

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 7	*	MENARD	9	1
PROJECT				

01-00050-00-BR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

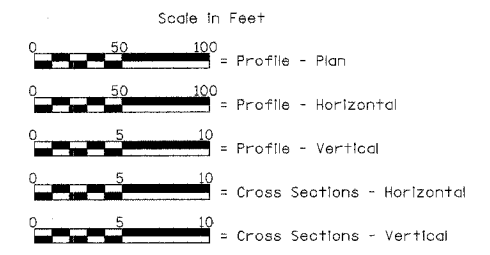
PLANS FOR PROPOSED
HIGHWAY BRIDGE REPLACEMENT
AND REHABILITATION PROGRAM
PROJECT NO. BRS-575(308)
F.A.S. 575 - C.H. 7 (N. PETERSBURG ROAD)
OVER LATIMORE CREEK
SECTION 01-00050-00-BR
MENARD COUNTY
JOB NUMBER C-96-207-05

INDEX OF SHEETS

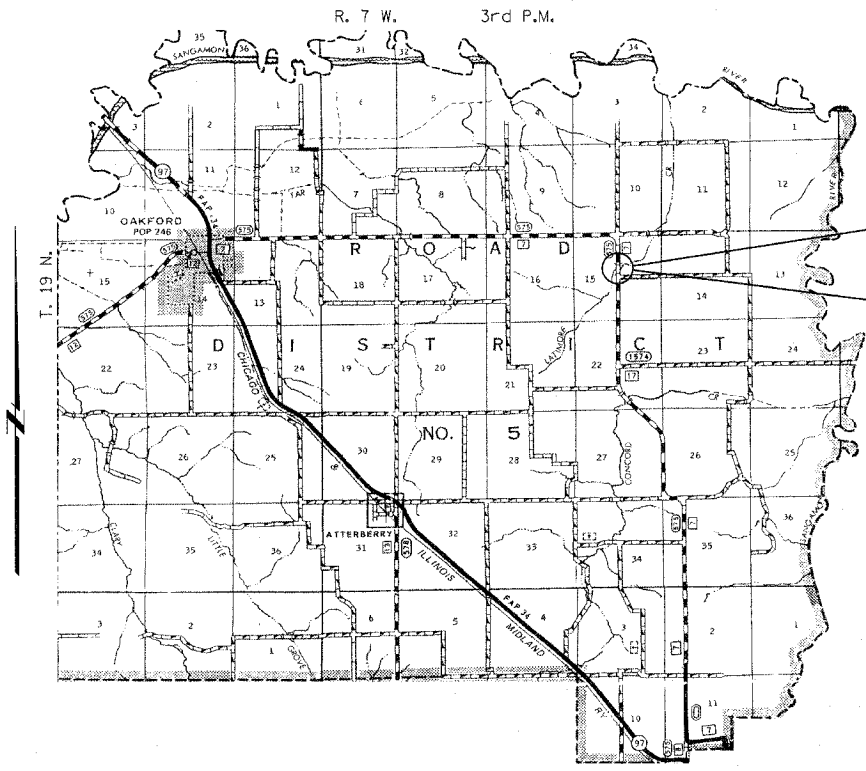
- 1 - TITLE SHEET
- 2 - SUMMARY OF QUANTITIES, DETAILS, & TYPICAL SECTIONS
- 3 - PLAN & PROFILE
- 4 - GENERAL PLAN & ELEVATION
- 5 - SUPERSTRUCTURE
- 6 - RAILING
- 7 - ABUTMENTS
- 8 - PILE DETAILS
- 9 - CROSS SECTIONS

STANDARDS (IN PROPOSAL)

- STANDARD 515001-02
- STANDARD 630301-03
- STANDARD 631026-02
- STANDARD 635006-02
- STANDARD 701201-02
- STANDARD 701301-02
- STANDARD 702001-05
- STANDARD 780001-01
- STANDARD BLR 21-6



Land Section - 15
 Land Quarter Section - N.W.
 Design Class: Major Collector (Non-Urban)
 ADT = 300 (1995)
 ADT = 390 (2020)
 40 M.P.H. Design Speed



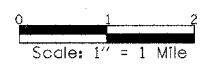
PROJECT ENDS
Sta. 6+85
PROJECT BEGINS
Sta. 2+35

EXISTING STRUCTURE: SINGLE SPAN CAST IN PLACE CONCRETE DECK ON STEEL I BEAMS SUPPORTED BY TIMBER ABUTMENTS ON TIMBER PILING, +35'-6" BK.-BK. ABUTMENTS, +24'-0" CLEAR DECK WIDTH, STEEL CHANNEL RAILING, 20 SKEW RT. FORWARD, EXISTING STRUCTURE NO. 065-3006

PROPOSED STRUCTURE: SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM (27") BRIDGE ON OPEN CONCRETE ABUTMENTS, 63'-0" BK.-BK. ABUTMENTS, 30'-0" CLEAR DECK WIDTH, TYPE S1 RAILING, 30 SKEW RT. FORWARD, PROPOSED STRUCTURE NO. 065-3111

LOCATION PLAN

Length of Section - 450.00 Feet = 0.085 Miles



Christopher P. Kohnen 2/11/05
 Expiration: 11/30/05

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 2/10/05
Christopher P. Kohnen
 LICENSED PROFESSIONAL ENGINEER
 DISTRICT ENGINEER OF LOCAL ROADS & STREETS

PASSED March 17, 2005
Mark R. Young
 DISTRICT CONSTRUCTION ENGINEER

APPROVED MARCH 10, 2005
John H. Reed
 DISTRICT ENGINEER

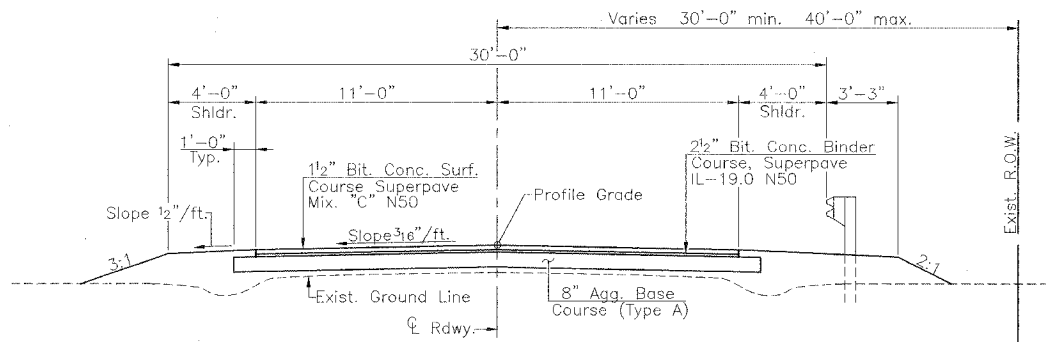
FILE NAME: MESOTS (REV. 2/8/05)

TOLL FREE
 "JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"
 (WWW.IEJ) TELEPHONE NUMBER
 1-800-892-0123

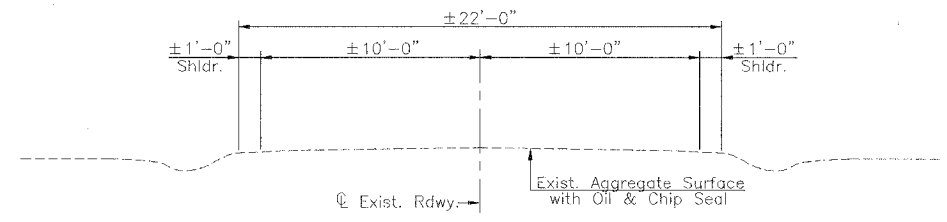
CONTRACT NO. 93389

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 7	*	MENARD	9	2
PROJECT				

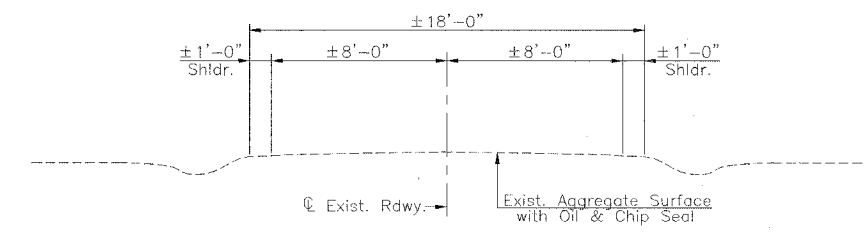
* 01-00050-00-BR



PROPOSED CROSS SECTION
(Sta. 2+35 to Sta. 4+09.50 & Sta. 4+72.50 to Sta. 6+85)



EXISTING CROSS SECTION
(F.A.S. 575 - C.H. 7)



EXISTING CROSS SECTION
(Wilken Road)

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 270 pounds per acre.
Mulch shall be applied at the rate of 2 tons per acre.
Bituminous Quantities computed at 112#/Yd.²/inch.
Bituminous Materials computed at the rate of 0.375 Gal./Sq. Yd.
Areas to be seeded shall consist of all disturbed earth surfaces within the right-of-way as directed by the Engineer.

SCHEDULE PAINT PAVEMENT MARKING-LINE 4"

Location	Yellow Skip-Dash (10') (Foot)	Total (Foot)
Sta. 2+35 to Sta. 6+85	120	120

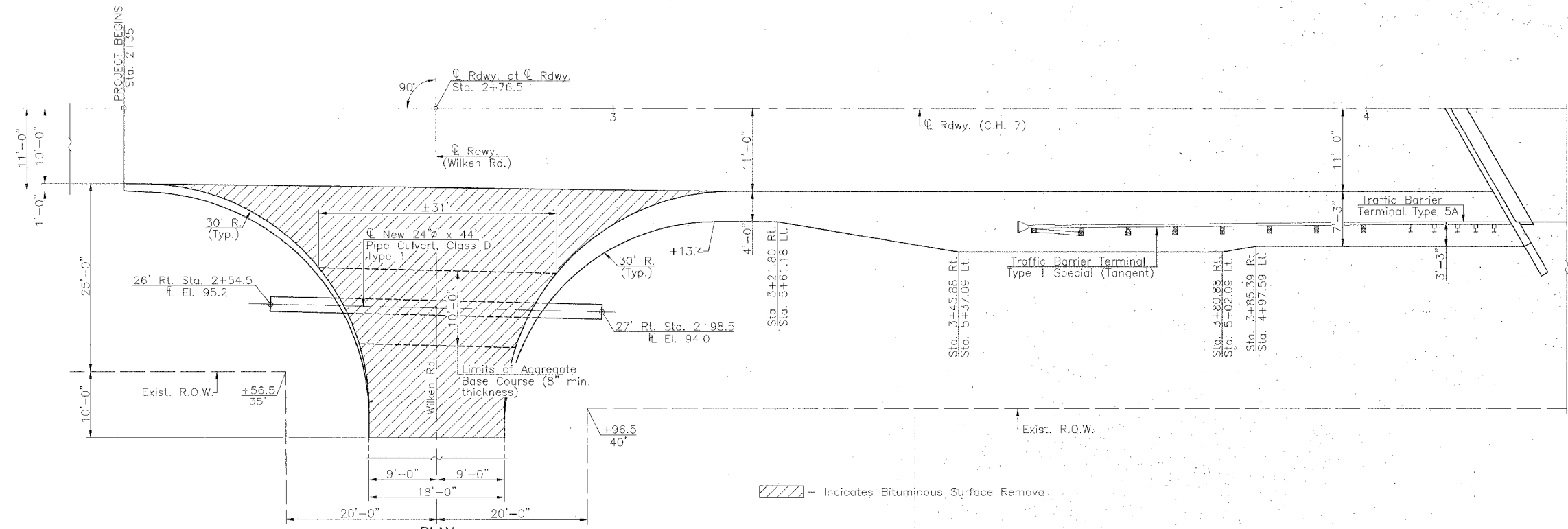
BITUMINOUS MIXTURE REQUIREMENTS

Mixture Use	Surface Course	Binder Course
AC/PG	PG64-22	PG64-22
RAP % (MAX.)	15	20
Design Air Voids (Gradation Mixture)	4% @ Ndes = 50	4% @ Ndes = 50
	IL 9.5 or 12.5	IL-19.0

SUMMARY OF QUANTITIES

Item	Unit	Quantity
20200100	Earth Excavation	Cu. Yd. 199
20300100	Channel Excavation	Cu. Yd. 197
* 25001000	Seeding Class 2 (Special)	Acre 0.6
* 28100807	Stone Dumped Riprap, Class A4	Ton 396
28200 00	Filter Fabric	Sq. Yd. 665
35100100	Aggregate Base Course, Type A	Ton 473
40600100	Bituminous Materials (Prime Coat)	Galton 393
* 44000030	Bituminous Surface Removal (Variable Depth)	Sq. Yd. 113
* 50100100	Removal of Existing Structures	Each 1
50200100	Structure Excavation	Cu. Yd. 82
50300225	Concrete Structures	Cu. Yd. 37.6
50400505	Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft. 1844
50800105	Reinforcement Bars	Pound 3645
50900205	Steel Railing, Type S1	Foot 126
51201000	Furnishing Metal Pile Shells 12"	Foot 789
51202600	Driving and Filling Shells	Foot 789
51203200	Test Pile, Metal Shells	Each 1
51500100	Name Plates	Each 1
* 542D0229	Pipe Culverts, Class D, Type 1 24"	Foot 44
63100075	Traffic Barrier Terminal, Type 5A	Each 2
* 63100167	Traffic Barrier Terminal, Type 1 Special (Tangent)	Each 2
* 70101830	Traffic Control And Protection Standard BLR 21	L. Sum 1
78001110	Paint Pavement Marking - Line 4"	Foot 120
* 78201000	Terminal Marker - Direct Applied	Each 4
* X4066414	Bituminous Concrete Surface Course, Superpave Mix "C" N50	Ton 88
* X4066614	Bituminous Concrete Binder Course, Superpave, IL-19.0 N50	Ton 147

* See Special Provisions Construction Type Code: X080-2A

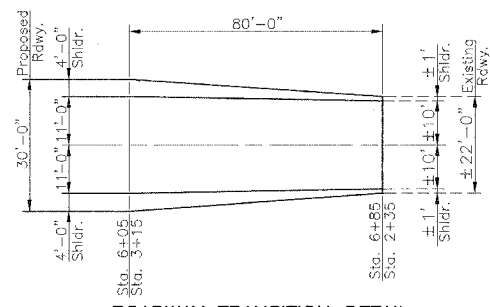
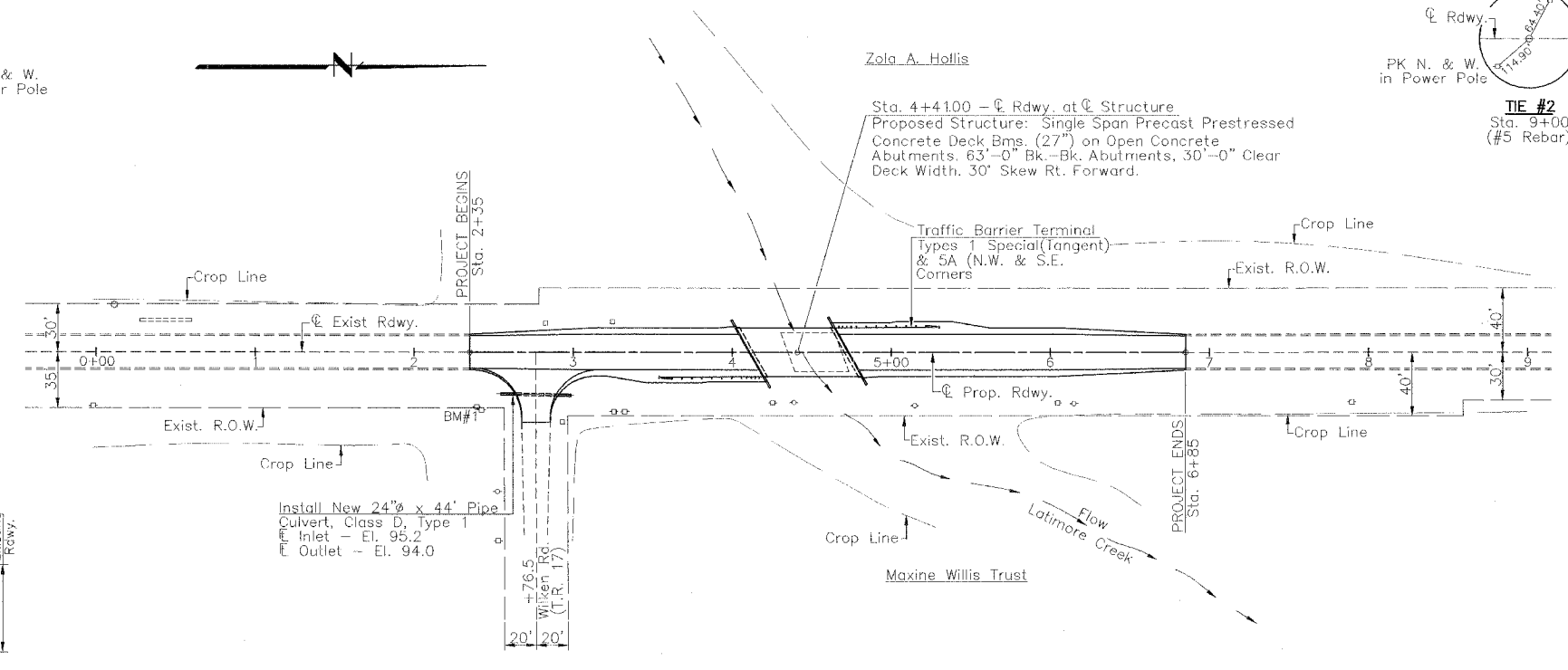
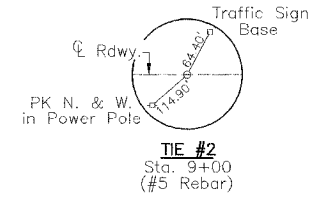
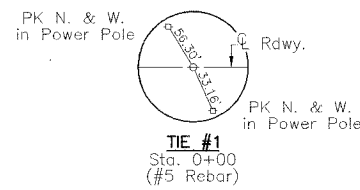


PLAN
(Side Road Sta. 2+76.5)

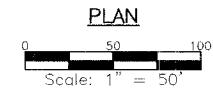
**SUMMARY OF QUANTITIES
DETAILS & TYPICAL SECTIONS
F.A.S. 575 - C.H. 7
(N. PETERSBURG ROAD)
OVER LATIMORE CREEK
SECTION 01-00050-00-BR
MENARD COUNTY**

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S.575	*	MENARD	9	3
PROJECT				
* 01-00050-00-BR				

SECTION 15 T. 19 N. R. 7 W. 3rd P.M.



ROADWAY TRANSITION DETAIL



Seeding - Sta. 2+35 to Sta. 6+85 - R.O.W. to R.O.W. - 0.55 Acre

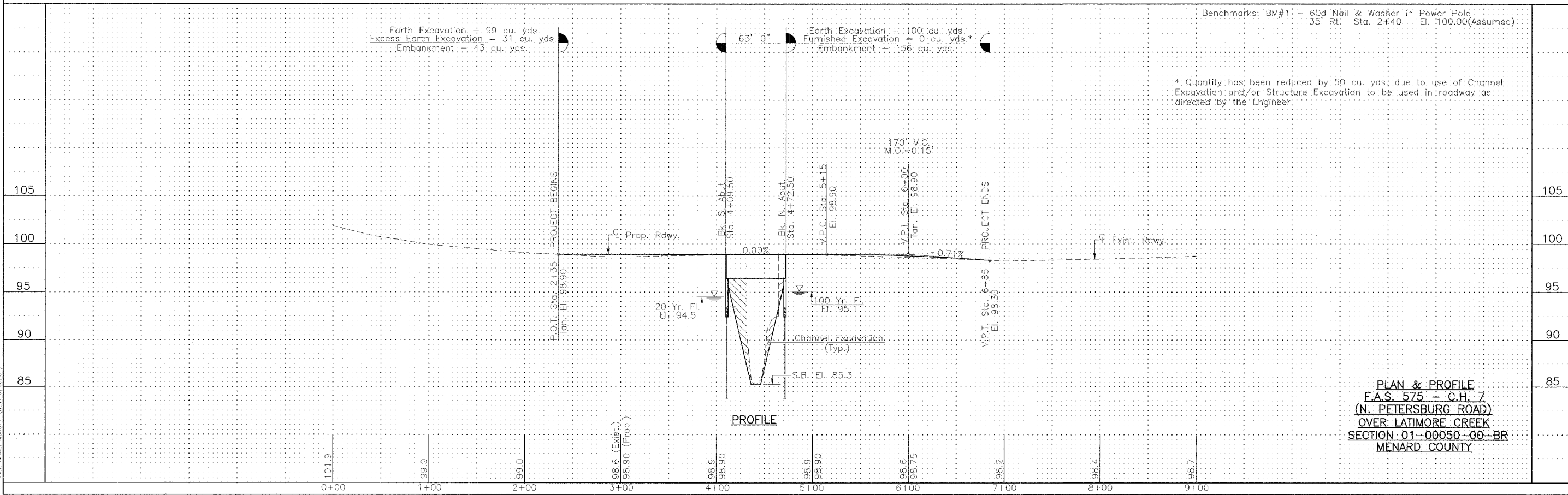
UTILITIES
 S.B.C.
 529 South 7th Street
 Springfield, Illinois 62721
 1-217-789-8367
 Menard Electric Cooperative
 P.O. Box 200
 Petersburg, Illinois 62675
 1-217-632-7746

Earth Excavation = 99 cu. yds.
 Excess Earth Excavation = 31 cu. yds.
 Embankment = 43 cu. yds.

Earth Excavation = 100 cu. yds.
 Furnished Excavation = 0 cu. yds.*
 Embankment = 156 cu. yds.

Benchmarks: BM#1 - 60d Nail & Washer in Power Pole
 35' Rt. Sta. 2+40 El. 100.00 (Assumed)

* Quantity has been reduced by 50 cu. yds. due to use of Channel Excavation and/or Structure Excavation to be used in roadway as directed by the Engineer.



PROFILE

PLAN & PROFILE
 F.A.S. 575 - C.H. 7
 (N. PETERSBURG ROAD)
 OVER LATIMORE CREEK
 SECTION 01-00050-00-BR
 MENARD COUNTY

FILE NAME: MCDOPP (REV. 9/25/04)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 7	*	MENARD	9	4
PROJECT				

* 01-00050-00-BR

Existing Structure: Single span cast in place concrete deck on steel I - Beams supported by timber abutments on timber piling. ±35'-6" Bk.-Bk. Abutments, ±24'-0" clear deck width, steel channel railing. 20' skew Rt. Forward.
Existing Structure No. 065-3006
Salvage: To County
Existing Structure Estimated Quantities: Concrete 23.0 - Cu. Yds.
Structural Steel - 21000 Pounds

Benchmarks: BM#1 - 60d Nail & Washer in Power Pole
35' Rt. Sta. 2+40 El. 100.00(Assumed)

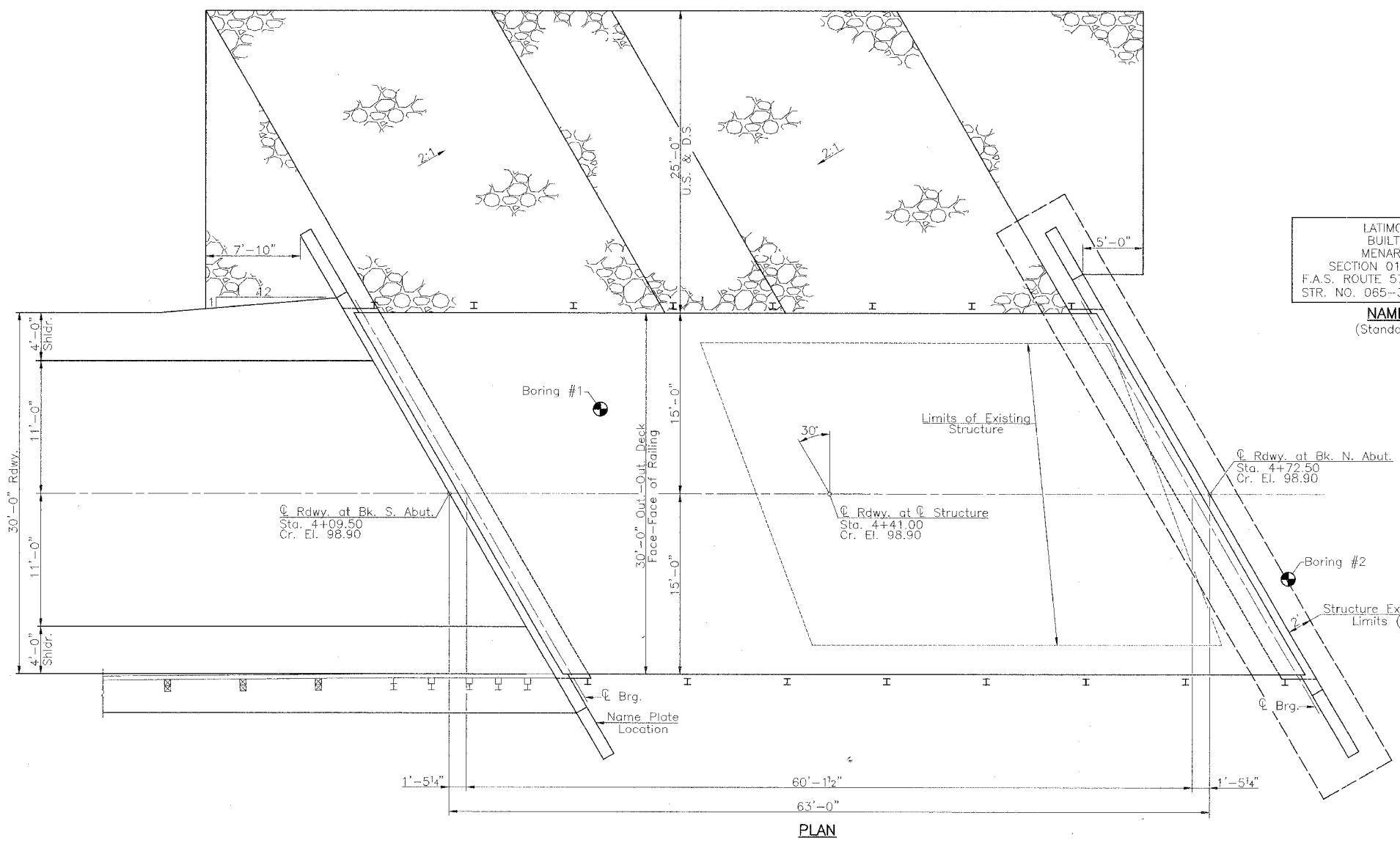
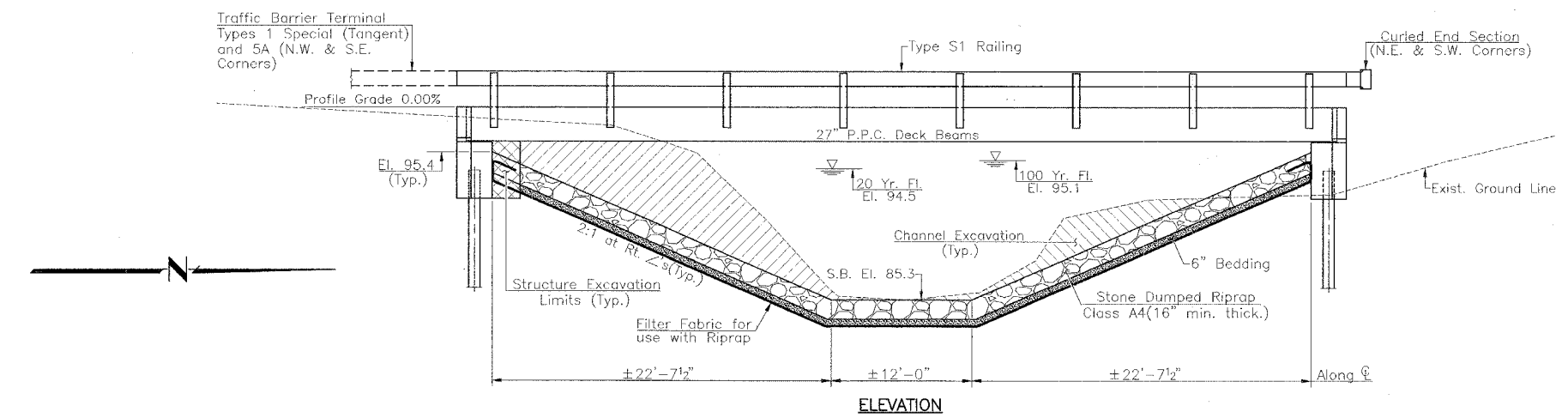
TOTAL BILL OF MATERIAL

Item	Super	Sub	Total
Channel Excavation		Cu. Yd.	197
Stone Dumped Riprap, Class A4		Ton	396
Filter Fabric		Sq. Yd.	665
Removal of Existing Structures		Each	1
Structure Excavation		Cu. Yd.	82
Concrete Structures		Cu. Yd.	37.6
Precast Prestressed Concrete Deck Beams (27" Depth)		Sq. Ft.	1844
Reinforcement Bars		Pound	3645
Steel Railing Type S1		Foot	126
Furnishing Metal Pile Shells 12"		Foot	789
Driving and Filling Shells		Foot	789
Test Pile, Metal Shells		Each	1
Name Plates		Each	1

WATERWAY INFORMATION

Drainage Area = 2.16 Sq. Miles Low Grade Elev. = 98.90 @ Sta. 4+41

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head-Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	20	714	139	251	94.5	0.0	0.0	94.5	94.5
Base	100	1095	157	279	95.1	0.6	0.0	95.7	95.1
Exist. Overtop	Greater than 500 Years								
Prop. Overtop	Greater than 500 Years								
Max. Calc.	500	1481	169	302	95.5	1.5	0.3	97.0	95.8



LATIMORE CREEK
BUILT 200 BY
MENARD COUNTY
SECTION 01-00050-00-BR
F.A.S. ROUTE 575 - STA. 4+41.00
STR. NO. 065-3111 LOADING HS20
NAME PLATE
(Standard 515001)

DESIGN STRESSES

FIELD UNITS
fc = 1400 psi
vc = 56.2 psi
fs = 24000 psi
n = 9

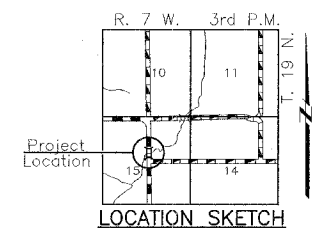
PRECAST PRESTRESSED UNITS
f'c = 5000 psi
f'ci = 4000 psi
f's = 270000 psi
f'si = 189000 psi
1/2" Strands

GENERAL NOTES

See Proposal for Boring Data.
Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31, M-42, or M-53, Grade 60.
The layout of the riprap slopedwall 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 South abutment as directed by the Engineer in the field prior to ordering the remainder of piles.

DESIGN SPECIFICATIONS
2002 A.A.S.H.T.O. Specifications and 2003 Interim Specifications.

LOADING HS 20-44
Allow 50#/sq. ft. for future wearing surface.

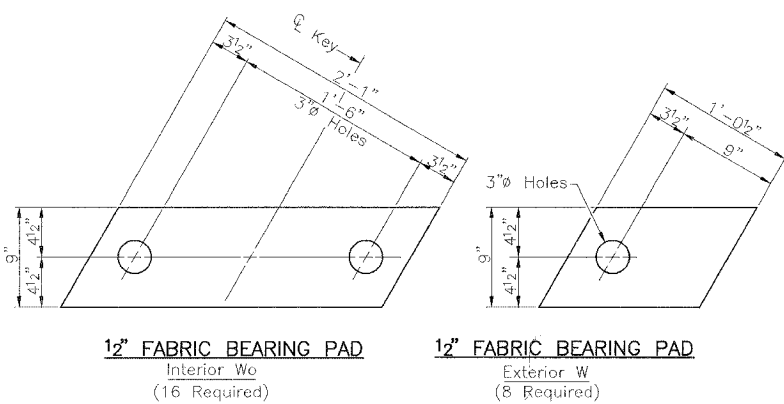


I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".
Allen Henderson 2/11/05
Expiration Date 11/30/2006

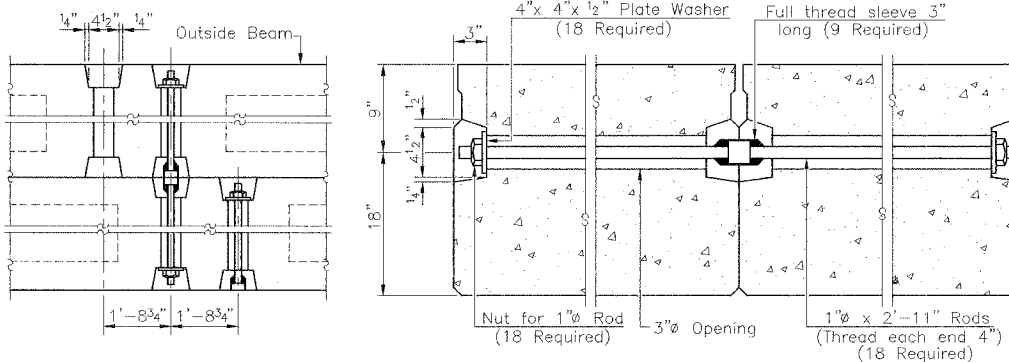
GENERAL PLAN & ELEVATION
F.A.S. 575 - C.H. 7
(N. PETERSBURG ROAD)
OVER LATIMORE CREEK
SECTION 01-00050-00-BR
MENARD COUNTY

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 7	*	MENARD	9	5
PROJECT				

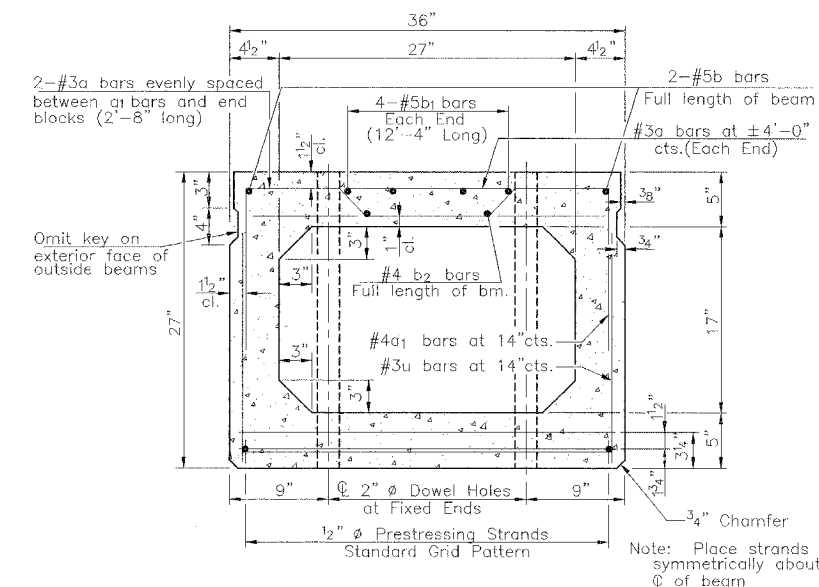
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FIXED

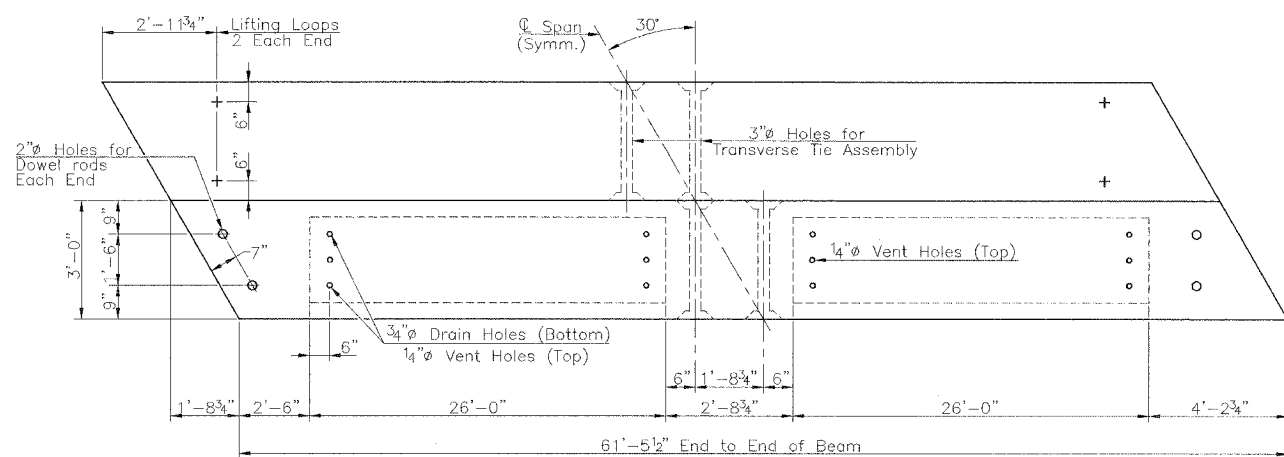


TYPICAL TRANSVERSE TIE ASSEMBLY

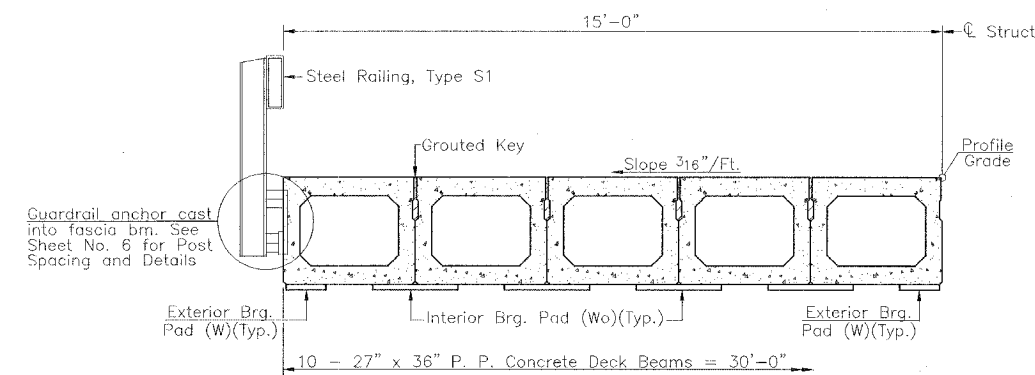


TYPICAL SECTION

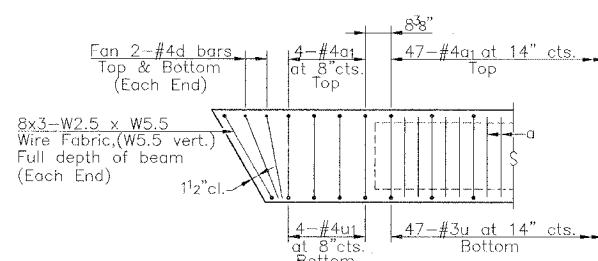
16 - 1/2" Strands, Each Strand Stressed to 28,900 Lbs.
6 - 1 3/4" up, 8 - 3 1/4" up, 2 - 7 1/2" up



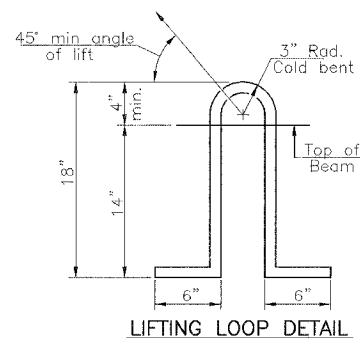
PLAN



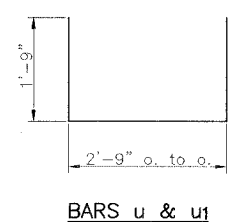
HALF CROSS SECTION



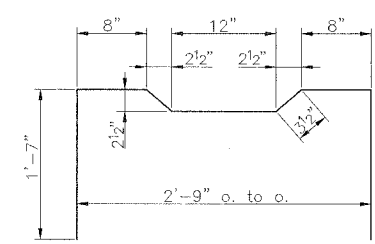
END ELEVATION



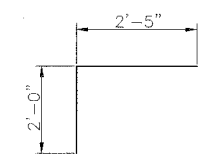
LIFTING LOOP DETAIL



BARS u & u1



BAR a1



BAR d

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" - 270 k.s.i. 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.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, 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 beams and the bottom edge of the key.
- Required Release Strength, f'ci, shall be 4000 p.s.i.
- Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck Beams.

BILL OF MATERIAL

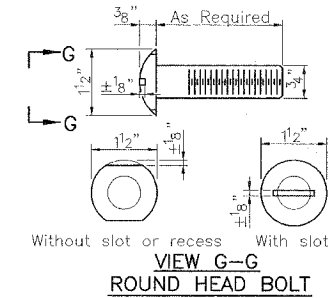
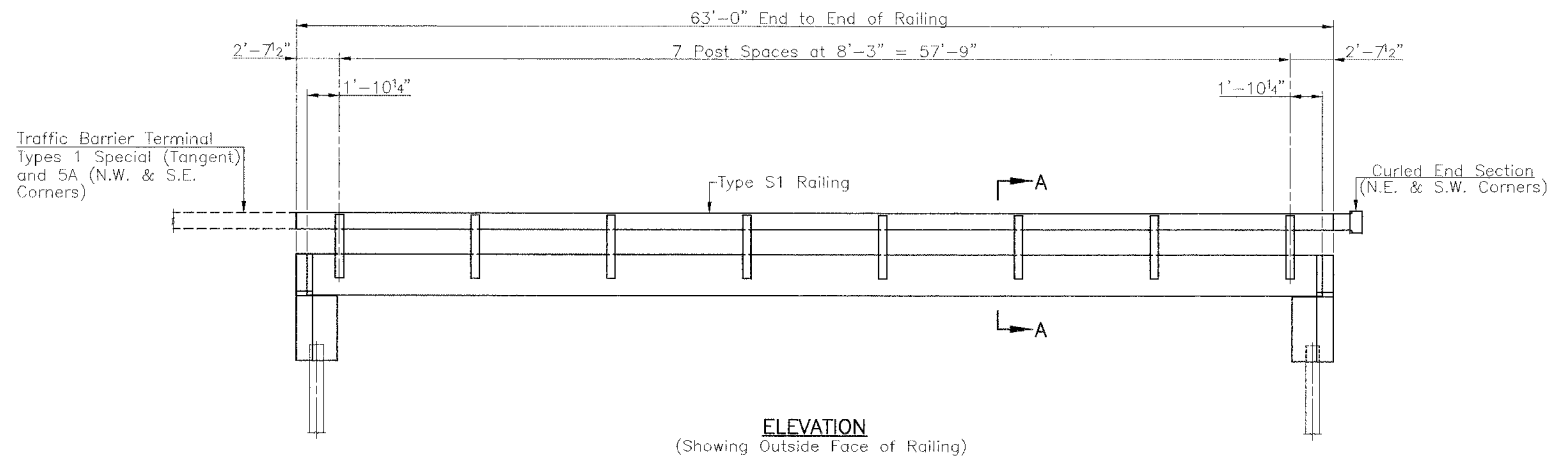
BAR	NO.	SIZE	LENGTH	SHAPE
Precast Prestressed Concrete Deck Beams (27" Depth)		Sq. Ft.	1844	

SUPERSTRUCTURE
F.A.S. 575 - C.H. 7
(N. PETERSBURG ROAD)
OVER LATIMORE CREEK
SECTION 01-00050-00-BR
MENARD COUNTY

FILE NAME: MCDORM (REV. 9/26/04)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PROJECT				

* 01-00050-00-BR



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 two coats of asphalt paint conforming to Section 1060.07 Type II or place a 1/2" fabric bearing pad between the plate and concrete.

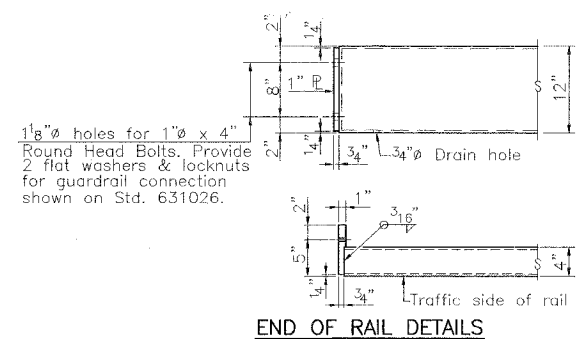
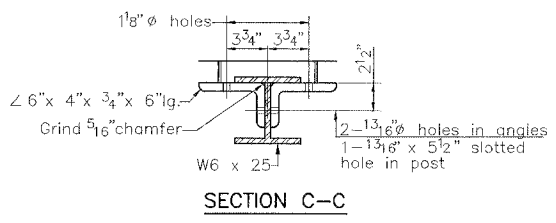
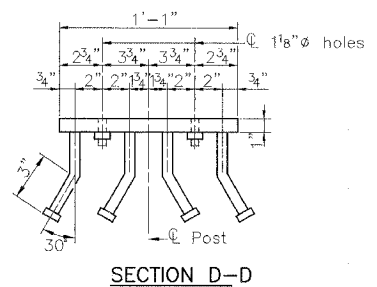
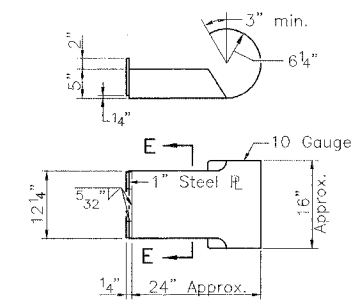
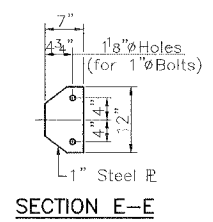
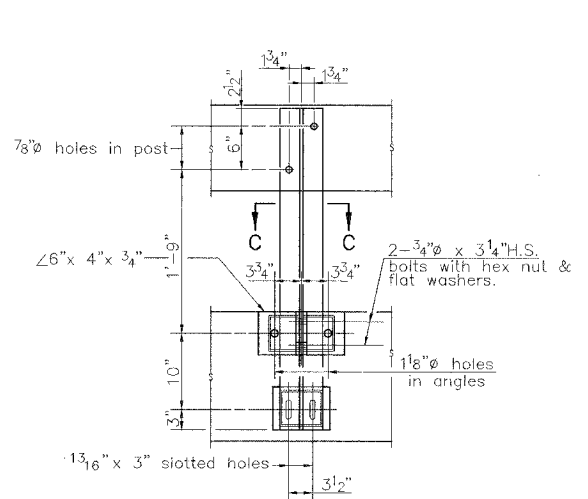
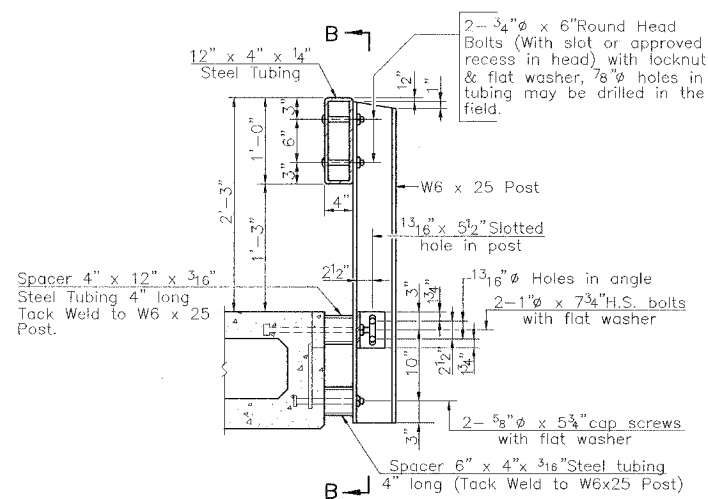
The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(f)(2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

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

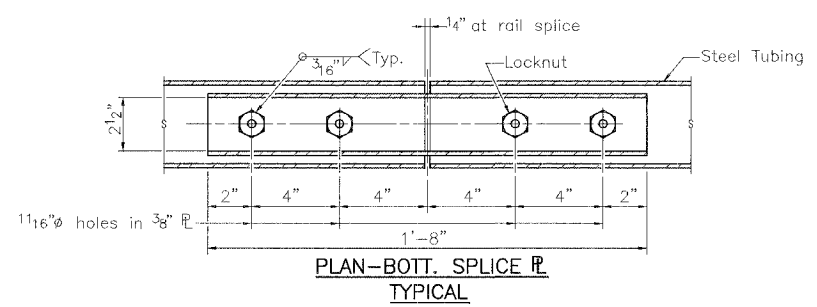
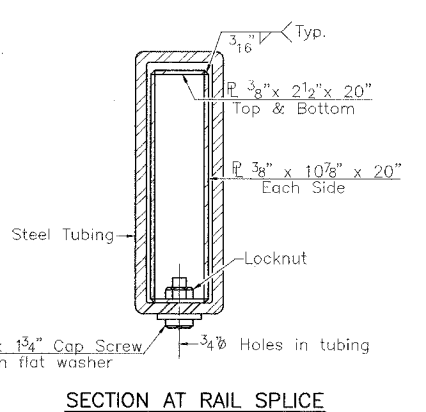
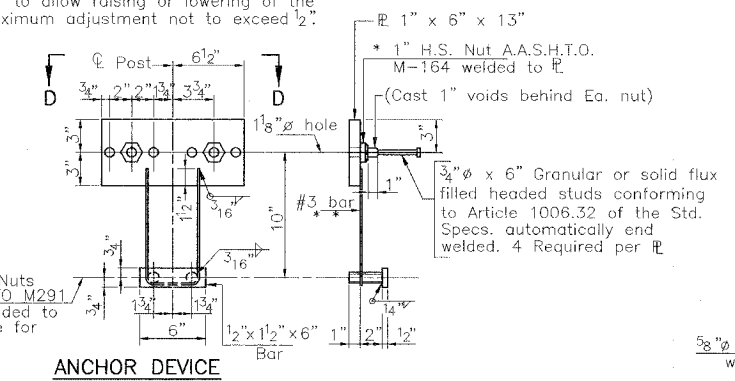
BILL OF MATERIAL

Item	Foot	Total
Steel Railing, Type S1		126

RAILING
F.A.S. 575 - C.H. 7
(N. PETERSBURG ROAD)
OVER LATIMORE CREEK
SECTION 01-00050-00-BR
MENARD COUNTY



** 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".



3/4" XX Pipe or Hex Nuts conforming to AASHTO M291 Grade A-3 long welded to #3 bar and tap pipe for 5/8" Cap Screw.

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

FILE NAME: MESDRL (REV. 9/20/04)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 7	*	MENARD	9	7
PROJECT				

* 01-00050-00-BR

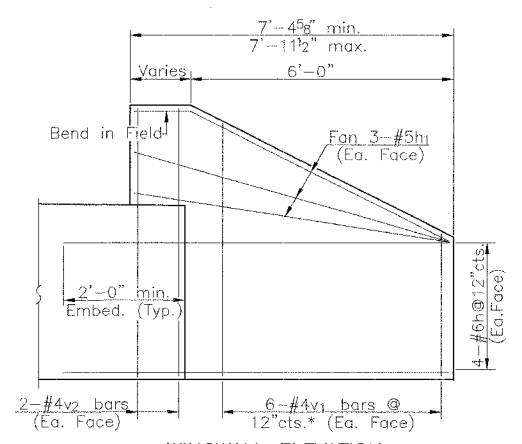
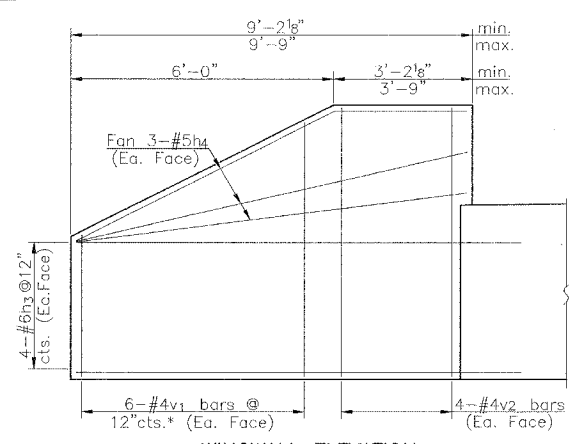
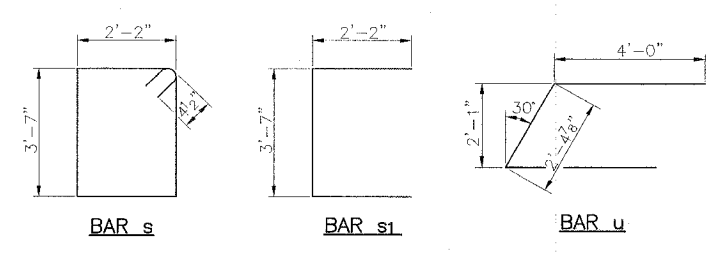
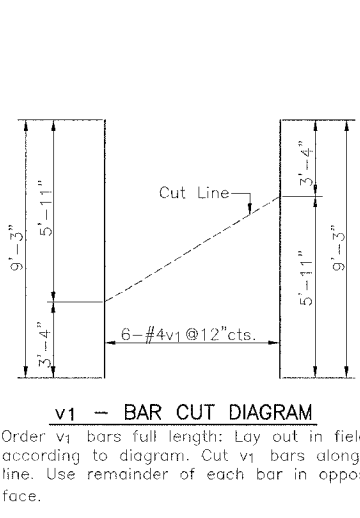
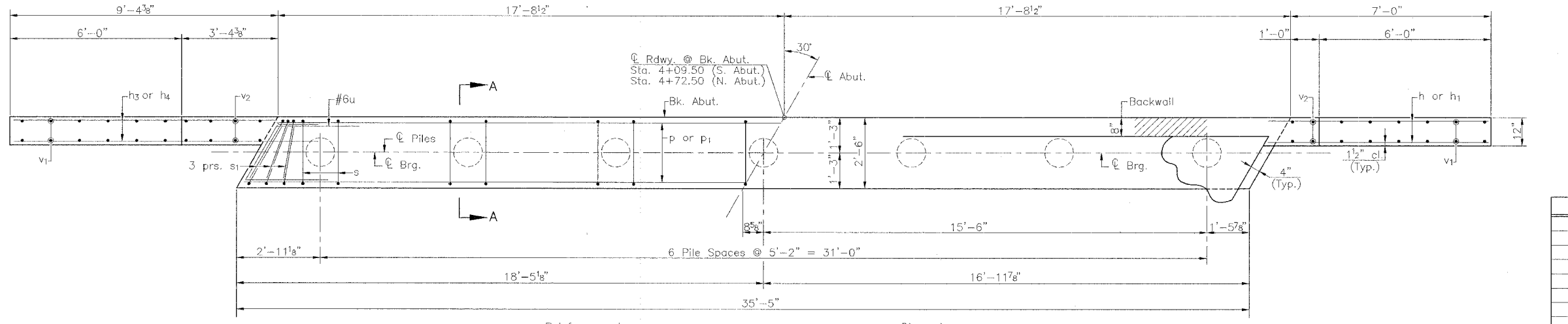
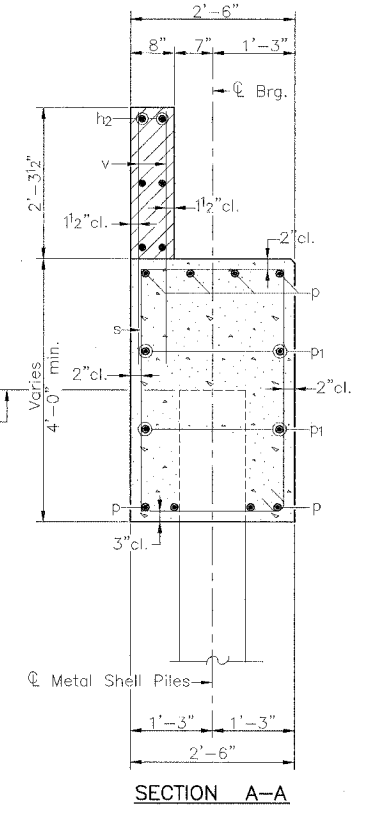
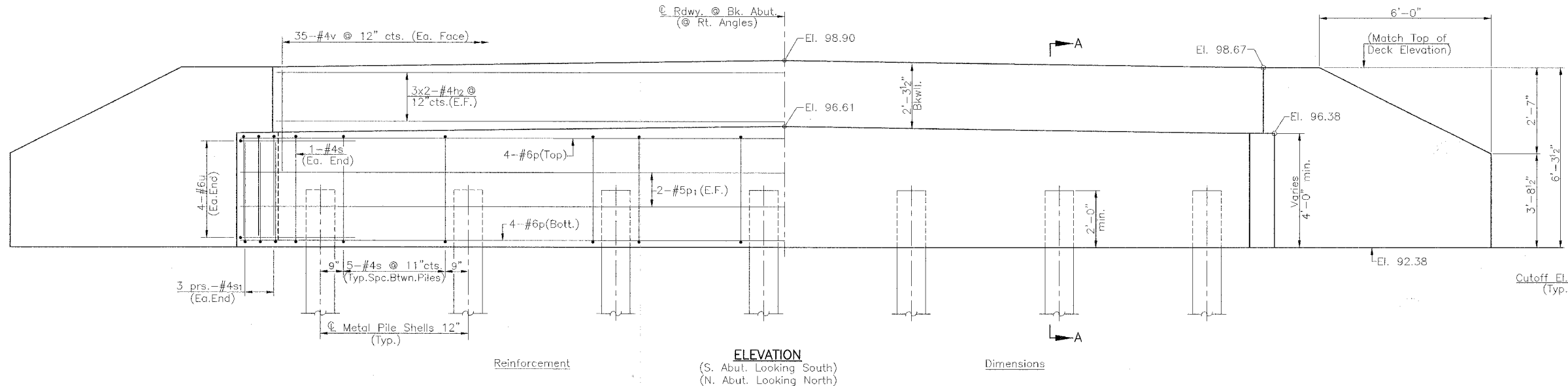
NOTES

All exposed edges shall have standard 3/4" chamfer.
 Space reinforcement in cap to miss beam anchor dowels.
 Wingwalls and Backwalls may, at the contractor's option, be cast monolithically.

PILE DATA

	S. Abut.	N. Abut.
Type:	Metal Shell 12"	Metal Shell 12"
Capacity:	31 Ton	31 Ton
Est. Length:	58'	63'
No. Req'd.:	6 + 1 Test Pile	7 Required

Note: Hatched area and wingwalls shall be poured after deck beams are anchored in place.



**TWO ABUTMENTS
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#6	9'-0"	—
h1	12	#5	7'-0"	—
h2	24	#4	19'-6"	—
h3	16	#6	11'-9"	—
h4	12	#5	9'-0"	—
p	16	#6	35'-1"	—
p1	8	#5	35'-1"	—
s	64	#4	12'-3"	□
s1	24	#4	7'-11"	□
u	16	#6	10'-5"	—
v	140	#4	3'-9"	—
v1	24	#4	9'-3"	—
v2	24	#4	5'-11"	—
Concrete Structures				Cu. Yd. 37.6
Reinforcement Bars				Pound 3645
Furnishing Metal Pile Shells 12"				Foot 789
Driving and Filling Shells				Foot 789
Test Piles, Metal Shells				Each 1
Structure Excavation				Cu. Yd. 82

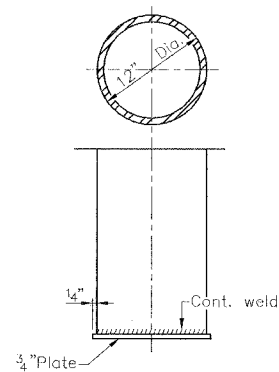
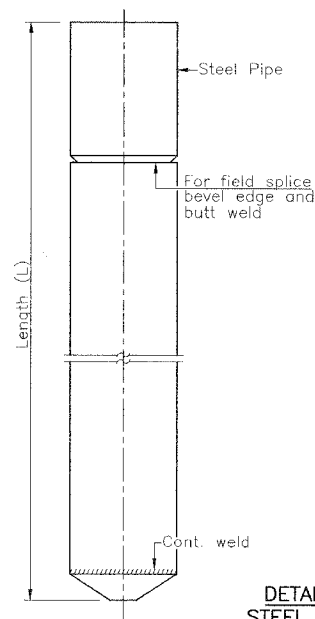
ABUTMENTS
 F.A.S. 575 - C.H. 7
 (N. PETERSBURG ROAD)
 OVER LATIMORE CREEK
 SECTION 01-00050-00-BR
 MENARD COUNTY

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 7	*	MENARD	9	8
PROJECT				

* 01-00050-00-BR

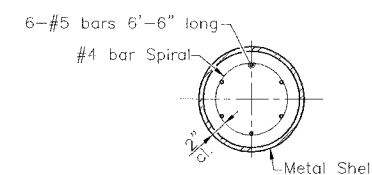
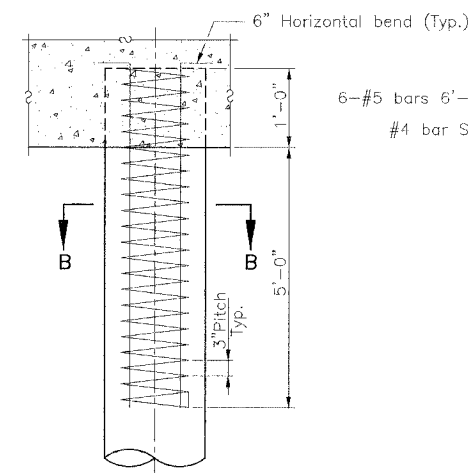
The cost of Reinforcement is incidental to the cost of furnishing piles

Notes: Driving and bearing ends of pipe shall be cut square.
 The thickness of the shell shall be 0.25 inches with a tolerance of 5%.
 The shell shall be in accordance with Article 1006.05(a) of the Standard Specifications.



OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



SECTION B-B

DETAIL OF REINFORCEMENT FOR METAL SHELLS

FILE NUMBER: M5500P (REV. 9/22/54)

CONCRETE PILE DETAILS
 F.A.S. 1574 - C.H. 7
 (N. PETERSBURG ROAD)
 OVER LATIMORE CREEK
 SECTION 01-00050-00-BR
 MENARD COUNTY

