:**  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
 The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
 The manufacturer's recommended installation methods shall be followed.  
 The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.  
 Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

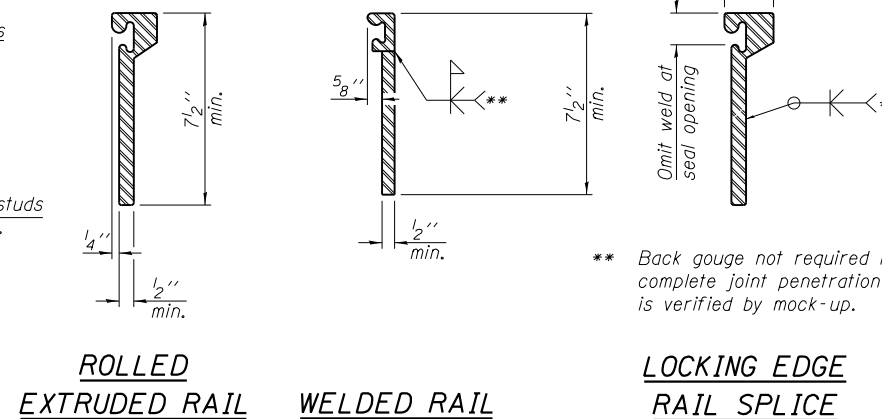


**SECTION THRU ROLLED RAIL JOINT**



**SECTION THRU WELDED RAIL JOINT**

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



**LOCKING EDGE RAILS**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	102

EJ-SSJ

1-27-12

FILE NAME = sheet 24 (pf/ssljgn)

USER NAME = bselbel

DESIGNED -

REVISED -



BERNAHREN LOCHMULLER & ASSOCIATES, INC.  
 3 OAK DRIVE  
 MARYVILLE, ILLINOIS 62442  
 PHONE (618) 281-4666  
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ILLINOIS Design Firm Number 184,001670  
 PLOT SCALE =  
 DRAWN - WJS  
 CHECKED - CJF  
 PLOT DATE = 12/31/29 PM 2/14/2014

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL  
 STRUCTURE NO. 079-0020**

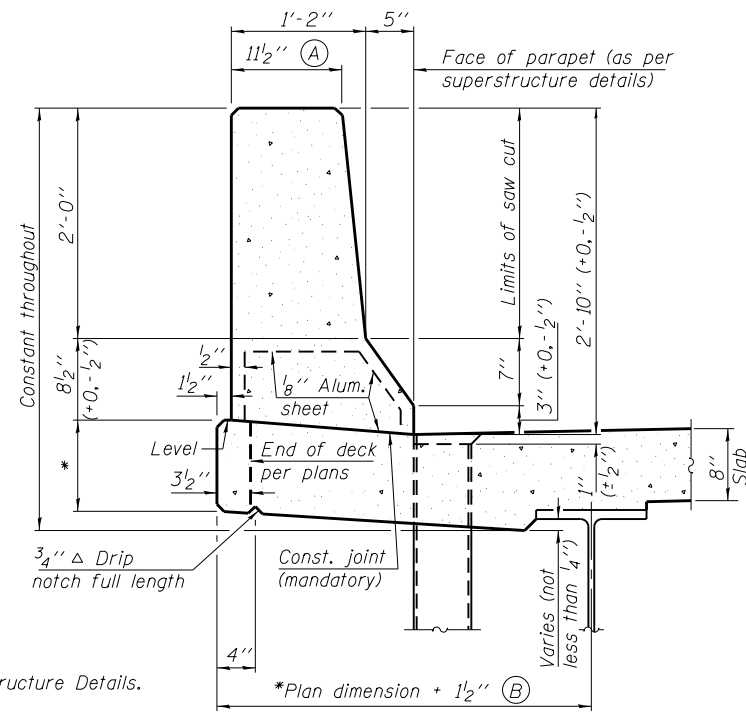
SHEET NO. 24 OF 26 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	70
				CONTRACT NO. 76409
ILLINOIS FED. AID PROJECT				

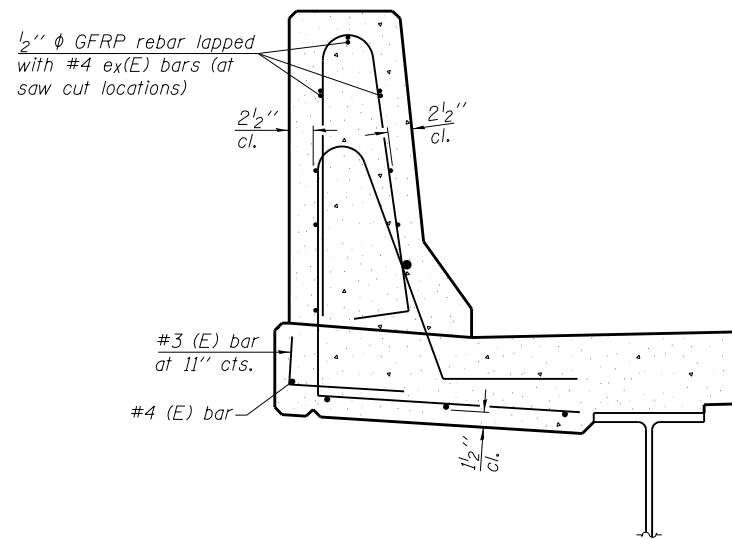


**GENERAL NOTES**

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

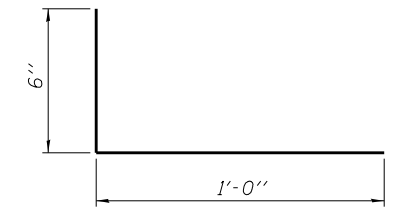


**34" F SHAPE PARAPET SECTION**  
(Showing dimensions)

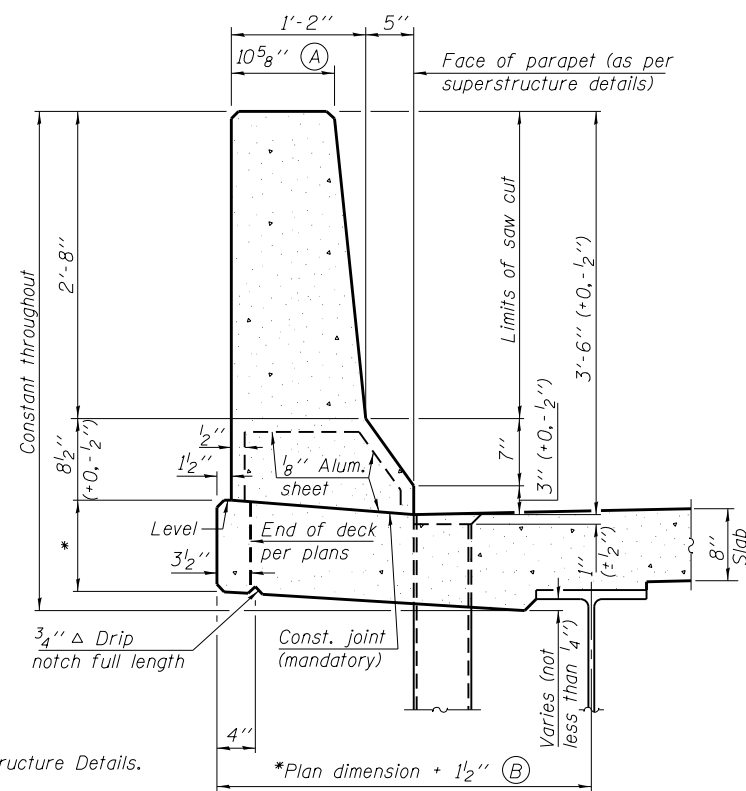


**SECTION**

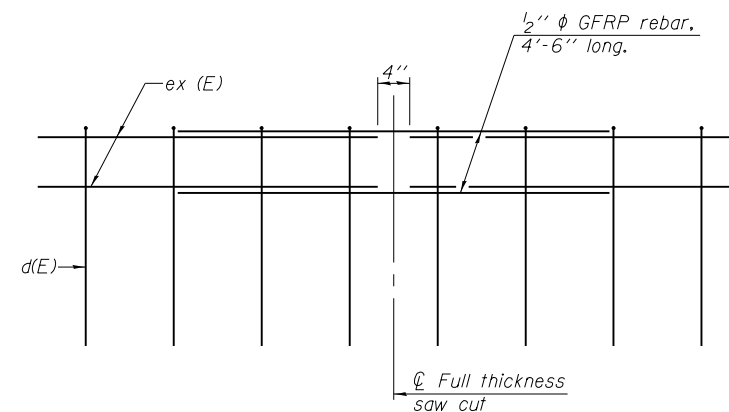
(34" parapet shown - 42" parapet similar)  
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



**#3 (E) BAR**

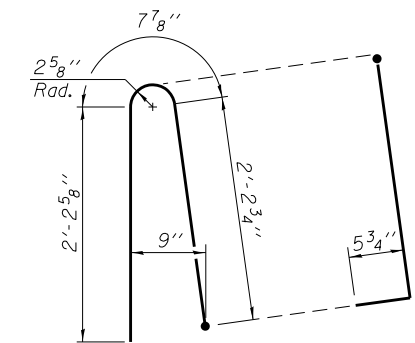


**42" F SHAPE PARAPET SECTION**  
(Showing dimensions)

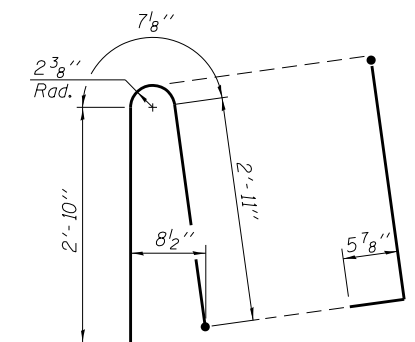


**GFRP REBAR STIFFENING DETAIL**

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



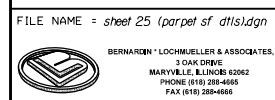
**ALTERNATE BAR d(E)**  
(For 34" parapet when conduit is present)



**ALTERNATE BAR d(E)**  
(For 42" parapet when conduit is present)

SFP 34-42

8-16-12



USER NAME = bselbel  
Illinois Design Firm Number 184,001670  
PLOT SCALE =  
PLOT DATE = 12:32:40 PM 2/14/2014

DESIGNED -  
CHECKED -  
DRAWN - WJS  
CHECKED - CJF

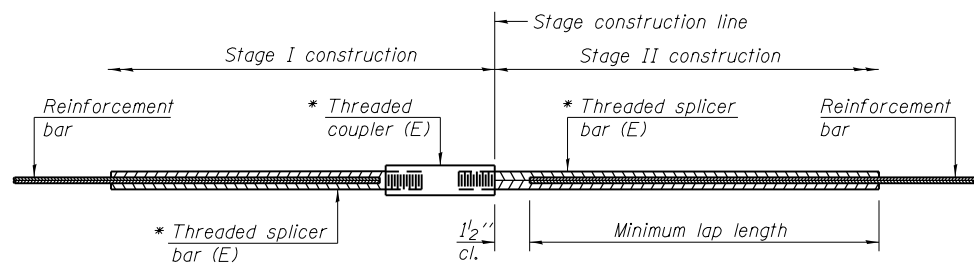
REVISED -  
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REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION  
STRUCTURE NO. 079-0020

SHEET NO. 25 OF 26 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
858	12VB-II	RANDOLPH	72	71
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76409	



**STANDARD BAR SPLICER ASSEMBLY**

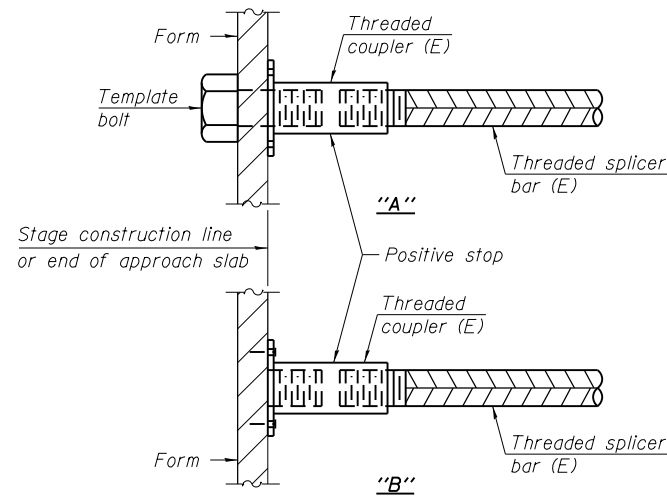
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

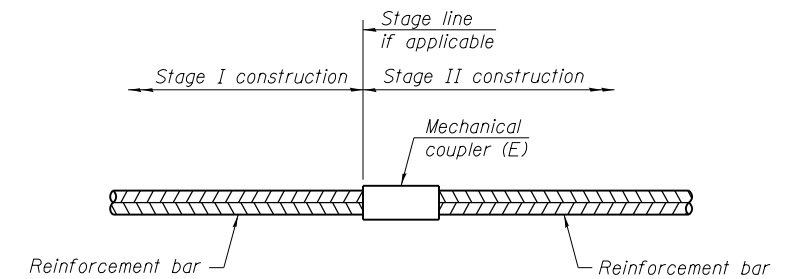
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



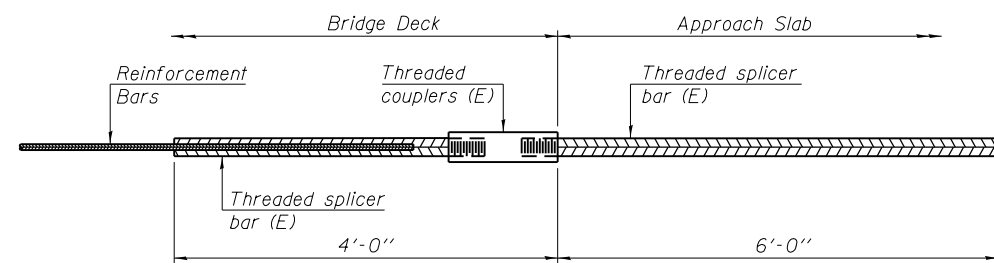
**INSTALLATION AND SETTING METHODS**

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



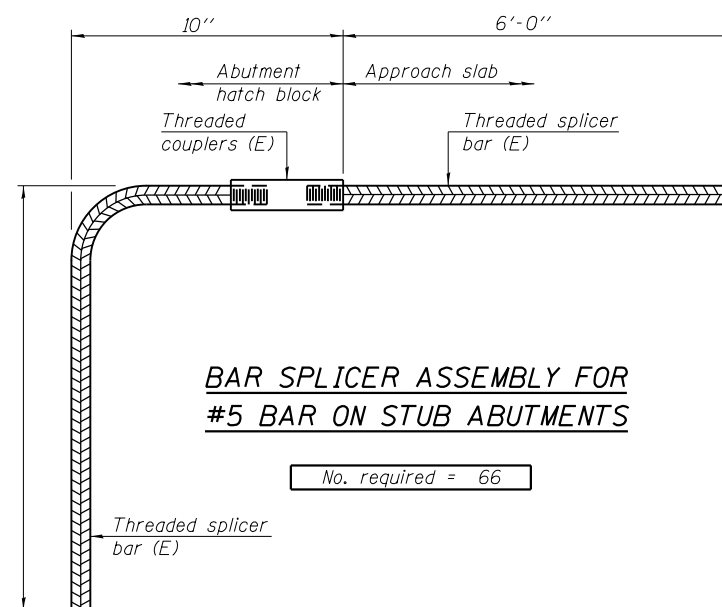
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required = 66

**NOTES**

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

BSD-1

1-27-12