

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

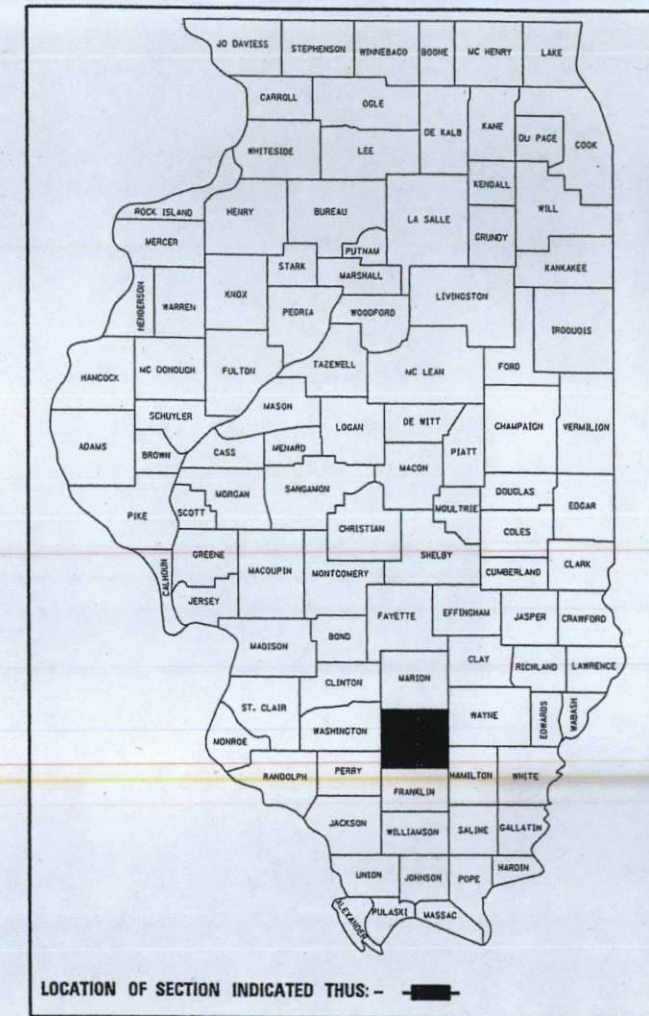
F.A.S. 2869 (IL 37) & F.A.I. 57 (I-57)
D9 CM BRIDGE REPAIR 2011-2

BRIDGE JOINTS & BEARINGS
JEFFERSON COUNTY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

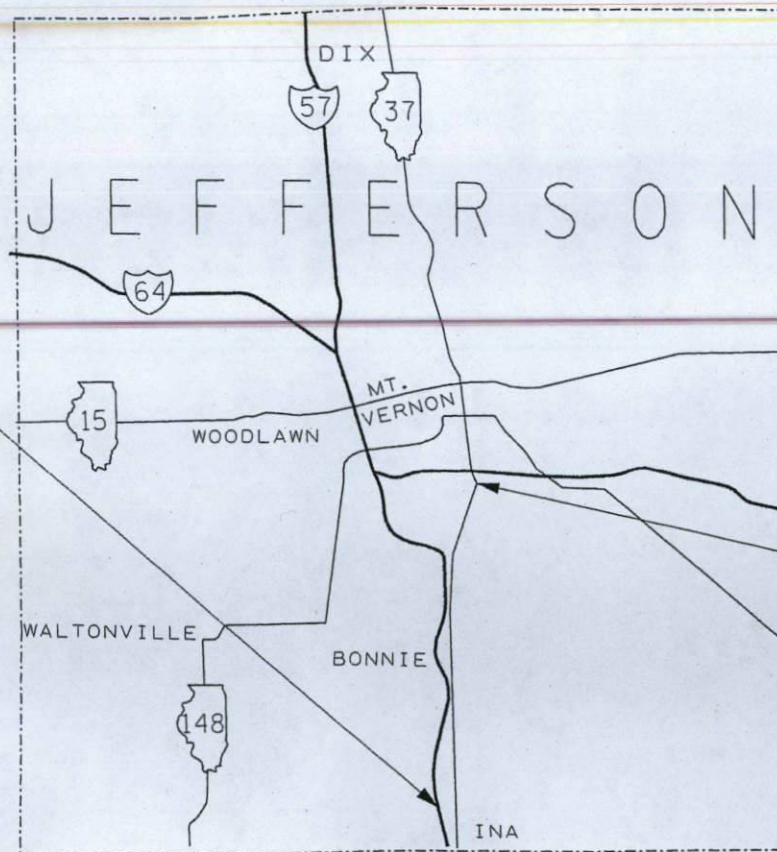
100%
8-12-2011

D-99-010-11



C-99-012-11

Improvement Location
Structure 041-0055
CH 42 Over I-57



Improvement Location
Structure 041-0032
IL 37 Over Casey Fork

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

PROJECT ENGINEER DAVID PICHE
DESIGNER RITA GAUTNEY

MAP IS NOT TO SCALE

CONTRACT NO. 78233

041-0032

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Jan 4 20 11

Mary C. Jamie
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

February 4 20 11
Scott E. Stitt, P.E. /bc
acting ENGINEER OF DESIGN AND ENVIRONMENT

February 4 20 11
Christine M. Reed /sr
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

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 at the unit price bid for the work.

The cost of any saw cuts made to complete the work as described in plan details shall not be paid for separately but shall be included in the various pay items involved.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Joint openings shall be adjusted according to Article 520.04 of the Standard. Specs. when the deck is poured at an ambient temperature other than 50° F.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The approach slab shall be patched according to the special provision "Deck Slab Repair".

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Reinforcement bars designated (E) shall be epoxy coated.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructures.

In addition to the requirements of article 107.16 the contractor shall protect the surface of all bridge decks and bridge approach pavements in a manner satisfactory to the engineer before any equipment is allowed to cross the structure. Protection shall be provided for all equipment as defined in article 101.16 regardless if track mounted or wheeled.

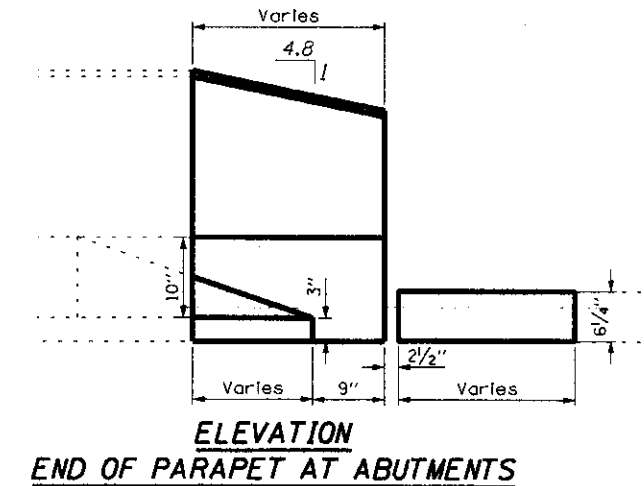
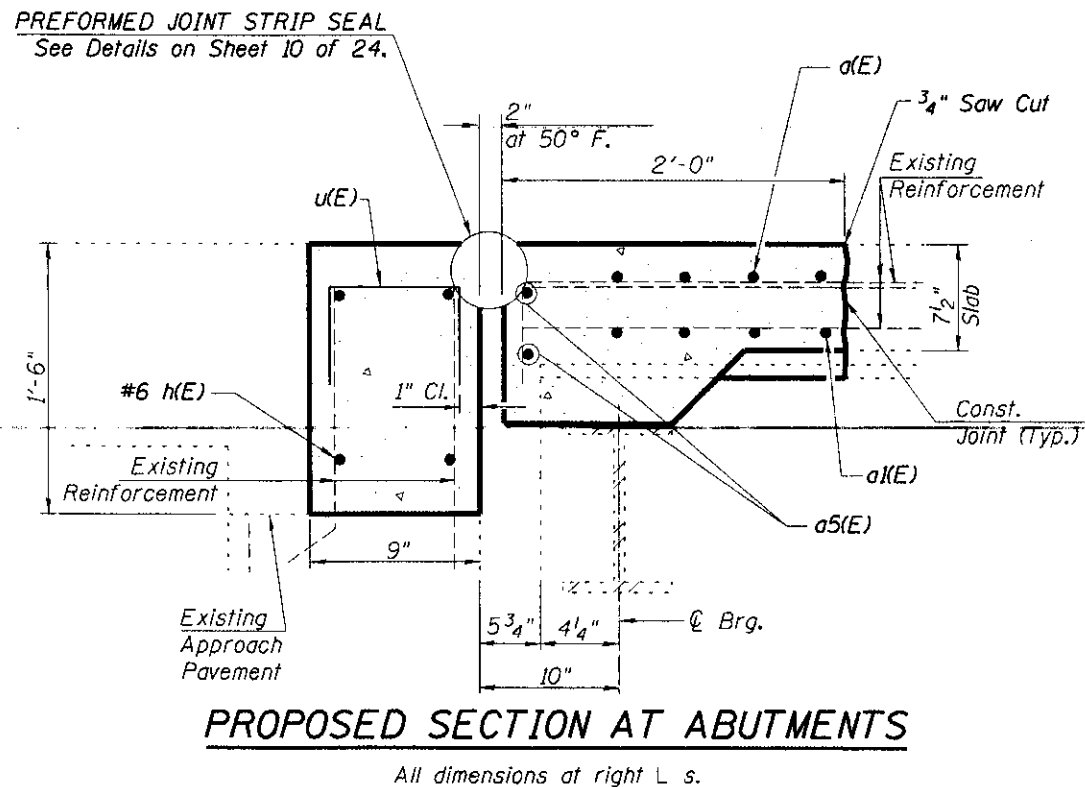
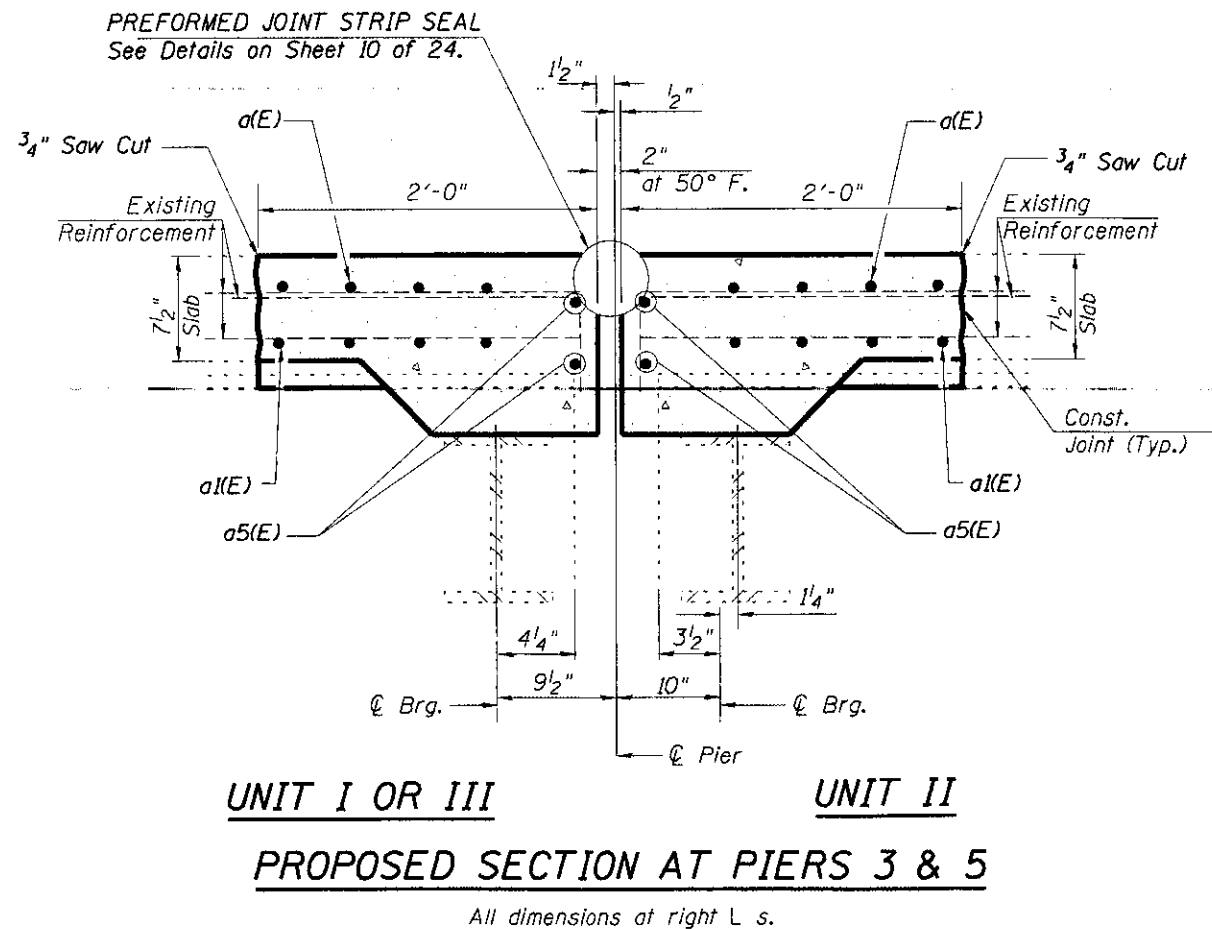
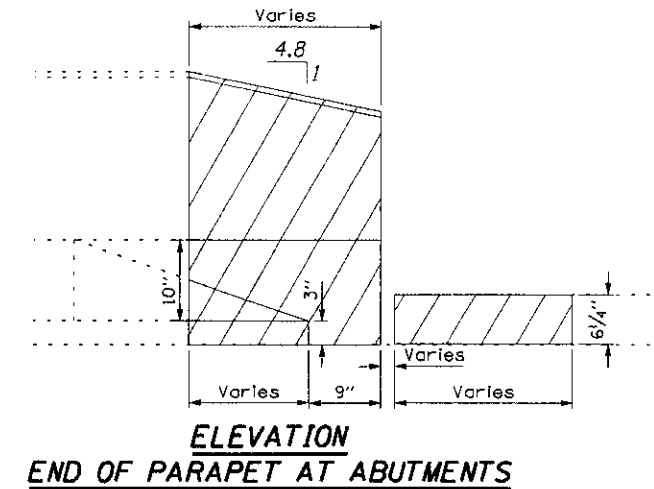
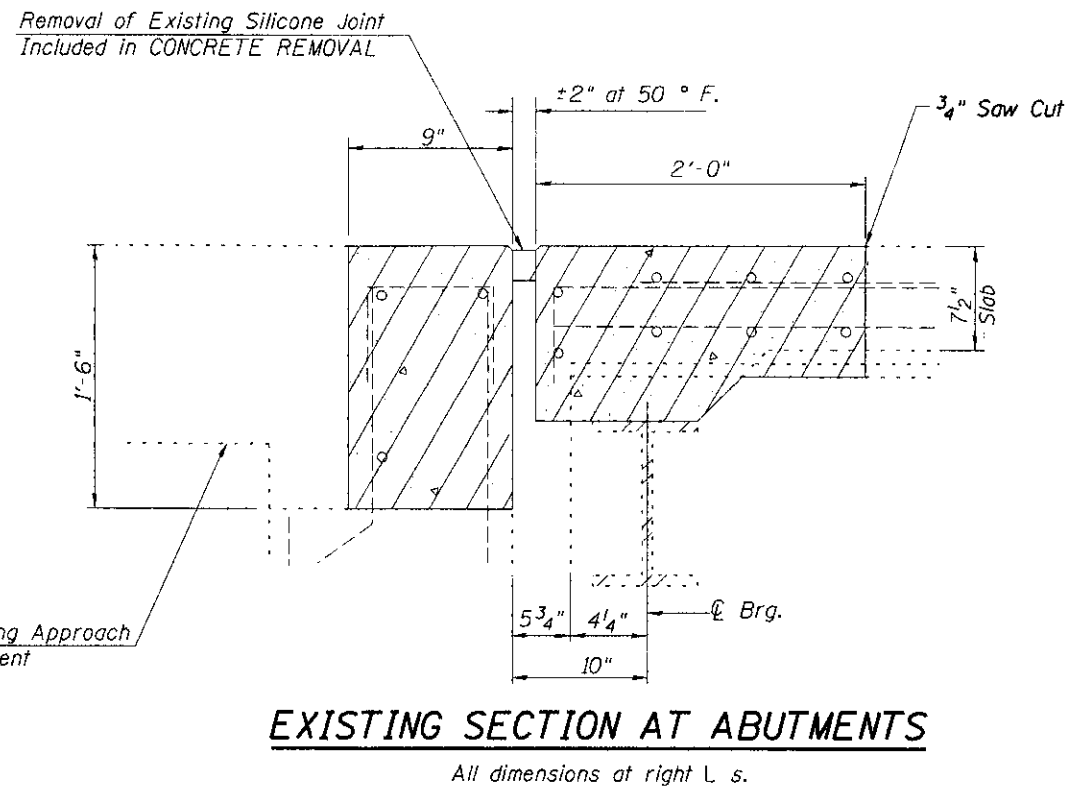
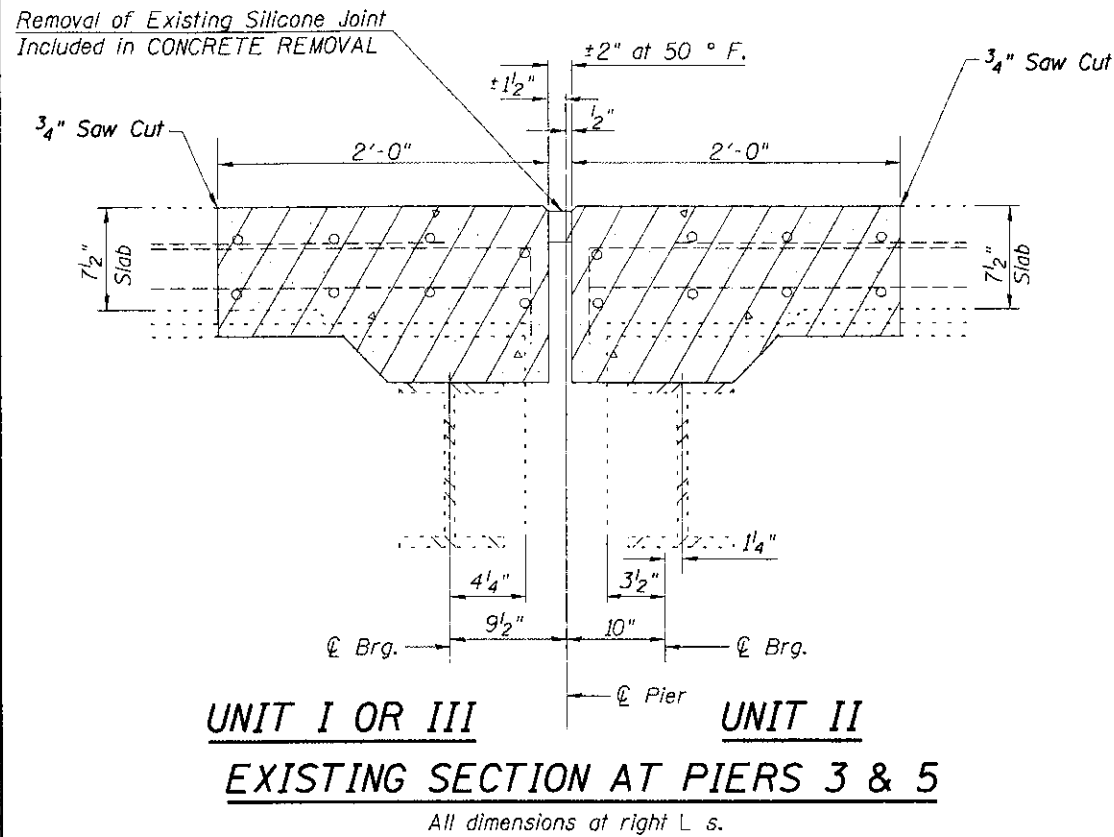
Reinforcement bars designated (E) shall be epoxy coated. Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

Existing nameplate located in the parapet removal area shall be removed, cleaned, stored and reinstalled at the same location. Cost of all labor and materials required to complete this task is included in the unit cost each for RELOCATING NAME PLATES.

**TOTAL BILL OF MATERIAL
STRUCTURE NO. 041-0032**

ITEM DESCRIPTION	UNIT	QUANTITY
PROTECTIVE COAT	SQ YD	1372
CONCRETE REMOVAL	CU YD	23.4
CONCRETE SUPERSTRUCTURE	CU YD	22.8
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	4920
JACK AND REMOVE EXISTING BEARINGS	EACH	36
REINFORCEMENT BARS, EPOXY COATED	POUND	3560
RELOCATING NAME PLATES	EACH	1
PREFORMED JOINT STRIP SEAL	FOOT	176
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	24
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12
ANCHOR BOLTS, 1"	EACH	72
TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2
GUARDRAIL REMOVAL	FOOT	112
REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2
DECK SLAB REPAIR (PARTIAL)	SQ YD	7

FILE NAME =	USER NAME = gautneyrk	DESIGNED - RWS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, BILL OF MATERIAL STRUCTURE NO. 041-0032	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pavdot\gautneyrk\08190470\78232-shr-plan.dgn	DRAWN -	REVISED -	09 CM BRIDGE REPAIR 2011-2			JEFFERSON	24	5		
PLOT SCALE = 4:10/57 13/16 "/ IN.	CHECKED -	REVISED -	F.A.S. 2869 & F.A.L 57			CONTRACT NO. 78233				
PLOT DATE = 12/22/2010	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							

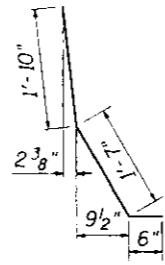


FILE NAME *	USER NAME = geutneyrk	DESIGNED - BKG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE REMOVE & REPLACE STRUCTURE NO. 041-0032		RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
01:\pwork\p\105\geutneyrk\d0190470\7812-shr-plan.dgn		DRAWN - BKG	REVISED -		SCALE: _____	SHEET NO. ___ OF ___ SHEETS	STA. _____ TO STA. _____	* D9 CM BRIDGE REPAIR 2011-2	JEFFERSON	24	6	
	PLOT SCALE = 2:00 1" = 1'	CHECKED -	REVISED -					* F.A.S. 2869 & F.A.I. 57				CONTRACT NO. 78233
	PLOT DATE = 12/22/2010	DATE -	REVISED -					ILLINOIS FED. AID PROJECT				

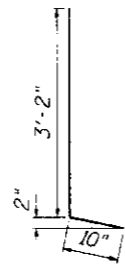
STRUCTURE NO. 041-0032

ONE PIER
BILL OF MATERIAL

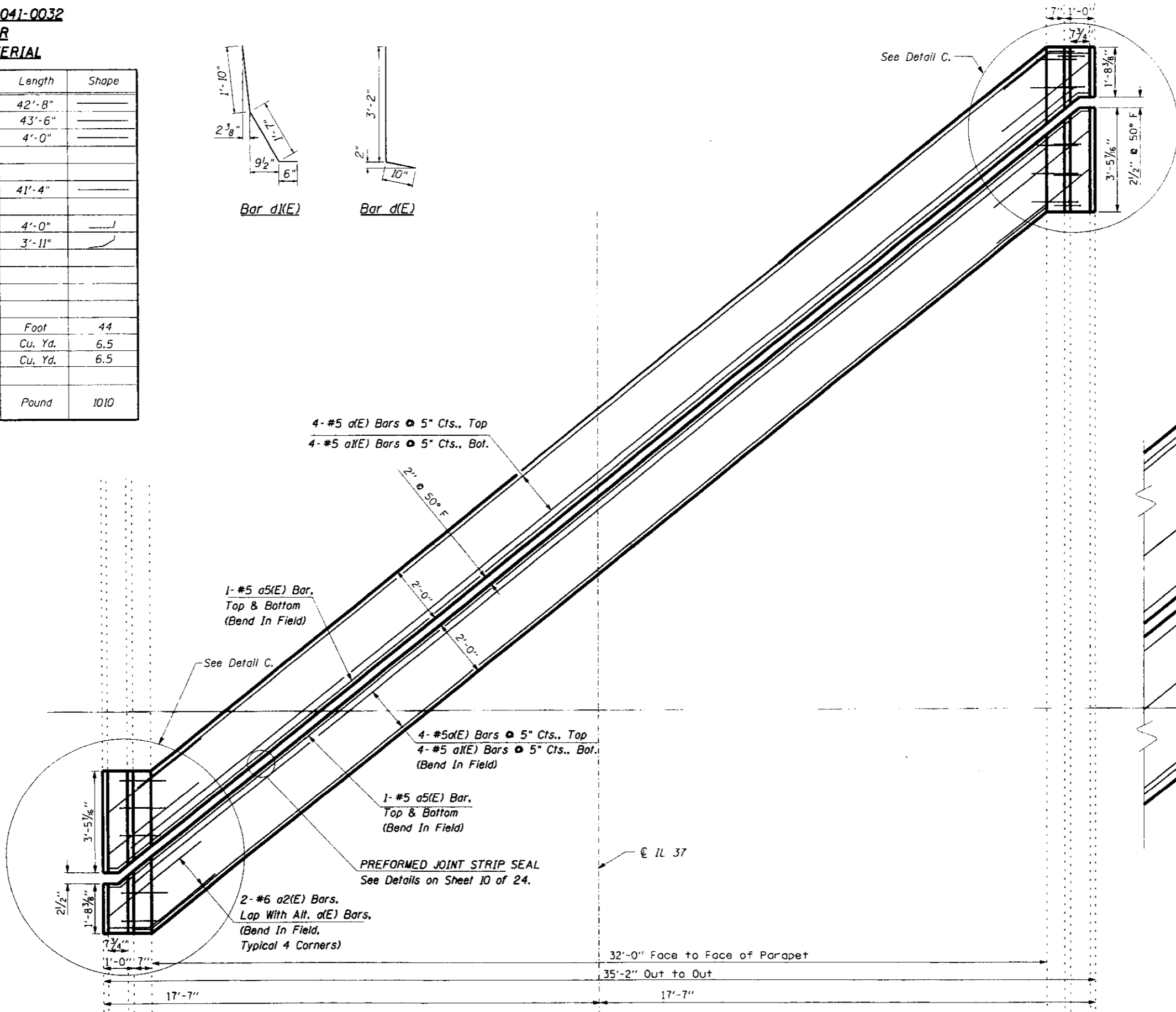
Bar	No.	Size	Length	Shape	
a(E)	8	#5	42'-8"		
a1(E)	8	#5	43'-6"		
a2(E)	8	#6	4'-0"		
a5(E)	4	#5	41'-4"		
d(E)	10	#4	4'-0"		
d1(E)	10	#5	3'-11"		
Preformed Joint Strip Seal				Foot	44
Concrete Removal				Cu. Yd.	6.5
Concrete Superstructure				Cu. Yd.	6.5
Reinforcement Bars, Epoxy Coated				Pound	1010



Bar d1(E)

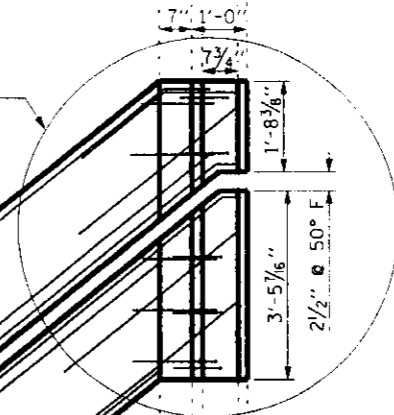


Bar d(E)

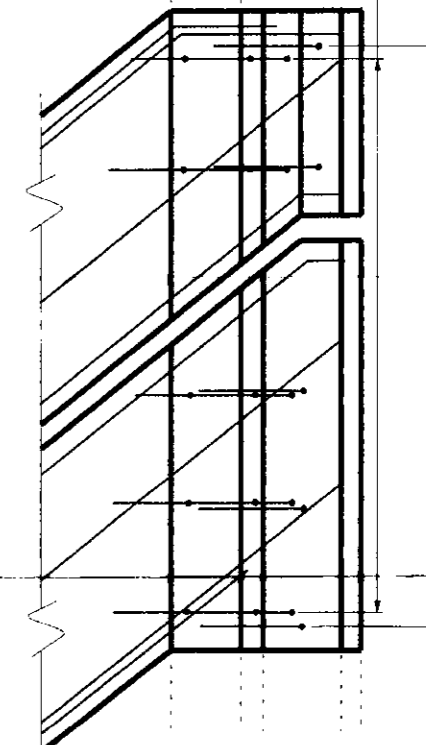


PLAN

See Detail C.



5-#5 d1(E) @ 11" Cts.,
I.F.. (Typical Each Parapet)
(Trim to Fit)



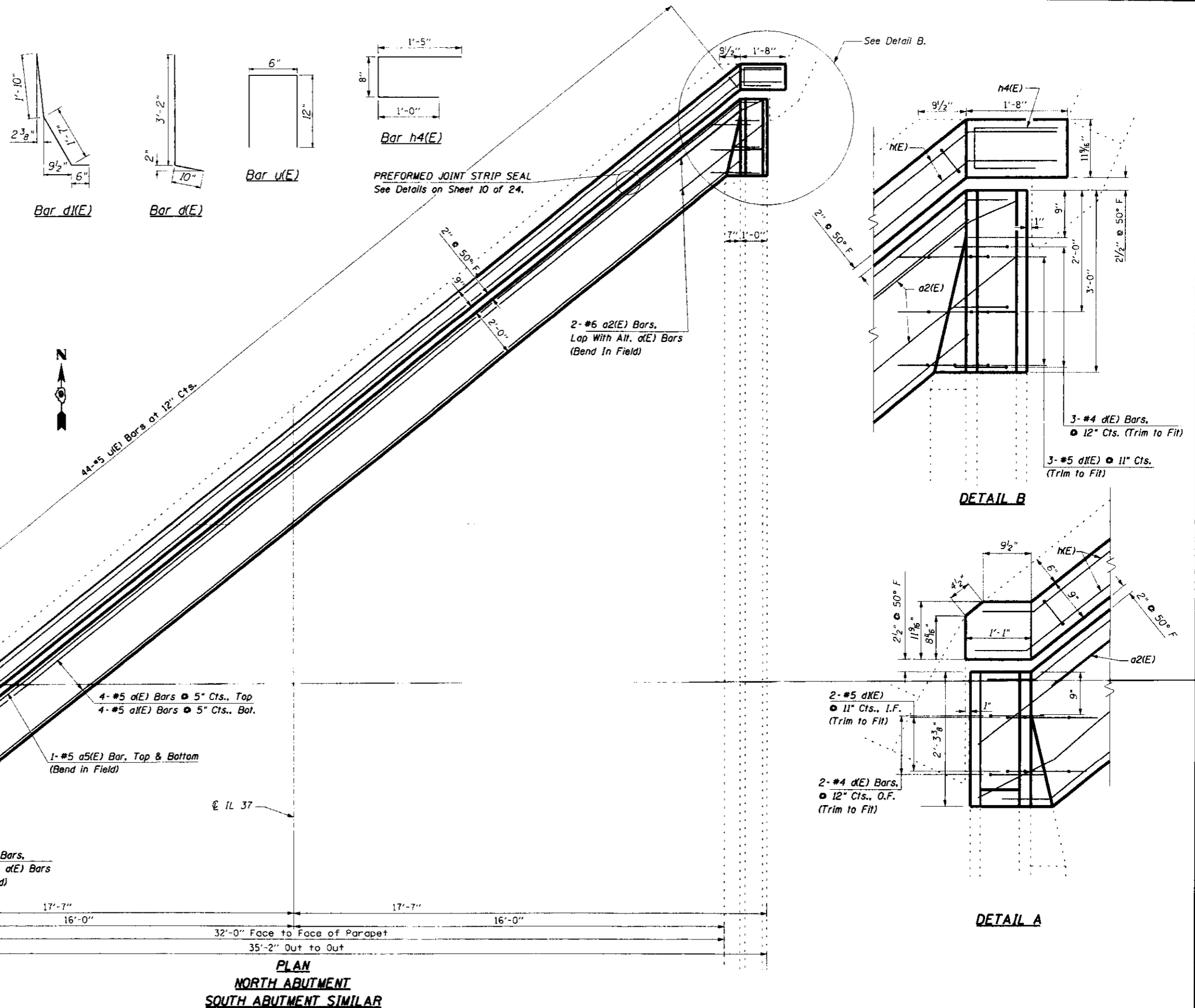
5-#4 d(E) Bars @ 12" Cts. O.F.,
(Typical Each Parapet)
(Trim to Fit)

DETAIL C

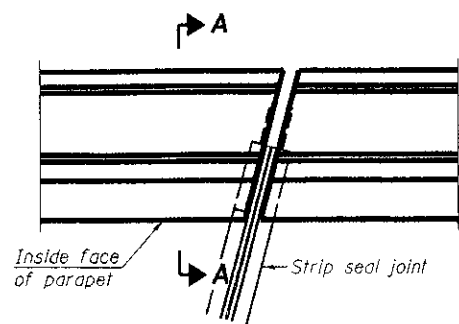
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PLOT SCALE: 3/8" = 1'-0"	DATE: 12/22/2018	DRAWN: -	REVISED: -			SCALE: _____	SHEET NO. _____ OF _____ SHEETS	F.A.S. 2869 & F.A.I. 57	CONTRACT NO. 78233		
		CHECKED: -	REVISED: -								
		DATE: -	REVISED: -								

STRUCTURE NO. 041-0032
ONE ABUTMENT
BILL OF MATERIAL

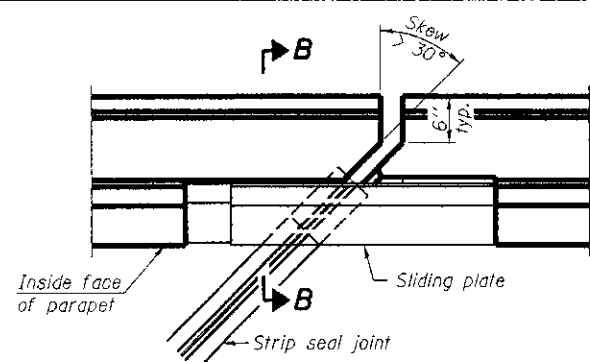
Bar	No.	Size	Length	Shape
a(E)	4	#5	42'-8"	
a1(E)	4	#5	43'-6"	
a2(E)	4	#6	4'-0"	
a5(E)	2	#5	41'-4"	
d(E)	6	#4	4'-0"	
d1(E)	6	#5	3'-11"	
h(E)	4	#6	43'-7"	
h4(E)	1	#4	3'-1"	
u(E)	44	#5	1'-6"	
Prefomed Joint Strip Seal	Foot		44	
Concrete Removal	Cu. Yd.		5.2	
Concrete Superstructure	Cu. Yd.		5.2	
Reinforcement Bars, Epoxy Coated	Pound		770	



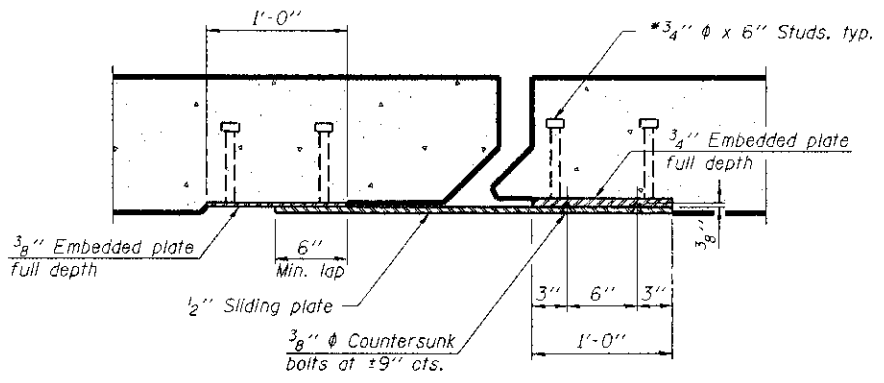
PLAN
NORTH ABUTMENT
SOUTH ABUTMENT SIMILAR



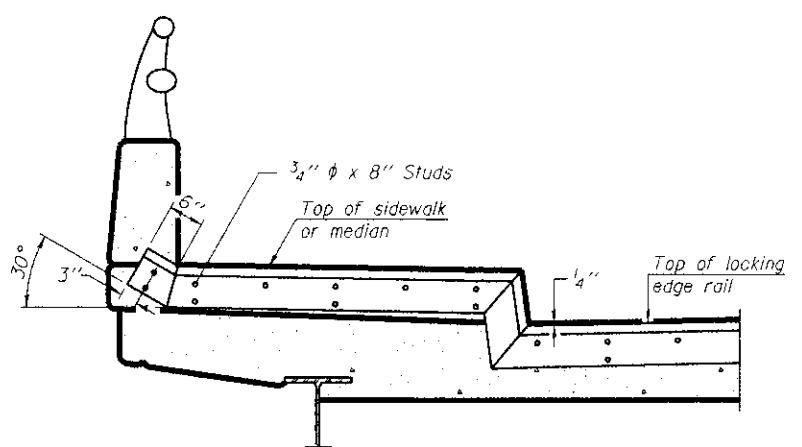
PLAN
(For skews $\leq 30^\circ$)



PLAN
(For skews $> 30^\circ$)
Showing point block

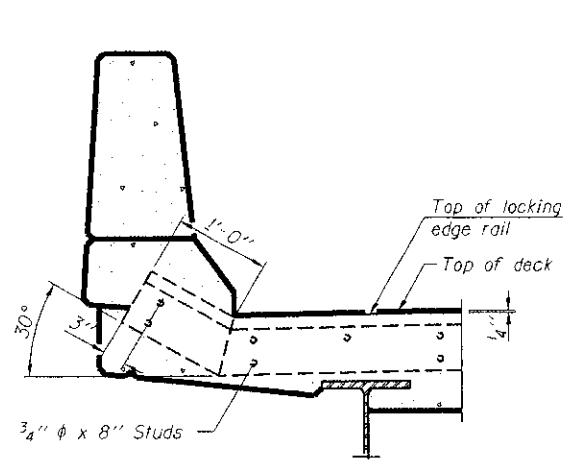


SECTION C-C

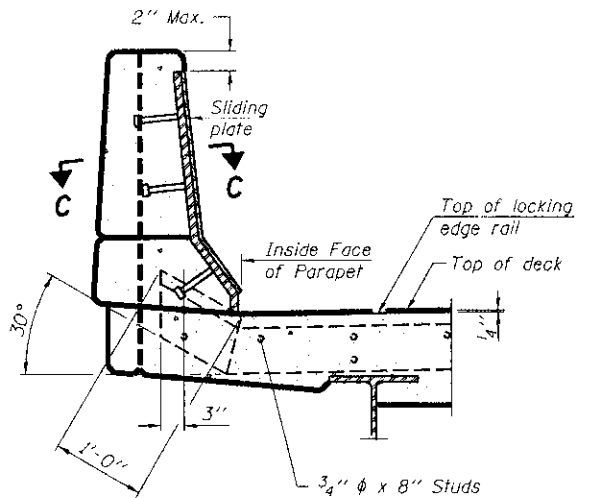


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

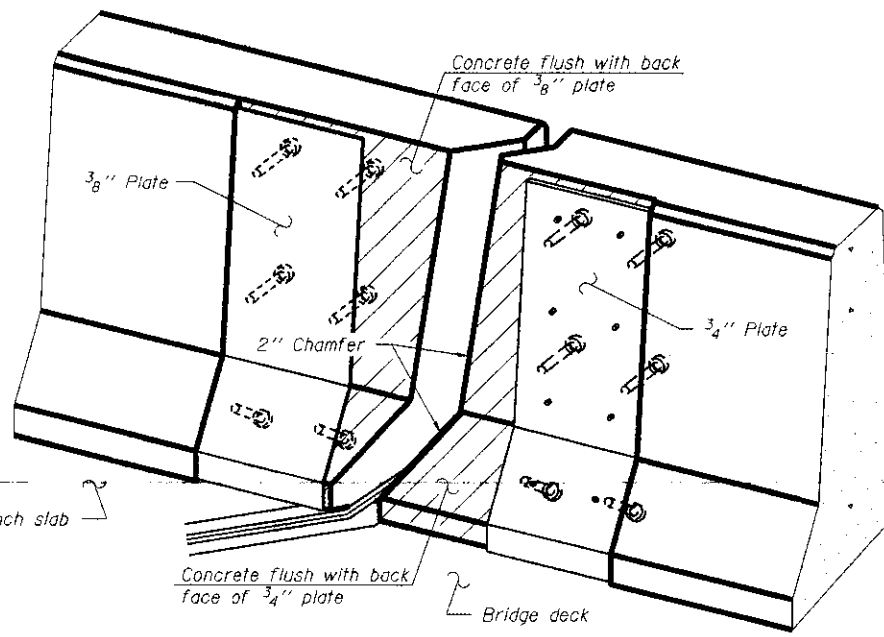
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

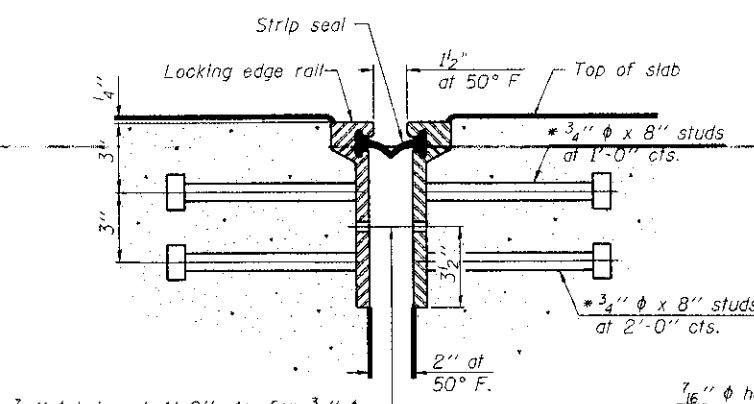
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

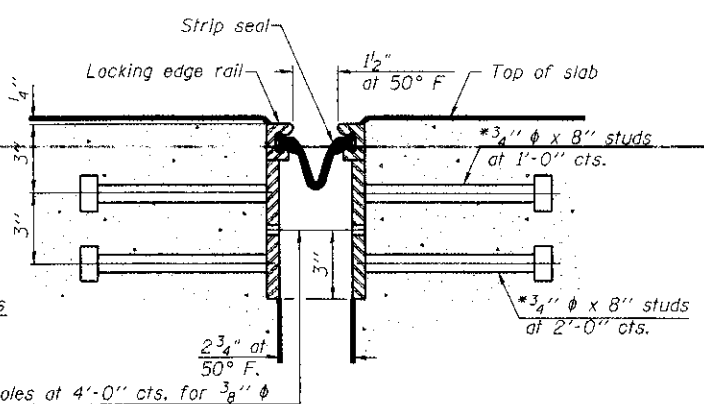
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.



SECTION THRU ROLLED RAIL JOINT

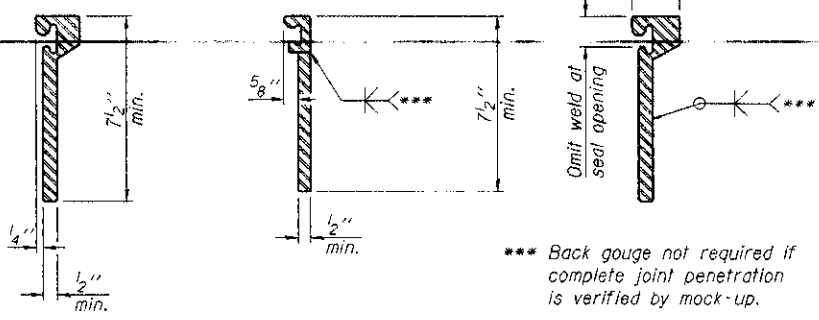


SECTION THRU WELDED RAIL JOINT

7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL **WELDED RAIL**

*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

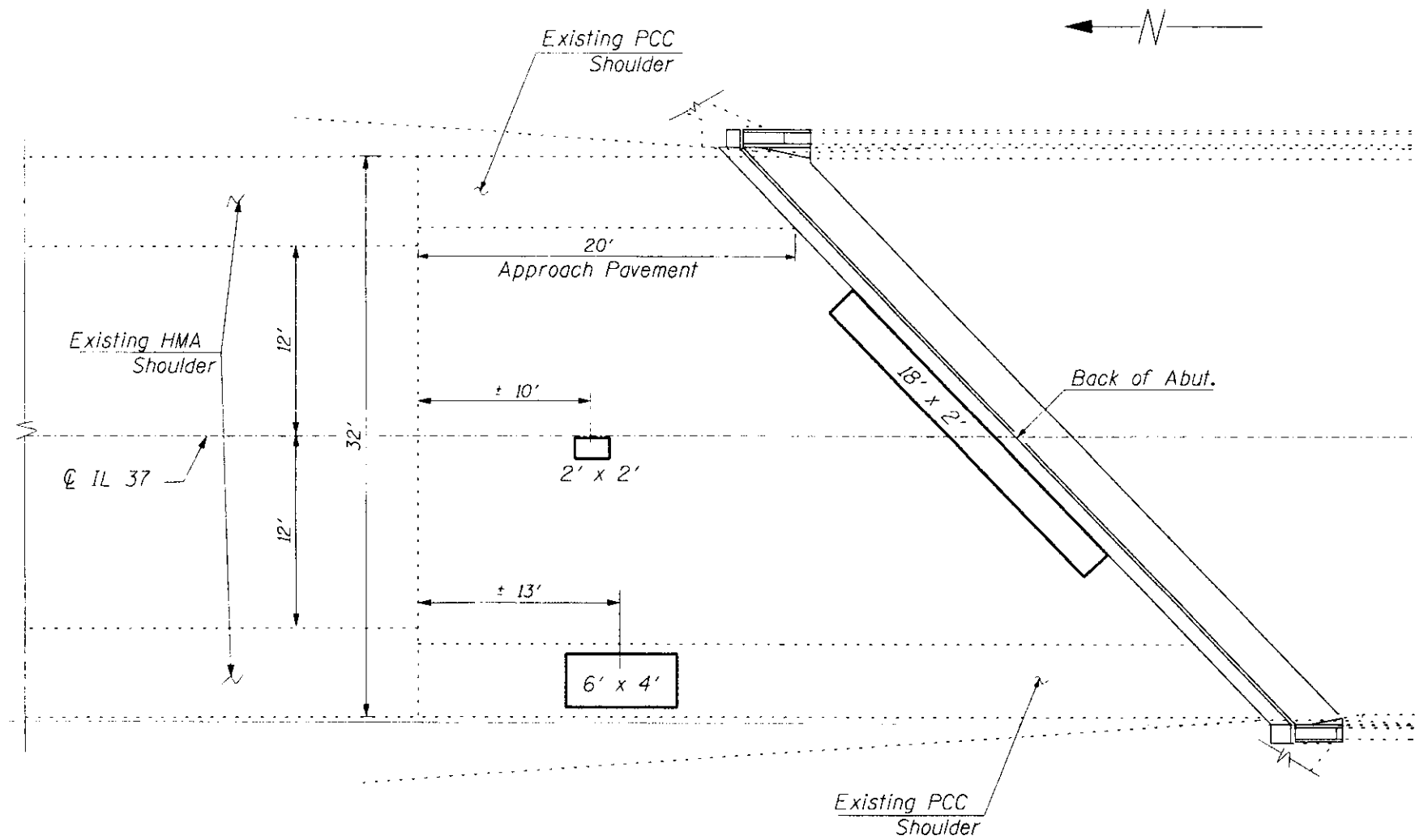
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	176

RTE.	SECTION	SHEETS	SHEET NO.
*	D9 CM BRIDGE REPAIR 2011-2	JEFFERSON	24
*F.A.S. 2869 & F.A.I. 57		CONTRACT NO. 78233	
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			

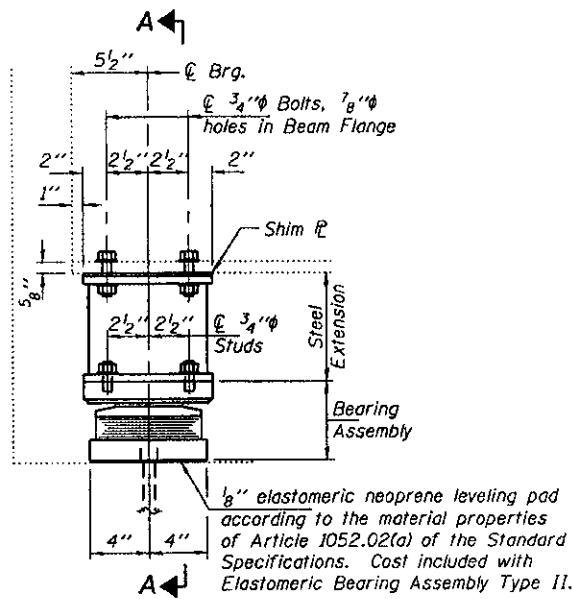


PARTIAL PLAN

□ DECK SLAB REPAIR (PARTIAL)

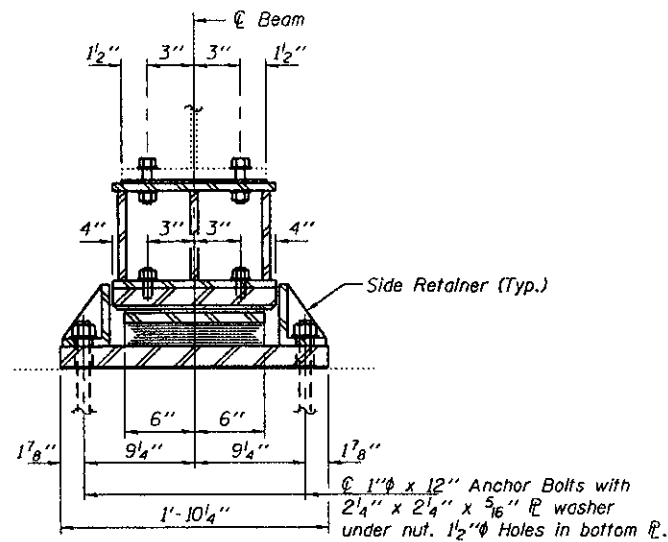
Exact locations and sizes of pavement patches to be determined by the Engineer.

FILE NAME c:\pwwork\p\dot\gautneyrk\d0190478\78212-shl-plan.dgn	USER NAME gautneyrk	DESIGNED RKG	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	APPROACH SLAB PATCHING STRUCTURE NO. 041-0032	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE 2:00 1/2 IN.	CHECKED	REVISED			* D9 CW BRIDGE REPAIR 2011-2	JEFFERSON	24	11	
PLOT DATE 12/22/2010	DATE	REVISED	REVISED	SCALE:	SHEET NO. OF SHEETS	STA.	TO STA.	*F.A.S. 2869 & F.A.I. 57 ILLINOIS FED. AID PROJECT		



ELEVATION AT ABUTMENT

TYPE II TFE ELASTOMERIC EXP. BRG.

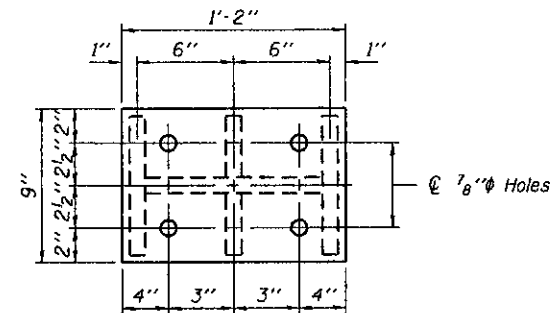


SECTION A-A

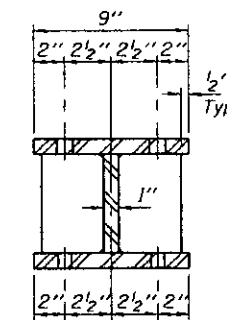
BEAM REACTIONS

RP	19.2
Rt	31.4
Imp.	9.3
R (Total)	59.9

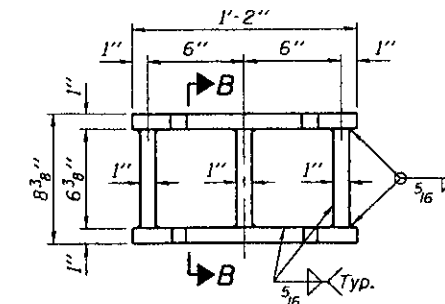
Notes:
 Diaphragm removal and installation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 35 Tons.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
 Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.
 The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



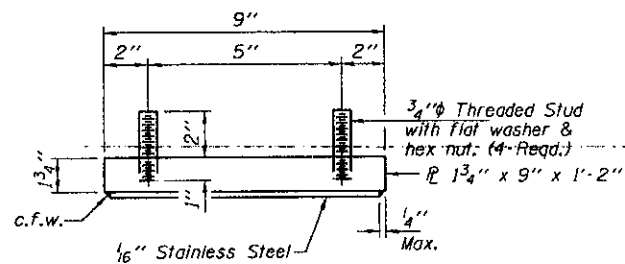
PLAN TOP AND BOTTOM PLATE



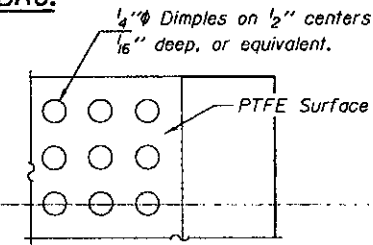
SECTION B-B



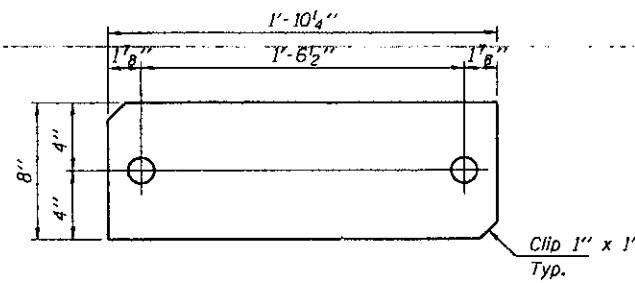
STEEL EXTENSION DETAIL



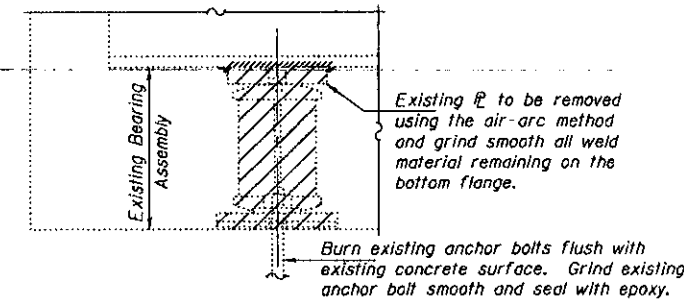
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

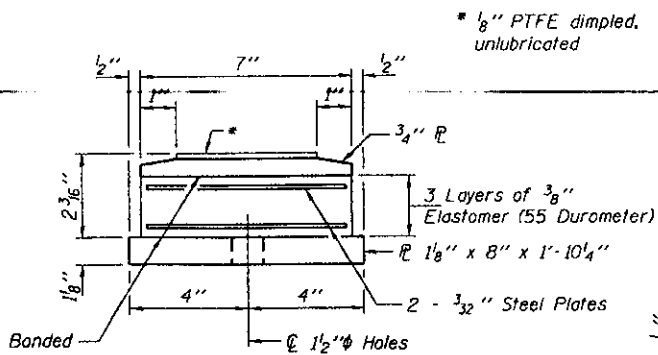


PLAN BOTTOM BEARING PLATE

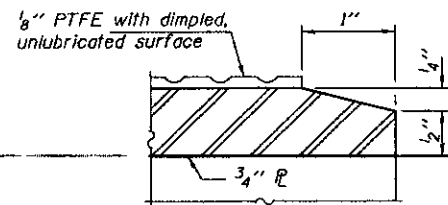


EXISTING BEARING REMOVAL DETAIL

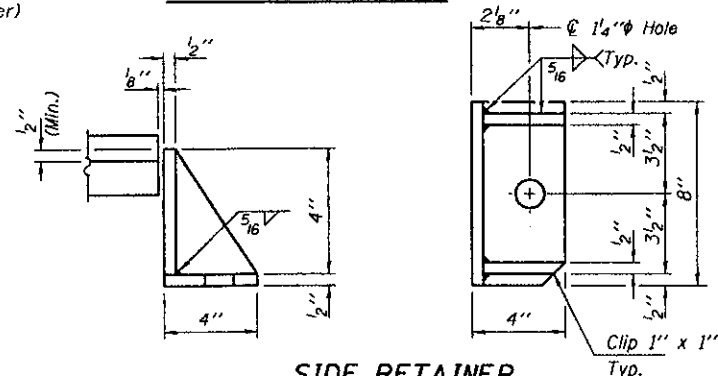
Cost included with Jack and Remove Existing Bearings.



BOTTOM BEARING ASSEMBLY

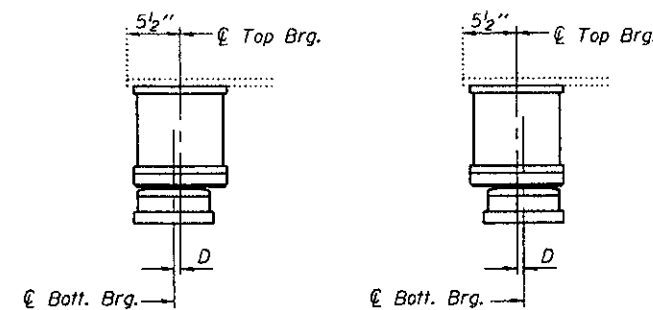


SECTION THRU PTFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50° F. (Move bott. brg. away from fixed brg.)
 ABOVE 50° F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1620
Anchor Bolts 1"φ	Each	24

DESIGNED IJL
 CHECKED ATH
 DRAWN baliva
 CHECKED IJL ATH

EXAMINED *Joyce F. Dill*
 ACTING ENGINEER OF STRUCTURAL SERVICES
 PASSED *Carl Papp*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES
 DATE - JANUARY 28, 2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT DETAILS
 ABUTMENTS
 SN 041-0032

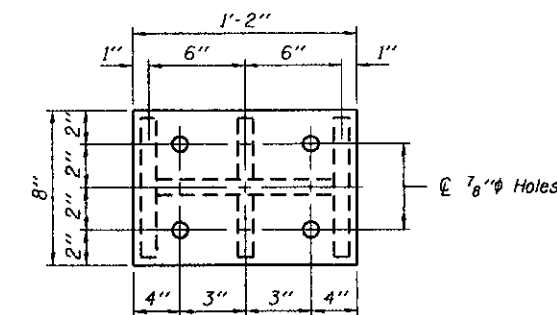
SHEET NO. 1 OF 3 SHEETS

F.A.S. RTE. 2869
 SECTION D9 CM BRIDGE REPAIR 2011-2
 COUNTY JEFFERSON
 TOTAL SHEETS 24
 SHEET NO. 12
 CONTRACT NO. 78233
 ILLINOIS FED. AID PROJECT

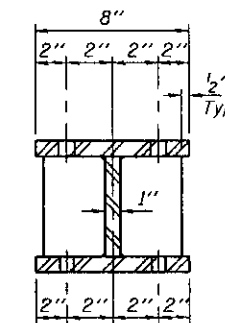
BEAM REACTIONS

R _P	(K)	19.2
R _L	(K)	31.4
Imp.	(K)	9.3
R (Total)	(K)	59.9

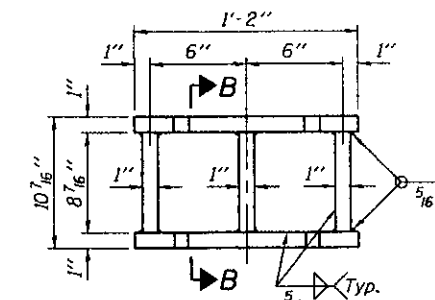
Notes:
 Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 35 Tons.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



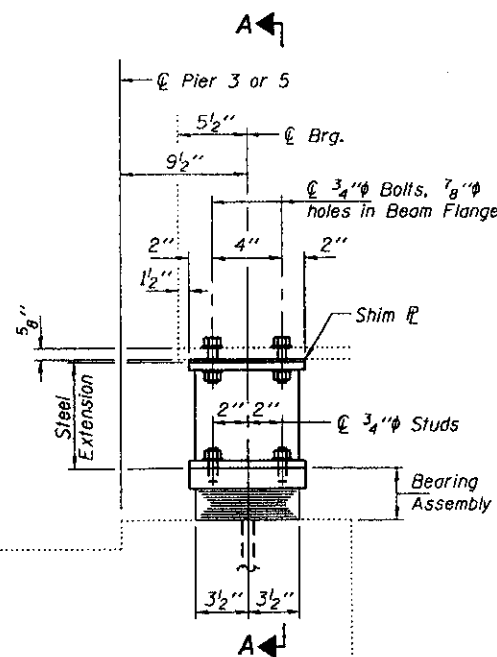
PLAN TOP AND BOTTOM PLATE



SECTION B-B

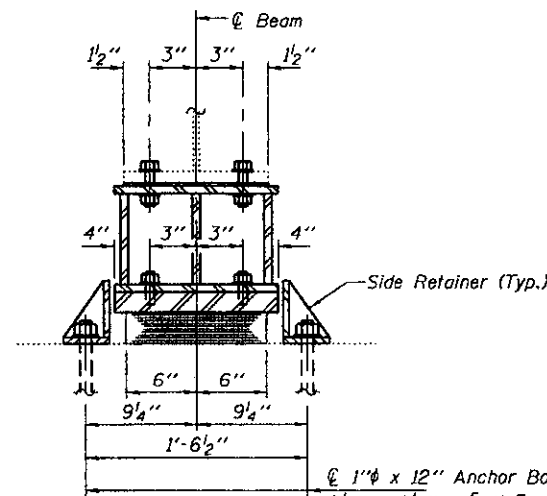


STEEL EXTENSION DETAIL



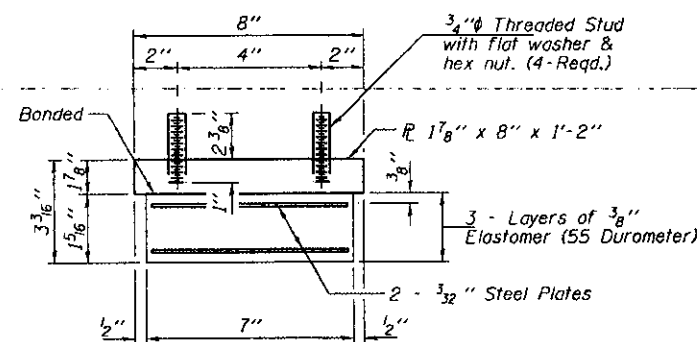
ELEVATION AT PIERS 3 & 5

TYPE I ELASTOMERIC EXP. BRG.



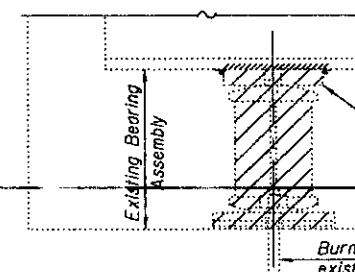
SECTION A-A

1" x 12" Anchor Bolts with 2 1/4" x 2 1/4" x 5/16" washer under nut.



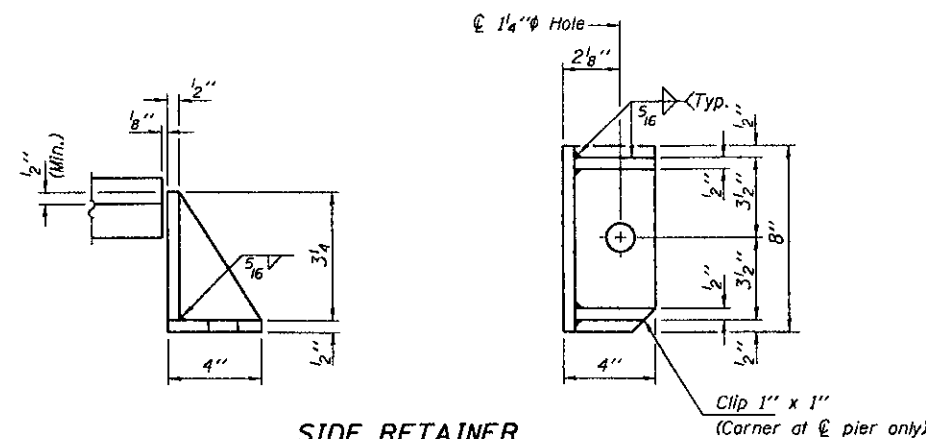
BEARING ASSEMBLY

Note:
 Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1680
Anchor Bolts 1"	Each	24

DESIGNED IJL	EXAMINED	DATE - JANUARY 28, 2011
CHECKED ATH	PASSED	
DRAWN boliva		
CHECKED IJL ATH		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT DETAILS
 PIERS 3 & 5 - UNITS I & III
 SN 041-0032

SHEET NO. 2 OF 3 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2869	D9 CM BRIDGE REPAIR 2011-2	JEFFERSON	24	13
			CONTRACT NO. T8233	
ILLINOIS FED. AID PROJECT				

BEAM REACTIONS

RP	(K)	25.7
RL	(K)	33.9
Imp.	(K)	9.2
R (Total)	(K)	68.8

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost Included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

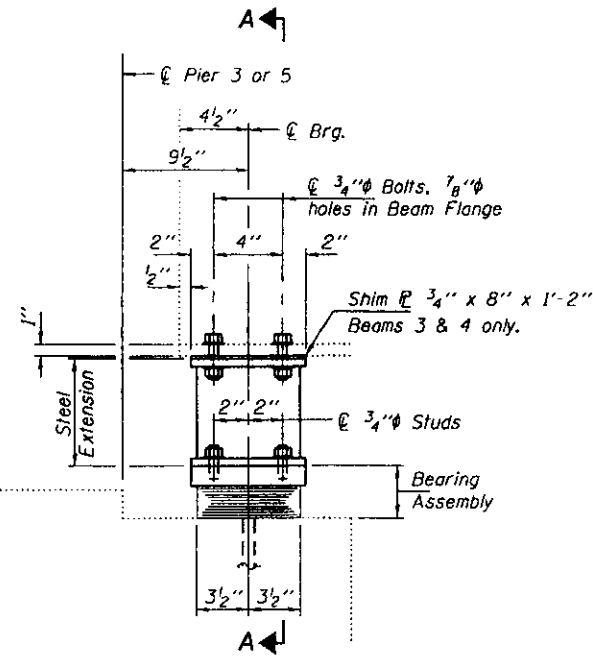
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 40 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

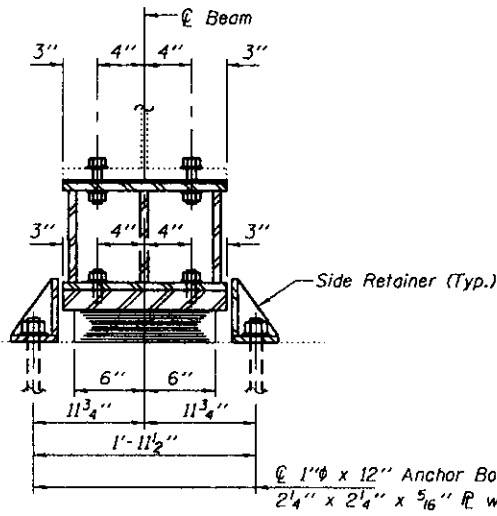
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.

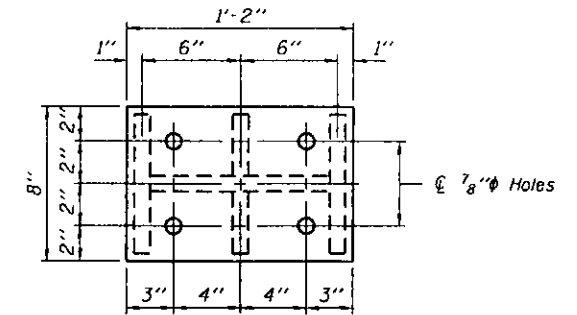


ELEVATION AT PIERS 3 & 5

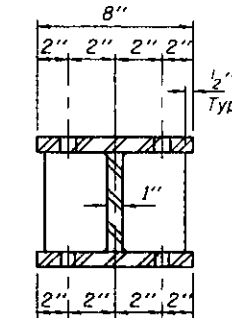


SECTION A-A

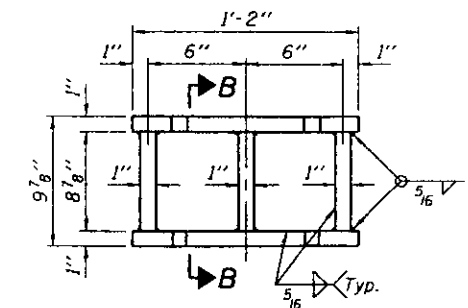
TYPE I ELASTOMERIC EXP. BRG.



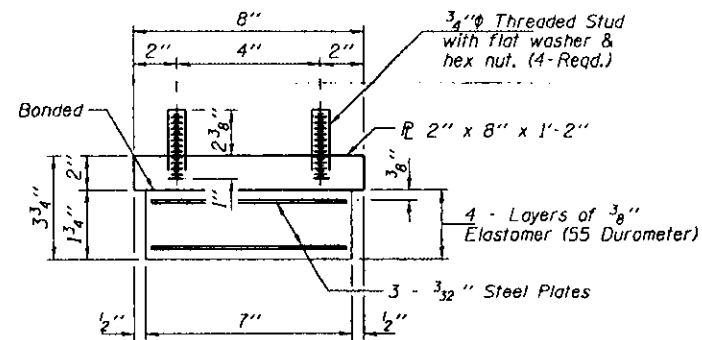
PLAN TOP AND BOTTOM PLATE



SECTION B-B

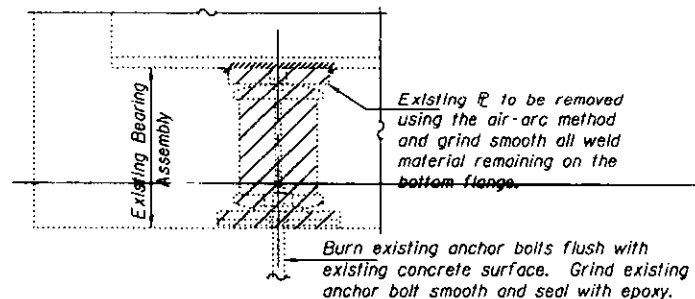


STEEL EXTENSION DETAIL



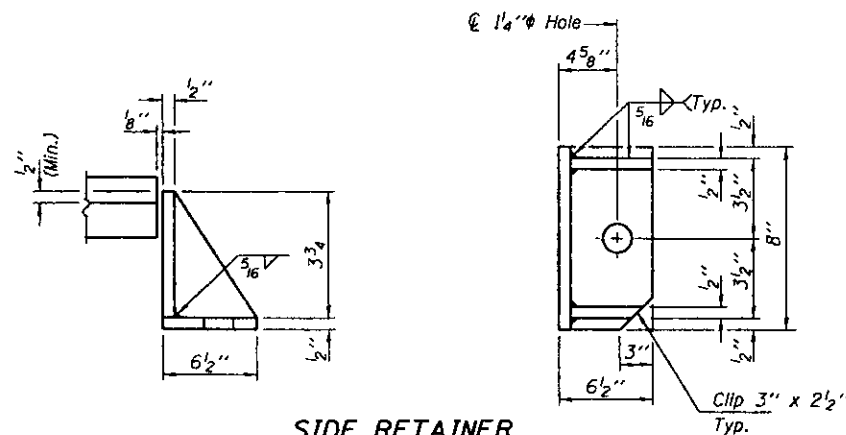
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost Included with Jack and Remove Existing Bearings.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1620
Anchor Bolts 1\"/>		

DESIGNED IJL
CHECKED ATH
DRAWN balivo
CHECKED IJL ATH

EXAMINED *James F. Jeff*
ACTING ENGINEER OF STRUCTURAL SERVICES
PASSED *Carl Perry*
ACTING ENGINEER OF BRIDGES AND STRUCTURES
DATE - JANUARY 28, 2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT DETAILS
PIERS 3 & 5 - UNIT II
SN 041-0032

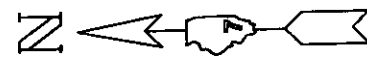
SHEET NO. 3 OF 3 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2869	09 CM BRIDGE REPAIR 2011-2	JEFFERSON	24	14

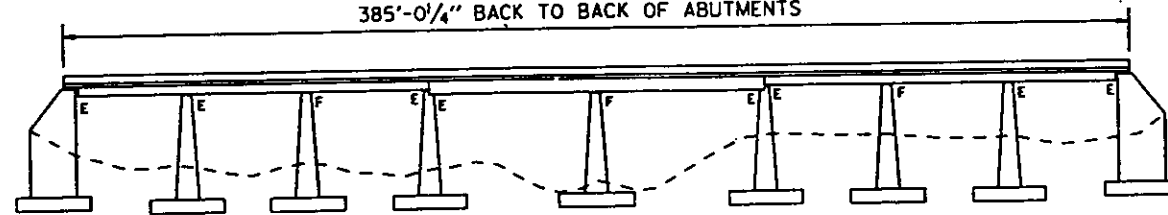
CONTRACT NO. 78233
ILLINOIS FED. AID PROJECT

10/10/08
SAP REV.
10/23/08
LEVELS ON
FEDERAL FILE

FAS ROUTE 2869 (ILL 37)
(1B)DL-98
JEFFERSON COUNTY
SHEET 5 OF 7



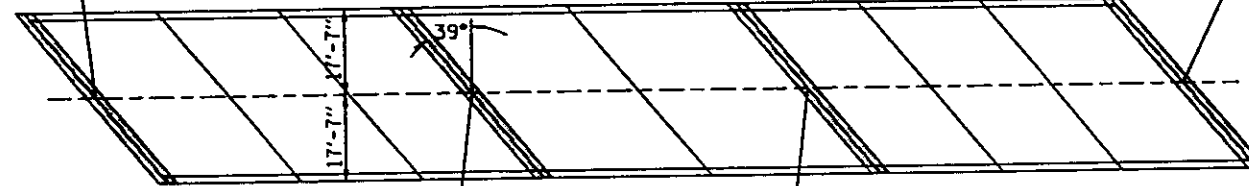
385'-0 1/4" BACK TO BACK OF ABUTMENTS



ELEVATION

BACK NORTH ABUTMENT
STATION 122+39.24

BACK SOUTH ABUTMENT
STATION 124+92.51



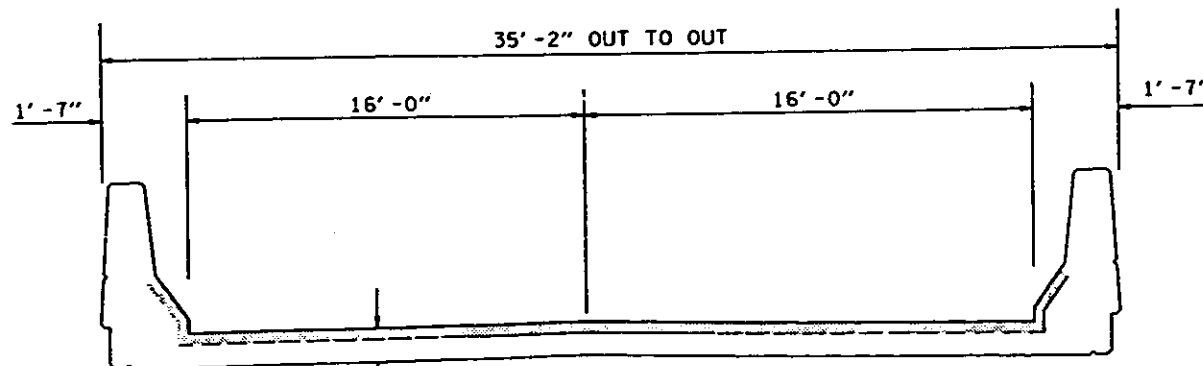
¢ PIER 3
STATION 122+39.24

¢ PIER 5
STATION 123+60.76

PLAN



EXISTING JOINTS TO BE REPLACED



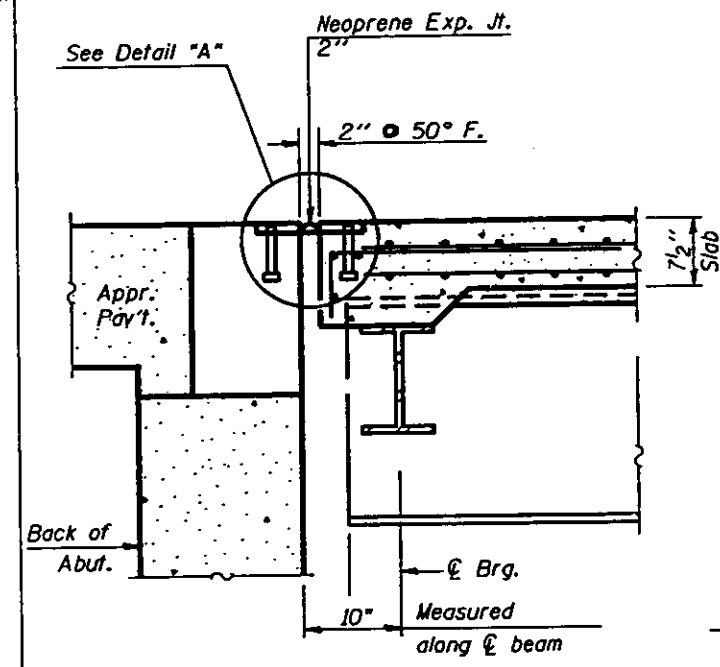
1 1/2"
SLAB

CROSS SECTION
(LOOKING EAST)

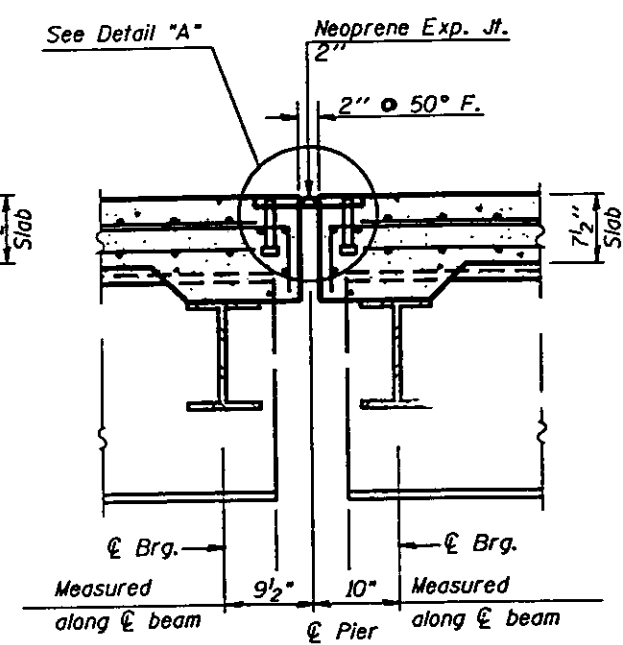
EXISTING STRUCTURE

1101190
 04/23/77
 ROAD LEVELS ON
 GEODATA FILE

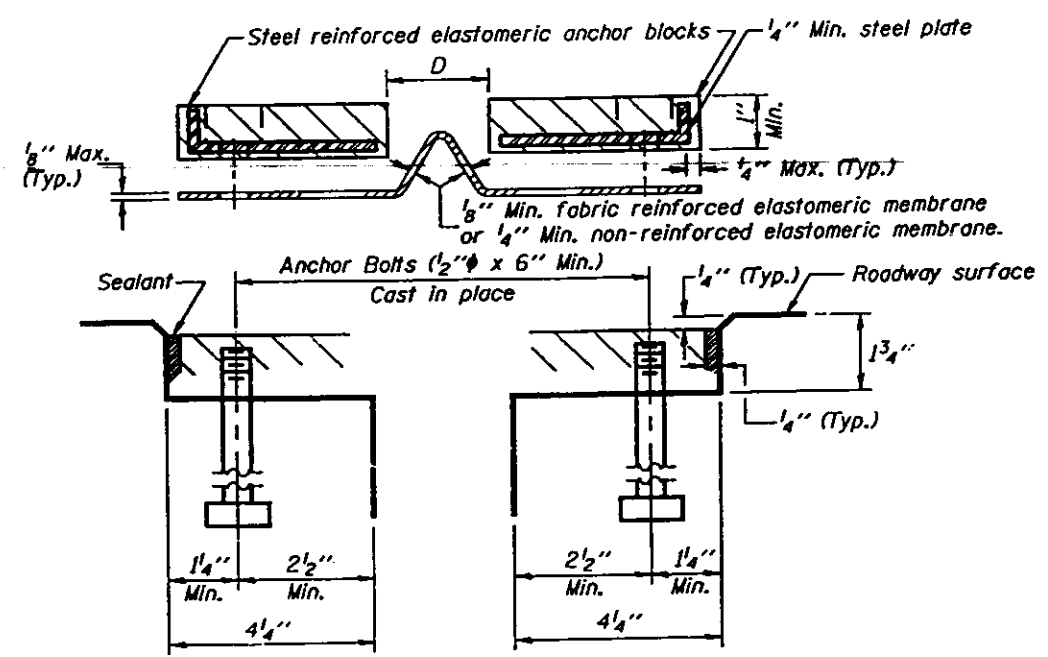
FAS ROUTE 2869 (ILL 37)
 (1B)DL-98
 JEFFERSON COUNTY
 SHEET 6 OF 7



**EXPANSION JOINT
 AT ABUTMENT**



**EXPANSION JOINT
 AT PIER 3 & 5**

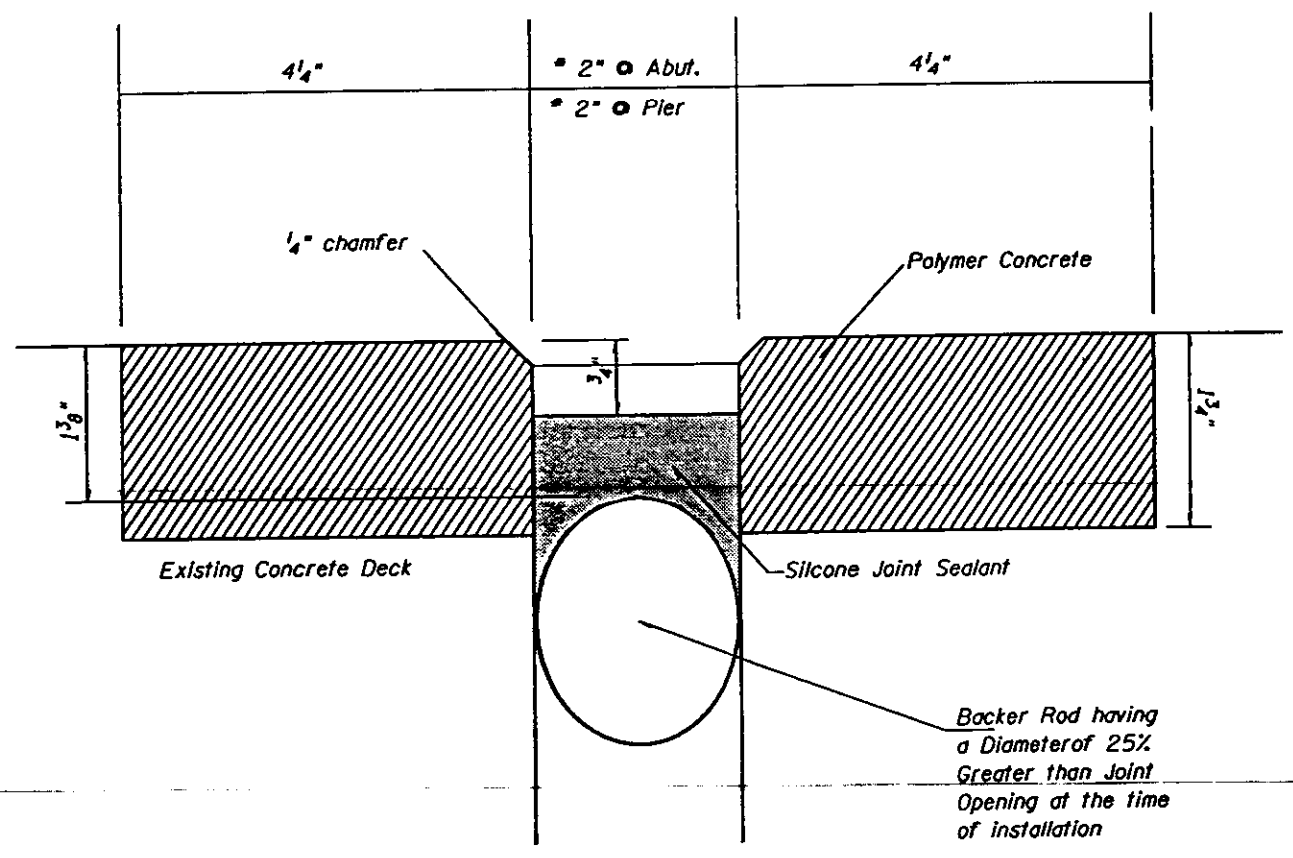


DETAIL "A"

EXISTING JOINT DETAILS

DATE: 11/11/98
DRAWN BY: J. W. BROWN
CHECKED BY: J. W. BROWN
SCALE: AS SHOWN
SHEET NO. 7 OF 7

FAS ROUTE 2869 (ILL 37)
(1B)DL-98
JEFFERSON COUNTY
SHEET 7 OF 7



* Average Existing Dimensions Measured at the Structure. Temp. 75°F±

PROPOSED JOINT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 2869	1 BR-1	JEFFERSON	21	1
P-97-014-82				

INDEX OF SHEETS

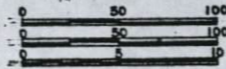
SHEET NO.	TITLE
1	TITLE SHEET AND INDEX OF SHEETS
2	GENERAL NOTES, TYPICAL SECTION AND SUMMARY OF QUANTITIES
3	PLAN AND PROFILE
4	STAGE CONSTRUCTION DETAILS
5	TRAFFIC CONTROL STANDARD 2309 (SPECIAL)
6-21	BRIDGE PLANS

THE FOLLOWING STANDARDS ARE PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 21:

1886-4	SYMBOLS AND ABBREVIATIONS
2113-2	NAME PLATES
2230-14	STEEL PLATE BEAM GUARD RAIL
2298-7	TRAFFIC CONTROL DEVICES
2299-10	TRAFFIC CONTROL DEVICES
2300-3	TRAFFIC CONTROL DEVICES
2302-5	TRAFFIC CONTROL AND PROTECTION
2303-6	TRAFFIC CONTROL AND PROTECTION
2306-6	TRAFFIC CONTROL AND PROTECTION
2307-6	TRAFFIC CONTROL AND PROTECTION
2323-5	PAVEMENT JOINTS
2324-6	BRIDGE APPROACH SHOULDER PAVEMENT
2336-3	TRAFFIC BARRIER TERMINAL, TYPE 1
2341-1	TRAFFIC BARRIER TERMINAL, TYPE 6
2382-1	BRIDGE APPROACH PAVEMENT
2383-1	TEMPORARY CONCRETE BARRIER
2305-5	TRAFFIC CONTROL AND PROTECTION
2308-4	TRAFFIC CONTROL AND PROTECTION
2117-1	BITUMINOUS PATCHING DETAILS

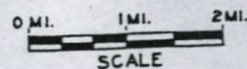
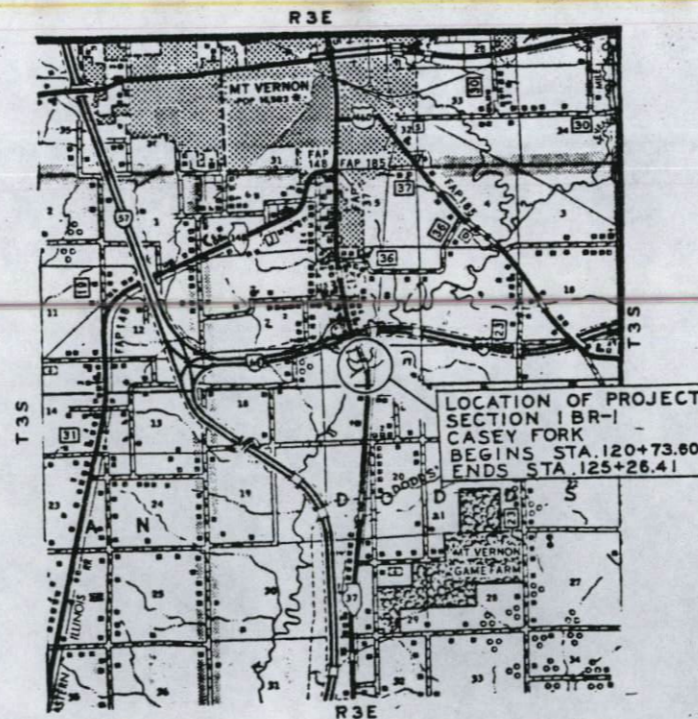
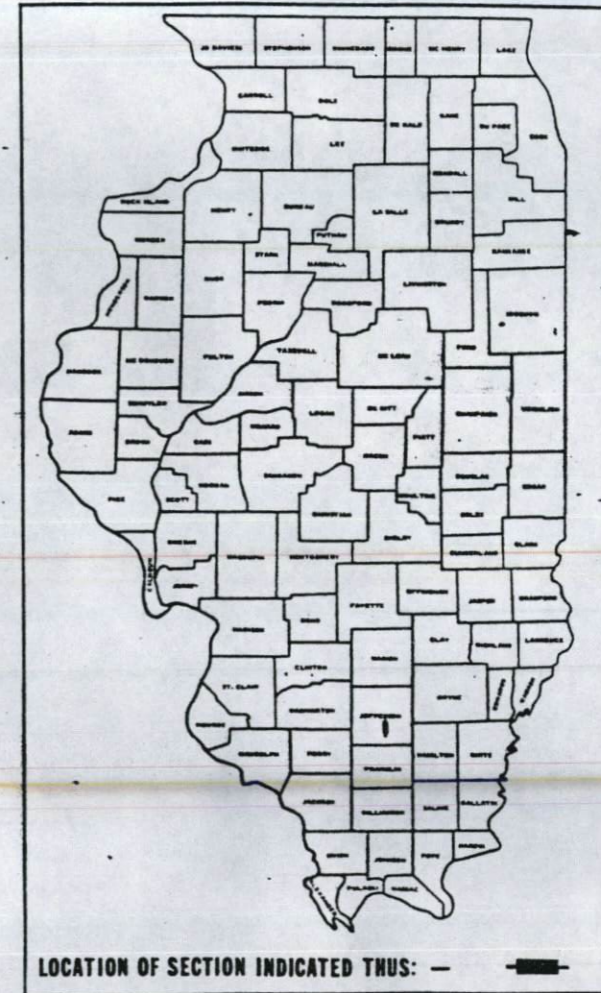
**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

PLAN
PROFILE HORIZ.
PROFILE VERT.
CROSS-SECTIONS



F.A.S. 2869 (ILL. RTE. 37)
SECTION 1 BR-1
PROJECT BHS-2869 (102)
JEFFERSON COUNTY

C-97-066-84



NET LENGTH OF PROJECT = 452.81 FT = .0858 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: Feb 25 1985
M. Q. Nagel DISTRICT ENGINEER

EXAMINED: 3-13 1985
W. W. ... ENGINEER OF PLANS AND CONTRACTS

PASSED: 3-13 1985
John ... ENGINEER OF RECORD

APPROVED: 3-13 1985
John ... DIRECTOR, DIVISION OF HIGHWAYS

F.A.S.	BR-1	Jefferson	21	6
2869				

GENERAL NOTES

- FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" Ø, OPEN HOLES 13/16" Ø, OR 7/8" Ø, OPEN HOLES 15/16" Ø, UNLESS OTHERWISE NOTED.
- CALCULATED WEIGHT OF STRUCTURAL STEEL EQUALS 144,650 POUNDS. (M183 -- 34,950) (M223 -- 109,700)
- THE BASIC LEAD SILICO PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL, EXCEPT WHERE OTHERWISE NOTED.
- FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
- ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER THE SUPPORTS.
- THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE NEW SPLICE PLATE MATERIAL AND STEEL WIDE FLANGE BEAMS.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 OR M-53 GRADE 60.
- THE EXPOSED PORTIONS OF THE BACK FACE OF THE ABUTMENTS SHALL BE WATER-PROOFED ACCORDING TO ARTICLE 503.11 OF THE STANDARD SPECIFICATIONS.
- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL 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.
- BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENTS SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIPPING THE BEARING. TWO 1/8" ADJUSTING SHIMS OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.
- ALL STRUCTURAL STEEL SHALL BE AASHTO M223 GRADE 50, EXCEPT AS OTHERWISE NOTED.
- ALL EXISTING STEEL SHALL BE METHOD II, EXCEPT 5 FOOT OF EACH BEAM END SHALL BE "CLEANED" BY METHOD I.
- ALL AREAS CLEANED BY METHOD I SHALL RECEIVE (3) THREE COATS OF BASIC LEAD SILICO CHROMATE SYSTEM. ALL AREAS CLEANED BY METHOD II SHALL BE SPOT PAINTED WITH DULL ORANGE PRIMER AND GIVEN (1) ONE-COAT OF MAROON PRIMER COAT AND (1) ONE COAT OF INTERSTATE GREEN FINAL FIELD COAT IN ACCORDANCE WITH ARTICLE 712.28 OF THE STANDARD SPECIFICATIONS.

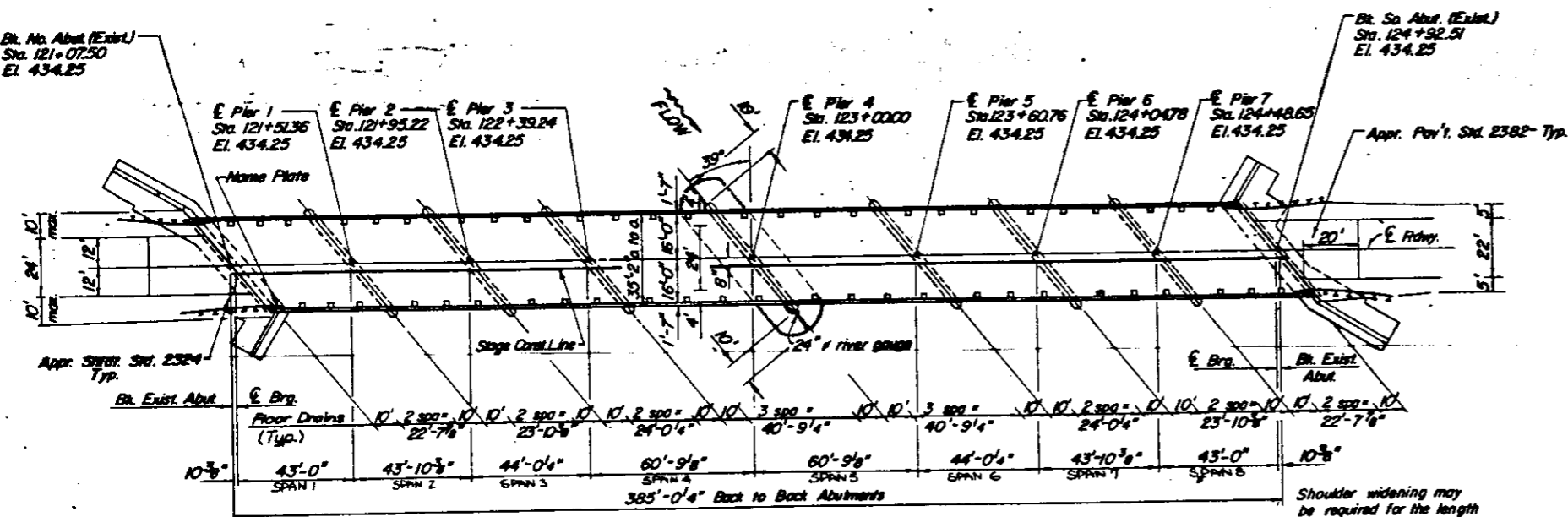
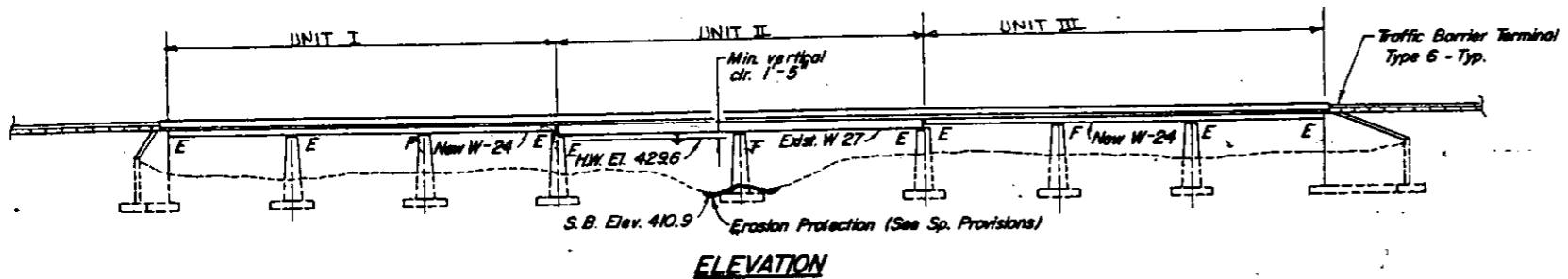
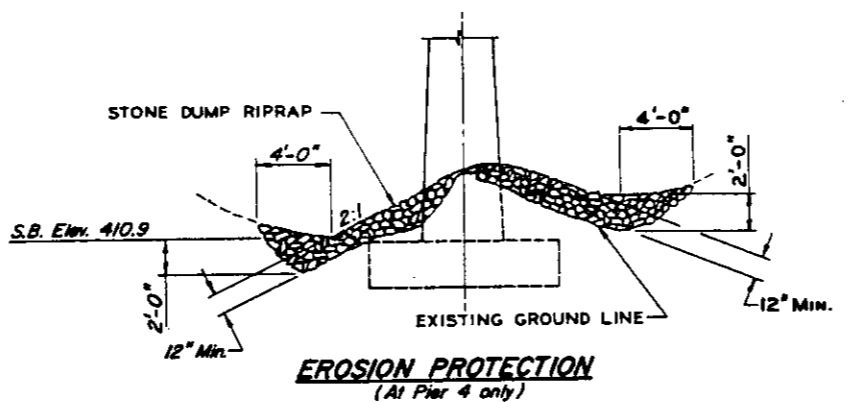
TOTAL BILL OF MATERIALS

ITEM	UNIT	SUB	SUPER	TOTAL
Concrete Removal	Cu. Yd.	87.8		87.8
Floor Drains	Each		52	52
Protective Coat	Sq. Yd.		1700	1700
Class X Concrete	Cu. Yd.	77.4	444.8	482.2
Structural Steel	L. Sum		1	1
Stud Shear Connectors	Each		5628	5628
Reinforcement Bars	Pound	9410		9410
Reinforcement Bars (Epoxy Coated)	Pound		93850	93850
Name Plates	Each		1	1
Remove & Re-erect Structural Steel	L. Sum		1	1
Cleaning & Painting Steel Bridge	L. Sum		1	1
Neoprene Expansion Joint, 2"	Lin. Ft.		175	175
Removal of Existing Superstructure	Each		1	1
STONE DUMP RIPRAP	TON	104		104
Temporary Sheet Piling	SQ FT	420		420
Removal of Existing Concrete Deck	L SUM		1	1

Bench Mark: Bronze disc U.S.G.S. L-252 in N.E. wing of existing structure. Elevation 434.51

Existing Structure: S.N. 041-0032. Built in 1921 under SBI Rte. 37, Sec. 1B & C. Rehabilitated in 1951 under Sec. 1-B7, 6 approach spans R.C.D.G. & 2 main spans steel W-bm. 33'-8" out to out & 385'-0" length. The structural steel of spans 4 & 5 and all the substructure shall be reused after adequate rehabilitation.

Stage Construction: Shall be utilized providing one lane of traffic at all times.



PLAN

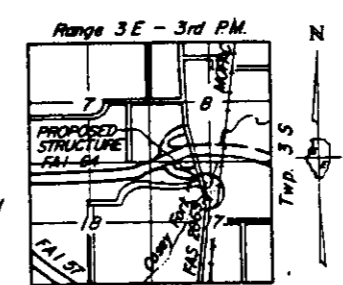
DESIGN STRESSES

$f_c = 3,500$ psi
 $f_y = 60,000$ p.s.i. (reinforcement)
 $f_y = 50,000$ p.s.i. (Struct. Steel)
 $f_y = 36,000$ p.s.i. (M183 Steel)
 $f_y = 33,000$ p.s.i. (Exist.)

LOADING HS20-44

Design Specifications: 1977 A.A.S.H.T.O. and 1978 thru 1983 interim spec's.

Allow 25 #/sq.ft. for future wearing surface.



LOCATION MAP

Sta.	Elev.
Sta. 120+00.00	Elev. 434.22
Sta. 121+00.00	Elev. 434.25
Sta. 122+00.00	Elev. 434.08

PROFILE GRADE

STATION 123+00 BUILT 198... BY STATE OF ILLINOIS F.A.S. RTE. 2869 SECTION 1BR-1 LOADING HS 20 STR. NO. 041-0032

NOTE: Structure number to be provided by District.

NAME PLATE
(See Std. 2113)

PROJECT BMS-2869 (102)

WATERWAY INFORMATION

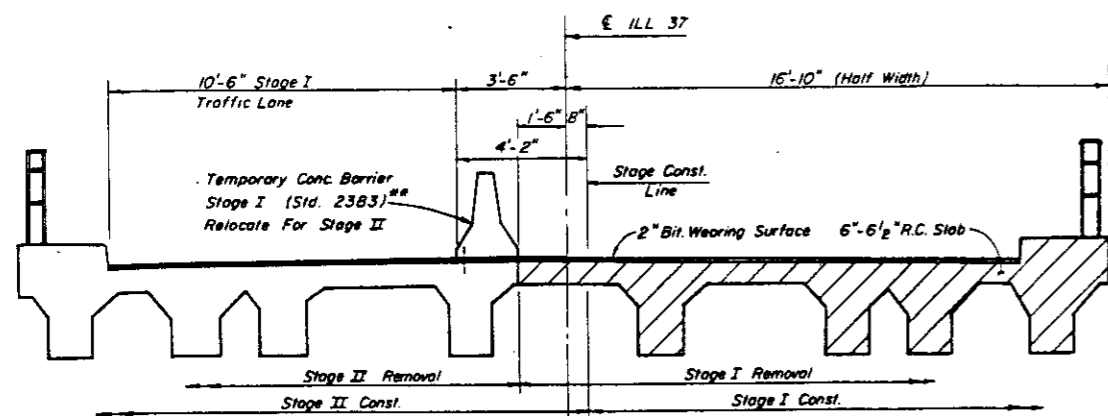
Drainage Area 88.7 Sq. mi. Low Grade Elev. 431.9 at Sta. 210+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Not. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	Headwater El. Prop.
Design	30	9790	2645 2645	429.6	0.73 0.73	430.33	430.33
Base	100	11371	2868 2868	430.4	0.92 0.92	431.32	431.32
Overlapping	250	13600	2977 2977	430.9	1.11 1.11	432.0	432.0
Max. Calc.	500						



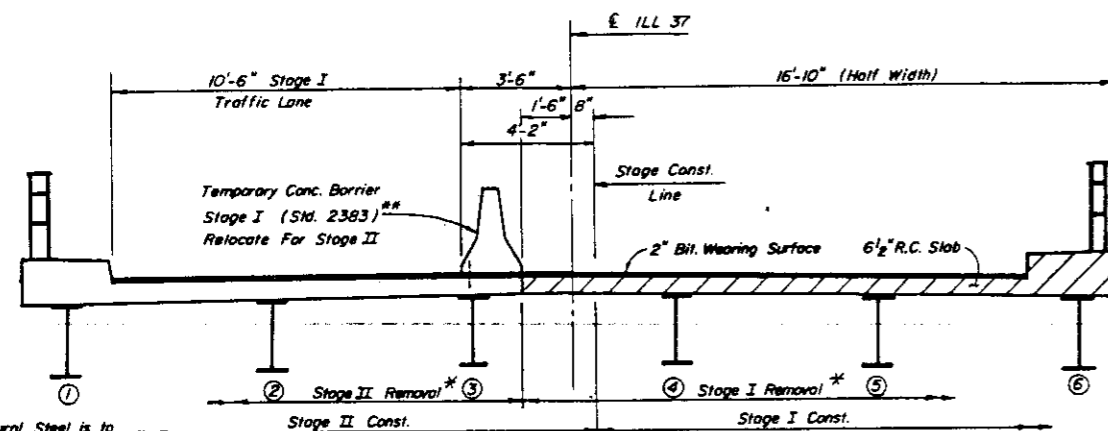
APPROVED
FOR STRUCTURAL AGENCY ONLY
James J. Hubert
Engineer of Bridge Structures

GENERAL PLAN
ILLINOIS ROUTE 37 OVER CASEY FORK
FAS ROUTE 2869 - SECTION 1BR-1
JEFFERSON COUNTY
STATION 123+00.00

FAS	SECTION	PROJECT	TOTAL SHEETS	SHEET NO.
2869	1BR-1	Jefferson	21	7



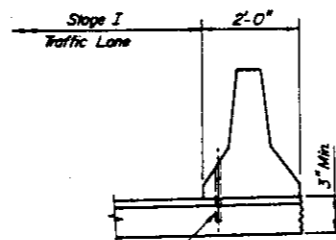
SPANS 1-3 B 6-8



SPANS 4 B 5

EXISTING CROSS-SECTIONS

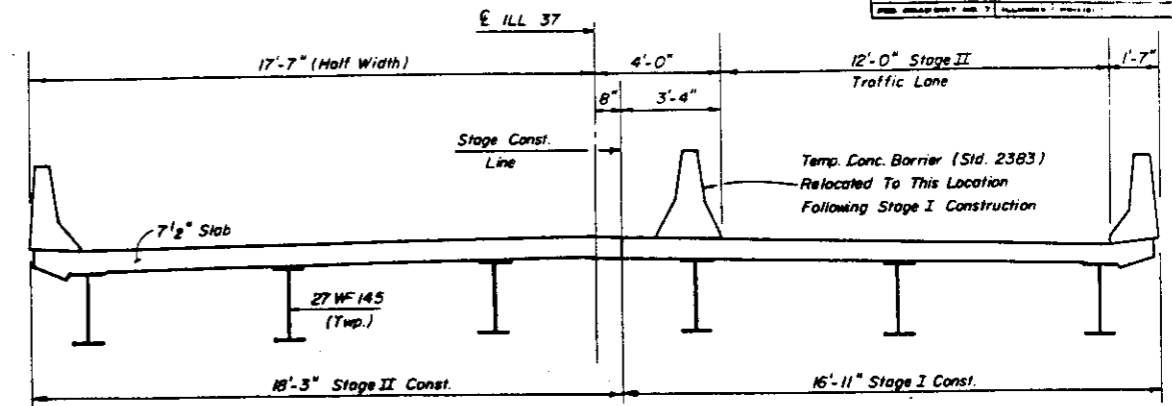
(Showing Stage I Traffic)



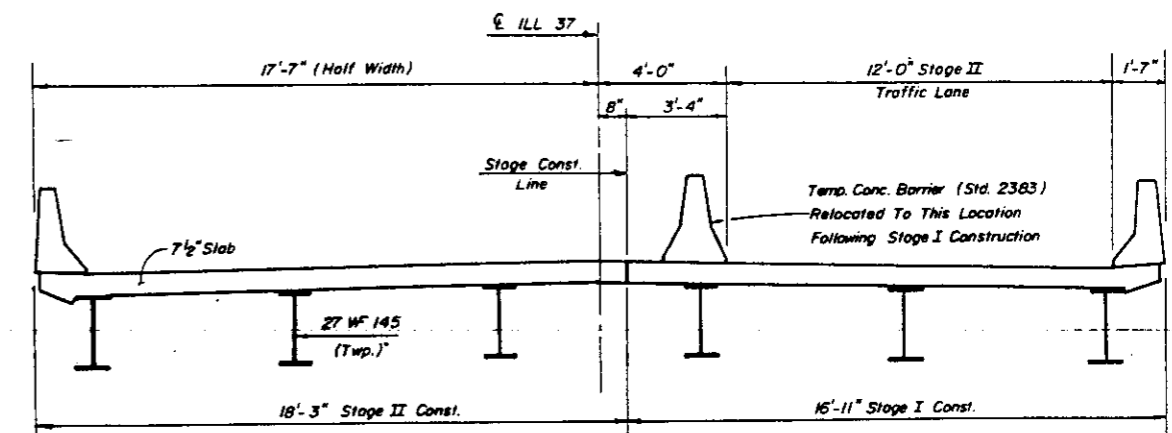
Drill 1/4" # holes in exist slab for 1" # x 10" dowel bars Traffic side only. Cast incidental to Temporary Concrete Barrier.

ANCHOR DETAIL

Remove cross-hatched portion during Stage I - Balance of Superstructure during Stage II.



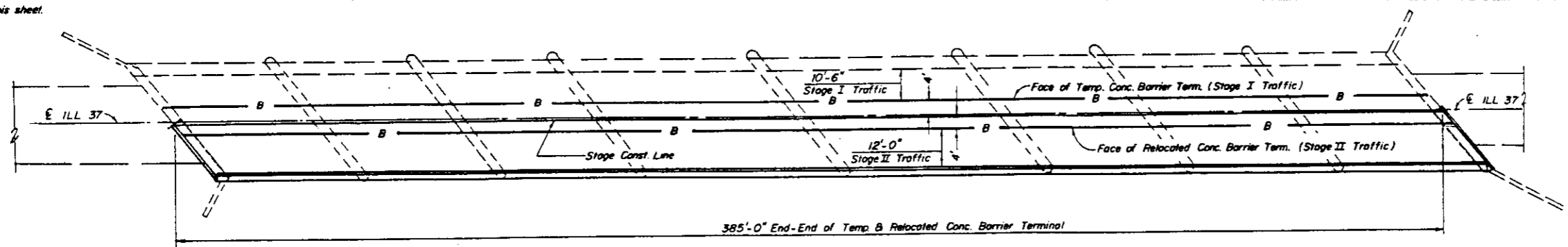
SPANS 1-3 B 6-8



SPANS 4 B 5

PROPOSED CROSS SECTIONS

(Showing Stage II Traffic)



PLAN VIEW

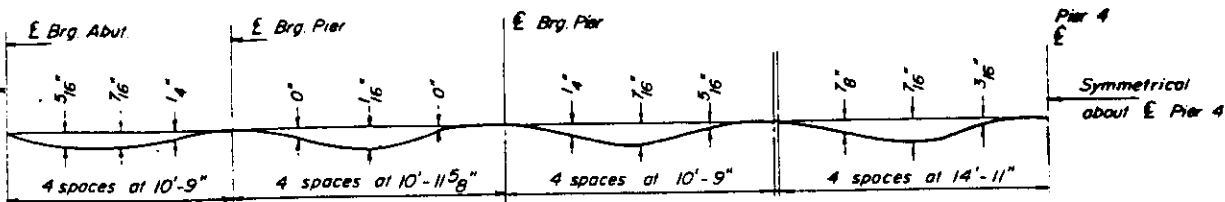
(Showing Staging Traffic Lanes)

NOTE: Following completion of Stage I construction, relocate Temp. Conc. Barrier to location shown for Stage II Traffic.

STAGING SEQUENCE
 FAS RTE 2869 SECTION 1BR-1
 JEFFERSON COUNTY
 STA 123+00

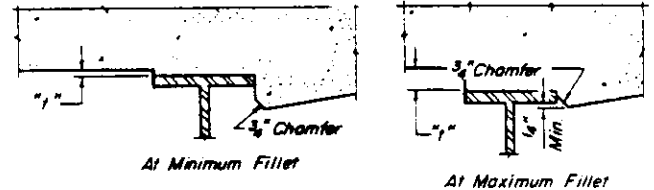
* NOTE: Structural Steel is to be removed, cleaned & re-erected. See Special Provisions.
 Beams ④ ⑤ ⑥ to be removed during Stage I.
 Beams ① ② ③ to be removed during Stage II.
 ** NOTE: Anchor to existing slab. See Anchor Detail this sheet.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



To determine "i": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "i" above top flange of beams.

FILLET HEIGHTS

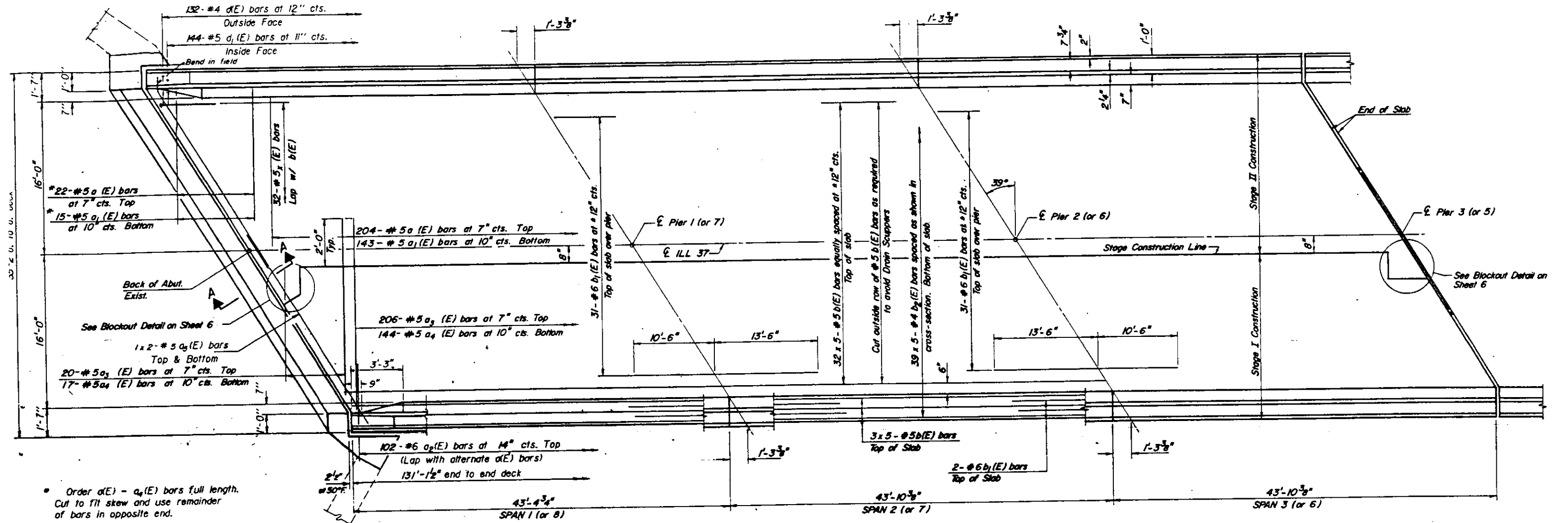
Line	Beam	Station	Theoretical Grade Elevation	Elevation Adjusted For Dead Load Deflection
Bk. No. Abut.				
A	Beam 1	12094.639	433.982	433.982
	Beam 2	12099.787	434.101	434.101
	Beam 3	12104.915	434.200	434.200
	Beam 4	12110.045	434.200	434.200
	Beam 5	12115.173	434.101	434.101
	Beam 6	12120.301	433.982	433.982
E Brg. No. Abut.				
B	Beam 1	12095.519	433.982	433.982
	Beam 2	12100.647	434.101	434.101
	Beam 3	12105.775	434.200	434.200
	Beam 4	12110.905	434.200	434.200
	Beam 5	12116.033	434.101	434.101
	Beam 6	12121.161	433.982	433.982
C				
	Beam 1	12105.519	433.982	434.007
	Beam 2	12110.647	434.101	434.126
	Beam 3	12115.775	434.200	434.224
	Beam 4	12120.905	434.200	434.224
	Beam 5	12126.033	434.101	434.127
	Beam 6	12131.161	433.982	434.007
D				
	Beam 1	12115.519	433.982	434.017
	Beam 2	12120.647	434.101	434.136
	Beam 3	12125.775	434.200	434.235
	Beam 4	12130.905	434.200	434.235
	Beam 5	12136.033	434.101	434.134
	Beam 6	12141.161	433.982	434.017
E				
	Beam 1	12125.519	433.982	434.007
	Beam 2	12130.647	434.101	434.126
	Beam 3	12135.775	434.200	434.224
	Beam 4	12140.905	434.200	434.224
	Beam 5	12146.033	434.101	434.126
	Beam 6	12151.161	433.982	434.007
F Pier 1				
	Beam 1	12130.519	433.982	433.982
	Beam 2	12135.647	434.101	434.101
	Beam 3	12140.775	434.200	434.200
	Beam 4	12145.905	434.200	434.200
	Beam 5	12151.033	434.101	434.101
	Beam 6	12156.161	433.982	433.982
C				
	Beam 1	12144.519	433.982	433.982
	Beam 2	12149.647	434.101	434.101
	Beam 3	12154.775	434.200	434.200
	Beam 4	12159.905	434.200	434.200
	Beam 5	12165.033	434.101	434.101
	Beam 6	12170.161	433.982	433.982

Line	Beam	Station	Theoretical Grade Elevation	Elevation Adjusted For Dead Load Deflection
H				
	Beam 1	12158.519	433.982	433.982
	Beam 2	12163.647	434.101	434.101
	Beam 3	12168.775	434.200	434.200
	Beam 4	12173.905	434.200	434.200
	Beam 5	12179.033	434.101	434.101
	Beam 6	12184.161	433.982	433.982
I				
	Beam 1	12168.519	433.982	433.982
	Beam 2	12173.647	434.101	434.101
	Beam 3	12178.775	434.200	434.200
	Beam 4	12183.905	434.200	434.200
	Beam 5	12189.033	434.101	434.101
	Beam 6	12194.161	433.982	433.982
J Pier 2				
	Beam 1	12182.519	433.982	433.982
	Beam 2	12187.647	434.101	434.101
	Beam 3	12192.775	434.200	434.200
	Beam 4	12197.905	434.200	434.200
	Beam 5	12203.033	434.101	434.101
	Beam 6	12208.161	433.982	433.982
K				
	Beam 1	12192.519	433.982	433.982
	Beam 2	12197.647	434.101	434.101
	Beam 3	12202.775	434.200	434.200
	Beam 4	12207.905	434.200	434.200
	Beam 5	12213.033	434.101	434.101
	Beam 6	12218.161	433.982	433.982
L				
	Beam 1	12202.519	433.982	434.019
	Beam 2	12207.647	434.101	434.134
	Beam 3	12212.775	434.200	434.233
	Beam 4	12217.905	434.200	434.233
	Beam 5	12223.033	434.101	434.134
	Beam 6	12228.161	433.982	434.019
M				
	Beam 1	12212.519	433.982	434.013
	Beam 2	12217.647	434.101	434.133
	Beam 3	12222.775	434.200	434.232
	Beam 4	12227.905	434.200	434.232
	Beam 5	12233.033	434.101	434.133
	Beam 6	12238.161	433.982	434.013
N Brg. Pier 3				
	Beam 1	12225.519	433.982	433.982
	Beam 2	12230.647	434.101	434.101
	Beam 3	12235.775	434.200	434.200
	Beam 4	12240.905	434.200	434.200
	Beam 5	12246.033	434.101	434.101
	Beam 6	12251.161	433.982	433.982

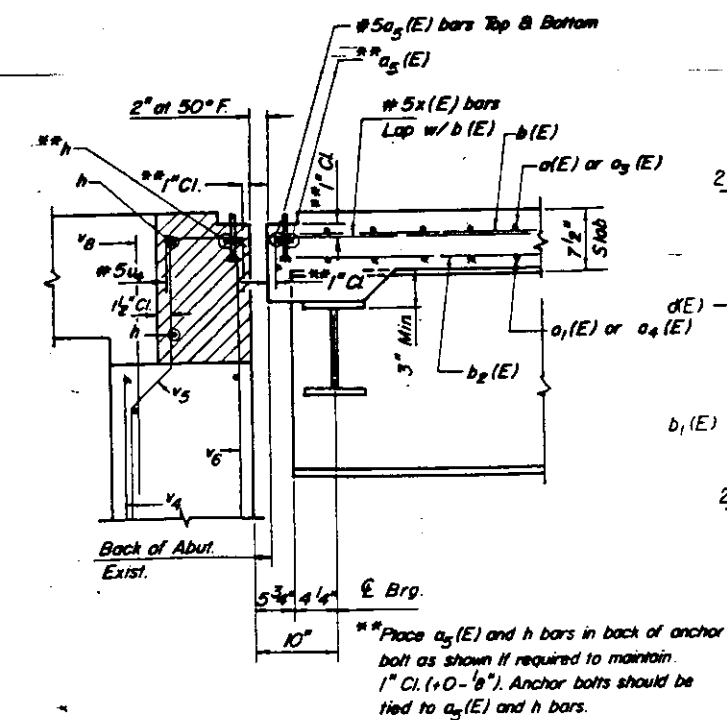
Line	Beam	Station	Theoretical Grade Elevation	Elevation Adjusted For Dead Load Deflection
O Brg. Pier 3				
	Beam 1	12227.479	433.982	433.982
	Beam 2	12232.607	434.101	434.101
	Beam 3	12237.735	434.200	434.200
	Beam 4	12242.863	434.200	434.200
	Beam 5	12247.991	434.101	434.101
	Beam 6	12253.119	433.982	433.982
P				
	Beam 1	12237.479	433.982	434.083
	Beam 2	12242.607	434.101	434.184
	Beam 3	12247.735	434.200	434.283
	Beam 4	12252.863	434.200	434.283
	Beam 5	12257.991	434.101	434.184
	Beam 6	12263.119	433.982	434.083
Q				
	Beam 1	12247.479	433.982	434.018
	Beam 2	12252.607	434.101	434.117
	Beam 3	12257.735	434.200	434.217
	Beam 4	12262.863	434.200	434.217
	Beam 5	12267.991	434.101	434.117
	Beam 6	12273.119	433.982	434.018
R				
	Beam 1	12257.479	433.982	434.018
	Beam 2	12262.607	434.101	434.117
	Beam 3	12267.735	434.200	434.216
	Beam 4	12272.863	434.200	434.216
	Beam 5	12277.991	434.101	434.117
	Beam 6	12283.119	433.982	434.018
S				
	Beam 1	12267.479	433.982	434.089
	Beam 2	12272.607	434.101	434.188
	Beam 3	12277.735	434.200	434.284
	Beam 4	12282.863	434.200	434.284
	Beam 5	12287.991	434.101	434.188
	Beam 6	12293.119	433.982	434.089
T				
	Beam 1	12277.479	433.982	433.989
	Beam 2	12282.607	434.101	434.109
	Beam 3	12287.735	434.200	434.208
	Beam 4	12292.863	434.200	434.208
	Beam 5	12297.991	434.101	434.109
	Beam 6	12303.119	433.982	433.989
U Brg. Pier 4				
	Beam 1	12287.166	433.982	433.982
	Beam 2	12292.295	434.101	434.101
	Beam 3	12297.423	434.200	434.200
	Beam 4	12302.552	434.200	434.200
	Beam 5	12307.680	434.101	434.101
	Beam 6	12312.809	433.982	433.982
V				
	Beam 1	12297.166	433.982	433.990
	Beam 2	12302.295	434.101	434.109
	Beam 3	12307.423	434.200	434.208
	Beam 4	12312.552	434.200	434.208
	Beam 5	12317.680	434.101	434.109
	Beam 6	12322.809	433.982	433.990
W				
	Beam 1	12307.166	433.982	434.006
	Beam 2	12312.295	434.101	434.124
	Beam 3	12317.423	434.200	434.224
	Beam 4	12322.552	434.200	434.224
	Beam 5	12327.680	434.101	434.124
	Beam 6	12332.809	433.982	434.006
X				
	Beam 1	12317.166	433.982	434.018
	Beam 2	12322.295	434.101	434.137
	Beam 3	12327.423	434.200	434.236
	Beam 4	12332.552	434.200	434.236
	Beam 5	12337.680	434.101	434.137
	Beam 6	12342.809	433.982	434.018
Y				
	Beam 1	12327.166	433.982	434.018
	Beam 2	12332.295	434.101	434.137
	Beam 3	12337.423	434.200	434.236
	Beam 4	12342.552	434.200	434.236
	Beam 5	12347.680	434.101	434.137
	Beam 6	12352.809	433.982	434.018
Z				
	Beam 1	12327.086	433.982	434.084
	Beam 2	12332.215	434.101	434.184
	Beam 3	12337.343	434.200	434.283
	Beam 4	12338.552	434.200	434.283
	Beam 5	12343.680	434.101	434.184
	Beam 6	12348.809	433.982	434.084
AA Brg. Pier 5				
	Beam 1	12346.854	433.982	433.982
	Beam 2	12351.982	434.101	434.101
	Beam 3	12357.110	434.200	434.200
	Beam 4	12362.238	434.200	434.200
	Beam 5	12367.366	434.101	434.101
	Beam 6	12372.494	433.982	433.982
BB Brg. Pier 5				
	Beam 1	12346.969	433.982	433.982
	Beam 2	12351.097	434.101	434.101
	Beam 3	12355.225	434.200	434.200
	Beam 4	12359.353	434.200	434.200
	Beam 5	12363.481	434.101	434.101
	Beam 6	12367.610	433.982	433.982
CC				
	Beam 1	12350.969	433.982	434.007
	Beam 2	12355.097	434.101	434.127
	Beam 3	12359.225	434.200	434.226
	Beam 4	12363.353	434.200	434.226
	Beam 5	12367.481	434.101	434.127
	Beam 6	12371.610	433.982	434.007
DD				
	Beam 1	12368.969	433.982	43

STATE OF ILLINOIS
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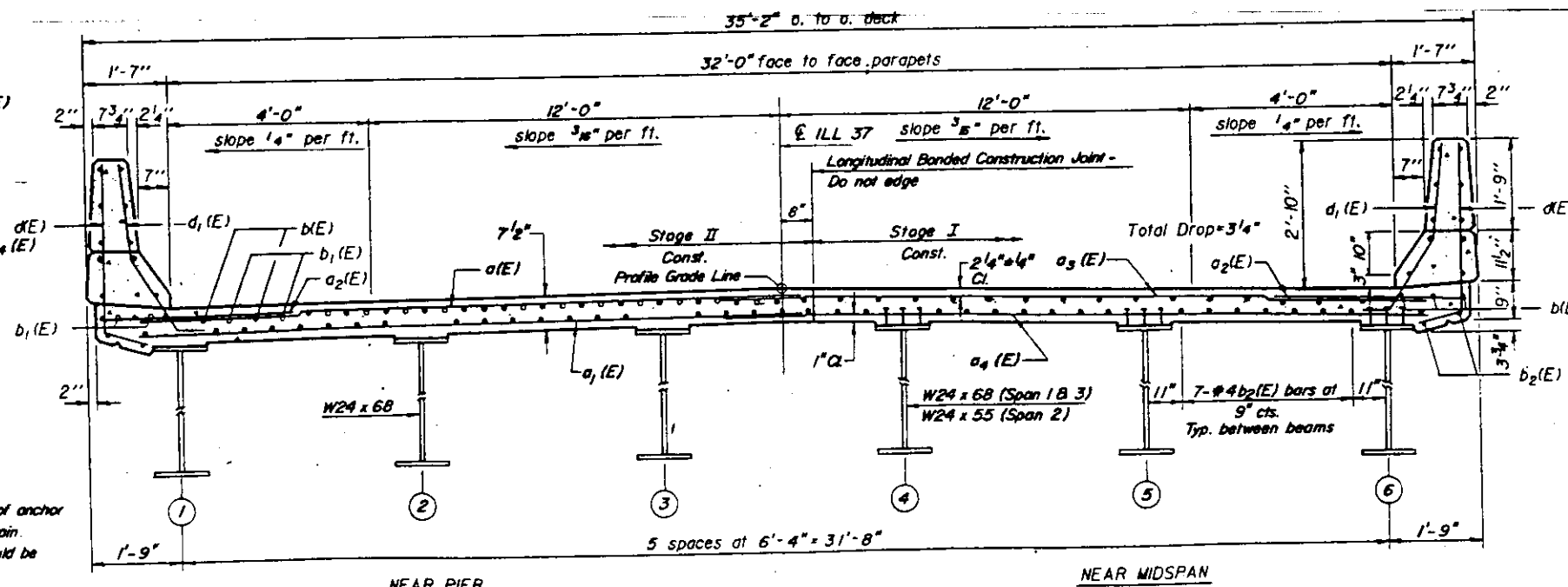
PROJECT NO.	SECTION	DATE	BY	CHK	SHEET NO. 4
F.A.S. 2869	IBR-1	Jefferson	21	9	16 SHEETS
DESIGNED BY		DRAWN BY		CHECKED BY	



Order d(E) - a4(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



SEC. A-A



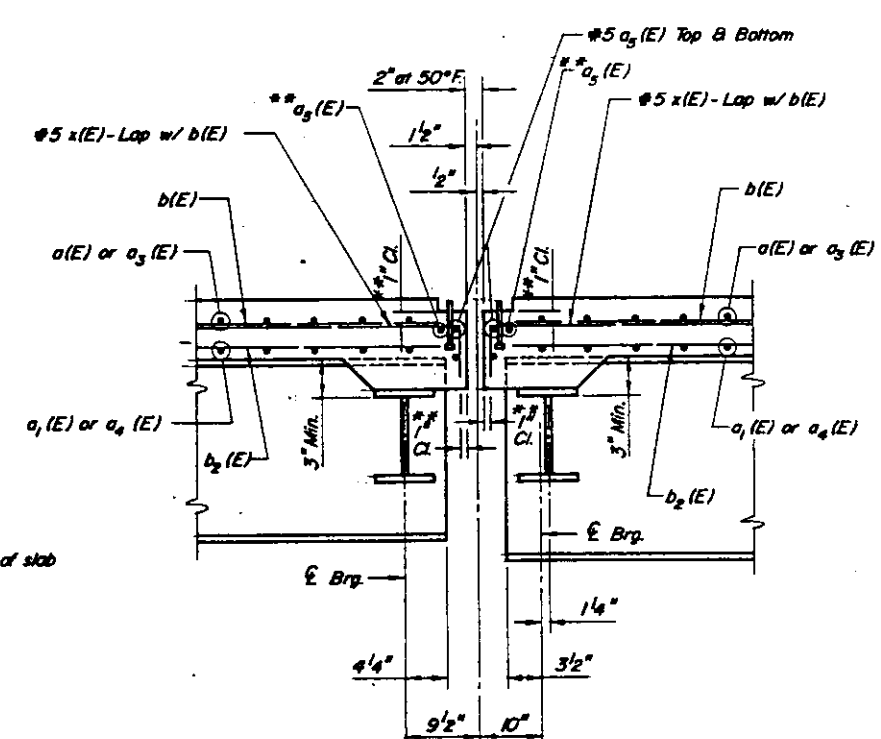
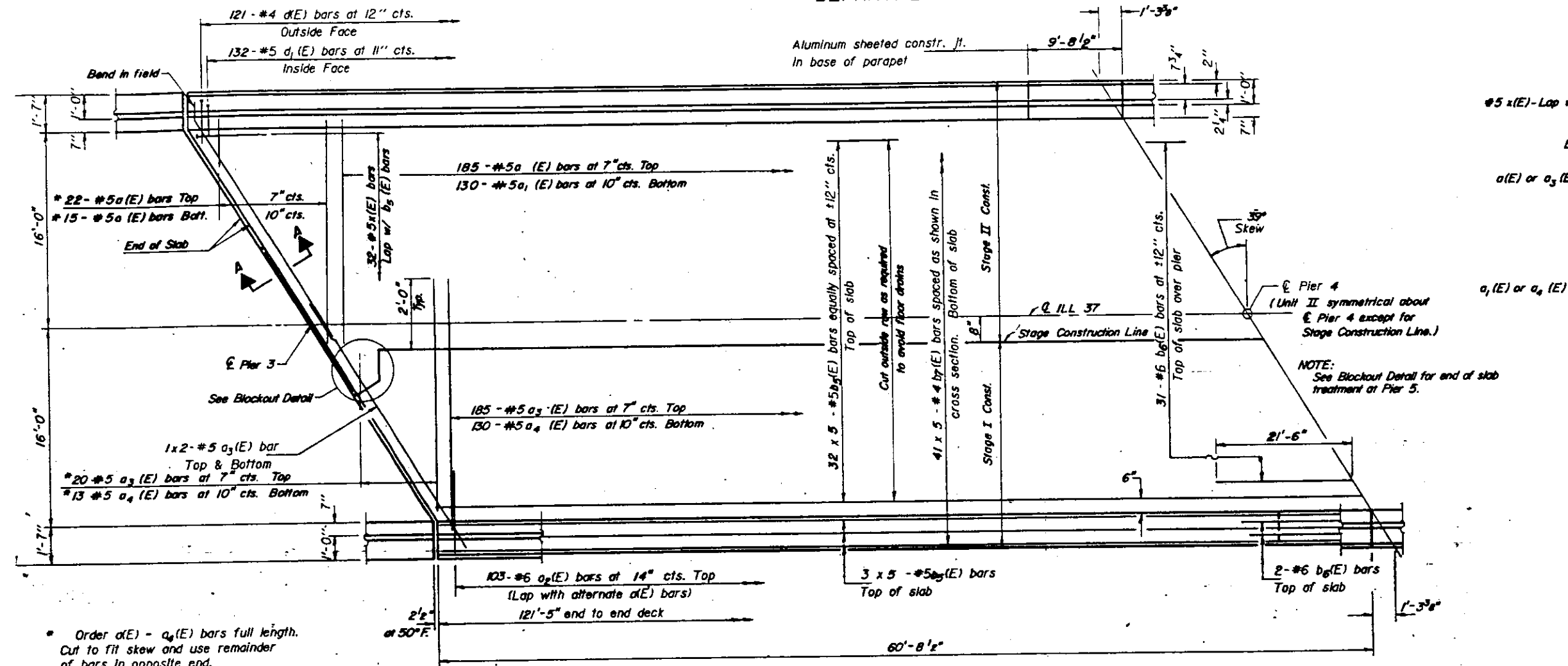
CROSS SECTION

Notes: See sheet # 5 for superstructure details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line. Minimum Bar laps (Based on smaller # bar lapped) #4 Bars 1'-4" #5 Bars 1'-8" For Floor Drain location and details see Sheets 1 & 5.

UNITS I & III
SUPERSTRUCTURE
FAS RTE 2869 SECTION IBR-1
JEFFERSON COUNTY
STATION 123+00

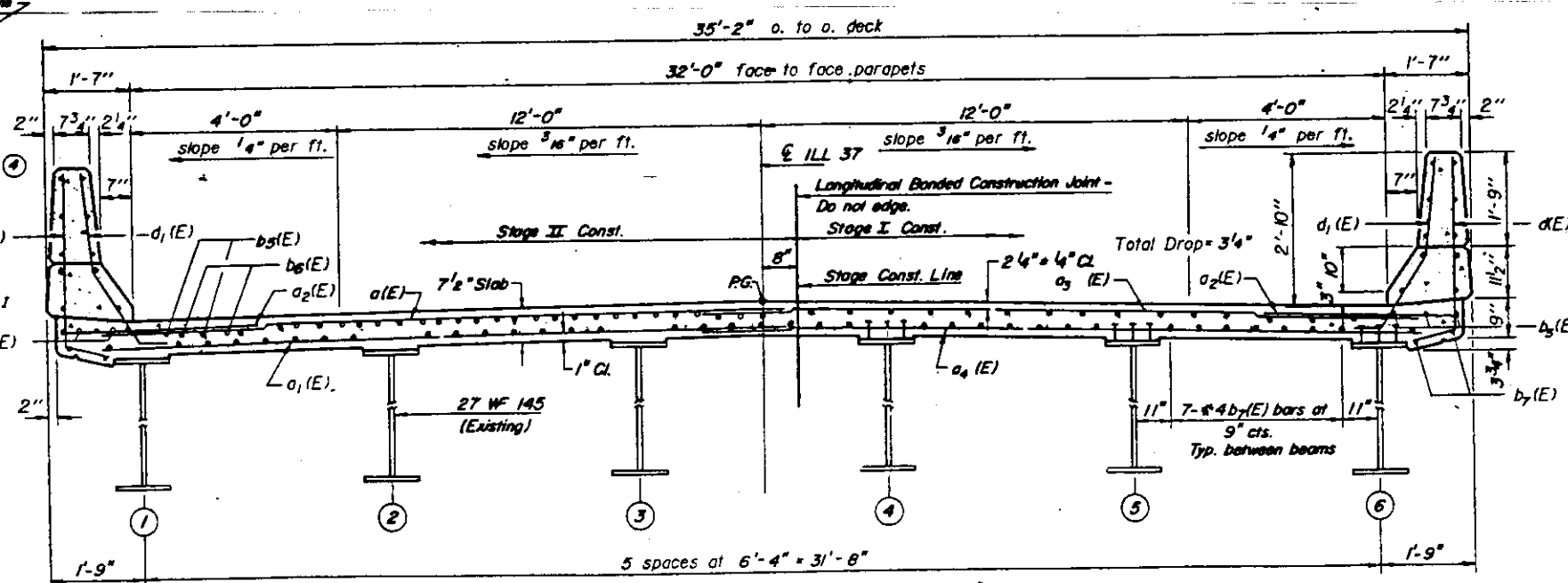
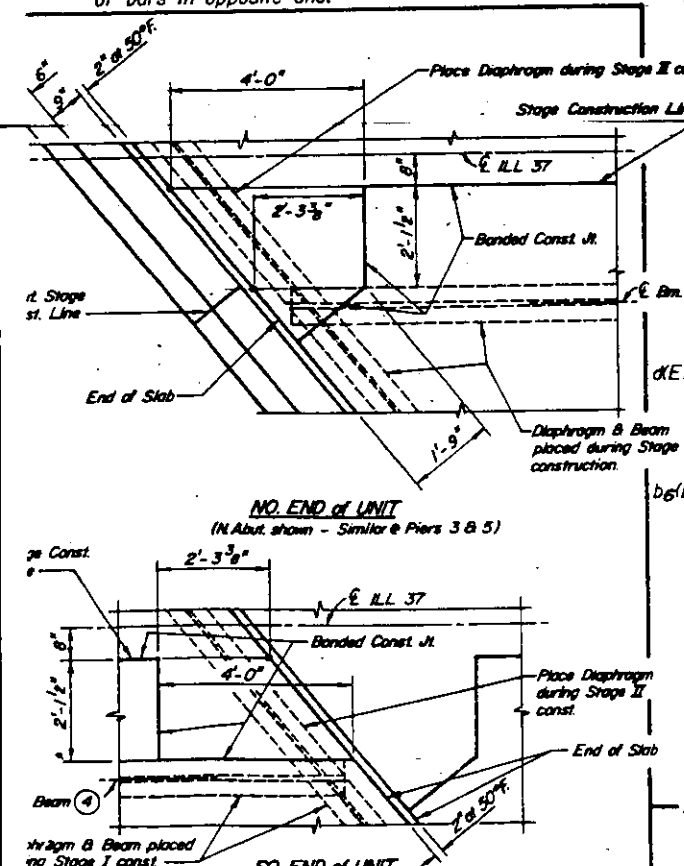
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	QUANTITY	DATE	SHEET NO.
2869	1BR-1	Jefferson	21	11
SHEET NO. 6				16 SHEETS



HALF PLAN
(Unit II)

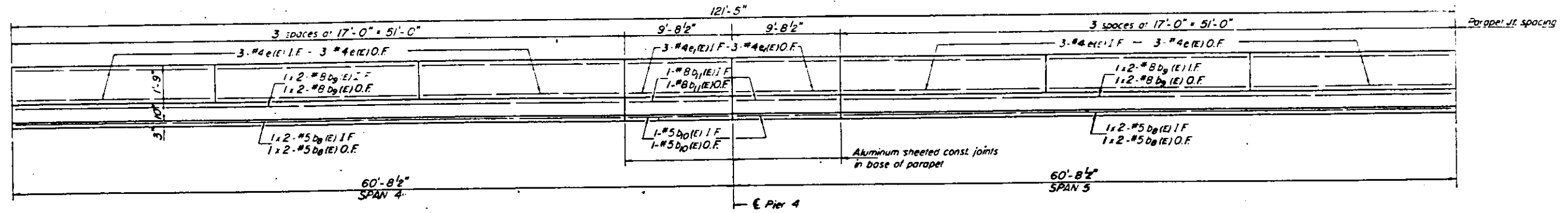
SECTION A-A
(See Sheet B for Exp. Device Details)



CROSS SECTION
(Looking South)

Notes: See sheet #7 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Minimum Bar Laps:
#4 bars - 1'-4"
#5 bars - 1'-8"
For Floor Drain locations and details see Sheets 1 & 7

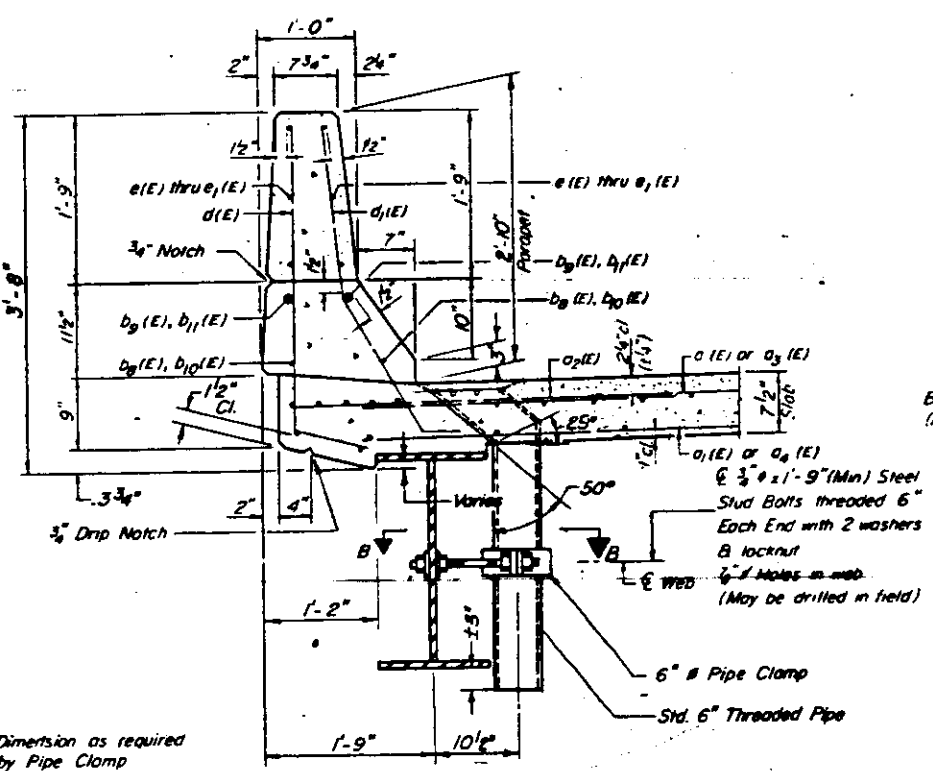
UNIT II
SUPERSTRUCTURE
FAS RTE 2869 SECTION 1BR-1
JEFFERSON COUNTY
STATION 123+00



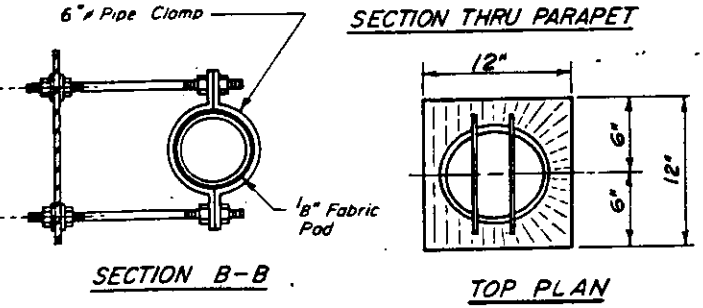
INSIDE ELEVATION OF PARAPET

UNIT II
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No	Size	Length	Shape
a (E)	207	#5	17'-0"	
a ₁ (E)	145	#5	16'-6"	
a ₂ (E)	206	#6	4'-0"	
a ₃ (E)	205	#5	17'-10"	
a ₄ (E)	143	#5	17'-4"	
a ₅ (E)	8	#5	22'-8"	
b ₃ (E)	190	#5	25'-8"	
b ₇ (E)	35	#6	43'-0"	
b ₇ (E)	195	#4	25'-8"	
b ₉ (E)	16	#5	26'-3"	
b ₉ (E)	16	#8	27'-3"	
b ₁₀ (E)	8	#5	9'-5"	
b ₁₁ (E)	8	#8	9'-5"	
d (E)	242	#4	4'-0"	L
d ₁ (E)	264	#5	3'-11"	L
e (E)	72	#4	16'-9"	
e ₁ (E)	24	#4	9'-5"	
x (E)	64	#5	4'-1"	
Reinforcement Bars (Epoxy Coated)	Lbs		29,520	
Class X Concrete	Cu Yds		132.8	
Floor Drains	Each		16	

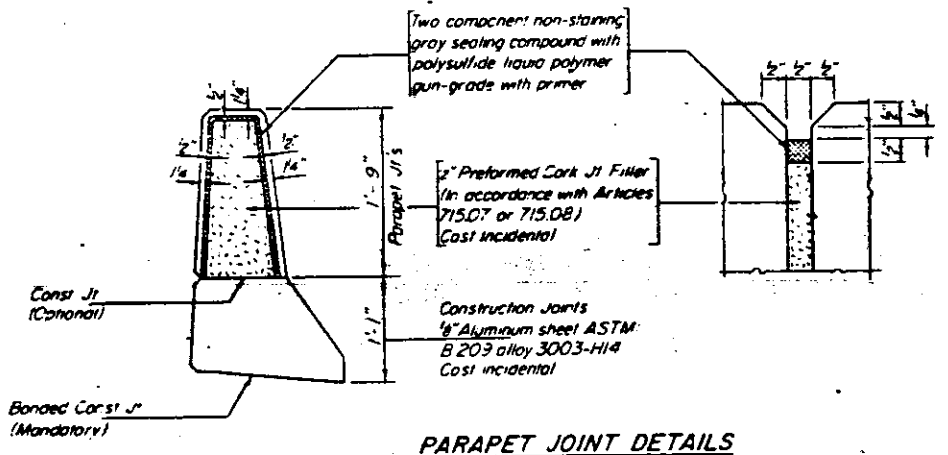


SECTION THRU PARAPET



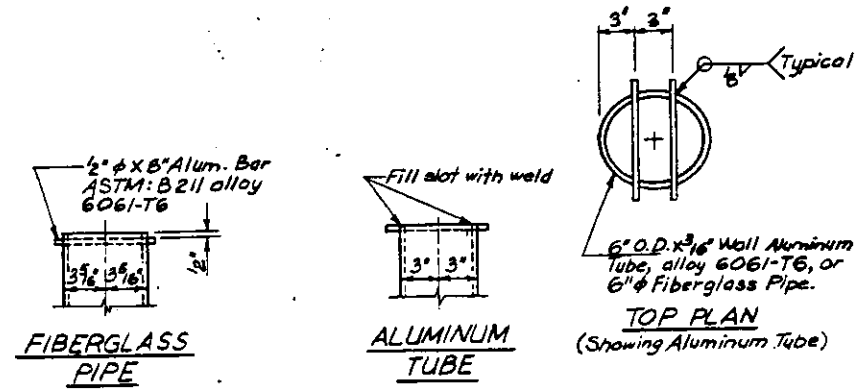
SECTION B-B

TOP PLAN



PARAPET JOINT DETAILS

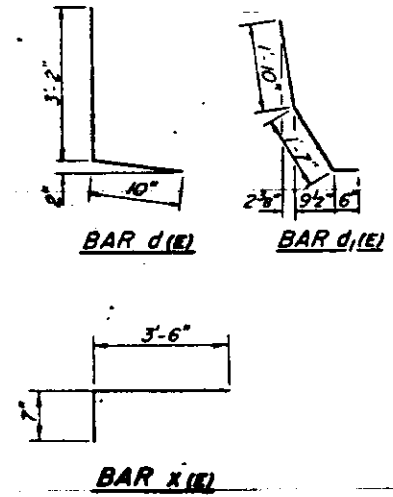
Note:
The exterior surfaces of the Floor Drain shall be painted with the Basic Lead Silica Chromate painting specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a wash coat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SP1 & SSPC-PT3 prior to painting. Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 90,000 p.s.i. minimum.



FIBERGLASS PIPE

ALUMINUM TUBE

TOP PLAN (Showing Aluminum Tube)



- Notes:
- Bars indicated thus:
4 x 3 - #5 etc. indicates 4 lines of bars with 3 lengths per line.
 - Minimum Bar Laps:
#4 bar - 1'-4"
#5 bar - 1'-8"
#8 bar - 3'-6"

Reinforcement bars designated (E) shall be epoxy coated

UNIT II
SUPERSTRUCTURE DETAILS
FAS RTE 2869 SECTION 1BR-1
JEFFERSON COUNTY
STATION 123+00

PARAPET & FLOOR DRAIN DETAILS
(For Floor Drain locations see Sheet L)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

INSTALLATION NOTES

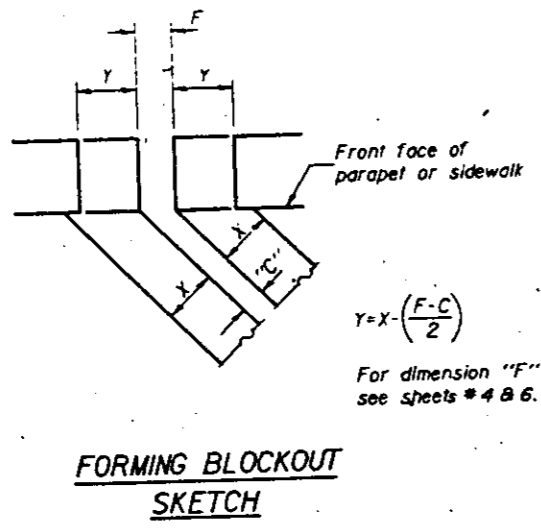
- Install sponge mandrels into positions shown to form flap convolution.
- Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
- Install continuous seal in roadway.*
- Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

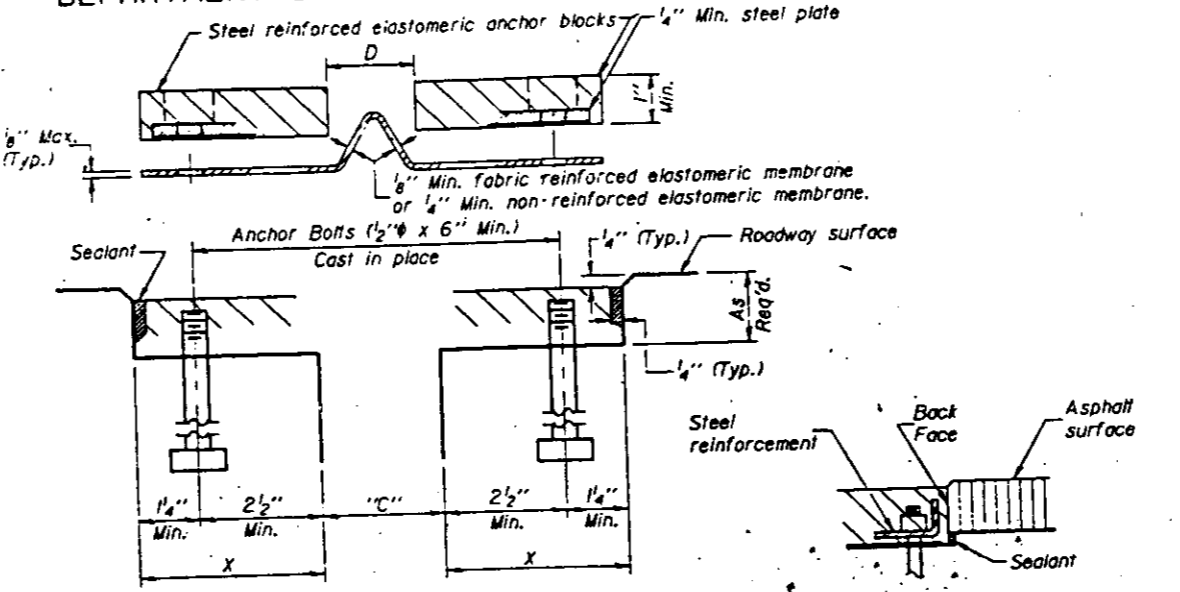
SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "C", might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.

SPECIAL NOTICE:
Do not cut continuous elastomeric membrane. Place Stage II portion of membrane in protective package and store under existing superstructure until ready for placement.



FORMING BLOCKOUT SKETCH

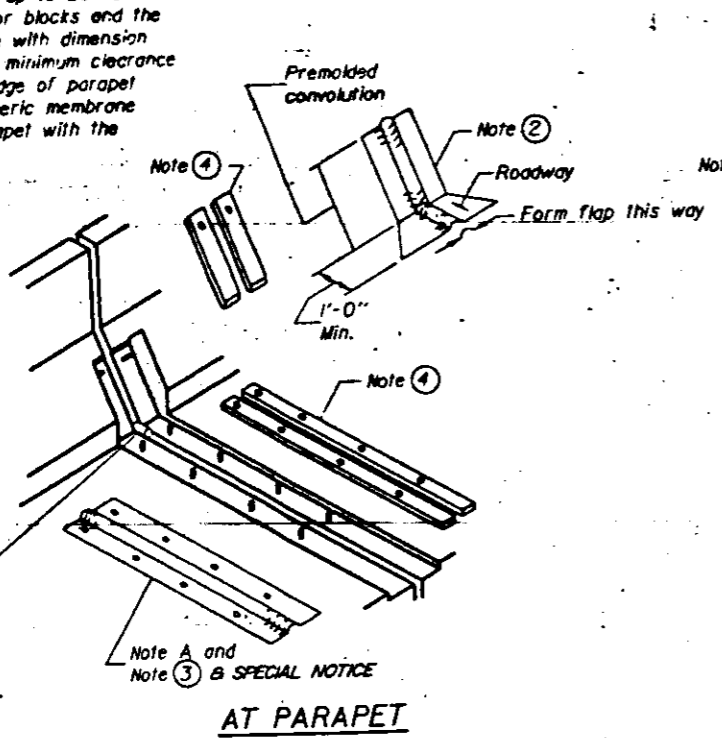


CROSS SECTION

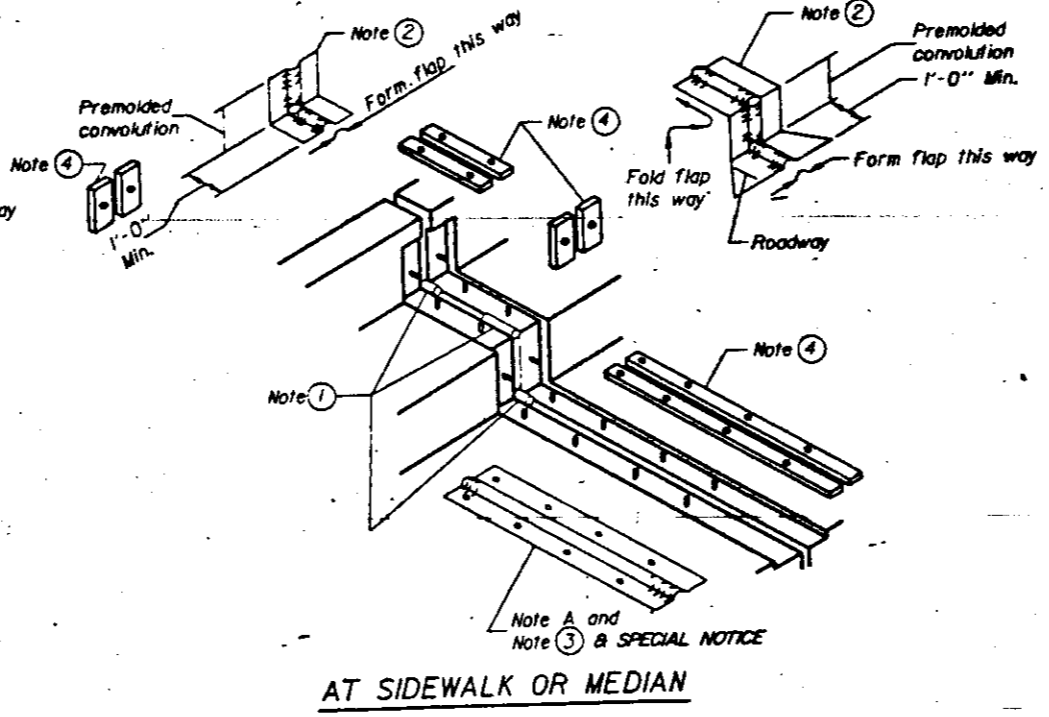
ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

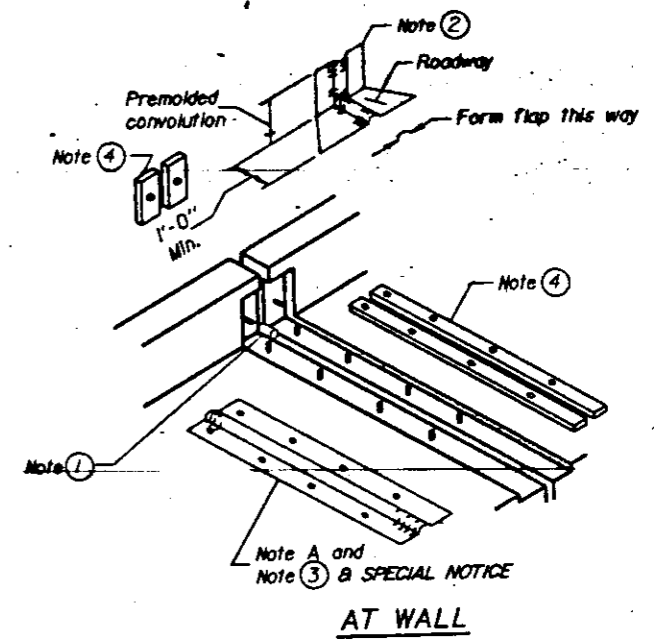
Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions. The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure. The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout. The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed. Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F. The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



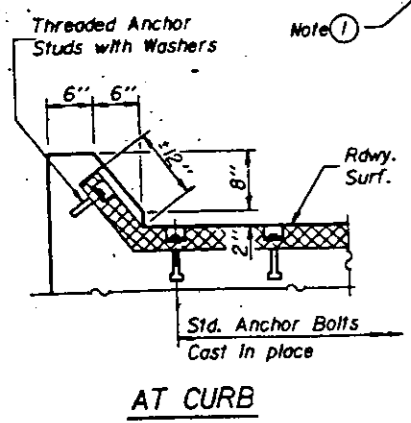
AT PARAPET



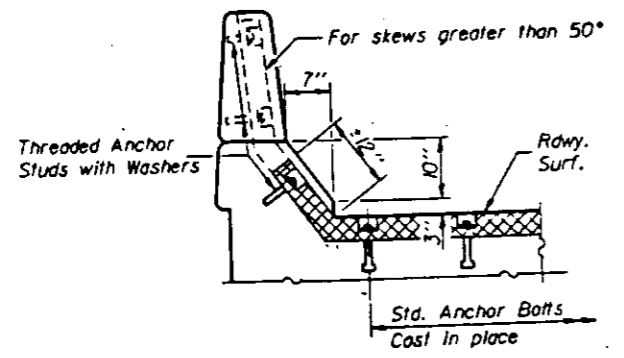
AT SIDEWALK OR MEDIAN



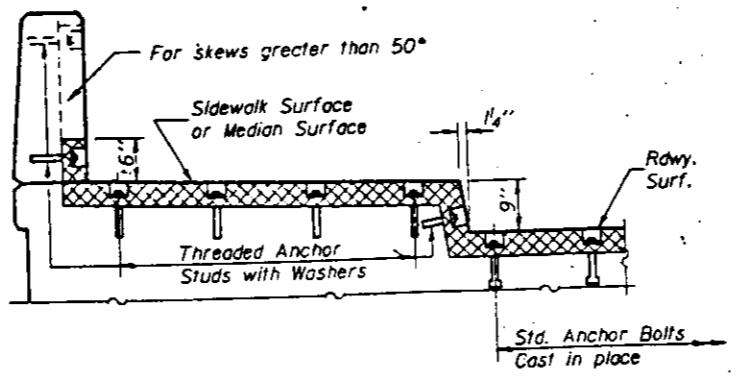
AT WALL



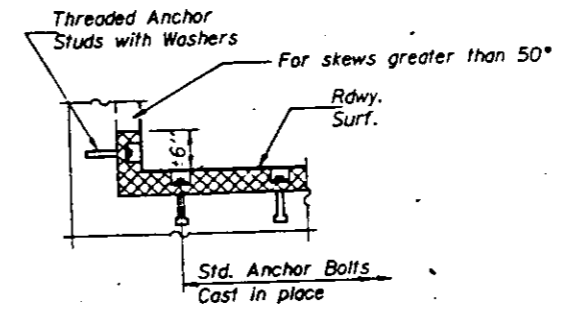
AT CURB



AT PARAPET



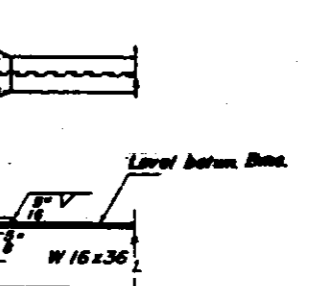
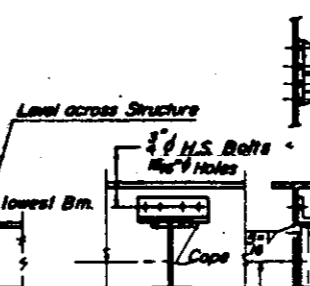
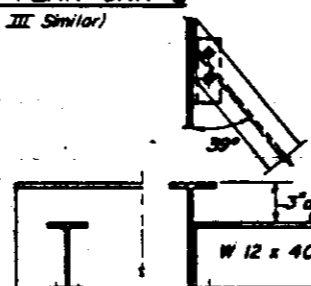
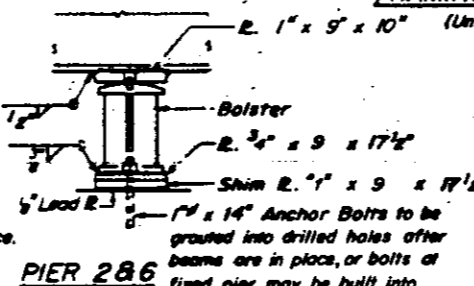
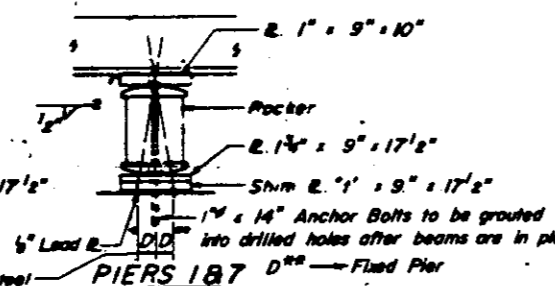
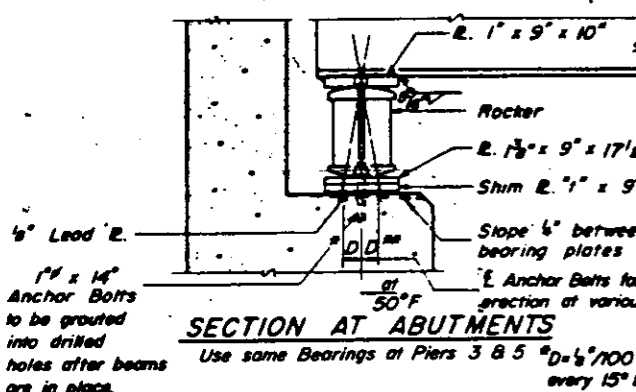
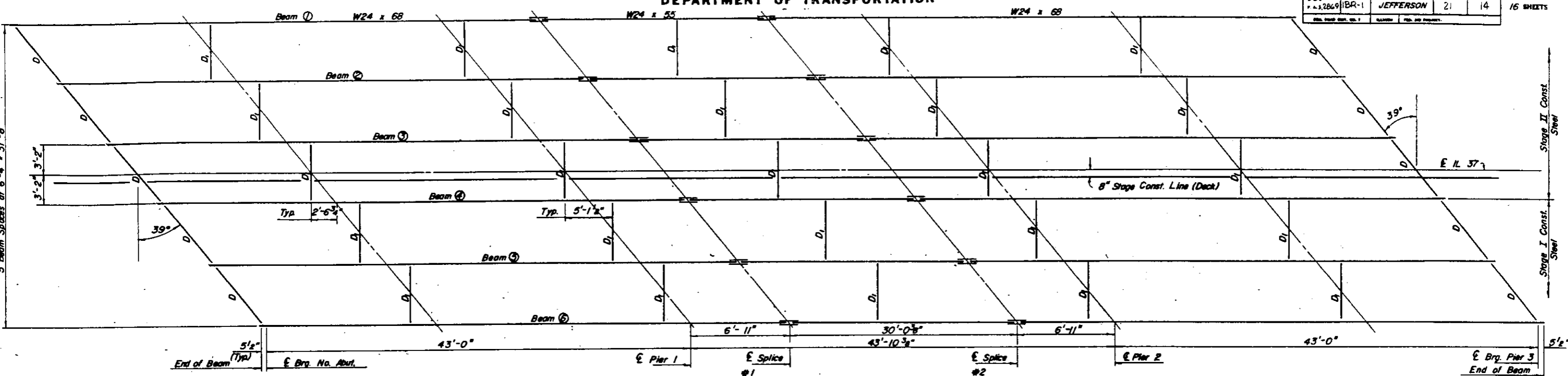
AT SIDEWALK OR MEDIAN TYPICAL END TREATMENTS



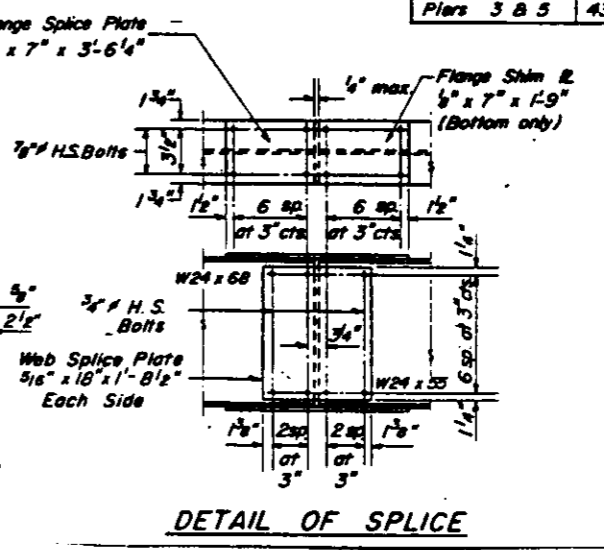
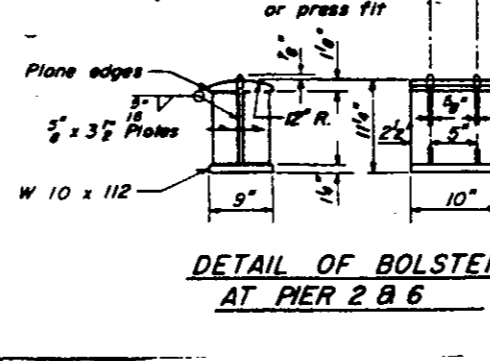
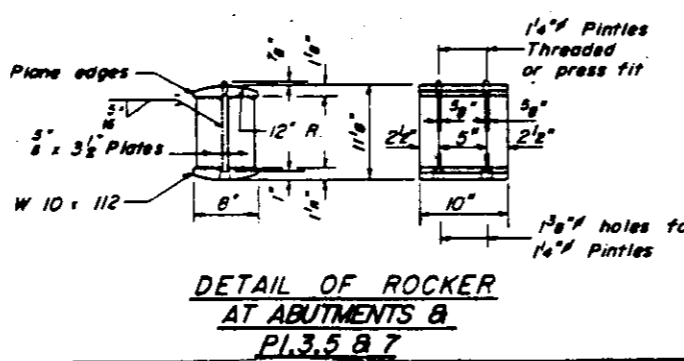
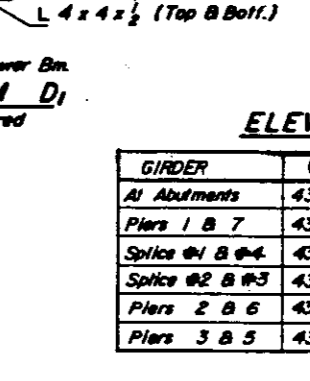
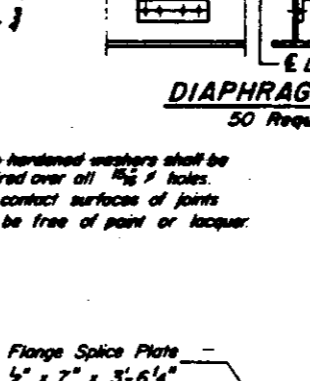
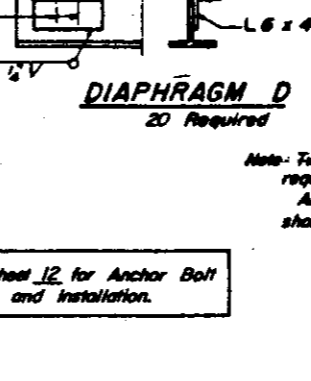
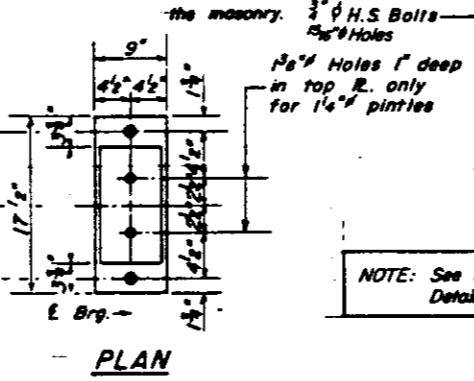
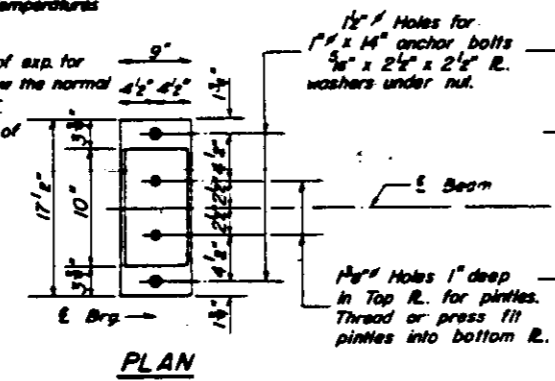
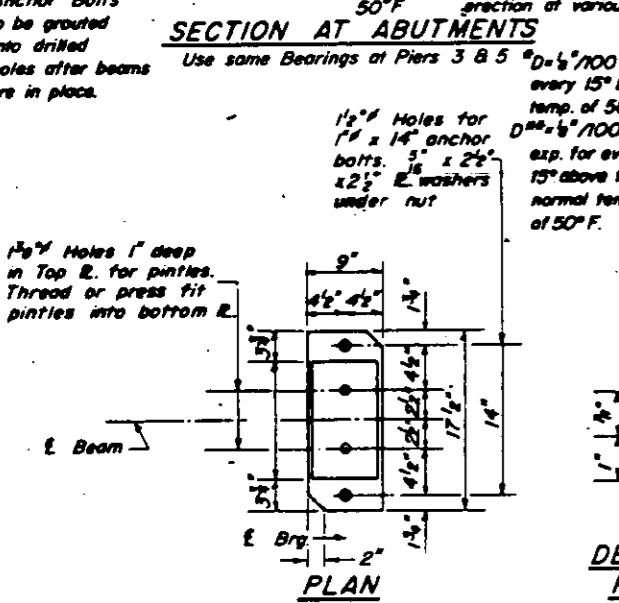
AT WALL

CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS
For 2", 2 1/2" and 4" Movement

FAS RTE 2869 SECTION IBR-1
JEFFERSON COUNTY
STA 123+00



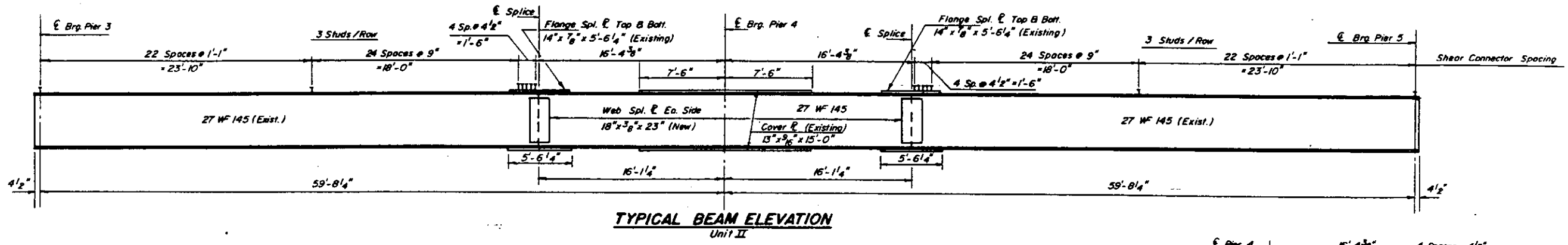
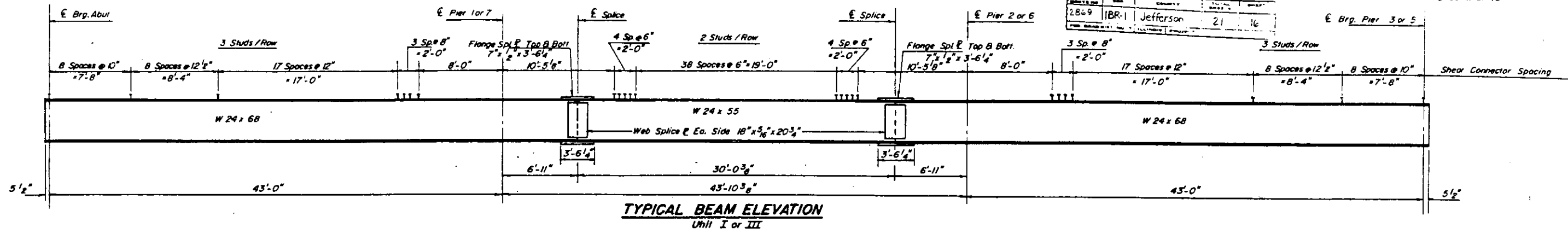
GIRDER	①	②	③	④	⑤	⑥
All Abutments	433.22	433.34	433.44	433.44	433.34	433.22
Piers 1 & 7	433.22	433.34	433.44	433.44	433.34	433.22
Splice #1 & #4	433.22	433.34	433.44	433.44	433.34	433.22
Splice #2 & #3	433.22	433.34	433.44	433.44	433.34	433.22
Piers 2 & 6	433.22	433.34	433.44	433.44	433.34	433.22
Piers 3 & 5	433.22	433.34	433.44	433.44	433.34	433.22



NOTE: Diaphragms, clip angles, bolsters, rockers, and bearing plates shall be A.A.S.H.T.O. M183 Structural Steel.

STRUCTURAL STEEL
UNITS I & III
EAS RTE 2069 SECTION 18R-1
JEFFERSON COUNTY
STATION 123+02

PROJECT NO.	2869	SECTION	1BR-1	COUNTY	Jefferson	DATE	21	16
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NOTES:
 1. Existing Beams of Unit II shall be removed, cleaned, and re-erected. (See Spec. Prov.)
 2. The existing flange splice plates shall be removed, cleaned & re-used.
 3. The existing web splice plates shall be replaced with M223-Grade 50 Structural Steel.
 4. During re-erection all connections shall be made with AASHTO M164 H.S. Bolts.

UNIT I or III

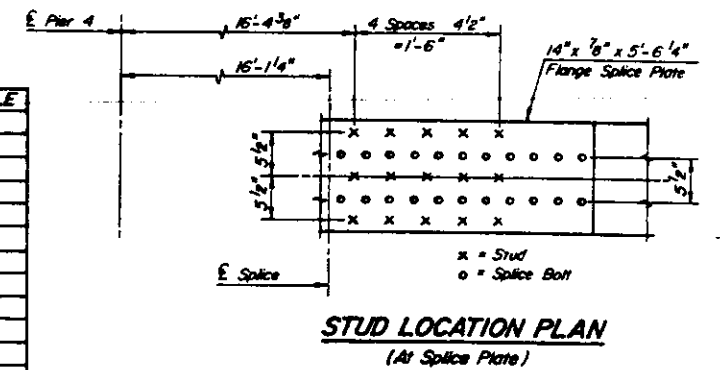
INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1	0.5 Sp. 2	Pier
Is (in ⁴)	1830	1350	1830
Ic (in ⁴)	6334	5390	-
Ss (in ³)	154	114	154
Sc (in ³)	264	212	-
Z (in ³)	-	-	177
R (K/1)	0.675	0.662	0.970
M _p (K)	86.7	23.8	155
s _p (K/1)	0.295	0.295	-
M _s (K)	50.5	27.0	-
M _l (K)	255.8	200.7	108.0
M imp. (K)	75.7	60.2	32.0
S _y (M _l +1) (K)	552.5	434.8	233.3
M _o (K)	896.6	637.3	511.3
M _u (K)	1529.6	1253.2	-
f _s (non-comp) (k.s.i.)	6.8	2.5	12.5
f _s (comp) (k.s.i.)	2.6	1.7	-
f _s (l+1) (k.s.i.)	25.1	24.6	18.2
f _s (Overload) (k.s.i.)	34.4	28.8	30.7
f _s (Total) (k.s.i.)	44.7	37.4	39.9
VR (K)	42.1	40.5	-

UNIT II

INTERIOR GIRDER MOMENT TABLE

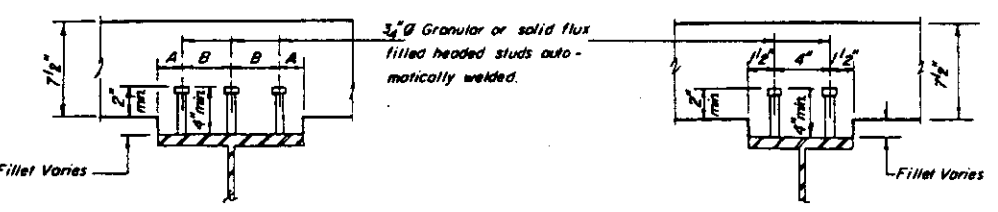
	0.4 Sp. 1	Pier
Is (in ⁴)	5414	8167
Ic (in ⁴)	14144	-
Ss (in ³)	403	583
Sc (in ³)	582	-
Z (in ³)	-	-
R (K/1)	0.767	1.062
M _p (K)	178.8	476
s _p (K/1)	0.295	-
M _s (K)	70.4	-
M _l (K)	385.8	233.1
M imp. (K)	104.2	62.9
S _y (M _l +1) (K)	769.8	496.3
M _o (K)	1323.4	1260.1
M _u (K)	-	-
f _s (non-comp) (k.s.i.)	6.9	9.8
f _s (comp) (k.s.i.)	2.1	-
f _s (l+1) (k.s.i.)	15.8	10.2
f _s (Overload) (k.s.i.)	22.7	20.0
f _s (Total) (k.s.i.)	24.8	26.0
VR (K)	44.4	-



NOTES:
 I_y and S_y are the moment of inertia and section modulus of the steel section used in computing I_y (Total and Overload).
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing I_c (Total and Overload).
 VR is the maximum l + impact shear range in span.
 Z is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.
 The Fully Plastic Moment Capacity (M_u) is computed according to A.A.S.H.T.O. 10.48.1 & 10.50.1.
 I_y (Total) is the sum of the stresses due to 1.3 [M_p + S_y(M_l+1)].
 I_y (Overload) is the sum of the stresses due to M_p + S_y(M_l+1).

TABLE OF "A" "B" "B"

SPANS	A	B
1, 3, 6, 8, 8	1 1/2"	3"
4, 8, 5	1 1/2"	5 1/2"



SHEAR STUDS

SPANS 1, 3, 4, 5, 6, 8, 8
5028 Req'd.

SPANS 2, 8, 7
564 Req'd.

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
R _p (K)	17.6	46.9
R _l (K)	31.5	66.7
Imp. (K)	9.5	20.0
R Total (K)	58.6	133.6

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
R _p (K)	23.1	27.2
R _l (K)	33.4	73.8
Imp. (K)	9.0	20.0
R Total (K)	65.5	121.0

* M_u = Full Plastic Moment Capacity for Compact, Braced section. ** Non-compact section M_o (Applied Moment) = 1.3 [M_p + M_s + S_y(M_l+1)]

MOMENT & REACTION TABLES

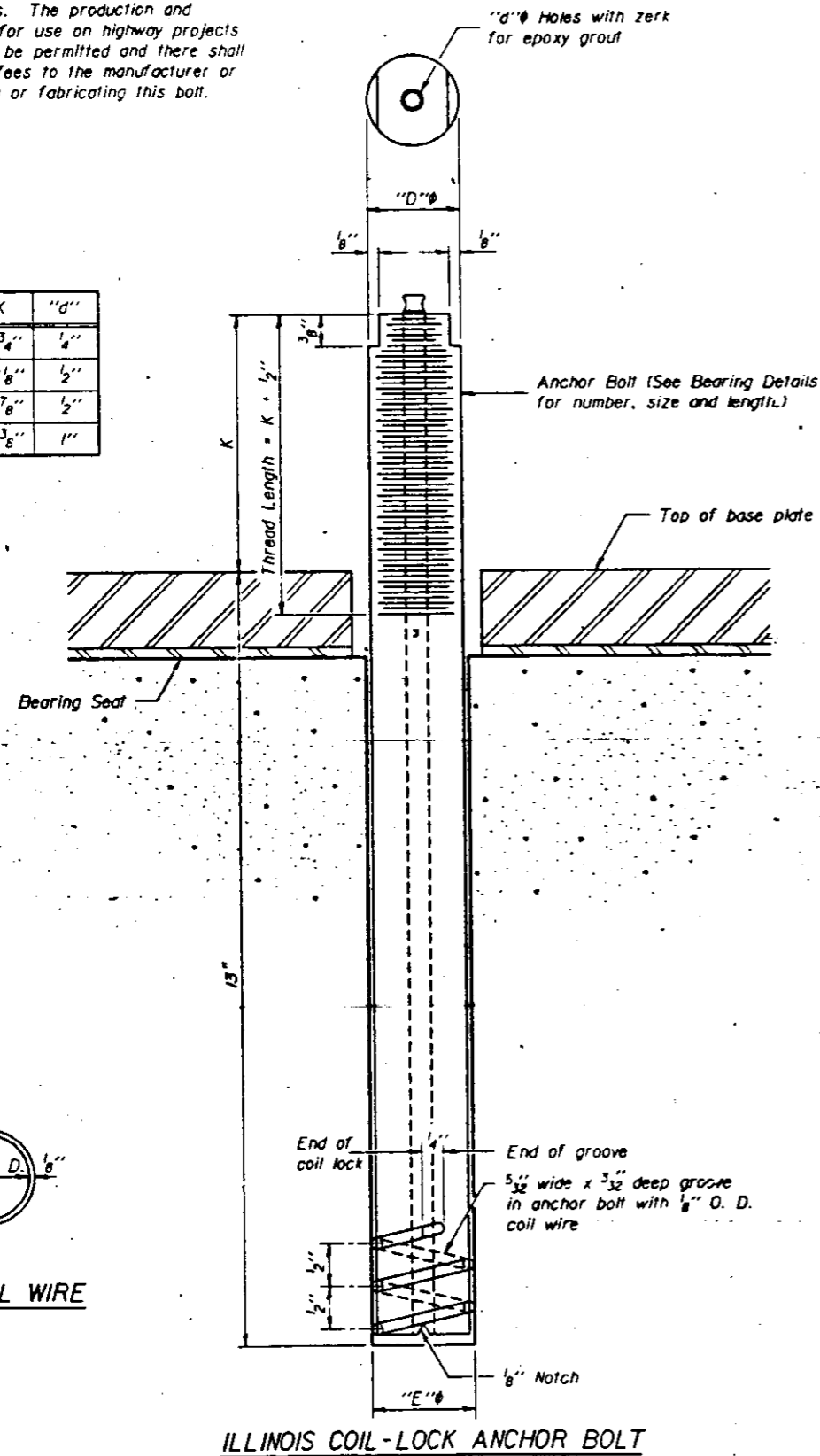
STRUCTURAL STEEL DETAILS
 FAS RTE 2869 SECTION 1BR-1
 JEFFERSON COUNTY
 STATION 123+00

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	BY	CHKD
FAS RTE 2869	IBR-1	Jefferson	21	17
SHEET NO. 12 16 SHEETS				

D	E	H	K	"d"
1"	1 1/8"	1 1/4"	1 3/4"	1/4"
1 1/2"	1 5/8"	1 5/8"	2 1/8"	1/2"
2"	2 1/8"	1 9/8"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/8"	3 3/8"	1"



MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade I and of a Class suitable for the temperature at installation.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

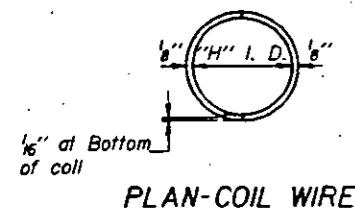
1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

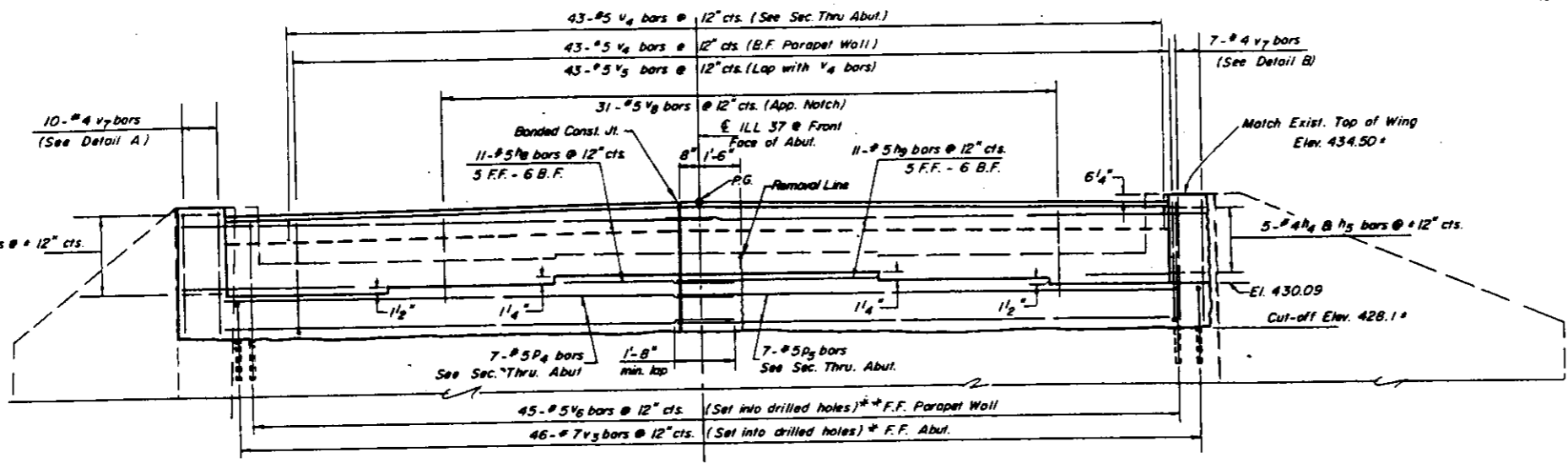


PLAN-COIL WIRE

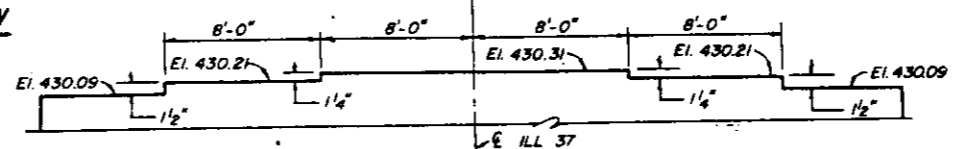
ANCHOR BOLT DETAILS FOR BEARINGS

FAS RTE 2869 SECTION IBR-1
JEFFERSON COUNTY
STA 123 + 00

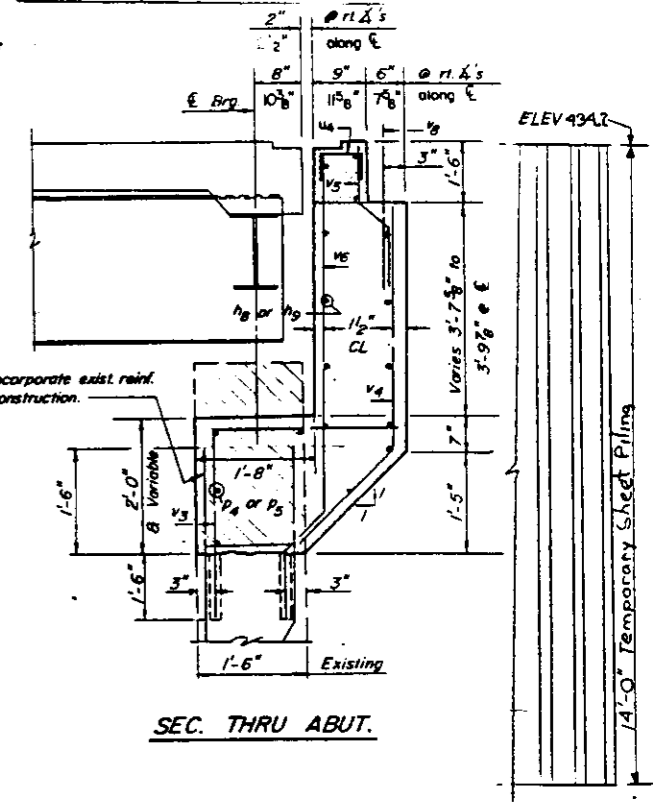
2869	IBR-1	Jefferson	21	15
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ELEVATION VIEW



BEARING SEAT STEPS

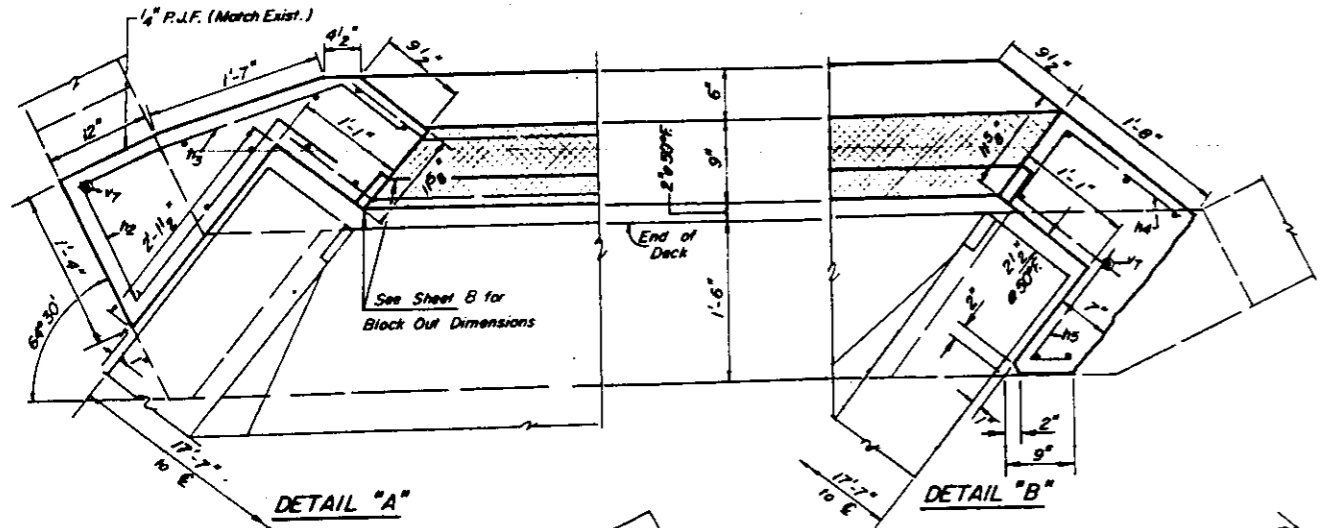


SEC. THRU ABUT.

* #7 V_3 bars to be Epoxy Grouted into $1/8$ " drilled holes. (See Spec. Pro.)

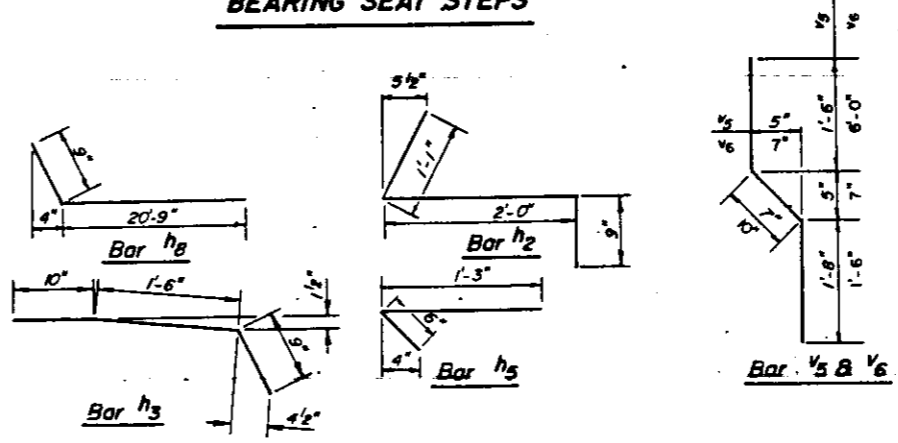
** #5 V_6 bars - Set same as #7 V_3 bars - Use $3/8$ " holes. Offset holes 6" from those in F.F.

NOTE: Cross-hatched portion to be poured after Superstructure falsework is removed.
Hatched portion indicates concrete Removal



DETAIL "A"

DETAIL "B"



Bar V_3

Bar V_5 & V_6

Bar h_3

Bar h_2

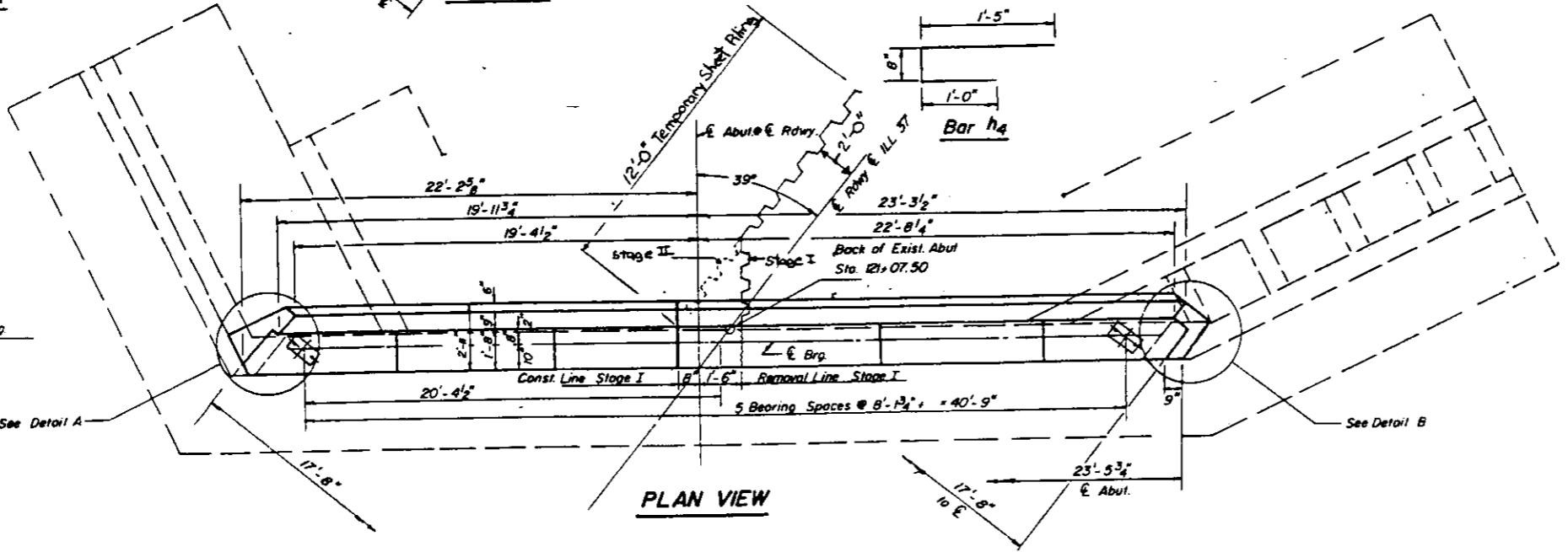
Bar h_4

Bar V_4

Bar U_4

ONE ABUTMENT BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
P4	7	#5	23'-4"	—
P5	7	#5	23'-10"	—
h2	5	#4	3'-10"	—
h3	5	#4	3'-1"	—
h4	5	#4	3'-1"	—
h5	5	#4	1'-9"	—
h8	11	#5	2'-6"	—
h9	11	#5	23'-9"	—
V3	46	#7	5'-10"	—
V4	43	#5	7'-4"	—
V5	43	#5	3'-9"	—
V6	45	#5	8'-4"	—
V7	17	#4	7'-10"	—
V8	31	#5	3'-6"	—
U4	43	#5	2'-6"	—
Concrete Removal		Cu Yd.	8.4	
Class X Concrete		Cu Yd.	18.6	
Reinforcement Bars		Pound	2630	
Temporary Sheet Piling		Sq FT	224	

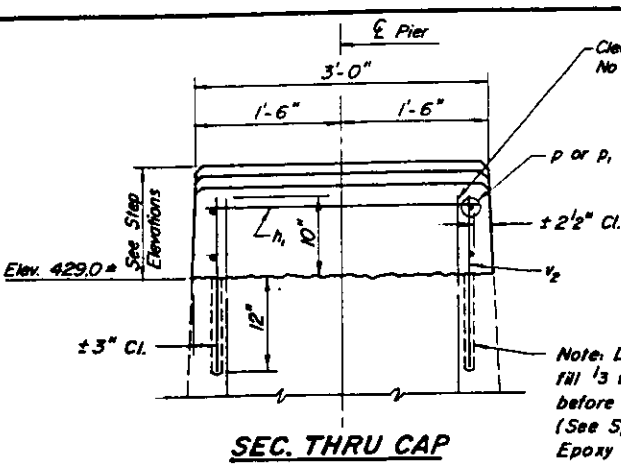


PLAN VIEW

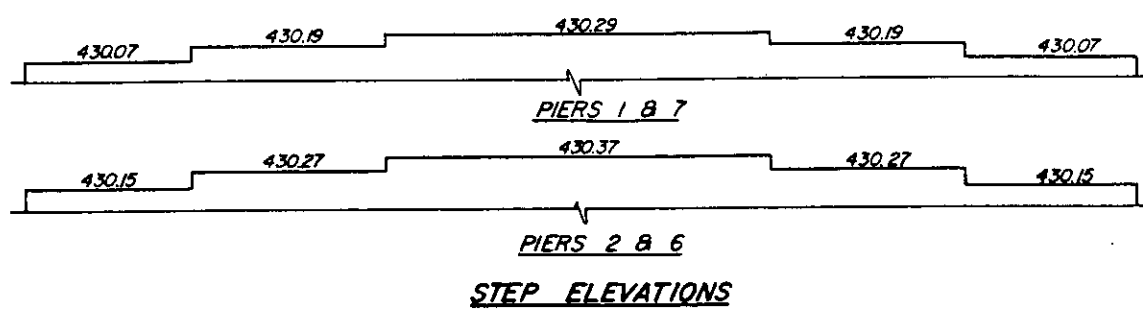
BEARING PLATE LAYOUT

NORTH ABUTMENT
FAS RTE 2869 SECTION IBR-1
JEFFERSON COUNTY
STATION 123+00

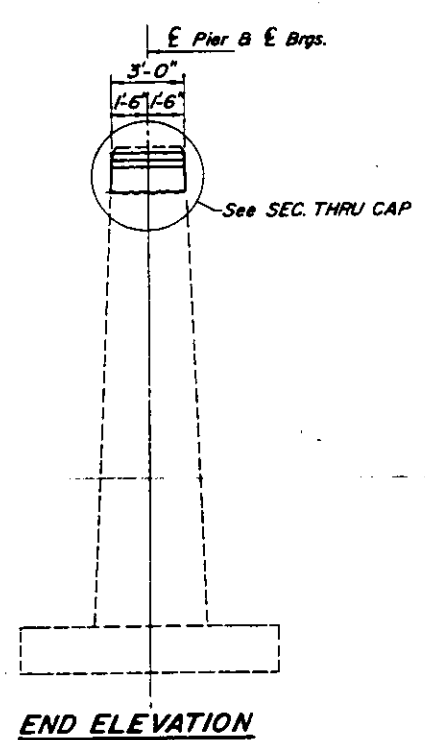
GREENE & BRADFORD, L^R
CONSULTING ENGINEERS
124 E. STEVENSON DR. • 217-225-0811 • SPRINGFIELD, IL



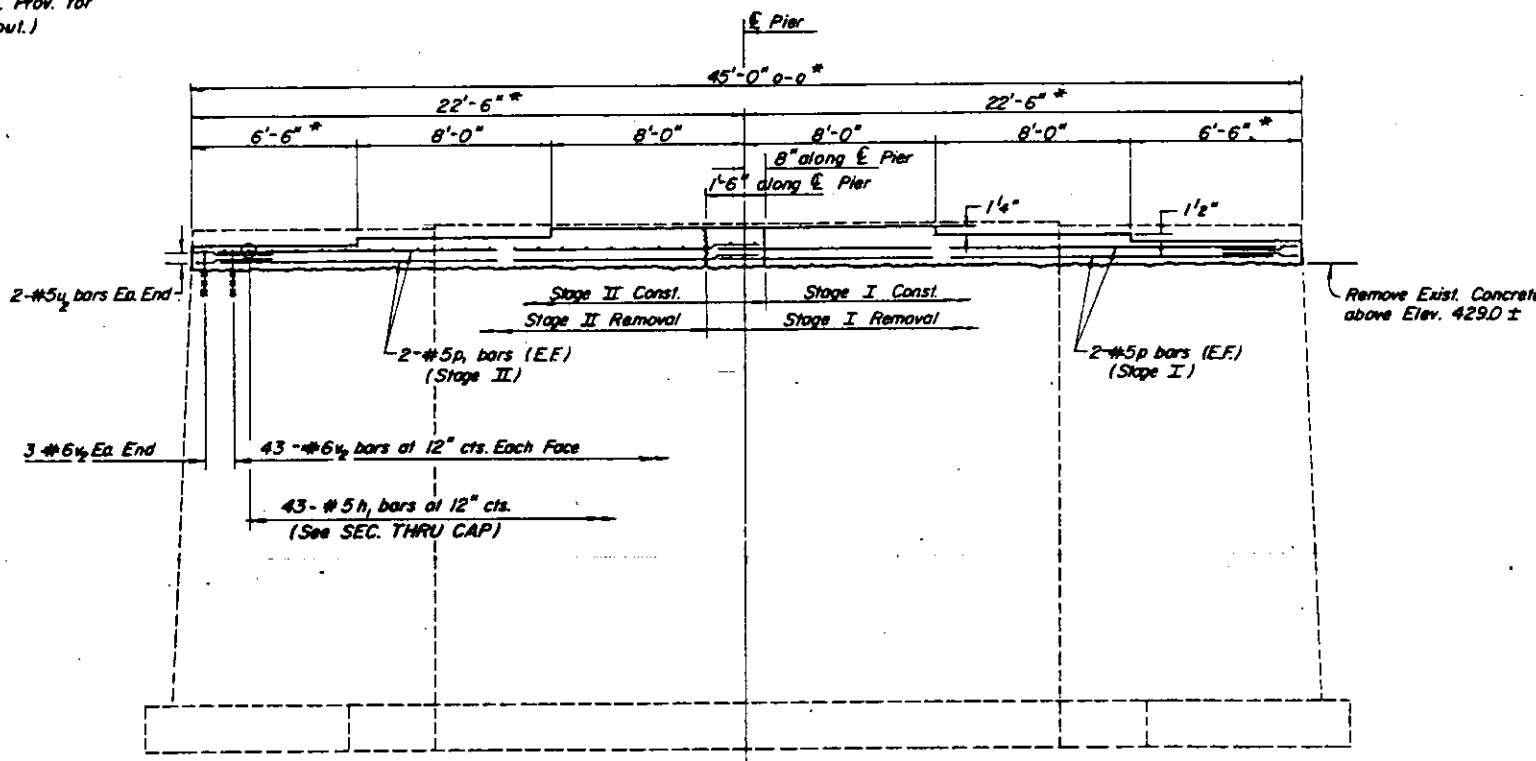
SEC. THRU CAP



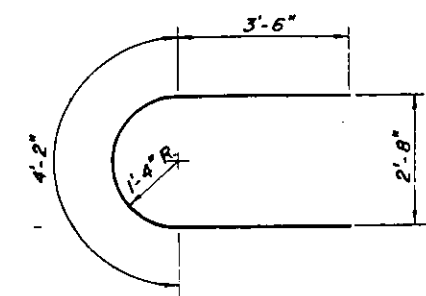
STEP ELEVATIONS



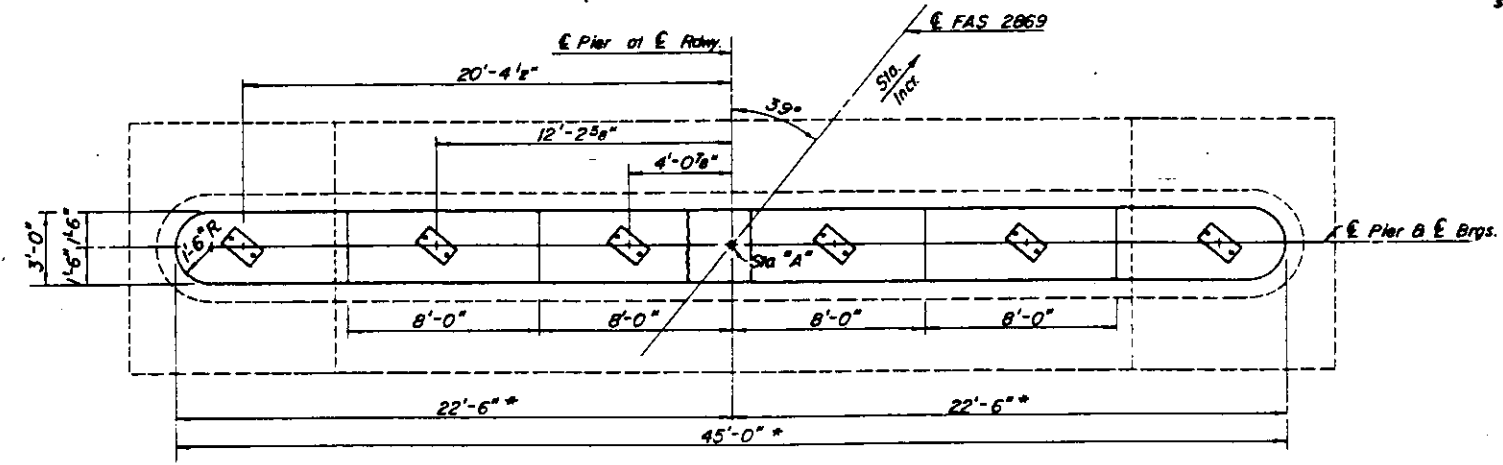
END ELEVATION



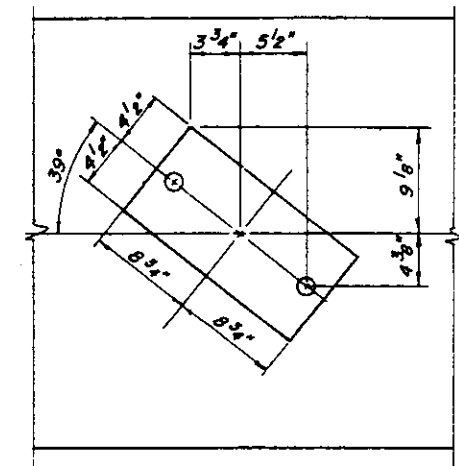
ELEVATION VIEW
(Looking South)



BAR u2



PLAN VIEW



BEARING PLATE LAYOUT

FOUR PIERS
BILL OF MATERIALS

Bar	No.	Size	Length	Shape
h ₁	172	#5	2'-9"	—
p	16	#5	22'-4"	—
p ₁	16	#5	21'-0"	—
v ₂	368	#6	1'-10"	—
u ₂	16	#5	11'-2"	U
Concrete Removal			Cu. Yd.	46.2
Class X Concrete			Cu. Yd.	24.4
Reinforcement Bars			Pound	2420

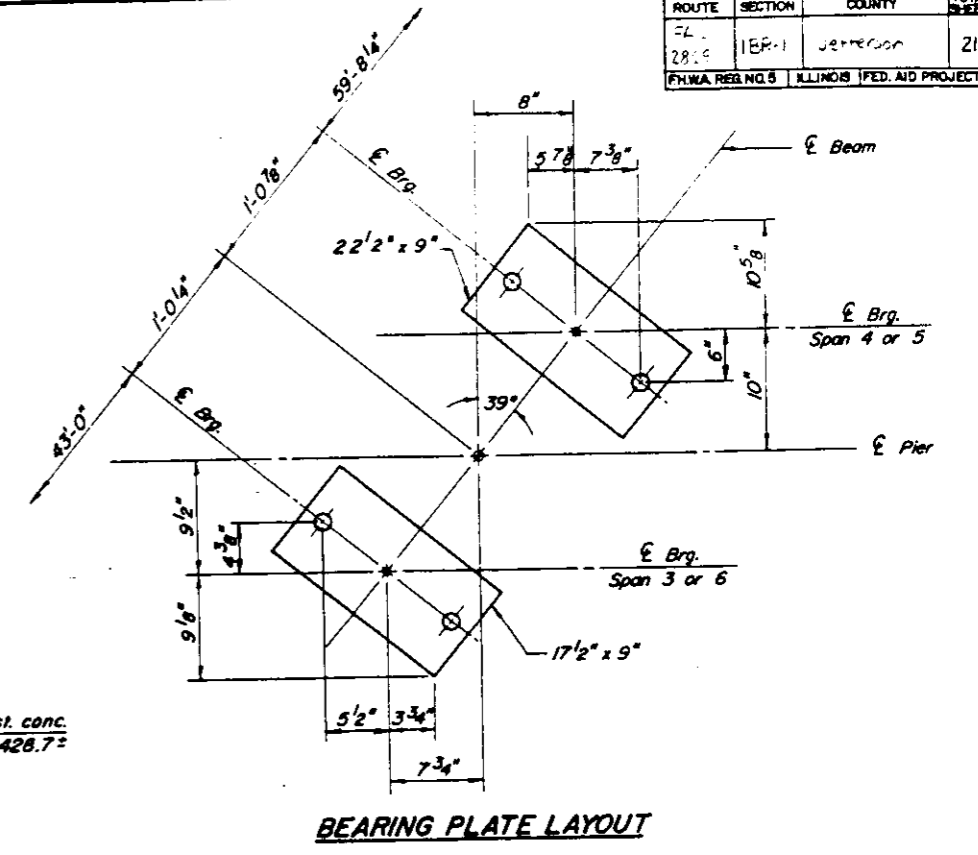
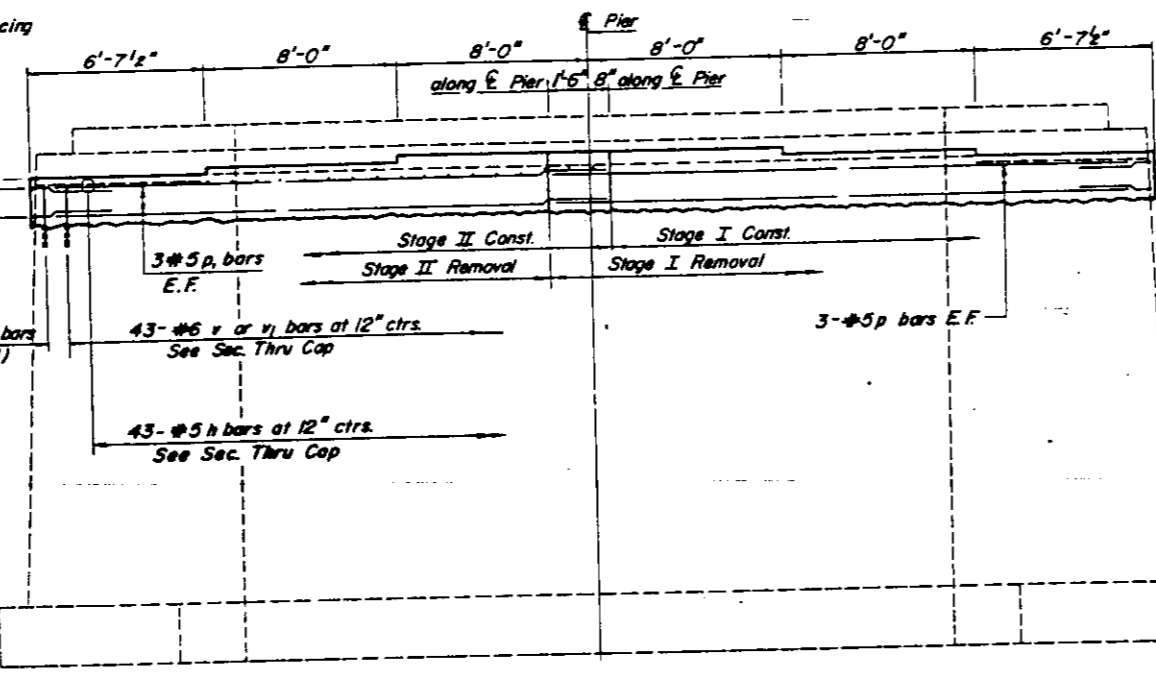
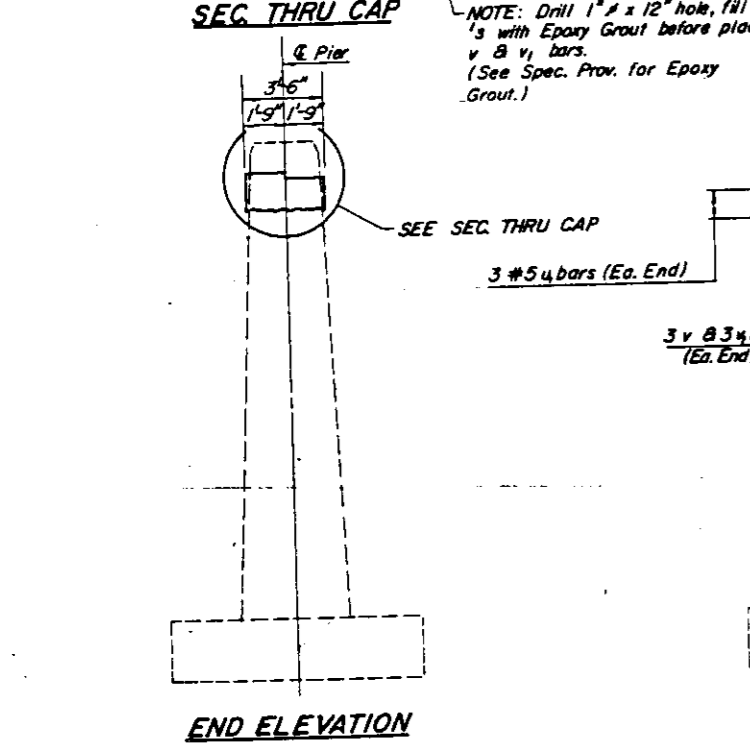
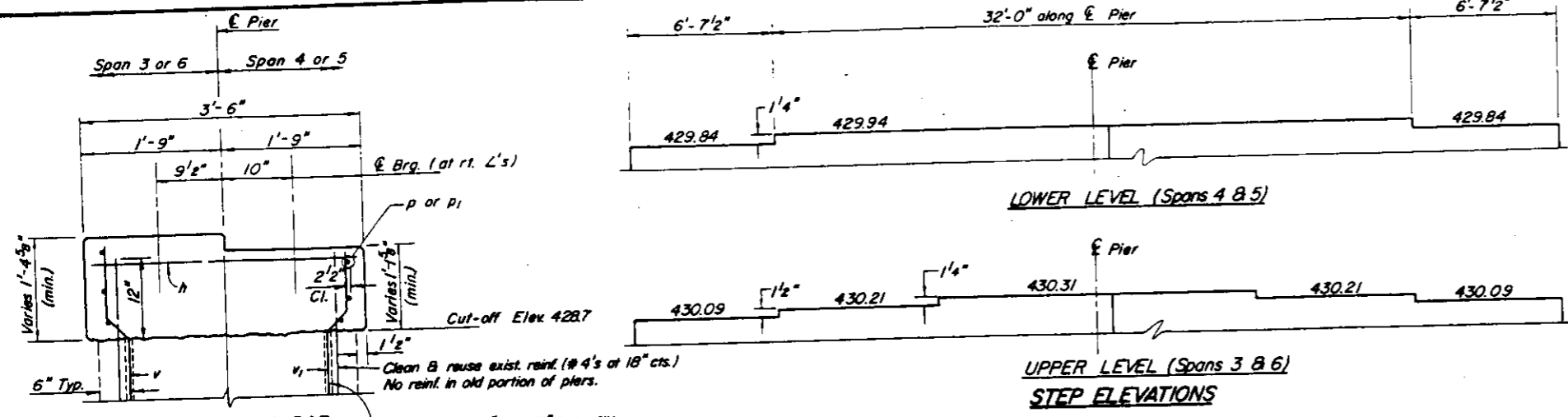
Notes:
1. Minimum lap #5 bar = 1'-8".
2. Cost for drilling and setting v₂ bars shall be incidental to Reinforcement Bars.

STA "A"

P-1	121+51.36
P-2	121+95.22
P-6	124+04.78
P-7	124+48.65

* Dimensions are to existing concrete at Top of Pier, and are approximate. New concrete to match existing. (See General Note No. 9, Sheet 1.)

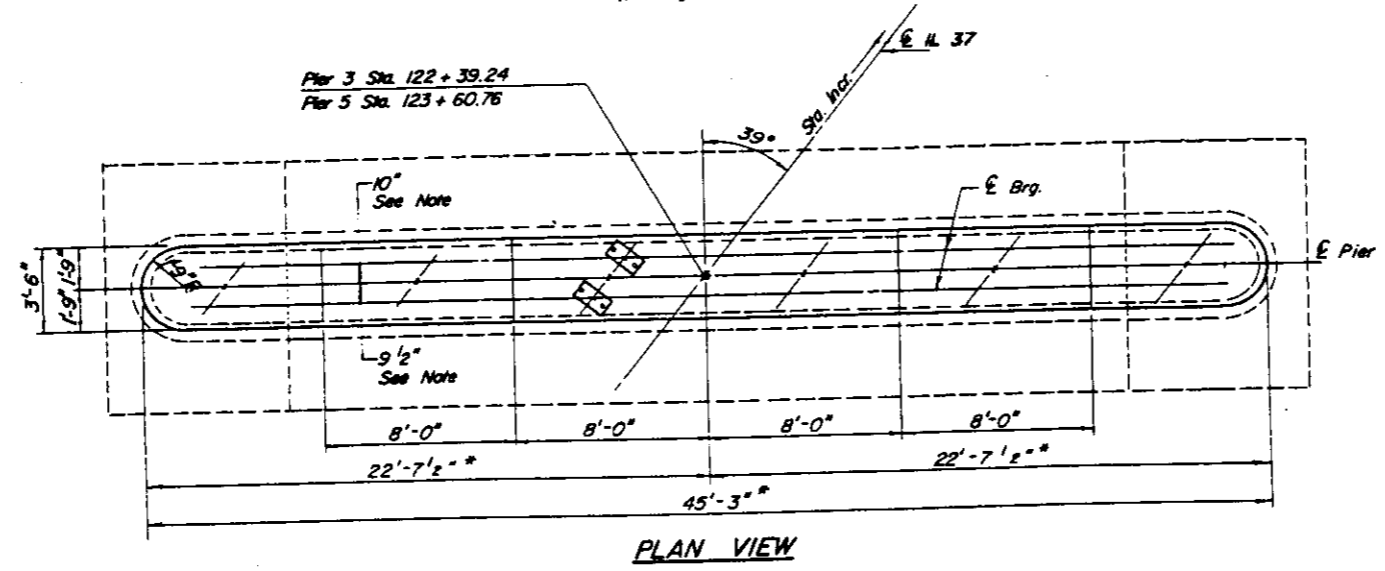
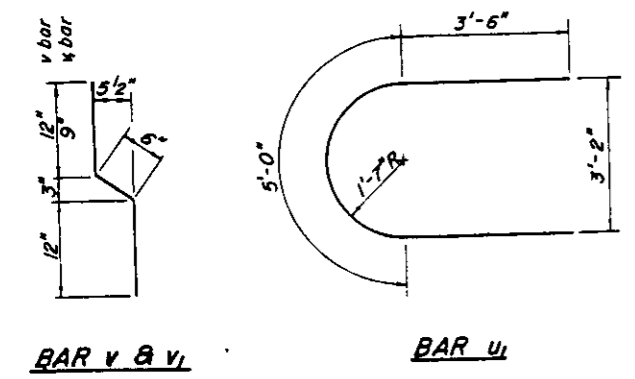
PIERS 1, 2, 6 & 7
FAS RTE. 2869 SECTION 1BR-1
JEFFERSON COUNTY
STATION 123+00



**TWO PIERS
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h	86	#5	3'-3"	—
p	12	#5	22'-4"	—
p ₁	12	#5	21'-0"	—
u ₁	12	#5	12'-0"	U
v	98	#6	2'-6"	—
v ₁	98	#6	2'-3"	—
Concrete Removal Cu. Yd. 24.8				
Class X Concrete Cu. Yd. 15.8				
Reinforcement Bars Pound 1690				

Notes:
 1. Minimum bar lap #5 = 1'-8".
 2. Cast for drilling and setting v and v₁ bars shall be incidental to Reinforcement Bars.



Note: Pier 3 shown - Pier 5 similar w/rotation

* Dimensions are to existing concrete at Top of Pier, and are approximate. New concrete to match existing. (See General Note Note 9, Sheet 1.)

PIERS 3 & 5
 FAS RTE 2869 SECTION 1BR-1
 JEFFERSON COUNTY
 STATION 123+00

STATE OF ILLINOIS

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS

DIVISION OF HIGHWAYS

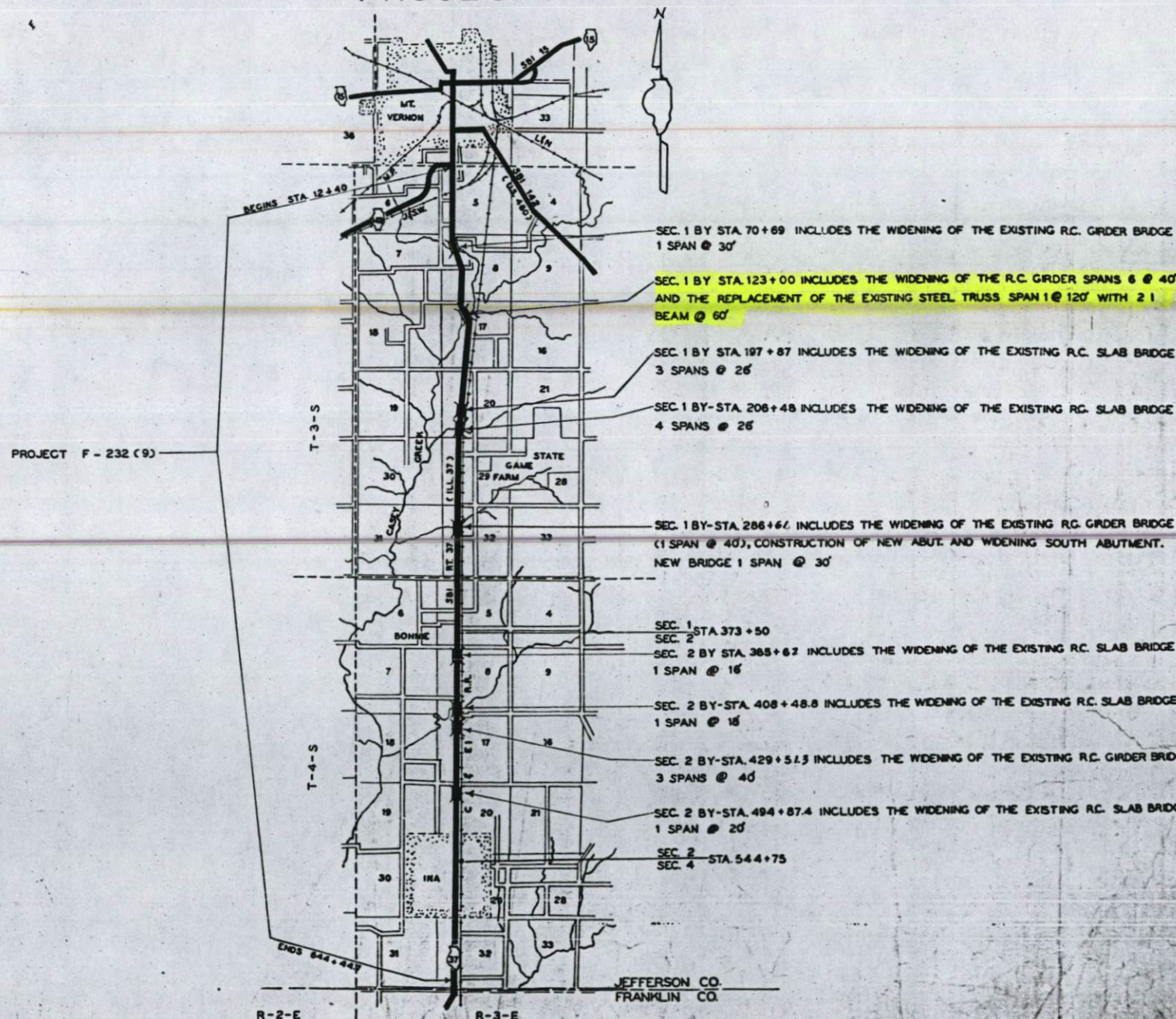
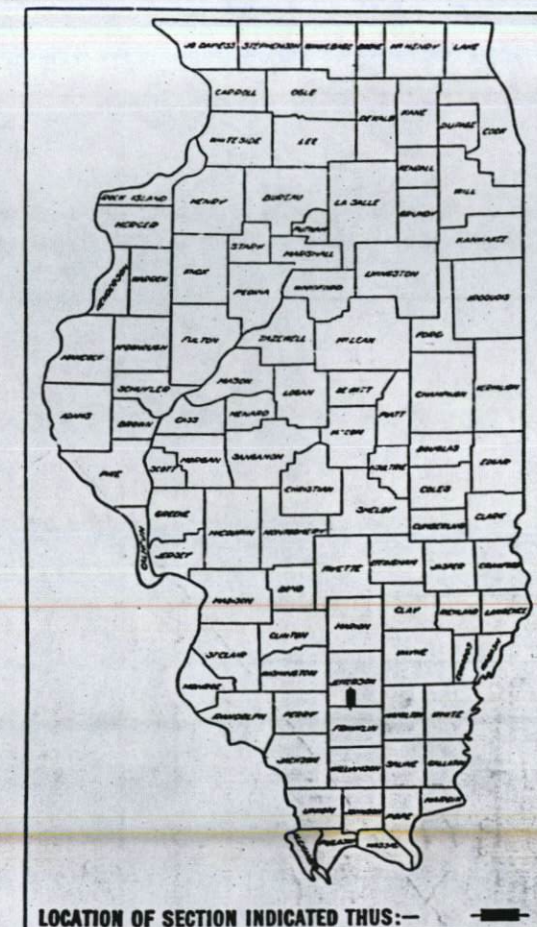
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
37	(1-2)BY	Jefferson	56	1

FED. ROAD DIST. NO. 7 ILLINOIS PROJECT F-232 (9)

SCALES
 PLAN 1 INCH = 100 FT.
 PROFILE HOR. 1 INCH = 100 FT.
 PROFILE VERT. 1 INCH = 10 FT.
 CROSS-SECTIONS 1 INCH = 8 FT. VERT. 1 INCH = 10 FT. HOR.

SBI. RT. 37 SEC. 1 BY JEFFERSON CO.
 SBI. RT. 37 SEC. 2 BY JEFFERSON CO.
 PROJECT F-232 (9)



STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
 DIVISION OF HIGHWAYS

SUBMITTED Sept. 20, 51

DESIGNED BY R.H. Major

EXAMINED Oct. 12, 51

APPROVED Oct. 12, 51

APPROVED Oct. 12, 51

ENGINEER OF ROAD
 PUBLIC CONTRACTS

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL DATE _____

DISTRICT ENGINEER _____

APPROVED DATE _____

DIVISION ENGINEER _____

041-0032

7-15

INDEX OF SHEETS SBI RT. 37 SECTION (1-2)BY

BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
37	(1-2)BY	Jefferson	56	2
BYA.		TO & A.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT. F-232(9)	

Sheet No.

- 1 Cover Sheet
- 2 Index and Summary of Quantities, STD. 2070R
- 3 Std. 1971 Travel @ Own Risk
Std. 1972 Barricade
Std. 1744 Right of Way Markers,
- 4 Std. 1687 Guard Rail
Std. 1909-R Bridge Approach Span
Std. 1881 Name Plate
- 5 Std. 1563 Pav. in $\frac{1}{2}$ Strips.
- 6 Plan and Profile Bridges Sta. 70+69 and Sta. 197+87
- 7 Plan and Profile Bridge Sta. 115 to 141
- 8 " " " " " 206+48
- 9 " " " " " 285+61
- 10 " " " " " 285+63 and Sta. 408+48.8
- 11 Plan and Profile Bridges Sta. 429+51.3 and Sta. 494+87.4
- 12 Cross-Sections Sta. 116+00 to 125+00
- 13 " " " 125+82 to 132+00
- 14 " " " 281+00 to 286+68
- 15 " " " 286+77 to 292+00
- 16 " " " 424+00 to 429+80
- 17 " " " 429+95 to 435+00
- 18 & 19 Sheets 1 & 2 Bridge Plan Sta. 70+69
- 20 to 29 Sheet 1 to 10 Bridge Plan Sta. 123+00
Incl.
- 30 & 31 Sheet 11 to 12 Temp. Bridge Sta. 122+69.96
- 32 to 35 Sheets 1 to 4 Bridge Plan Sta. 197+87
Incl.
- 36 to 39 Sheets 1 to 4 Bridge Plan Sta. 206+48
Incl.
- 40 to 43 Sheets 1 to 4 Bridge Plan Sta. 286+61
Incl.
- 44 to 46 Sheets 1 to 3 Bridge Plan Sta. 385+67
Incl.
- 47 & 48 Sheets 1 and 2 Bridge Plan Sta. 408+48.8
- 49 to 54 Sheets 1 to 6 Bridge Plan Sta. 429+51.3
Incl.
- 55 & 56 sheets 1 and 2 Bridge Plan Sta. 494+87.4

SBI RT. 37 (P.A. RT. 37, SEC. 1)

PLANS PREPARED BY DISTRICT 7 DESIGN OFFICE

H. S. Bateman
District Design Engineer

Examined 9/12 1951

C. C. Bliss
District Engineer of Construction

Examined 9/14 1951

J. L. Van Housen
Asst. District Maintenance Engineer

Examined 9/13 1951

W. A. Koelker
District Research & Planning Engr.

Examined 9/17 1951

J. R. Fiedler
District Traffic Engineer

Approved 9-14 1951

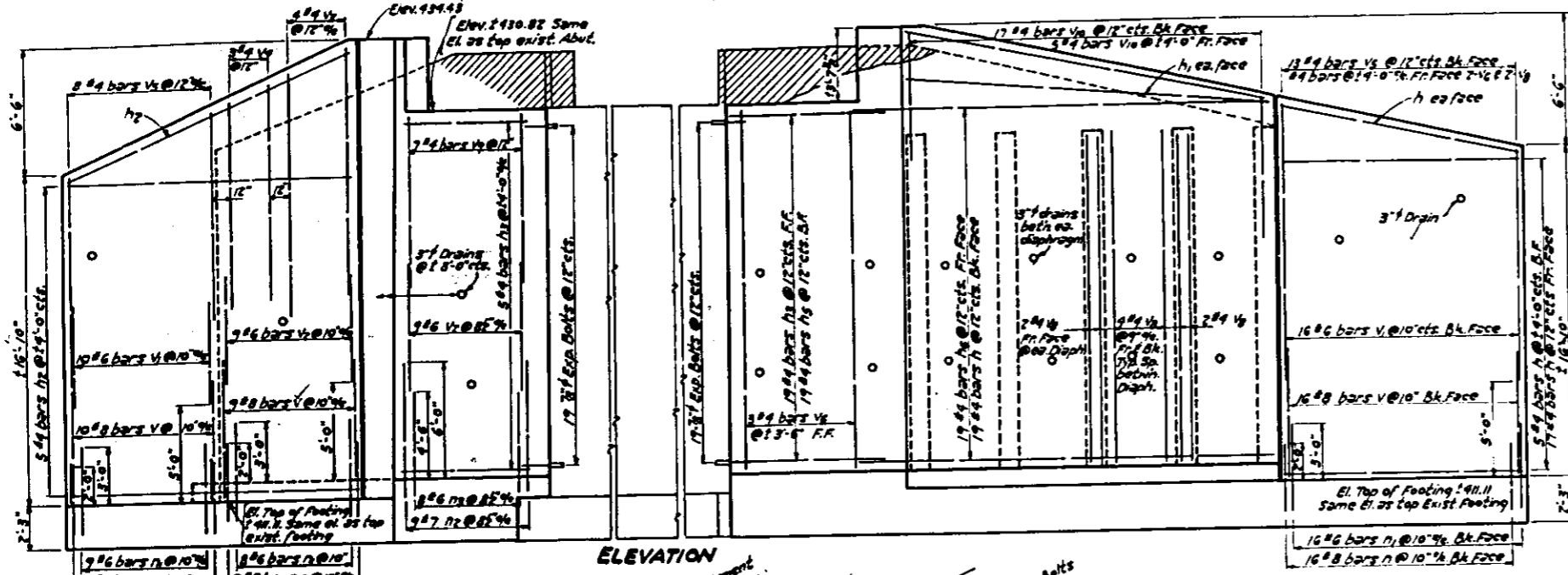
R. H. Major
District Engineer

SUMMARY OF QUANTITIES SBI 37 SECTION (1-2) BY

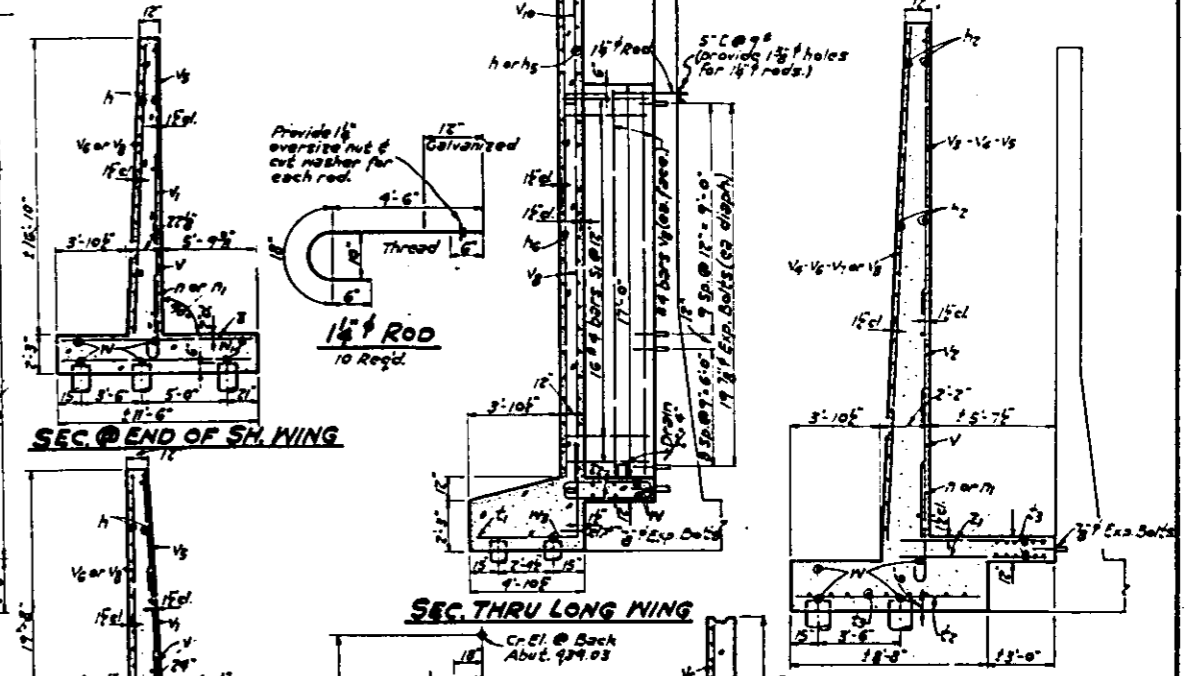
ITEM	UNIT	SEC. 1-BY	SEC. 2-BY	SEC.
Earth Excavation	Cu. Yd.	7353	2442	9795
Borrow Excavation	Cu. Yd.	7342	3711	11053
Channel Excavation	Cu. Yd.	4646	2027	6673
Bit. Material Applied (Prime)	Gals.	198	91	289
Cal. Chloride Furnished and Applied	Tons	12.7	3.5	16.2
Cal. Chloride Furnished	Tons	5.1	1.4	6.5
P.C.C. Base Course, 9", 22' Wide	Sq. Yd.		880	880
P.C.C. Pavement, (16 1/2" - 16 1/2")	Sq. Yd.		98	98
Gravel or Crushed Stone Base Course	Tons	2493	1027	3520
Reinforcement Bars	Lbs.	11716	117190	128968
Pavement Removal	Sq. Yd.		350	350
Guard Rail Removal	Lin. Ft.	570	420	990
Metal Plato Guard Rail	Lin. Ft.	500	400	900
Pipe Culvert, Ty. 1, 48"	Lin. Ft.	108	180	288
Complete Seeding	Acres	3.33	1.98	5.21
Mulch Covering	Acres	1.02	1.12	2.14
Agricultural Ground Limestone	Tons	10	6	16
Fertilizer Nutrients	Tons	0.14	0.09	.23
Honeysuckle Planting	Sq. Yd.	8812	3680	12492
Tree Removal, In. Diam. (6" to 15")	In. Dia.	456	1350	1806
Tree Removal, In. Diam. (over 15")	In. Dia.	64	106	170
Furnish & Erect ROW Markers	Each	24	15	39
Gr. or Cr. Stone Shoulders	Tons	103	76	184
Class X Concrete	Cu. Yd.	1786.4	756.5	2542.9
Handrail Concrete	Cu. Yd.	12.6	5.7	18.3
Structural Steel	Lbs.	144540	7160	151700
Masonry Removal	Cu. Yd.	325.5	306.3	631.8
Metal Handrail	Lin. Ft.	1054	227.5	1281.5
Name Plate	Each	5	4	9
Expansion Bolts	Each	1188	265	1453
Furnishing Untr. Piles (up to 30')	Lin. Ft.	9415	1750	11165
Driving Timber Piles 14'	Lin. Ft.		1750	1750
" " " 20'	Lin. Ft.	2960	2900	2900
" " " 25'	Lin. Ft.	4025	4625	4625
" " " 30'	Lin. Ft.	1830	1830	1830
Hardware	Lbs	750		750
Class A Excavation for Strc.	Cu. Yd.	1648	547	2195
Class B Excavation for Strc.	Cu. Yd.	1824	1145	2969
Bit. Conc. Binder Course	Tons	66	70	136
Bit. Conc. Surf. C. I-II	Tons	149	88	237
Leveling Binder, Machine Method	Tons	44		44
Temporary Bridge Complete	Each	1		1
Removal of Existing Structure	Each	1		1
Test Pile	Each	9		9
Hauling Existing Truss	Each	1		1
Hauling Temporary Pipe Culvert	Each	1		1
Hauling Temporary Pipe Culvert	Lin. ft.	108	180	288

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
37	(1-2)BY	Jefferson	56	2
FED ROAD DIST 7 ILLINOIS PROJECT F-232(7)				

Hatched area shows portion of existing structure to be removed by Contractor. To be paid for as Masonry Removal Est. 2.0 cu. yds.



ELEVATION

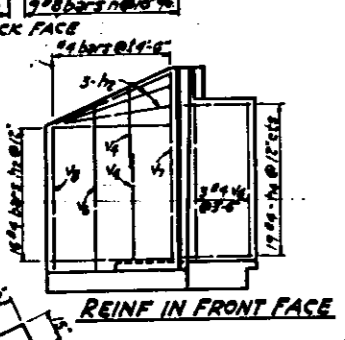


SEC. @ END OF SH. WING

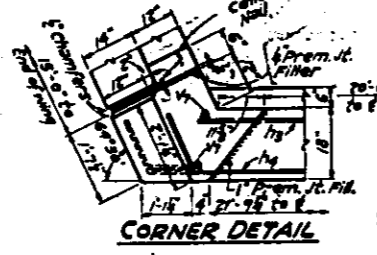
SEC. THRU LONG WING

SEC. THRU SHORT WING @ JT.
BILL OF MATERIAL - ABUT.

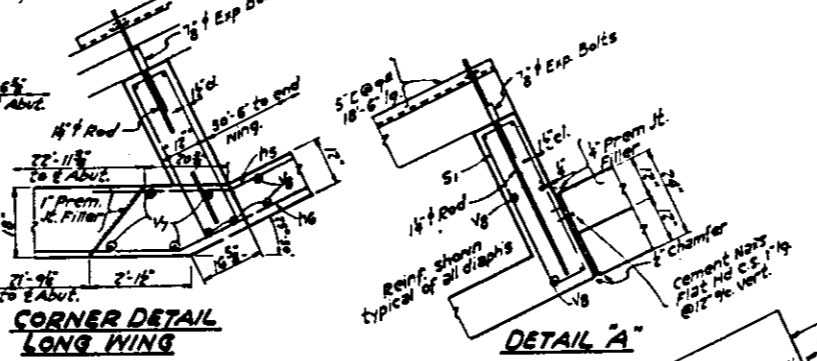
BAR NO	SIZE	LENGTH	SHAPE
V	7/8	6'-6"	
V1	3/4	3'-3"	
V2	3/4	6'-6"	
V3	1/2	17'-0"	
V4	7/8	10'-9"	
V5	3/4	9'-9"	
V6	1/2	18'-6"	
V7	1/2	22'-0"	
V8	3/4	16'-9"	
V9	1/2	8'-9"	
V10	3/4	10'-0"	
V11	3/4	22'-6"	
h	3/4	17'-0"	
h1	3/4	6'-6"	
h2	3/4	17'-9"	
h3	1/2	6'-0"	
h4	3/4	8'-9"	
h5	3/4	10'-0"	
h6	3/4	22'-6"	
D	7/8	5'-3"	
D1	3/4	6'-0"	
D2	1/2	8'-0"	
D3	1/2	6'-3"	
E	3/4	11'-3"	
E1	3/4	9'-0"	
E2	3/4	8'-0"	
E3	3/4	17'-0"	
E4	3/4	17'-0"	
E5	3/4	7'-3"	
E6	3/4	5'-6"	
F	3/4	26'-6"	
F1	3/4	7'-0"	
F2	3/4	17'-0"	
F3	3/4	31'-0"	



REIN. IN FRONT FACE

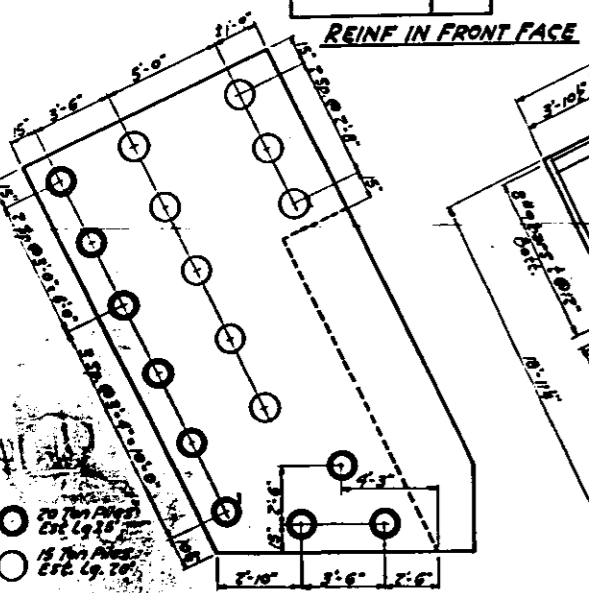


CORNER DETAIL

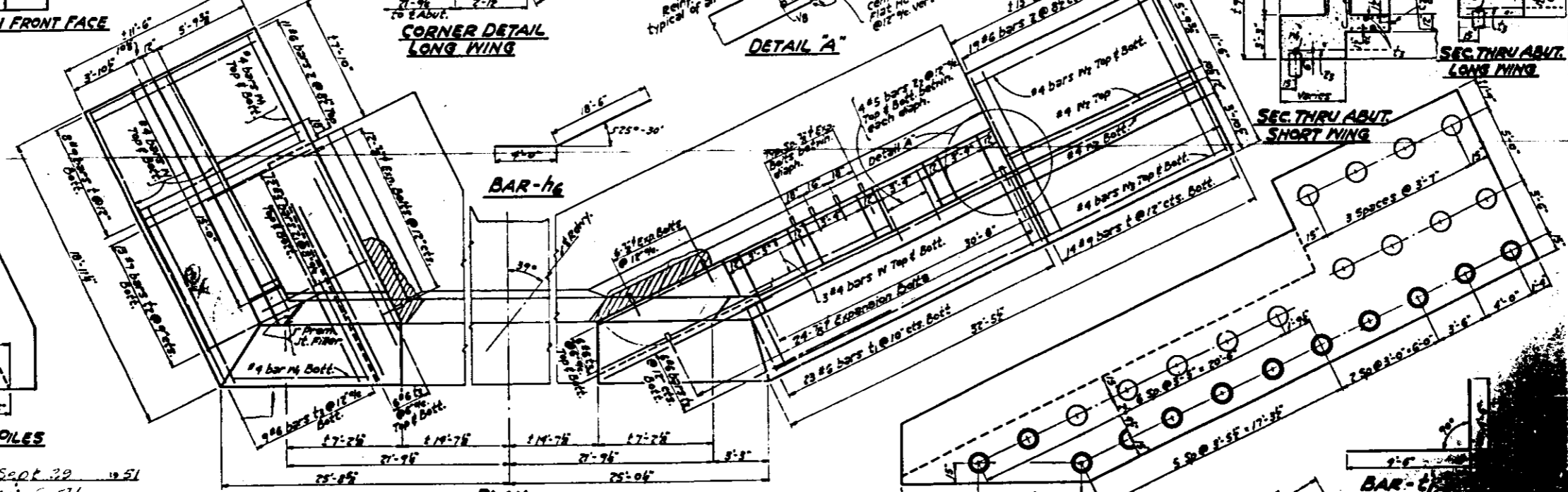


CORNER DETAIL LONG WING

DETAIL A



FOOTING PLAN SHOWING PILES



PLAN

BAR	A	B	C	D
1	3'-0"	11'	7'	8'
2	3'-0"	11'	7'	8'
3	3'-0"	11'	7'	8'
4	3'-0"	11'	7'	8'

BARS 1-4

BAR 5

BAR 6

BAR 7

DESIGNED *Carl J. Thompson*
CHECKED *W. E. Hanson*
DRAWN *C. J. K. O'Connell*
CHECKED *A. J. J.*

EXAMINED *W. E. Hanson*
PASSED *E. J. J.*
APPROVED *J. N. J.*

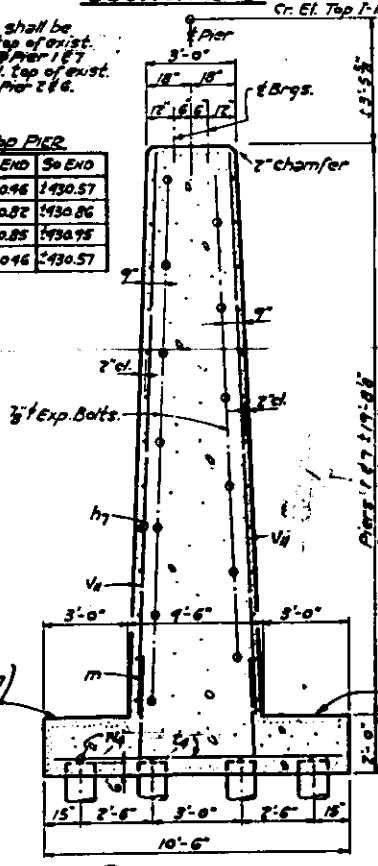
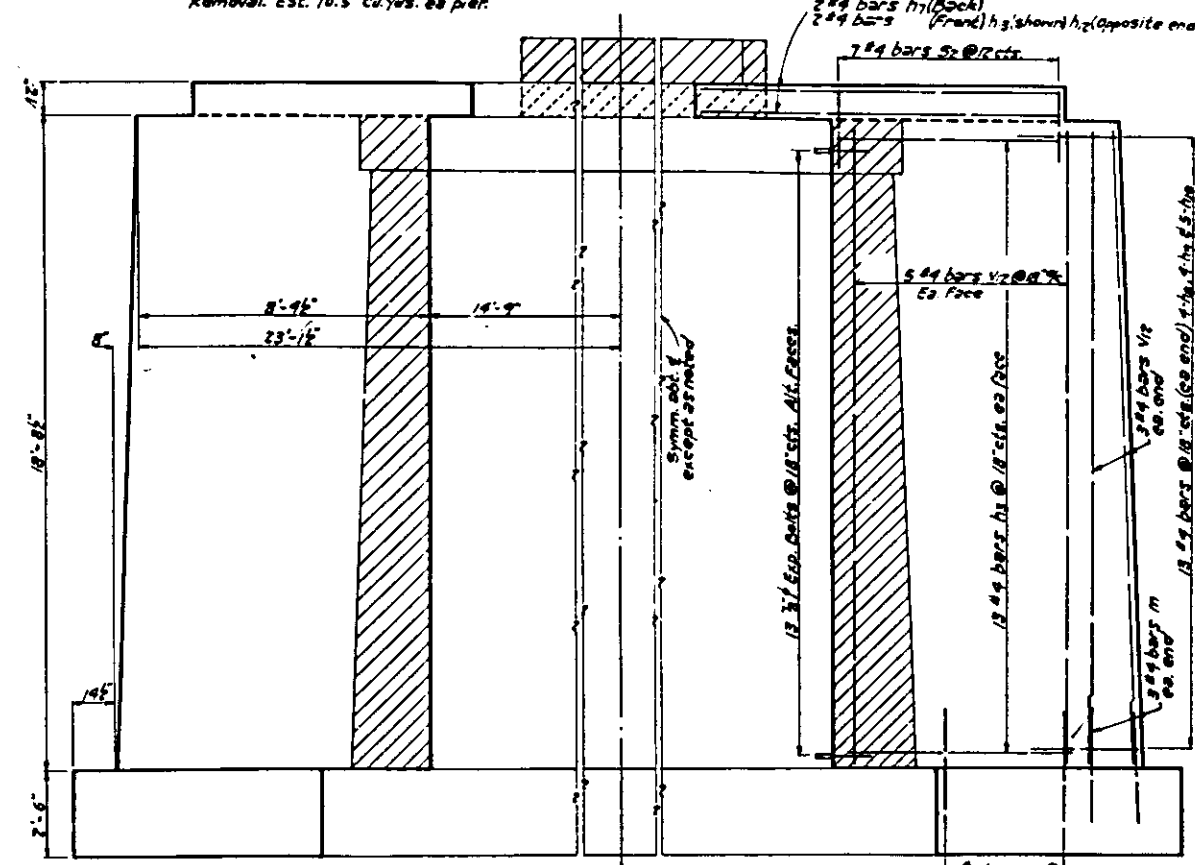
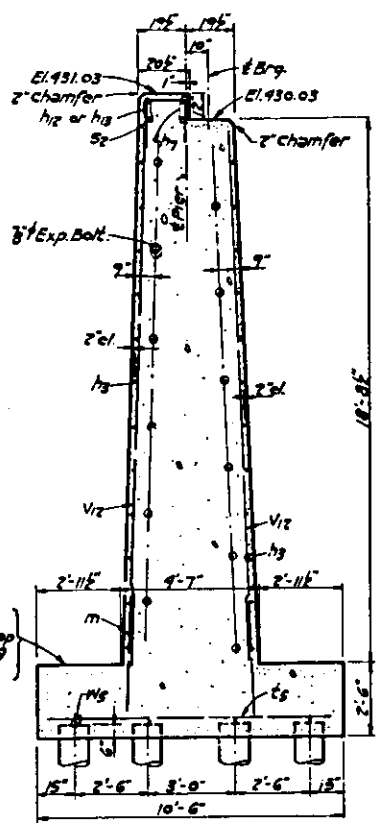
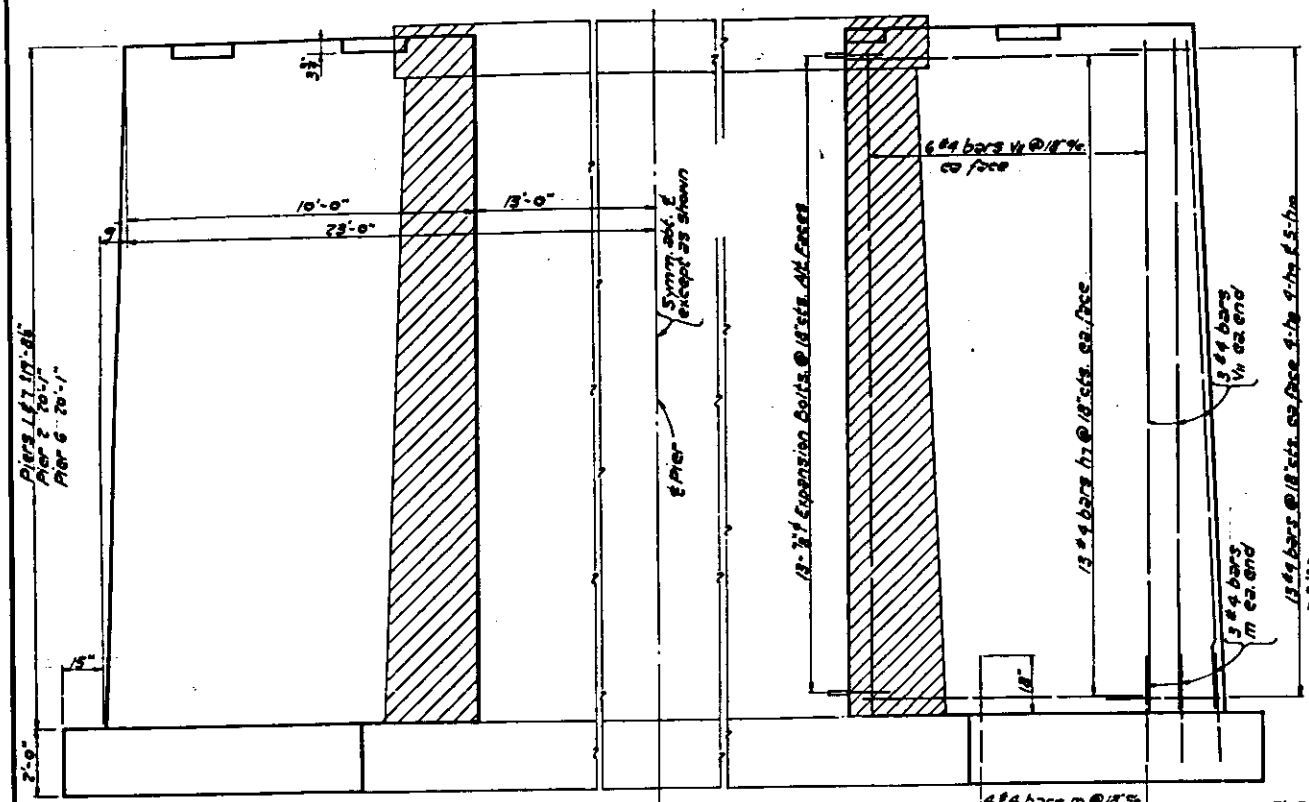
AGENTS
PROF. R. 232(9)
SARASOTA R.T. 37 SEC. 1 BY
JACKSON COUNTY
STATION 128100

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJ. NO.	1-2-37	COUNTY	JEFFERSON	SHEET NO.	27
PROJ. NAME	S.A.I.R.T. 37 PART 37 SEC. 1-B				
DATE	F. 232(9)				

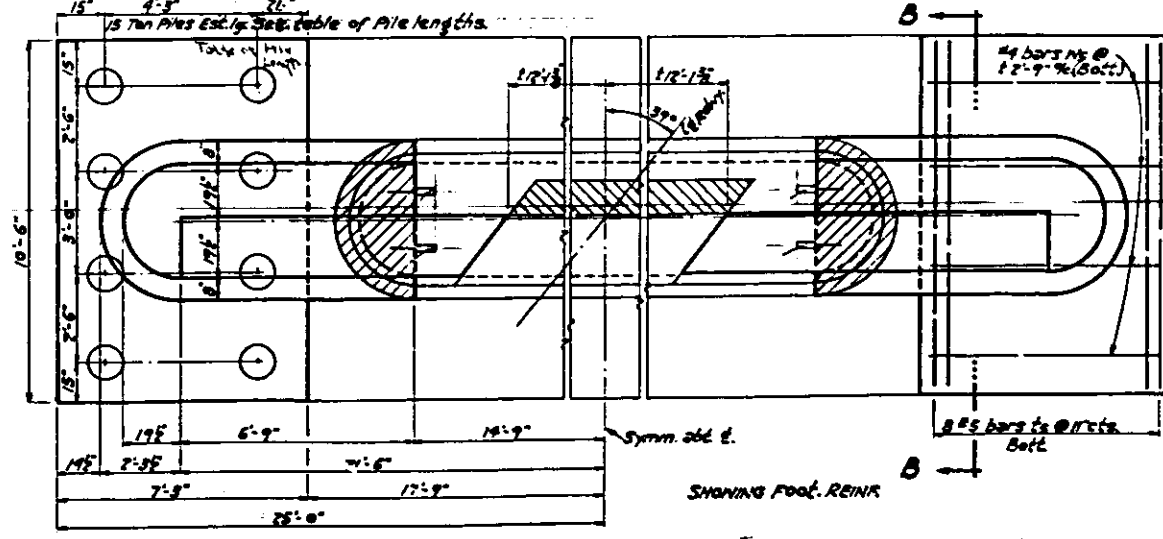
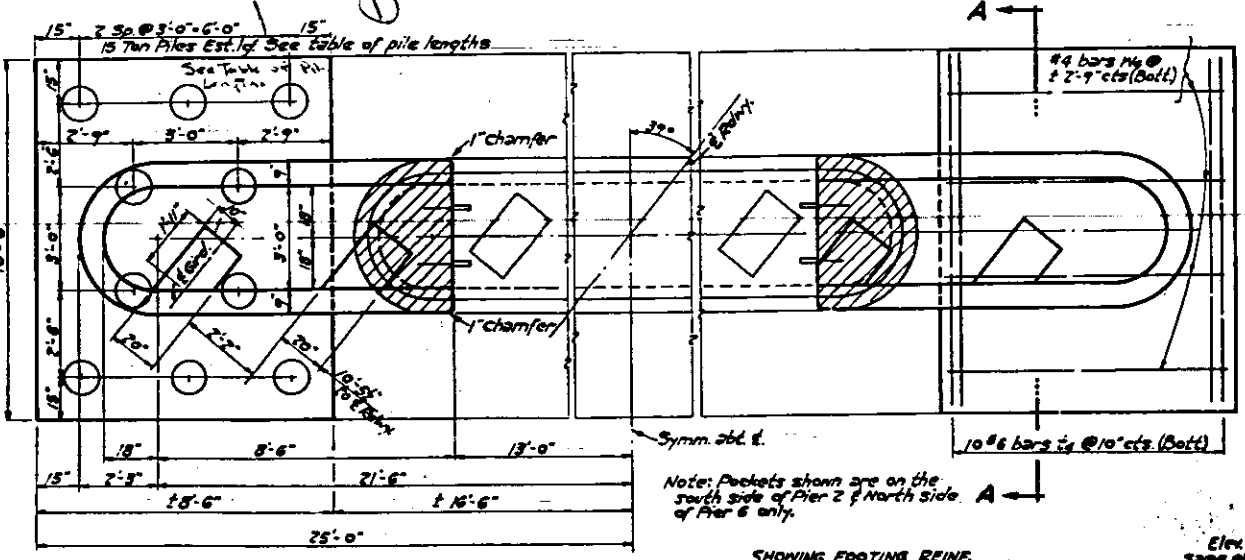
Ends of exist Piers (area shown cross-hatched) to be removed by Bridge Contractor to be paid for as Masonry Removal Est. 11.55 cu yds. ea pier.

Ends of existing pier & portion of existing good (area shown cross hatched) to be removed by Bridge Contractor to be paid for as Masonry Removal Est. 10.5 cu yds. ea pier.



SHOWING DIMENSIONS
ELEVATION
PIERS 1 2 6 7

SHOWING DIMENSION
ELEVATION PIERS 3 5



SHOWING DIMENSIONS & PILES
PLAN-PIERS 1-2-6-7

HALF PLAN SHOWING DIMEN & PILES
PLAN PIERS 3 5

ELEV. TOP PIER

PIER	No. END	So. END
1	430.96	430.57
2	430.87	430.86
6	430.85	430.75
7	430.96	430.57

ELEV. TOP FOOTING

PIER	No. END	So. END
1	410.77	410.88
2	410.75	410.74
6	410.78	410.88
7	410.77	410.88

TABLE OF PILE LENGTHS

PIER #	EST. LGTH.
1	30'
2	20'
3	20'
5	25-25
6	30'
7	25

DESIGNED: Carl E. Thumm
CHECKED: W. E. Hanson
DRAWN: Carl E. Thumm
APPROVED: J. P. Barker

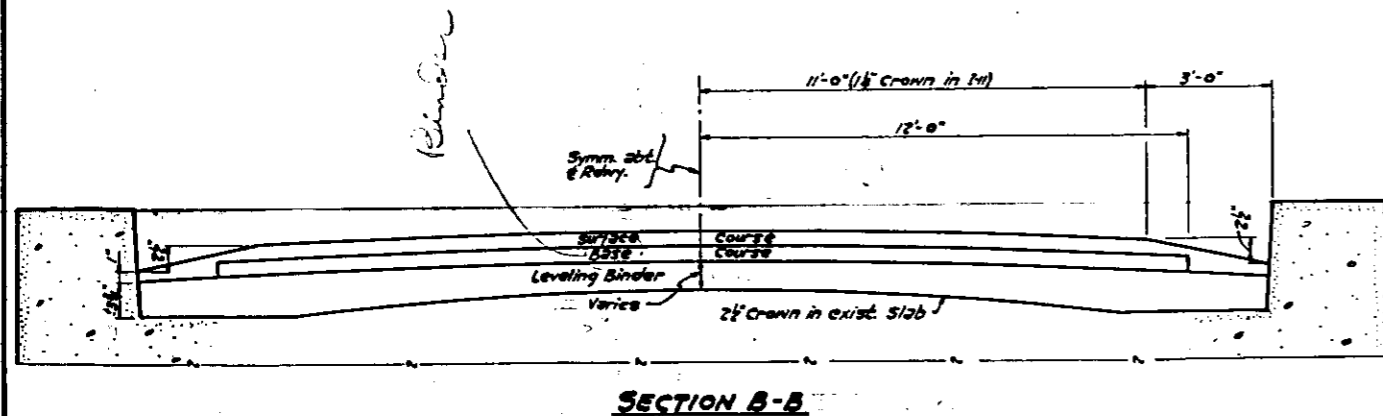
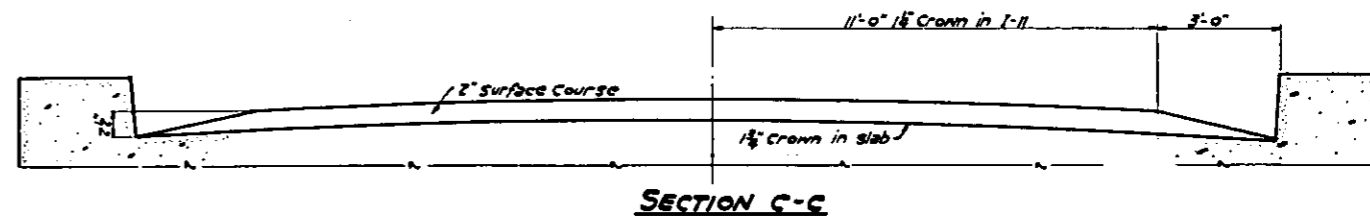
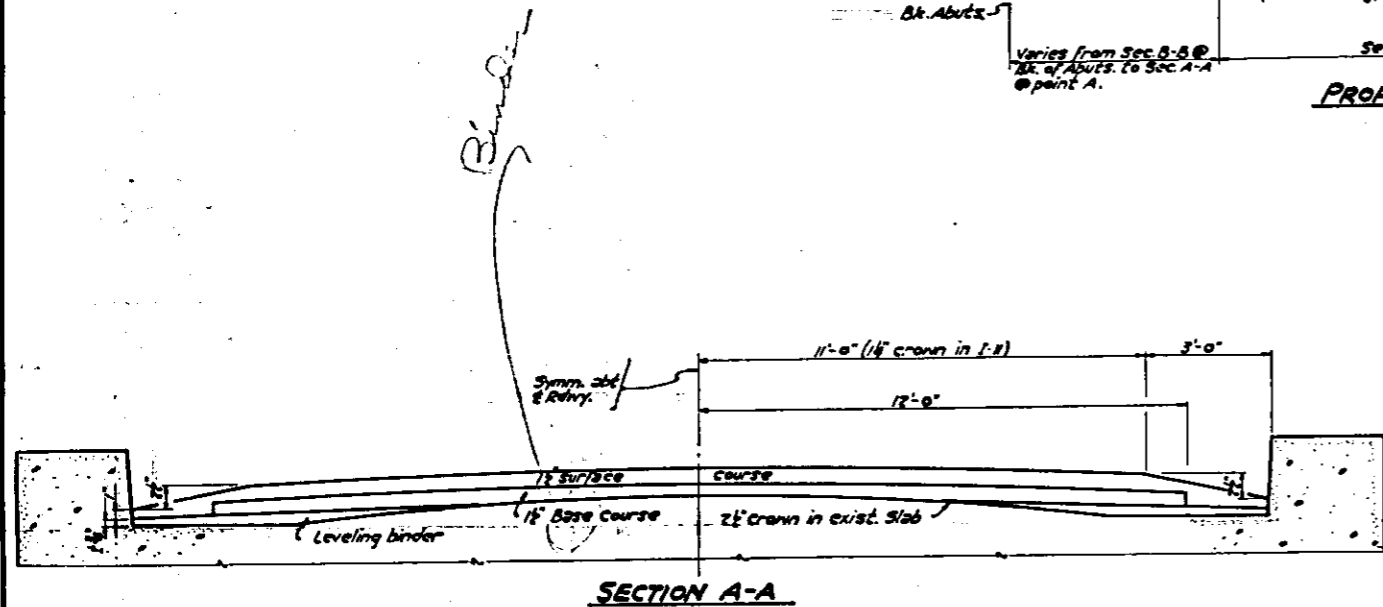
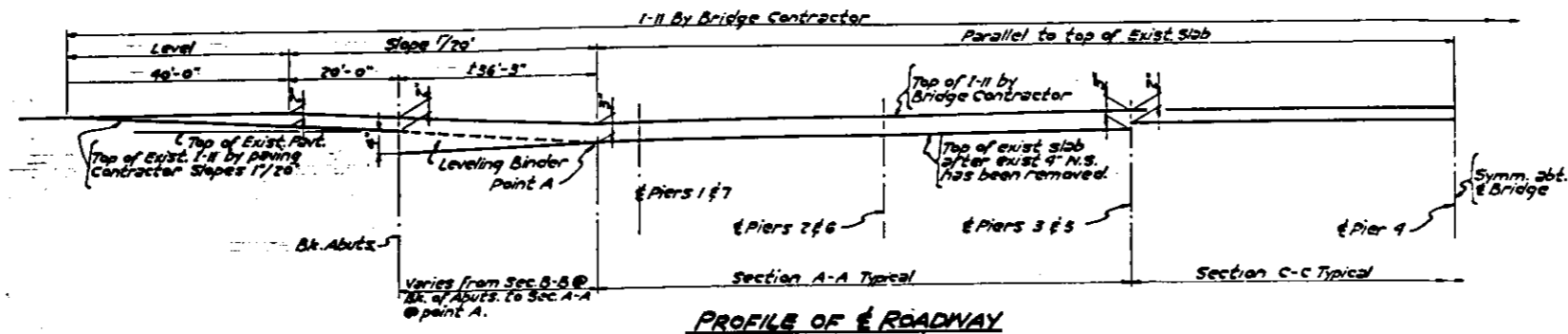
Sept 22 1951

PIER 1-2-3-5-6-7
PROJ. F 232(9)
S.A.I.R.T. 37 PART 37 SEC. 1-B
JEFFERSON COUNTY
STATION 1231-00

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROAD DISTRICT NO.	SECTION	COUNTY	MILE SHEETS	SHEET NO.
37	(1-3)A7	Jefferson	56-	29
PRO. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT: F-232(9)				

SHEET NO 10
12 SHEETS



BILL OF MATERIAL - RESURFACING

ITEM	QUANTITY
Bituminous Concrete Base Course	Tons 57
Bituminous Concrete Surface course	Tons 118
Leveling Binder	Tons 44
Bit. Materials Applied (Prime)	Gals. 158

DESIGNED *C. E. Thurman*
CHECKED *W. S. Johnson*
DRAWN *C. E. A.*
CHECKED *W. S. J.*

Sept 22 1951
EXAMINED *W. E. Hanson*
PASSED *E. J. [Signature]*
APPROVED *J. M. Baker*

RESURFACING DETAILS
PROJ. F-232(9)
S.B.I. RT. 37 F.A. RT. 37 SECTION 1-B-Y
JEFFERSON COUNTY
STATION 123+00