

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

MORGAN COUNTY
SEC. 07-00097-00-BR
F.A.S. 611 (C.H. 19) OVER LITTLE INDIAN CREEK
PROJECT NO. BRS-611(108)
JOB NUMBER C-96-235-07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	*	MORGAN	8	1
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	BRS-611(108)
*07-00097-00-BR		CONTRACT		93446

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, DETAILS, TYPICAL SECTION, SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
3.	TRAFFIC CONTROL PLAN
4.-8.	STRUCTURE PLANS

REQUIRED HIGHWAY STANDARDS

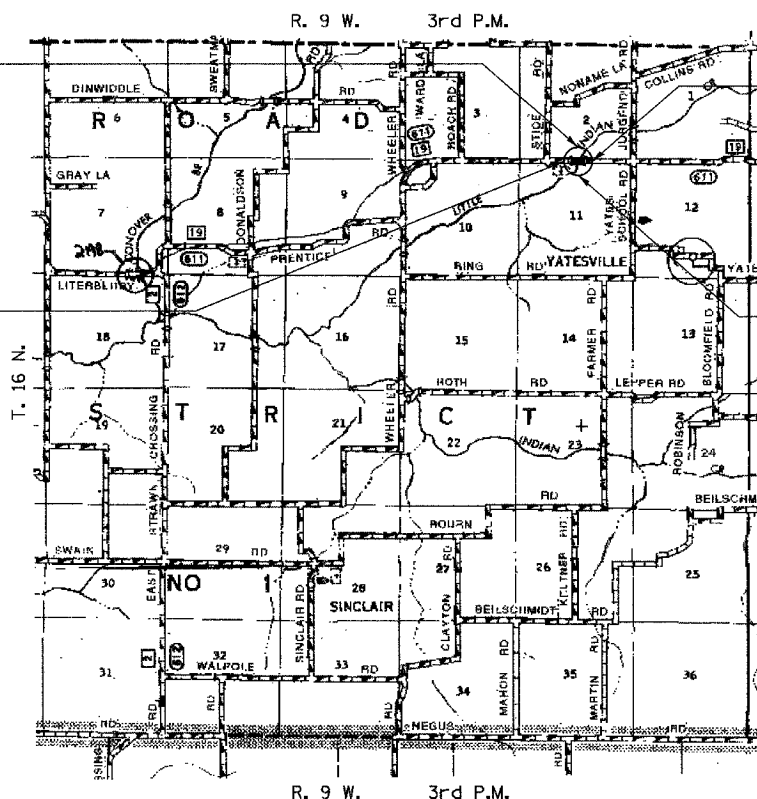
- 000001-04
- 515001-02
- 630001-07
- 630301-04
- 702001-06
- 780001-01
- BLR-21-6

PROPOSED IMPROVEMENTS INCLUDE REPLACEMENT OF THE SUPERSTRUCTURE IN KIND INCLUDING NEW STEEL RAIL AND WEARING SURFACE ALONG WITH RIPRAP PLACEMENT AND MINOR RESURFACING IN THE IMMEDIATE STRUCTURE AREA.

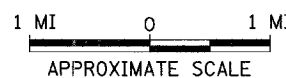
SECTION 07-00097-00-BR
BEGINS
STATION 112+25.00

SECTION 07-00097-00-BR
ENDS
STATION 115+30.00

EXISTING STRUCTURE 069-3006
TWO SPAN 21" P.P.C. DECK BEAM WITH CONCRETE PARAPET SUPERSTRUCTURE ON CONCRETE ENCASED PILE BENT PIER AND CONCRETE PILE BENT ABUTMENTS 101'-4" BK. TO BK., AND 31'-6" O. TO O., 20° SKEW, LT. AH. (SUPERSTRUCTURE TO BE REMOVED)



LOCATION MAP



NET LENGTH OF PROJECT = 305.00 FEET = 0.058 MILES
DESIGN CLASSIFICATION: MAJOR-COLLECTOR (NON-URBAN)
DESIGN ADT = 325 (2007)
DESIGN SPEED = 40 MPH



UTILITY COMPANY

NORTH MORGAN WATER COOP
JACKSONVILLE, ILLINOIS

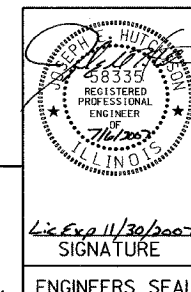
MENARD ELECTRIC COOPERATIVE
PETERSBURG, ILLINOIS

VERIZON
JACKSONVILLE, ILLINOIS

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BEFORE YOU DIG
1-800-892-0123

CONTRACT NO. **93446**

APPROVED	<i>July 6</i>	2007
	<i>John W. Jones</i>	MORGAN COUNTY ENGINEER
PASSED	<i>July 30</i>	2007
	<i>Tommy F. ...</i>	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS
PASSED	<i>July 30th</i>	2007
	<i>Shirley ...</i>	DISTRICT SIX ENGINEER OF CONSTRUCTION
Released For Bid Based on Limited Review	<i>July 30</i>	2007
	<i>Christine M. Reed</i>	DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER
		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



Hutchison Engineering, Inc.
JACKSONVILLE ILLINOIS

2007

JOB#2464

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
28100209	STONE RIPRAP, CLASS A5	TON	570
28200200	FILTER FABRIC	SQ YD	545
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	14
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	147
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	49
① 50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	3.1
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	2,995
① 50800105	REINFORCEMENT BARS	POUND	230
50901050	STEEL RAILING, TYPE SM	FOOT	203
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	338
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	225
* 63301210	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	25
* ① 63302700	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4
67100100	MOBILIZATION	L SUM	1
① 70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	700
X6330103	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL, TANGENT	EACH	4

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: X080-2#

* SPECIALTY ITEMS

HOT-MIX ASPHALT SCHEDULE

STATION TO STATION	WIDTH	LENGTH	PRIME COAT GALLON 0.10 GAL/SQ YD	HOT-MIX ASPHALT SURFACE CSE TON 112#/SQ YD/IN
112+98.33 - 113+28.33	22.00'	30.00'	7	
114+29.66 - 114+59.66	22.00'	30.00'	7	
112+98.33 - 113+28.33	22.13'	30.00'		6
113+28.33 - 114+29.66	30.00'	101.33'		37
114+29.66 - 114+59.66	22.13'	30.00'		6
		TOTAL	14	49

**REMOVE AND RE-ERECT
TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL, TANGENT**

STATION TO STATION	SIDE	EACH
112+29.12 - 112+79.12	RIGHT	1
112+52.54 - 113+02.54	LEFT	1
114+55.45 - 115+05.45	RIGHT	1
114+78.87 - 115+28.87	LEFT	1
	TOTAL	4

**REMOVE AND RE-ERECT
TRAFFIC BARRIER TERMINAL, TYPE 6**

STATION TO STATION	SIDE	EACH
112+91.62 - 113+22.87	RIGHT	1
113+02.54 - 113+33.79	LEFT	1
114+24.20 - 114+55.45	RIGHT	1
114+35.12 - 114+66.37	LEFT	1
	TOTAL	4

SEE SPECIAL DETAILS IN SPECIAL PROVISIONS

**REMOVE AND RE-ERECT
STEEL PLATE BEAM GUARDRAIL, TYPE A**

STATION TO STATION	SIDE	FOOT
112+79.12 - 112+91.62	RIGHT	12.5
114+66.37 - 114+78.87	LEFT	12.5
	TOTAL	25

PAINT PAVEMENT MARKING - LINE 4"

STATION TO STATION	SIDE	DESCRIPTION	FOOT
112+90.00 - 114+65.00	CENTERLINE	DOUBLE YELLOW SOLID	350
112+90.00 - 114+65.00	LEFT & RIGHT	EDGE LINE	350
	TOTAL		700

GENERAL NOTES

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.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY 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.

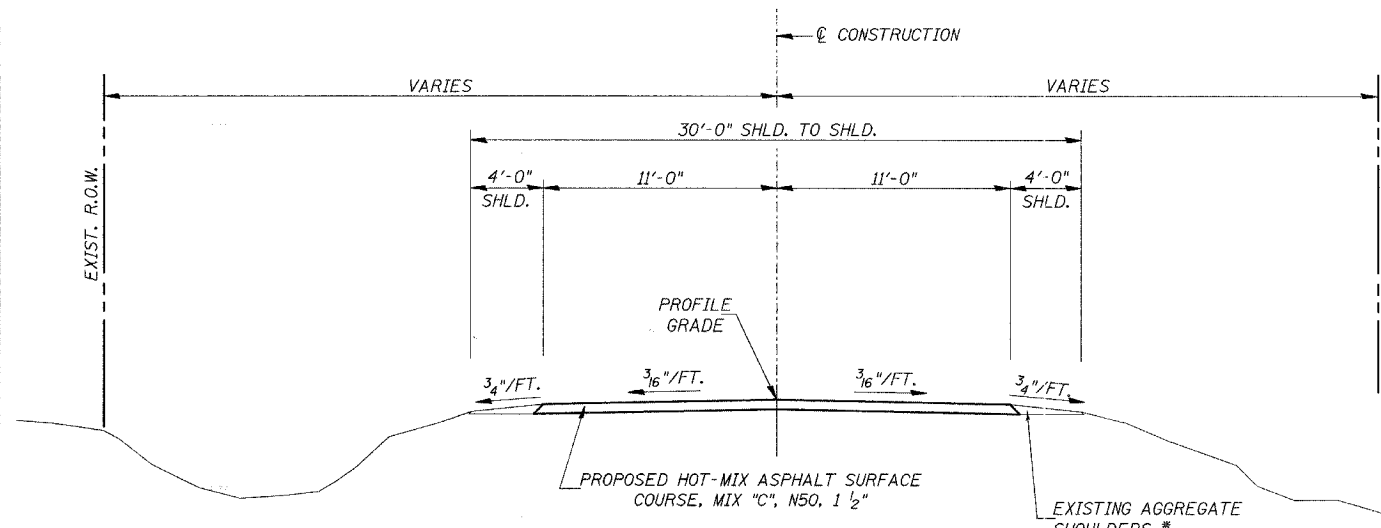
WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ELEVATIONS SHOWN REFER TO AN U.S.G.S. MEAN SEA LEVEL DATUM.

MIX DESIGN TABLE

MIXTURE USE	SURFACE (MIX "C"), N50
PG GRADE	PG 64-22
DESIGN AIR VOIDS	4% @ N50
MAX COMPOSITION: (GRADATION MIXTURE)	IL-9.5 or 12.5
FRICITION AGGREGATE	MIXTURE C

If RAP option is selected, the asphalt cement grade may need to be adjusted. This will be determined by the Engineer.

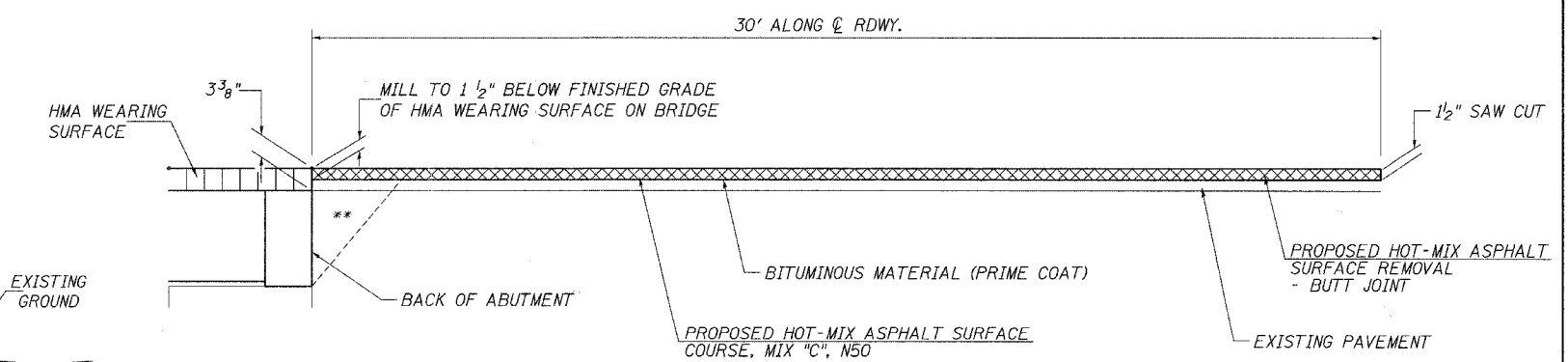


EXISTING/PROPOSED TYPICAL SECTION

STA. 112+98.33 TO STA. 113+28.33
STA. 114+29.66 TO STA. 114+59.66
EXCEPT TRANSITIONS

BRIDGE OMISSION
STA. 113+28.33 TO STA. 114+29.66

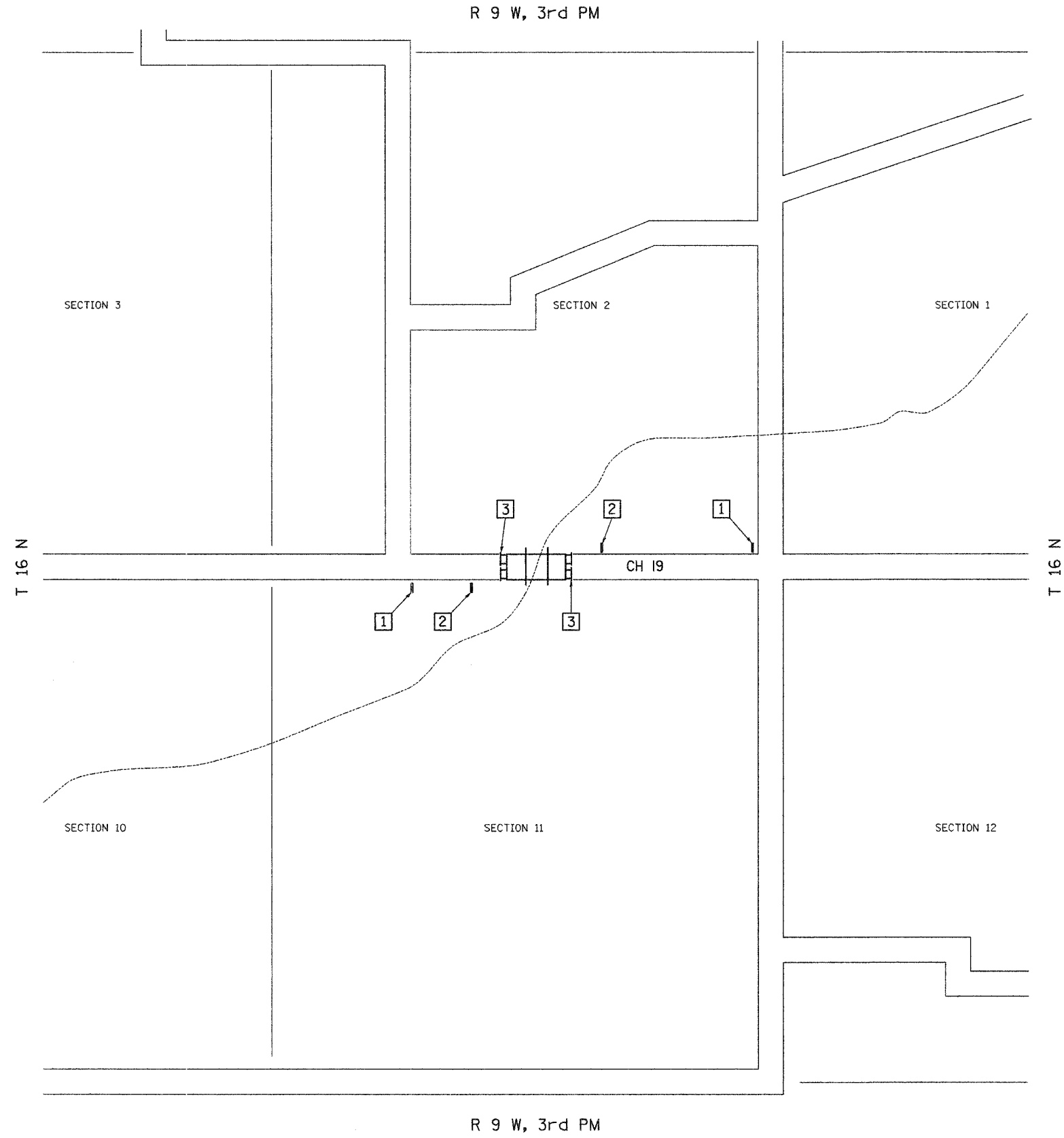
* COST OF REGRADING EXISTING AGGREGATE SHOULDERS DUE TO CONSTRUCTION ACTIVITIES SHALL BE INCLUDED WITH HOT-MIX ASPHALT SURFACE COURSE






BUTT JOINT DETAIL

** ANY EXCAVATION REQUIRED BEHIND THE ABUTMENTS FOR REMOVAL OF THE EXISTING SUPERSTRUCTURE OR CONSTRUCTION OF THE PROPOSED BACKWALLS SHALL BE BACKFILLED WITH CONTROLLED LOW-STRENGTH MATERIAL. COST OF ANY EXCAVATION OR BACKFILL REQUIRED SHALL BE INCLUDED WITH "REMOVAL OF EXISTING SUPERSTRUCTURES".

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	*	MORGAN	8	3
FED. ROAD DIST. NO. 7		BLINDERS	PROJECT	BRS-611(108)
*07-00097-00-BR		CONTRACT *93446		



- 1  ROAD CLOSED AHEAD
W20-3
- 2  ROAD CLOSED 500 FT
W20-3
- 3  TYPE III BARRICADES

SEE STANDARD BLR 21 AND SPECIAL PROVISIONS
 R11-3 ADVANCE WARNING SIGNS SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER.

TRAFFIC CONTROL PLAN
 COUNTY HIGHWAY 19 OVER
 LITTLE INDIAN CREEK
 SECTION 07-00097-00-BR
 MORGAN COUNTY
 STATION 113+79.00

B.M.:
 RR Spike in Power Pole Sta. 111±55, 35' Rt. Elev. 594.46
 Chiseled "□" on top of NE Wingwall Elev. 588.76
 RR Spike in Power Pole Sta. 117±35, 35' Rt. Elev. 587.38

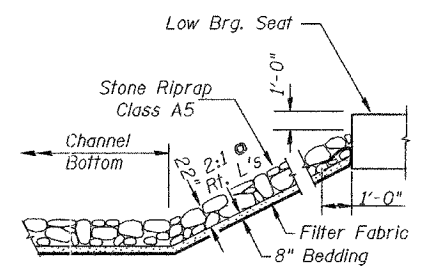
EXISTING STRUCTURE:

Existing Two Span PPC Deck Beam Bridge with HMA wearing surface and concrete parapets capped with aluminum rail on pile bent concrete abutments and a pile bent concrete solid wall pier, 101'-4" Bk. to Bk Abut., 31'-6" O. to O. Deck, with a 28'-0" driving surface and a 20° Lt. Ahd. Skew. Str. No. 069-3006

The existing superstructure is to be replaced with PPC Deck Beams and a HMA wearing surface.

Road to be closed to traffic during construction.

No Salvage



STONE RIPRAP DETAIL

**LITTLE INDIAN CREEK
 REBUILT 200. BY
 MORGAN COUNTY
 SEC. 07-00097-00-BR
 C.H. 19 STATION 113+79.00
 F.A. PROJ. BRS-611(108)
 STR. NO. 069-3006 LOADING HS20-44**

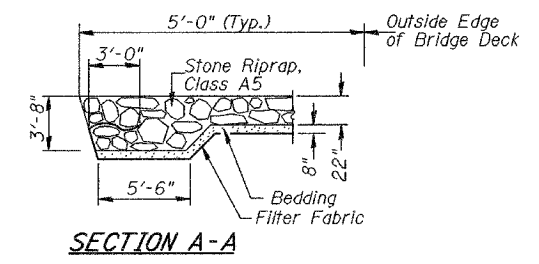
NAME PLATE

Attach new name plate to back side of 8" rail element at West end of South rail. Clean and re-locate existing name plate adjacent to new name plate. Cost included in the cost of Name Plates. See Std. 515001

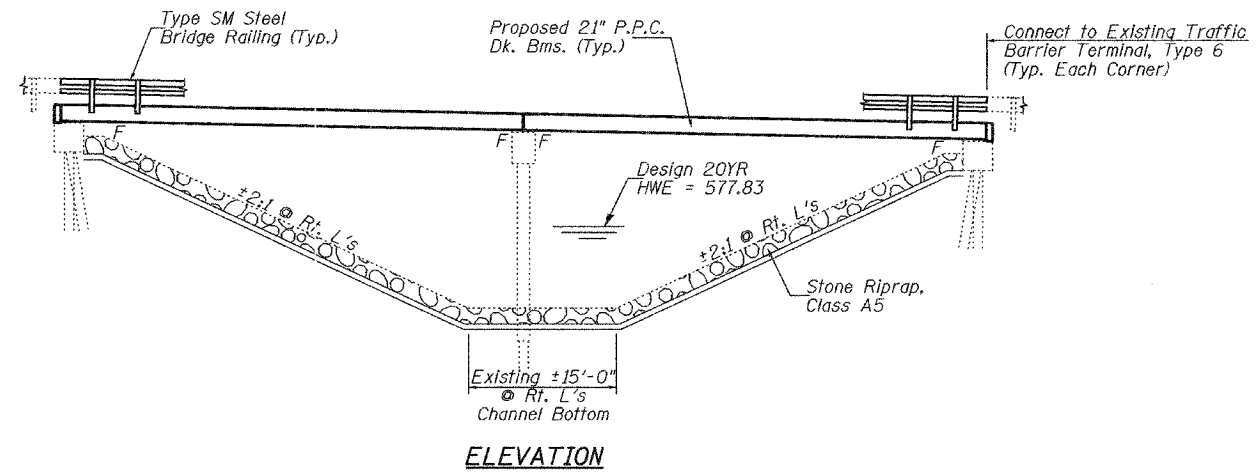
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 19	*	MORGAN	8	4
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT	BRS-611(108)	
*07-00097-00-BR		CONTRACT NO. 93446		

GENERAL NOTES

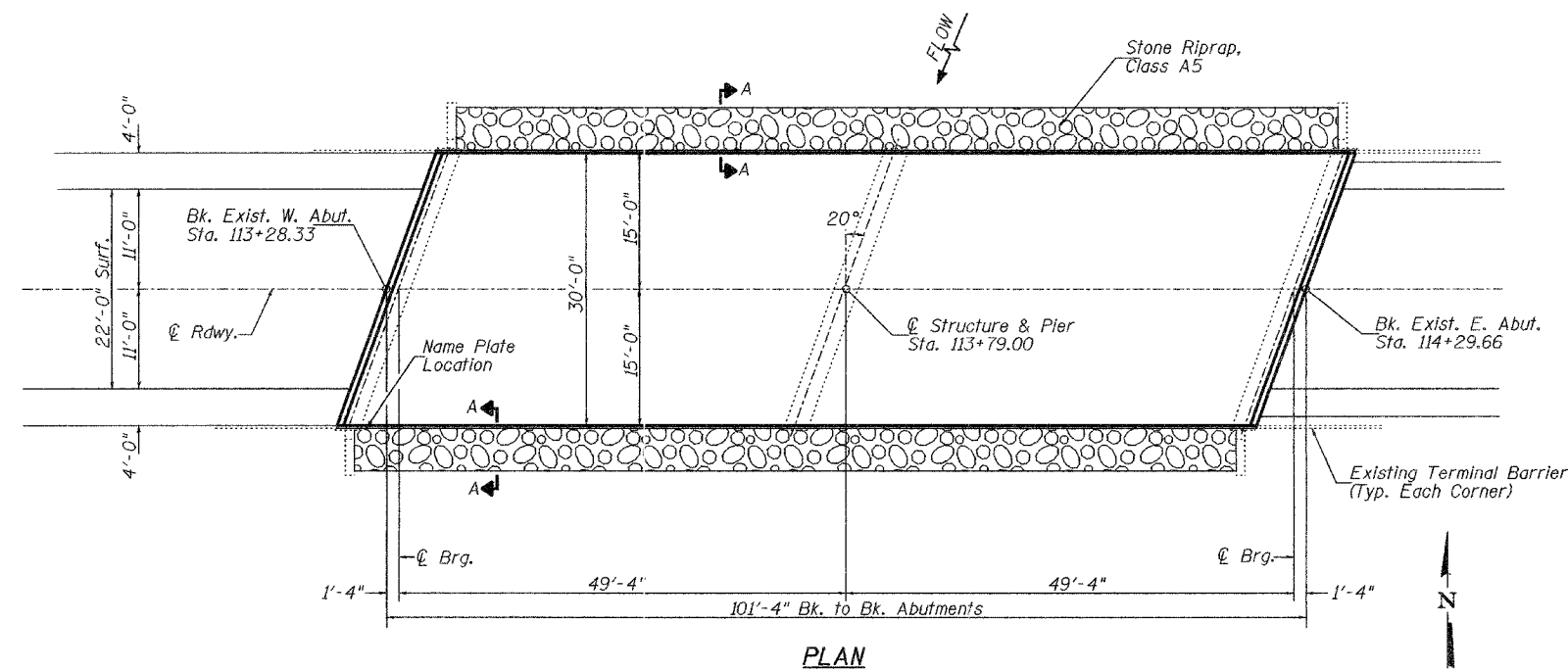
A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Article 1020.05(b)(12) of the Standard Specifications.
 Reinforcement Bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See Special Provisions.
 Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.



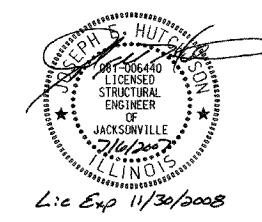
SECTION A-A



ELEVATION



PLAN



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.

Joseph S. Hutcheson
 Illinois Structural No. 6440
 Expires 11/30/2008

WATERWAY INFORMATION

Drainage Area = 17.30 Sq. Mi.

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. ft.		Nat. H.W.E. ft.	Head - ft.		Headwater Elev. - ft.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	20	2,145	355	355	577.83	0.23	0.23	578.06	578.06
Base	100	3,217	419	419	578.89	0.52	0.52	579.41	579.41

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

DESIGN SPECIFICATIONS

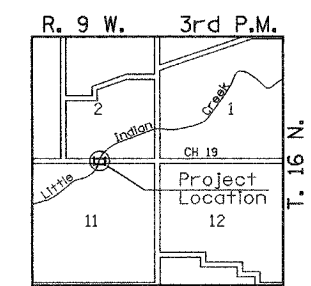
2002 AASHTO & Interims

DESIGN STRESSES

(FIELD UNITS) $f'_c = 3,500$ p.s.i. $f_y = 60,000$ 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. ($\frac{1}{2}$ " Strands) $f'_{si} = 201,960$ p.s.i. ($\frac{1}{2}$ " Strands)

LOADING HS20-44

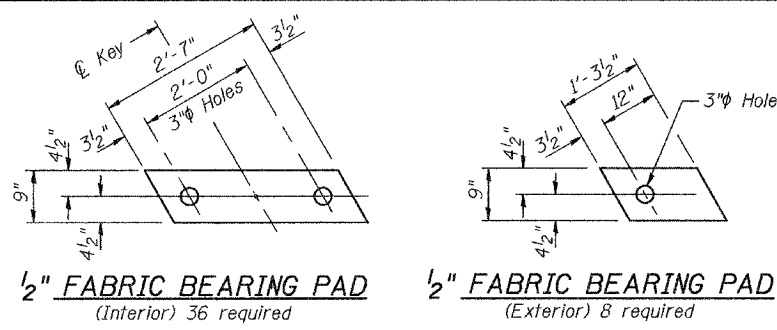
Allow 50#/#sq. ft. future wearing surface.



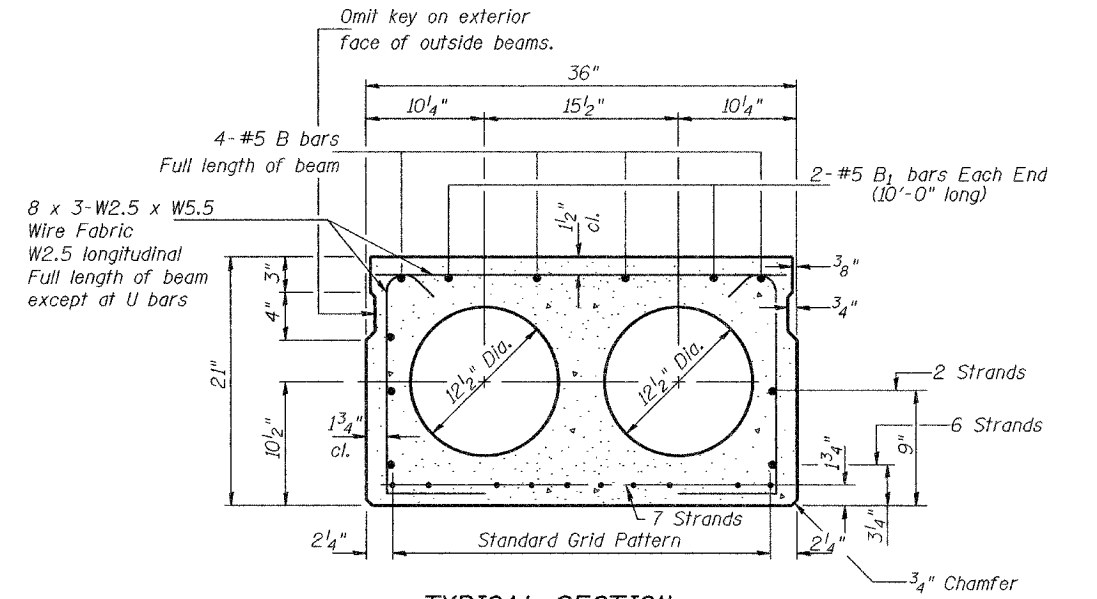
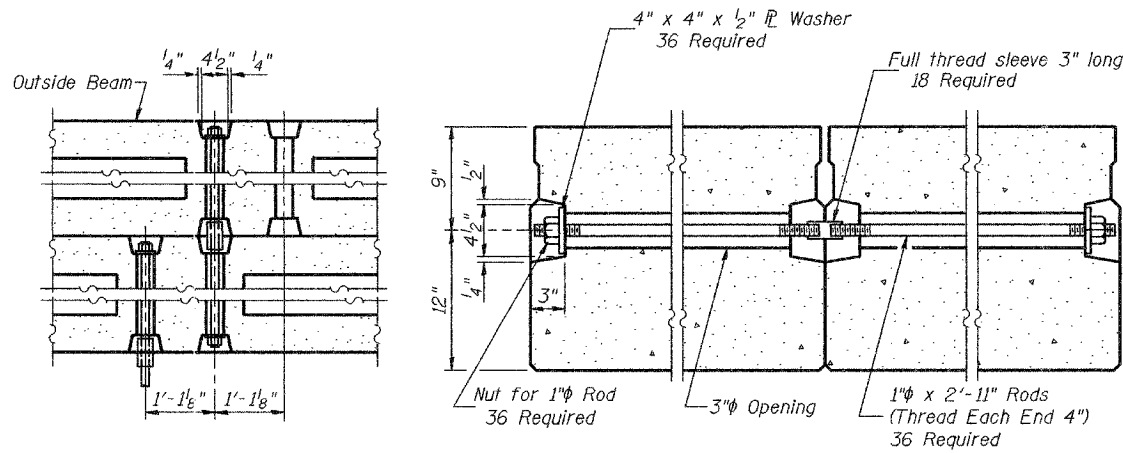
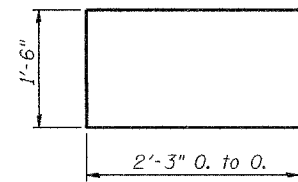
LOCATION SKETCH

**GENERAL PLAN & ELEVATION
 COUNTY HIGHWAY 19 OVER
 LITTLE INDIAN CREEK
 SECTION 07-00097-00-BR
 MORGAN COUNTY
 STATION 113+79.00
 STR. NO. 069-3006**

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

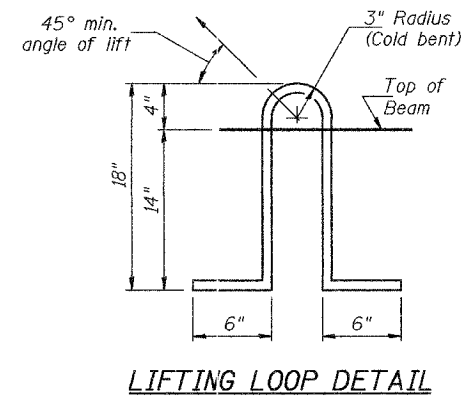
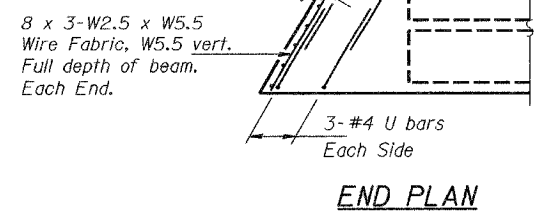
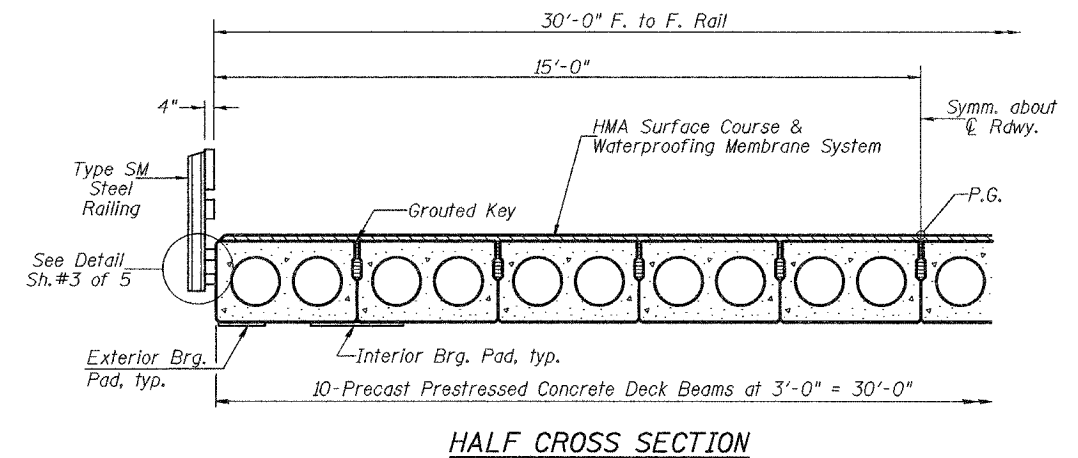
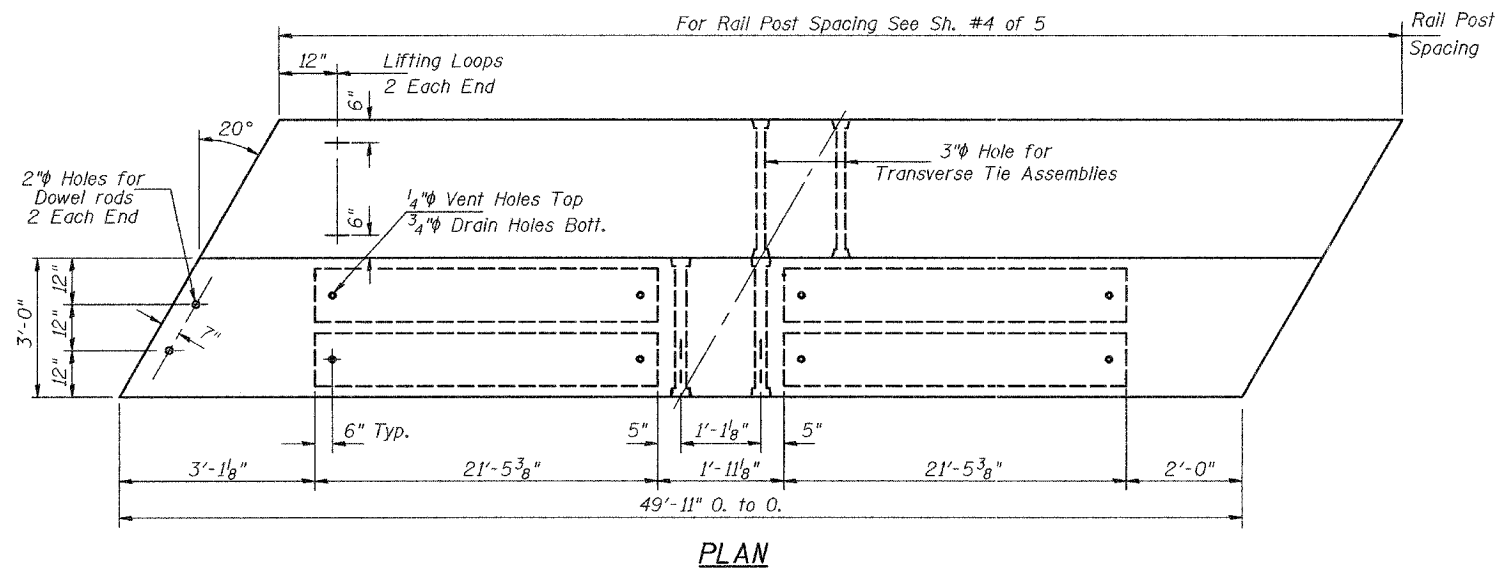


FIXED



15-1/2" Strands, Each Strand Stressed to 30,900 Lbs.
7 Strands 1 3/4" up, 6 Strands 3/4" up, 2 Strands 9" up

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



NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" 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 ASTM A706, Grade 60 (IL Modified). The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

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

Required Release Strength, f'ci, shall be 4,000 p.s.i.

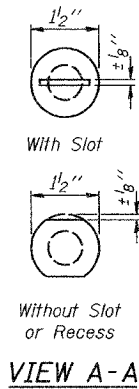
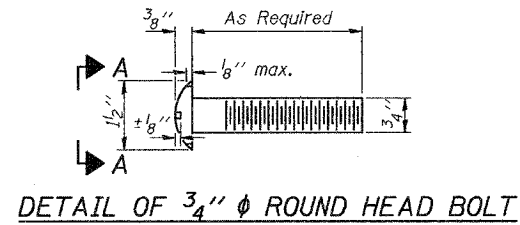
Rail post anchor devices shall be cast into outside face of exterior beams. See Sheet #3 of 5 for details and Sheet #4 of 5 for spacing.

BILL OF MATERIAL

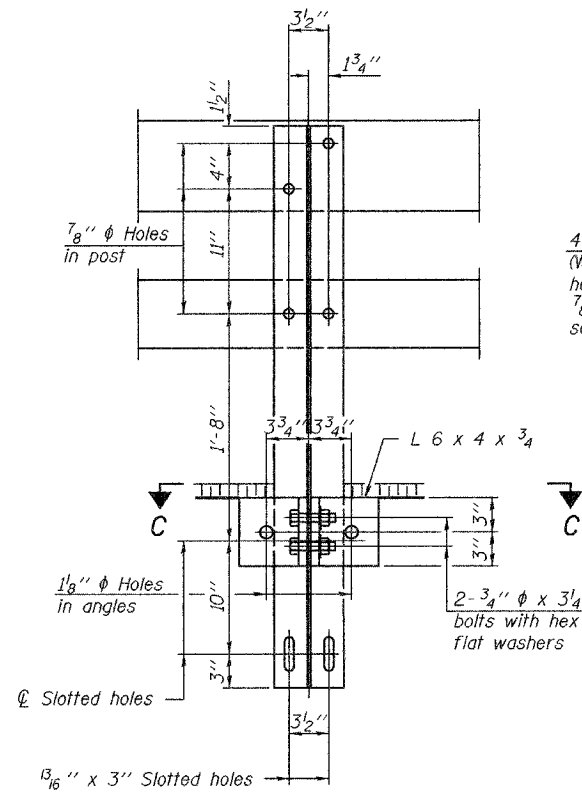
ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	SQ FT	2,995

SUPERSTRUCTURE - SPANS 1 & 2
COUNTY HIGHWAY 19 OVER
LITTLE INDIAN CREEK
SECTION 07-00097-00-BR
MORGAN COUNTY
STATION 113+79.00

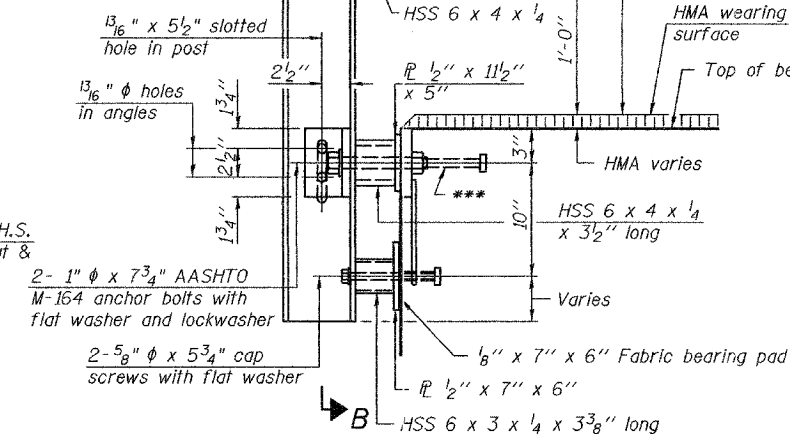
FOR RAIL POST SPACING SEE SH.#4 OF 5



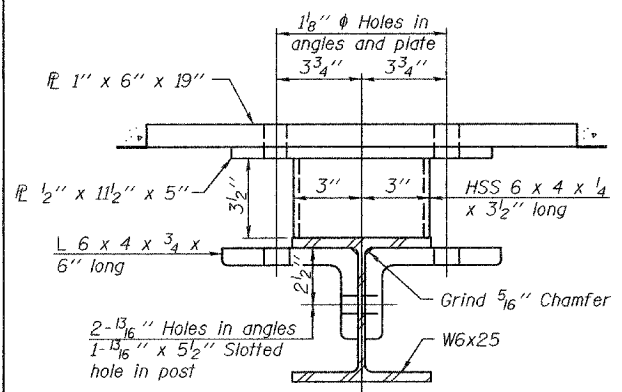
4-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



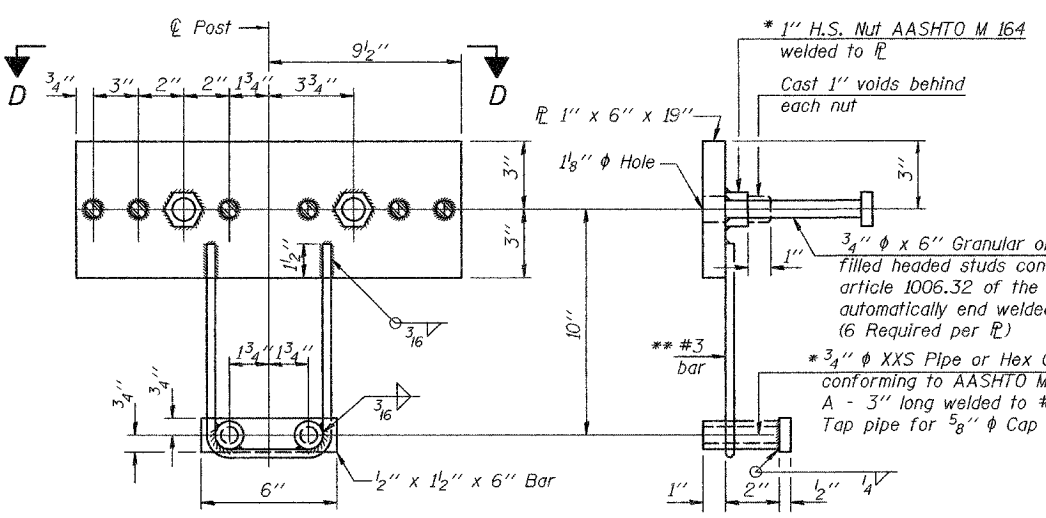
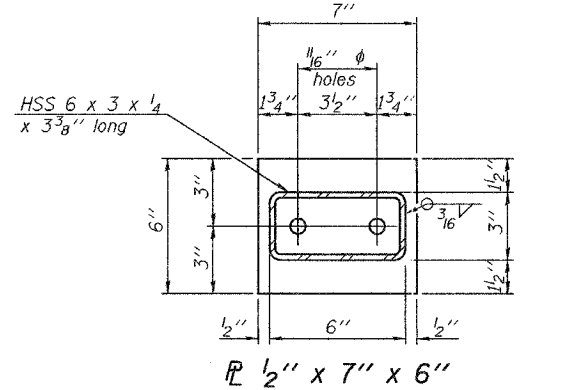
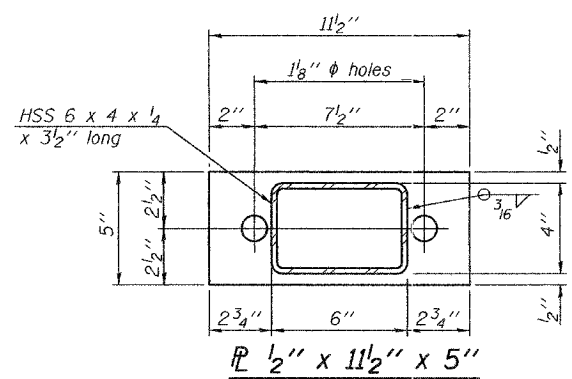
SECTION B-B



SECTION AT RAIL POST

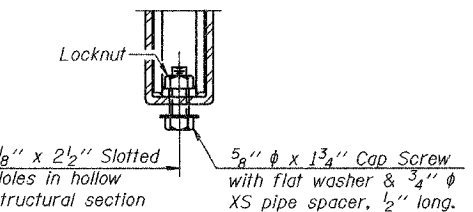


SECTION C-C

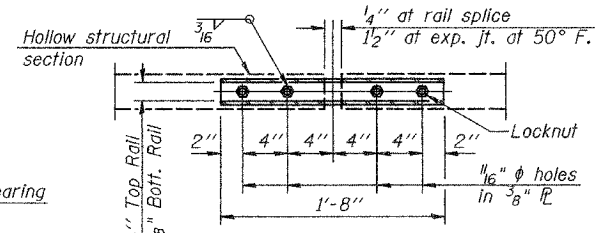


ANCHOR DEVICE

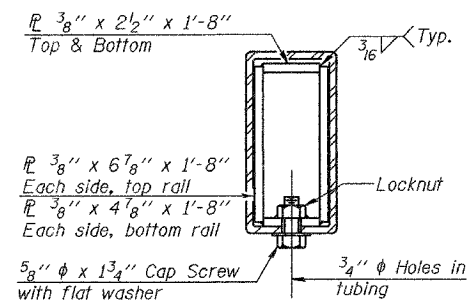
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.



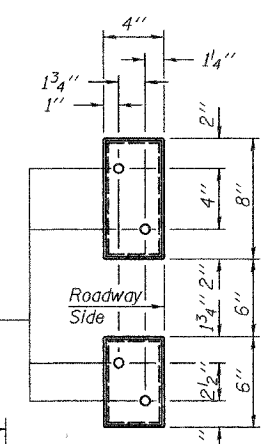
RAIL SPLICE CONNECTION AT EXPANSION JT.



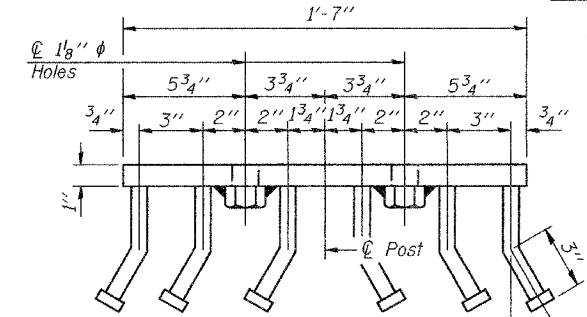
PLAN-BOTT. SPLICE R TYPICAL



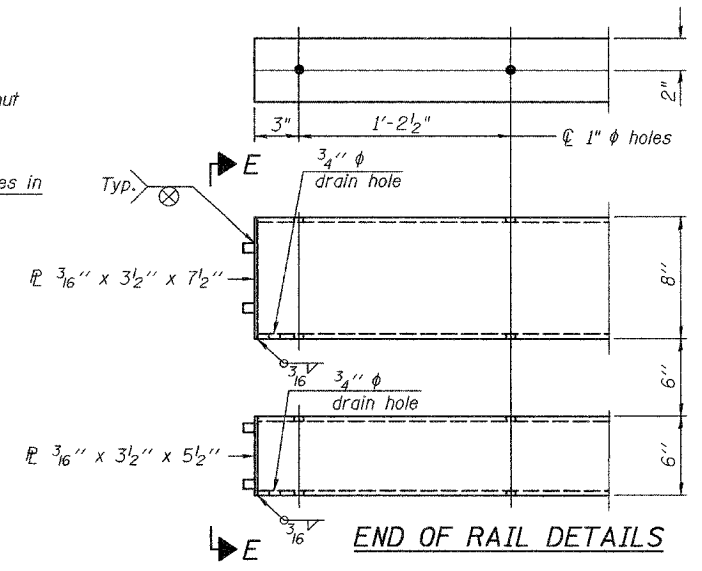
SECTION AT RAIL SPLICE



VIEW E-E



VIEW D-D



END OF RAIL DETAILS

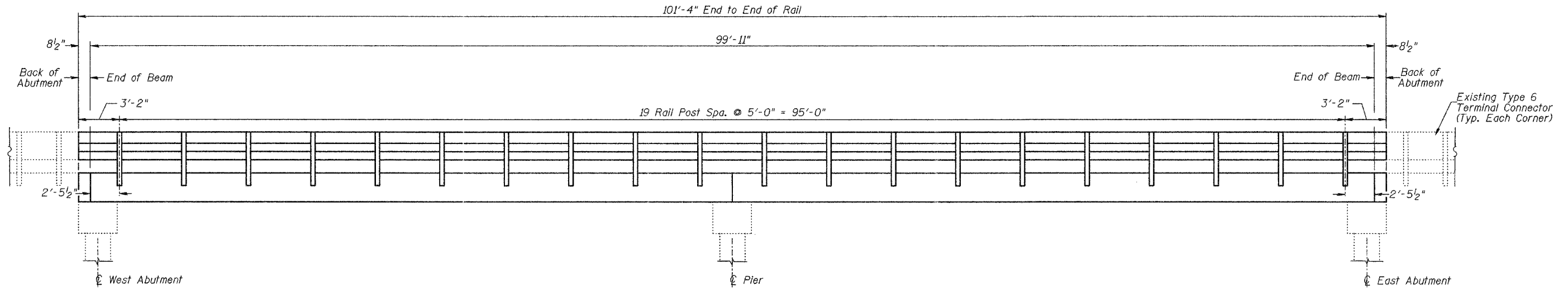
NOTES

- 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 Railing, Type SM.
- All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
- *** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.
- **** The existing end shoes will require modification or replacement with Type 6A "Connection Plate Assembly" as per Standard 631032 for connection to the steel bridge rail. Cost of such adjustment or modification shall be included in the cost of Remove and Re-Erect Traffic Barrier Terminal, Type 6.

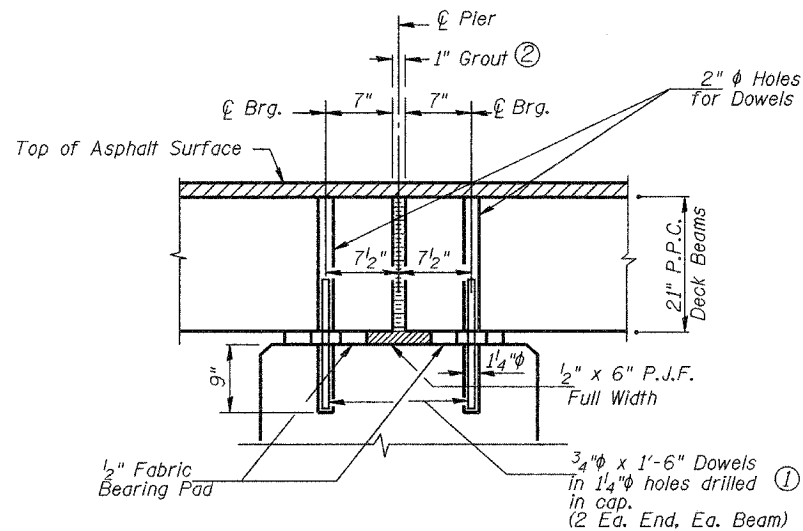
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	FOOT	203

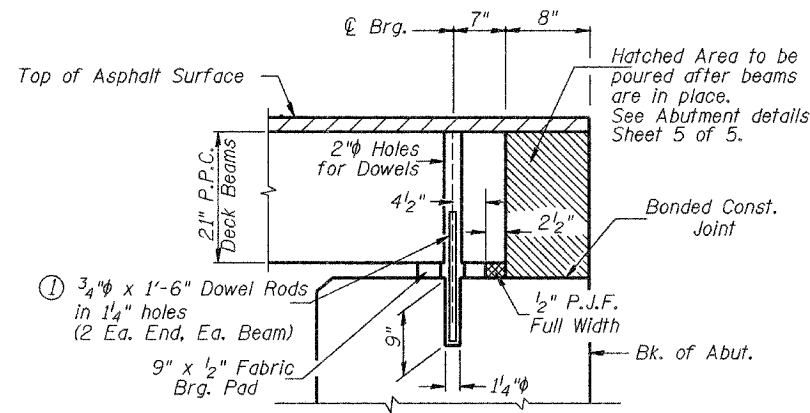
TYPE SM STEEL RAILING
COUNTY HIGHWAY 19 OVER
LITTLE INDIAN CREEK
SECTION 07-00097-00-BR
MORGAN COUNTY
STATION 113+79.00



RAIL POST SPACING

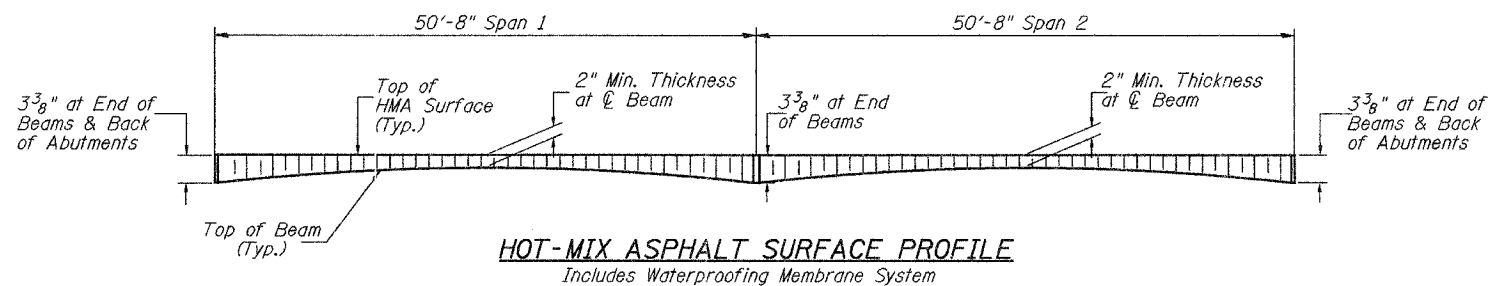


SECTION THRU PIER
(At Right Angles)



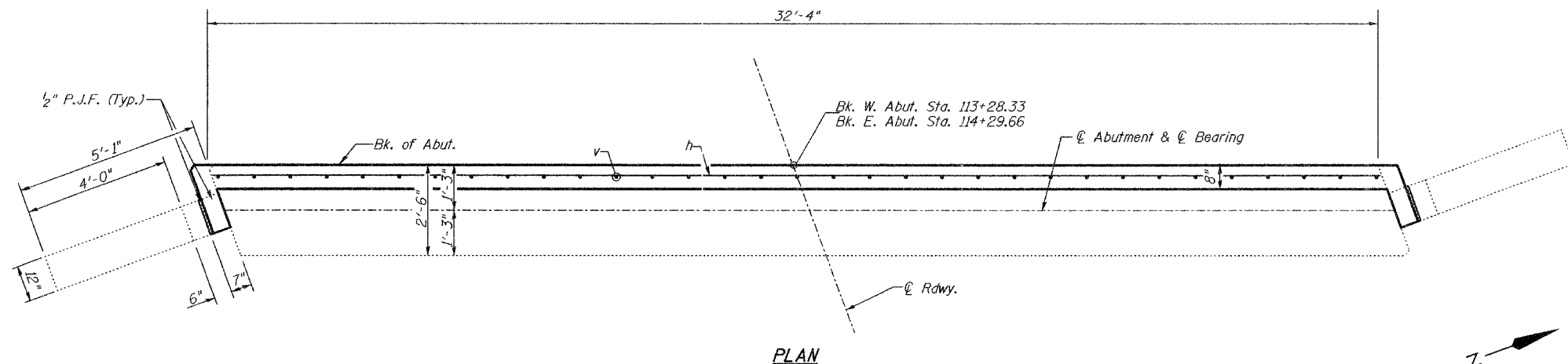
SECTION THRU ABUTMENTS
(At Right Angles)

- ① Existing Dowel Rods shall be burned off flush with the top of existing concrete, ground smooth, and sealed with epoxy. Cost to be included in the cost of Removal of Existing Superstructures. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. 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.

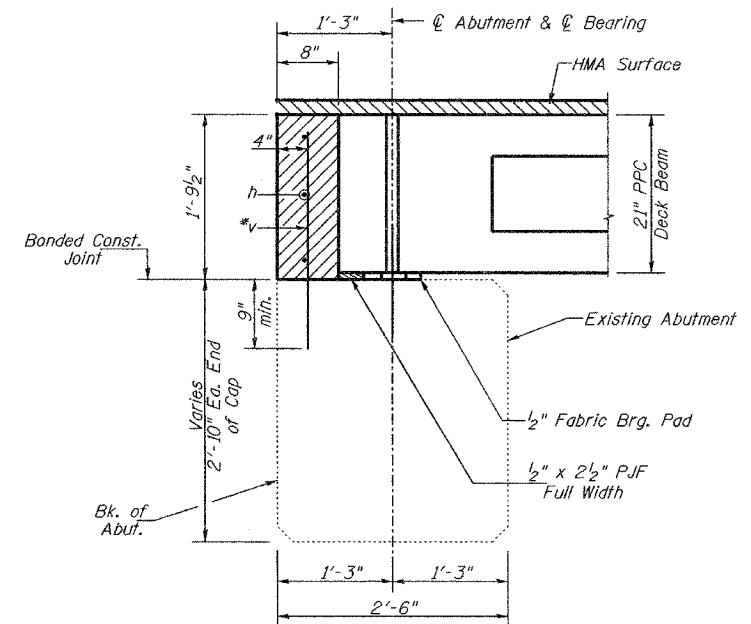
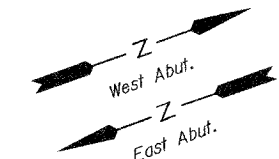


HOT-MIX ASPHALT SURFACE PROFILE
Includes Waterproofing Membrane System

**SUPERSTRUCTURE DETAILS,
HMA SURFACE PROFILE,
AND RAIL POST SPACING
COUNTY HIGHWAY 19 OVER
LITTLE INDIAN CREEK
SECTION 07-00097-00-BR
MORGAN COUNTY
STATION 113+79.00**

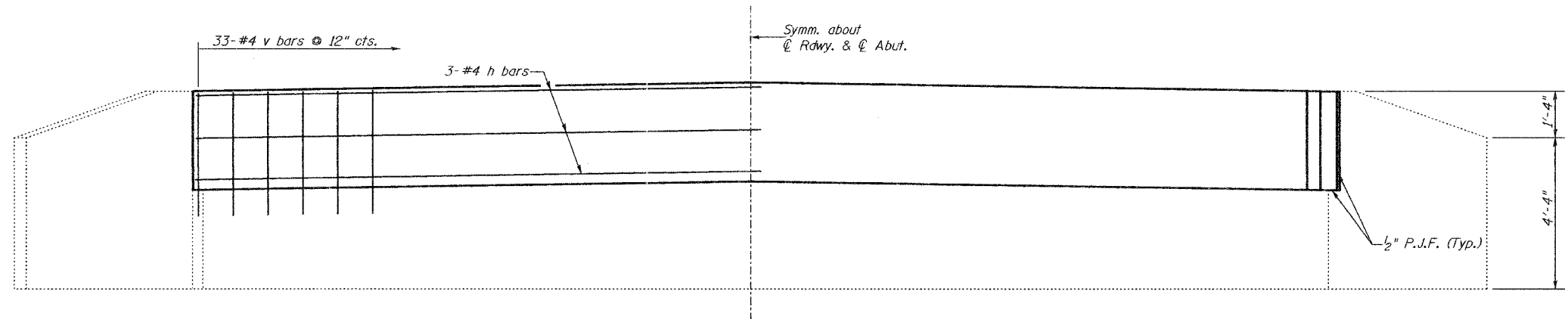


PLAN



*Epoxy grout v bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

SECTION THRU ABUTMENT
(At Right Angles)



ELEVATION
(Front View of Abutment)

DESIGN STRESSES
 $f'_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i.

**TWO ABUTMENTS
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h	6	#4	32'-0"	—
v	66	#4	2'-5"	—
Concrete Structures			CU YD	3.1
① Reinforcement Bars			POUND	230

① See Special Provisions

Notes:
 Minor concrete repairs to the substructure caps due to the beam removal process or for unforeseen existing conditions shall be repaired in accordance with the "Standard Specifications for Road and Bridge Construction" and to the satisfaction of the Engineer. Cost included with Concrete Structures.

Removal of all material located above abutment caps between the back of abutment and end of beams shall be removed to the satisfaction of the Engineer. The cost of the removal of this material shall be included with Removal of Existing Superstructures.

Existing curb end block monolithically poured with curb and separated from wing by P.J.F. shall be removed as part of Removal of Existing Superstructures.

**ABUTMENTS
 COUNTY HIGHWAY 19 OVER
 LITTLE INDIAN CREEK
 SECTION 07-00097-00-BR
 MORGAN COUNTY
 STATION 113+79.00**