

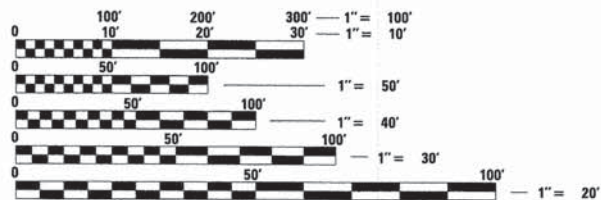
08-02-13 LETTING ITEM 097

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR LIST OF HIGHWAY STANDARDS,
SEE SHEET NO. 2

ROADWAY CLASSIFICATION: LOCAL RURAL ROAD
(2010) ADT: 350
DESIGN SPEED: 55 MPH
DESIGN GUIDELINES: RURAL
VARIANCES GRANTED: NONE
COMMITMENTS: NONE

PROJECT LOCATED IN:
ODELL TOWNSHIP
LIVINGSTON COUNTY



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

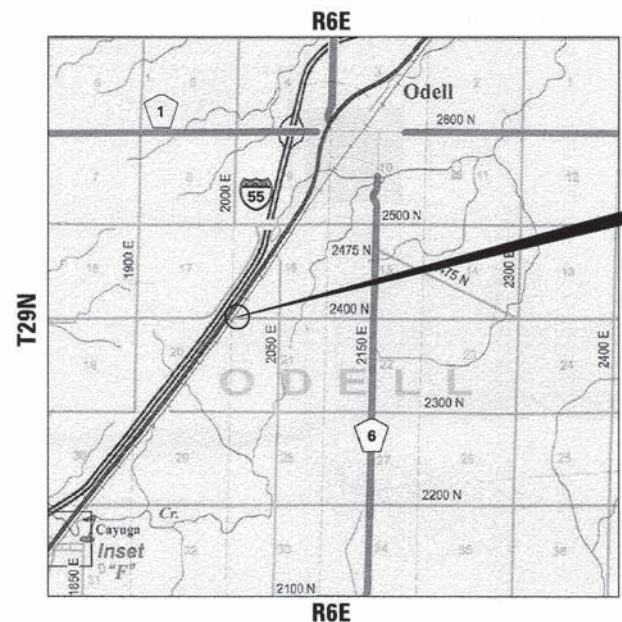
RME Rubinos & Mesia Engineers, Inc.
200 S. Michigan Avenue, Suite 1500, Chicago, IL 60604-2482

CONTRACT NO. 87549

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

PLANS FOR PROPOSED LOCAL AGENCY IMPROVEMENT

IDOT DIPT HSR FUNDS
S.N. 053-4106
OVER UNION PACIFIC RAILROAD
SECTION: 12-18117-01-BR
ODELL ROAD DISTRICT
PROJECT NO. HSR-0105(055)
LIVINGSTON COUNTY
C-93-077-13



PROJECT LOCATION
IMPROVEMENT BEGINS
STATION 10 + 47.00
IMPROVEMENT ENDS
STATION 12 + 21.03
EXIST. S.N. 053-4106

IMPROVEMENT CONSISTS OF THE EXTENSION OF THE CRASH WALLS ON BOTH PIERS. REPLACEMENT OF END DECK BEAMS AND BRIDGE RAIL ON S.N. 053-4106 OVER UNION PACIFIC RAILROAD (HIGH SPEED RAIL). INSTALLATION OF TRAFFIC BARRIER TERMINALS AT DESIGNATED LOCATIONS ALONG ROADWAY.

LOCATION MAP SCALE

SCALE 1" = 1 MILE

TOTAL AND NET LENGTH OF IMPROVEMENT = 219 FT. = 0.042 MILE



Mohsen Farahany
Licensed Professional Engineer
State of Illinois
Lic. No. 62-43875
Expires: 11-30-2013
SHEET NOS. 1 TO 8



Mohsen Farahany
Licensed Structural Engineer
State of Illinois
Lic. No. 81-5131
Expires: 11-30-2014
SHEET NOS. 9 TO 20

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR79B	12-18117-01-BR	LIVINGSTON	20	1
FED. ROAD DIST. NO.		ILLINOIS PROJECT:		



APPROVED 03-28 2013
John Danvers
IDOT DIVISION PUBLIC AND INTERMODAL TRANSPORTATION

APPROVED 03-26 2013
Robert White
COUNTY ENGINEER

APPROVED 03-22 2013
Old & Son
COMMISSIONER, ODELL ROAD DISTRICT

PASSED 4-1 2013
Paul R. [Signature]
DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR
BID BASED ON
LIMITED REVIEW 4-1 2013
Paul [Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES AND COMMITMENTS
3	SUMMARY OF QUANTITIES
4	TYPICAL SECTIONS
5	EXISTING AND PROPOSED PLAN
6	ROAD CLOSURE AND DETOUR PLAN
7	SUGGESTED STAGE CONSTRUCTION PLAN AT TRACK LEVEL
8	BUTT JOINT AND HMA TAPER DETAILS
9	GENERAL PLAN AND ELEVATION-BRIDGE
10	GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
11	PIER 1 MODIFICATIONS
12	PIER 2 MODIFICATIONS
13	FRAMING PLAN
14	MISCELLANEOUS BRIDGE DETAILS
15	21" X 36" PPC DECK BEAM
16	21" X 36" PPC DECK BEAM DETAILS
17	27" X 36" PPC DECK BEAM
18	27" X 36" PPC DECK BEAM DETAILS
19	STEEL RAILING, TYPE SM WITH HMA WEARING SURFACE
20	MECHANICAL BAR SPLICER ASSEMBLY DETAILS

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STD. NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
630001-10	STEEL PLATE BEAM GUARDRAIL
630201-06	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
631032-08	TRAFFIC BARRIER TERMINAL, TYPE 6A
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701006-04	OFF-RD OPERATIONS, 2L, 2W, 15'(4.5m) TO 24'(600mm) FROM PAVEMENT EDGE
701901-02	TRAFFIC CONTROL DEVICES
704001-07	TEMPORARY CONCRETE BARRIER
720001-01	SIGN PANEL MOUNTING DETAILS
720006-03	SIGN PANEL ERECTION DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

GENERAL NOTES

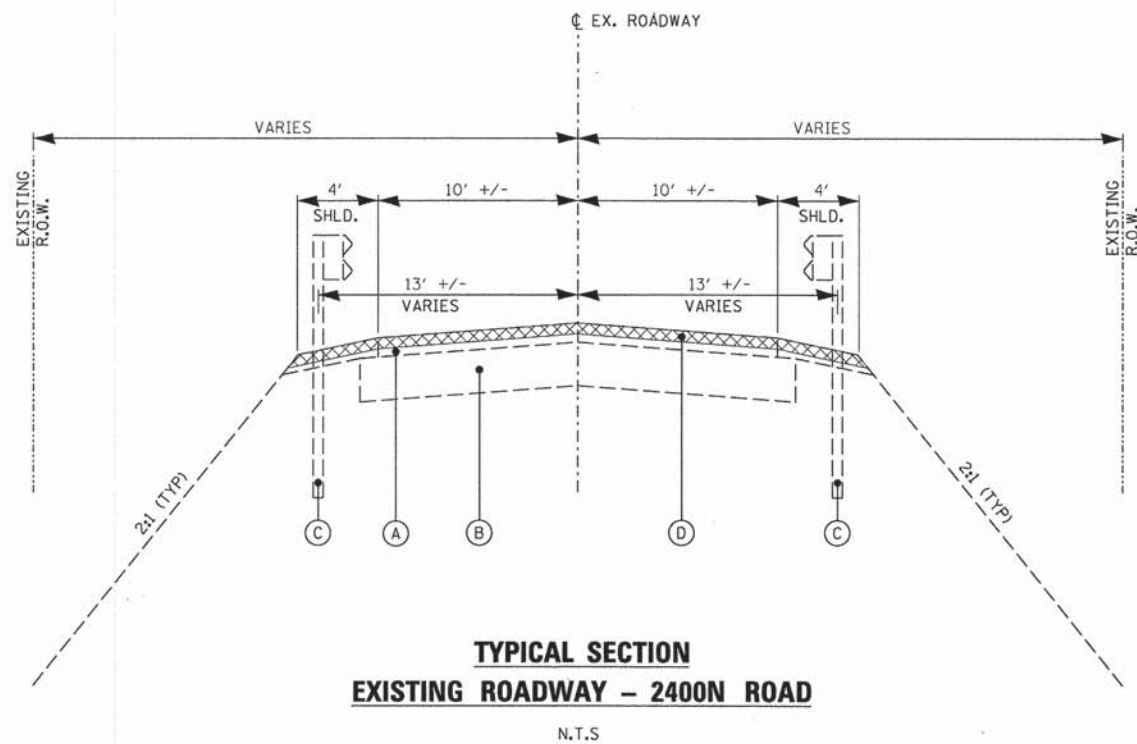
- BEFORE STARTING GUARDRAIL INSTALLATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT 1-800-892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED UTILITY INCLUDING ELECTRIC, TELEPHONE AND GAS FACILITIES. 48 HOUR NOTIFICATION IS REQUIRED.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.
- ANY EXISTING GROUND OR PAVEMENT DAMAGED BY THE CONTRACTOR'S VEHICLES AND/OR EQUIPMENT IS TO BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
- THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HOT-MIX ASPHALT LIFTS.
- REMOVED OR COVERED, THE EXISTING REGULATORY, WARNING, AND/OR TRAFFIC SIGNS WHICH INTERFERE WITH CONSTRUCTION AND/OR CONFLICT WITH CONSTRUCTION TRAFFIC PATTERNS DESCRIBED IN THE MAINTENANCE OF TRAFFIC PLANS OR DIRECTED BY THE ENGINEER SHALL BE INCLUDED IN THE LUMP SUM CONTRACT UNIT PRICE FOR TRAFFIC CONTROL AND PROTECTION (SPECIAL).
- ANY AREA WHERE THERE IS NO PROPOSED GRADING, THE EXISTING GROUND COVER SHALL REMAIN.
- ANY AREA WHERE STEEL PLATE BEAM GUARDRAIL IS TO BE REMOVED IT SHALL BE REPLACED WITH THE COMPLETE INSTALLATION OF NEW TRAFFIC BARRIER TERMINAL IN SAME DAY.
- THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.
- ALL DEMOLITIONS WITHIN THE RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATIONS SHALL BE IN COMPLIANCE WITH THE RAILROAD'S DEMOLITION GUIDELINES. THE CONTRACTOR SHALL SUBMIT THE PROCEDURE FOR DEMOLITION OF EXISTING STRUCTURE TO RAILROAD FOR REVIEW AND DEMOLITION WILL NOT START UNTIL THE APPROVAL OF THE PROCEDURE HAS BEEN OBTAINED FROM THE RAILROAD.
- ERECTION OVER THE RAILROAD'S RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTION TO THE RAILROAD'S OPERATION, ENABLING THE TRACK(S) TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD'S REQUIREMENTS.
- RAILROAD REQUIREMENTS DO NOT ALLOW WORK WITHIN 50 FEET OF TRACK CENTERLINE WHEN A TRAIN PASSES THE WORK SITE AND ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT.
- FALSE-WORK CLEARANCES SHALL COMPLY WITH MINIMUM CONSTRUCTION CLEARANCES. THE CONTRACTOR SHALL SUBMIT THE PLANS FOR FALSE-WORK INCLUDING TEMPORARY HORIZONTAL AND VERTICAL CLEARANCES TO RAILROAD FOR REVIEW AND FALSE-WORK WILL NOT BE INSTALLED UNTIL THE APPROVAL HAS BEEN OBTAINED FROM THE RAILROAD. THE FALSE-WORK SHALL ONLY BE REMOVED AFTER AN APPROVAL FROM THE RAILROAD.
- ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSING.

NOTE: BOXED ITEMS ARE INCLUDED IN THE COST OF THE CONTRACT.

SUMMARY OF QUANTITIES

CODED PAY ITEM NO.	PAY ITEMS	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				HSR	TBP
				0014	0014
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	64	64	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	169	169	
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	82	82	
50102400	CONCRETE REMOVAL	CU YD	3.6		3.6
50104000	BRIDGE RAIL REMOVAL	FOOT	304	304	
50300225	CONCRETE STRUCTURES	CU YD	25.7	25.7	
* 50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,351	540	811
* 50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	368	368	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,080	2,740	340
50800530	MECHANICAL SPLICERS	EACH	6		6
Δ 50901050	STEEL RAILING, TYPE SM	FOOT	301	301	
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	455	455	
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1,274	1,274	
58700300	CONCRETE SEALER	SQ FT	2,052	2,052	
59000200	EPOXY CRACK INJECTION	FOOT	58	58	
Δ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	100	100	
67100100	MOBILIZATION	L SUM	1	1	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	50	50	
Δ 78200100	MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	12	12	
Δ 78200430	GUARDRAIL MARKERS, TYPE C	EACH	4	4	
* X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	1,718	908	810
* X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SQ FT	2,367		2,367
* X0325749	FIBER WRAP	SQ FT	100		100
* X0326275	RAILROAD RIGHT-OF-WAY ENTRY PERMIT	EACH	1	1	
* X6333500	TRAFFIC BARRIER TERMINAL REMOVAL	EACH	4	4	
* X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1	
* X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	5	5	
Z0002750	BARRICADES, TYPE III	EACH	8	8	
* Z0005216	HOT-MIX ASPHALT STABILIZATION 6" AT STEEL PLATE BEAM GUARD RAIL	SQ YD	60	60	
* Z0012600	CONCRETE DECK BEAM REPAIR	SQ FT	106		106
* Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	10.7		10.7
* Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	2.9		2.9
* Z0029300	GROUT REPAIR	FOOT	28		28
* Z0032700	KEYWAY REPAIR	FOOT	128		128
* Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1	

* SEE SPECIAL PROVISIONS
 Δ SPECIALITY ITEMS



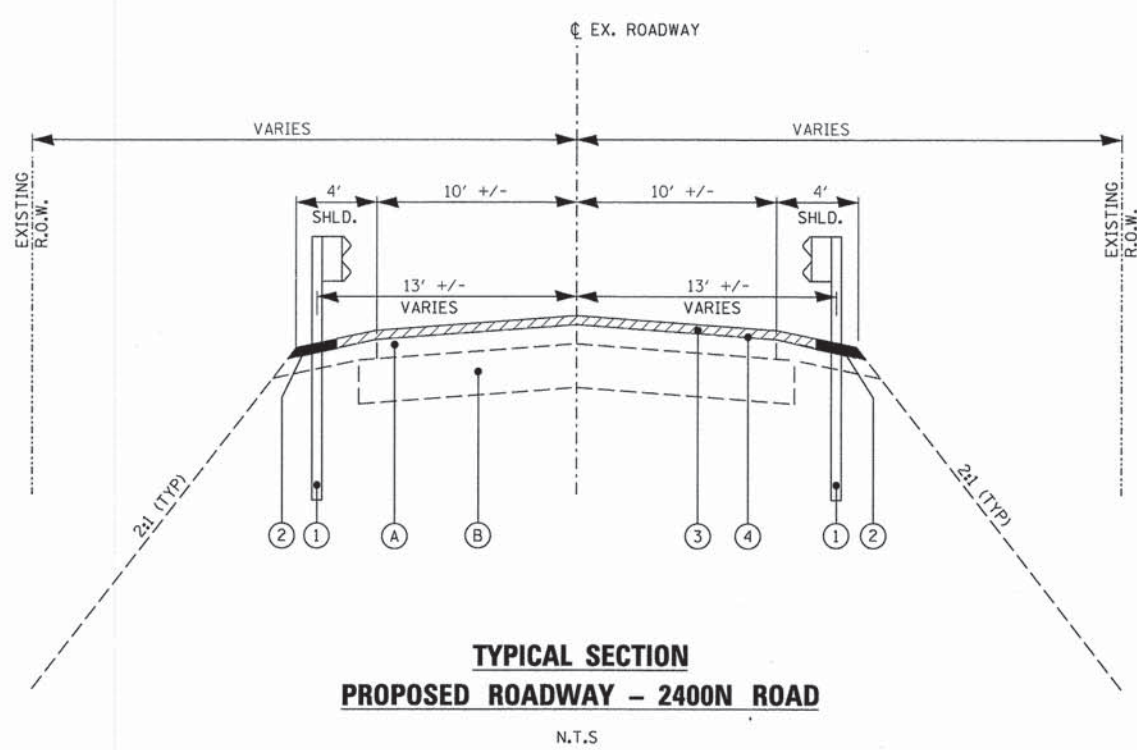
**TYPICAL SECTION
EXISTING ROADWAY - 2400N ROAD**
N.T.S.

EXISTING SECTION

- (A) EXISTING HMA SURFACE COURSE
- (B) EXISTING AGGREGATE BASE COURSE
- (C) EXISTING STEEL PLATE BEAM GUARDRAIL (TO BE REMOVED)
- (D) SURFACE REMOVAL - BUTT JOINT

BITUMINOUS MIXTURE REQUIREMENTS

LOCATION	2400N RD
MIX USE	SURFACE
AC/PG	PG 64-22
DESIGN VOIDS	4.0 @ N=50
MIXTURE COMPOSITION (GRAD. MIXTURE)	IL-9.5
FRICITION	MIX C



**TYPICAL SECTION
PROPOSED ROADWAY - 2400N ROAD**
N.T.S.

PROPOSED SECTION

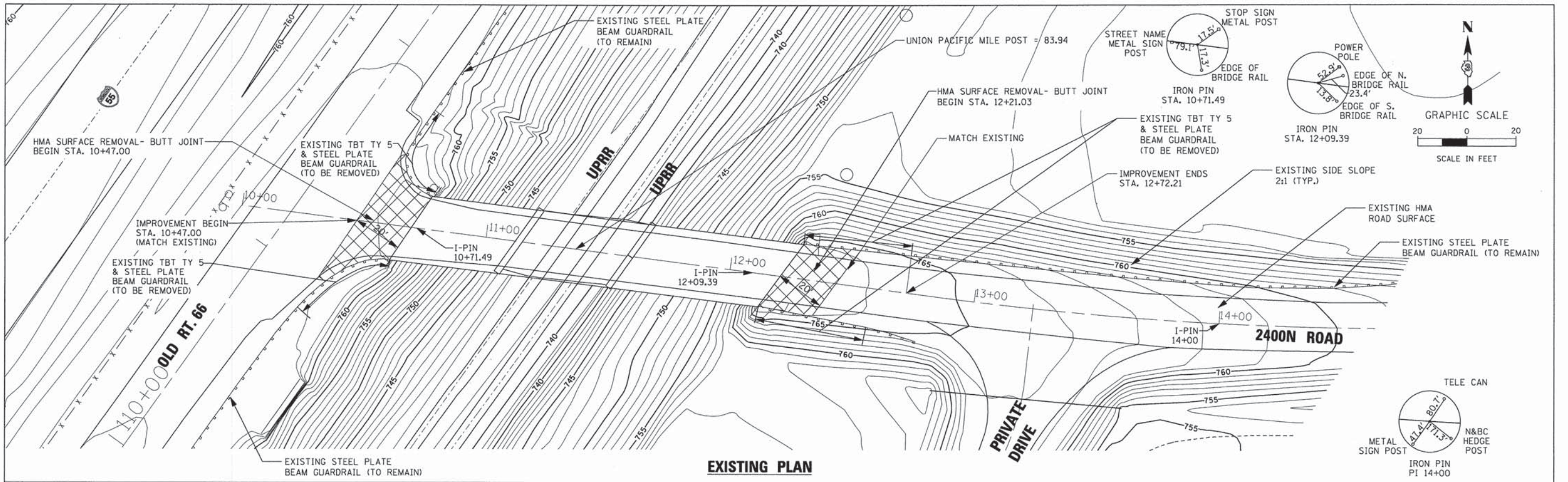
- (A) EXISTING HMA SURFACE COURSE
- (B) EXISTING AGGREGATE BASE COURSE
- (1) PROPOSED TRAFFIC BARRIER TERMINAL, TYPE 6A
- (2) PROPOSED SHOULDER STABILIZATION
- (3) HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50, 2"
- (4) BITUMINOUS MATERIALS (PRIME COAT)

USER NAME = #USER#	DESIGNED - FA	REVISED -
PLDT SCALE = #SCALE#	DRAWN - MWR	REVISED -
PLDT DATE = #DATE#	CHECKED - MF	REVISED -
	DATE - 1/31/2013	REVISED -

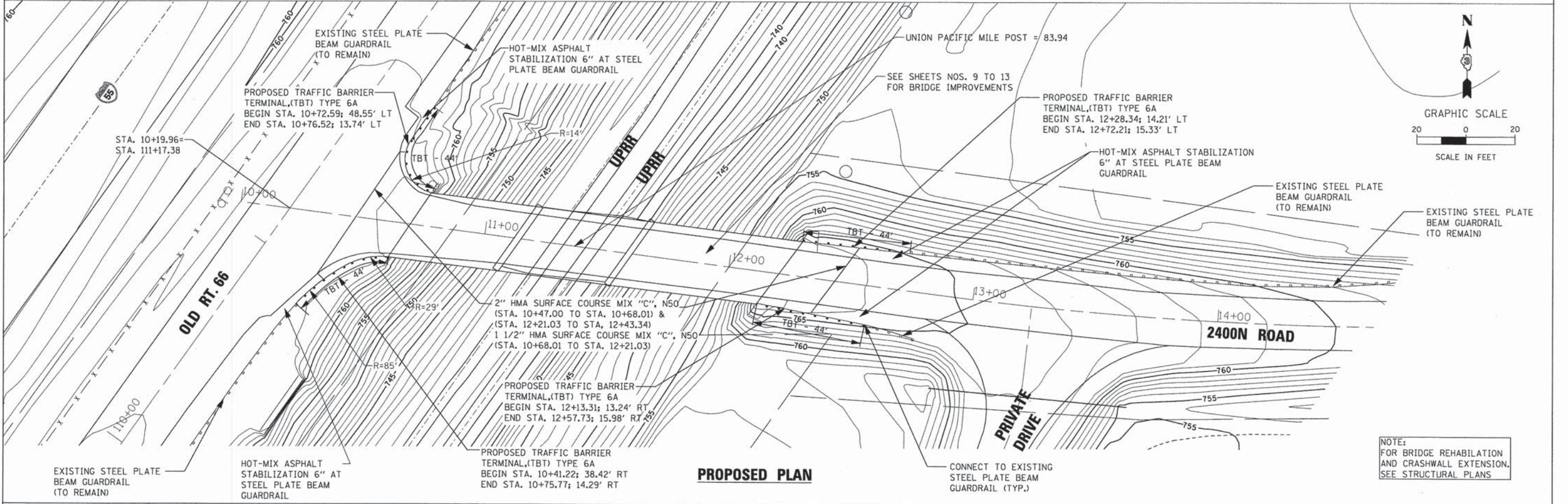
TYPICAL SECTIONS

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.
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RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR79B	12-18117-01-BR	LIVINGSTON	20	4
FED. ROAD DIST. NO.	ILLINOIS PROJECT:			



EXISTING PLAN



PROPOSED PLAN

NOTE:
FOR BRIDGE REHABILITATION
AND CRASHWALL EXTENSION,
SEE STRUCTURAL PLANS

RME Rubinos & Mesa Engineers, Inc.
200 S. Michigan Avenue, Suite 1500, Chicago, IL 60604-3882

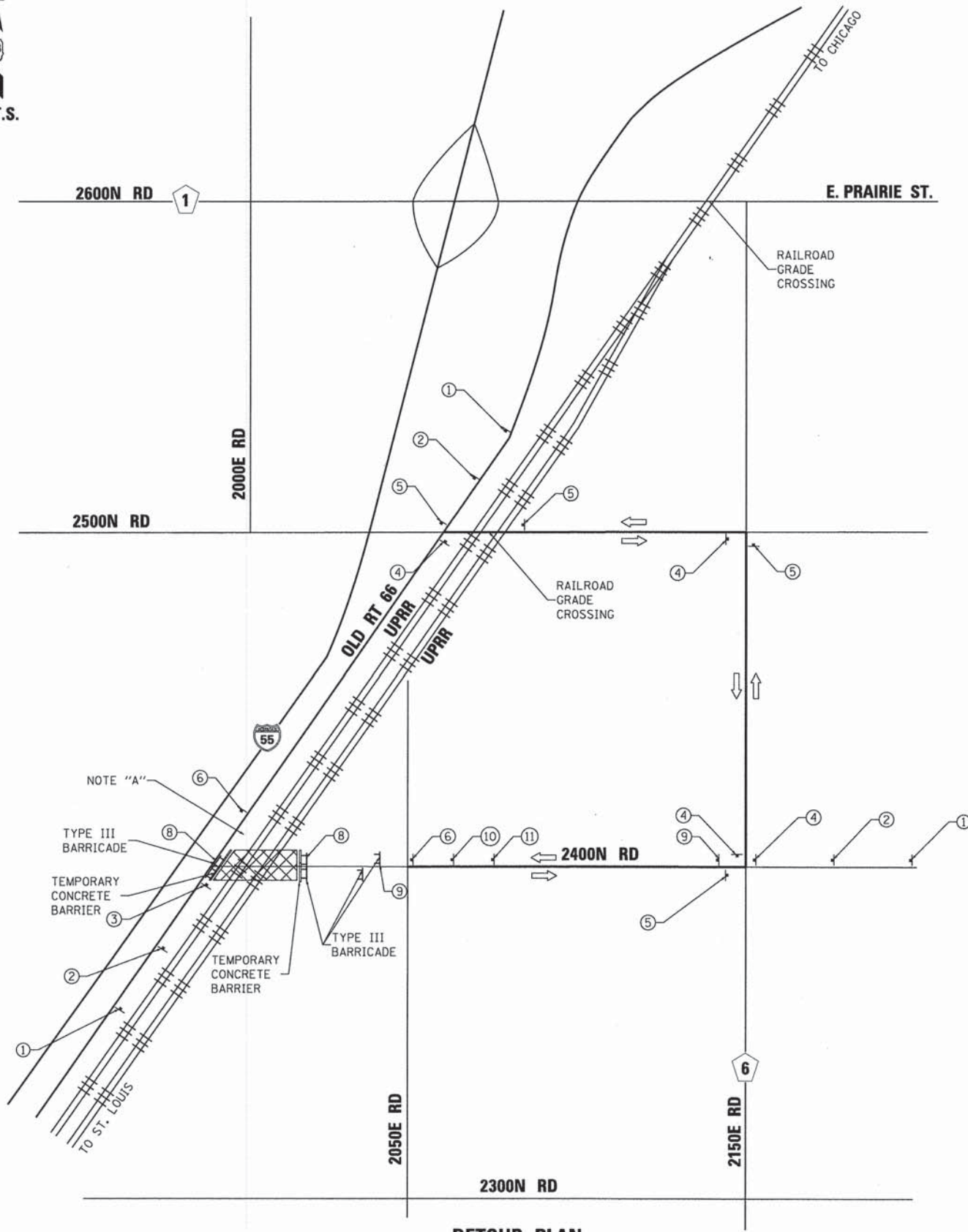
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PLOT DATE = #DATE#	CHECKED - MF	REVISED -
	DATE - 1/31/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING AND PROPOSED PLAN

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR79B	12-18117-01-BR	LIVINGSTON	20	5
FED. ROAD DIST. NO.	ILLINOIS PROJECT:			

SCALE: SHEET NO. OF SHEETS STA. TO STA.



DETOUR PLAN

LEGEND

- ① R11-2 48X30
D3-1 48X12
 - ② W20-2 36X36
 - ③ M4-9 30X24
 - ④ M4-9 30X24
 - ⑤ M4-9 30X24
 - ⑥ M4-8A 24X18
 - ⑦ R-11-A 60X30
 - ⑧ R11-2 48X30
 - ⑨ R-11-3A 60X30
 - ⑩ W20-3 36X36
 - ⑪ W20-3 36X36
- TRAFFIC FLOW
 WORK ZONE
 TYPE III BARRICADE
 TEMPORARY CONCRETE BARRIER

NOTES

PRIOR TO INSTALLING POST MOUNTED SIGNS, THE CONTRACTOR SHALL CONTACT J.U.L.I.E

ANY IDOT SIGN THAT IS COVERED OR CHANGED SHALL BE DONE SO IN A MANNER WHICH DOES NOT DAMAGE ANY SIGNS OR POSTS. ANY SIGN OR POST WHICH THE ENGINEER DETERMINES HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S OWN EXPENSE

THE DETOUR IS REQUIRED TO REMAIN IN PLACE UNTIL THE WORK NECESSARY TO REPAIR STRUCTURE SN053-4106 HAS BEEN COMPLETED

SEE STANDARDS 701901-02, 704001-07, 720001-01, 720006-03, BLR 21-9 AND BLR 22-7 FOR ADDITIONAL INFORMATION

NOTE "A"
FOR INSTALLATION OF TRAFFIC BARRIER TERMINAL AND OTHER WORK ALONG OLD ROUTE 66 FOLLOW IDOT STANDARD 701006-03.

NOTE "B"
CHANGEABLE MESSAGE SIGNS TO BE INSTALLED ON OLD RT 66 IN ADVANCE OF CONSTRUCTION LOCATION.



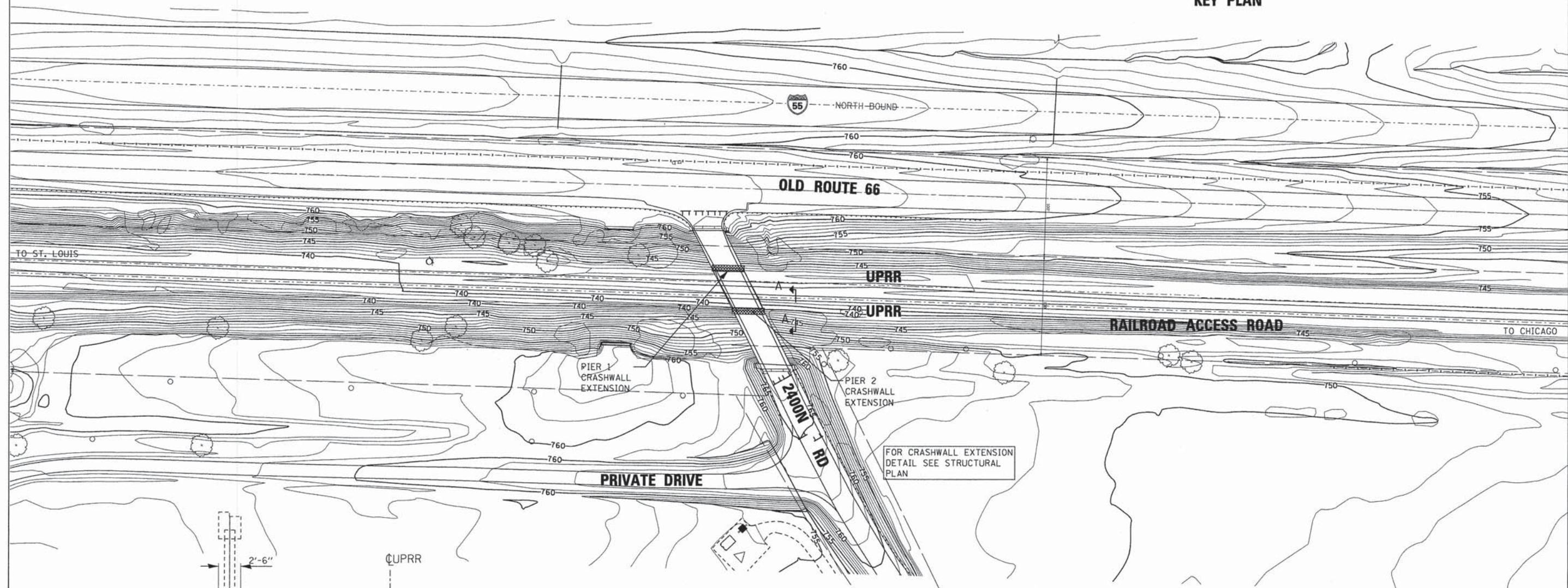
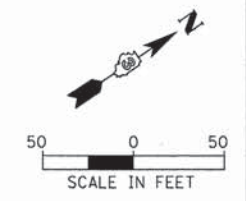
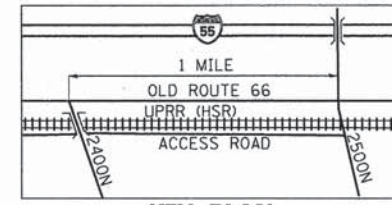
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	DATE - 1/31/2013	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

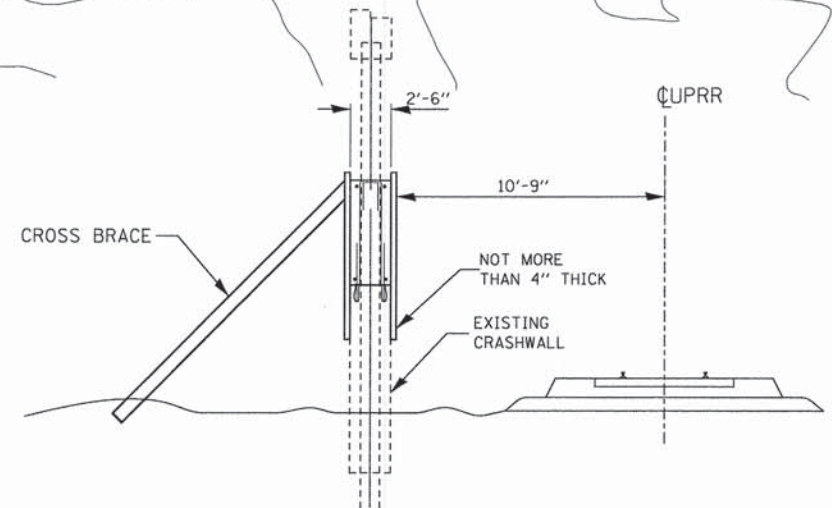
ROAD CLOSURE AND DETOUR PLAN

SCALE: SHEET NO. OF SHEETS STA. TO STA.

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR79B	12-18117-01-BR	LIVINGSTON	20	6
FED. ROAD DIST. NO.		ILLINOIS PROJECT:		



FOR CRASHWALL EXTENSION
DETAIL SEE STRUCTURAL
PLAN



SECTION A-A
CONSTRUCTION ARRANGEMENT FOR CRASHWALL EXTENSION

SUGGESTED STAGE OF CONSTRUCTION PLAN AT TRACK LEVEL

- LEGEND**
- TT TYPE III BARRICADE
 - ▨ WORK ZONE
 - TEMPORARY CONCRETE BARRIER

NOTES

1. FOR CONSTRUCTION VEHICLE ACCESS UTILIZE RAILROAD ACCESS ROAD, ENTRANCE IS AT 2500N ROAD WHICH IS LOCATED 1 MILE NORTH OF 2400N ROAD AT OLD ROUTE 66.
2. CROSS BRACING FOR CRASH WALL CONSTRUCTION SHOULD NOT BE INSTALLED ON RAILROAD SIDE.
3. RAILROAD FLAGGERS TO BE PROVIDED AT ALL TIMES DURING CONSTRUCTION, WHILE WORKERS ARE PRESENT.
4. COORDINATE WITH UNION PACIFIC RAILROAD 10 DAYS PRIOR TO CONSTRUCTION BEGINS.
5. DRAINAGE TO BE MAINTAINED DURING THE CONSTRUCTION.



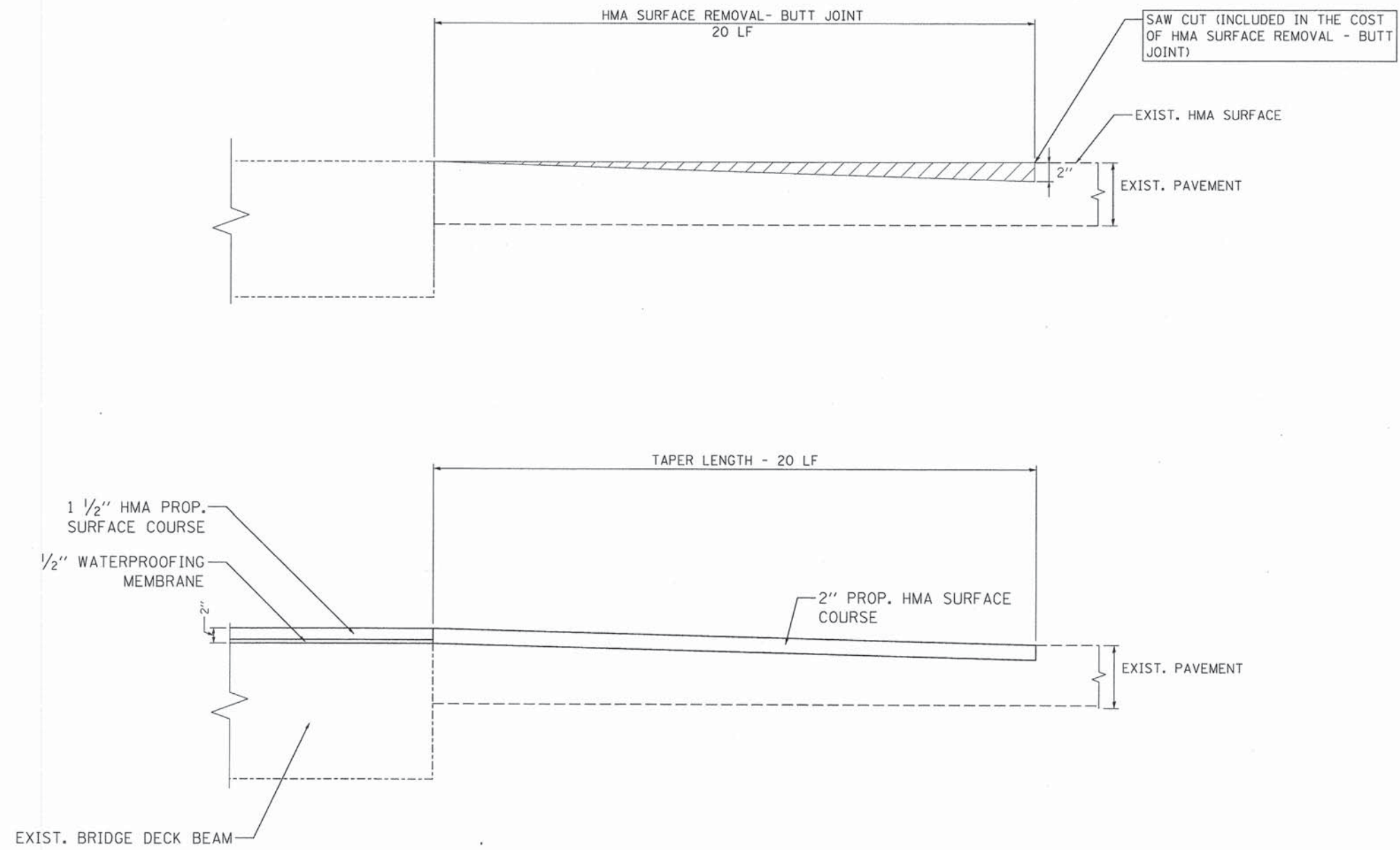
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PLOT DATE = #DATE#	CHECKED - MF	REVISED -
	DATE - 1/31/2013	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUGGESTED STAGE OF CONSTRUCTION
PLAN AT TRACK LEVEL**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR79B	12-18117-01-BR	LIVINGSTON	20	7
FED. ROAD DIST. NO.		ILLINOIS PROJECT:		



TYPICAL BUTT JOINT AND HMA TAPER

RME

RME Rubinos & Mesia Engineers, Inc.
200 S. Michigan Avenue, Suite 1500, Chicago, IL 60604-2482

USER NAME = #USER#	DESIGNED - FA	REVISED -
PLOT SCALE = #SCALE#	DRAWN - MWR	REVISED -
PLOT DATE = #DATE#	CHECKED - MF	REVISED -
	DATE - 1/31/2013	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BUTT JOINT AND HMA TAPER DETAILS				
SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR79B	12-18117-01-BR	LIVINGSTON	20	8
FED. ROAD DIST. NO.		[ILLINOIS] PROJECT:		

Benchmark: Survey Control Point ID 537 (Northing 1569704.737, Easting 924642.762) located approximately 157.5' Southeast of the Southeastern corner of existing Pier #2 crashwall (S.N. 053-4106). Survey Control point is located near existing western Edge of Pavement along Private Entrance Road. Elevation 763.91

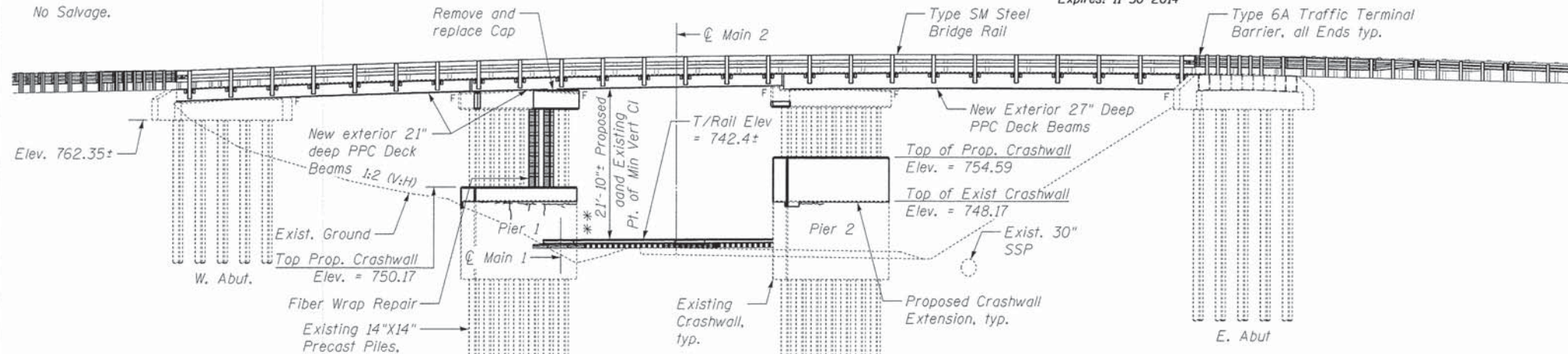
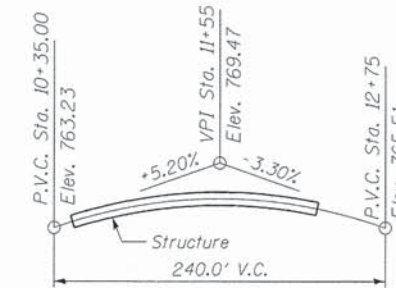
Existing Structure:
S.N. 053-4106, originally constructed in 1988 carrying east and westbound lanes of 2400 N Rd. over two Union Pacific Railroad tracks, formerly Chicago, Missouri & Western Railway, within Livingston County, Illinois at Station 11+28.52. The existing bridge is a three span precast prestressed concrete deck beam structure, spans 44'-3", 45'-10" and 61'-3". The precast prestressed concrete deck beams are supported on concrete pile bent abutments with reinforced concrete cap, concrete pile bent piers with reinforced concrete cap and crash wall, 27'-0" clear roadway width, 153'-0" back to back of abutments skew 28° left, Station 11+28.52.

No Salvage.



3/19/2013
Mohsen Farahany
Licensed Structural Engineer
State of Illinois
Lic. No. 81-5131
Expires: 11-30-2014

"I certify that to the best of my knowledge, information and belief, this bridge/box culvert 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 Specifications for Highway Bridges'."



SCOPE OF WORK

1. Remove and replace exterior PPC deck beams to accommodate a Type SM steel railing.
2. Install new bridge railing, Type SM and replace traffic barrier terminals, Type 6A.
3. Remove and replace three deck beams adjacent to the north fascia beam for both spans 1 and 2.
4. Remove the existing steel shims at north half Pier 1 and replace cap full depth under new deck beams.
5. Use polymer modified Portland cement mortar to level out the roughened top surface and patch shallow areas of existing beams to remain in place.
6. Apply Portland cement mortar fairing course on the top surface along the edges between deck beams.
7. Place 2" hot-mix asphalt (HMA) wearing surface and waterproofing membrane system (HMA surface course included with Roadway Items).
8. Repair concrete spalls and seal cracks at both piers.
9. Extend and apply concrete sealer to the top and sides of both crashwalls and reconstructed portion of pier cap.

HIGHWAY CLASSIFICATION

Functional Classification: Local, Rural
ADT: 350 (2010); 470 (2030)
ADTT: <250 (2010); <250 (2030)
Speed: 45 m.p.h. (posted); 55 m.p.h. (design)
Two-Way Traffic Directional Distribution 50:50

DESIGN STRESSES

FIELD UNITS (Existing Construction)
f'c = 3,500 psi
fc = 1,400 psi
fy = 20,000 psi (Reinforcement)

DESIGN SPECIFICATIONS

New PPC Deck Beams:
2002 AASHTO Bridge Design Specifications

Existing Construction:
Refer to 1988 design plans.

PRECAST PRESTRESSED UNITS
Existing Interior PPC Deck Beams:
f'c = 5,000 psi
f'ci = 4,200 psi (44'-3" Bm.)
f'ci = 4,000 psi (45'-10" Bm.)
f'ci = 4,100 psi (61'-3" Bm.)
f's = 270,000 psi (1/2" Stress Relieved Strand)
f'si = 189,000 psi (1/2" Stress Relieved Strand)
fy = 60,000 psi (Reinforcement)

LOADING

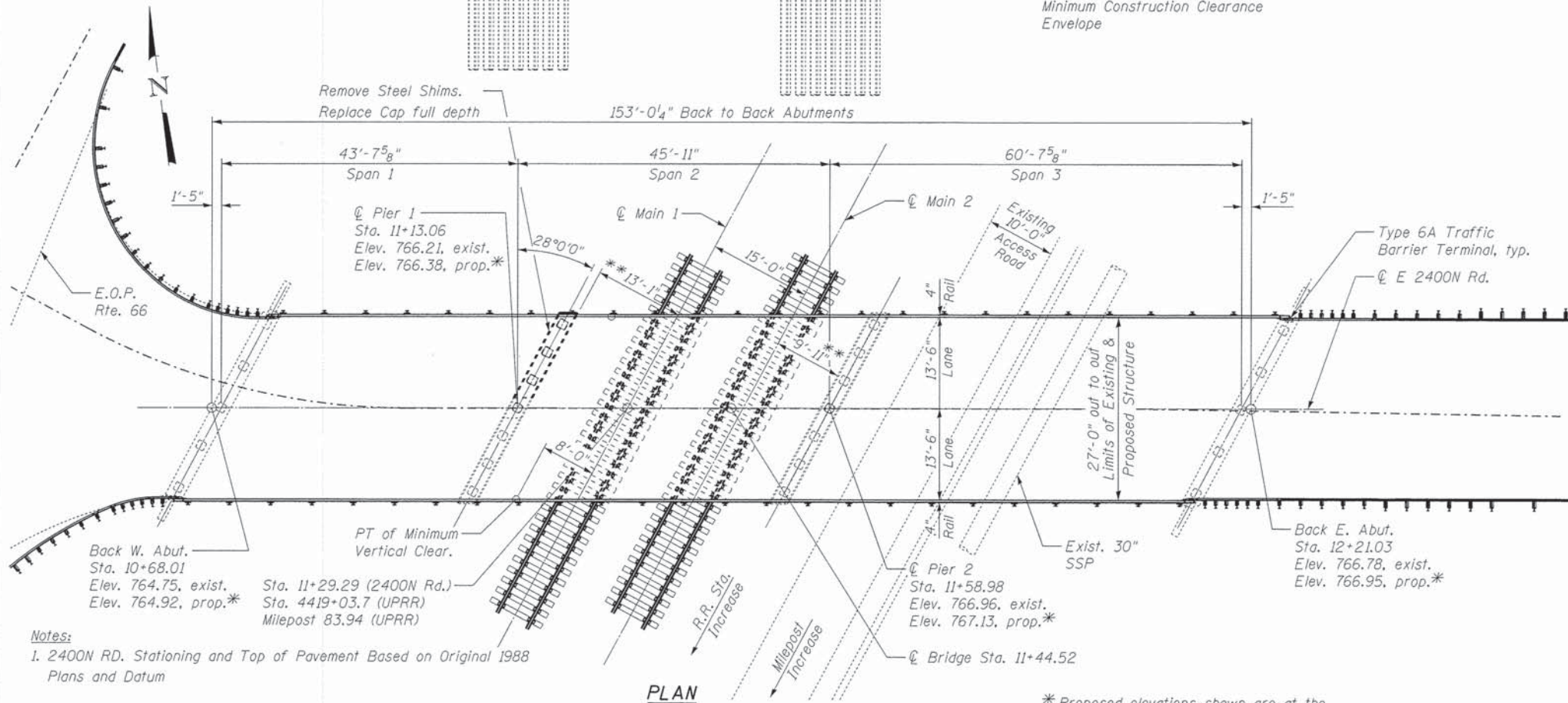
New PPC Deck Beams:
Loading HS 20-44
Existing Construction (1987):
Loading HS 20-44
25#/sq. ft. for wearing surface

PRECAST PRESTRESSED UNITS

New Exterior PPC Deck Beams:
f'c = 6,000 psi
f'ci = 5,000 psi
f's = 270,000 psi (1/2" Low-Lax Strand)
f'si = 201,960 psi (1/2" Low-Lax Strand)
fy = 60,000 psi (Reinforcement)

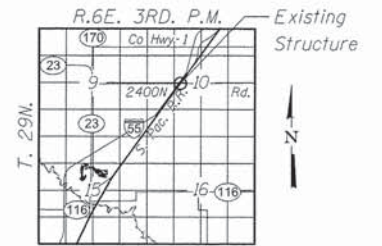
SEISMIC DATA

New PPC Deck Beams:
Not Applicable
Existing Construction:
Refer to 1988 design plans;
no seismic retrofit included.



- Notes:
1. 2400N RD. Stationing and Top of Pavement Based on Original 1988 Plans and Datum
 2. 2400N RD. Bottom Chord Elevations and Top of Rail Elevations Based on the HDR Datum and Survey After TRT (Track Rehabilitation Train).

* Proposed elevations shown are at the top of HMA wearing surface.



LOCATION SKETCH



FILE NAME =	USER NAME = Pflodino	DESIGNED - PH	REVISOR
		CHECKED -	REVISOR
		DRAWN - PH	REVISOR
		CHECKED - PK	REVISOR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION

SCALE: SHEET NO. OF SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12-18117-01-BR	LIVINGSTON	20	9
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

INDEX OF SHEETS

SHEET NO.	SHEET NO.
9	General Plan and Elevation - Bridge
10	General Notes, Index of Sheets & Total Bill of Material
11	Pier 1 Modifications
12	Pier 2 Modifications
13	Framing Plan
14	Miscellaneous Bridge Details
15	21" x 36" PPC Deck Beam
16	21" x 36" PPC Deck Beam Details
17	27" x 36" PPC Deck Beam
18	27" x 36" PPC Deck Beam Details
19	Steel Railing, Type SM with HMA Wearing Surface
20	Mechanical Bar Splicer Assembly Details

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

Concrete Sealer shall be applied as designated in the plans.

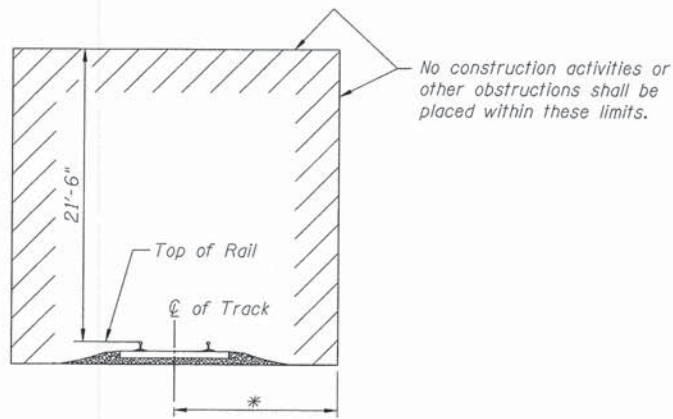
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

REPAIR QUANTITIES

The location and extent of repair items are based on visual observations made during field inspections and are not guaranteed to be accurate or all inclusive. The location, extent of repair, and quantity of repair shall be verified by the construction manager.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	-	3.6	3.6
Bridge Rail Removal	Foot	304	-	304
Concrete Structures	Cu. Yd.	-	25.7	25.7
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,351	-	1,351
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	368	-	368
Reinforcement Bars, Epoxy Coated	Pound	-	3,080	3,080
Steel Railing, Type SM	Foot	301	-	301
Waterproofing Membrane System	Sq. Yd.	455	-	455
Portland Cement Mortar Fairing Course	Foot	1,274	-	1,274
Concrete Sealer	Sq. Ft.	-	2,052	2,052
Epoxy Crack Injection	Foot	-	58	58
Removal of Existing Precast Prestressed Concrete Deck Beams	Sq. Ft.	1,718	-	1,718
Polymer Modified Portland Cement Mortar	Sq. Ft.	2,367	-	2,367
Fiber Wrap	Sq. Ft.	-	100	100
Mechanical Splicers	Each	-	6	6
Concrete Deck Beam Repair	Sq. Ft.	106	-	106
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	-	10.7	10.7
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	-	2.9	2.9
Grout Repair	Foot	28	-	28
Keyway Repair	Foot	128	-	128

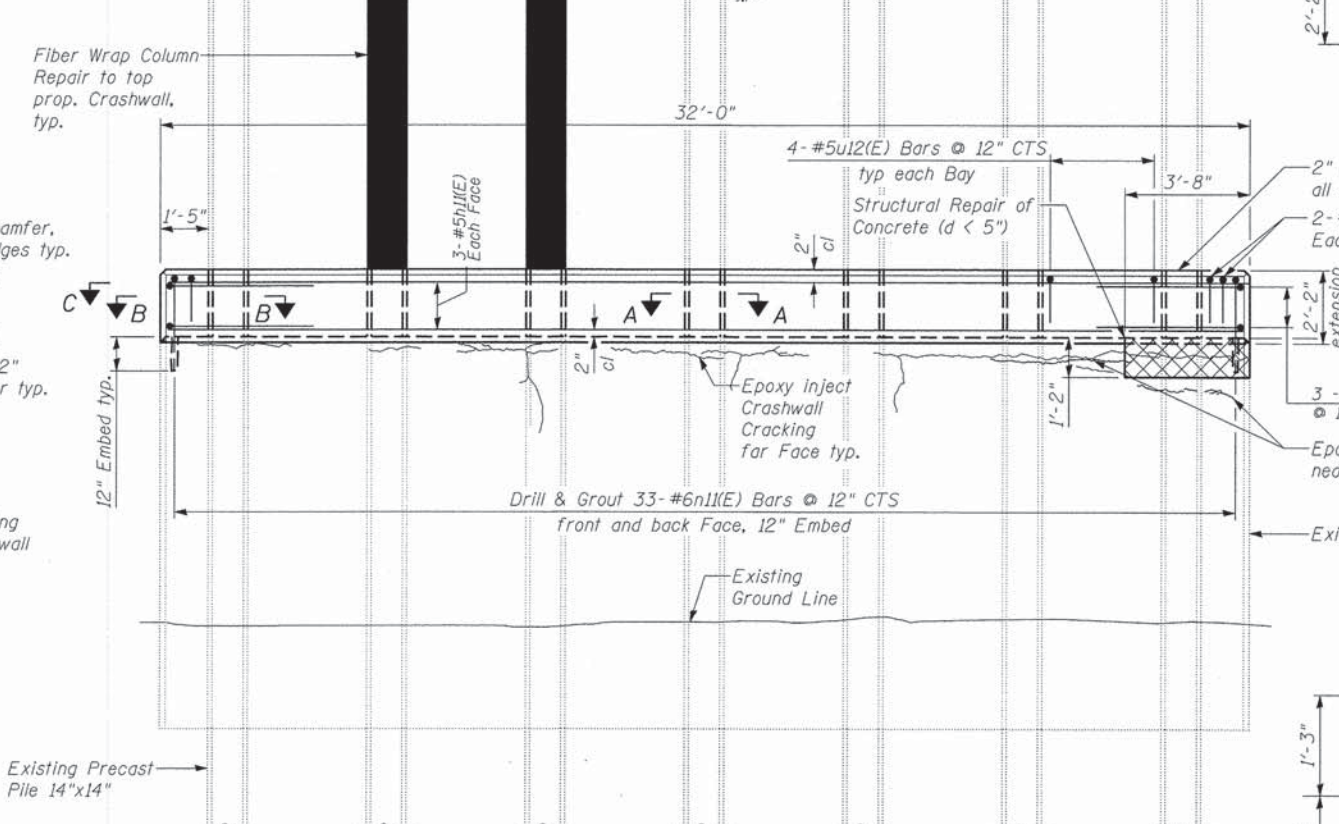
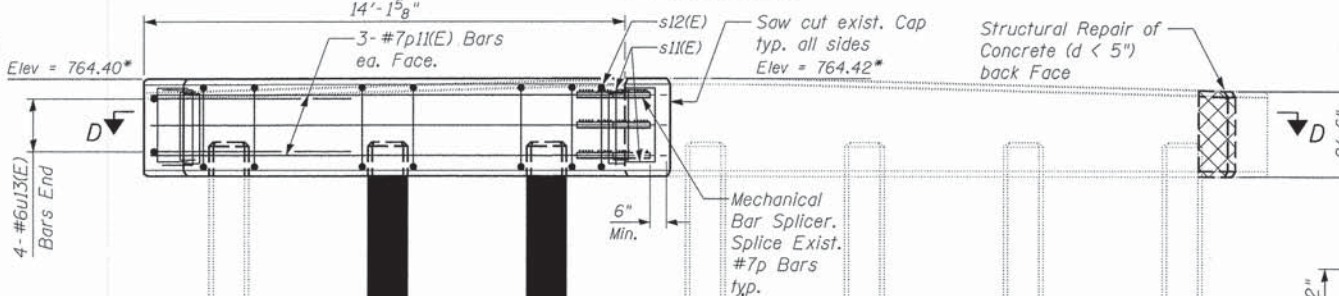
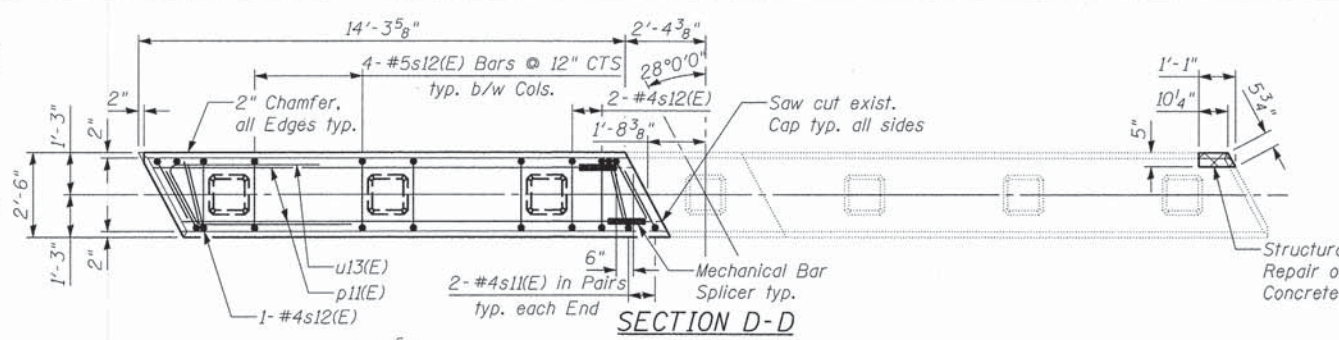
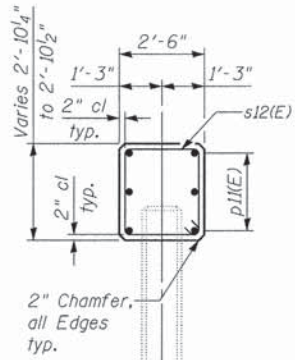


MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

(Normal to Railroad)
 *15'-0" for BNSF and 12'-0" for UPRR
 (existing clearance to Pier 2 crashwall is 9'-11")

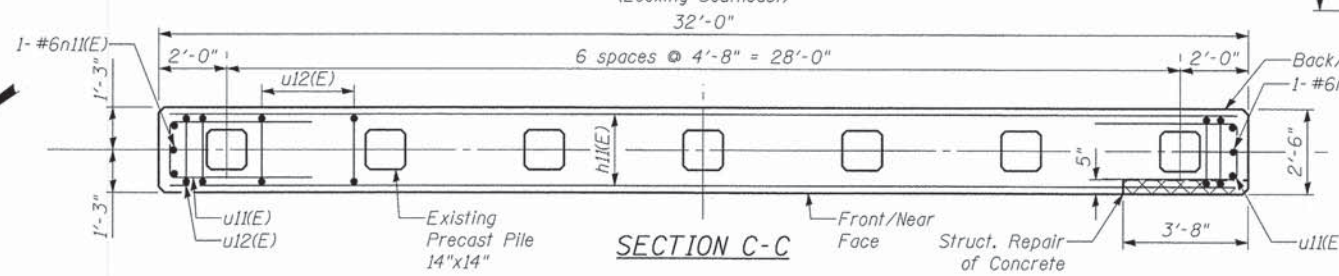
Note:
For dowel rod placement and bearing plate details under 4 new beams on north side and 1 new beam on south side see Beam Details and Misc. Bridge Details.

* Elevations from As-Designed Plans, 1987, Contractor to field verify.

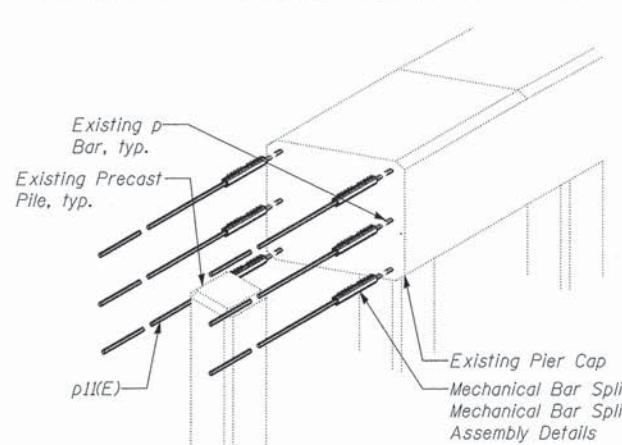


PIER 1 - END VIEW

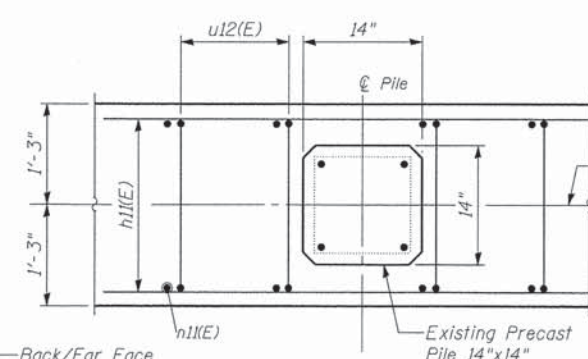
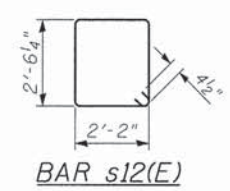
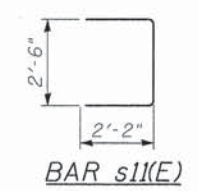
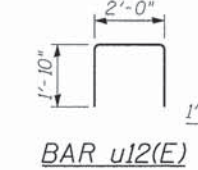
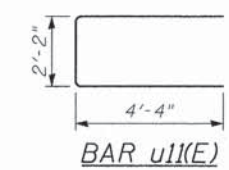
PIER 1 - ELEVATION
(Looking Southeast)



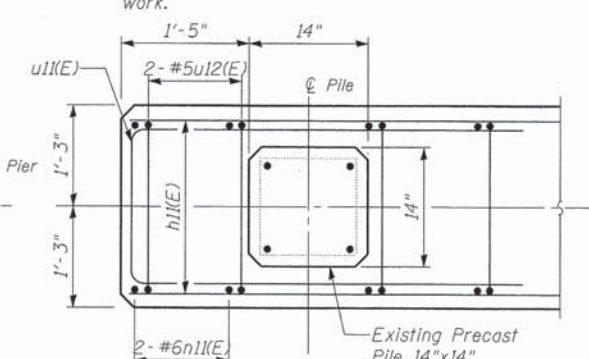
SECTION C-C



VIEW - MECHANICAL BAR SPLICER



SECTION A-A



SECTION B-B

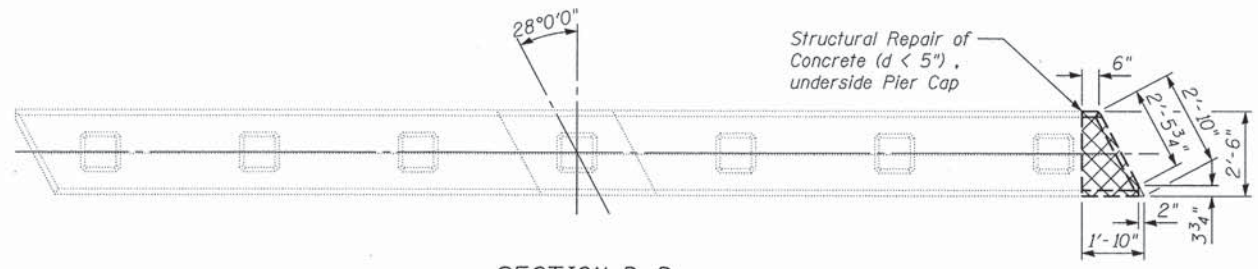
LEGEND
 Structural Repair of Concrete (d < 5")
 Epoxy Crack Injection (Back Face)
 Epoxy Crack Injection (Front Face)

**PIER 1
BILL OF MATERIAL**

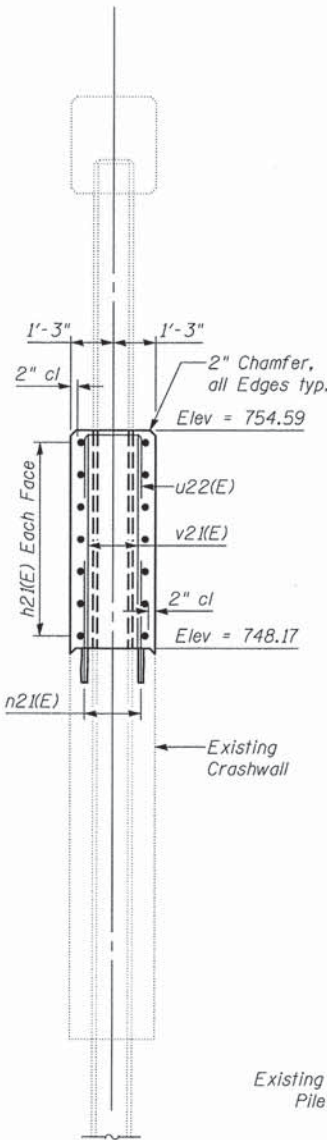
Bar	No.	Size	Length	Shape
h1(E)	6	#5	3'-8"	—
n1(E)	68	#6	3'-6"	—
p1(E)	6	#7	13'-1"	—
s1(E)	8	#4	6'-10"	—
s12(E)	11	#4	10'-1 1/2"	—
u1(E)	6	#6	10'-10"	—
u12(E)	28	#5	5'-8"	—
u13(E)	4	#6	11'-5 1/2"	—
Concrete Removal		Cu. Yd.	3.6	
Epoxy Crack Injection		Foot	42	
Structural Repair of Concrete (d < 5")		Sq. Ft.	7.6	
Fiber Wrap		Sq. Ft.	100	
Concrete Structures		Cu. Yd.	8.9	
Reinforcement Bars, Epoxy Coated		Pound	1,159	
Concrete Sealer		Sq. Ft.	95.3	
Mechanical Splicers		Each	6	

Notes:
 Drill and grout bars according to Specification Section 584 of the Standard Specifications. Cost for drill and grouting shall be included with Reinforcement Bars, Epoxy Coated.
 The top of the existing crashwall and sawn verticle face of the pier cap shall have a bonded construction joint per Article 503.09 of the Standard Specification.
 Reinforcement bars designated (E) shall be epoxy coated.
 Concrete sealer shall be applied to the top and sides of the crashwall and reconstructed portion on pier cap.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

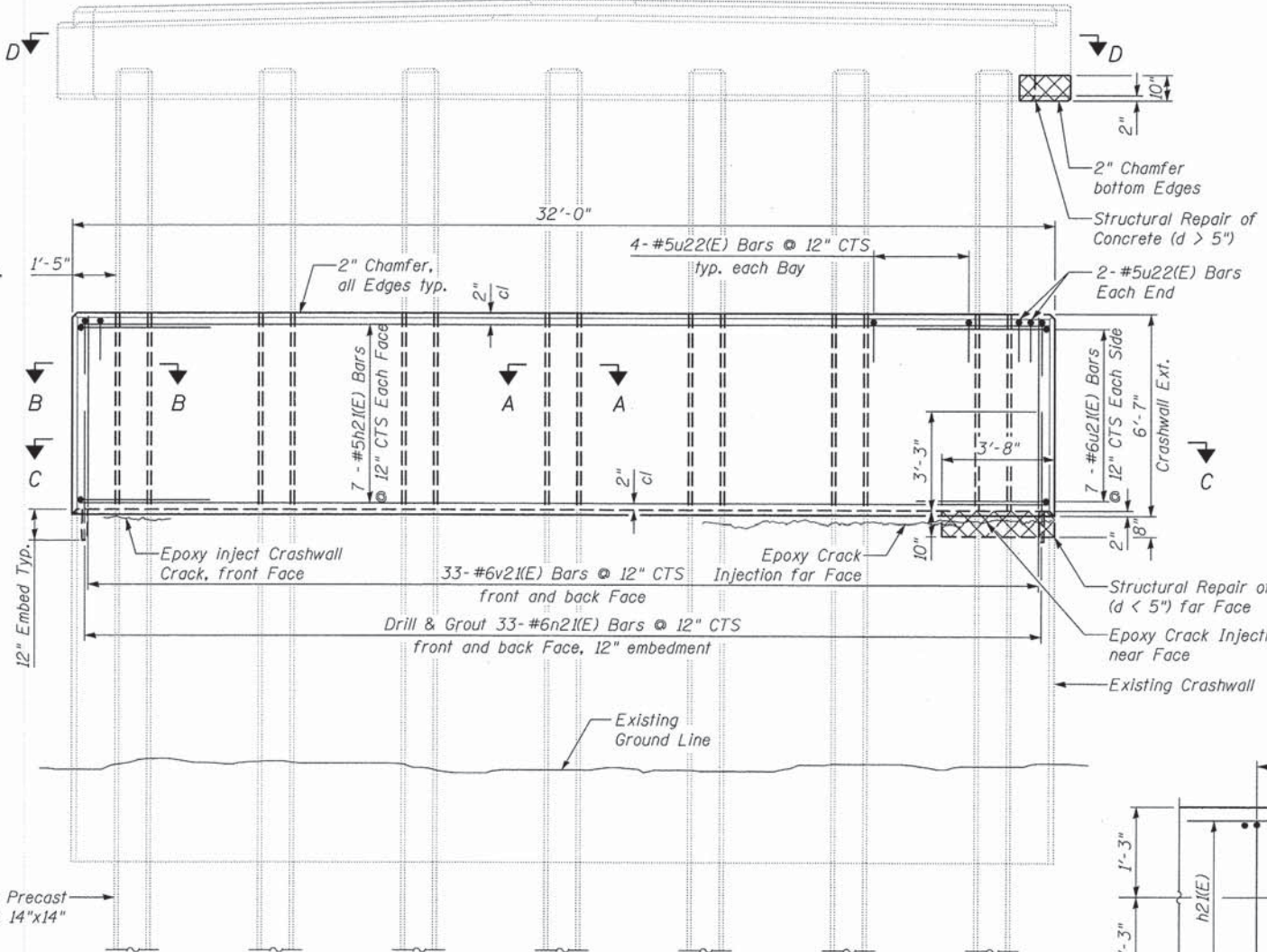
Note:
For dowel rod placement and bearing plate details under 4 new beams on north side and 1 new beam on south side, Span 2, and 1 new beam on north and south sides, Span 3, see Beam Details and Misc. Bridge Details.



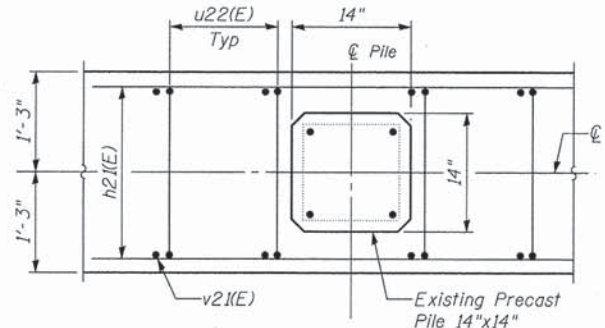
SECTION D-D



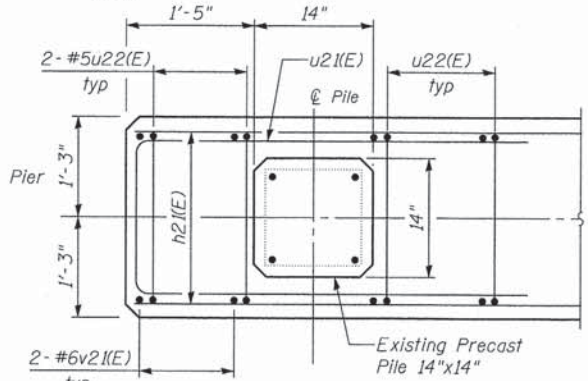
PIER 2 - END VIEW



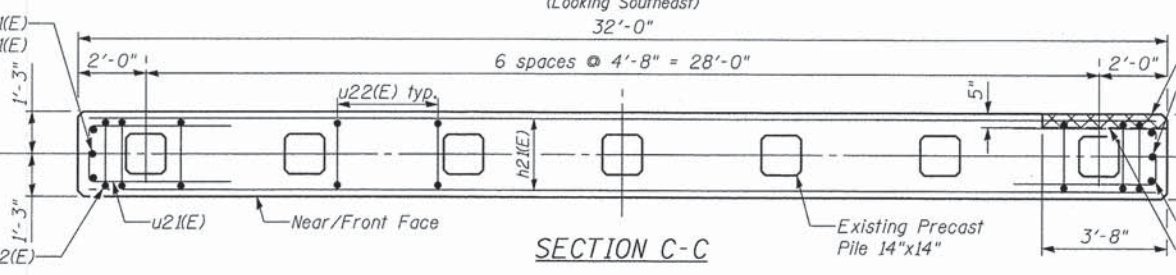
PIER 2 - ELEVATION (Looking Southeast)



SECTION A-A



SECTION B-B



SECTION C-C

PIER 2
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h21(E)	14	#5	31'-8"	—
n21(E)	68	#6	4'-3"	—
u21(E)	14	#6	10'-10"	□
u22(E)	28	#5	5'-8"	□
v21(E)	68	#6	6'-3"	—
Epoxy Crack Injection		Foot	16	
Structural Repair of Concrete (d < 5")		Sq. Ft.	3.1	
Structural Repair of Concrete (d > 5")		Sq. Ft.	2.9	
Concrete Structures		Cu. Yd.	16.8	
Reinforcement Bars, Epoxy Coated		Pound	1,929	
Concrete Sealer		Sq. Ft.	1,099	

Notes:
Drill and grout bars according to Specification Section 584 of the Standard Specifications. Cost for drill and grouting shall be included with Reinforcement Bars, Epoxy Coated.

The top of the existing crashwall shall have a bonded construction joint per Article 503.09 of the Standard Specification.

Reinforcement bars designated (E) shall be epoxy coated.

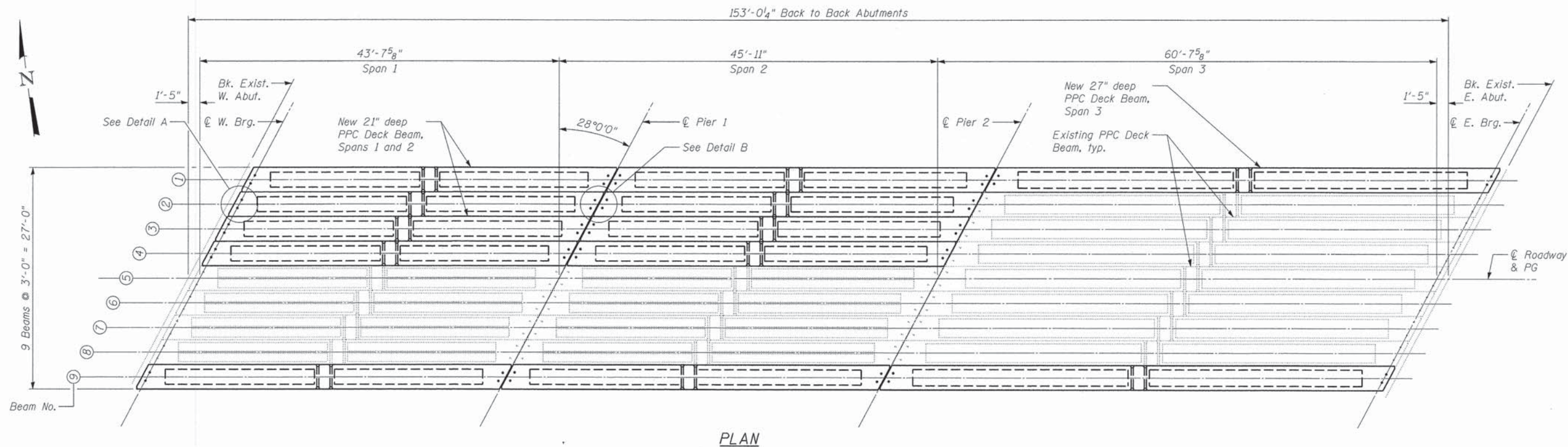
Concrete sealer shall be applied to the top and sides of the crashwall.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

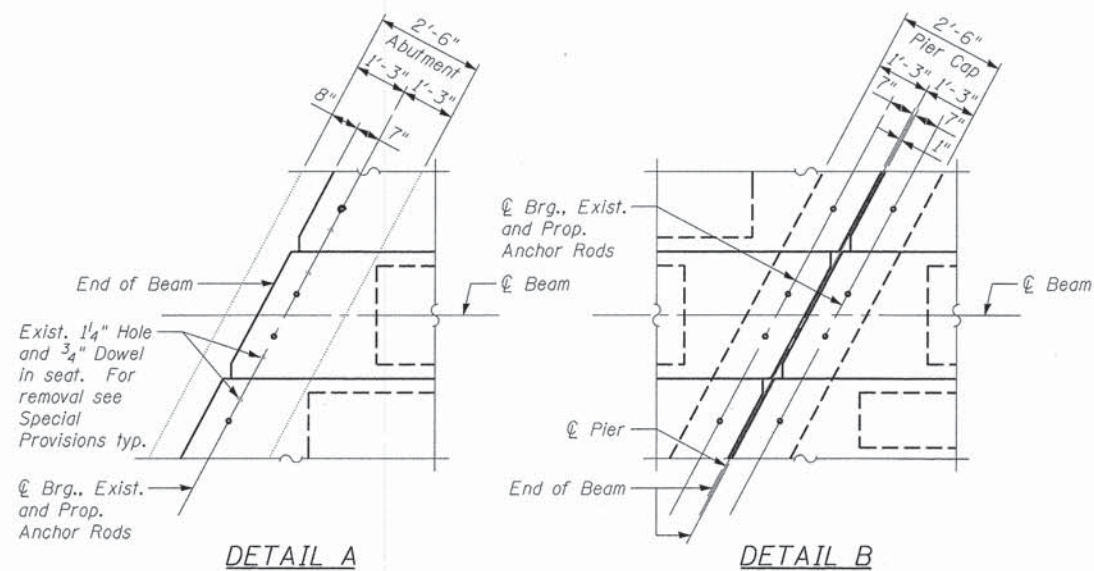
LEGEND

	Structural Repair of Concrete (d < 5")
	Epoxy Crack Injection (Back Face)
	Epoxy Crack Injection (Front Face)

FILE NAME = RME Rubinos & Mesia Engineers, Inc. 200 S. Michigan Avenue, Suite 1500, Chicago, IL 60604-2482	USER NAME = #USER#	DESIGNED - PH	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 2 MODIFICATIONS	F.A. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO. 12-18117-01-BR LIVINGSTON 20 12 CONTRACT NO. [ILLINOIS] FED. AID PROJECT
	PLOT SCALE =	CHECKED - PH	REVISIONS			
	PLOT DATE = #DATE#	DRAWN - PH	REVISIONS			
		CHECKED - PK	REVISIONS			



PLAN



	0.5 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	
I	(in ⁴)	25255	-	25255	-	49697
S_b	(in ³)	2434	-	2434	-	3738
S_t	(in ³)	2377	-	2377	-	3626
Q	(k/ft)	0.69	-	0.69	-	0.74
M_D	(k)	167	-	183	-	320
M_L	(k)	127	-	136	-	198
M_{Imp}	(k)	38	-	41	-	59

	W. Abutment	Pier 1 Span 1	Pier 1 Span 2 Pier 2 Span 2	Pier 2 Span 3	E. Abutment
R_D	(k)	15.0	16.0	20.7	20.7
R_L	(k)	14.0	14.1	15.0	15.0
$Imp.$	(k)	4.0	4.0	4.4	4.4
R_{Total}	(k)	33.0	34.1	40.1	40.1

* The total R_D , R_L , and impact reactions are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios.

EXIST. DECK BEAM REPAIR AND PREP.
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Keyway Repair	Foot	128
Grout Repair	Foot	28
Concrete Deck Beam Repair	Sq. Ft.	106
Polymer Modified Portland Cement Mortar	Sq. Ft.	2,367

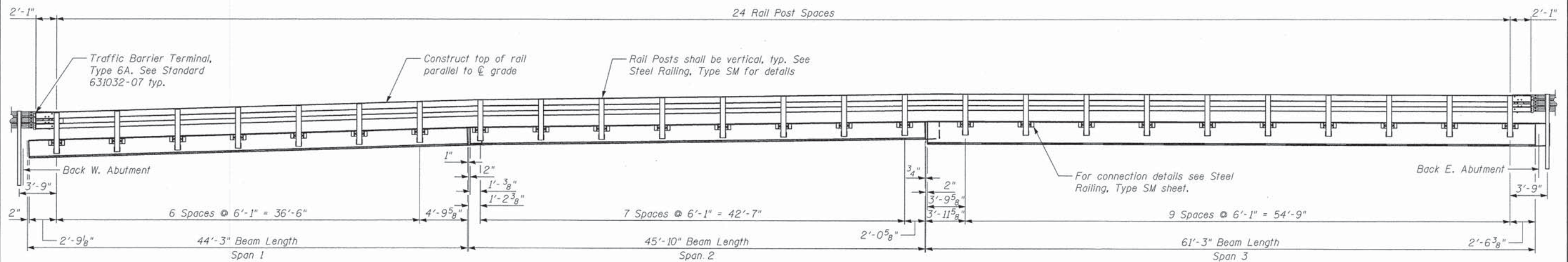
- I : Non-composite moment of inertia of beam section (in. ⁴)
- S_b : Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_t : Non-composite section modulus for the top fiber of the prestressed beam (in.³).
- Q : Un-factored non-composite dead load (kips/ft.).
- M_D : Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
- sD : Un-factored long-term (superimposed) dead load (kips/ft.).
- M_{sD} : Un-factored moment due to long-term (superimposed) dead load (kip-ft.).
- M_L : Un-factored live load moment on the section (kip-ft.).
- M_{Imp} : Un-factored moment due to impact on the section (kip-ft.).

REPAIR QUANTITIES

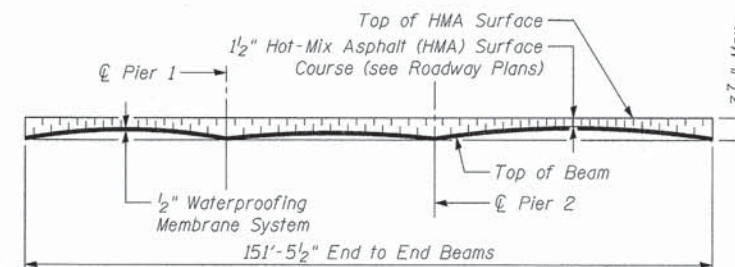
The location and extent of repair items are based on visual observations made during field inspections and are not guaranteed to be accurate or all inclusive. The location, extent of repair, and quantity of repair shall be verified by the construction manager.

REPAIR AND PREP. SEQUENCE

- Existing PPC Deck Beam repair and surface preparation:
 - Remove bituminous material. Cost included in Waterproofing Membrane System
 - Sandblast top surface
 - Repair keyways
 - Repair transverse joints at piers
 - Repair ends of beams
 - Apply Polymer Modified Portland Cement Mortar to level out the rough surface (1/8" to 1/4" deep corrugations) and patch any shallow spots.
 - Apply Waterproofing Membrane System.

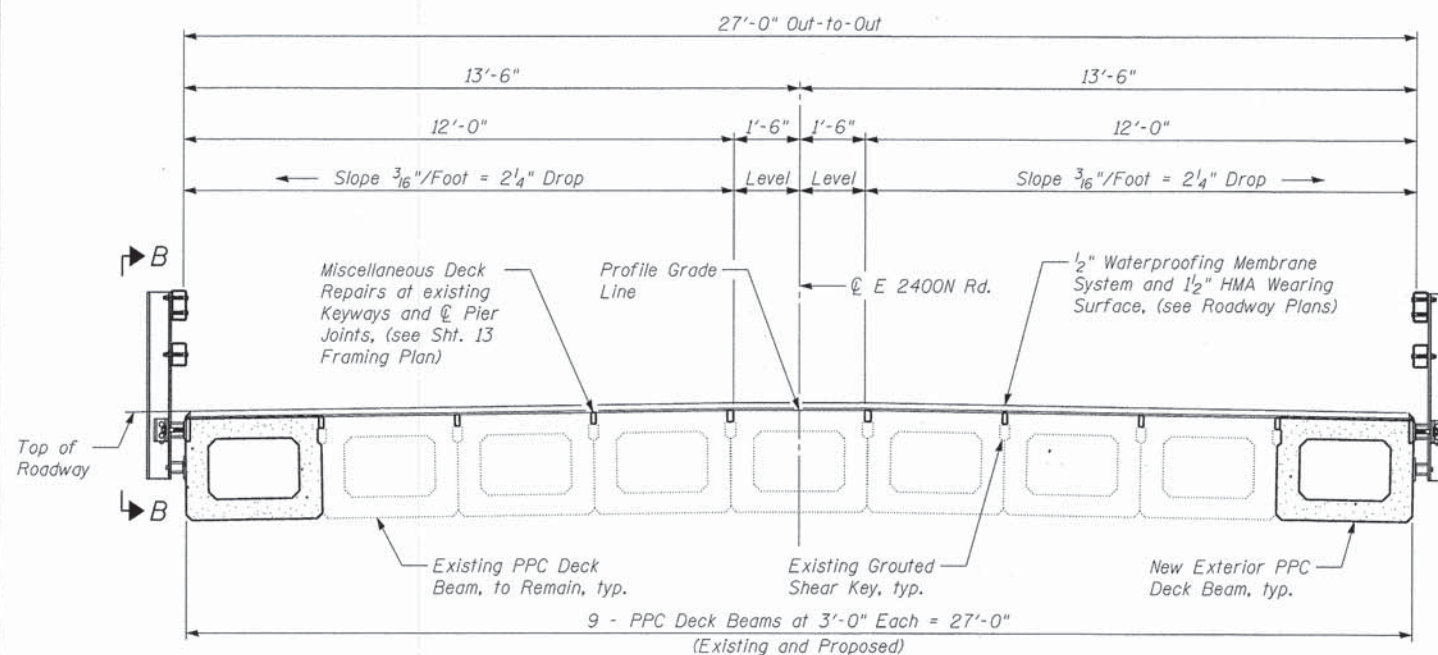


ELEVATION
Rail Post Spacing

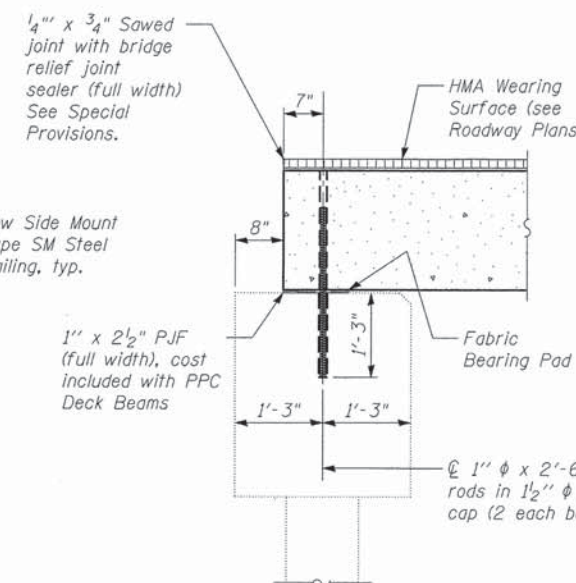


ANTICIPATED HMA WEARING SURFACE PROFILE
(For information only)

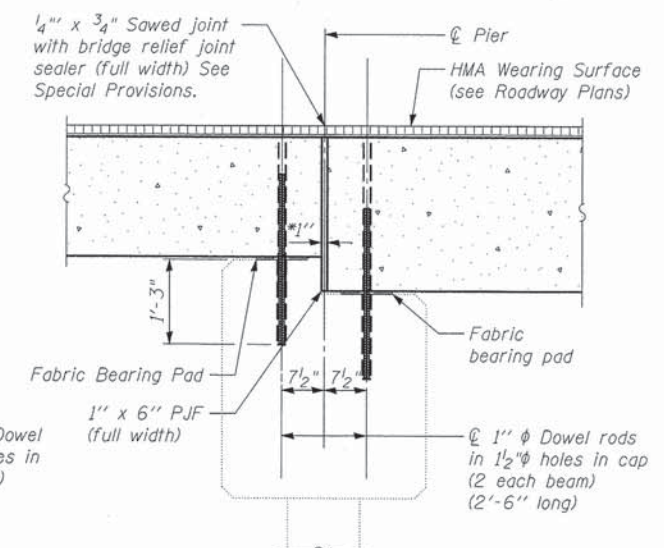
Notes:
See Sheet 19 for Section B-B, Bill of Material and other details.



CROSS SECTION
(Looking West, Span 3 Shown)



SECTION THRU FIXED ABUTMENT
(Dimensions are at Rt. Ls.)



SECTION THRU FIXED PIER
(Pier 2 shown, Pier 1 Similar)
(Dimensions are at Rt. Ls.)

FILE NAME =
RME Rubinoe & Messia Engineers, Inc.
200 S. Michigan Avenue, Suite 1501, Chicago, IL 60604-2482

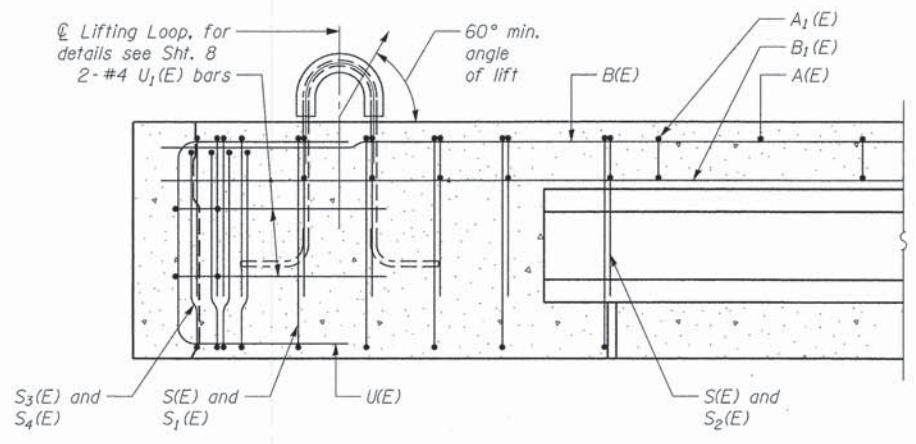
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PLOT SCALE =	CHECKED -	REVISED
PLOT DATE = #DATE#	DRAWN - PH	REVISED
	CHECKED - PK	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

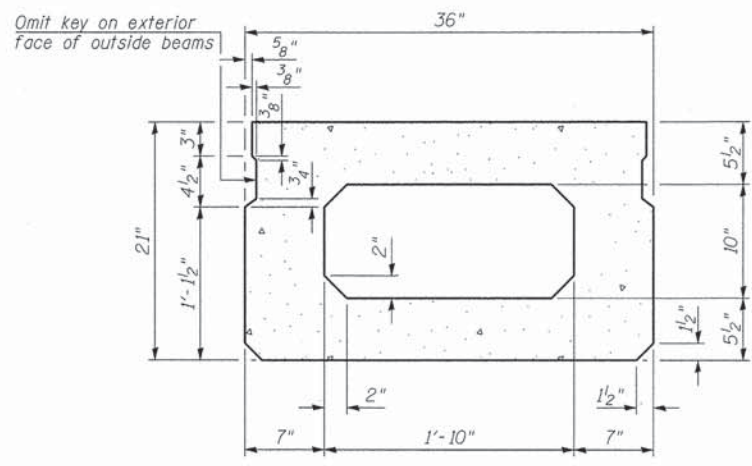
MISCELLANEOUS BRIDGE DETAILS

SCALE: SHEET NO. OF SHEETS

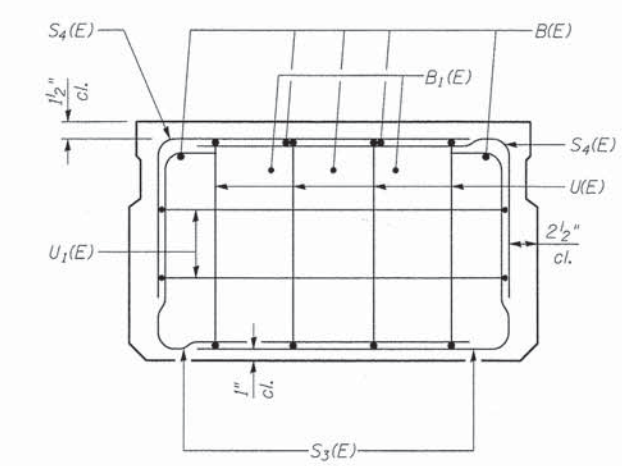
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12-18117-01-BR	LIVINGSTON	20	14
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



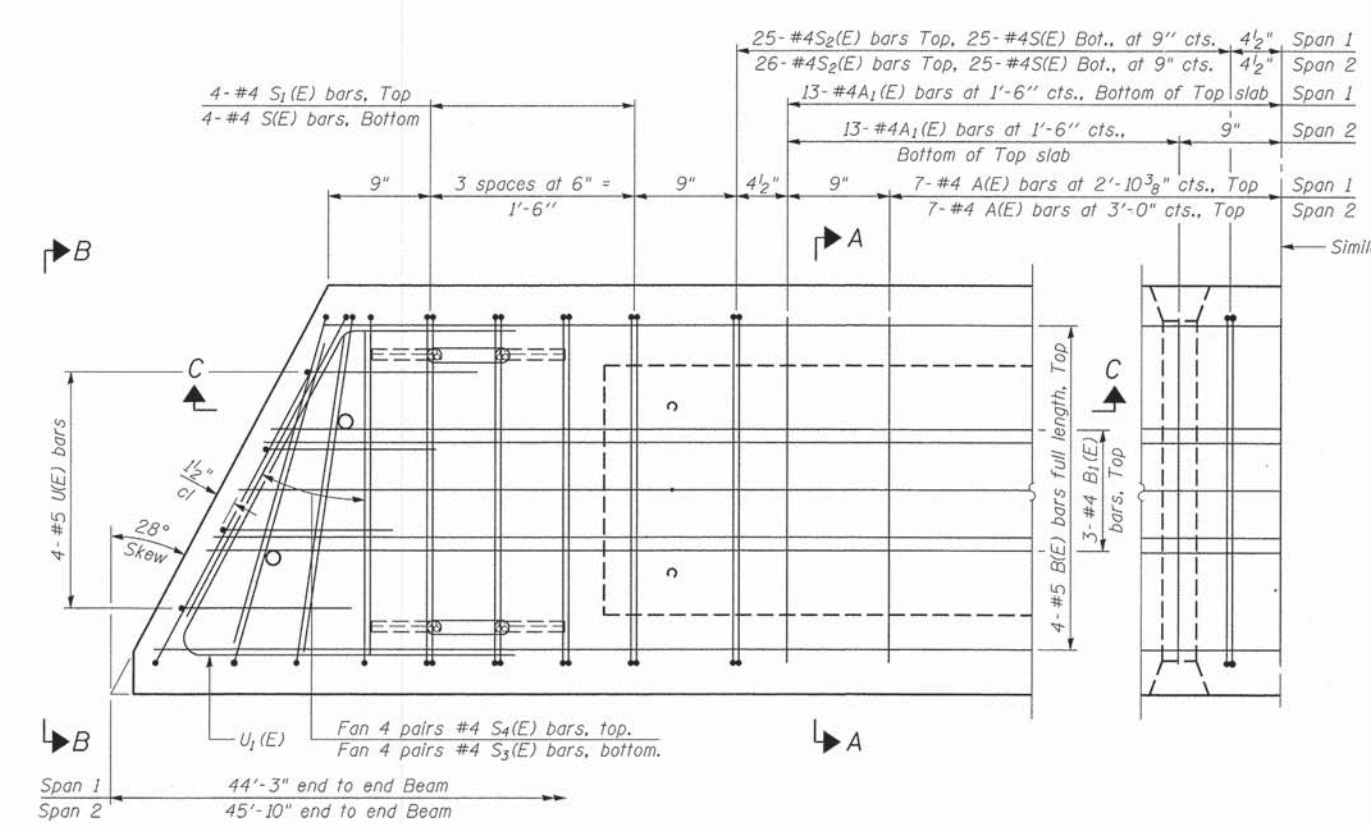
SECTION C-C



SECTION A-A
(Showing dimensions)

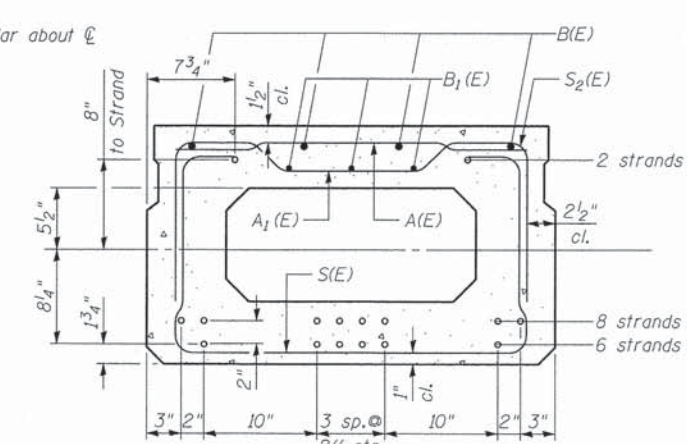


VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION A-A
(Showing reinforcement and permissible strand locations)
1/2" Strands each strand stressed to 30900 pounds

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

Minimum distance from center to center of strands in all directions shall be 2".

The minimum clearance from strand to dowel hole shall be 1/2".

The minimum clearance from strand to void shall be 1/2".

BAR LIST ONE BEAM ONLY
(SPAN 1)

(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	25	#4	2'-10"	~
B(E)	4	#5	43'-11"	—
B1(E)	3	#4	43'-11"	—
S(E)	58	#4	6'-5"	—
S1(E)	8	#4	4'-11"	□
S2(E)	58	#4	5'-2"	□
S3(E)	16	#4	4'-2 1/2"	□
S4(E)	16	#4	3'-5 1/2"	□
U(E)	8	#5	3'-11 1/2"	□
U1(E)	4	#4	6'-8"	□

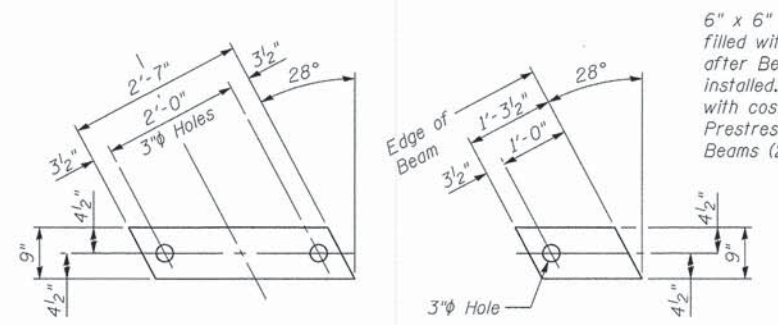
BAR LIST ONE BEAM ONLY
(SPAN 2)

(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	26	#4	2'-10"	~
B(E)	4	#5	45'-6"	—
B1(E)	3	#4	45'-6"	—
S(E)	60	#4	6'-5"	—
S1(E)	8	#4	4'-11"	□
S2(E)	60	#4	5'-2"	□
S3(E)	16	#4	4'-2 1/2"	□
S4(E)	16	#4	3'-5 1/2"	□
U(E)	8	#5	3'-11 1/2"	□
U1(E)	4	#4	6'-8"	□

Note: See sheet 16 of 20 for additional details and Bill of Material.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"



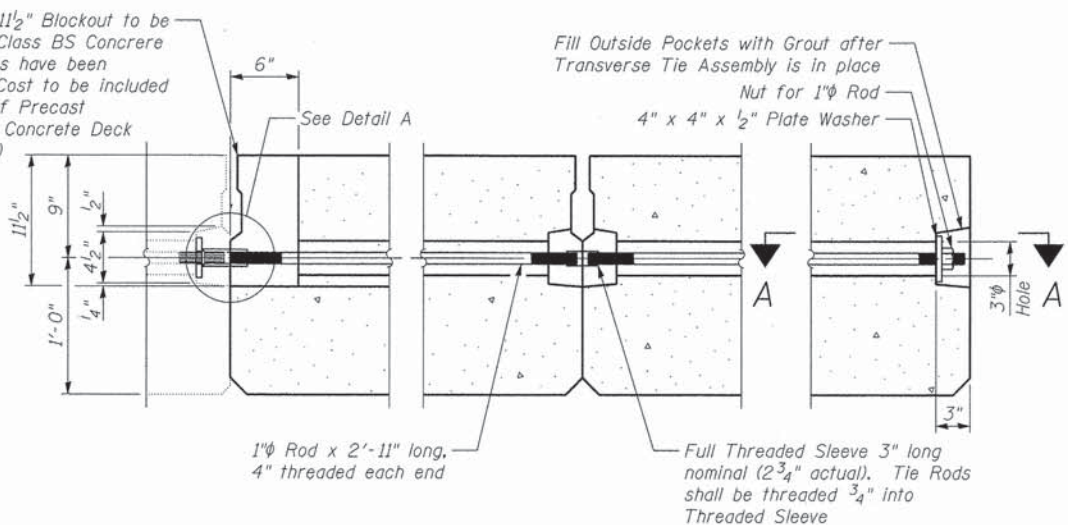
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

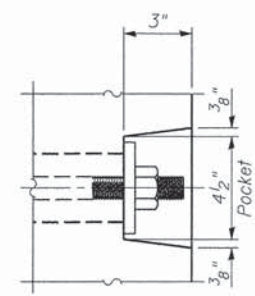
FIXED

Notes:
All bearing pads shall be 1/2" thick.

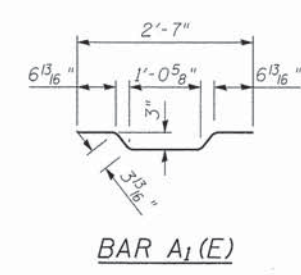
6" x 6" x 11 1/2" Blockout to be filled with Class BS Concrete after Beams have been installed. Cast to be included with cost of Precast Prestressed Concrete Deck Beams (21')



TYPICAL TRANSVERSE TIE ASSEMBLY
(Typ. Span 1 Beam 1-4 replacement)



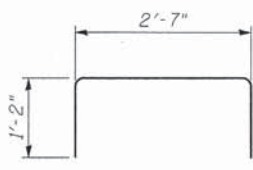
SECTION A-A



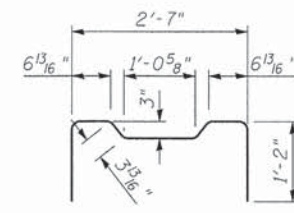
BAR A1(E)



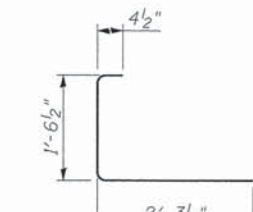
BAR S(E)



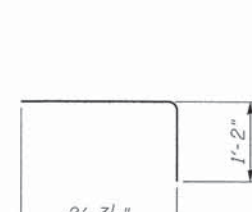
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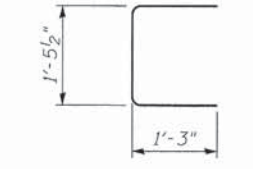
BAR S2(E)



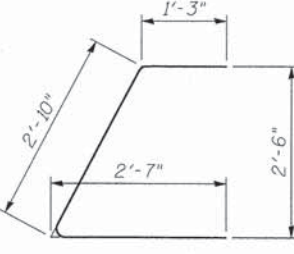
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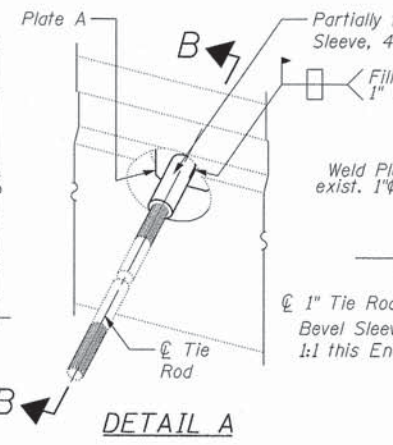
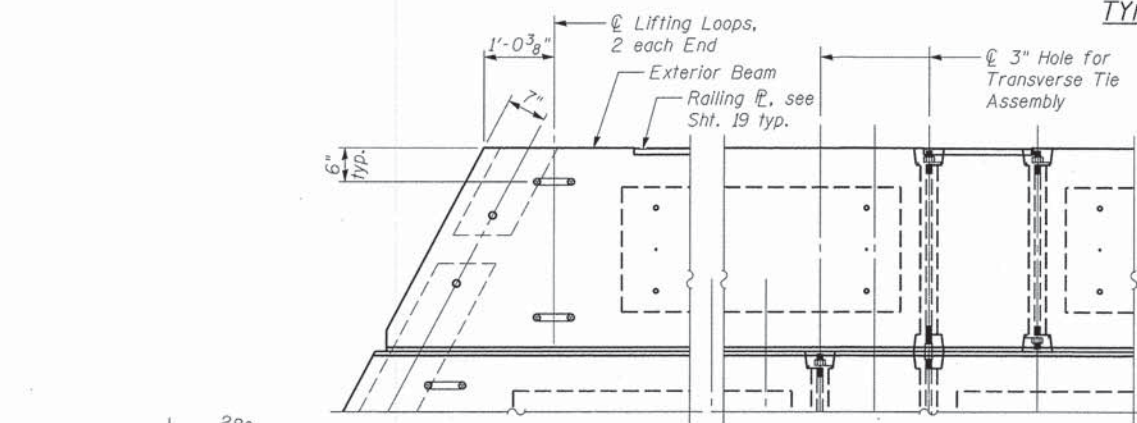
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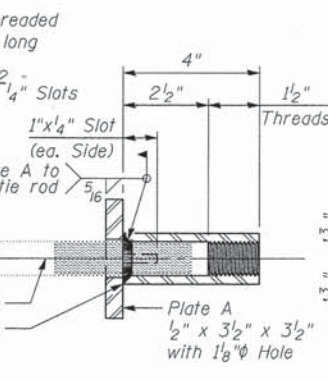
BAR U(E)



BAR U1(E)



DETAIL A



SECTION B-B

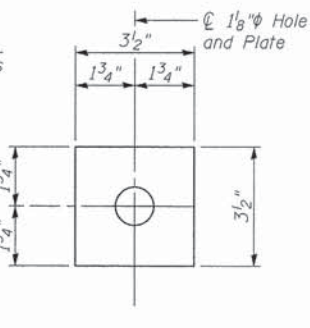
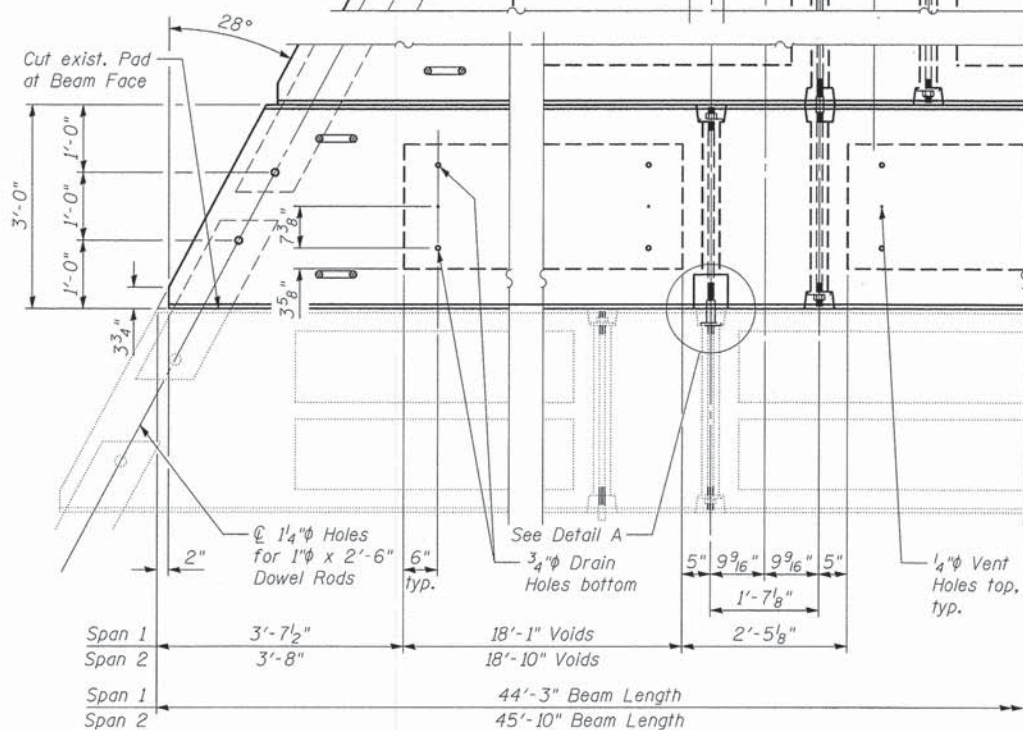


PLATE A
(4 Required)

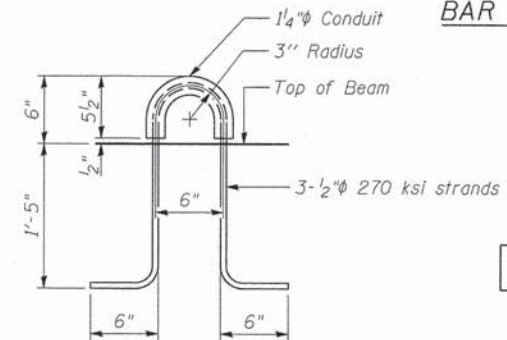
NOTES

1. 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.
2. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
3. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
4. Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
5. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
6. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
7. Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
8. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



PLAN VIEW

Note:
Connect beams in pairs with the transverse tie configuration shown.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,351
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FILE NAME =
RME Rubinos & Mesa Engineers, Inc.
200 S. Michigan Avenue, Suite 1100, Chicago, IL 60604-2482

USER NAME = #USER#
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CHECKED - PH
DRAWN - PH
PLOT DATE = #DATE#

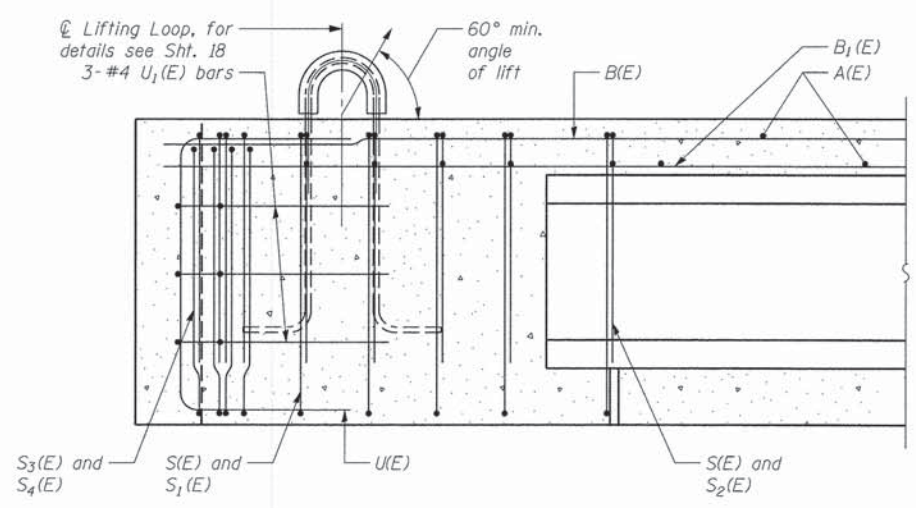
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REVISED
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REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

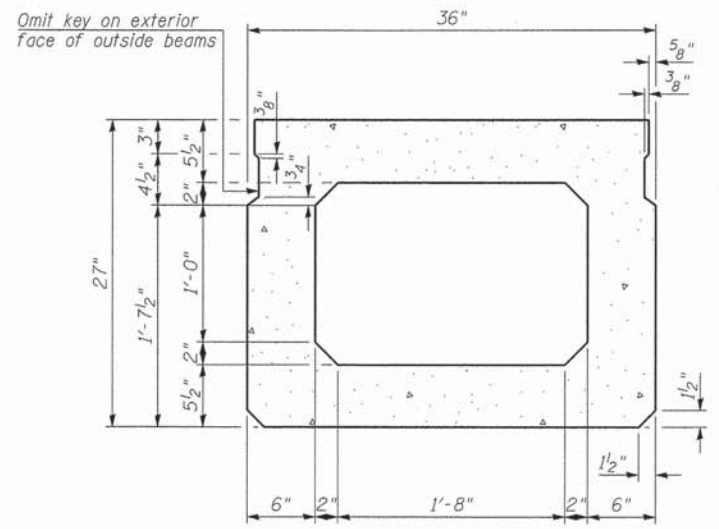
21" x 36" PPC DECK BEAM DETAILS

SCALE: SHEET NO. OF SHEETS

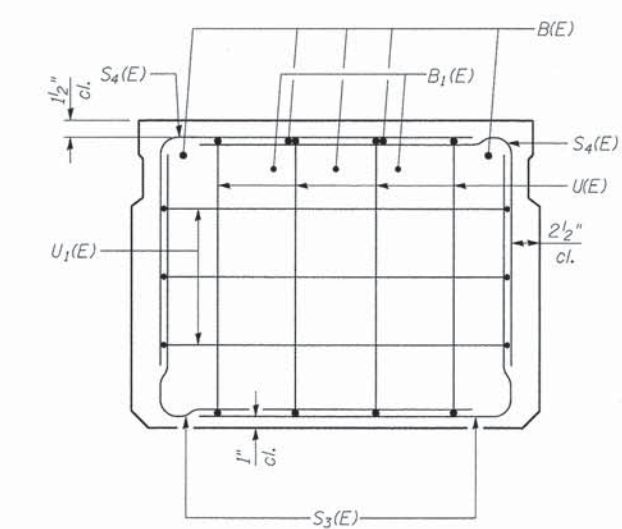
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CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



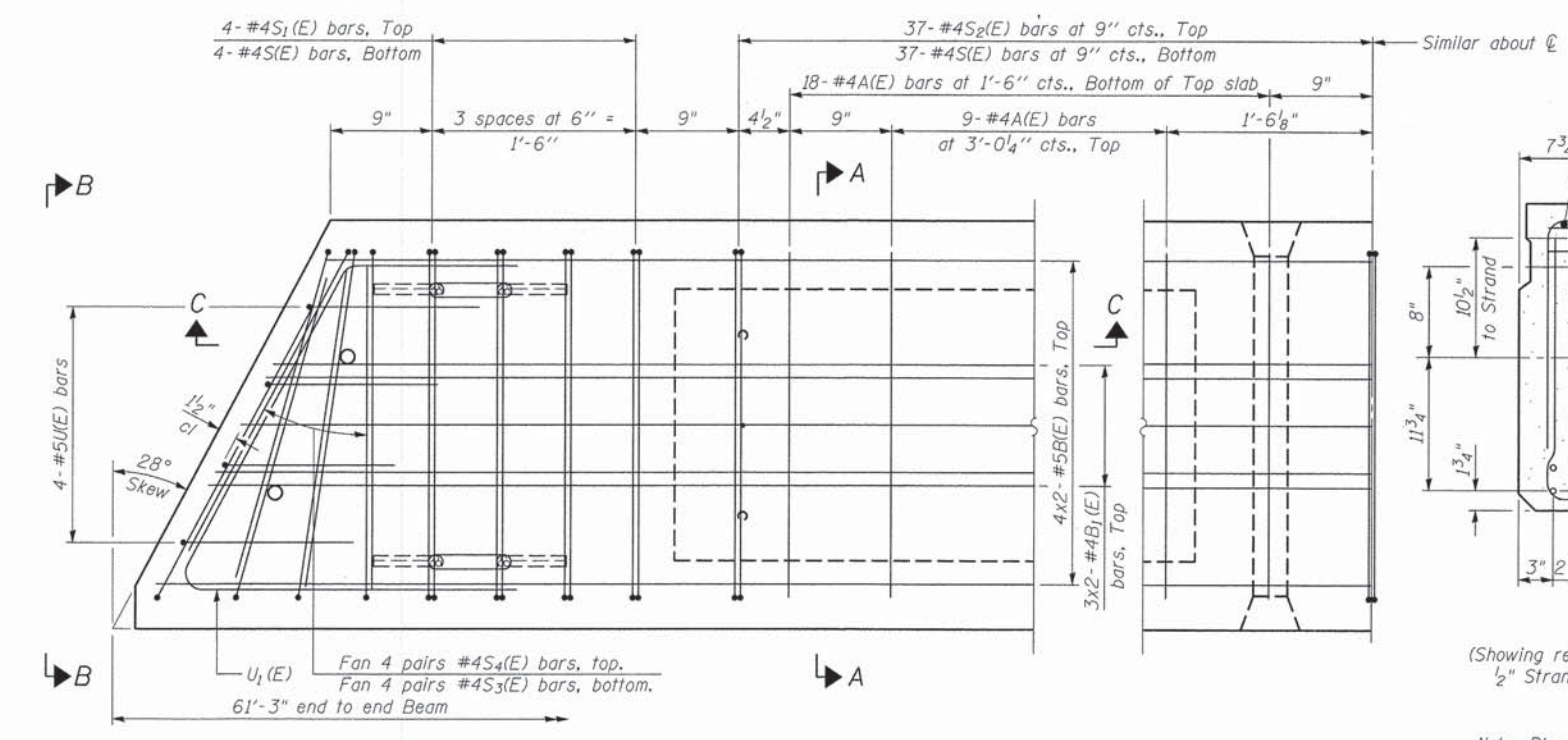
SECTION C-C



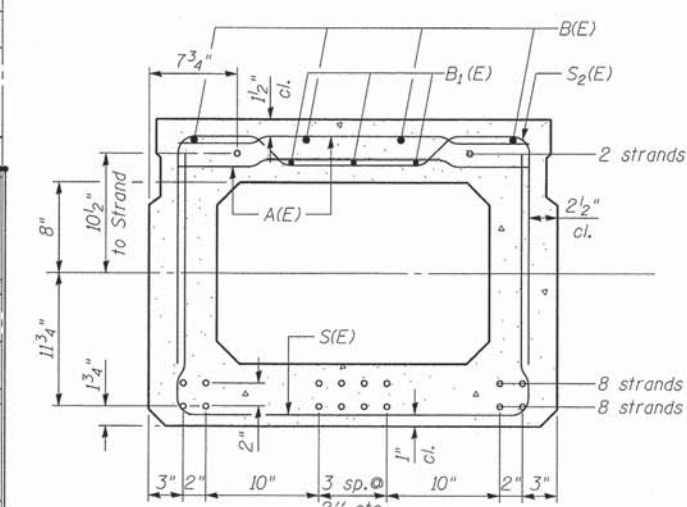
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A
(Showing reinforcement and permissible strand locations)
1/2" Strands each strand stressed to 30900 pounds

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	54	#4	2'-7"	—
B(E)	8	#5	31'-9"	—
B1(E)	6	#4	31'-6"	—
S(E)	81	#4	6'-5"	—
S1(E)	8	#4	5'-11"	—
S2(E)	73	#4	6'-2"	—
S3(E)	16	#4	4'-2 1/2"	—
S4(E)	16	#4	3'-11 1/2"	—
U(E)	8	#5	4'-5 1/2"	—
U1(E)	6	#4	6'-8"	—

Note: See sheet 18 of 20 for additional details and Bill of Material.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

Minimum distance from center to center of strands in all directions shall be 2".

The minimum clearance from strand to dowel hole shall be 1/2".

The minimum clearance from strand to void shall be 1/2".

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



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PLOT DATE = #DATE#

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CHECKED - PH
DRAWN - PH
CHECKED - PK

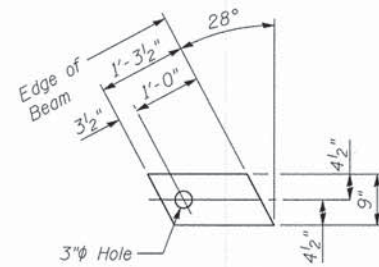
REVISED
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REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

27" x 36" PPC DECK BEAM

SCALE: SHEET NO. OF SHEETS

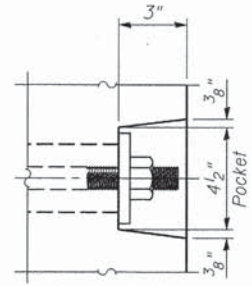
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	12-18117-01-BR	LIVINGSTON	20	17
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



FABRIC BEARING PAD

FIXED

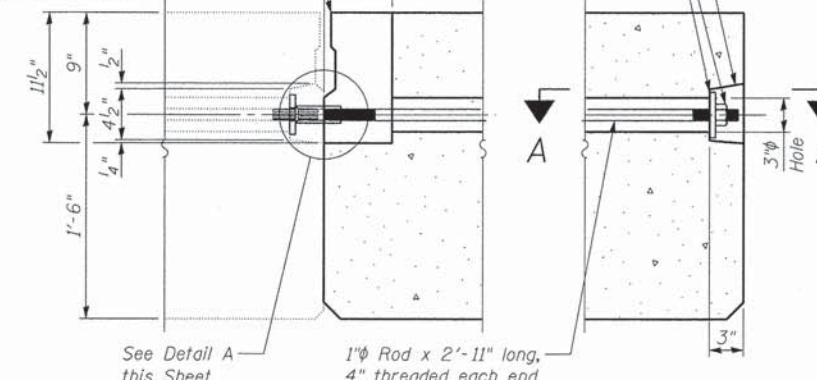
Notes:
All bearing pads shall be 1/2" thick.



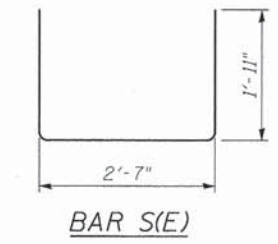
SECTION A-A

6" x 6" x 11 1/2" Blockout to be filled with Class BS Concrete after Beams have been installed. Cost to be included with cost of Precast Prestressed Concrete Deck Beams (27")

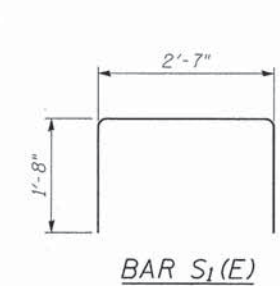
Fill Outside Pockets with Grout after Transverse Tie Assembly is in place



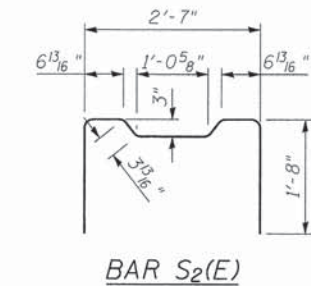
TYPICAL TRANSVERSE TIE ASSEMBLY
(Typ. Span 1 Beam 1-4 replacement)



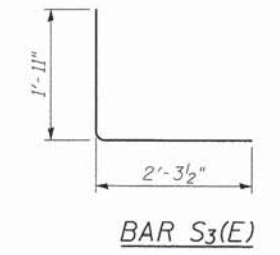
BAR S(E)



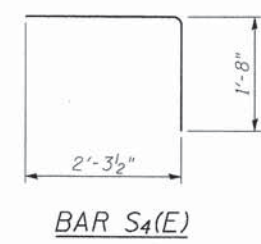
BAR S1(E)



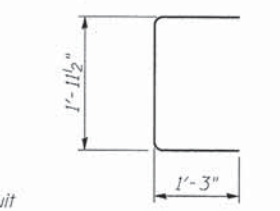
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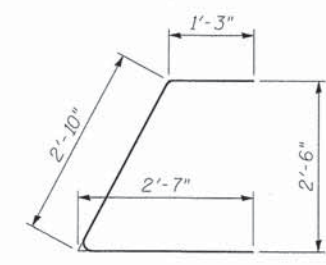
BAR S3(E)



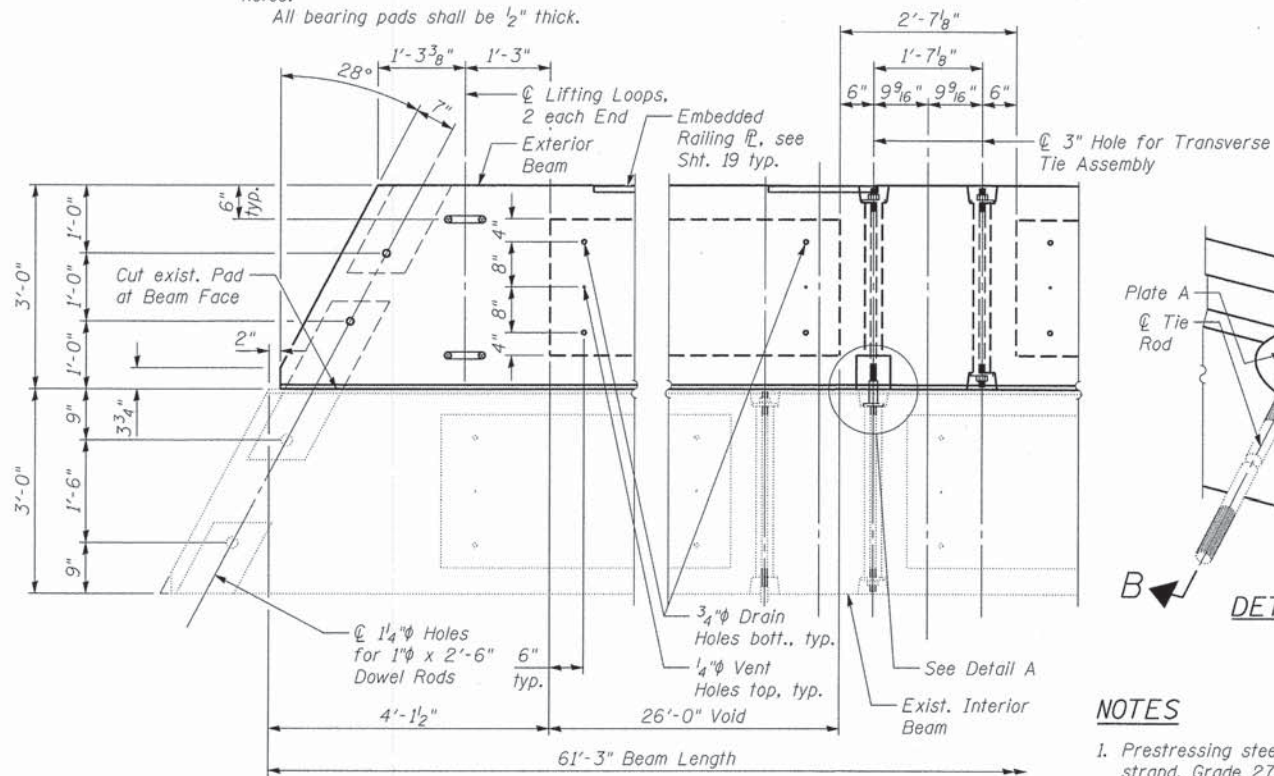
BAR S4(E)



BAR U(E)

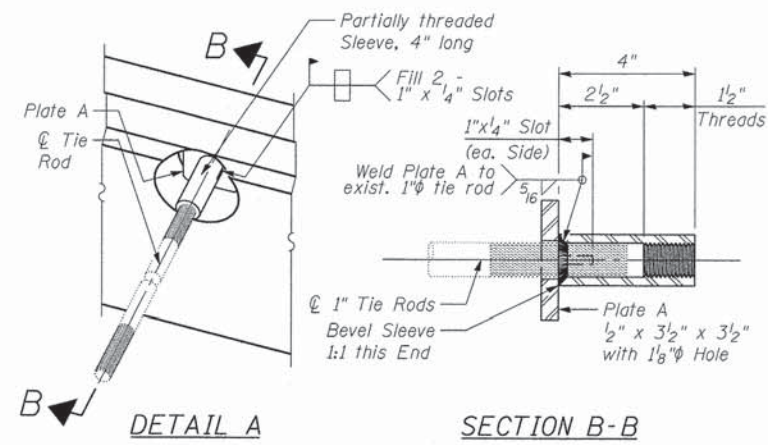


BAR U1(E)



PLAN VIEW

Note:
Connect beams in pairs with the transverse tie configuration shown.



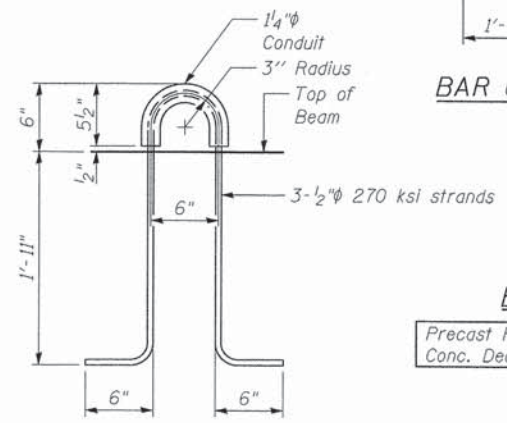
DETAIL A

SECTION B-B

PLATE A
(2 Required)

NOTES

1. 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.
2. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
3. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
4. Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
5. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
6. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
7. Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
8. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	368
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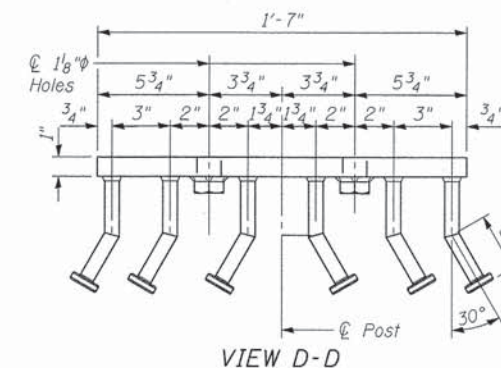
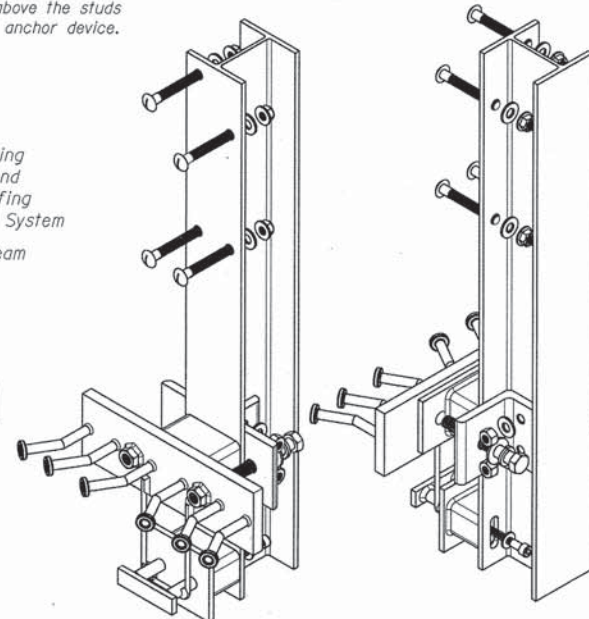
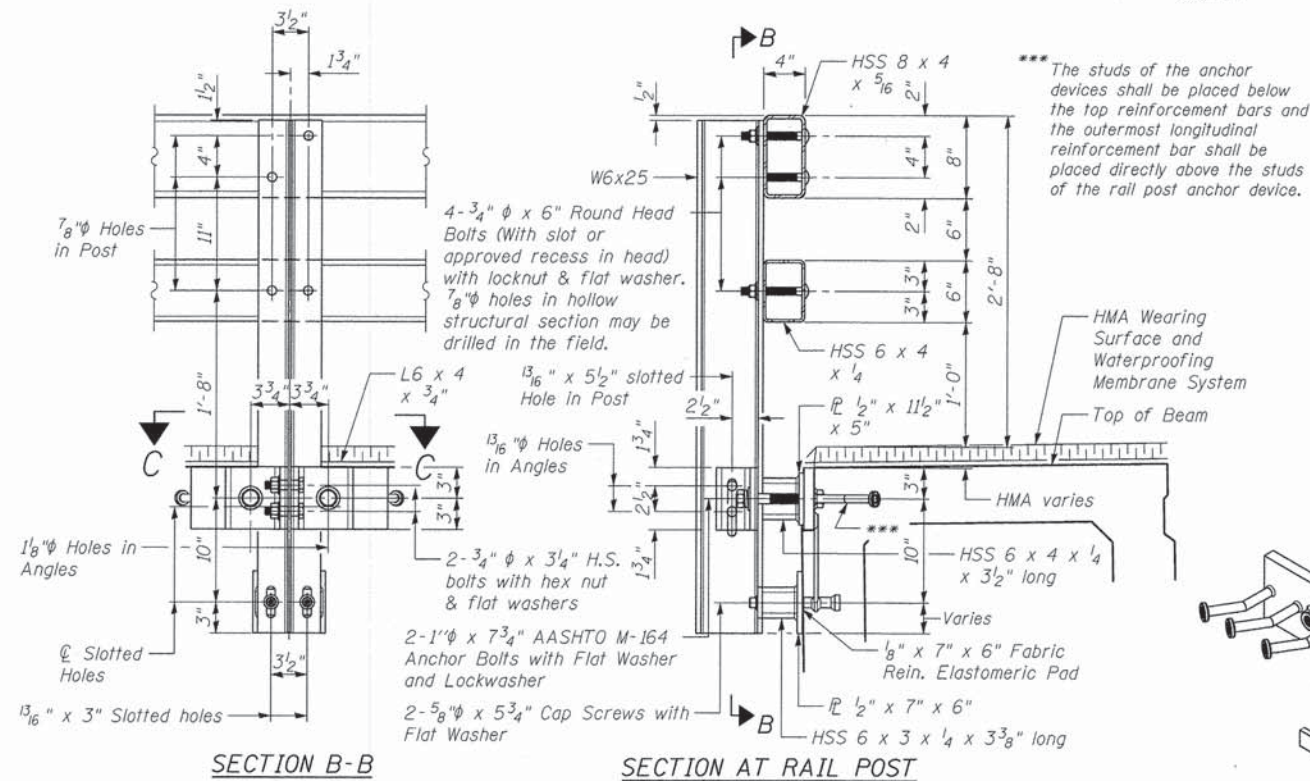
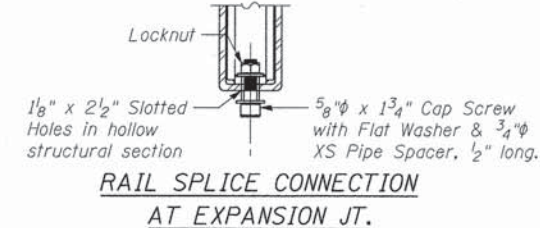
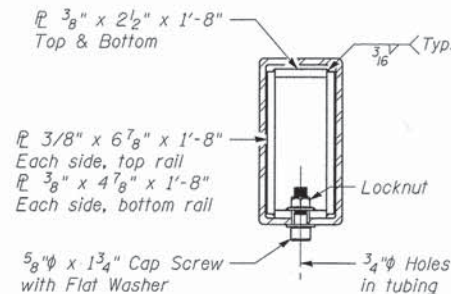
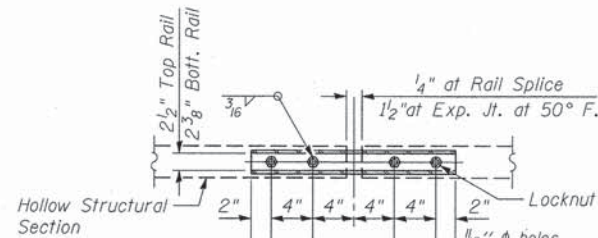
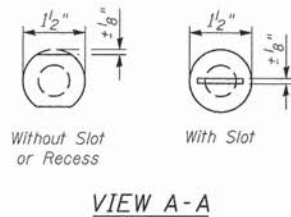
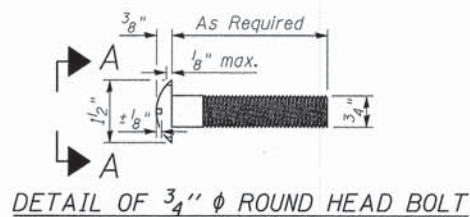
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

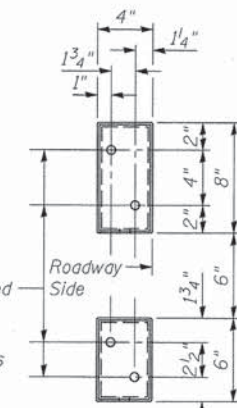
27" x 36" PPC DECK BEAM DETAILS

SCALE: SHEET NO. OF SHEETS

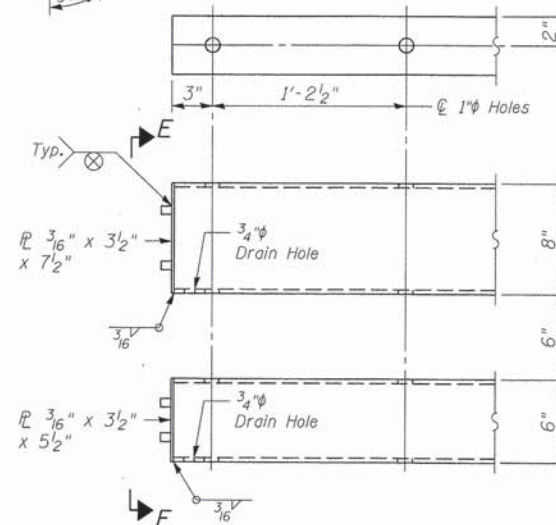
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CONTRACT NO.				
[ILLINOIS] FED. AID PROJECT				



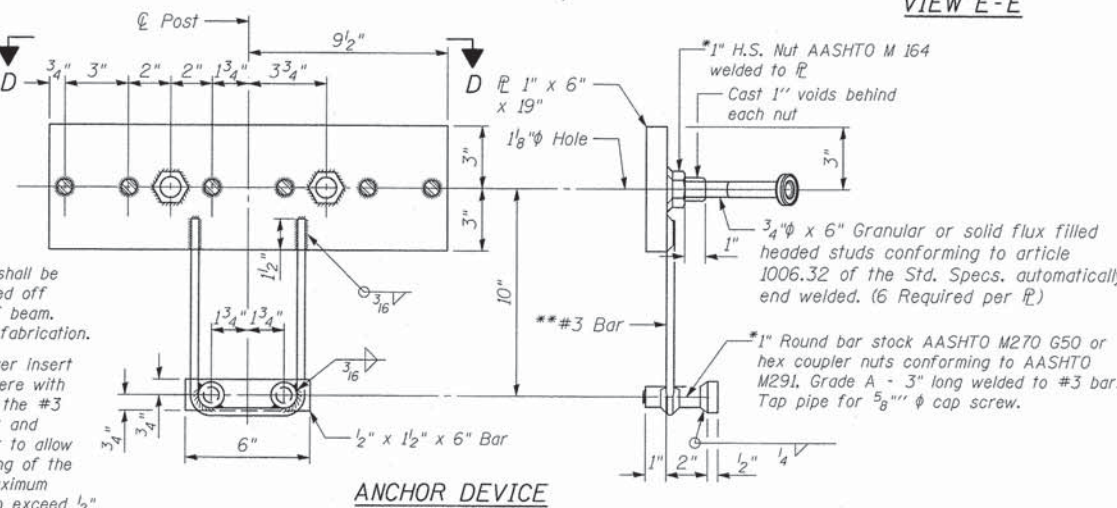
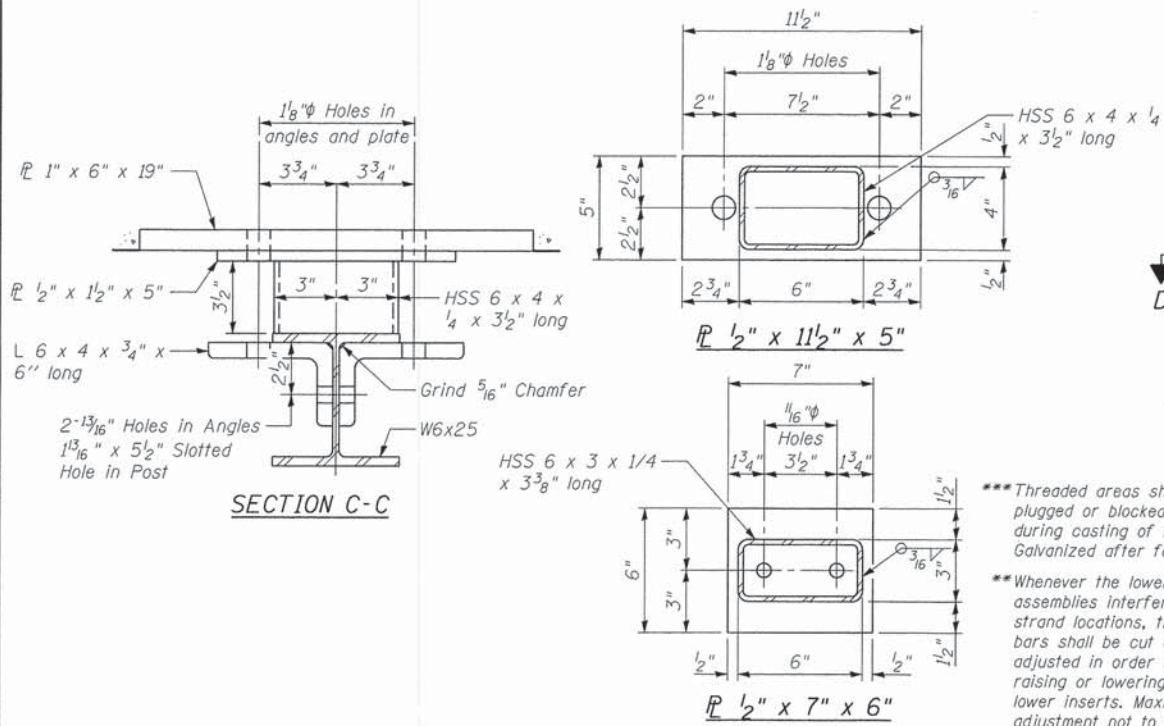
VIEW D-D



VIEW E-E



END OF RAIL DETAILS



ANCHOR DEVICE

*** 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"

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.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	301

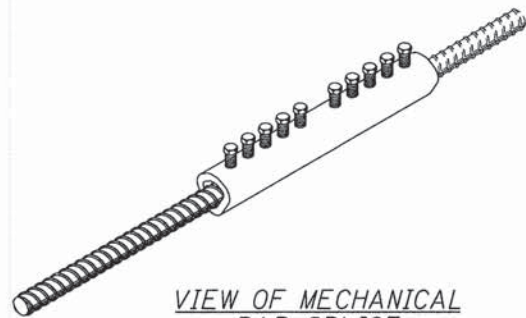
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200 S. Michigan Avenue, Suite 1500, Chicago, IL 60604-2482		DRAWN - PH	REVISED
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

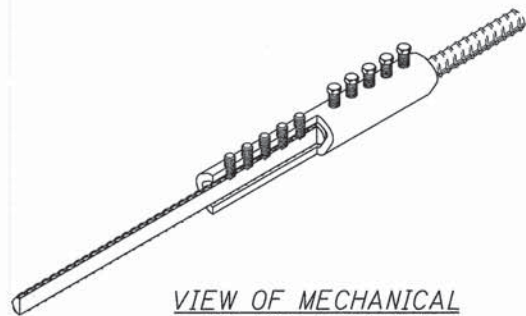
STEEL RAILING, TYPE SM WITH HMA WEARING SURFACE

SCALE: SHEET NO. OF SHEETS

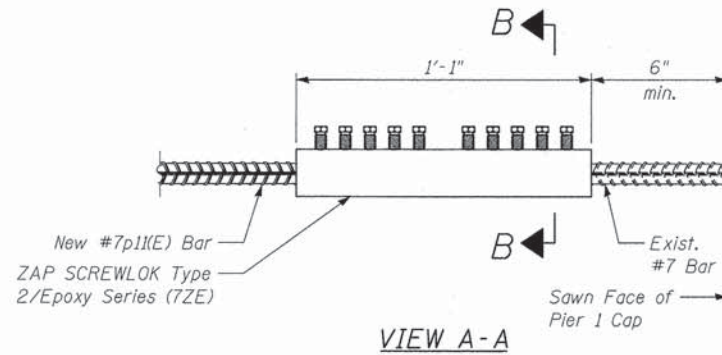
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CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



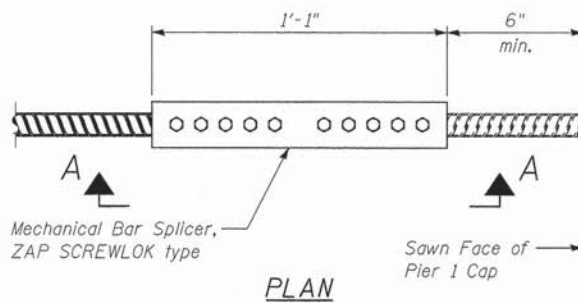
VIEW OF MECHANICAL
BAR SPLICE



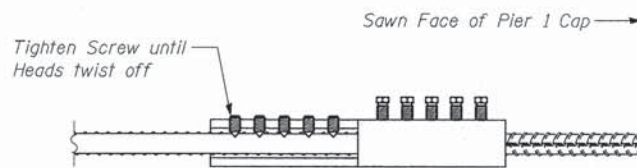
VIEW OF MECHANICAL
SPLICE ASSEMBY



VIEW A-A

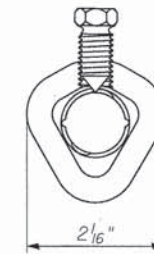


PLAN

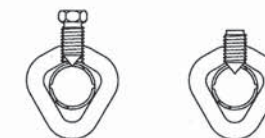


Note:
During mechanical splice assembly, as screws are tightened, they embed themselves into the rebar surface and then the heads twist off at the Manufacturer's prescribed tightening torque. Force from the screws causes rebar deformations to interlock within the coupler wedge.

ELEVATION - MECHANICAL
SPLICE ASSEMBY



SECTION B-B



BEFORE AFTER

SPLICE ASSEMBLY

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Mechanical Splicer	Each	6