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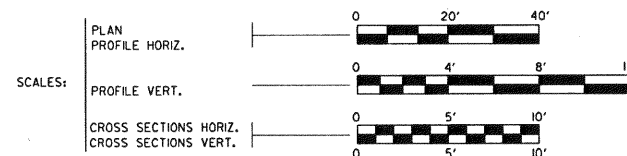
COMMITMENTS-NONE



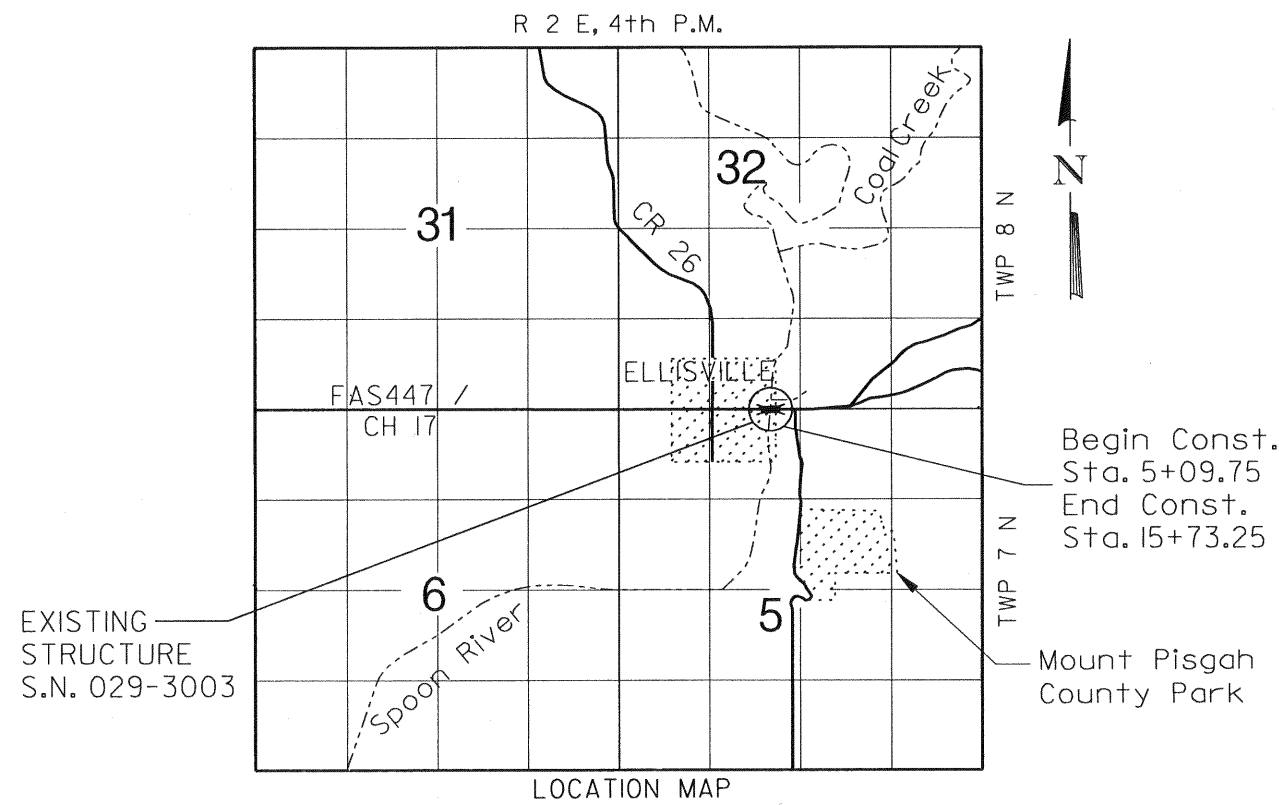
Kelly Jo Hoffmann
 KELLY JO HOFFMANN
 Illinois Licensed Professional Engineer Number 58725
 License Expires November 30, 2011

FOR JOINT UTILITY INFORMATION
 CALL TOLL FREE 1-800-892-0123
 CAT. #033078-000

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
**PLANS FOR PROPOSED
 BRIDGE REPLACEMENT**



FULTON COUNTY
 SECTION 08-00121-01-BR
 BRS 0447(107)
 FAS 447
 COUNTY HIGHWAY 17
 BRIDGE REPLACEMENT AND
 REHABILITATION PROGRAM
 C-94-050-08



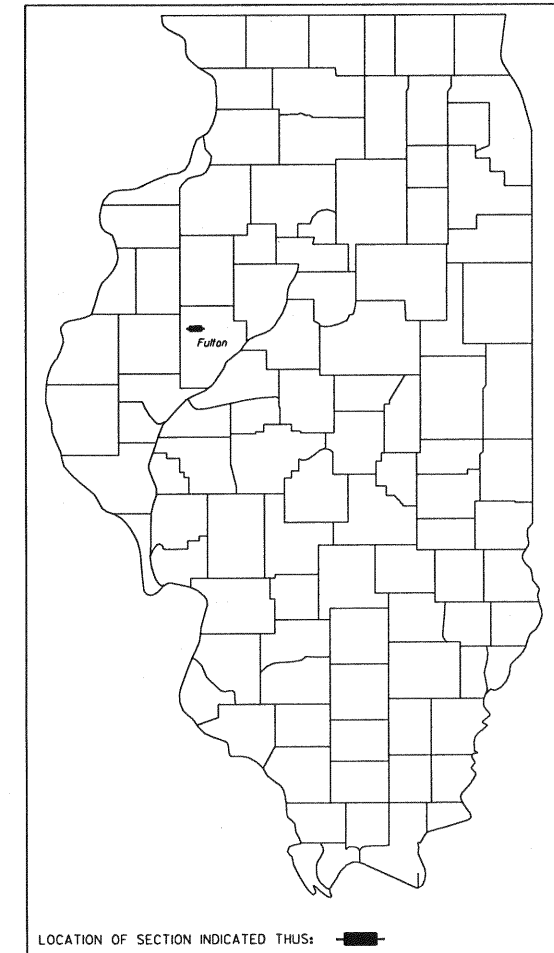
ADT = 600 (CURRENT), < 900 (DESIGN)
 FUNCTIONAL CLASS = MAJOR COLLECTOR

NET LENGTH OF SECTION = 1063.50 FEET = 0.201 MILES

CONTRACT #89498

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
FAS 447	*	FULTON	42	1
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

*08-00121-01-BR



APPROVED *Feb 14* 2010
William Kuhn
 WILLIAM KUHN, PE FULTON COUNTY ENGINEER

PASSED *05/10/10* 2010
 DISTRICT FOUR LOCAL ENGINEER

Releasing For Bid Based on Limited Review *Apr 6* 2010
 DEPUTY DIRECTOR OF HIGHWAYS,
 REGION THREE ENGINEER
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

FRAUENHÖFFER
 Fraunhofer and Associates, P.C. Consulting Engineers
 3002 Crossing Court Champaign, IL 61822 217-351-6268

ROUTE NO.	SECTION	COUNTY	SHEET	PAGE
FAS 447	#	Fulton	43	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*08-00121-01-BR

SUMMARY OF QUANTITIES - SEC. 08-00121-01-BR

CODE	DESCRIPTION	UNIT	QUANTITY
20200100	Earth Excavation	Cu. Yd.	690
21001615	Top Soil Furnish & Place, 4"	Sq. Yd.	13650
25000200	Seeding, Class 2	Acre	2.83
25000400	Nitrogen Fertilizer Nutrient	Pound	315
25000500	Phosphorus Fertilizer Nutrient	Pound	315
25000600	Potassium Fertilizer Nutrient	Pound	315
25100115	Mulch, Method 2	Acre	3
28000250	Temporary Erosion Control Seeding	Pound	290
28000305	Temporary Ditch Checks	Foot	200
28000400	Perimeter Erosion Barrier	Foot	2590
28100707	Stone Dumped Riprap, Class A4	Sq. Yd.	76
28100807	Stone Dumped Riprap, Class A4	Tons	530
28200200	Filter Fabric	Sq. Yd.	225
31101200	Sub-base Granular Material, Type B, 4"	Sq. Yd.	180
31101400	Sub-base Granular Material, Type B, 6"	Sq. Yd.	1613
31102000	Sub-base Granular Material, Type C	Cu. Yd.	90
42100100	Continuously Reinforced Portland Cement Concrete Pavement 8'	Sq. Yd.	1397
42100615	Pavement Reinforcement	Sq. Yd.	1397
44000100	Pavement Removal	Sq. Yd.	1066
48101200	Aggregate Shoulders, Type B	Tons	192
50102400	Concrete Removal	Cu. Yd.	19.8
50104000	Bridge Rail Removal	Foot	1321
50104650	Slope Wall Removal	Sq. Yd.	77
50104720	Removal of Existing Concrete Deck	Each	1
50200100	Structure Excavation	Cu. Yd.	49
50300225	Concrete Structures	Cu. Yd.	32.4
50300255	Concrete Superstructures	Cu. Yd.	783.5
50300260	Bridge Deck Grooving	Sq. Yd.	2742
50300300	Protective Coat	Sq. Yd.	4430
50500405	Furnishing & Erecting Structural Steel	Pound	6500
50500505	Stud Shear Connectors	Each	7,905
*20001899	Jack and Remove Existing Bearings	Each	10
*20010501	Cleaning and Painting Steel Bridge No. 1	L. Sum	1
*20007101	Containment and Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1
*50800205	Reinforcement Bars, Epoxy Coated	Pound	215130
50901050	Steel Railing, Type SM	Foot	1314
51100300	Slope Wall 6 Inch	Sq. Yd.	92
51500100	Name Plates	Each	1
52000228	Finger Plate Expansion Joint	Foot	69
52100030	Elastomeric Bearing Assembly, Type III	Each	10
58700300	Concrete Sealer	Sq. Ft.	256
60107800	Pipe Underdrains 8"	Foot	70
*63000003	Steel Plate Beam Guardrail, Type A	Foot	900
*63100045	Traffic Barrier Terminal, Type 2	Each	2
*63100075	Traffic Barrier Terminal, Type 5A	Each	4
*LR631020	Traffic Barrier Terminal, Type 1	Each	3
63200310	Guardrail Removal	Foot	160
63300725	Steel Plate Beam Guardrail (Short Radius)	Foot	40
67100100	Mobilization	L. Sum	1
*70101800	Traffic Control and Protection (Special)	L. Sum	1
78001110	Paint Pavement Marking - Line 4'	Foot	4254
72000100	Sign Panel - Type 1	Sq. Ft.	15
72100100	Sign Panel Overlay	Sq. Ft.	15
72900100	Metal Post - Type A	Foot	51
*20013798	Construction Layout	L. Sum	1

267400 Trainees

1,000 HR

GENERAL NOTES

- New Fasteners shall be AASHTO M164 Type I, mechanically Galvanized Bolts. Bolts 7/8" dia. holes 15/16" dia., unless otherwise noted. Drill holes in existing steel with magnetic drills. Torch cutting holes is prohibited.
- Calculated weight of new Structural Steel = 6,500 lbs.
- All new structural steel shall be AASHTO M 270 Grade 50, except where otherwise noted.
- No field welding is permitted.
- Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions.
- 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 removing of the existing concrete.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimension 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 in the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevation 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:
 - Top surfaces and the north and south faces of the pier caps.
 - To new concrete surfaces at the abutments, unless otherwise noted.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for field painting structural steel, in accordance with the Cleaning and Painting Existing Steel Structures Special Provision. The color of the final finish coat shall be Gray, Munsell No. 5B 7/1.
- The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water. This shall include the placement of material for run-arounds, causeways, etc.
- All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
- Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
- The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection.
- The structural steel plates of the new Bearing Assemblies shall conform to the requirements of AASHTO M 270 Grade 50.
- The existing reinforcement shall be cleaned and incorporated into the new construction. Cost is included with pay item Concrete Removal.
- Portions of the guardrail near the bridge shall be adjusted to connect the end of the Type SM Bridge Railing.
- The removal and reinstallation of existing signs, including replacement parts shall be included in the cost of the pay item Earth Excavation.
- At no point shall vehicular or construction loads be placed within 10 feet behind the abutment backwall and wingwalls from the time the deck is removed until the new deck forms have been removed and all abutment repairs have cured for a minimum of 7 days.
- The guardrails and terminals shall use 9' long posts.
- All riprap shall be gradation RR4.
- At the direction of the Engineer, Stone Dumped Riprap, Class A4, in tons, shall be placed at the base of the piers.
- Saw cutting over the top of the girder flanges is prohibited.

UTILITIES

Call J.U.L.I.E. 1-800-892-0123
The Contractor shall coordinate the relocation of any utilities with the utility company where they conflict with the proposed improvements.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	A. Fraenhoffer	NO.	DATE	REVISION	BY

FRAUENHOFFER
Fraenhoffer and Associates, P.C. Consulting Engineers
3002 Crossing Court Champaign, IL 61822 217-351-6268

SUMMARY OF QUANTITIES & GENERAL NOTES

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	2
DWG. NO.	SOQ.dgn
DATE	AUG 2010
PROJ. NO.	8015

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAS 447	*	Fulton	43	3
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

48101200

AGGREGATE SHOULDERS, TYPE B				TONS
LOCATION				
STA. 5+50.00	TO	STA. 7+12.75	mainline LT/RT	62
STA. 13+73.25	TO	STA. 15+73.25	mainline LT	37
STA. 13+73.25	TO	STA. 14+13.25	mainline RT	9
STA. 14+94.00	TO	STA. 15+73.25	mainline RT	14
STA. 0+12.00	TO	STA. 2+00.00	Mt. Pisgah LT/RT	70
TOTAL				192

63100075

TRAFFIC BARRIER TERMINAL, TYPE 5A				EACH
LOCATION				
STA. 7+01.25	TO	STA. 7+14.50	LT/RT	2
STA. 13+71.50	TO	STA. 13+84.75	LT/RT	2
TOTAL				4

72100100

SIGN PANEL OVERLAY			SO. FT.
LOCATION			
STA. 5+50.00	20' RT,	Speed Limit 30 mph	5
STA. 15+75.00	20' LT,	Speed Limit 30 mph	5
STA. 20+75.00	20' LT,	Speed Zone Ahead	5
TOTAL			15

50300260

BRIDGE DECK GROOVING		SO. YDS.
LOCATION		
Bridge Approach Pav't		172
Bridge Approach Pav't Connector		54
Bridge Deck		2516
TOTAL		2742

LR631020

TRAFFIC BARRIER TERMINAL, TYPE I				EACH
LOCATION				
STA. 4+67.75	TO	STA. 4+92.75	RT	1
STA. 14+69.50	TO	STA. 14+69.50	Far RT	1
STA. 16+53.25	TO	STA. 16+78.25	LT	1
TOTAL				3

72900100

METAL POST - TYPE A			FOOT
LOCATION			
STA. 5+50.00	20' RT		17
STA. 15+75.00	20' LT		17
STA. 20+75.00	20' LT		17
TOTAL			51

50300300

PROTECTIVE COAT		SO. YDS.
LOCATION		
P.C.C. Pav't, 8"		1397
Bridge Approach Pav't		172
Bridge Approach Pav't Connector		54
Bridge Deck		2807
TOTAL		4430

63200310

GUARDRAIL REMOVAL				FOOT
LOCATION				
STA. 6+54.00	TO	STA. 6+96.00	LT	42
STA. 6+54.00	TO	STA. 6+96.00	RT	42
STA. 13+88.00	TO	STA. 14+34.00	LT	46
STA. 13+88.00	TO	STA. 14+18.00	RT	30
TOTAL				160

63000003

STEEL PLATE BEAM GUARDRAIL, TYPE A				FOOT
LOCATION				
STA. 4+80.25	TO	STA. 7+01.25	LT	221
STA. 4+92.75	TO	STA. 7+01.25	RT	209
STA. 13+84.75	TO	STA. 16+53.25	LT	269
STA. 13+84.75	TO	STA. 14+11.50	RT	27
STA. 14+91.75	TO	STA. 16+65.75	RT	174
TOTAL				900

63300725

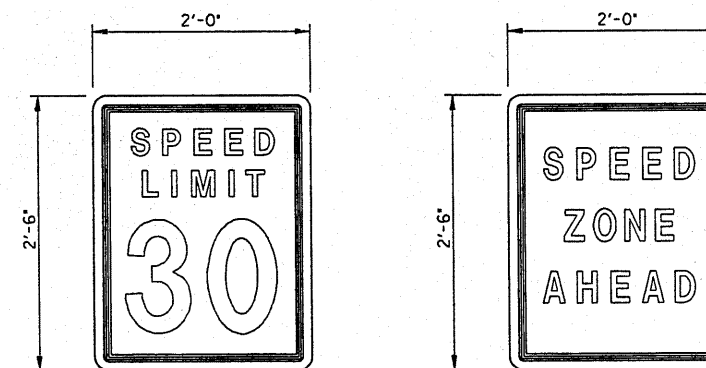
STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)				FOOT
LOCATION				
STA. 14+69.25	TO	STA. 14+91.75	RT	40
TOTAL				40

63100045

TRAFFIC BARRIER TERMINAL, TYPE 2				EACH
LOCATION				
STA. 4+67.75	TO	STA. 4+80.25	LT	1
STA. 16+65.75	TO	STA. 16+78.25	RT	1
TOTAL				2

72000100

SIGN PANEL - TYPE I			SO. FT.
LOCATION			
STA. 5+50.00	20' RT		5
STA. 15+75.00	20' LT		5
STA. 20+75.00	20' LT		5
TOTAL			15



TYPICAL REGULATORY SIGN PANEL OVERLAYS
WITH BLACK LETTERING ON REFLECTIVE WHITE BACKGROUNDS

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Frauenhoffer				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

FRAUENHÖFFER

Frauenhoffer and Associates, P.C. Consulting Engineers
3002 Crossing Court Champaign, IL 61822 217-351-6268

SCHEDULE OF QUANTITIES

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

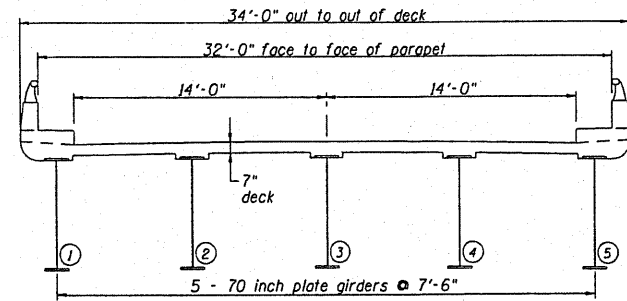
SHEET	3
DWG NO.	SOQ.dgn
DATE	JAN 2010
PROJ NO.	8015

* All sections are looking upstation.

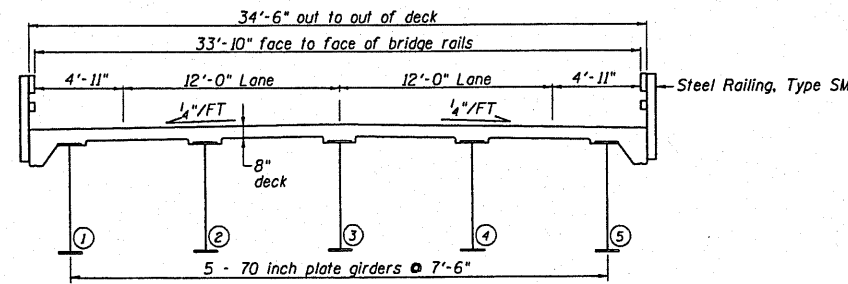
CONTRACT #89498

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
FAS 447	#	Fulton	43	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

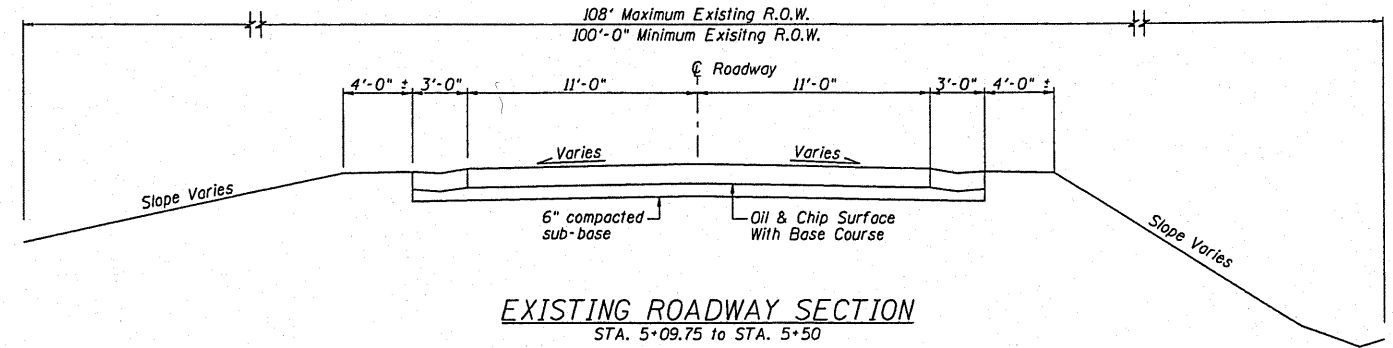
*08-00121-01-BR



EXISTING SUPERSTRUCTURE SECTION

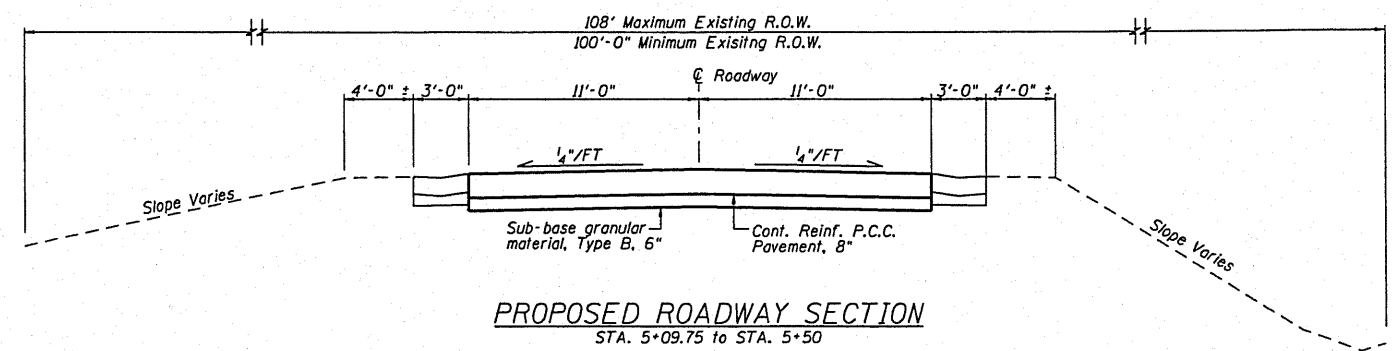


PROPOSED SUPERSTRUCTURE SECTION



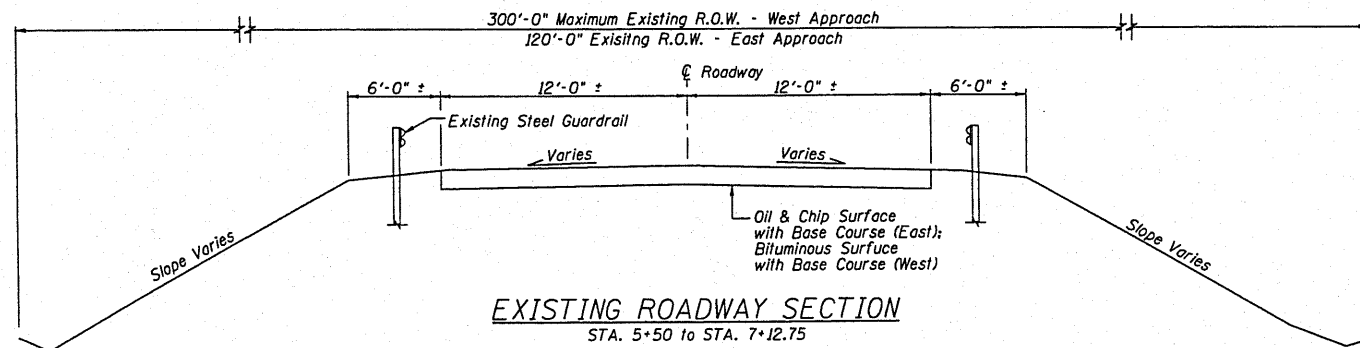
EXISTING ROADWAY SECTION

STA. 5+09.75 to STA. 5+50



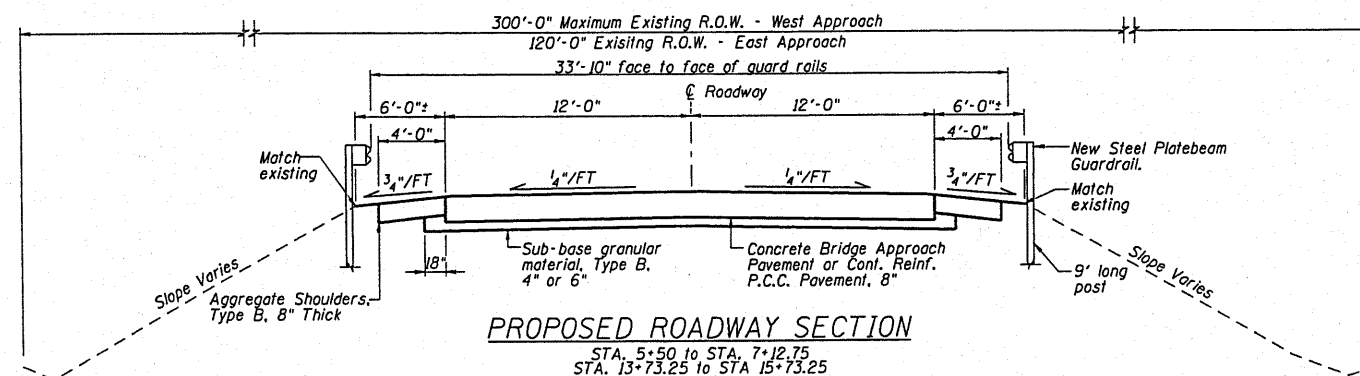
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STA. 5+09.75 to STA. 5+50



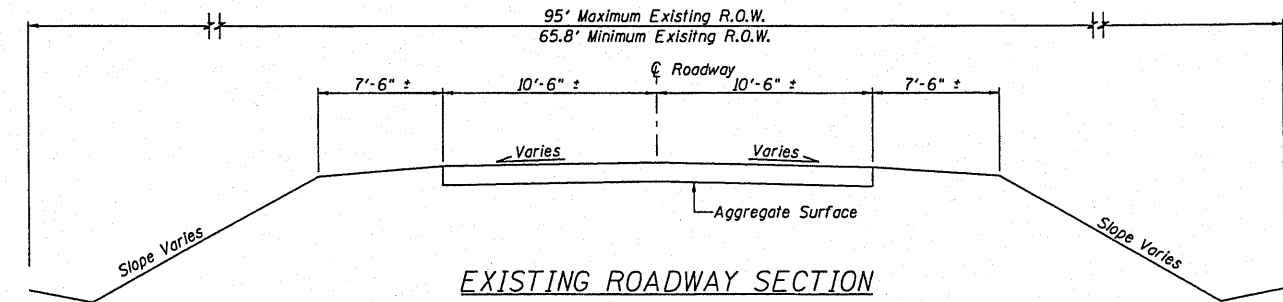
EXISTING ROADWAY SECTION

STA. 5+50 to STA. 7+12.75



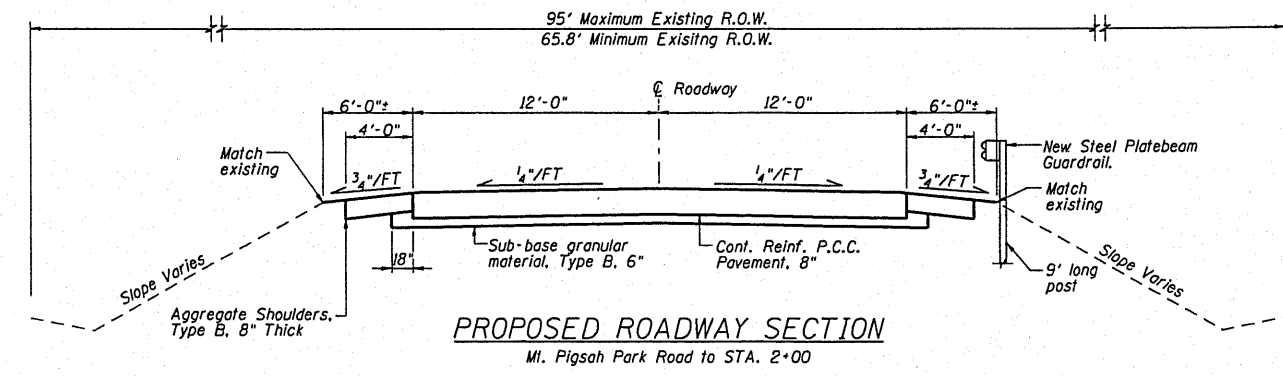
PROPOSED ROADWAY SECTION

STA. 5+50 to STA. 7+12.75
STA. 13+73.25 to STA. 15+73.25



EXISTING ROADWAY SECTION

Mt. Pisgah Park Road to STA. 2+00



PROPOSED ROADWAY SECTION

Mt. Pisgah Park Road to STA. 2+00

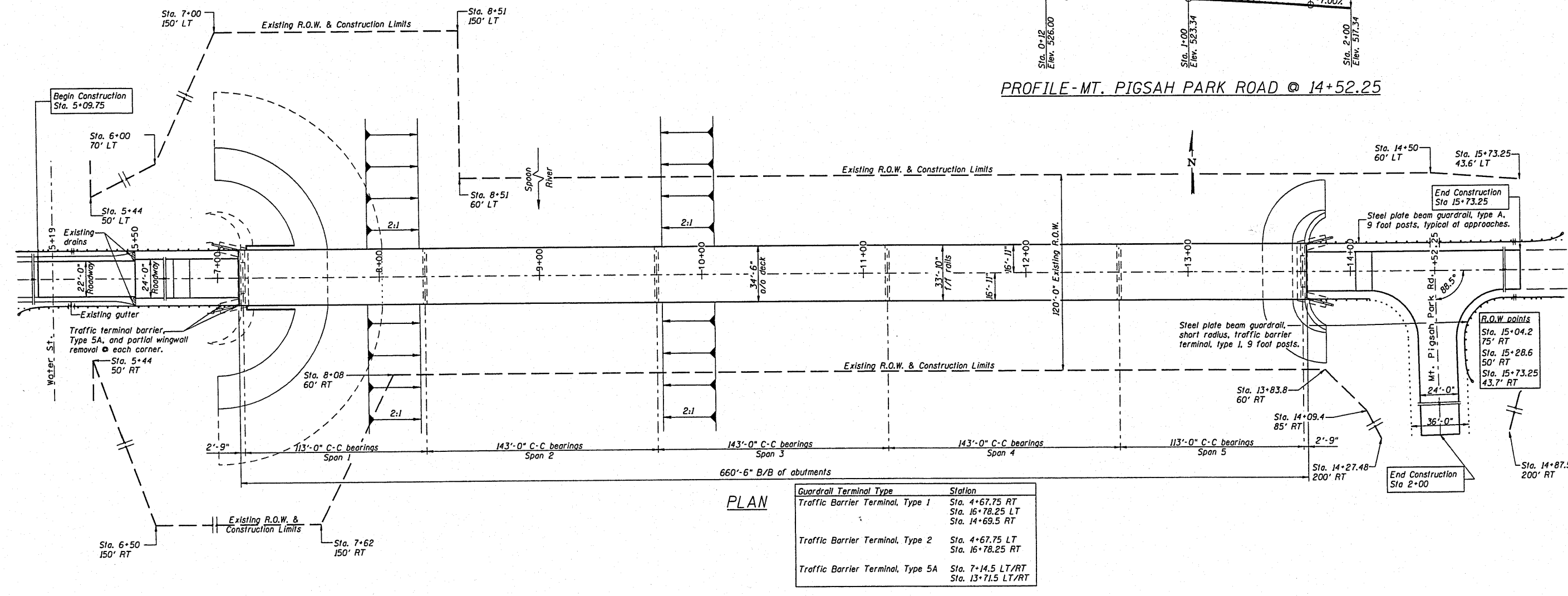
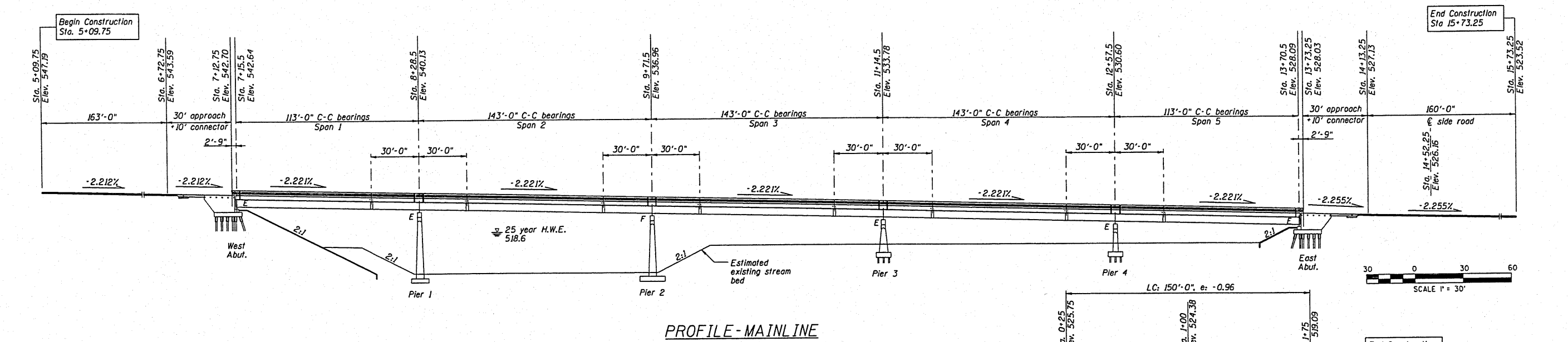
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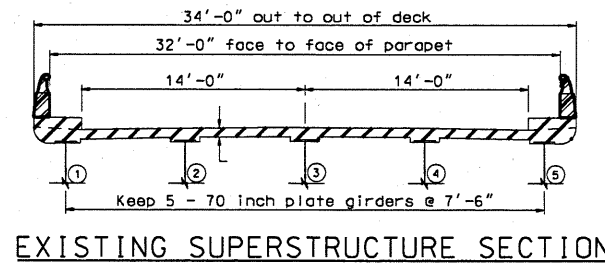
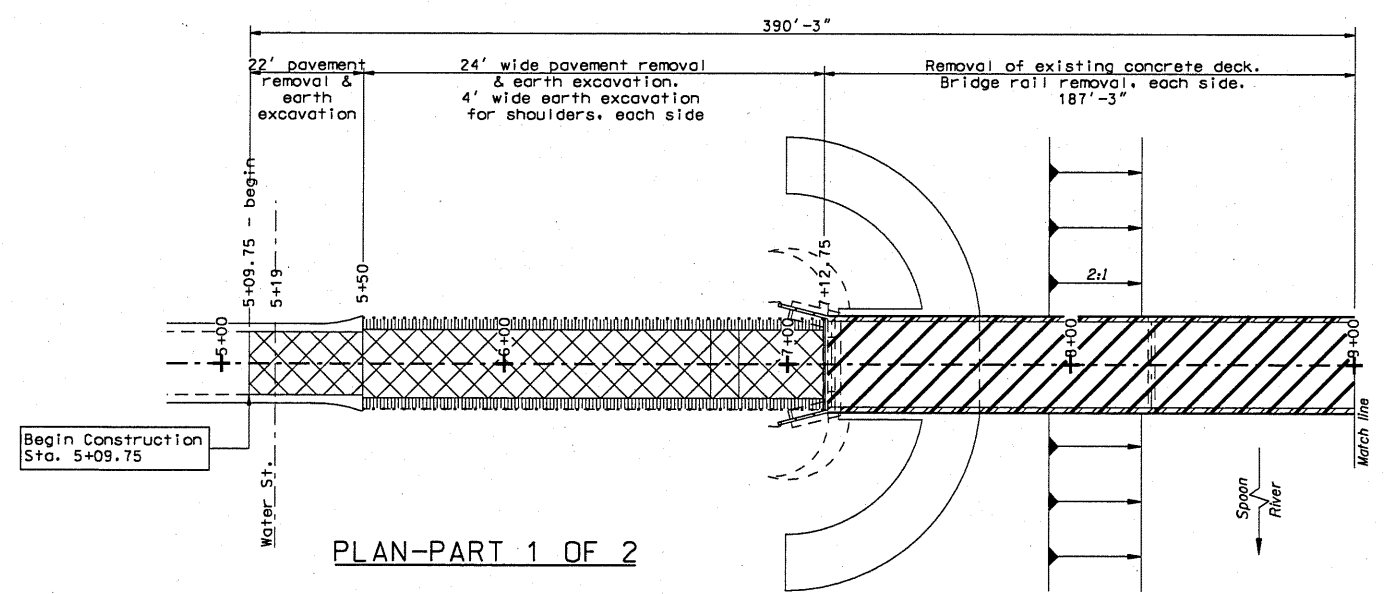
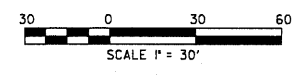
TYPICAL SECTIONS
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	4
DWG NO.	typ.dgn
DATE	JAN 2010
PROJ NO.	8015

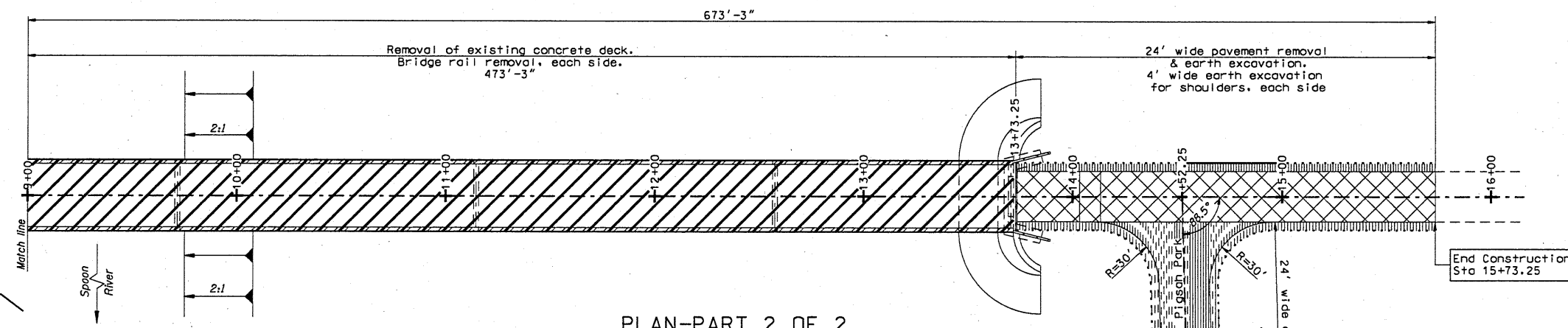
ROUTE NO.	SECTION	COUNTY	SHEET	NO.
FAS 447	*	Fulton	43	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
* 08-00121-01-BR				



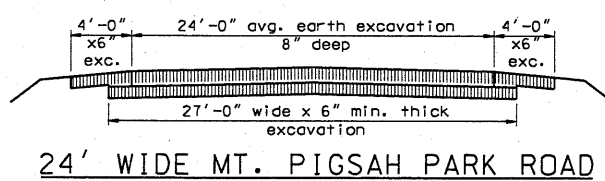
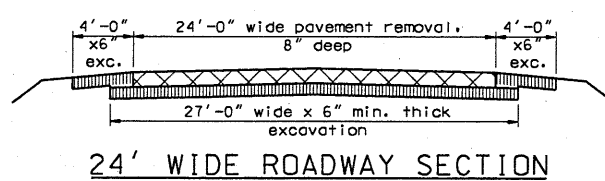
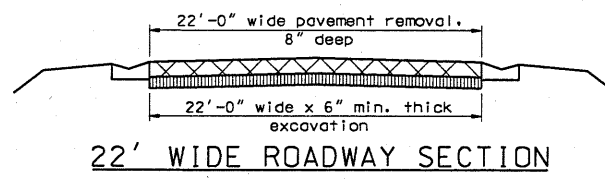
ROUTE NO.	SECTION	COUNTY	DIST.	SHEET
FAS 447		Fulton	43	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	# 08-00121-01-BR	



PLAN-PART 1 OF 2



PLAN-PART 2 OF 2



KEY

- Pavement Removal with Earth Excavation
- Bridge Rail Removal (includes parapets)
- Removal of Existing Concrete Deck (includes curbs)
- Earth Excavation

NOTES:
 After removing the 8" of pavement, the Engineer shall determine if the existing sub-base can remain. If the existing sub-base is re-used, no earth excavation below the pavement removal is required.

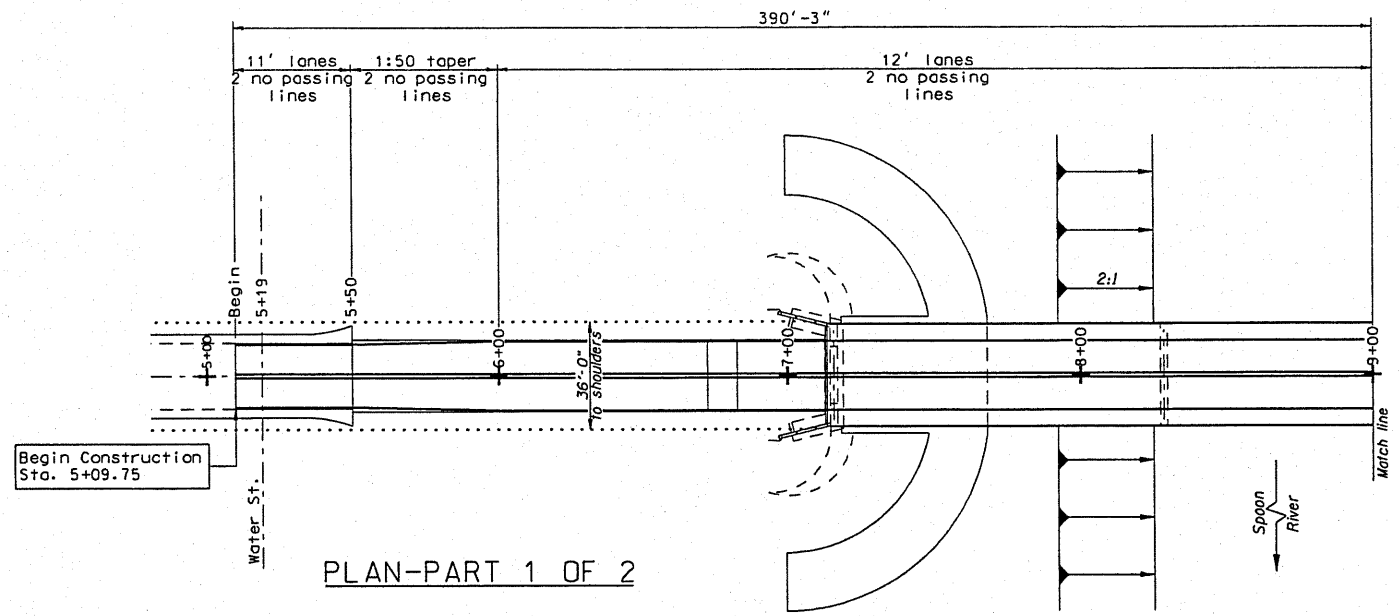
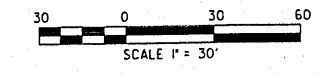
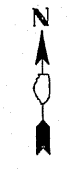
BRIDGE RAIL REMOVAL			FOOT
LOCATION			
STA. 7+12.75	TO	STA. 13+73.25	1321
TOTAL			1321

PAV'T				EARTH EXCAVATION - (CU. YD.)	
LOCATION			SO. YD.	CU. YD.	
STA. 5+09.75	TO	STA. 5+50.00	mainline	99	29
STA. 5+50.00	TO	STA. 7+12.75	mainline	434	173
STA. 13+73.25	TO	STA. 15+73.25	mainline	533	208
STA. 0+12.00	TO	STA. 2+00.00	Mt. Pigsah	0	280
TOTAL				1066	690

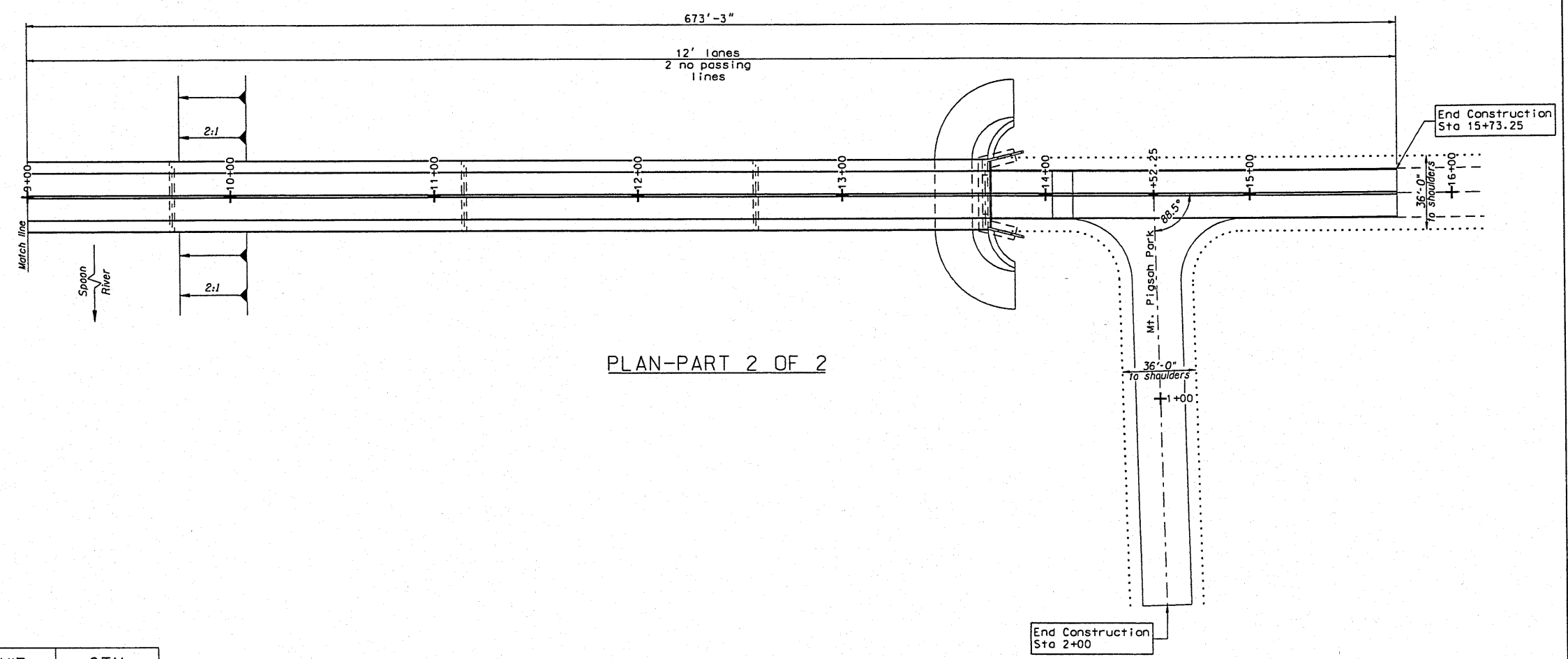
BILL OF MATERIAL - DEMOLITION PLAN		
ITEM	UNIT	QUANTITY
Earth Excavation	CU. YD.	690
Pavement Removal	SO. YD.	1066
Bridge Rail Removal	FOOT.	1321
Removal of Existing Concrete Deck	EACH	1

CONTRACT #89498

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAS 447	*	Fulton	43	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	# 08-00121-01-BR	



PLAN-PART 1 OF 2

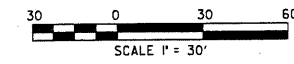


PLAN-PART 2 OF 2

BILL OF MATERIAL

ITEM	UNIT	QTY
Paint Pavement Marking, Line 4"	Foot	4,254

ROUTE NO.	SECTION	COUNTY	DISTRICT	SHEET NO.
FAS 447	#	Fulton	43	8
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT #
				08-00121-01-BR



EROSION CONTROL SEQUENCE

1. Placement of perimeter erosion control barrier & ditch checks prior to commencement of any work. See Standard 280001.
2. Removal of the existing concrete deck, rails, superstructure, and portions of substructures.
3. Pavement removal.
4. Earth excavation & structure excavation.
5. Rehabilitate plate girders, and frames. Replace bearings.
6. Abutment backwall retrofit.
7. Place reinforcing and cast the new concrete deck.
8. Install new granular sub-base.
9. Place reinforcing and cast approach slabs and connectors.
10. Regrade new shoulders with Aggregate Shoulders, Type B.
11. Removal and proper clean up of the temporary erosion controls.
12. Placement of the permanent erosion controls.

NITROGEN FERTILIZER NUTRIENT; POTASSIUM FERTILIZER NUTRIENT; PHOSPHORUS FERTILIZER NUTRIENT				POUND
LOCATION				
STA. 5+09.75	TO	STA. 7+92.20	LT/RT	145
STA. 10+07.80	TO	STA. 13+45.75	LT/RT	105
STA. 13+45.75	TO	STA. 14+52.25	RT	20
STA. 14+52.25	TO	STA. 15+73.25	RT	20
STA. 13+45.75	TO	STA. 15+73.25	LT	25
(100 LBS/ACRE) TOTAL				315

SEEDING CLASS 2; MULCH METHOD 2				ACRE
LOCATION				
STA. 5+09.75	TO	STA. 7+92.20	LT/RT	1.30
STA. 10+07.80	TO	STA. 13+45.75	LT/RT	0.93
STA. 13+45.75	TO	STA. 14+52.25	RT	0.17
STA. 14+52.25	TO	STA. 15+73.25	RT	0.20
STA. 13+45.75	TO	STA. 15+73.25	LT	0.23
TOTAL				2.83

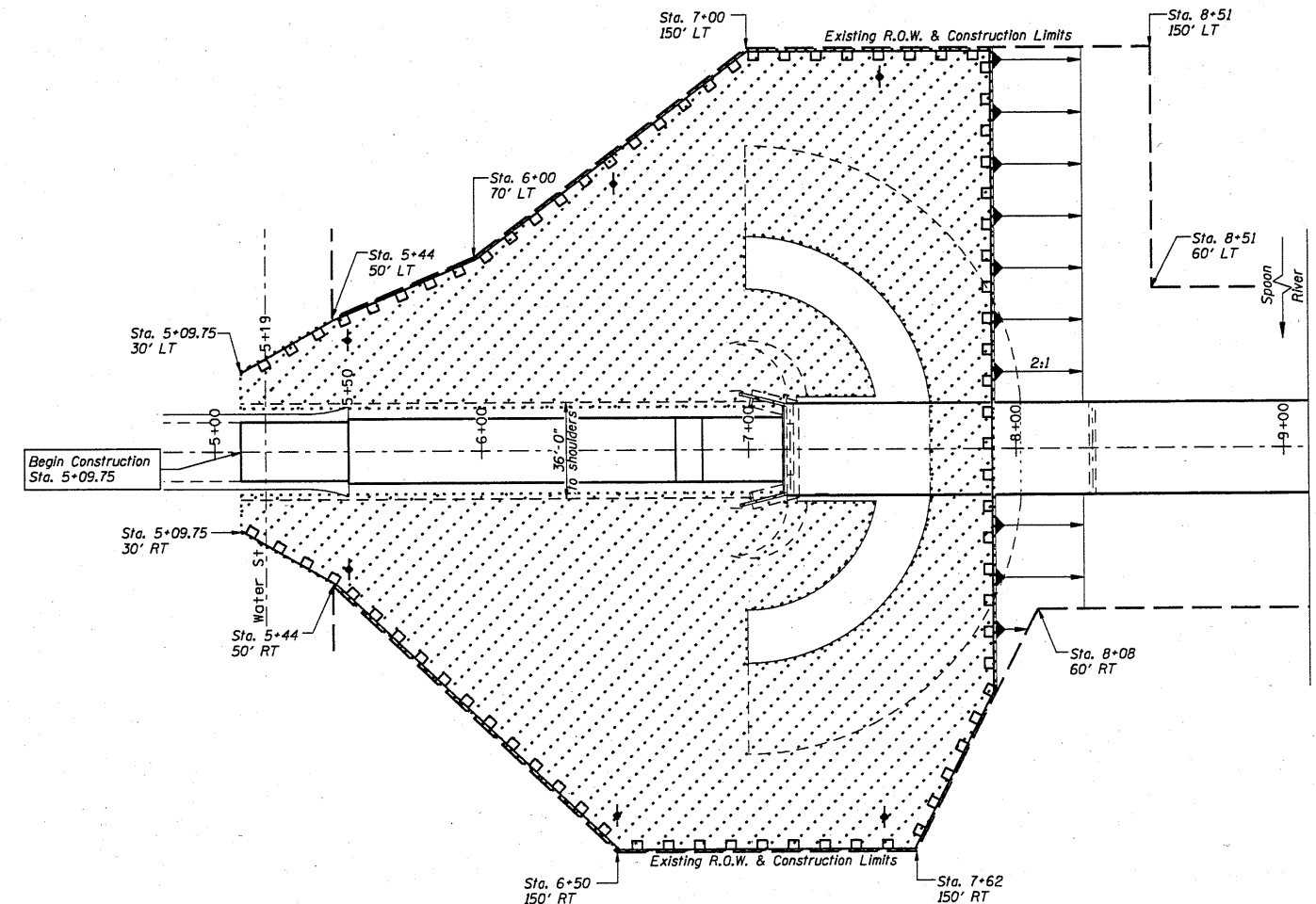
TEMPORARY DITCH CHECKS (10' EACH LOCATION)			FOOT
LOCATION			
STA. 5+50	LT/RT		20
STA. 6+50	LT/RT		20
STA. 7+50	LT/RT		20
STA. 10+15	LT/RT		20
STA. 11+00	LT/RT		20
STA. 12+00	LT/RT		20
STA. 13+00	LT/RT		20
STA. 14+00	LT/RT		20
STA. 14+30	RT		10
STA. 14+85	RT		10
STA. 15+00	LT/RT		20
TOTAL			200

* Locations & lengths of ditch checks may be changed at the direction of the engineer.

TOP SOIL FURNISH & PLACE, 4'				SQ YD
LOCATION				
STA. 5+09.75	TO	STA. 7+92.20	LT/RT	6290
STA. 10+07.80	TO	STA. 13+45.75	LT/RT	4500
STA. 13+45.75	TO	STA. 14+52.25	RT	805
STA. 14+52.25	TO	STA. 15+73.25	RT	944
STA. 13+45.75	TO	STA. 15+73.25	LT	1111
TOTAL				13650

PERIMETER EROSION BARRIER				FOOT
LOCATION				
STA. 5+09.75	TO	STA. 6+50.00	RT	215
STA. 6+50.00	TO	STA. 7+62.00	RT	112
STA. 7+62.00	TO	STA. 7+92.20	RT	70
STA. 5+09.75	TO	STA. 7+00.00	LT	260
STA. 7+00.00	TO	STA. 7+92.20	LT	92
STA. 7+92.20	TO	STA. 7+92.20	LT/RT	243
STA. 10+07.80	TO	STA. 10+07.80	LT/RT	120
STA. 10+07.80	TO	STA. 13+83.80	RT	378
STA. 13+83.80	TO	STA. 14+09.40	RT	40
STA. 14+09.40	TO	STA. 14+27.50	RT	130
STA. 14+27.50	TO	STA. 14+87.50	RT	30
STA. 14+87.50	TO	STA. 15+04.20	RT	140
STA. 15+04.20	TO	STA. 15+28.60	RT	35
STA. 15+28.60	TO	STA. 15+73.25	RT	85
STA. 10+07.80	TO	STA. 14+50.00	LT	465
STA. 14+50.00	TO	STA. 15+73.25	LT	175
TOTAL				2590'

TEMPORARY EROSION CONTROL SEEDING				POUND
LOCATION				
STA. 5+09.75	TO	STA. 7+92.20	LT/RT	130
STA. 10+07.80	TO	STA. 13+45.75	LT/RT	95
STA. 13+45.75	TO	STA. 14+52.25	RT	20
STA. 14+52.25	TO	STA. 15+73.25	RT	20
STA. 13+45.75	TO	STA. 15+73.25	LT	25
(100 LBS/ACRE) TOTAL				290



**EROSION CONTROL PLAN
PART 1 OF 2**

BILL OF MATERIAL - EROSION CONTROL		
ITEM	UNIT	QUANTITY
Top Soil Furnish & Place, 4'	SQ. YD.	13650
Seeding, Class 2	ACRE	2.83
Nitrogen Fertilizer Nutrient	POUND	315
Phosphorus Fertilizer Nutrient	POUND	315
Potassium Fertilizer Nutrient	POUND	315
Mulch, Method 2	ACRE	2.83
Temporary Erosion Control Seeding	POUND	290
Temporary Ditch Checks	EACH	20
Perimeter Erosion Barrier	FOOT	2590

PERMANENT EROSION CONTROL

Seeding, Cl. 2 with fertilizer, mulch, & top soil

TEMPORARY EROSION CONTROL

Temporary Ditch Check (10 feet)

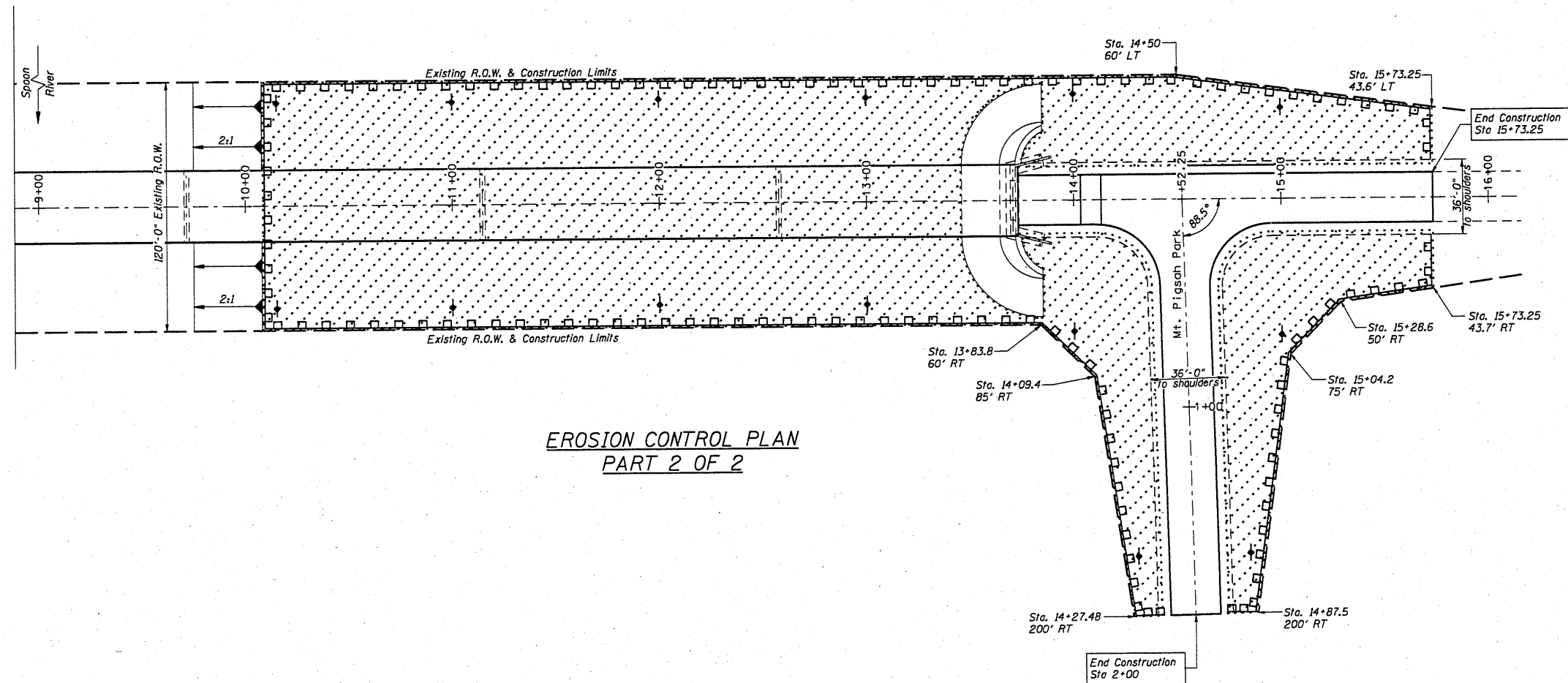
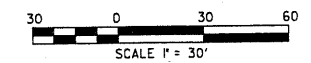
Perimeter Erosion Barrier

Temporary Erosion Control Seeding

CONTRACT #89498

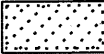
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447	#	Fulton	43	9
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	

08-00121-01-BR




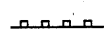
EROSION CONTROL PLAN
PART 2 OF 2

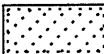
PERMANENT EROSION CONTROL

 Seeding, Cl. 2 with fertilizer, mulch, & top soil

TEMPORARY EROSION CONTROL

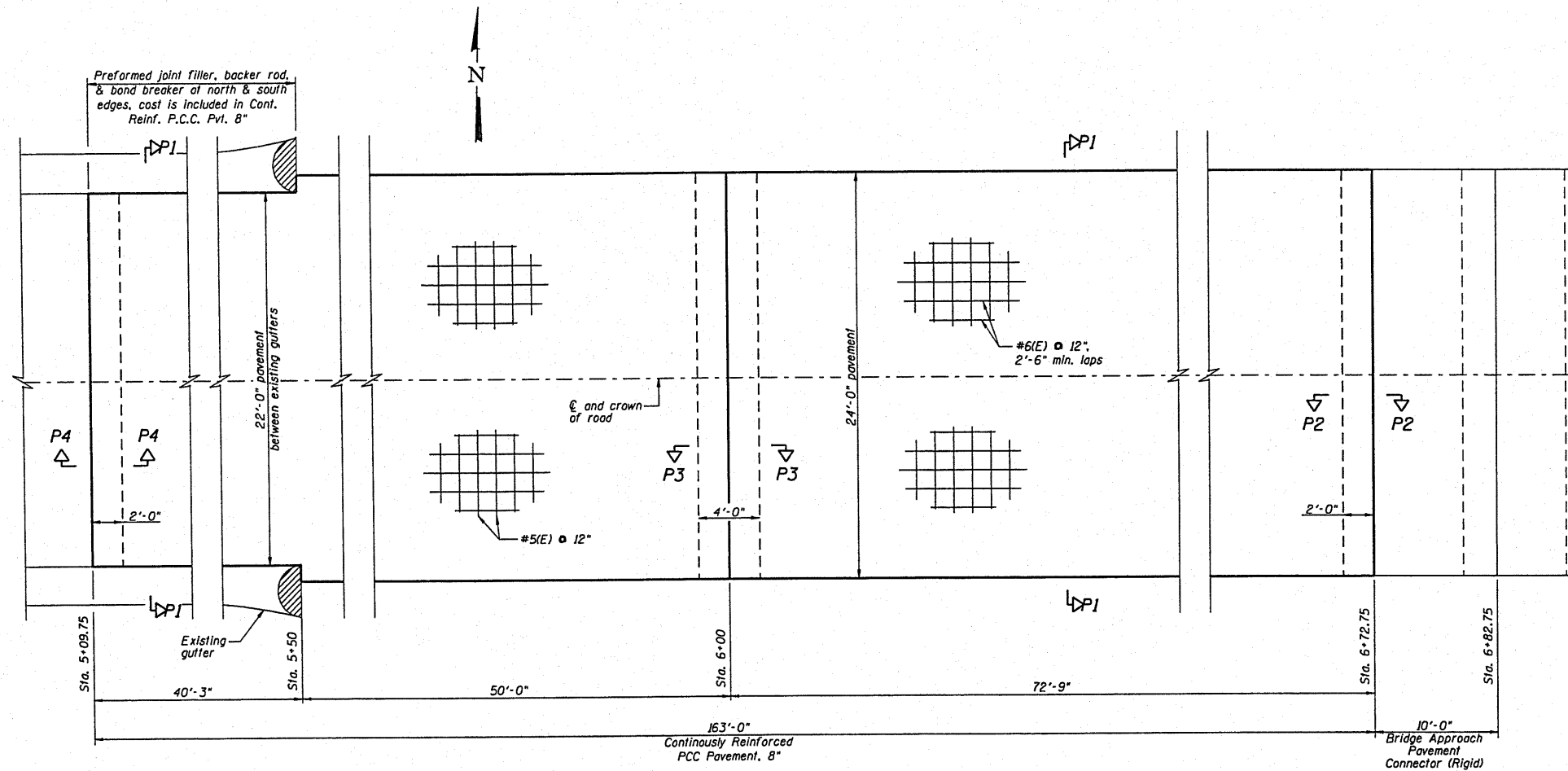
 Temporary Ditch Check (10 feet)

 Perimeter Erosion Barrier

 Temporary Erosion Control Seeding

ROUTE NO.	SECTION	COUNT	DATE	SCALE
FAS 447	#	Fulton	43	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*08-00121-01-BR



PLAN

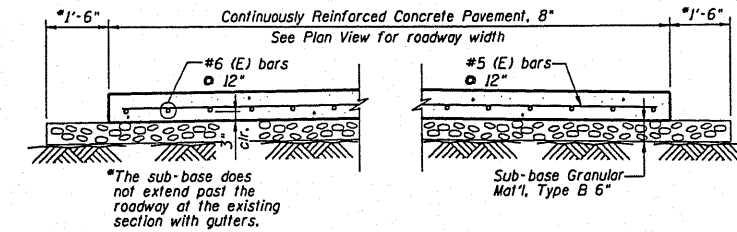
SUB-BASE GRANULAR MAT'L, TYPE B 6"			
LOCATION			SQ. YD.
STA. 5+09.75 TO STA. 5+50.00	mainline		112
STA. 5+50.00 TO STA. 6+72.75	mainline		368
STA. 14+13.25 TO STA. 15+73.25	mainline		480
STA. 0+12.00 TO STA. 2+00.00	Mt. Pisgah		611
TOTAL			1571

PROTECTIVE COAT			
LOCATION			SQ. YD.
STA. 5+09.75 TO STA. 5+50.00	mainline		99
STA. 5+50.00 TO STA. 6+72.75	mainline		327
STA. 14+13.25 TO STA. 15+73.25	mainline		427
STA. 0+12.00 TO STA. 2+00.00	Mt. Pisgah		544
TOTAL			1397

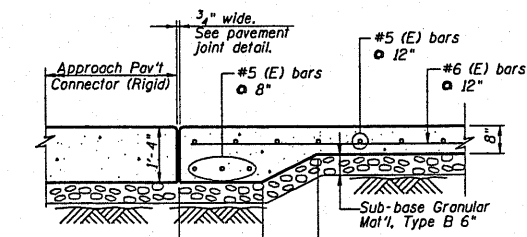
CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT 8"			
LOCATION			SQ. YD.
STA. 5+09.75 TO STA. 5+50.00	mainline		99
STA. 5+50.00 TO STA. 6+72.75	mainline		327
STA. 14+13.25 TO STA. 15+73.25	mainline		427
STA. 0+12.00 TO STA. 2+00.00	Mt. Pisgah		544
TOTAL			1397

PAVEMENT REINFORCEMENT			
LOCATION			SQ. YD.
STA. 5+09.75 TO STA. 5+50.00	mainline		99
STA. 5+50.00 TO STA. 6+72.75	mainline		327
STA. 14+13.25 TO STA. 15+73.25	mainline		427
STA. 0+12.00 TO STA. 2+00.00	Mt. Pisgah		544
TOTAL			1397

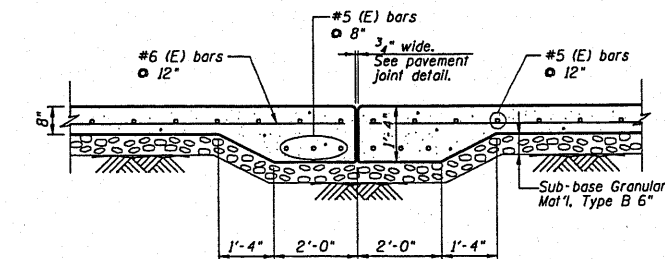
BILL OF MATERIAL - PCC PVT 8"		
ITEM	UNIT	QUANTITY
SUB GRAN MAT'L B	SQ. YD.	1571
CONT REINF PCC PVT 8"	SQ. YD.	1397
PAVEMENT REINFORCEMENT	SQ. YD.	1397
PROTECTIVE COAT	SQ. YD.	1397



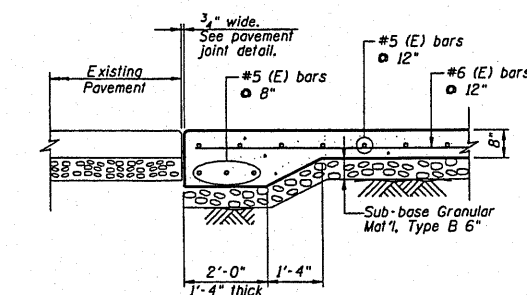
SECTION P1-P1



SECTION P2-P2



SECTION P3-P3



SECTION P4-P4

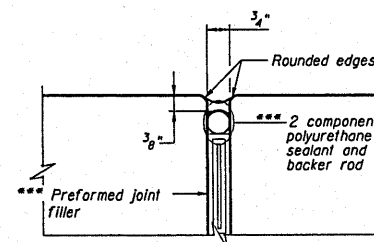
NOTES:

After removing the 8" of pavement, the Engineer shall determine if the existing sub-base can remain. If the existing sub-base is re-used, no new sub-base shall be placed.

Reinforcing bars designated (E) shall be epoxy coated.

Maintain a 3" minimum clear cover to the reinforcing bars.

Pavement shall receive Type A final finish, according to Section 420.09 of the Standard Specifications.



PAVEMENT JOINT DETAIL

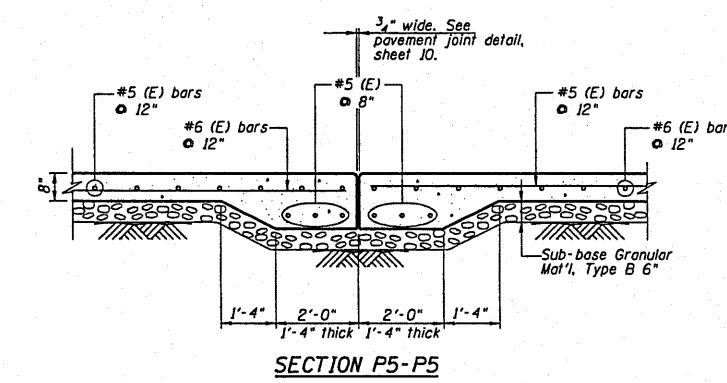
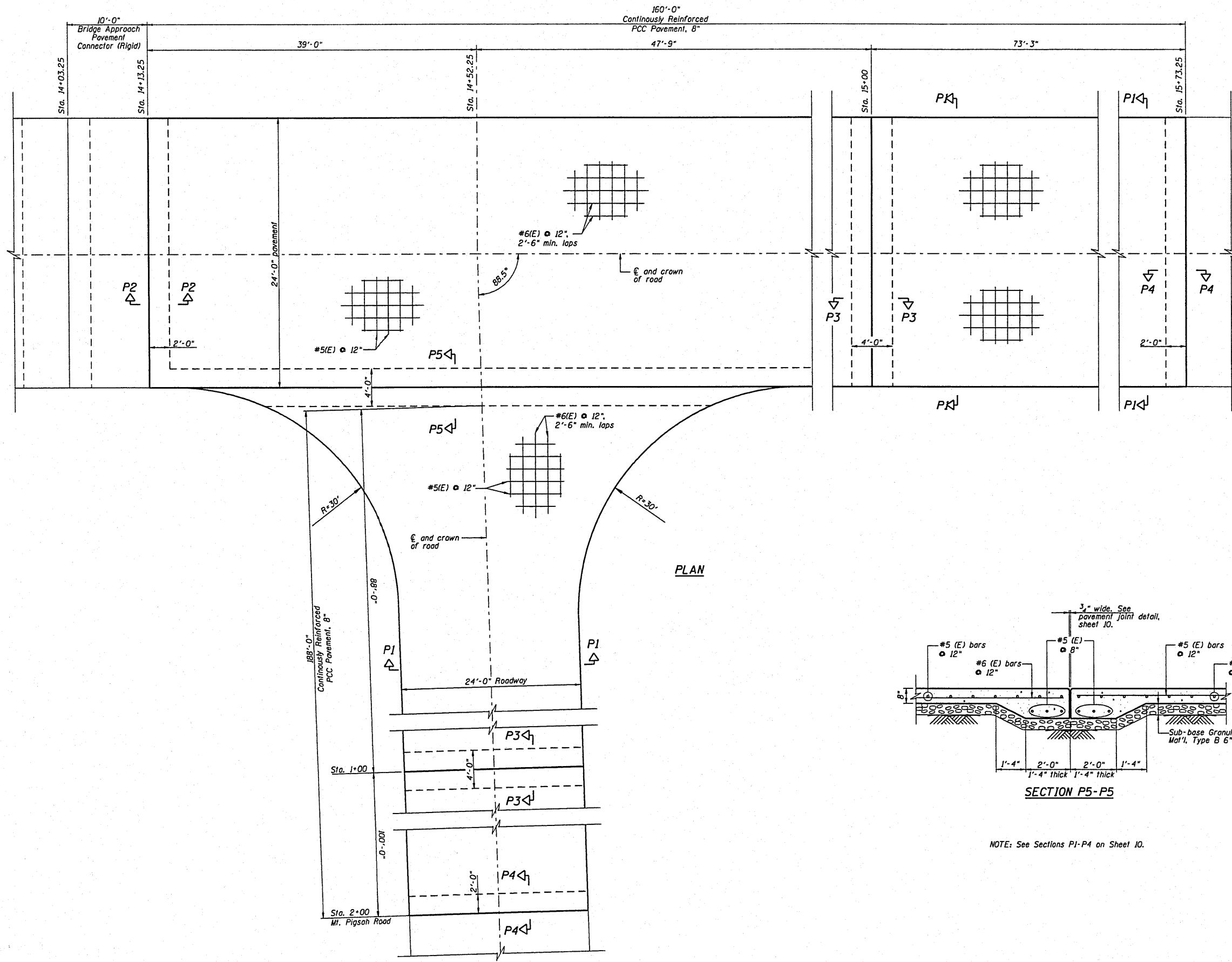
*** Cost Included with Continuously Reinforced P.C.C. Pavement, 8".

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY

FRAUENHOFFER
Fraunhoffer and Associates, P.C. Consulting Engineers
3002 Crossing Court Champaign, IL 61822 217-351-6268

CONT. REINF. PCC PAVEMENT, 8" - SHEET 1 of 2		SHEET 10
FAS 1447 (C.H. 17) OVER SPOON RIVER		DWG NO. 8015CRCP.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	*	Fulton	43	11
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
				*08-00121-01-BR



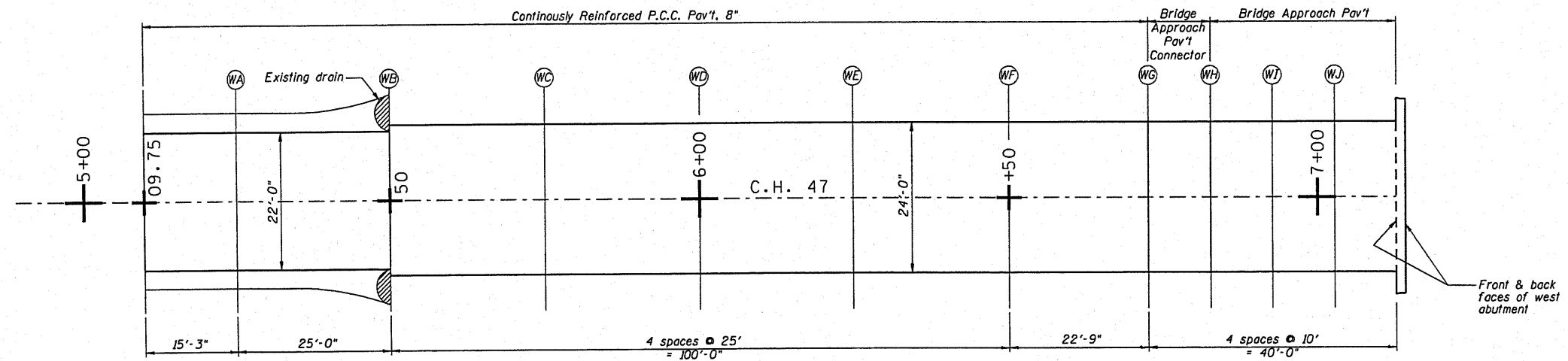
NOTE: See Sections P1-P4 on Sheet 10.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

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CONT. REINF. PCC PAVEMENT, 8" - SHEET 2 of 2		SHEET 11
FAS 1447 (C.H. 17) OVER SPOON RIVER		DWG. NO. 8015CRCP.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ. NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fulton	43	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



**West Approach
North or South Edges of Pavement**

Location	Station	Offset	Pavement Elevations
Begin Pavement	5+09.75	11.00'	match
Line WA	5+25.00	11.00'	546.628
Line WB (22' pavement)	5+50.00	11.00'	546.075
Line WB (24' pavement)	5+50.00	12.00'	546.054
Line WC	5+75.00	12.00'	545.501
Line WD	6+00.00	12.00'	544.948
Line WE	6+25.00	12.00'	544.395
Line WF	6+50.00	12.00'	543.842
Line WG	6+72.75	12.00'	543.338
Line WH	6+82.75	12.00'	543.117
Line WI	6+92.75	12.00'	542.896
Line WJ	7+02.75	12.00'	542.675
Back of W. Abutment	7+12.75	12.00'	542.454
Front Face W. Abut. Wall	7+14.25	12.00'	542.420

Profile Grade Line/Centerline

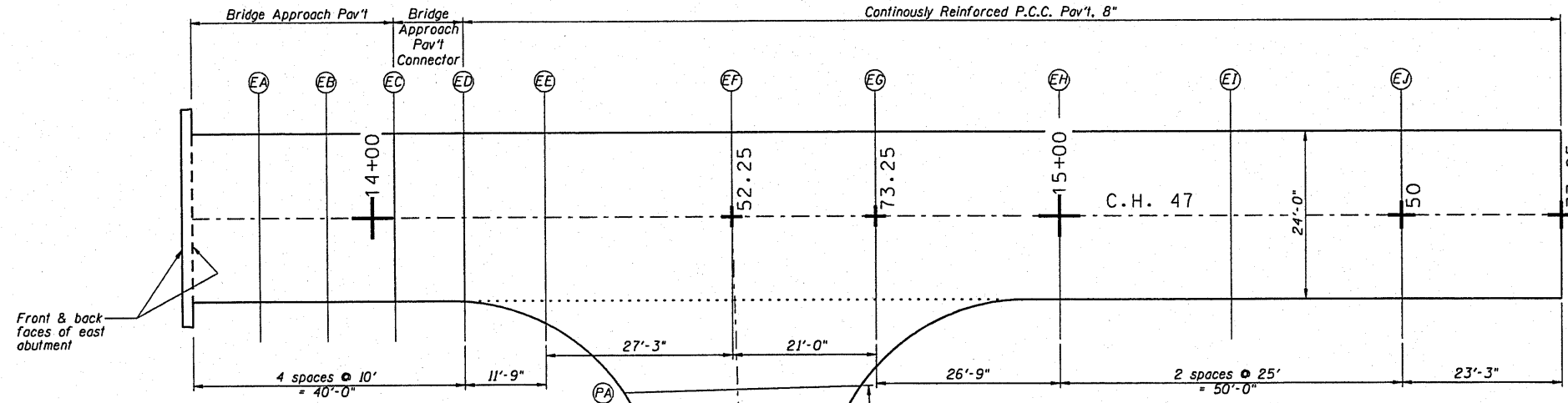
Location	Station	Offset	Pavement Elevations
Begin Pavement	5+09.75	0.00'	match
Line WA	5+25.00	0.00'	546.857
Line WB (22' pavement)	5+50.00	0.00'	546.304
Line WB (24' pavement)	5+50.00	0.00'	546.304
Line WC	5+75.00	0.00'	545.751
Line WD	6+00.00	0.00'	545.198
Line WE	6+25.00	0.00'	544.645
Line WF	6+50.00	0.00'	544.092
Line WG	6+72.75	0.00'	543.588
Line WH	6+82.75	0.00'	543.367
Line WI	6+92.75	0.00'	543.146
Line WJ	7+02.75	0.00'	542.925
Back of W. Abutment	7+12.75	0.00'	542.704
Front Face W. Abut. Wall	7+14.25	0.00'	542.670

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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APPROACH PAV'T ELEVATIONS - SHEET 1 OF 2		SHEET 12
FAS 447 (C.H. 17) OVER SPOON RIVER SECTION 08-00121-01-BR FULTON COUNTY		DWG NO. appe.dgn DATE JAN 2010 PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fulton	43	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



**East Approach
Profile Grade Line/Centerline**

Location	Station	Offset	Pavement Elevations
Front Face E. Abut. Wall	13+71.75	0.00'	528.064
Back of E. Abutment	13+73.25	0.00'	528.031
Line EA	13+83.25	0.00'	527.806
Line EB	13+93.25	0.00'	527.580
Line EC	14+03.25	0.00'	527.355
Line ED	14+13.25	0.00'	527.129
Line EE	14+25.00	0.00'	526.864
Line EF	14+52.25	0.00'	526.250
Line EG	14+73.25	0.00'	525.776
Line EH	15+00.00	0.00'	525.173
Line EI	15+25.00	0.00'	524.609
Line EJ	15+50.00	0.00'	524.045
End Pavement	15+73.25	0.00'	match

**East Approach
North/South Edges of Pavement**

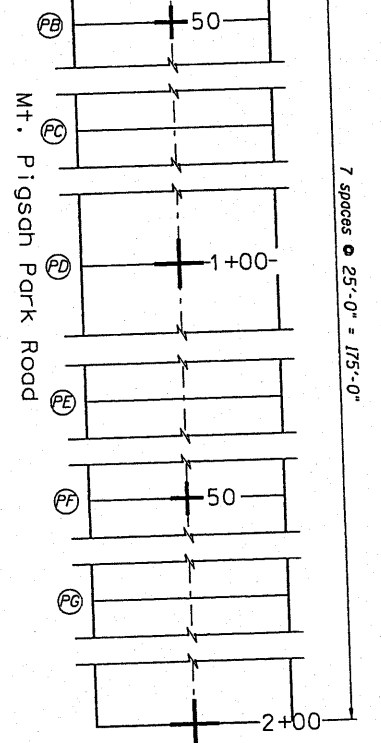
Location	Station	Offset	Pavement Elevations
Front Face E. Abut. Wall	13+71.75	12.00'	527.814
Back of E. Abutment	13+73.25	12.00'	527.781
Line EA	13+83.25	12.00'	527.556
Line EB	13+93.25	12.00'	527.330
Line EC	14+03.25	12.00'	527.105
Line ED	14+13.25	12.00'	526.879
Line EE	14+25.00	12.00'	526.614
Line EF	14+52.25	12.00'	526.000
Line EG	14+73.25	12.00'	525.526
Line EH	15+00.00	12.00'	524.923
Line EI	15+25.00	12.00'	524.359
Line EJ	15+50.00	12.00'	523.795
End Pavement	15+73.25	12.00'	match

**Mt. Pisgah Park Road Approach
Profile Grade Line/Centerline**

Location	Station	Offset	Pavement Elevations
Line PA	0+25.00	0.00'	525.754
Line PB	0+50.00	0.00'	525.175
Line PC	0+75.00	0.00'	524.383
Line PD	1+00.00	0.00'	523.378
Line PE	1+25.00	0.00'	522.161
Line PF	1+50.00	0.00'	520.730
Line PG	1+75.00	0.00'	519.087
End Pavement	2+00.00	0.00'	match

**Mt. Pisgah Park Road Approach
West/East Edges of Pavement**

Location	Station	Offset	Pavement Elevations
Line PA	0+25.00	17.42'	525.391
Line PB	0+50.00	12.00'	524.925
Line PC	0+75.00	12.00'	524.133
Line PD	1+00.00	12.00'	523.128
Line PE	1+25.00	12.00'	521.911
Line PF	1+50.00	12.00'	520.480
Line PG	1+75.00	12.00'	518.837
End Pavement	2+00.00	12.00'	match

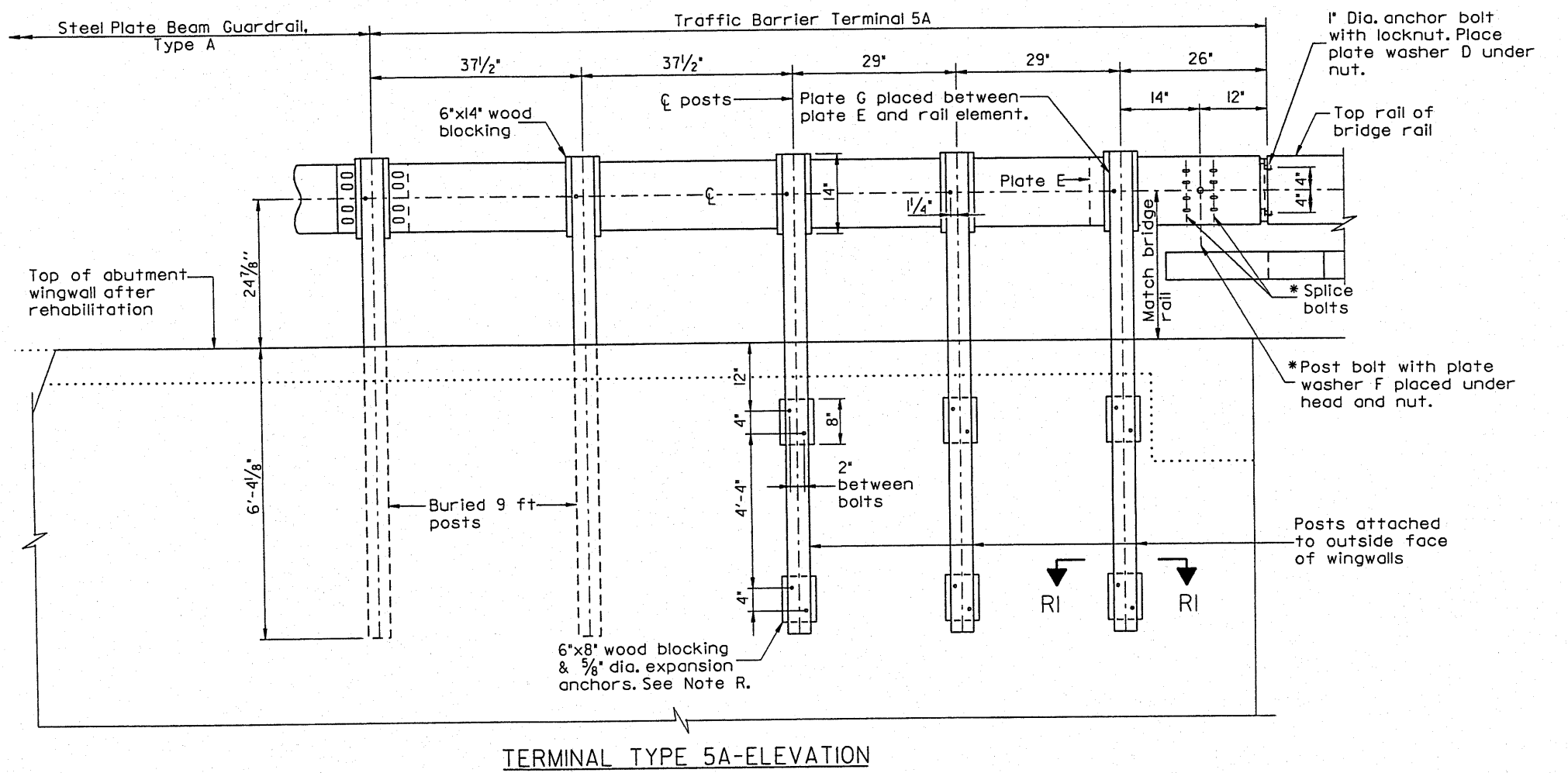
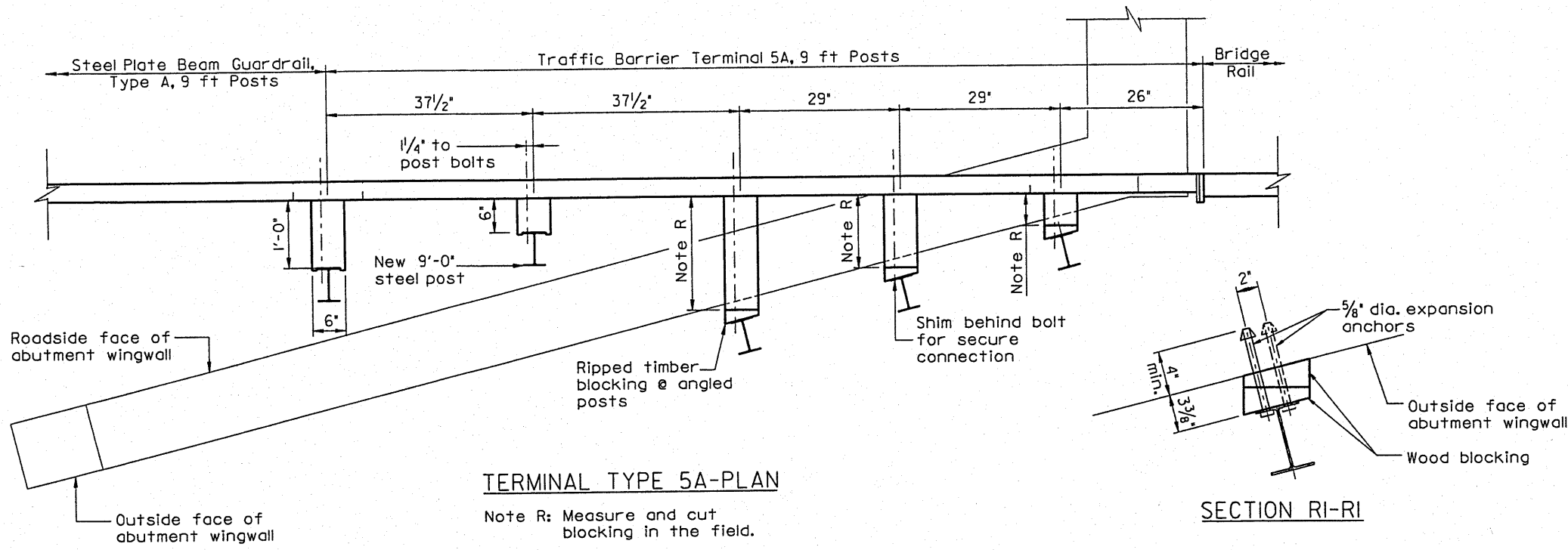


DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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3002 Crossing Court Champaign, IL 61822 217-351-6268

APPROACH PAV'T ELEVATIONS - SHEET 2 OF 2		SHEET 13
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG. apppe.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ. NO. 8015

ROUTE NO.	SECTION	COMPANY	SHEET	SHEET
FAS 447	#	Fullon	43	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Frauenhoffer				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

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3002 Crossing Court Champaign, IL 61822 217-351-6268

GUARDRAIL & TERMINALS-SHEET 1 OF 2		SHEET 14
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. RAIL.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447	*	Fulton	43	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

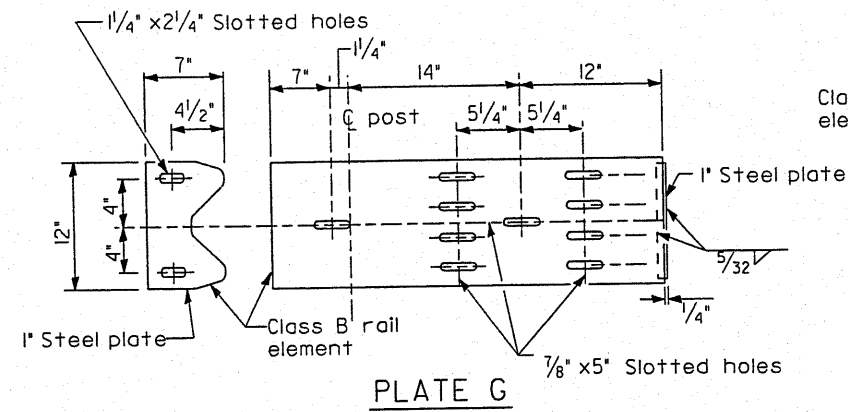


PLATE G

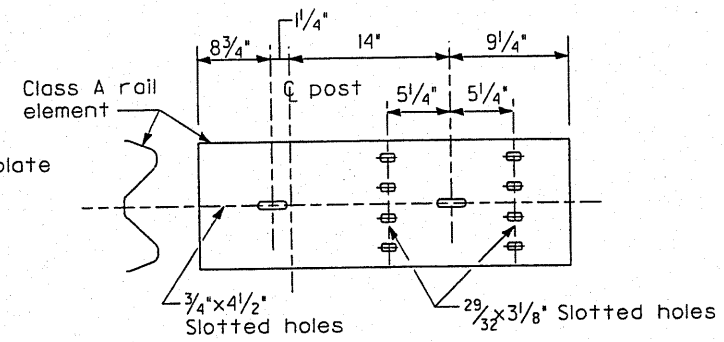


PLATE E

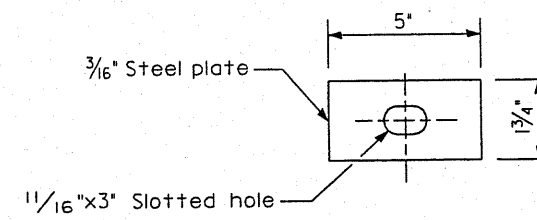


PLATE WASHER F

NOTE: Plate washer F shall be used on type A guardrail only where specified.

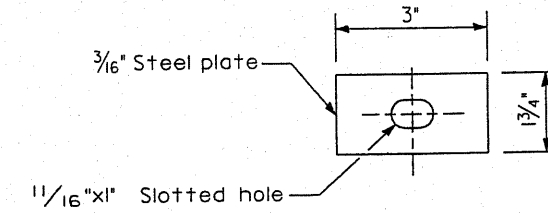
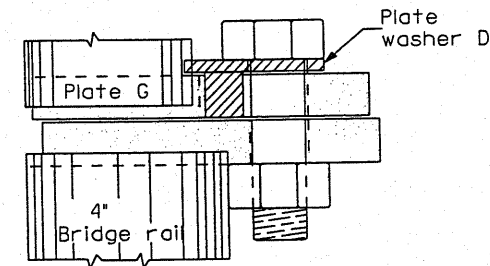


PLATE WASHER H

NOTE: Plate washer H shall be used at all other locations where rail element is bolted to a block-out unless otherwise noted.



PLACEMENT OF PLATE WASHER D
(PLAN)

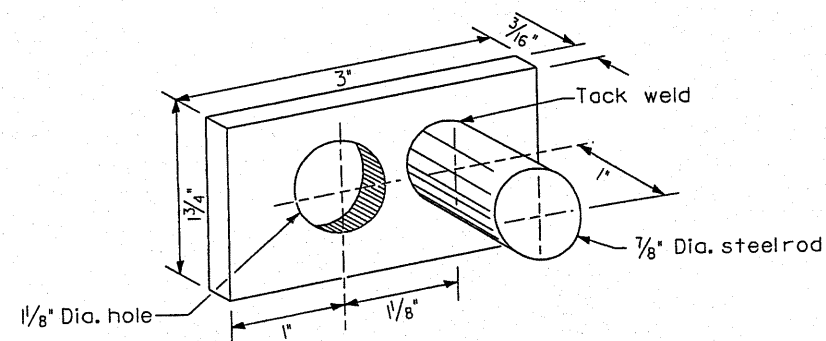


PLATE WASHER D

BILL OF MATERIAL

ITEM	UNIT	QTY
Guardrail Removal	Foot	160
Steel Plate Beam Guardrail, Type A	Foot	900
Traffic Barrier Terminal, Type 5A	Each	4
Steel Plate Beam Guardrail, Short Radius	Foot	80
Traffic Barrier Terminal, Type 1	Each	3
Traffic Barrier Terminal, Type 2	Each	3

GENERAL NOTES

Install plate washer D so that the 1" projection fills the remainder of the slotted holes in the 1" end plate on plate G after the 1" dia. bolts are in place.

* Bolts shall be provided with locknut or double nut and shall be tightened only to a point that will allow plate G to be free to move when an expansion joint exists below the connector.

The face of the guardrail shall be installed flush with the face of the bridge rail.

Traffic Barrier Terminal, Type 5A shall transition in height up to meet the top rail of the bridge rail.

Steel Plate Beam Guardrail, Type A shall transition in height to meet the Traffic Barrier Terminal, Type 5A.

All posts shall be 9 ft. long.

Use this sheet in conjunction with Standards 630001-08, 631011-05, and BLR23-3.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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GUARDRAIL & TERMINALS - SHEET 2 OF 2

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

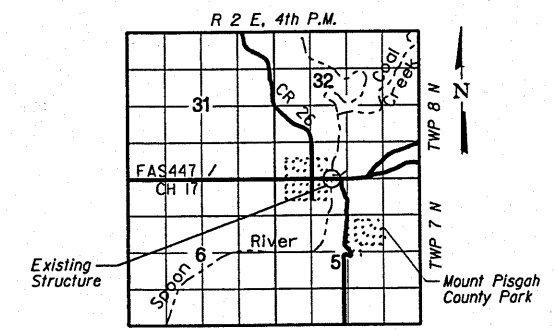
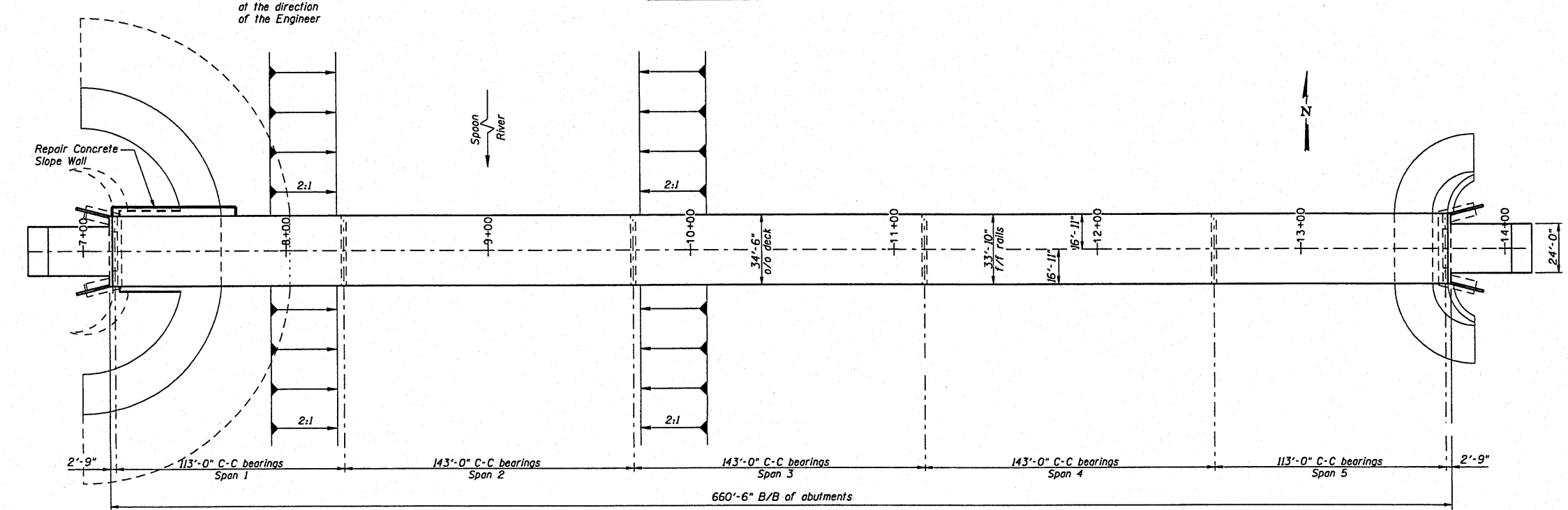
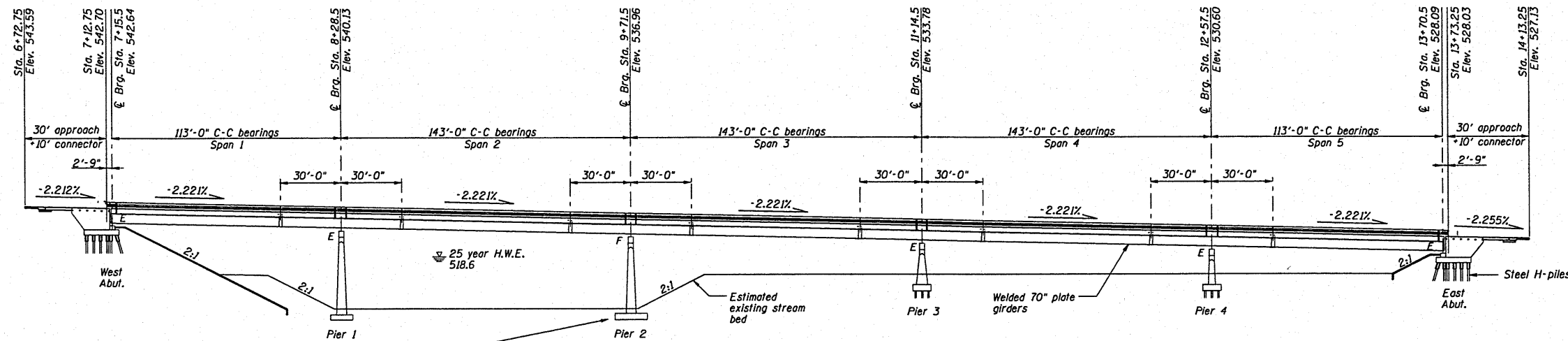
SHEET	15
DWG NO.	RAIL.dgn
DATE	JAN 2010
PROJ NO.	8015

Bench Mark #1 = USGS Disc on southwest wingwall, Sta. 7+12, 15' RT, El. 545.66.
 The contractor shall hire a licensed professional surveyor to temporarily reset the benchmark during construction and reset the benchmark permanently. The surveyor shall coordinate with the USGS. The cost shall be included in the cost of Mobilization.

CONTRACT #89498

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447	#	Fulton	43	16
FED. ROAD DIST. NO. 7	LANE NO.	FED. AID PROJECT		

*08-00121-01-BR



STRUCTURE NO. 029-3003
 SEC. 08-00121-01-BR BUILT 201-
 ELLISVILLE ROAD DISTRICT
 FULTON COUNTY
 LOADING HS-20-44

NAME PLATE
 See Highway Standard 515001
 Locate on the outside face
 of the south east wingwall.



I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO Standard Specifications for Highway Bridges."
 Kelly Jo Hoffmann
 KELLY JO HOFFMANN
 Illinois Licensed Structural Engineer Number 6497
 License Expires 11/30/10

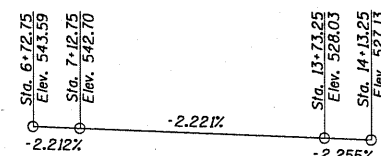
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraunhoffer				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY

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GENERAL PLAN & ELEVATION		SHEET 16
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. 8015GPE.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fulton	43	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*08-00121-01-BR



PROFILE GRADE

DESIGN SPECIFICATIONS

AASHTO 2002 and all applicable Interims

DESIGN LOADING

HS 20-44
25 P.S.F Future Wearing Surface

DESIGN STRESSES

$f'_c = 3,500$ psi (Cast in Place Concrete)
 $f_y = 60,000$ psi (Reinforcing Steel)
 $f_y = 36,000$ psi (Existing Structural Steel)

GENERAL NOTES

- Structural steel shall be M270, Grade 50.
- Welds shall be made using an E70XX electrode.
- Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.
- Class SI or MS Concrete shall be used in the abutments as Concrete Structures.
- Type BS Concrete shall be used as Concrete Superstructures.
- Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60 (IL Modified). See Special Provisions.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Dumped Riprap, Class A4	Sq. Yd.	-	76	76
Stone Dumped Riprap, Class A4	Tons	-	530	530
Filter Fabric	Sq. Yd.	-	225	225
Sub-base Granular Material, Type B 4"	Sq. Yd.	180	-	180
Sub-base Granular Material, Type B, 6"	Sq. Yd.	42	-	42
Sub-base Granular Material, Type C	Cu. Yd.	-	90	90
Concrete Removal	Cu. Yd.	-	19.8	19.8
Bridge Rail Removal	Foot	1321	-	1321
Slope Wall Removal	Sq. Yd.	-	77	77
Removal of Existing Concrete Deck	Each	1	-	1
Structure Excavation	Cu. Yd.	-	49	49
Concrete Structures	Cu. Yd.	17.6	14.8	32.4
Concrete Superstructures	Cu. Yd.	783.5	-	783.5
Bridge Deck Grooving	Sq. Yd.	2742	-	2742
Protective Coat	Sq. Yd.	3033	-	3033
Furnishing & Erecting Structural Steel	Pound	6500	-	6500
Stud Shear Connectors	Each	7905	-	7905
Jack and Remove Existing Bearings	Each	10	-	10
Cleaning and Painting Steel Bridge No. 1	L. Sum	1	-	1
Containment & Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1	-	1
Reinforcement Bars, Epoxy Coated	Pound	212990	2140	215130
Steel Railing, Type SM	Foot	1314	-	1314
Slope Wall 6 inch	Sq. Yd.	-	92	92
Name Plates	Each	1	-	1
Finger Plate Expansion Joint	Foot	69	-	69
Elastomeric Bearing Assembly, Type III	Each	10	-	10
Concrete Sealer	Sq. Ft.	-	256	256
Pipe Underdrains 8"	Foot	-	70	70

DSGN	K.J. Hoffmann				
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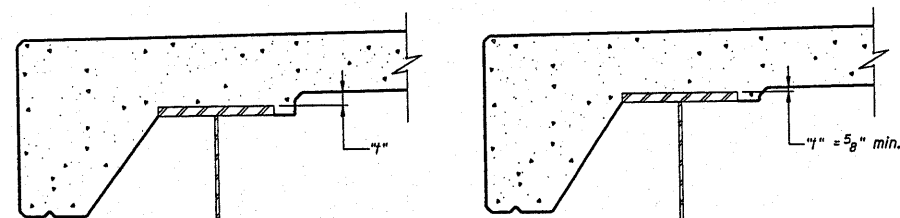
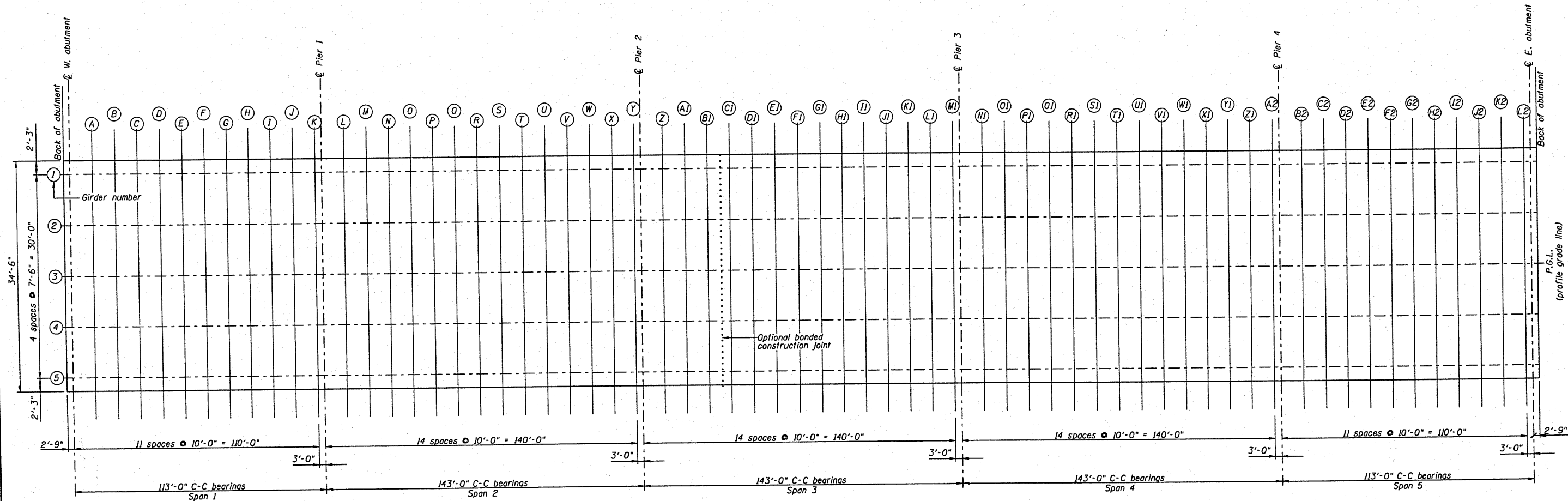
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GENERAL BRIDGE INFORMATION
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	17
DWG NO.	8015GPE.dgn
DATE	AUG 2010
PROJ NO.	8015

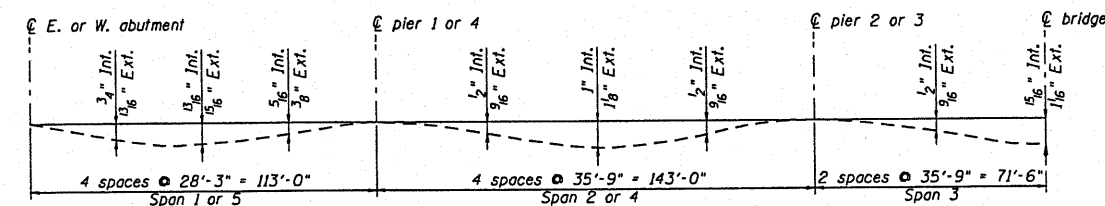
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447	*	Fulton	43	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*08-00121-01-BR



FILLET HEIGHTS

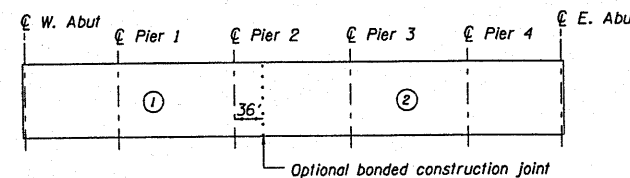
To determine "1": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 19 and 20, minus slab thickness, equals the fillet height "1" above top flange of beams.



DEAD LOAD DEFLECTION DIAGRAM FOR INTERIOR OR EXTERIOR GIRDERS

(Includes weight of concrete deck & all superimposed dead loads except the future wearing surface.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for Dead Load deflections as shown on sheets entitled "Top of Slab Elevations".



Note: Section ① shall be poured before Section ②.

SLAB POURING SEQUENCE

SLAB POURING NOTES

When the deck pour is stopped for the day at the transverse banded construction joint in the deck pouring sequence as shown, the next pour shall not be made until both of the following requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum modulus of rupture of 650 psi or a minimum compressive strength of 3500 psi.

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TOP OF SLAB ELEVATIONS - SHEET 1 OF 3

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	18
DWG NO.	tos.dgn
DATE	JAN 2010
PROJ NO.	8015

ROUTE NO.	SECTION	COUNTY	DIST.	SHEET
FAS 447	#	Fulton	43	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*08-00121-01-BR

North or South Edge of Deck

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of west abutment	7+12.75	17.25'	542.345	542.345
CL bearing west abutment	7+15.50	17.25'	542.284	542.284
Line A	7+25.50	17.25'	542.062	542.090
Line B	7+35.50	17.25'	541.840	541.893
Line C	7+45.50	17.25'	541.618	541.689
Line D	7+55.50	17.25'	541.395	541.476
Line E	7+65.50	17.25'	541.173	541.255
Line F	7+75.50	17.25'	540.951	541.024
Line G	7+85.50	17.25'	540.729	540.788
Line H	7+95.50	17.25'	540.507	540.547
Line I	8+05.50	17.25'	540.285	540.306
Line J	8+15.50	17.25'	540.063	540.070
Line K	8+25.50	17.25'	539.840	539.840
Pier 1	8+28.50	17.25'	539.774	539.774
Line L	8+38.50	17.25'	539.552	539.557
Line M	8+48.50	17.25'	539.329	539.347
Line N	8+58.50	17.25'	539.107	539.144
Line O	8+68.50	17.25'	538.885	538.943
Line P	8+78.50	17.25'	538.663	538.738
Line Q	8+88.50	17.25'	538.441	538.528
Line R	8+98.50	17.25'	538.219	538.311
Line S	9+08.50	17.25'	537.997	538.087
Line T	9+18.50	17.25'	537.774	537.853
Line U	9+28.50	17.25'	537.552	537.615
Line V	9+38.50	17.25'	537.330	537.373
Line W	9+48.50	17.25'	537.108	537.131
Line X	9+58.50	17.25'	536.886	536.894
Line Y	9+68.50	17.25'	536.664	536.665
CL Pier 2	9+71.50	17.25'	536.597	536.597
Line Z	9+81.50	17.25'	536.375	536.379
Line A1	9+91.50	17.25'	536.153	536.170
Line B1	10+01.50	17.25'	535.931	535.966
Line C1	10+11.50	17.25'	535.709	535.763
Line D1	10+21.50	17.25'	535.486	535.557
Line E1	10+31.50	17.25'	535.264	535.347
Line F1	10+41.50	17.25'	535.042	535.130
Line G1	10+51.50	17.25'	534.820	534.906
Line H1	10+61.50	17.25'	534.598	534.674
Line I1	10+71.50	17.25'	534.376	534.435
Line J1	10+81.50	17.25'	534.154	534.194
Line K1	10+91.50	17.25'	533.931	533.952
Line L1	11+01.50	17.25'	533.709	533.716
Line M1	11+11.50	17.25'	533.487	533.487
CL Pier 3	11+14.50	17.25'	533.420	533.420
Line N1	11+24.50	17.25'	533.198	533.203
Line O1	11+34.50	17.25'	532.976	532.993
Line P1	11+44.50	17.25'	532.754	532.790
Line Q1	11+54.50	17.25'	532.532	532.589
Line R1	11+64.50	17.25'	532.310	532.385
Line S1	11+74.50	17.25'	532.088	532.175
Line T1	11+84.50	17.25'	531.865	531.957
Line U1	11+94.50	17.25'	531.643	531.733
Line V1	12+04.50	17.25'	531.421	531.501
Line W1	12+14.50	17.25'	531.199	531.263
Line X1	12+24.50	17.25'	530.977	531.020
Line Y1	12+34.50	17.25'	530.755	530.778
Line Z1	12+44.50	17.25'	530.533	530.541
Line A2	12+54.50	17.25'	530.310	530.311
CL Pier 4	12+57.50	17.25'	530.244	530.244
Line B2	12+67.50	17.25'	530.022	530.026
Line C2	12+77.50	17.25'	529.799	529.816
Line D2	12+87.50	17.25'	529.577	529.612
Line E2	12+97.50	17.25'	529.355	529.409
Line F2	13+07.50	17.25'	529.133	529.203
Line G2	13+17.50	17.25'	528.911	528.991
Line H2	13+27.50	17.25'	528.689	528.771
Line I2	13+37.50	17.25'	528.467	528.541
Line J2	13+47.50	17.25'	528.244	528.303
Line K2	13+57.50	17.25'	528.022	528.058
Line L2	13+67.50	17.25'	527.800	527.809
CL bearing east abutment	13+70.50	17.25'	527.734	527.734
Back of east abutment	13+73.25	17.25'	527.672	527.672

DSGN	K.J. Hoffmann				
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APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

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TOP OF SLAB ELEVATIONS - SHEET 3 OF 3
 SHEET 20
 FAS 447 (C.H. 17) OVER SPOON RIVER
 SECTION 08-00121-01-BR
 FULTON COUNTY
 DWG NO. tos.dgn
 DATE JAN 2010
 PROJ NO. 8015

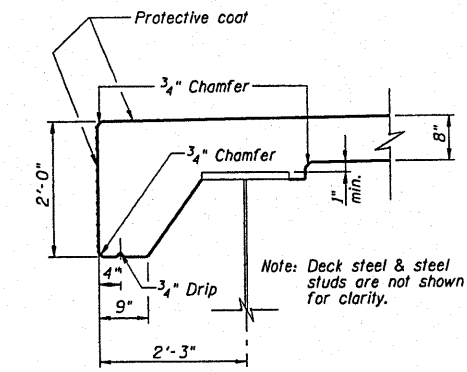
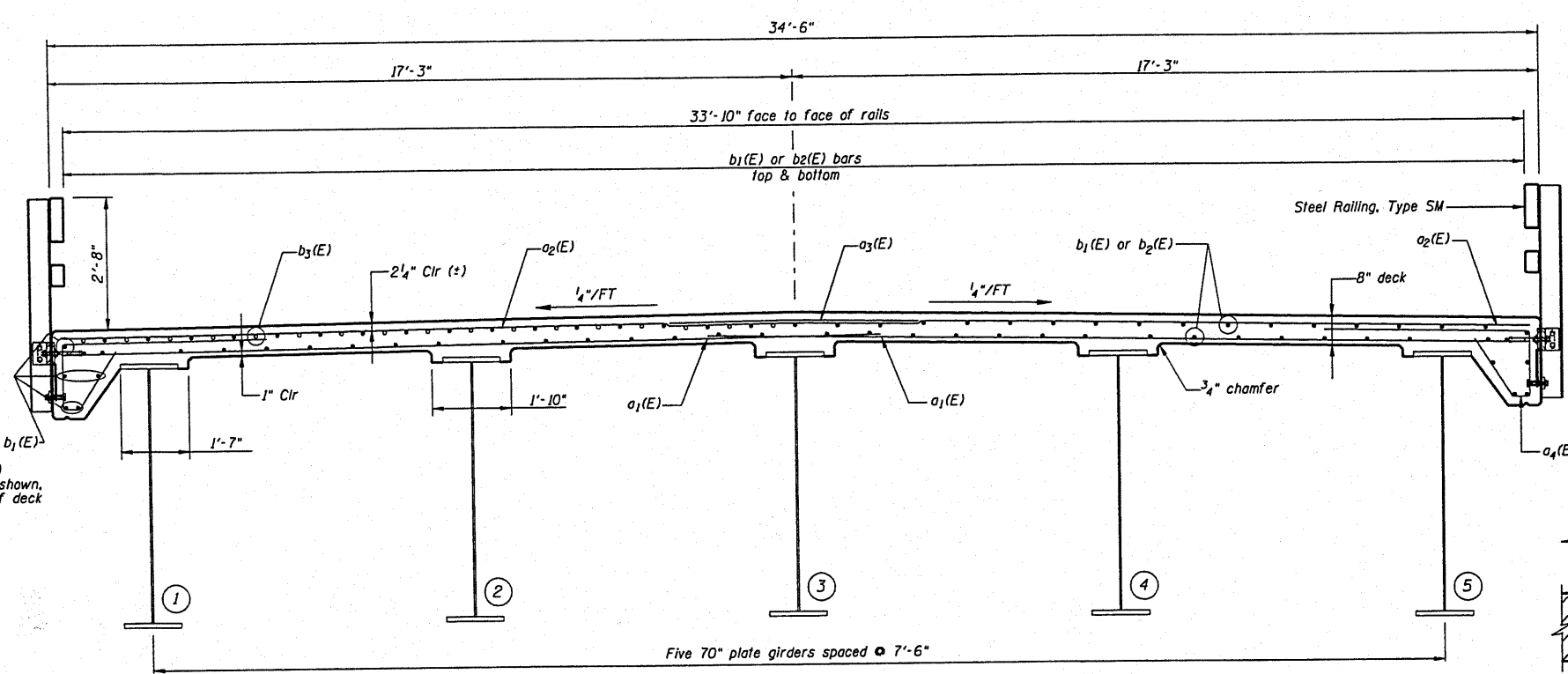
PROJECT NO.	SECTION	COUNT	SHEET	TOTAL
FAS 447	*	Fulton	43	21
REV. NO.	DATE	BY	CHK	APP

*08-00121-01-BR

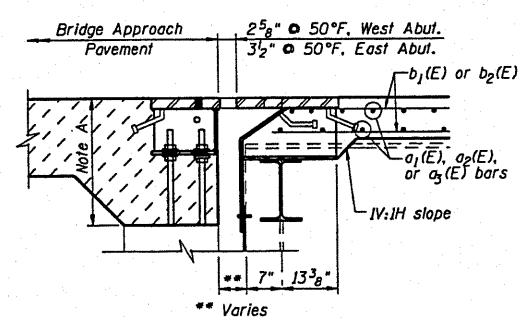
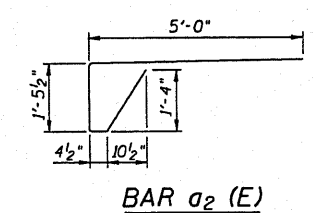
BILL OF MATERIAL SUPERSTRUCTURE

Bar	No.	Size	Length	Shape
a ₁ (E)	1968	# 5	19'-3"	—
a ₂ (E)	2624	# 5	17'-0"	—
a ₃ (E)	1312	# 5	5'-9"	—
a ₄ (E)	2626	# 5	8'-5"	—
b ₁ (E)	1800	# 5	29'-3"	—
b ₂ (E)	75	# 5	20'-0"	—
b ₃ (E)	136	# 6	36'-0"	—
b ₄ (E)	272	# 6	20'-0"	—
Reinforcement Bars, Epoxy Coated			Lbs.	189,000
Concrete Superstructure			Cu. Yds.	675
Protective Coat			Sq. Yd.	2,807
Bridge Deck Grooving			Sq. Yd.	2,516

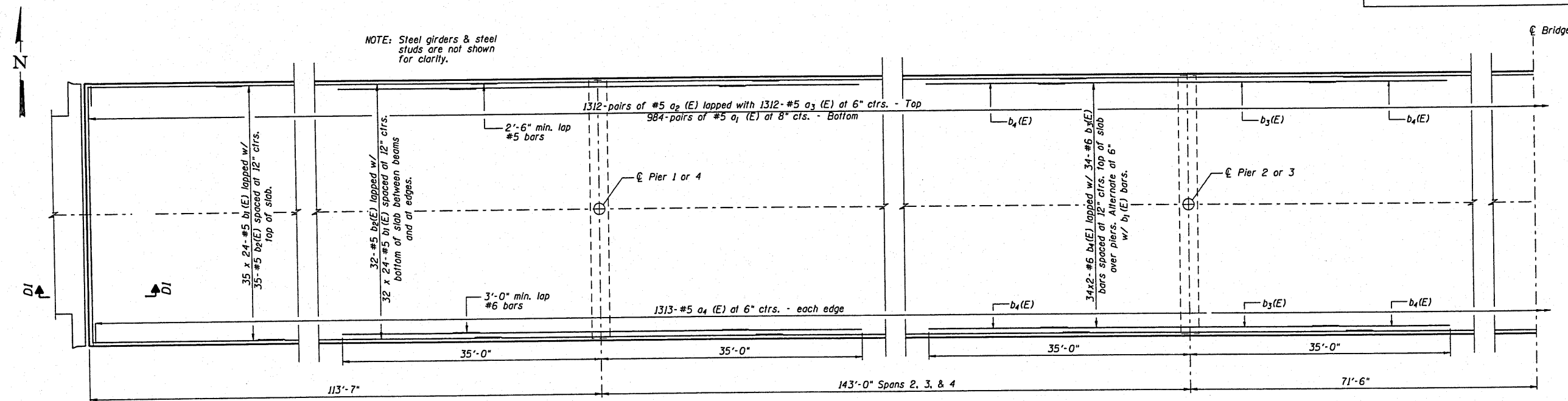
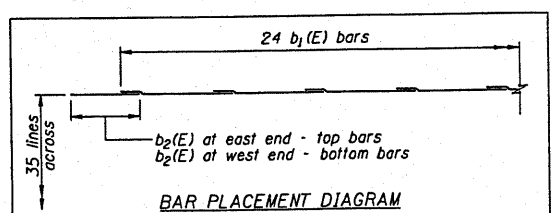
Notes: Reinforcement bars designated (E) shall be epoxy coated.
 Bars indicated thus "35 x 24 - #5 b etc..." indicates 35 lines of bars with 24 lengths per line. See Bar Placement Diagram.
 Holes shall be cut in the steel pedestals to accommodate the placement of the a(E) bars.
 See Sheets 24-26 for Finger Plate Expansion Joint.
 See Sheet 42 for Bridge Approach Pavement.
 Note A: Area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Concrete Superstructure for the Bridge Approach Pavement.



DETAIL OF SLAB OVERHANG



SECTION D1-D1



HALF PLAN
Symmetrical about C

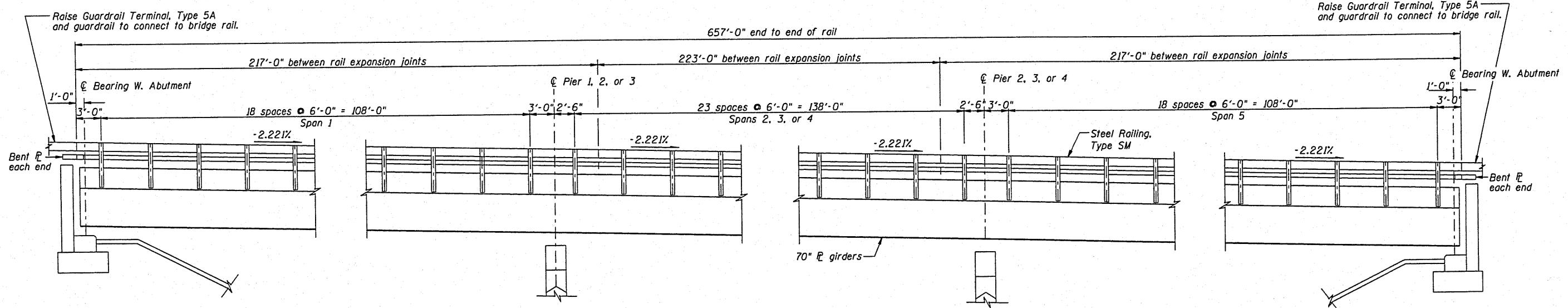
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY

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DECK REINFORCING
 FAS 1447 (C.H. 17) OVER SPOON RIVER
 SECTION 08-00121-01-BR
 FULTON COUNTY

SHEET	21
DWG NO.	B015-sup.dgn
DATE	JAN 2010
PROJ NO.	B015

ROUTE NO.	SECTION	EDITY	TOTAL SHEETS	SHEET NO.
FAS 447	*	Fulton	43	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



STEEL RAILING ELEVATION

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Railing, Type SM.

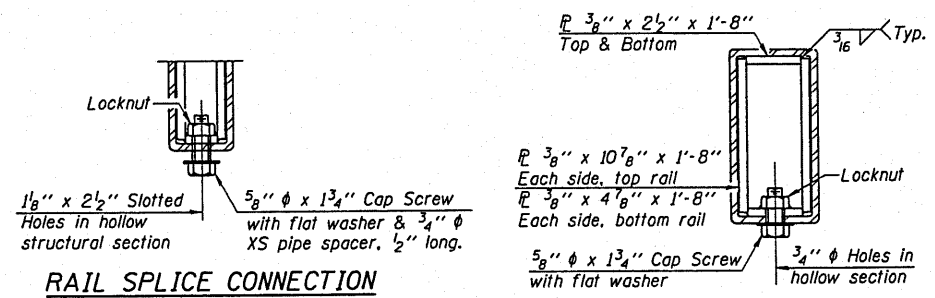
All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.

Steel rail elements shall be galvanized according to Article 1006.34 of the Standard Specifications.

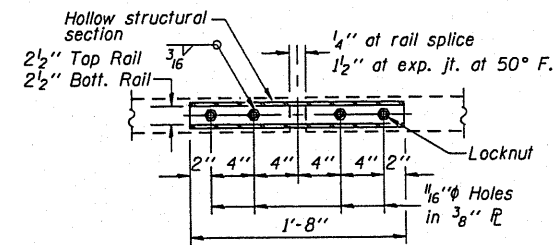
Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pad between the post and concrete.



RAIL SPLICE CONNECTION AT RAIL EXPANSION JT.

SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE R TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	1314

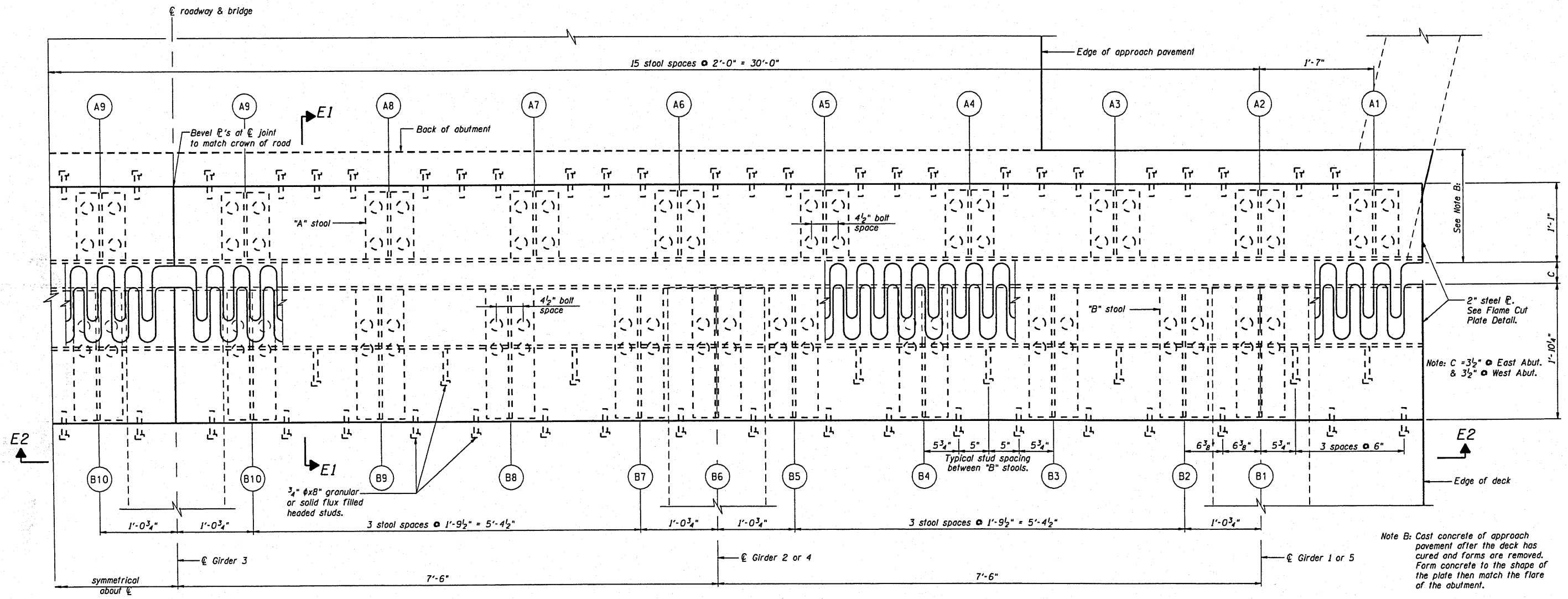
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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STEEL RAILING, TYPE SM - SHEET 2 OF 2		SHEET 23
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. 8015sm.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	*	Fullton	43	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

*08-00121-01-BR



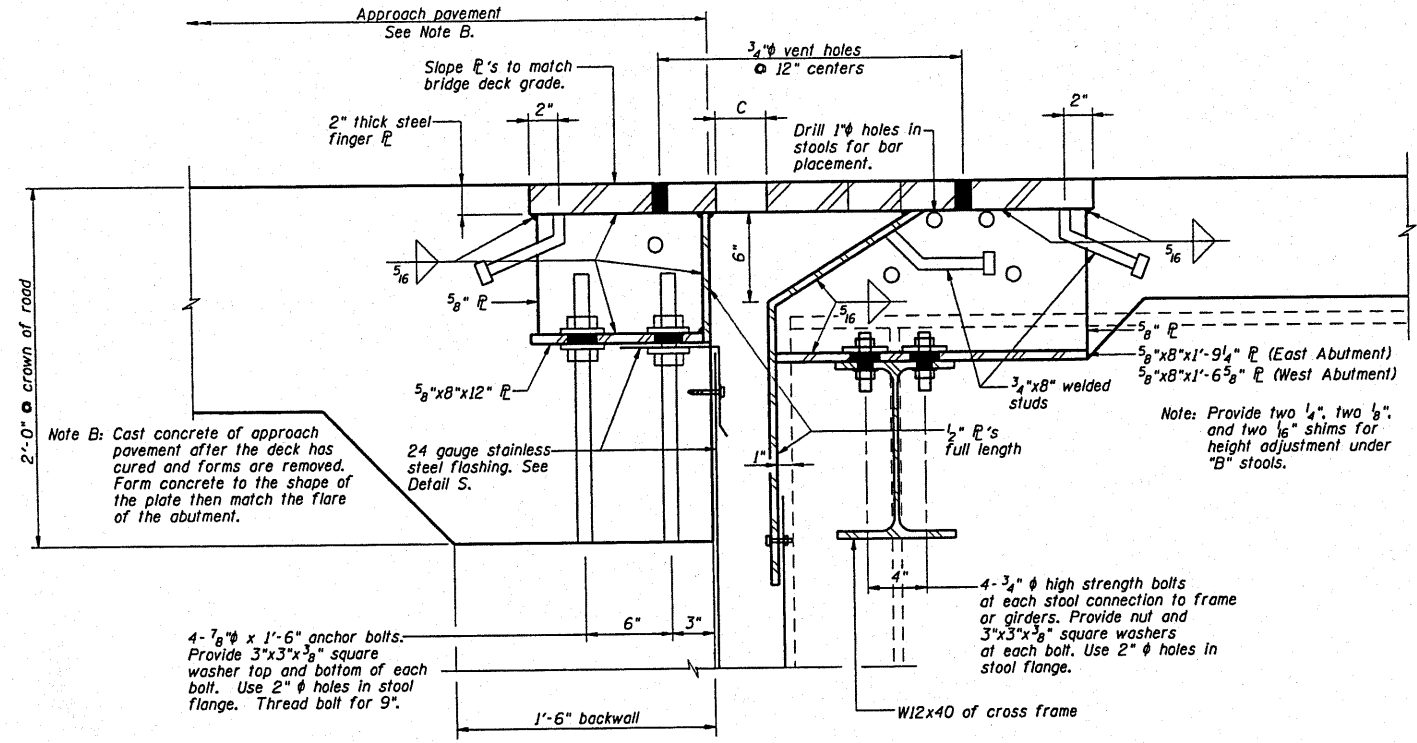
FINGER PLATE EXPANSION JOINT
PLAN

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraunhofer				
APVD	J.A. Fraunhofer	NO.	DATE	REVISION	BY

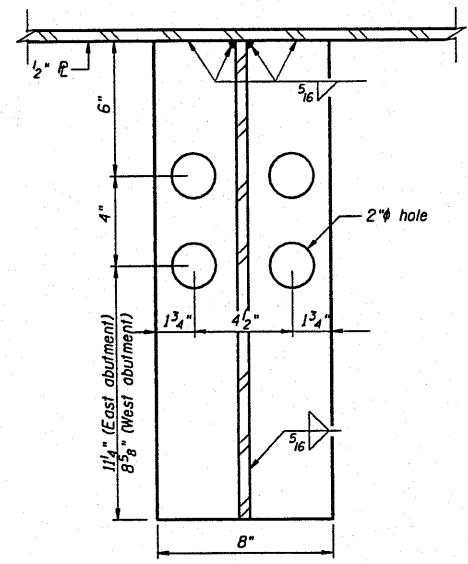
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FINGER PLATE EXPANSION JOINT-SHEET 1 OF 3		SHEET 24
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. EXP.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

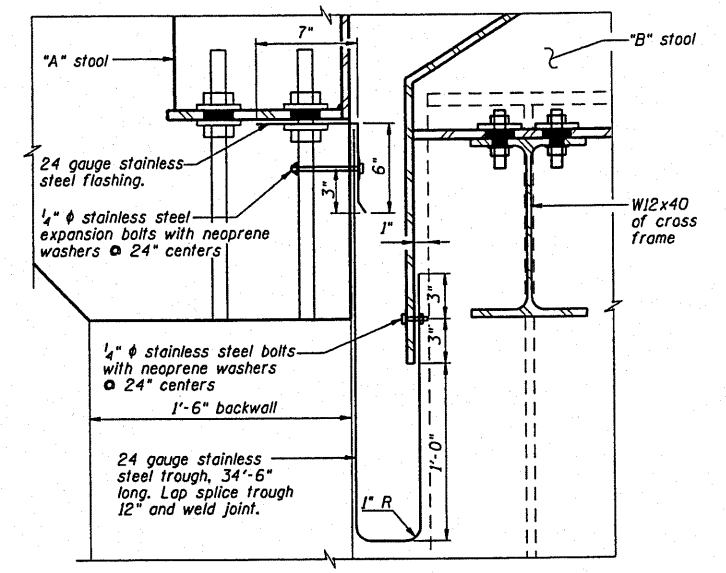
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fulton	43	25
FED. ROAD DIST. NO. 7		ILLINOIS	FED. ROAD PROJECT	



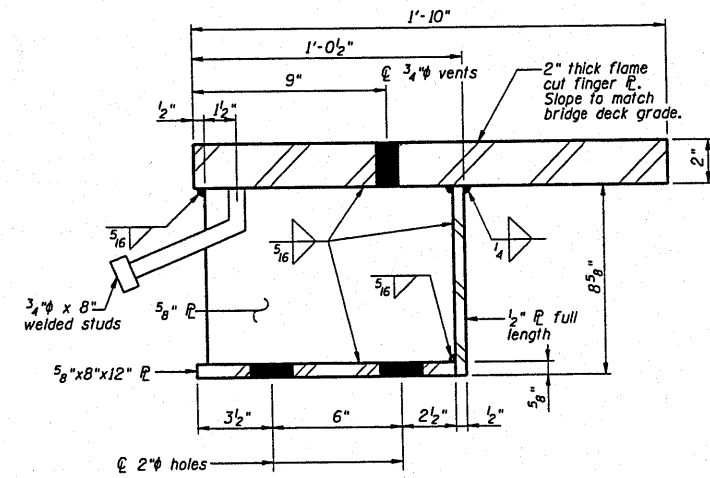
SECTION E1-E1



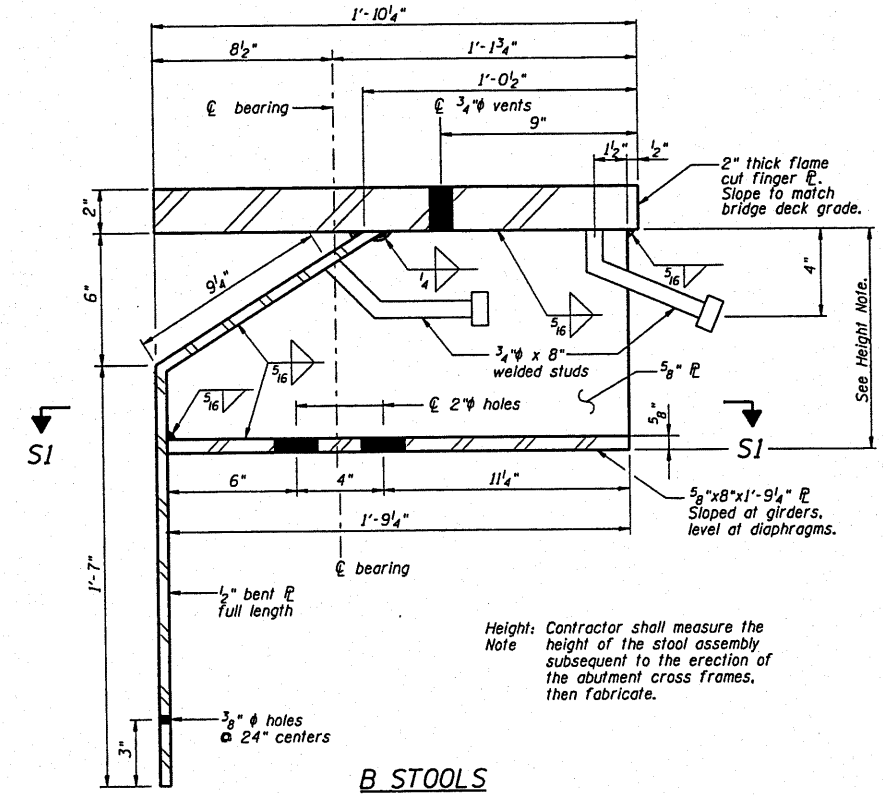
SECTION S1-S1



DETAIL S

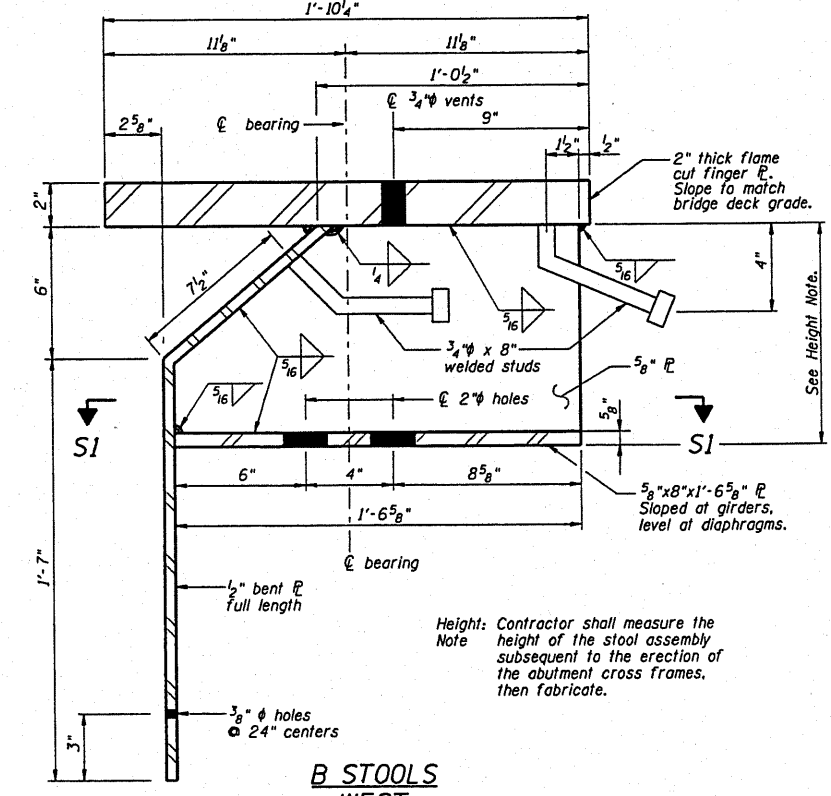


A STOOLS EAST OR WEST



B STOOLS EAST

Height: Contractor shall measure the height of the stool assembly subsequent to the erection of the abutment cross frames, then fabricate.



B STOOLS WEST

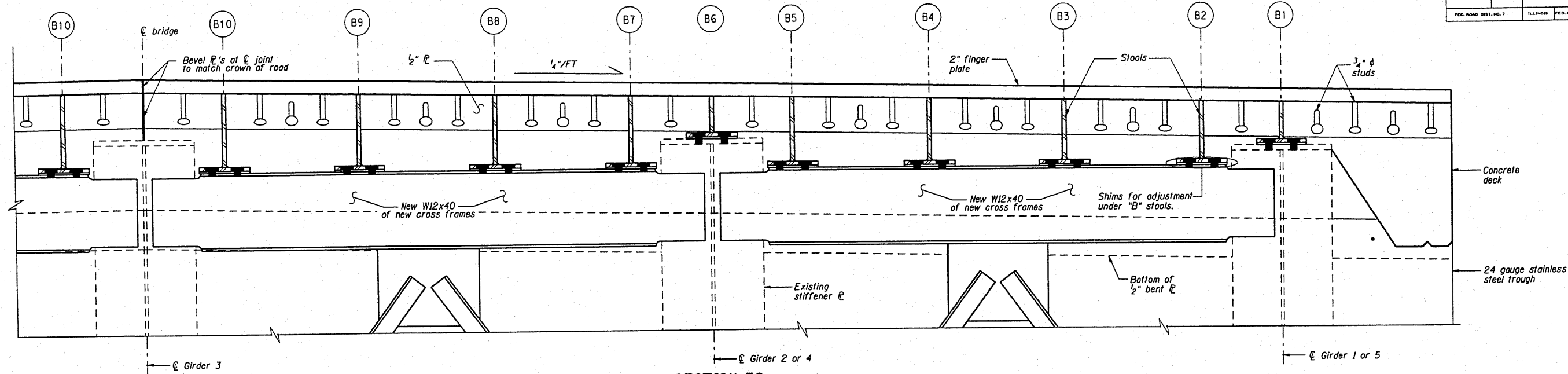
Height: Contractor shall measure the height of the stool assembly subsequent to the erection of the abutment cross frames, then fabricate.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraunhofer				
APVD	J.A. Fraunhofer	NO.	DATE	REVISION	BY

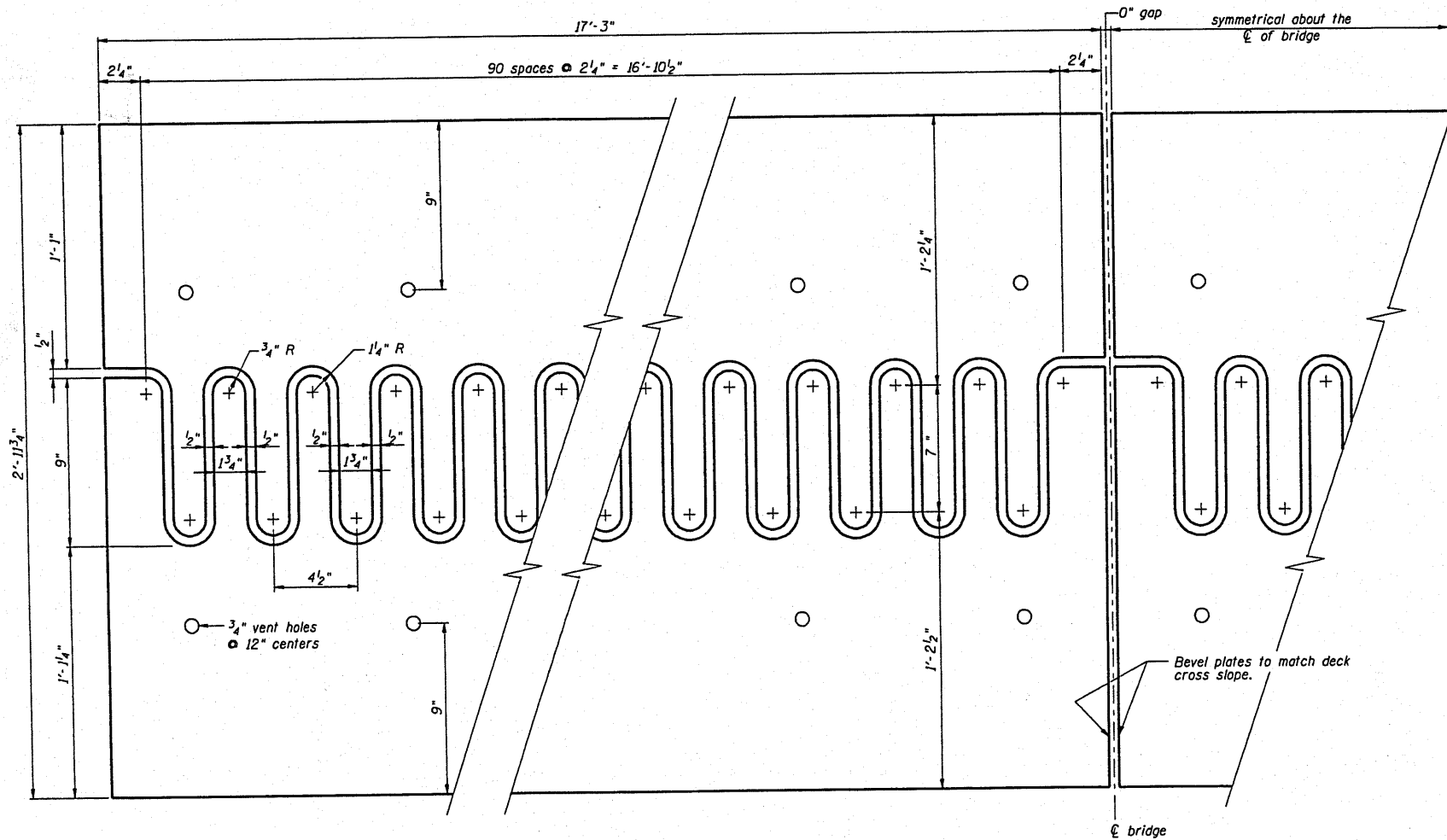
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FINGER PLATE EXPANSION JOINT-SHEET 2 OF 3		SHEET 25
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. EXP.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447	#	Fulton	43	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



SECTION E2



FLAME CUT PLATE DETAIL

Cut each of two plates from
from a 2'-2 1/4" x 17'-3" R.

NOTES:

Expansion joints shall be fabricated and installed according to the drawings then Section 520 of the Standard Specifications.

Materials: Finger plates, bent plates, stools, shims shall be AASHTO M270. Welded studs shall be granular or solid flux filled headed conforming to section 1006.32 of the Standard Specifications. The finger plate assembly and shims shall be hot-dipped galvanized by AASHTO M111 after fabrication. Bolts shall be AASHTO M164 Type 1, mechanically galvanized.

Fabrication: After installation of new abutment bearings and cross frames, the Contractor shall field survey the top of beams and cross frames to determine stool heights and verify bolt hole locations with respect to the cross frames BEFORE ordering or fabrication.

The anchor bolts, furnished and installed shall be included in the cost of FINGER PLATE EXPANSION JOINT.

Basis of Payment: This work shall be paid for at the contract unit price per linear foot for FINGER PLATE EXPANSION JOINT. Said price shall include all materials including all steel shapes shown in these drawings, shims, plates, anchors, washers, screws, bolts and nuts, galvanization, labor, and installation necessary to complete the work. The cost of materials and installation of the trough system shall be included in the contract unit per foot for FINGER PLATE EXPANSION JOINT as noted above.

BILL OF MATERIAL

Item	Unit	Quantity
Finger Plate Expansion Joint	Foot	69

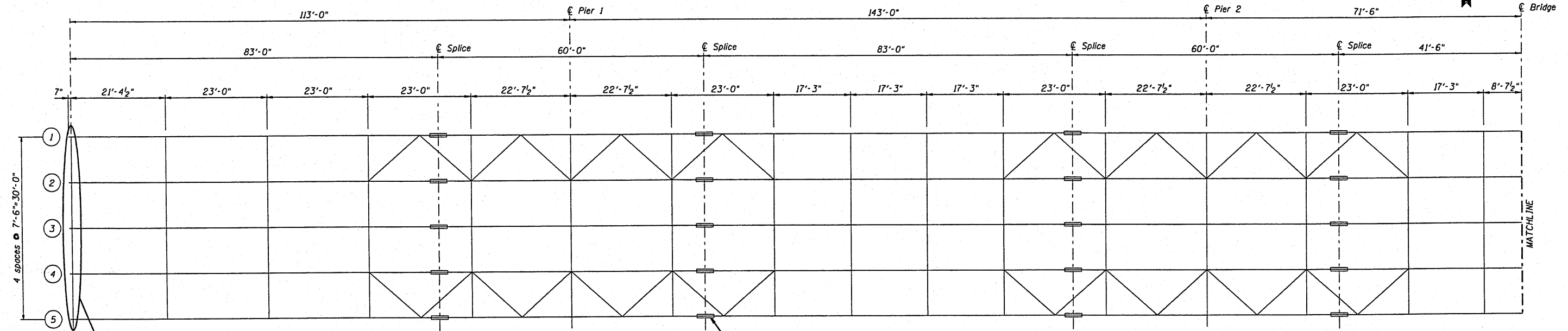
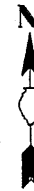
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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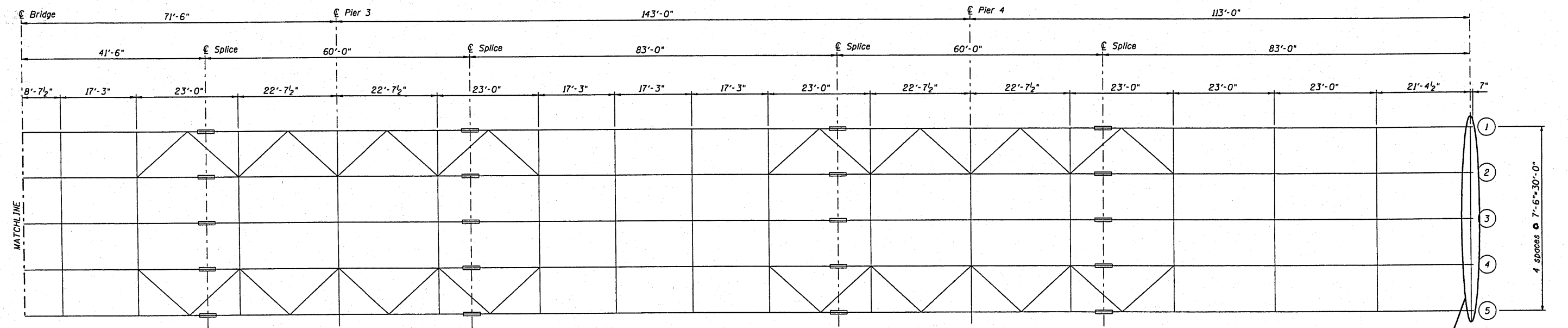
FINGER PLATE EXPANSION JOINT-SHEET 3 OF 3
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	26
DWG NO.	EXP.dgn
DATE	JAN 2010
PROJ NO.	8015

ROUTE NO.	SECTION	EMPH	SHEET	SHEET
FAS 447	*	Fulton	43	28
FED. ROAD DIST. NO. 7		ILL. STATE FED. AID PROJECT:		



NOTE: At all top flange splice plates:
 Inspect bolts of top splice plate. Replace all defective, damaged or missing bolts at the direction of the Engineer. The cost of bolt replacement shall be included in the cost of Furnishing & Erecting Structural Steel.



New cross frames and bearings

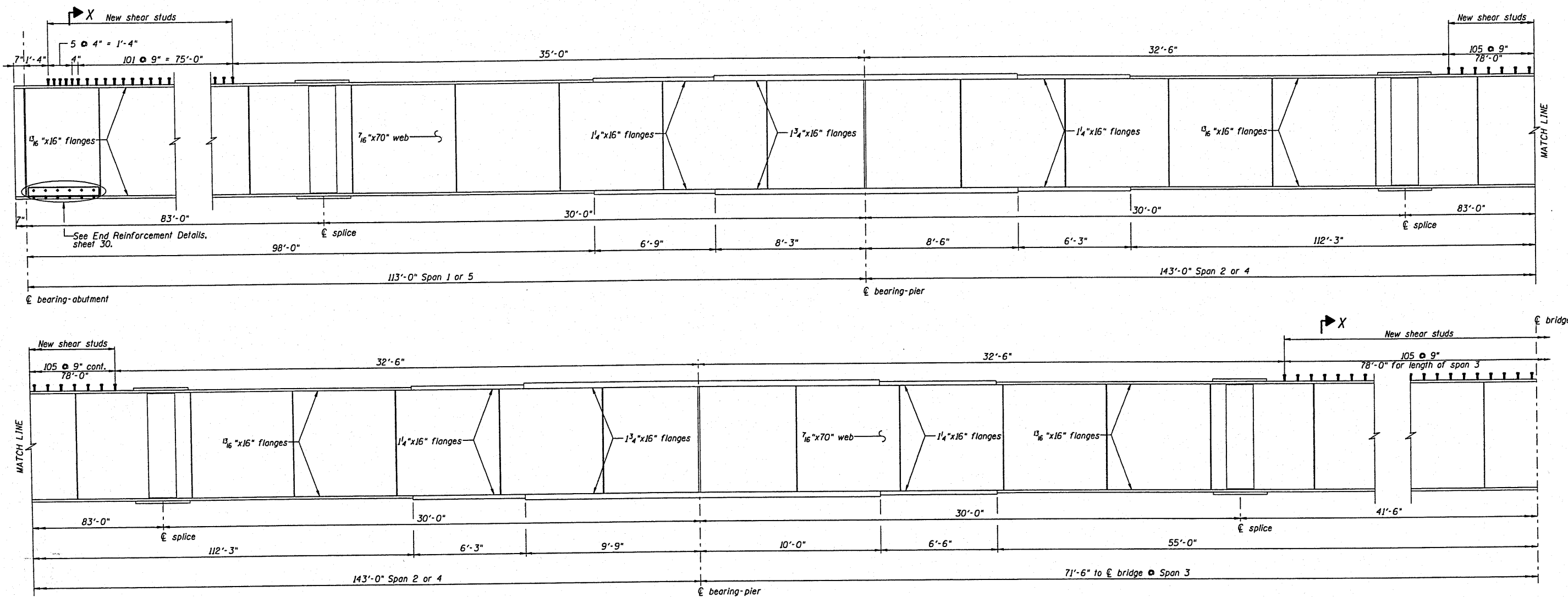
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraunhofer				
APVD	J.A. Fraunhofer	NO.	DATE	REVISION	BY

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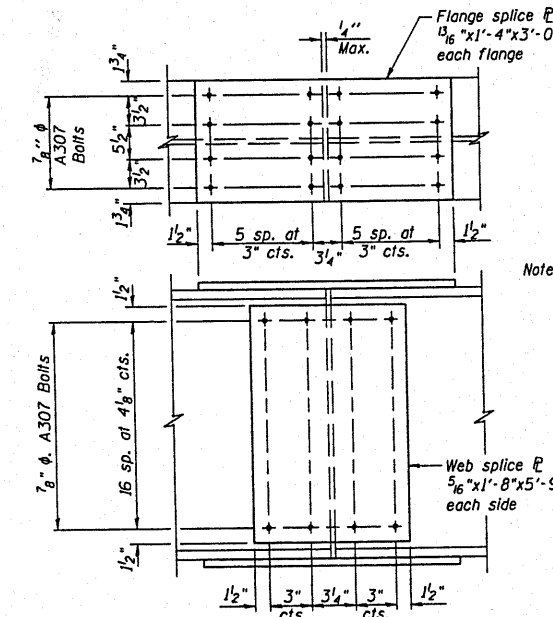
STEEL FRAMING DETAILS-SHEET 1 OF 2		SHEET 28
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. STL.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447		Fulton	43	29
FED. ROAD DIST. NO. 7	FILE NO.	FED. AID PROJECT		

*08-00121-01-BR



GIRDER ELEVATION SHOWING NEW SHEAR STUDS
Structure is symmetrical about the C of the bridge



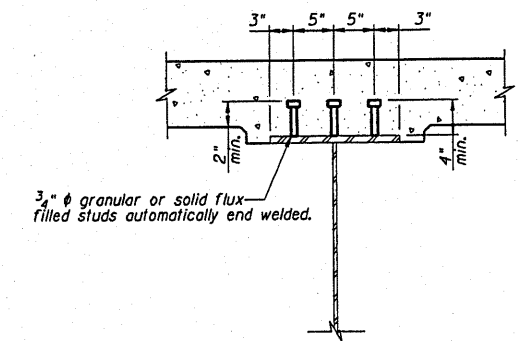
Note: All bolts of the top flange shall be inspected in the field. Those bolts that have broken heads or nuts, are cracked or loose, or have corrosion of the head or nuts shall be replaced with A325 bolts of the same diameter and length. The cost shall be included in the cost of Furnishing & Erecting Structural Steel.

DETAIL OF EXISTING SPLICES

	0.4 span 1 or 5	Pier 1 or 4	0.5 span 2 or 4	Pier 1 or 4	0.5 span 3
Is (in ⁴)	45107	84612	45107	87313	45107
Ic (3n) (in ⁴)	73031		73031		73031
Ic (1n) (in ⁴)	97248		97248		97248
Ss (in ³)	1259	2302	1259	2371	1259
Sc (3n) (in ³)	1519		1519		1519
Sc (1n) (in ³)	1658		1658		1658
Q (K/ft.)	0.845	0.845	0.845	0.845	0.845
M _l (girder only) (K)	168	-374	151	-383	148
M _l (w/o girder) (K)	863	-2309	775	-2356	758
s _l (K/ft.)	0.230	0.230	0.230	0.230	0.230
M _s (K)	189		170		166
M (K)	955	-1273	955	-1405	958
M (Imp) (K)	201	-252	179	-263	179
s ₃ (M _l + I) (K)	1927	-2542	1890	-2780	1895
M _o (K)	3872	-6306	3686	-6677	3665
f _s (non-comp) (k.s.i.)	8.23	-12.04	7.39	-11.92	7.22
f _s (comp) (k.s.i.)	1.49		1.34		1.31
f _s (l + I) (k.s.i.)	13.95	-13.25	13.68	-14.07	13.72
f _s (Overload) (k.s.i.)	23.67	-25.29	22.41	-25.99	22.25
f _s (Total) (k.s.i.)	30.77	-32.88	29.13	-33.79	28.93
VR (K)	67		70		73

	E. or W. Abutment	Pier 1 or 4	Pier 2 or 3
R _D (K)	52	186	186
R _L (K)	46	81	81
Imp. (K)	14	25	25
R (Total) (K)	112	292	292

Is and Ss are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing f_s (Total & Overload).
s_l is the load per foot for composite dead loads on the girder.
VR is the maximum live Load + Impact shear range in span.
M_o (Applied Moment) = 1.3[M_l + M_s + s₃(M_l + I)].
f_s (Overload) is the sum of the stresses due to M_D + M_s + s₃(M_l + I).
f_s (Total) is the sum of the stresses due to 1.3[M_l + M_s + s₃(M_l + I)].



GIRDER SECTION X

Item	Unit	Quantity
Stud Shear Connectors	Each	7,905

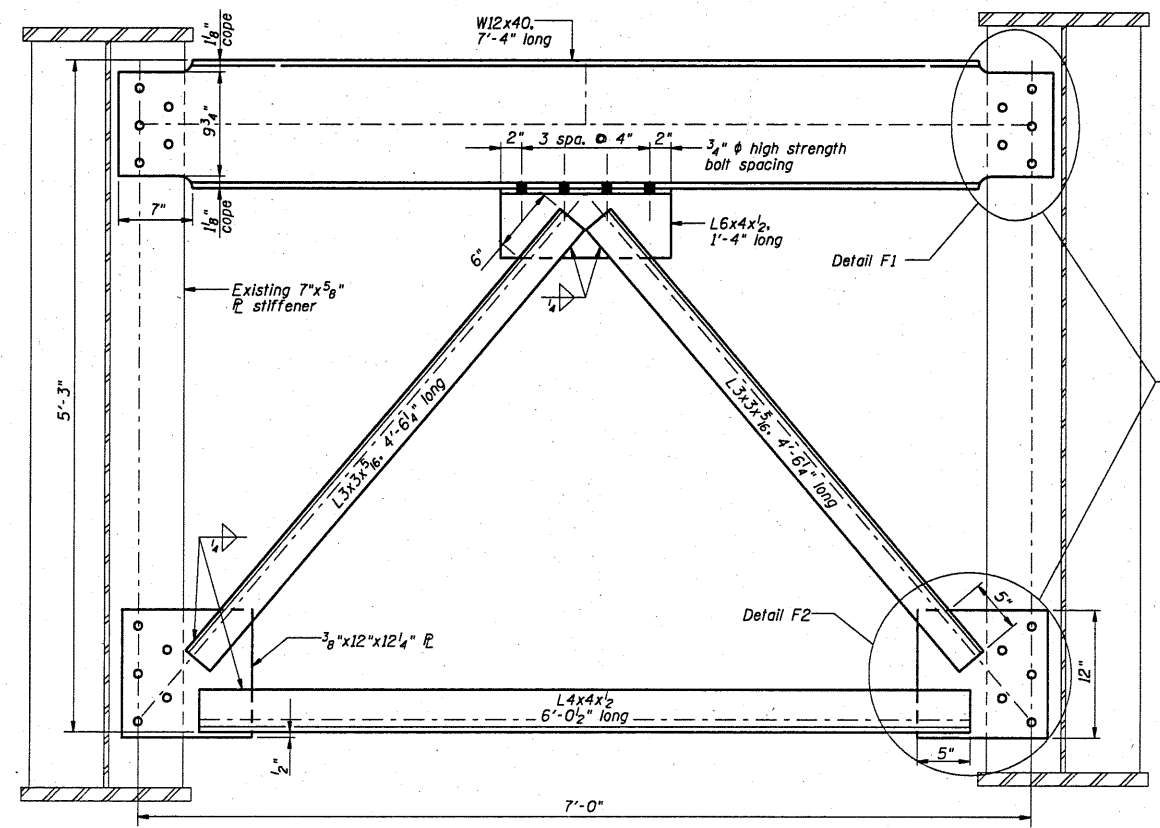
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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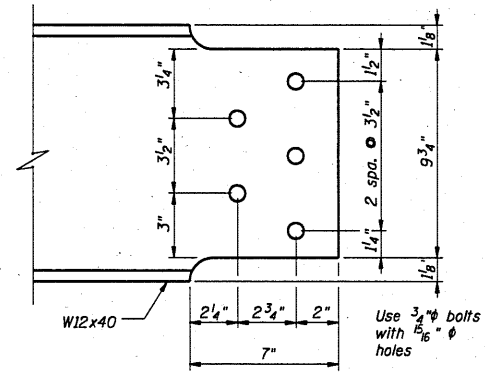
STEEL FRAMING DETAILS-SHEET 2 OF 2
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET 29
DWG NO. STL.dgn
DATE JAN 2010
PROJ NO. 8015

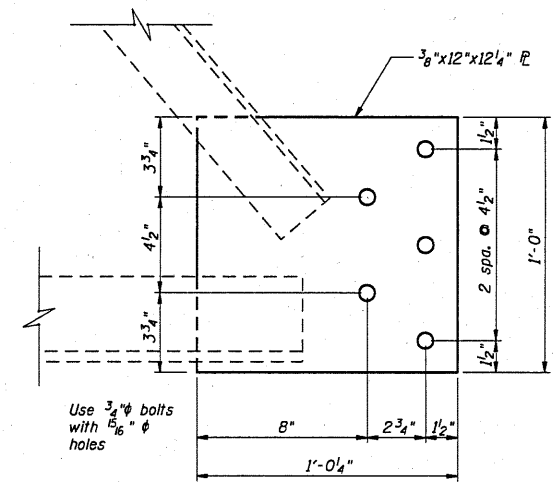
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
FAS 447	#	Fulton	43	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



Prior to fabrication, the Contractor shall measure the existing hole pattern, and adjust dimensions shown. The Contractor shall bolt new cross frames to existing web stiffeners using existing stiffener bolt hole pattern. Magnetic drill and ream holes as required. Torch cutting is prohibited.

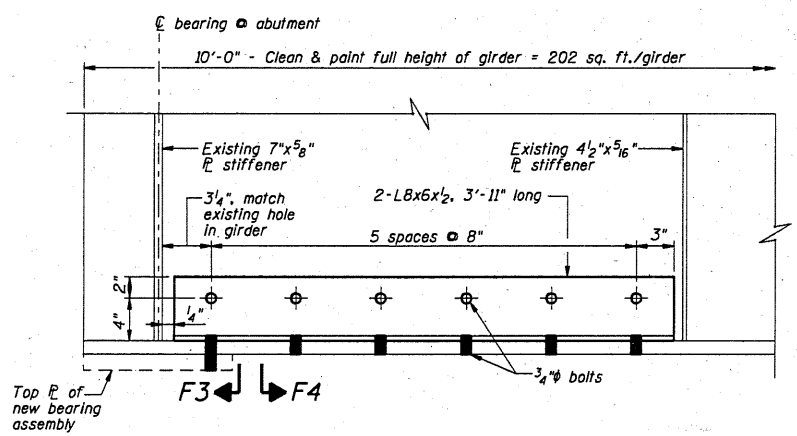


DETAIL F1
Match existing bolt pattern

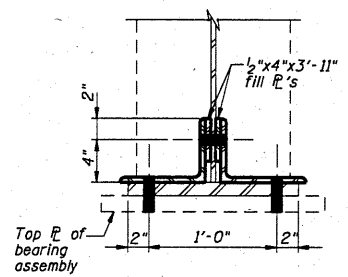


DETAIL F2
Match existing bolt pattern

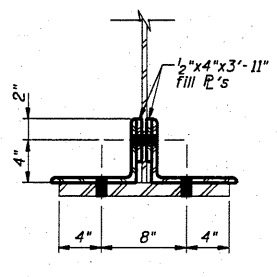
NEW CROSS FRAMES AT ABUTMENTS
8 total cross frame locations



END REINFORCEMENT DETAIL
10 total reinforcement locations
Bolt holes in existing girders shall be magnetically drilled.



SECTION F3
Bolt spacing at bearing



SECTION F4

NOTES:

The Contractor shall field verify dimensions before ordering any materials.

All new structural steel, including the cross frames, angles and plates shall be hot dipped galvanized meeting the requirements of AASHTO M111 or M232, as applicable. High strength bolts shall be galvanized according to AASHTO M298 Class 50. The cost of the galvanization shall be included in the cost of Furnishing and Erecting Structural Steel.

Total area of cleaning and painting shall be = 2020 sq. ft.

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing & Erecting Structural Steel	Pounds	6,500
Cleaning and Painting Steel Bridge*	L. Sum	1
Cleaning & Disposal of Lead Paint	L. Sum	1
Cleaning Residues		

*Refer to Guide Bridge Special Provision for Cleaning and Painting Existing Steel Structures.

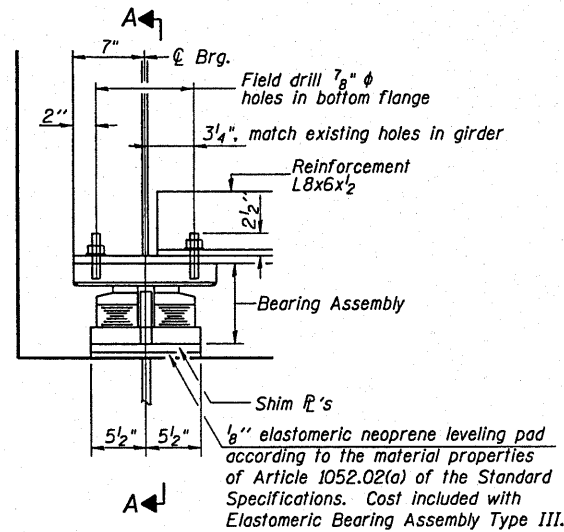
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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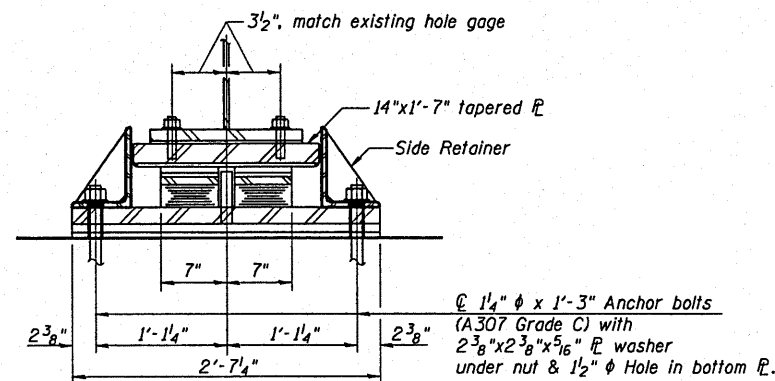
MISCELLANEOUS FRAMING REPAIRS
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	30
DWG NO.	STL.dgn
DATE	AUG 2010
PROJ NO.	8015

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAS 447	#	Fullton	43	31
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

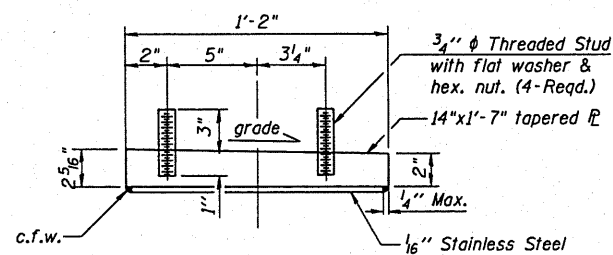


ELEVATION AT ABUT.

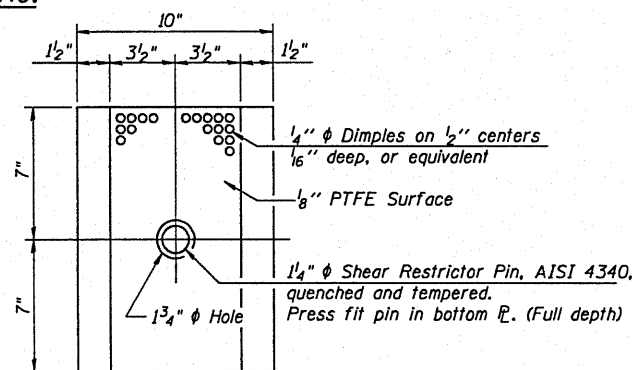


SECTION A-A

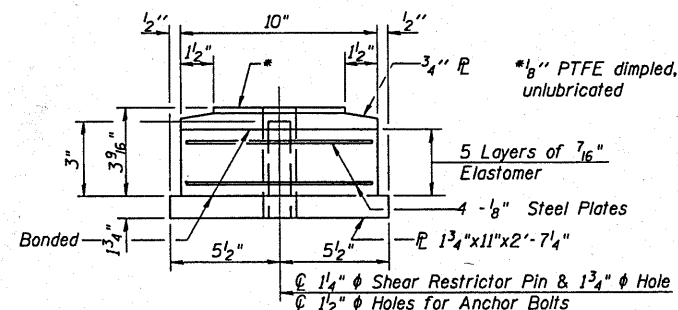
TYPE III ELASTOMERIC EXP. BRG.



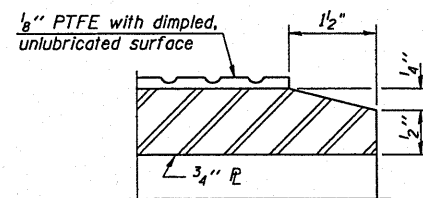
TOP BEARING ASSEMBLY



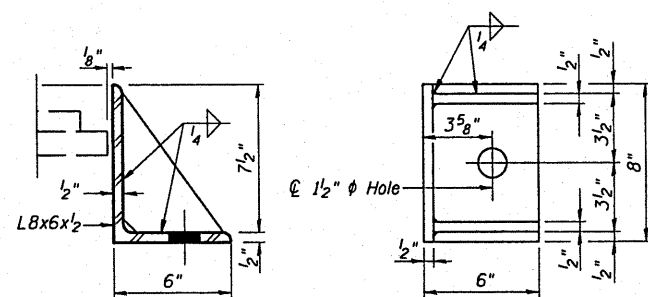
PLAN-PTFE ELASTOMERIC BRG.



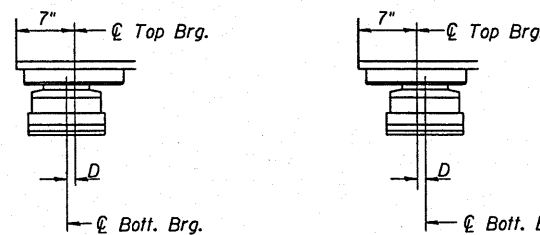
BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE



SIDE RETAINER



BELOW 50° F. (Move bottom brg. away from fixed brg.) ABOVE 50° F. (Move bottom brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

NOTES:

The cost of furnishing, erecting, and storing the bearing assemblies shall be included in the cost of Elastomeric Bearing Assembly, Type III.

ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi).

Anchor bolts for Type III 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.

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 bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type III.

The 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 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

A minimum of three 1/4" shims, three 5/8" shims, and three 1/16" shims shall be furnished for each bottom bearing plate location. One additional 5/8" shim plate shall be provided at the bearings under girder 3.

All steel components of the bearing system shall be galvanized meeting the requirements of AASHTO M111 or M232, as applicable. High strength bolts shall be galvanized according to AASHTO M298 Class 50. The cost of the galvanization shall be incidental to the cost of Elastomeric Bearing Assembly, Type III.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type III	Each	10
Anchor Bolts*	Each	20
Jack and Remove Existing Bearings	Each	10

NOTE: Replace all bearings at the east and west abutments.

* The cost of furnishing and installing anchor bolts is included in the cost of Elastomeric Bearing Assembly, Type III.

DSGN K.J. Hoffmann					
DR K.J. Hoffmann					
CHK J.A. Frauenhoffer					
APVD A. Frauenhoffer	NO.	DATE	REVISION	BY	APVD

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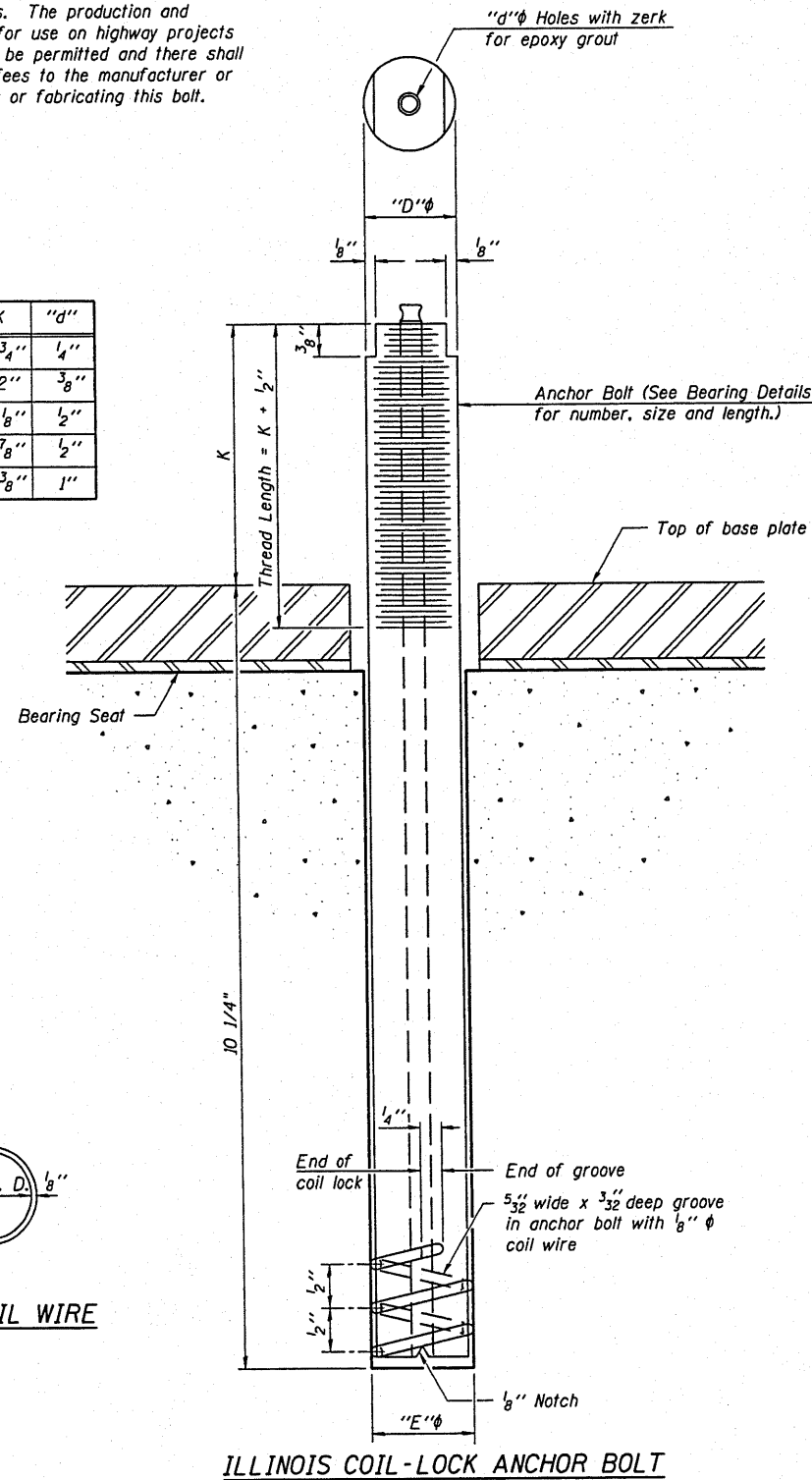
TYPE III ELASTOMERIC BEARING DETAILS

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fullton	43	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/4"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.
 The coil wire shall be made of any suitable soft steel wire.
 The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
 The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
 The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
 1. A threaded rod stud with nut and washer of the type specified.
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.
 Anchor bolts may be ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.
 Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
 The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Elastomeric Bearing Assembly, Type III.

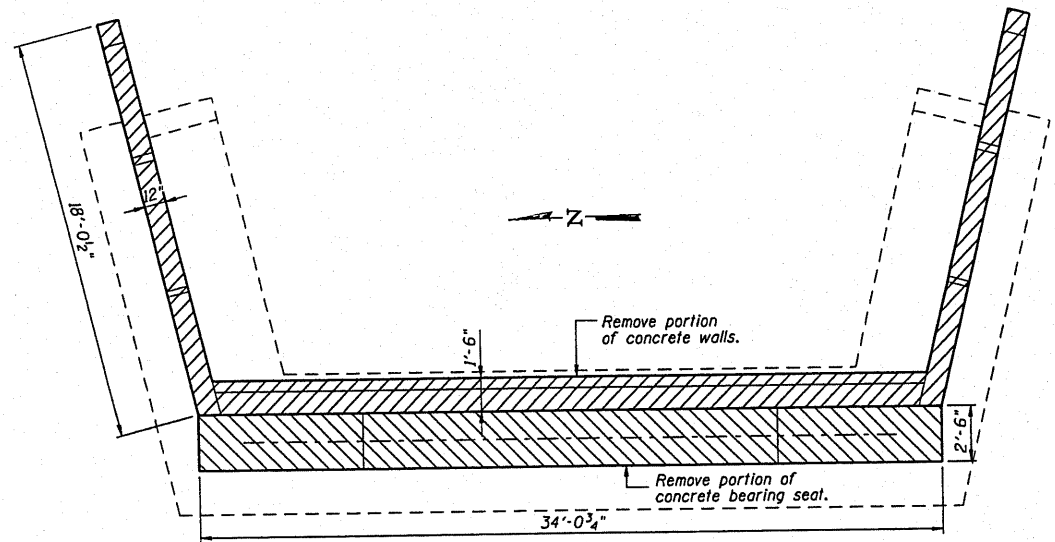
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Frauenhoffer				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

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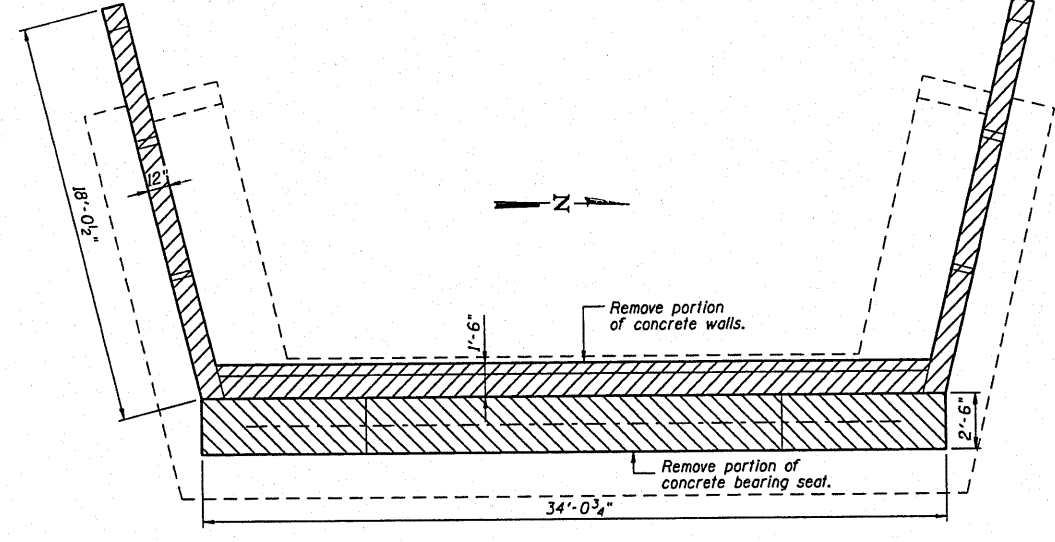
ANCHOR BOLT DETAIL
 FAS 447 (C.H. 17) OVER SPOON RIVER
 SECTION 08-00121-01-BR
 FULLTON COUNTY

SHEET	32
DWG NO.	anchr.dgn
DATE	JAN 2010
PROJ NO.	8015

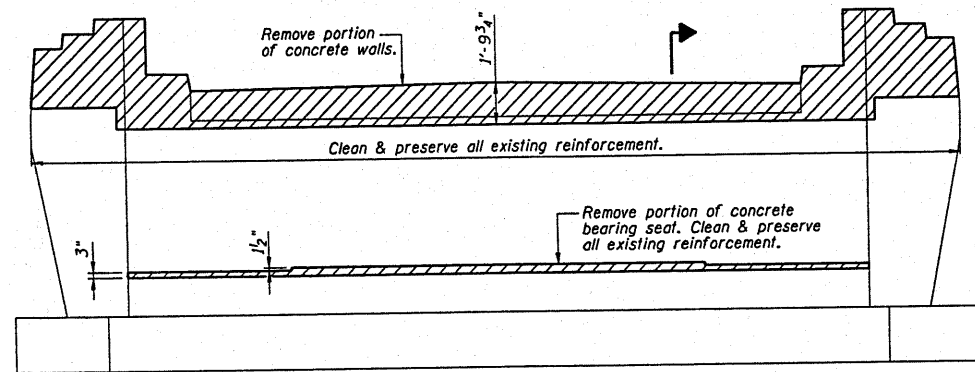
ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fulton	43	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	#08-00121-01-BR	



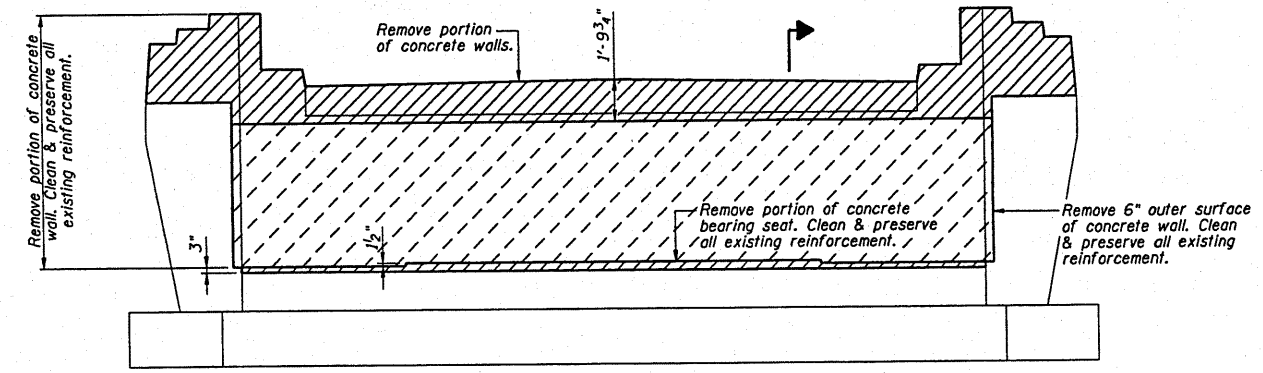
WEST ABUTMENT PLAN
For demolition



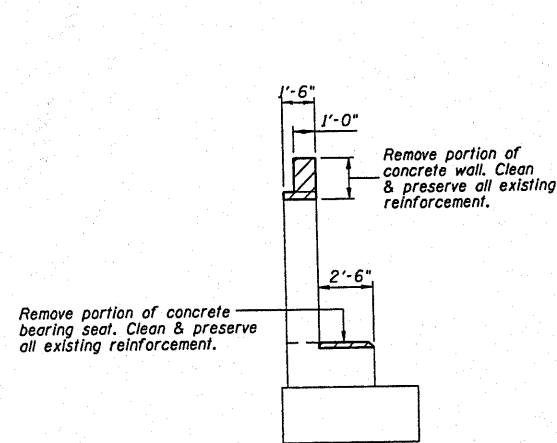
EAST ABUTMENT PLAN
For demolition



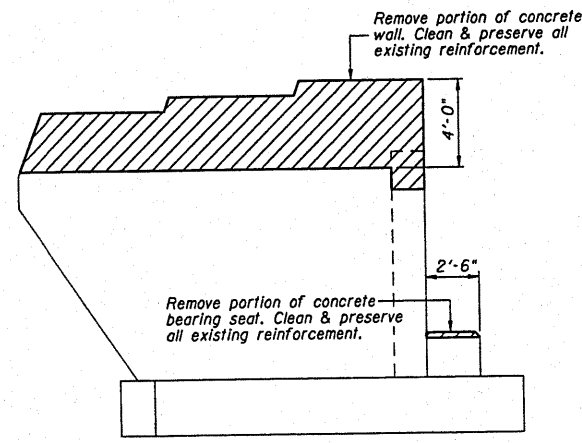
WEST ABUTMENT FRONT ELEVATION
For demolition



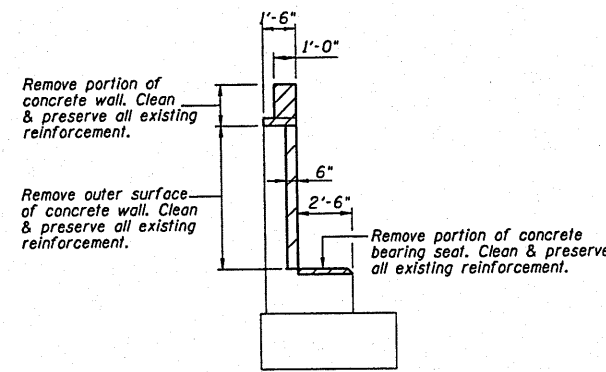
EAST ABUTMENT FRONT ELEVATION
For demolition



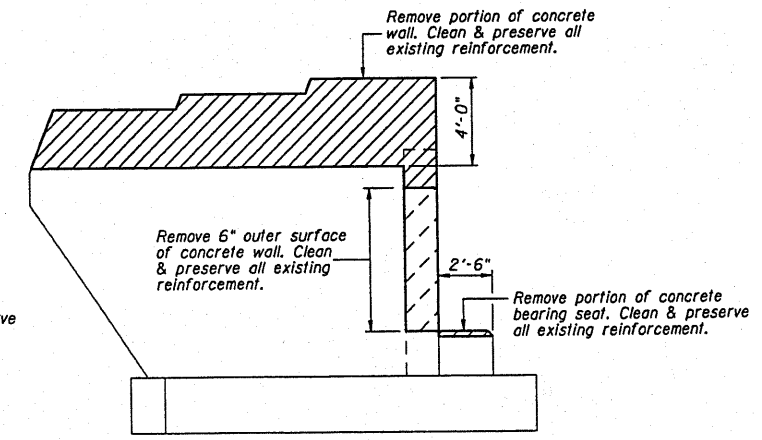
WEST ABUTMENT SECTION
For demolition



WEST ABUTMENT SIDE ELEVATION
For demolition



EAST ABUTMENT SECTION
For demolition



EAST ABUTMENT SIDE ELEVATION
For demolition

NOTE:
Great care shall be taken when removing concrete in order to save and prevent damage to existing reinforcing bars.

BILL OF MATERIAL 2 ABUTMENTS

LOCATION	W. Abut.	E. Abut.	Unit	Total
Concrete Removal	5.5	9.8	C.Y.	15.3

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraunhofer				
APVD	J.A. Fraunhofer	NO.	DATE	REVISION	BY

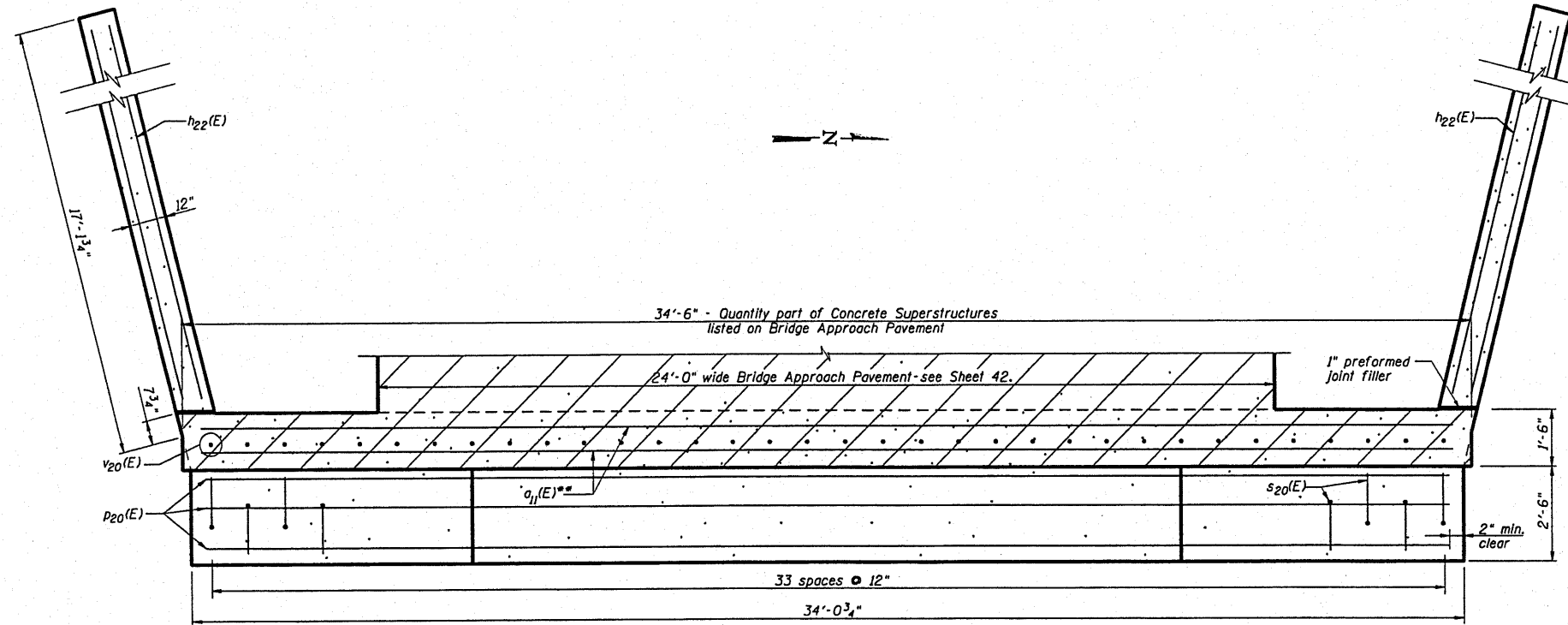
FRAUENHOFER
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3002 Crossing Court Champaign, IL 61822 217-351-6268

DEMOLITION AT EXISTING ABUTMENTS
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	33
DWG NO.	8015ABUT.dgn
DATE	JAN 2010
PROJ NO.	8015

ROUTE NO.	SECTION	QUANTITY	SHEET	TOTAL SHEETS
FAS 447	#	Fullon	43	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

*08-00121-01-BR



WEST ABUTMENT PLAN

For rehabilitation. Note, pile caps are not shown.

NOTES:

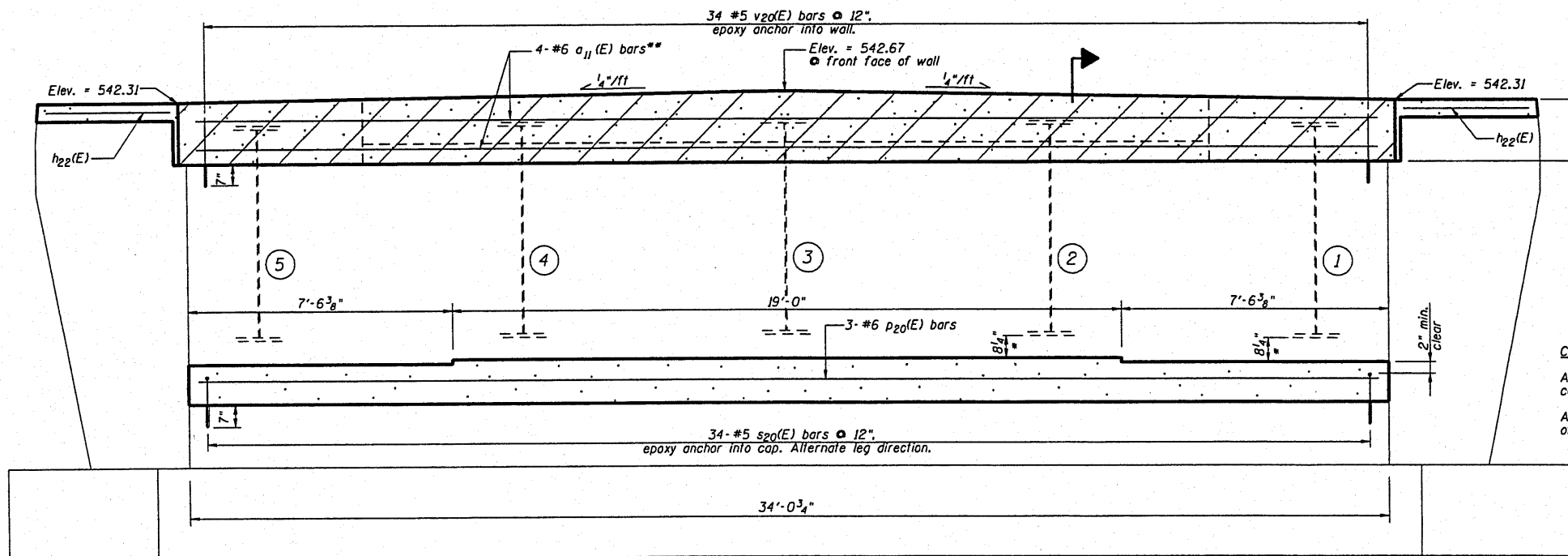
** See Bridge Approach Pavement, sheet 42 for #6 a11 (E) bars.

Maintain a 2" minimum clear cover unless otherwise noted.

Utilize all existing reinforcing unless otherwise directed by the Engineer. Cut existing reinforcement to maintain a 2" minimum clear cover.

Epoxy anchor v(E) and s(E) bars into existing concrete using a pre-drilled hole and Epcon 6 two-part ceramic epoxy or Hilli 2-part adhesive HIT-RE 500-SD. Cost of anchorage is included with the cost of Reinforcing Bars, Epoxy Coated.

* Compare the elevations of the bottoms of the bottom flanges of girder pairs 1 & 5, and 2 & 4. Select the lowest girder in each pair. Set the pedestal heights $8\frac{1}{4}$ " below the bottom of girder bottom flange of the ϕ of bearing.



WEST ABUTMENT FRONT ELEVATION

For rehabilitation

CONCRETE SEALER NOTE:

Apply concrete sealer to the vertical surfaces of the new concrete at the top of the backwall.
Apply concrete sealer to the horizontal and vertical surfaces of the new concrete of the bearing seats.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraunhoffer				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY

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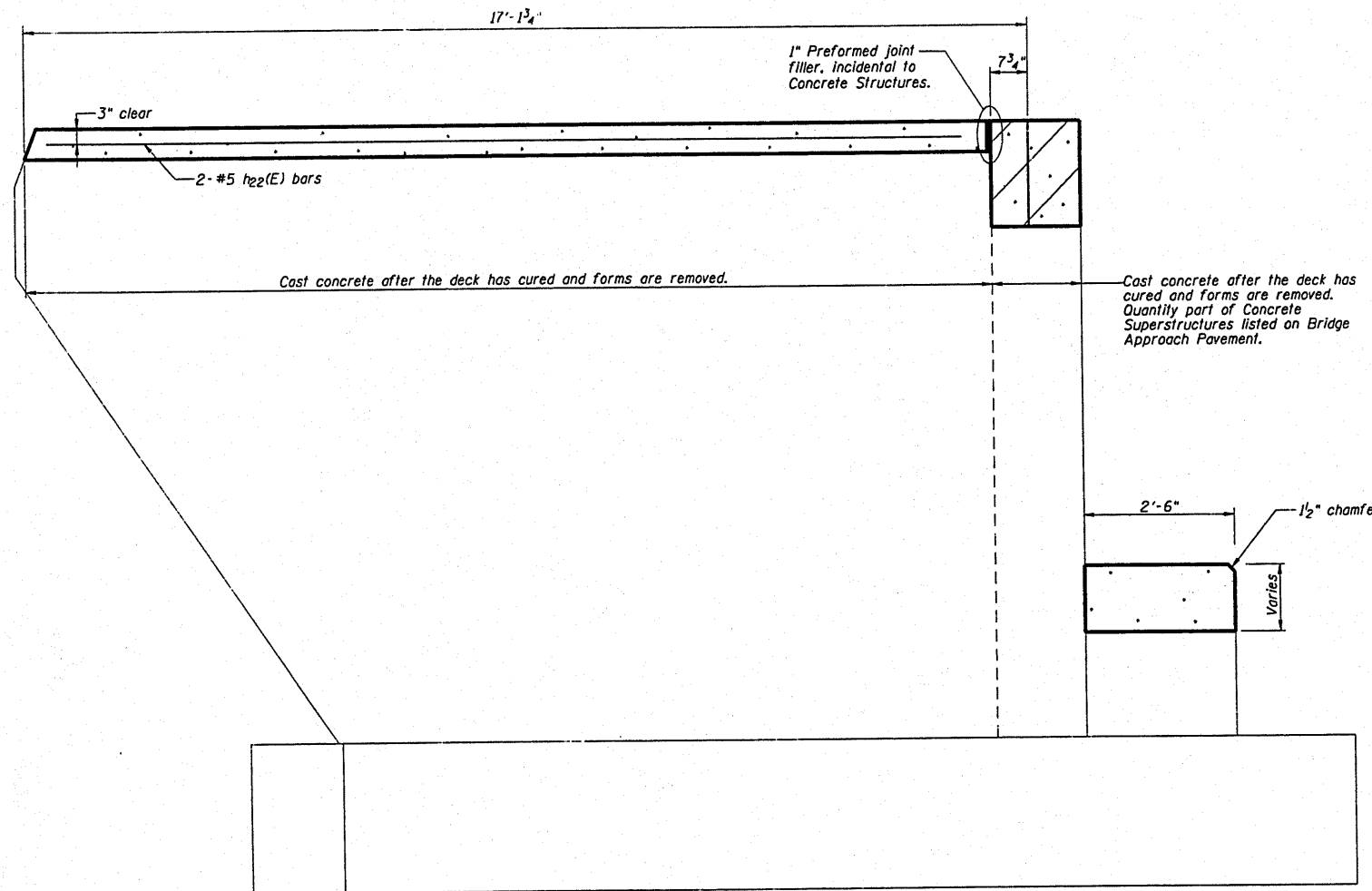
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WEST ABUTMENT REHABILITATION-SHEET 1 OF 2

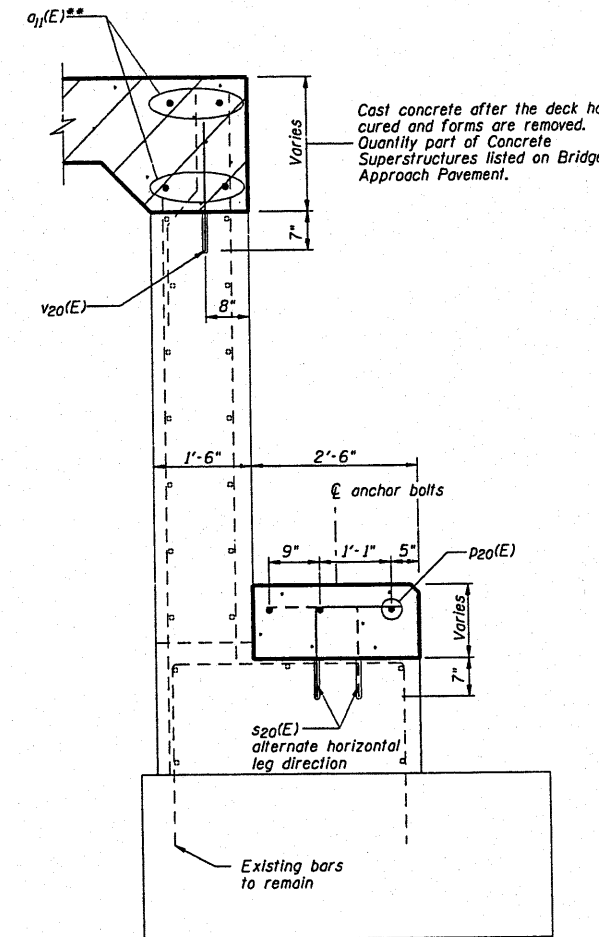
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	34
DWG NO.	8015ABUT.dgn
DATE	JAN 2010
PROJ NO.	8015

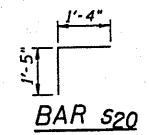
ROUTE NO.	SECTION	COUNTY	SHEET	PAGE
FAS 447	#	Fulton	43	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		



**WEST ABUTMENT
SIDE ELEVATION**
For rehabilitation



**WEST ABUTMENT
SECTION**
For rehabilitation



BILL OF MATERIAL WEST ABUTMENT				
Bar	No.	Size	Length	Shape
h22(E)	4	# 5	16'-0"	—
p20(E)	3	# 6	33'-6"	—
s20(E)	34	# 5	2'-9"	┌
v20(E)	34	# 5	1'-4"	—
Concrete Structures		Cu. Yds.	4.4	
Reinforcement Bars, Epoxy Coated		Lbs.	370	
Concrete Sealer		Sq. Yds.	22	
Structure Excavation		Cu. Yds.	2	

** See Bridge Approach Pavement, sheet 42 for #6 a11(E) bars.

Reinforcement bars designated (E) shall be epoxy coated.

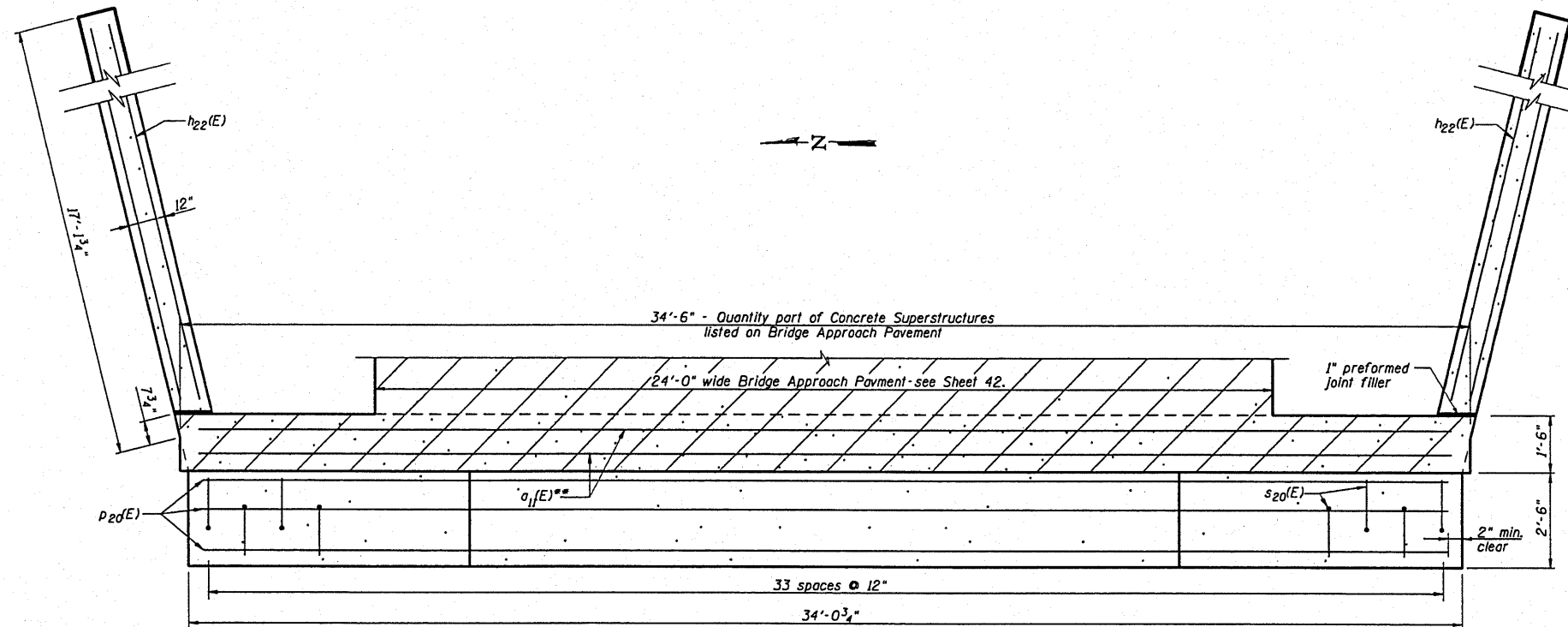
Epoxy anchor v20(E) and s20(E) into existing concrete using a pre-drilled hole and EPCON 6 two-part ceramic epoxy or Hilli 2-part adhesive HIT-RE 500-SD. The cost is included with the cost of Reinforcement Bars, Epoxy Coated.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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WEST ABUTMENT REHABILITATION-SHEET 2 OF 2		SHEET 35
FAS 447 (C.H. 17) OVER SPOON RIVER		DWG NO. 8015ABUT.dgn
SECTION 08-00121-01-BR		DATE JAN 2010
FULTON COUNTY		PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
FAS 447	#	Fulton	43	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



EAST ABUTMENT PLAN
For rehabilitation. Note, pile caps are not shown.

NOTES:

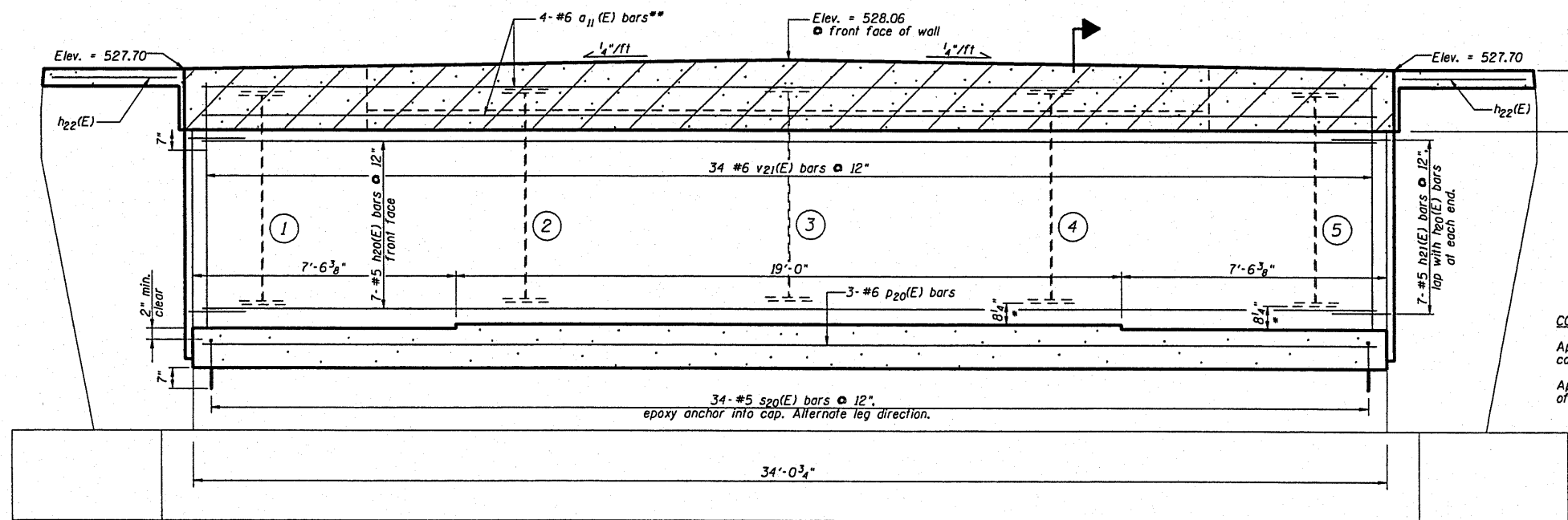
** See Bridge Approach Pavement, sheet 42 for #6 a₁₁(E) bars.

Maintain a 2" minimum clear cover unless otherwise noted.

Utilize all existing reinforcing unless otherwise directed by the Engineer. Cut existing reinforcement to maintain a 2" minimum clear cover.

Epoxy anchor v(E) and s(E) bars into existing concrete using a pre-drilled hole and Epcon 6 two-part ceramic epoxy or Hilli 2-part adhesive HIT-RE 500-SD. Cost of anchorage is included with the cost of Reinforcing Bars, Epoxy Coated.

* Compare the elevations of the bottoms of the bottom flanges of girder pairs 1 & 5, and 2 & 4. Select the lowest girder in each pair. Set the pedestal heights 8 1/4" below the bottom of girder bottom flange at the center of bearing.



EAST ABUTMENT FRONT ELEVATION
For rehabilitation

CONCRETE SEALER NOTE:
Apply concrete sealer to the vertical surfaces of the new concrete at the top of the backwall.
Apply concrete sealer to the horizontal and vertical surfaces of the new concrete of the bearing seats.

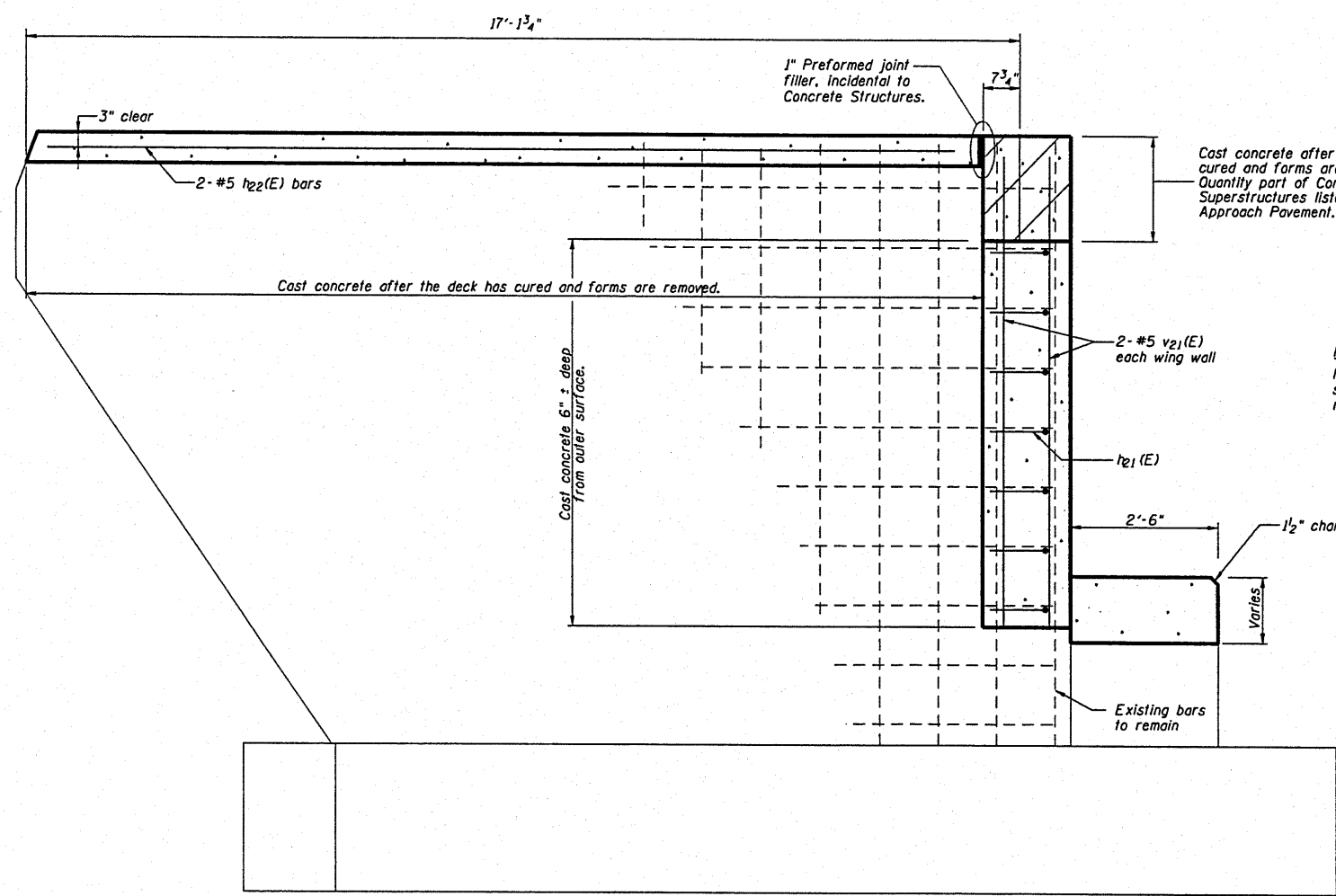
DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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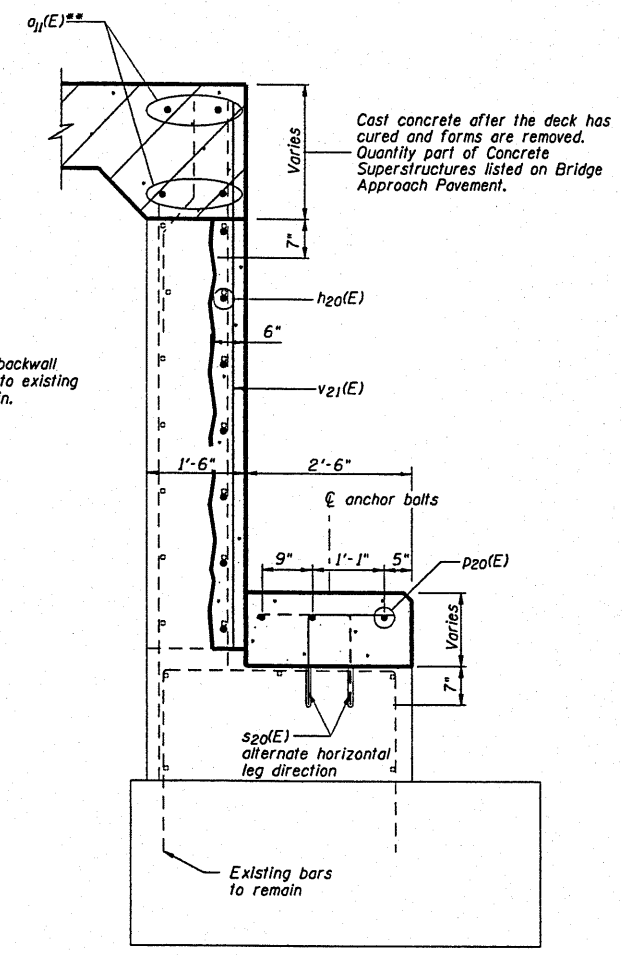
EAST ABUTMENT REHABILITATION-SHEET 1 OF 2
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	36
DWG NO.	8015ABUT.dgn
DATE	JAN 2010
PROJ NO.	8015

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 447	*	Fulton	43	37
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

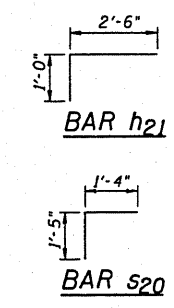


**EAST ABUTMENT
SIDE ELEVATION**
For rehabilitation



**EAST ABUTMENT
SECTION**
For rehabilitation

NOTE:
New reinforcing bars in backwall shall be placed adjacent to existing reinforcing bars to remain.



BILL OF MATERIAL EAST ABUTMENT				
Bar	No.	Size	Length	Shape
h20(E)	7	# 5	33'-6"	—
h21(E)	14	# 5	3'-6"	┌
h22(E)	4	# 5	16'-0"	—
p20(E)	3	# 6	33'-6"	—
s20(E)	34	# 5	2'-9"	┌
v21(E)	38	# 5	7'-9"	—
Concrete Structures		Cu. Yds.	8.7	
Reinforcement Bars, Epoxy Coated		Lbs.	920	
Concrete Sealer		Sq. Yds.	2	
Structure Excavation		Cu. Yds.	22	

** See Bridge Approach Pavement, sheet 42 for #6 a11 (E) bars.

Reinforcement bars designated (E) shall be epoxy coated.

Bars with an "*" refer to the epoxy coated replacement bar to be lapped next to the original bar.

Epoxy anchor v20(E) and s20 (E) into existing concrete using a pre-drilled hole and EPCON 6 two-part ceramic epoxy or Hilli 2-part adhesive HIT-RE 500-SD. The cost is included with the cost of Reinforcement Bars, Epoxy Coated.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

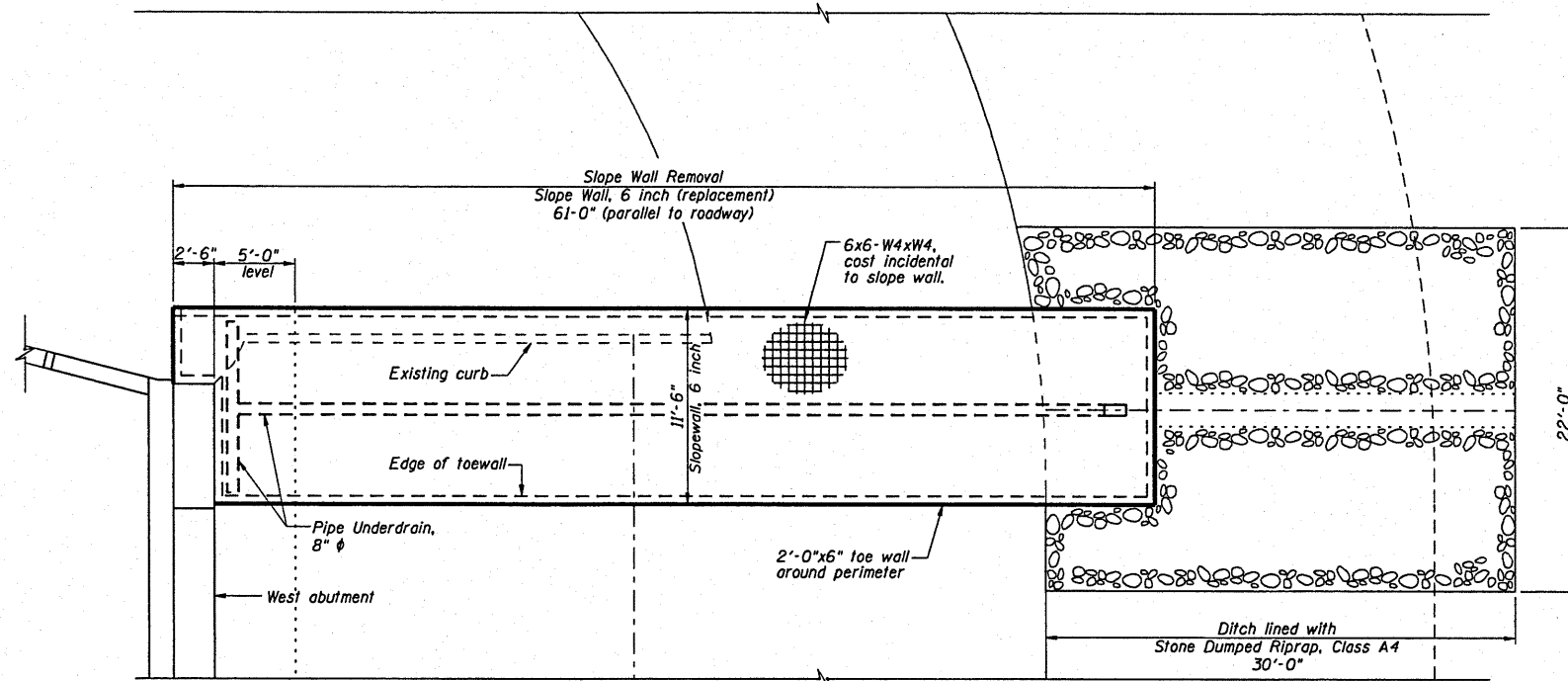
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EAST ABUTMENT REHABILITATION-SHEET 2 OF 2

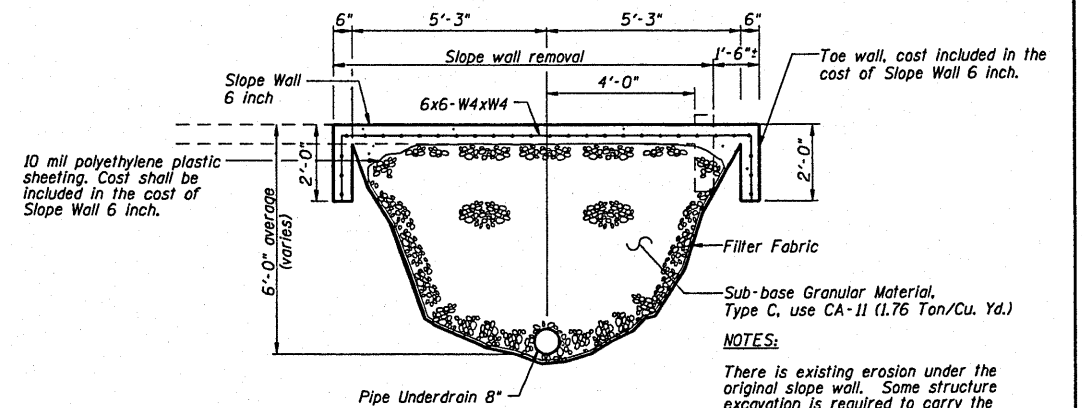
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET 37
DWG NO. 8015ABUT.dgn
DATE JAN 2010
PROJ NO. 8015

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAS 447	#	Fulton	43	38
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT



WEST ABUTMENT SLOPE WALL REHABILITATION PLAN



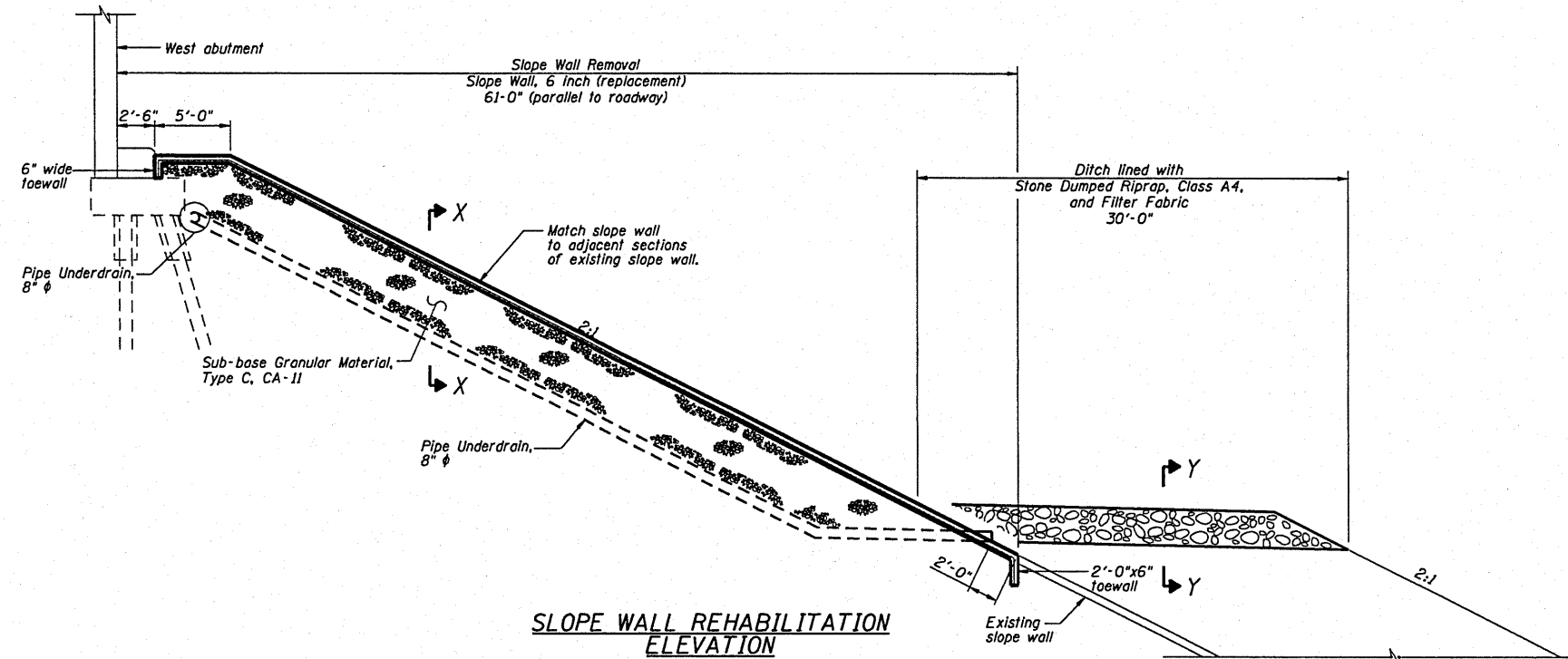
SECTION X-X

NOTES:

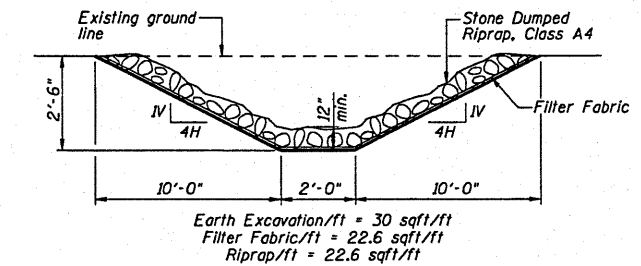
There is existing erosion under the original slope wall. Some structure excavation is required to carry the underdrain down the slope to the headwall.

Underdrain shall be furnished with a protective perforated end cap to prevent animal entrance into the pipe.

The cost of welded wire fabric shall be included in the cost of Slope Wall 6 inch.



SLOPE WALL REHABILITATION ELEVATION



SECTION Y-Y

BILL OF MATERIAL

Item	Unit	Quantity
Stone Dumped Riprap, Class A4	Sq. Yd.	76
Filter Fabric	Sq. Yd.	225
Slope Wall Removal	Sq. Yd.	77
Structure Excavation	Cu. Yd.	45
Slope Wall 6 inch	Sq. Yd.	92
Pipe Underdrains, 8"	Foot	70
Sub-base Granular Material, Type C	Cu. Yd.	90

NO.	DATE	REVISION	BY	APVD

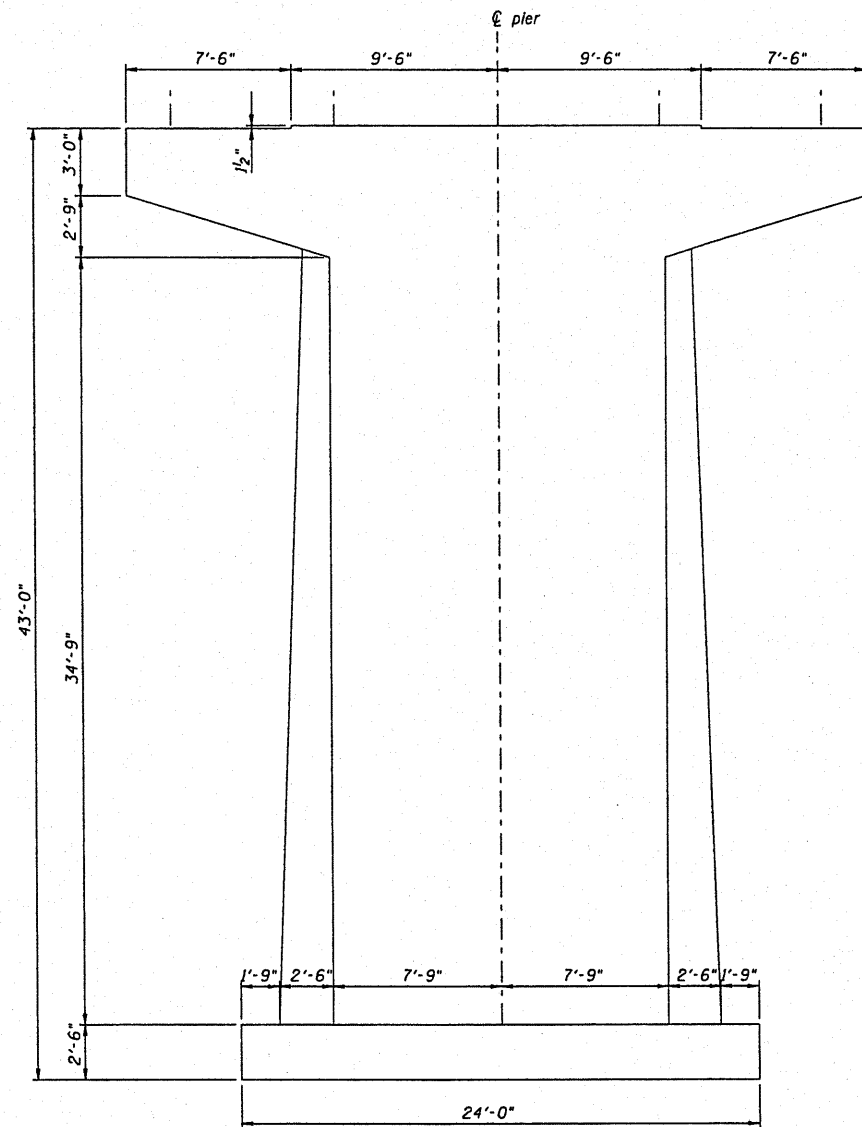
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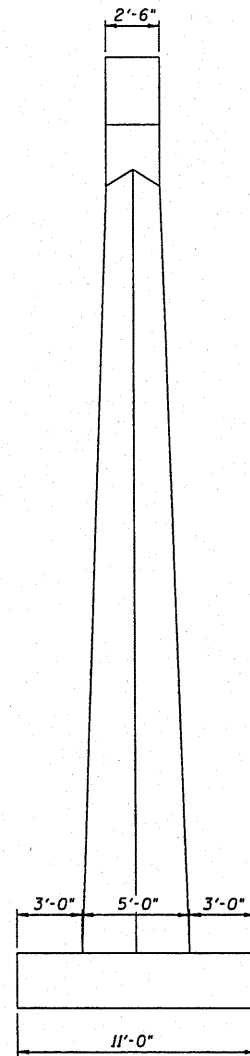
WEST ABUTMENT SLOPE WALL REHABILITATION
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	38
DWG NO.	swal.dgn
DATE	JAN 2010
PROJ NO.	8015

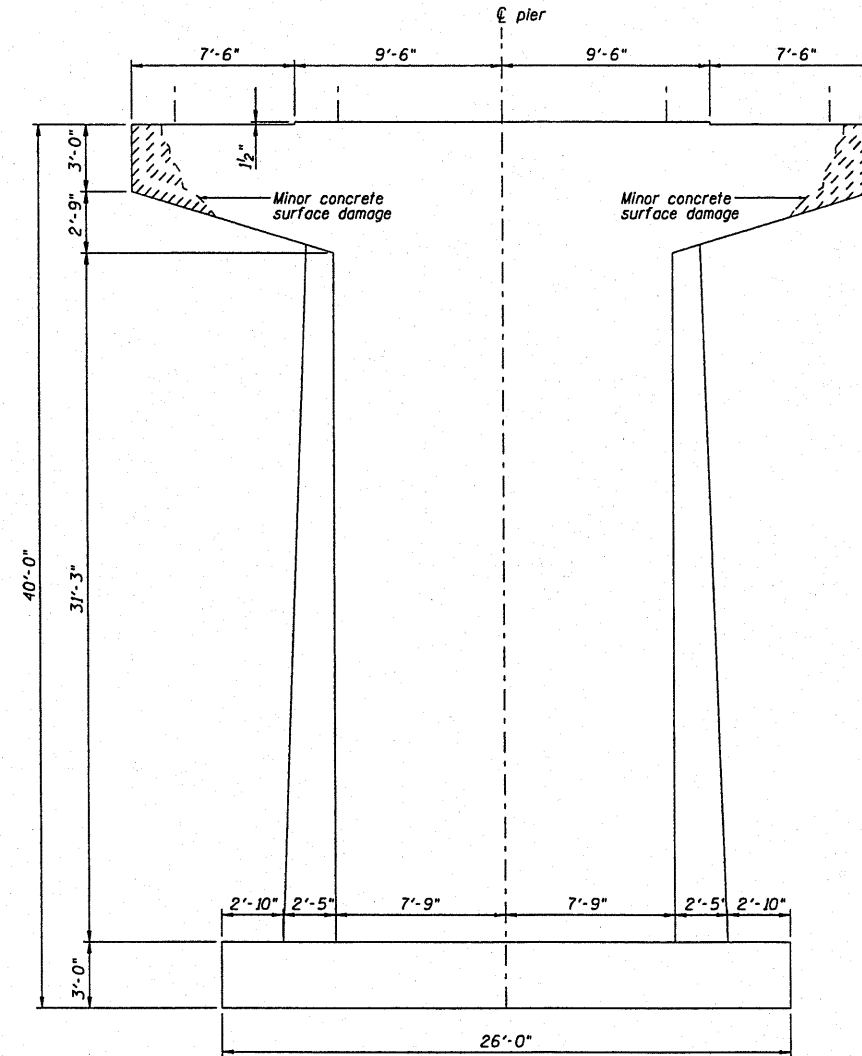
ROUTE NO.	SECTION	COUNT	SHEET NO.	TOTAL SHEETS
FAS 447	#	Fulton	43	39
FED. ROAD DIST. NO. 7		FED. AID PROJECT		



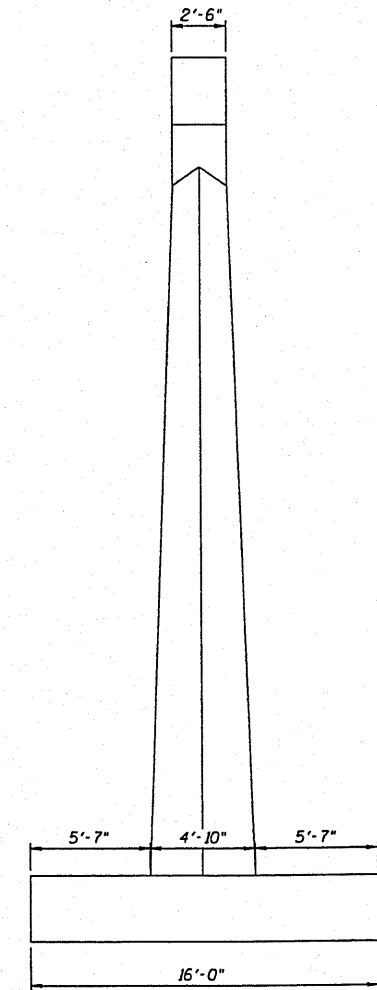
PIER 1 - EAST ELEVATION



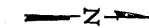
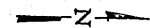
PIER 1 - END ELEVATION



PIER 2 - EAST ELEVATION



PIER 2 - END ELEVATION



NOTE:
Dimensions shown are taken from the existing plans and are for information only.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Frauenhoffer				
APVD	J.A. Frauenhoffer	NO.	DATE	REVISION	BY

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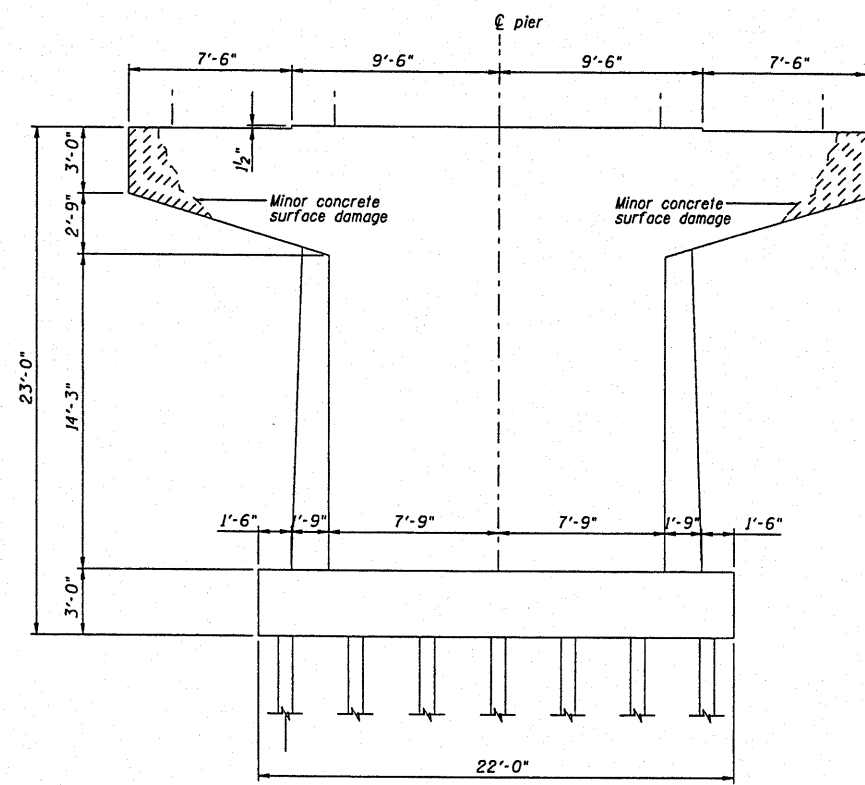
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EXISTING PIER CONDITION-SHEET 1 OF 2

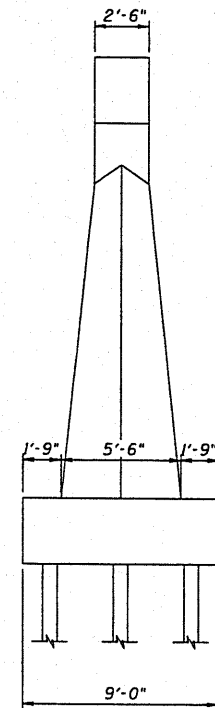
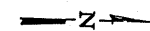
FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	39
DWG NO.	8015PIER.dgn
DATE	JAN 2010
PROJ NO.	8015

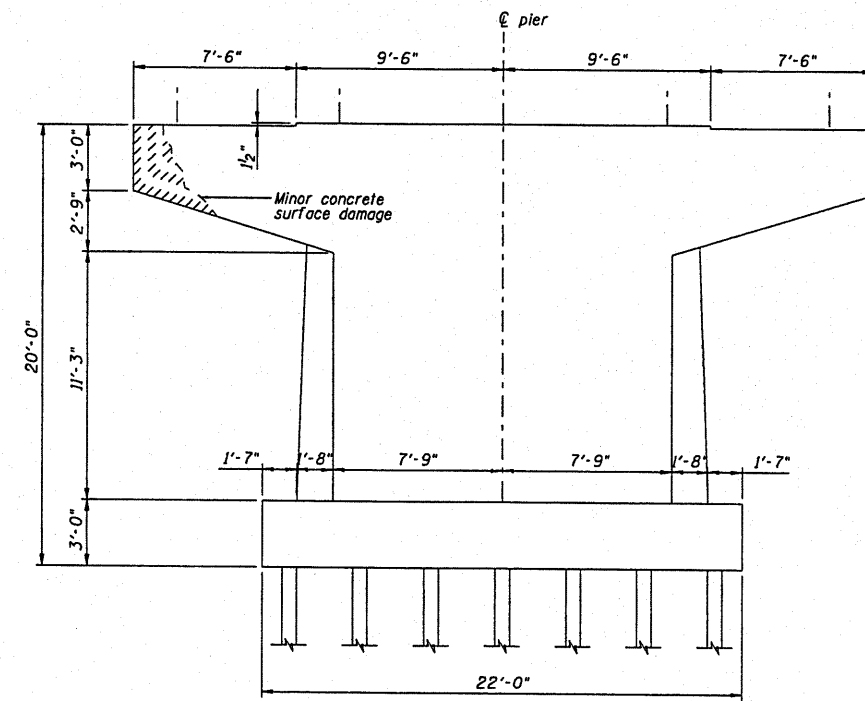
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAS 447	#	Fulton	43	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



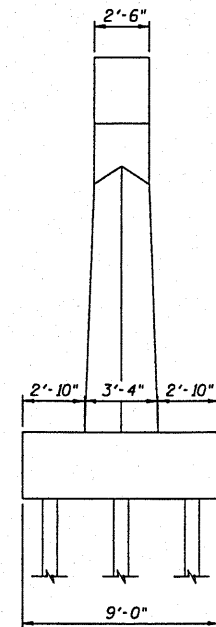
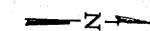
PIER 3 - EAST ELEVATION



PIER 3 - END ELEVATION



PIER 4 - EAST ELEVATION



PIER 4 - END ELEVATION

NOTE:
Dimensions shown are taken from the existing plans and are for information only.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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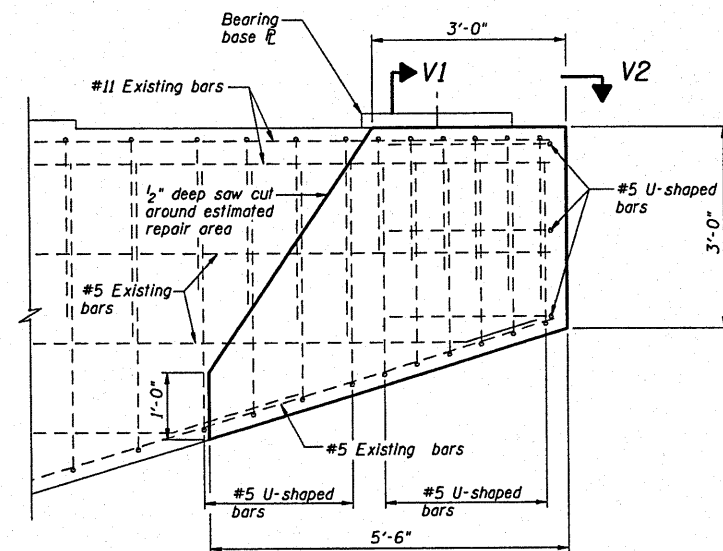
EXISTING PIER CONDITION-SHEET 2 OF 2

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET	40
DWG NO.	8015 PIER.dgn
DATE	JAN 2010
PROJ NO.	8015

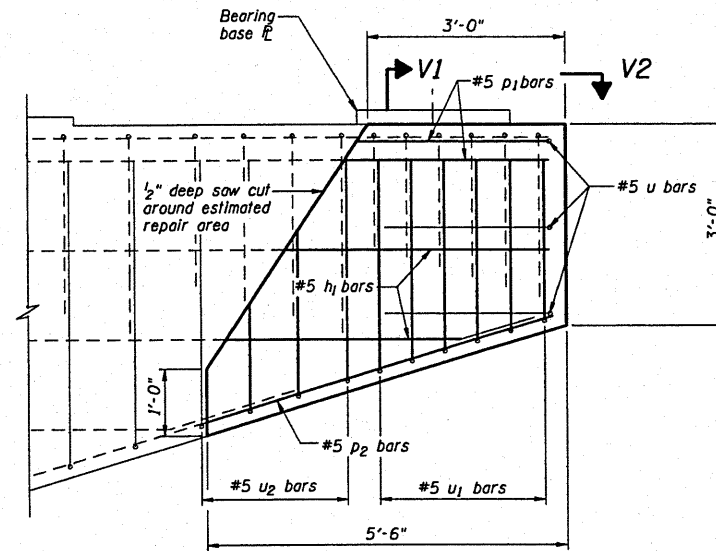
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FAS 447	*	Fullton	43	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

#08-00121-01-BR

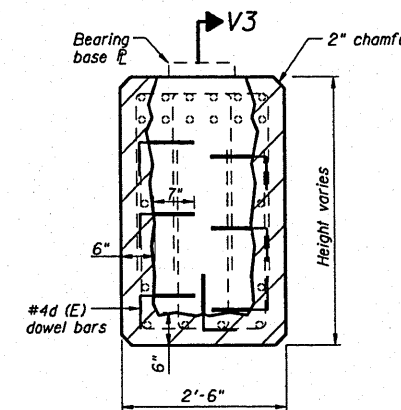


EXISTING PIER CAP END ELEVATION

NOTE: Bar sizes and locations were taken from the existing plans. After concrete removal and cleaning of existing reinforcing, bars that have more than surface corrosion should have a new epoxy coated replacement bar "E" lapped next to the damaged bar. See bar list and diagrams.

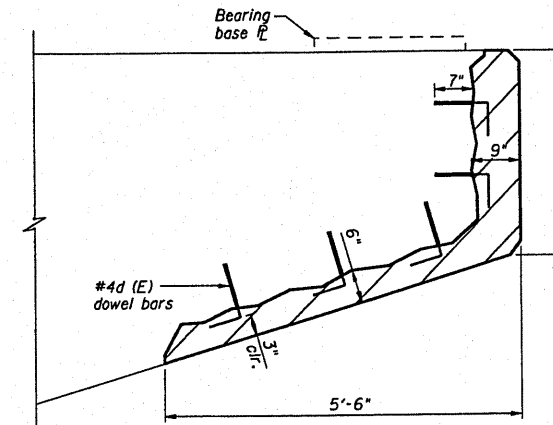


PROPOSED PIER CAP END REPAIR ELEVATION



SECTION V1

Hatched areas represent concrete removal & replacement.



SECTION V3

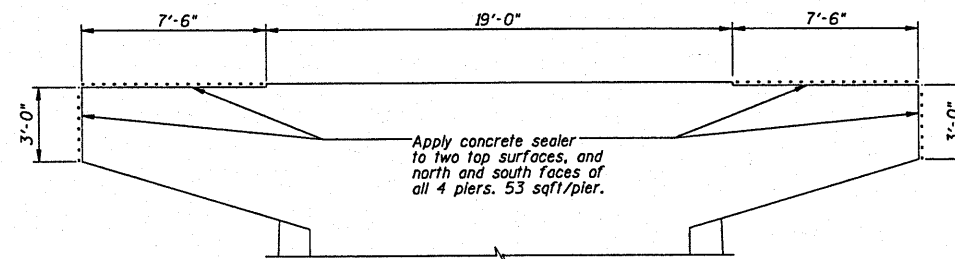
Hatched areas represent concrete removal & replacement.

BILL OF MATERIAL PER PIER CAP END				
Bar	No.	Size	Length	Shape
d (E)	23	# 4	1'-4"	□
h (E)	4	# 5	4'-0"	—
p1 (E)	4	# 5	2'-9"	—
p2 (E)	4	# 5	5'-4"	—
u (E)	3	# 5	7'-0"	—
u1 (E)	6	# 5	7'-2"	—
u2 (E)	3	# 5	8'-0"	—
Concrete Removal			Cu. Yds.	0.9
Concrete Structures			Cu. Yds.	0.9
Reinforcement Bars, Epoxy Coated			Lbs.	170

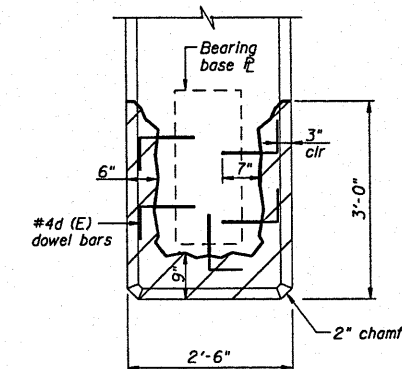
Reinforcement bars designated (E) shall be epoxy coated.

Bars with an "E" refer to the epoxy coated replacement bar to be lapped next to the original bar. Bars may be cut to fit at the direction of Engineer.

This Bill of Material is based upon complete bar replacement. Replace bars at the direction of the Engineer. Adhesive Anchor all d (E) bars



CONCRETE SEALER APPLICATION



SECTION V2

Hatched areas represent concrete removal & replacement.



BARS u(E), u1(E), u2(E)

Bar	"A"	"B"
u (E)	2'-0"	2'-6"
u1 (E)	2'-2"	2'-6"
u2 (E)	2'-2"	2'-11"

BAR d

#4 d (E) dowels = 9 in east face
= 9 in west face
= 3 in bottom face
= 2 in east/west end

Stagger to avoid conflicts between faces. Epoxy anchor using EPCON 6 ceramic 2-part epoxy or Hilti 2-part adhesive HIT-RE 500-SD in holes 7" deep into concrete. Cost of anchorage is included with the cost of Reinforcing Bars, Epoxy Coated.

BILL OF MATERIAL - 4 PIERS

LOCATION	Pier 1	Pier 2	Pier 3	Pier 4	Unit	Total
Concrete Removal	0.0	1.8	1.8	0.9	C.Y.	4.5
Concrete Structures	0.0	1.8	1.8	0.9	C.Y.	4.5
Reinforcing Bars, Epoxy Coated	0.0	340	340	170	Pound	850
Concrete Sealer	53	53	53	53	Sqft.	212

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.A. Fraenhoffer				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

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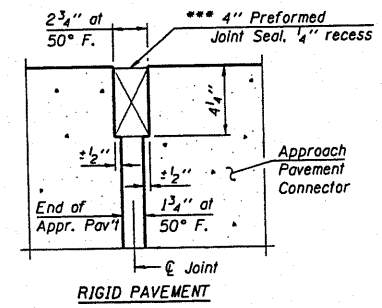
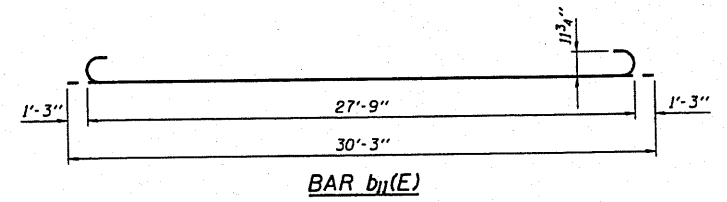
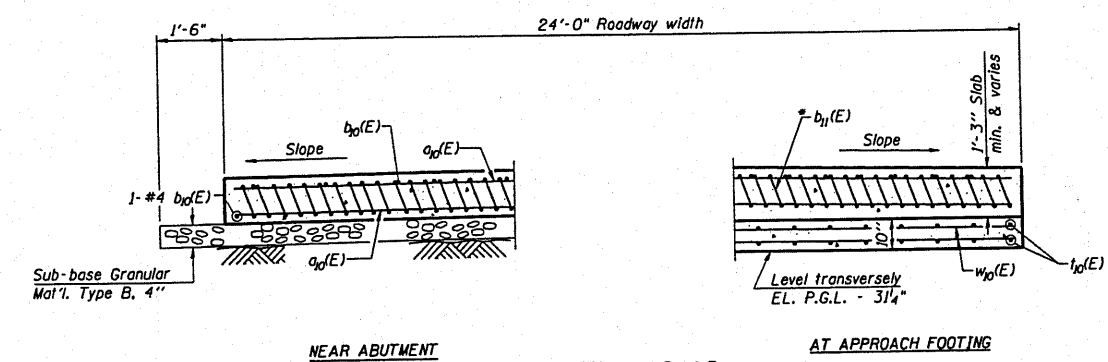
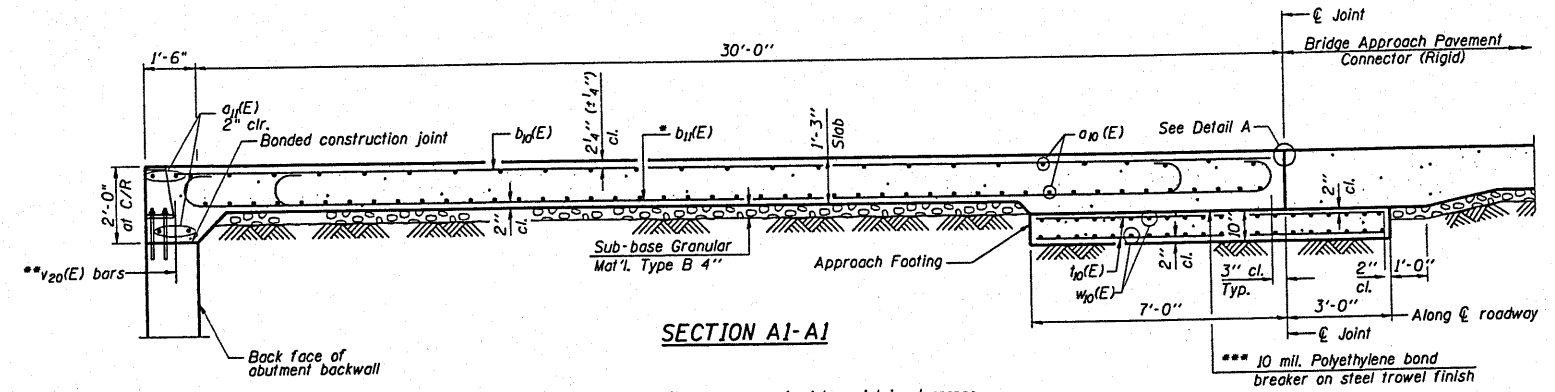
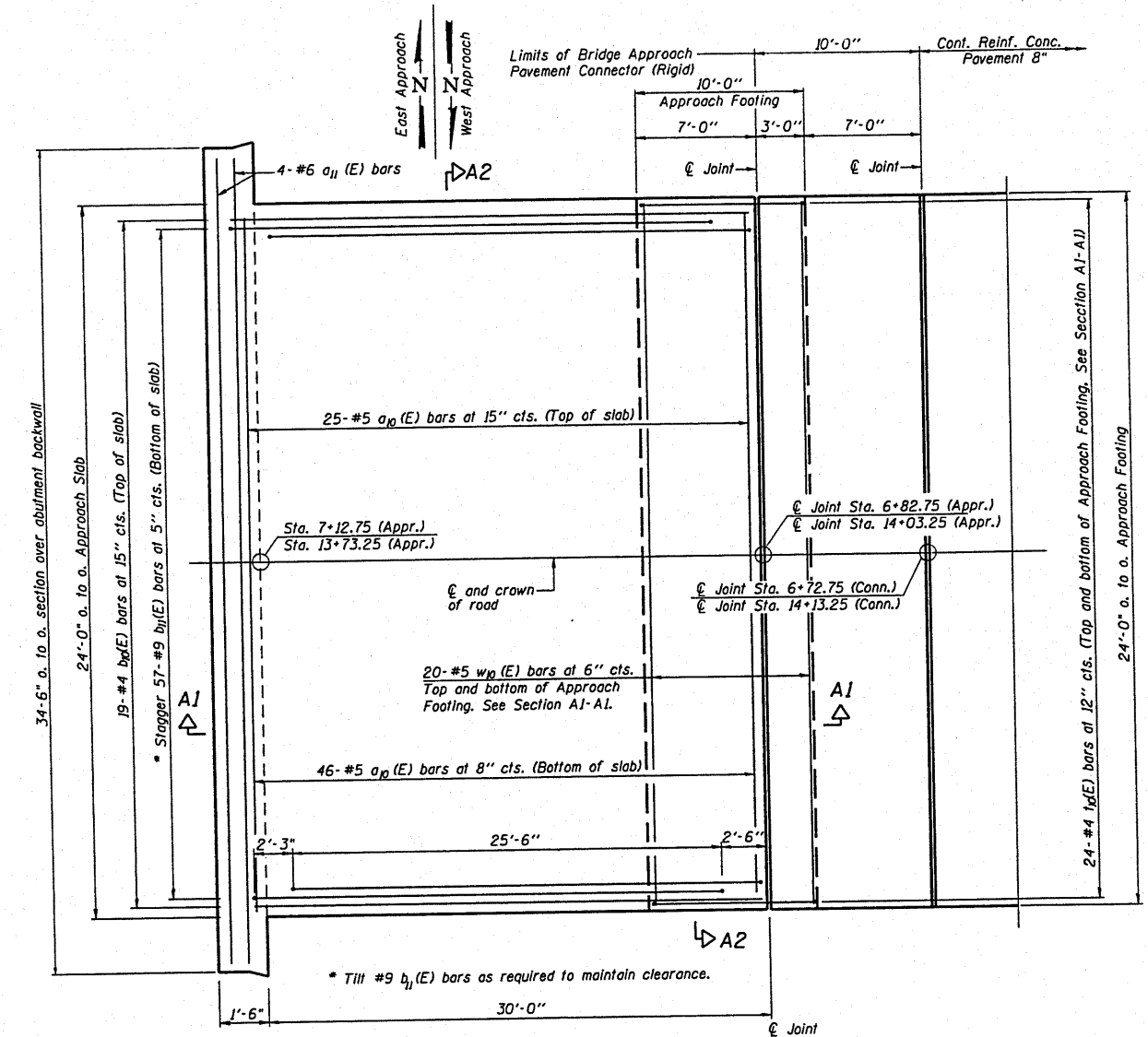
PIER CAP REPAIRS

FAS 447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

SHEET 41

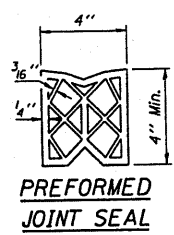
DWG NO. 8015PIER.dgn
DATE JAN 2010
PROJ NO. 8015

PROJECT NO.	SECTION	COUNTY	SHEET	TOTAL
FAS 447		Fulton	43	42
REV. HAND BOOK NO. 1	ILLINOIS	REV. AND PROJECT		



DETAIL A

*** Cost included with Concrete Superstructure.



NOTES:

- Approach pavement concrete shall be measured and paid for as Concrete Superstructures.
- Approach footing concrete shall be measured and paid for as Concrete Structures.
- Reinforcement bars designated (E) shall be epoxy coated.
- The approach footing maximum applied service bearing pressure (Omax) = 2.0 ksf.

BILL OF MATERIAL
2 APPROACH PAVEMENTS

Bar	No.	Size	Length	Shape
a _{1p} (E)	142	# 5	23'-4"	—
a _{1j} (E)	8	# 6	34'-0"	—
b _{1p} (E)	40	# 4	30'-1"	—
b _{1j} (E)	114	# 9	30'-3"	—
i _{1p} (E)	96	# 4	9'-8"	—
w _{1p} (E)	80	# 5	23'-4"	—
Reinforcement Bars, Epoxy Coated			Lbs.	18,960
Concrete Superstructure			Cu. Yds.	80.4
Concrete Structures			Cu. Yds.	14.8
Bridge Deck Grooving			Sq. Yd.	172
Protective Coat			Sq. Yd.	172
Sub-base Granular Mat'l, Type B 4"			Sq. Yd.	138

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Fraenhoffer	NO.	DATE	REVISION	BY

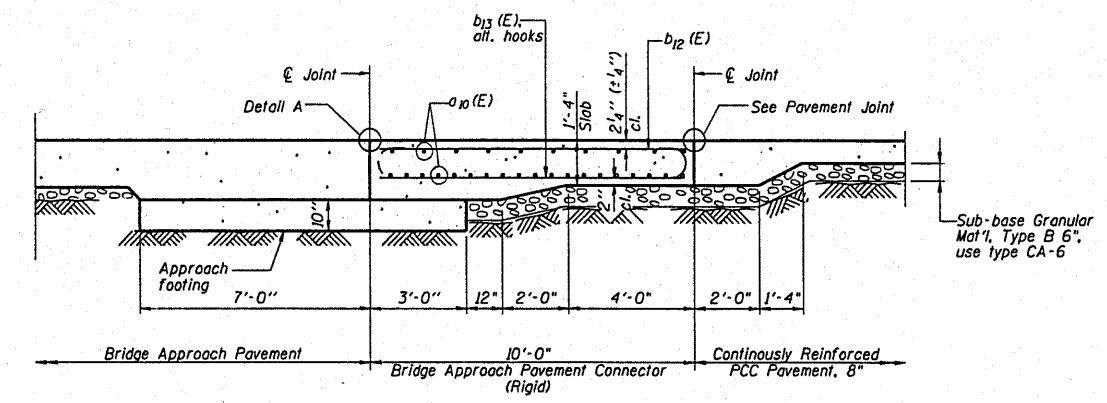
FRAUENHOFFER
Frauenhoffer and Associates, P.C. Consulting Engineers
3002 Crossing Court Champaign, IL 61822 217-351-6268

BRIDGE APPROACH PAVEMENT
FAS 1447 (C.H. 17) OVER SPOON RIVER
SECTION 08-00121-01-BR
FULTON COUNTY

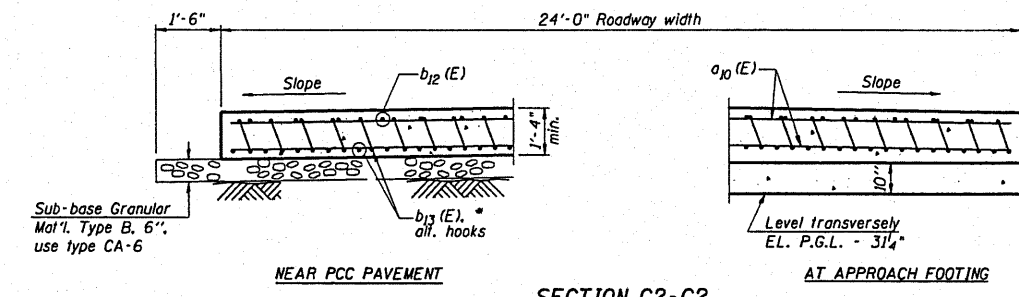
SHEET 42
DWG NO. 8015-appr.dgn
DATE JAN 2010
PROJ NO. 8015

ROUTE NO.	SECTION	QUANTITY	UNIT	AMOUNT
FAS 447		Fullon	43	43
FED. ROAD DIST. NO. 1	ALLIANCE	FED. AID PROJECT		

*08-00121-01-BR

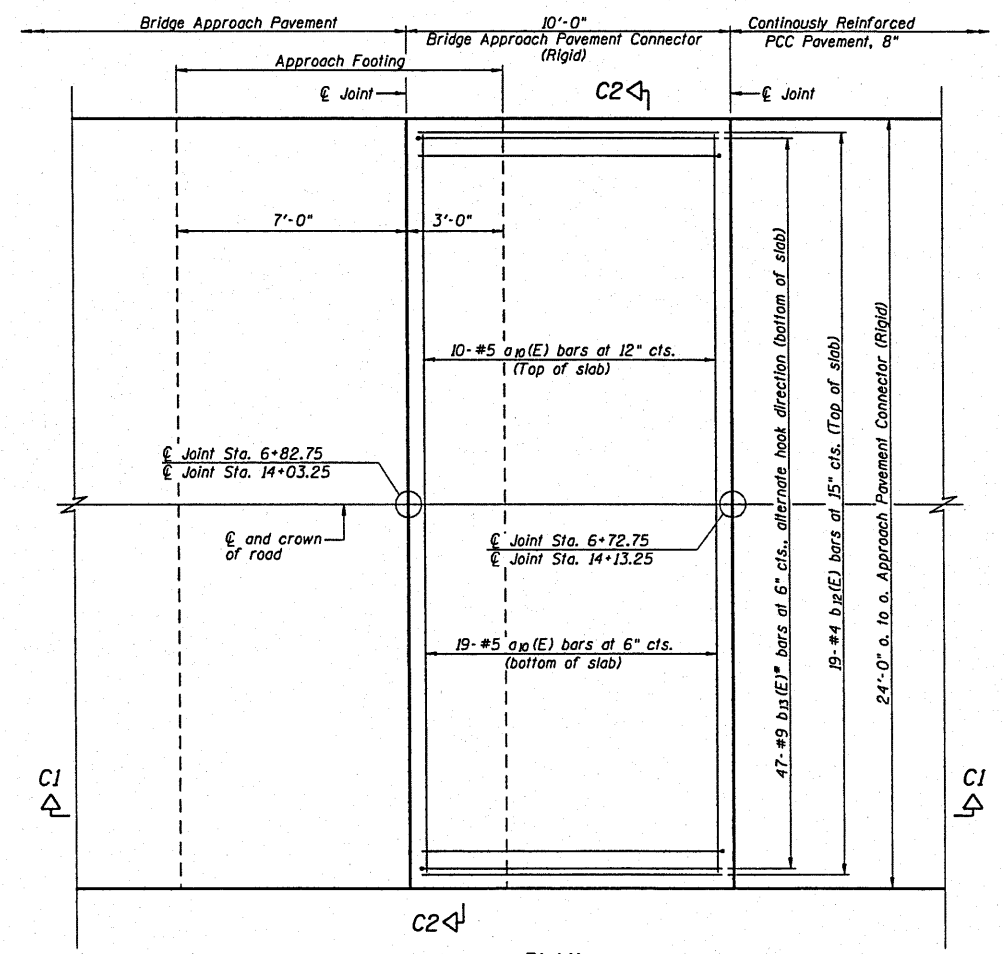


SECTION C1-C1

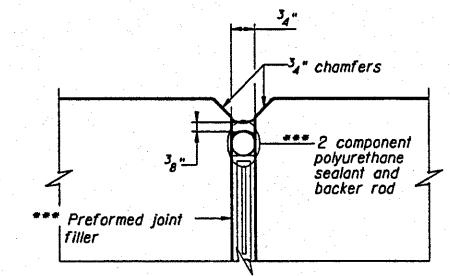


SECTION C2-C2

(See Plan for dimensions not shown)
* Till #9 b13(E) as required to maintain clearance.

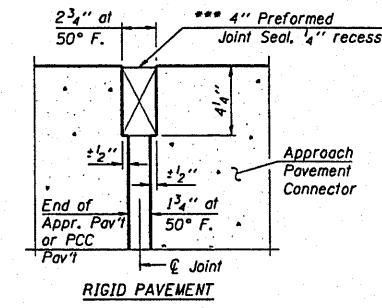


PLAN



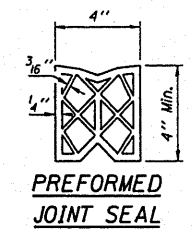
PAVEMENT JOINT DETAIL

*** Cost Included with Concrete Superstructure.

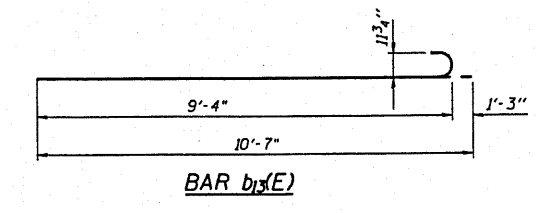


DETAIL A

*** Cost included with Concrete Superstructure.



PREFORMED JOINT SEAL



BILL OF MATERIAL 2 PAV'T CONNECTORS				
Bar	No.	Size	Length	Shape
a10 (E)	58	# 5	23'-4"	—
b12 (E)	38	# 4	9'-4"	—
b13 (E)	94	# 9	10'-7"	—
Reinforcement Bars, Epoxy Coated			Lbs.	5,030
Concrete Superstructure			Cu. Yds.	28.1
Bridge Deck Grooving			Sq. Yd.	54
Protective Coat			Sq. Yd.	54
Sub-base Granular Mat'l, Type B 6"			Sq. Yd.	42

Approach Pavement Connector Concrete shall be paid for as Concrete Superstructures.

DSGN	K.J. Hoffmann				
DR	K.J. Hoffmann				
CHK	J.R. Wolf				
APVD	J.A. Fraunhoffer	NO.	DATE	REVISION	BY

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BRIDGE APPROACH PAVEMENT CONNECTOR (RIGID)	SHEET 43
FAS 1447 (C.H. 17) OVER SPOON RIVER SECTION 08-00121-01-BR FULTON COUNTY	DWG. 8015-conn.dgn DATE JAN 2010 PROJ. NO. 8015