

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	1
FED. ROAD DIST. NO. 7 ILLINOIS		FEDERAL AID PROJECT		
CONTRACT NO. 95430				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL - AID BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

**TR 22 (POPE ROAD)
SECTION 04-15109-00-BR
PROJECT NO. BROS-121(40)
MARION COUNTY
OVER LOST CREEK
C-97-098-04**

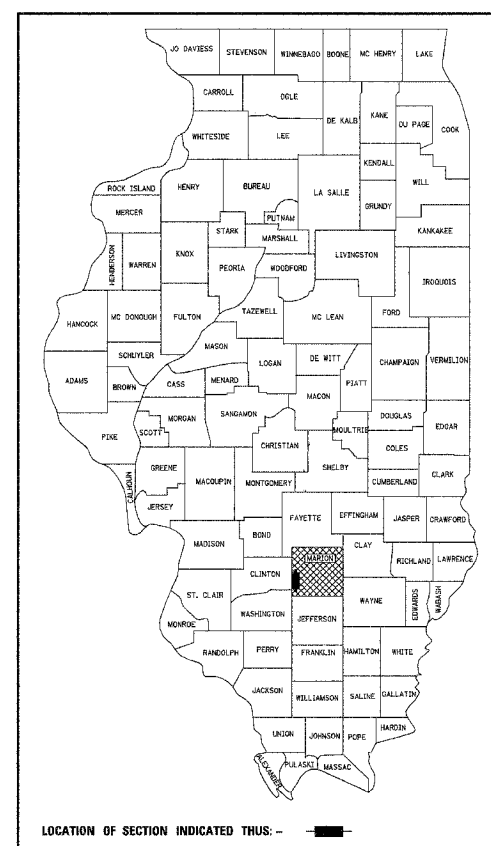
INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND TYPICAL SECTIONS
3. PLAN AND PROFILE OF ROADWAY
4. CROSS SECTIONS OF ROADWAY
5. GENERAL PLAN AND ELEVATION
- 6.-7. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
8. STEEL RAILING, TYPE S1 DETAILS
9. ABUTMENT DETAILS
10. PIER DETAILS

STANDARDS ARE INCLUDED IN PLANS AFTER SHEET NO. 10

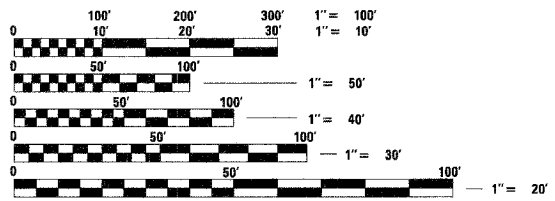
- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 515001-02 NAME PLATE FOR BRIDGES
- 630001-05 STEEL PLATE BEAM GUARD RAIL
- 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 702001-05 TRAFFIC CONTROL DEVICES
- BLR 21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SOIL BORINGS (SEE SPECIFICATIONS)



LOCATION OF SECTION INDICATED THUS: - [shaded box] -

DESIGN CLASSIFICATION: LOCAL ROAD (RURAL)
ADT₂₀₀₄ : 75
ADT₂₀₂₄ : 100
DESIGN SPEED - 30 MPH



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.

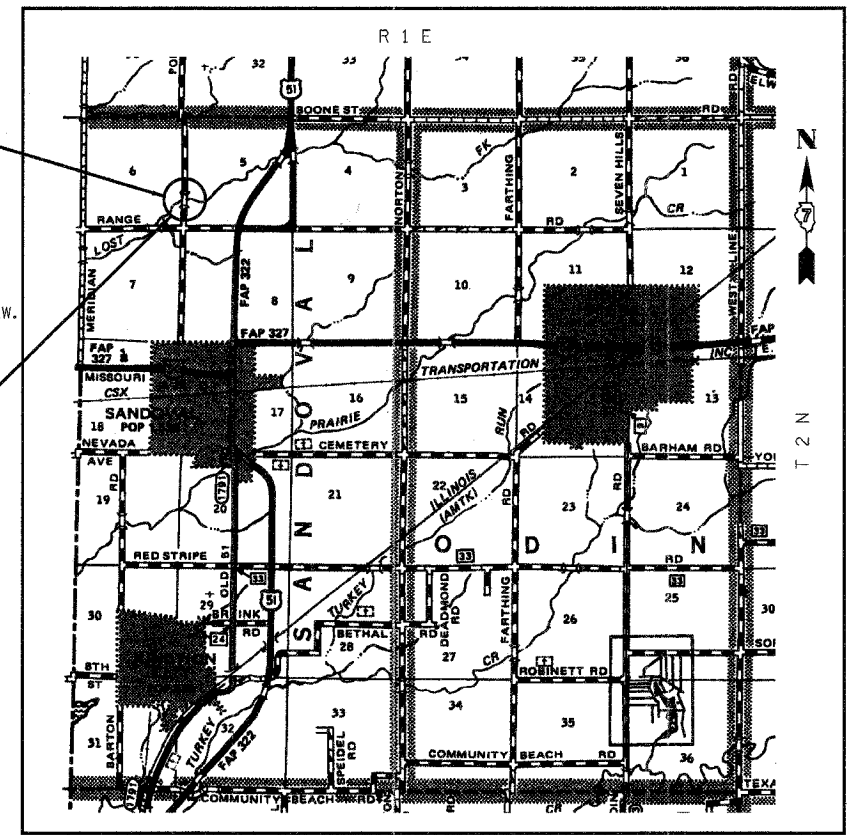
J.U.L.I.E.
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
1-800-892-0123 Website: <http://www.illinois1call.com>

CONTRACT NUMBER: 95430

SECTION 04-15109-00-BR
INCLUDES THE CONSTRUCTION OF A THREE (3) SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 22 OVER LOST CREEK, 94'-4 1/2" BK TO BK ABUTMENTS, 45° AH. RT. SKEW. EXISTING STRUCTURE NO. 061-3189 PROPOSED STRUCTURE NO. 061-3299

SECTION ENDS
STA. 10+67.20

SECTION BEGINS
STA. 9+16.82



LOCATION: NEAR THE SE CORNER, SE 1/4, SECTION 6, T2N, R1E, 3RD P.M.
NET LENGTH OF PROJECT: 150.38 FT = 0.028 MI

APPROVED _____ 3-15, 2005
Jerry E. Ammon
COUNTY ENGINEER

THE ACCEPTANCE OF THIS PROJECT IS BASED ON THE MINIMUM DESIGN CRITERIA FOR A FEDERAL-AID BRIDGE REPLACEMENT AND REHABILITATION PROGRAM.

PASSED _____ 4/4, 2005
Maurice Karl
DISTRICT ENGINEER OF LOCAL ROADS AND STREETS

APPROVED _____ 4/4, 2005
Christie M. Reed
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Gary L. Hahn 03-15-05
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 62-42606
EXPIRES NOV. 30, 2005



Gary L. Hahn 03-15-05
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 81-4853
EXPIRES NOV. 30, 2006

SUMMARY OF QUANTITIES

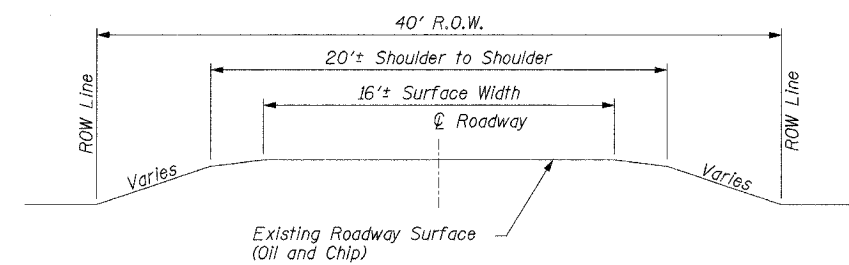
Code No.	Item	Unit	Quantity	Location	
				X080	E000
20300100	CHANNEL EXCAVATION	CU YD	45	45	-
* 20700110	POROUS GRANULAR EMBANKMENT	TON	32	32	-
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1	-	0.1
* 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	180	180	-
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	158	-	158
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	-
50300225	CONCRETE STRUCTURES	CU YD	43.6	43.6	-
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2208	2208	-
50800105	REINFORCEMENT BARS	POUND	4960	4960	-
50900205	STEEL RAILING, TYPE S1	FOOT	190	190	-
** 51201600	FURNISHING STEEL PILES HP12X53	FOOT	855	855	-
** 51202700	DRIVING STEEL PILES	FOOT	855	855	-
** 51203600	TEST PILE STEEL HP12X53	EACH	1	1	-
51204315	CONCRETE ENCASMENT	CU YD	13.0	13.0	-
51500100	NAME PLATES	EACH	1	1	-
542A0220	PIPE CULVERTS, CLASS A, TYPE 1 15"	FOOT	20	-	20
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	-	4

* See Special Provisions
 ** The Contractor shall drive one (1) Steel HP12x53 Test Pile in a permanent location at the South Abutment as directed by the Engineer before ordering the remainder of the piles.

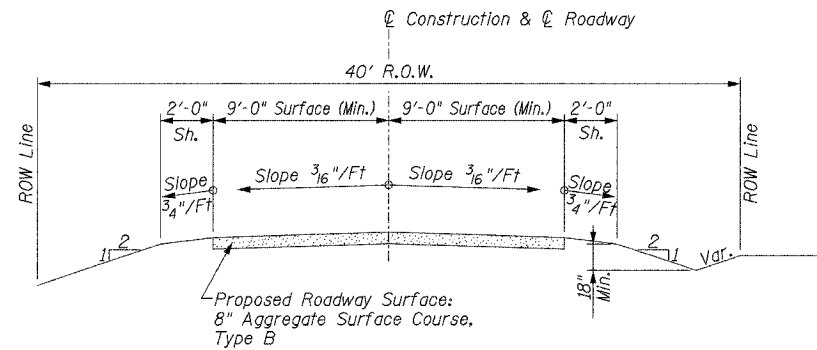
GENERAL NOTES

Centerline profiles refer to the finished surface.
 All Earthwork shall be considered incidental to Aggregate Surface Course, Type B, and no additional compensation will be allowed.
 Any reference to a Standard in these plans shall be interpreted to mean the edition as indicated by the sub-number listed in the Index of Sheets or the copy of the Standard included in these plans.
 Existing utilities shown are located from surface observations or information provided by the respective utilities and must be considered approximate. There may be others, the exact location of which are unknown and not shown. The Contractor will be responsible for notifying the respective utilities before work is begun. Field marking of underground utilities may be obtained by providing a minimum of 48 hours advance notice through the J.U.L.I.E. system by calling 1-800-892-0123, or by direct contact with non-members of J.U.L.I.E.
 The nominal thickness for surface course is shown on the Typical Sections, Standards, Schedules, or Special Details. The constructed thickness of the above item shall not be less than 90 percent of the nominal thickness at any location.
 Factors used for quantity calculations are as follows:
 Porous Granular Embankment 2.1 tons/cu. yd.
 Stone Dumped Riprap 130 pounds/cu. ft.
 Aggregate Surface Course 2.1 tons/cu. yd.

**SUMMARY OF QUANTITIES
 AND TYPICAL SECTIONS
 PROPOSED BRIDGE CARRYING
 TR 22 OVER LOST CREEK
 SECTION 04-15109-00-BR
 MARION COUNTY, ILLINOIS**



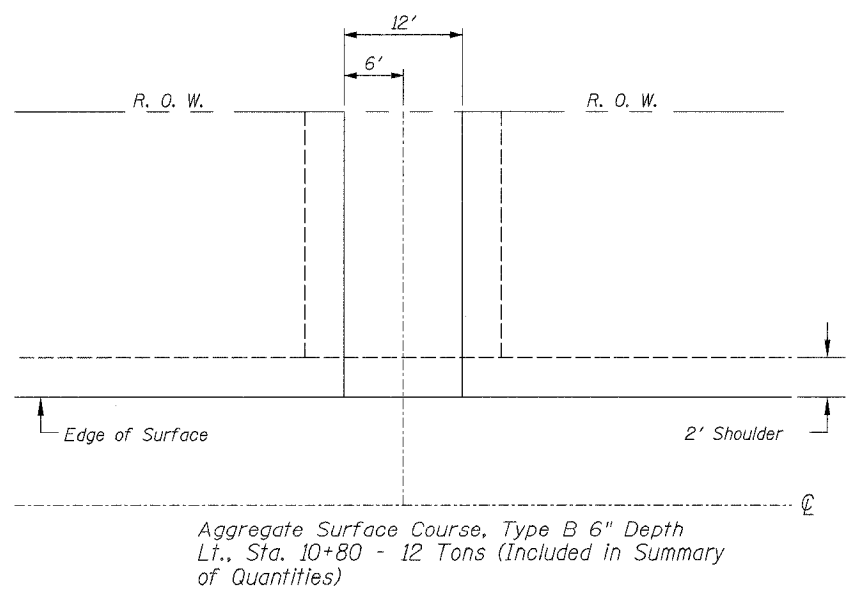
TYPICAL SECTION
 EXISTING APPROACH ROADWAY



TYPICAL SECTION
 PROPOSED APPROACH ROADWAY

UTILITIES

- Telephone
Frontier Communications 217-854-2222
R. Mark Burks
- Water
F M C Water Company 618-775-6339
Julia Miland
- City of Salem 618-548-2222
John Pruden
- Gas
Ameren IP 618-235-6201
Bill Niebrugge
- Electric
Tri-County Electric Co-Op 618-244-5151
Sue Echols

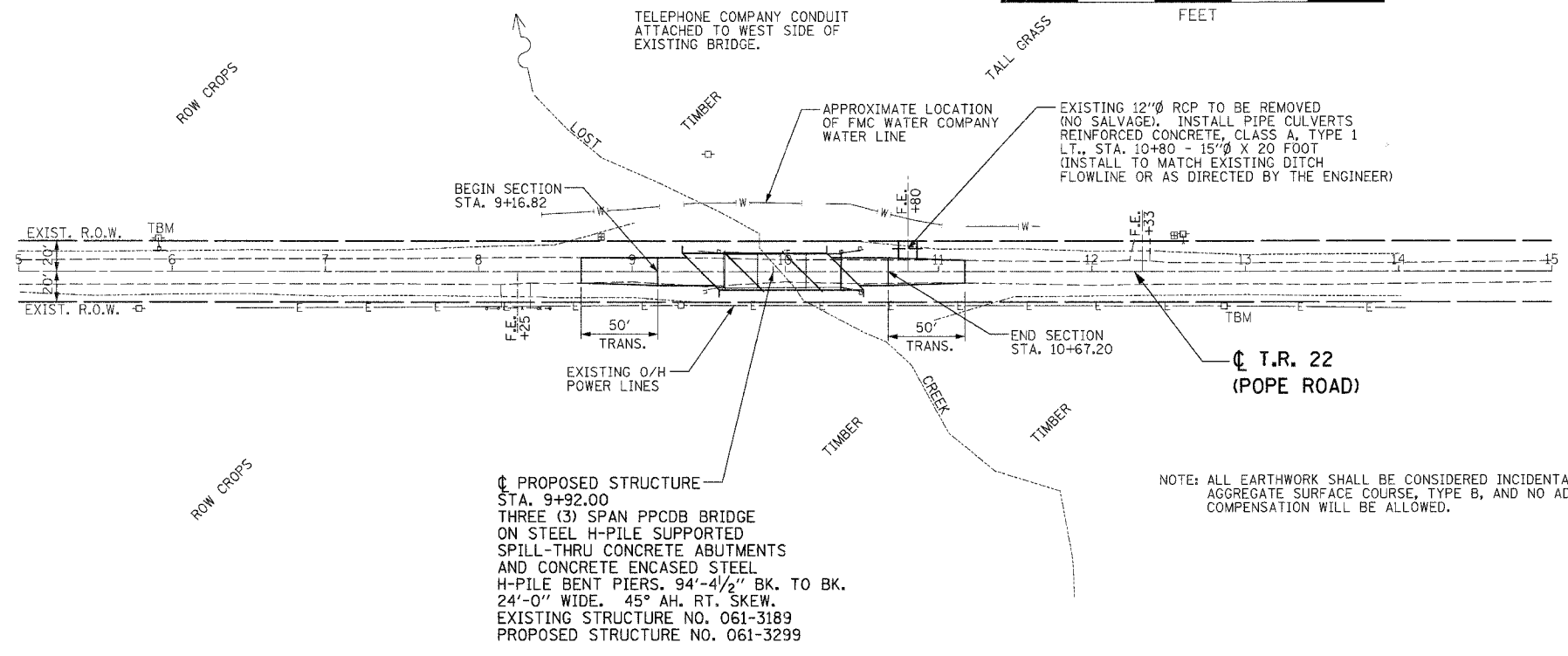
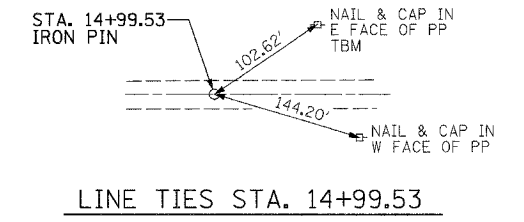
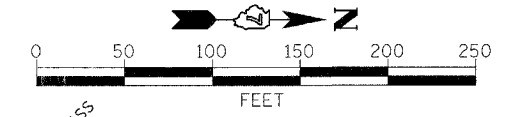
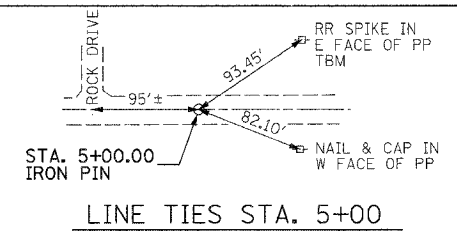


TYPICAL FIELD ENTRANCE

03/15/2005

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	3
STA. 5+00.00		TO STA. 15+00.00		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT
CONTRACT NO. 95430				

EXISTING STRUCTURE: THREE SPAN BRIDGE WITH PRECAST CONCRETE DECK SLABS SUPPORTED BY TIMBER PILE BENT ABUTMENTS AND TIMBER PILE PIERS WITH CONCRETE CAPS. 76'-10" L. x 22'-6" W. NO SKEW. EXISTING STRUCTURE NO. 061-3189

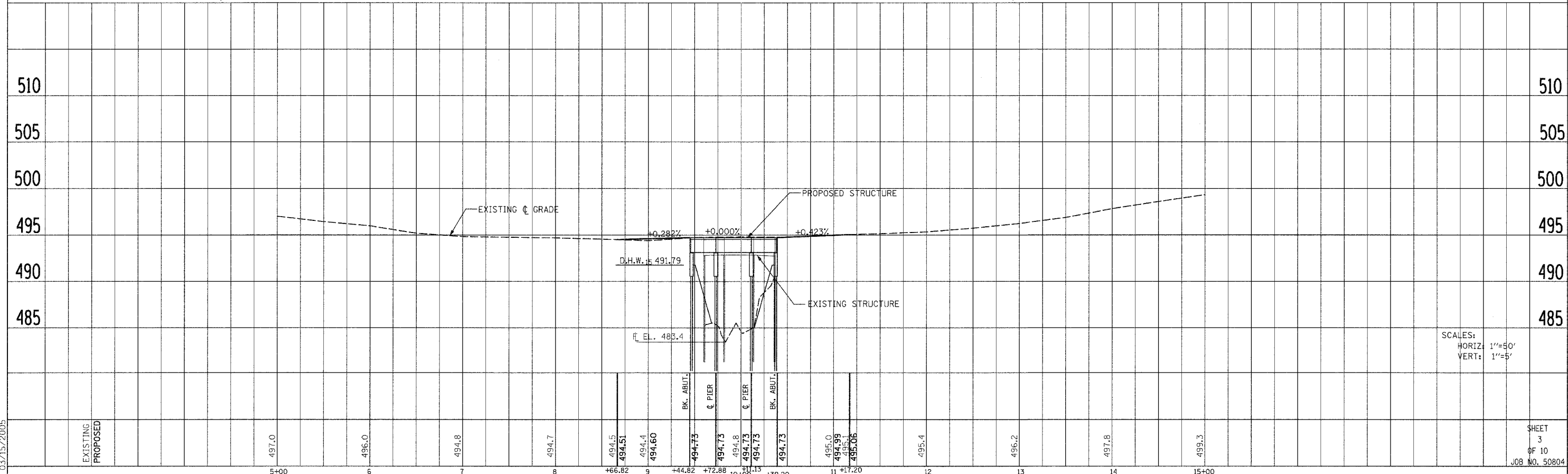


PROPOSED STRUCTURE
STA. 9+92.00
THREE (3) SPAN PPCDB BRIDGE ON STEEL H-PILE SUPPORTED SPILL-THRU CONCRETE ABUTMENTS AND CONCRETE ENCASED STEEL H-PILE BENT PIERS. 94'-4 1/2" BK. TO BK. 24'-0" WIDE. 45° AH. RT. SKEW. EXISTING STRUCTURE NO. 061-3189 PROPOSED STRUCTURE NO. 061-3299

TBM 7/15/04C - RR SPIKE IN EAST FACE OF POWER POLE, 21.87' LT., STA. 5+91.00 - ELEV. 496.56

TBM 7/15/04B - RR SPIKE IN WEST FACE OF POWER POLE, 21.29' RT., STA. 12+86.27 - ELEV. 498.21

THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS PLAT.



SCALES:
HORIZ: 1"=50'
VERT: 1"=5'

SHEET 3 OF 10
JOB NO. 50804

PLAN
REVISIONS
DATE
BY
NO. 1
NO. 2
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NO. 6
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PROFILE
REVISIONS
DATE
BY
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NO. 2
NO. 3
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NO. 97
NO. 98
NO. 99
NO. 100

03/15/2005

FINAL SURVEY CHECKED
 SURVEY PLOTTED
 NOTE BOOK TEMPLATE
 AREA
 FIGS CHECKED

ORIGINAL SURVEY CHECKED
 SURVEY PLOTTED
 NOTE BOOK TEMPLATE
 AREA
 FIGS CHECKED

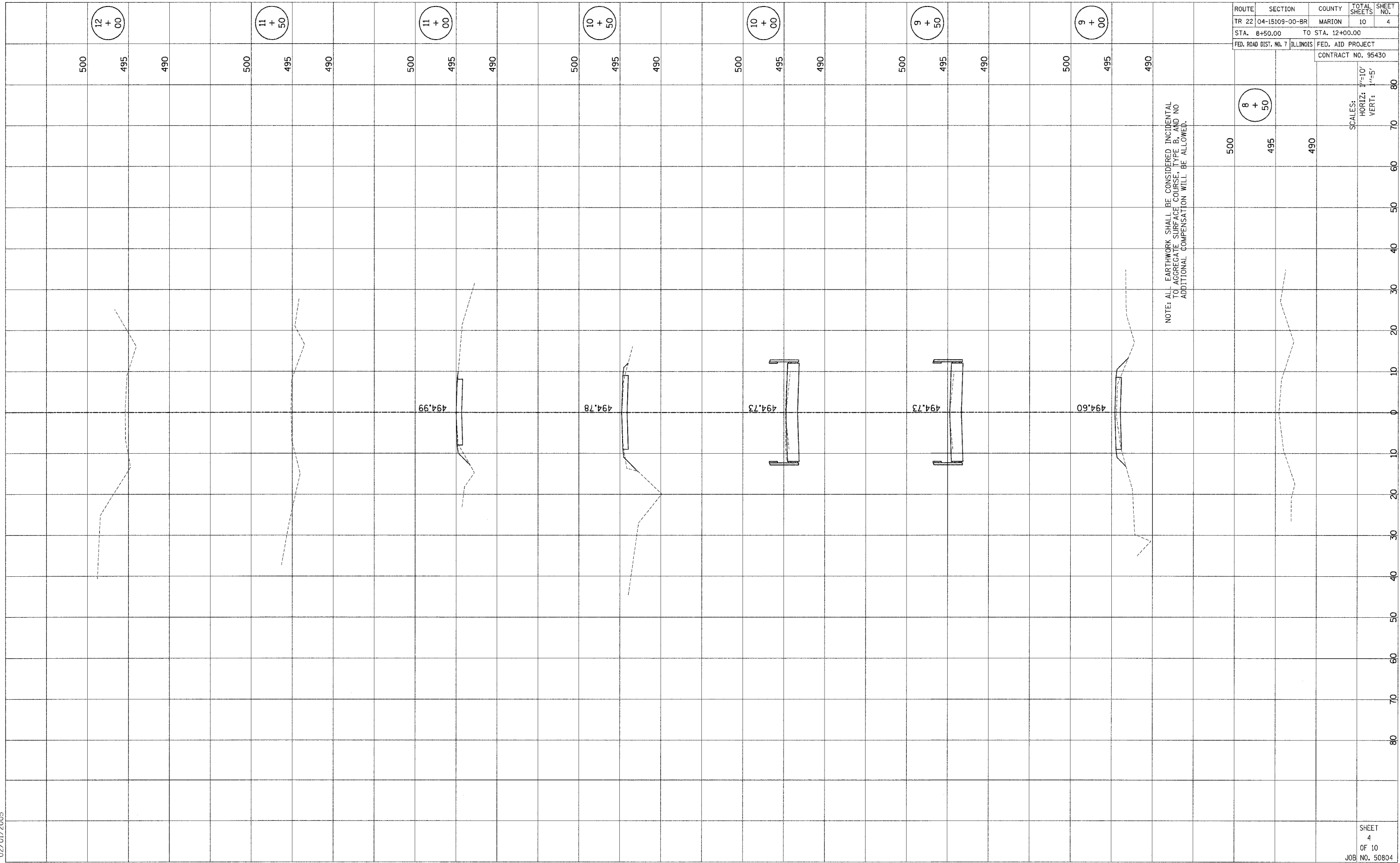
BY _____

BY _____

DATE _____

DATE _____

02/01/2005



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	4
STA. 8+50.00		TO STA. 12+00.00		
FED. ROAD DIST. NO. 7		ILLINOIS		
		FED. AID PROJECT		
CONTRACT NO. 95430				

500
 495
 490

8 + 50

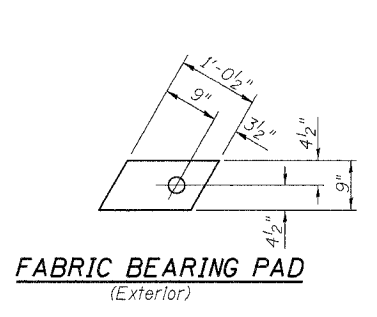
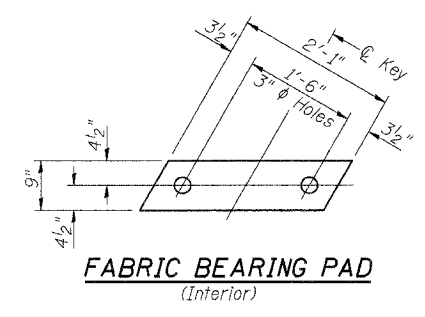
495
 490

SCALES:
 HORIZ: 1/4"=10'
 VERT: 1/8"=5'

NOTE: ALL EARTHWORK SHALL BE CONSIDERED INCIDENTAL TO AGGREGATE SURFACE COURSE, TYPE B, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

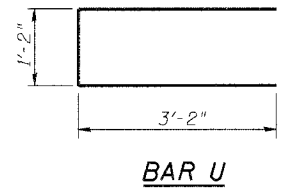
SHEET
 4
 OF 10
 JOB NO. 50804

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	6
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		
CONTRACT NO. 95430				

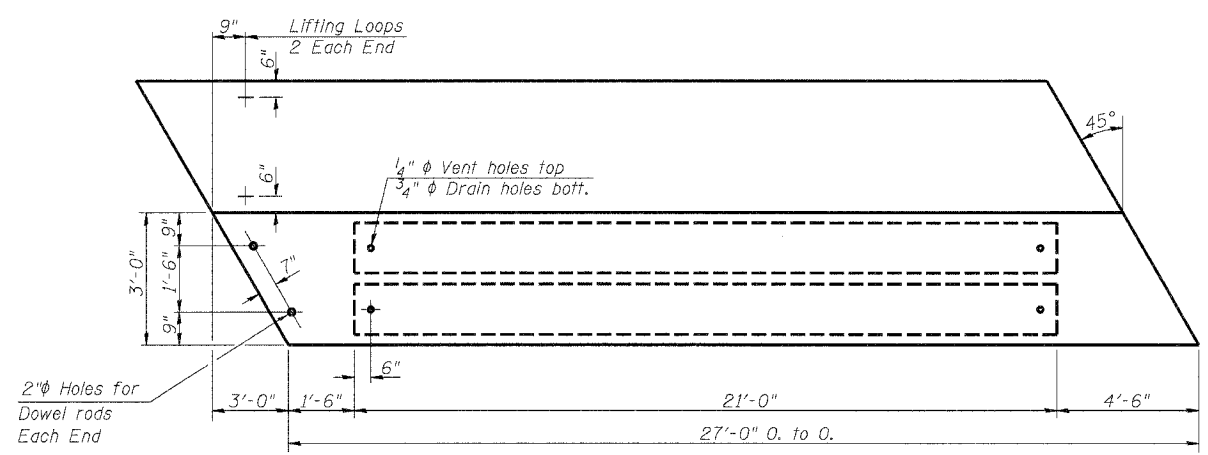


FABRIC BEARING PAD
(Interior)

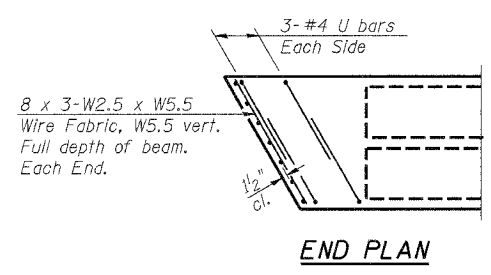
FABRIC BEARING PAD
(Exterior)



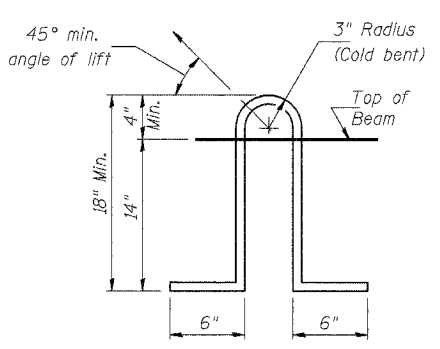
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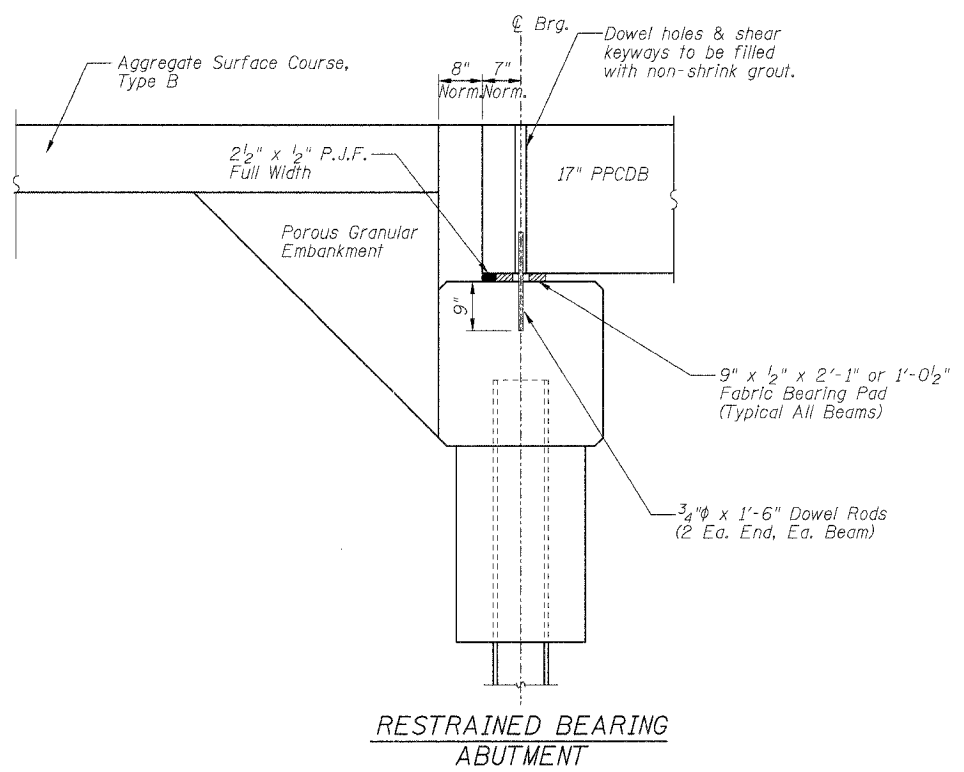
PLAN



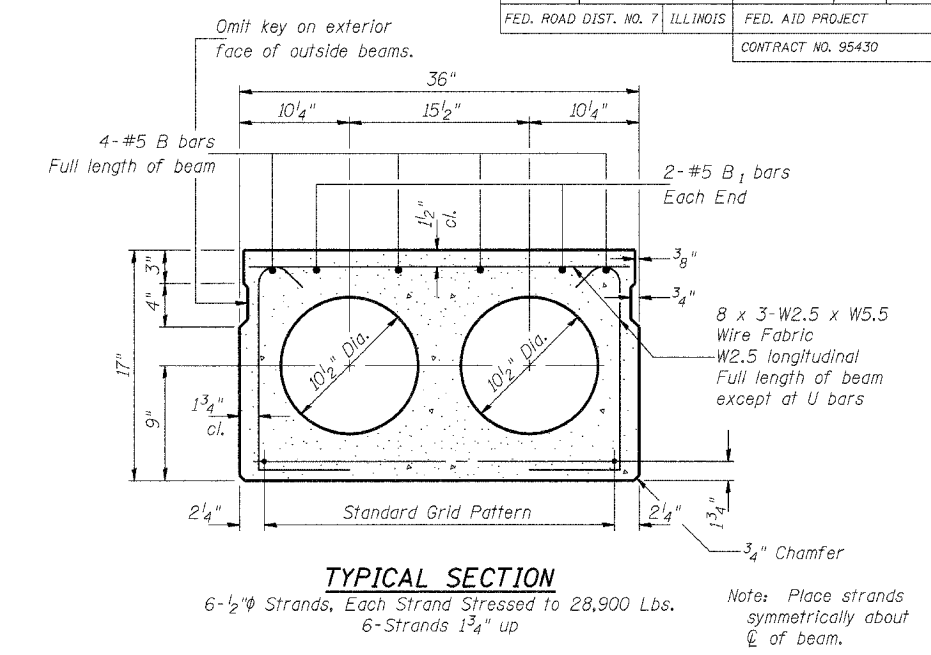
END PLAN



LIFTING LOOP DETAIL



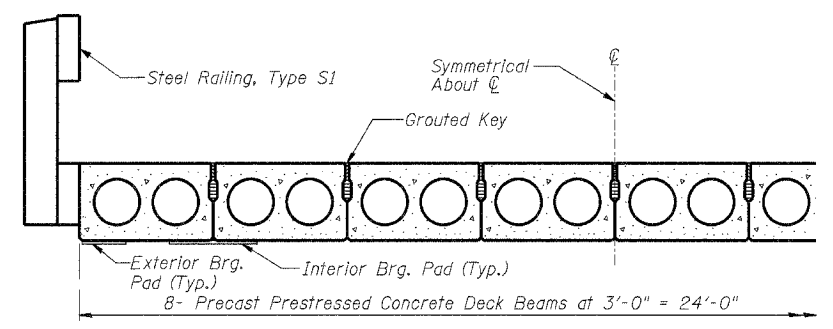
RESTRAINED BEARING ABUTMENT



TYPICAL SECTION

6-1/2" Strands, Each Strand Stressed to 28,900 Lbs.
6-Strands 1 3/4" up

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



HALF CROSS SECTION

BILL OF MATERIAL FOR ONE BEAM

Bar	No.	Size	Length	Shape
B	4	#5	26'-8"	—
B ₁	4	#5	5'-6"	—
U	12	#4	7'-6"	⊔
Precast Prestressed Conc. Deck Bms.		Sq. Ft.	81	
Reinforcement Bars		Pound	190	
Total Weight Each Beam		Pound	13400	

SPAN 1 OR 3

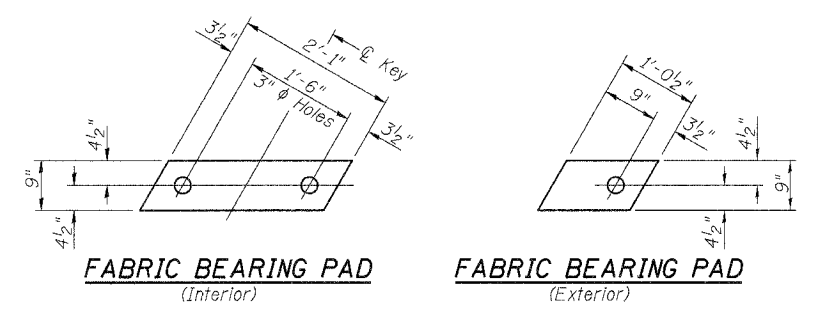
PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
PROPOSED BRIDGE CARRYING TR 22 OVER LOST CREEK SECTION 04-15109-00-BR MARION COUNTY, ILLINOIS

NOTES

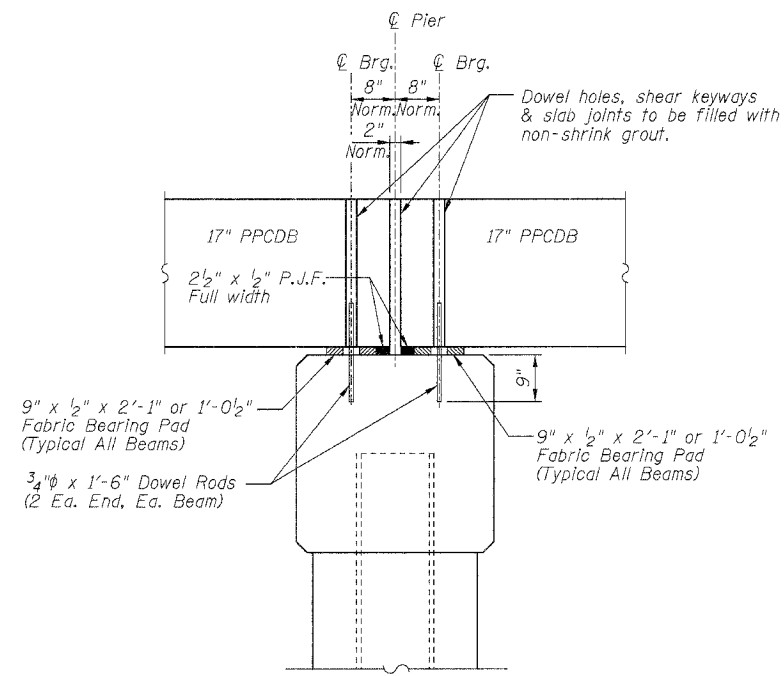
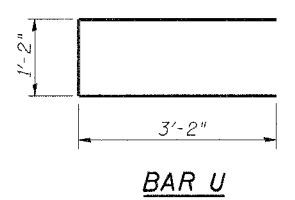
- Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270.
- The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- Lifting loops shall be 3 - 1/2" diameter - 270 ksi strands, as shown.
- Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
- The bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 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.
- Required Release Strength, f'_{ci} , shall be 4000 p.s.i.
- An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted. However, all strands shall be stressed to a maximum of 28,900 pounds per strand.

03/15/2005

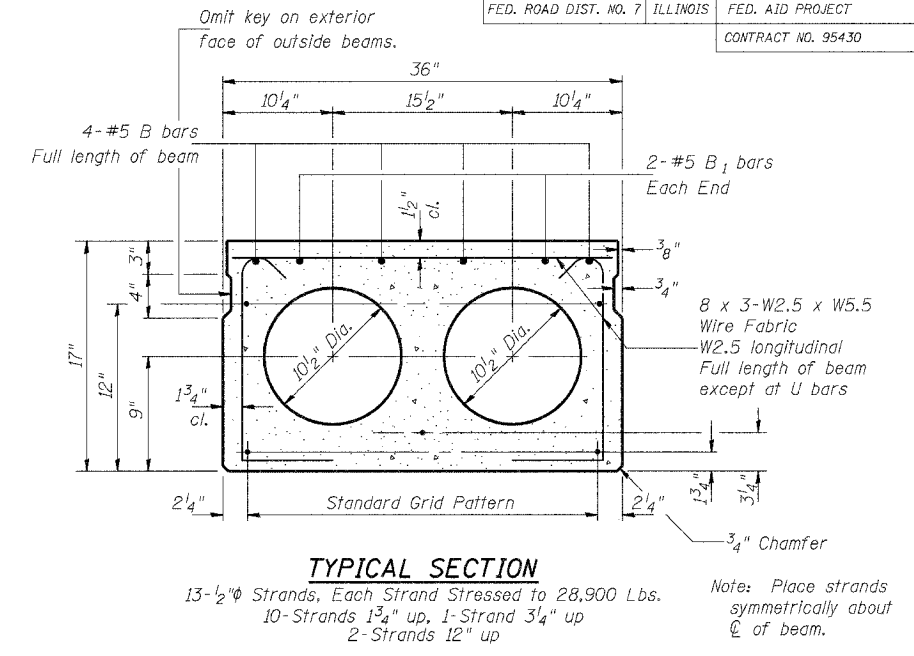
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	7
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95430				



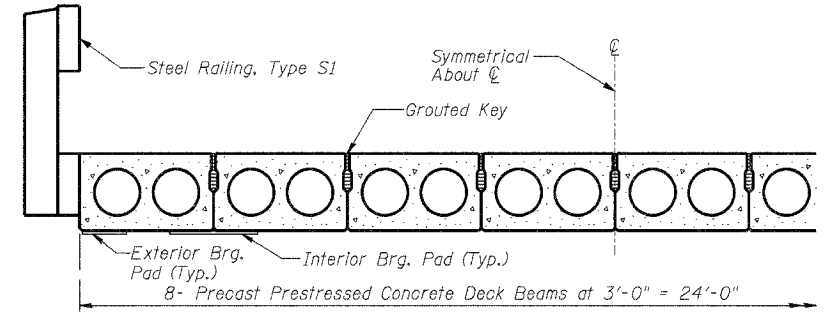
FABRIC BEARING PAD (Interior)
FABRIC BEARING PAD (Exterior)



RESTRAINED BEARING PIER



TYPICAL SECTION



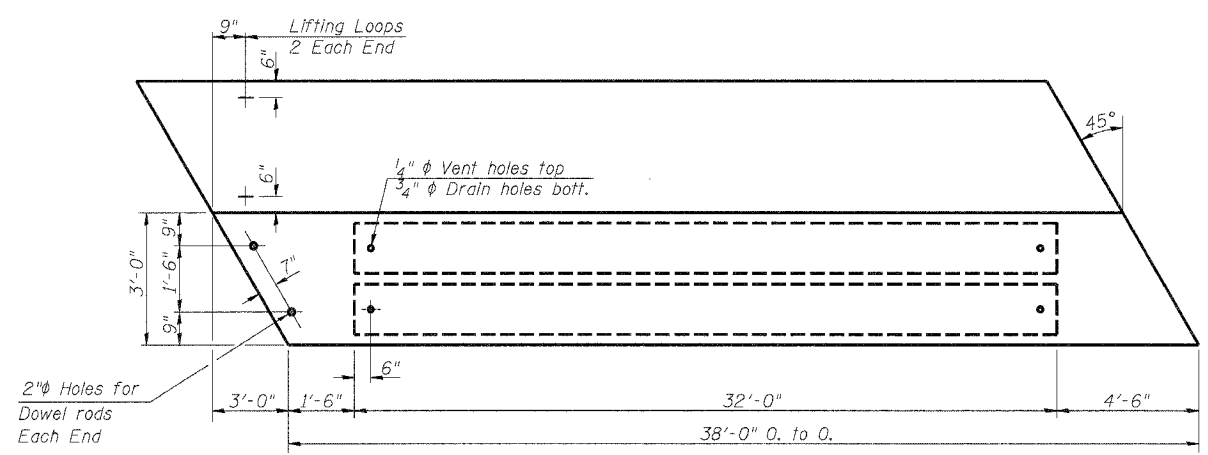
HALF CROSS SECTION

BILL OF MATERIAL FOR ONE BEAM

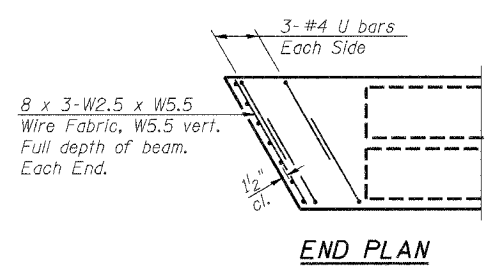
Bar	No.	Size	Length	Shape
B	4	#5	37'-8"	—
B1	4	#5	7'-9"	—
U	12	#4	7'-6"	□
Precast Prestressed Conc. Deck Bms.		Sq. Ft.	114	
Reinforcement Bars		Pound	250	
Total Weight Each Beam		Pound	18400	

SPAN 2

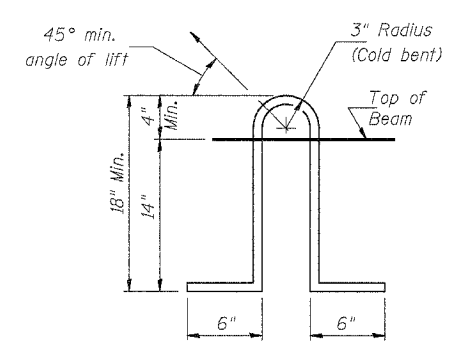
PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
PROPOSED BRIDGE CARRYING TR 22 OVER LOST CREEK SECTION 04-15109-00-BR MARION COUNTY, ILLINOIS



PLAN



END PLAN



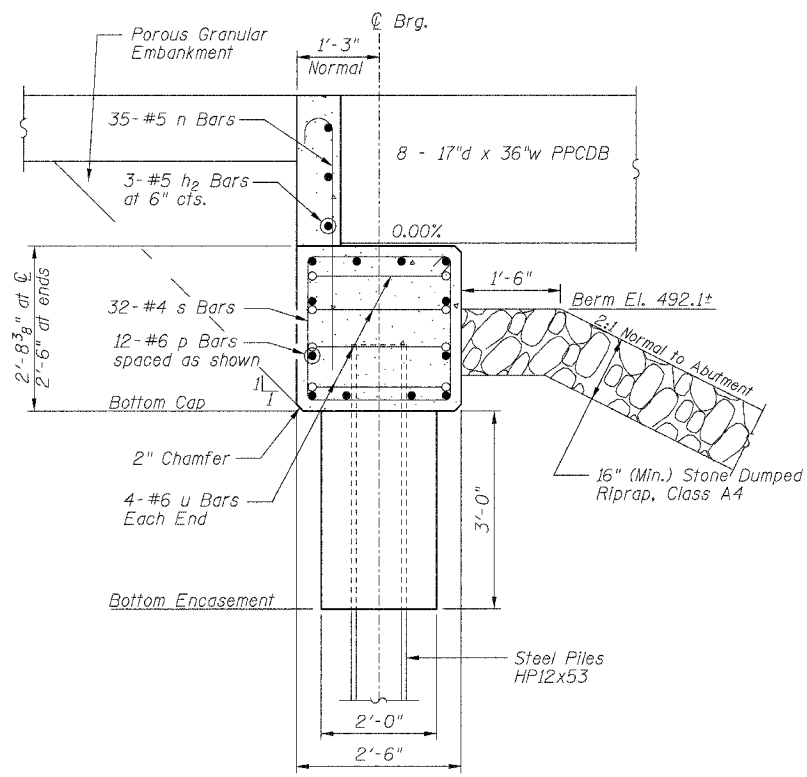
LIFTING LOOP DETAIL

NOTES

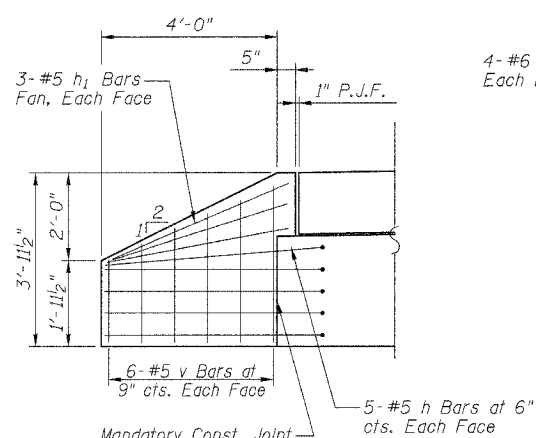
- Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270.
- The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- Lifting loops shall be 3 - 1/2" φ - 270 ksi strands, as shown.
- Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
- The bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 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.
- Required Release Strength, f'ci, shall be 4000 p.s.i.
- An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted. However, all strands shall be stressed to a maximum of 28,900 pounds per strand.

03/15/2005

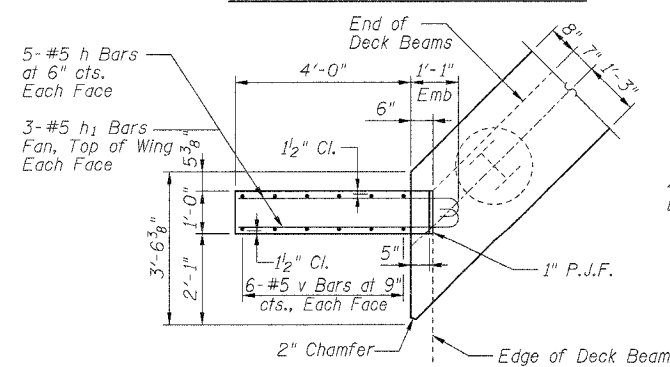
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	9
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95430				



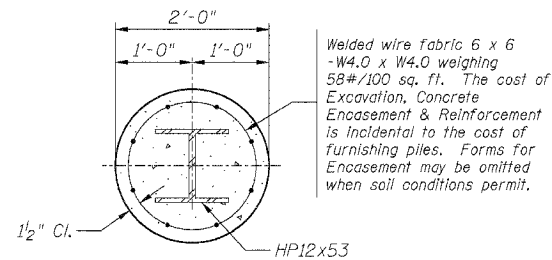
SECTION THRU ABUTMENT



ELEVATION OF WINGWALL



WINGWALL CONNECTION DETAIL

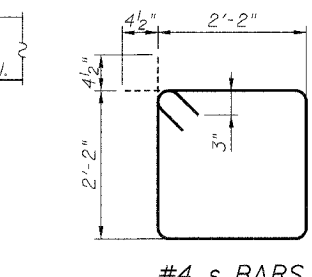
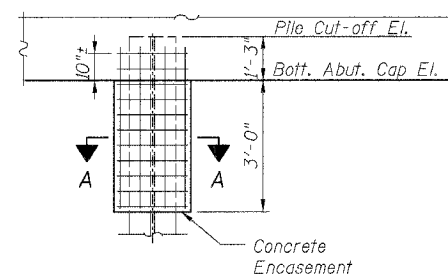


SECTION A-A

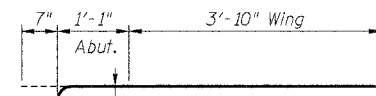
PILE ENCASEMENT DETAIL

GENERAL NOTES

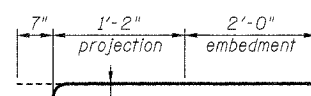
All exposed edges shall have standard 3/4" chamfer, unless otherwise noted.
 All clearances between rebar and form surface shall be 2", unless otherwise noted.
 Space reinforcement in cap to miss PPCDB dowel rods.



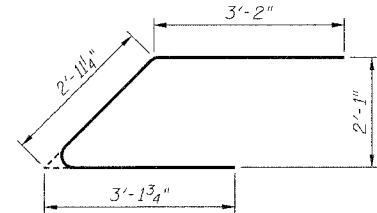
#4 s BARS



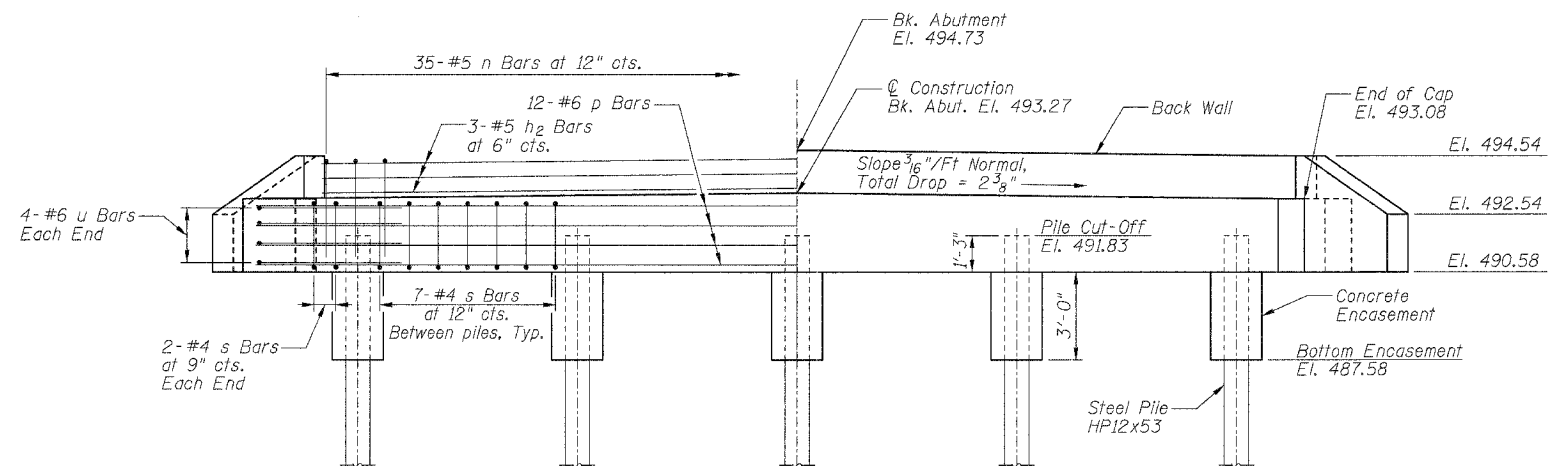
#5 h BARS



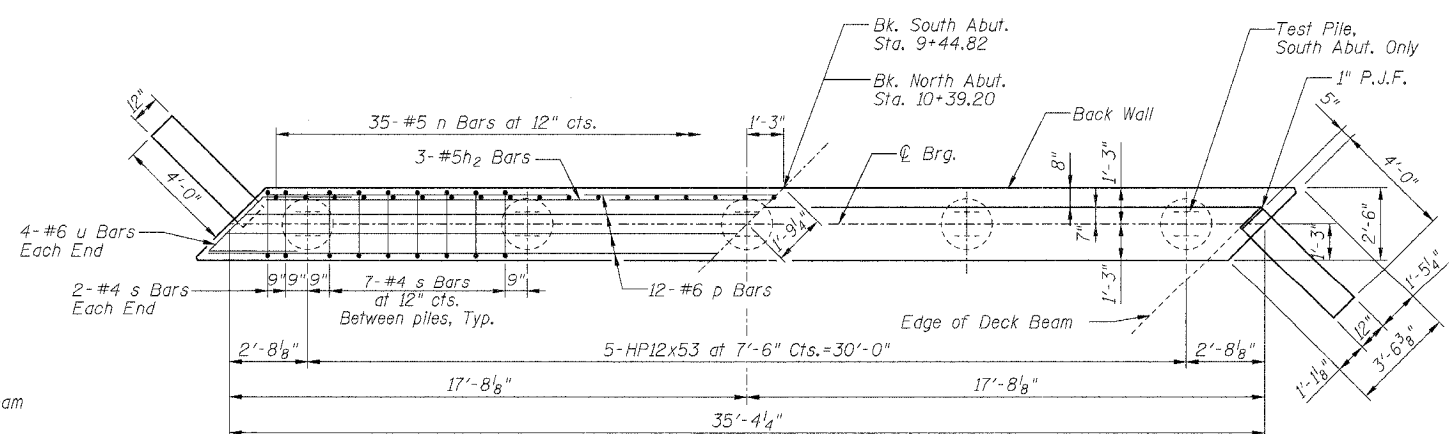
#5 n BARS



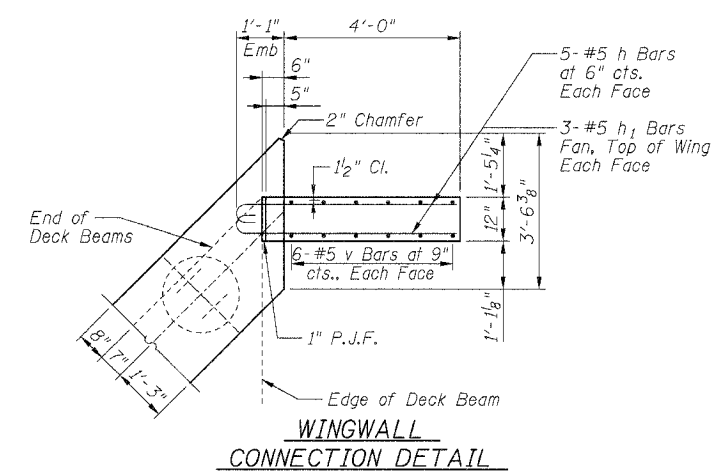
#6 u BARS



ELEVATION



PLAN



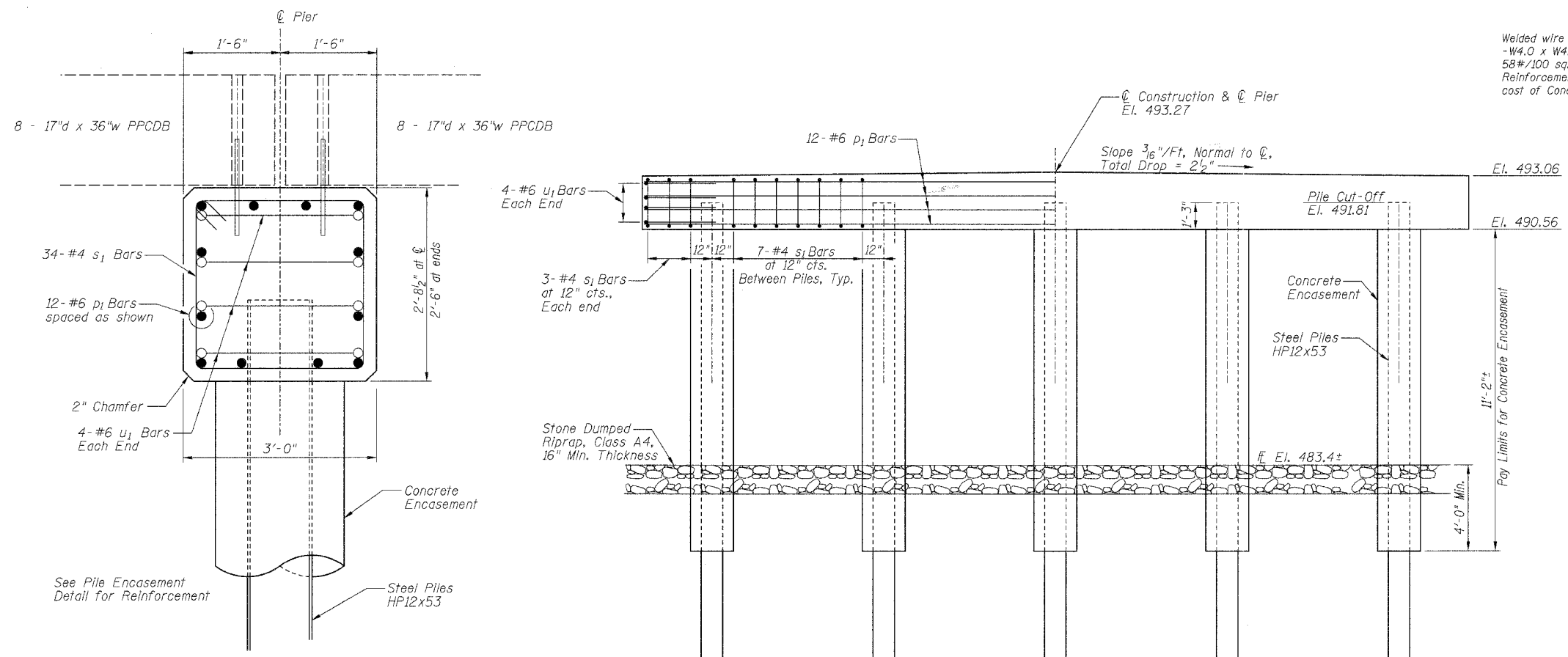
WINGWALL CONNECTION DETAIL

ABUTMENT DETAILS
 PROPOSED BRIDGE CARRYING
 TR 22 OVER LOST CREEK
 SECTION 04-15109-00-BR
 MARION COUNTY, ILLINOIS

BILL OF MATERIALS ONE ABUTMENT w/ WINGWALLS				
Bar	No.	Size	Length	Shape
h	20	#5	5'-6"	
h1	12	#5	4'-8"	
h2	3	#5	33'-6"	
n	35	#5	3'-9"	
p	12	#6	35'-0"	
s	32	#4	9'-5"	
u	8	#6	9'-3"	
v	24	#5	3'-9"	CUT IN FIELD
Concrete Structures			Cu. Yd.	10.7
Reinforcement Bars			Pound	1450

03/15/2005

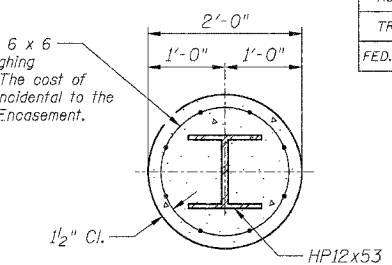
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 22	04-15109-00-BR	MARION	10	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 95430				



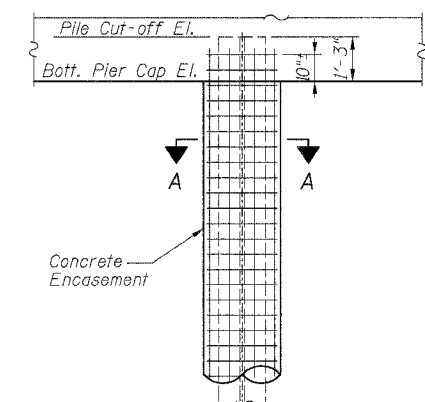
SECTION THRU PIER

ELEVATION

Welded wire fabric 6 x 6 - W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Reinforcement is incidental to the cost of Concrete Encasement.



SECTION A-A



PILE ENCASEMENT DETAIL

PILE DATA

Type:

Pier No. 1	Steel HP12x53
Pier No. 2	Steel HP12x53

Estimated Capacity:

Pier No. 1	69 Ton
Pier No. 2	69 Ton

Estimated Length:

Pier No. 1	54 Foot
Pier No. 2	54 Foot

Number Required:

Pier No. 1	5
Pier No. 2	5

Total Estimated Length: Steel HP12x53 540 Foot

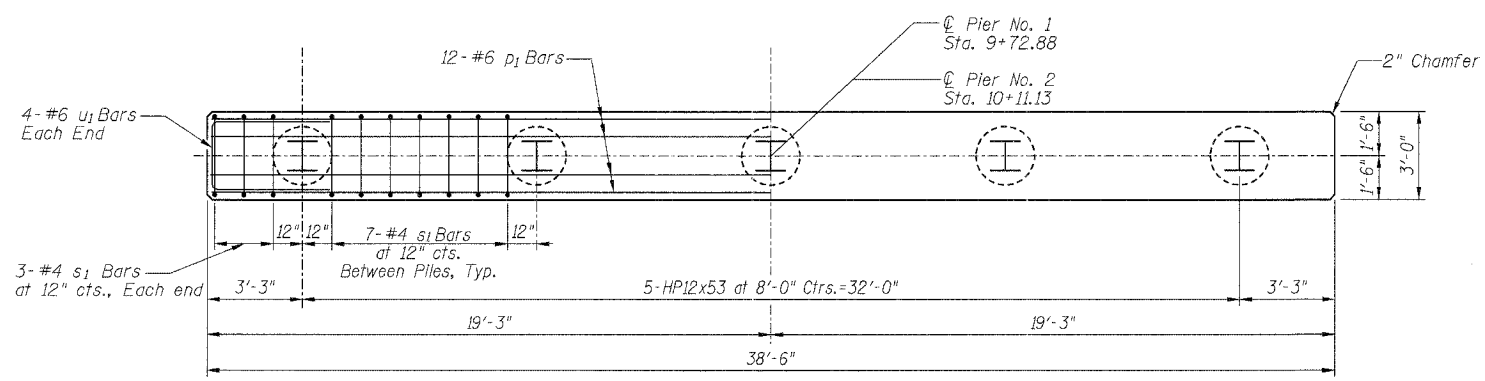
Drive to 69 Ton capacity per pile

BILL OF MATERIALS ONE PIER

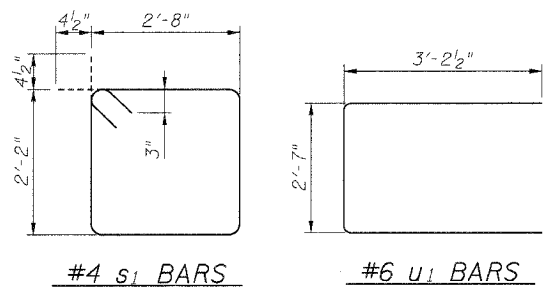
Bar	No.	Size	Length	Shape
p ₁	12	#6	38'-2"	—
s ₁	34	#4	10'-5"	□
u ₁	8	#6	9'-0"	□
Concrete Structures			Cu. Yd.	11.1
Concrete Encasement			Cu. Yd.	6.5
Reinforcement Bars			Pound	1030

GENERAL NOTES

- All exposed edges shall have 2" chamfer, unless otherwise noted.
- All clearances between rebar and form surface shall be 2", unless otherwise noted.
- Space reinforcement in cap to miss PPCDB dowel rods.



PLAN



PIER DETAILS
PROPOSED BRIDGE CARRYING
TR 22 OVER LOST CREEK
SECTION 04-15109-00-BR
MARION COUNTY, ILLINOIS

03/15/2005