

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	1

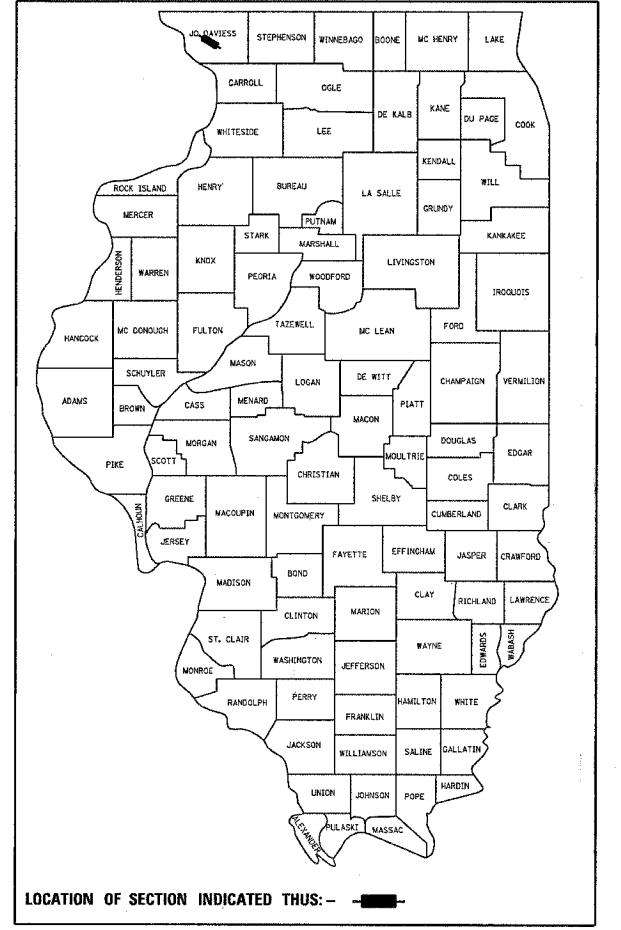
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 301 (US 20)  
SECTION 28BR-1  
PROJECT BHF-0301(037)  
JO DAVIESS COUNTY  
C-92-130-05

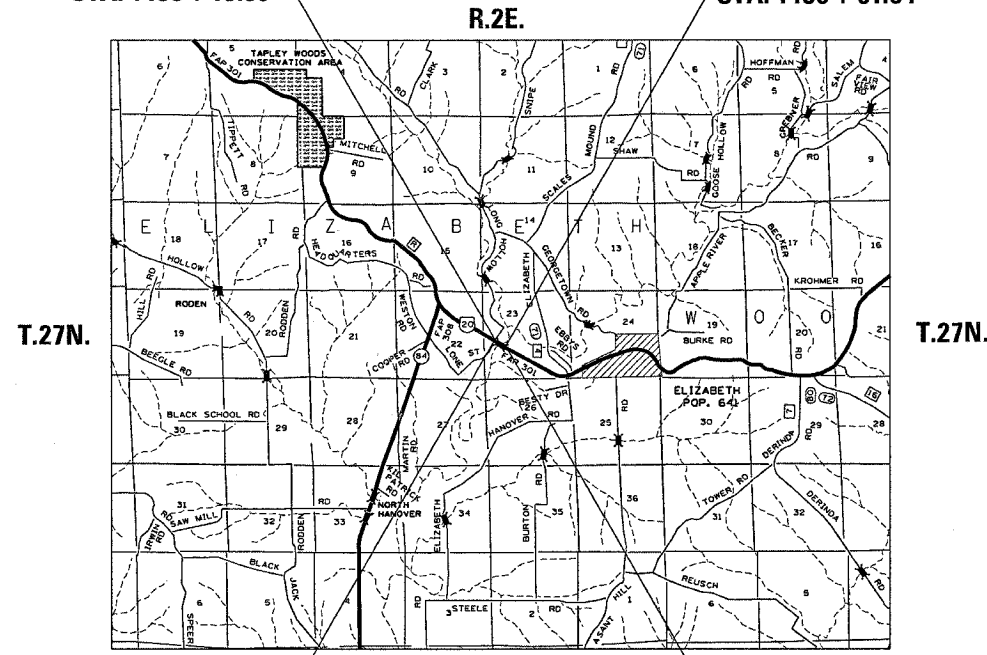
FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR STATE STANDARDS, SEE SHEET NO. 2

D-92-003-05



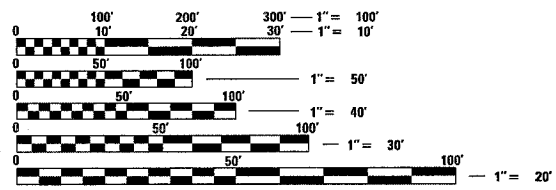
LOCATION OF SECTION INDICATED THIS: - [Black Box] -

SECTION BEGINS STA. 1433 + 13.39      SECTION ENDS STA. 1436 + 01.84



IMPROVEMENT BEGINS STA. 1429 + 60.92      IMPROVEMENT ENDS STA. 1439 + 06.73

ELIZABETH TOWNSHIP SECTION 23



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

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

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 30 20 06

Henry J. M... ..  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 12 20 06  
Mike...  
ENGINEER OF DESIGN AND ENVIRONMENT

May 12 20 06  
Milton L. Sees, P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

NET LENGTH OF PROJECT = 288.45 LIN. FT = 0.055 MILES  
GROSS LENGTH OF PROJECT = 288.45 LIN. FT = 0.055 MILES

CONTRACT NO. 64A49

PROJECT ENGINEER: BOB WAGNER

SQUAD LEADER: LUCAS MEGLI (815) 284-5362



# SUMMARY OF QUANTITIES

CONTRACT NO. 64A49

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	288R-1	JO DAVIESS	53	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	X080-2A	SFTY-3N
				80% FED/20% STATE	80% FED/20% STATE
20200100	EARTH EXCAVATION	CU YD	99	99	
20400800	FURNISHED EXCAVATION	CU YD	288	288	
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	1900	1900	
25100630	EROSION CONTROL BLANKET	SQ YD	467	467	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	415	415	
28000400	PERIMETER EROSION BARRIER	FOOT	1275	1275	
44000007	BITUMINOUS SURFACE REMOVAL, 2"	SQ YD	228	228	
48200400	BITUMINOUS SHOULDERS 6"	SQ YD	422	422	
50101500	REMOVAL OF EXISTING SUPERSTRUCTURE	EACH	1	1	
50102400	CONCRETE REMOVAL	CU YD	13	13	
50200300	COFFERDAM EXCAVATION	CU YD	180	180	
50200500	COFFERDAM	EACH	1	1	
50300225	CONCRETE STRUCTURES	CU YD	16.6	16.6	
50300260	BRIDGE DECK GROOVING	SQ YD	1056	1056	
50300300	PROTECTIVE COAT	SQ YD	1056	1056	
5030305	CONCRETE WEARING SURFACE 5"	SQ YD	1043	1043	
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	5301	5301	
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	4084	4084	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	16,690	16,690	
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	570	570	
51500100	NAME PLATES	EACH	1	1	
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	650	650	
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4	
63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	2	2	
63100169	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED)	EACH	2	2	
63200310	GUARDRAIL REMOVAL	FOOT	931	931	
63500105	DELINEATORS	EACH	4	4	

CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY	X080-2A	SFTY-3N
				80% FED/20% STATE	80% FED/20% STATE
66700305	PERMANENT SURVEY MARKERS TYPE II	EACH	2	2	
67000400	ENGINEER'S FIELD OFFICE TYPE A	CAL MO	5	5	
67100100	MOBILIZATION	L SUM	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	10	10	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70106700	TEMPORARY RUMBLE STRIPS	EACH	3	3	
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	180	180	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	7572	7572	
70300280	TEMPORARY PAVEMENT MARKING -LINE 24"	FOOT	48	48	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2681	2681	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	708	708	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1416	1416	
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2985	2985	
78200410	GUARDRAIL MARKERS, TYPE A	EACH	16	16	
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
78300500	PAINT PAVEMENT MARKING REMOVAL	SQ FT	973	973	
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	161.3	161.3	
X0321781	MECHANICAL SPLICE	EACH	54	54	
X4066426	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIXTURE "D", N70	TON	75	75	
XX005495	PRECAST PRESTRESSED CONCRETE DECK BEAM (21" DEPTH) SPECIAL	SQ FT	156.2	156.2	
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	110	110	
Z0002600	BAR SPLICERS	EACH	332	332	
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
Z0073500	TEMPORARY SUPPORT SYSTEM	L SUM	1	1	
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH <= 4.5")	SQ FT	19.5	19.5	
X0325303	STRUCTURAL REPAIR OF CONCRETE (DEPTH > 5")	SQ FT	107.5	107.5	
X0325294	PERFORMED JOINT STRIP SEAL	FT	99	99	

\* SPECIALTY ITEM

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 USER NAME = mgj111

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

## SUMMARY OF QUANTITIES

# GENERAL NOTES

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 301 (US 20)	28BR-1	JoDavieess	53	4
FED ROAD DIST. NO.	ILLINOIS	PROJECT		
Contract #64A49				

See cross sections for special ditches and backslopes.

It is estimated that 288 cubic yards of earth will be hauled to the job from outside the project limits. A shrinkage factor of 25% has been used.

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches. This work will be included in the contract unit price per Cubic Meter (Cubic Yard) for EARTH EXCAVATION.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of EARTH EXCAVATION.

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the EARTH EXCAVATION.

The following Mixture Requirements are applicable for this project:

Mixture Uses(s):	Surface Course and Top Shoulder	Bottom Shoulder	
PG:	PG 64-22	PG 58-22	
RAP%: (Max)	10%	30%	
Design Air Voids	4.2 @ N70	2 @ N50	
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5	BAM	
Friction Aggregate	D	N/A	
20 Year ESAL	2.6	N/A	

Install a "TO ACTUATE SIGNAL" sign for the traffic signal detector loops. The detail of this sign is included in the plans. This work will be included in the cost of TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

A Nationwide 404 Permit has been issued for this project and the conditions of that permit must be adhered to.

This structure will retain the same number (043-0010).

The contractor shall submit four copies of the required shop drawings for review and approval to the Bureau of Bridges and Structures, 2300 South Dirksen Parkway, Springfield, IL 62764. After approval of initial submittal, the contractor shall submit one set of shop drawings to Eric Harm, Engineer of Materials, 126 East Ash Street, Springfield, IL 62706, and eight (8) sets of shop drawings to be distributed to:

District 2 District Engineer (1)  
Fabricator (1)  
Contractor (2)  
Resident Engineer (2)  
District 2 Bureau of Materials (2)

The review and approval of temporary sheet piling will require 4 to 6 weeks. The Contractor shall schedule his work accordingly.

At bridge expansion joints, if temporary expansion joint bulkheads are attached to adjacent deck slabs or abutments for support, the Contractor shall cut the attachments as soon as the concrete has set to prevent joint damage due to horizontal contraction or expansion.

Culvert & bridge flows must be maintained throughout the project. Normal flow shall be allowed to pass at the rate it enters the jobsite. High flows shall be allowed to pass without causing damage to upstream properties.

Pavement Marking shall be done according to Standard 780001, except as follows:

1. All words, such as ONLY, shall be 2.4 m (8 feet) high.
2. All non-freeway arrows shall be the large size.
3. The distance between yellow no-passing lines shall be 200 mm (8"), not 180 mm (7") as shown in the detail of Typical Lane and Edge Lines.

PERMANENT SURVEY MARKERS, TYPE II, shall be set at intervals of 1.6 Km (1 mile) or as directed by the Engineer. Bridge or culvert projects shall have one survey marker placed near the structure. Estimated: 2 Each.

The Contractor shall submit to the Engineer a description of location, elevation, and coordinates for each permanent survey marker. The Engineer shall submit this information to the Survey Crew.

Embankment quantities for the construction of the Traffic Barrier Terminals as shown in the plans are included in quantities for Furnished Excavation.

The Contractor shall supply the Resident Engineer with the manufacturer's installation requirements for the type of Steel Plate Beam Guardrail Terminal Type 1 Special (Tangent) or Steel Plate Beam Guardrail Terminal Type I Special (Flared).

One 16d galvanized nail shall be used to toe nail the wood block out to the wood post on all Traffic Barrier Terminal Type I Specials.

Bituminous and Aggregate prime coat shall be placed in accordance with Section 406 of the Standard Specifications. The cost of the prime coats shall be included in the contract unit price per metric ton (ton) for BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE MIX "D", N70 of the type specified.

Delineators shall be installed as shown in Standard 635001, except that the post shall be rotated 180° and only metal-backed delineators shall be permitted.

Delineators shall be placed at the ends of approach guardrail terminal sections, and at each headwall or end section of AR Culverts. This work will be paid for at the contract unit price each for DELINEATORS.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

Verizon  
Interstate Power & Light Co.

Alliant Energy  
NICOR Gas Co.

CADD data will be available to Contractors and Consultants working on this project. This information will be provided upon request as MicroStation CADD files and Geopak coordinate geometry files ONLY. If data is required in other formats it will be your responsibility to make these conversions. If any discrepancy or inconsistency arises between the electronic data and the information on the hard copy, the information on the hard copy should be used. Contact the District's Project Engineer to request these files.

## COMMITMENTS

1. No trees will be removed during project construction.
2. All temporary shoring materials and rip rap will be removed after construction is completed. The river banks and bottom will be restored to their original contours.

Program #5  
(Arch. Size)  
E 1/8"  
2-0/8"  
Enlarge 107%

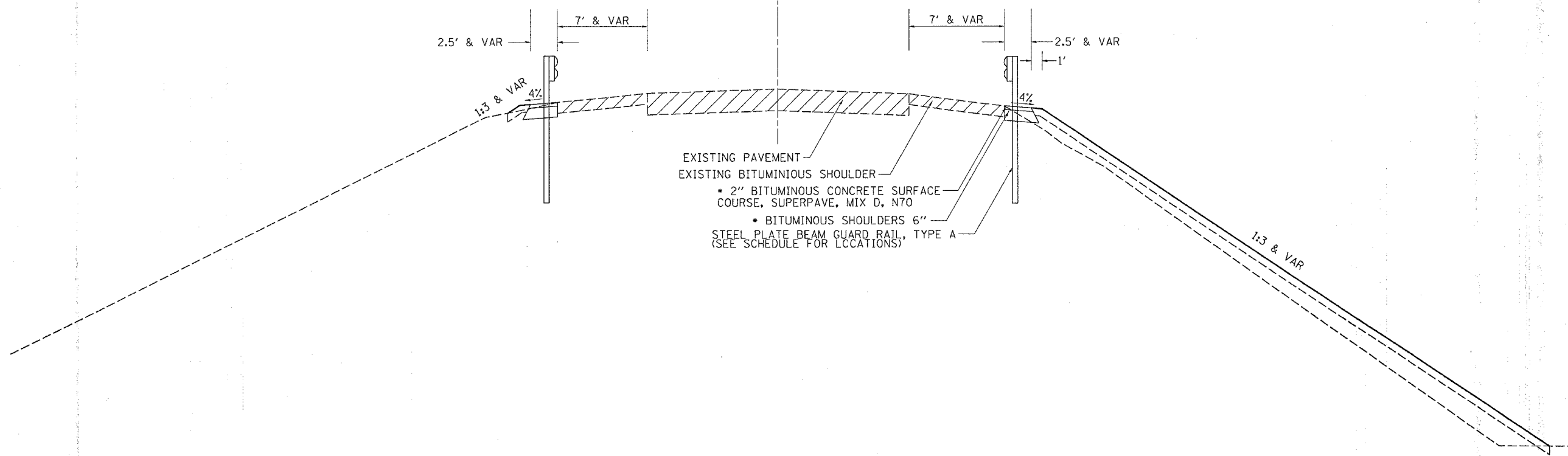


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# TYPICAL SECTIONS

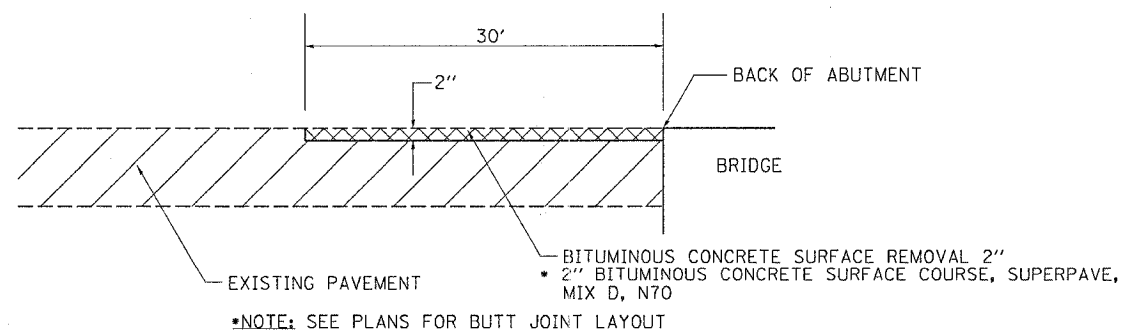
STA. 1429+60.92 - STA. 1432+93.38  
 STA. 1436+21.85 - STA. 1439+06.73

☐ US 20



## BITUMINIOUS SURFACE REMOVAL

STA. 1432+83.38 - STA. 1433+13.37  
 STA. 1436+01.82 - STA. 1436+31.85



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• 112 LBS/ SY/ IN





F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# HORIZONTAL VERTICAL CONTROL SHEETS

Chain US20@APPL contains:  
133 202

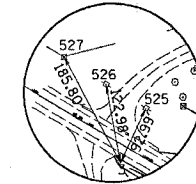
Beginning chain US20@APPL description

Point 133 N 2,060,183.3800 E 2,270,379.3120 Sta 1405+67.44

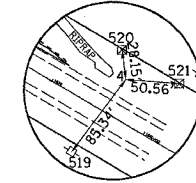
Course from 133 to 202 120° 31' 20.5224" Dist 6,780.7136'

Point 202 N 2,056,739.6272 E 2,276,220.4286 Sta 1473+48.15

Ending chain US20@APPL description



HORIZONTAL CONTROL POINT No. 3



HORIZONTAL CONTROL POINT No. 4

## HORIZONTAL CONTROL POINTS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
3	2058938.58	2272440.44	645.961	US20	1429+75.17	25.5145' RT	NAIL
4	2058492.321	2273320.003	643.103	US20	1439+59.49	36.772' LT	NAIL

## SURVEY WORK POINTS

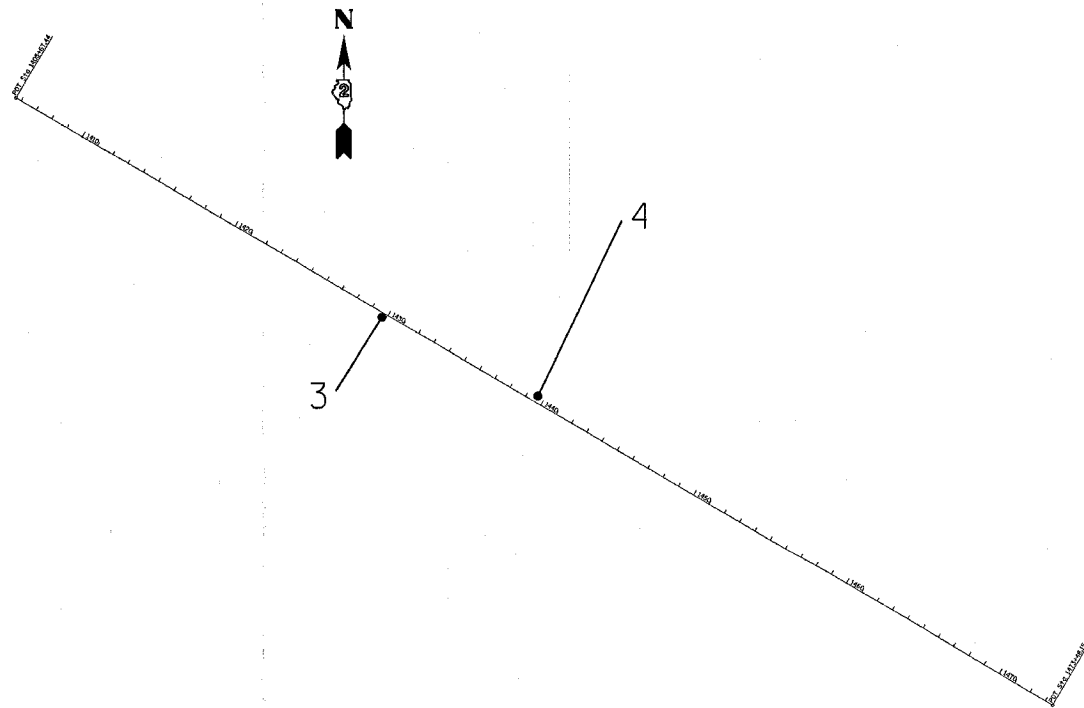
POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
128	2058485.45	2273260.197	644.154	US20	1439+11.46	0.4791' LT	POT
129	2058643.06	2272991.857	643.839	US20	1436+00.26	0.0339' RT	POT
130	2058787.64	2272746.002	643.359	US20	1433+15.04	0.3517' RT	POT
131	2058837.82	2272660.661	643.197	US20	1432+16.04	0.4676' RT	POT
132	2059566.24	2271426.3	722.984	US20	1417+82.78	0.1152' LT	POT
133	2060183.38	2270379.312	737.969	US20	1405+67.44	0.0000'	POT

## BENCH MARKS

POINT	NORTH	EAST	ELEVATION	CHAIN	STATION	OFFSET	DESCRIPTION
400	2058657.509	2273001.155	643.525	US20	1436+00.93	17.1352' LT	CHISELED SQUARE

## REFERENCE TIES

POINT	CHAIN	STATION	OFFSET	DESCRIPTION
519	US20	1439+50.12	47.5808' RT	POWER POLE
520	US20	1439+42.25	58.9958' LT	R.O.W. MARKER
521	US20	1440+04.42	59.1953' LT	R.O.W. MARKER
525	US20	1429+66.02	67.0285' LT	POWER POLE
526	US20	1428+94.52	66.9302' LT	POWER POLE
527	US20	1428+16.19	70.6476' LT	R.O.W. MARKER



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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		SCALE: VERT. DATE: HORIZ. DRAWN BY CHECKED BY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

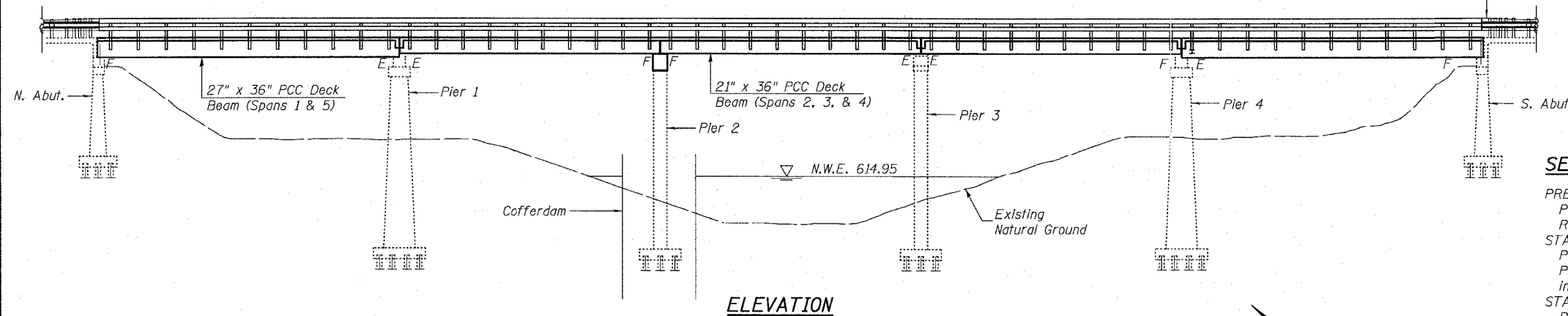
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	9
FED. ROAD DIST. NO. 7	BILLINGS	FED. AID PROJECT		

SHEET NO. 1  
27 SHEETS  
Contract # 64A49

Existing Structure: SN 043-0010 was rebuilt in 1970 as SBI Rt 5 at Sta. 117+50. The structure consists of 5 simple span PCC-deck beams on closed abutments, solid wall piers, and hammerhead piers, all supported on wood piles. The abutments and piers 1 & 4 were built in 1925. Piers 2 & 3 are hammerhead piers and were built in 1970. The bk. to bk. of Abutments dimension is approximately 288'-0" and the o. to o. width measures 33'-0". The existing superstructure shall be removed and replaced with PCC deck beams. The caps of the substructure will be repaired. Stage construction will be used. The existing approach pavements shall remain, but shall be milled 2" to butt into the proposed top of deck.

No Salvage

See Roadway Plans for Approach Pavement and Traffic Barrier Terminal



ELEVATION

SEQUENCE OF CONSTRUCTION

PRE-STAGE I

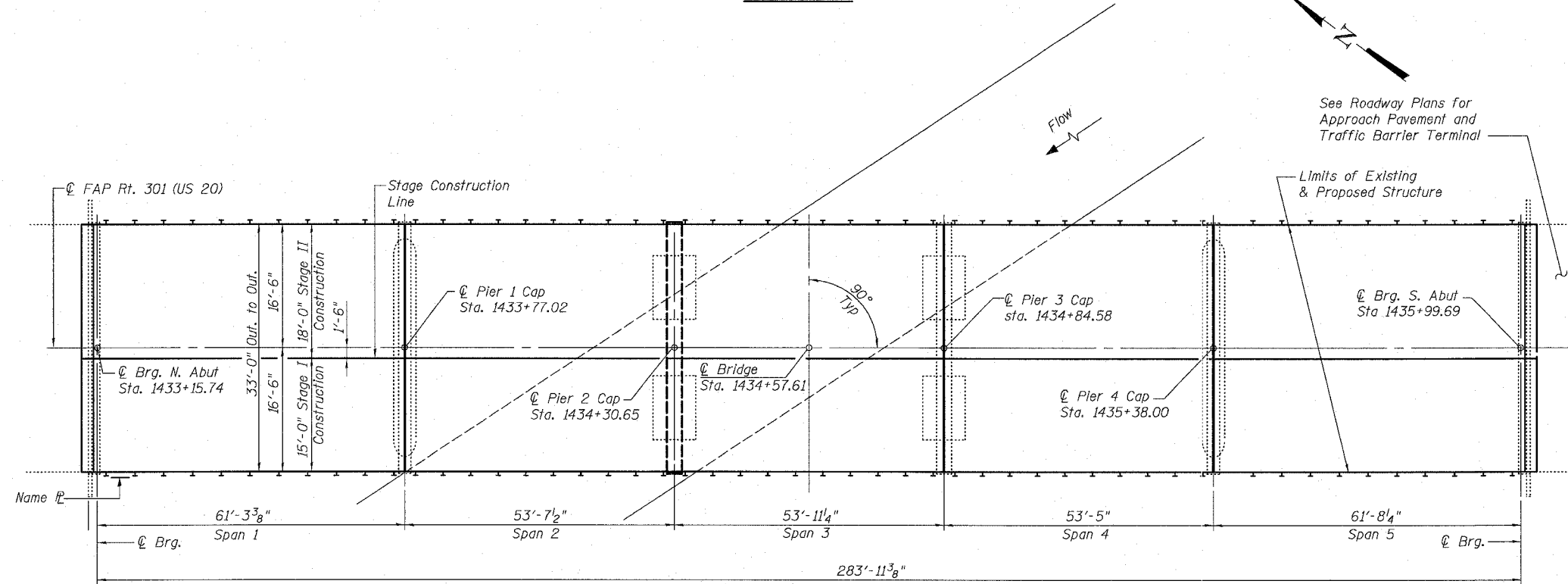
Provide Traffic control for Pre-Stage I construction as shown on the Roadway Plans. Remove and replace Beam #5 Span 2 as shown on sheets 23 & 24 of 27.

STAGE I

Provide Traffic control for Stage I construction as shown on the Roadway Plans. Perform Stage I removal and construction as shown in the plans, including the installation of the Pier 2 Temporary Support System.

STAGE II

Provide Traffic control for Stage II Construction as shown on the Roadway Plans. Perform Stage II removal and construction as shown in the plans.



PLAN

See Roadway Plans for Approach Pavement and Traffic Barrier Terminal

Limits of Existing & Proposed Structure

DESIGN STRESSES

NEW & EXISTING CONSTRUCTION  
FIELD UNITS

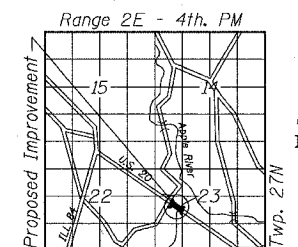
- $f'_c = 5,000$  psi (Concrete Wearing Surface)
  - $f'_c = 3,500$  psi (All other)
  - $f_y = 60,000$  psi (reinforcement)
- PRECAST PRESTRESSED UNITS
- $f'_c = 5,000$  psi
  - $f_{ci} = 4,000$  psi
  - $f'_s = 270,000$  psi ( $1/2\phi$  low relax strands)
  - $f_{si} = 201,960$  psi ( $1/2\phi$  low relax strands)

LOADING HS20-44

No Allowance for Future Wearing Surface

DESIGN SPECIFICATIONS

2002 AASHTO



LOCATION SKETCH

DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF



V3 Companies  
7325 Janes Avenue  
Woodridge, IL 60517  
630.724.9200 phone  
630.724.9202 fax  
www.v3co.com



GENERAL PLAN AND ELEVATION

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 2
FAP 301	28BR-1	JO DAVIESS	53	10	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64A49

GENERAL NOTES

Expansion guards which are not cast in the precast unit shall be fabricated and erected according to Article 503.10(c) of the Standard Specifications.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

Attach new Name Plate to the backside of 8" rail element. Existing name plate is to be removed, cleaned and relocated adjacent to new name plate. Cost included in the cost of Name Plates.

All Construction joints shall be bonded.  
The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the new profile grade and actual beam camber.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

Repair of the pier and abutment caps shall be completed prior to placement of the new deck beams. The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

If the Contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowels rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

INDEX OF BRIDGE SHEETS

1. General Plan and Elevation
2. General Notes, Bill of Material, Index of Sheets, Name Plate
3. Stage Removal & Construction
4. Temporary Concrete Barrier for Stage Construction
5. Type SM Steel Bridge Rail Side Mounted with Concrete Wearing Surface
6. Superstructure
- 7-10. Superstructure Details
- 11-12. Preformed Joint Strip Seal
13. Concrete Removal-North Abutment
14. Concrete Removal- South Abutment
15. North Abutment Repairs
16. South Abutment Repairs
17. Pier 1 Repairs
18. Pier 2 Repairs
19. Pier 3 Repairs
20. Pier 4 Repairs
21. Bar Splicer Assembly Details
22. Anchor Bolt Details for Retainers
23. Pre-Stage 1 Beam Replacement Details
24. PPC Deck Beam (21" Depth) Special
- 25-27. Pier 2 Temporary Support System

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
* Removal of Existing PPC Deck Beam	Sq. Ft.	161.3	-	161.3
* Mechanical Splice	Each	54	-	54
* PPC Deck Beam (21" Depth) Special	Sq. Ft.	156.2	-	156.2
Asbestos Bearing Pad Removal	Each	110	-	110
Cofferdam Excavation	Cu. Yd.	-	180	180
Cofferdam (Pier 2)	Each	-	1	1
Temporary Support System	L. Sum	-	1	1
Removal of Existing Superstructure	Each	1	-	1
Concrete Removal	Cu. Yd.	-	13.0	13.0
Concrete Structures	Cu. Yd.	-	16.6	16.6
Bridge Deck Grooving	Sq. Yd.	1056	-	1056
Protective Coat	Sq. Yd.	1056	-	1056
Concrete Wearing Surface, 5"	Sq. Yd.	1043	-	1043
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	-	19.5	19.5
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	-	107.5	107.5
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	5301	-	5301
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	4084	-	4084
Reinforcement Bars, Epoxy Coated	Pound	13,670	3,020	16,690
Steel Bridge Rail, Type SM	Foot	570	-	570
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	99.0	-	99.0
Bar Splicers	Each	306	26	332

\*See Sheets 23 and 24 for Beam Replacement prior to Stage 1 Removal.

STATION 1434+57.61  
BUILT 200 BY  
STATE OF ILLINOIS  
FAP ROUTE 301 SEC 28BR-1  
LOADING HS20  
STR. NO. 043-0010

NAME PLATE  
See Std. 515001

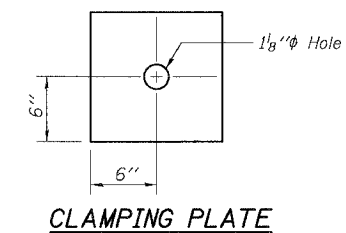
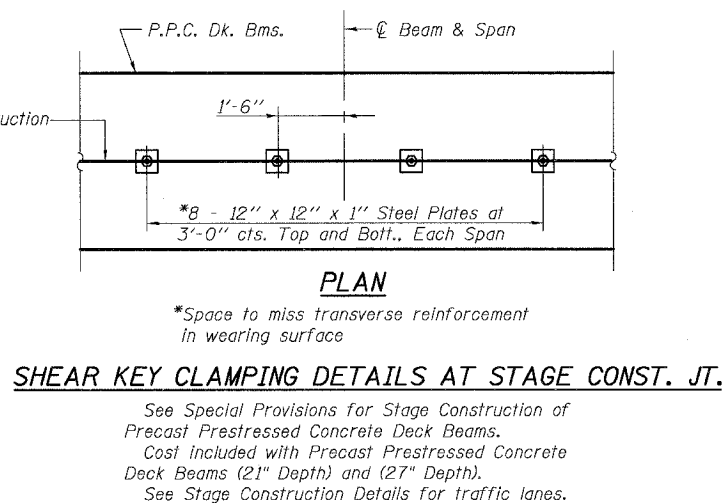
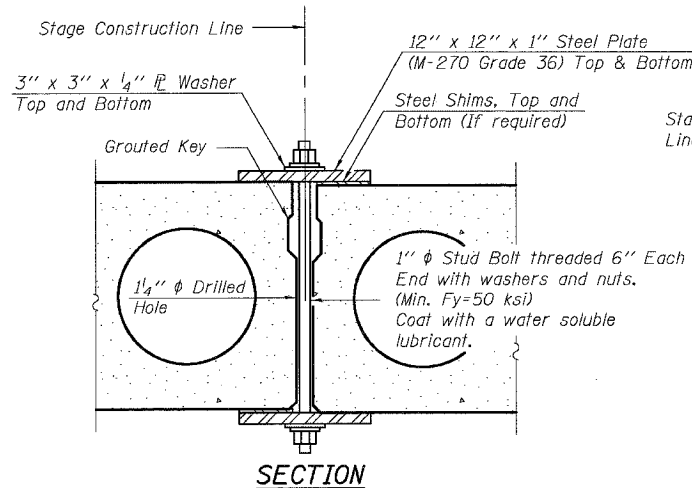
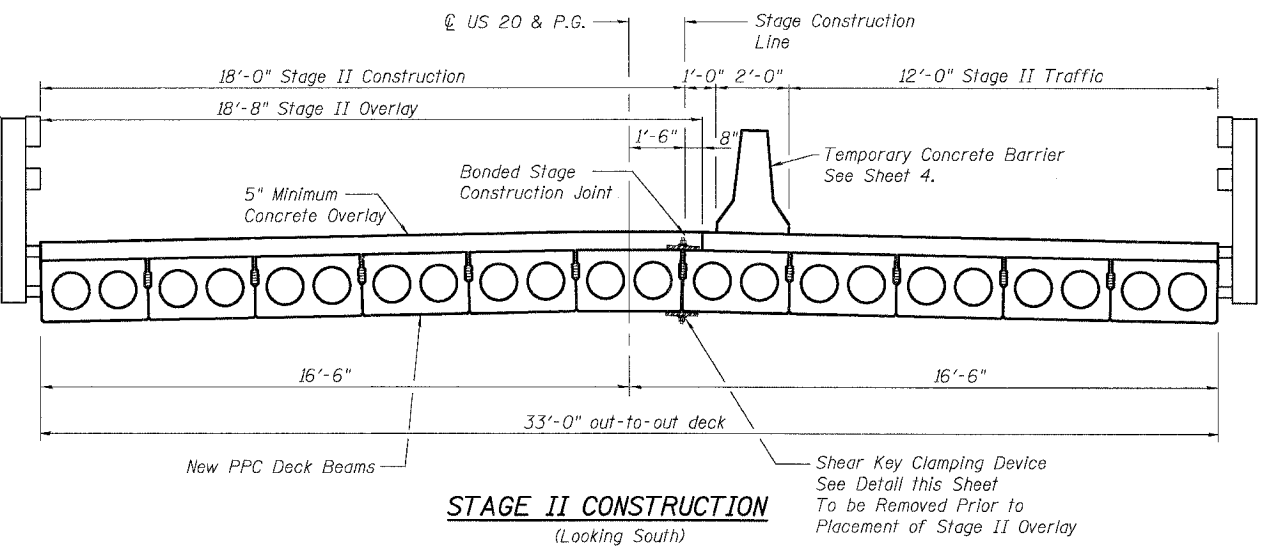
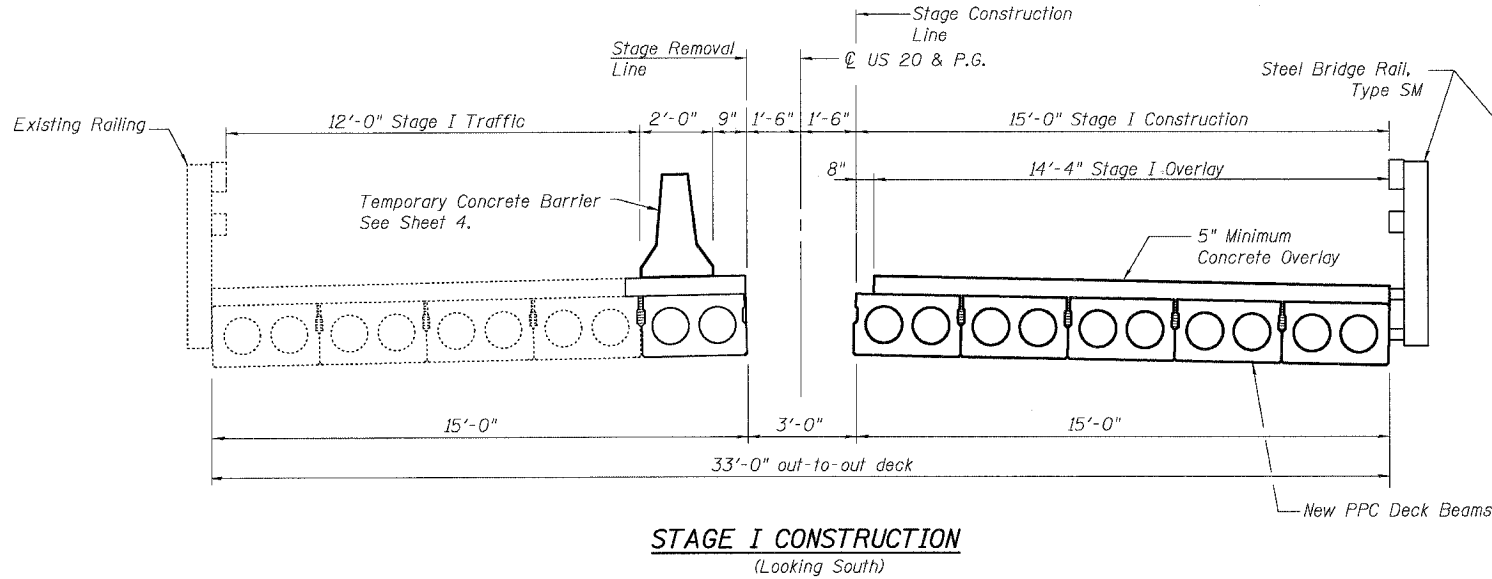
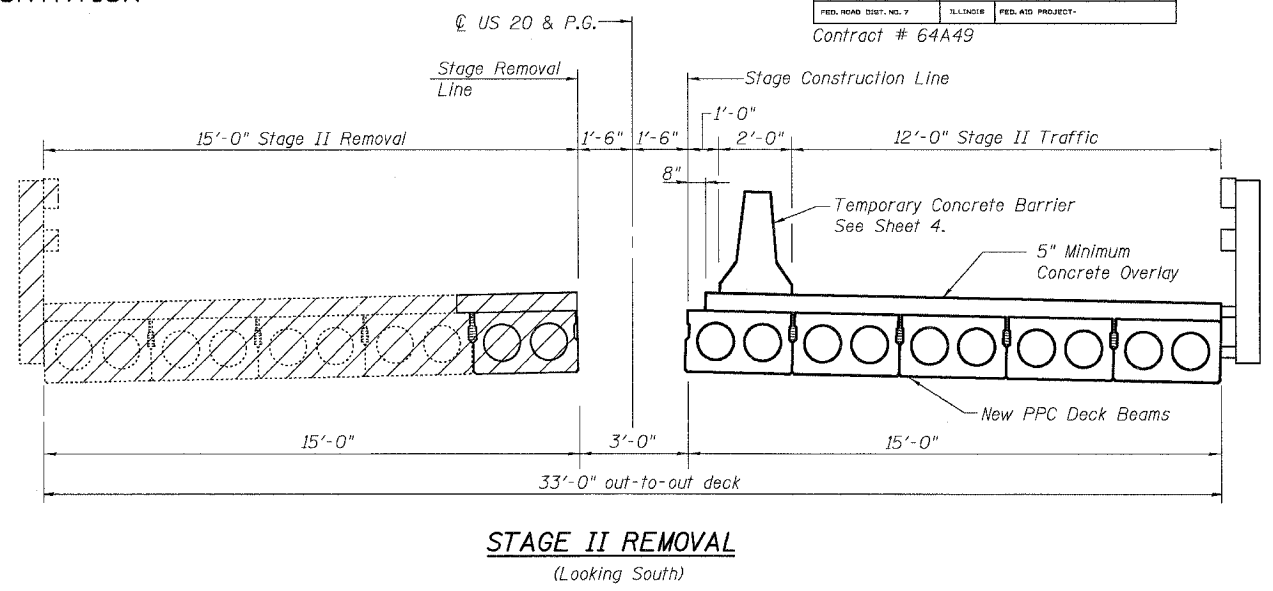
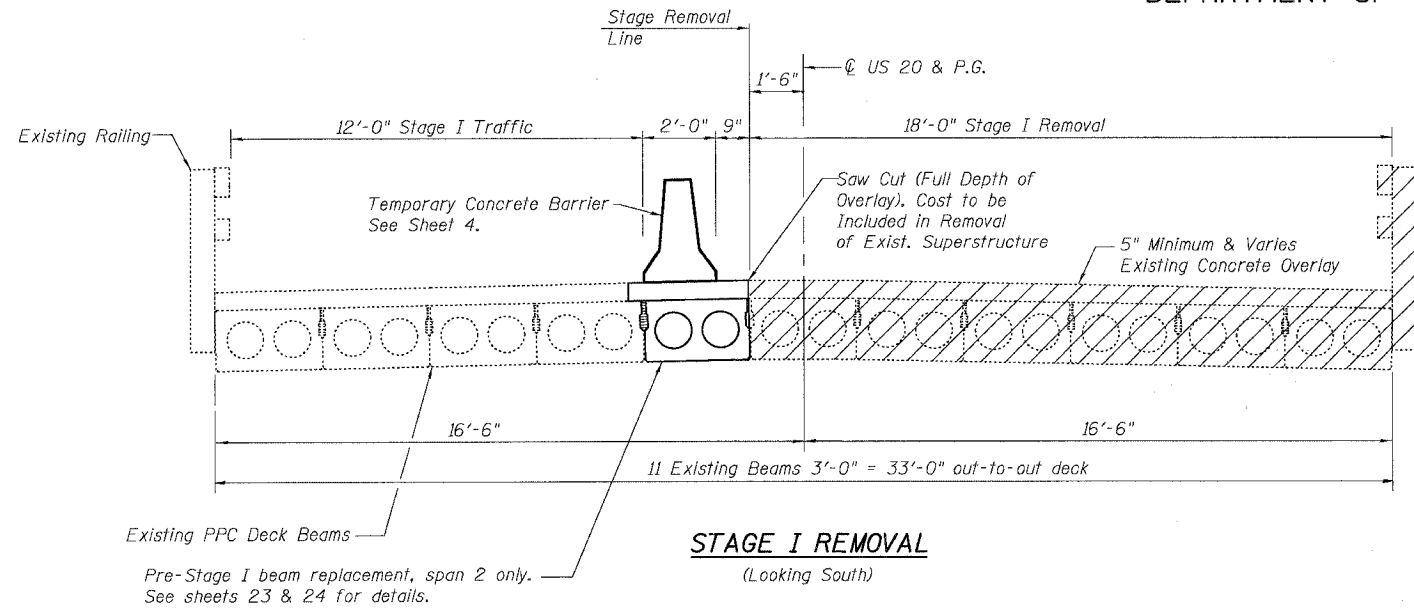
GENERAL NOTES, BILL OF MATERIAL  
INDEX OF SHEETS, NAME PLATE

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	11	27 SHEETS
Contract # 64A49					



**LEGEND**

Removal of Existing Superstructure

Existing Superstructure

New Construction

**STAGE REMOVAL & CONSTRUCTION**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

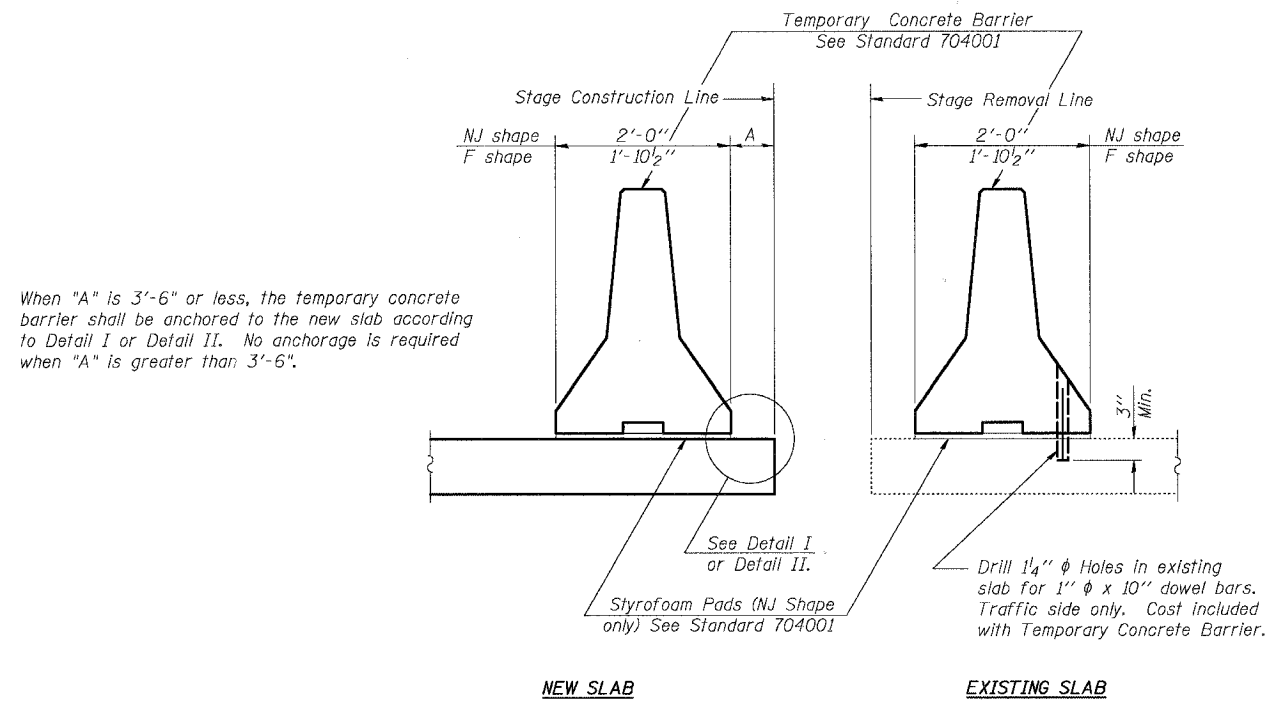
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CHECKED	CB
DRAWN	RG
CHECKED	DF



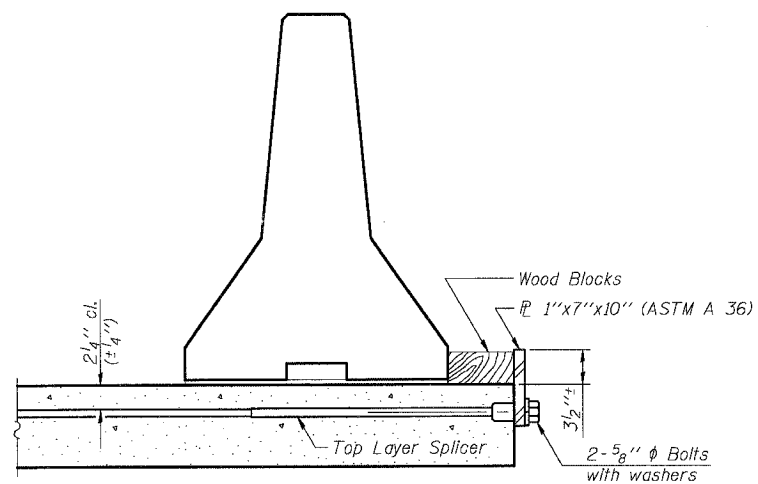
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	POST	SHEET NO. 4
FAP 301	28BR-1	JO DAVIESS	53	12	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64A49

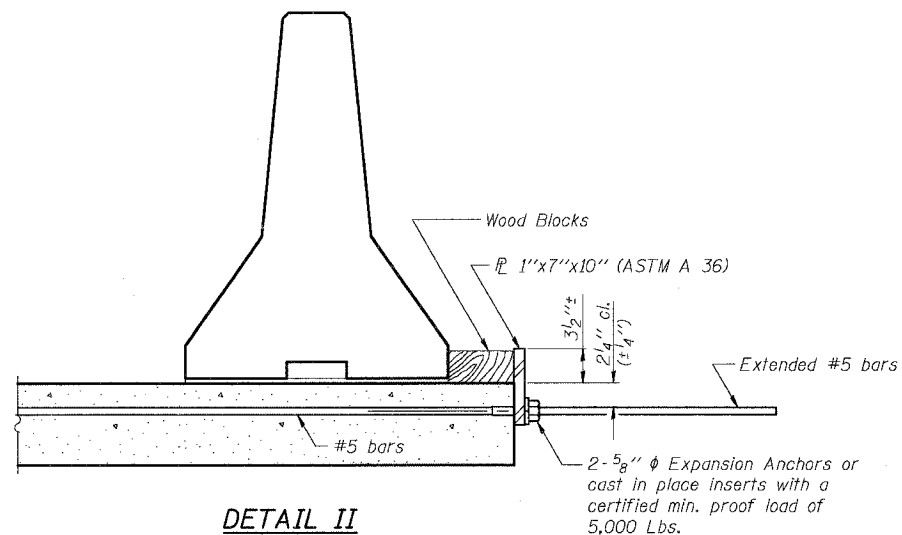


SECTIONS THRU SLAB



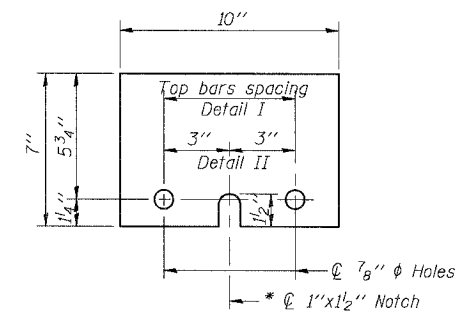
DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



1" x 7" x 10"

\* Required only with Detail II

TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

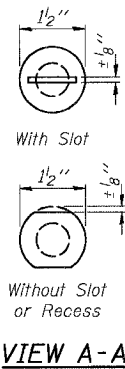
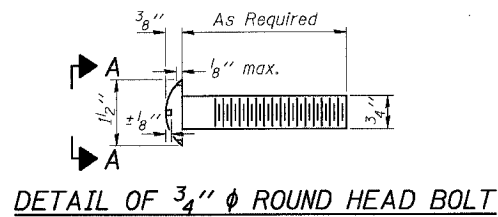
DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

R-27

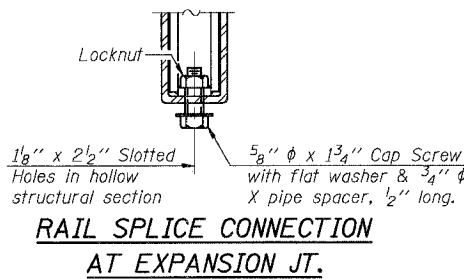
10-22-04

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

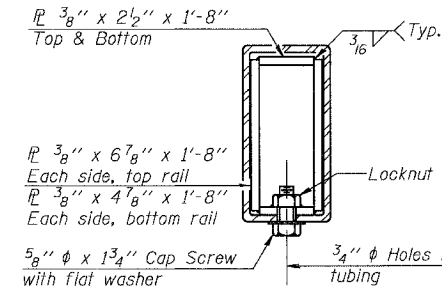
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	"REV"	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	13	27 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		Contract # 64A49



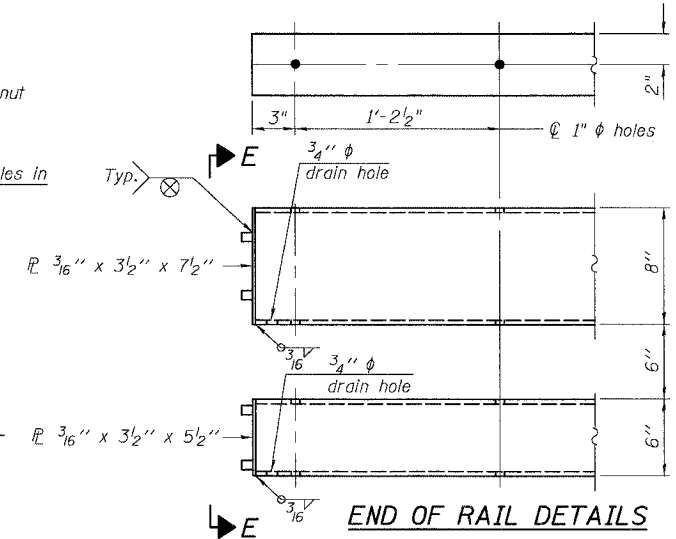
4-3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8"  $\phi$  holes in hollow structural section may be drilled in the field.



RAIL SPLICE CONNECTION  
AT EXPANSION JT.



SECTION AT  
RAIL SPLICE



NOTES

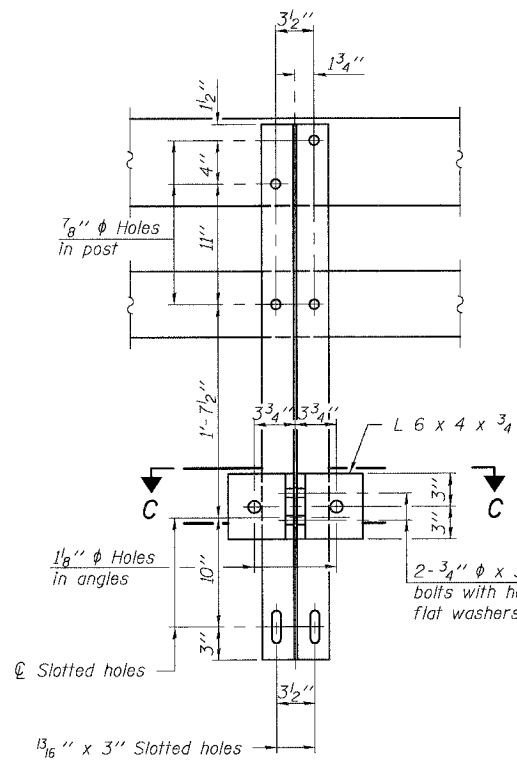
Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.  
All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.  
Bolts, cap screws, and nuts shall conform to the requirements 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 according to AASHTO M 232.  
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.  
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, 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 Bridge Rail, Type SM.  
The 3/4"  $\phi$  high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1"  $\phi$  high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8"  $\phi$  cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

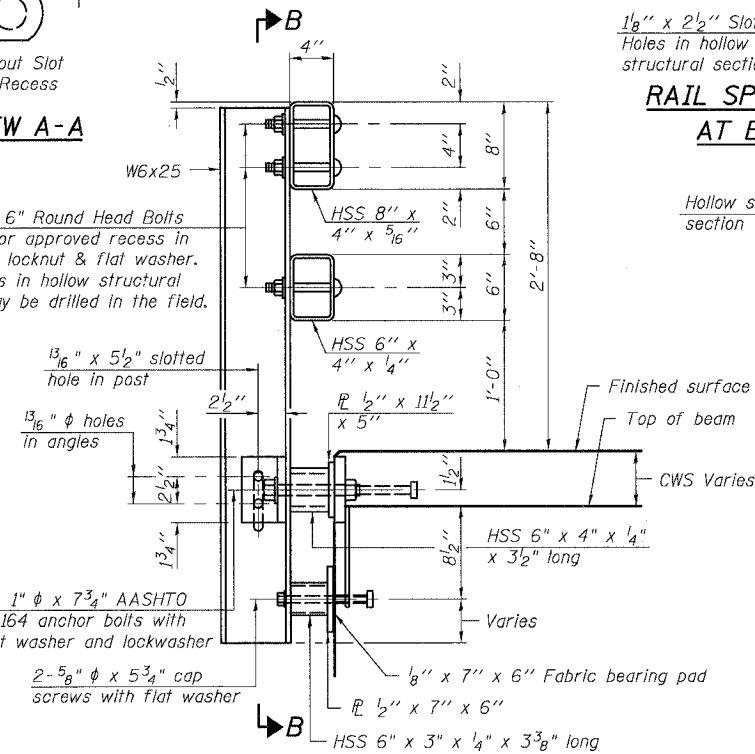
Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	570

TYPE SM  
STEEL BRIDGE RAIL SIDE MOUNTED  
WITH CONCRETE WEARING SURFACE

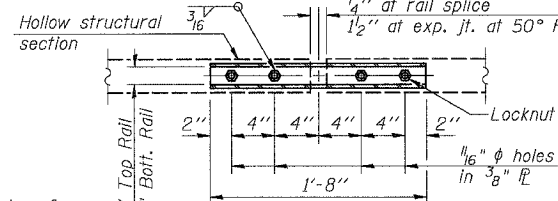
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010



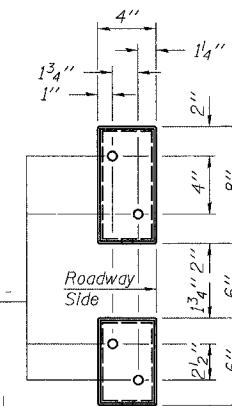
SECTION B-B



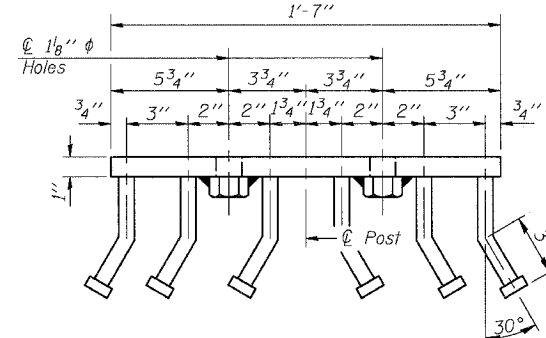
SECTION AT RAIL POST



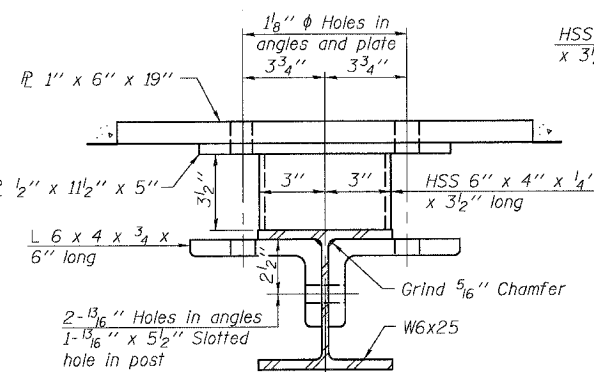
PLAN-BOTT. SPLICE TYPICAL



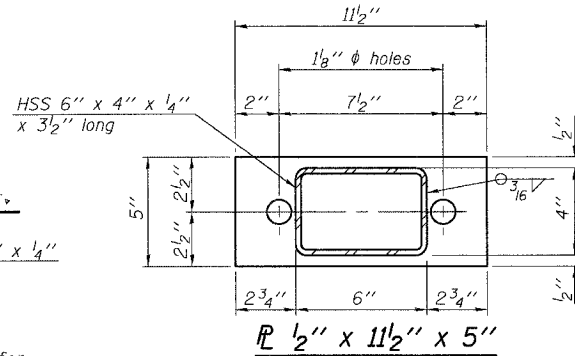
VIEW E-E



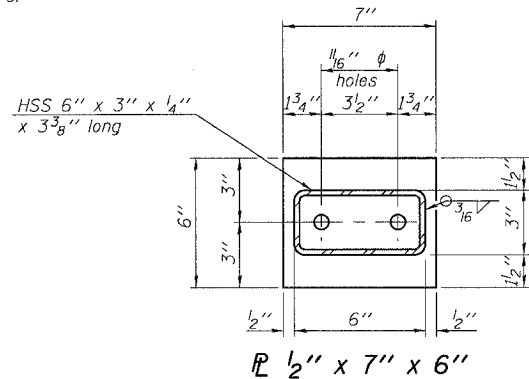
VIEW D-D



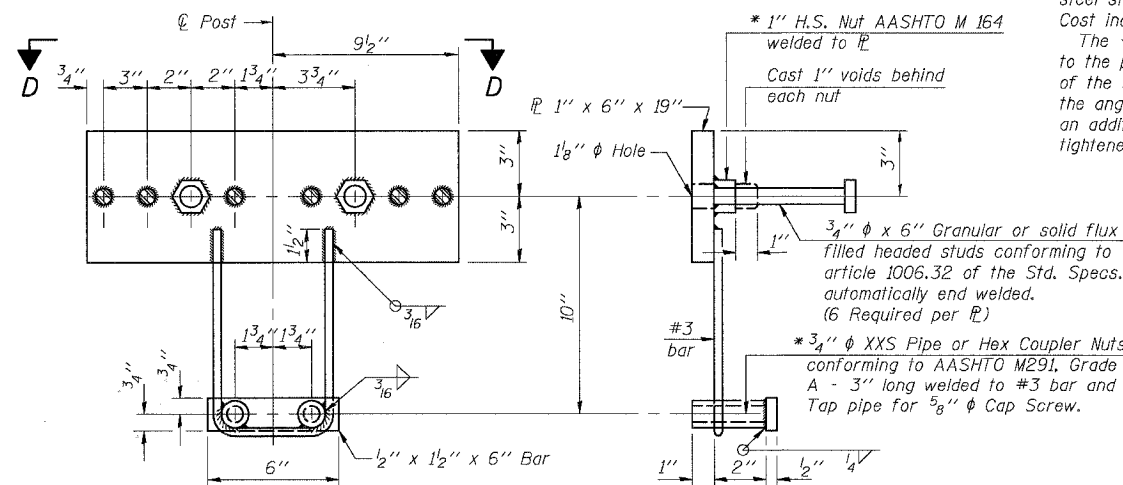
SECTION C-C



SECTION AT RAIL POST



SECTION AT RAIL POST



ANCHOR DEVICE

\* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

DESIGNED	DF
CHECKED	CB
DRAWN	RG
CHECKED	DF

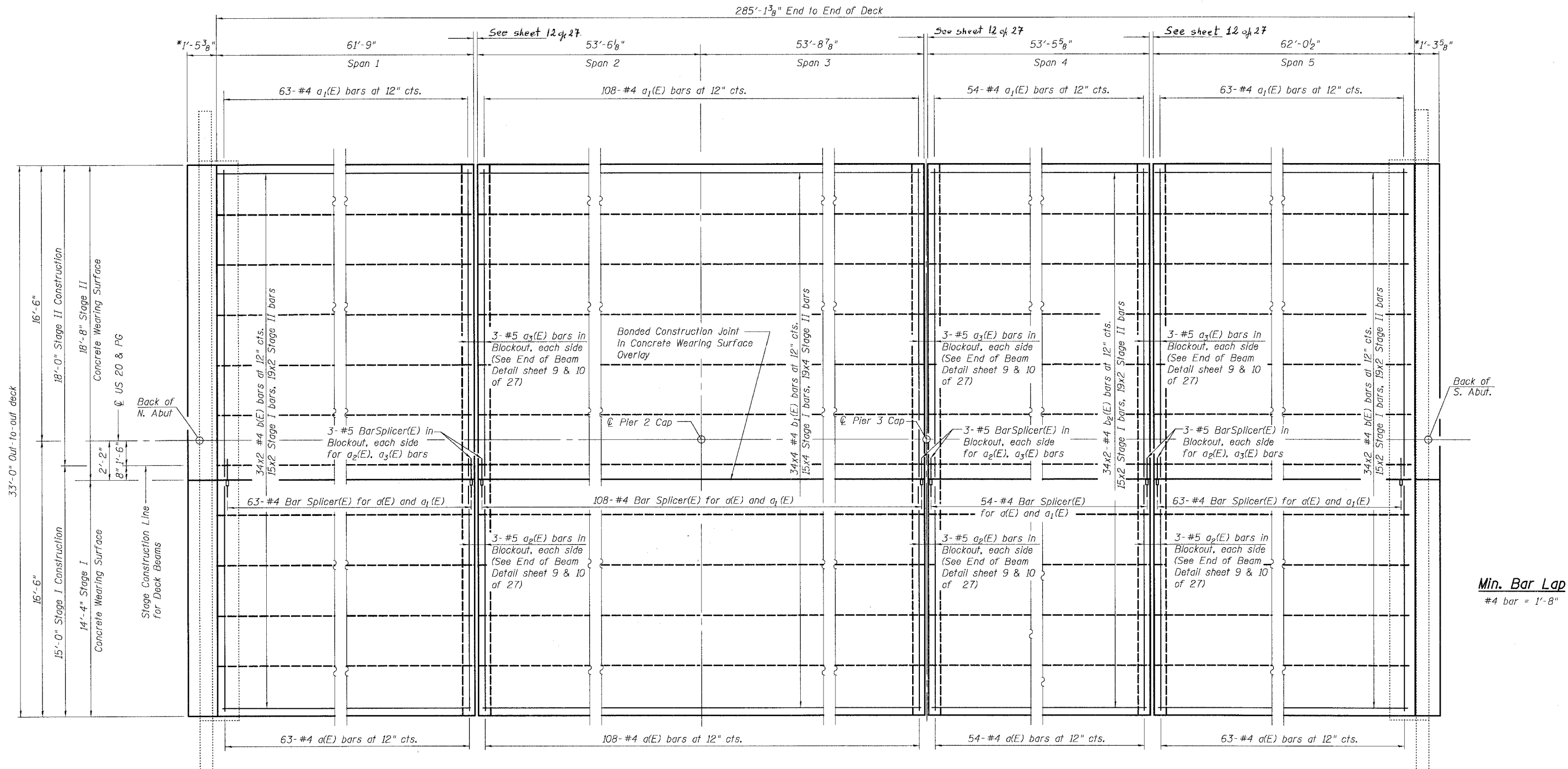
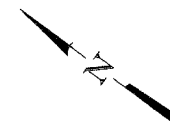
R-34CWS

10-28-05 (6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 301	SECTION 28BR-1	COUNTY JO DAVIESS	SHEET NO. 53	SHEET NO. 14	SHEET NO. 6 27 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract # 64A49



Min. Bar Lap  
#4 bar = 1'-8"

PLAN

DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF

Notes:  
For remainder of superstructure details, see sheets 7 thru 10 of 27.  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 34x2 - #4 etc. indicates 34 lines of bars with 2 length per line.

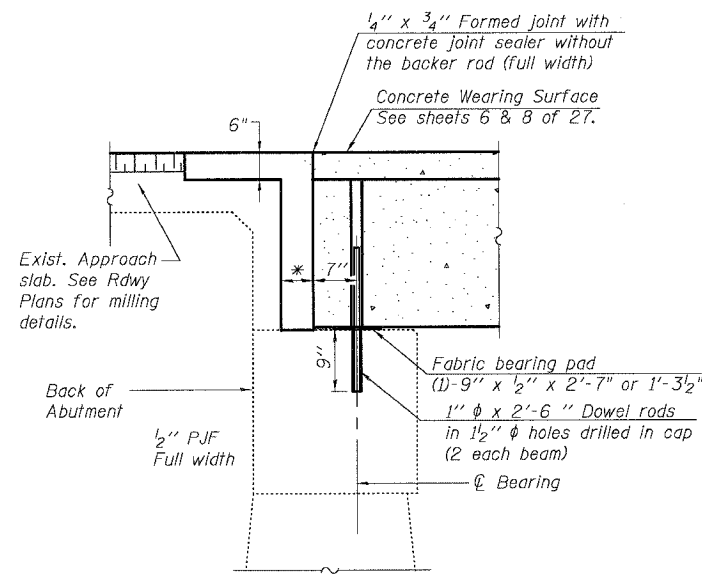
\*Concrete to be poured after beams & concrete wearing surface are in place. See Section thru Abutment on Sheet 7 of 27.

**SUPERSTRUCTURE**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

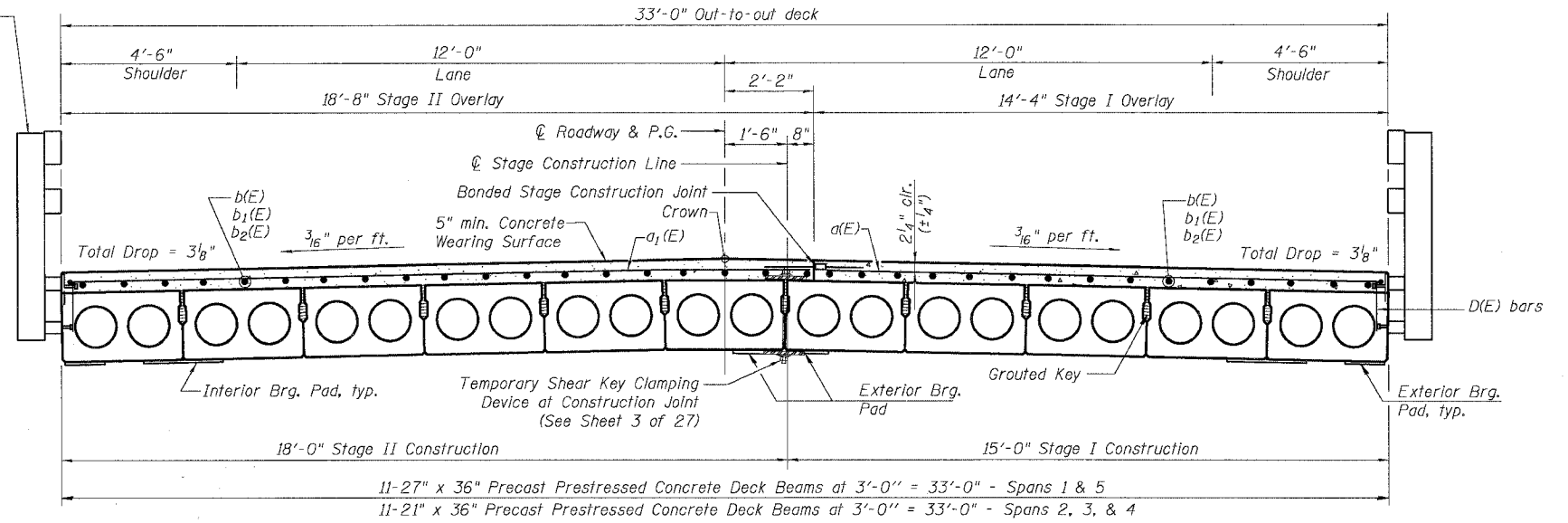
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	15	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	Contract # 64A49		



**SECTION THRU ABUTMENT**

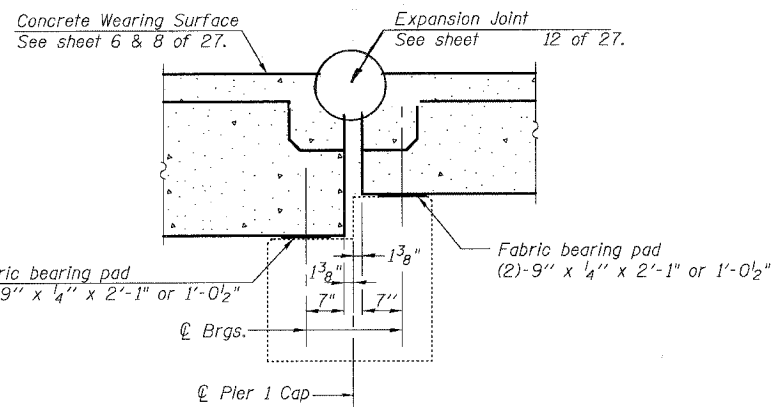
\* 5<sup>3</sup>/<sub>8</sub>" @ N. Abutment, 3<sup>3</sup>/<sub>8</sub>" @ S. Abutment  
Dimensions may vary to accommodate tolerances in beam lengths and locations of the existing backwalls. Concrete to be poured after beams and concrete wearing surfaces are in place.

Steel Bridge Rail, Type SM. See sheets 5 & 8 of 27 for details.

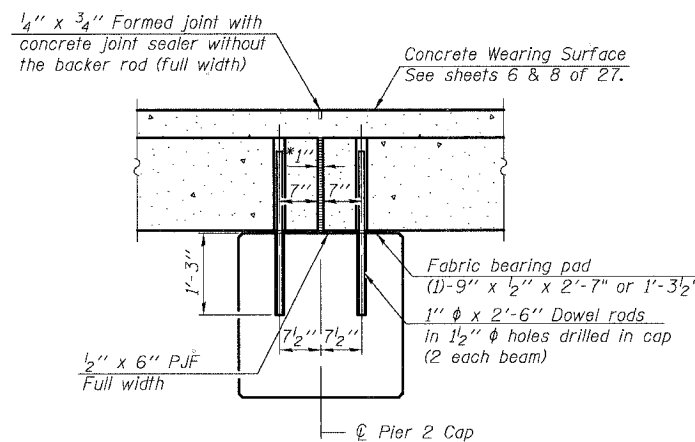


**CROSS SECTION**

(Looking South)

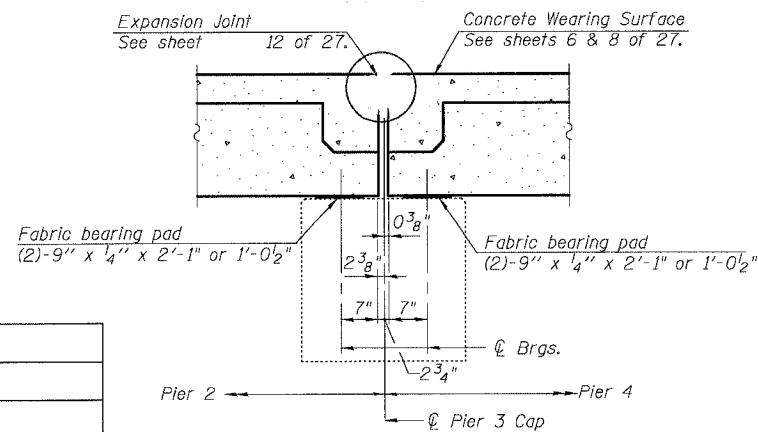


**SECTION THRU EXPANSION PIER 1 CAP**

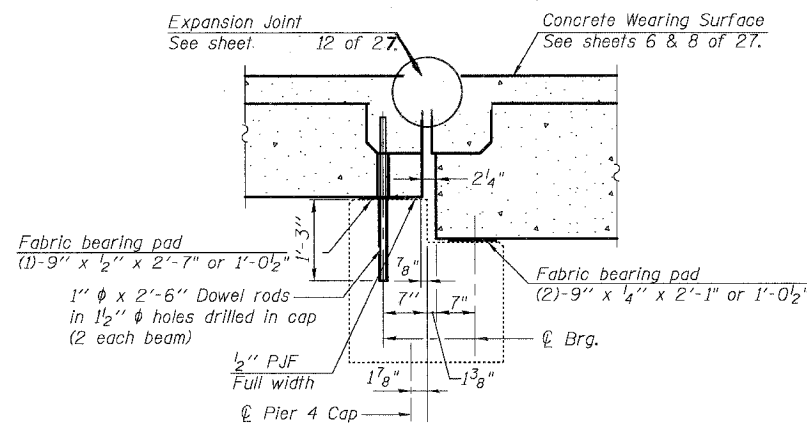


**SECTION THRU FIXED PIER 2 CAP**

\* 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.



**SECTION THRU EXPANSION PIER 3 CAP**



**SECTION THRU FIXED/EXPANSION PIER 4 CAP**

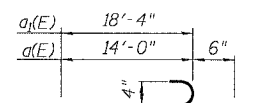
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	288	#4	14'-6"	U
a <sub>1</sub> (E)	288	#4	18'-10"	U
a <sub>2</sub> (E)	18	#5	14'-0"	—
a <sub>3</sub> (E)	18	#5	18'-4"	—
b(E)	136	#4	31'-6"	—
b <sub>1</sub> (E)	136	#4	28'-0"	—
b <sub>2</sub> (E)	68	#4	27'-5"	—
Bar Splicers			Each	306
Reinforcement Bars, Epoxy Coated			Pound	13,670
Concrete Wearing Surface, 5"			Sq. Yd	1043

Reinforcement bars designated (E) shall be epoxy coated.

Notes:

Ends of beams shall be aligned at the expansion joints. Any lined variation in the beam lengths shall be placed at the fixed joint.  
After beams have been erected, temporary retainers shall be installed, holes for dowel rods shall be drilled into substructure and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hrs prior to grouting the shear keys.  
Concrete wearing surface (including blockout) to be poured after grouting the shear keys.  
Hatched area to be poured after concrete wearing surface (including blockout) is in place. Quantity included with Concrete Structures on sheets 15 & 16 of 27. See sheets 9 & 10 of 27 for bearing pad details.  
Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (21" & 27" depth).



**BAR a(E), a<sub>1</sub>(E)**

DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF

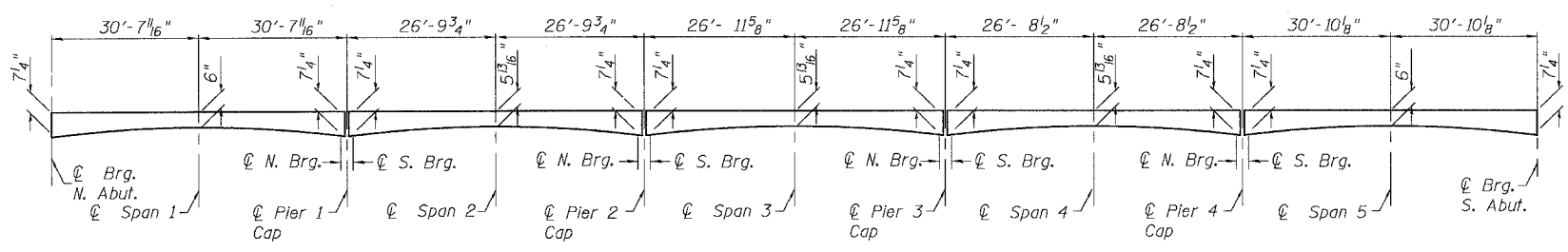
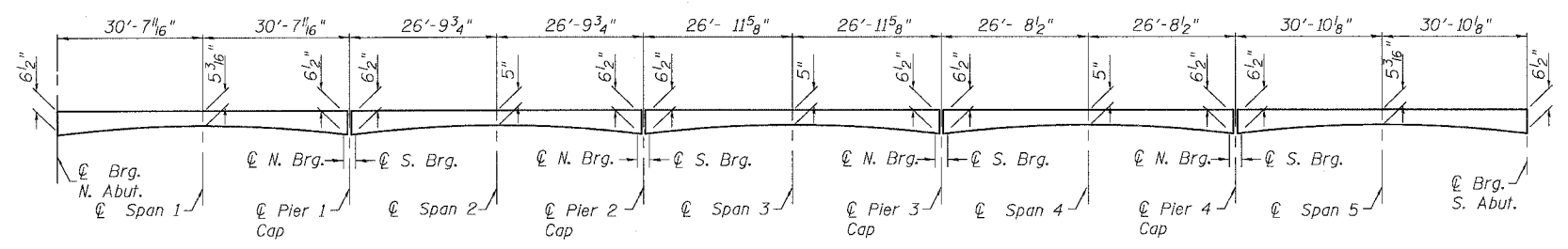
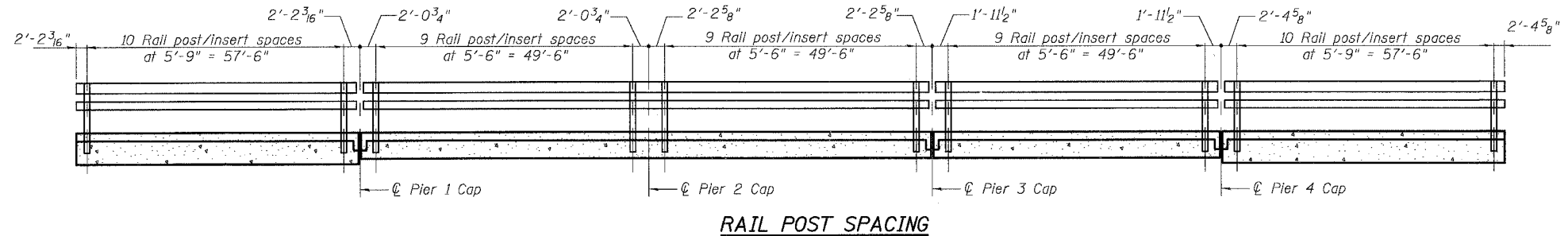
**SUPERSTRUCTURE DETAILS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

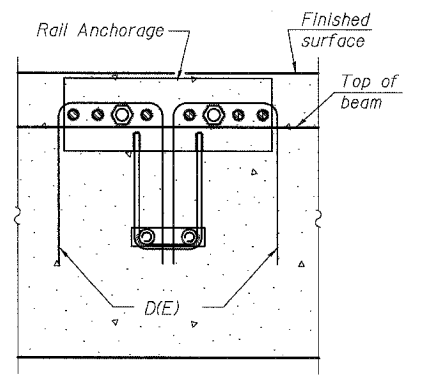
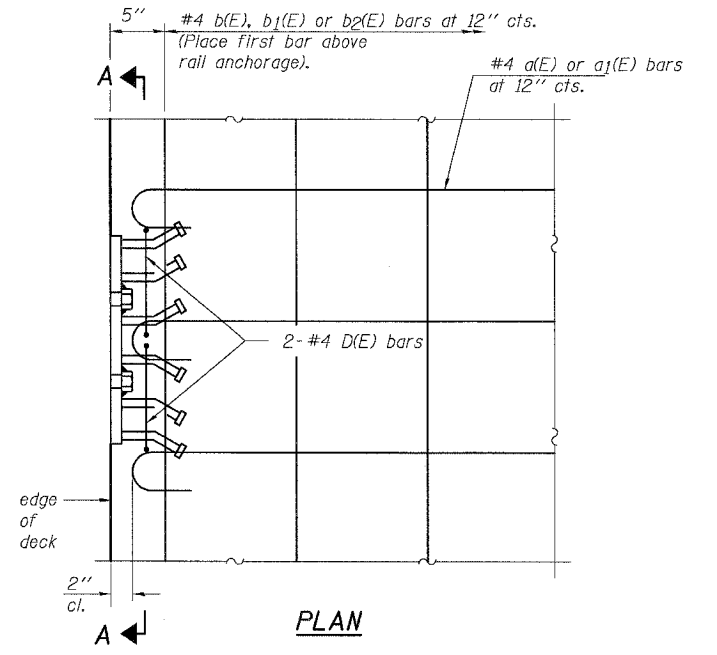
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract # 64A49



\* Based on expected camber



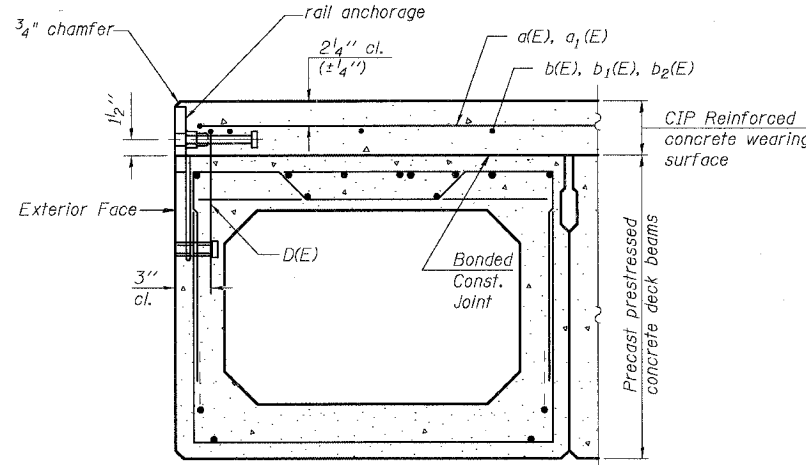
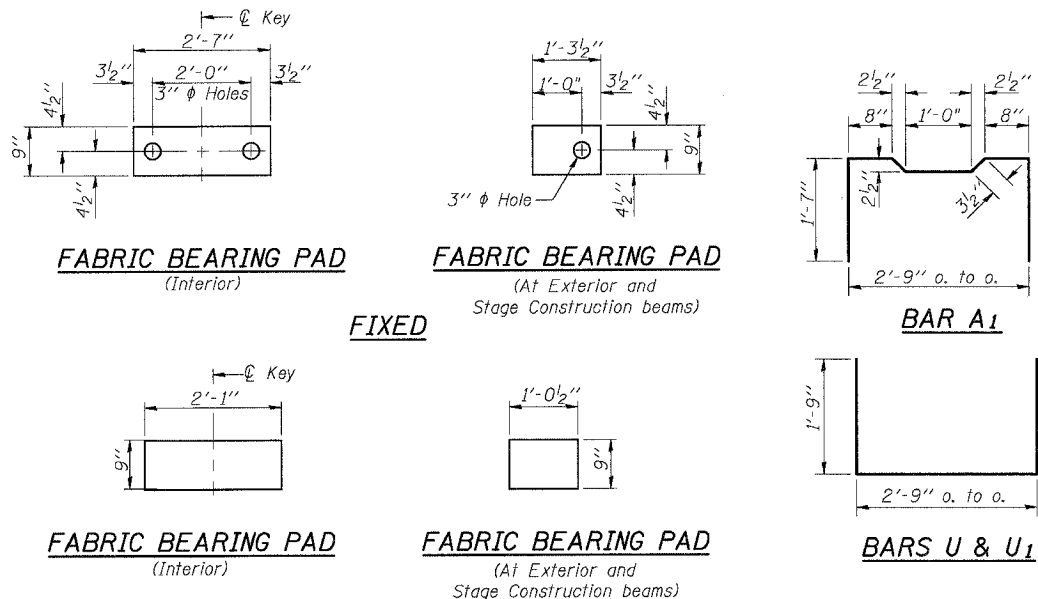
Notes:  
The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.

DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF

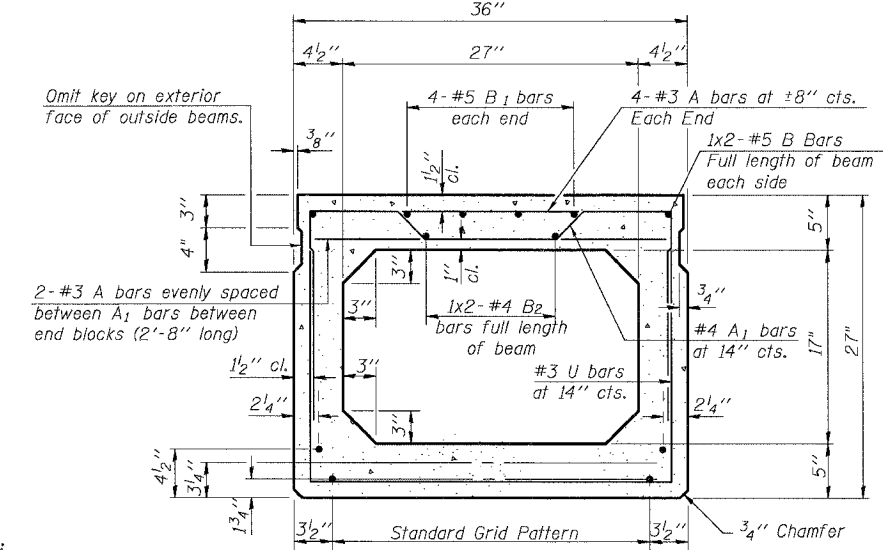
**SUPERSTRUCTURE DETAILS**  
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 301	SECTION 28BR-1	COUNTY JO DAVIESS	SHEET 53	DATE 17	SHEET NO. 9 27 SHEETS
FED. ROAD DIST. NO. 7					ILLINOIS
Contract # 64A49					



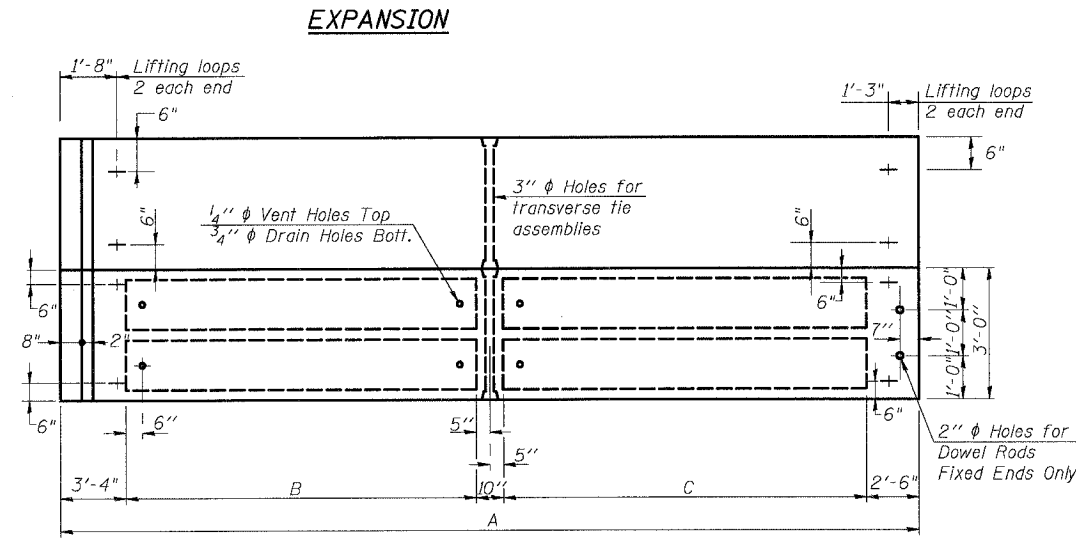
**SECTION THRU EXTERIOR BEAMS**  
See Section Thru Interior Beams for strand pattern, dimensions and bar call outs.



Note:  
Place strands symmetrically about  $\bar{C}$  of beam.

Min. Bar Lap  
#4 bar = 1'-8"  
#5 bar = 2'-2"

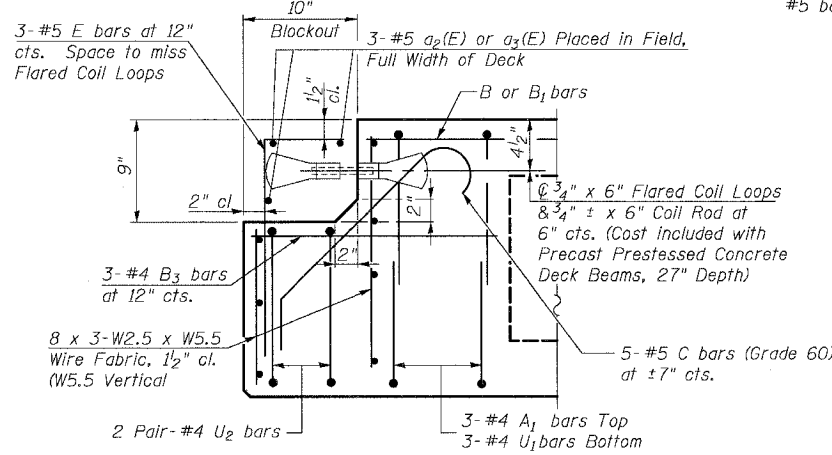
**TYPICAL SECTION**  
 $\frac{1}{2}$ "  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands  $1\frac{3}{4}$ " up, 6-Strands  $3\frac{1}{4}$ " up, 2-Strands  $4\frac{1}{2}$ " up



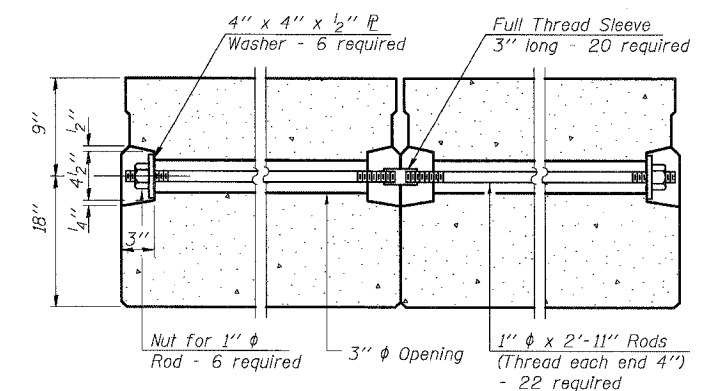
**PLAN SPANS 1 & 5**  
(Span 1 Rotate 180°)

**BEAM DIMENSIONS**

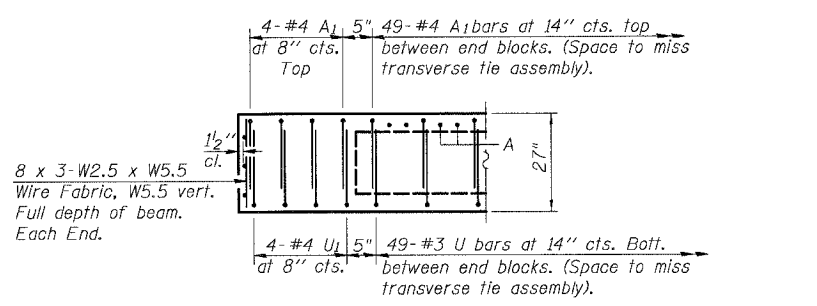
	Span 1	Span 5
A	61'-9"	62'-0"
B	27'- $1\frac{1}{2}$ "	27'-3"
C	27'- $11\frac{1}{2}$ "	28'-1"



**END OF BEAM - ELEVATION (EXPANSION END)**



**TYPICAL TRANSVERSE TIE ASSEMBLY**



**END ELEVATION**  
(At fixed end only)

**(D)(E) BAR**

**BAR U2**

**BAR E**

**BAR C**

**NOTES**

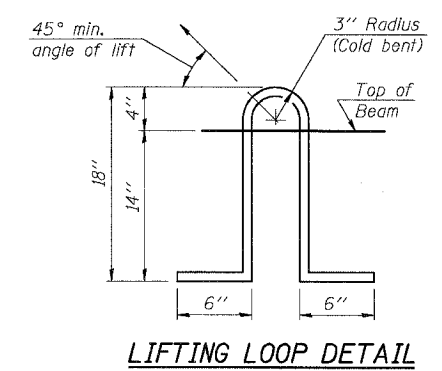
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be  $\frac{1}{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be (2)- $\frac{1}{2}$ "  $\phi$ -270 ksi strands, as shown. The  $1\frac{1}{2}$ "  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Packets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two  $\frac{1}{2}$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength,  $f'_{ci}$ , shall be 4000 p.s.i. Bridge rail Inserts shall be cast in precast beams See sheets 5 & 8 of 27 for location of rail anchors.

**BILL OF MATERIAL**

Item	Unit	Total
Precast Prestressed Conc. Deck Bms. 27" Depth	Sq. Ft.	4,084

**SUPERSTRUCTURE DETAILS SPANS 1 & 5**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010



**LIFTING LOOP DETAIL**

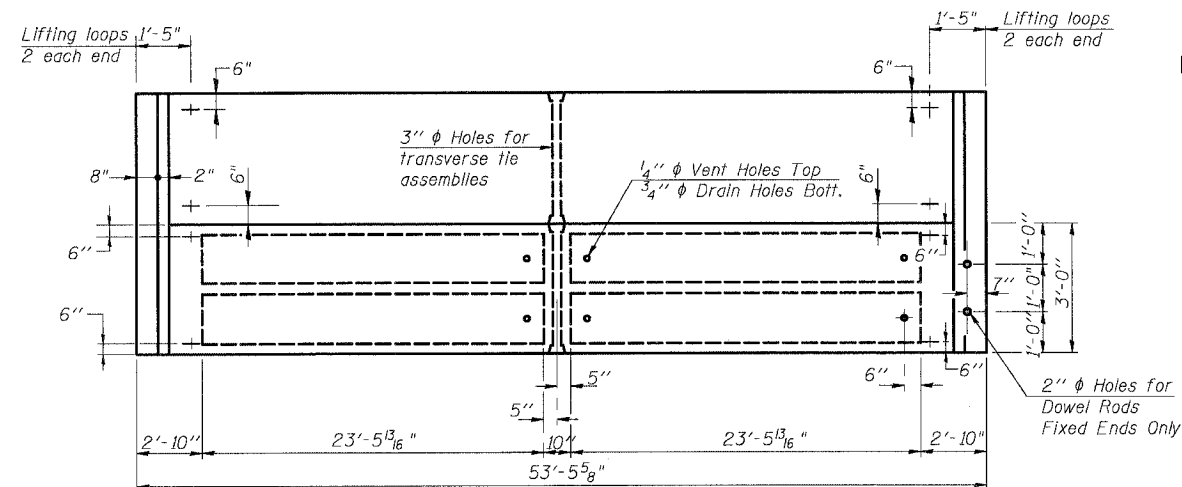
DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF

PD-5-S

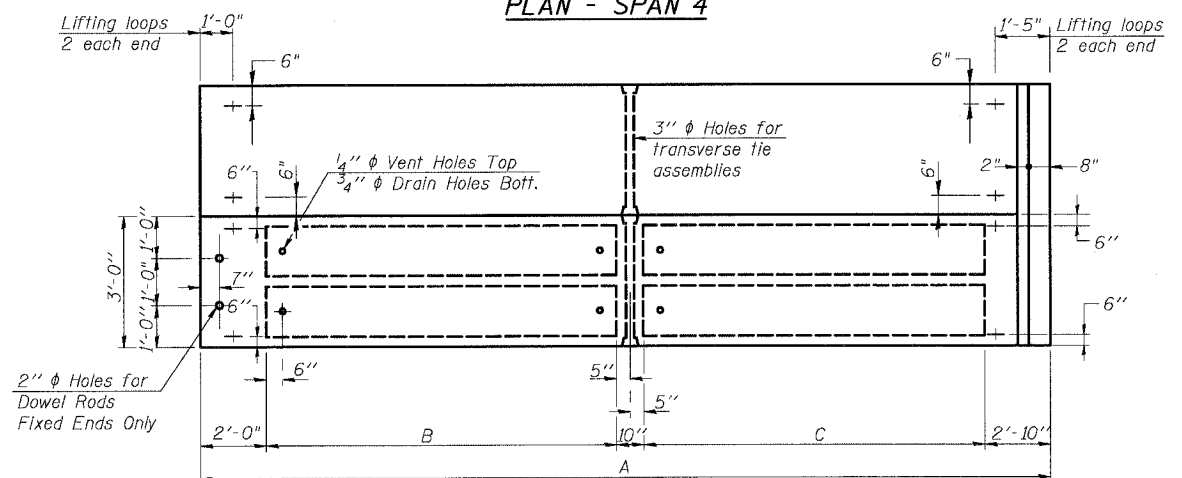
10-22-04

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	18	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



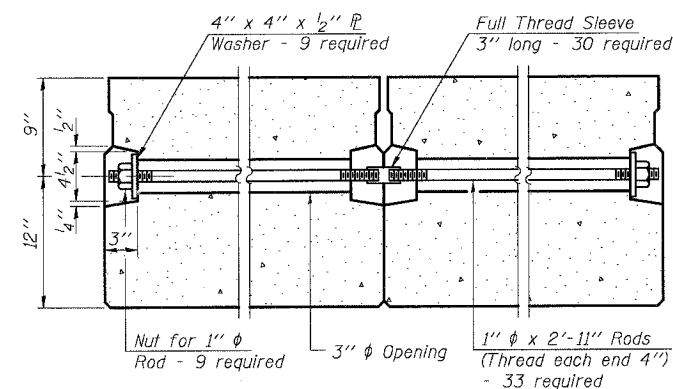
PLAN - SPAN 4



PLAN - SPANS 2 & 3  
(Span 2 Rotate 180°)

BEAM DIMENSIONS

	Span 2	Span 3
A	53'-5 5/8"	53'-8 3/8"
B	24'-3 3/8"	24'-5 3/8"
C	23'-5 13/16"	23'-7 3/8"

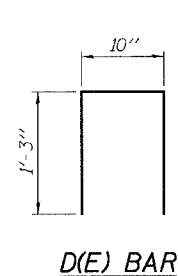


TYPICAL TRANSVERSE TIE ASSEMBLY

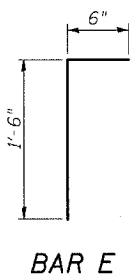
DESIGNED	MO
CHECKED	CB
DRAWN	RB
CHECKED	DF

PD-3-S

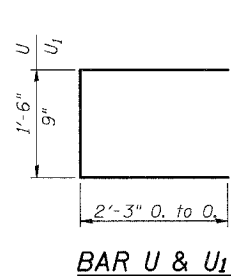
10-22-04



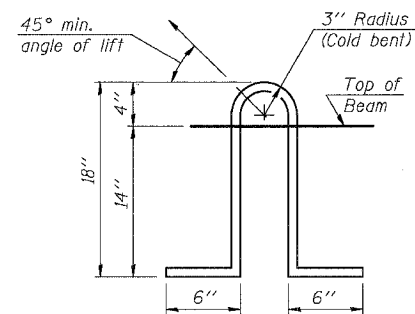
D(E) BAR



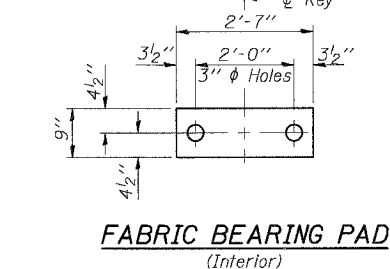
BAR E



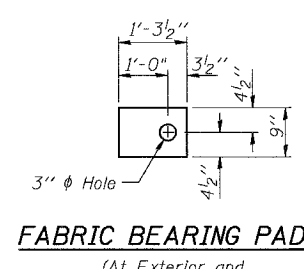
BAR U & U1



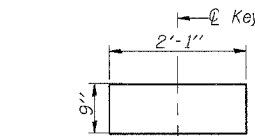
LIFTING LOOP DETAIL



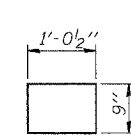
FABRIC BEARING PAD  
(Interior)



FABRIC BEARING PAD  
(At Exterior and Stage Construction beams)



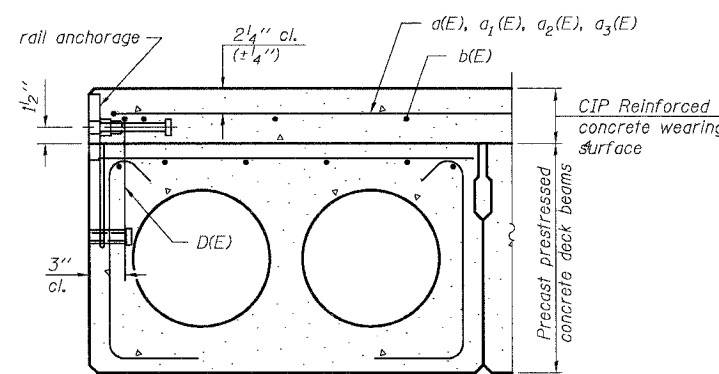
FABRIC BEARING PAD  
(Interior)



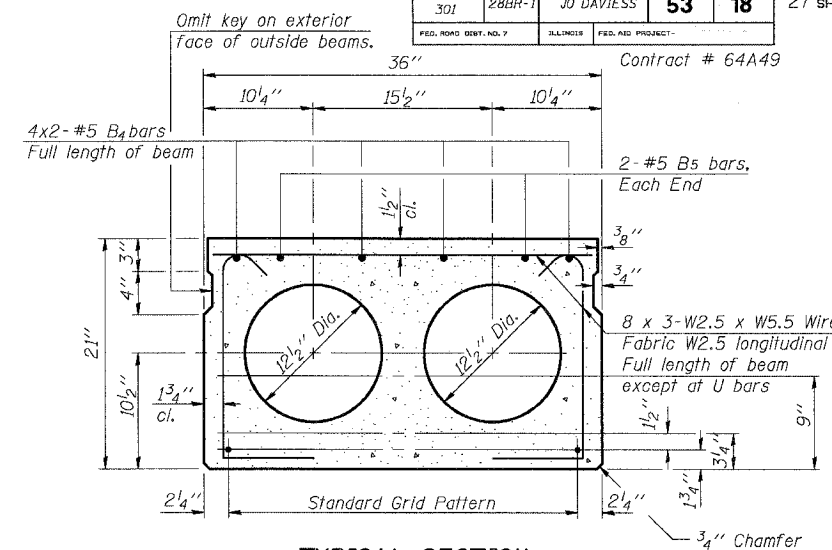
FABRIC BEARING PAD  
(At Exterior and Stage Construction beams)

FIXED

EXPANSION

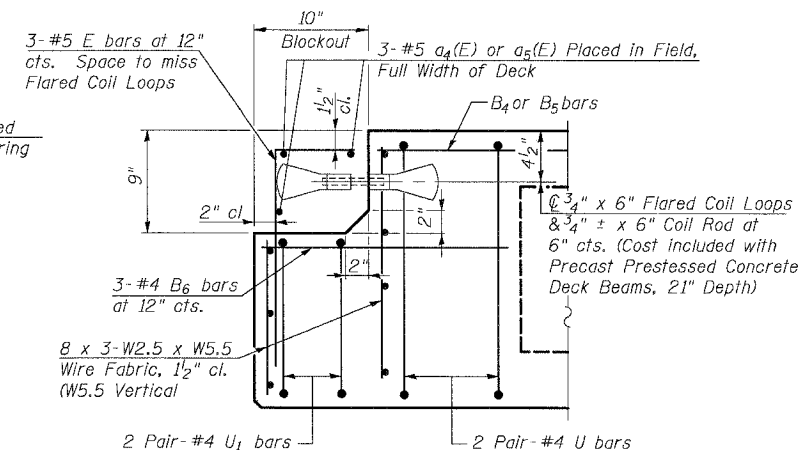


SECTION THRU EXTERIOR BEAMS  
See Section Thru Interior Beams for strand pattern, dimensions and bar call outs.



TYPICAL SECTION

1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 8-Strands 3/4" up, 2-Strands 9" up  
Note: Place strands symmetrically about  $\bar{c}$  of beam.



END OF BEAM - ELEVATION (EXPANSION END)

MIN LAPS  
#4 - 1'-8"

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be (2)-1/2"  $\phi$  -270 ksi strands, as shown.
- The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
- The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
- Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.
- Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Required Release Strength,  $f'_{ci}$ , shall be 4000 p.s.i.
- Bridge rail inserts shall be cast in precast beams.
- See sheets 5 & 8 of 27 for location of rail anchors.

BILL OF MATERIAL

Item	Unit	Total
Precast Prestressed Conc. Deck Beams, 21" Depth	Sq. Ft.	5,301

SUPERSTRUCTURE DETAILS

SPANS 2, 3, & 4

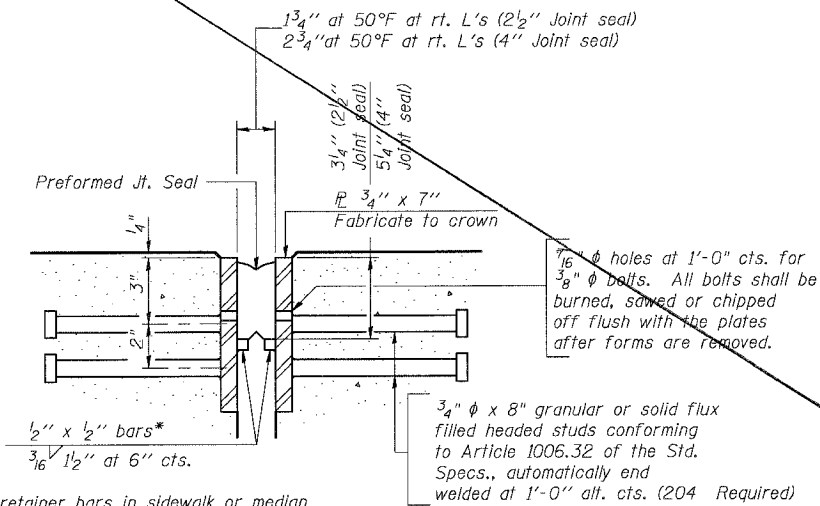
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

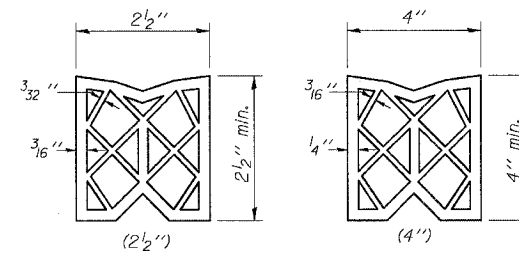
ROUTE NO.	SECTION	COUNTY	JOB NO.	SHEET	SHEET NO. 11 27 SHEETS
FAP 301	288R-1	JO DAVIESS	53	19	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64A49



**SECTION THRU EXPANSION JOINT**  
(2 1/2" and 4" joint seals)

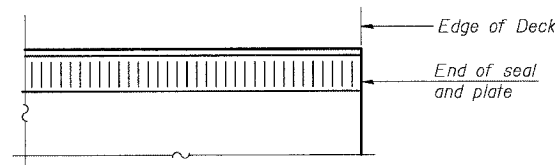
Design Movement	Required Preformed Joint Seal Size	Required Strip Seal Rated movement
1"	2 1/2"	1"
1 5/8"	4"	2"



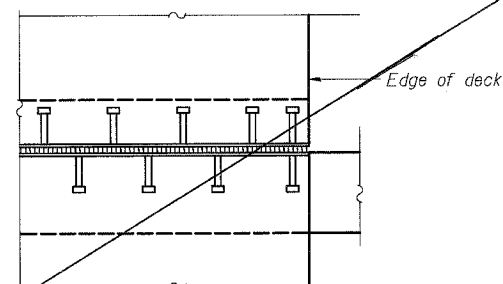
**PREFORMED JOINT SEAL**

**GENERAL NOTES**

Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.



**END TREATMENT ELEVATION**  
(Showing seal and plate)



**PLAN**

DESIGNED	DF
CHECKED	CB
DRAWN	RB
CHECKED	DF

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal, 1"	foot	33.0
Preformed Joint Strip Seal, 1 5/8"	foot	66.0

**VOIDED SHEET**

(Sheet 1 of 2)  
**PREFORMED JOINT SEAL**  
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 288R-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
FAP 301	28BR-1	JO DAVIESS	53	20	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64A49

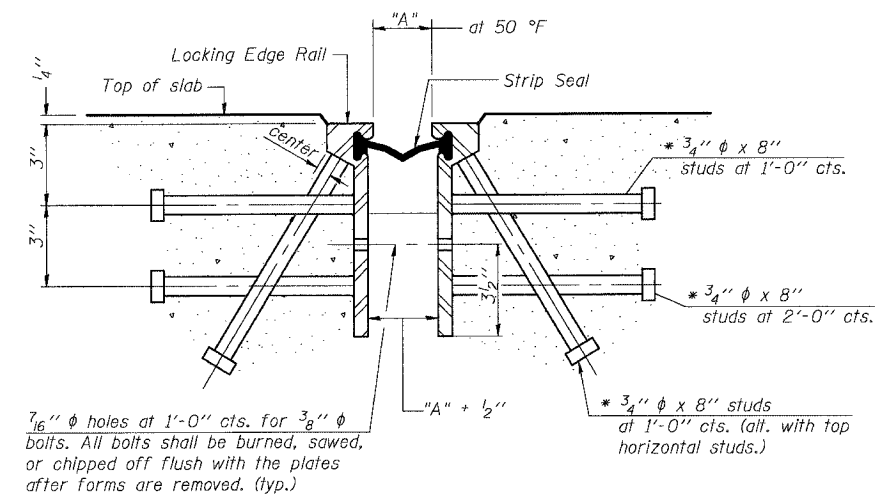
**GENERAL NOTES**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

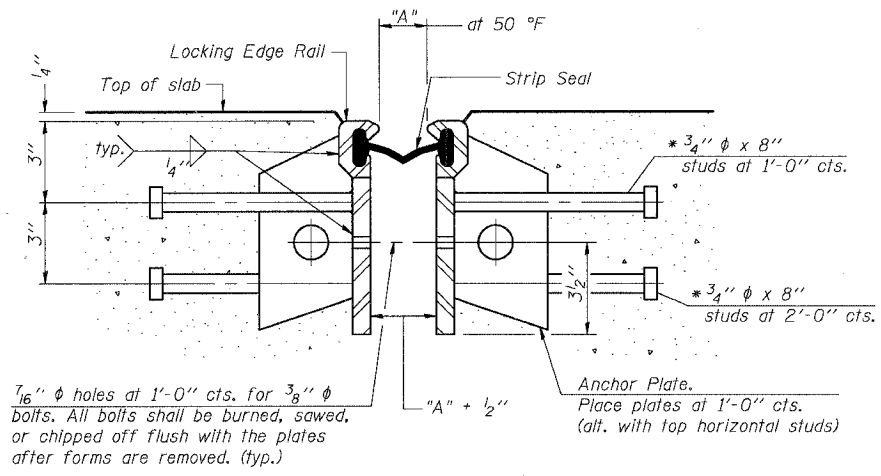
The manufacturer's recommended installation methods shall be followed.



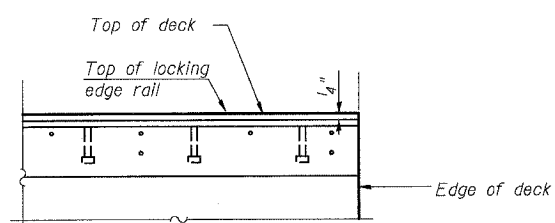
**SECTION THRU ROLLED RAIL EXP. JOINT**  
(510 Studs Required)

LOCATION	"A"
PIER 4	1 1/8"
PIERS 1 & 3	1 3/4"

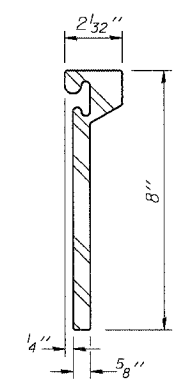
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



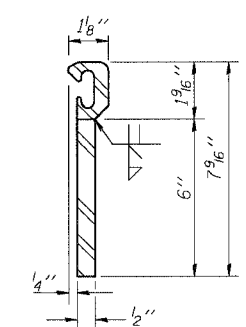
**SECTION THRU WELDED RAIL EXP. JOINT**  
(306 Studs Required)  
(204 Anchor Plates Required)



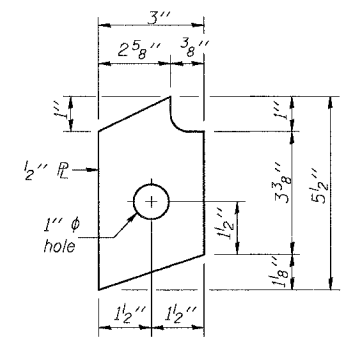
**END TREATMENT ELEVATION**



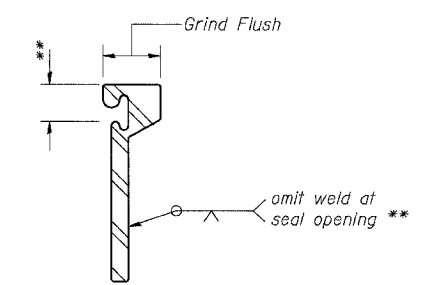
**ROLLED (EXTRUDED) RAIL**



**WELDED RAIL**



**ANCHOR PL**  
(for welded rail)



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue.

**LOCKING EDGE RAILS**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	foot	99.0

**STRIP SEAL**

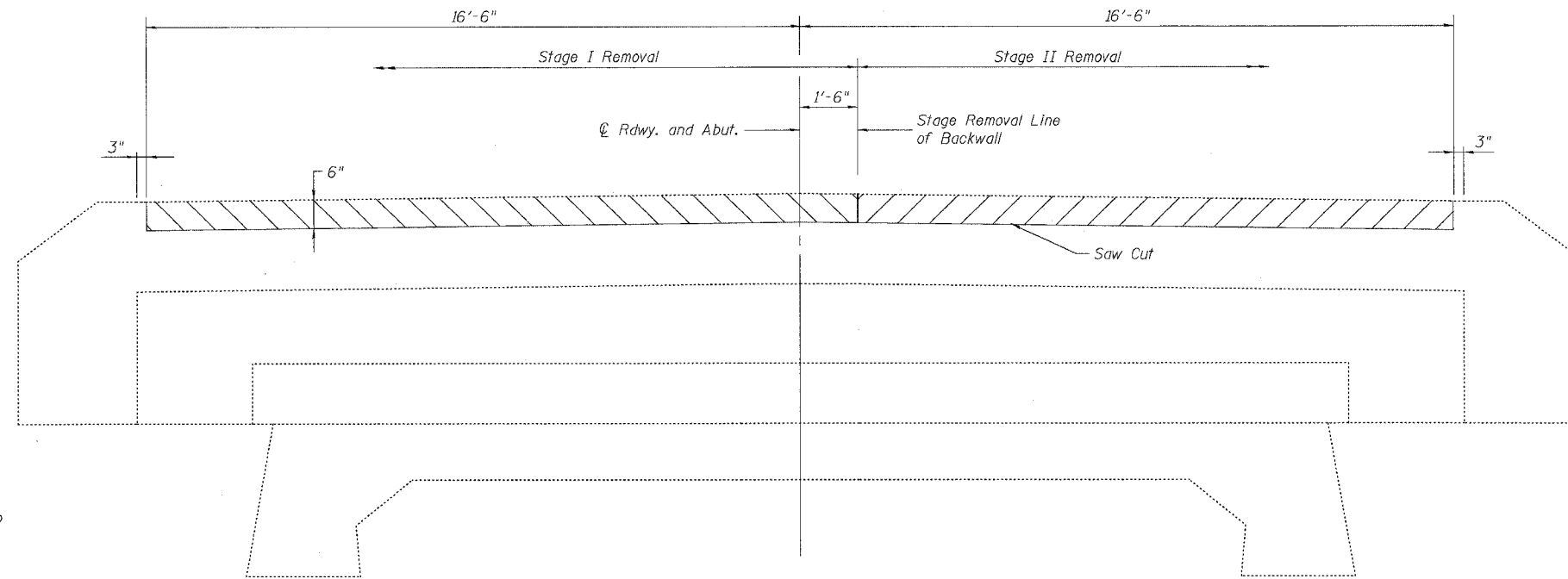
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

DESIGNED	DF
CHECKED	CB
DRAWN	RG
CHECKED	DF

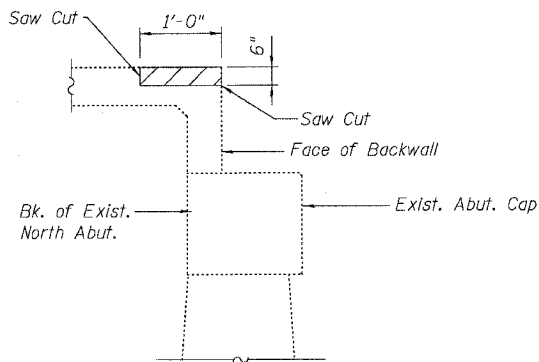
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13
FAP 301	28BR-1	JO DAVIESS	53	21	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64A49



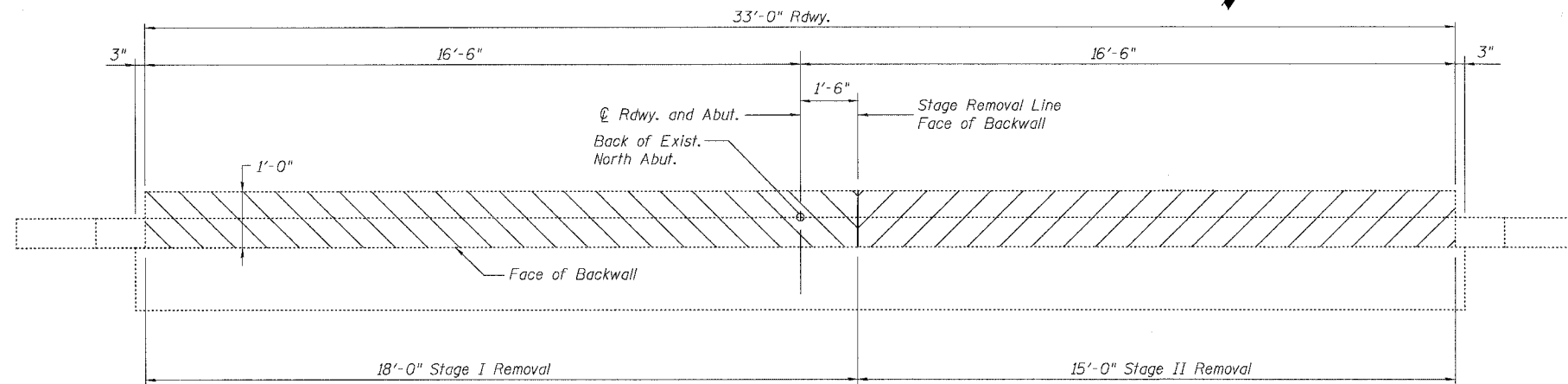
**ELEVATION**  
(Looking North)



**SECTION THRU EXIST ABUT.**  
**CAP @ C RDWY.**

**LEGEND**

- Stage I Concrete Removal
- Stage II Concrete Removal



**PLAN**

**BILL OF MATERIAL**

Item	Unit	Quantity
Concrete Removal	Cu. Yd	0.6

**CONCRETE REMOVAL**  
**NORTH ABUTMENT**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

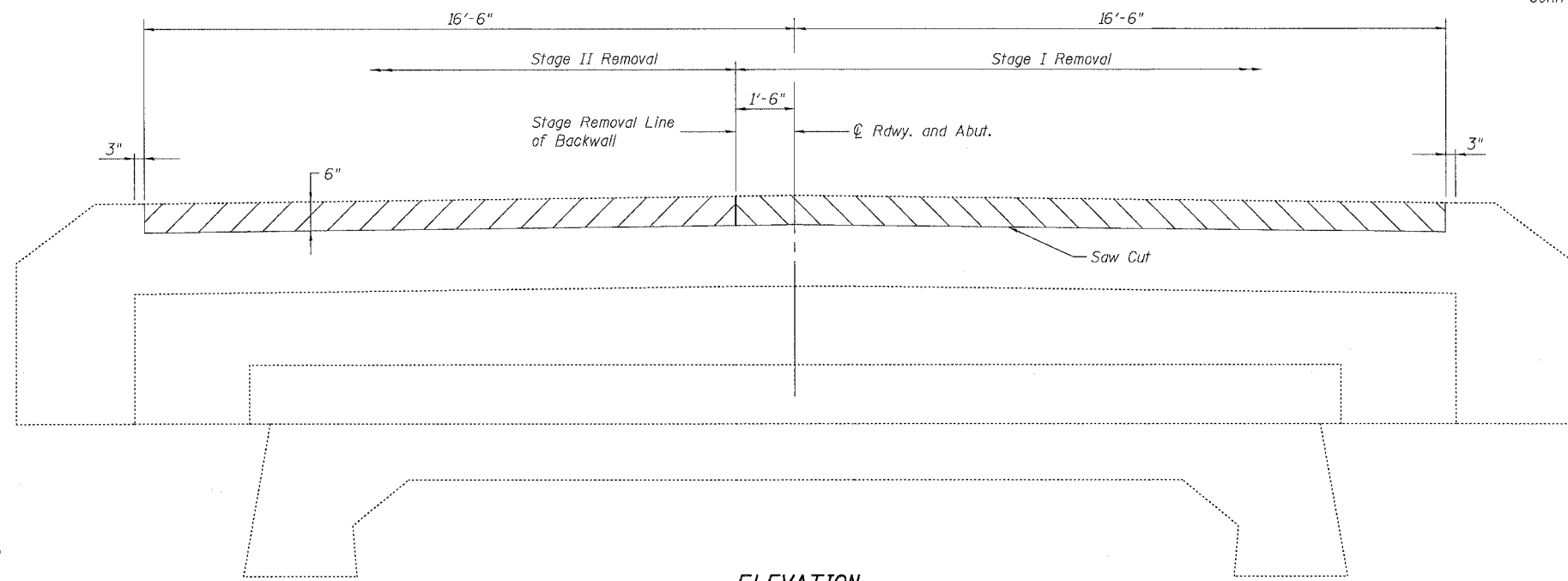
- Note:
1. Existing reinforcement extending into new concrete shall be cleaned, straightened, and incorporated into new construction. Cost shall be included with Concrete Removal.
  2. Saw cutting to be included in the cost of Concrete Removal.

DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

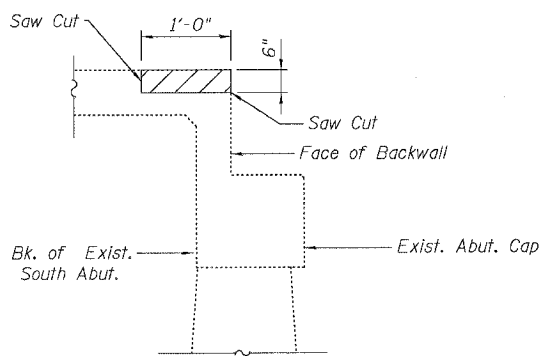
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO.
FAP 301	24BR-1	JO DAVIESS	53	22	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract # 64A49



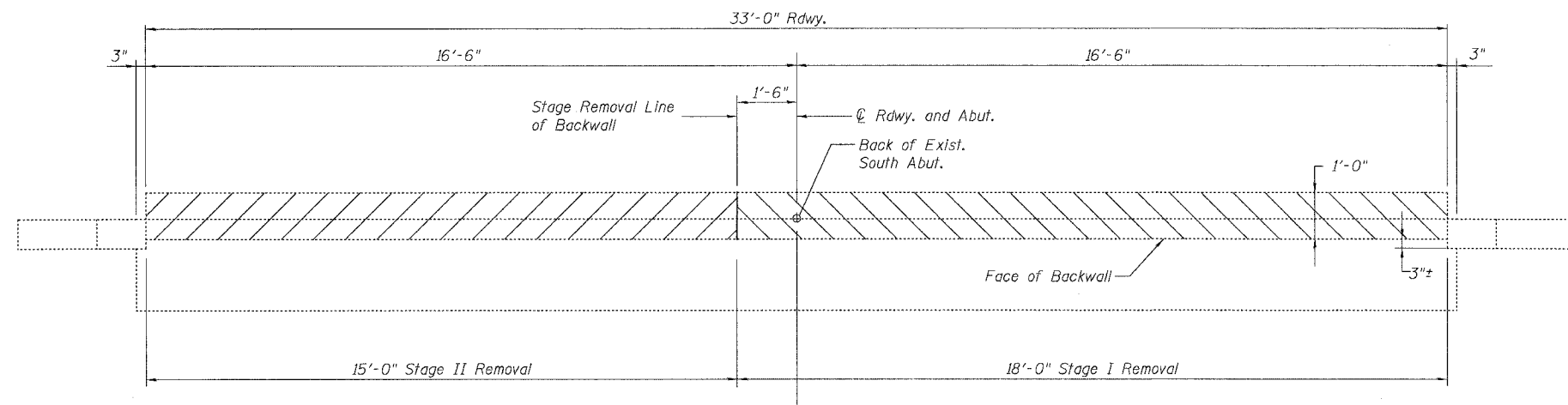
**ELEVATION**  
(Looking South)



**SECTION THRU EXIST ABUT.**  
CAP @ C RDWY.

**LEGEND**

	Stage I Concrete Removal
	Stage II Concrete Removal



**PLAN**

**BILL OF MATERIAL**

Item	Unit	Quantity
Concrete Removal	Cu. Yd	0.6

**CONCRETE REMOVAL  
SOUTH ABUTMENT**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

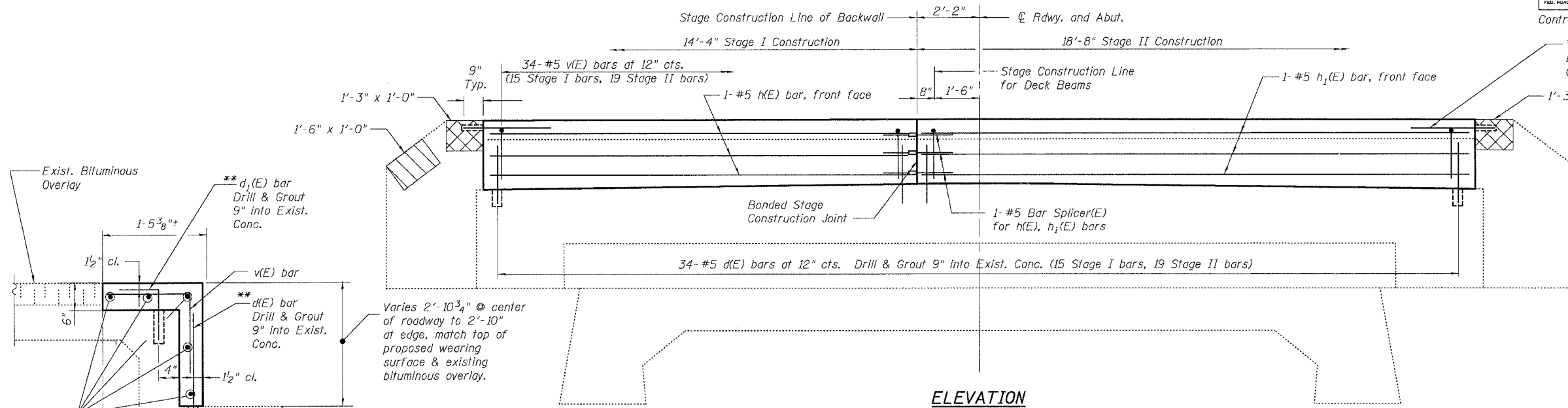
- Note:
- Existing reinforcement extending into new concrete shall be cleaned, straightened, and incorporated into new construction. Cost shall be included with Concrete Removal.
  - Saw cutting to be included in the cost of Concrete Removal.

DESIGNED	DF
CHECKED	CB
DRAWN	MQ
CHECKED	DF

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	23	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

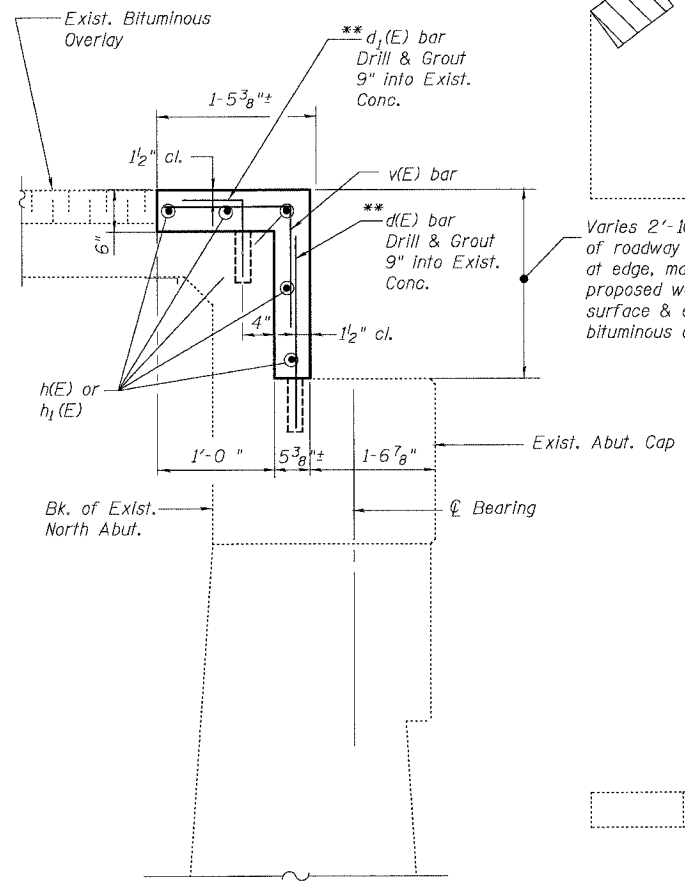
Contract # 64A49



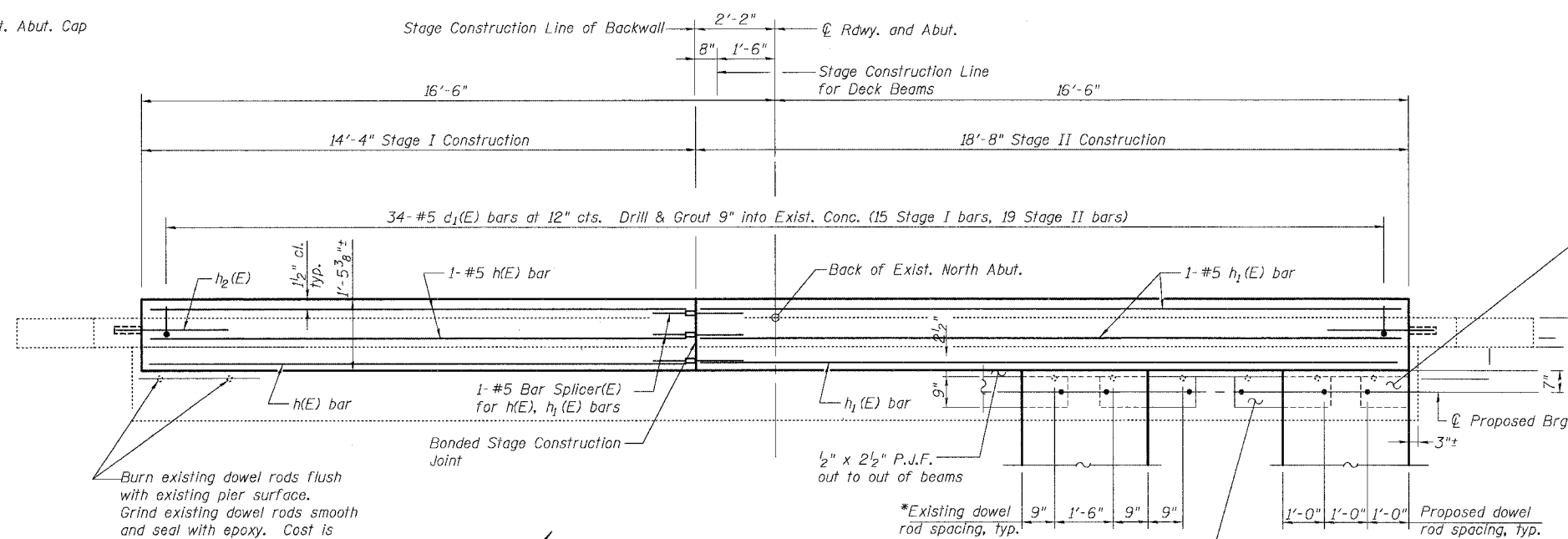
**ELEVATION**  
(Looking North)

**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Structural Repair of Concrete (Depth Greater than 5")



**SECTION THRU NORTH ABUTMENT  
CAP @ CL RDWY.**



**PLAN**

(Not all deck beams are shown)  
(Concrete wearing surface not shown.)

**Notes:**

Concrete Structures shown are to be poured after Concrete Wearing Surface (including blackout) is in place and cured. Existing reinforcement extending into new concrete shall be cleaned, straightened and incorporated into new construction.

Any existing reinforcement damaged during partial removal of the backwall shall be replaced with equivalent size grouted bars at no additional cost to the State.

\*\*Epoxy grout h2(E), d(E) and d1(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

Reinforcement to clear exterior surface of concrete by 1/2" min.  
\*\*\* Concrete Structures shown on this sheet shall be poured after P.P.C. Deck Beams and Concrete Wearing Surface are in place.

DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF

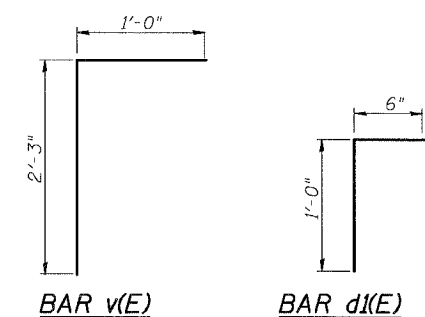
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	5	#5	14'-0"	—
h1(E)	5	#5	18'-4"	—
h2(E)	2	#5	3'-0"	—
d(E)	34	#5	3'-3"	—
d1(E)	34	#5	1'-6"	—
v(E)	34	#5	3'-3"	—
Reinforcement Bars, Epoxy Coated		Pound	460	
Concrete Structures		Cu. Yd.	2.2	
Structural Repair of Concrete (Depth <5")		Sq. Ft.	1.5	
Structural Repair of Concrete (Depth >5")		Sq. Ft.	2.5	
Bar Splicers		Each	5	

Reinforcement bars designated (E) shall be epoxy coated.

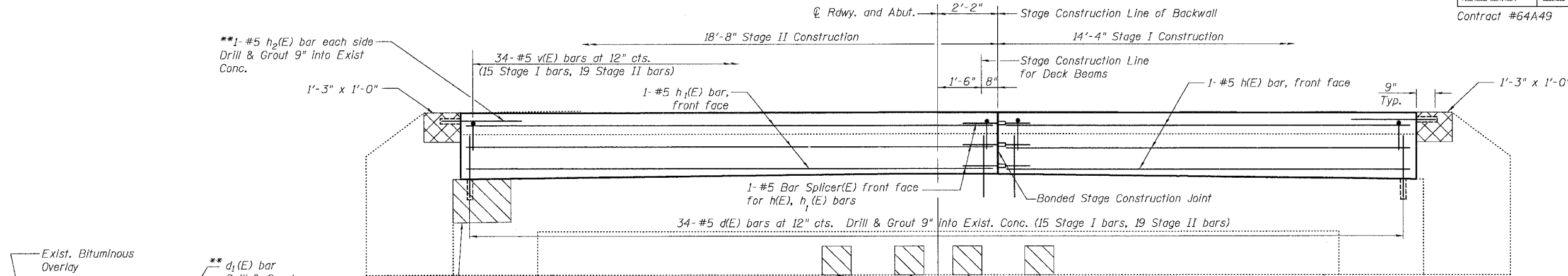
**NORTH ABUTMENT REPAIRS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

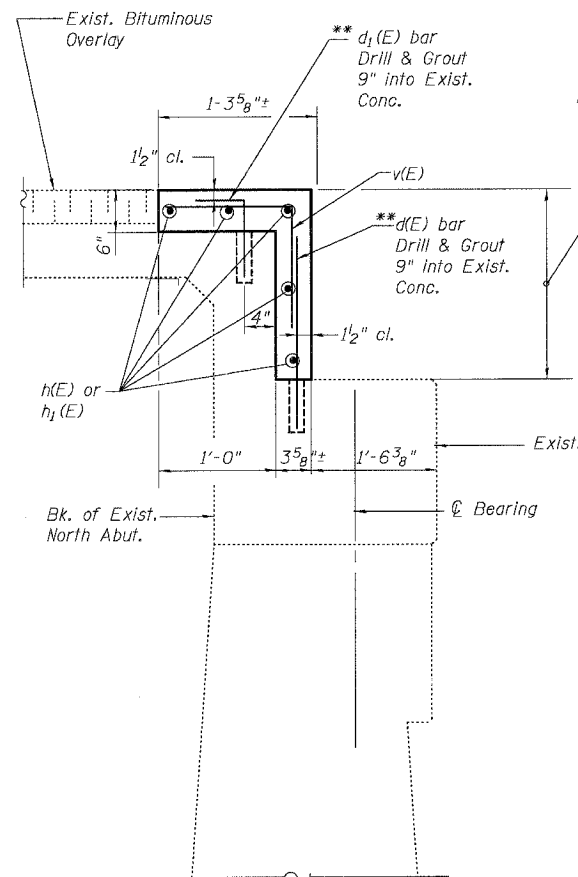
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53 24	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #64A49	



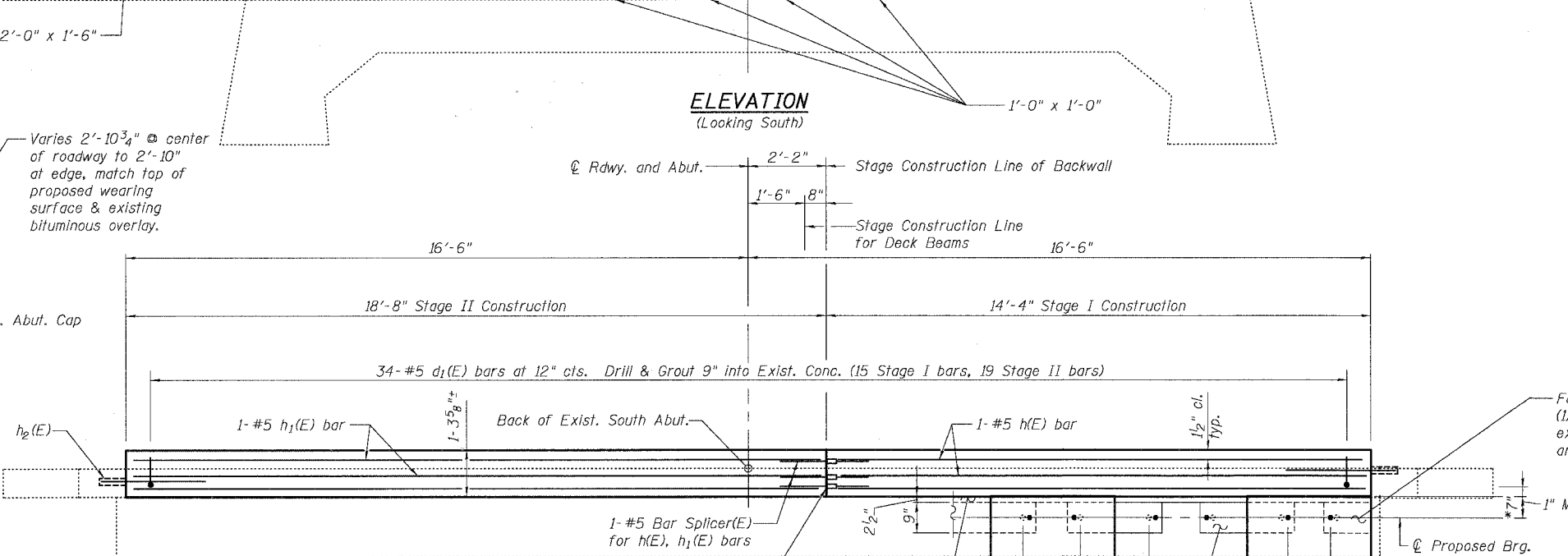
**ELEVATION**  
(Looking South)

**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Structural Repair of Concrete (Depth Greater Than 5")



**SECTION THRU SOUTH ABUTMENT  
CAP @ C. RDWY.**



**PLAN**

(Not all deck beams are shown)  
(Concrete wearing surface not shown.)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	5	#5	14'-0"	—
h1(E)	5	#5	18'-4"	—
h2(E)	2	#5	3'-0"	—
d(E)	34	#5	3'-3"	—
d1(E)	34	#5	1'-6"	—
v(E)	34	#5	3'-3"	—
Reinforcement Bars, Epoxy Coated		Pound	460	
Concrete Structures		Cu. Yd.	1.7	
Structural Repair of Concrete (Depth <5")		Sq. Ft.	7.0	
Structural Repair of Concrete (Depth >5")		Sq. Ft.	2.5	
Bar Splicers		Each	5	

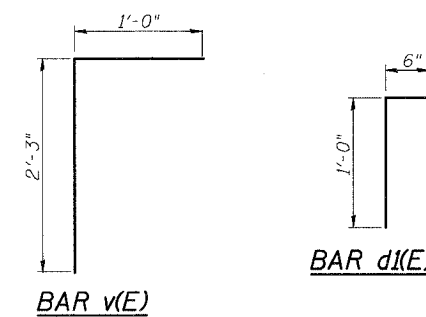
Reinforcement bars designated (E) shall be epoxy coated.

**SOUTH ABUTMENT REPAIRS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

Notes:  
Concrete Structures shown are to be poured after Concrete Wearing Surface (including blockout) is in place and cured. Existing reinforcement extending into new concrete shall be cleaned, straightened and incorporated into new construction.  
Any existing reinforcement damaged during partial removal of the backwall shall be replaced with equivalent size grouted bars at no additional cost to the State.  
\*\*Epoxy grout h2(E), d(E) & d1(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.  
Reinforcement to clear exterior surface of concrete by 1/2" min.  
\*\*\* Concrete Structures shown on this sheet shall be poured after P.P.C. Deck Beams and Concrete Wearing surface are in place.

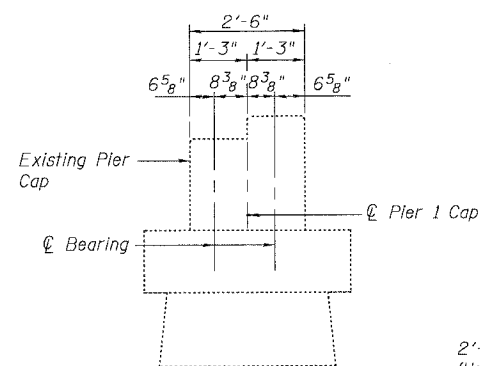
DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

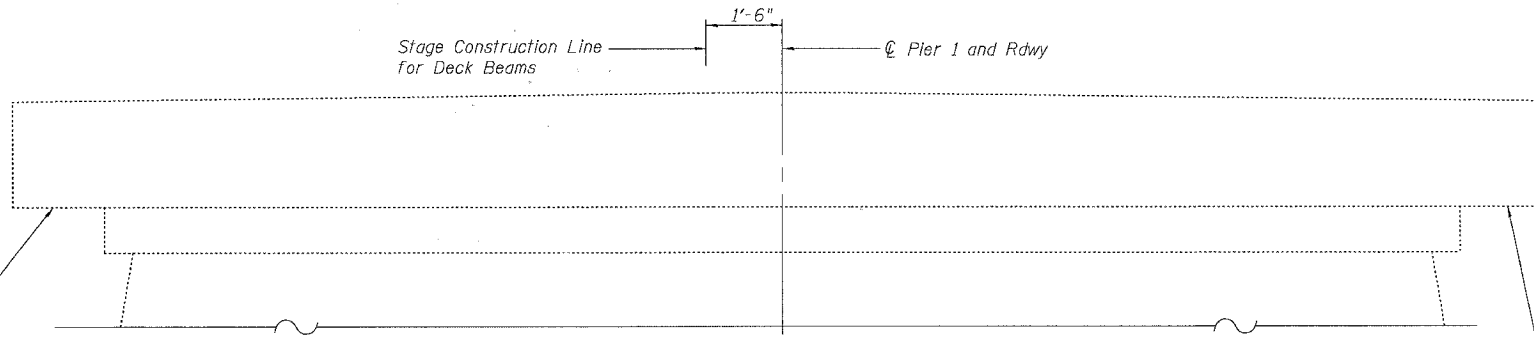
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	25
SHEET NO. 17				
27 SHEETS				

Contract # 64A49

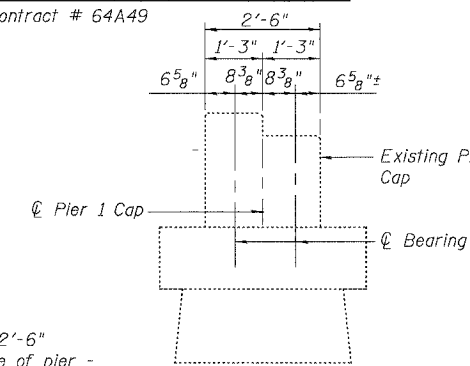


**WEST END VIEW**  
(Looking East)

2'-0" x 2'-6"  
(Underside of pier -  
greater than 5")

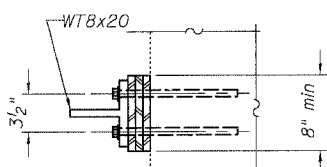


**SOUTH ELEVATION - PIER 1**  
(Looking North)

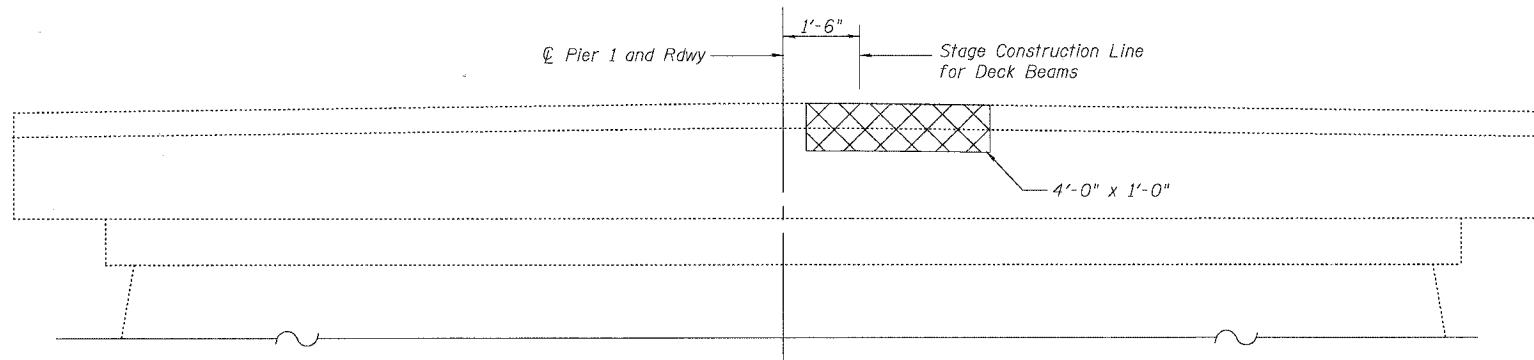


**EAST END VIEW**  
(Looking East)

2'-0" x 2'-6"  
(Underside of pier -  
greater than 5")



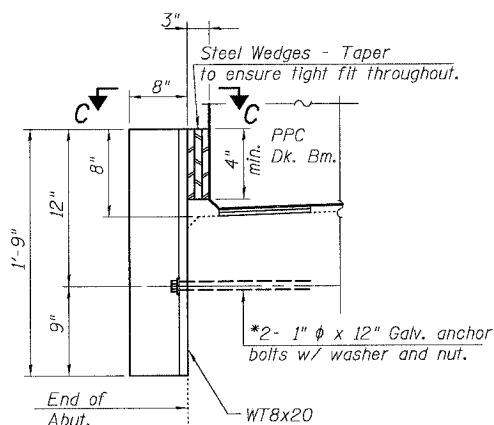
**VIEW C-C**



**NORTH ELEVATION - PIER 1**  
(Looking South)

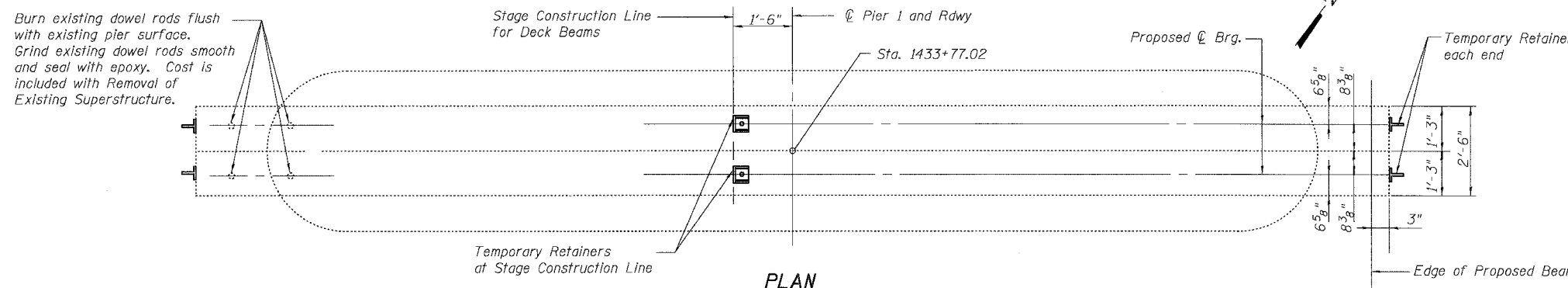
**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Structural Repair of Concrete (Depth Greater Than 5")

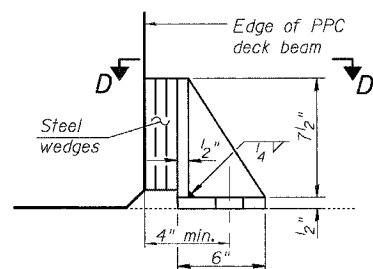


**TEMPORARY RETAINER DETAIL**  
(At Exterior Beams)

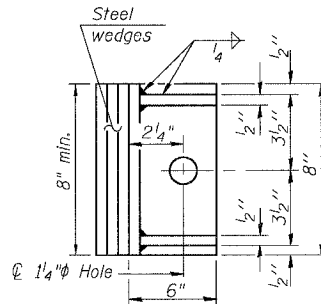
Burn existing dowel rods flush with existing pier surface. Grind existing dowel rods smooth and seal with epoxy. Cost is included with Removal of Existing Superstructure.



**PLAN**



**ELEVATION**



**VIEW D-D**

**TEMPORARY RETAINER AT STAGE CONSTRUCTION LINE**  
(Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.)

\*1"  $\phi$  x 12" Galv. anchor bolts w/ 2 1/2" x 2 1/2" x 5/16"  $\phi$  washer under nut.

Notes:  
The concrete wearing surface (including blackout) shall be poured and cured prior to removing the Stage I Construction Temporary Retainers. Burn or cut the anchor bolt flush with existing pier cap surface. Grind anchor bolts smooth and seal with epoxy prior to Stage II Construction. Cost is included with Prestressed Concrete Deck Beams (21" Depth) or (27" Depth).

The concrete wearing surface (including blackout) shall be poured and cured prior to removing the temporary retainers. Anchor bolts may be left in place or removed as specified in the removal of Stage I Construction Temporary Retainers above.

\*Cost of temporary retainers and accessories are included with Precast Prestressed Concrete Deck Beams (21" Depth) or (27" Depth).

\*Anchor bolts or approved threaded rods to be drilled and grouted in place. See Anchor Bolt Detail sheet 22 of 27.

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	14.0

**PIER 1 REPAIRS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

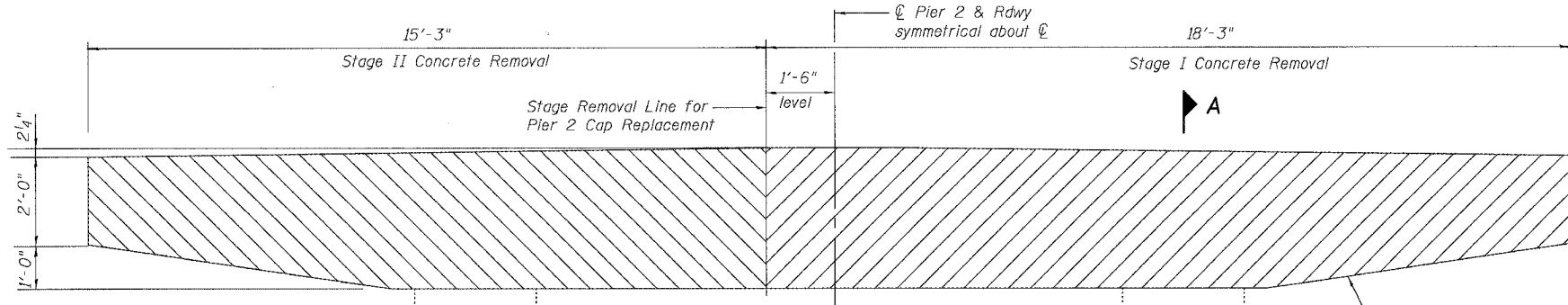
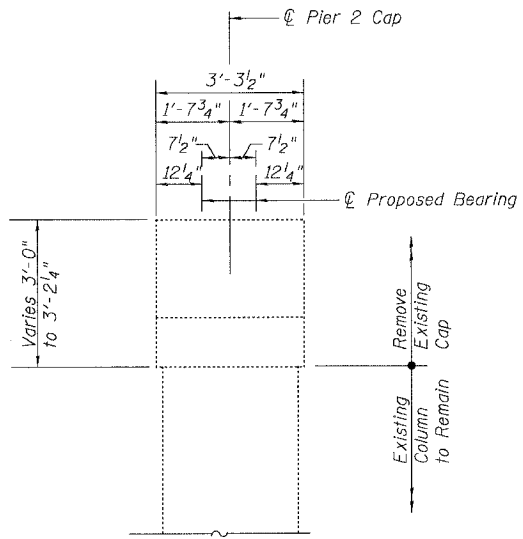
DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATE	SHEET	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	26	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

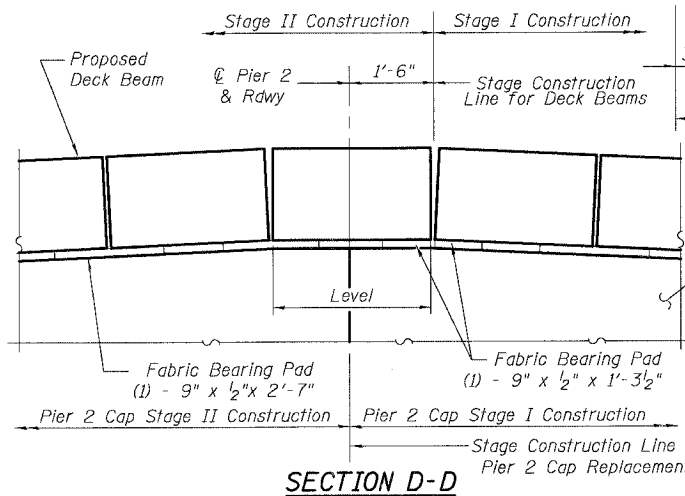
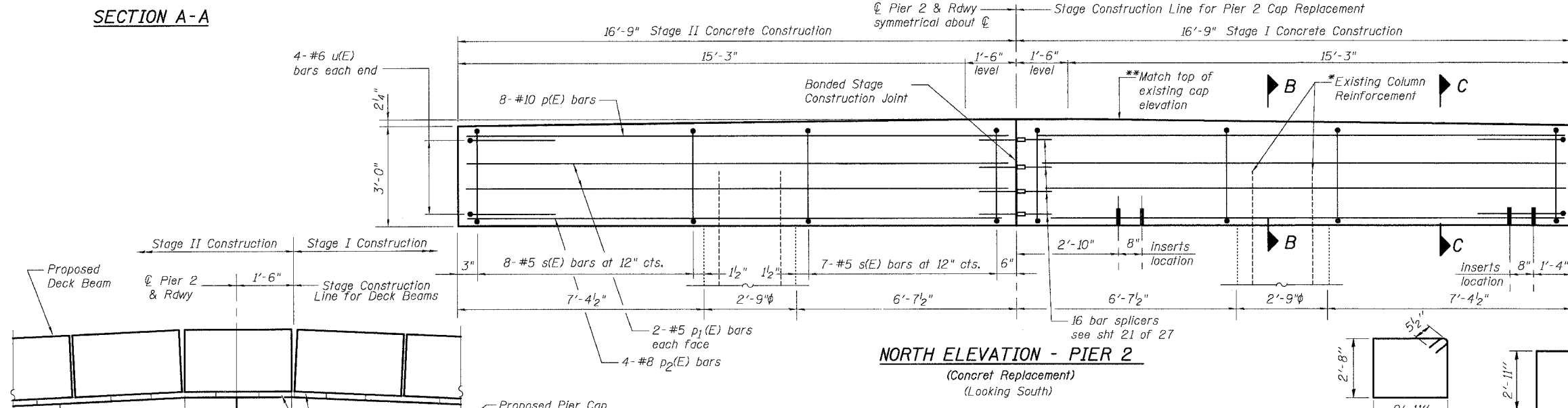
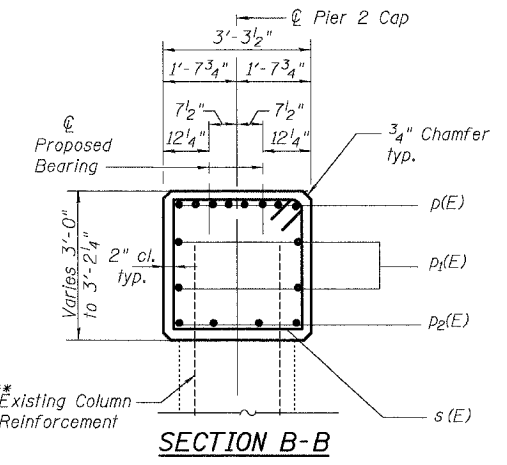
Contract #64A49



**LEGEND**

Stage I Concrete Removal

Stage II Concrete Removal

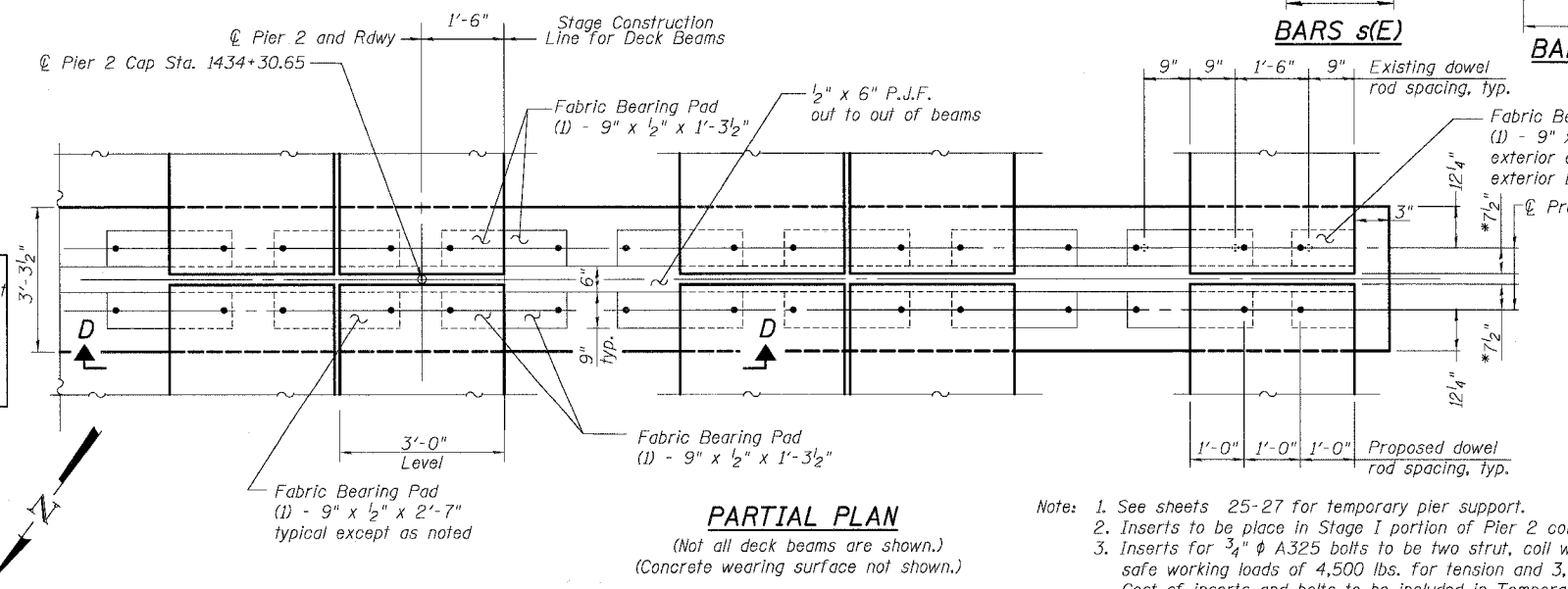


Notes: (Concrete wearing surface and dowel rods not shown.) (Looking South)

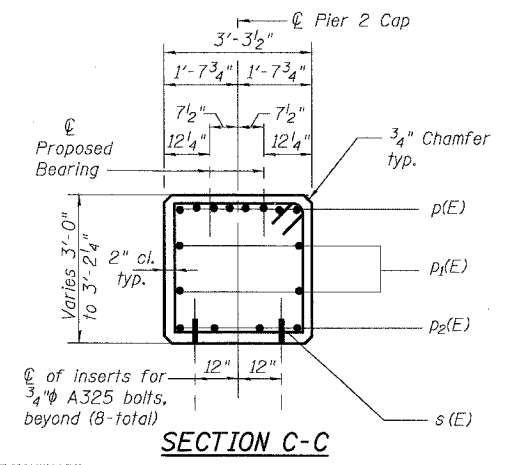
\* Existing column reinforcement extending into new concrete shall be cleaned, straightened and incorporated into new construction. Any existing reinforcement damaged during removal of the pier cap shall be replaced with equivalent size grouted bars at no additional cost to the State.

\*\* Contractor and Engineer to record top of pier cap elevations prior to existing cap removal.

DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF



Note: 1. See sheets 25-27 for temporary pier support.  
2. Inserts to be placed in Stage I portion of Pier 2 construction only.  
3. Inserts for 3/4" A325 bolts to be two strut, coil with minimum safe working loads of 4,500 lbs. for tension and 3,100 lbs. for shear. Cost of inserts and bolts to be included in Temporary Support System.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
p(E)	16	#10	16'-5"	—	
p1(E)	8	#5	16'-5"	—	
p2(E)	8	#8	16'-5"	—	
s(E)	30	#5	12'-1"	□	
u(E)	8	#6	8'-11"	—	
Reinforcement Bars, Epoxy Coated				Pound	2100
Concrete Structures				Cu. Yd.	12.7
Concrete Removal				Cu. Yd.	11.8
Bar Splicers				Each	16

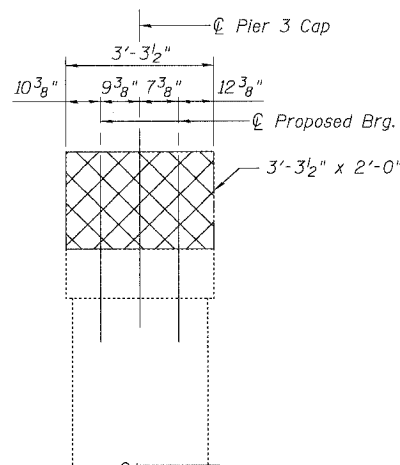
Reinforcement bars designated (E) shall be epoxy coated.

**PIER 2 REPAIRS**

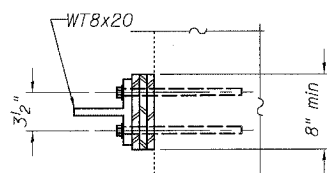
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.M. 043-0010

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

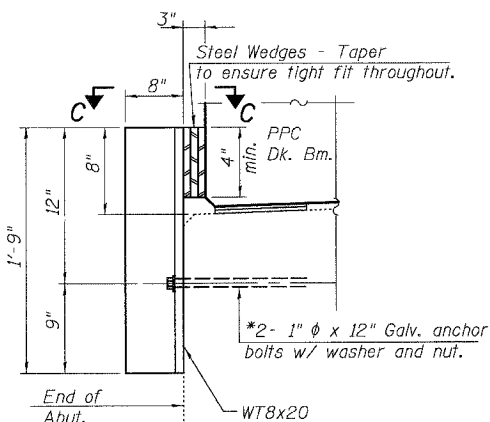
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	27
SHEET NO. 19				
27 SHEETS				
Contract #64A49				



**WEST END VIEW**  
(Looking East)



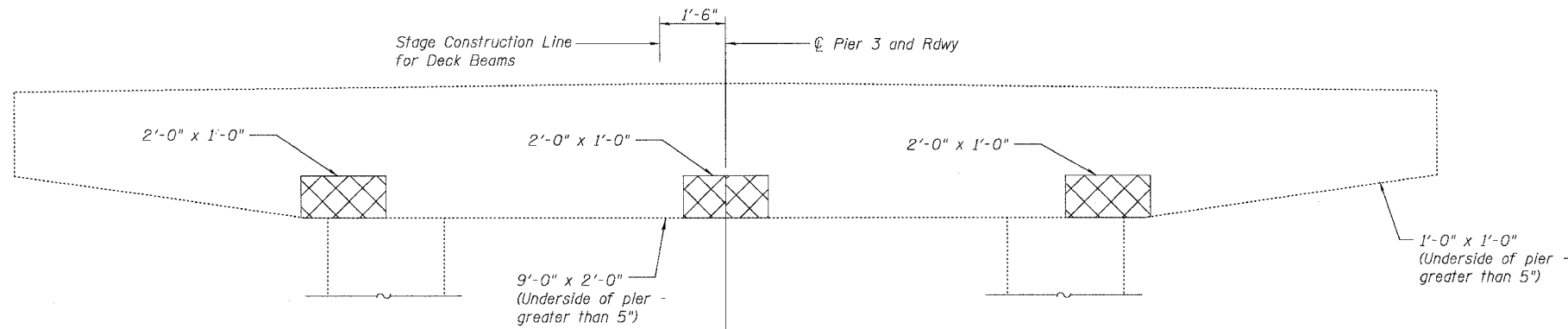
**VIEW C-C**



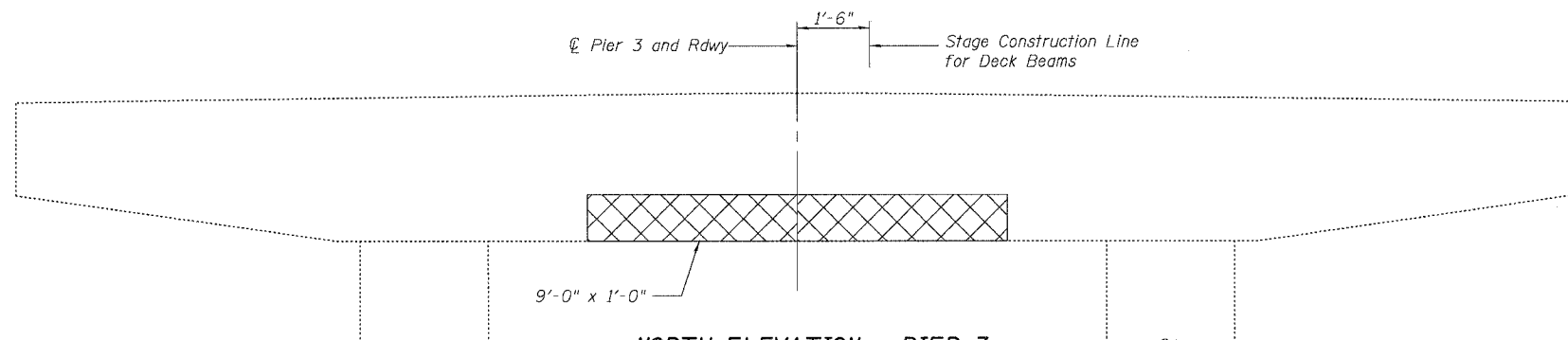
**ELEVATION**

**TEMPORARY RETAINER DETAIL**  
(At Exterior Beams)

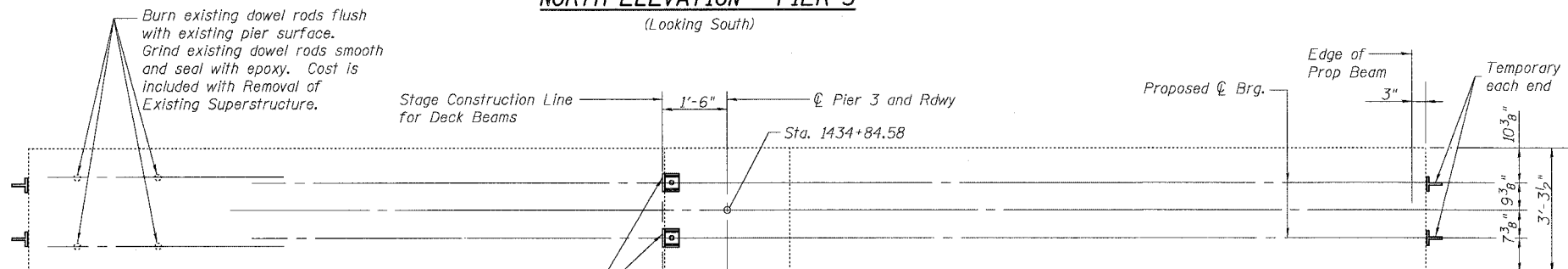
DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF



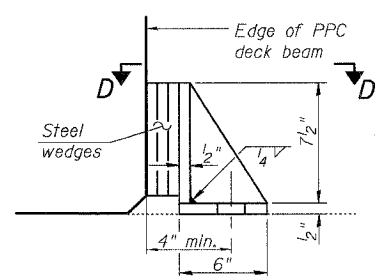
**SOUTH ELEVATION - PIER 3**  
(Looking North)



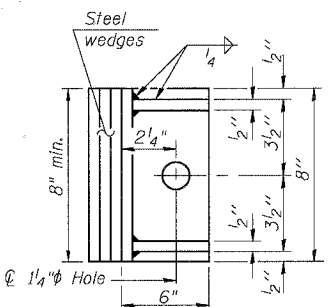
**NORTH ELEVATION - PIER 3**  
(Looking South)



**PLAN**



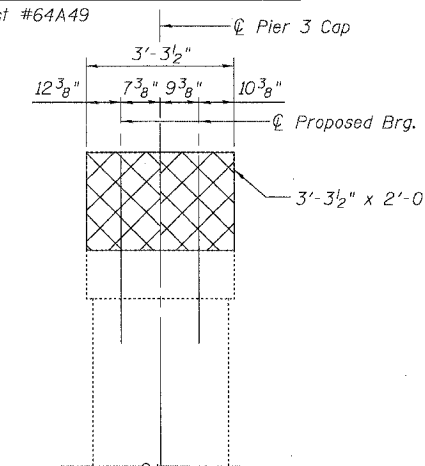
**ELEVATION**



**VIEW D-D**

\*1"  $\phi$  x 12" Galv. anchor bolts w/ 2 1/2" x 2 1/2" x 5/16"  $\phi$  washer under nut.

**TEMPORARY RETAINER AT STAGE CONSTRUCTION LINE**  
(Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.)



**EAST END VIEW**  
(Looking West)

**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Structural Repair of Concrete (Depth Greater Than 5")

**Notes:**  
The concrete wearing surface (including blackout) shall be poured and cured prior to removing the Stage I Construction Temporary Retainers. Burn or cut the anchor bolt flush with existing pier cap surface. Grind anchor bolts smooth and seal with epoxy prior to Stage II Construction. Cost is included with Prestressed Concrete Deck Beams (21" Depth).  
The concrete wearing surface (including blackout) shall be poured and cured prior to removing the temporary retainers. Anchor bolts may be left in place or removed as specified in the removal of Stage I Construction Temporary Retainers above.  
\*Cost of temporary retainers and accessories are included with Precast Prestressed Concrete Deck Beams (21" Depth).  
\*Anchor bolts or approved threaded rods to be drilled and grouted in place. See Anchor Bolt Detail sheet 22 of 27.

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	47.2

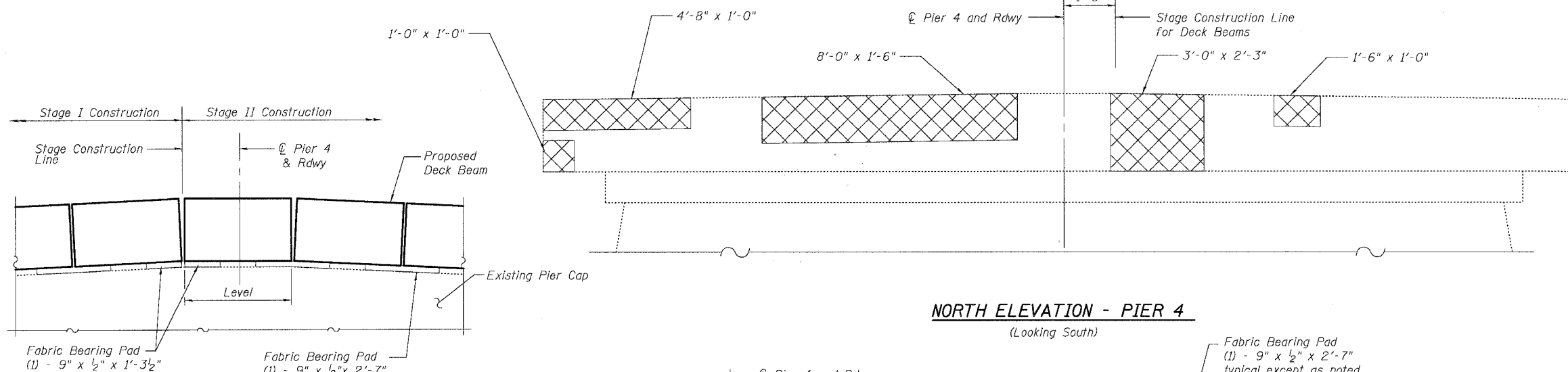
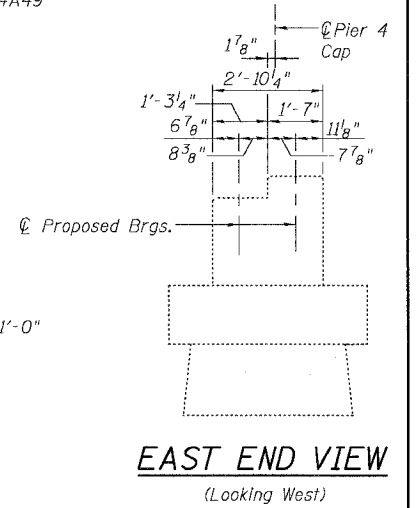
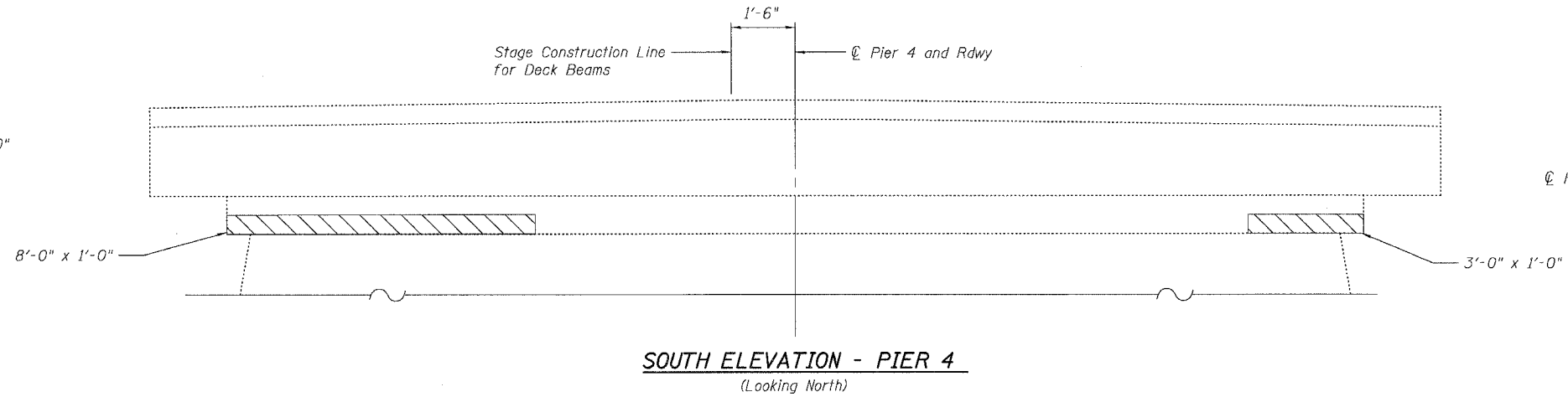
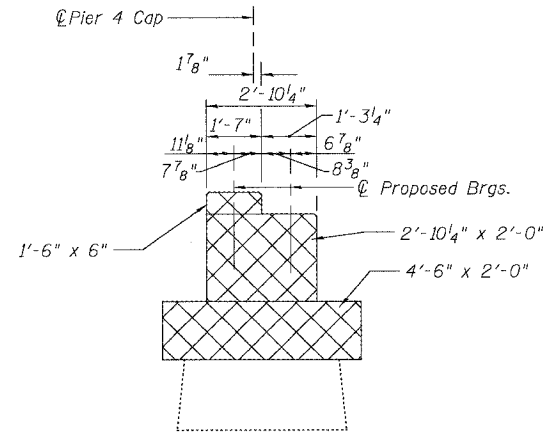
**PIER 3 REPAIRS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAP 301	SECTION 28BR-1	COUNTY JO DAVIESS	SHEET NO. 53	POST MILE 28	SHEET NO. 20 27 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

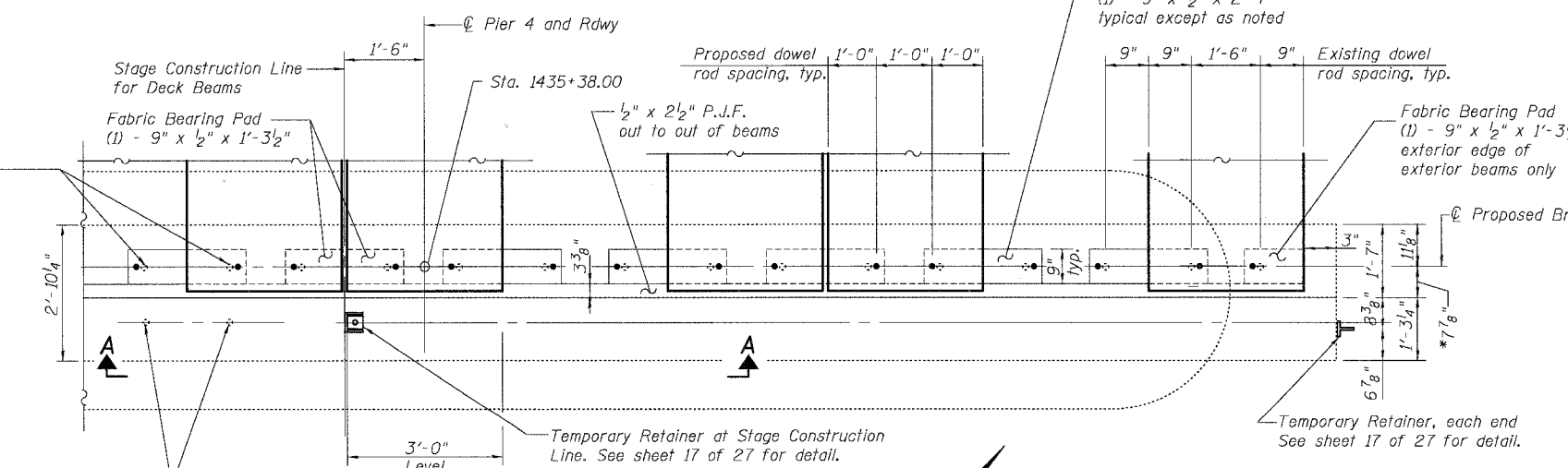
Contract #64A49



**LEGEND**

	Structural Repair of Concrete (Depth Equal to or Less Than 5")
	Structural Repair of Concrete (Depth Greater Than 5")

**SECTION A-A**  
(Concrete wearing surface and dowel rods not shown.)  
(Looking North)



DESIGNED	MO
CHECKED	CB
DRAWN	RG
CHECKED	DF

Burn existing dowel rods flush with existing pier surface. Grind existing dowel rods smooth and seal with epoxy. Cost is included with Removal of Existing Structure.

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	11.0
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	41.3

**PIER 4 REPAIRS**  
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

\*Existing dowel rods may not be located as shown

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 21
FAP 301	28BR-1	JO DAVIESS	53	29	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64A49

The diameter of this part is the same as the diameter of the bar spliced.

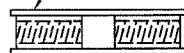
The diameter of this part is equal or larger than the diameter of bar spliced.

**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

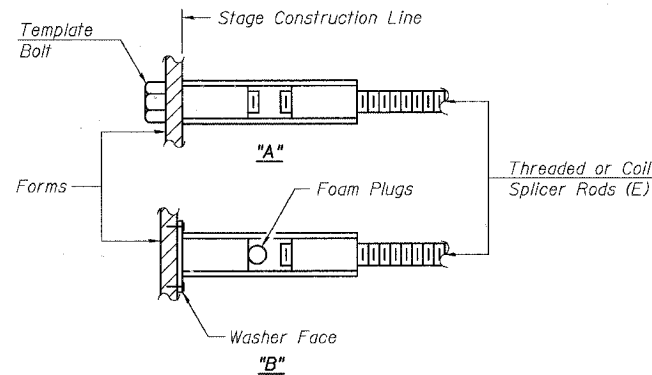
Wire Connector



**WELDED SECTIONS**

**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

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

**NOTES**

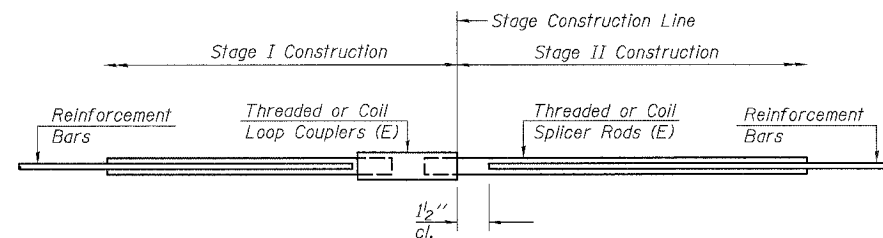
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{sallow} \times A_t$   
(Tension in kips)

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{sallow}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	288	Deck Overlay
#5	18	In Blockout
#5	5	N. Abut.
#5	5	S. Abut.
#10	8	Pier 2
#5	4	Pier 2
#8	4	Pier 2

DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

BSD-1 10-22-04

**BAR SPLICER ASSEMBLY DETAILS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

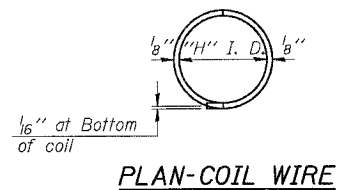
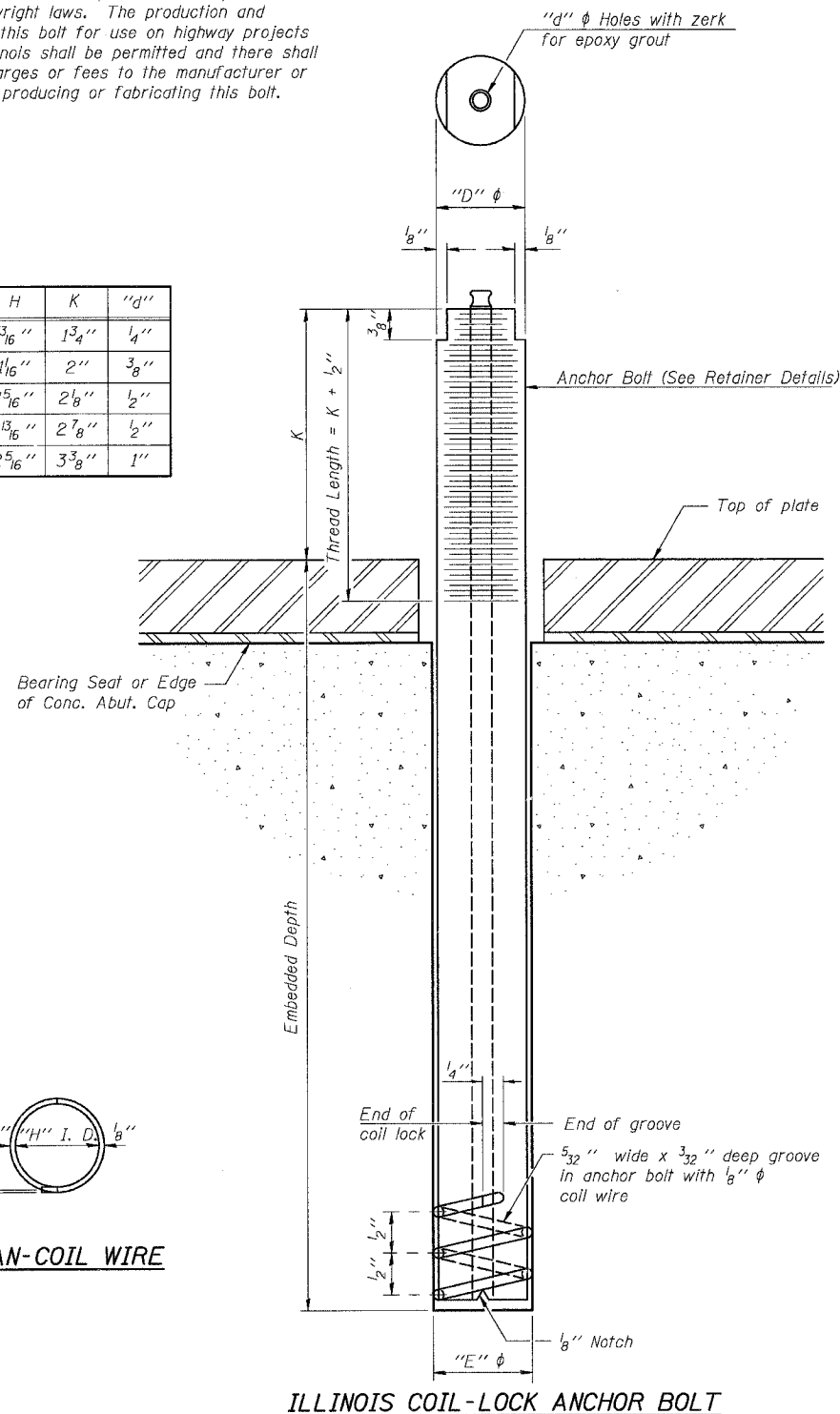
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	30	27 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract # 64A48

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 1/8"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/16"	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.

Location	Type	Size	Embedded Depth	Retainer Type
Pier 1	A325	1" $\phi$	10 1/4"	Temporary Retainers
Pier 3	A325	1" $\phi$	10 1/4"	Temporary Retainers
Pier 4	A325	1" $\phi$	10 1/4"	Temporary Retainers

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

**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 Precast Concrete Deck Beams (21" Depth) or (27" Depth).

**ANCHOR BOLT DETAILS FOR RETAINERS**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

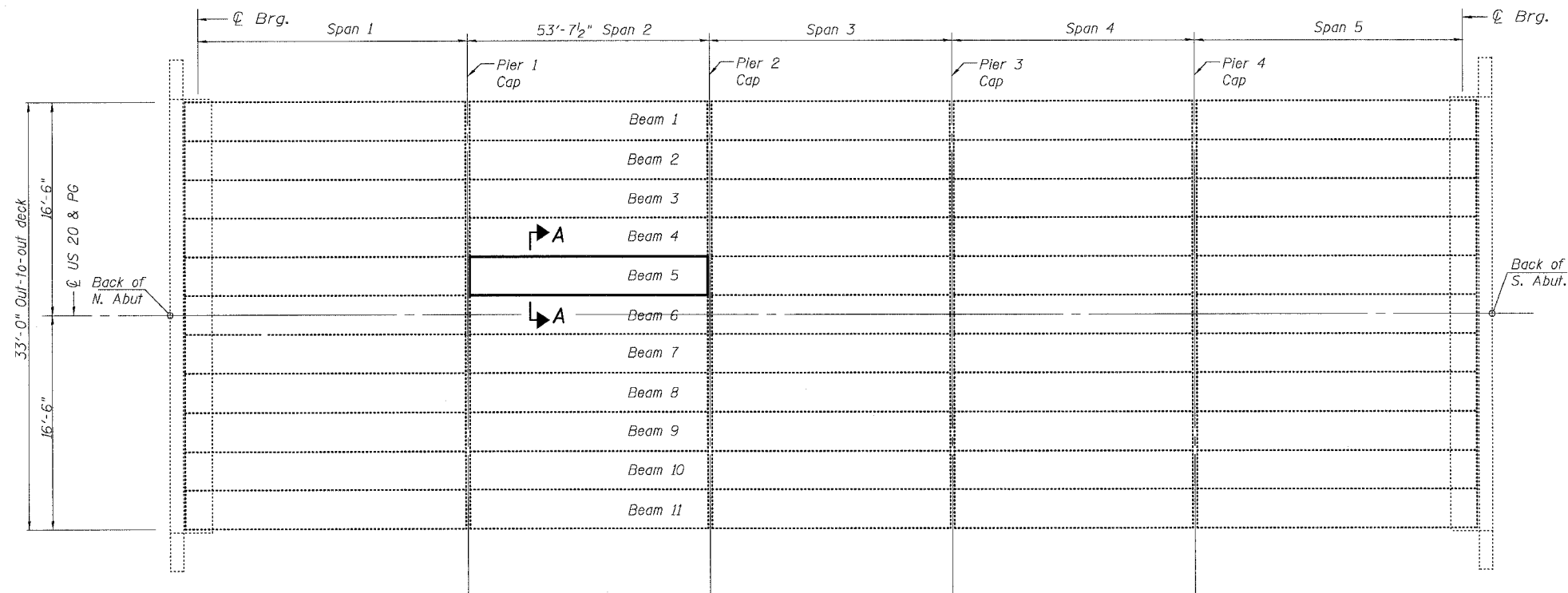
DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

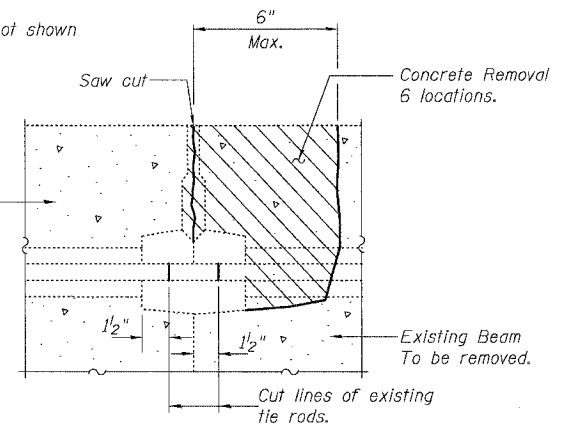
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	31
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #64A49

SHEET NO. 23  
27 SHEETS



Note: Overlay not shown for clarity

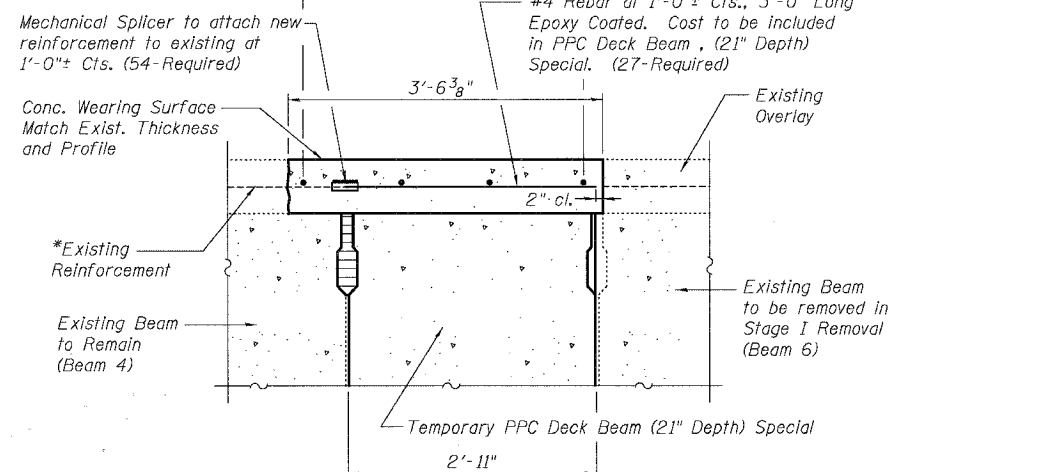
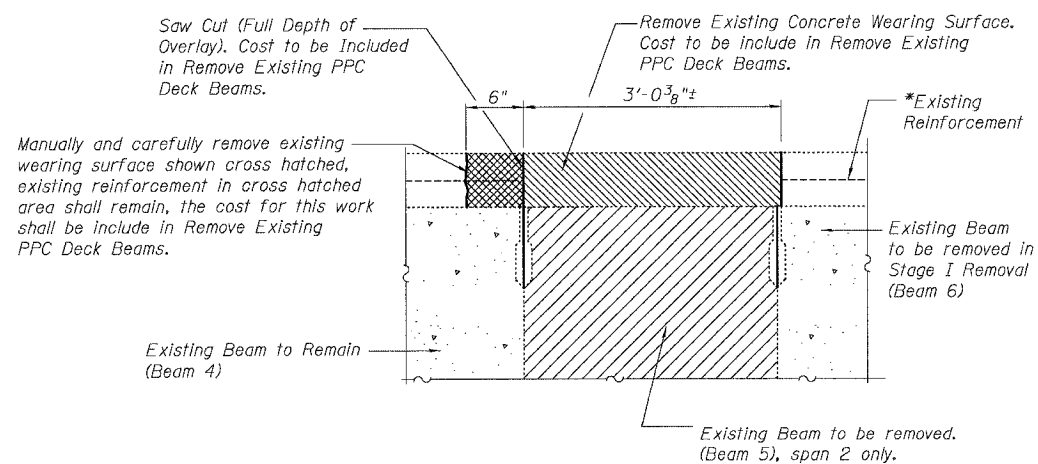


**BEAM REMOVAL DETAIL  
AT TRANSVERSE TIES**

**KEY**

Existing PPC Deck Beam to be replaced with PPC deck Beam (21" Depth) Special

**PLAN**



**BILL OF MATERIAL**

Item	Unit	Quantity
Remove Existing PPC Deck Beam	Sq. Ft.	161.3
PPC Deck Beam (21" Depth) Special	Sq. Ft.	156.2
Concrete Wearing Surface, 5"	Sq. Yd.	21.0
Mechanical Splice	Each	54

Note: See Sheet 24 of 27 for additional details.

**PRE-STAGE I BEAM REPLACEMENT**

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

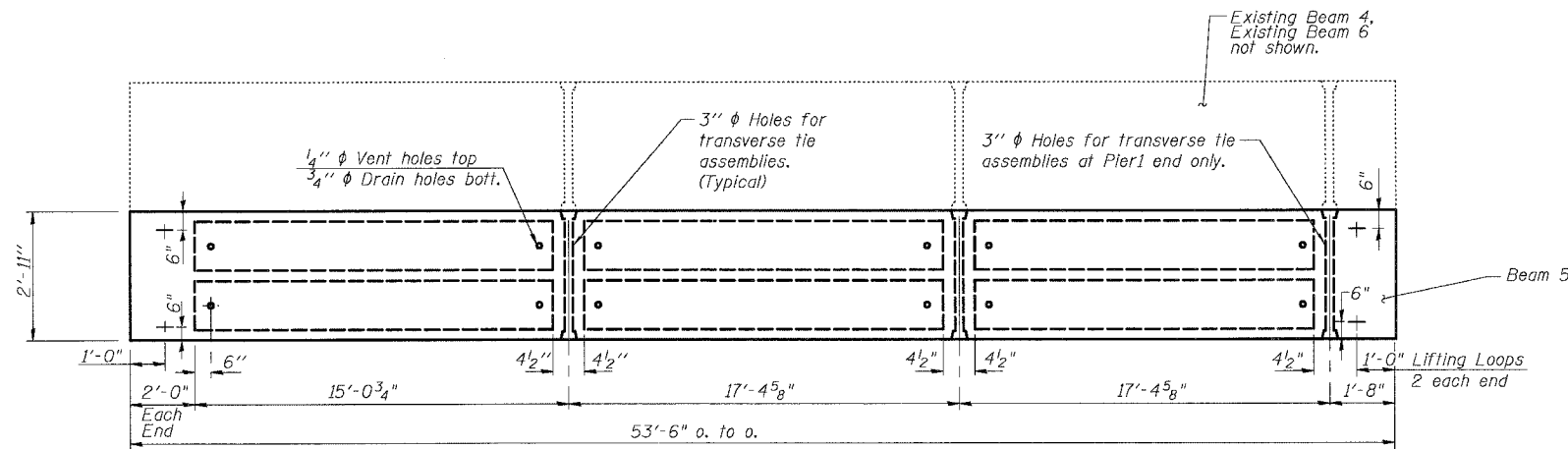
**SECTION A-A BEAM AND OVERLAY  
REMOVAL AND REPLACEMENT DETAIL**

DESIGNED	DF
CHECKED	CB
DRAWN	DF
CHECKED	CB

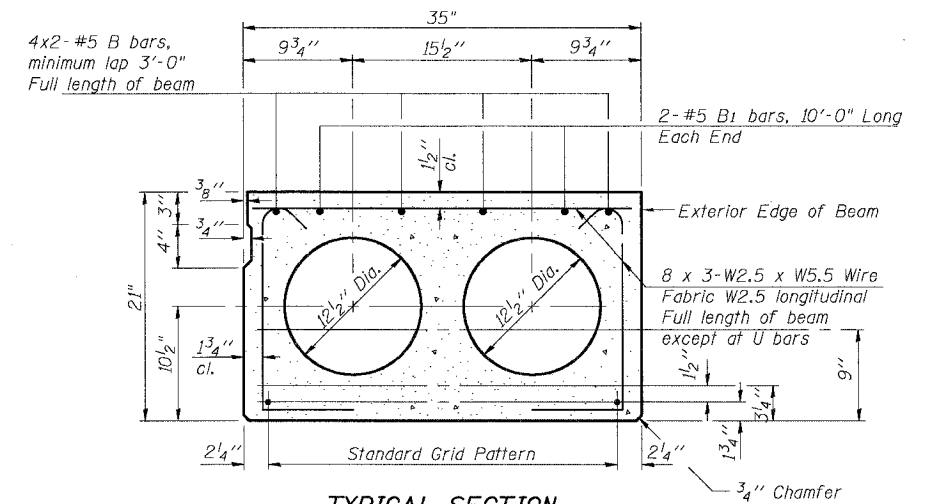
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 24
FAP 301	28BR-1	JO DAVIESS	53	32	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #64A49



BEAM PLAN - SPAN 2 BEAM 5

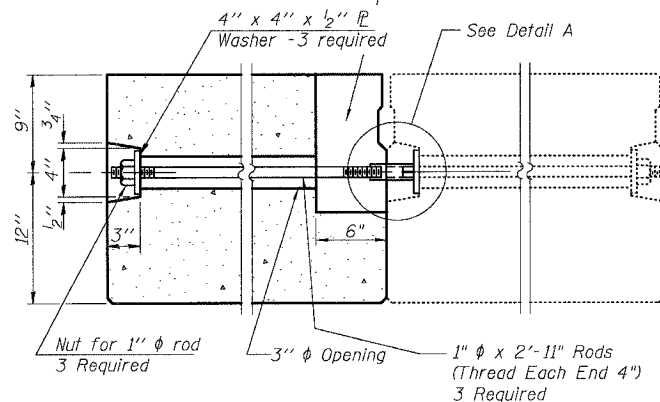


TYPICAL SECTION

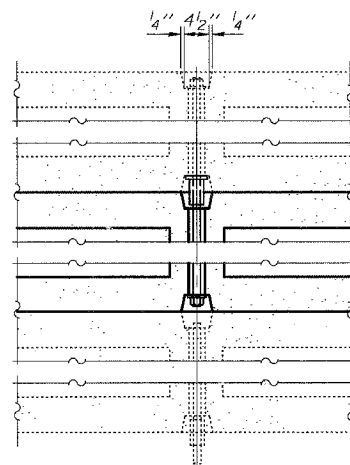
1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
7-Strands 1 3/4" up, 6-Strands 3 1/4" up, 2-Strands 9" up

Note:  
Place strands symmetrically about  $\phi$  of beam.

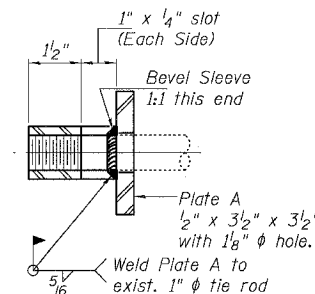
6" x 6" x 1 1/2" Blockout to be filled with Class BD Concrete after Beams have been installed. Cost shall be included in the cost of "Concrete Wearing Surface".



TYPICAL TRANSVERSE TIE ASSEMBLY



FABRIC SHIM PAD  
(If Required)



SECTION B-B

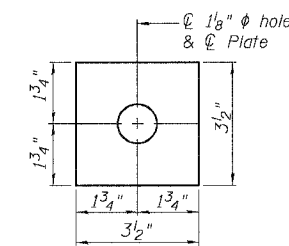
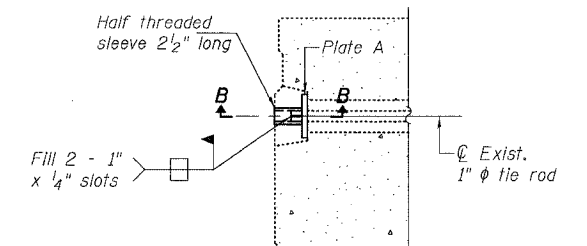
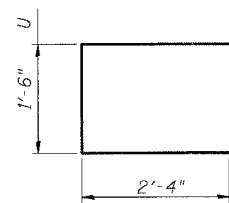


PLATE A  
(3 Required)

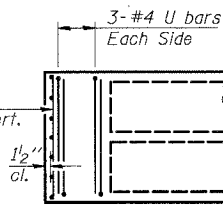


DETAIL A

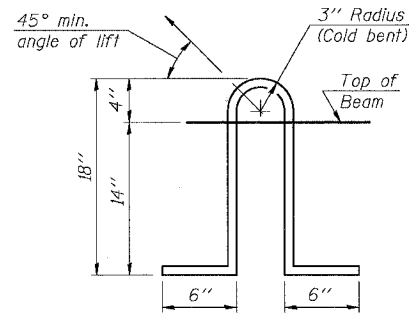


BAR U

8 x 3-W2.5 x W5.5 Wire Fabric, W5.5 vert. Full depth of beam. Each End.



END OF BEAM PLAN



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be (2) - 1/2"  $\phi$  - 270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Existing bearing pads shall remain in place for this pre-stage I work. Existing bearing pads at Abutments contain asbestos and shall not be disturbed. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength,  $f'_{ci}$ , shall be 4000 p.s.i. See Sheet 23 of 27 for additional details.

PPC DECK BEAM 21" DEPTH SPECIAL

U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

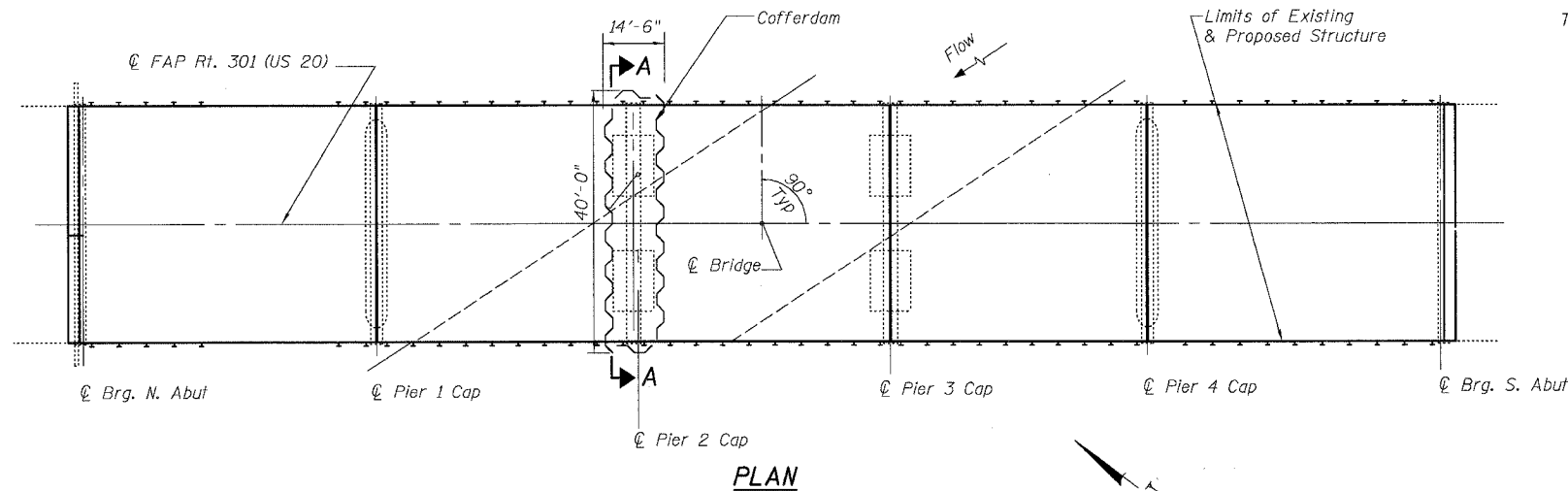
DESIGNED	DF
CHECKED	CB
DRAWN	DF
CHECKED	CB



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 301	28BR-1	JO DAVIESS	53	33	27 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #64A49

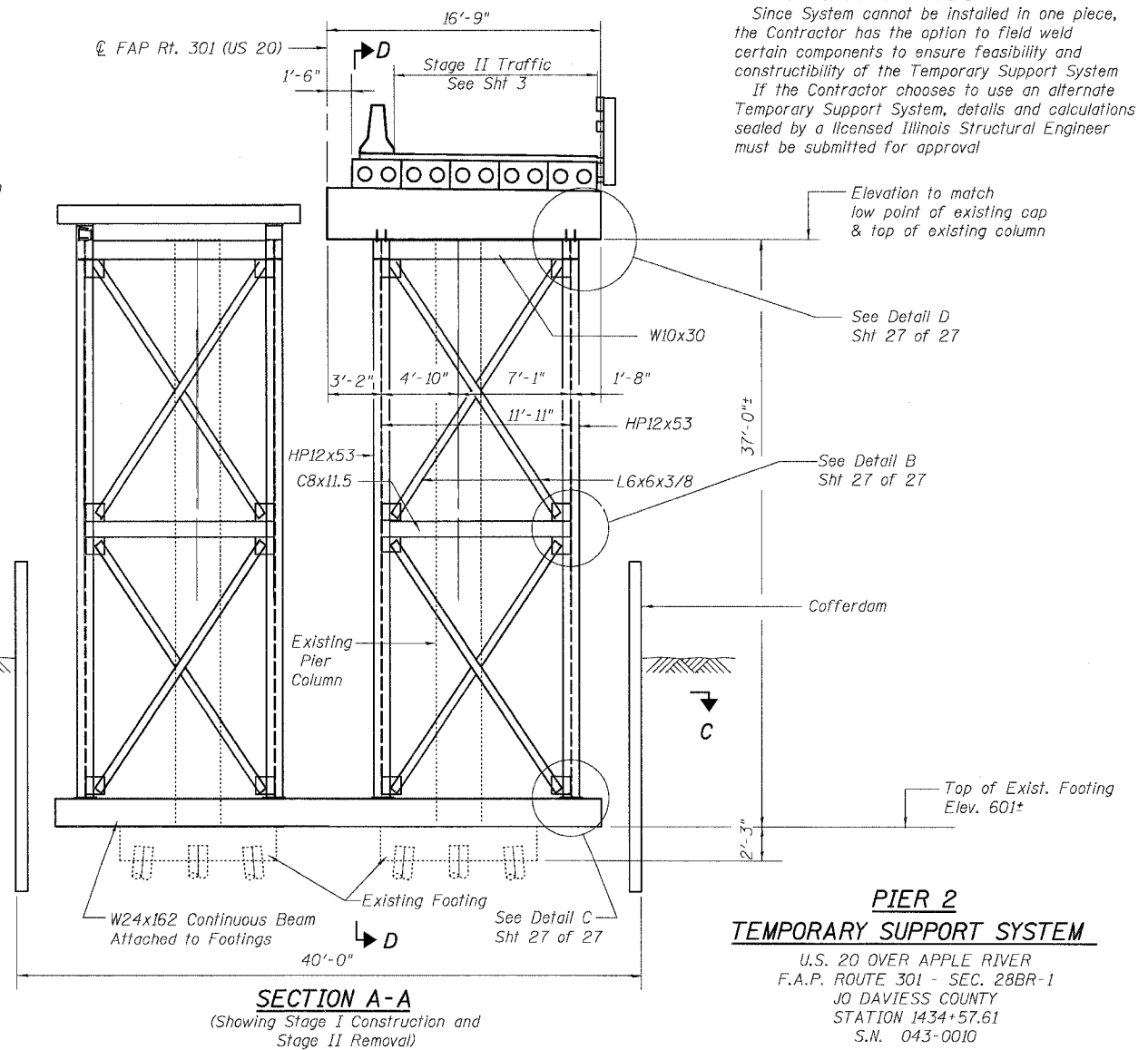
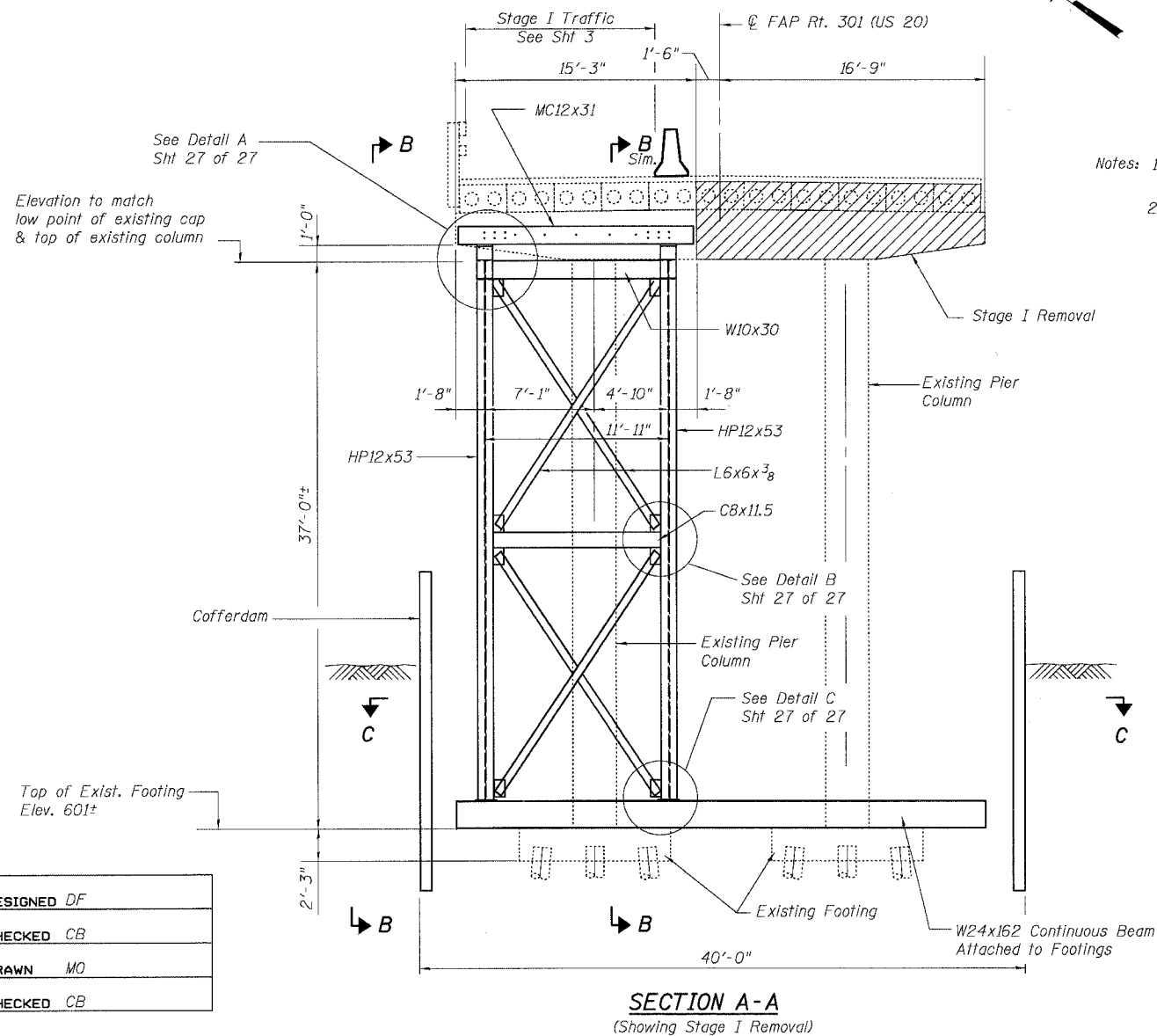


Temporary Support System Erection Sequence:

1. See sheet 23 and 24 of 27 for pre-stage I beam replacement.
2. After replacement is complete, shift traffic to East side (Stage I traffic).
3. Install the cofferdam at Pier 2. The Contractor has the option to remove Stage I beams prior to installing the cofferdam.
4. Erect portion of Temp Support System to support Stage I traffic shown in Section A-A.
5. Perform Stage I removal. Do NOT remove Pier 2 Cap prior to erecting the portion of Temporary Support System that supports Stage I traffic.
6. Install remaining Temporary Support System to support Pier 2 cap Stage I construction.
7. Complete Stage I Construction.
8. Shift traffic to West side (Stage II traffic).
9. Perform Stage II removal.
10. The Contractor has the option to use the support system for forming and shoring the proposed pier cap in Stage II construction.
11. Perform Stage II Construction.
12. The Temporary Support System may be removed when the Pier 2 cap has attained it's required strength according to the Standard Specifications and approval of the Engineer. Temp Support System must be removed prior to pouring Stage II wearing surface and abutment concrete structures. Once all Temporary Support System has been removed, the cofferdam at Pier 2 shall be removed.
14. Pour Stage II wearing surface and Stage II abutment concrete.
15. Complete Stage II construction.

Notes:  
See Sheet 26 for Sections B thru D and Sheet 27 for Details A thru D.  
Since System cannot be installed in one piece, the Contractor has the option to field weld certain components to ensure feasibility and constructibility of the Temporary Support System.  
If the Contractor chooses to use an alternate Temporary Support System, details and calculations sealed by a licensed Illinois Structural Engineer must be submitted for approval.

- Notes: 1. See additional Notes on sheets 26 of 27.  
2. Struts and bracing shown are on both North and South side of Pier 2.



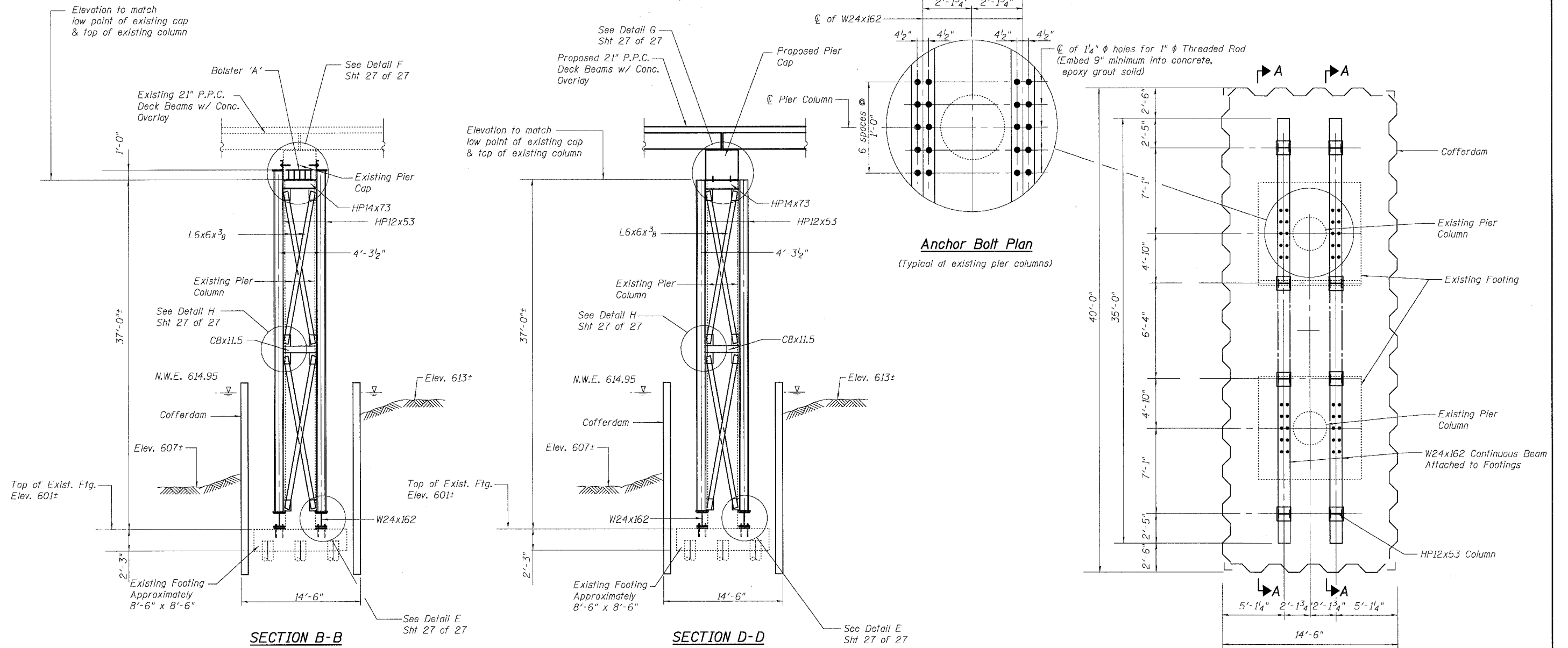
**PIER 2  
TEMPORARY SUPPORT SYSTEM**  
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	CB

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 26 27 SHEETS
FAP 301	28BR-1	JO DAVIESS	53	34	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #64A49



Note: Contractor to verify grade elevations for the cofferdam and dimensions for the temporary support system in the field.

Notes: All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

See Section 584 of the Std. Specs. for "Epoxy Grouting of Threaded Rods". All threaded rods shall be epoxy grouted a minimum of 9" into structurally sound concrete.

The cost of epoxy grouting threaded rods shall be included in the pay item Temporary Support System.

The cost of fabricating, furnishing, constructing, maintaining and subsequent removal and disposal of temporary support system according to the details shown shall be included in the pay item Temporary Support System.

Estimated weight of structural steel = 44,345 lbs. See specification for additional information.

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Support System	L. Sum	1
Cofferdam (Pier 2)	Each	1
Cofferdam Excavation	Cu. Yd.	180

Note: See Sheet 27 for Details E thru H.

**PIER 2  
TEMPORARY SUPPORT SYSTEM**

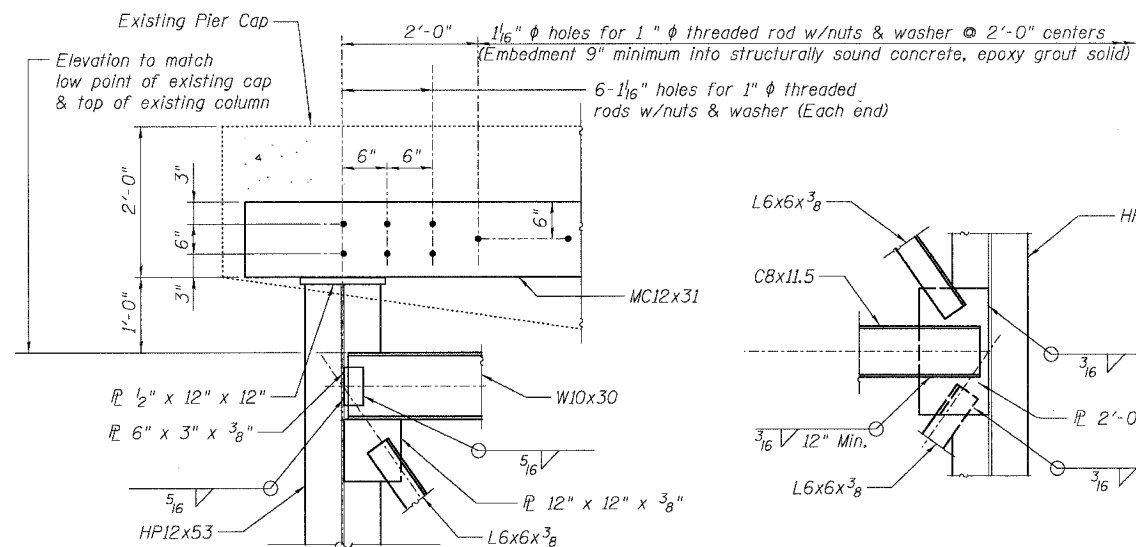
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

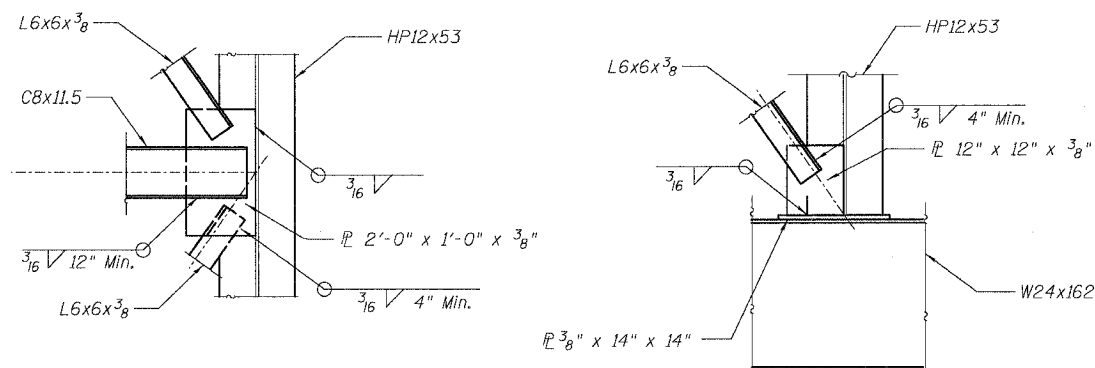
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 27 27 SHEETS
FAP 301	28BR-1	JO DAVIESS	53	35	
FED. ROAD DIST. NO. 7	BUILDING	FED. AID PROJECT			

Contract #64A49

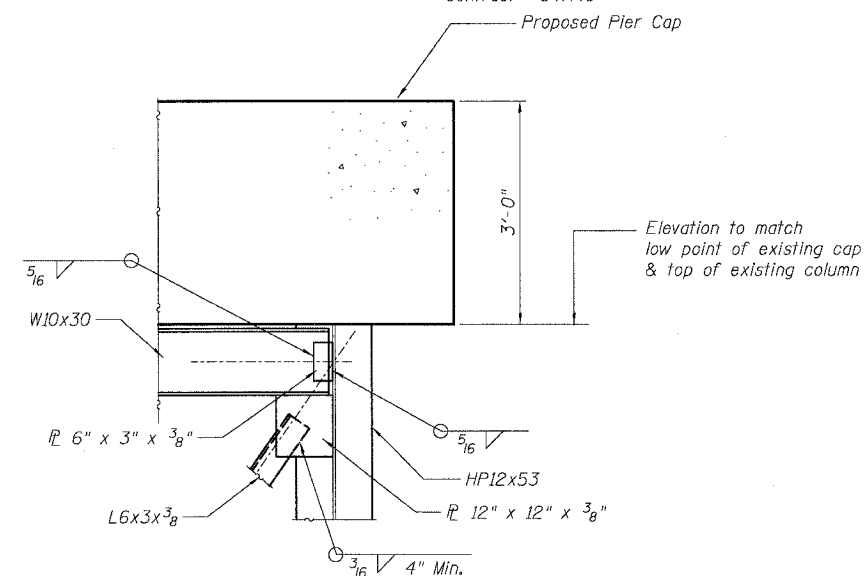


**DETAIL A**

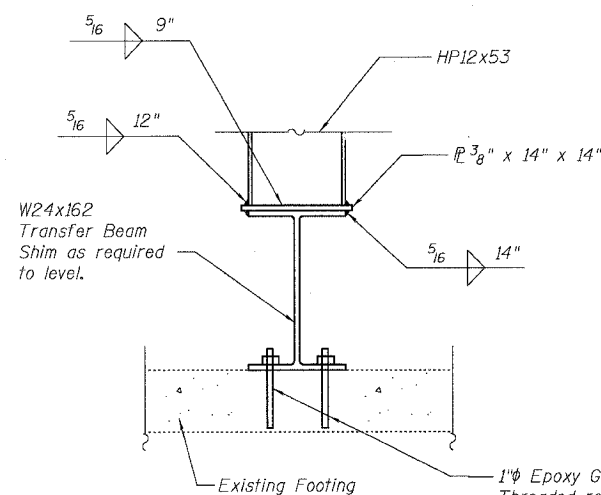


**DETAIL B**

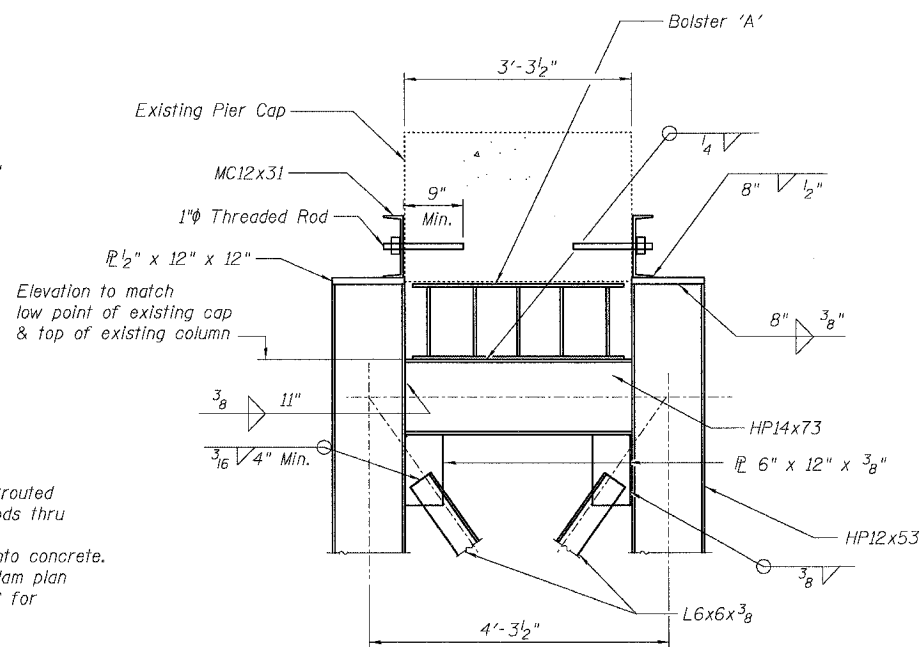
**DETAIL C**



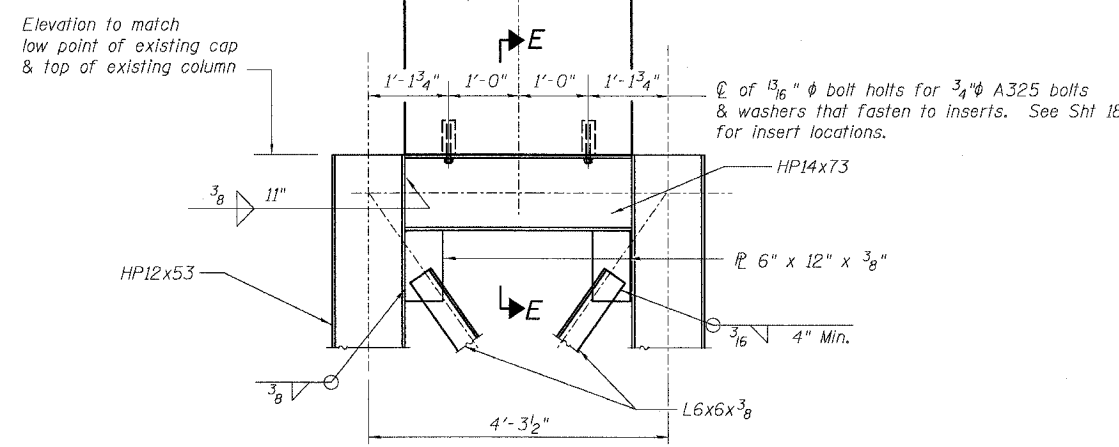
**DETAIL D**



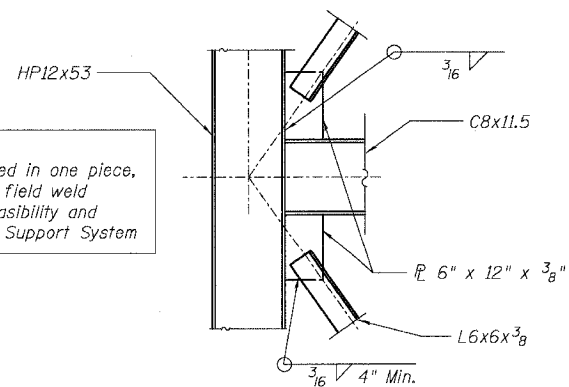
**DETAIL E**



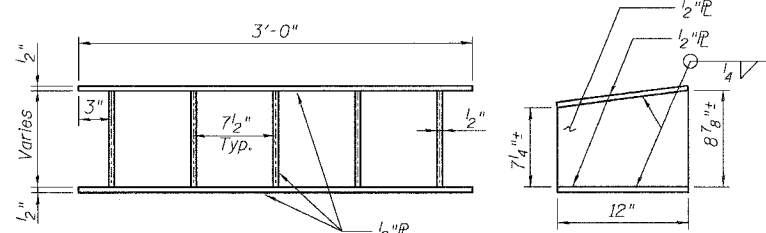
**DETAIL F**



**DETAIL G**

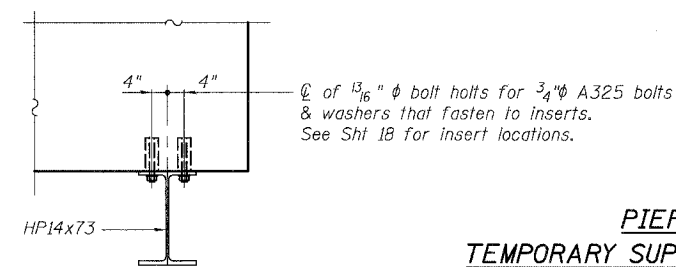


**DETAIL H**



**BOLSTER 'A'**

**SIDE VIEW**



**SECTION E-E**

**PIER 2  
TEMPORARY SUPPORT SYSTEM**

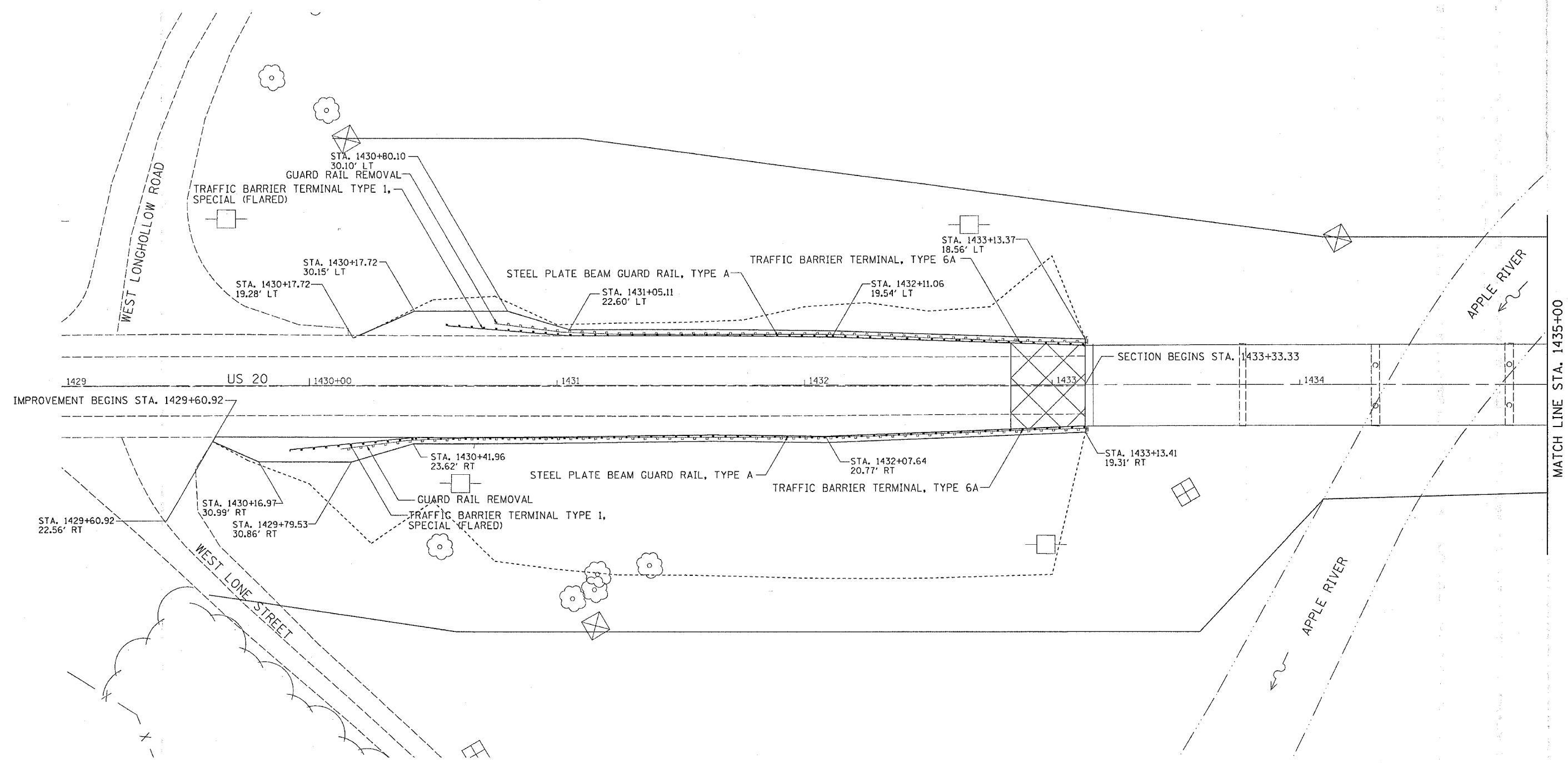
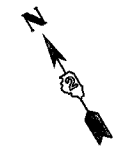
U.S. 20 OVER APPLE RIVER  
F.A.P. ROUTE 301 - SEC. 28BR-1  
JO DAVIESS COUNTY  
STATION 1434+57.61  
S.N. 043-0010

Note:  
Since System cannot be installed in one piece,  
the Contractor has the option to field weld  
certain components to ensure feasibility and  
constructibility of the Temporary Support System

DESIGNED	DF
CHECKED	CB
DRAWN	MO
CHECKED	DF

# PLAN SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	36
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



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 PLOT SCALE = 20.0000 / IN.  
 USER NAME = meg111

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

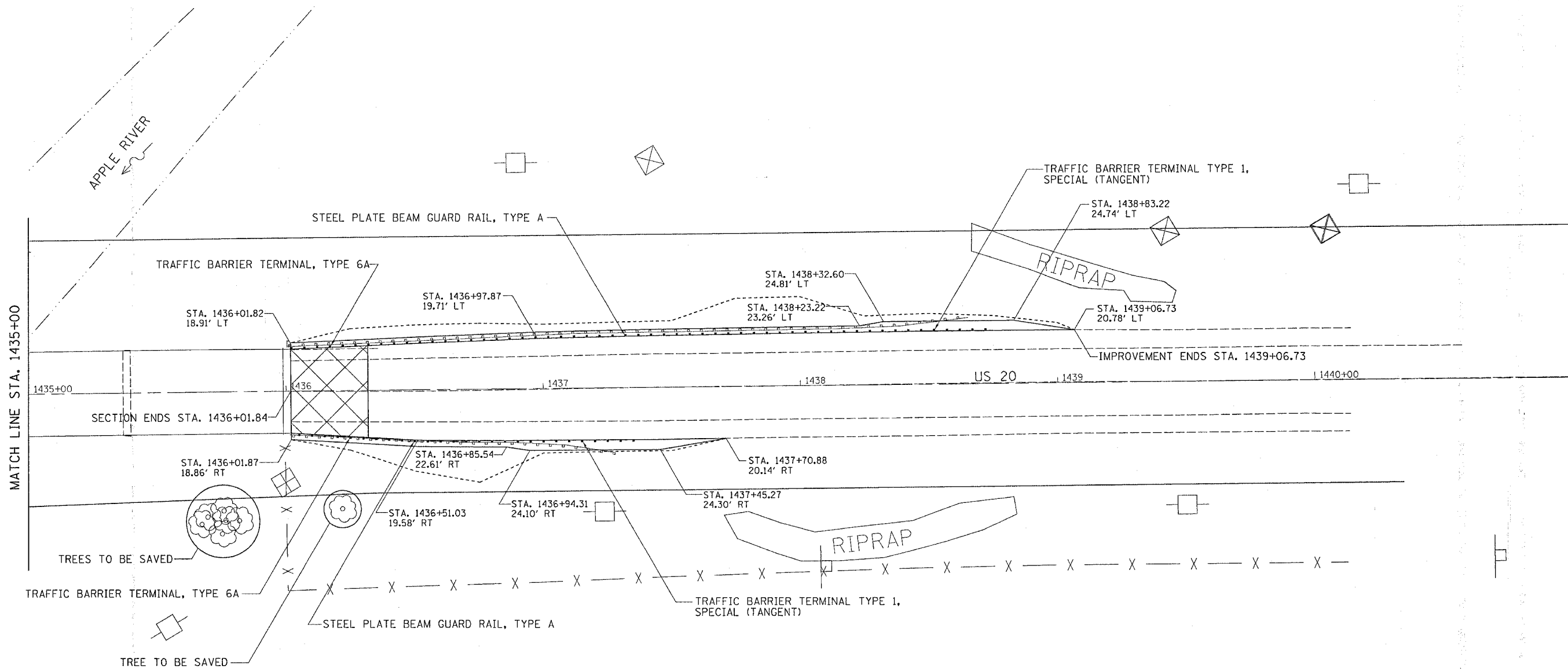
SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_

DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	37
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

# PLAN SHEETS



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 USER NAME = meghlj

REVISIONS	
NAME	DATE

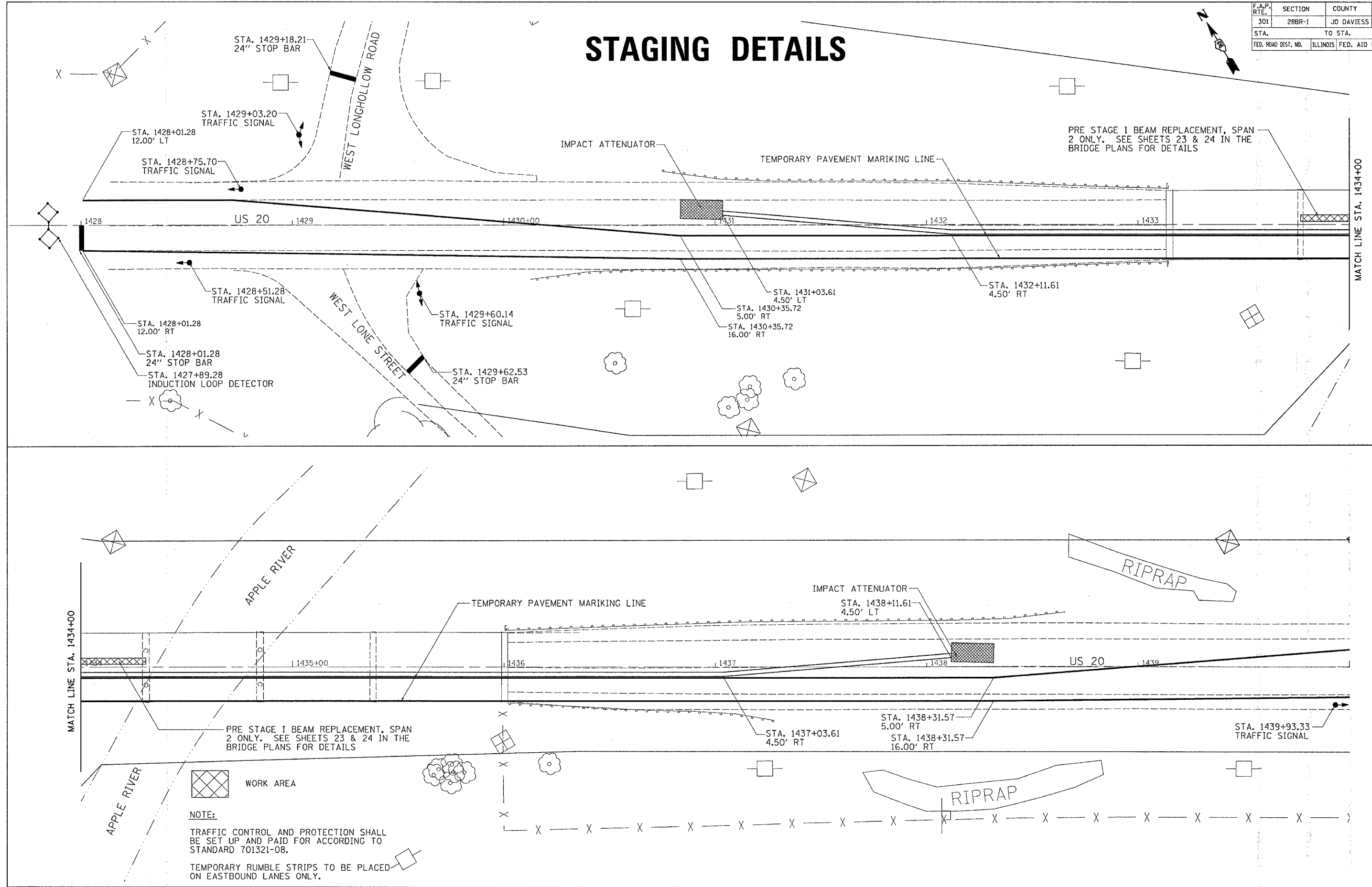
ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	288R-1	JO DAVIESS	53	38
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

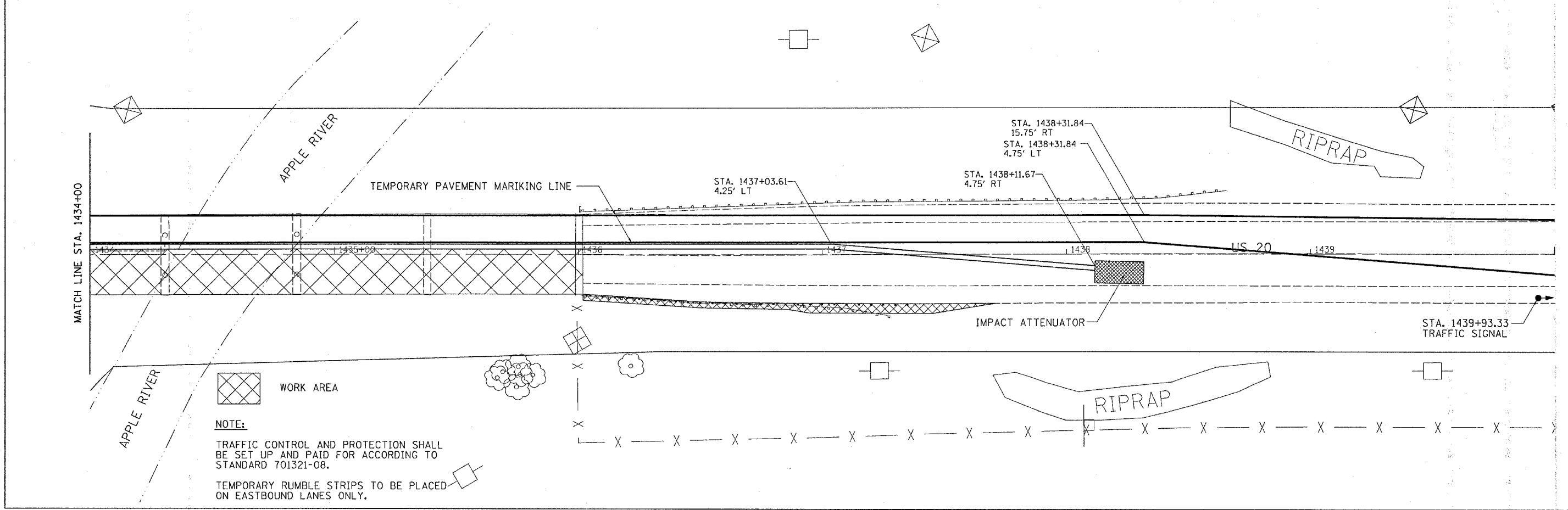
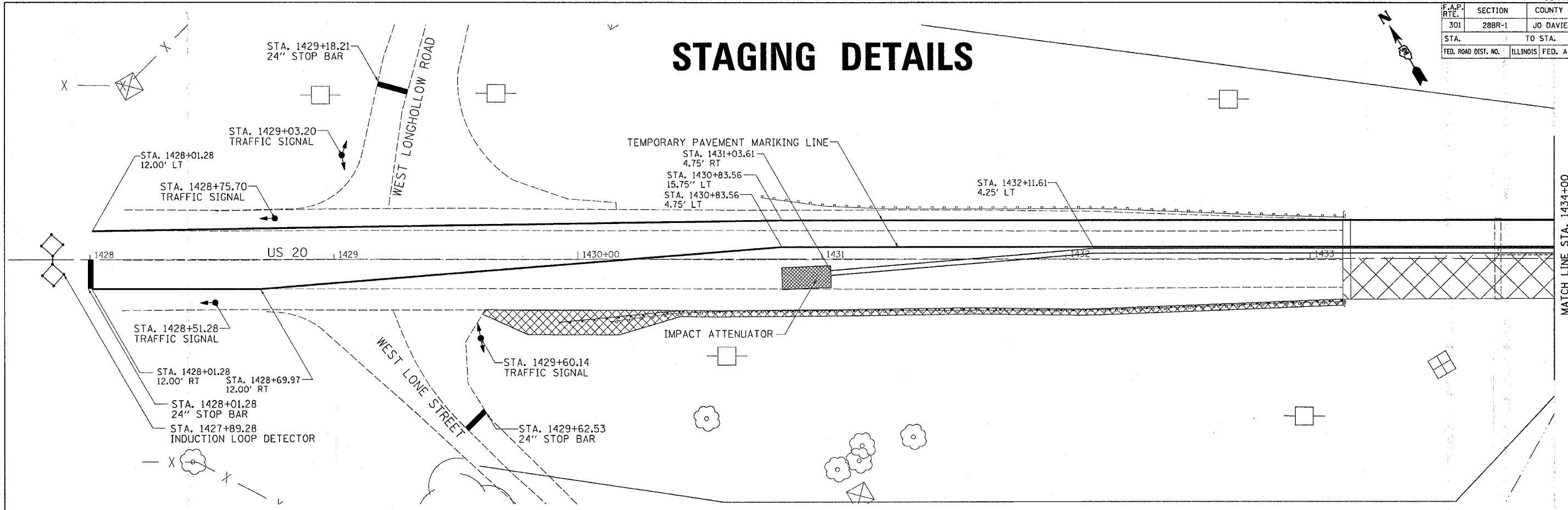
# STAGING DETAILS



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 USER NAME = mgj111

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	39
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# STAGING DETAILS



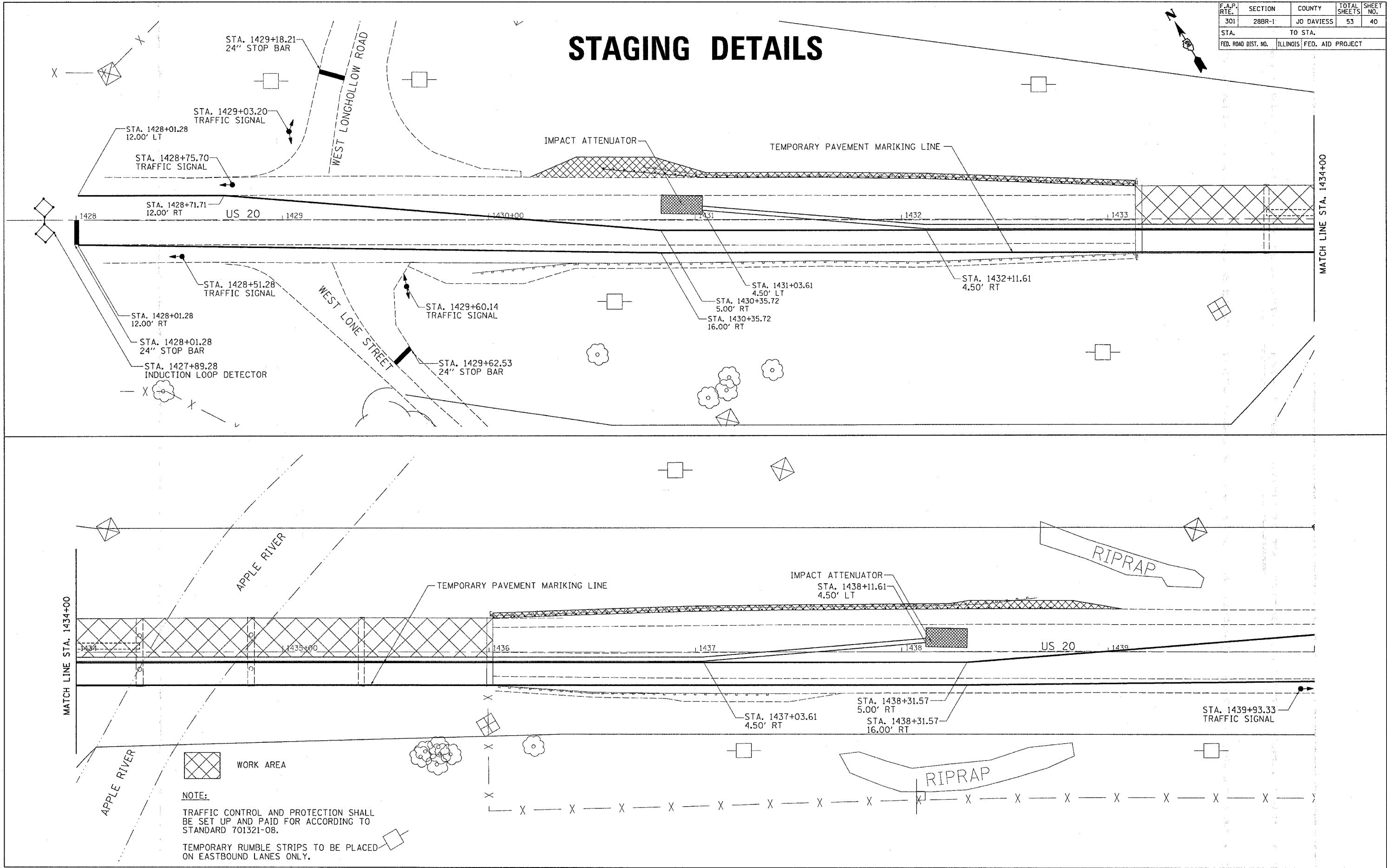
 WORK AREA

**NOTE:**  
 TRAFFIC CONTROL AND PROTECTION SHALL BE SET UP AND PAID FOR ACCORDING TO STANDARD 701321-08.  
 TEMPORARY RUMBLE STRIPS TO BE PLACED ON EASTBOUND LANES ONLY.

PLOT DATE = Thu Mar 30 08:00:24 2006  
 PLOT SCALE = 20.0000' = 1" (1:2000)  
 USER NAME = megjllj

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	40
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# STAGING DETAILS



WORK AREA

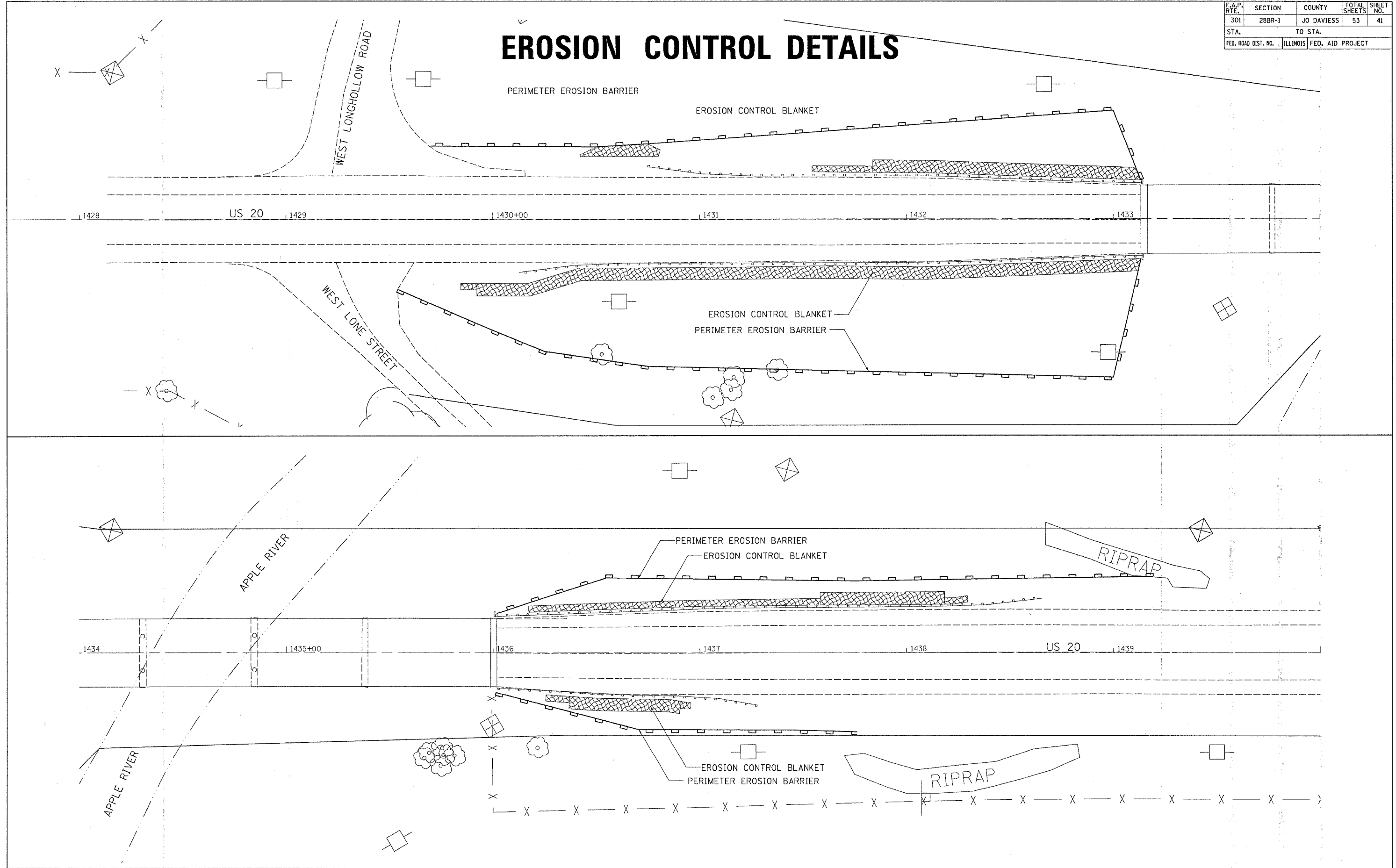
**NOTE:**  
 TRAFFIC CONTROL AND PROTECTION SHALL BE SET UP AND PAID FOR ACCORDING TO STANDARD 701321-08.  
 TEMPORARY RUMBLE STRIPS TO BE PLACED ON EASTBOUND LANES ONLY.

PLOT DATE = Thu Mar 30 09:00:24 2006  
 PLOT SCALE = 20.0000' / IN.  
 USER NAME = megillj



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

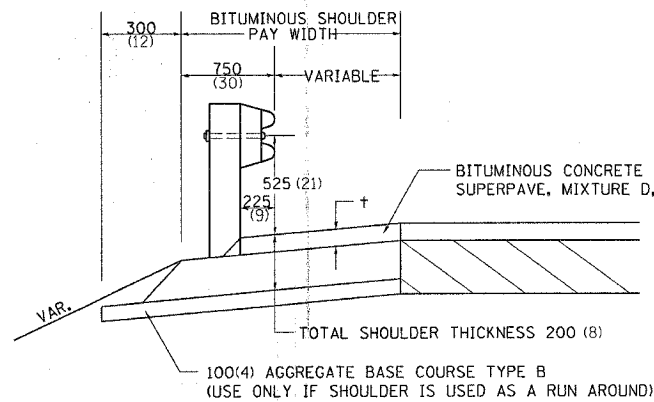
# EROSION CONTROL DETAILS



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 USER NAME = mgj11j

CONTRACT NO. 64A49			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
301	28BR-1	JO DAVIESS	53
SHEET NO.		42	
STA.		TO STA.	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

# DETAIL OF BITUMINOUS SHOULDER AT GUARD RAIL



† = SEE TYPICAL SECTIONS FOR THICKNESS

**GENERAL NOTES**

THE TOP LIFT SHALL NOT BE PLACED BEHIND THE GUARDRAIL POSTS. WHEN PLACING THE TOP LIFT THE RAIL MUST BE REMOVED FROM THE POSTS. THE POST SHALL NOT BE REMOVED.

THE HEIGHT OF THE GUARD RAIL SHALL BE SET 525 (21) FROM THE FINISHED SURFACE.

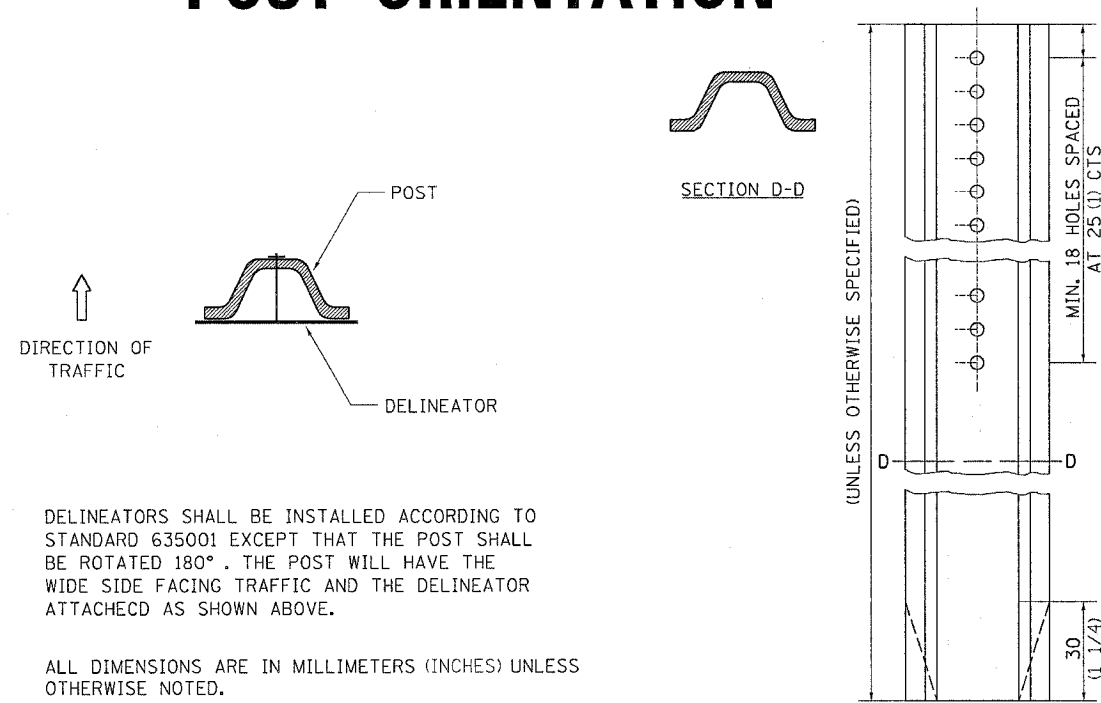
THE BITUMINOUS SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIXTURE C, N50. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIXTURE C, N50, AND SQUARE METER (SQUARE YARD) FOR BITUMINOUS SHOULDERS SUPERPAVE OF THE THICKNESS SPECIFIED. THE REMOVAL & REINSTALLATION OF THE GUARDRAIL WILL BE INCLUDED IN THE COST OF THE BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIXTURE C, N50.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

**DETAIL OF BITUMINOUS SHOULDER AT GUARD RAIL 23.4**

REVISED 1-17-02

# DELINEATOR AND POST ORIENTATION



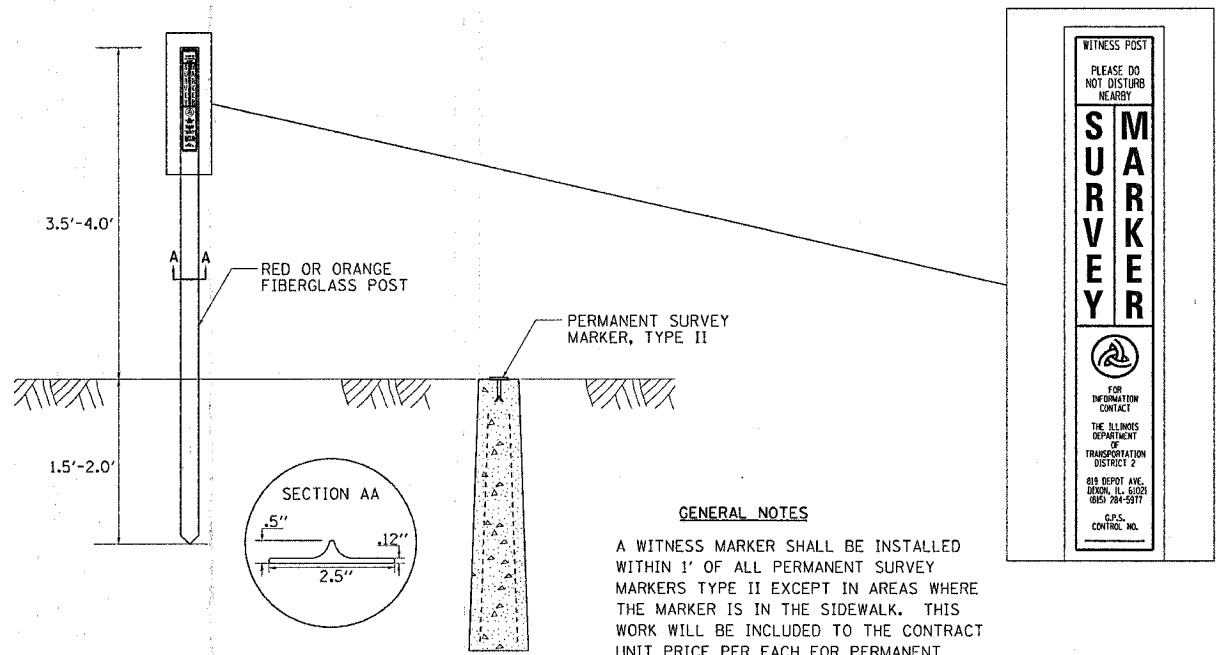
DELINEATORS SHALL BE INSTALLED ACCORDING TO STANDARD 635001 EXCEPT THAT THE POST SHALL BE ROTATED 180°. THE POST WILL HAVE THE WIDE SIDE FACING TRAFFIC AND THE DELINEATOR ATTACHED AS SHOWN ABOVE.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

**DELINEATOR AND POST ORIENTATION 37.4**

REVISED 1-31-00

# WITNESS MARKER FOR PERMANENT SURVEY MARKERS TYPE II



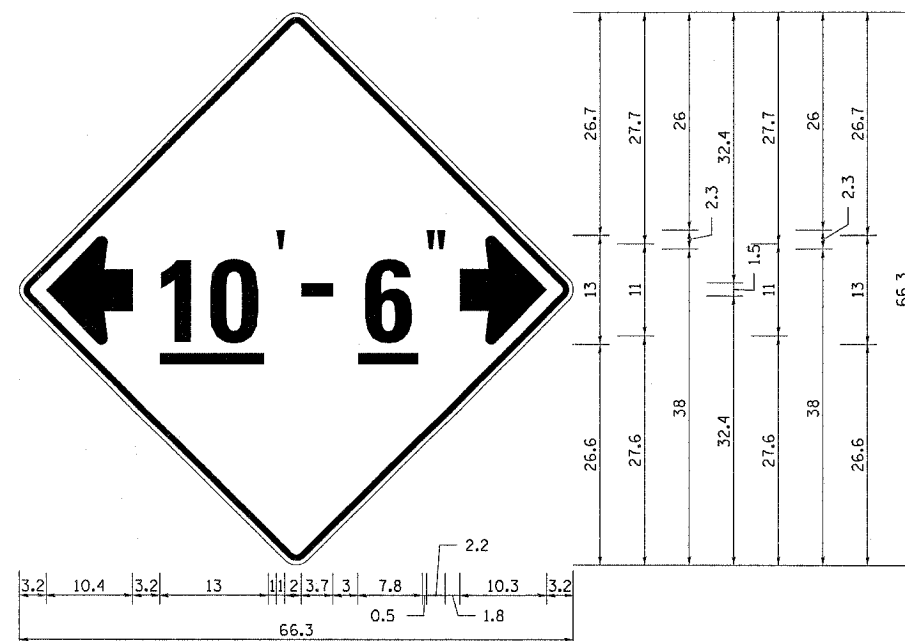
**GENERAL NOTES**

A WITNESS MARKER SHALL BE INSTALLED WITHIN 1' OF ALL PERMANENT SURVEY MARKERS TYPE II EXCEPT IN AREAS WHERE THE MARKER IS IN THE SIDEWALK. THIS WORK WILL BE INCLUDED TO THE CONTRACT UNIT PRICE PER EACH FOR PERMANENT SURVEY MARKERS, TYPE II.

**WITNESS MARKER FOR PERMANENT SURVEY MARKERS TYPE II 38.4**

REVISED 1-31-00

# INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES)



**NOTES**

W12-2 - Horizontal Clearance Sign, 48.0" across sides, 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange; Standard Arrow Custom 10.4" X 8.1" 180° Black 11 Inch D Series Lettering; Standard Arrow Custom 10.4" X 8.1" 0°

All work to furnish and install these signs shall be included in the cost of the Traffic Control Standards and shall not be paid for separately.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

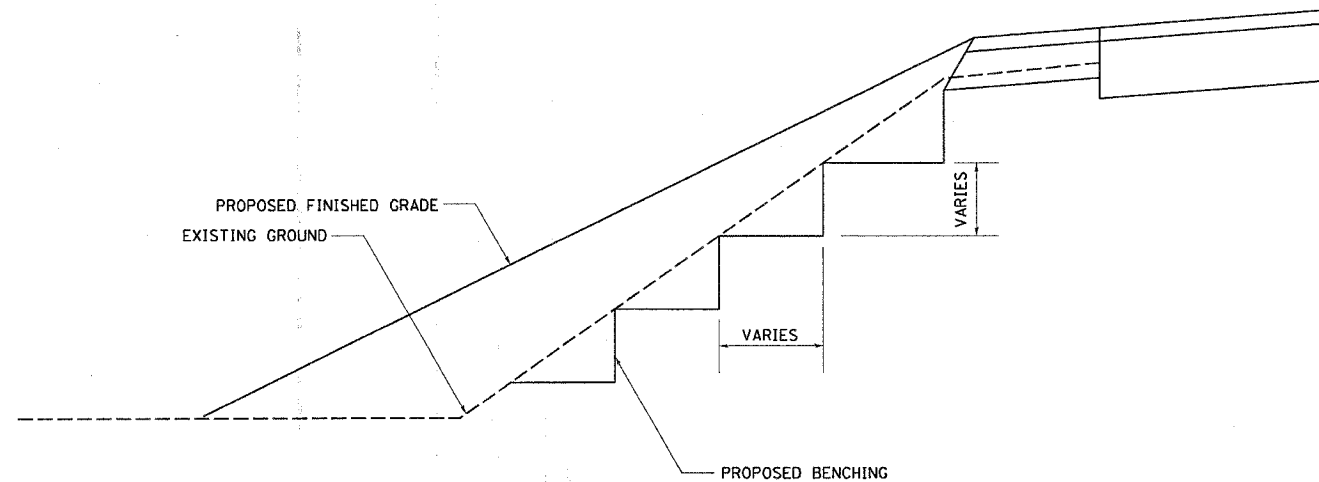
**INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES) 39.4**

REVISED 6-29-05

PLOT DATE: Thu, Mar 29 09:23:18 2006  
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 PLOT SCALE: 50.0000 / IN.  
 REFERENCE: #REF#

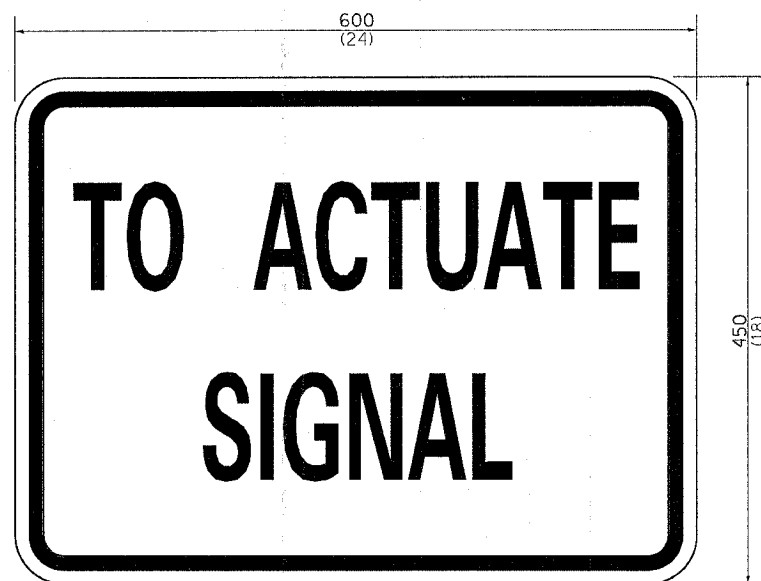
CONTRACT NO. 64A49				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	43
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# TYPICAL BENCHING ON EXISTING EMBANKMENT



TYPICAL BENCHING ON EXISTING EMBANKMENT 50.4  
REVISED 2-22-06

# STOP LINE SIGN FOR TEMPORARY SIGNALS



SIZE: 600(24) x 450(18)  
 100(4) CAPITAL LETTERS - BLACK  
 13 (1/2) BORDER - BLACK  
 WHITE REFLECTIVE - TYPE B  
 ENGINEERING GRADE SHEETING

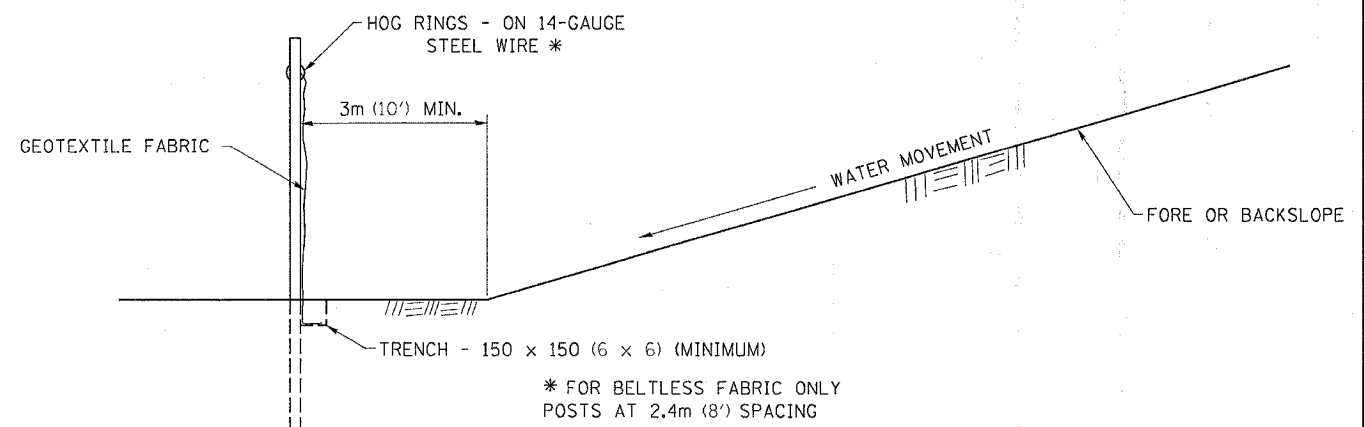
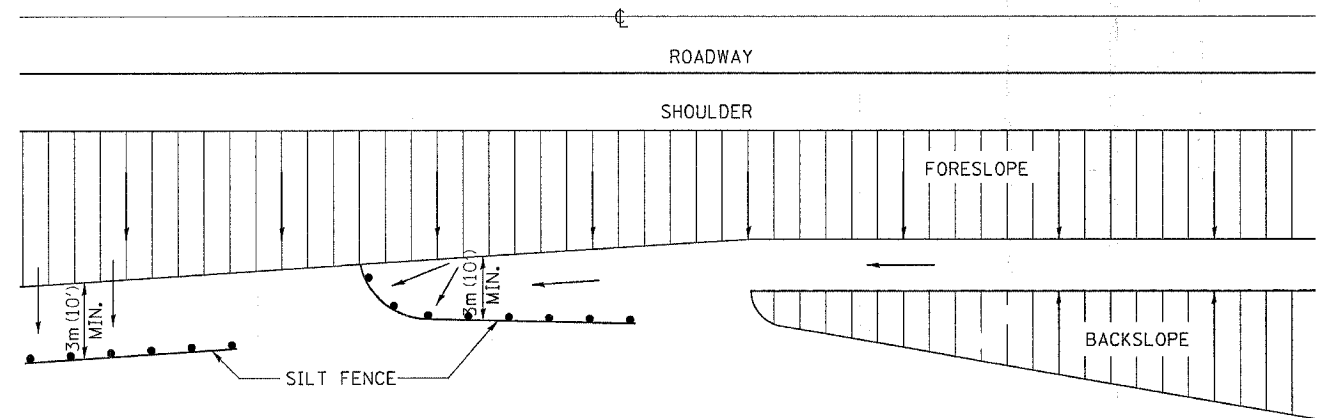
**GENERAL NOTE:**

THIS SIGN SHALL BE INSTALLED AT THE STOP LINE AS DIRECTED BY ENGINEER.  
 ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

STOP LINE SIGN FOR TEMPORARY SIGNALS 99.4

REVISED 8-7-90

# EROSION CONTROL DETAILS FOR SILT FENCE



DETAILS OF SILT FENCE

\* FOR BELTLESS FABRIC ONLY  
 POSTS AT 2.4m (8') SPACING

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

EROSION CONTROL DETAILS FOR SILT FENCE 29.2

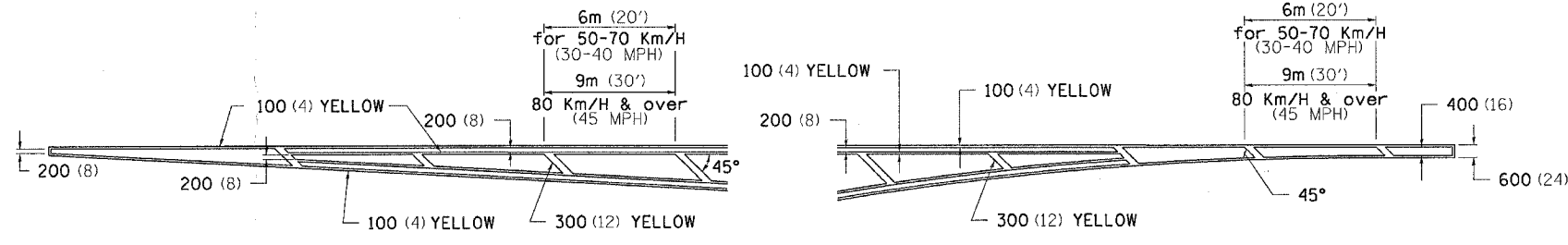
REVISED 10-22-01

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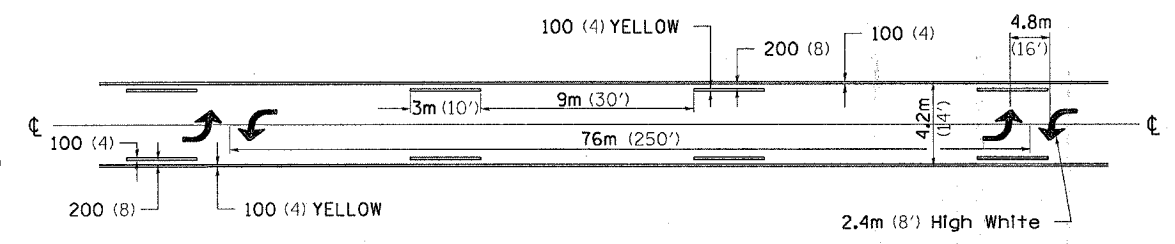
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	44
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# TYPICAL PAVEMENT MARKINGS

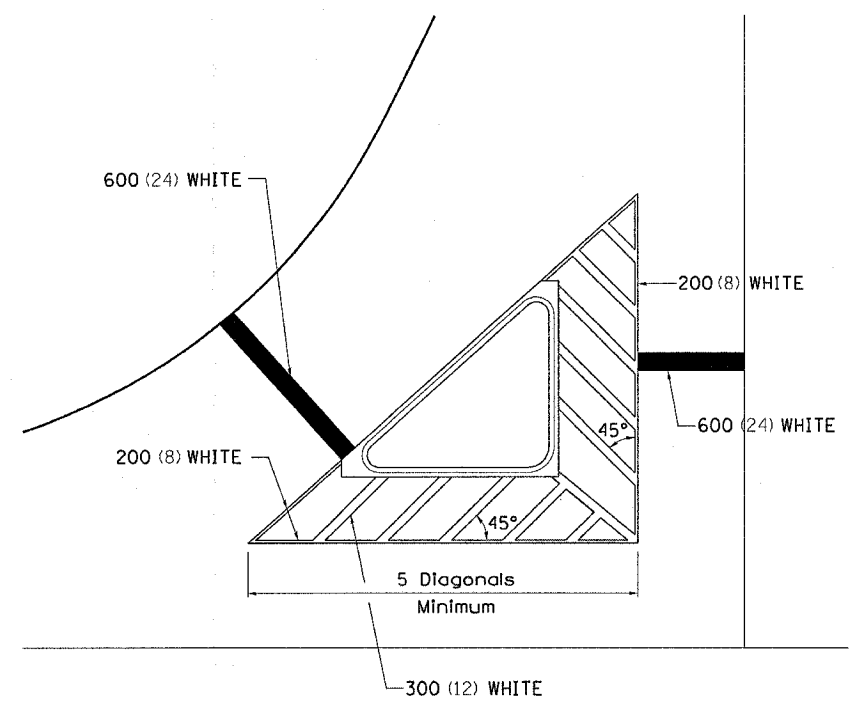
TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



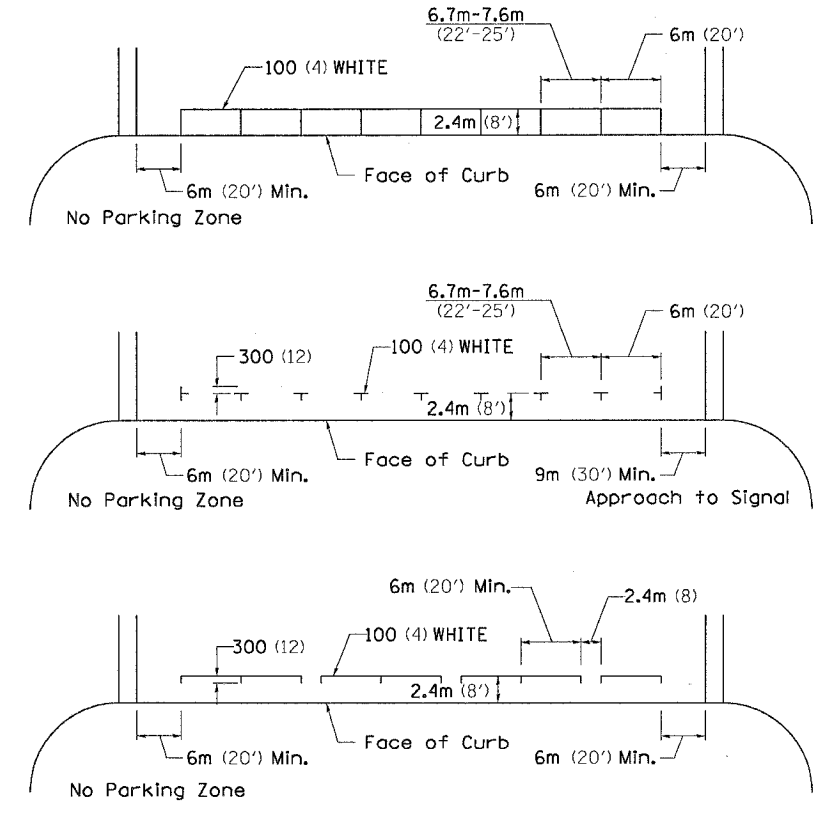
MEDIAN PAVEMENT MARKING



TYPICAL ISLAND OFFSET SHOULDER WIDTH

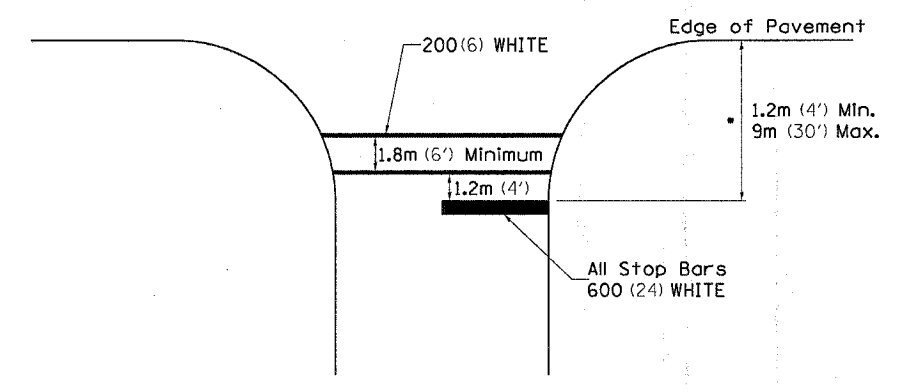


TYPICAL PARKING SPACING



•• ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

STANDARD CROSSWALK MARKING  
See Schedules for Locations



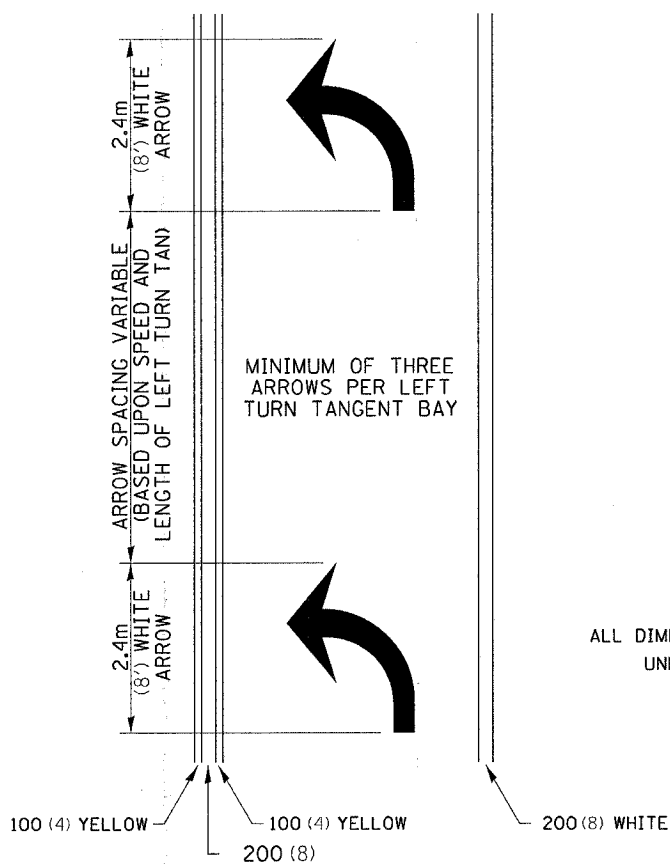
• Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

PLOT DATE = Thu Mar 26 07:55:35 2008  
 PLOT SCALE = 50.0000 / IN.  
 PLOT REFERENCE = REF#

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	45
S.T.A.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

# TYPICAL PAVEMENT MARKINGS

## ARROW LAYOUT

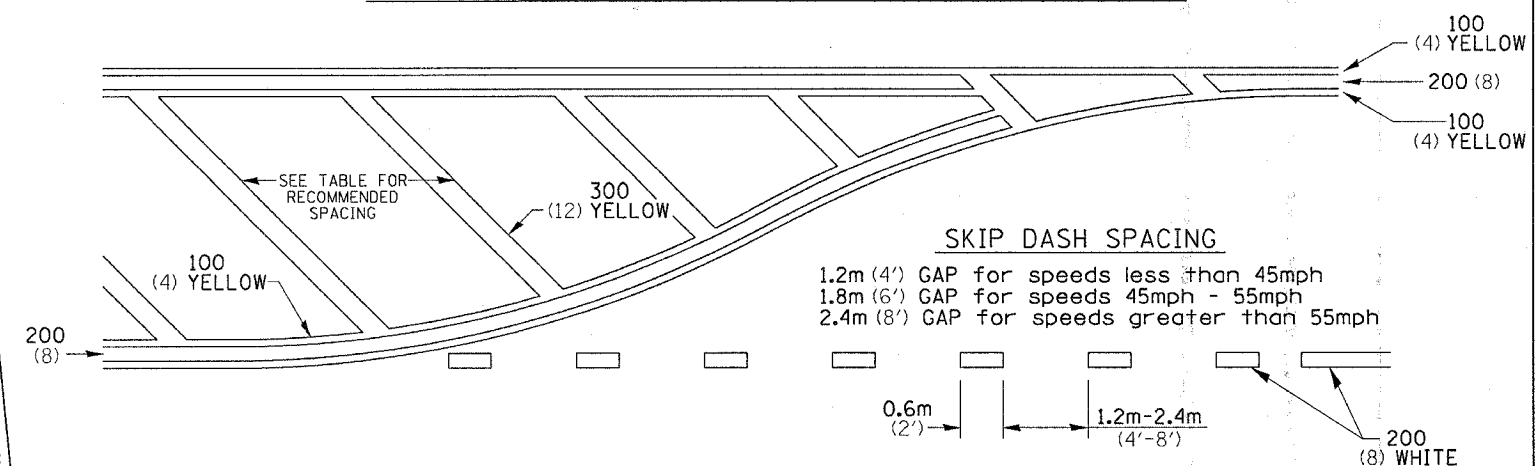


ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

- ▲ ONE-WAY AMBER MARKER
- △ ONE-WAY CRYSTAL MARKER
- ◆ TWO-WAY AMBER MARKER

12.2m  
6 at (40') O.C.  
APPROACH SIDE ONLY

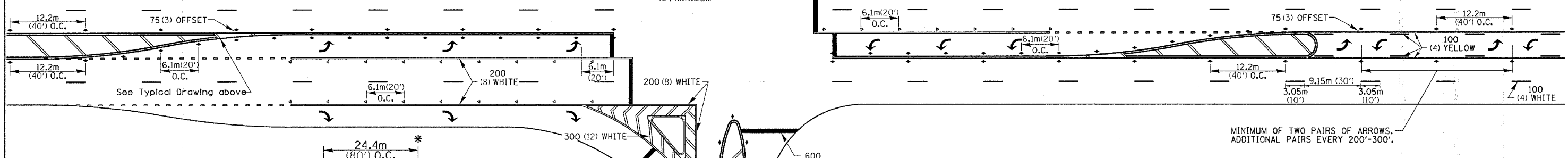
## TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



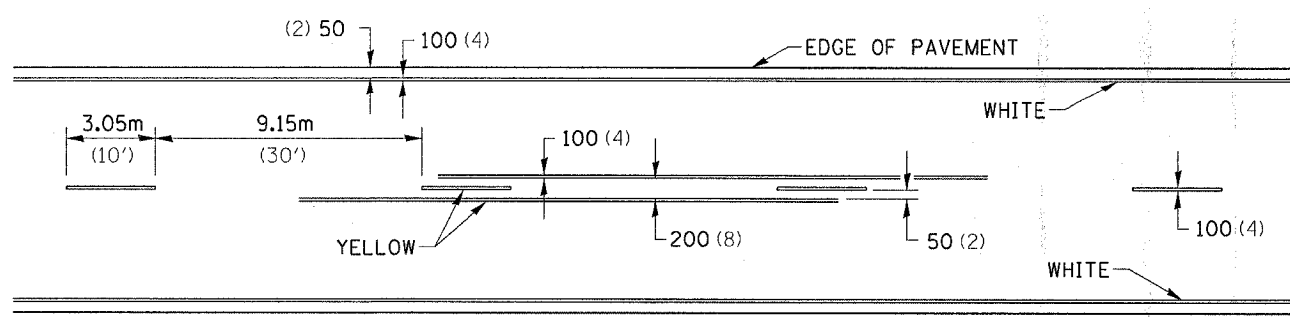
## RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 50Km/H (30MPH)	15.3m (50')	4.53m (15')	3.05m (10')
50-60Km/H (30-40MPH)	22.9m (75')	6.1m (20')	4.53m (15')
70Km/H (45MPH) & over	22.9m (75')	9.05m (30')	6.1m (20')

NOTE: if the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.



## TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION - NO PASSING ZONES



## SYMBOLS

See Typical Drawing above  
12.2m  
6 at (40') O.C.  
APPROACH SIDE ONLY

- REDUCE TO 12.2m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 15Km/H (10MPH) LOWER THAN POSTED SPEEDS.
- USE DOUBLE MARKERS WHEN ADT ≥ 25,000

## MULTI-LANE / UNDIVIDED

PLOT DATE = Thu Mar 30 07:56:34 2006  
 PLOT SCALE = 50.00000 / 1 IN.  
 REFERENCE = #REF#

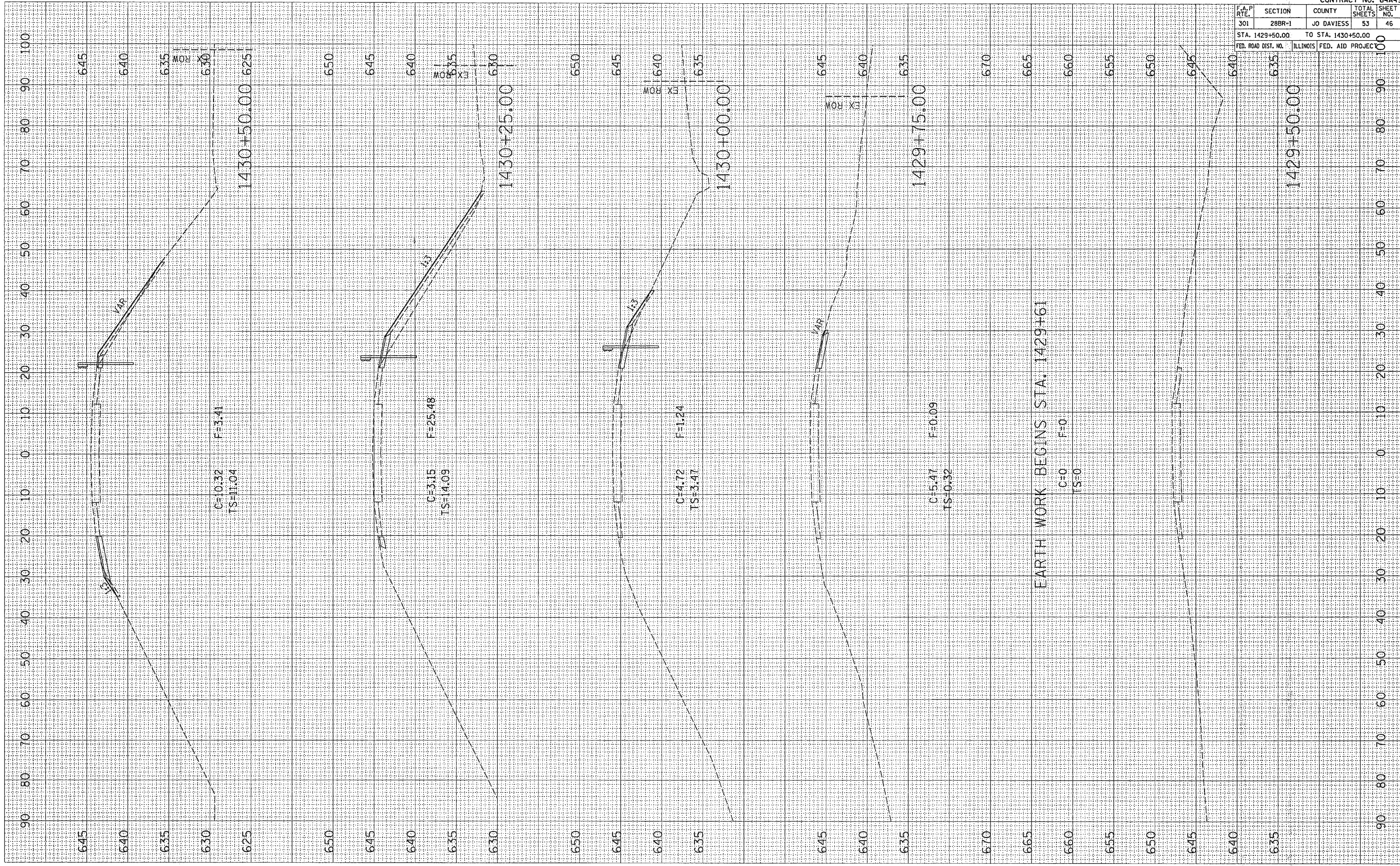


PLOT DATE = Thu Mar 30 08:07:04 2006  
 PLOT SCALE = 1" = 40' (Horizontal) / 1" = 20' (Vertical)  
 USER NAME = mgh11j

ORIGINAL SURVEY PLOTTED  
 SURVEYED PLOTTED  
 NOTE BOOK NO. \_\_\_\_\_  
 AREA CHECKED \_\_\_\_\_

FINAL SURVEY PLOTTED  
 SURVEYED PLOTTED  
 NOTE BOOK NO. \_\_\_\_\_  
 AREA CHECKED \_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_



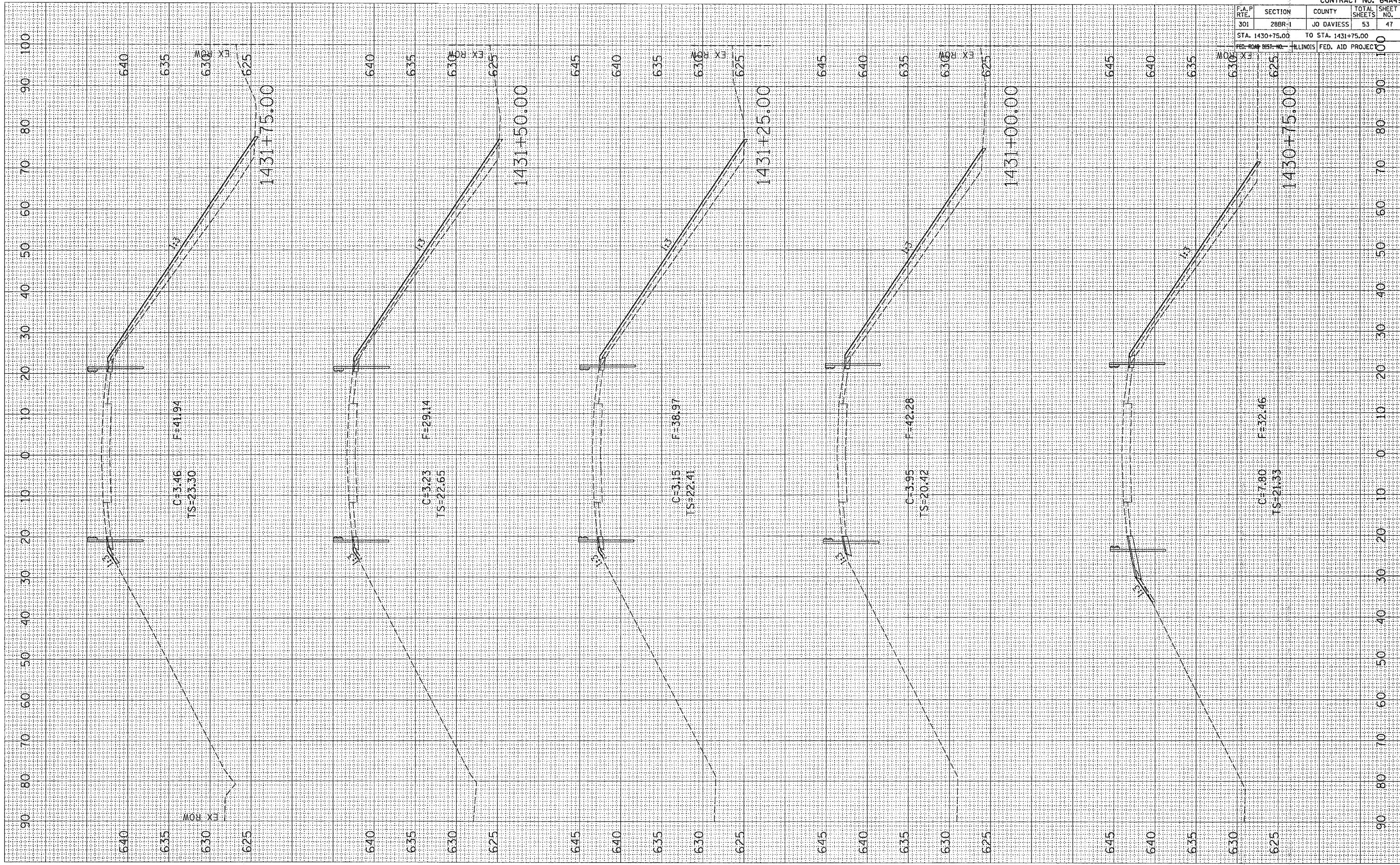
CONTRACT NO. 64A49				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	46
STA. 1429+50.00		TO STA. 1430+50.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



PLOT DATE : Thu Mar 30 08:07:10 2006  
 PLOT SCALE : 1" = 40.000000' (12.80203048 m)  
 USER NAME : megh11

ORIGINAL SURVEY  
 SURVEY PLOTTED  
 NOTE BOOK NO. \_\_\_\_\_  
 BY \_\_\_\_\_ DATE \_\_\_\_\_

FINAL SURVEY  
 SURVEY PLOTTED  
 NOTE BOOK NO. \_\_\_\_\_  
 BY \_\_\_\_\_ DATE \_\_\_\_\_



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	47
STA. 1430+75.00		TO STA. 1431+75.00		

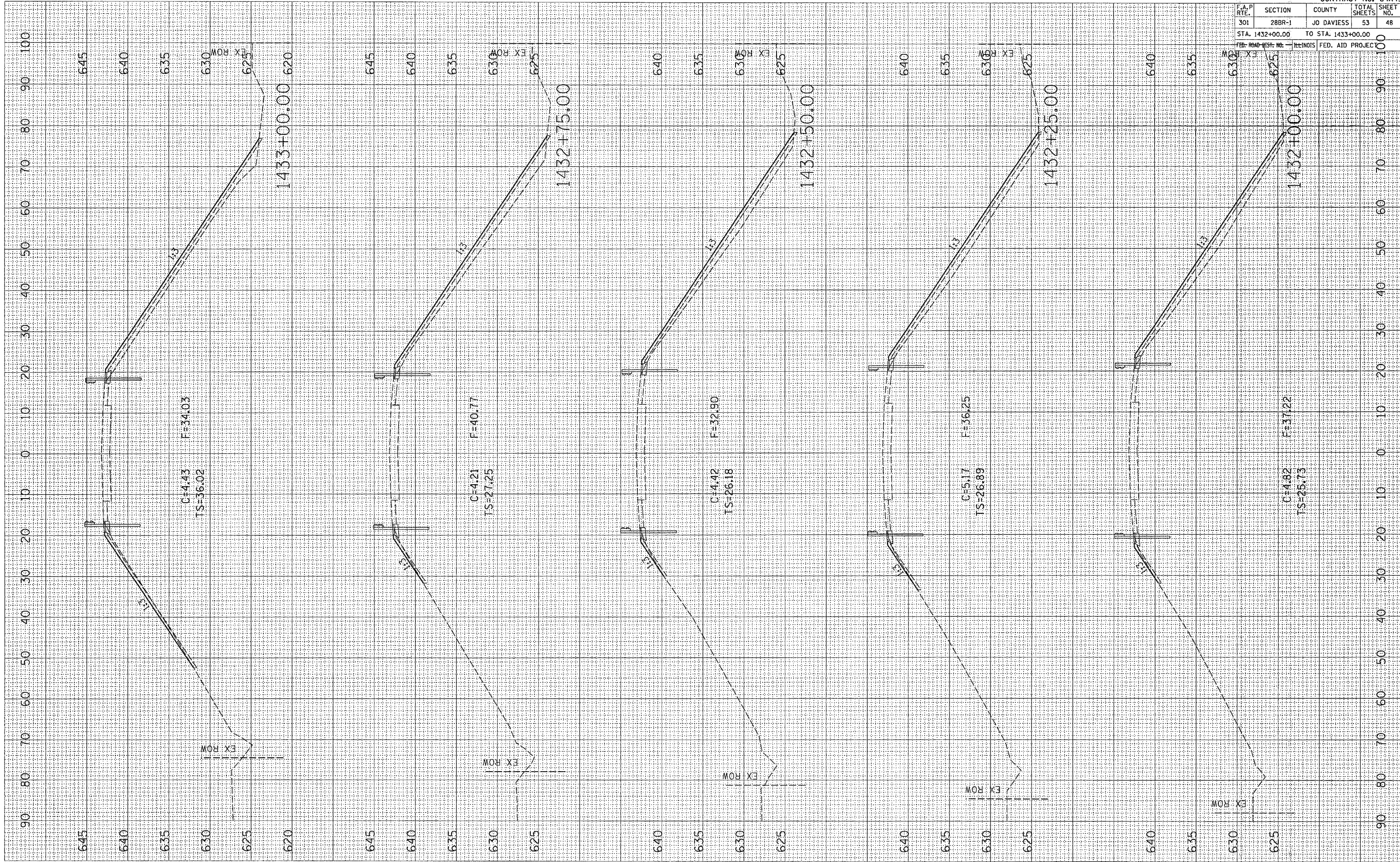
CONTRACT NO. 64A49



PLOT DATE : Thu Mar 30 08:07:18 2006  
 PLOT SCALE : 1" = 40' (Horizontal) / 1" = 10' (Vertical)  
 USER NAME : mgh11j

ORIGINAL SURVEY PLOTTED BY DATE  
 SURVEY PLOTTED BY DATE  
 NOTE BOOK NO. AREAS CHECKED

FINAL SURVEY PLOTTED BY DATE  
 SURVEY PLOTTED BY DATE  
 NOTE BOOK NO. AREAS CHECKED



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	48

STA. 1432+00.00 TO STA. 1433+00.00  
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



PLOT DATE = Thu Mar 30 08:47:11 2006  
 PLOT SCALE = 1/8" = 100'  
 USER NAME = mgj111

ORIGINAL SURVEY PLOTTED  
 SURVEY PLOTTED  
 NOTE BOOK NO.  
 BY DATE

FINAL SURVEY PLOTTED  
 SURVEY PLOTTED  
 NOTE BOOK NO.  
 BY DATE



CONTRACT NO. 64A49				
F.A.P. FILE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	49
STA. 1433+25.00 TO STA. 1434+25.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

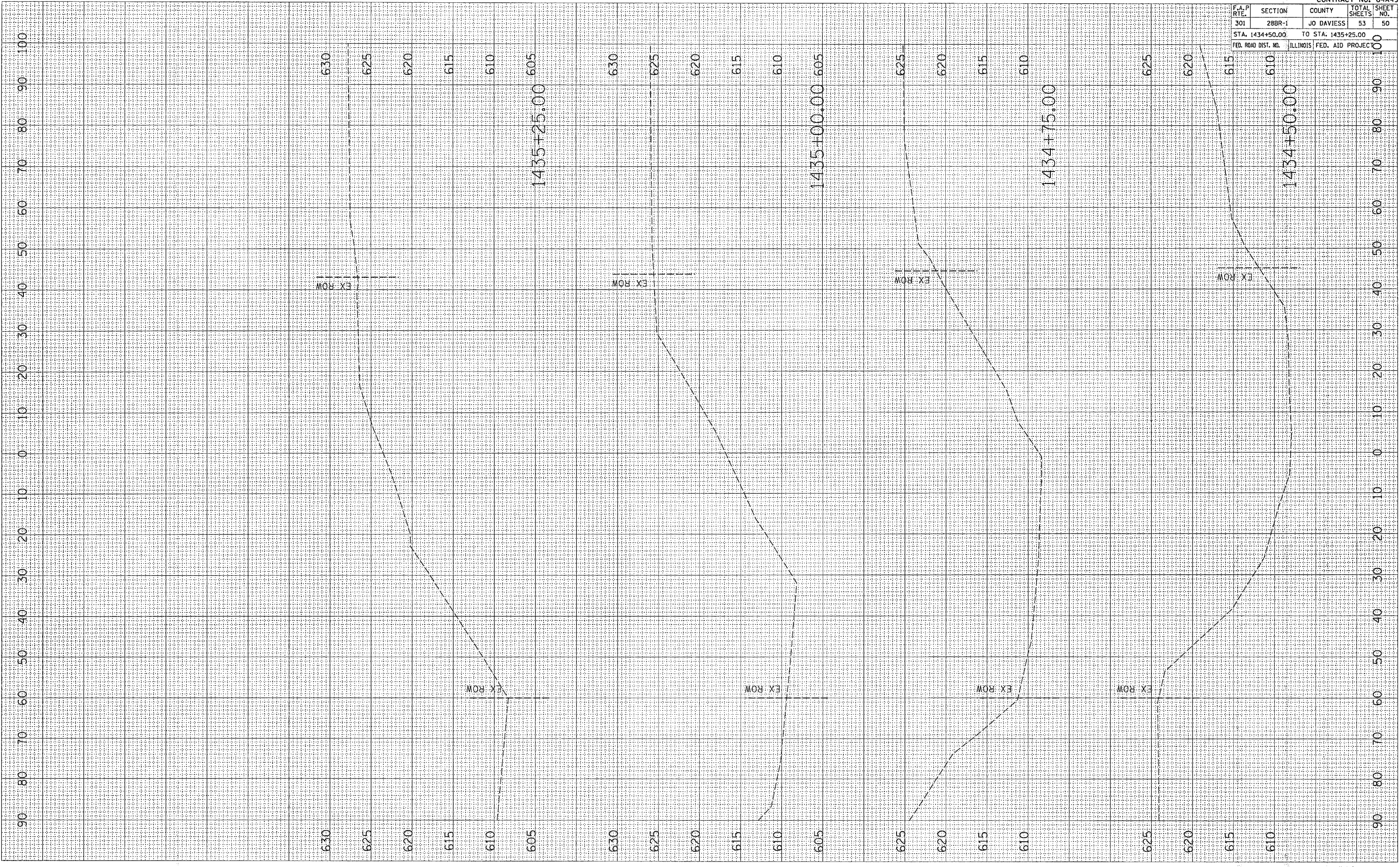


PLOT DATE = Thu Mar 26 09:07:11 2008  
 FILE NAME = c:\p0\mca\20030305\600305.dwg  
 PLOT SCALE = 10.0000 / in.  
 USER NAME = mgplj

ORIGINAL SURVEY  
 SURVEY NO. \_\_\_\_\_  
 PLOT NO. \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_

FINAL SURVEY  
 SURVEY NO. \_\_\_\_\_  
 PLOT NO. \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_

BY \_\_\_\_\_  
 DATE \_\_\_\_\_



CONTRACT NO. 64A49				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	288R-1	JO DAVIESS	53	50
STA. 1434+50.00 TO STA. 1435+25.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJEC				

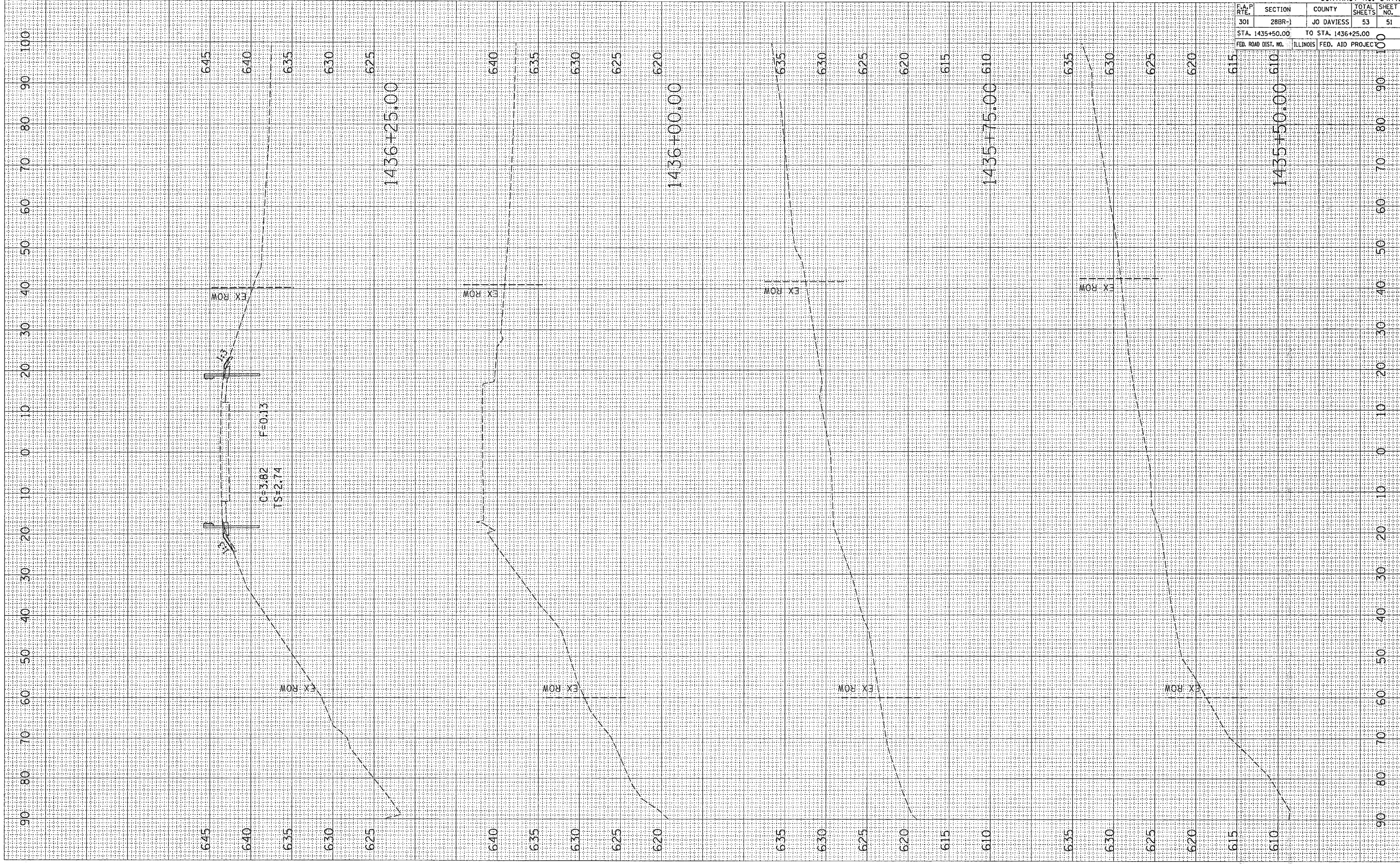


PLOT DATE = Thu Mar 30 09:37:11 2006  
 PLOT SCALE = 10 0000  
 USER NAME = megalij

ORIGINAL SURVEY  
 SURVEYED  
 PLOTTED  
 NOTE BOOK  
 NO.

FINAL SURVEY  
 SURVEYED  
 PLOTTED  
 NOTE BOOK  
 NO.

BY  
 DATE



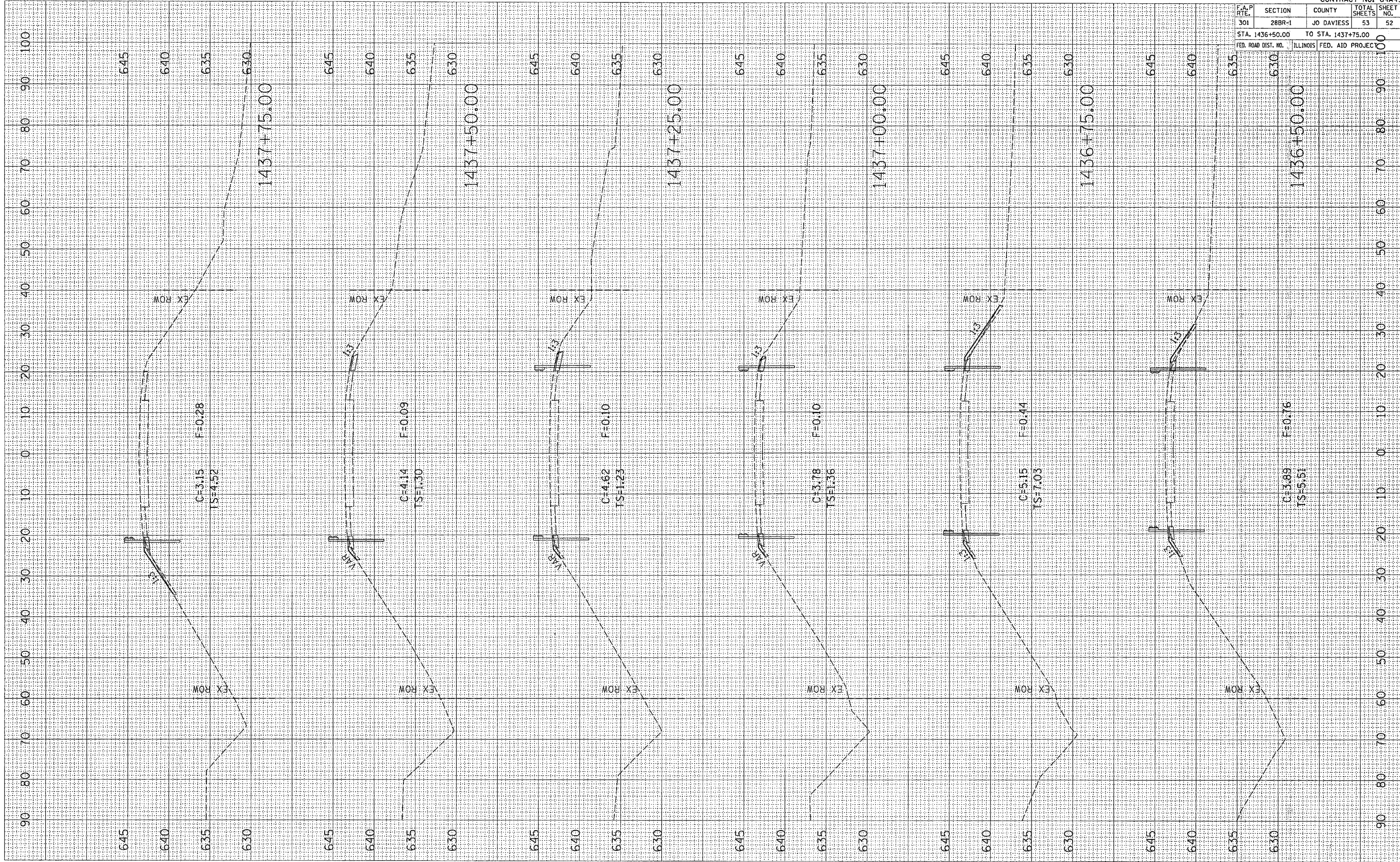
CONTRACT NO. 64A49				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	51
STA. 1435+50.00		TO STA. 1436+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



PLOT DATE = Thu Mar 30 09:07:12 2006  
 PLOT SCALE = 1/8" = 100'  
 USER NAME = meglu

ORIGINAL SURVEY BY: T. J. ATE  
 SURVEYED BY: T. J. ATE  
 PLOTTED BY: T. J. ATE  
 NO. AREAS CHECKED

FINAL SURVEY BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 NO. AREAS CHECKED



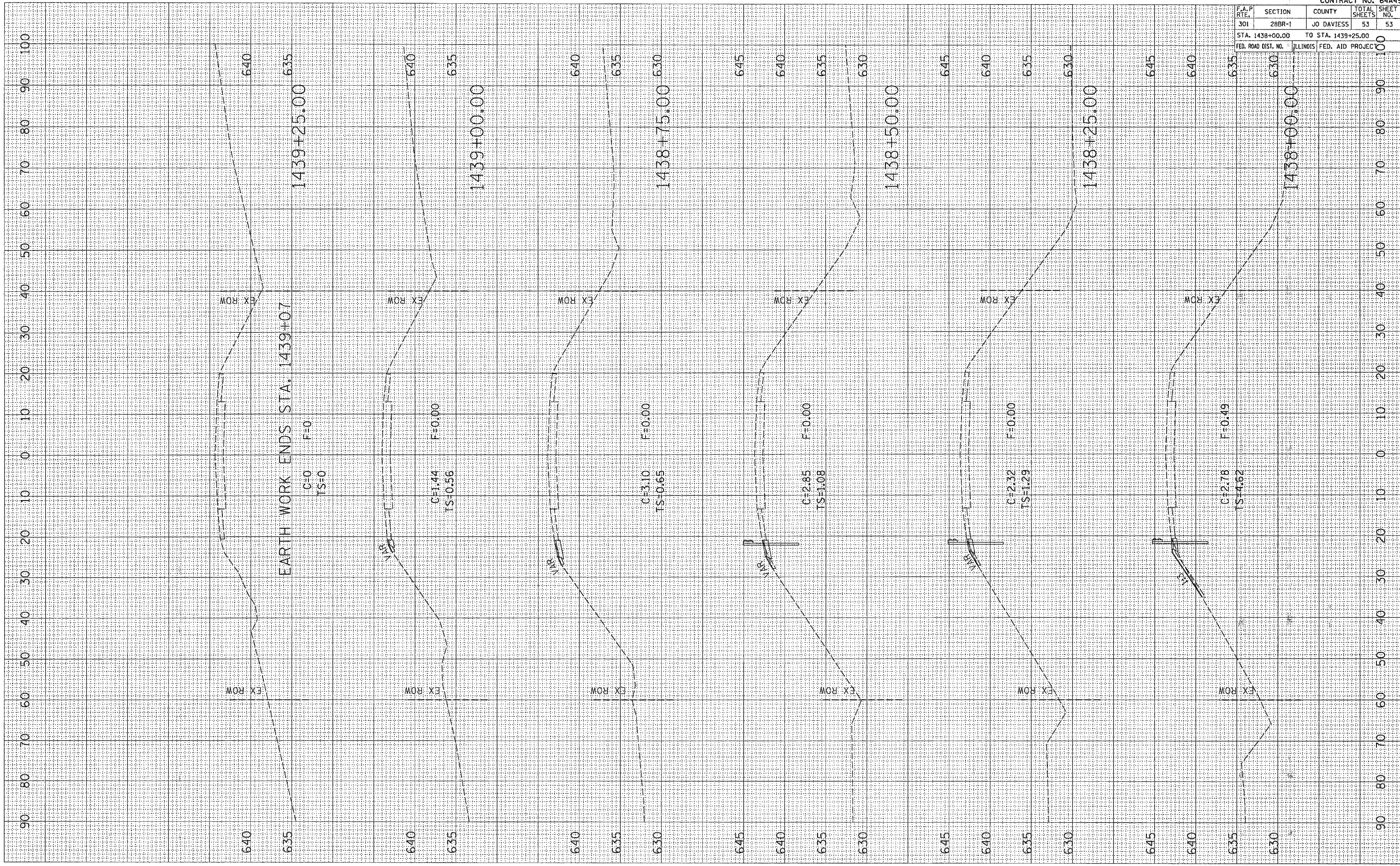
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	28BR-1	JO DAVIESS	53	52
STA. 1436+50.00 TO STA. 1437+75.00				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



PLOT DATE: Thu Nov 30 09:47:12 2006  
 PLOT SCALE: 1/8"=1'-0"  
 USER NAME: mag111

ORIGINAL SURVEY PLOTTED DATE: \_\_\_\_\_  
 SURVEY PLOTTED DATE: \_\_\_\_\_  
 NOTE BOOK NO.: \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

FINAL SURVEY PLOTTED DATE: \_\_\_\_\_  
 SURVEY PLOTTED DATE: \_\_\_\_\_  
 NOTE BOOK NO.: \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	288R-1	JO DAVIESS	53	53
STA. 1438+00.00		TO STA. 1439+25.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		