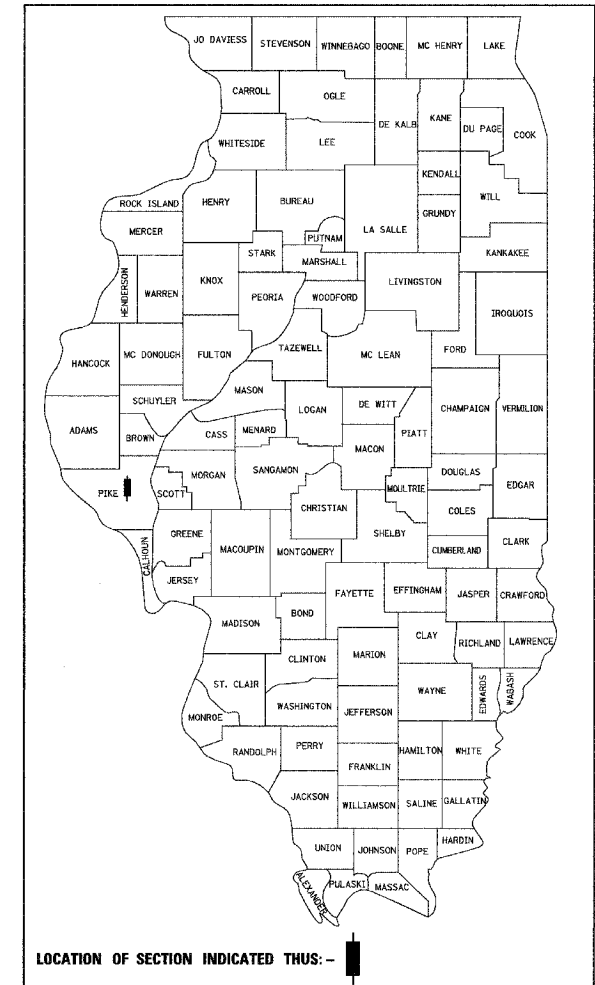


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	1
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(171)	
*04-00079-00-BR				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PIKE COUNTY

BRIDGE REPLACEMENT AND REHABILITATION PROGRAM
SECTION 04-00079-00-BR
F.A.S. 601 (C.H. 3) OVER BAY CREEK
PROJECT NO. BRS-601(171)
JOB NUMBER C-96-202-06

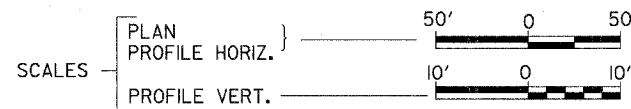
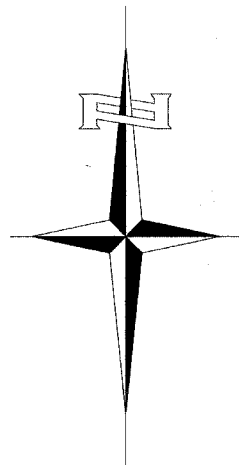


INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, DETAILS, AND TYPICAL SECTIONS
3.	SUMMARY OF QUANTITIES, AND SCHEDULES OF QUANTITIES
4.	TRAFFIC CONTROL PLAN
5.	EROSION CONTROL PLAN
6.	PLAN AND PROFILE
7.-17.	STRUCTURE PLANS

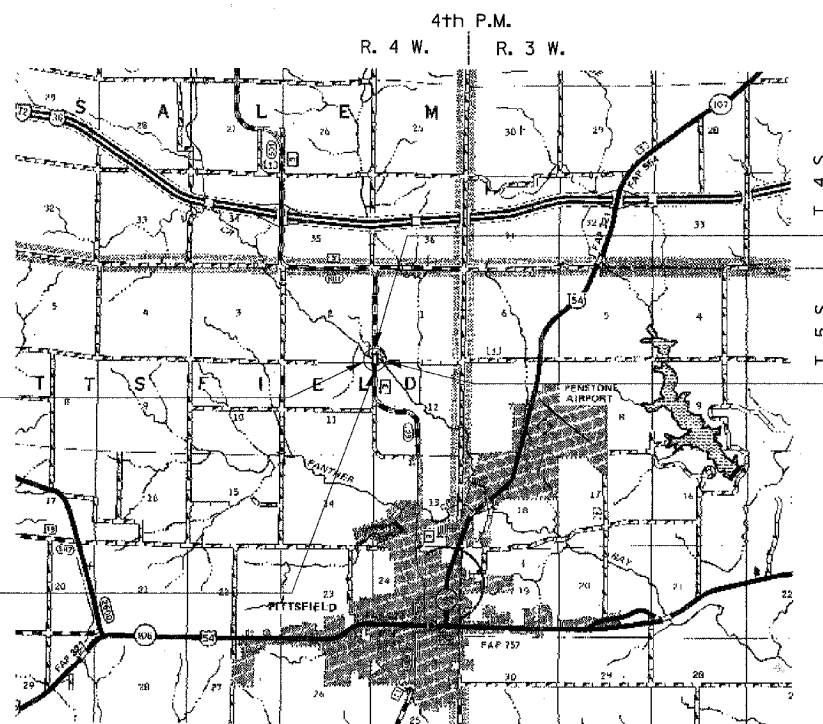
REQUIRED HIGHWAY STANDARDS

- 000001-04
- 280001-02
- 515001-02
- 630001-06
- 631011-02
- 631032-02
- 635006-02
- 701006-02
- 701101-01
- 702001-06
- 780001-01
- 781001-02
- BLR 21-6



PROPOSED STRUCTURE NO. 075-3307
THREE SPAN 27" P.P.C. DECK BEAM
STRUCTURE ON CONC. SPILL THRU
ABUTMENTS AND CONC ENCASED PIERS,
178'-10" BK. TO BK. AND
33'-0" O. TO O., 20° SKEW LT.

SECTION 04-00079-00-BR
BEGINS
STATION 131+69.67



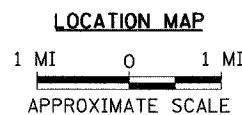
SECTION 04-00079-00-BR
ENDS
STATION 135+69.67

EXISTING STRUCTURE 075-3032
THREE SPAN PPC DK BM STRUCTURE
ON PILE BENT ABUTMENTS AND PIERS,
163'-7" BK. TO BK., 34'-6" O. TO O.,
20° SKEW LT AH (TO BE REMOVED)

UTILITY COMPANY
VERIZON, JACKSONVILLE, ILLINOIS
NICOR, NAPERVILLE, ILLINOIS
PIKE COUNTY WATER DISTRICT, ROCKPORT, ILLINOIS
AMEREN, QUINCY, ILLINOIS
ILLINOIS RURAL ELECTRIC CO., WINCHESTER, ILLINOIS
SOYLAND POWER COOPERATIVE, JACKSONVILLE, ILLINOIS

CALL J.U.L.I.E.
BEFORE YOU DIG
1-800-892-0123

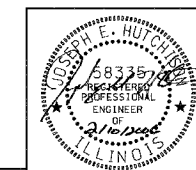
CONTRACT NO. 93408



NET LENGTH OF PROJECT = 400.00 FEET = 0.076 MILES
DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
DESIGN SPEED = 50 MPH
DESIGN ADT = 2015 (2021)

Hutchison Engineering, Inc.
JACKSONVILLE ILLINOIS

2006 JOB#2302



Christine M. Reed
SIGNATURE

ENGINEERS SEAL

APPROVED	<u>2-14</u>	2006
	<u>Howard J. Thomas</u> PIKE COUNTY ENGINEER	
PASSED	<u>FEB 22</u>	2006
	<u>Tom Jant</u> DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS	
PASSED	<u>FEB 22</u>	2006
	<u>W.R. Jant</u> DISTRICT SIX ENGINEER OF CONSTRUCTION	
Released For Bid Based on Limited Review	<u>FEB 22</u>	2006
	<u>Christine M. Reed</u> DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER	
	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	2
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	BRS-601(17)	
*04-00079-00-BR				

GENERAL NOTES

THE REMOVAL OF THE EXISTING OVERLAY, GRAVEL, OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE NEW BRIDGE SHALL BE REMOVED AS STRUCTURE EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY AS DETAILED IN SECTION 563 OF THE STANDARD SPECIFICATIONS, TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

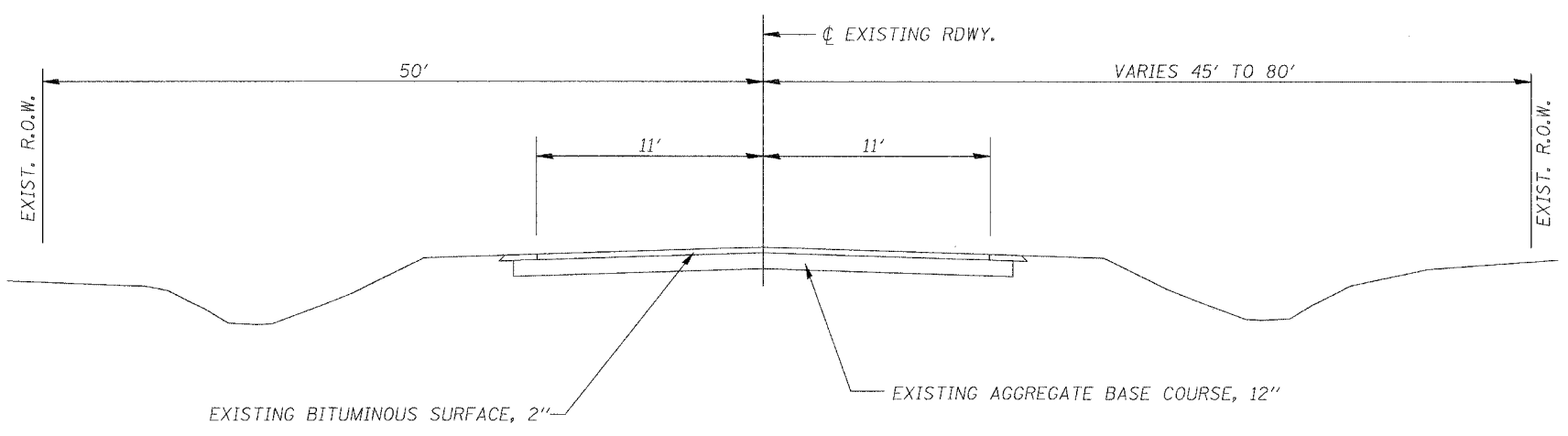
THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

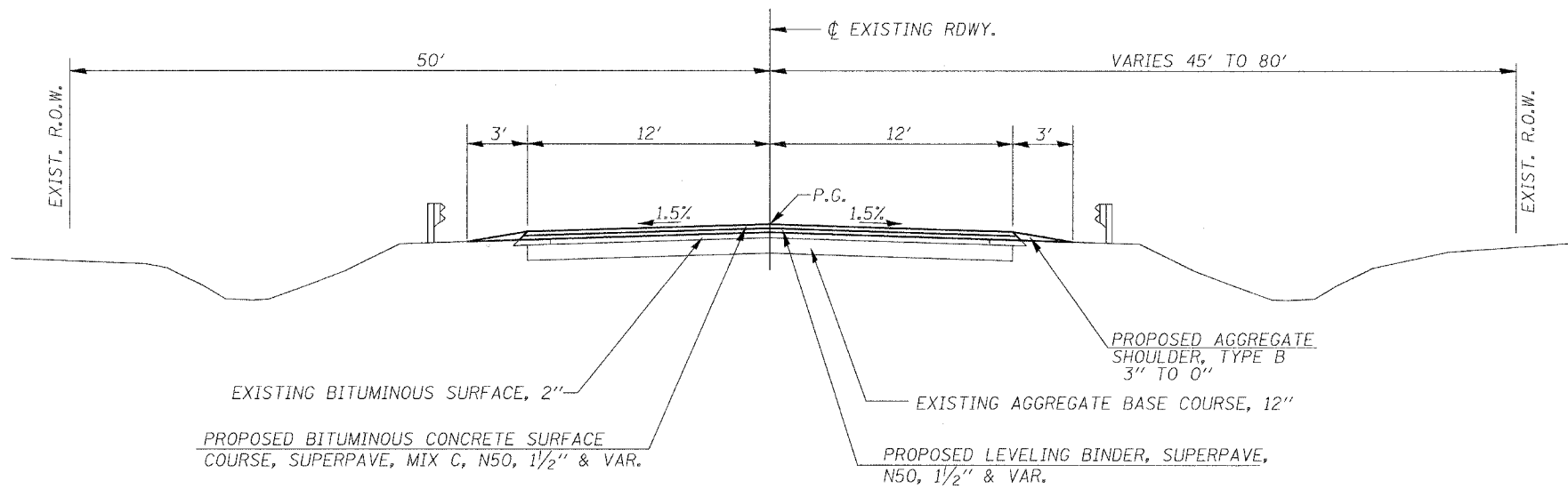
ALL ELEVATIONS SHOWN REFER TO AN ASSUMED DATUM.

BITUMINOUS CONCRETE MIXTURE REQUIREMENTS

ITEM	AC/PG	RAP % (MAX.)	VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE
BINDER CSE, SUPERPAVE	PG 64-22	15%	4.0% @ N50	IL 9.5 OR IL 12.5	N/A
SURFACE CSE, SUPERPAVE	PG 64-22	15%	4.0% @ N50	IL 9.5 OR IL 12.5	MIXTURE "C"



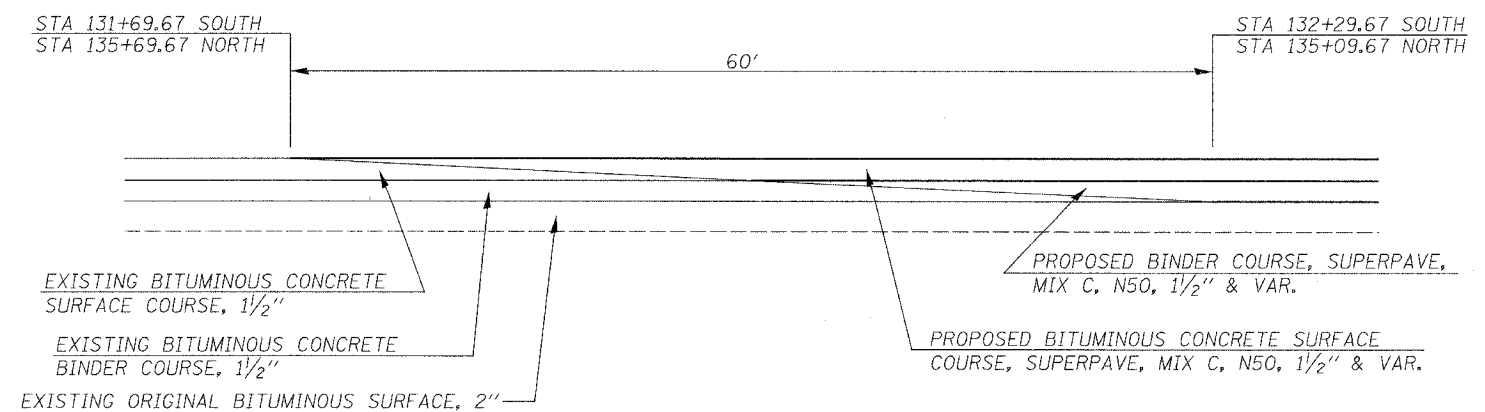
EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION

STA. 131+69.67 TO STA. 132+80.46
STA. 134+59.29 TO STA. 135+69.67

BRIDGE OMISSION
STA. 132+80.46 TO STA. 134+59.29



TAPER DETAIL AT NORTH AND SOUTH END OF PROJECT

ROUTE NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	3
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT		BRS-601(17)
*04-00079-00-BR				

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20300100	CHANNEL EXCAVATION	CU YD	1,915
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100
28000400	PERIMETER EROSION BARRIER	FOOT	425
① 28101700	RIPRAP, SPECIAL	TON	645
28200200	FILTER FABRIC	SQ YD	935
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	52
① 48101200	AGGREGATE SHOULDERS, TYPE B	TON	12
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
① 50104650	SLOPE WALL REMOVAL	SQ YD	1,520
50200100	STRUCTURE EXCAVATION	CU YD	150
50300225	CONCRETE STRUCTURES	CU YD	184.4
① 50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	5,833
① 50800105	REINFORCEMENT BARS	POUND	14,540
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	358
51201600	FURNISHING STEEL PILES HP12X53	FOOT	2,155
51202700	DRIVING STEEL PILES	FOOT	2,155
51203600	TEST PILE STEEL HP12X53	EACH	4
51204315	CONCRETE ENCASEMENT	CU YD	10.4
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	656
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	440
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
① 63200310	GUARDRAIL REMOVAL	FOOT	147
① 63301100	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL, SINGLE RAIL	FOOT	164
67100100	MOBILIZATION	L SUM	1
① 70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	1,300
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	5
① 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	1
① X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE MIX "C", N50	TON	141
① X4066765	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N50	TON	30
① X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 1	EACH	1
① X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 2	EACH	1
① Z0013825	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	28.2

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: X081-2A

* SPECIALTY ITEMS

PERIMETER EROSION BARRIER

STATION TO STATION	SIDE	FOOT
131+70 - 132+20	LEFT	55
131+70 - 132+75	RIGHT	105
132+45 - 132+85	LEFT	45
134+50 - 134+85	RIGHT	45
134+65 - 135+70	LEFT	105
135+10 - 135+70	RIGHT	70
TOTAL		425

PAINT PAVEMENT MARKING - LINE 5"

STATION TO STATION	SIDE	DESCRIPTION	FOOT
131+69.67 - 135+39.67	LEFT	WHITE EDGE LINE	400
131+69.67 - 135+69.67	@ NORTHBOUND	YELLOW SKIP-DASH	100
131+69.67 - 135+69.67	@ SOUTHBOUND	YELLOW NO PASS	400
131+69.67 - 135+69.67	RIGHT	WHITE EDGE LINE	400
TOTAL			1,300

TRAFFIC BARRIER TERMINAL, TYPE 2

SIDE	STATION TO STATION	EACH
RIGHT	134+79.98 - 134+85.48	1
TOTAL		1

AGGREGATE SHOULDERS, TYPE B

STATION TO STATION	SIDE	WIDTH	LENGTH	TON
131+69.67 - 132+87.01	LEFT	3.00'	117.34'	3.1
131+69.67 - 132+73.91	RIGHT	3.00'	104.24'	2.7
134+65.84 - 135+69.67	LEFT	3.00'	103.83'	2.7
134+52.73 - 135+69.67	RIGHT	3.00'	116.94'	3.1
TOTAL				11.6
USE				12

TRAFFIC BARRIER TERMINAL, TYPE 6A

SIDE	STATION TO STATION	EACH
RIGHT	132+43.20 - 132+74.45	1
LEFT	132+55.22 - 132+86.47	1
RIGHT	134+53.28 - 134+79.98	1
LEFT	134+65.30 - 134+96.55	1
TOTAL		4

GUARDRAIL REMOVAL

STATION TO STATION	SIDE	FOOT
132+55.22 - 132+93.72	LEFT	39
132+43.20 - 132+82.08	RIGHT	39
134+57.26 - 134+96.55	LEFT	39
134+45.62 - 134+85.78	RIGHT	30
TOTAL		147

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL, SINGLE RAIL

STATION TO STATION	SIDE	FOOT
132+42.75 - 132+55.22	LEFT	17
131+69.67 - 132+43.20	RIGHT	74
134+96.55 - 135+69.67	LEFT	73
TOTAL		164

** QUANTITY REFLECTS ALL GUARDRAIL FROM ENTRANCE TO BRIDGE NOT SCHEDULED FOR REMOVAL.
 *** QUANTITY REFLECTS ALL GUARDRAIL WITHIN PROJECT LIMITS NOT SCHEDULED FOR REMOVAL. CONSTRUCTION IN ALL AREAS SHALL BE DONE IN SUCH A MANNER AS TO MINIMIZE REMOVAL AND RE-ERECTION OF EXISTING GUARDRAIL.

BITUMINOUS SCHEDULE

STATION TO STATION	WIDTH	LENGTH	PRIME COAT* GALLON 0.08 GAL/SQ YD	BIT BINDER CSE TON 112#/SQ YD/IN	BIT SURF CSE TON 112#/SQ YD/IN
131+69.67 - 132+80.46	26.50'	110.79'	26		
134+59.29 - 135+69.67	26.50'	110.38'	26		
131+99.67 - 132+29.67	24.31' AVG.	30.00'		3	
132+29.67 - 132+80.46	24.38' AVG.	50.79'		12	
134+59.29 - 135+09.67	24.38' AVG.	50.38'		12	
135+09.67 - 135+39.67	24.31' AVG.	30.00'		3	
131+69.67 - 131+99.67	24.06' AVG.	30.00'			3
131+99.67 - 132+80.46	24.13' AVG.	80.79'			18
BRIDGE DECK	33.00'	178.83'			99
134+59.29 - 135+39.67	24.13' AVG.	80.38'			18
135+39.67 - 135+69.67	24.06' AVG.	30.00'			3
TOTAL			52	30	141

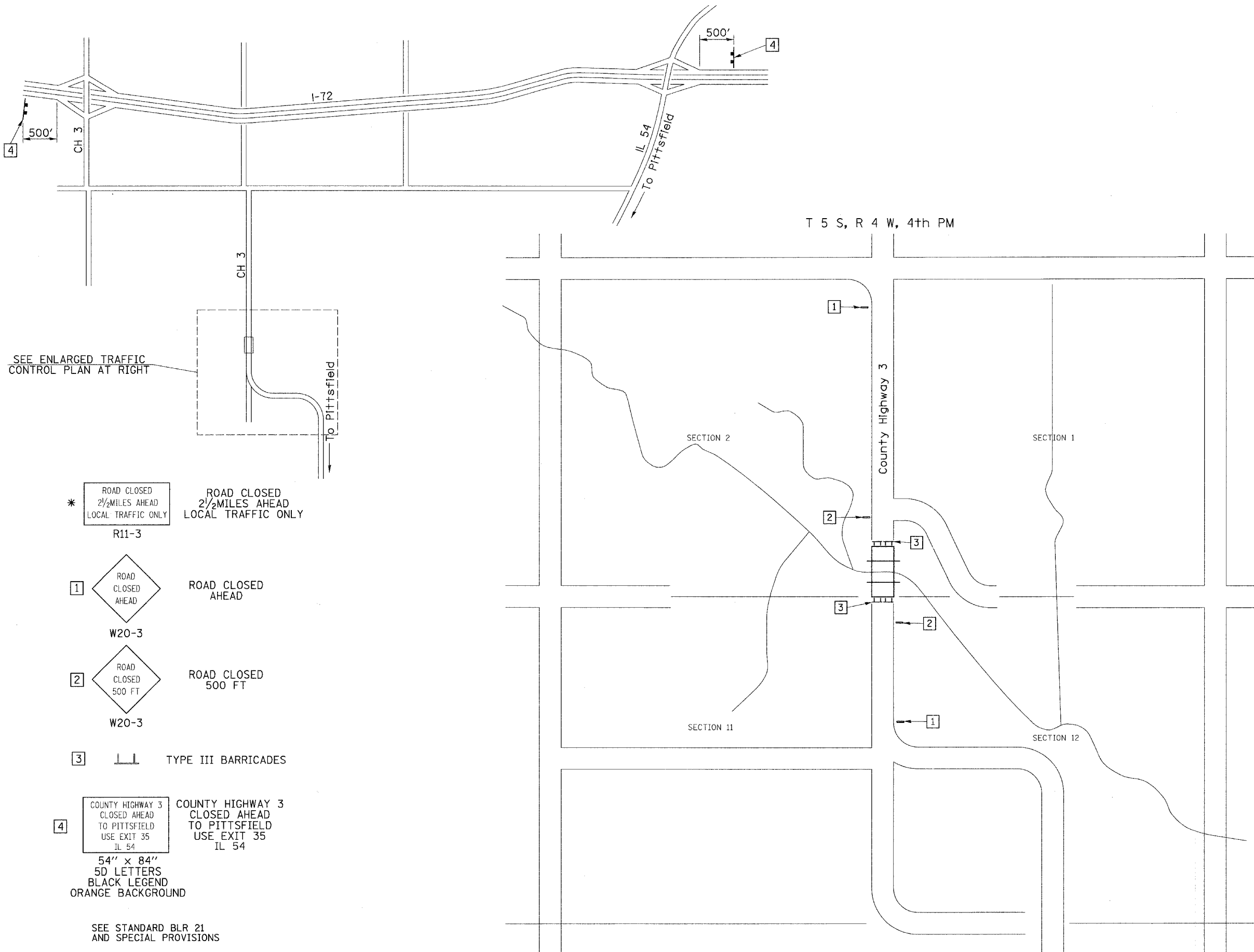
* PRIME COAT APPLIED TO EXISTING PAVEMENT

RAISED REFLECTIVE PAVEMENT MARKER

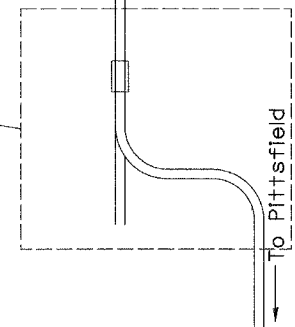
STATION	SIDE	EACH
131+75.22	@	1
132+55.22	@	1
133+35.22	@	1
134+15.22	@	1
134+95.22	@	1
TOTAL		5

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	4
FED. ROAD DIST. NO. 7		ALIGNMENT	PROJECT	BRS-601(17)

*04-00079-00-BR



SEE ENLARGED TRAFFIC CONTROL PLAN AT RIGHT



* ROAD CLOSED 2 1/2 MILES AHEAD LOCAL TRAFFIC ONLY
 R11-3

1 ROAD CLOSED AHEAD
 W20-3

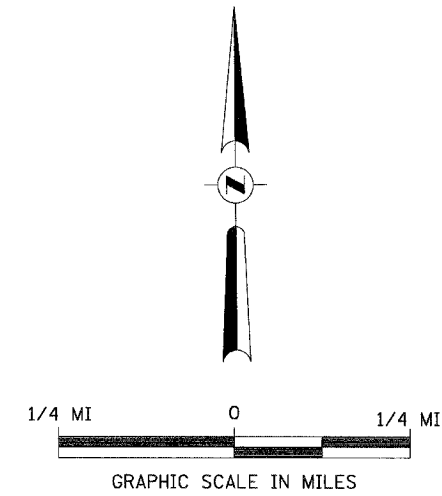
2 ROAD CLOSED 500 FT
 W20-3

3 TYPE III BARRICADES

4 COUNTY HIGHWAY 3 CLOSED AHEAD TO PITTSFIELD USE EXIT 35 IL 54
 54" x 84" 5D LETTERS BLACK LEGEND ORANGE BACKGROUND

SEE STANDARD BLR 21 AND SPECIAL PROVISIONS

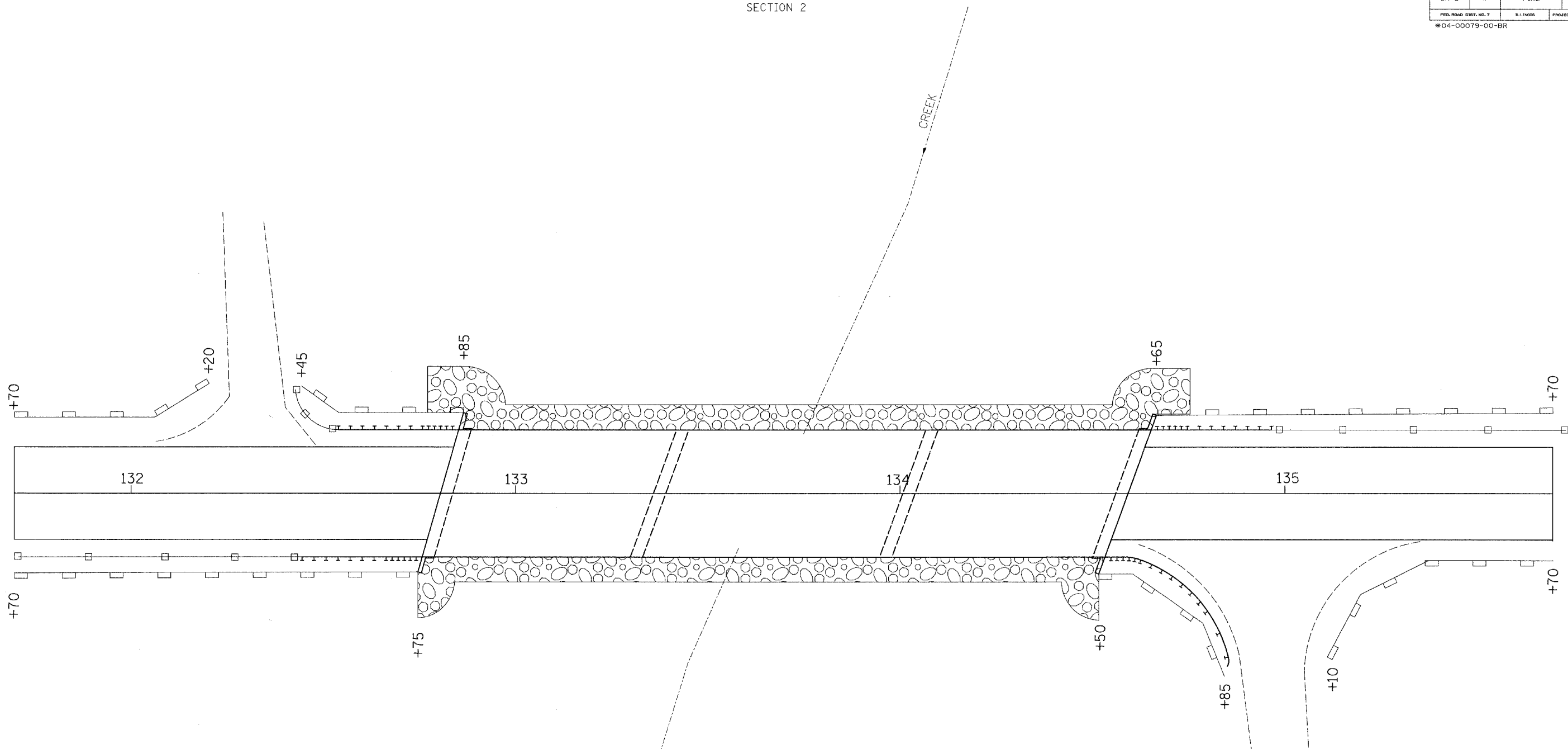
* ADVANCE WARNING R11-3 SIGNS SHALL BE PLACED AT THE SOUTH EDGE OF THE I-72 INTERCHANGE AND AT THE NORTH PITTSFIELD CITY LIMIT



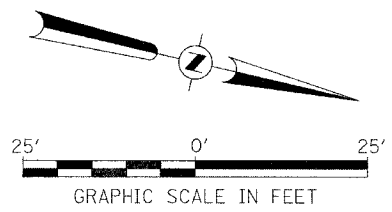
TRAFFIC CONTROL PLAN
 COUNTY HIGHWAY 3 OVER
 BAY CREEK
 SECTION 04-00079-00-BR
 PIKE COUNTY
 STATION 133+69.88

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	5
FED. ROAD DIST. NO. 7		BLK. NOS.	PROJECT	BRS-601(17)
*04-00079-00-BR				

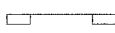

T 5 S, R 4 W, 4th PM
SECTION 2



NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.



LEGEND

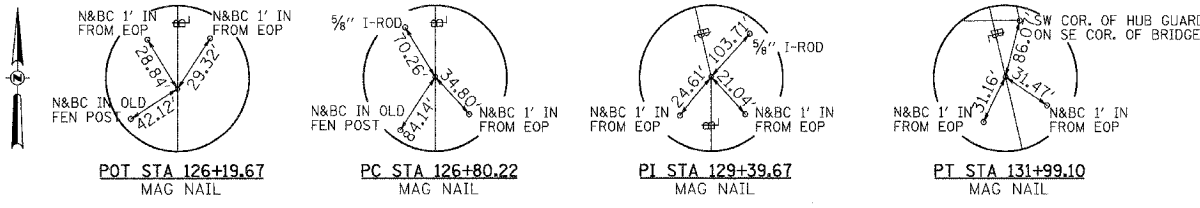
-  PERIMETER EROSION BARRIER
-  PROPOSED RIPRAP PLACEMENT

EROSION CONTROL PLAN
COUNTY HIGHWAY 3 OVER
BAY CREEK
SECTION 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

T 5 S, R 4 W, 4th PM
SECTION 1

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	6
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(171)	

*04-00079-00-BR

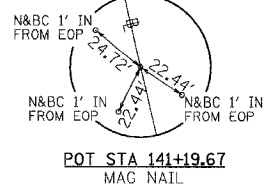


T 5 S, R 4 W, 4th PM
SECTION 2

BARBARA GROTE

PROPOSED TYPE 6A CONNECTION
(TYPICAL EXCEPT NORTHEAST CORNER) ATTACHED TO EXISTING STEEL PLATE BEAM GUARDRAIL. REMOVE AND RE-ERECT EXISTING GUARDRAIL AS REQUIRED.

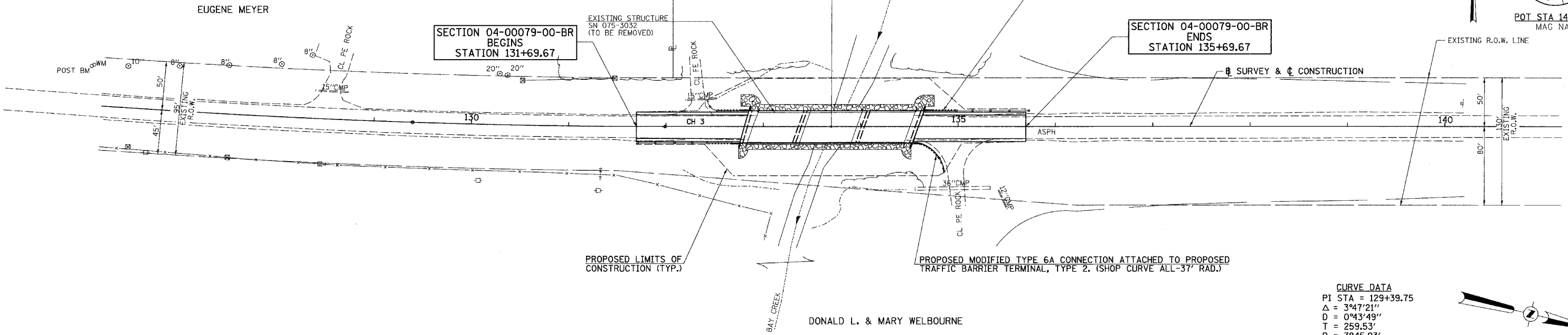
PROPOSED STRUCTURE SN 075-3307
STATION 133+69.88
SEE SH.#7 THRU 17 FOR DETAILS
SEE SH.#7 FOR HYDRAULICS



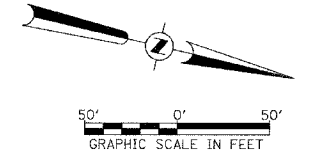
POT STA 141+19.67
MAG NAIL

SECTION 04-00079-00-BR
BEGINS
STATION 131+69.67

SECTION 04-00079-00-BR
ENDS
STATION 135+69.67

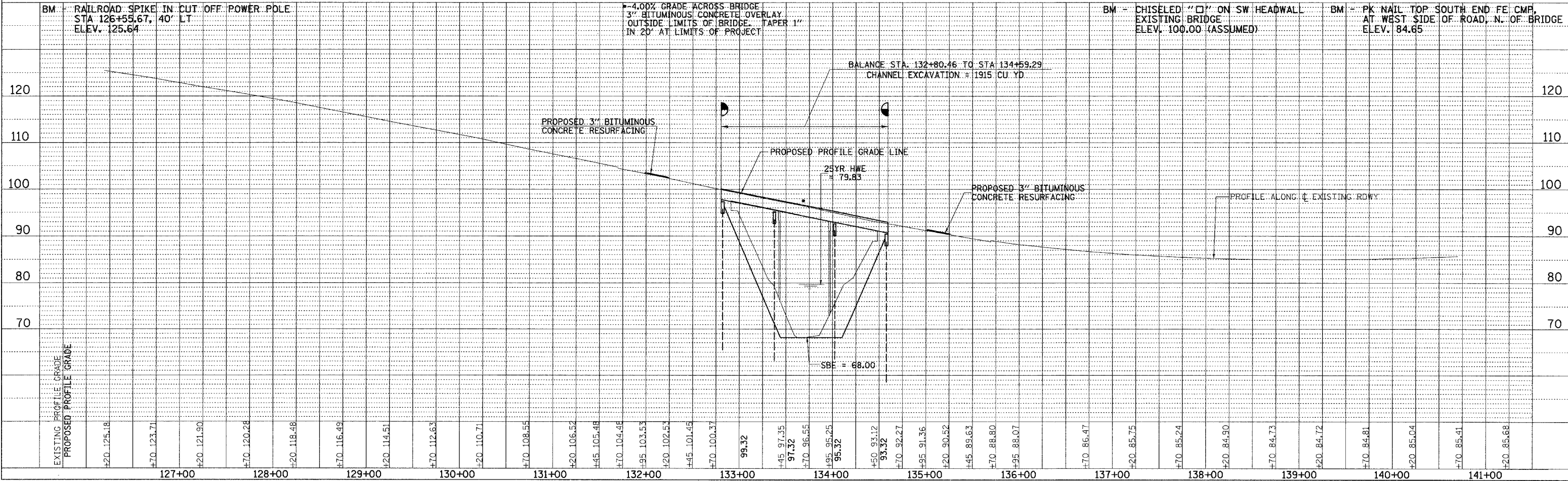


CURVE DATA
 PI STA = 129+39.75
 $\Delta = 3^{\circ}47'21''$
 $D = 0^{\circ}43'49''$
 $T = 259.53'$
 $R = 7845.93'$
 $L = 518.88'$
 $E = 4.29'$
 PC STA = 126+80.22
 PT STA = 131+99.10
 SE: NONE



LEGEND
 PROPOSED RIPRAP PLACEMENT

T 5 S, R 4 W, 4th PM
SECTION 1



ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET
CH 3	*	PIKE	17	7
PROJECT BRS-601(171)				

B.M.:
RR Spike in Cut Off Power Pole
Sta. 126+55.67, 40' Lt.
Elev. 125.64

PK Nail Top South End FE CMP
at West Side of Road, North of Bridge
Elev. 84.65

EXISTING STRUCTURE:
Existing Three Span PPC Deck beam Bridge
on pile bent concrete abutments and pile bent
concrete piers, 163'-7" Bk. to Bk. Abut., 34'-6"
O. to O. Deck, ±20° Skew Lt
Str. No. 075-3032

Salvage 5 interior center span beams.
See Special Provisions.

Road to be closed to traffic
during construction.

**BAY CREEK
BUILT 200 BY
PIKE COUNTY
SEC. 04-00079-00-BR
C.H. 3 STATION 133+69.88
F.A. PROJ. BRS-601(171)
STR. NO. 075-3307 LOADING HS20-44**

NAME PLATE

Locate Name Plate at S.E. Wingwall
Corner of Bridge (See Std. 515001)

GENERAL NOTES

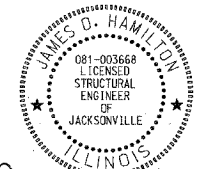
The Contractor shall drive 4 test piles, in permanent locations, one at each substructure, as directed by the Engineer before ordering the remaining piles. For Soil Boring Logs, See Special Provisions. A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck Beams. Reinforcement Bars shall conform to AASHTO M-31 or M-322, Grade 60. Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer. Final Slopewall Removal limits shall be determined in the field by the engineer. The top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".

TOTAL BILL OF MATERIAL

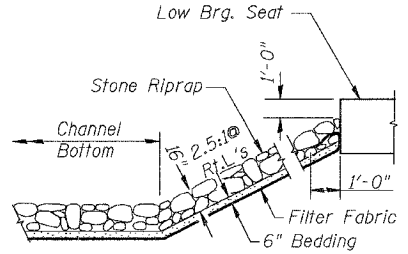
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	---	1,915	1,915
Riprap, Special	TON	---	645	645
Filter Fabric	SQ YD	---	935	935
Removal of Existing Structures	EACH	---	---	1
Slope Wall Removal	SQ YD	---	---	1,520
Structure Excavation	CU YD	---	150	150
Concrete Structures	CU YD	---	184.4	184.4
Precast Prestressed Concrete Deck Beams (27" Depth)	SQ FT	5,833	---	5,833
Reinforcement Bars	POUND	---	14,540	14,540
Steel Bridge Rail, Type SM	FOOT	358	---	358
Furnishing Steel Piles HP12x53	FOOT	---	2,155	2,155
Driving Steel Piles	FOOT	---	2,155	2,155
Test Pile Steel HP12x53	EACH	---	4	4
Concrete Encasement	CU YD	---	10.4	10.4
Name Plates	EACH	---	1	1
Waterproofing Membrane System	SQ YD	656	---	656
Portland Cement Mortar Fairing Course	FOOT	440	---	440
Bituminous Concrete Surface Course, Superpave Mix "C", N50	TON	99	---	99
Underwater Structure Excavation Protection, Location 1	EACH	---	1	1
Underwater Structure Excavation Protection, Location 2	EACH	---	1	1
Controlled Low Strength Material	CU YD	---	28.2	28.2

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

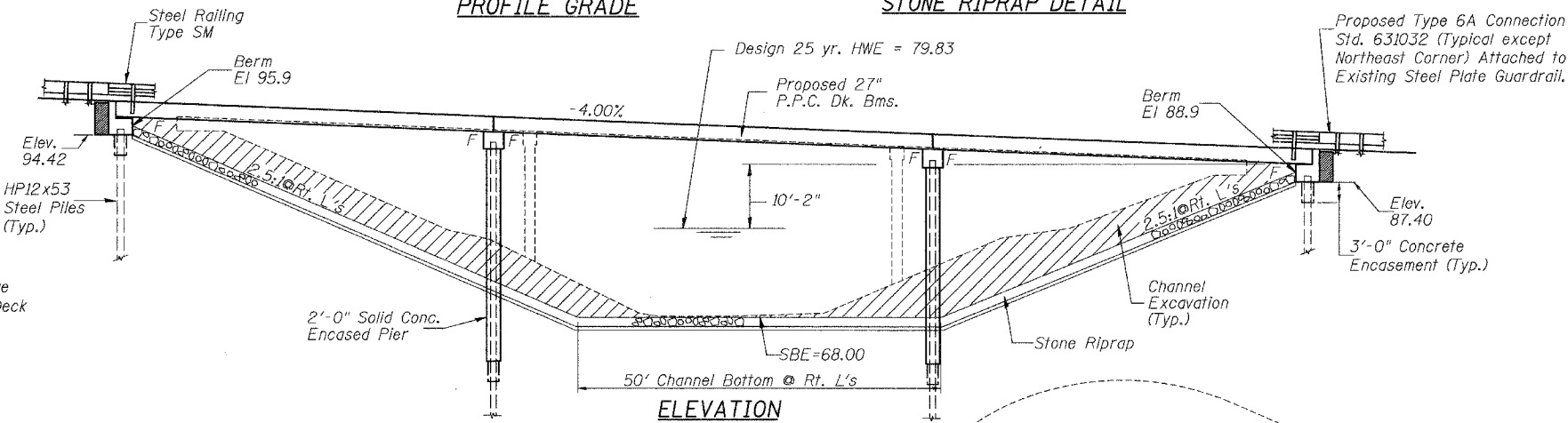
James O. Hamilton
Illinois Structural No. 3668
Expires 11/30/2006



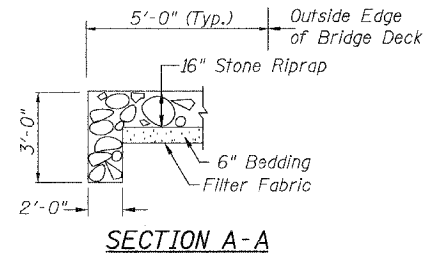
James O. Hamilton
2/10/2006
License Expires 11/30/2006



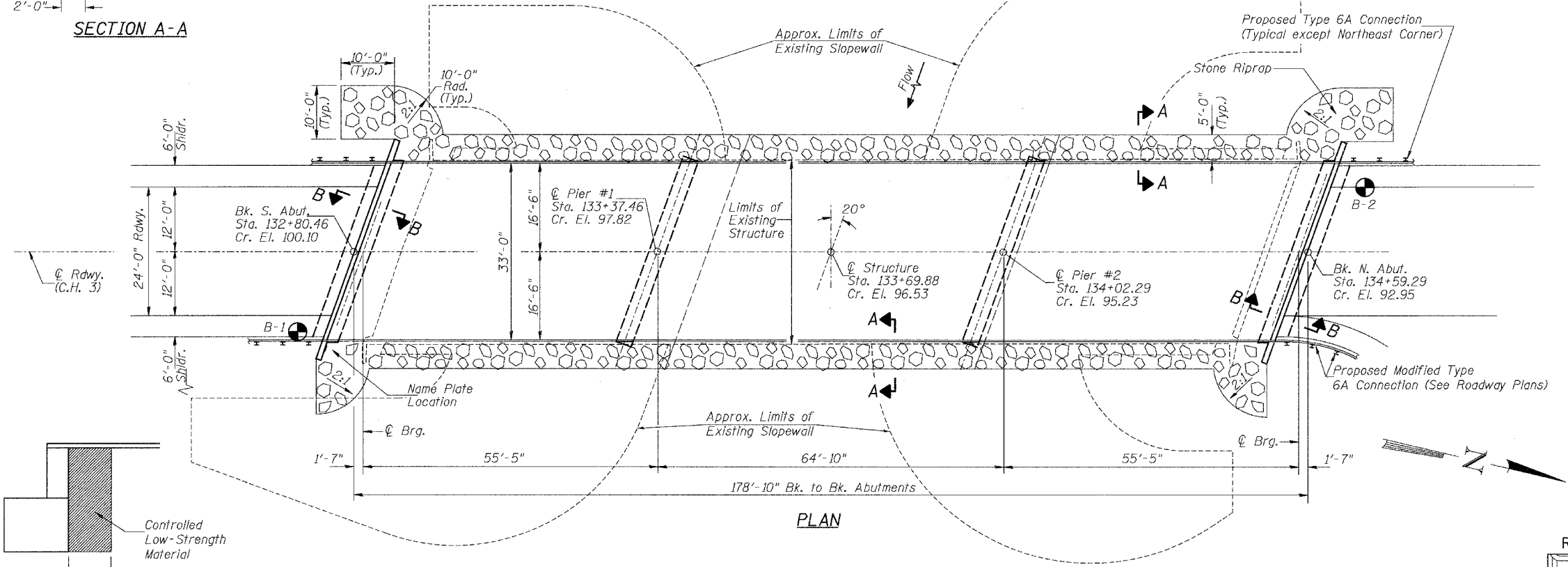
PROFILE GRADE



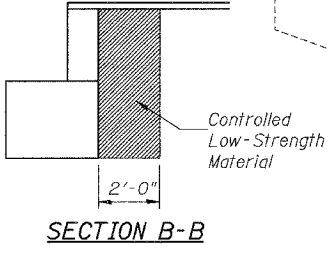
ELEVATION



SECTION A-A



PLAN



SECTION B-B

WATERWAY INFORMATION

Drainage Area = 19.33 Sq. Mi. Low Grade Elev. = 84.97 @ Sta. 139+09

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. ft.		Nat. H.W.E. ft.	Head - ft.		Headwater Elev. - ft.
			Exist.	Prop.		Exist.	Prop.	
Design	25	3,915	543	847	79.83	0.20	0.00	80.03
Base	100	5,301	581	922	80.31	0.75	0.10	81.06

Construction of this project complies with IDNR,
Office of Water Resources Statewide Permit No. 2

DESIGN SPECIFICATIONS
2002 AASHTO & Interims

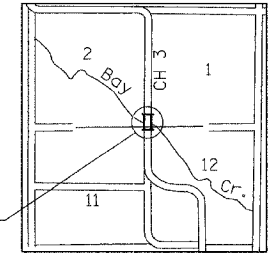
DESIGN STRESSES

(FIELD UNITS) f'c = 3,500 p.s.i. fy = 60,000 p.s.i. (Rein.)
(PRECAST PRESTRESSED UNITS) f'c = 5,000 p.s.i. f'ci = 4,000 p.s.i. f's = 270,000 p.s.i. (1/2" Strands) f'si = 201,960 p.s.i. (1/2" Strands)

LOADING HS20-44

Allow 50#/sq. ft. future wearing surface.

R. 4 W. 4th P.M.

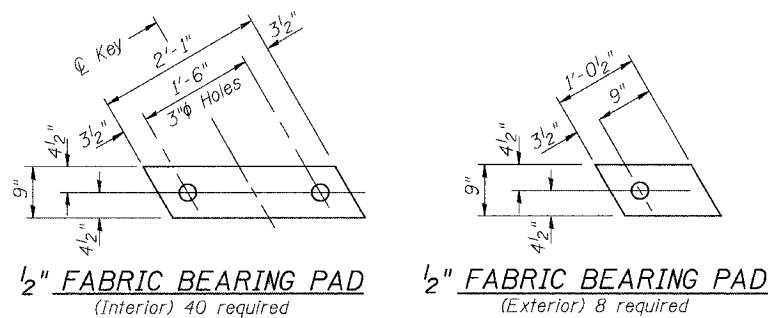


LOCATION SKETCH

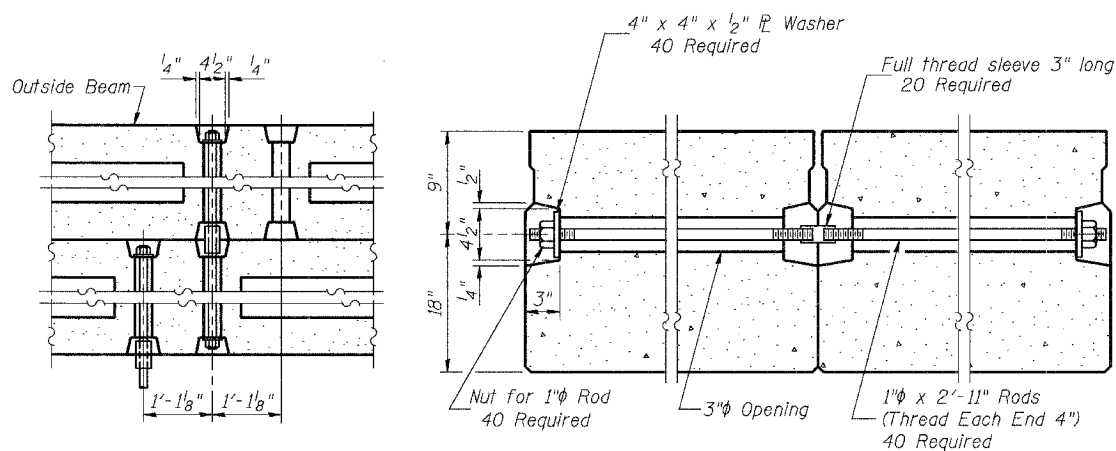
DESIGNED	B.A.N.
CHECKED	J.E.H.
DRAWN	C.E.T.
CHECKED	J.E.H.

GENERAL PLAN & ELEVATION
C.H. 3 OVER BAY CREEK
SECTION 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88
STR. NO. 075-3307

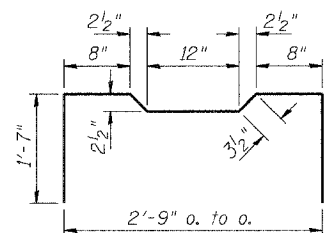
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
CH 3	*	PIKE	17	8
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	BRS-601(171)
*04-00079-00-BR				



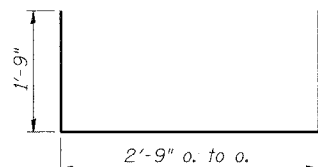
FIXED



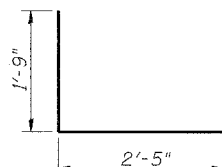
TYPICAL TRANSVERSE TIE ASSEMBLY



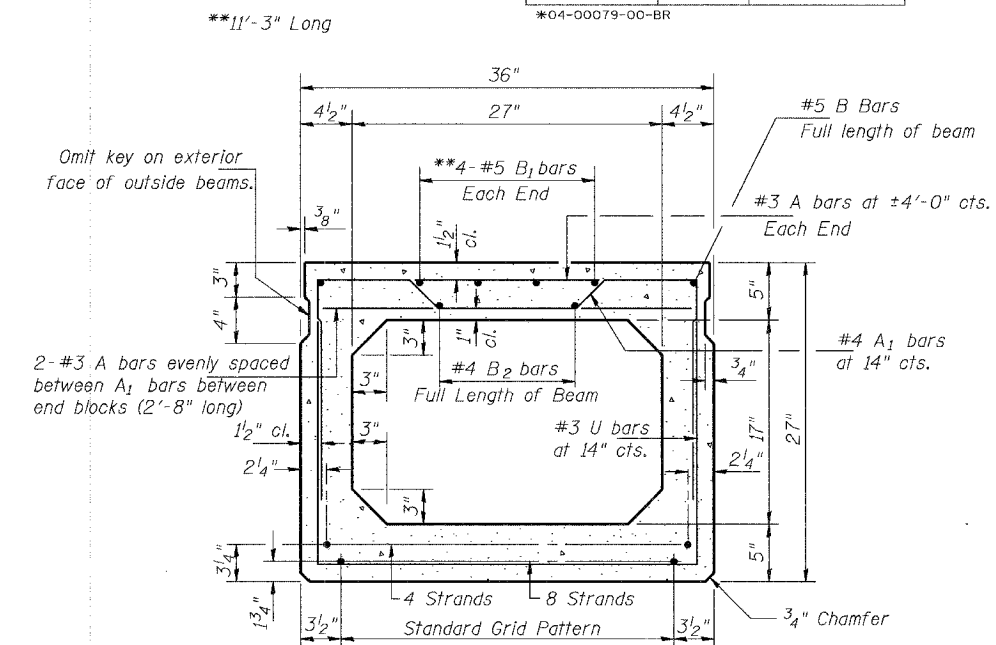
BAR A1



BARS U & U1



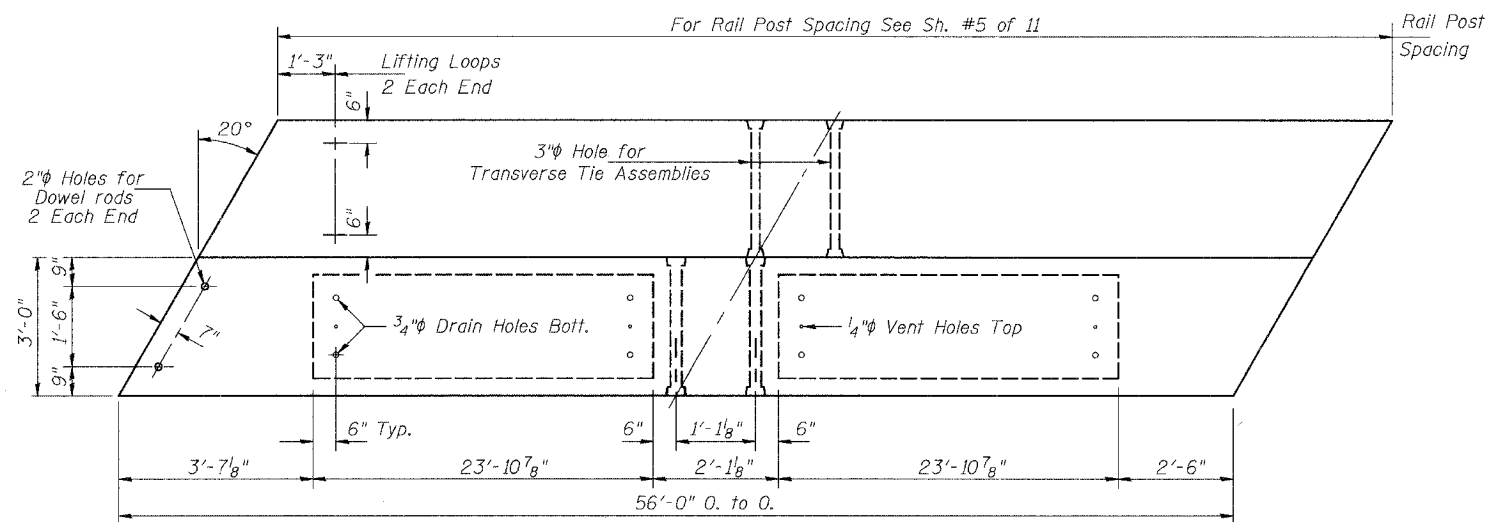
BAR D



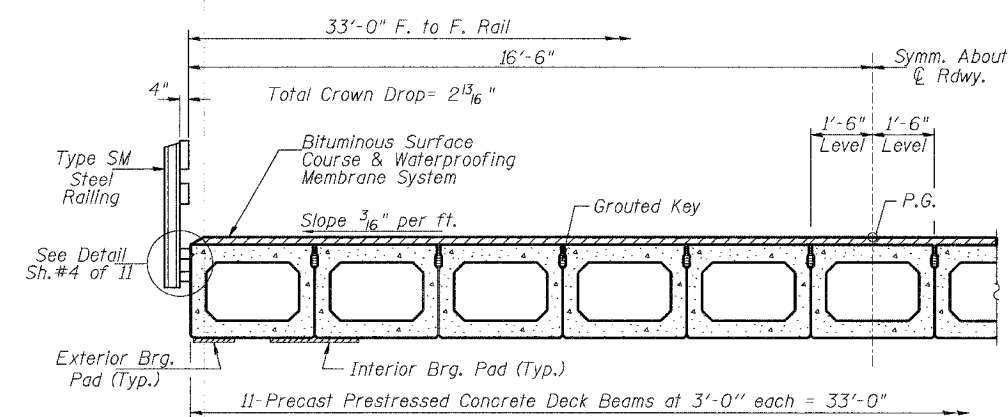
TYPICAL SECTION

12-1/2 Strand Each Strand Stressed to 30,900 Lbs.
8-Strands 1 3/4 inch up, 4-Strands 3/4 inch up

Note: Place strands symmetrically about center of beam.



PLAN



HALF CROSS SECTION

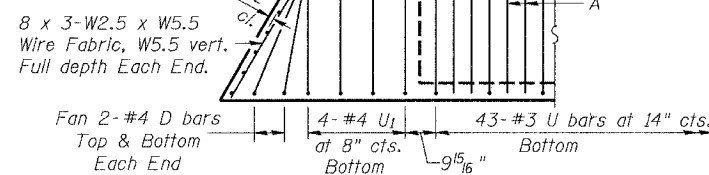
NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2 inch and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2 inch-270 ksi strands, as shown. The 1 inch 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. Non prestressing steel shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8 inch 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. A 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 4,000 p.s.i. Rail post anchor devices shall be cast into outside face of exterior beams as specified elsewhere.

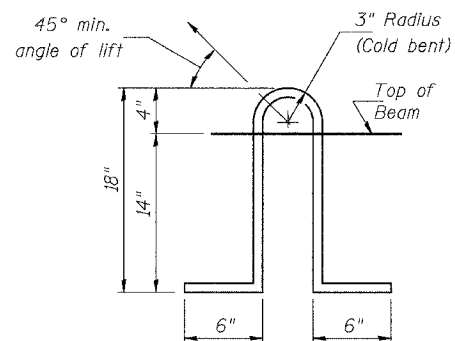
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (27" Depth)	SQ FT	3,696

SUPERSTRUCTURE - SPANS 1 & 3
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

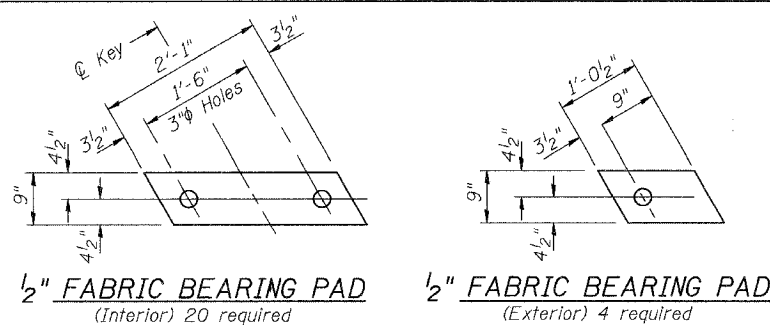


END PLAN



LIFTING LOOP DETAIL

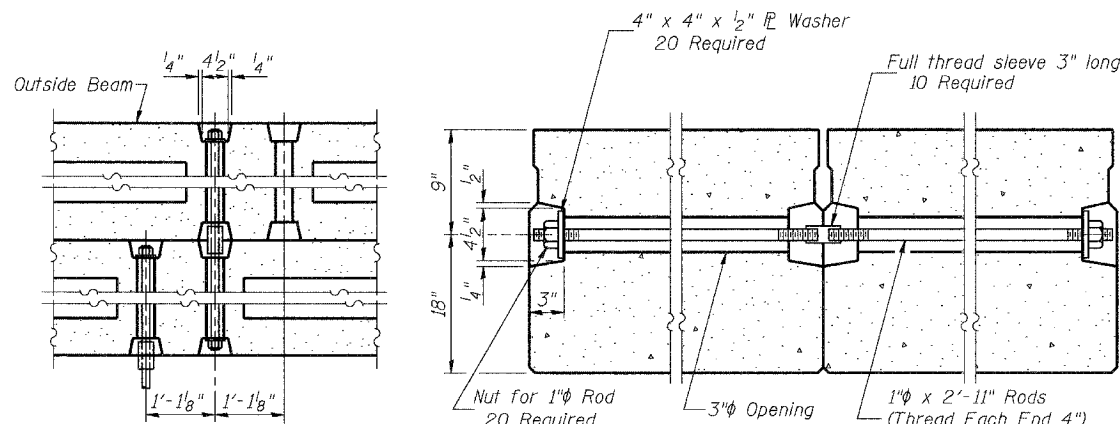
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	9
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(171)	
*04-00079-00-BR				



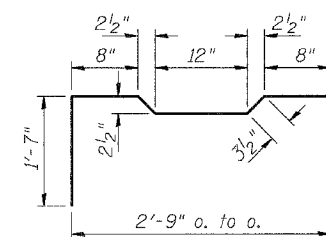
1/2" FABRIC BEARING PAD
(Interior) 20 required

1/2" FABRIC BEARING PAD
(Exterior) 4 required

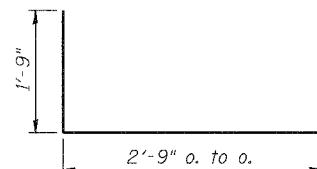
FIXED



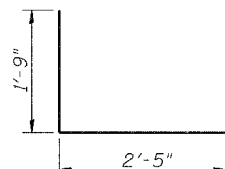
TYPICAL TRANSVERSE TIE ASSEMBLY



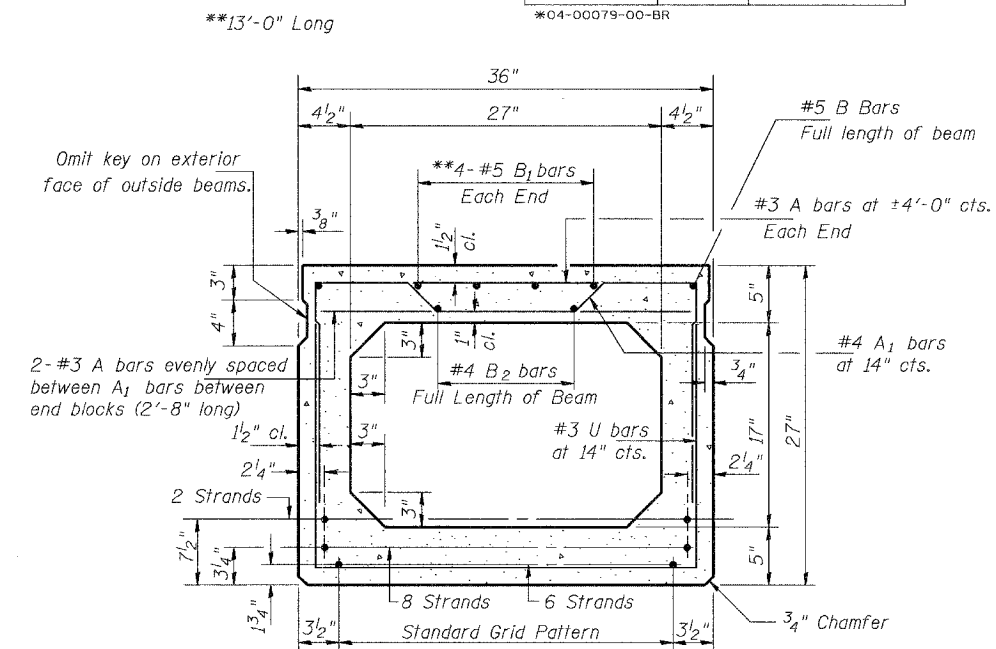
BAR A1



BARS U & U1



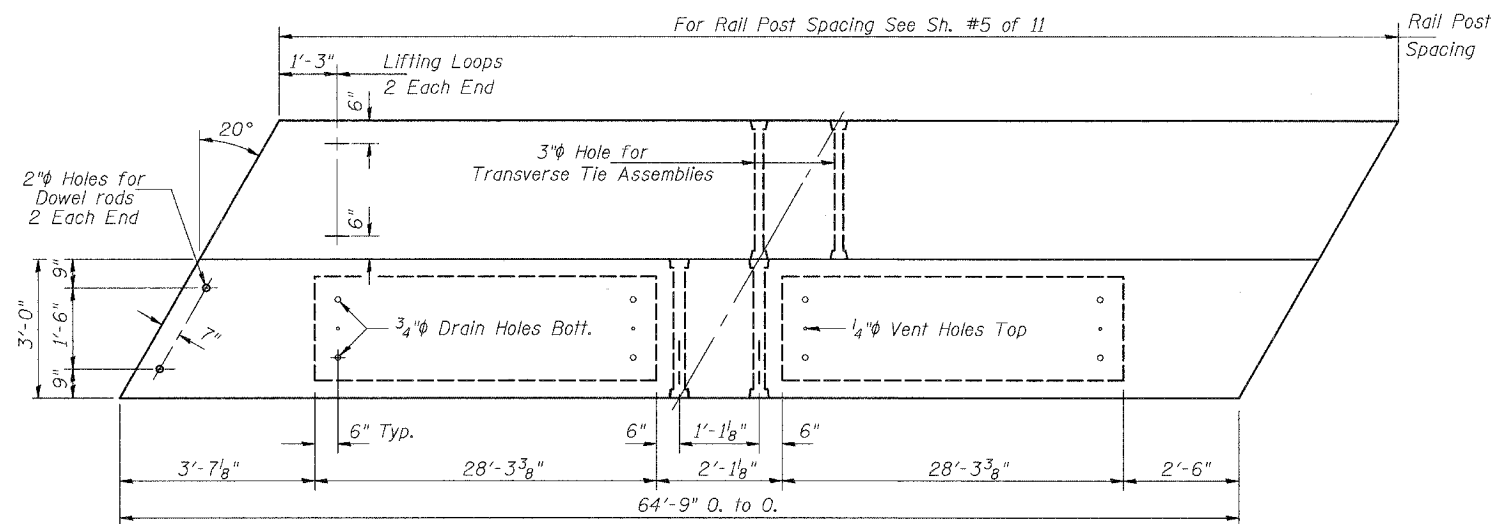
BAR D



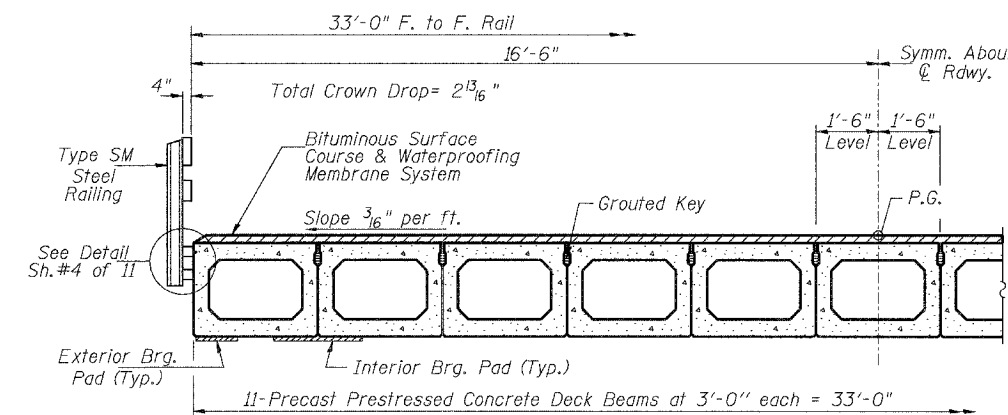
TYPICAL SECTION

16-1/2" Strands Each Strand Stressed to 30,900 Lbs.
6-Strands 1 3/4" up, 8-Strands 3/4" up, 2-Strands 7/2" up

Note: Place strands symmetrically about center of beam.



PLAN



HALF CROSS SECTION

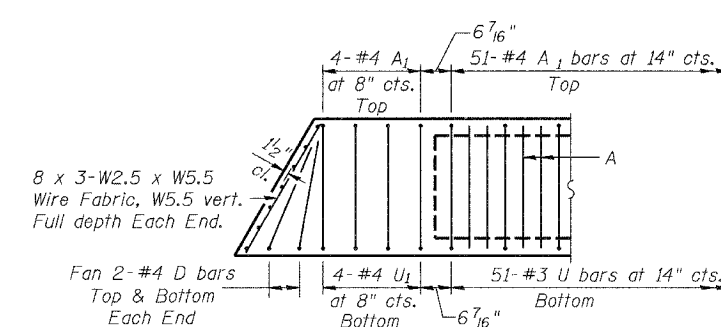
NOTES

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 3-1/2" phi-270 ksi strands, as shown. The 1" 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. Non prestressing steel shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. 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. A 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 4,000 p.s.i. Rail post anchor devices shall be cast into outside face of exterior beams as specified elsewhere.

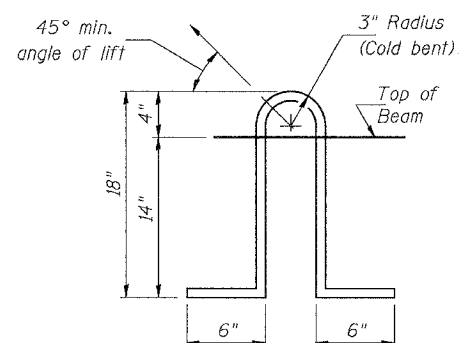
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (27" Depth)	SQ FT	2,137

SUPERSTRUCTURE-SPAN 2
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

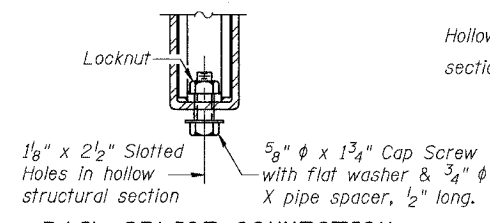
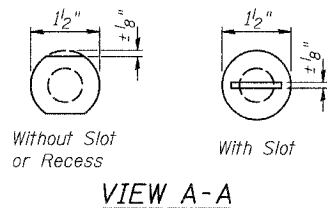
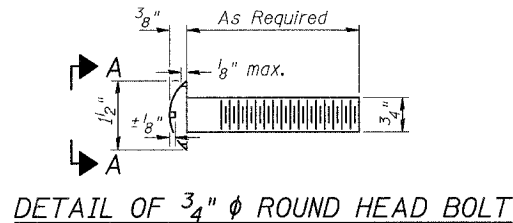


END PLAN

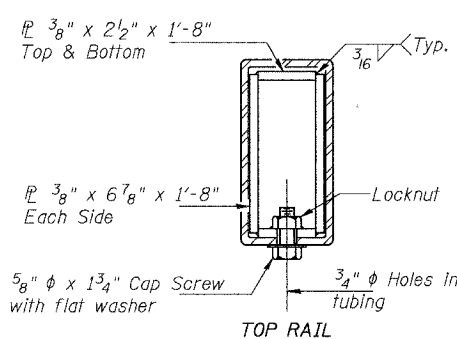
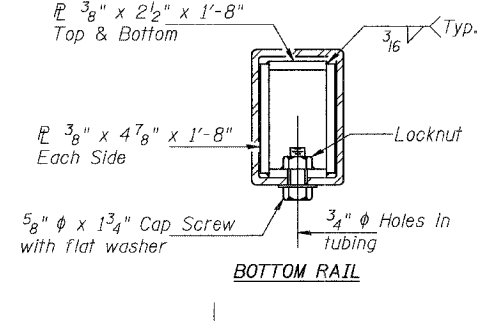
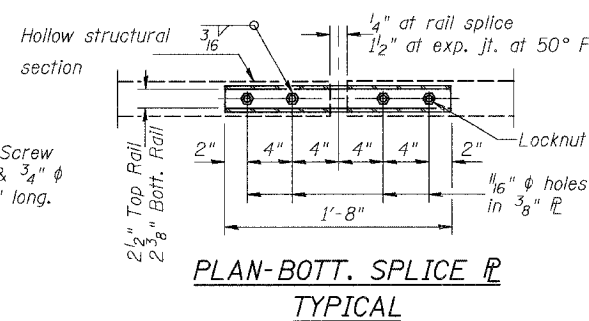


LIFTING LOOP DETAIL

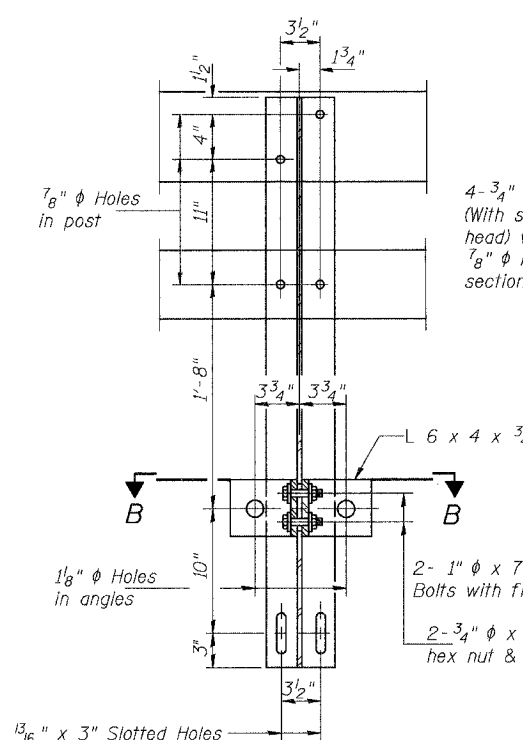
ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 4 11 SHEETS
CH 3	*	PIKE	17	10	
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(17)		
*04-00079-00-BR					



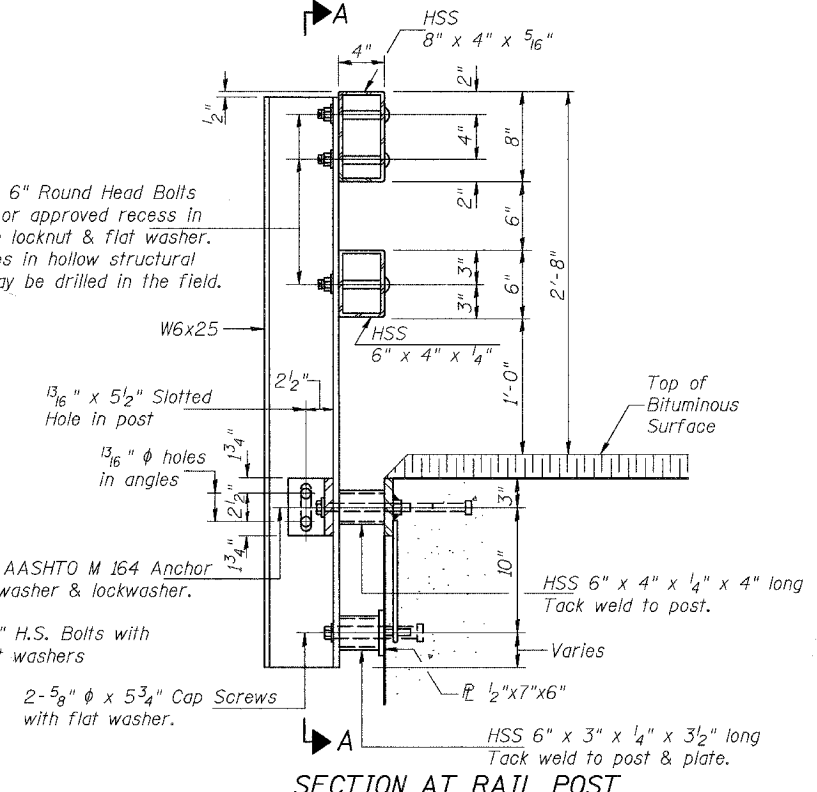
RAIL SPLICE CONNECTION AT EXPANSION JT.



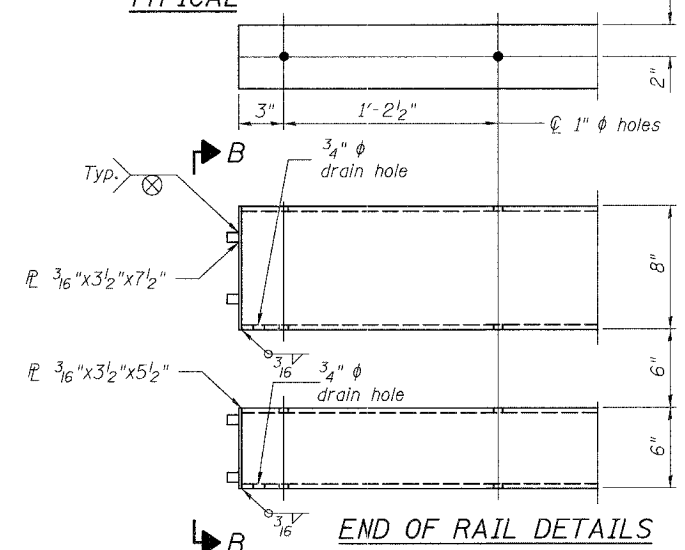
SECTIONS AT RAIL SPLICE



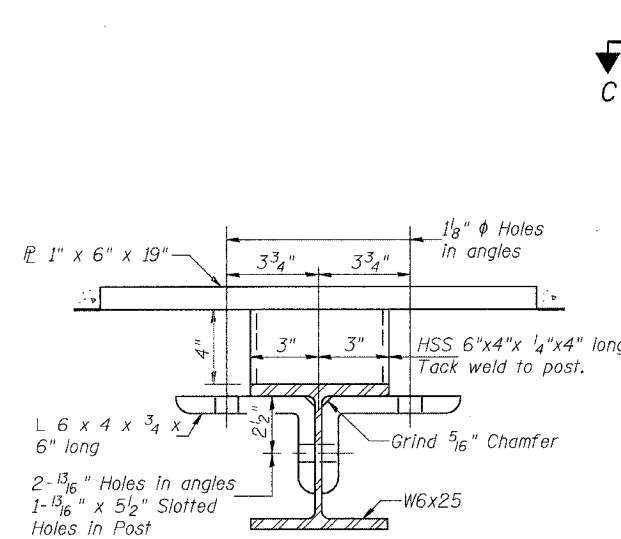
SECTION A-A



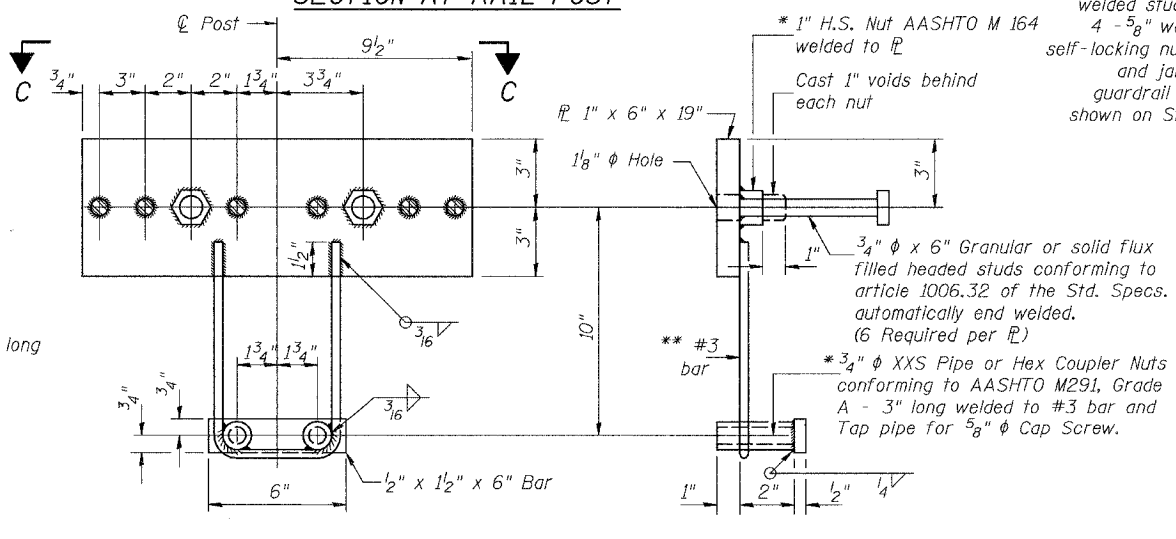
SECTION AT RAIL POST



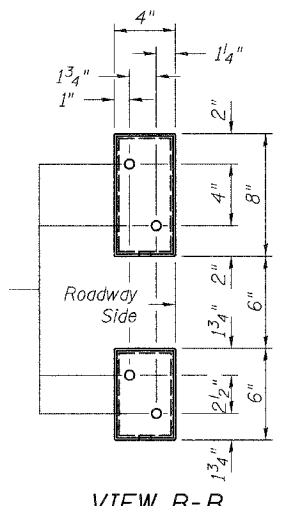
END OF RAIL DETAILS



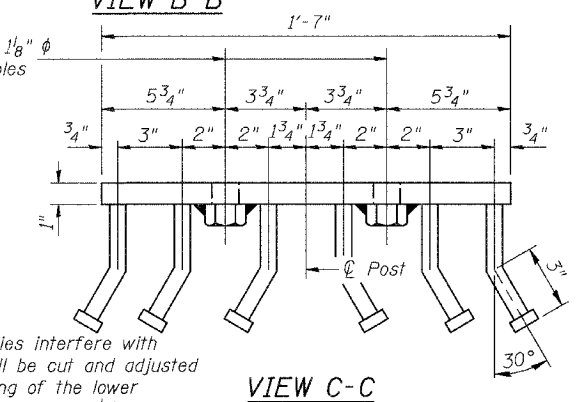
SECTION B-B



ANCHOR DEVICE



VIEW B-B



VIEW C-C

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 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

The 3/4" 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" 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" cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

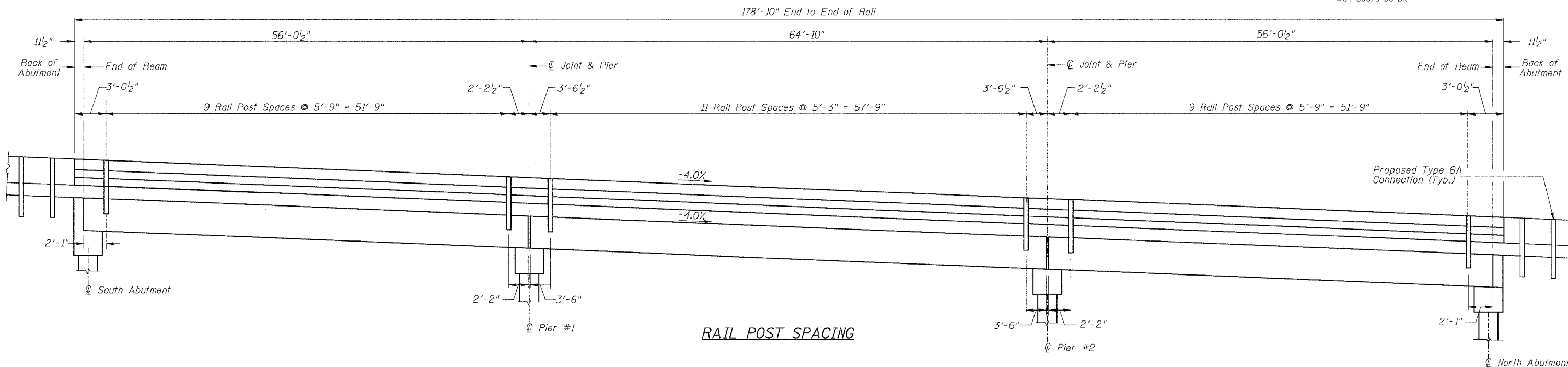
Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	358

TYPE SM STEEL RAILING
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

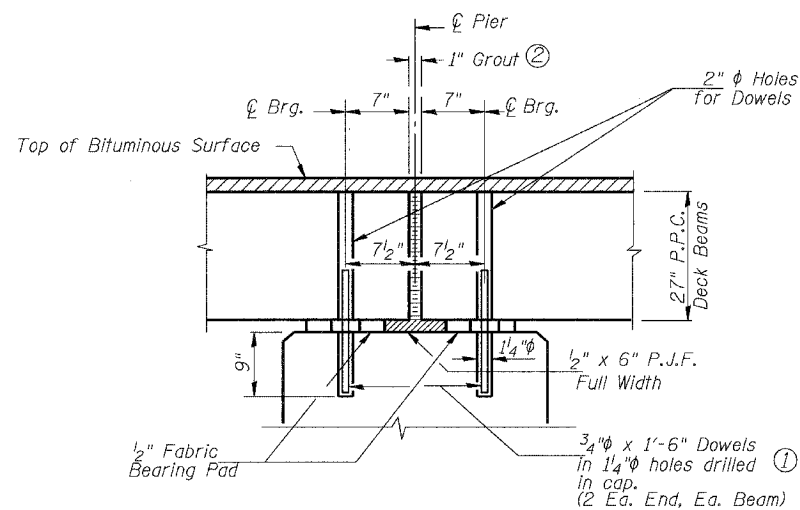
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

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

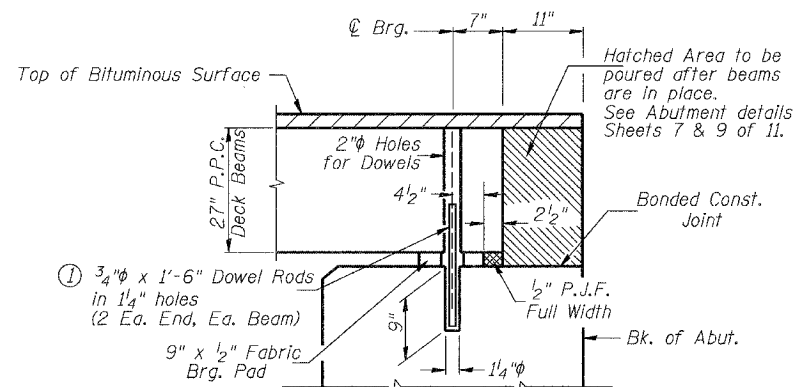
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	11
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	BRS-601(171)
*04-00079-00-BR				



RAIL POST SPACING

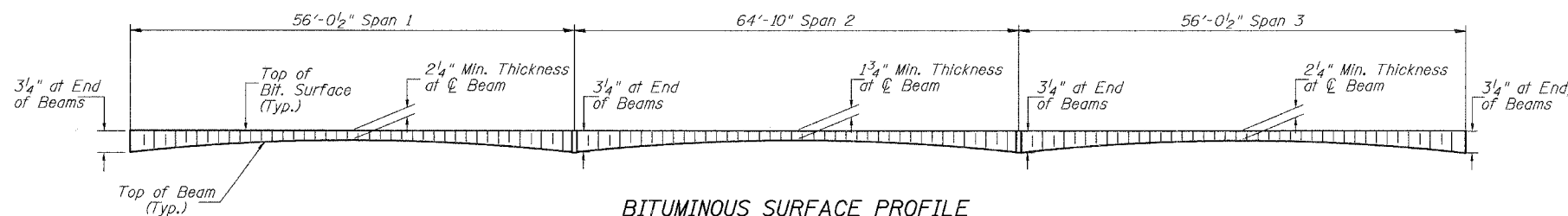


SECTION THRU PIERS
(At Right Angles)



SECTION THRU ABUTMENTS
(At Right Angles)

- ① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.
- ② 1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

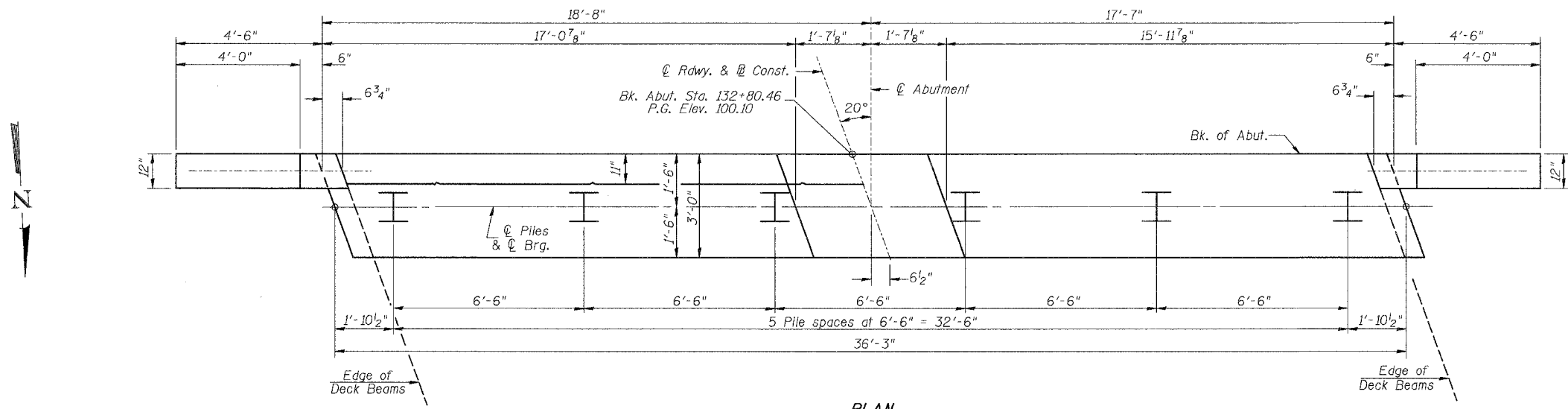


BITUMINOUS SURFACE PROFILE
Includes Waterproofing Membrane System

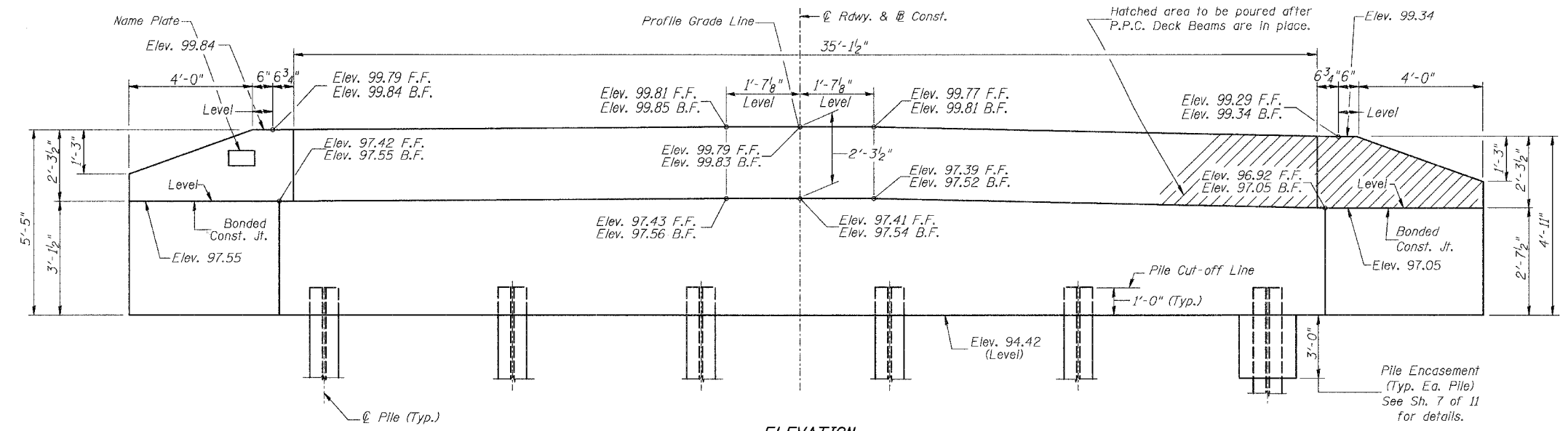
RAIL POST SPACING
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 3	*	PIKE	17	12
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(171)	

*04-00079-00-BR



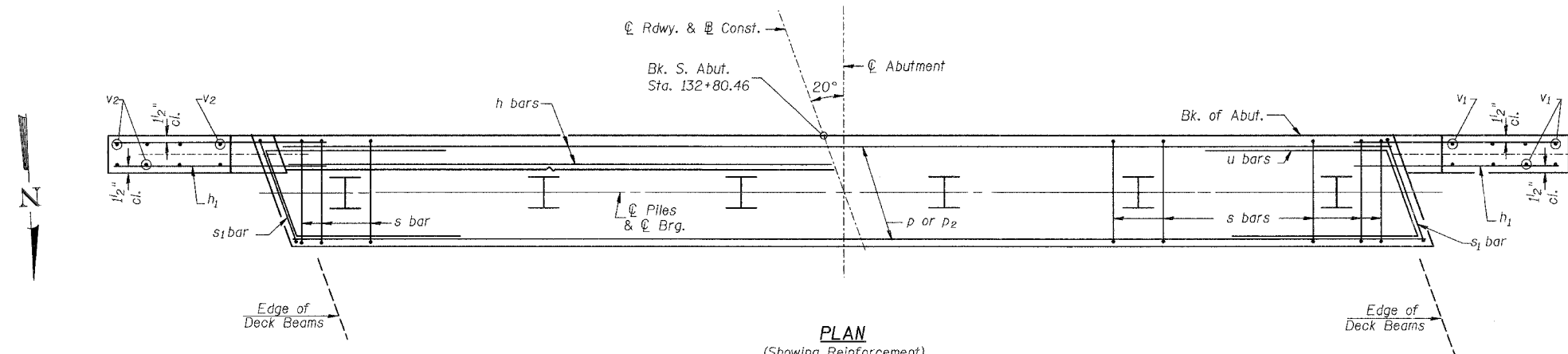
PLAN
(Showing Dimensions)



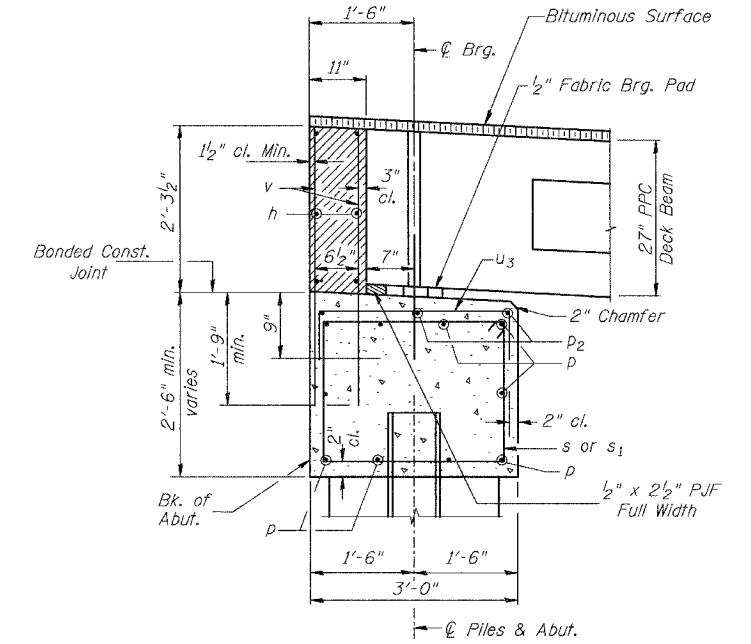
ELEVATION
(Front View of Abutment Showing Dimensions)

SOUTH ABUTMENT
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

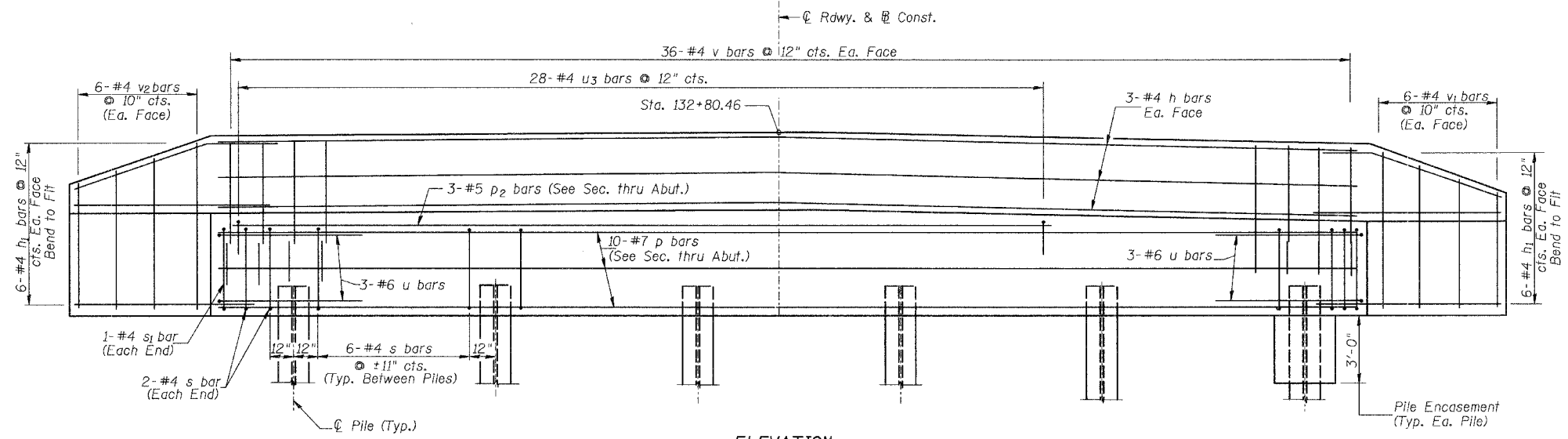
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET
CH 3	*	PIKE	17	13
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(171)	
*04-00079-00-BR				



PLAN
(Showing Reinforcement)



SECTION THRU ABUT.
(At Right Angles)



ELEVATION
(Front View of Abutment Showing Reinforcement)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	6	#4	35'-11"	—
h1	24	#4	6'-6"	—
p	10	#7	35'-11"	—
p2	3	#5	27'-0"	—
s	34	#4	10'-5"	□
s1	2	#4	10'-9"	□
u	6	#6	11'-9"	—
u3	28	#4	6'-4"	—
v	72	#4	4'-0"	—
v1	6	#4	7'-11"	—
v2	6	#4	8'-11"	—
Concrete Structures		CU YD	16.1	
Reinforcement Bars		POUND	1,800	
Structure Excavation		CU YD	50	
Name Plates		EACH	1	
Furnishing Steel Piles		FOOT	320	
HP12x53				
Driving Steel Piles		FOOT	320	
Test Pile Steel HP12x53		EACH	1	
Concrete Encasement		CU YD	2.1	

See Special Provisions

NOTES

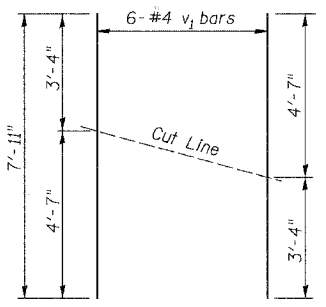
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31 or M-322, Grade 60.

DESIGN STRESSES

$f'c = 3,500$ p.s.i.
 $fy = 60,000$ p.s.i.

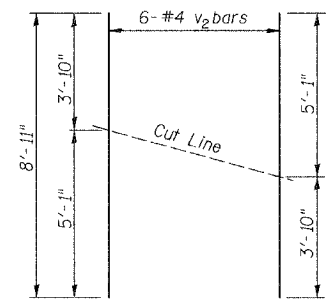
PILE DATA

Type: Steel HP12x53
Capacity: 40 Ton Driven to 60 Ton Bearing
Est. Length: 64'
No. Req'd: 6 (Includes 1 Test Pile)



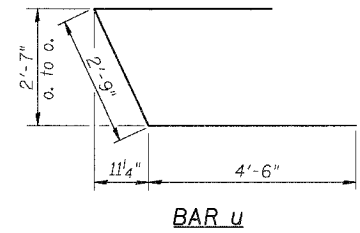
BAR CUTTING DIAGRAM

Order v1 bars full length. Cut as shown and use remainder of bars in opposite face.

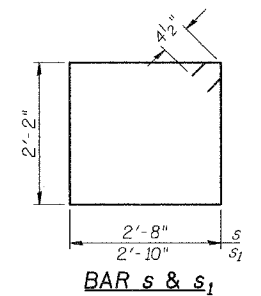


BAR CUTTING DIAGRAM

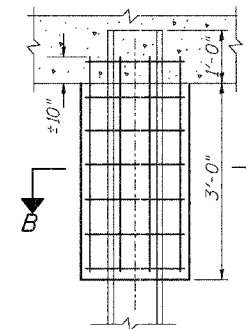
Order v2 bars full length. Cut as shown and use remainder of bars in opposite face.



BAR u



BAR s & s1



DETAIL OF HP PILE ENCASEMENT

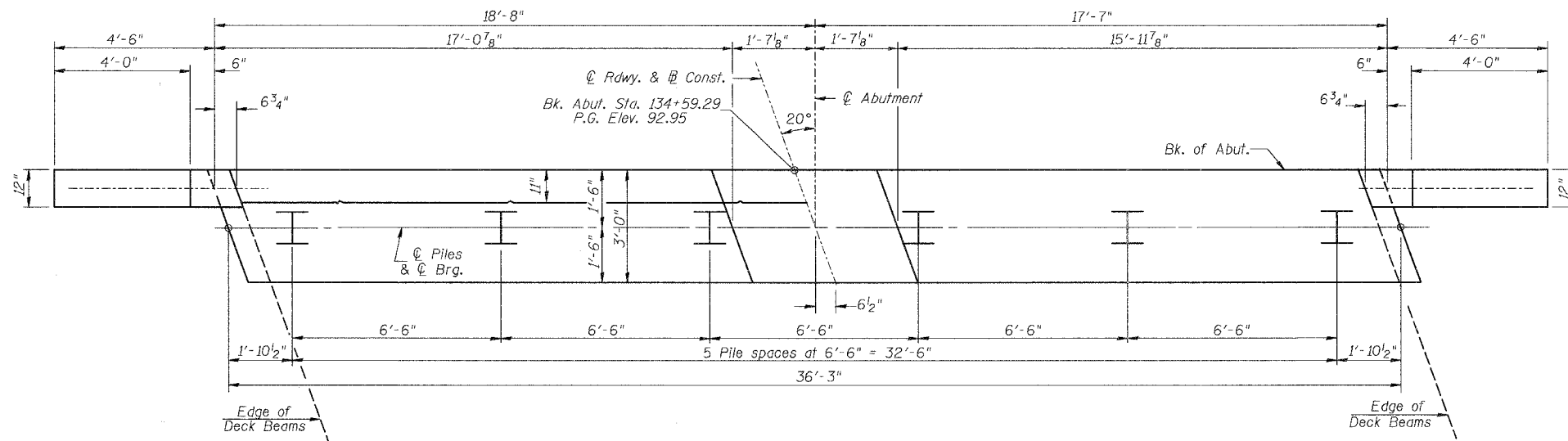
Welded wire fabric 6x6-W4.0xW4.0 weighing 58#/100 sq. ft. The cost of Excavation and Reinforcement is included with the cost of Concrete Encasement. Forms for encasement may be omitted when soil conditions will permit.

SEC. B-B

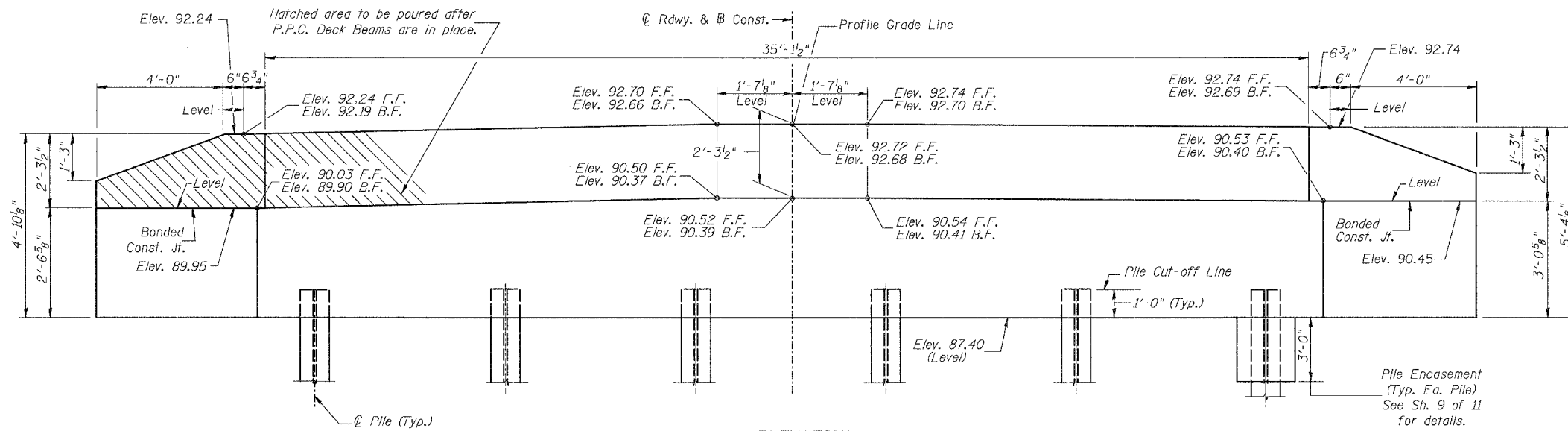
SOUTH ABUTMENT DETAILS
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
CH 3	*	PIKE	17	14
FED. ROAD DIST. NO. 7		ELLIPSE	PROJECT BRS-601(171)	

*04-00079-00-BR



PLAN
(Showing Dimensions)

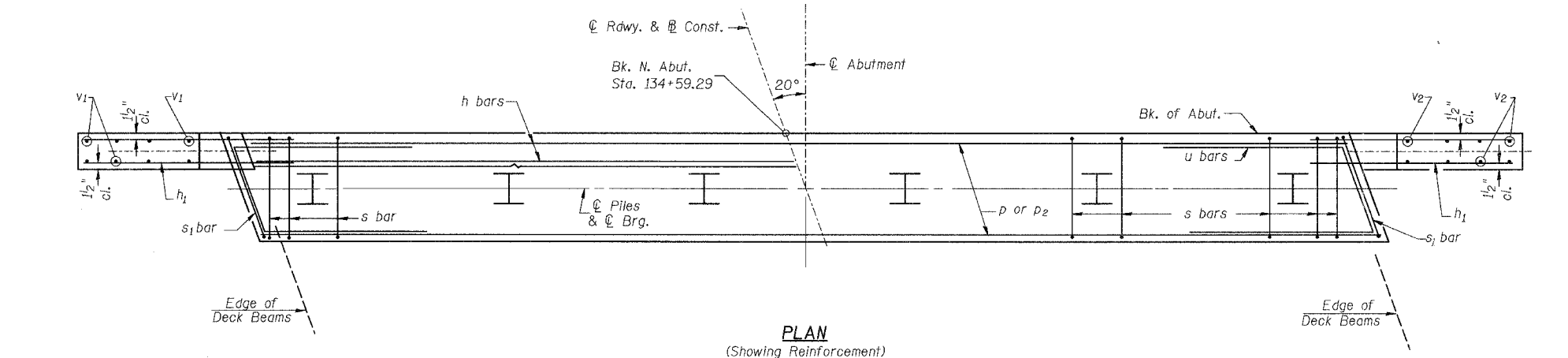


ELEVATION
(Front View of Abutment Showing Dimensions)

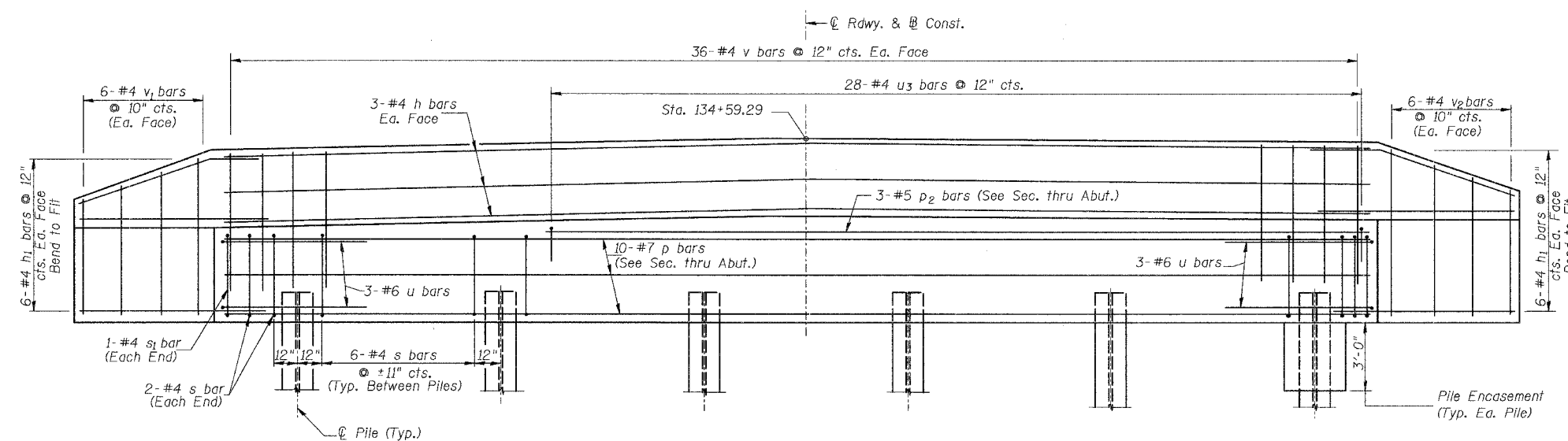


NORTH ABUTMENT
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

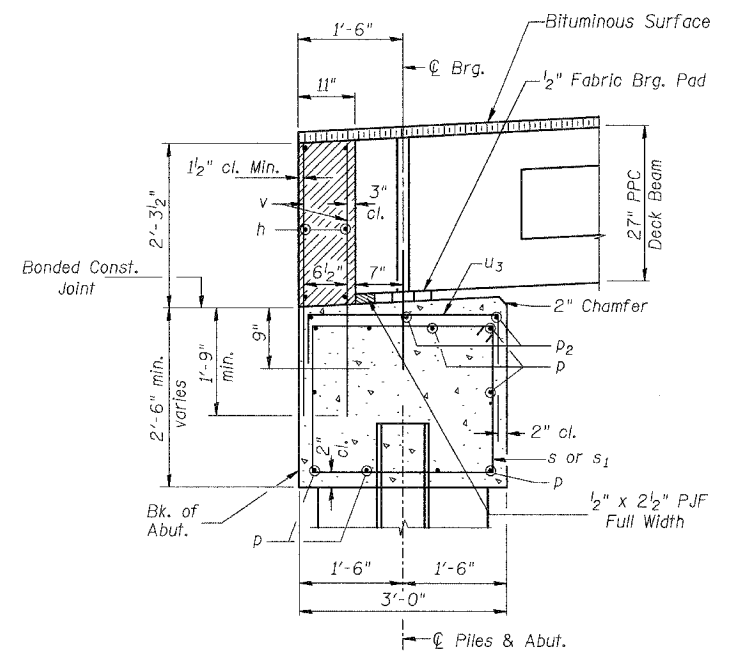
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
CH 3	*	PIKE	17	15
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BRS-601(171)	
*04-00079-00-BR				



PLAN
(Showing Reinforcement)



ELEVATION
(Front View of Abutment Showing Reinforcement)

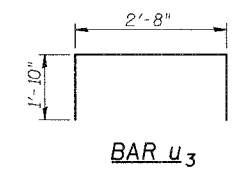


SECTION THRU ABUT.
(At Right Angles)

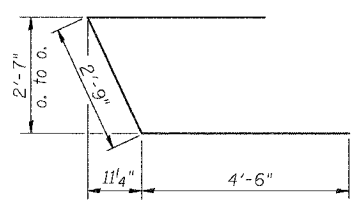
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	6	#4	35'-11"	—
h1	24	#4	6'-6"	—
p	10	#7	35'-11"	—
p2	3	#5	27'-0"	—
s	34	#4	10'-5"	□
s1	2	#4	10'-9"	□
u	6	#6	11'-9"	—
u3	28	#4	6'-4"	—
v	72	#4	4'-0"	—
v1	6	#4	7'-11"	—
v2	6	#4	8'-11"	—
Concrete Structures				CU YD 16.1
Reinforcement Bars				POUND 1,800
Structure Excavation				CU YD 50
Furnishing Steel Piles HP12x53				FOOT 235
Driving Steel Piles				FOOT 235
Test Pile Steel HP12x53				EACH 1
Concrete Encasement				CU YD 2.1

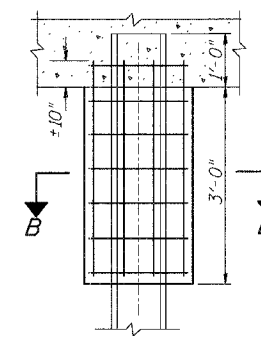
① See Special Provisions



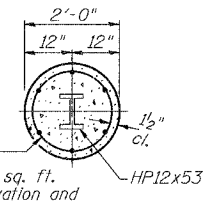
BAR u3



BAR u



DETAIL OF HP PILE ENCASEMENT



SEC. B-B

NOTES

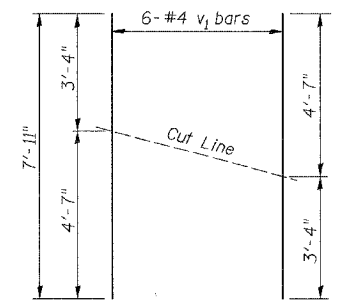
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to A.A.S.H.T.O. M-31 or M-322, Grade 60.

DESIGN STRESSES

f'c = 3,500 p.s.i.
fy = 60,000 p.s.i.

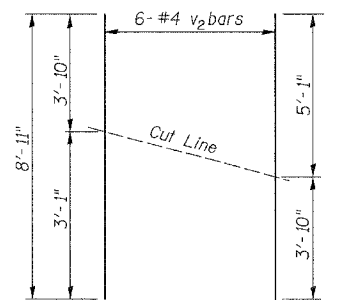
PILE DATA

Type: Steel HP12x53
Capacity: 40 Ton Driven to 60 Ton Bearing
Est. Length: 47'
No. Req'd.: 6 (Includes 1 Test Pile)



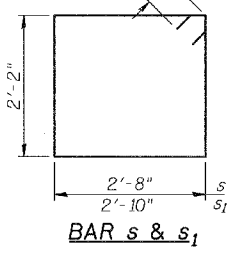
BAR CUTTING DIAGRAM

Order v1 bars full length. Cut as shown and use remainder of bars in opposite face.



BAR CUTTING DIAGRAM

Order v2 bars full length. Cut as shown and use remainder of bars in opposite face.



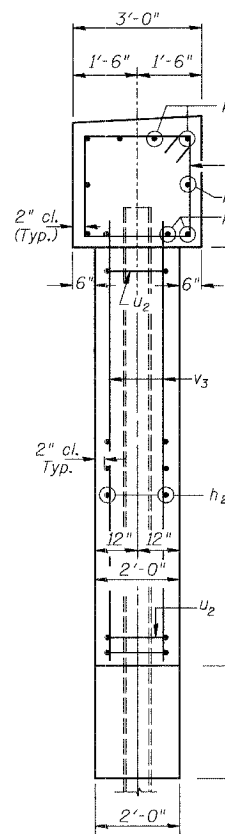
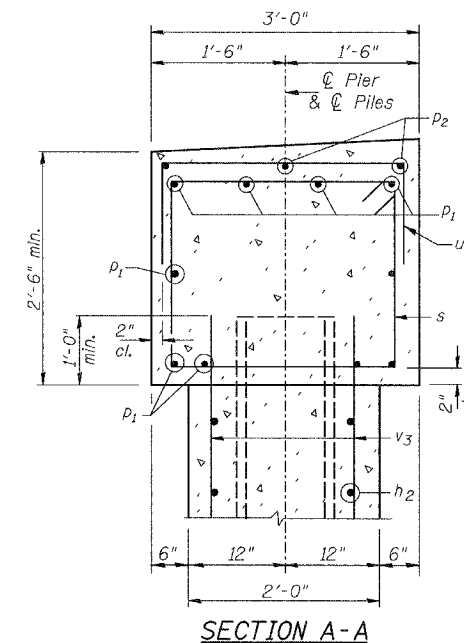
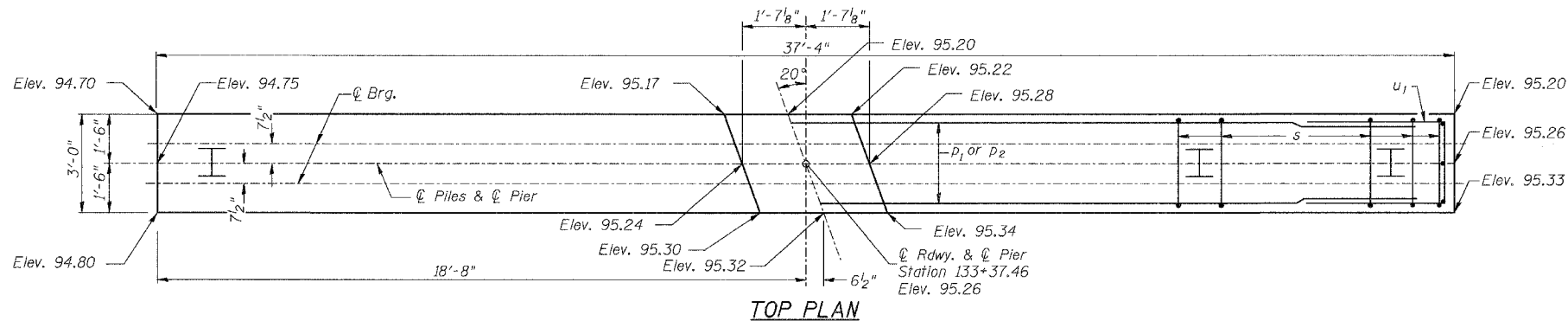
BAR s & s1

NORTH ABUTMENT DETAILS
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

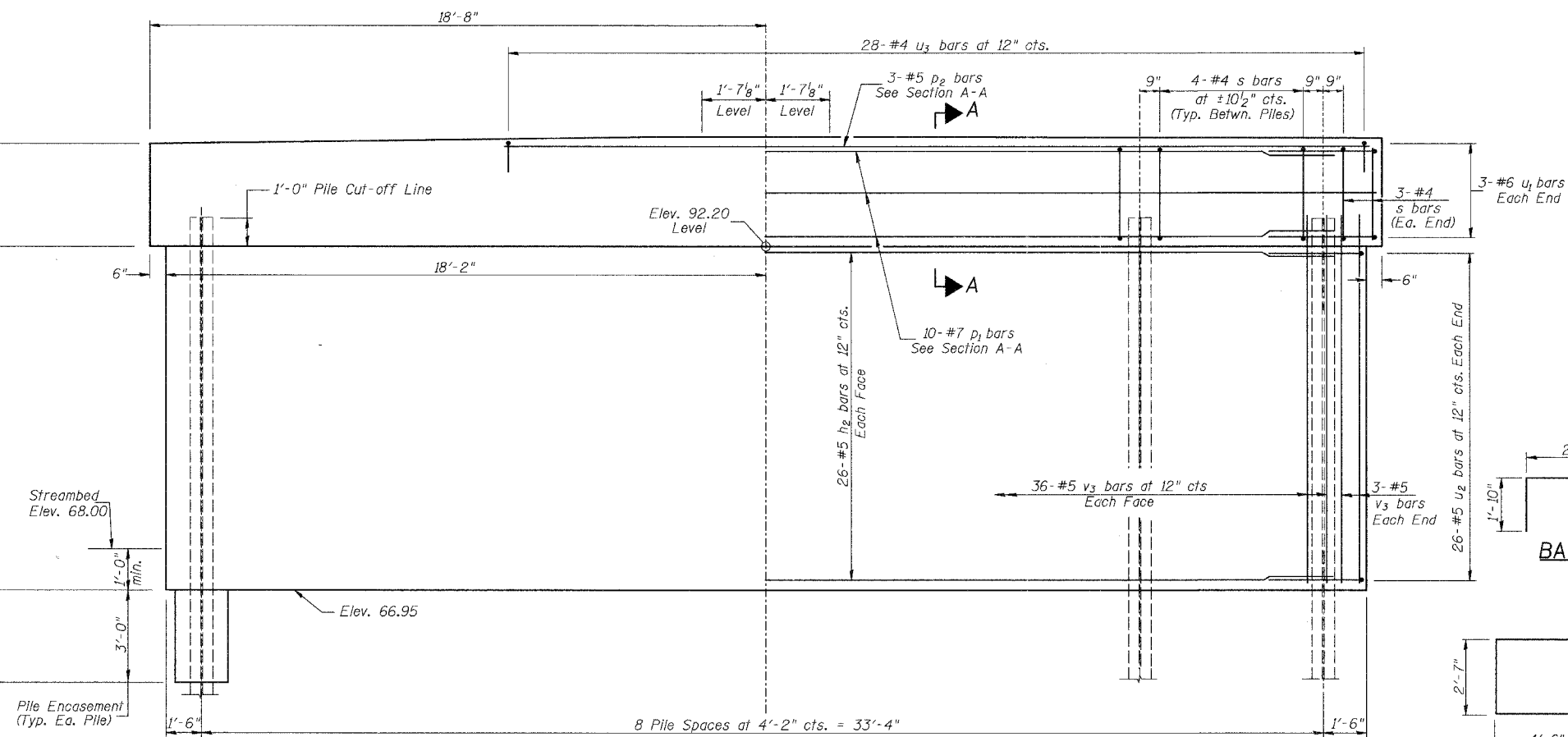
ROUTE NO.	SECTION	COUNTY	SHEET	DATE	SHEET NO. 10
CH 3	*	PIKE	17	16	11 SHEETS
FED. ROAD DIST. NO. 7		BLDG. NO.	PROJECT	BRS-601(171)	
*04-00079-00-BR					

NOTES:
All edges shall have standard 3/4" chamfer.

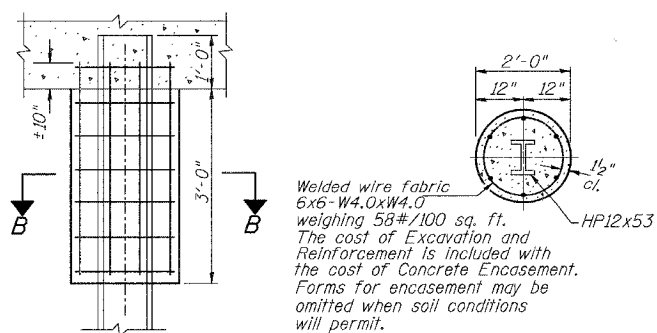
PILE DATA
Type: HP12x53 Steel Pile
Capacity: 65 Ton Driven to 100 Ton Bearing
Est. Length: 124'
No. Req'd.: 9 (Includes 1 Test Pile)



END VIEW

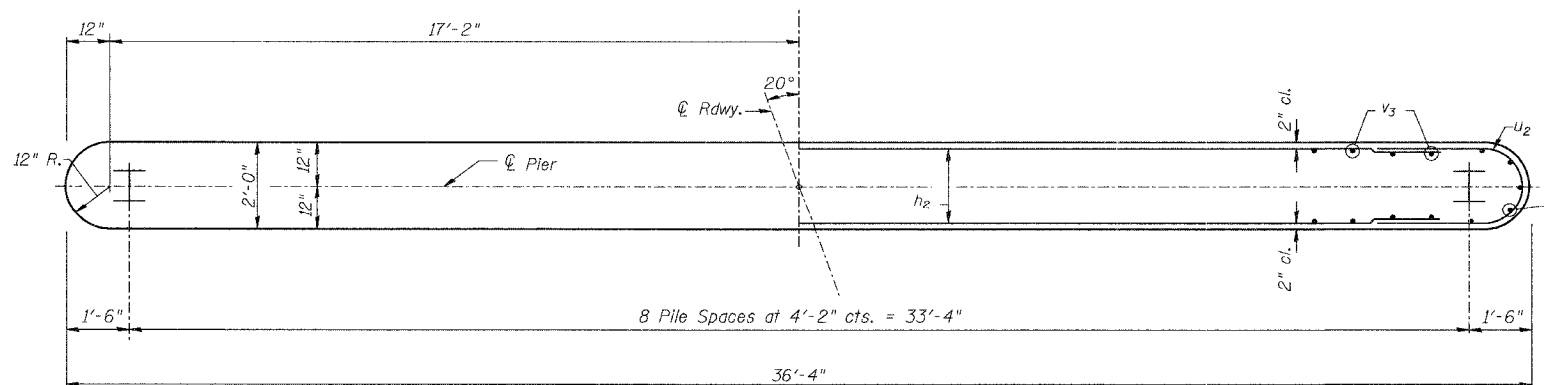


ELEVATION
(Looking Upstair)

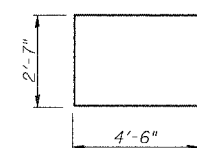


DETAIL OF
HP PILE ENCASEMENT

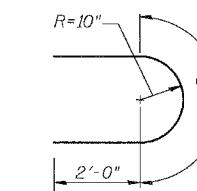
SEC. B-B



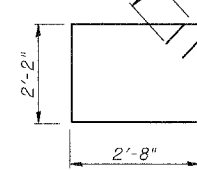
FOOTING PLAN



BAR U3



BAR U2



BAR S

BILL OF MATERIAL

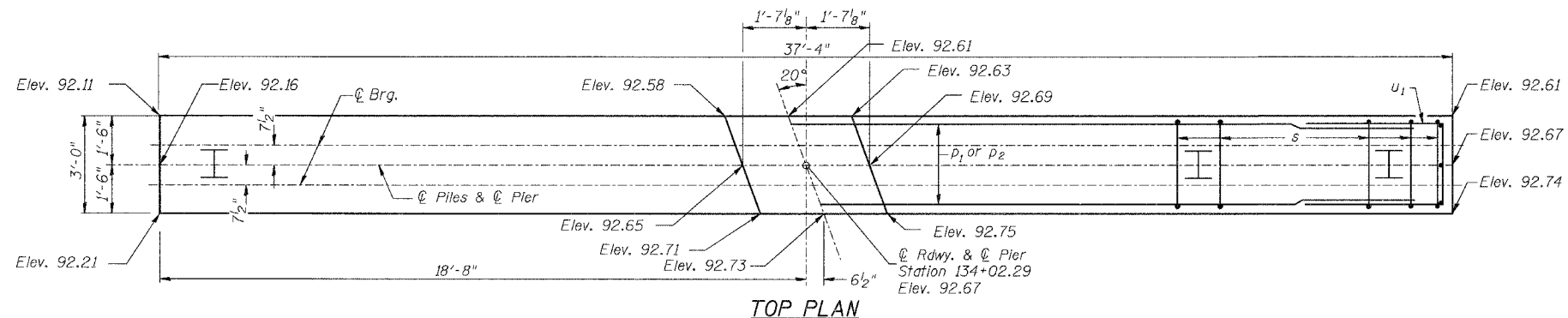
BAR	NO.	SIZE	LENGTH	SHAPE	
h ₂	52	#5	34'-0"	—	
p ₁	10	#7	37'-0"	—	
p ₂	3	#5	27'-0"	—	
s	38	#4	10'-5"	□	
u ₁	6	#6	11'-7"	□	
u ₂	52	#5	6'-8"	□	
u ₃	28	#4	6'-4"	□	
v ₃	78	#5	26'-1"	—	
Concrete Structures				CU YD	79.4
Reinforcement Bars				POUND	5,660
Structure Excavation				CU YD	40
Furnishing Steel Piles HP12x53				FOOT	992
Driving Steel Piles				FOOT	992
Test Pile Steel HP12x53				EACH	1
Concrete Encasement				CU YD	3.1
Underwater Structure Excavation Protection, Location 1				EACH	1

① See Special Provisions

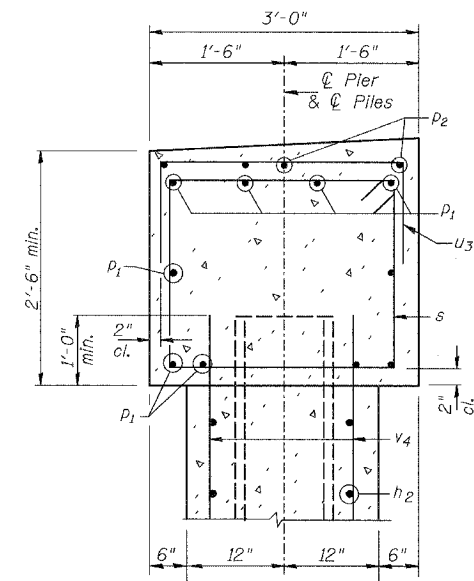
PIER 1
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88

NOTES:
All edges shall have standard 3/4" chamfer.

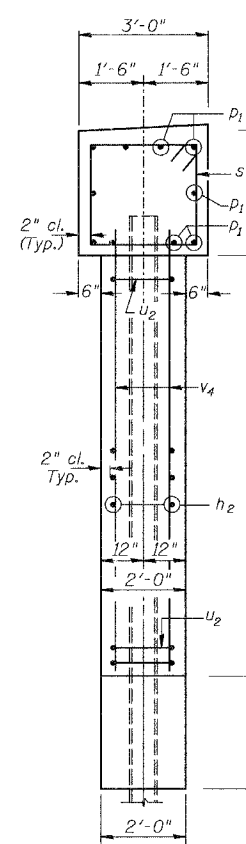
PILE DATA
Type: HP12x53 Steel Pile
Capacity: 65 Ton Driven to 100 Ton Bearing
Est. Length: 76'
No. Req'd.: 9 (Includes 1 Test Pile)



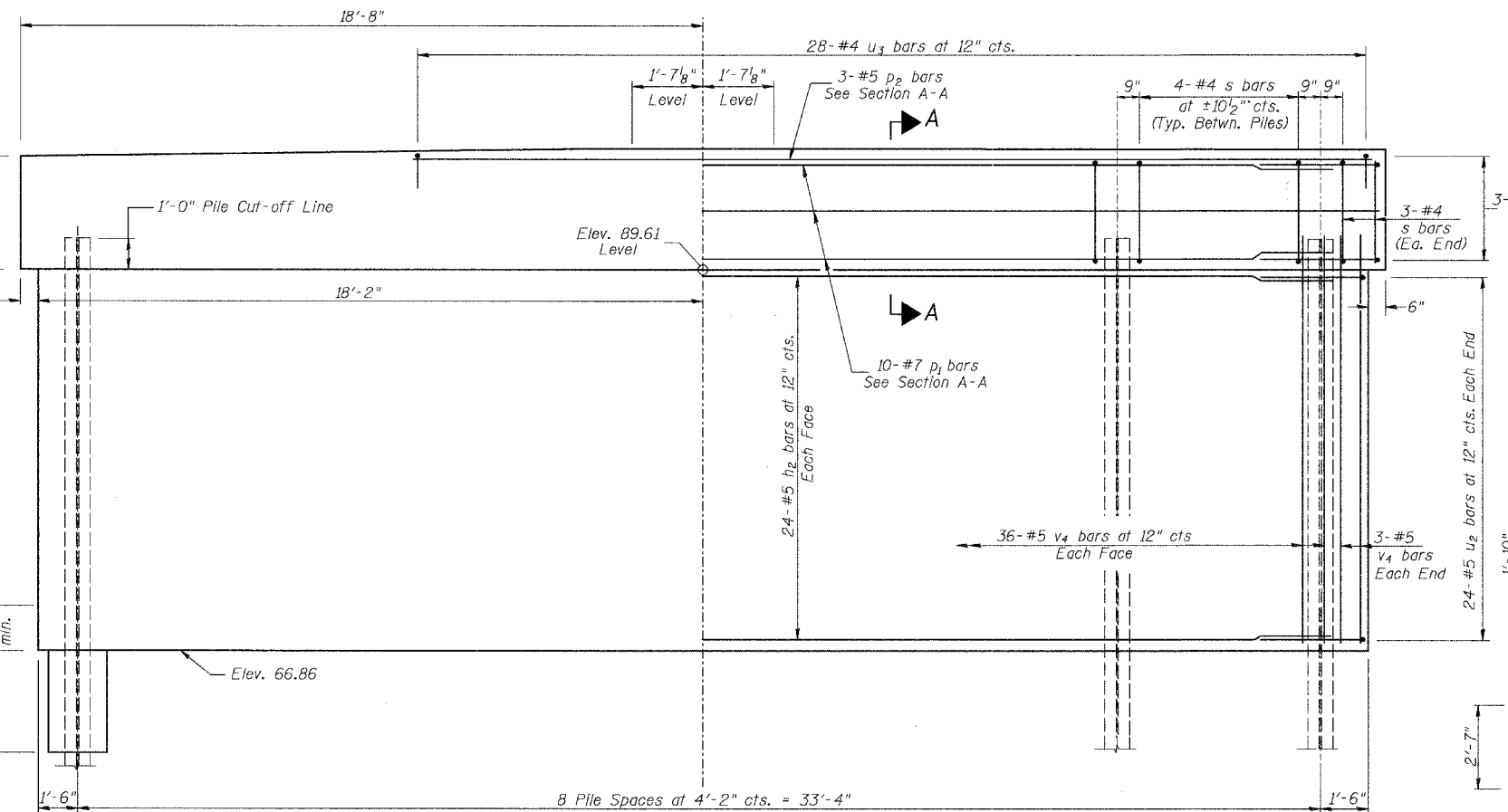
TOP PLAN



SECTION A-A



END VIEW

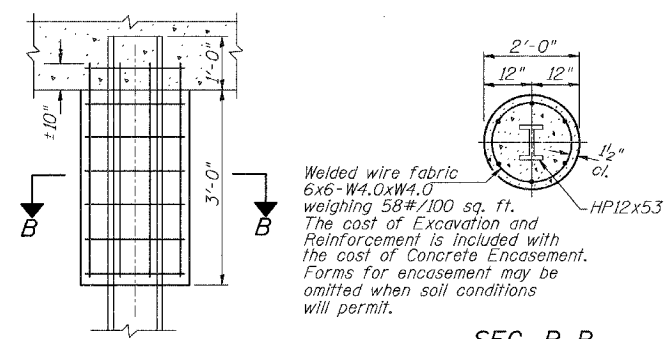


ELEVATION
(Looking Upstation)

BILL OF MATERIAL

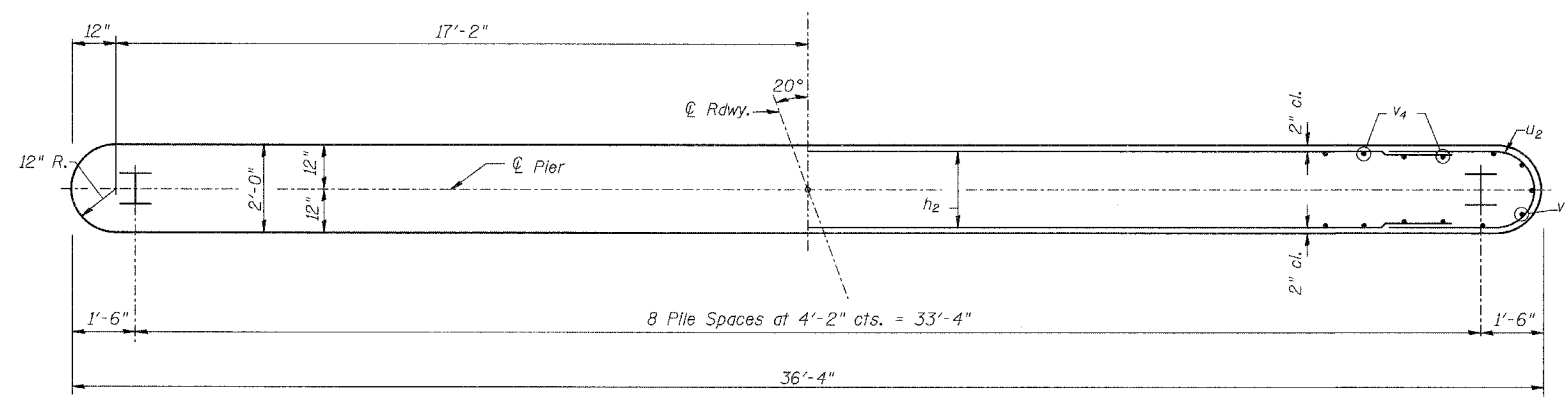
BAR	NO.	SIZE	LENGTH	SHAPE
h ₂	48	#5	34'-0"	—
p ₁	10	#7	37'-0"	—
p ₂	3	#5	27'-0"	—
s	38	#4	10'-5"	□
u ₁	6	#6	11'-7"	□
u ₂	48	#5	6'-8"	□
u ₃	28	#4	6'-4"	□
v ₄	78	#5	23'-7"	—
Concrete Structures		CU YD	72.8	
① Reinforcement Bars		POUND	5,280	
Structure Excavation		CU YD	10	
Furnishing Steel Piles HP12x53		FOOT	608	
Driving Steel Piles		FOOT	608	
Test Pile Steel HP12x53		EACH	1	
Concrete Encasement		CU YD	3.1	
① Underwater Structure Excavation Protection, Location 2		EACH	1	

① See Special Provisions

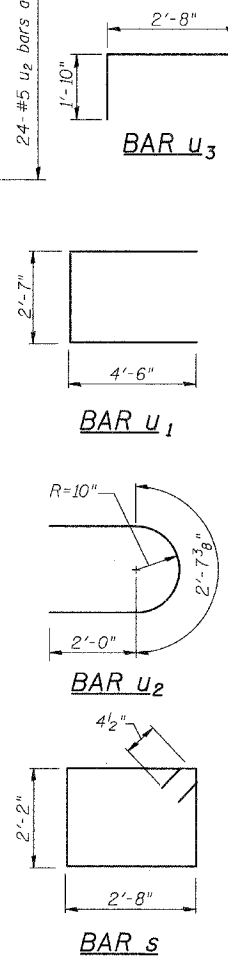


SEC. B-B

DETAIL OF HP PILE ENCASEMENT



FOOTING PLAN



PIER 2
C.H. 3 OVER BAY CREEK
SEC. 04-00079-00-BR
PIKE COUNTY
STATION 133+69.88