~~6-15-07 Letting, Item 068~~

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	1
PROJECT				

* 03-00122-00-BR

CONTRACT NO. 93438

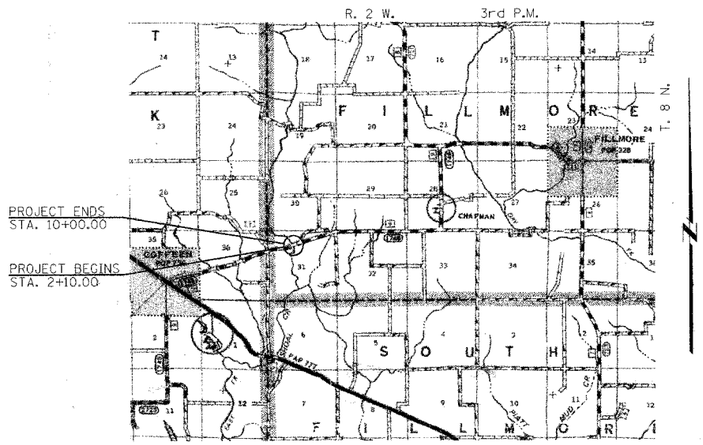
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
PROJECT NO. BRS-1746(107)
F.A.S. ROUTE 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY
JOB NO. C-96-215-07

INDEX OF SHEETS

STANDARDS

STANDARD 280001-03
STANDARD 515001-02
STANDARD 630001-07
STANDARD 631026-03
STANDARD 635006-02
STANDARD 702001-06
STANDARD BLR 21-6



LOCATION PLAN

Length of Section - 790.00 Feet = 0.150 Miles

0 1 2
Scale: 1" = 1 Mile

Scale In Feet

0 50 100 = Profile - Plan
0 50 100 = Profile - Horizontal
0 5 10 = Profile - Vertical
0 5 10 = Cross Sections - Horizontal
0 5 10 = Cross Sections - Vertical

Design Class : Major Collector (Non-Urban)
Land Section - 31
Land Quarter Section - N.W.

A.D.T. = 375 (2002)
A.D.T. = 520 (2021)
50 M.P.H. Design Speed

EXISTING STRUCTURE: SINGLE SPAN REINFORCED CONCRETE DECK ON STEEL STRINGERS SUPPORTED BY PRATT-THRU TRUSSES. CLOSED TIMBER ABUTMENTS AND WINGWALLS ON TIMBER PILES. ±104'-9" BK.-BK. ABUTMENTS, ±20'-10" FACE TO FACE OF CURBS. STEEL RAILINGS. ±50° SKEW RT. FORWARD.
EXISTING S.N. 068-3018

PROPOSED STRUCTURE: THREE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAMS (21") 158'-0" BK.-BK. ABUTMENTS, 50'-4 1/8" (SPANS 1 & 3), 50'-2 3/4" (SPAN 2). 28'-0" OUT.-OUT. DECK. OPEN CONCRETE ABUTMENTS, SOLID CONCRETE PIERS. TYPE S1 RAILING. 45° SKEW RT. FORWARD.
PROPOSED S.N. 068-3352

CHRISTOPHER P. KOHLRUS
062-046558
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

Christopher P. Kohlrus 2/22/07
EXPIRATION DATE: 11/30/07

APPROVED 2-16, 2007
MONTGOMERY COUNTY ENGINEER

PASSED 3-26, 2007
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS

PASSED 3-26, 2007
ASSISTANT STATE ENGINEER CONSTRUCTION

Releasing For Bid Based on Limited Review 3-26, 2007
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

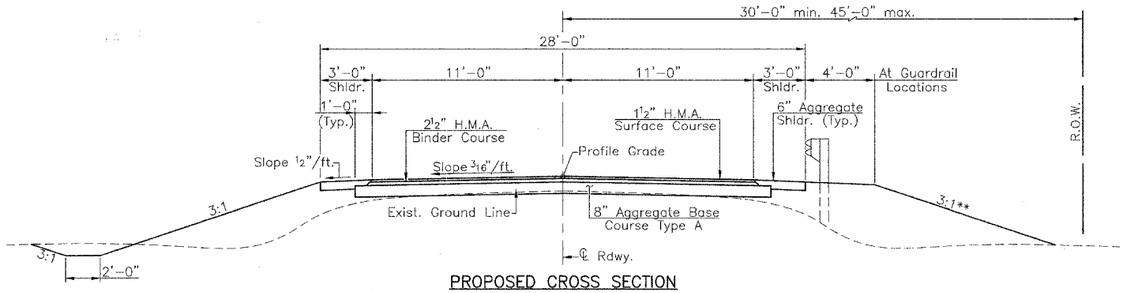
TOLL FREE
"JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"
(J.U.L.I.E.) TELEPHONE NUMBER
1-800-892-0123

CONTRACT NO. 93438

FILE NAME: M0C221S (REV. 2/9/07)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	2
PROJECT				

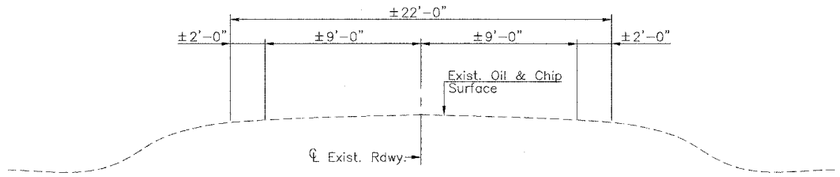
* 03-00122-00-BR



PROPOSED CROSS SECTION

(Sta. 2+10 to Sta. 5+27 & Sta. 6+85 to Sta. 10+00)

** 2:1 at Guardrail Locations



EXISTING CROSS SECTION

EARTHWORK SCHEDULE

Location	Earth Excavation	Earth Excavation Adjusted For Shrinkage	Embankment	Earthwork Balance Waste (+) or Shortage (−)
	Cubic Yard	Cubic Yard	Cubic Yard	Cubic Yard
Sta. 2+10 to Sta. 3+00	25	19	48	−29
Sta. 3+00 to Sta. 4+00	35	26	163	−137
Sta. 4+00 to Sta. 5+00	57	43	224	−181
Sta. 5+00 to Sta. 5+27	27	20	62	−42
Bridge Omission − Sta. 5+27 to Sta. 6+85				
Sta. 6+85 to Sta. 7+00	17	13	26	−13
Sta. 7+00 to Sta. 8+00	69	52	189	−137
Sta. 8+00 to Sta. 9+00	41	30	169	−139
Sta. 9+00 to Sta. 10+00	28	21	65	−44
Total	299	224	946	*** 722

*** 722 Cu. Yds. of Excess Channel Excavation and Structure Excavation will be used from Sta. 2+10 to Sta. 10+00. No furnished excavation shall be required. Any other excess Channel Excavation shall be disposed of off site, or as directed by the Engineer. Cost to to be included in Earth Excavation.

BITUMINOUS MIXTURE REQUIREMENTS

Mixture Use	Surface Course	Binder Course
AC/PG	PG64-22	PG64-22
Design Air Voids	4% @ Ndes = 50	4% @ Ndes = 50
(Gradation Mixture)	IL.9.5 or 12.5	IL-19.0
Friction Agg.	Mix. "C"	N/A

PAVEMENT DESIGN − 80000# DESIGN LOAD

Structural Design Traffic (S.D.T.): Year 2017: P.V.=446, S.U.= 22, M.U.= 22
Class III Road

Minimum Soil Support: $E_{ri} \geq 3.0$

Percent of S.D.T. in Design Lane: P=50% S=50% M=50%
T.F. = 0.11 E_{AC}= 570 S_{AC}= 280

Typical Proposed Roadway Cross Section: T_{AC}= 4" HMA on 8" Aggregate Base, Type A

SUMMARY OF QUANTITIES

	Item	Unit	Quantity
20100110	Tree Removal (6 to 15 Units Diameter)	Unit	16
20200100	Earth Excavation	Cu. Yd.	299
20300100	Channel Excavation	Cu. Yd.	2114
* 25001000	Seeding Class 2 (Special)	Acre	0.9
28000250	Temporary Erosion Control Seeding	Pound	180
28000300	Temporary Ditch Checks	Each	4
28000400	Perimeter Erosion Barrier	Foot	1340
28100809	Stone Dumped Riprap, Class A5	Ton	1293
28200200	Filter Fabric	Sq. Yd.	1390
35100100	Aggregate Base Course Type A	Ton	764
40600100	Bituminous Materials (Prime Coat)	Gallon	585
40603080	Hot Mix Asphalt Binder Course, IL-19.0 N50	Ton	219
40603310	Hot Mix Asphalt Surface Course, Mix "C" N50	Ton	193
48100100	Aggregate Shoulders, Type A	Ton	141
* 50100100	Removal of Existing Structures	Each	1
50200100	Structure Excavation	Cu. Yd.	254
50300225	Concrete Structures	Cu. Yd.	189.1
50400405	Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	4365
50800105	Reinforcement Bars	Pound	14240
50900205	Steel Railing, Type S1	Foot	316
51201400	Furnishing Steel Piles HP 10x42	Foot	827
51202305	Driving Piles	Foot	827
51203400	Test Pile, Steel HP 10 x 42	Each	2
51500100	Name Plates	Each	1
58100200	Waterproofing Membrane System	Sq. Yd.	492
58300100	Portland Cement Mortar Fairing Course	Foot	936
63100075	Traffic Barrier Terminal, Type 5A	Each	2
63100167	Traffic Barrier Terminal, Type 1 Special (Tangent)	Each	2
67100100	Mobilization	L. Sum	1
* 70101700	Traffic Control And Protection	L. Sum	1
78201000	Terminal Marker − Direct Applied	Each	4
* X5020501	Underwater Structure Excavation Protection − Location 1	Each	1
* X5020502	Underwater Structure Excavation Protection − Location 2	Each	1

* See Special Provisions Construction Type Code: X080

GENERAL NOTES

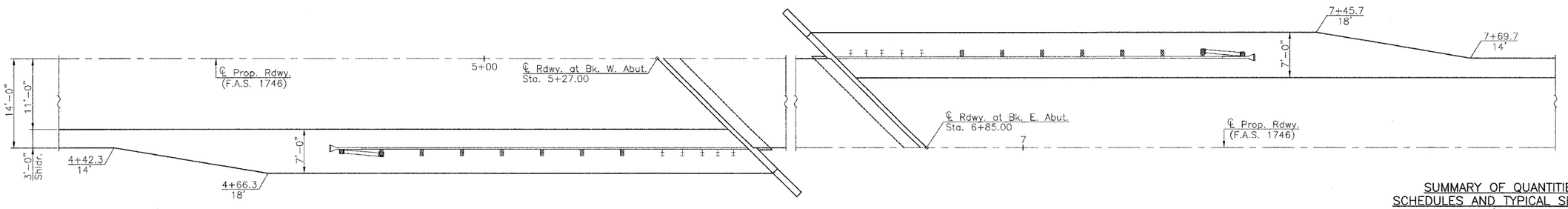
Where section or subsection stones are encountered, the Engineer shall be notified before such stones are removed. The contractor shall protect and preserve all property markers and monuments until the owner, authorized surveyor or agent has witnessed or referenced their location.

Seeding: Fertilizer nutrients shall be applied at a ratio of 1:1:1 and at a rate of 90 pounds per acre for each nutrient.

Bituminous Materials computed at the rate of 0.375 Gal./Sq. Yd.

Areas to be seeded shall consist of all disturbed earth surfaces within right-of-way as directed by the engineer.

Bituminous Concrete quantities based on 112 lb./Sq. Yd./Inch.



PLAN

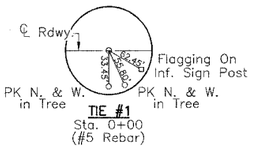
SUMMARY OF QUANTITIES, SCHEDULES AND TYPICAL SECTIONS
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

FILE NAME: M022PSQ (REV. 2/15/07)

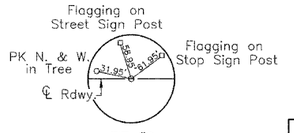
SEC. 31, T. 8 N., R. 2 W., 3rd P.M.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	3
PROJECT				

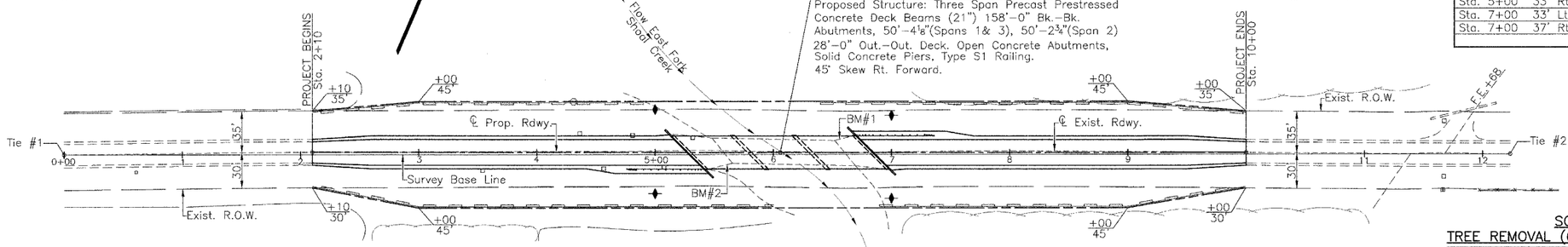
* 03-00122-00-BR

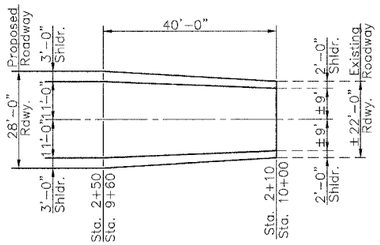


TIE #1
Sta. 0+00
(#5 Rebar)



TIE #2
Sta. 12+23.31
(#5 Rebar)





ROADWAY TRANSITION DETAIL

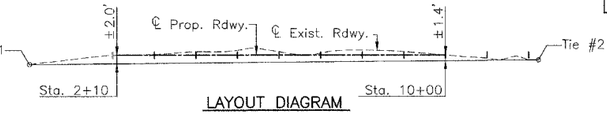
SCHEDULE
PERIMETER EROSION BARRIER

Location	Quantity (Foot)
Sta. 2+10 TO Sta. 4+90 Lt.	280
Sta. 2+10 TO Sta. 6+00 Rt.	390
Sta. 6+40 TO Sta. 10+00 Lt.	360
Sta. 6+90 TO Sta. 10+00 Rt.	310
Total	1340

— — — Indicates Perimeter Erosion Barrier
✦ – Indicates Temporary Ditch Check

PLAN
0 50 100

John E. Henrikson Jr. & Connie Henrikson



LAYOUT DIAGRAM

SCHEDULE
TEMPORARY DITCH CHECKS

Location	Quantity (Each)
Sta. 5+00 38' Lt.	1
Sta. 5+00 33' Rt.	1
Sta. 7+00 33' Lt.	1
Sta. 7+00 37' Rt.	1
Total	4

SCHEDULE
TREE REMOVAL (6 TO 15 UNITS DIAMETER)

Location	Quantity (Unit)
Sta. 4+30 44' Lt.	7
Sta. 4+31 45' Lt.	9
Total	16

Seeding Class 2 (Special) – Sta. 2+10 to Sta. 10+00 R.O.W. to R.O.W. – 0.9 Acre
Temporary Erosion Control Seeding – Sta. 2+10 to Sta. 10+00 R.O.W. to R.O.W. – 0.9 Acre

UTILITIES
Verizon
1–800–892–0123

Illinois Power
Hillsboro, Illinois 62049
1–800–755–5000

Earth Excavation – 144 Cu. Yds.
* Furnished Excavation – 0 Cu. Yds.
Embankment – 497 Cu. Yds.

* Furnished Excavation has been reduced by 389 Cu. Yds. of Channel Excavation which will be used from Sta. 2+10 to Sta. 5+27

158'–0"

150' V.C. M.O.=0.11'

150' V.C. M.O.=0.21'

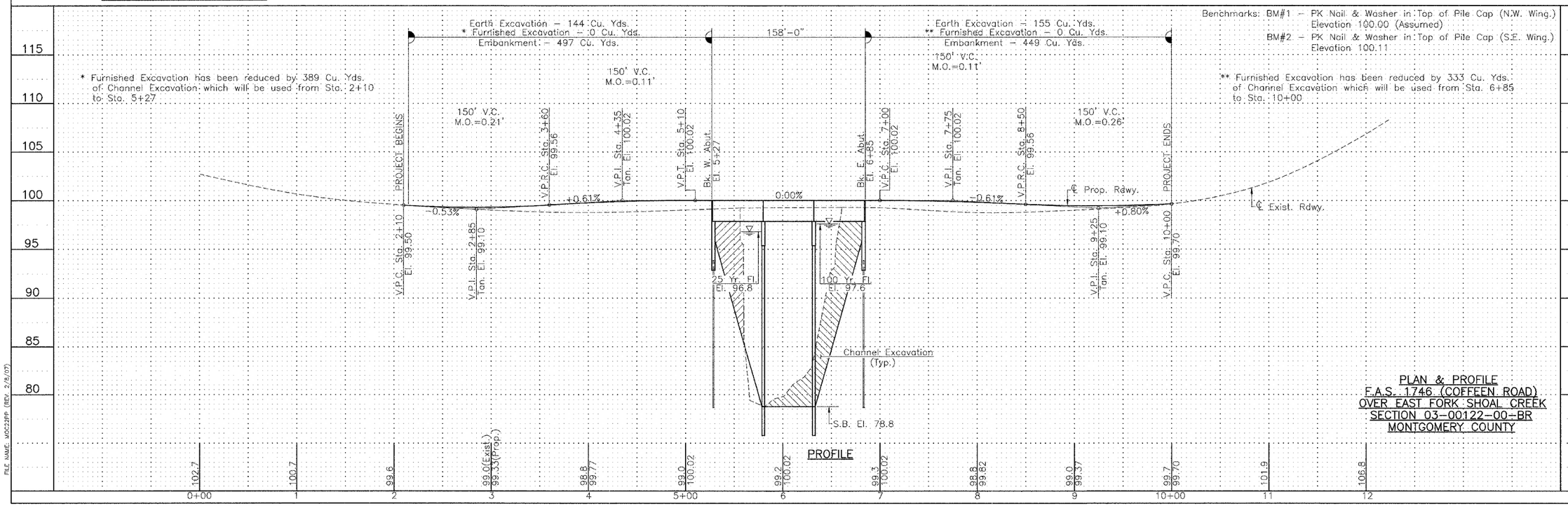
Earth Excavation – 155 Cu. Yds.
** Furnished Excavation – 0 Cu. Yds.
Embankment – 449 Cu. Yds.

150' V.C. M.O.=0.11'

150' V.C. M.O.=0.26'

** Furnished Excavation has been reduced by 333 Cu. Yds. of Channel Excavation which will be used from Sta. 6+85 to Sta. 10+00

Benchmarks: BM#1 – PK Nail & Washer in Top of Pile Cap (N.W. Wing.) Elevation 100.00 (Assumed)
BM#2 – PK Nail & Washer in Top of Pile Cap (S.E. Wing.) Elevation 100.11



PROFILE

PLAN & PROFILE
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03–00122–00–BR
MONTGOMERY COUNTY

FILE NAME: MOC22PP (REV. 2/8/07)

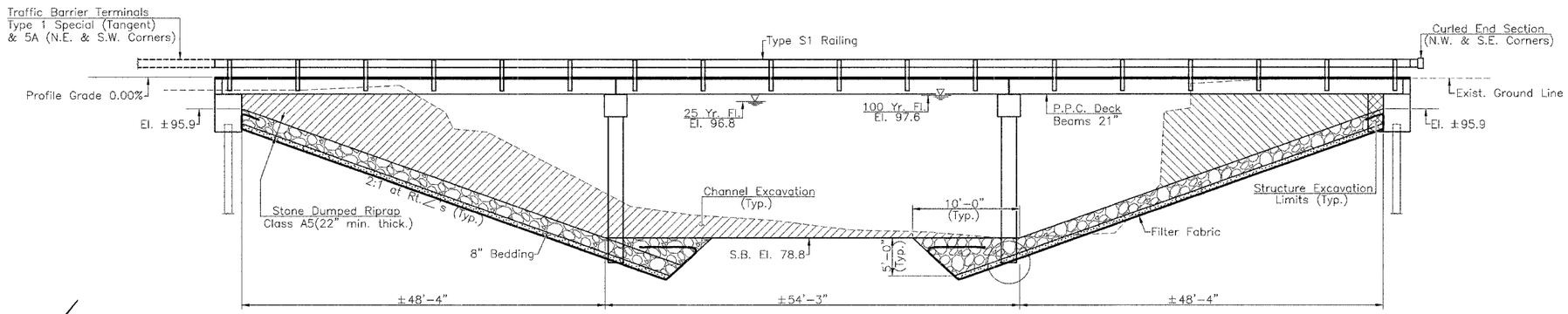
93438

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	4
PROJECT				

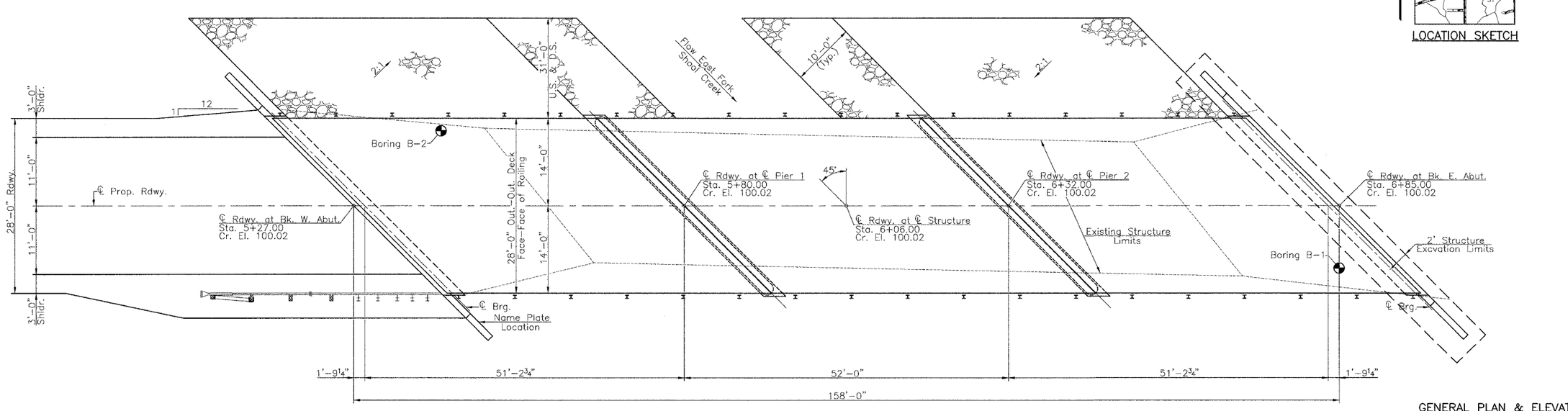
* 03-00122-00-BR

Existing Structure: Single Span Reinforced Concrete Deck with Concrete Curbs on Steel Stringers with a Pratt-Thru Truss. Closed Timber Abutments and Wingwalls with Timber Piles. ±104'-9" Bk.-Bk. Abutments, ±20'-10" Face to Face of Curb. Steel Railings. ±50° Skew Rt. Forward.
Existing Structure No. 068-3018 - No Salvage

Benchmarks: BM#1 - PK Nail & Washer in Top of Pile Cap (N.W. Wing.) Elevation 100.00 (Assumed)
BM#2 - PK Nail & Washer in Top of Pile Cap (S.E. Wing.) Elevation 100.11



ELEVATION



PLAN

GENERAL PLAN & ELEVATION
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

FILE NAME: MOC2SGPE (REV. 2/15/07)

ALLEN HENDERSON & ASSOCIATES, INC. CONSULTING CIVIL AND STRUCTURAL ENGINEERS SPRINGFIELD, IL. PHONE: (217) 544-8033

93438

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	5
PROJECT				

* 03-00122-00-BR

TOTAL BILL OF MATERIAL

Item		Super	Sub	Total
Channel Excavation	Cu. Yd.			2114
Stone Dumped Riprap, Class A5	Ton			1293
Filter Fabric	Sq. Yd.			1390
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.			254
Concrete Structures	Cu. Yd.		189.1	189.1
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	4365		4365
Reinforcement Bars	Pound		14240	14240
Steel Railing Type S1	Foot	316		316
Furnishing Steel Piles HP 10x42	Foot		827	827
Driving Piles	Foot		827	827
Test Pile, Steel HP 10 x 42	Each		2	2
Name Plates	Each	1		1
Waterproofing Membrane System	Sq. Yd.	492		492
Portland Cement Mortar Fairing Course	Foot	936		936
Hot Mix Asphalt Surface Course, Mix "C" N50	Ton			62
Underwater Structure Excavation Protection - Location 1	Each			1
Underwater Structure Excavation Protection - Location 2	Each			1

WATERWAY INFORMATION

Drainage Area = 62.6 Sq. Miles Low Grade Elev. = 99.33 @ Sta. 3+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	25	5668	743	1228	96.8	0.8	0.2	97.6	97.0
Base	100	7486	743	1313	97.6	1.5	0.4	99.1	98.0
Exist. Overtop.	65								
Prop. Overtop.	Greater than 500 Years								
Max. Calc.	500	9618	743	1334	98.3	2.5	1.2	100.8	99.5

Construction Permits: IDNR/Office of Water Resources has issued Permit DS2005004 for the construction of this project.

DESIGN STRESSES

FIELD UNITS
fc = 1400 psi
fs = 24000 psi

PRECAST PRESTRESSED UNITS
f'c = 5000 psi
f'ci = 4000 psi
½"ø Strands: f's = 270000 psi, f'si = 201960 psi

EAST FORK SHOAL CREEK
BUILT 200 BY
MONTGOMERY COUNTY
SECTION 03-00122-00-BR
PROJECT BRS-1746(107)
STA. 6+06.00
STR. NO. 068-3352 LOADING HS20

NAME PLATE
(Standard 515001)

GENERAL NOTES

See Proposal for Boring Data.

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions. This note supersede notes on Abutment and Pier Sheets.

The layout of the riprap slopewall may be varied to suit conditions in the field as determined by the engineer.

The contractor shall drive one test pile in a permanent location at the East Abutment and at Pier 1 as directed by the Engineer in the field. The contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of piles.

DESIGN SPECIFICATIONS

2002 A.A.S.H.T.O. Specifications and
2003 & 2004 Interim Specifications.

LOADING HS 20-44

Allow 50#/sq. ft. for Future Wearing Surface.

MARK A. HENDERSON 5513 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS

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 "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

Mark A. Henderson 2/22/07
Expiration Date 11/30/2008

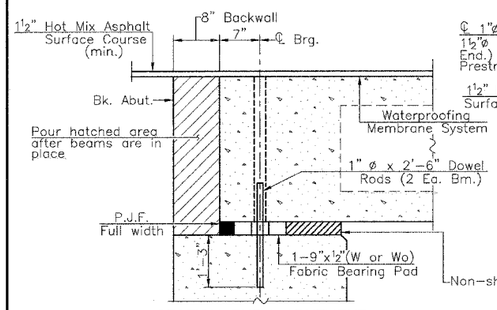
GENERAL PLAN & ELEVATION
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

FILE NAME: M0229PE (REV. 2/15/07)

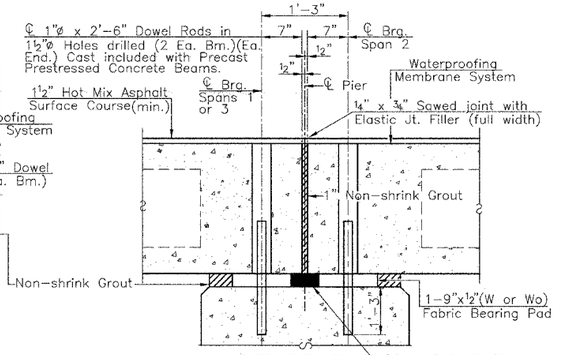
93438

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	6
PROJECT				

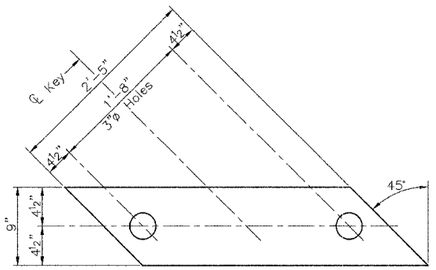
* 03-00122-00-BR



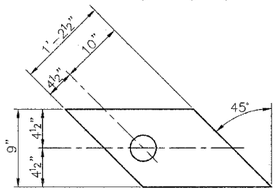
SECTION THRU ABUTMENT
(At Right Angles)



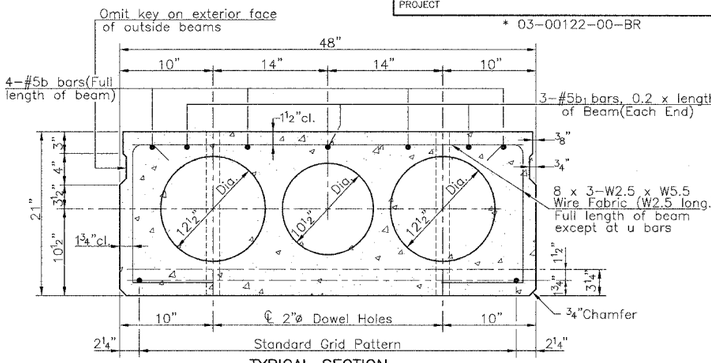
PIER ELEVATION
(At Rt. Angles)



FABRIC BEARING PAD
Interior Wo
(24 Required)



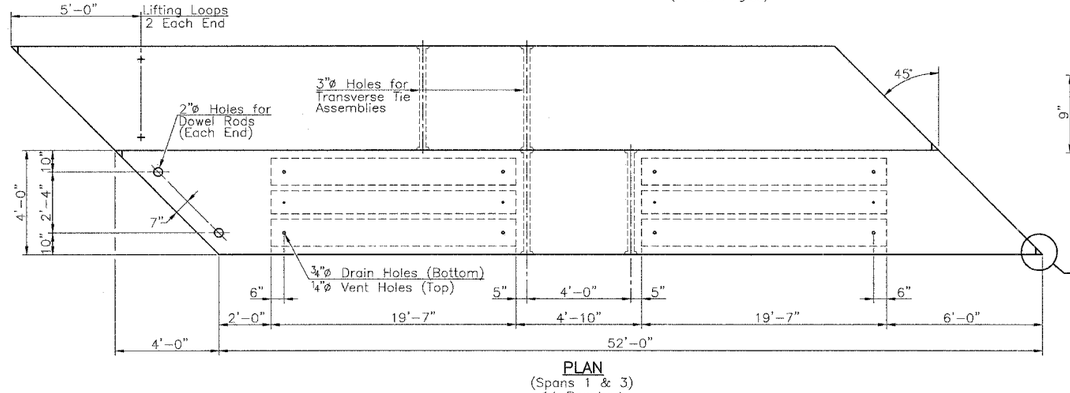
FABRIC BEARING PAD
Exterior W
(36 Required)



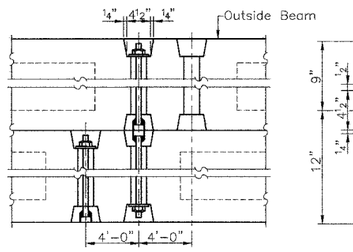
TYPICAL SECTION

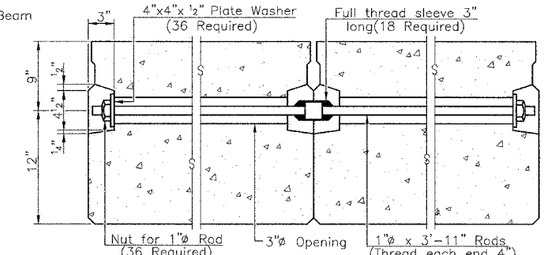
Note: Place strands symm. about ℄ of Beam

All Spans – 22-½"ø Strands, Each Strand Stressed to 30,900 lbs.
14-Strands 1¾" up, 4-Strands 3¼" up, 2-Strands 6" up, 2-Strands 15" up

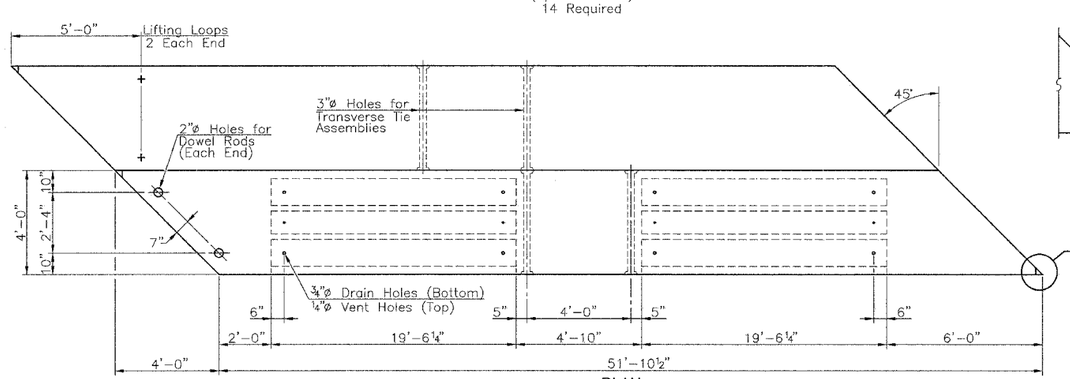


PLAN
(Spans 1 & 3)
14 Required

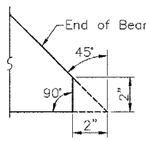




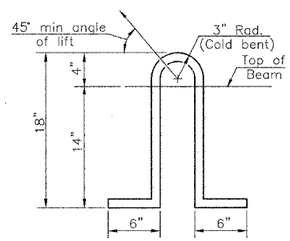
TYPICAL TRANSVERSE TIE ASSEMBLY



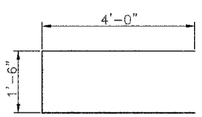
PLAN
(Span 2)
7 Required



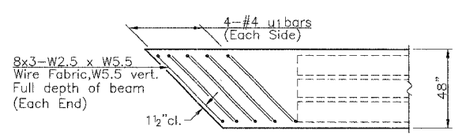
DETAIL A



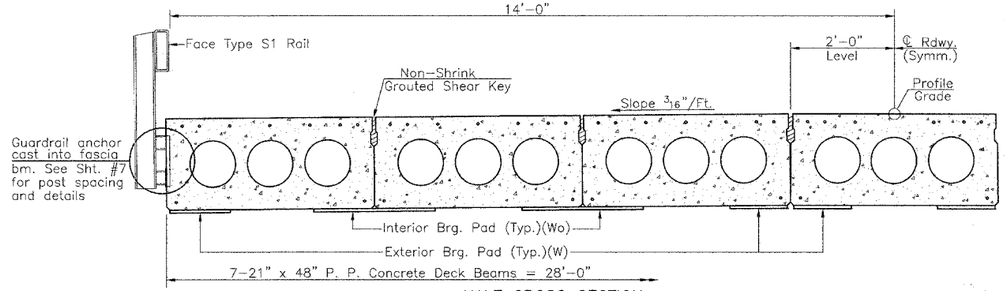
LIFTING LOOP DETAIL



BAR u



END PLAN



HALF CROSS SECTION

NOTES

After beams have been erected, holes shall be drilled into the substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure for min. 24 hours prior to grouting the shear keys.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be 2 – 1₂"ø –270 ksi strands as shown.

Reinforcement bars shall conform to ASTM A706 Grade 60 (IL. Modified).

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" 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 beams and the bottom edge of the key.

Required Release Strength, f'ci, shall be 4000 p.s.i.

The 1"ø 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 be filled with grout after transveres tie assembly is in place.

A Corrosion Inhibitor shall be used in the concrete for the precast, prestressed concrete deck beams, according to Article 1020.05(b)(12) of the Standard Specifications.

Non-shrink grout shall be used in all longitudinal keyways and drilled dowel holes. and between bottom of beams and top of abutments & pier caps.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
Precast Prestressed Concrete Deck Beams (21")			Sq. Ft.	4365
Waterproofing Membrane System			Sq. Yd.	492
Portland Cement Mortar Fairing Course			Foot	936

SUPERSTRUCTURE
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

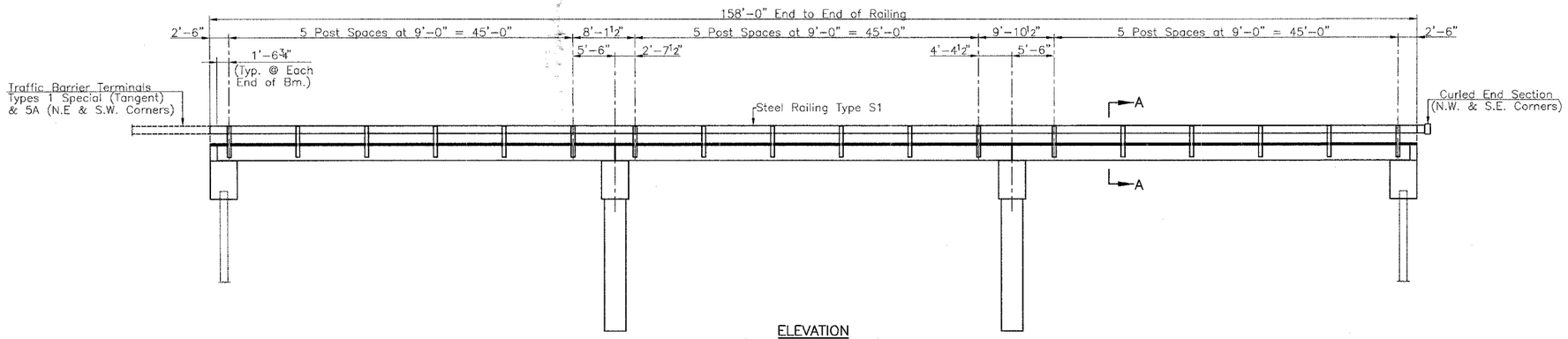
FILE NAME: MGC028M (REV. 2/15/07)

ALLEN HENDERSON & ASSOCIATES, INC. CONSULTING CIVIL AND STRUCTURAL ENGINEERS SPRINGFIELD, IL. PHONE: (217) 544-8033

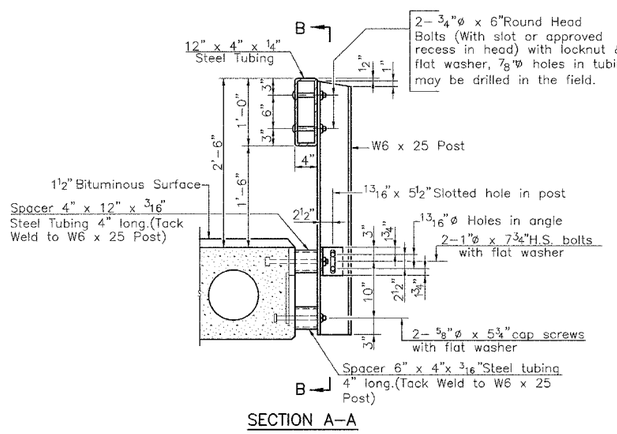
93438

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	7
PROJECT				

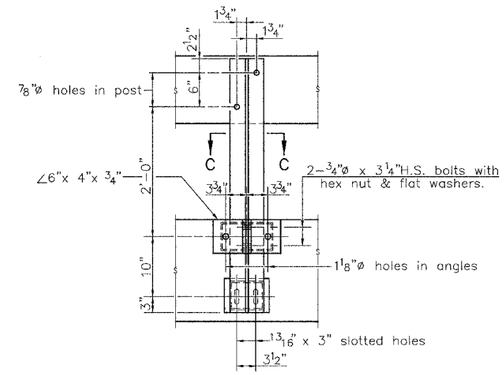
* 03-00122-00-BR



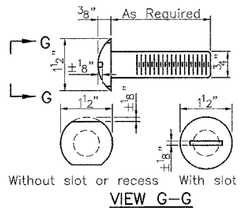
ELEVATION
(Showing Outside Face)



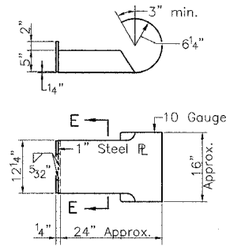
SECTION A-A



SECTION B-B

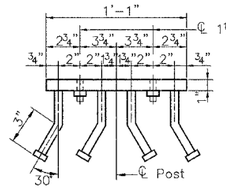


VIEW G-G
ROUND HEAD BOLT

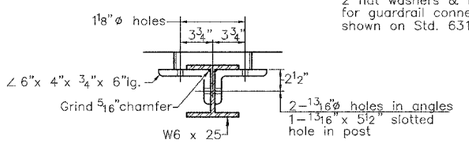


SECTION E-E

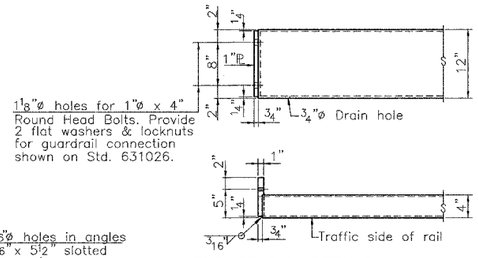
CURLED END SECTION
DETAILS (2 Required)



SECTION D-D



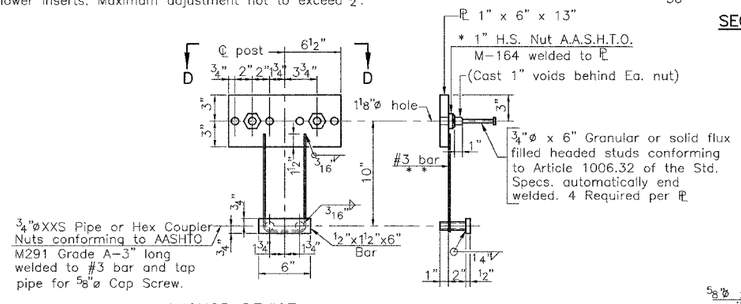
SECTION C-C



1 1/8"ø holes for 1"ø x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guardrail connection shown on Std. 631026.

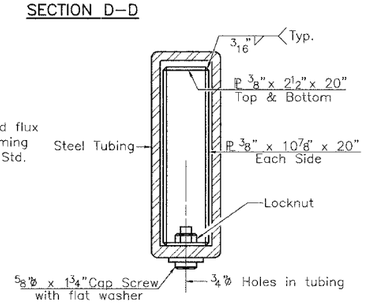
END OF RAIL DETAILS

** 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".

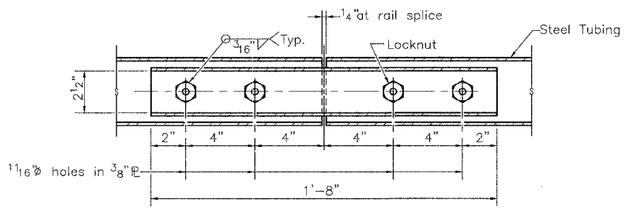


ANCHOR DEVICE

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



SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE ℄
TYPICAL

NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. 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 A.A.S.H.T.O. M-270 Grade 36 except posts and angles shall conform to A.A.S.H.T.O. M-270, Grade 50.

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

All posts, railing, rail splices, anchor devices, angles and tube spacers shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385. Galvanized rail shall not be painted.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Railing, Type S1.

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

The lower portion of the post flange in contact with concrete shall receive a 1/8" fabric bearing pad between the plate and concrete.

The 3/4"ø high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(f)(2) of the Standard Specifications. The 1"ø 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"ø cap screws in bottom of posts shall be tightened to a snug fit only.

The cost of curled end sections shall be incidental to the contract unit price per foot for Steel Railing, Type S1.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with "Steel Railing, Type S1".

BILL OF MATERIAL

Item		Total
Steel Railing, Type S1	Foot	316

RAILING
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

FILE NAME: MOG22RL (REV. 3/22/07)

93438

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	8
PROJECT				

* 03-00122-00-BR

NOTES

All exposed edges shall have standard ¾" chamfer.
Space reinforcement in cap to miss beam anchor dowels.
Wingwalls and Backwalls may, at the contractor's option, be cast monolithically.

MIN. BAR LAPS

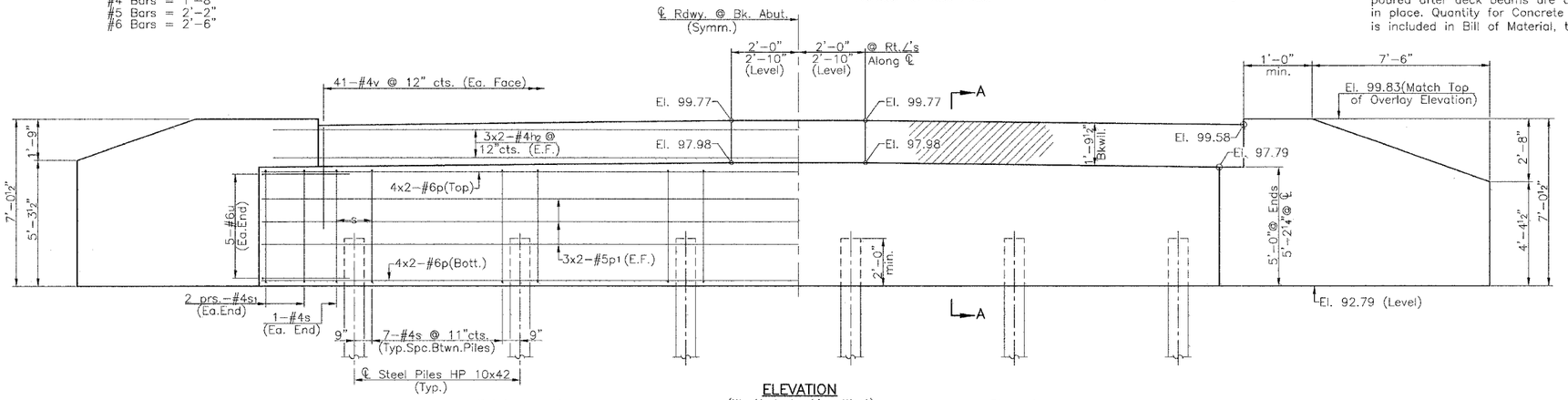
#4 Bars = 1'-8"
#5 Bars = 2'-2"
#6 Bars = 2'-6"

PILE DATA

	W. Abut.	E. Abut.
Pile Type & Size:	Steel HP 10x42	Steel HP 10x42
Nominal Required Bearing:	335 Kips	335 Kips
Allowable Resistance Available:	111 Kips	111 Kips
Estimated Pile Length:	35'	28'
Number of Production:	5	6
Number of Test Piles:	1	0

Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50.
The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

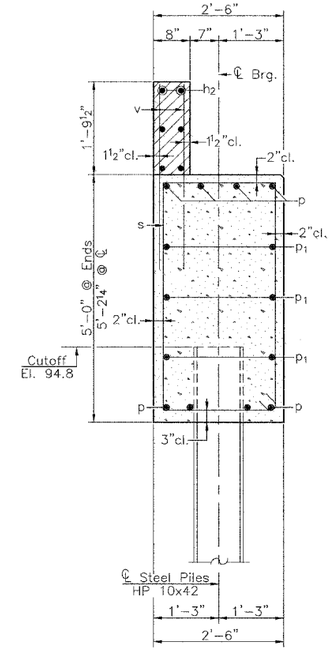
Note: Hatched area and wingwalls shall be poured after deck beams are anchored in place. Quantity for Concrete Structures is included in Bill of Material, this sheet.



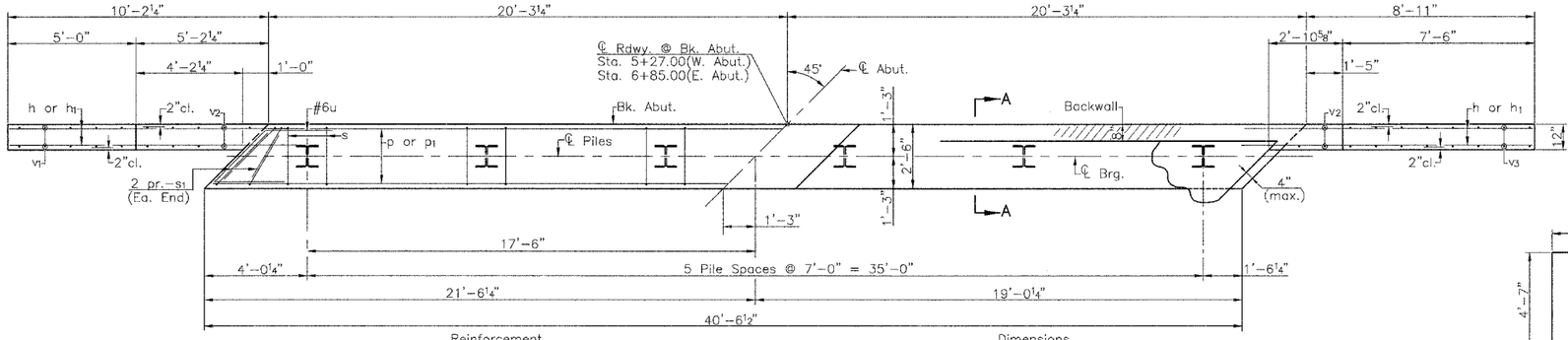
Reinforcement — Dimensions

ELEVATION

(W. Abut. Looking West)
(E. Abut. Looking East)

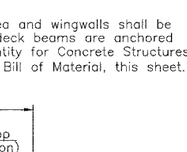


SECTION A-A



Reinforcement — Dimensions

PLAN



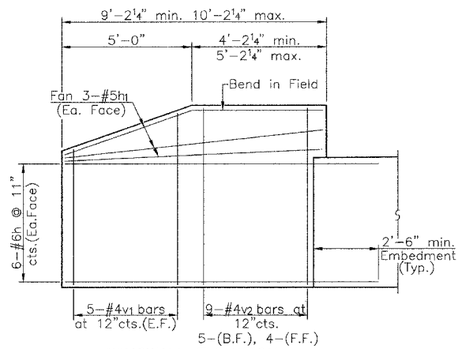
BAR s

BAR s1

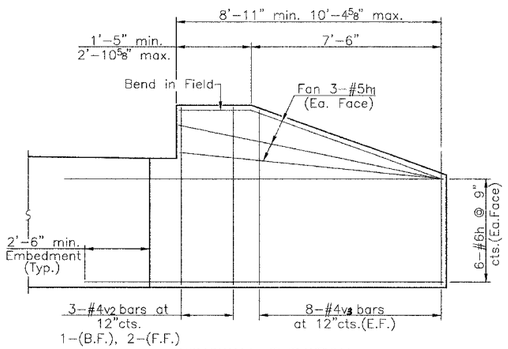
BAR u

TWO ABUTMENTS BILL OF MATERIAL

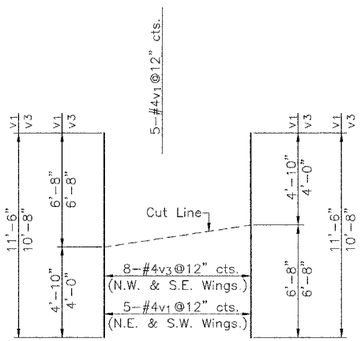
BAR	NO.	SIZE	LENGTH	SHAPE
h	48	#6	12'-9"	——
h1	24	#5	9'-6"	——
h2	24	#4	22'-3"	——
p	32	#6	21'-6"	——
p1	24	#5	21'-6"	——
s	74	#4	14'-3"	□
s1	16	#4	8'-11"	□
u	20	#6	10'-11"	⌐¬
v	164	#4	3'-3"	——
v1	10	#4	11'-6"	——
v2	24	#4	6'-8"	——
v3	16	#4	10'-8"	——
Concrete Structures			Cu. Yd.	50.9
Reinforcement Bars			Pound	4870
Furnishing Steel Piles HP 10x42			Foot	343
Driving Piles			Foot	343
Test Pile Steel HP 10x42			Each	1
Structure Excavation			Cu. Yd.	195



WINGWALL ELEVATION
(S.W. & N.E. Corners)
(Showing Reinforcement)
* See v1-bar cut diagram



WINGWALL ELEVATION
(N.W. & S.E. Corners)
(Showing Reinforcement)
* See v3-bar cut diagram



v1 & v3 - BAR CUT DIAGRAM

Order v1 and v3 bars full length: Layout in field according to diagram. Cut v1 and v3 bars along cut line. Use remainder of each bar in opposite face.

ABUTMENTS
F.A.S. 1746 (COFFEEN ROAD) OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

FILENAME: MONTG26B (SEC. 2 F.A.S.1746)

93438

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.1746	*	MONTGOMERY	11	9
PROJECT				

* 03-00122-00-BR

NOTES

All exposed concrete edges shall have standard ¾" chamfer except as noted.

Space reinforcement in pier caps to miss beam anchor dowels.

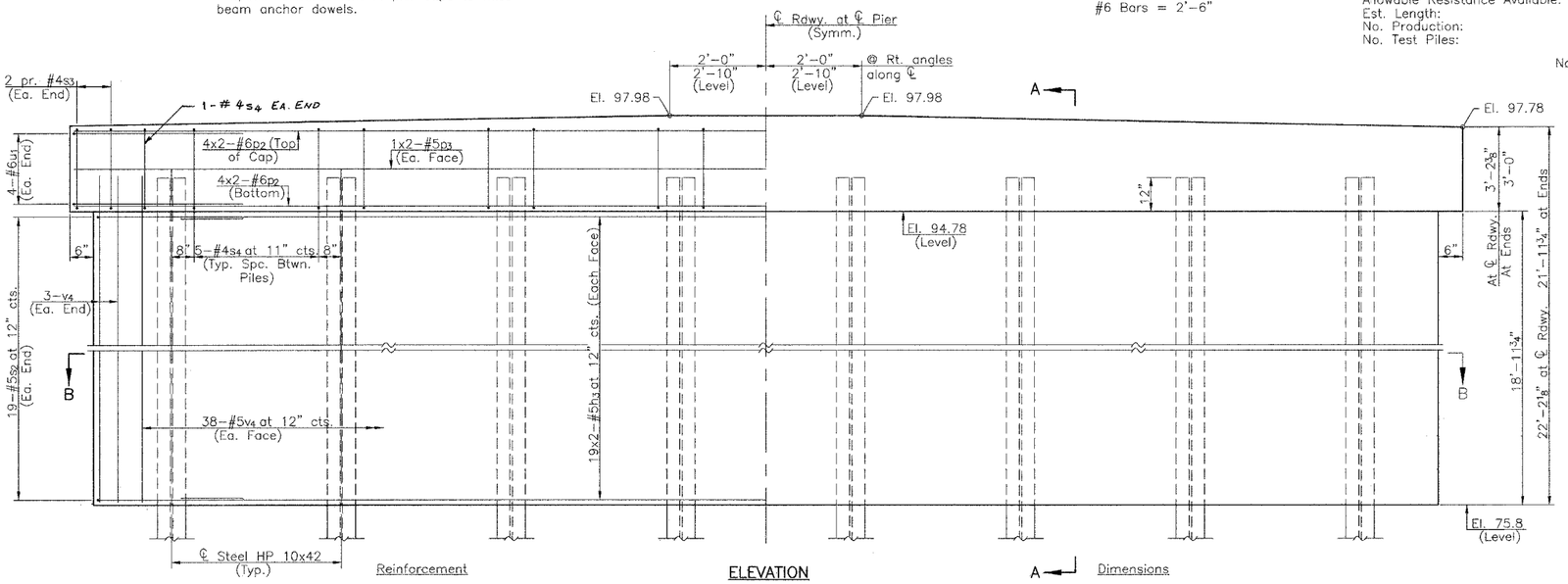
MIN. BAR LAPS

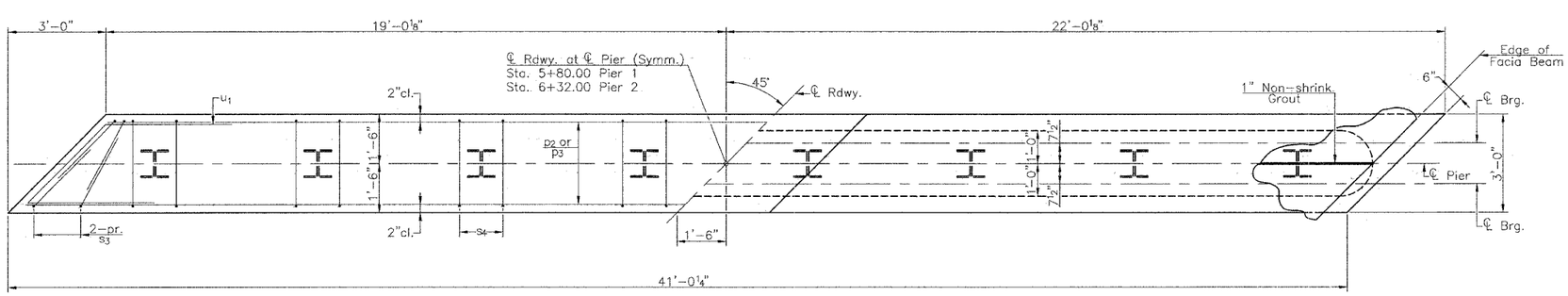
#5 Bars = 2'-2"
#6 Bars = 2'-6"

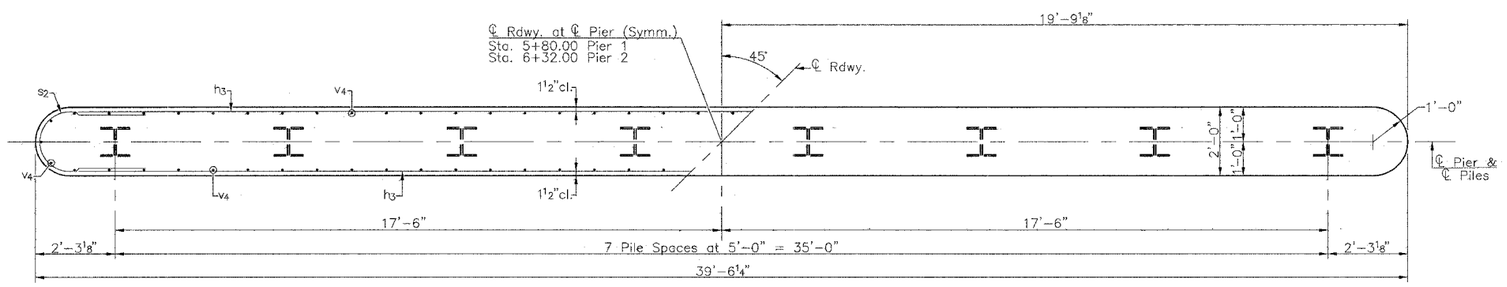
PILE DATA

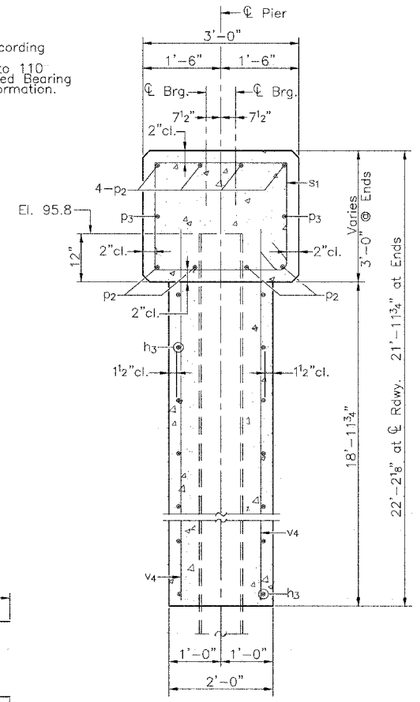
	Pier 1	Pier 2
Type:	Steel HP 10x42	Steel HP 10x42
Nominal Required Bearing:	335 Kips	335 Kips
Allowable Resistance Available:	111 Kips	111 Kips
Est. Length:	36'	29'
No. Production:	7	8
No. Test Piles:	1	0

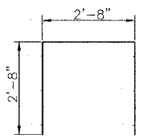
Note: The Steel H-Piles shall be according to AASHTO M270 Grade 50. The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated on the pile data information.

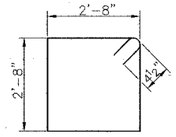


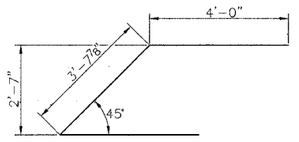












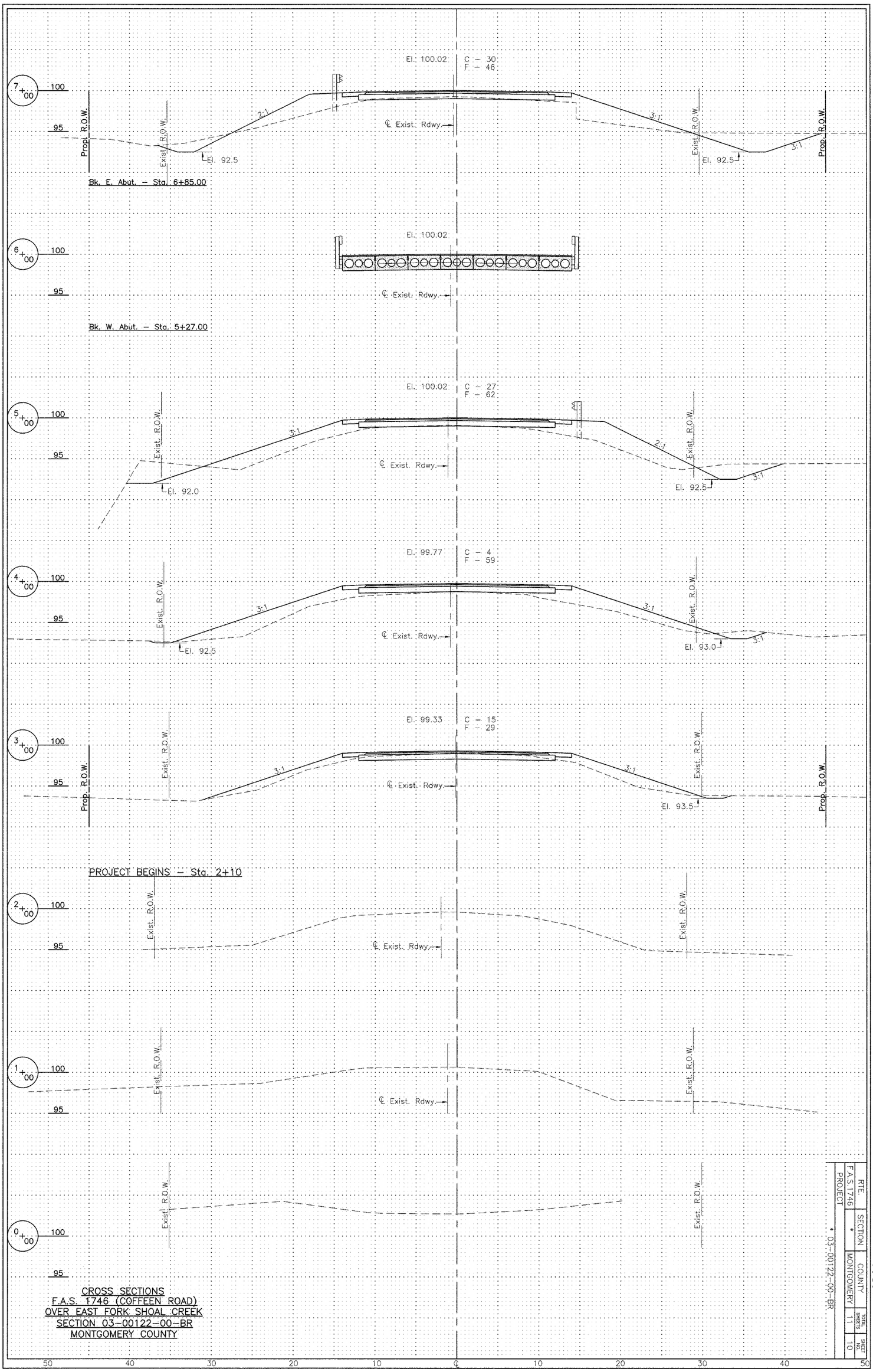
TWO PIERS
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h_3	152	#5	20'-0"	
p_2	32	#6	21'-9"	
p_3	8	#5	21'-9"	
s_2	76	#5	6'-9"	
s_3	16	#4	8'-0"	
s_4	74	#4	11'-5"	
u_1	16	#6	11'-8"	
v_4	164	#5	20'-6"	
Concrete Structures			Cu. Yd.	138.2
Reinforcement Bars			Pound	9370
Furnishing Steel Piles HP 10x42			Foot	484
Driving Piles			Foot	484
Test Pile Steel HP 10x42			Each	1
Underwater Structure Excavation Protection- Location 1 (Pier 1)			Each	1
Underwater Structure Excavation Protection- Location 2 (Pier 2)			Each	1
Structure Excavation			Cu. Yd.	59

PIERS
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

FILE NAME: MOC2298 (REV. 2/15/07)

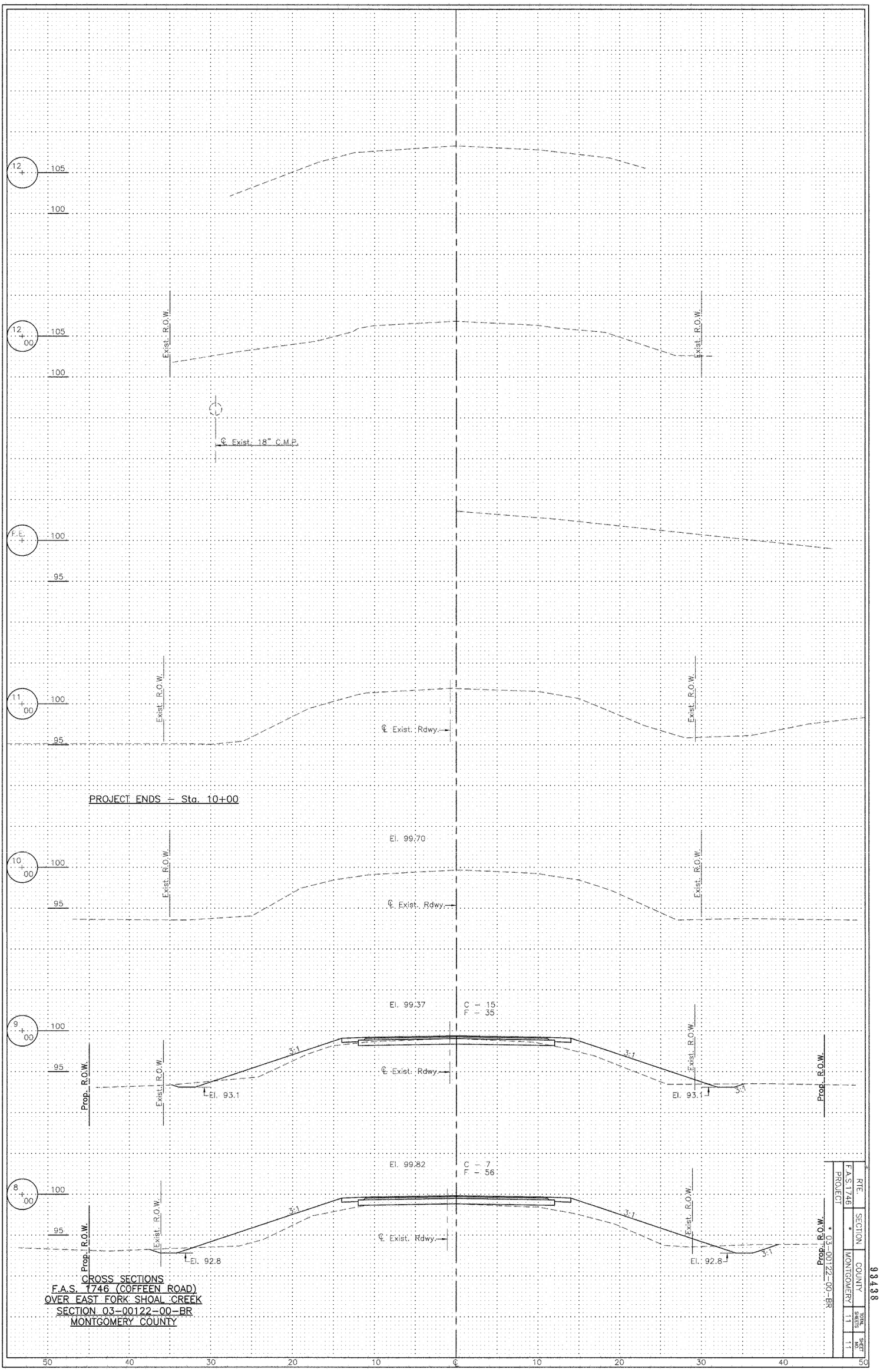
ALLEN HENDERSON & ASSOCIATES, INC. CONSULTING CIVIL AND STRUCTURAL ENGINEERS SPRINGFIELD, IL. PHONE: (217) 544-8033



CROSS SECTIONS
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1746	*	MONTGOMERY	11	10
PROJECT	* 03-00122-00-BR			

93438



CROSS SECTIONS
F.A.S. 1746 (COFFEEN ROAD)
OVER EAST FORK SHOAL CREEK
SECTION 03-00122-00-BR
MONTGOMERY COUNTY

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET
F.A.S.1746	*	MONTGOMERY	11	11
PROJECT	* 03-00122-00-BR			

93438