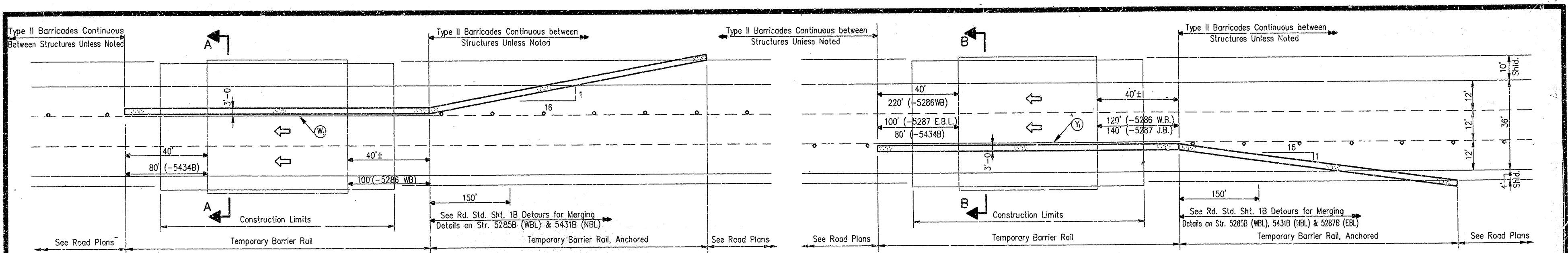






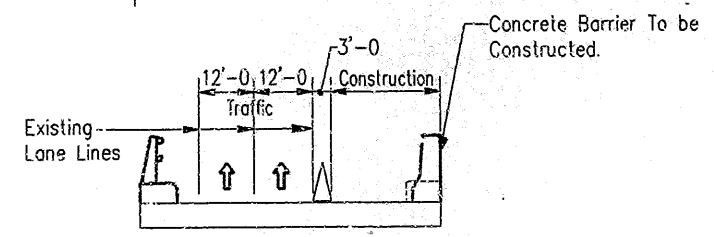
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 LAST UPDATE: 2/19/1990  
 TIME: 14:43.6

DWG. FILE: 485NMO1  
 OPERATOR: cpm



**RIGHT LANE CLOSED**

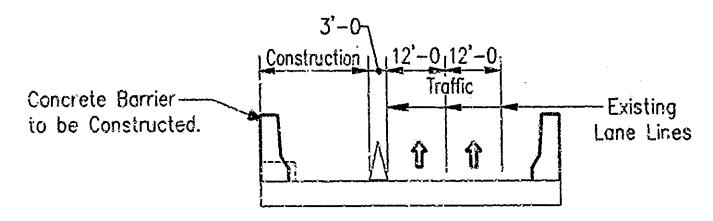
- 5285B -5433B
- 5286B -5431B
- 5434B&B



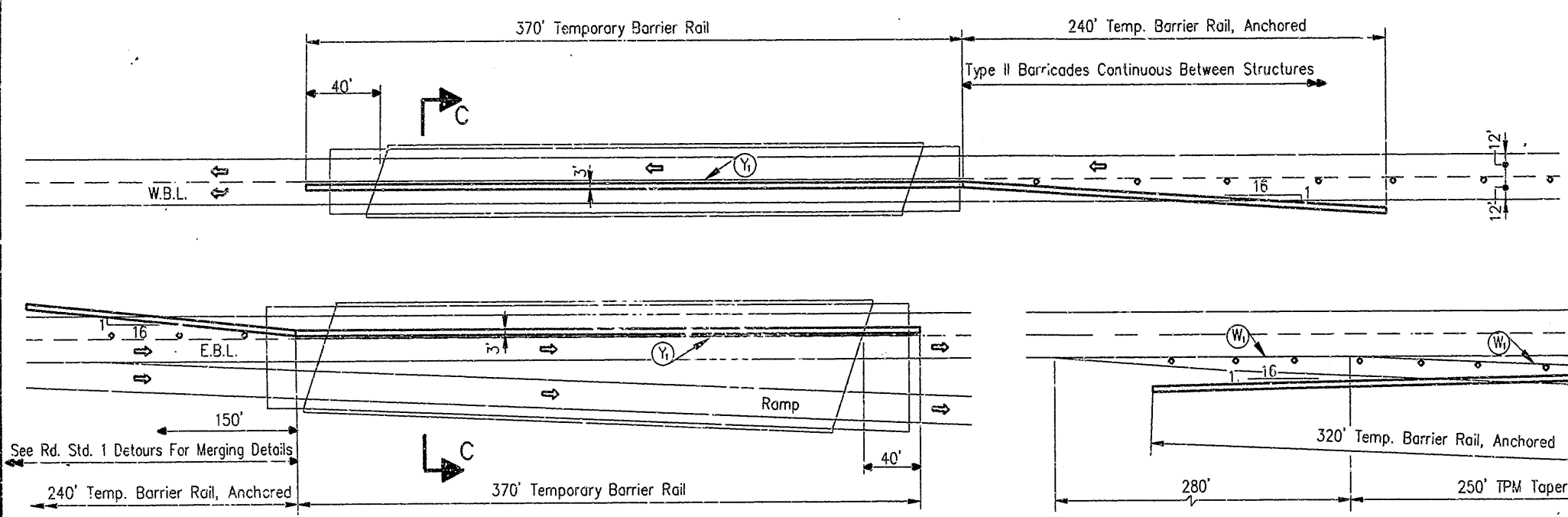
**SECTION "A-A"**  
 No Scale

**LEFT LANE CLOSED**

- 5285B -2379B&JB
  - 5431B -5297B&JB
  - 5433B -5434B&JB
  - 5286B (W.B.L.)
- (For E.B.L. See Special Details to Repair S-S Joint on Dwg. R2)

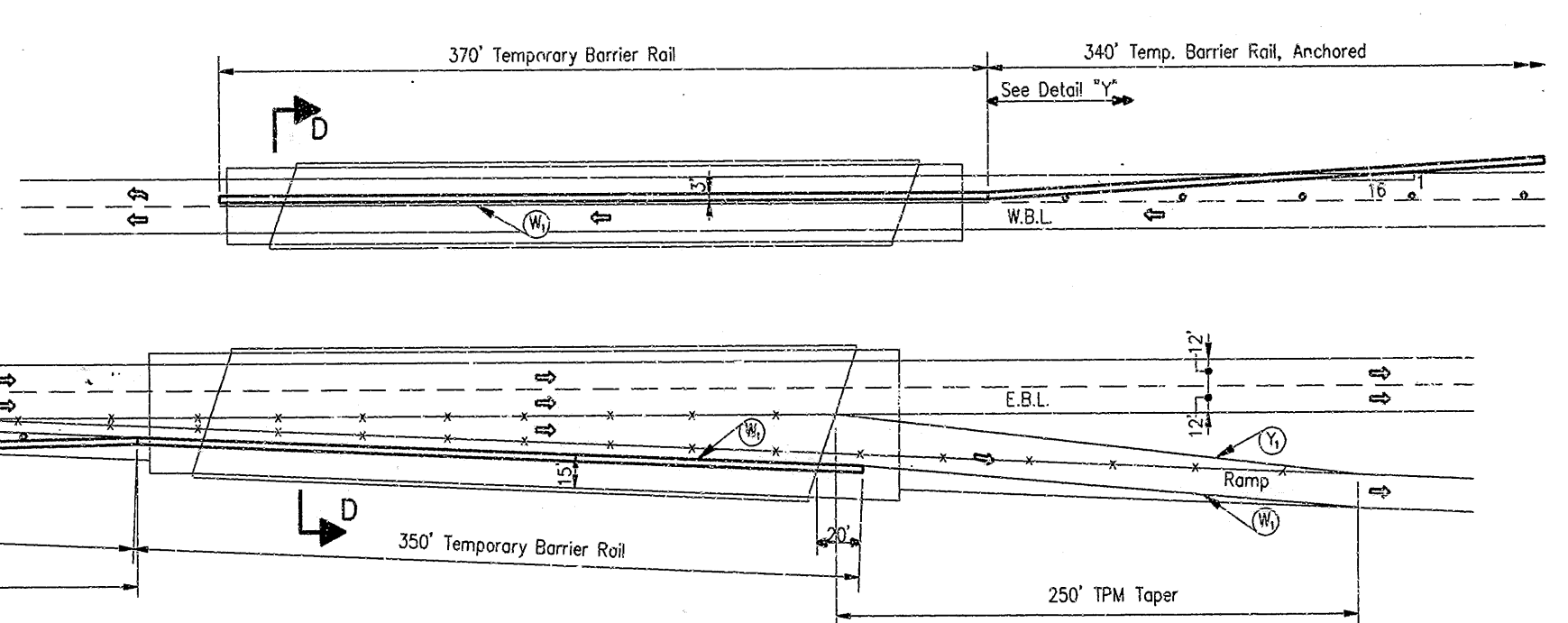


**SECTION "B-B"**  
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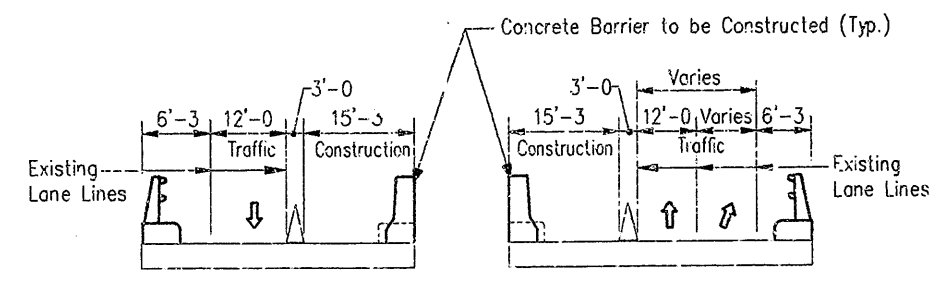
**LEFT LANE CLOSED**

-5259B&JB

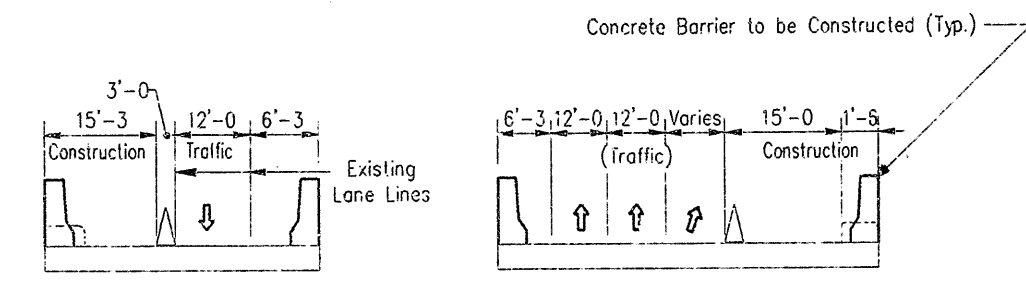


**RIGHT LANE CLOSED**

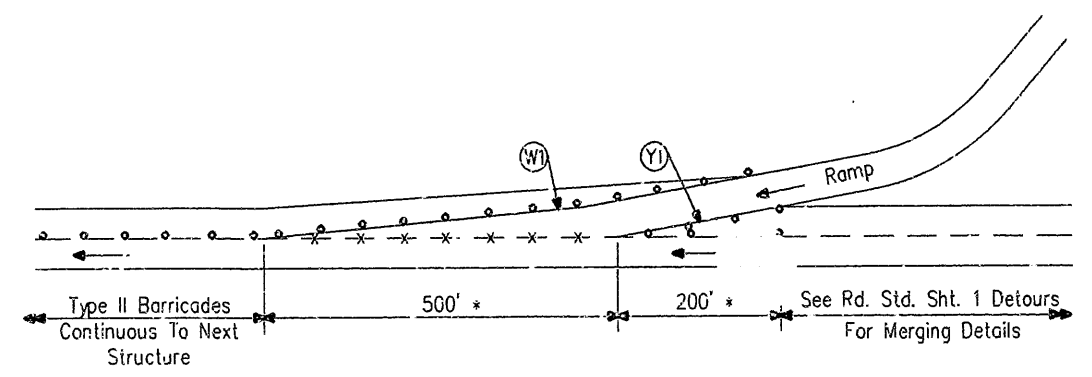
-5259B&JB



**SECTION "C-C"**  
 No Scale



**SECTION "D-D"**  
 No Scale



**DETAIL "Y"**  
 No Scale

\* Or as Directed by the Engineer.

**LEGEND**

- \* Remove Existing Pavement Marking
- Temporary Concrete Barrier
- Type II Barricade Or Drum (Not A Pay Item)
- (W) Temporary Pvm't. Marking Type I, White, 4"
- (Y) Temporary Pvm't. Marking Type I, Yellow, 4"

**NOTES**

- For Distances Between Structures, See Dwg. R3A.
- The existing white broken centerlines shall be removed at all locations where traffic is to be merged from two lanes to one lane (5259).
- Yellow tape shall be placed along the left edge of taper when the median lane traffic is merged into the outside lane.
- White tape shall be placed along the right edge of taper when the outside lane traffic is merged into the median lane.
- For Estimate Of Quantities For Maintenance Of Traffic, See Sheet 4.
- The Sections do Not Necessarily Indicate the Sequence of Phasing.
- For Interchange Traffic Maintenance Details, See Road Plans.

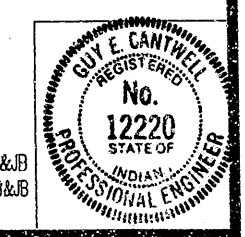
**MAINTENANCE OF TRAFFIC**

**INDIANA DEPARTMENT OF HIGHWAYS**  
**MARION & BOONE COUNTIES**

SCALE: - NO SCALE DATE: - February 27, 1990

*Ray E. Cantwell*

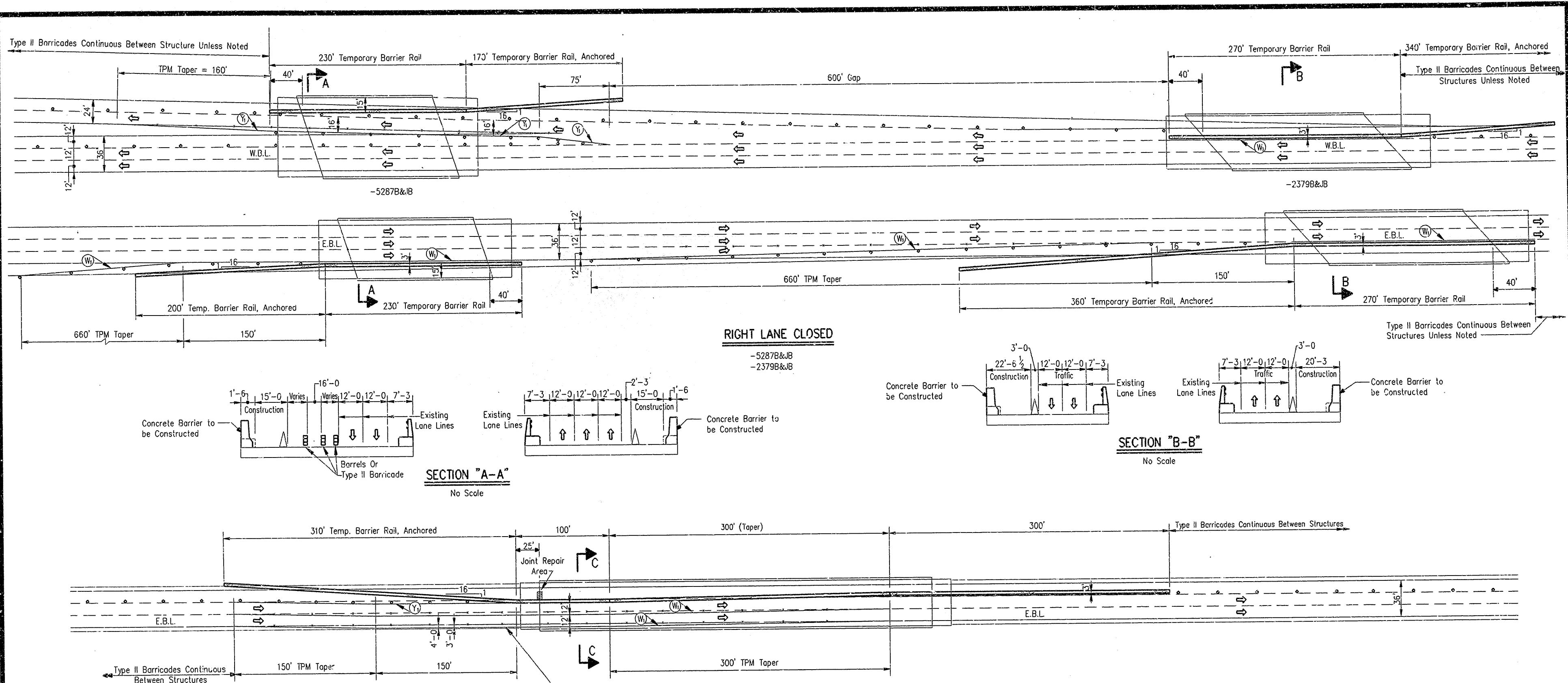
DRAWING: R1 OF R3A SHEET: 2 OF 57  
 PROJECT: - IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: - I-465-134-5285B, I-465-135-5286B, I-465-136-2379B&JB  
 I-465-136-5287B&B, I-465-137-5259B&B, I-465-141-5434B&B  
 I-465-142-5433B, I-465-144-5431B



DESIGNED: PEB	C.K.D.	TWL
DRAWN: PCR	C.K.D.	TWL
TRACED: C.K.D.		

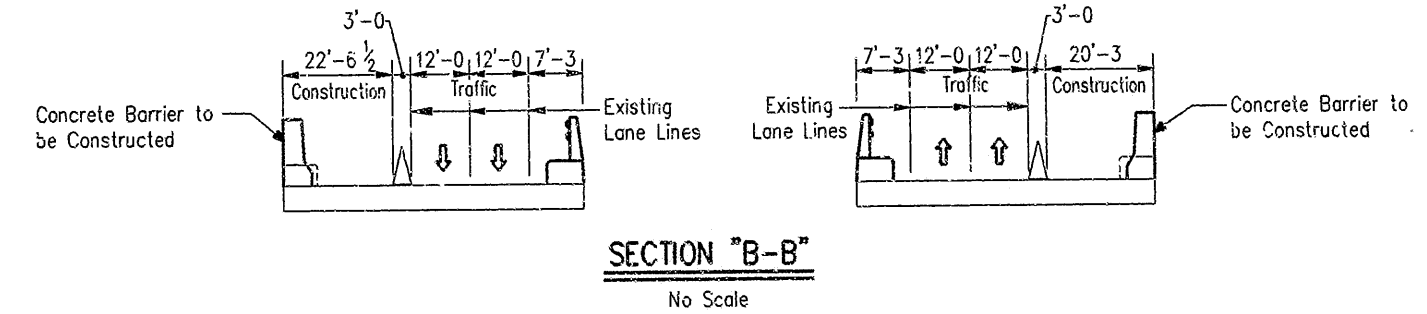
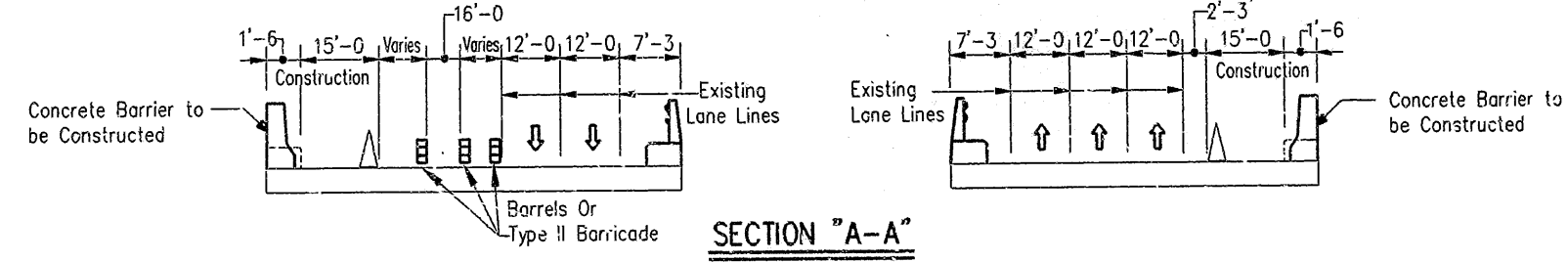
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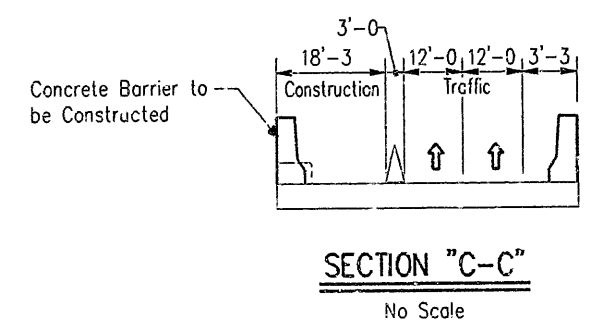


**RIGHT LANE CLOSED**

-5287B&JB  
 -2379B&JB



NOTE: Bituminous Widening Exists On Shoulder From Previous Overlay Project.  
 SPECIAL M.O.T. DETAIL WHEN REPAIRING S-S JOINT  
**-5286B (EBL)**



- LEGEND**
- ✖ Remove Existing Pavement Marking
  - ▭ Temporary Concrete Barrier
  - Type II Barricade Or Drum (Not A Pay Item)
  - Ⓜ Temporary Pvm't. Marking Type I, White, 4"
  - Ⓨ Temporary Pvm't. Marking Type I, Yellow, 4"

- NOTES**
- The existing white broken centerlines shall be removed at all locations where traffic is to be merged from two lanes to one lane (5259).
  - Yellow tape shall be placed along the left edge of taper when the median lane traffic is merged into the outside lane.
  - White tape shall be placed along the right edge of taper when the outside lane traffic is merged into the median lane.
  - For Estimate Of Quantities For Maintenance Of Traffic, See Sheet 4.
  - The sections do not necessarily indicate the sequence of phasing.
  - For Interchange Traffic Maintenance Details See Road Plans.

**MAINTENANCE OF TRAFFIC**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
**MARION & BOONE COUNTIES**

SCALE:- NO SCALE DATE:- February 27, 1990

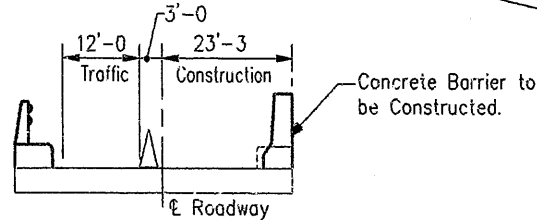
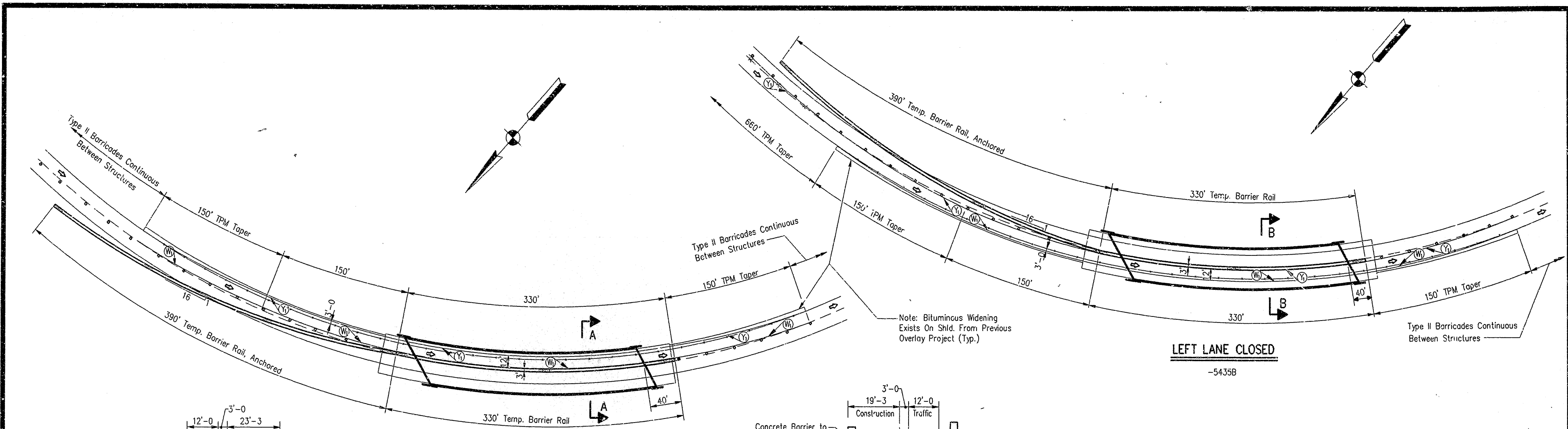
DRAWING:- R2 OF R3A SHEET:- 3 OF 57  
 PROJECT:- IR-465-4( ) STATION:-  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE:- I-465-136-5287B&JB, I-465-136-2379B&JB  
 I-465-135-5286B



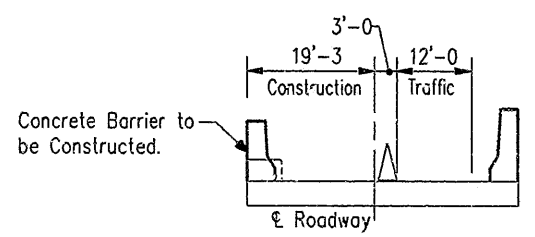
DESIGNED	PEB	C.K.D.	TWL
DRAWN	PCR	C.K.D.	TWL
TRACED		C.K.D.	

LAST UPDATE: 2/19/1990  
 TIME: 14:47:39  
 DWG. SCALE: 0.2400 = 1'-0"

DWG. FILE: 465NM013  
 OPERATOR: gpm



SECTION "A-A"  
 No Scale



SECTION "B-B"  
 No Scale

LEFT LANE CLOSED

-5435B

RIGHT LANE CLOSED

-5435B

ITEM	ESTIMATED QUANTITIES - MAINTENANCE OF TRAFFIC										TOTAL
	STRUCTURE NO.										
	5285	5286	2379	5267	5473	5435	5259	5434	5433	5431	
Temporary Barrier Rail	480	1460	540	620	260	330	740	420	480	460	5810 LFT
Temporary Barrier Rail, Anchored	680	680	700	480	330	390	660	680	680	680	5960 LFT
Temp. Pvm't Marking Type I, White, 4"	1290	2140	1200	1040	610	1560	2300	460	480	1140	12220 LFT
Temp. Pvm't Marking Type I, Yellow, 4"	1290	1280	1200	780	610	2220	2610	460	480	1140	12070 LFT
Removal Of Line, Paint, Solid, 4"		700		620		1560	1090				3970 LFT
Removal Of Line, Paint, Broken, 5"	330	175	330			165	330			330	1660 LFT

LEGEND

- \* Remove Existing Pavement Marking
- ▣ Temporary Concrete Barrier
- Type II Barricade Or Drum (Not A Pay Item)
- ⊙ Temporary Pvm't. Marking Type I, White, 4"
- ⊙ Temporary Pvm't. Marking Type I, Yellow, 4"

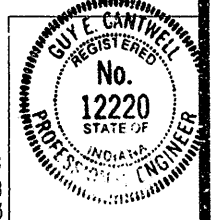
NOTES

- The existing white broken centerlines shall be removed at all locations where traffic is to be merged from two lanes to one lane (5259).
- Yellow tape shall be placed along the left edge of taper when the median lane traffic is merged into the outside lane.
- White tape shall be placed along the right edge of taper when the outside lane traffic is merged into the median lane.
- For Interchange Traffic Maintenance Details See Road Plans.

MAINTENANCE OF TRAFFIC  
 INDIANA DEPARTMENT OF HIGHWAYS  
 MARION & BOONE COUNTIES

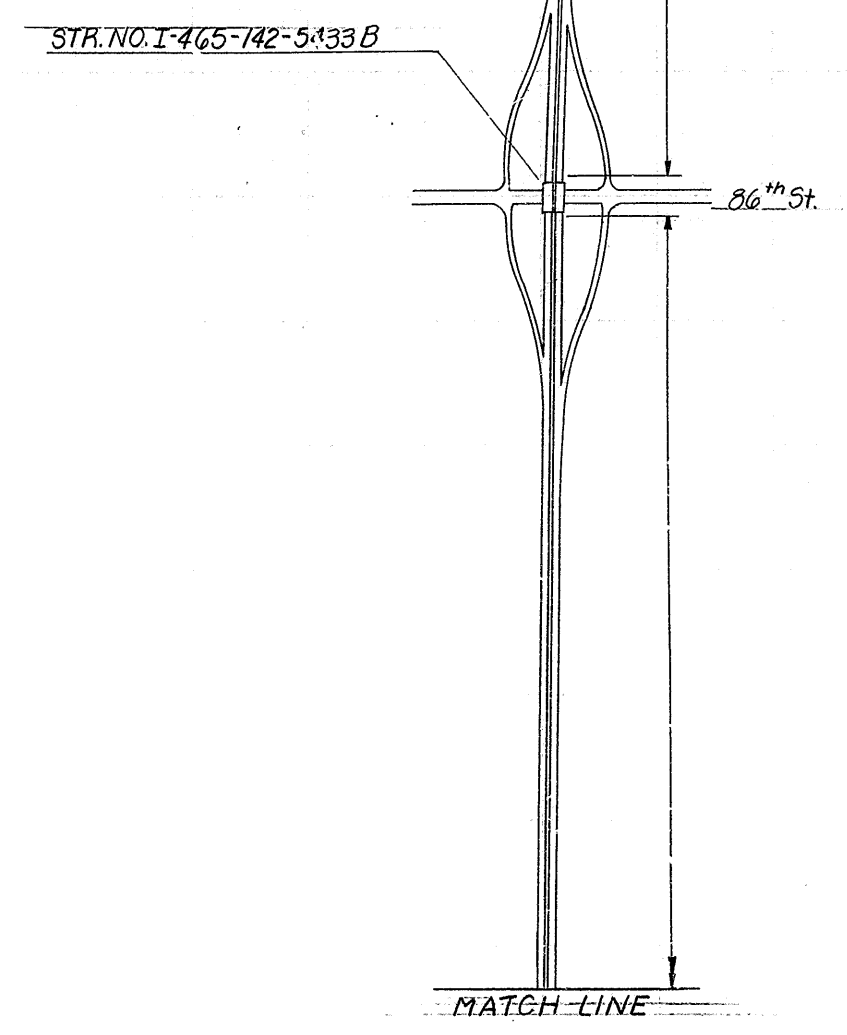
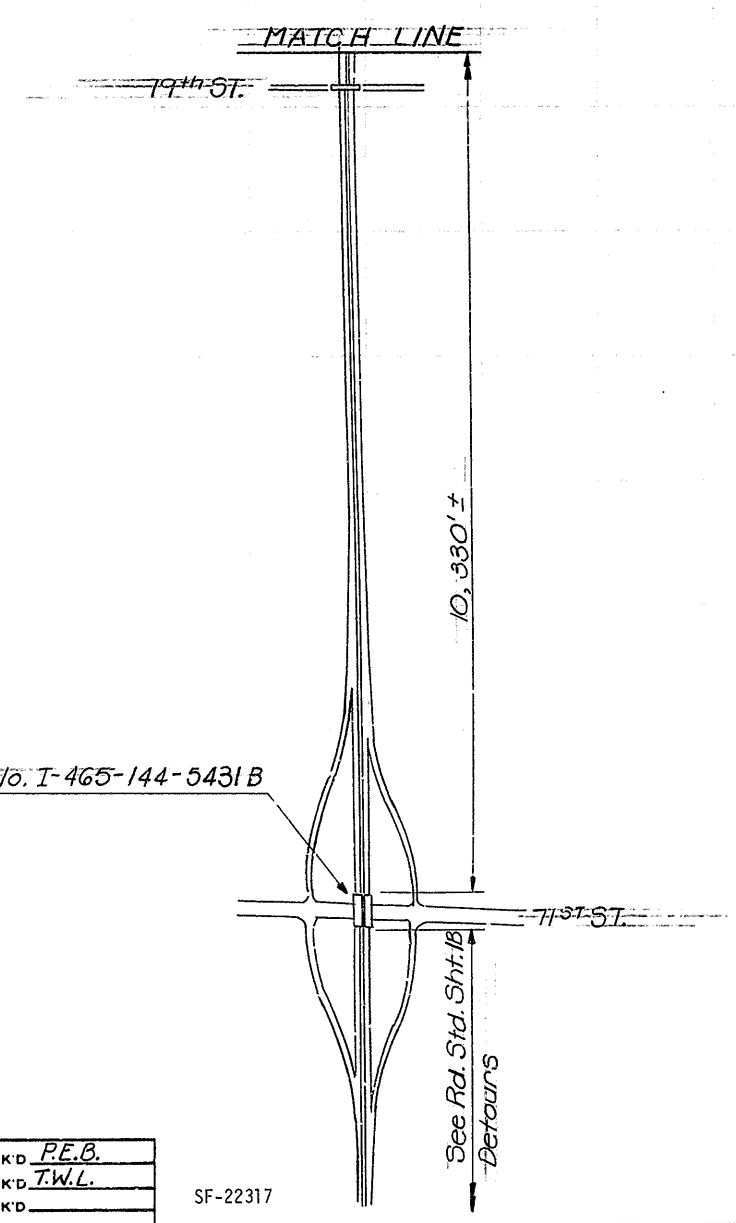
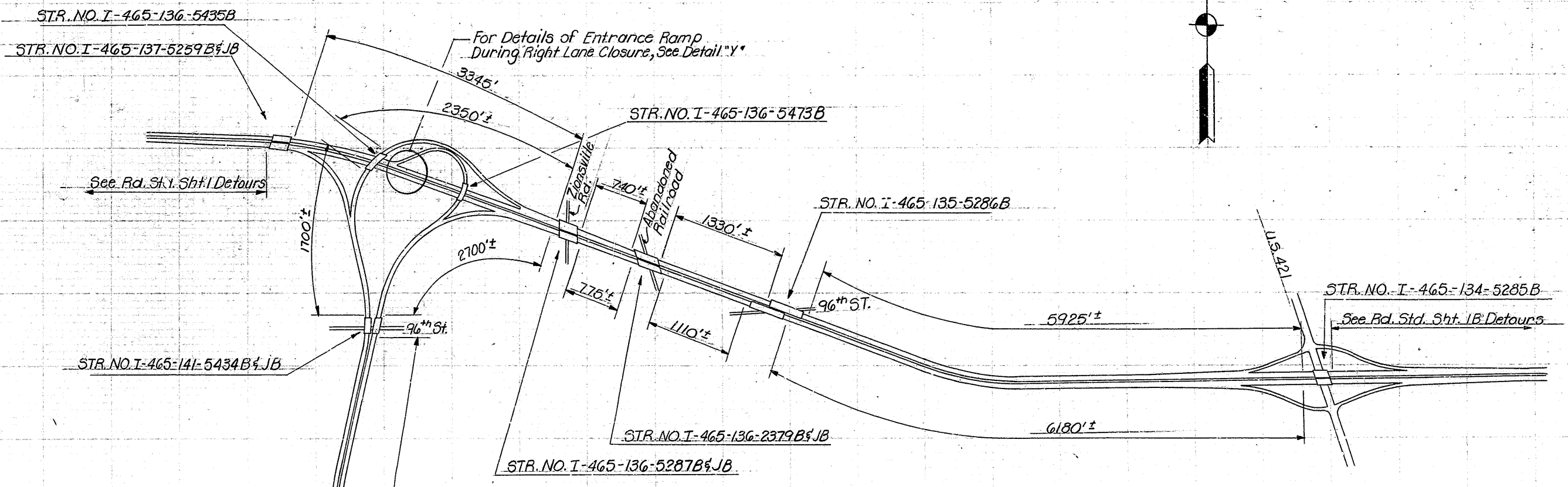
SCALE: - NO SCALE DATE: - February 27, 1990

DRAWING: R3 OF R3A SHEET: 4 OF 57  
 PROJECT: - IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: - I-465-134-5285B, I-465-135-5286B, I-465-136-2379B&B  
 I-465-136-5287B&B, I-465-137-5259B&B, I-465-141-5434B&B  
 I-465-142-5433B, I-465-144-5431B, I-465-136-5435B & I-465-136-5473



DESIGNED:	PEB	C'K'D	TW
DRAWN:	PCR	C'K'D	TW
TRACED:		C'K'D	





NOTES:

- Type II Barricades to be placed continuously between Structures as shown on Dwg. B1 thru B3. Dimensions shown on this Dwg. are the approximate limits of Type II Barricades.
- For Traffic Maintenance Details at the interchanges, See The Road Plans.

MAINTENANCE OF TRAFFIC  
**INDIANA DEPARTMENT OF HIGHWAYS**  
 BOONE & MARION COUNTIES

SCALE: NONE DATE: February 27, 1990

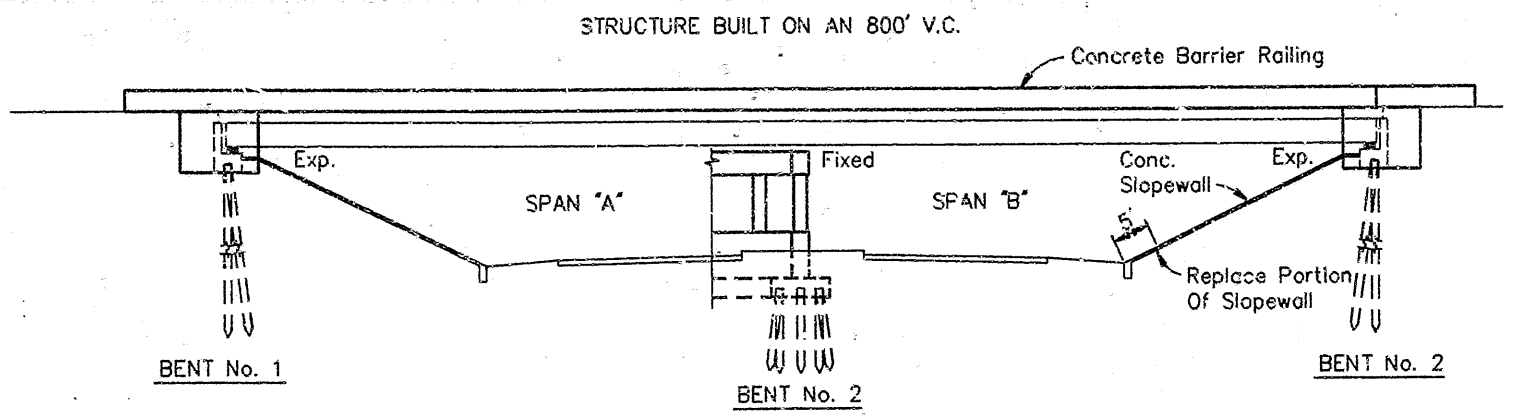
*Ray E. Cantwell*

DRAWING: B3A OF B3A SHEET: 4A OF 57  
 PROJECT: IR 465-4( ) STATION: \_\_\_\_\_  
 BRIDGE CONTRACT NO. \_\_\_\_\_  
 BRIDGE FILE: 1-465-134-5285B; 1-465-135-5286B; 1-465-136-2379B & JB; 1-465-136-5287B & JB; 1-465-136-5473B; 1-465-136-5435B; 1-465-137-5259B & JB; 1-465-141-5434B & JB; 1-465-142-5433B; 1-465-144-5431B

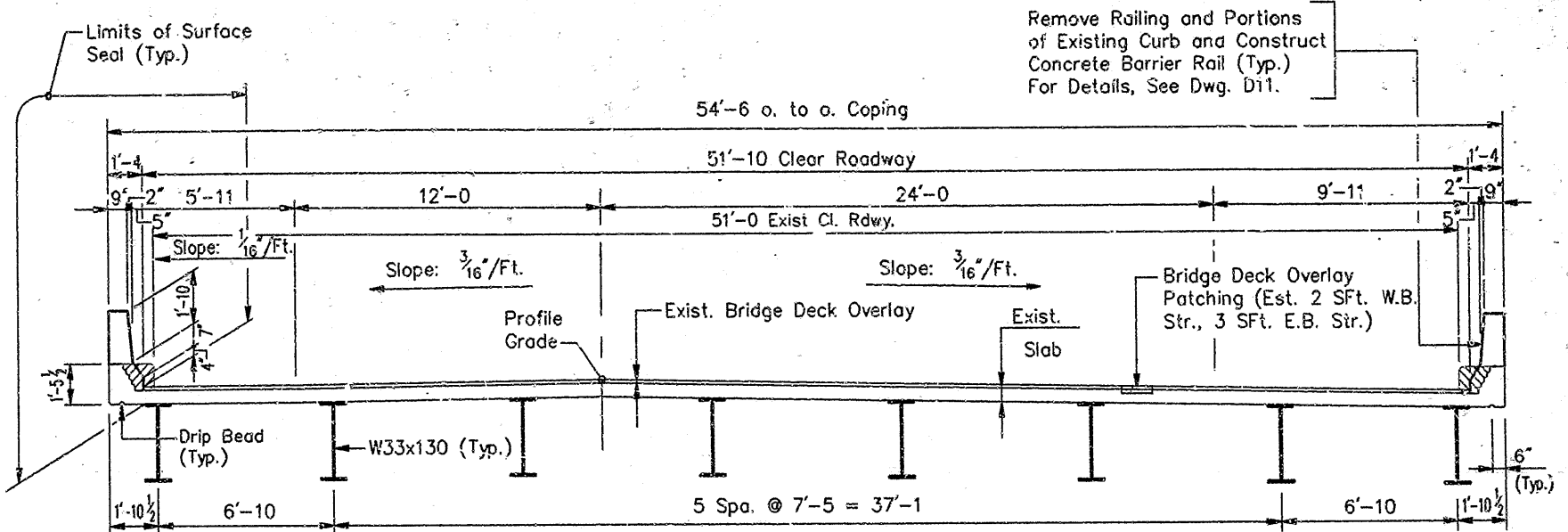
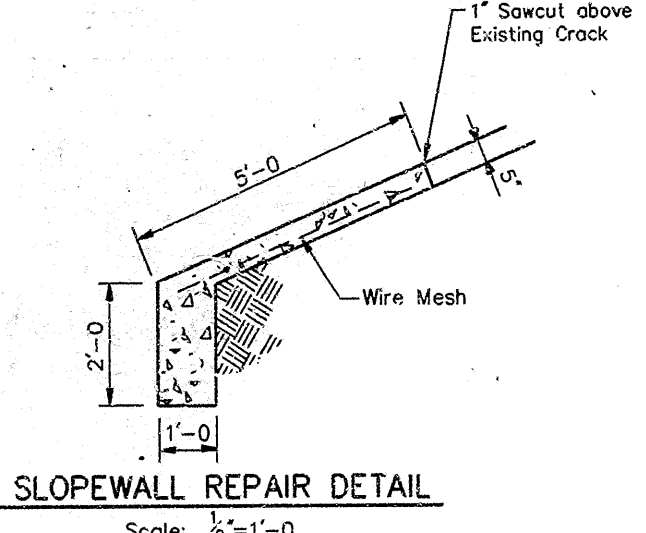


DESIGNED: J.W.L. CKD: P.E.B.  
 DRAWN: J.L.A. CKD: T.W.L.  
 TRACED: \_\_\_\_\_ CKD: \_\_\_\_\_

SF-22317



**ELEVATION**  
Scale: 1/16" = 1'-0"



**SECTION "A-A"**  
Scale: 1/4" = 1'-0"

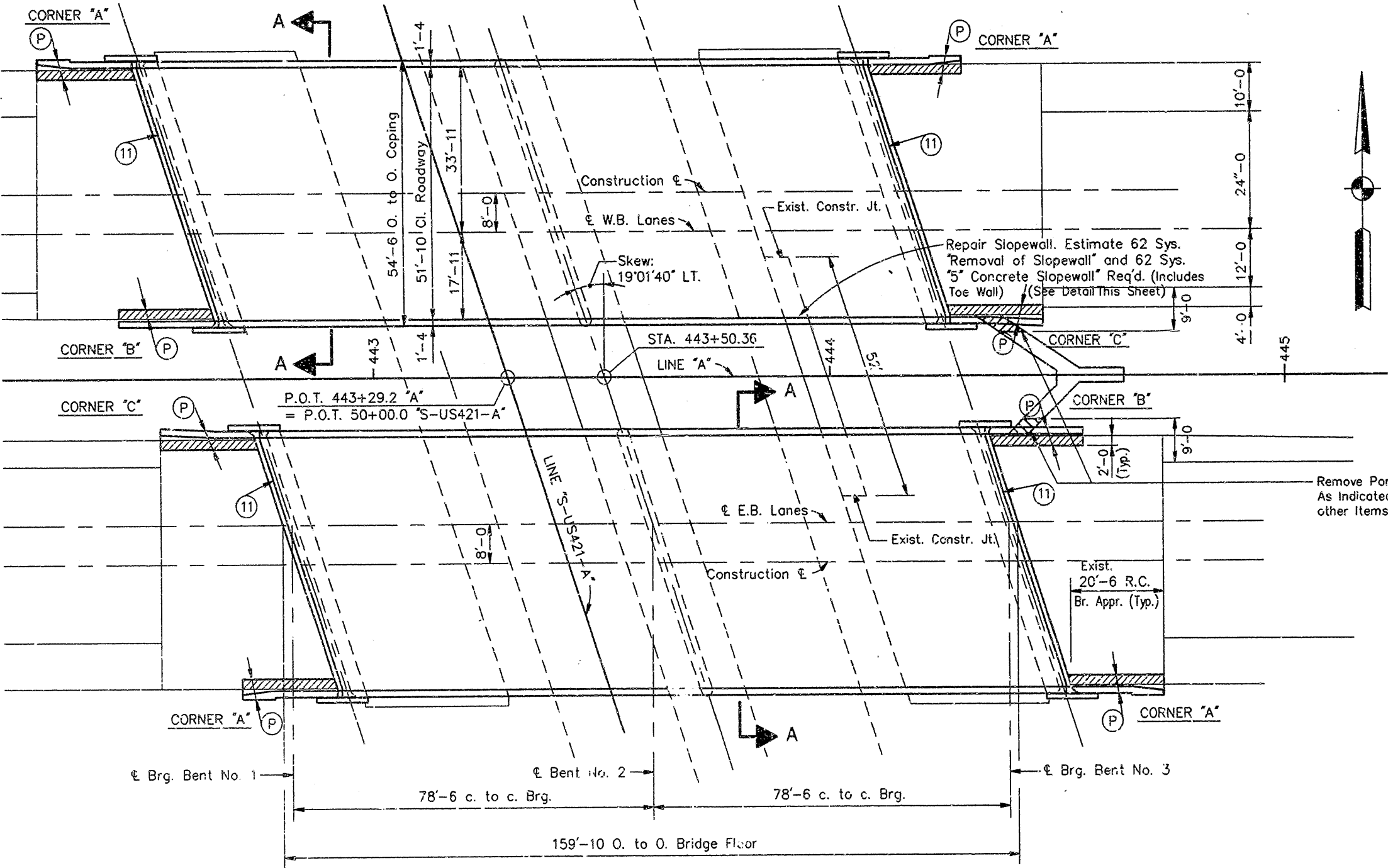
**GENERAL NOTES**

Plans for existing structures are on file and available upon request in the Bridge Department, Indiana Department of Transportation as:

- Bridge File
- 1-465-134-5285 and -5285A
  - 1-465-135-5286 and -5286A
  - 1-465-136-2379 & J and -2379A & JA
  - 1-465-136-5287 & J and -5287A & JA
  - 1-465-136-5473 and -5473A
  - 1-465-136-5435 and -5435A
  - 1-465-137-5259 & J and -5259A & JA
  - 1-465-141-5434 & J and -5434A & JA
  - 1-465-142-5433 and -5433A
  - 1-465-144-5431 and -5431A

- Remove all expansion joint seals, clean out joints, and replace seals. (To be placed with Daylight closures.) Cost of Removal to be included in cost of New Expansion Joints.
- Bridge rail removal is included in "Removal of Present Structure, (Portions)."
- Reinforcing steel to be Grade 40.
- For Lengths of Pavement removals see Dwg. D38 - D40.
- Bridge Deck Overlay Patching Material is to be Bridge Deck Patching Concrete.

STANDARD DRAWING TABLE		
BRIDGE STD.	ROAD STD.	PURPOSE
BR5		Railing Connection Details
C1		Bar Bending Details, Rebar Notes
C3		Expansion Joint, Type BS, Construction Jt. Type A, Notch in Slab at End of Beam, Type IA Joint
MT3		Traffic Sign Details
MB2		Slopewall Details
MQ		R/W Fence Details
CB2		Temporary Concrete Barrier
Sht 1 Detours		Advance Warning Sign Installation
Sht 2A Detours		Barricade Drum & Sign Standards
Sht 3 Detours		Standard Detour Signs
Sht 4 Detours		Standard Detour Signs
Sht 5A Detours		Sign Design Details



**PLAN**  
Scale: 1/16" = 1'-0"

**LEGEND**

- (P) Widened Approach Slab. For Details, See Dwg D38
- (11) Expansion Joint Seal, Type BS11
- Concrete Removal

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
CONTINUOUS COMPOSITE STEEL BEAM BRIDGE  
2 SPANS @ 78'-6" & 78'-6" SKEW: 19°01'40" LT.  
2-51'-10" CLEAR ROADWAY, 2-CONC. BARRIER RAILS  
I-465 OVER US 421  
**INDIANA DEPARTMENT OF HIGHWAYS**  
MARION COUNTY

SCALE: - As Noted DATE: - 2-27 1990  
DRAWING: D1 OF 41 SHEET: 5 OF 57  
PROJECT: - 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-134-5285B

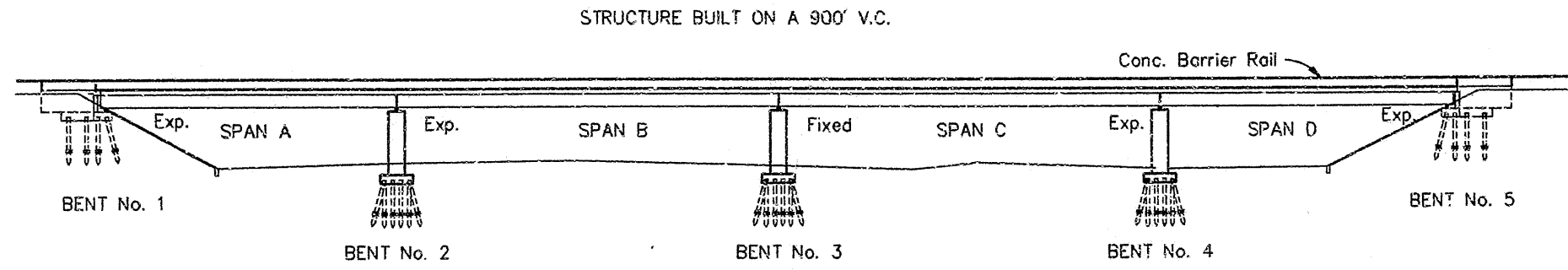


LAST UPDATE: 2/19/1990 DWG. SCALE: 0.0625" = 1'-0"  
TIME: 15:11:34

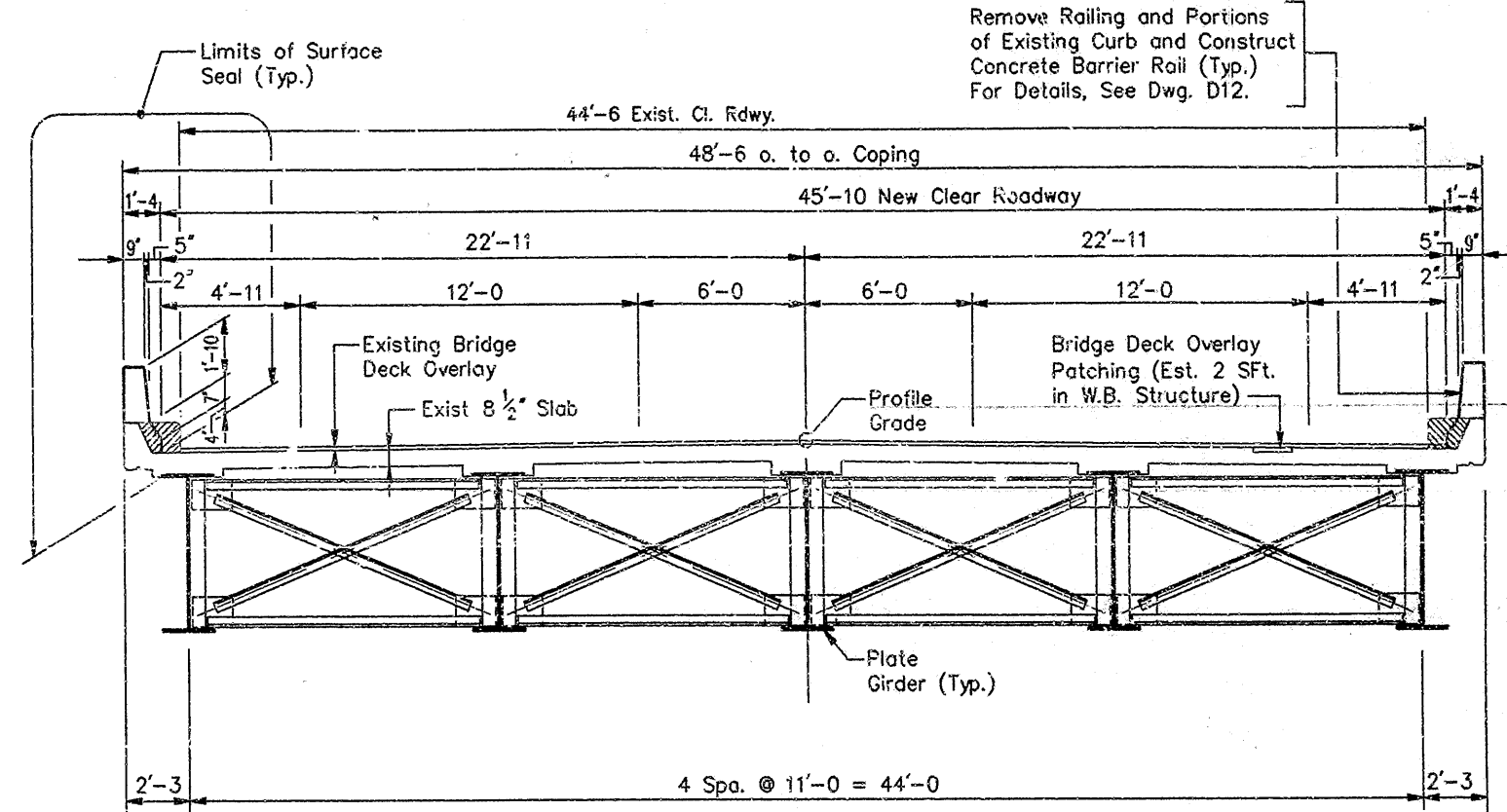
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OPERATOR: gpm

DESIGNED	PEB	C'K'D	TWL
DRAWN	CPM	C'K'D	TWL
TRACED		C'K'D	





**ELEVATION**  
Scale: 1"=30'-0"

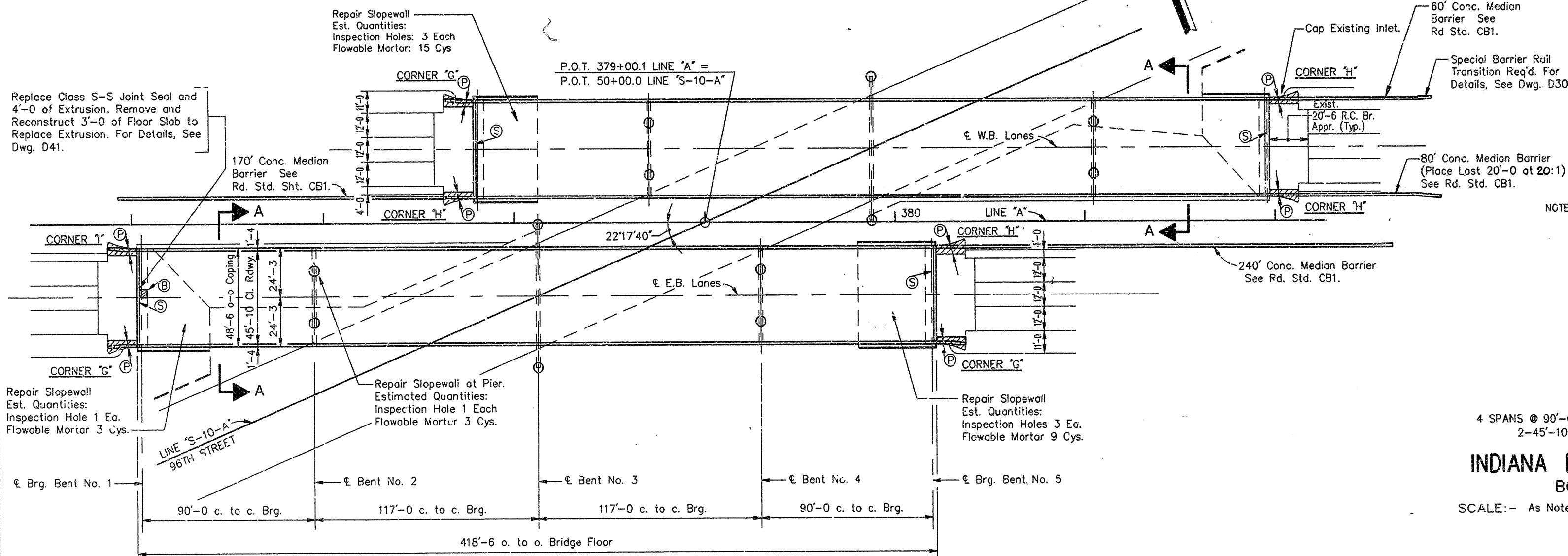


**SECTION "A-A"**  
Scale: 1/4"=1'-0"

Remove Railing and Portions of Existing Curb and Construct Concrete Barrier Rail (Typ.) For Details, See Dwg. D12.

**LEGEND**

- (P) Widened Approach Slab. For Details, See Dwg. D39.
- (S) Expansion Joint Seal, Class S-S. Manufacturer and Type of Seal shall match the existing seal (Mfg. - Structural Rubber, Inc. For Details see shop Dwg. for Contract B-13219).
- (X) Concrete Removal
- (B) Reconstruct Bridge Deck (See Dwg. D41 for Details.)



NOTE: For general notes see Dwg. D1.

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
CONTINUOUS WELDED PLATE GIRDER  
4 SPANS @ 90'-0, 117'-0, 117'-0, & 90'-0 SKEW: Square  
2-45'-10 CLEAR ROADWAY, 2-CONC. BARRIER RAILS  
1-465 OVER 96TH STREET  
**INDIANA DEPARTMENT OF HIGHWAYS**  
BOONE & MARION COUNTIES

SCALE: - As Noted DATE: - 2-27 1990

DRAWING: D2 OF 41 SHEET: 6 OF 57  
PROJECT: 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: 1-465-135-5286B



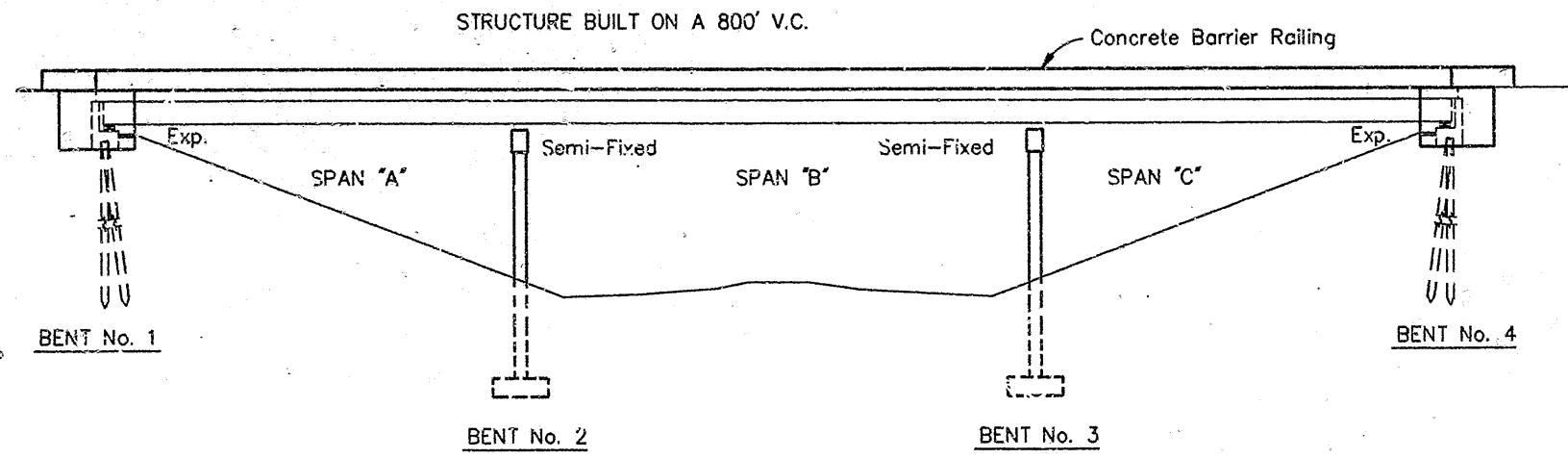
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TIME: 15:34:41

DWG. FILE: 5286GP OPERATOR: gpm

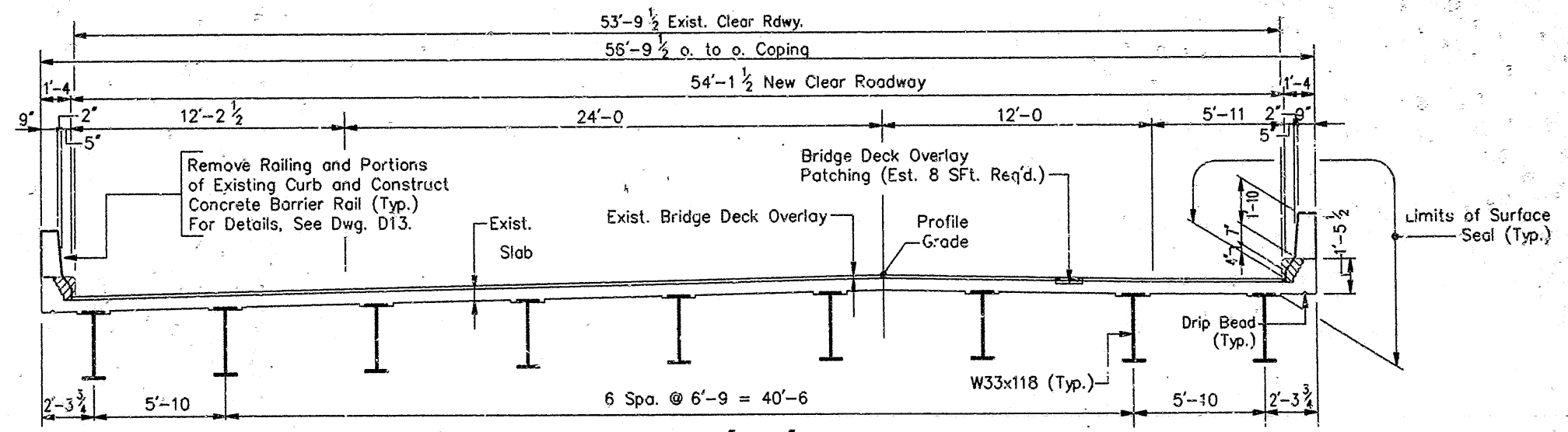
DESIGNED	PEB	C.K.D.	TWL
DRAWN	CPM	C.K.D.	TWL
TRACED		C.K.D.	

**PLAN**  
Scale: 1"=30'-0"

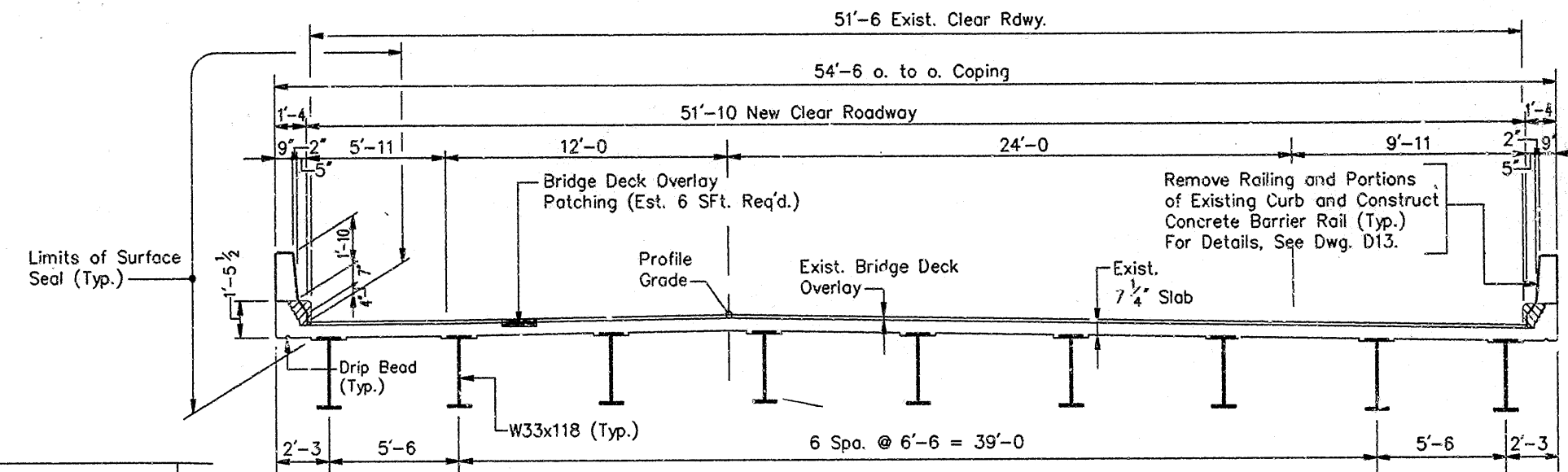
Rev. 03-23-90; Median Barrier Flare Rate



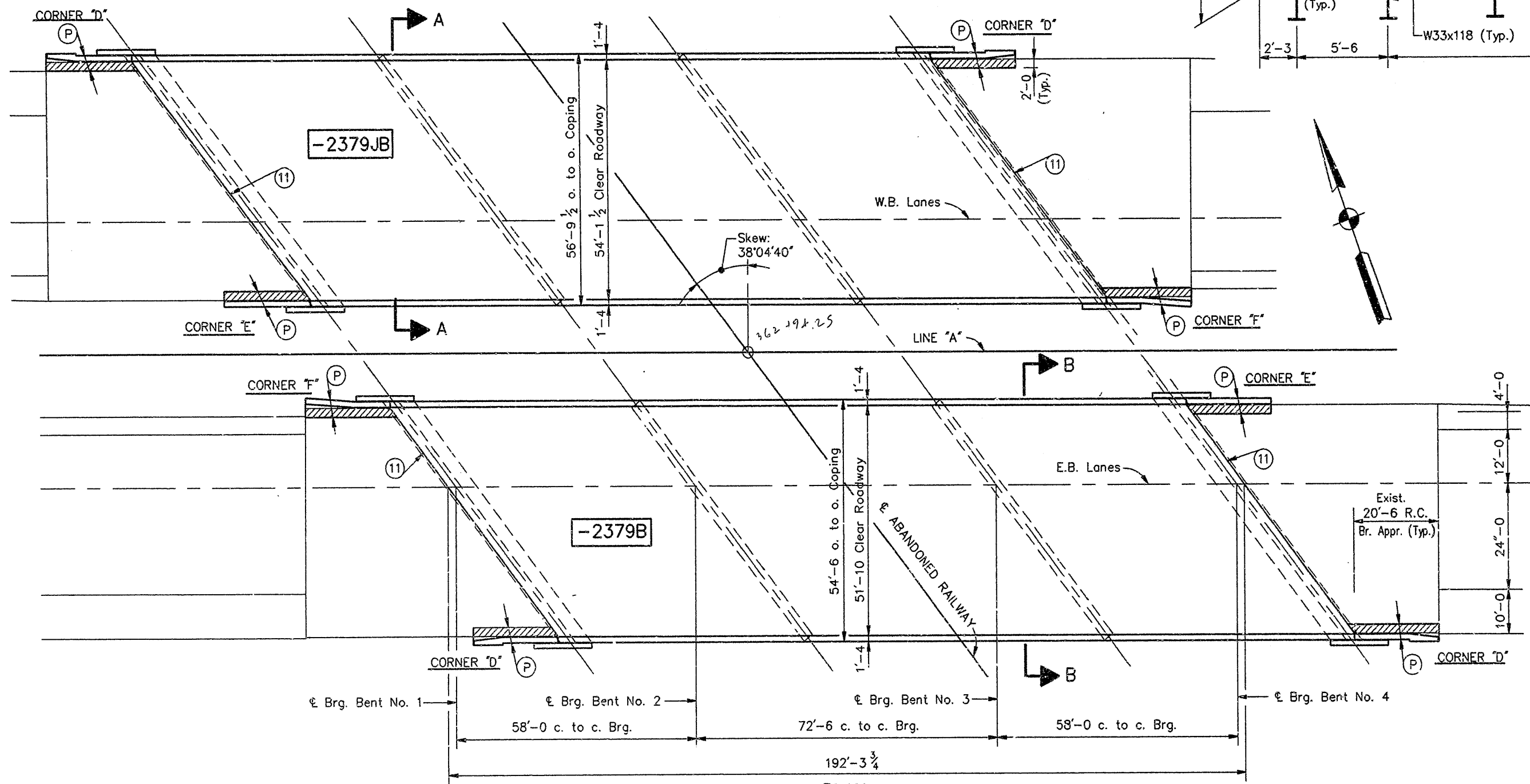
**ELEVATION**  
Scale: 1/16"=1'-0"



**SECTION "A-A"**  
Scale: 1/4"=1'-0"



**SECTION "B-B"**  
Scale: 1/4"=1'-0"



**PLAN**  
Scale: 1/16"=1'-0"

**LEGEND**

- (P) Widened Approach Slab. For Details, See Dwg. D38, D39.
- (11) Expansion Joint Seal, Type BS11
- Concrete Removal

NOTE: For General Notes see Dwg. D1.

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
CONTINUOUS COMPOSITE STEEL BEAM BRIDGES  
3 SPANS @ 58'-0, 72'-6 & 58'-0 SKWE: 38°04'40" LT.  
2379JB (W.B.) 54'-1 1/2 CLEAR ROADWAY 2379B (E.B.) 51'-10 CLEAR ROADWAY  
2 CONC. BARRIER RAILS  
I-465 OVER ABANDONED RAILWAY

**INDIANA DEPARTMENT OF HIGHWAYS**

BOONE COUNTY

SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Cantwell*

DRAWING: D3 OF 41 SHEET: 7 OF 57  
PROJECT: I-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-136-2379B & 2379JB



DESIGNED	PEB	C'K'D	TWL
DRAWN	CPM	C'K'D	TWL
TRACED		C'K'D	

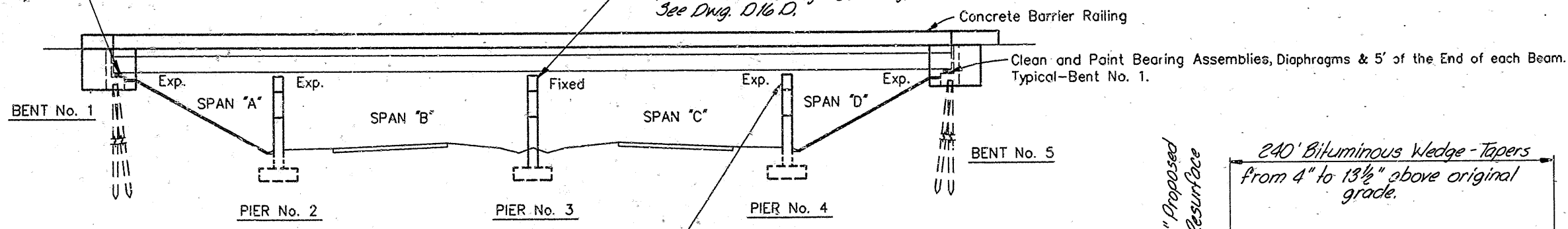




Construct Raised Pedestals and place new Bearing Assemblies. Typ. Bents No. 1 & No. 5, and Piers No. 2 & No. 4. See Dwg. D16 A, D16 B, & D16 C.

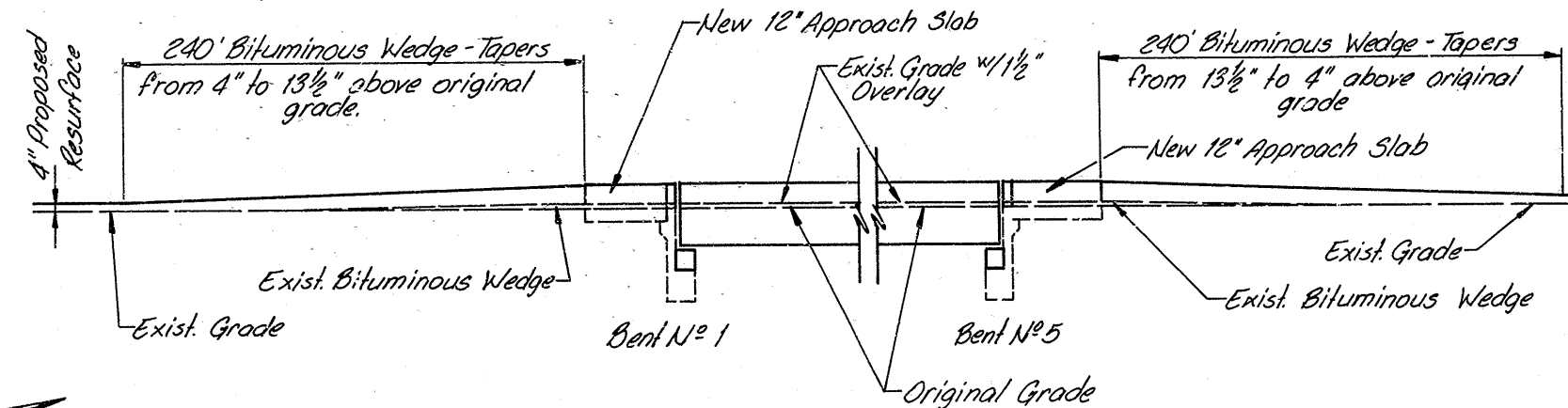
STRUCTURE TO BE RAISED 12" BY JACKING  
STRUCTURE BUILT ON A 250' V.C. AND A 15'30" HORIZ. CURVE

Construct Raised Pedestals and reset Fixed Bearing Assembly. See Dwg. D16 D.

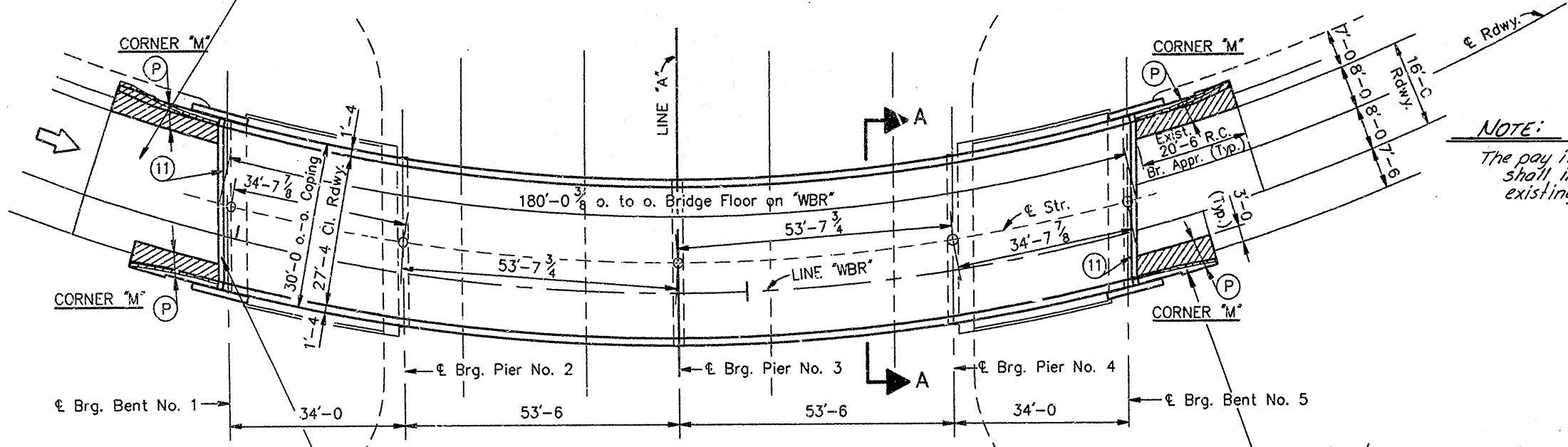


ELEVATION  
Scale: 1/16"=1'-0"

Remove Barrier Rail Transitions and construct new 12" R.C. Approach Slab on exist. Approach Slab. Typical each approach. See Dwg. D16 E.



LONGITUDINAL SECTION  
No Scale



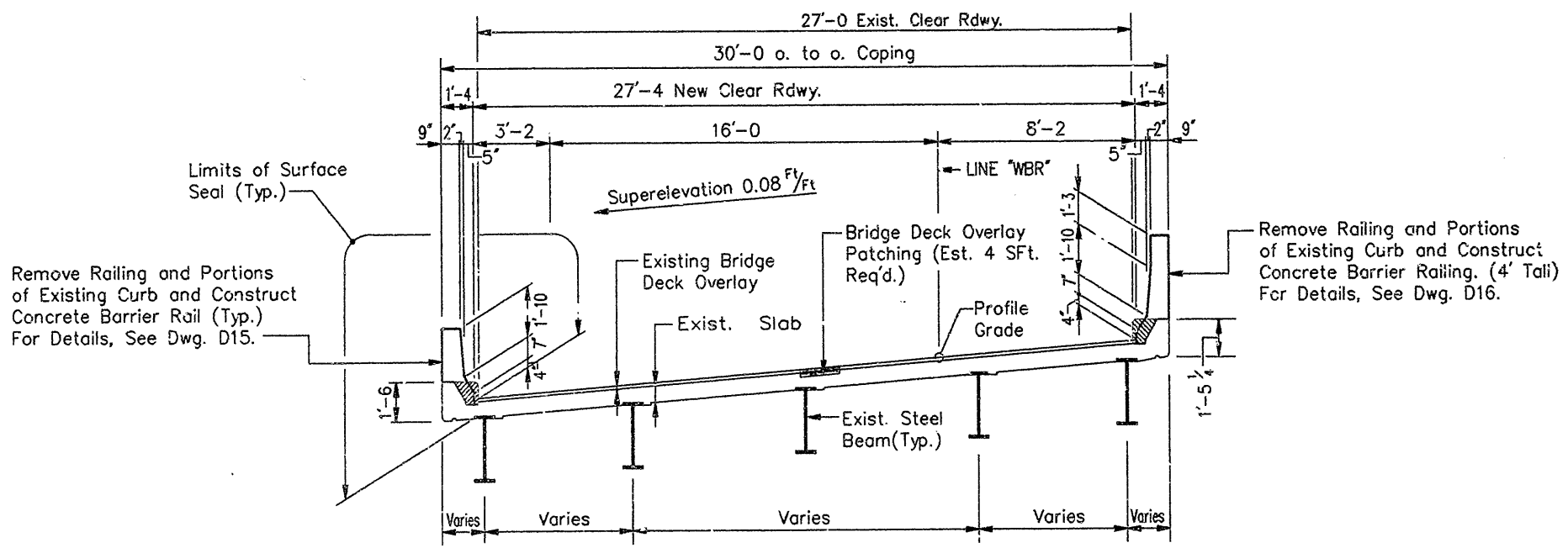
PLAN  
Scale: 1/16"=1'-0"

NOTE:  
The pay item "Additional Structure Removal" (5473) - Lump Sum, shall include removal of a portion of mudwalls and the existing barrier rail transitions.

LEGEND

- (P) Widened Approach Slab. For Details, See Dwg. D40.
- (11) Expansion Joint Seal, Type BS-11
- Concrete Removal

NOTE: For General Notes see Dwg. D1.



SECTION "A-A"  
Scale: 1/4"=1'-0"

Construct new Barrier Rail Transition on new 12" R.C. Approach Slab. Typ. 4 Corners. For Location Plan see Dwg. D15. For Panel Details see Dwgs. D39 & D33.

CONSTRUCTION PROCEDURE

1. Close structure to traffic.
2. Install jacks and all equipment necessary to raise structure 12".
3. Raise structure while maintaining equal (± 1/8") jacking height at each support.
4. Construct Pier Pedestals.
5. Install Bearing Pads and Fixed Shoes.
6. Construct all approach items.
7. Install BS Joint Seals.
8. Open structure to traffic.

GENERAL PLAN  
BRIDGE RECONSTRUCTION

CONTINUOUS STEEL BEAM BRIDGE  
4 SPANS @ 34'-7 1/8", 2 @ 53'-7 1/4", 34'-7 1/8" SKEW: Square  
27'-4" CLEAR ROADWAY, 2-CONC. BARRIER RAILS  
WESTBOUND RAMP OVER I-465

INDIANA DEPARTMENT OF HIGHWAYS  
BOONE COUNTY

SCALE: - As Noted

DATE: - 2-??

1990

Phy. E. Cantrell



DRAWING: D5 OF 41 SHEET: 9 OF 57  
PROJECT: - 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-136-5473C

Revised 4/23/91 Jacking Structure

LAST UPDATE: 2/19/1990 DWG. SCALE: 0.0625 = 1'-0"  
TIME: 15:13:48

DWG. FILE: 54730P  
OPERATOR: cpm

DESIGNED	PEB	C'K'D	TWL
DRAWN	CPM	C'K'D	TWL
TRACED		C'K'D	



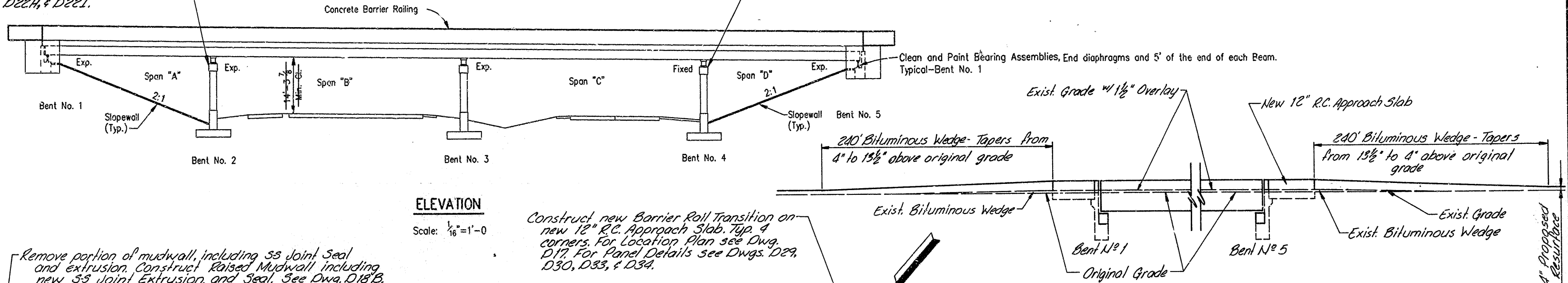
DWG. SCALE: 0.0625 = 1'-0"  
 LAST UPDATE: 2/19/1990  
 TIME: 15:16:3

DWG. FILE: 5435CP  
 OPERATOR: cpm

Construct Raised Pedestals and place new Bearing Assemblies. Top for Bents N<sup>o</sup> 1, N<sup>o</sup> 2, N<sup>o</sup> 3, & N<sup>o</sup> 5. See Dwg. D22B, D22C, D22D, D22F, D22H, D22I, & D22J.

STRUCTURE TO BE RAISED 12" BY JACKING.  
 STRUCTURE BUILT TO A -0.960% GRADE AND A 7'00" HORIZ. CURVE

Construct Raised Pedestals and reset Fixed Bearings. See Dwg. D18E.



**ELEVATION**

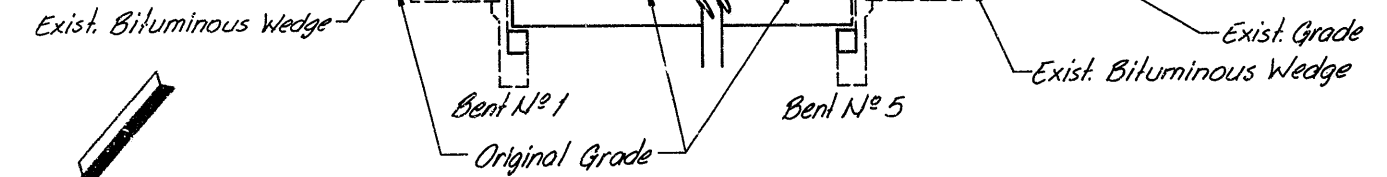
Scale: 1/16" = 1'-0"

Construct new Barrier Rail Transition on new 12" R.C. Approach Slab. Top 4 corners. For Location Plan see Dwg. D17. For Panel Details see Dwg. D30, D33, & D34.

Remove portion of mudwall and construct raised mudwall. See Dwg. D18F.

Remove portion of mudwall, including SS Joint Seal and extrusion. Construct raised mudwall including new SS Joint Extrusion and Seal. See Dwg. D18B.

Replace Class S-S Joint Seal and Extrusion. Remove and Reconstruct 3'-0" of Floor Slab to Replace Extrusion. For Details, See Dwg. D36.

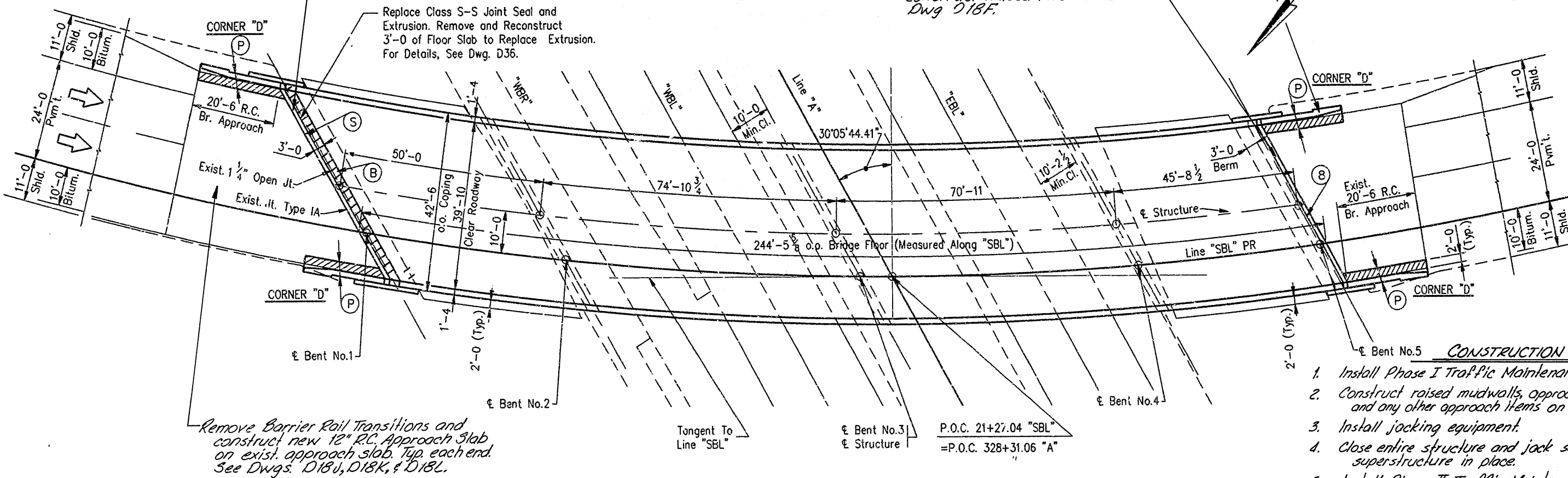


**LONGITUDINAL SECTION**

No Scale

**NOTE:**

The pay item "Additional Structure Removal" (5435) - Lump Sum, shall include removal of a portion of the mudwalls and the existing barrier rail transitions.



**PLAN**

Scale: 1/16" = 1'-0"

Remove Barrier Rail Transitions and construct new 12" R.C. Approach Slab on exist. approach slab. Top each end. See Dwg. D18U, D18K, & D18C.

**LEGEND**

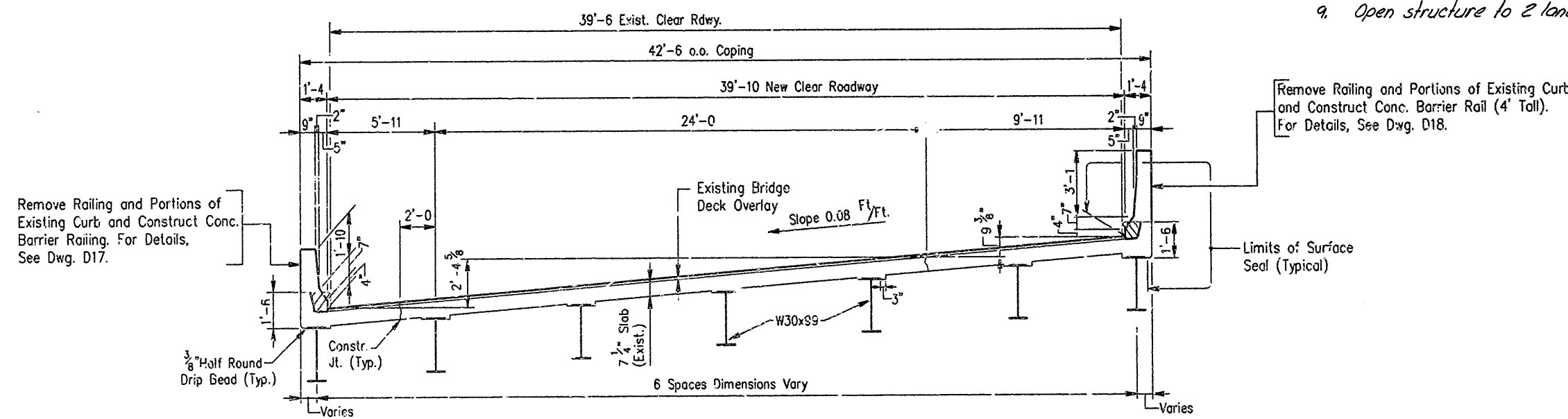
- (P) Widened Approach Slab. For Details, See Dwg. D38.
- (B) Expansion Joint Seal, Type BS-8
- (S) Expansion Joint Type S-S (For Details See Dwg. D36).
- (R) Reconstructed Bridge Deck
- Concrete Removal

**CONSTRUCTION PROCEDURE**

1. Install Phase I Traffic Maintenance and close right lane.
2. Construct raised mudwalls, approach slabs, bituminous wedge, and any other approach items on right lane.
3. Install jacking equipment.
4. Close entire structure and jack superstructure 12". Block superstructure in place.
5. Install Phase II Traffic Maintenance and open right lane to traffic. Closure period to be limited to
6. Construct bearing pedestals and install bearings.
7. Construct approach items on left lane.
8. Place expansion joint seals.
9. Open structure to 2 lane traffic.

NOTE: For General Notes, See Dwg. D1.

For Traffic Maintenance Details, See Dwg. D18A.



**TYPICAL SECTION**

Scale: 1/4" = 1'-0"

Remove Railing and Portions of Existing Curb and Construct Conc. Barrier Rail (4' Tall). For Details, See Dwg. D18.

Remove Railing and Portions of Existing Curb and Construct Conc. Barrier Railing. For Details, See Dwg. D17.

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
 CONTINUOUS COMPOSITE STEEL BEAM  
 4 SPANS: 50'-0", 74'-10 3/4", 70'-11", 45'-8 1/2" AL/... E ROADWAY  
 39'-10 CLEAR ROADWAY 2 CONC. BARRIER RAILS SKEW: 30'05"44.41" LT.  
 SOUTHBOUND RAMP OVER I-465

**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE COUNTY**

SCALE: - As Noted

DATE: - 2-27

1990

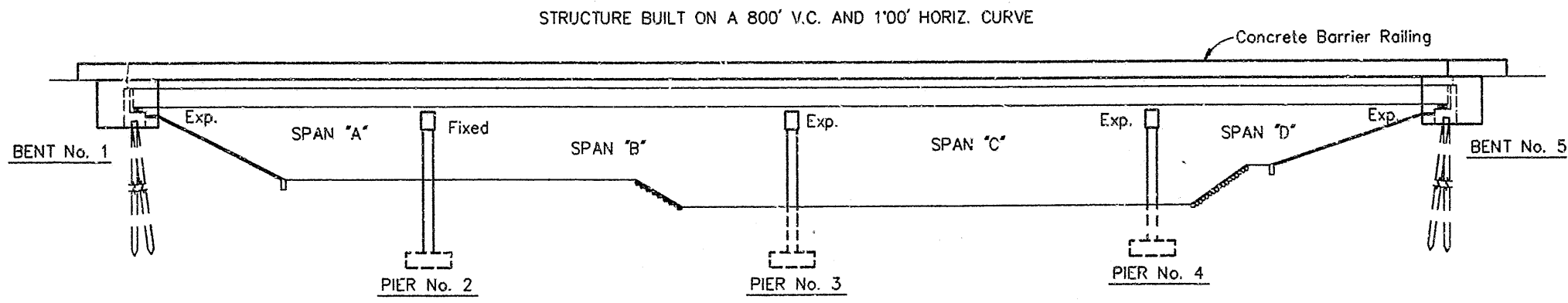
*Ray E. Cantwell*



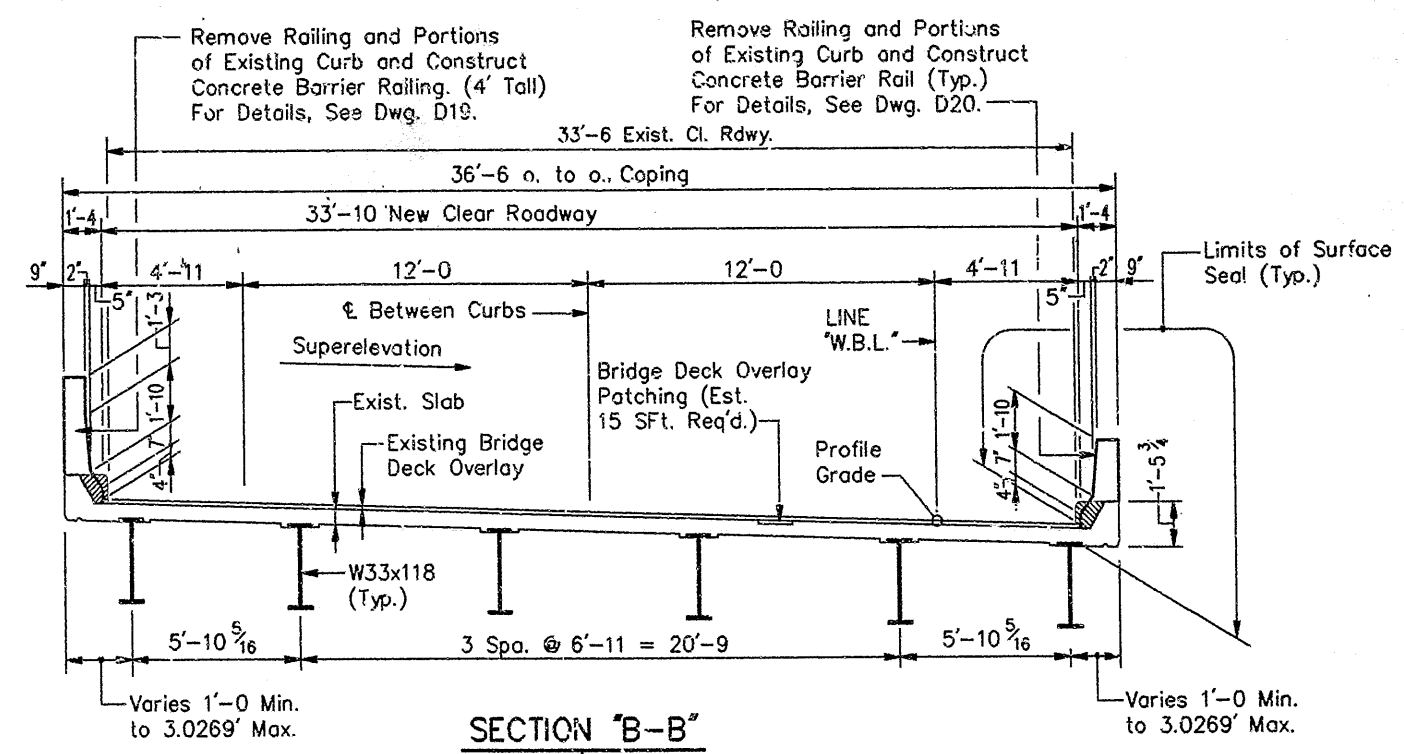
DRAWING: D6 OF 41 SHEET: 10 OF 57  
 PROJECT: IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: - I-465-136-5435B

REVISED 4/23/91 JACKING STRUCTURE

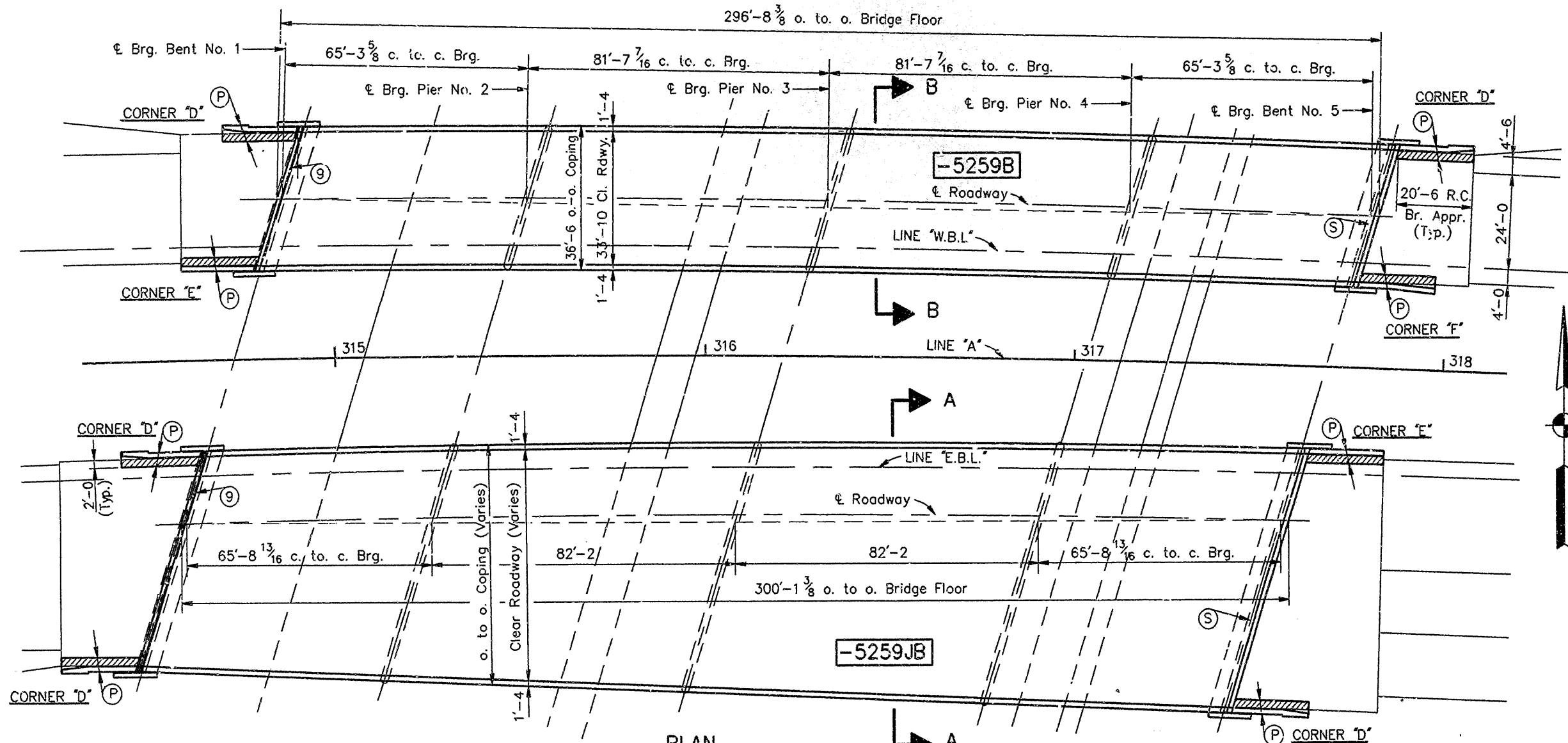
DESIGNED	PEB	CK'D	TWL
DRAWN	PKR	CK'D	LWL
TRACED	CK'D		



**ELEVATION**  
Scale: 1"=20'-0"



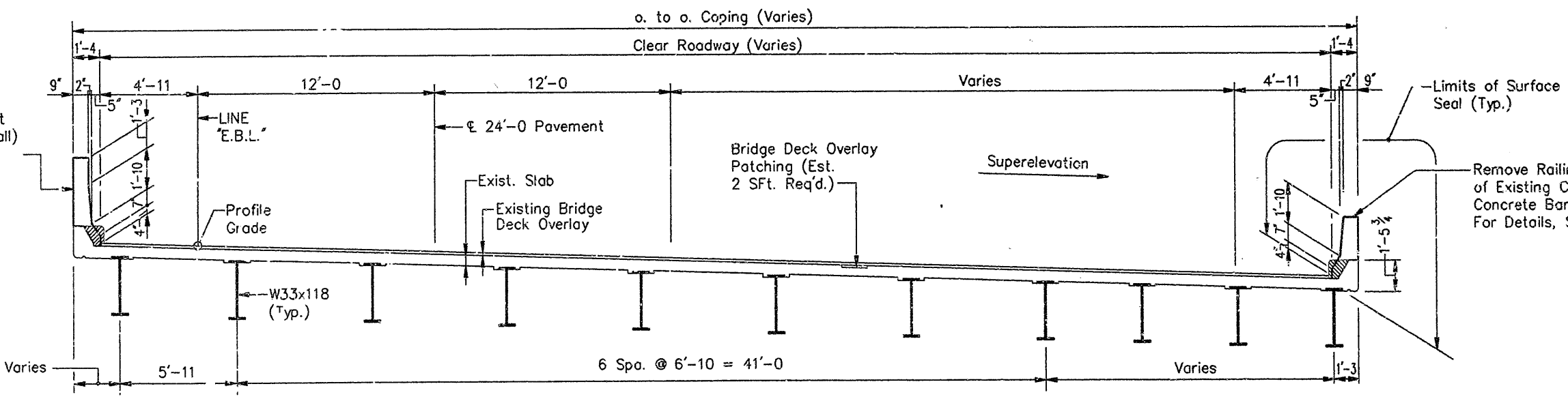
**SECTION "B-B"**  
Scale: 1/4"=1'-0"



**PLAN**  
Scale: 1"=20'-0"

- LEGEND**
- (P) Widened Approach Slab. For Details, See Dwg. D38 - D40.
  - (S) Expansion Joint Seal, Type BS9
  - (S) Expansion Joint Seal, Class S-S
  - Concrete Removal

NOTE: For General Notes See Dwg. D1.



**SECTION "A-A"**  
Scale: 1/4"=1'-0"

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
CONTINUOUS COMPOSITE STEEL BEAM BRIDGES  
4 SPANS: (W.B.L. 65'-3 3/8" @ 81'-7 7/16", 65'-3 3/8")  
(E.B.L. 65'-8 13/16", 2 @ 82'-2", 65'-8 13/16")  
W.B.L. 33'-10" CLEAR RDWY. E.B.L. VARIABLE CLEAR RDWY.  
2-CONC. BARRIER RAILS  
1-465 OVER EAGLE CREEK

**INDIANA DEPARTMENT OF HIGHWAYS**  
BOONE COUNTY

SCALE: - As Noted DATE: - 2-27 1990

DRAWING: D7 OF 41 SHEET: 11 OF 57  
PROJECT: - 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-137-5259B & 5259JB



DESIGNED	PEB	C'K'D	TWL
DRAWN	CPM	C'K'D	TWL
TRACED		C'K'D	

31 A 460  
213 05  
158

LAST UPDATE: 2/19/1990 DWG. SCALE: 0.6000 = 1'-0"  
TIME: 16:24:10

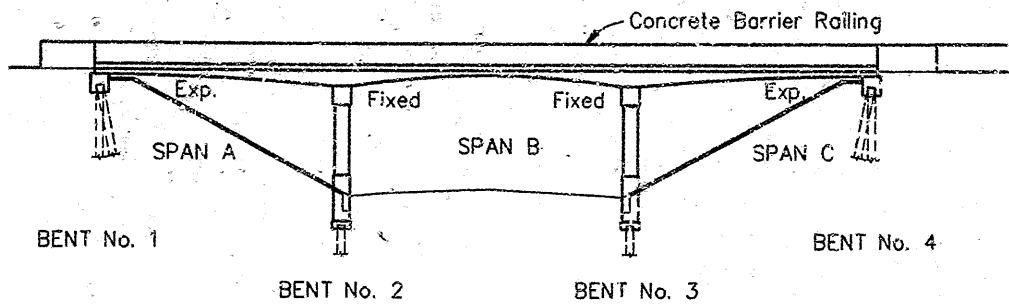
DWG. FILE: 5259GP  
OPERATOR: cpm



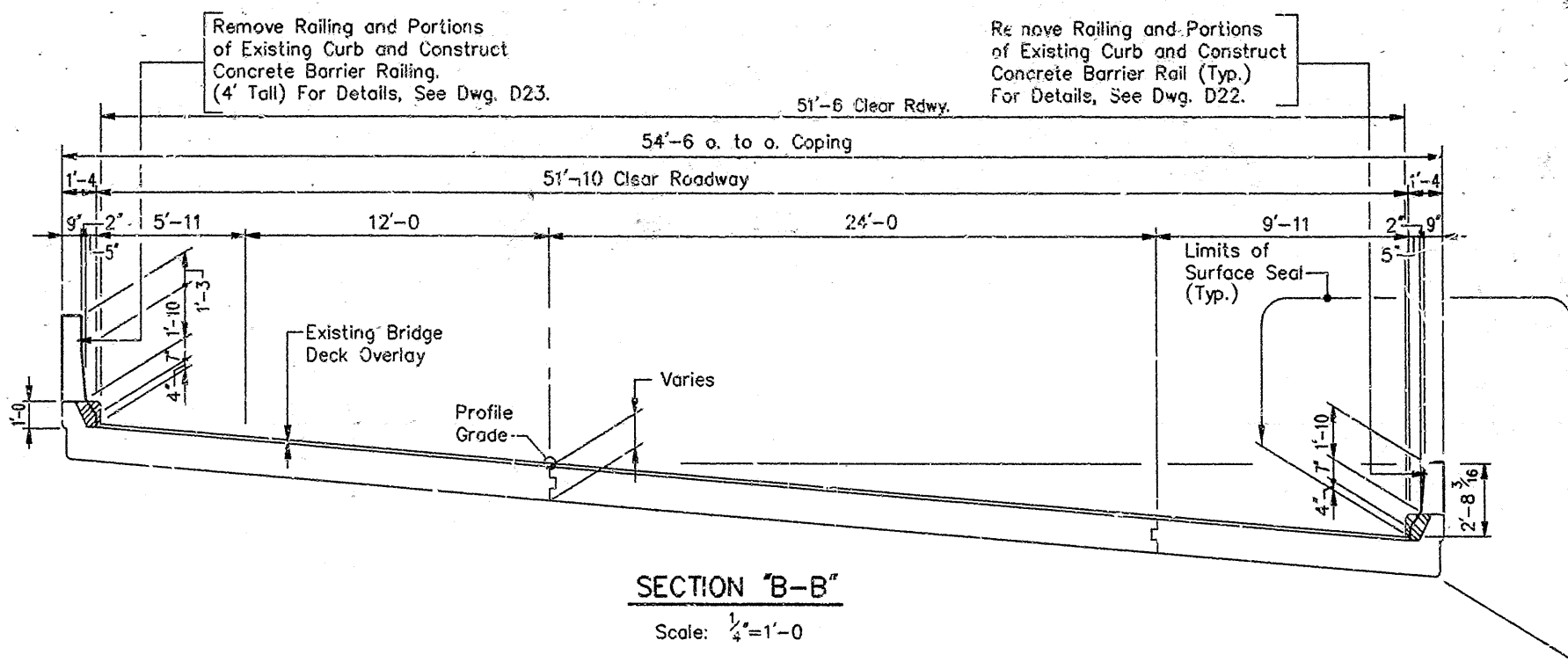
LAST UPDATE: 2/16/1990 DWG. SCALE: 0.0625 = 1'-0"  
 TIME: 14:56:6

DWG. FILE: 5434GP  
 OPERATOR: cpm

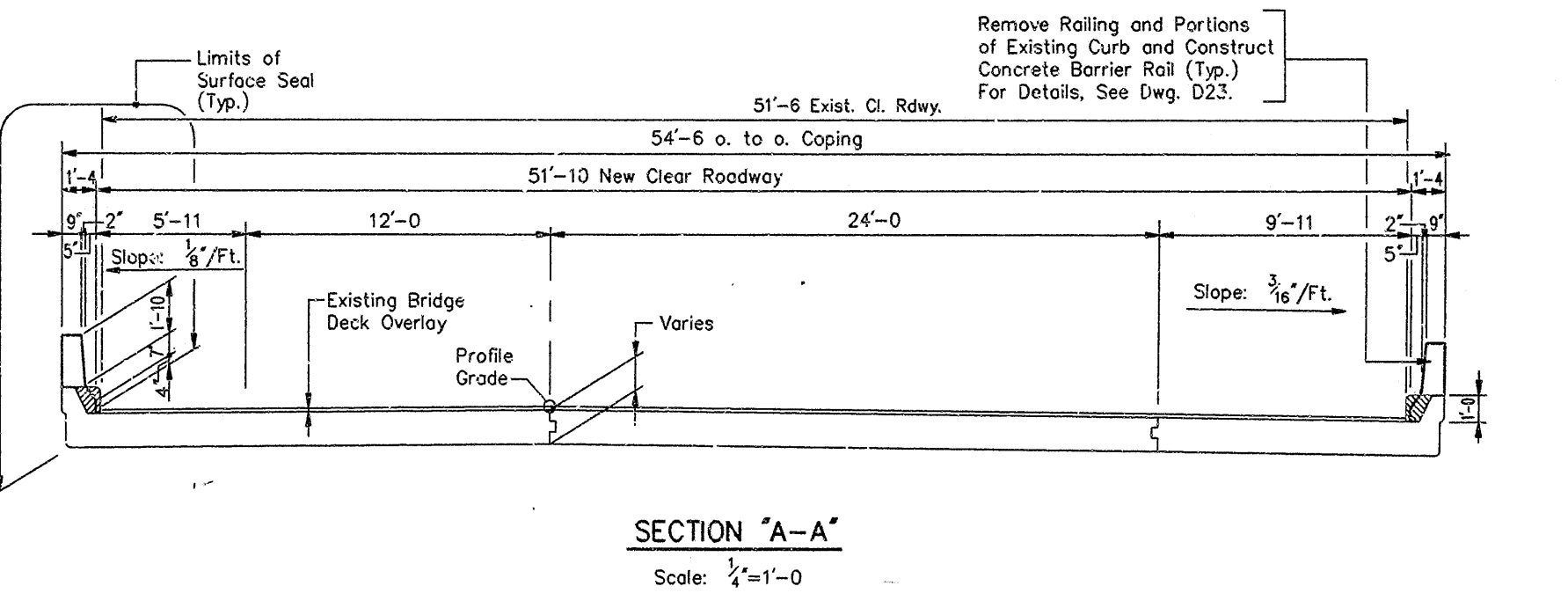
S.B. STRUCTURE BUILT ON A 1400' V.C. AND 4'00' HORIZ. CURVE  
 N.B. STRUCTURE BUILT ON A -0.45% GRADE



**ELEVATION**  
 (N.B. STRUCTURE)  
 Scale: 1/16"=1'-0"

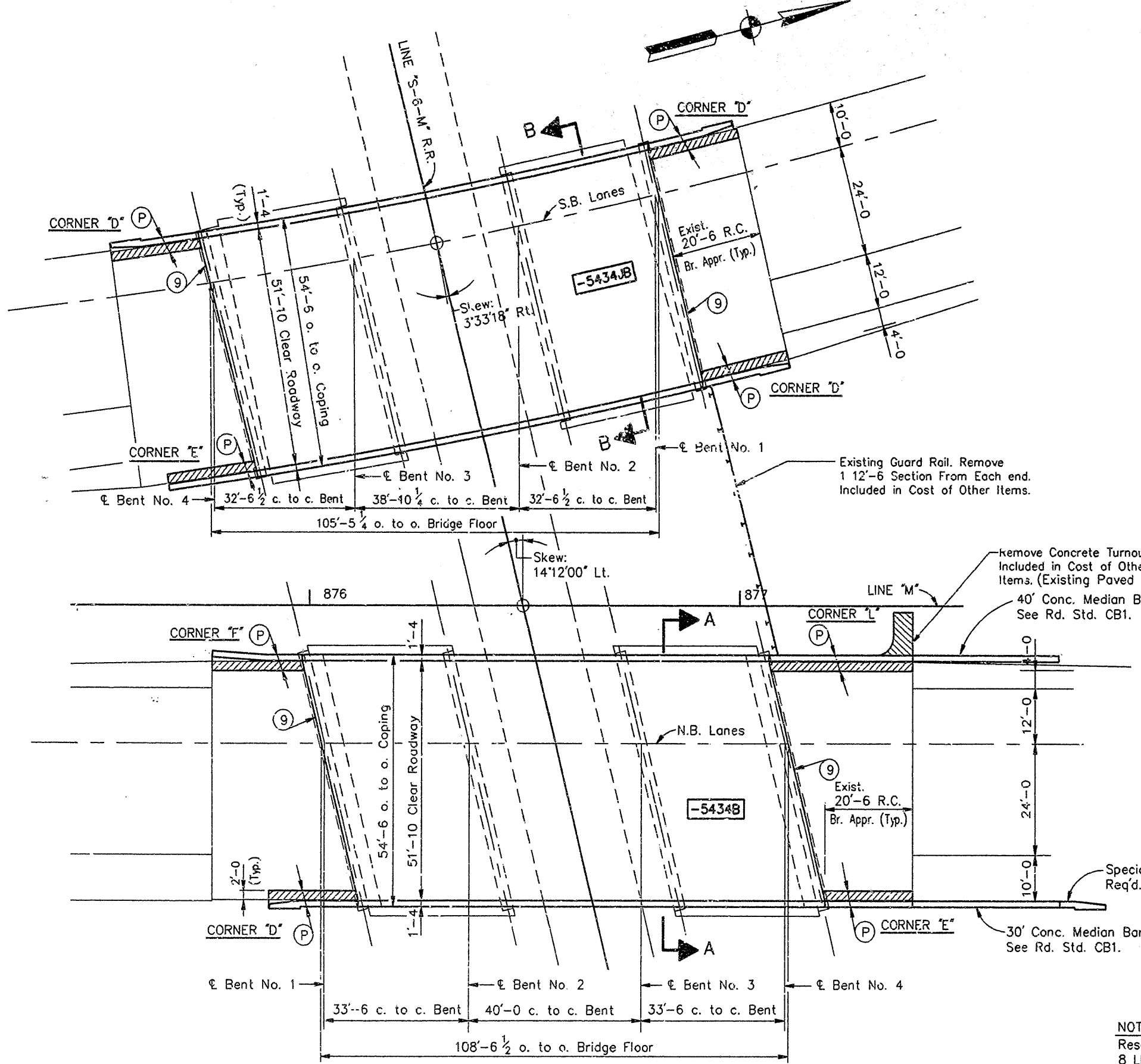


**SECTION "B-B"**  
 Scale: 1/4"=1'-0"



**SECTION "A-A"**  
 Scale: 1/4"=1'-0"

NOTE: For General Notes, see Dwg. D1.



**PLAN**  
 Scale: 1/16"=1'-0"

**LEGEND**

- (P) Widened Approach Slab. For Details, See Dwg D38, D39 & D40.
- (9) Expansion Joint Seal Type BS-9
- Concrete Removal

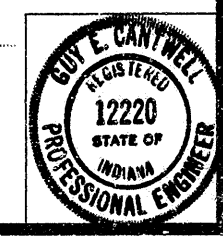
NOTE:  
 Reset Fence at all Four Corners. Estimate 8 Lft. Req'd. at Each Corner.

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
 CONTINUOUS REINFORCED CONCRETE SLAB  
 SOUTHBOUND STRUCTURE  
 3 SPANS @ 32'-6 1/2, 38'-10 1/4 & 32'-6 1/2 SKREW: 3'31'05" LT.  
 51'-10 CLEAR ROADWAY, 2-CONC. BARRIER RAILS  
 NORTHBOUND STRUCTURE  
 3 SPANS @ 33'-6, 40'-0 & 33'-6 SKREW: 14'12'00" LT.  
 51'-10 CLEAR ROADWAY, 2-CONC. BARRIER RAILS  
 S.B. & N.B. 1-465 OVER 96TH STREET

**INDIANA DEPARTMENT OF HIGHWAYS**  
 MARION & BOONE COUNTIES

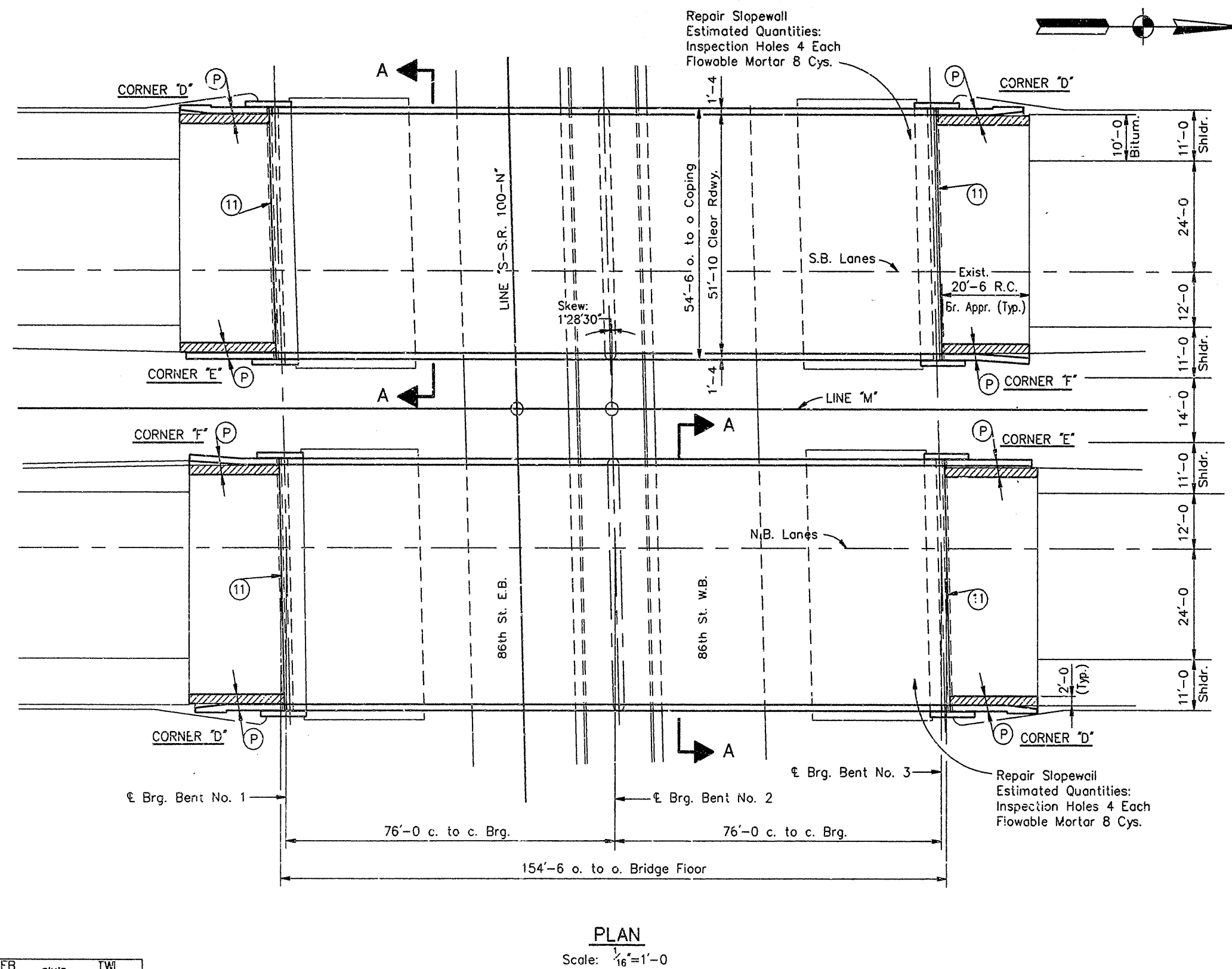
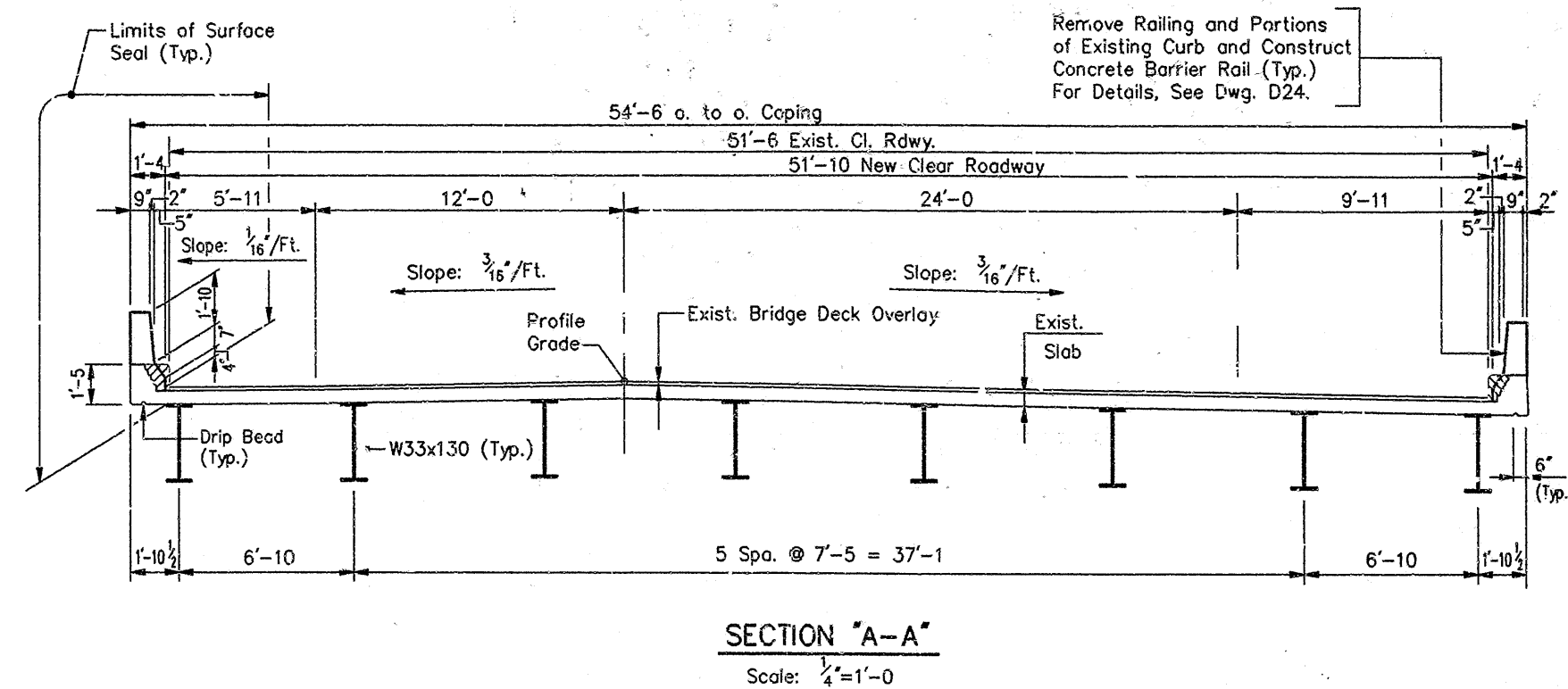
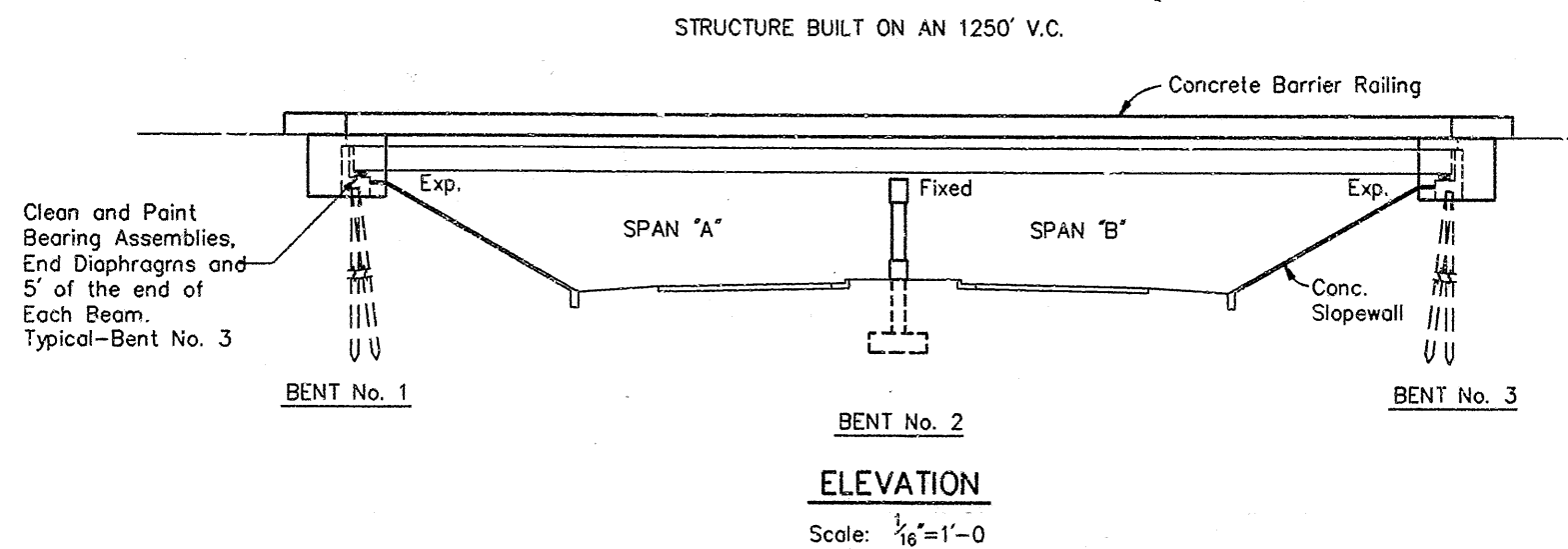
SCALE: - As Noted DATE: - 2-27 1990

*Ray E. Cantrell*



DRAWING: D8 OF 41 SHEET: 12 OF 57  
 PROJECT: 1R-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: 1-465-141-5434B & JB

DESIGNED	PFB	C.K'D	TWL
DRAWN	CPM	C.K'D	TWL
TRACED		C.K'D	



- LEGEND**
- (P) Widened Approach Slab. For Details, See Dwg D39 & D40.
  - (11) Expansion Joint Seal, Type BS11
  - Concrete Removal

NOTE: for General Notes, See Dwg. D1.

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
 CONTINUOUS COMPOSITE STEEL BEAM BRIDGE  
 2 SPANS @ 76'-0" & 76'-0" SKEW: 1'28'30" LT.  
 2-51'-10" CLEAR ROADWAY, 2-CONC. BARRIER RAILS  
 I-456 OVER 86TH STREET  
**INDIANA DEPARTMENT OF HIGHWAYS**  
 MARION COUNTY

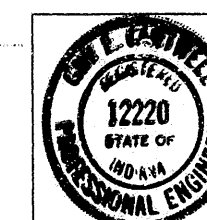
SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Centwell*

DRAWING: D9 OF 41 SHEET: 13 OF 57  
 PROJECT: 1R-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: 1-465-142-5433B

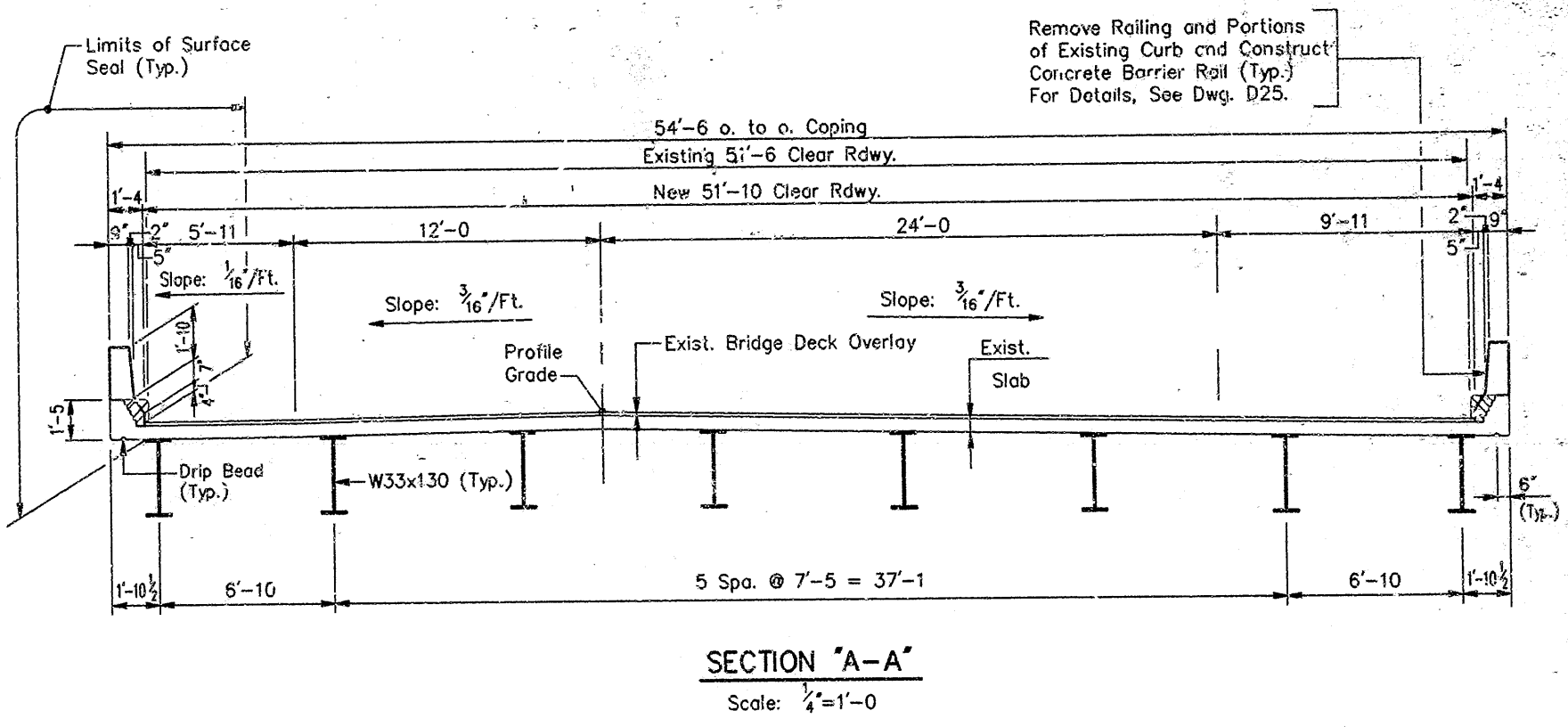
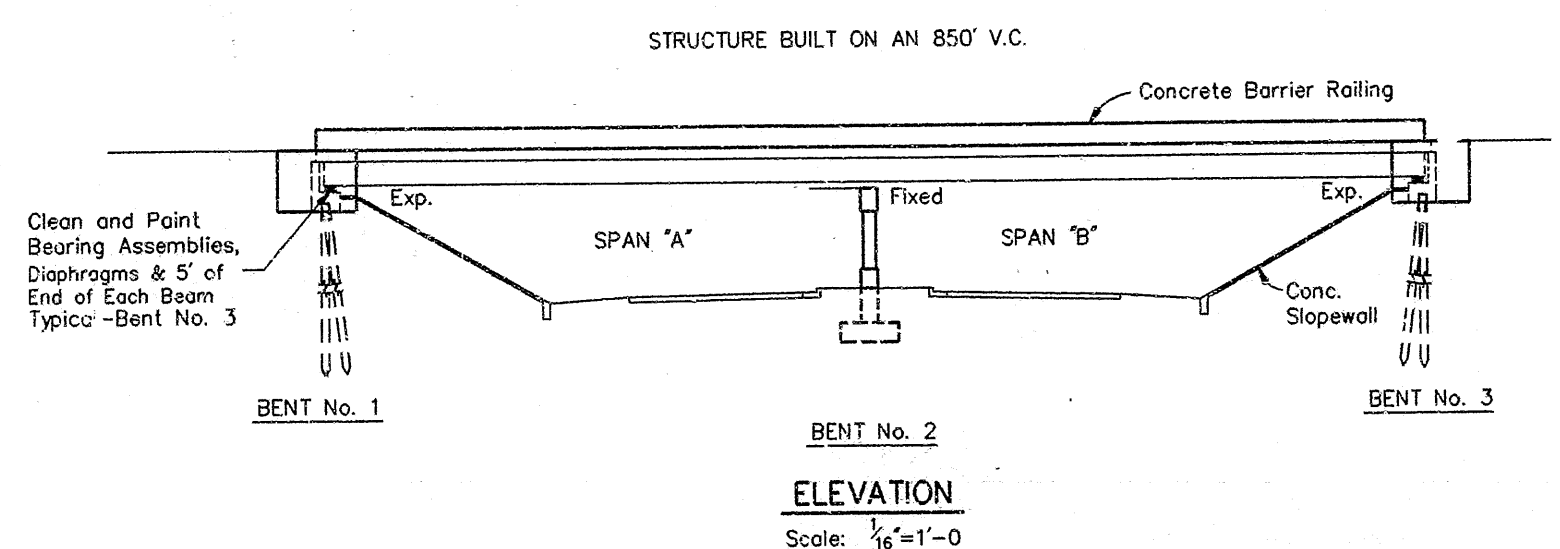


DESIGNED: PEB C.K'D. TWL  
 DRAWN: CPM C.K'D. TWL  
 TRACED: C.K'D.

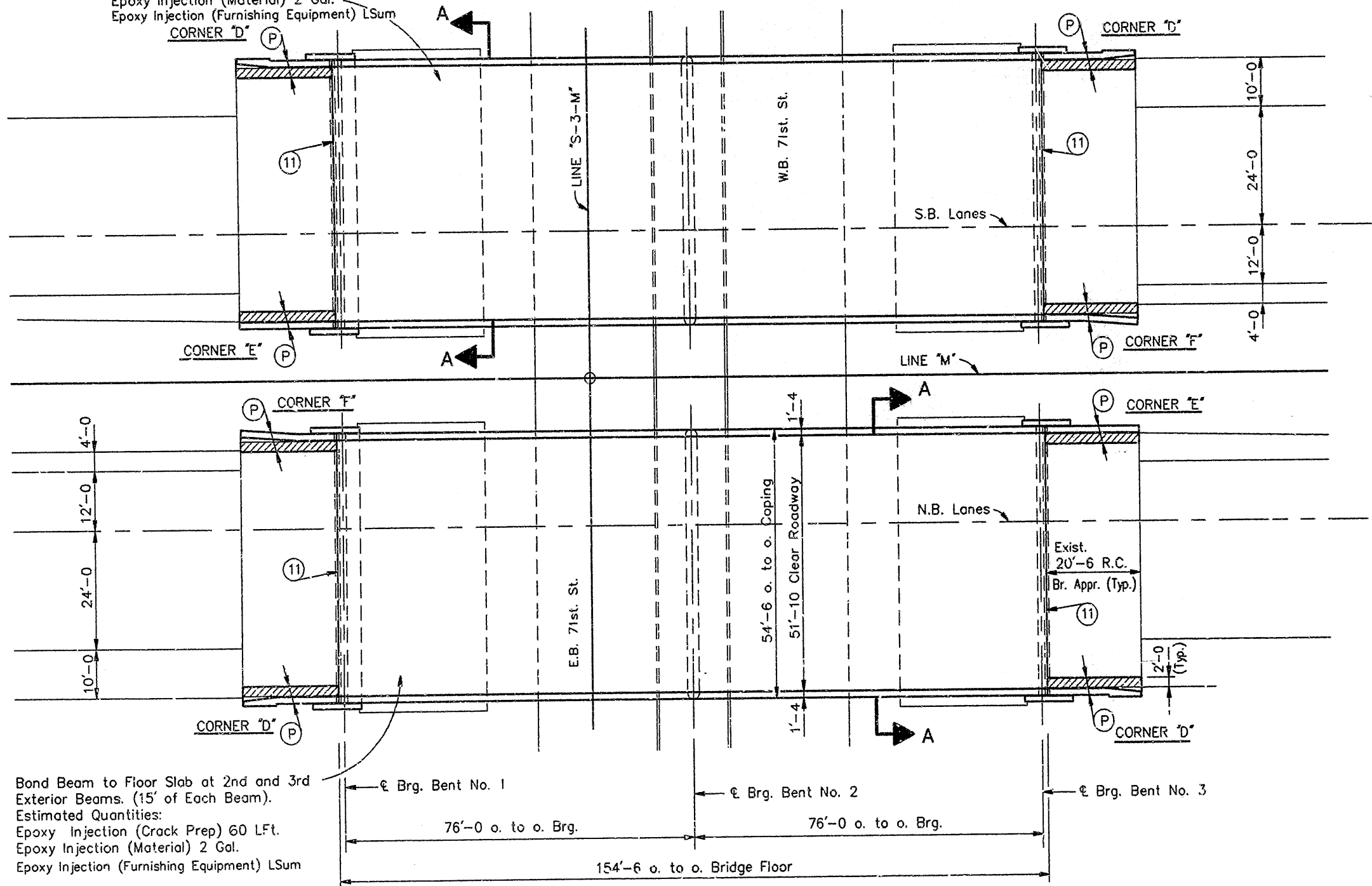
LAST UPDATE: 2/16/1990 DWG. SCALE: 0.0625 = 1'-0"  
 TIME: 14:59:35

DWG. FILE: 54333P  
 OPERATOR: cpm





Bond Beam to Floor Slab at 2nd and 3rd Exterior Beams. (15' of Each Beam).  
Estimated Quantities:  
Epoxy Injection (Crack Prep) 30 LFT.  
Epoxy Injection (Material) 2 Gal.  
Epoxy Injection (Furnishing Equipment) LSum



- LEGEND**
- (P) Widened Approach Slab. For Details, See Dwg. D38 & D39.
  - (11) Expansion Joint Seal, Type BS11
  - Concrete Removal

NOTE: For General Notes, See Dwg. D1.

**GENERAL PLAN**  
**BRIDGE RECONSTRUCTION**  
CONTINUOUS COMPOSITE STEEL BEAM BRIDGE  
2 SPANS @ 76'-0 & 76'-0 SKEW: Square  
2-51'-10 CLEAR ROADWAY, 2 CONC. BARRIER RAILS  
1-465 OVER WEST 71ST STREET

**INDIANA DEPARTMENT OF HIGHWAYS**  
MARION COUNTY

SCALE: - As Noted DATE: - 2-27 1990

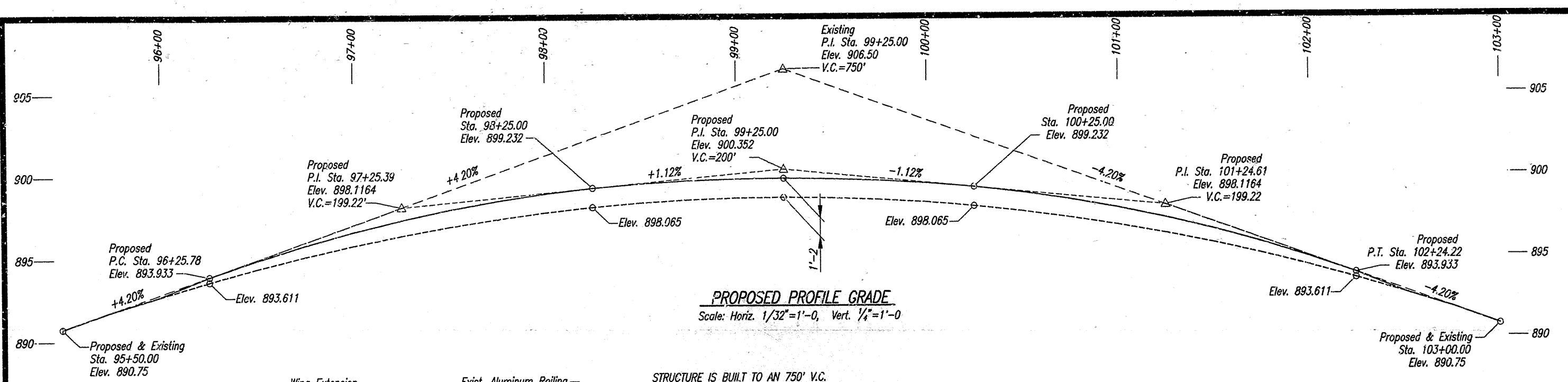
DRAWING: D10 OF 41 SHEET: 14 OF 57  
PROJECT: 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: 1-465-144-5431B



LAST UPDATE: 2/19/1990 DWG. SCALE: 0.0625 = 1'-0  
TIME: 14:11:46

DWG. FILE: 5431GP  
OPERATOR: CPM

DESIGNED:	PEB	C'K'D	TWL
DRAWN:	CPM	C'K'D	TWL
TRACED:		C'K'D	



**GENERAL NOTES**

Plans for this structure are on file in the Central Office, INDOT as Bridge File No. I-465-143-5432A and are available upon request.

Where new work is to be fitted to old work, the contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the engineer and assume responsibility for their correctness and the fit of the new part to the old.

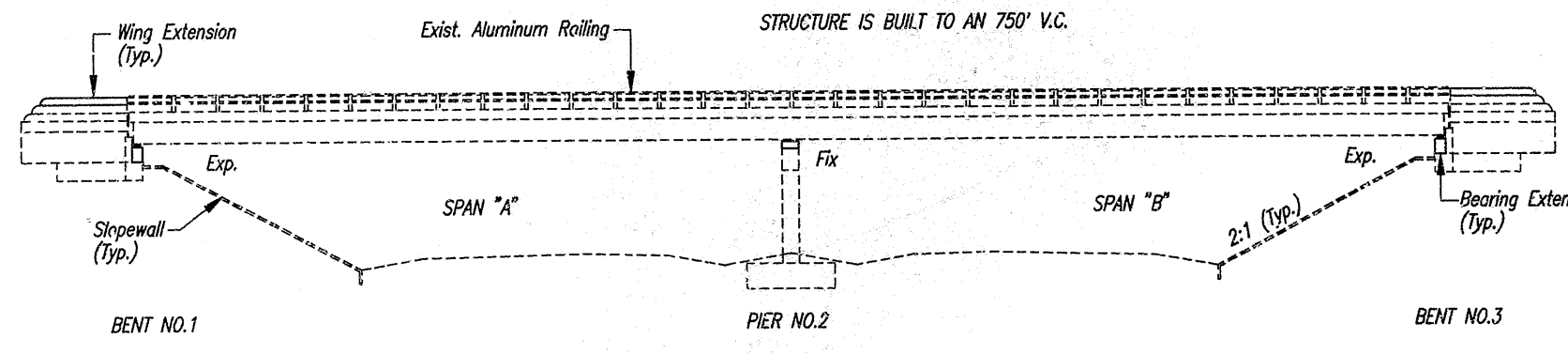
Reinforcing steel covering shall be 2", unless noted.

All exposed edges shall be chamfered 1" unless noted.

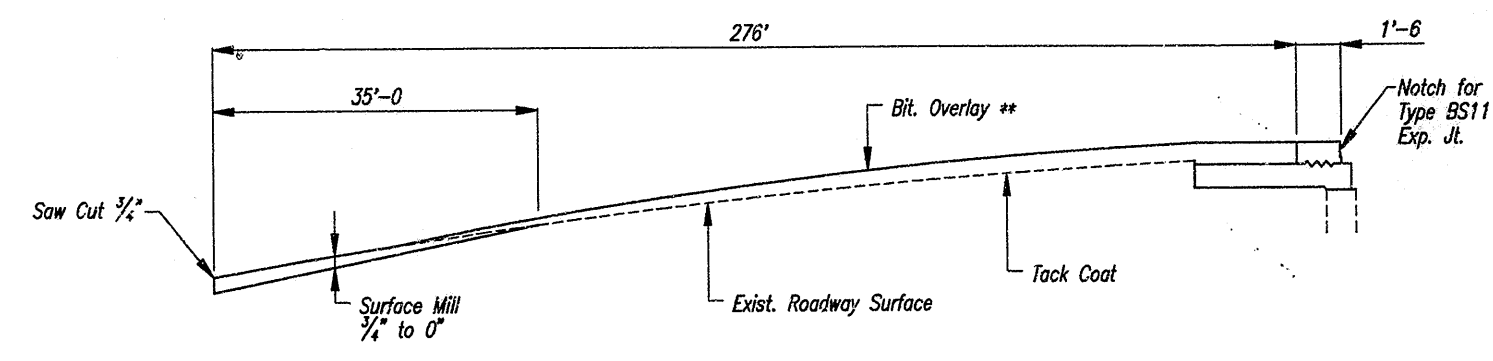
All reinforcing steel to be Grade 40.

Concrete in Bearing Extension, Wing Extension and Approach Slab Extension to be Class "A".

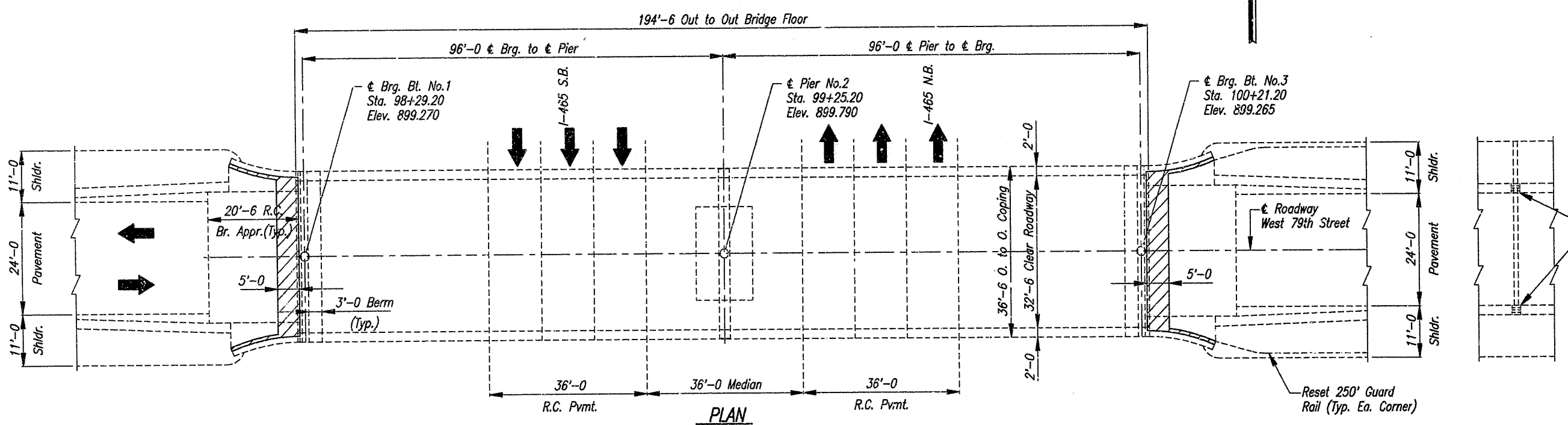
Surface Seal bearing pedestals, top of approach slab extension, wing rail extension, and exposed new curb.



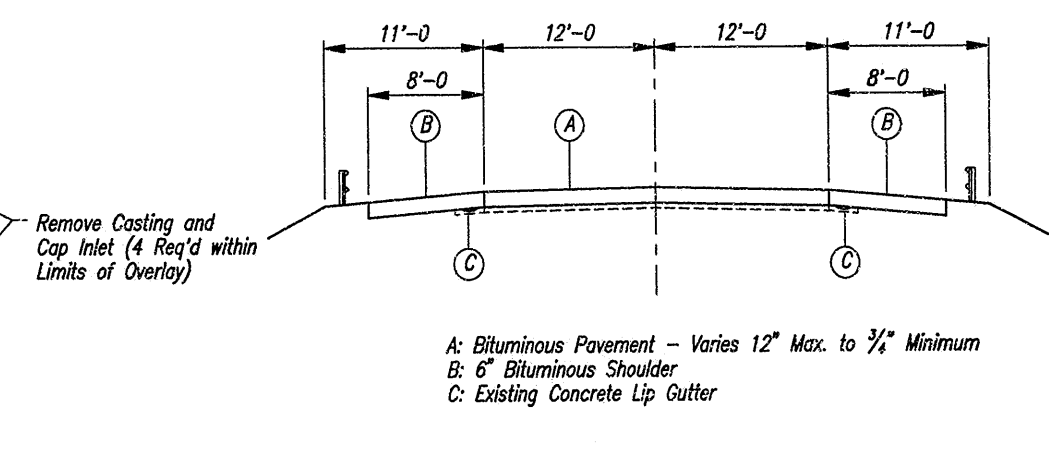
**ELEVATION**  
Scale: 1/16"=1'-0"



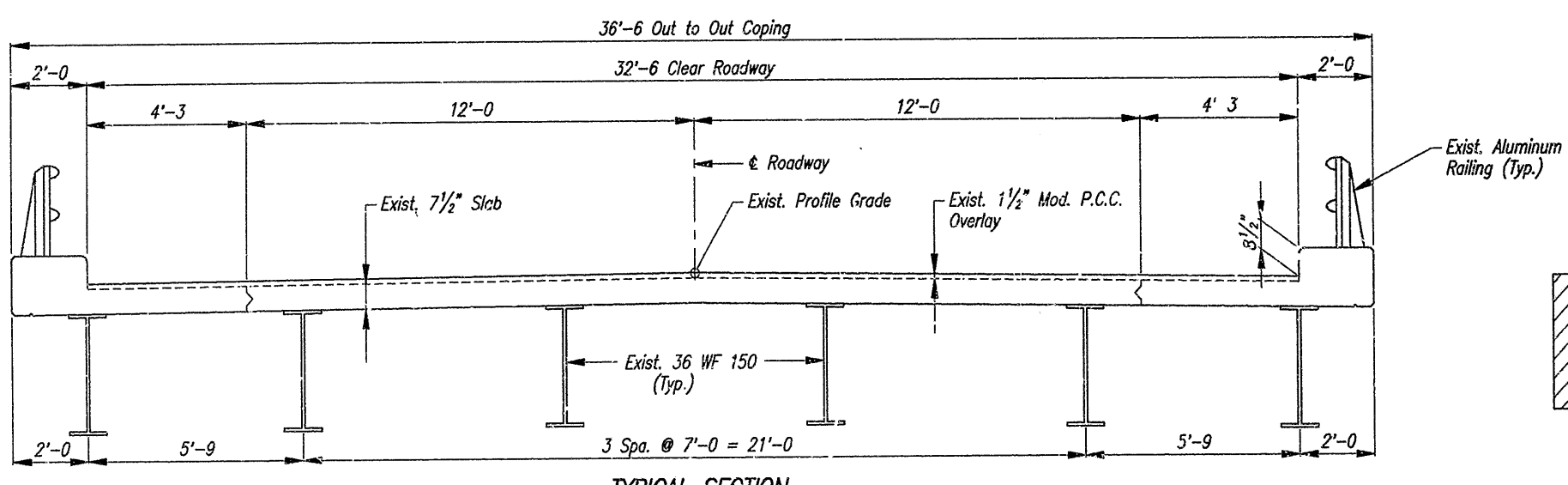
**HALF LONGITUDINAL SECTION**  
No Scale



**PLAN**  
Scale: 1/16"=1'-0"



**TYP. SECTION W. 79th STREET**  
No Scale



**TYPICAL SECTION**  
Scale: 3/16"=1'-0"

**LEGEND**

Indicates Portions of Existing R.C. Bridge Approach and Existing Curb to be Removed

**GENERAL PLAN**

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE  
2 SPANS: 96'-0" & 96'-0"  
SKEW: SQUARE  
32'-6" CLEAR ROADWAY 9" CURBS  
WEST 79th STREET OVER INTERSTATE 465

**INDIANA DEPARTMENT OF TRANSPORTATION**  
MARION COUNTY

SCALE: As Noted

DATE: 4-23-91

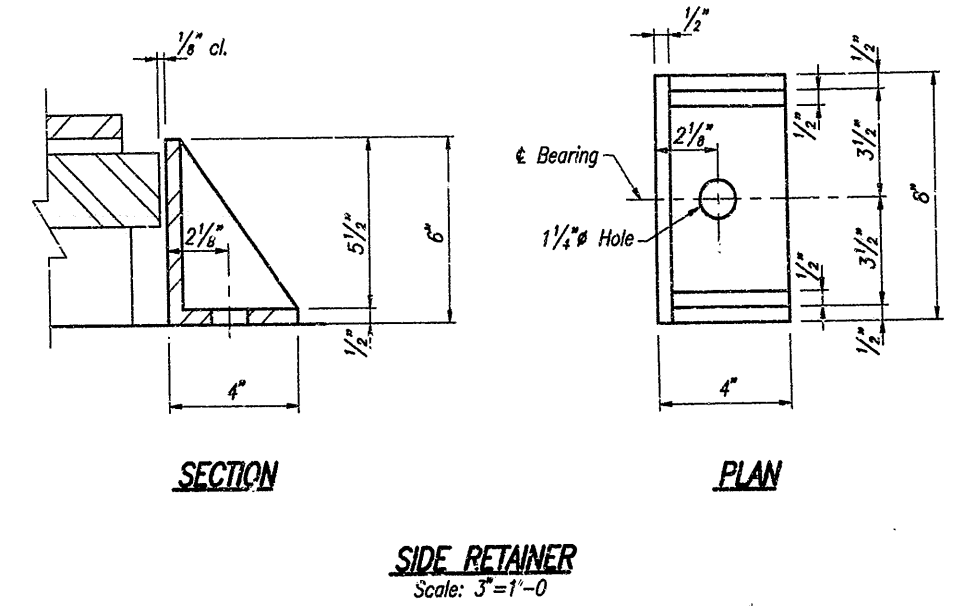
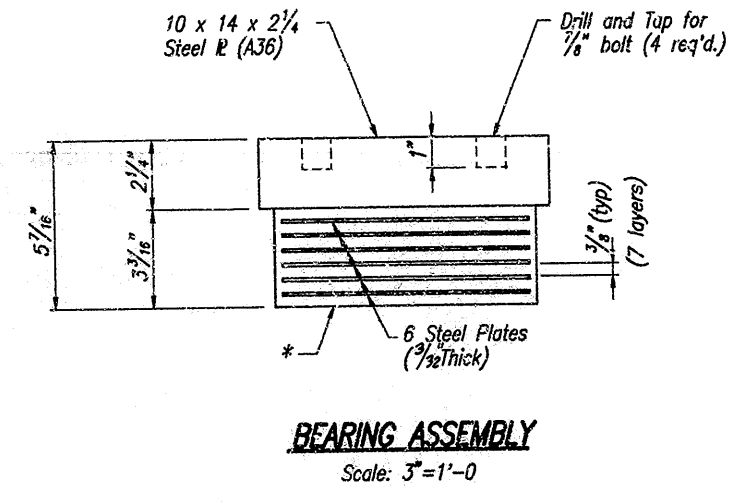
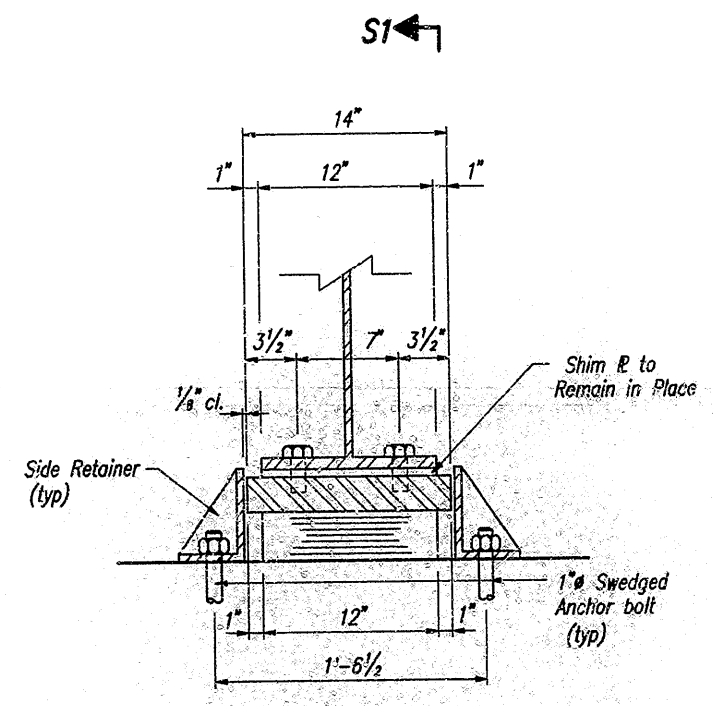
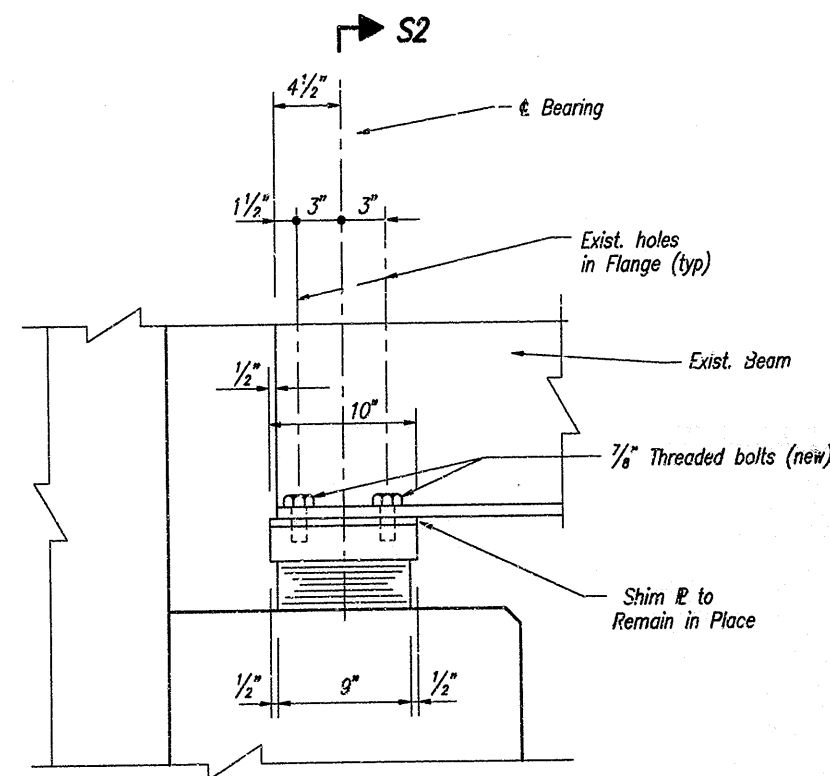
*Jerry D. Ritchie*

DRAWING: D10A OF 41 SHEET: 14A OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-143-5432B



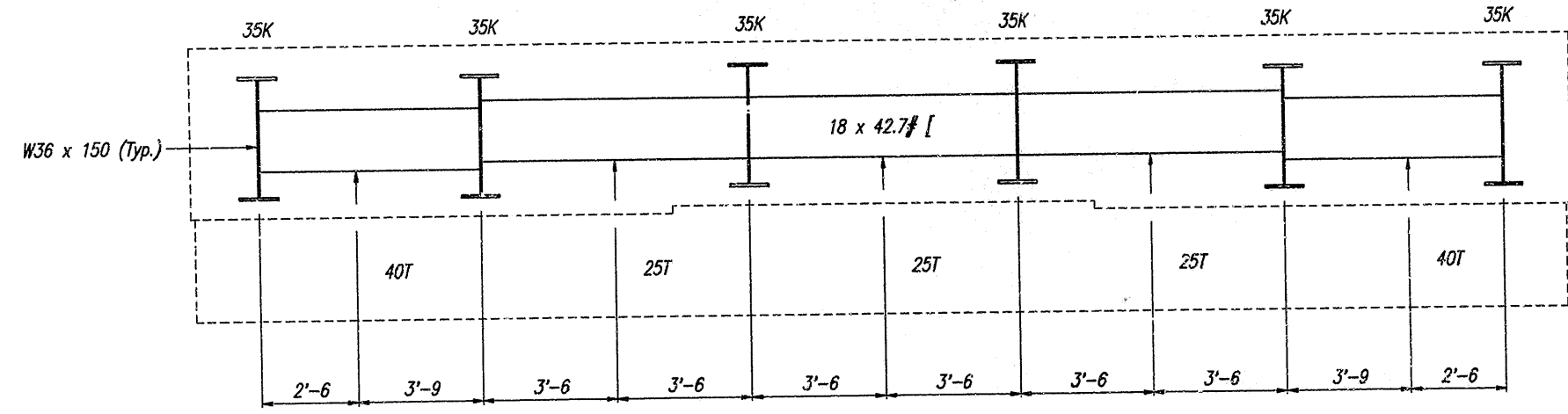
DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.K.S.	CHKD	J.D.R.
TRACED		CHKD	





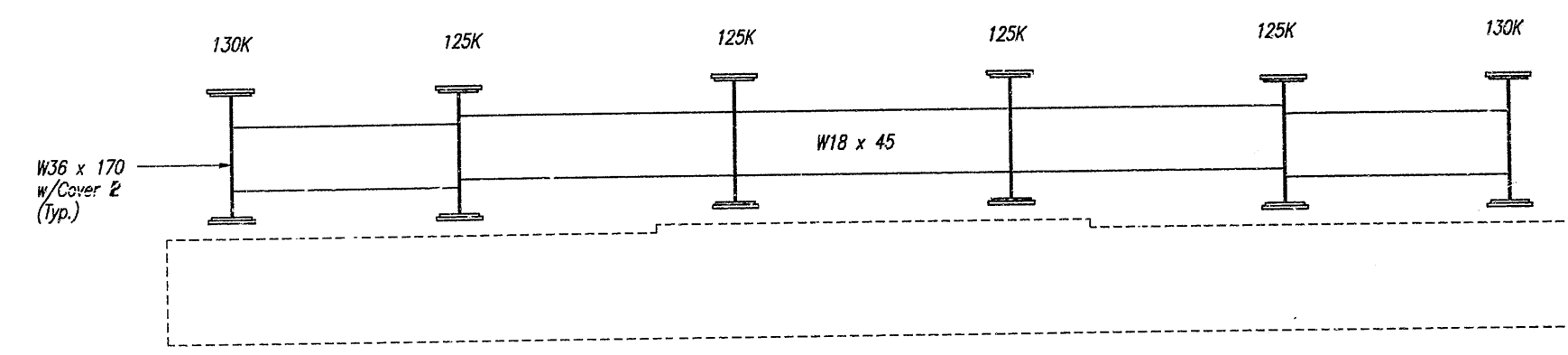
NOTES:  
\* Bearing Pads to be positively attached to bridge seats. (typ)  
All dimensions of elastomer portions of bearing assemblies shown are for the unloaded condition (non-compressed)

TYPICAL BEARING ASSEMBLY  
BENTS NO.1 & 3  
Scale: 1 1/2"=1'-0"



JACKING SCHEME - BENTS NO.1 & 3  
Scale: 1/2"=1'-0"

Note:  
Contractor May Propose Different Jacking Scheme From that Shown Above.

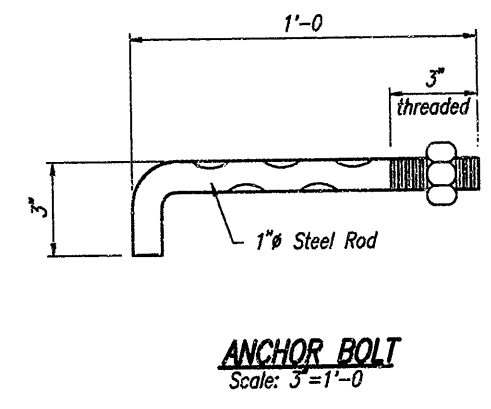


SECTION @ PIER NO.2  
Scale: 1/2"=1'-0"

Pier No.2 Jacking:  
Contractor Shall Determine Proposed Jacking Plan and Submit Details Signed by a Registered Professional Engineer Existing W18 x 45 Diaphragms may Not Be used for Jacking. Approximate Jack Capacity Per Beam is 100 Tons.

CONSTRUCTION PROCEDURE

1. Close Structure to Traffic.
2. Install Jacks & All Equipment. Necessary to Raise Structure 12".
3. Raise Structure While Maintaining Equal Jacking Height at Each Support. (± 1")
4. Construct Bearing Pedestals
5. Install New Bearing Pads - Bent No.1 & Bent No.3
6. Install Fixed Shoes - Pier No.2
7. Construct Approach Items.
8. Install New BS Joint Seats.
9. Open to Traffic.

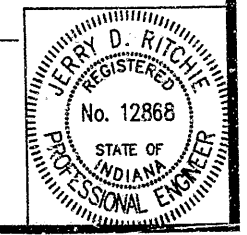


The pay item "Bearing Assembly (5432)" - Each is to include furnishing and installing bearing assembly, anchor bolts, side retainers, and threaded bolts. Total Bearing Assemblies required = 12 Each.  
The pay item "Jacking and Supporting Beams (5432)" - Lump Sum - is to include Preparing Jacking Plans and All materials and Equipment Necessary to Jack the Structure and Place it on the New Bearing Pads and Reset Fixed Bearing.

BEARING ASSEMBLY & JACKING DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION  
MARION COUNTY

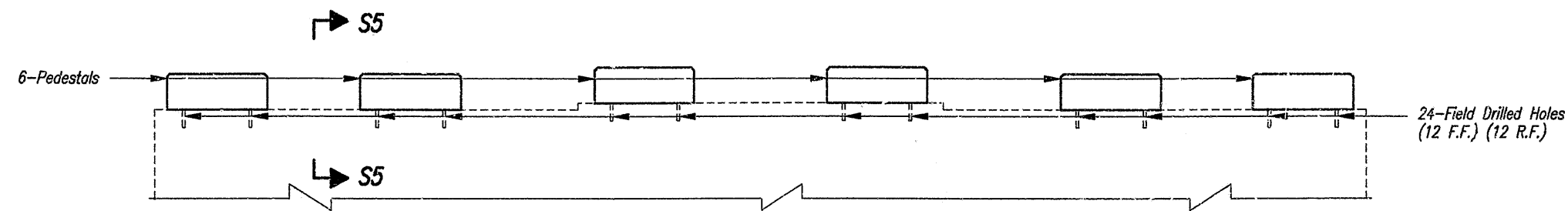
SCALE: AS NOTED  
DATE: 4-23-91  
Jerry D. Ritchie

DRAWING: D10B OF 41 SHEET: 14B OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. F-18930  
BRIDGE FILE: I-435-143-5432B

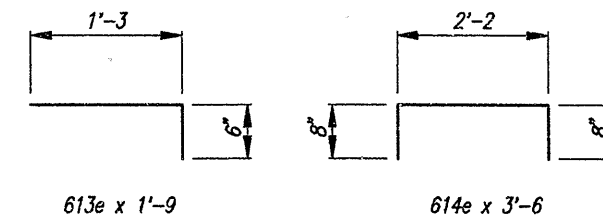


DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.K.S.	CHKD	J.D.R.
TRACED		CHKD	





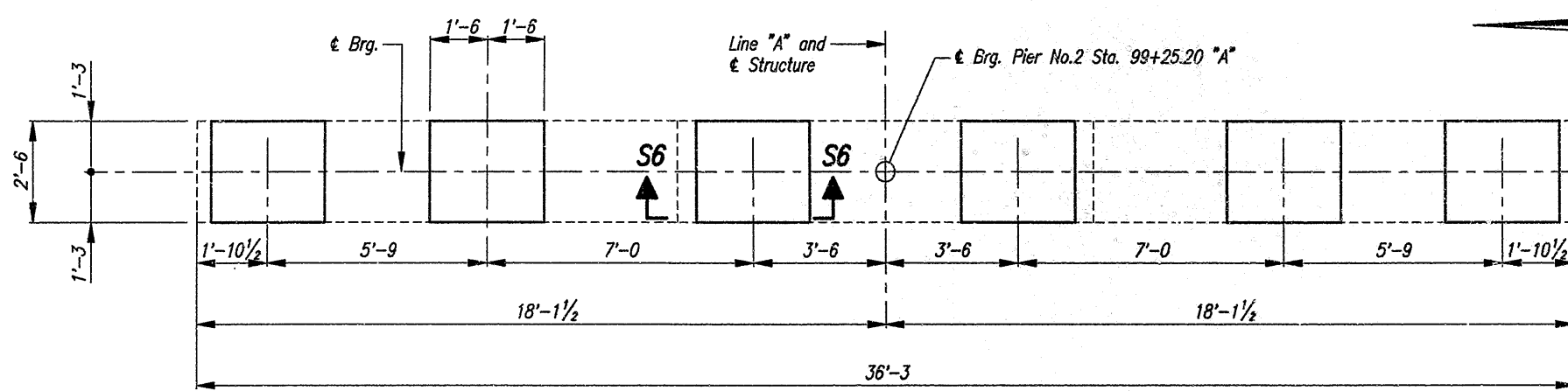
**ELEVATION**  
Scale: 3/8"=1'-0"



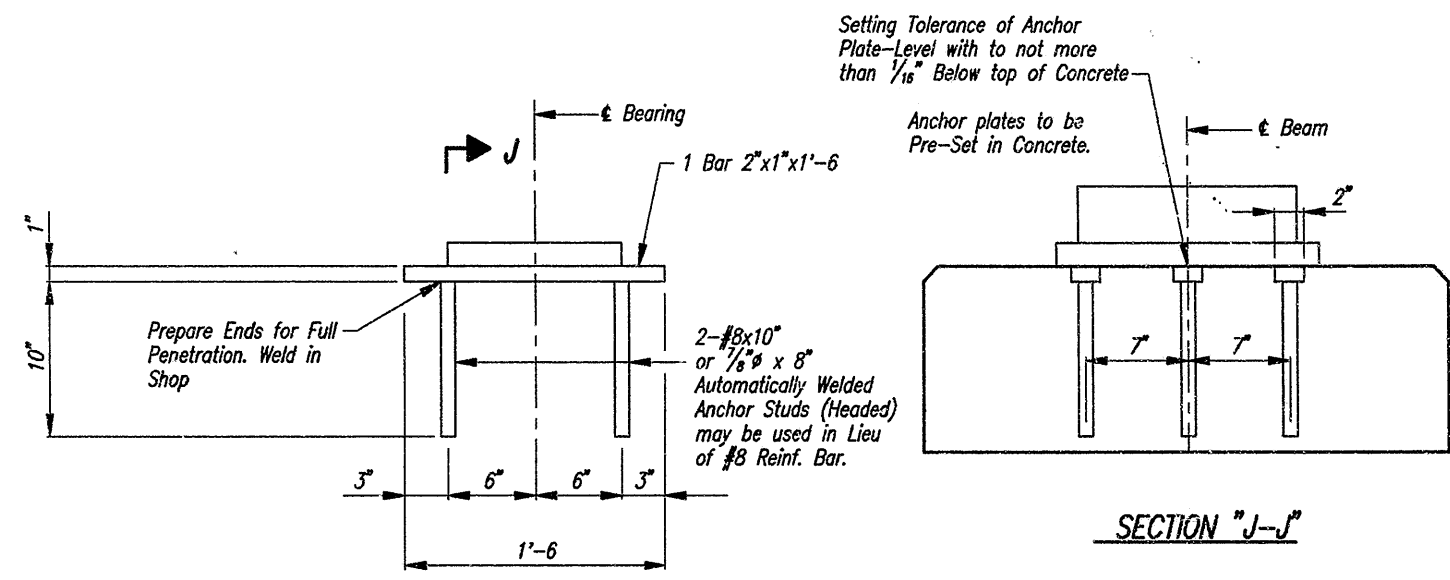
**BAR BENDING DETAILS**  
No Scale

**BILL OF MATERIALS  
PIER NO.2**

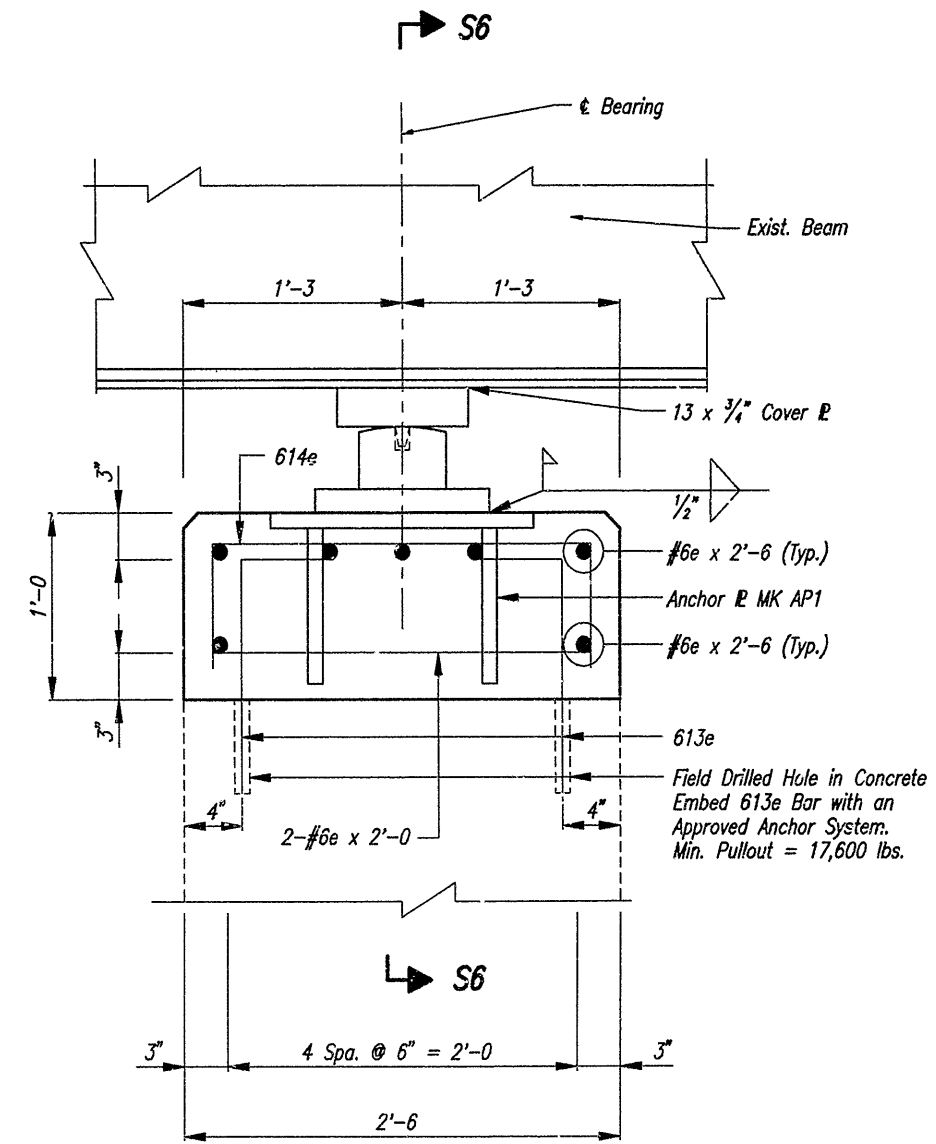
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
613e	24	1'-9	
614e	36	3'-6	
#6e	42	2'-6	
#6e	12	2'-0	
Total #6e			446 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
6-Pedestals @ 0.28 Cyds.			1.7 cyds.
MISCELLANEOUS			
Surface Seal			111 Sft.
Anchor Plate MK-AP1			18 Each
Field Drilled Holes in Concrete			24 Each



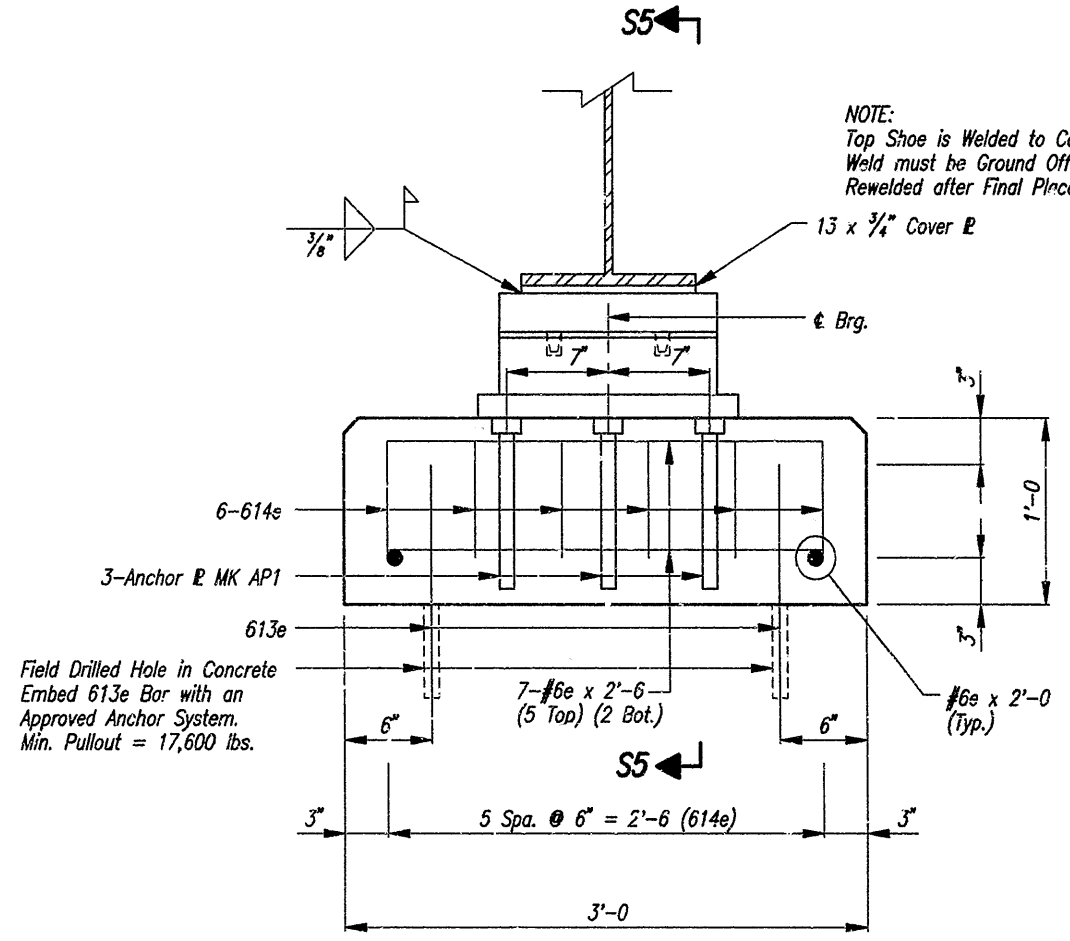
**CAP PLAN**  
Scale: 3/8"=1'-0"



**ANCHOR PLATE MK-AP1 DETAILS**  
Scale: 1 1/2"=1'-0"



**SECTION S5-S5**



**SECTION S6-S6**

**TYPICAL PEDESTAL DETAILS  
PIER NO.2**  
Scale: 1 1/2"=1'-0"

For Reinforcing Bar Notes, see Bridge Standard C1.

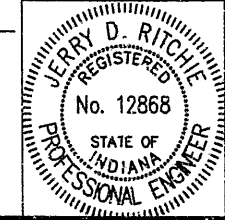
**PIER NO.2 DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION  
MARION COUNTY**

SCALE: As Noted

DATE: 4/23/91

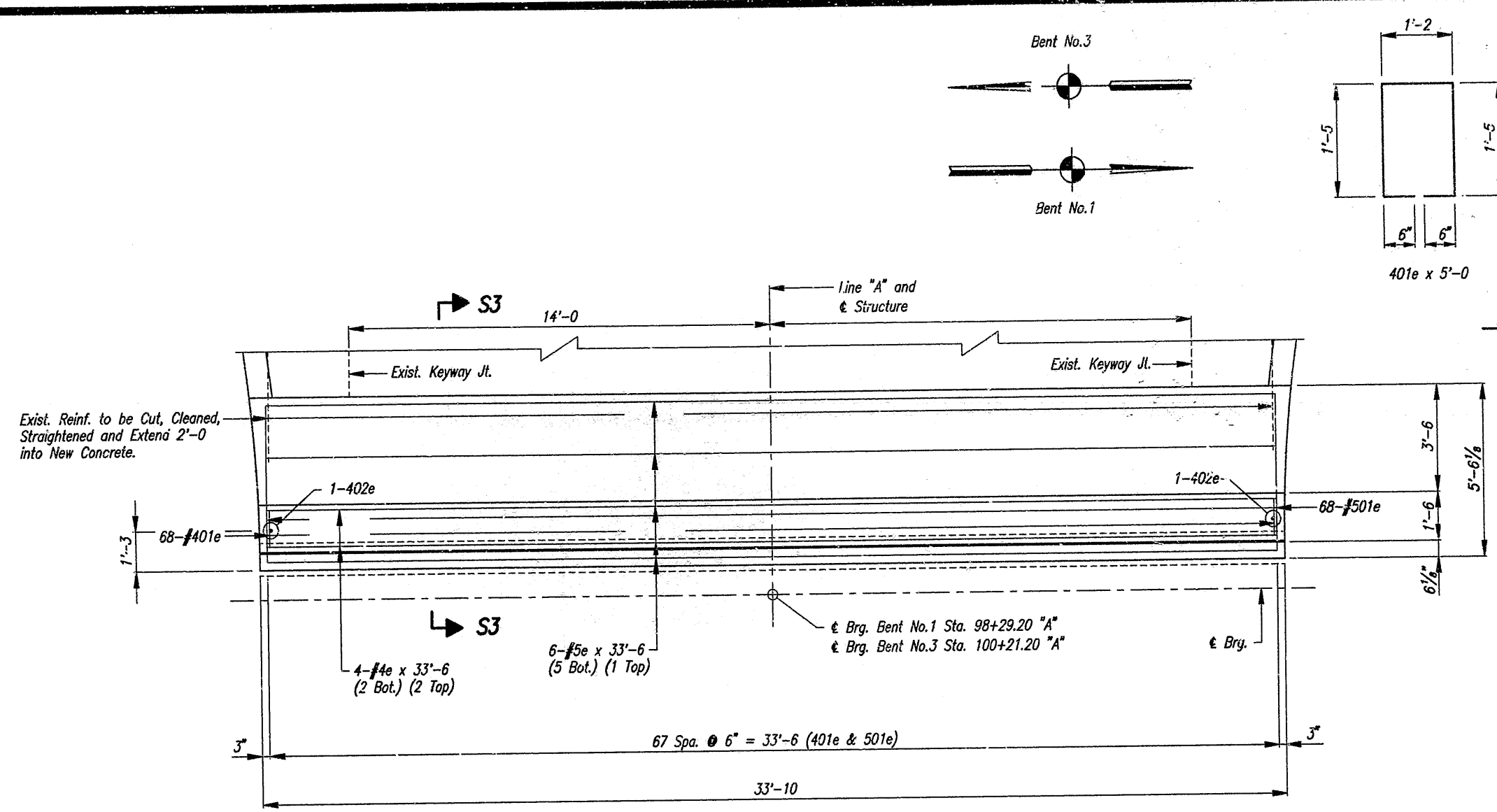
*Jerry D. Ritchie*

DRAWING: D10D OF 41 SHEET: 140 OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-143-5432B

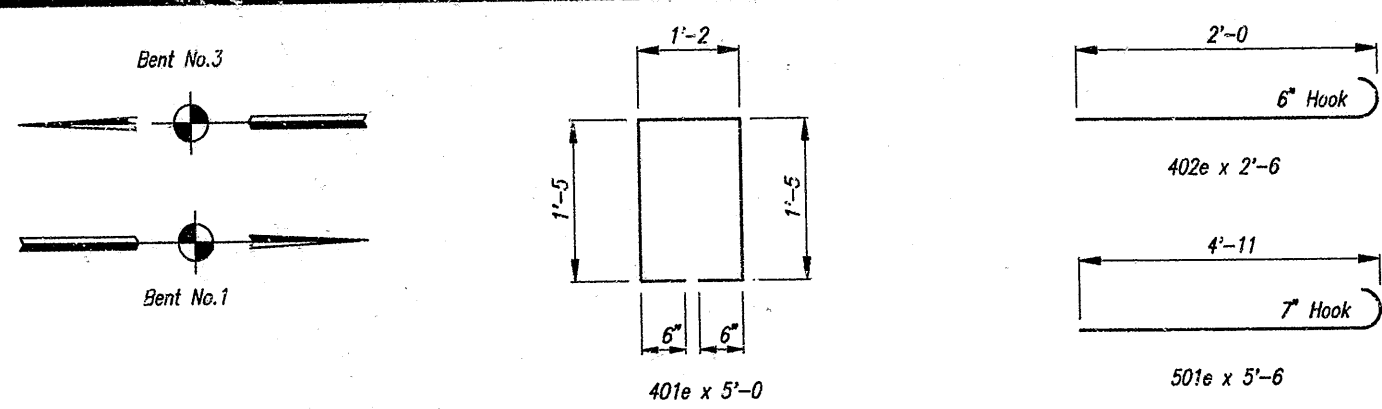


DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.K.S.	CHKD	J.D.R.
TRACED		CHKD	





**CAP PLAN**  
Scale: 1/8" = 1'-0"



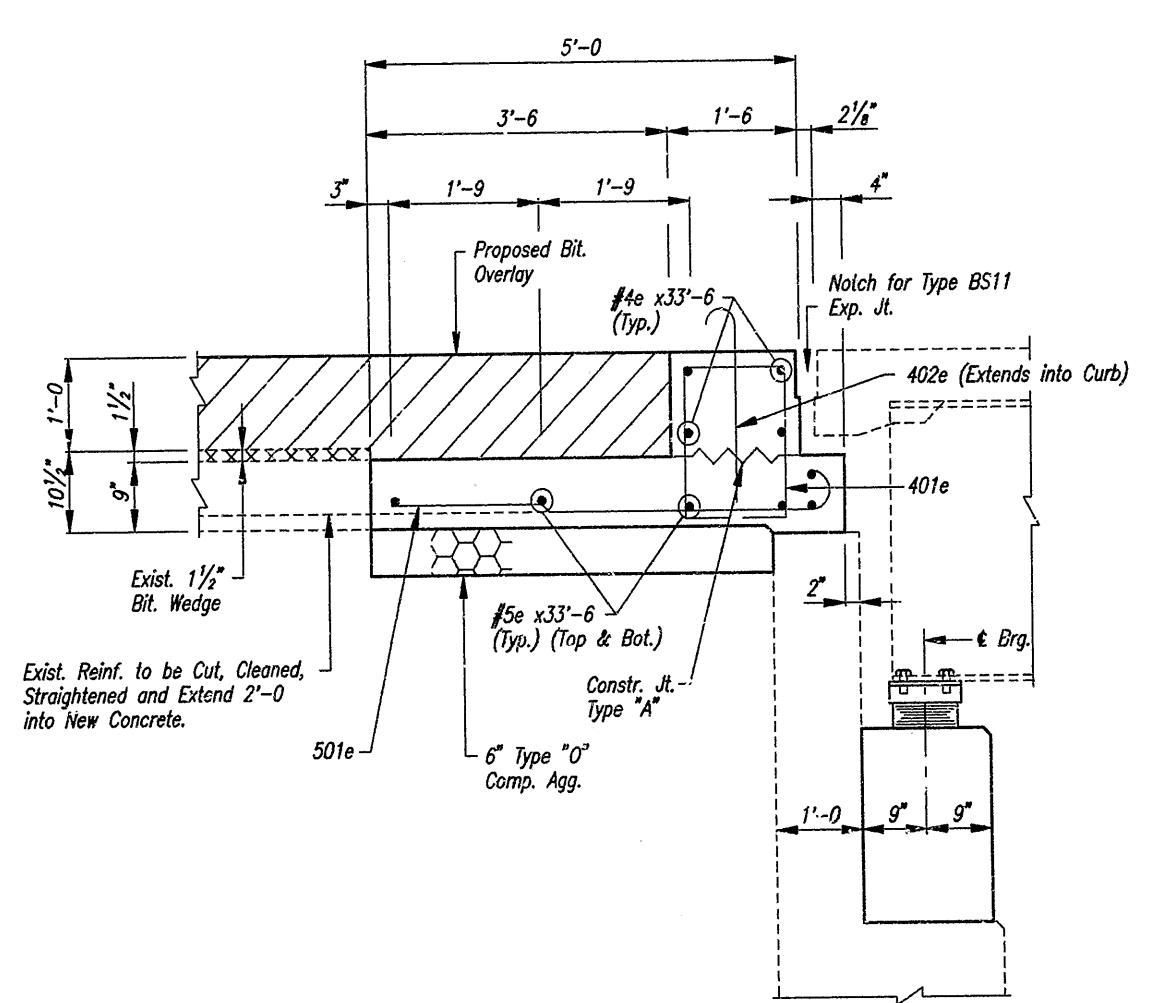
**BAR BENDING DETAILS**  
No Scale

**BILL OF MATERIALS  
BENT NO. 1**

EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
501e	68	5'-6	
#5e	6	33'-6	
		<b>Total #5e</b>	<b>600 lbs.</b>
401e	68	5'-0	
402e	2	2'-6	
#4e	4	33'-6	
		<b>Total #4e</b>	<b>320 lbs.</b>
<b>Total Epoxy Coated Reinforcing</b>			<b>920 lbs.</b>
CONCRETE CLASS "A" IN SUBSTRUCTURE			
Approach Slab			2.1 cyds.
MISCELLANEOUS			
Reinf. Concrete Pavement 9"			21 Sys.
Type "O" Compacted Aggregate For Base, 6"			7 Tons
Surface Seal			51 Sft.

**BILL OF MATERIALS  
BENT NO. 3**

EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
501e	68	5'-6	
#5e	6	33'-6	
		<b>Total #5e</b>	<b>600 lbs.</b>
401e	68	5'-0	
402e	2	2'-6	
#4e	4	33'-6	
		<b>Total #4e</b>	<b>320 lbs.</b>
<b>Total Epoxy Coated Reinforcing</b>			<b>920 lbs.</b>
CONCRETE CLASS "A" IN SUBSTRUCTURE			
Approach Slab			2.1 cyds.
MISCELLANEOUS			
Reinf. Concrete Pavement 9"			21 Sys.
Type "O" Compacted Aggregate For Base, 6"			7 Tons
Surface Seal			51 Sft.



**SECTION S3-S3**  
Scale: 1/4" = 1'-0"

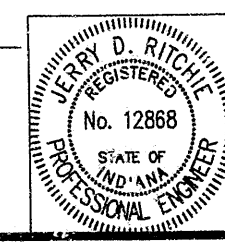
For Reinforcing Bar Notes, see Bridge Standard C1.  
For General Notes, see Drawing 14A  
e - Indicates Epoxy Coated Reinforcing Steel

**APPROACH SLAB DETAILS**  
**INDIANA DEPARTMENT OF TRANSPORTATION**  
MARION COUNTY

SCALE: As Noted

DATE: 4-23-91  
*Jerry D. Ritchie*

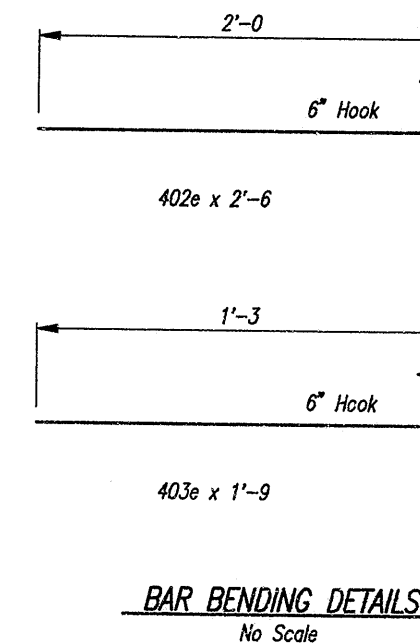
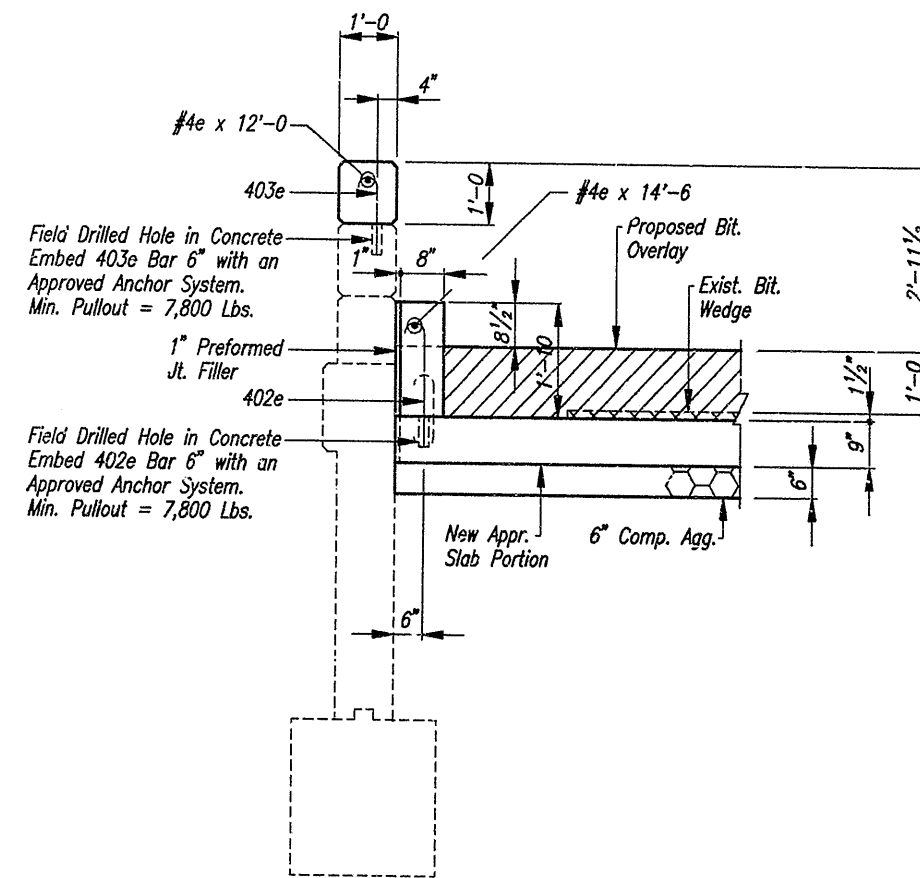
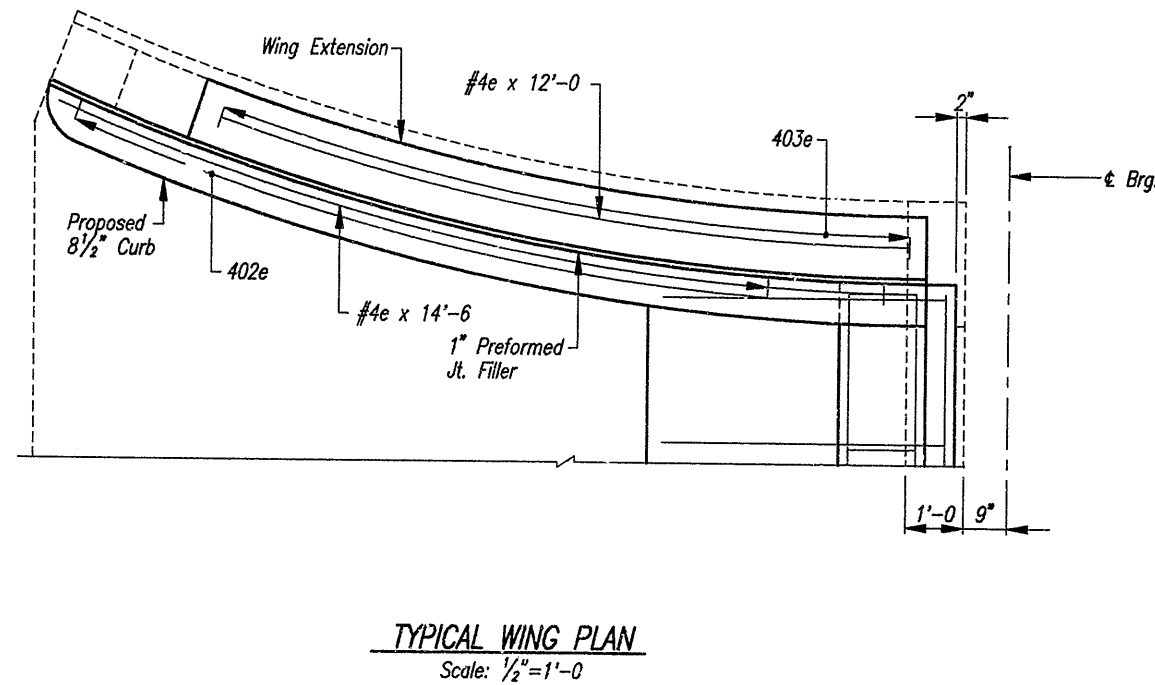
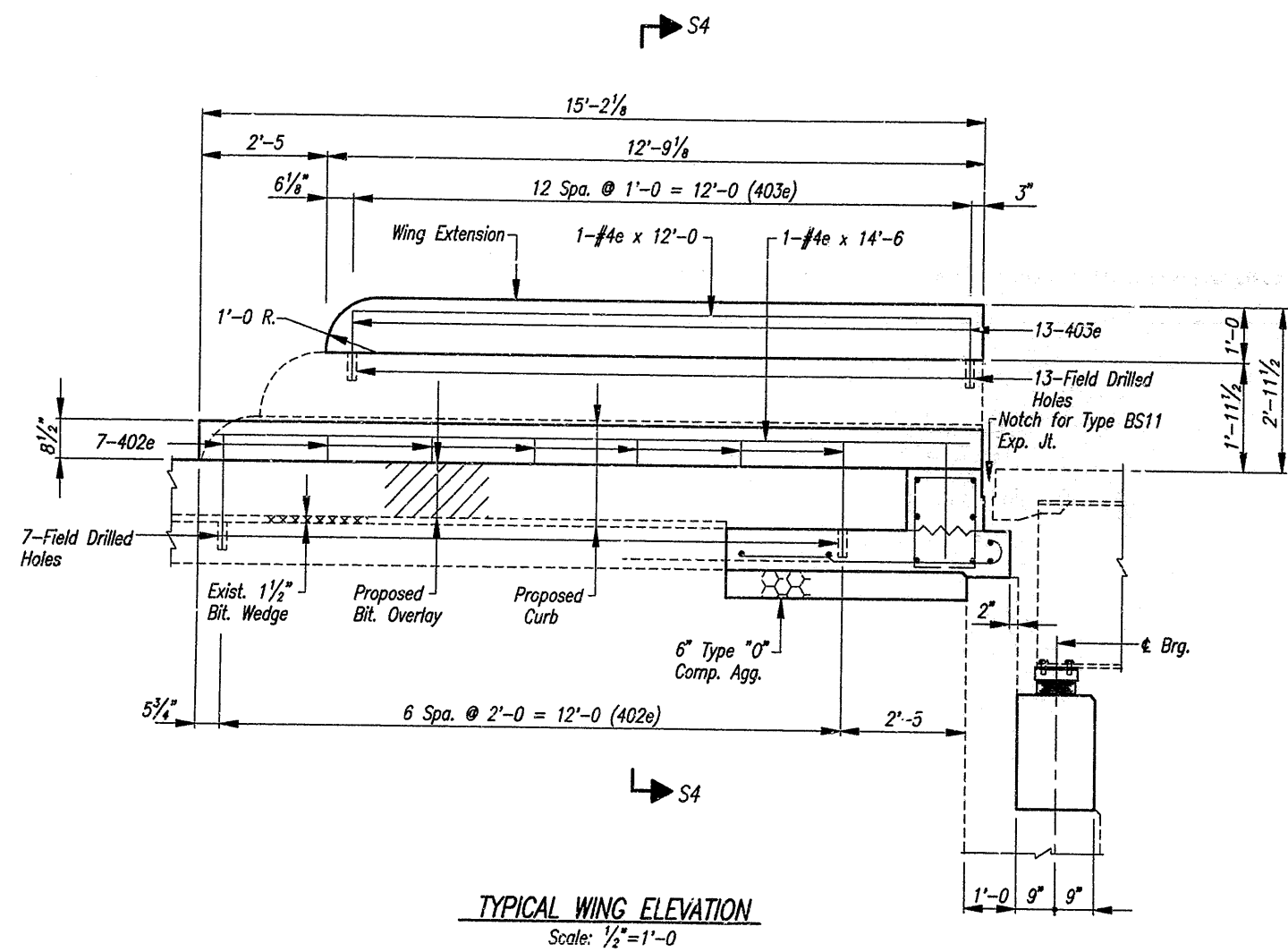
DRAWING: D10E OF 41 SHEET: 14E OF 57  
PROJECT: ACIR-465-4(25B)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-143-5432B



DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.K.S.	CHKD	J.D.R.
TRACED		CHKD	

BILL OF MATERIALS BENT NO. 1			
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
402e	14	2'-6"	
403e	26	1'-9"	
#4e	2	14'-6"	
#4e	2	12'-0"	
Total #4e			90 lbs.
Total Epoxy Coated Reinforcing			90 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
Wing Extension 2 @ .5 Cyds.			1.0 cyds.
Curb 2 @ .65 Cyds.			1.3 cyds.
Total Class "A" Concrete			2.3 cyds.
MISCELLANEOUS			
Field Drill Holes in Concrete			40 Each
Surface Seal			118 Sft.

BILL OF MATERIALS BENT NO. 3			
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
402e	14	2'-6"	
403e	26	1'-9"	
#4e	2	14'-6"	
#4e	2	12'-0"	
Total #4e			90 lbs.
Total Epoxy Coated Reinforcing			90 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
Wing Extension 2 @ .5 Cyds.			1.0 cyds.
Curb 2 @ .65 Cyds.			1.3 cyds.
Total Class "A" Concrete			2.3 cyds.
MISCELLANEOUS			
Field Drill Holes in Concrete			40 Each
Surface Seal			118 Sft.



For Reinforcing Bar Notes, see Bridge Standard C1.  
For General Notes, see Drawing 14A  
e- Indicates Epoxy Coated Reinforcing Steel  
For Approach Slab Details, see Drawing 14E

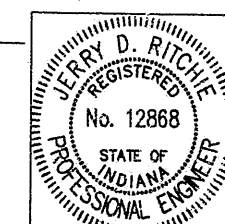
WINGWALL & CURB DETAILS  
**INDIANA DEPARTMENT OF TRANSPORTATION**  
MARION COUNTY

SCALE: As Noted

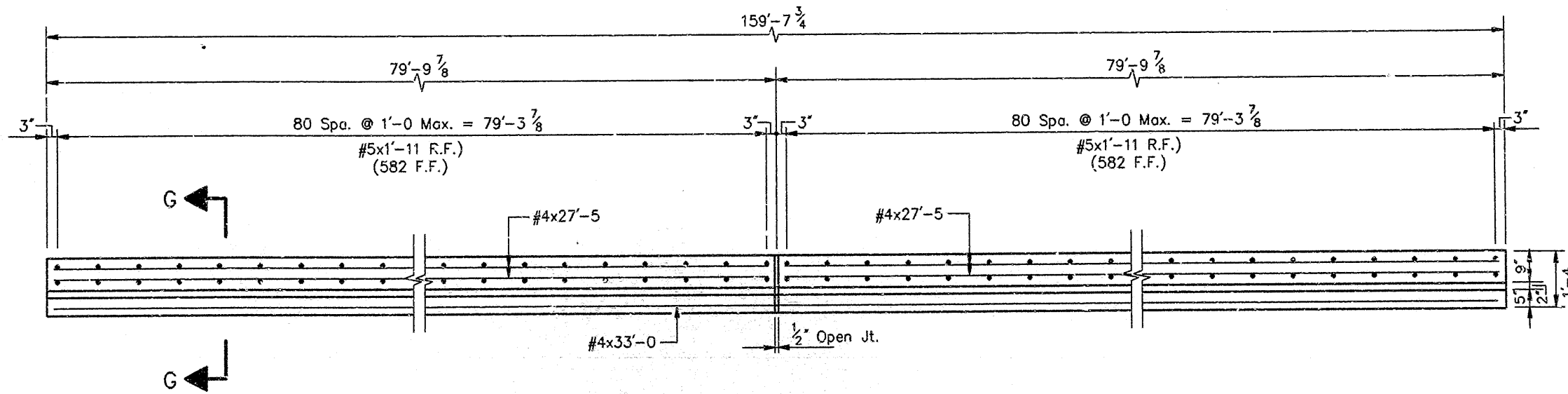
DATE: 4-23-91

Jerry D. Ritchie

DRAWING: D10F OF 41 SHEET: 14F OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-143-5432B



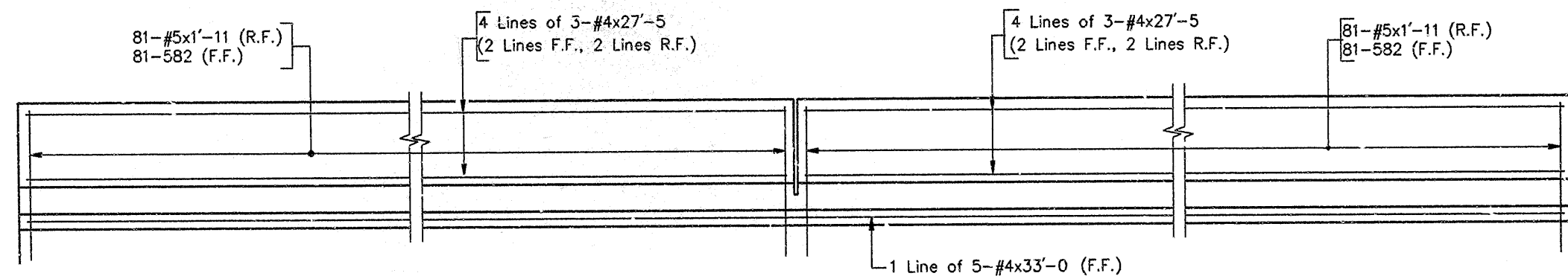
DESIGNED: J.D.R.	CHKD: R.C.M.
DRAWN: W.K.S.	CHKD: J.D.R.
TRACED:	CHKD:



**BRIDGE RAILING PLAN**

(STRUCTURE -5285B)

Scale: 1/2" = 1'-0"



**BRIDGE RAILING ELEVATION**

(STRUCTURE -5285B)

Scale: 1/2" = 1'-0"

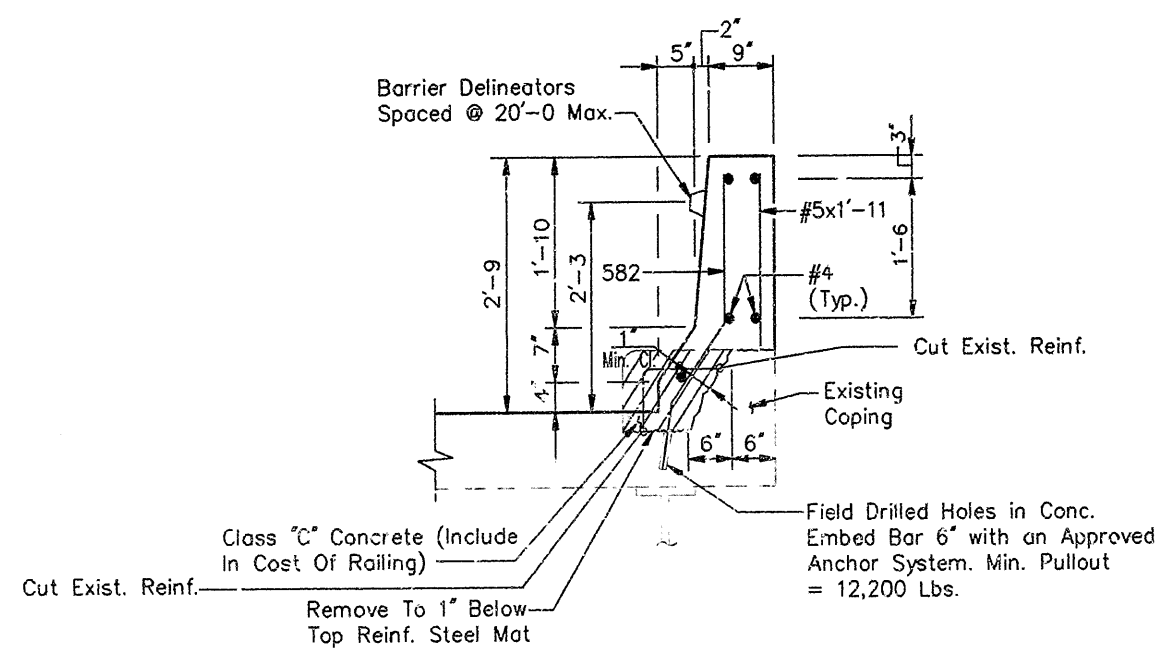
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#582	162	3'-5"	
#5	162	1'-11"	
TOTAL #5 BARS			901
#4	5	33'-0"	
#4	24	27'-0"	
TOTAL #4 BARS			550
TOTAL EPOXY COATED REINF.			1451
MISCELLANEOUS			
Class "C" Concrete Railing			160 Lft.
Field Drilled Holes in Conc.			162 Ea.
Barrier Delineators			9 Ea.

Quantities for One Rail Only, Four (4) Req'd.

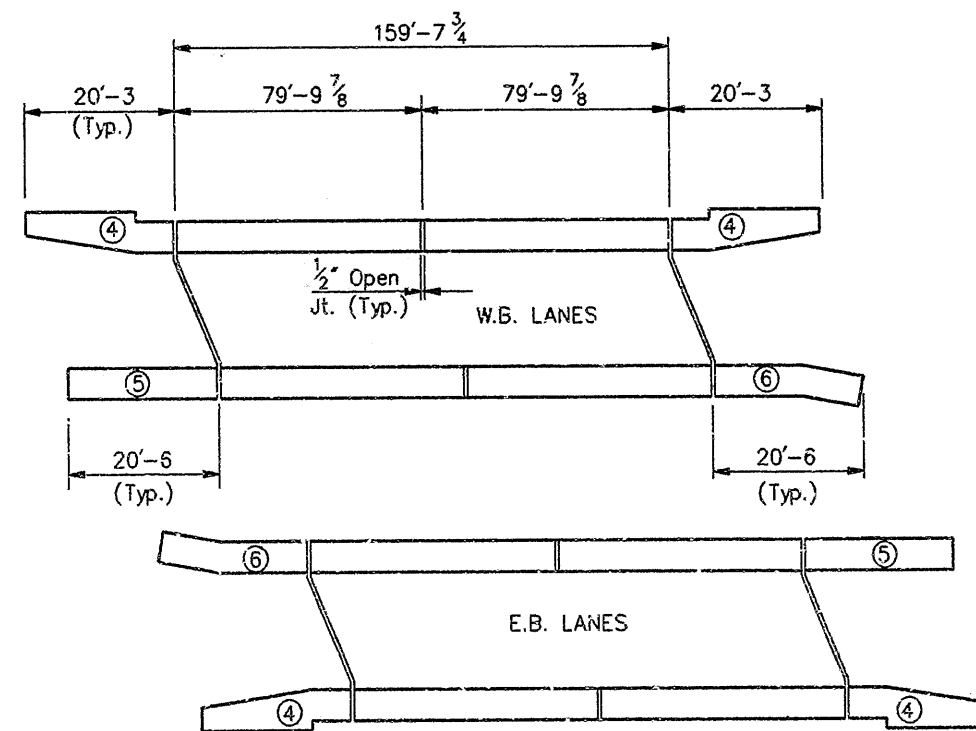
**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- Minimum Lap For #4 Bar is 1'-4"
- For Details & Bill of Materials for Panels 4, 5 & 6 See Dwg. D26.
- ▨ Limits Of Concrete Removal. (To be included in Removal of Present Structure Portions.)



**SECTION G-G**

Scale: 3/4" = 1'-0"



**PLAN**

No Scale  
(STRUCTURE -5285B)

**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5285B**

**INDIANA DEPARTMENT OF HIGHWAYS**  
**MARION COUNTY**

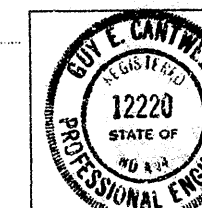
SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Cartwright*

DRAWING: D11 OF 41 SHEET: 15 OF 57  
PROJECT: 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: 1-465-134-5285B

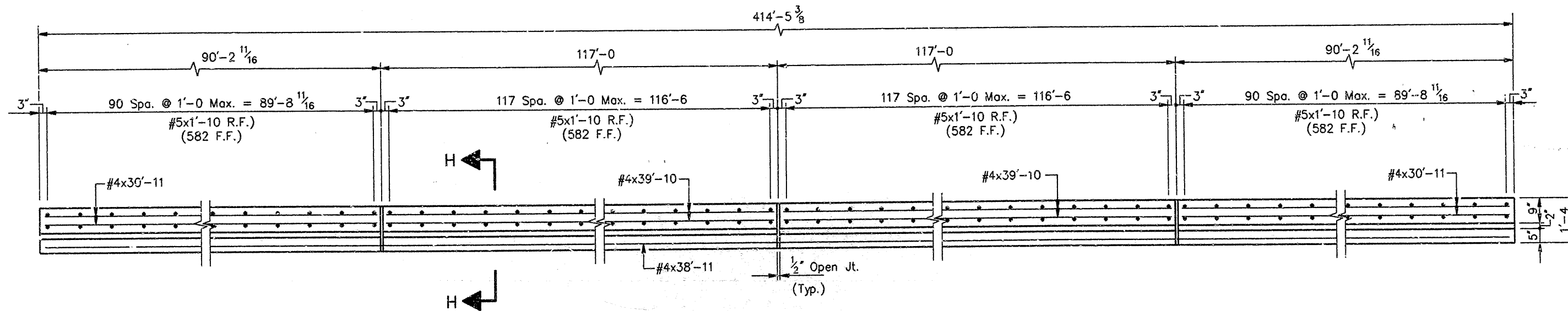


LAST UPDATE: 2/20/1990 DWG. SCALE: 0.5000 = 1'-0"  
TIME: 14:20:41

DWG. FILE: 5285RAIL  
OPERATOR: cpm

DESIGNED: CPM	C.K'D: TWL
DRAWN: CPM	C.K'D: TWL
TRACED:	C.K'D:



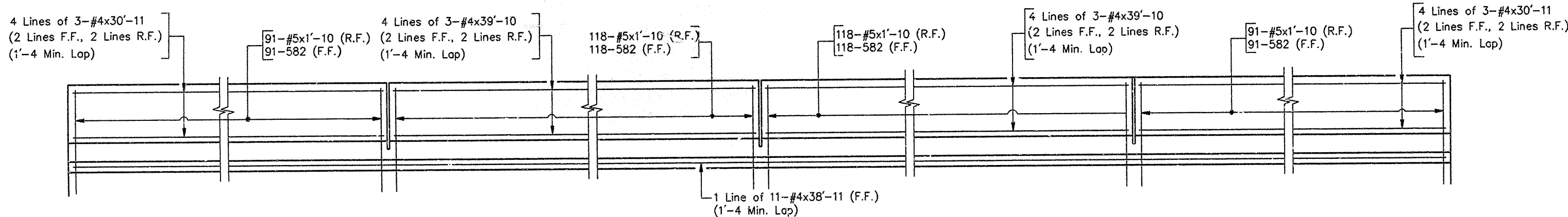


**BRIDGE RAILING PLAN**  
(STRUCTURE -5286B)  
Scale: 1/2" = 1'-0

**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#5	418	3'-5"	
#5	418	1'-10"	
TOTAL #5 BARS			2289
#4	24	39'-10"	
#4	11	38'-11"	
#4	24	30'-11"	
TOTAL #4 BARS			1420
TOTAL EPOXY COATED REINF.			3709
MISCELLANEOUS			
Class "C" Concrete Railing			415 Lft.
Field Drilled Holes in Conc.			418 Ea.
Barrier Delineators			22 Ea.

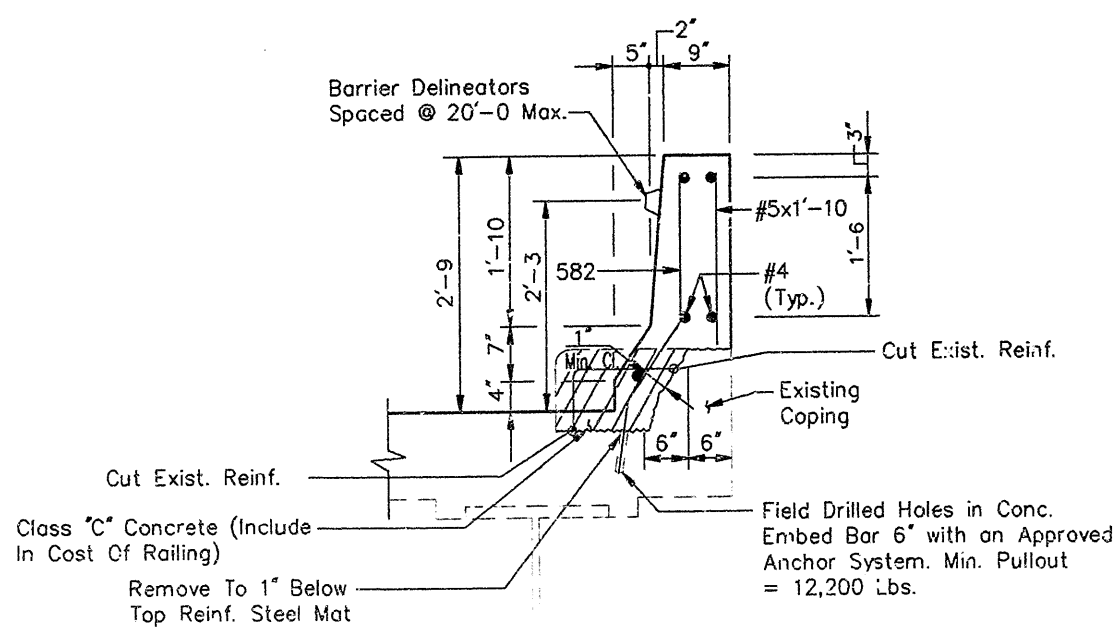
Quantities for One Rail Only, Four (4) Req'd.  
NOTE: 570 Lft. Concrete Median Barrier Req'd. and 33 Additional Barrier Delineators for the Median Barrier Sections. (Includes Panel 16)



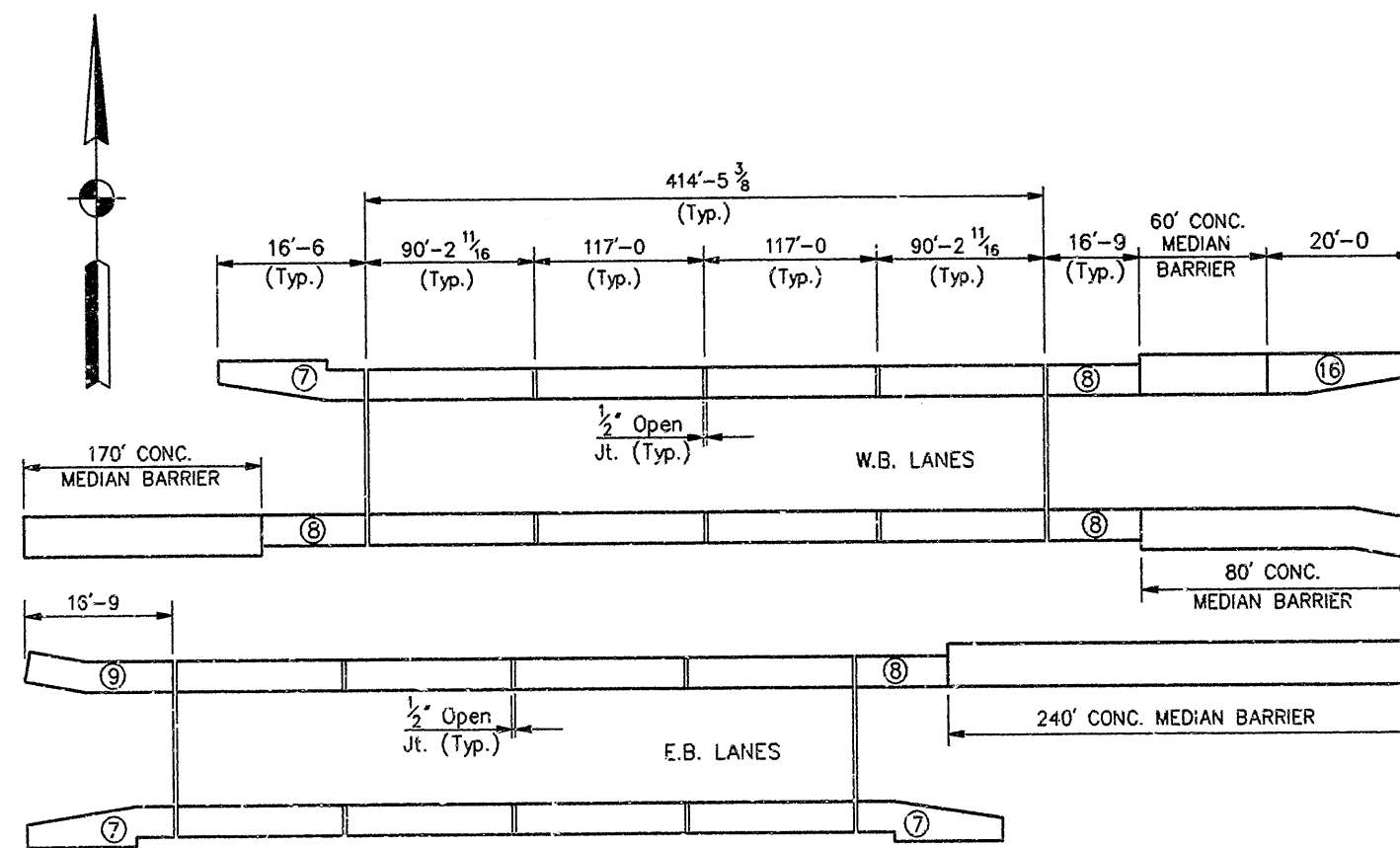
**BRIDGE RAILING ELEVATION**  
(STRUCTURE -5286B)  
Scale: 1/2" = 1'-0

**NOTES:**

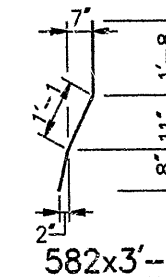
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- Minimum Lap For #4 Bar is 1'-4
- For Details & Bill of Materials for: Panels 7, 8 & 9 See Dwg. D27. Panel 16 See Dwg. D30.
- /// Limits Of Concrete Removal. Include in "Removal of Present Structure (Portions)"



**SECTION H-H**  
Scale: 3/4" = 1'-0



**PLAN**  
No Scale  
(STRUCTURE -5286B)



- For Details & Bill of Materials for Panels 7,8,9 and 16 See Dwgs D27 & D30.

**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5286B**

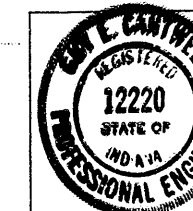
**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE & MARION COUNTIES**

SCALE:- As Noted

DATE:- 2-27

1990

*Ray E. Cartwell*

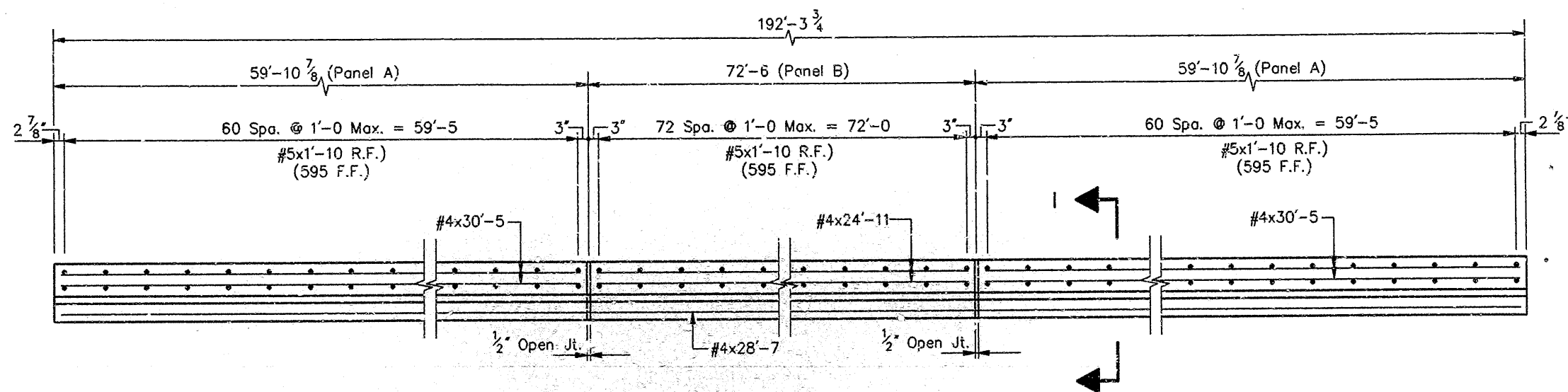


DRAWING: D12 OF 41 SHEET: 16 OF 57  
PROJECT: IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: I-465-135-5286B

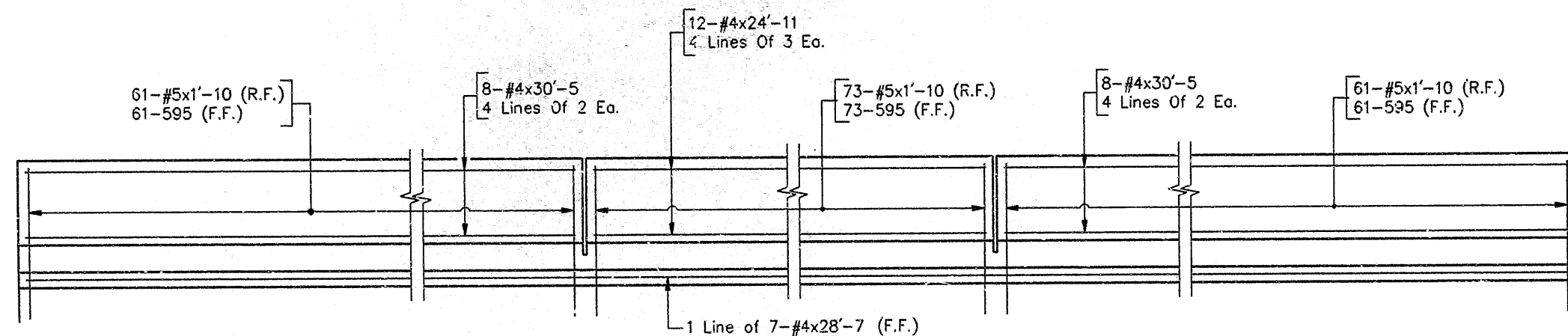
DESIGNED: CPM	C.K'D.	TWL
DRAWN: CPM	C.K'D.	TWL
TRACED: C.K'D.		

LAST UPDATE: 2/20/1990 DWG. SCALE: 0.5000 = 1'-0  
TIME: 14:35:55

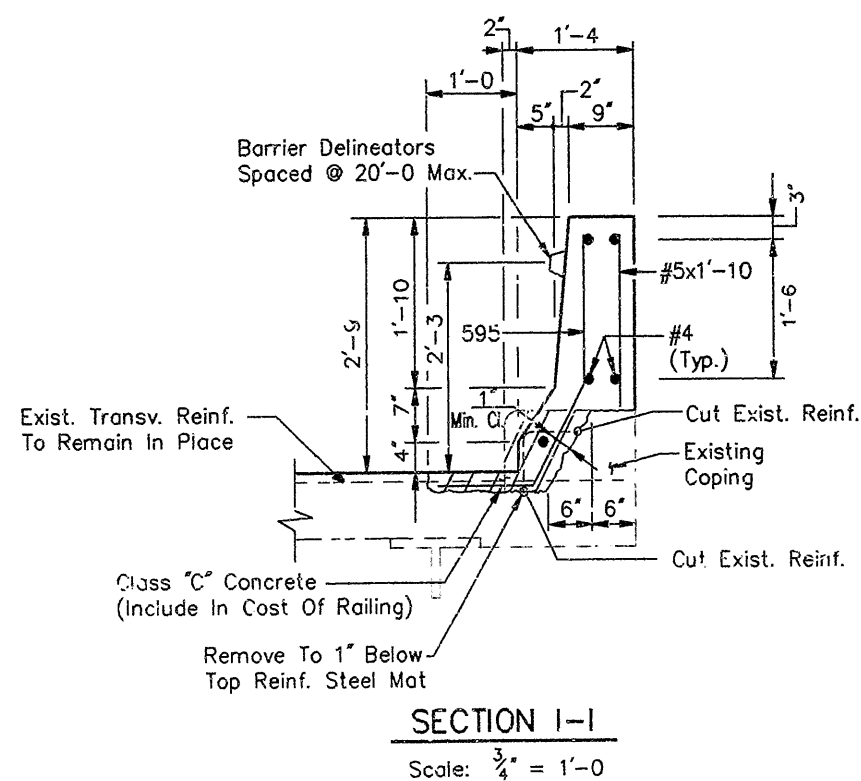
DWG. FILE: 5286BRAL  
OPERATOR: cpm



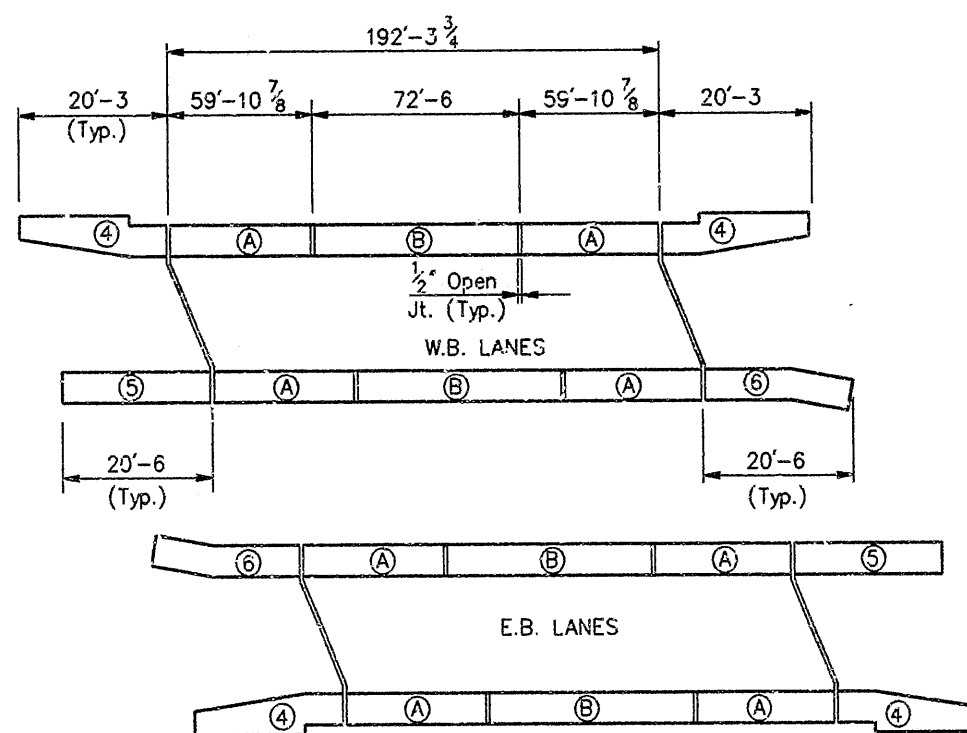
**BRIDGE RAILING PLAN**  
(STRUCTURE -2379B)  
Scale: 1/2" = 1'-0"



**BRIDGE RAILING ELEVATION**  
(STRUCTURE -2379B)  
Scale: 1/2" = 1'-0"



**SECTION I-I**  
Scale: 3/4" = 1'-0"



**PLAN**  
No Scale  
(STRUCTURE -2379B)

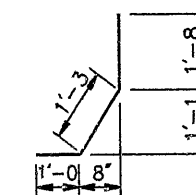
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
595	195	3'-11"	
#5	195	1'-10"	
TOTAL #5 BARS			1169
#4	16	30'-5"	
#4	7	28'-7"	
#4	12	24'-11"	
TOTAL #4 BARS			658
TOTAL EPOXY COATED REINF.			2993
MISCELLANEOUS			
Class "C" Concrete Railing			193 Lft.
Barrier Delineators			13 Ea.

Quantities for One Rail Only. Four (4) Req'd.

**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- Minimum Lap For #4 Bar Is 1'-4
- Existing Reinforcing Steel to Remain in Place, Shall be Cleaned & Realigned.
- For Barrier Rail Transition Details and Bill of Materials: Panels 4, 5 & 6 See Dwg. D26.
- ▨ Limits Of Concrete Removal. Included in "Removal of Present Structure (Portions.)"



595x3'-11

**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -2379B**

**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE COUNTY**

SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Cantrell*

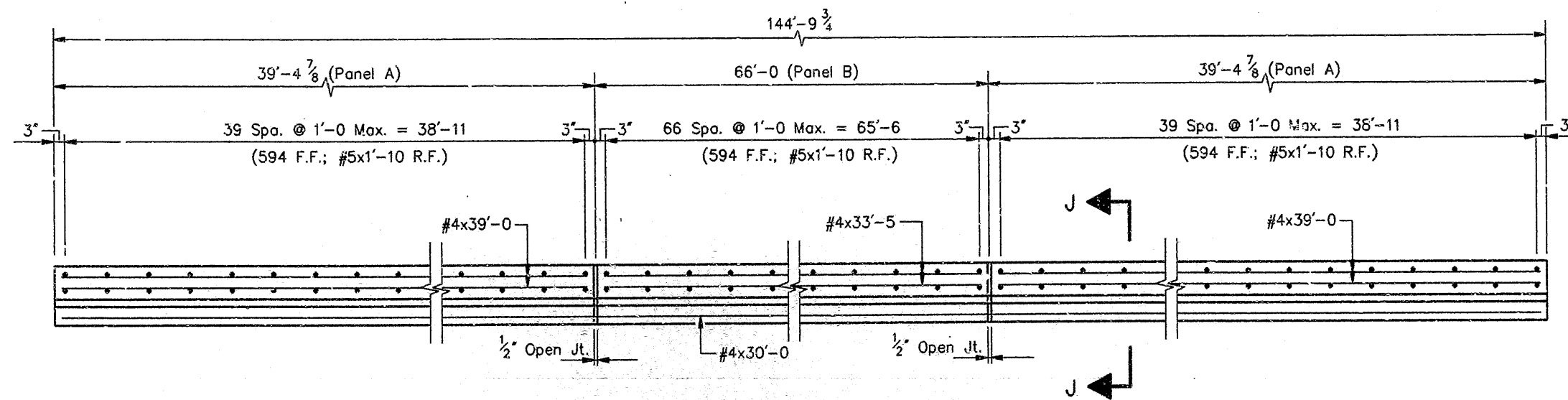
DRAWING: D13 OF 41 SHEET: 17 OF 57  
PROJECT: - 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-134-2379B



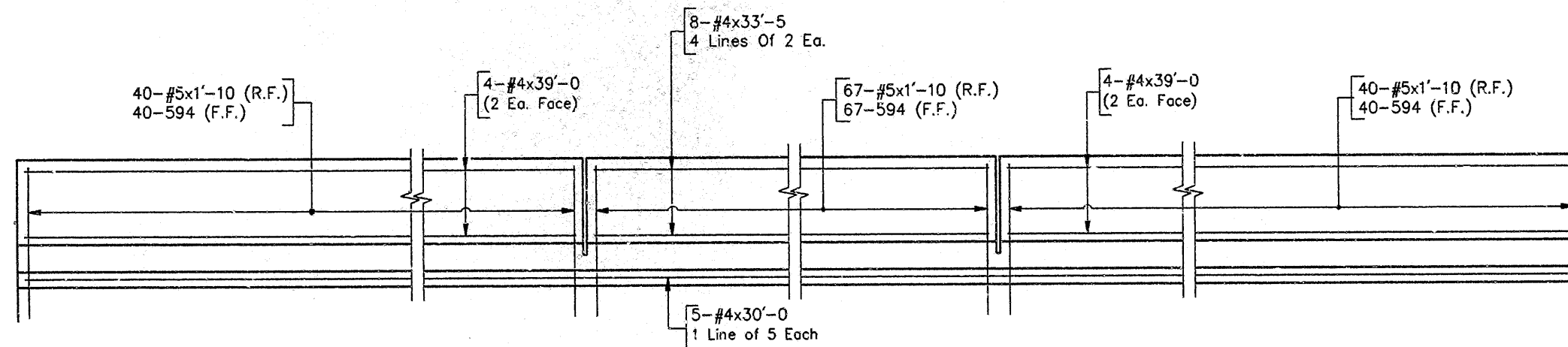
DESIGNED	PCR	C'K'D	TWL
DRAWN	PCR	C'K'D	TWL
TRACED		C'K'D	

LAST UPDATE: 1/1/1980 DWG. SCALE: 0.5000 = 1'-0  
TIME: 23:14:5

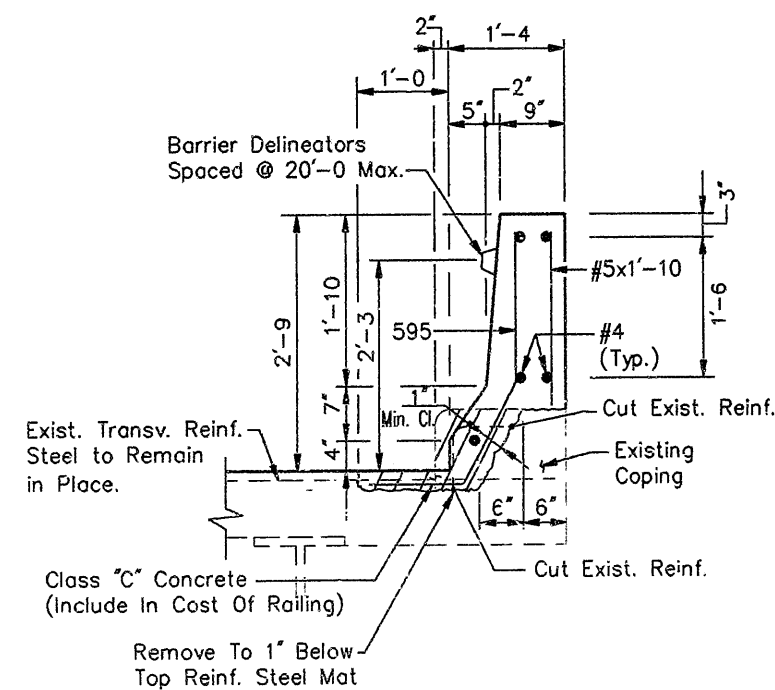
DWG. FILE: 2379B.dwg  
OPERATOR: cpm



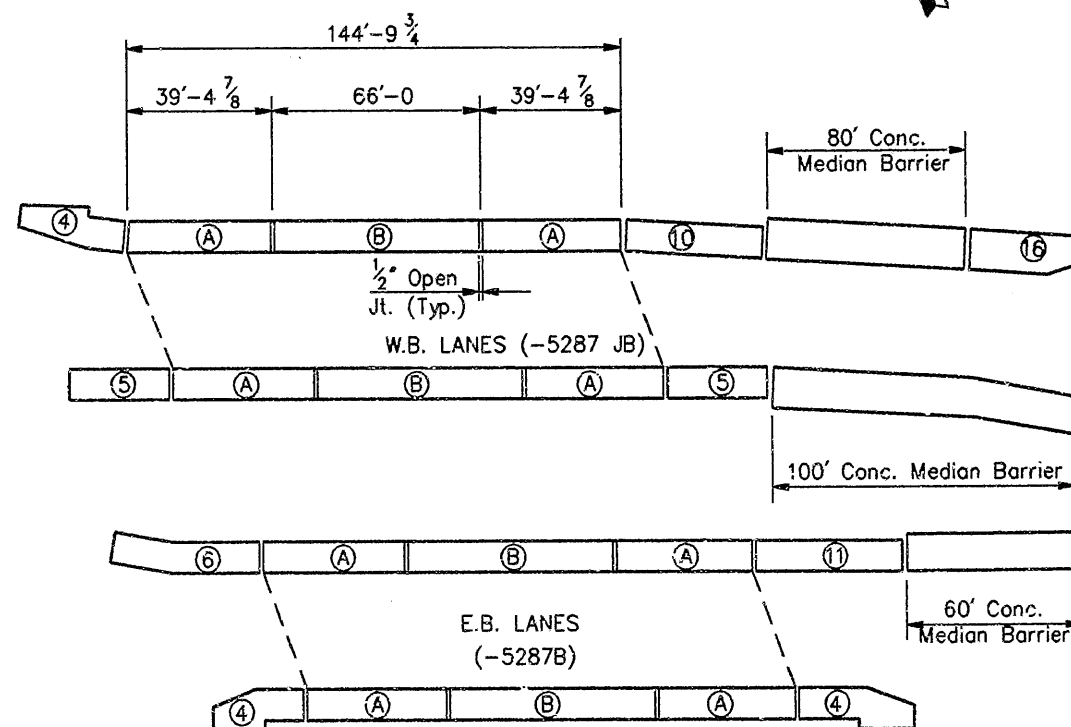
**BRIDGE RAILING PLAN**  
(STRUCTURE -5287B & JB)  
Scale: 1/2" = 1'-0"



**BRIDGE RAILING ELEVATION**  
(STRUCTURE -5287B & JB)  
Scale: 1/2" = 1'-0"



**SECTION J-J**  
Scale: 3/4" = 1'-0"



**PLAN**  
No Scale  
(STRUCTURE -5287B & JB)

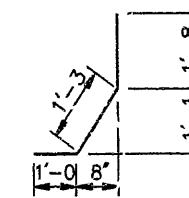
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
595	147	3'-11"	
#5	147	1'-10"	
TOTAL #5 BARS			882
#4	8	39'-0"	
#4	5	30'-0"	
#4	8	33'-5"	
TOTAL #4 BARS			487
TOTAL EPOXY COATED REINF.			1369
MISCELLANEOUS			
Class "C" Concrete Railing			145 LFt.
Barrier Delineators			9 Ea.

Quantities for One Rail Only, Four (4) Req'd.  
Note: 260 Lft of Concrete Median Barrier Req'd. and 16 Additional Barrier Delineators Req'd. for Concrete Median Barrier Sections. (Includes Panel 16.)

**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - Minimum Lap For #4 Bar Is 1'-4"
  - Existing Reinforcing Steel to Remain in Place Shall be Cleaned & Realigned.
  - For Barrier Rail Transition Details & Bill of Materials: Panels 4, 5 & 6 See Dwg. D28. Panel 10 See Dwg. D28. Panel 16 See Dwg. D30.
- /// Limits Of Concrete Removal. Include in "Removal of Present Structure (Portions.)"



595x3'-11

**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5287B & JB**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE COUNTY**

SCALE:- As Noted

DATE:- 2-27

*Ray E. Cartwell*

1990



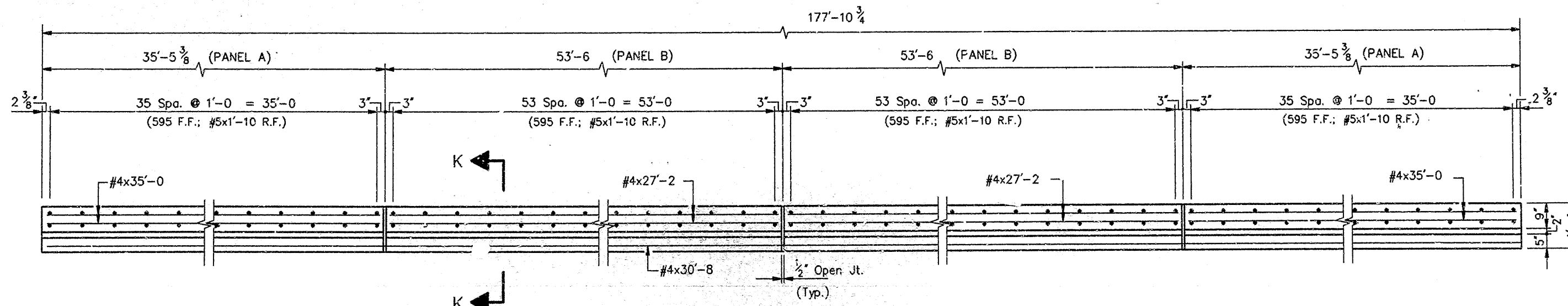
DRAWING:- D14 OF 41 SHEET:- 18 OF 57  
PROJECT:- 1R-465-4( ) STATION:-  
BRIDGE CONTRACT NO.  
BRIDGE FILE:- 1-465-136-5287B & JB

DESIGNED	DJJ	CHK'D	TWL
DRAWN	DJJ	CHK'D	TWL
TRACED		CHK'D	

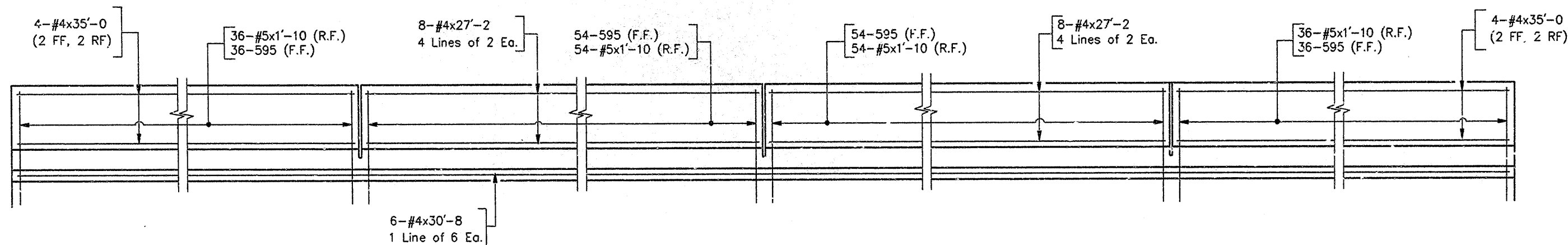
LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0  
TIME: 12:1:0

DWG. FILE: 5287R/AIL  
OPERATOR: CPM





**WEST RAILING PLAN**  
(STRUCTURE-5473)  
Scale: 1/2" = 1'-0"



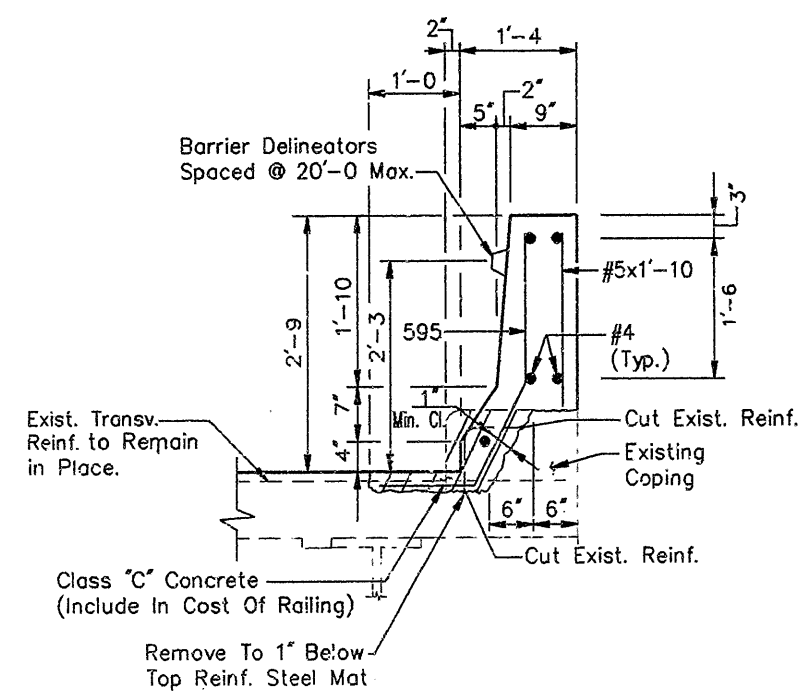
**WEST RAILING ELEVATION**  
(STRUCTURE-5473)  
Scale: 1/2" = 1'-0"

BILL OF MATERIALS			
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#5	180	3'-11"	
#5	180	1'-10"	
TOTAL #5 BARS			1076
#4	8	35'-0"	
#4	6	30'-8"	
#4	16	27'-2"	
TOTAL #4 BARS			600
TOTAL EPOXY COATED REINF.			1676
MISCELLANEOUS			
Class 'C' Concrete Railing			178 LFT.
Barrier Delineators			10 Eo.

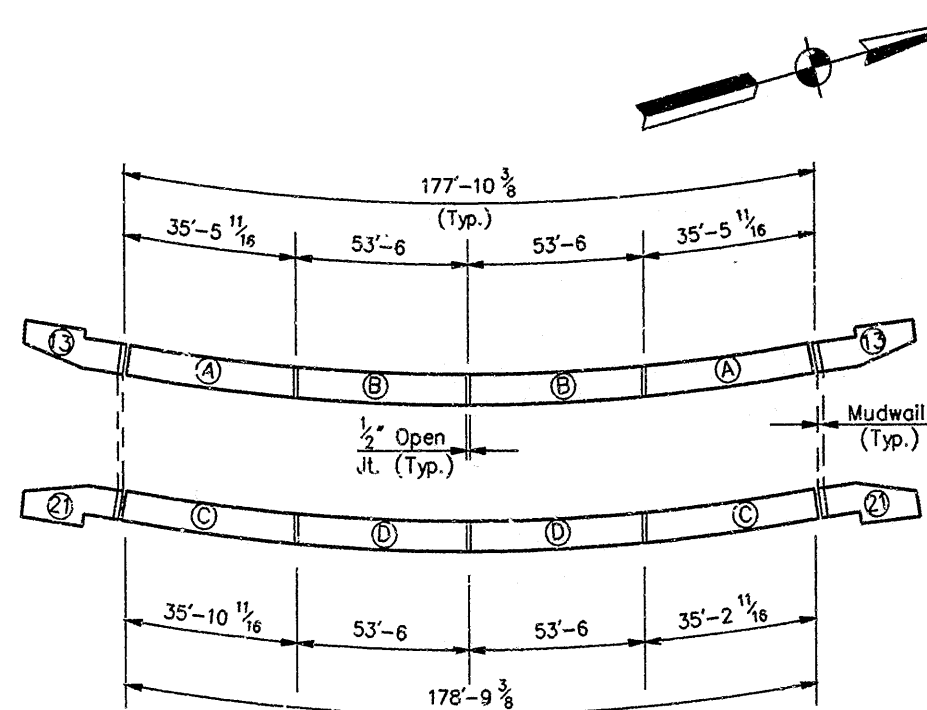
- For Details & Bill of Materials for Panel 13 & Panel 21 See Dwg. D29 & D33.

**NOTES:**

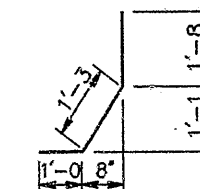
- Existing Reinforcing Steel to Remain in Place shall be Cleaned & Realigned.
  - For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Reinforcing Steel to be Epoxy Coated.
  - Railing to be Constructed on Same Horizontal Curve as Existing Curb.
  - Railing to be Constructed Perpendicular to Superelevation of Deck.
  - Concrete in Barrier Rail to be Class 'C'.
  - Minimum Lap For #4 Bars is 1'-4"
  - For Barrier Rail Transition Details & Bill of Materials: Panel 13 See Dwg. D29. Panel 21 See Dwg. D33.
  - For Details & Bill of Materials for East Railing (Panels C & D), See Dwg. D16.
- ▨ Limits Of Concrete Removal, Include in "Removal of Present Structure (Portions)."



**SECTION K-K**  
Scale: 3/4" = 1'-0"



**PLAN**  
No Scale  
(STRUCTURE-5473)



595x3'-11  
**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5473**

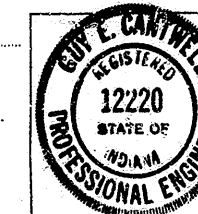
**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE COUNTY**

SCALE:- As Noted

DATE:- 2-27

1990

*Ray E. Cantwell*



DRAWING: D15 OF 41 SHEET: 19 OF 57  
PROJECT: IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: J-465-136-5473B

REVISED 4/23/91 NOTES

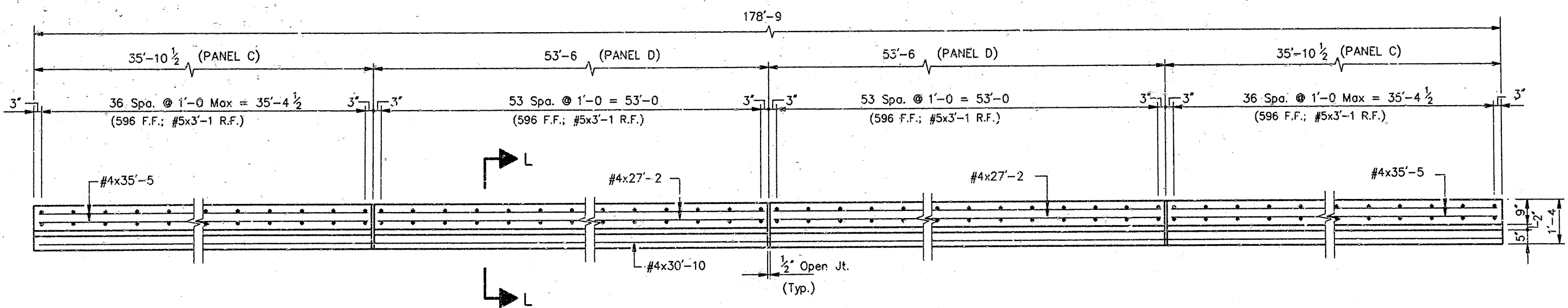
LAST UPDATE: 2/15/1990 DWG. 5473-0000-5000-0 1'-0  
TIME: 8:57:16

V. NO. FILE: 5473-000

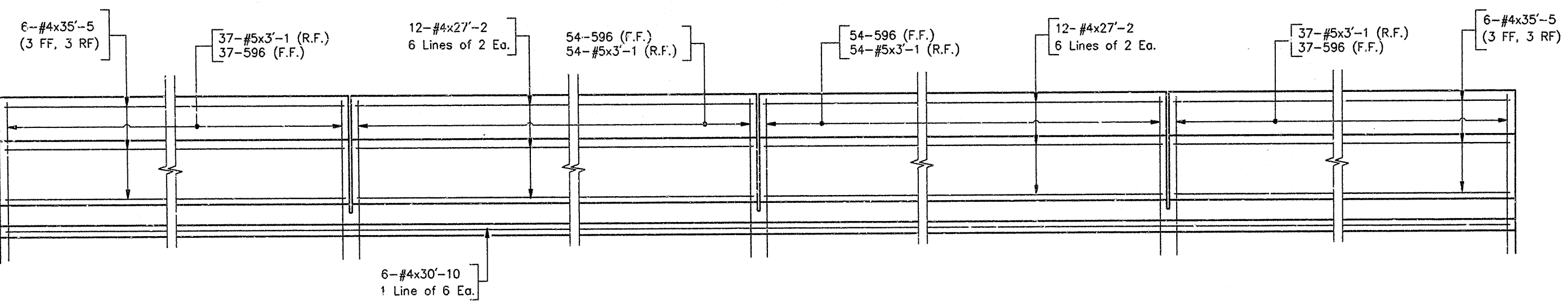
DESIGNED: DJJ	C.K'D: PEB
DRAWN: DJJ	C.K'D: PEB
TRACED: DJJ	C.K'D: PEB

LAST UPDATE: 2/20/1990 DWG. SCALE: 0.5000 = 1'-0"  
 TIME: 13:39:40

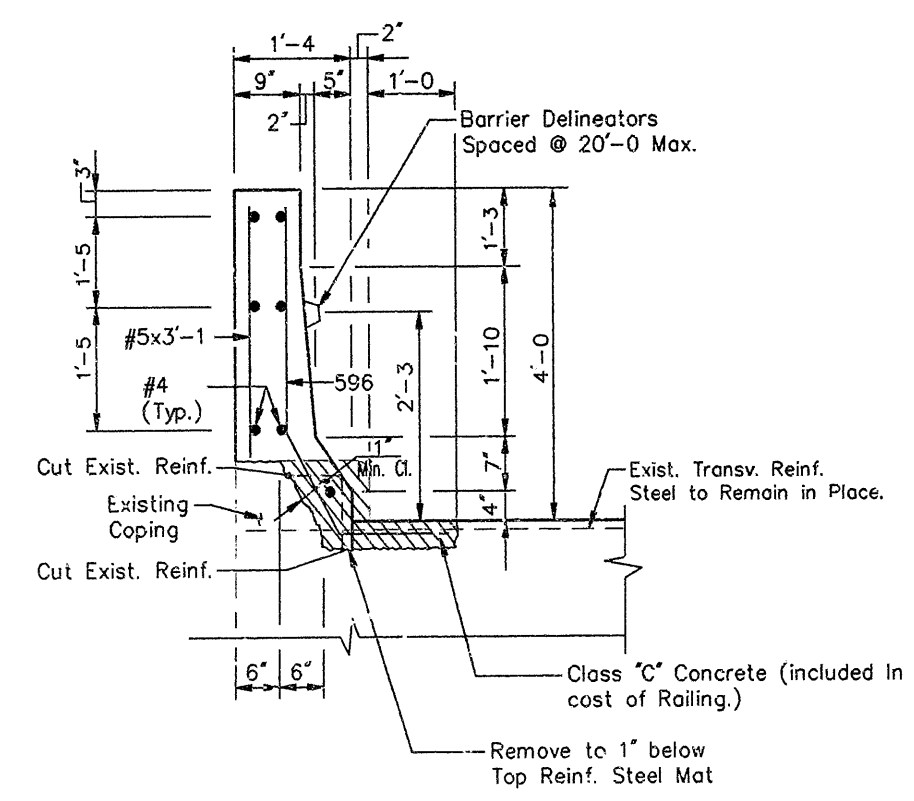
DWG. FILE: 5473RA12  
 OPERATOR: cpm



**EAST RAILING PLAN**  
 (STRUCTURE-5473B)  
 Scale: 1/2" = 1'-0"



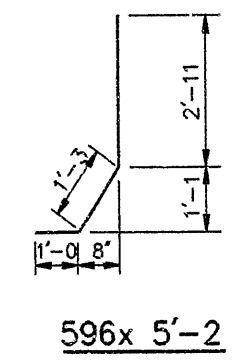
**EAST RAILING ELEVATION**  
 (STRUCTURE-5473B)  
 Scale: 1/2" = 1'-0"



**SECTION L-L**  
 Scale: 3/4" = 1'-0"

**BILL OF MATERIALS**

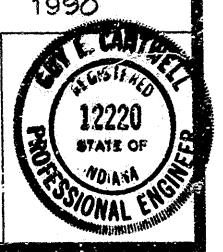
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
596	182	5'-2"	
#5	182	3'-1"	
TOTAL #5 BARS			1566
#4	12	35'-5"	
#4	6	30'-10"	
#4	24	27'-2"	
TOTAL #4 BARS			843
TOTAL EPOXY COATED REINF.			2409
MISCELLANEOUS			
Class "C" Concrete Railing			179 LFt.
Barrier Delineators			10 Ea.



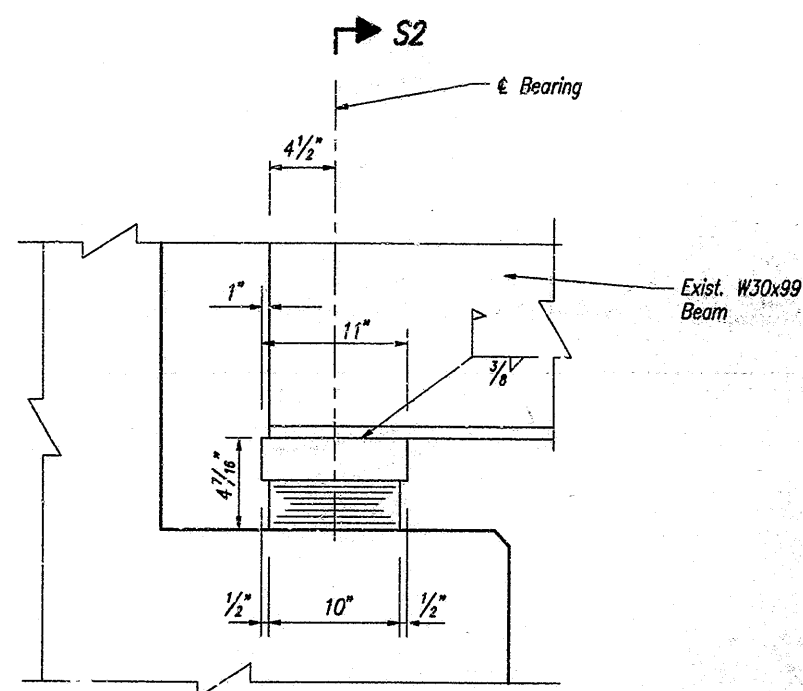
- NOTES:**
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Railing to be Constructed on Same Horizontal Curve as Existing Curb.
  - Railing to be Constructed Perpendicular to Superelevation of Deck.
  - Concrete in Barrier Rail to be Class "C".
  - Minimum Lap For #4 bar is 1'-4".
  - For Barrier Rail Transition Details & Bill of Materials: Panel 21 See Dwg. D33.
  - For Plan of Structure 5473B See Dwg. D15.
- /// Limits Of Concrete Removal. (Include in "Removal of Present Structure (Portions)."

**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5473**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE COUNTY**

SCALE:- As Noted  
 DATE:- 2-27 1990  
*Ray C. Cartmell*  
 DRAWING:- D16 OF 41 SHEET:- 20 OF 57  
 PROJECT:- 1R-465-4( ) STATION:-  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE:- 1-465-136-5473B

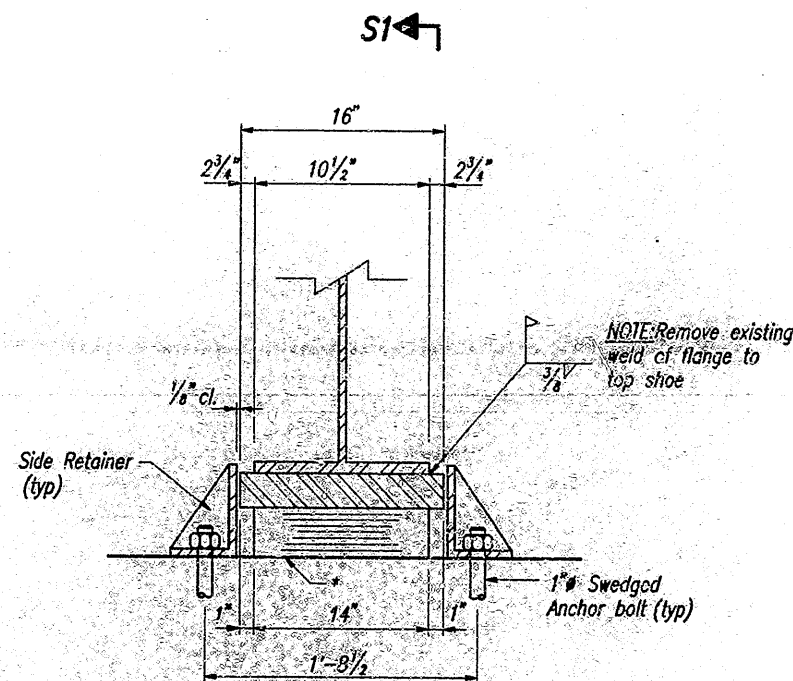


DESIGNED: DJJ	C.K'D.	TWL
DRAWN: DJJ	C.K'D.	TWL
TRACED:	C.K'D.	

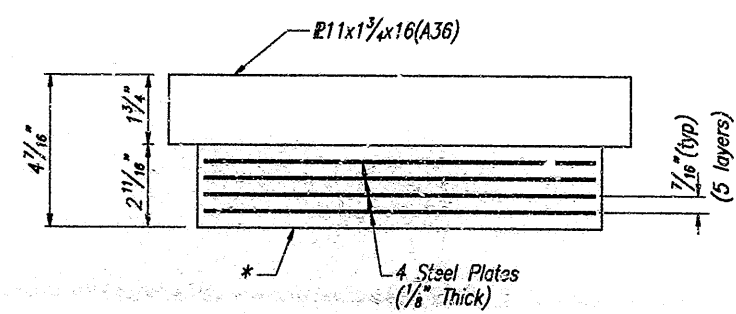


SECTION S1-S2

TYPICAL BEARING ASSEMBLY  
BENTS NO. 1 & 5  
No. Scale

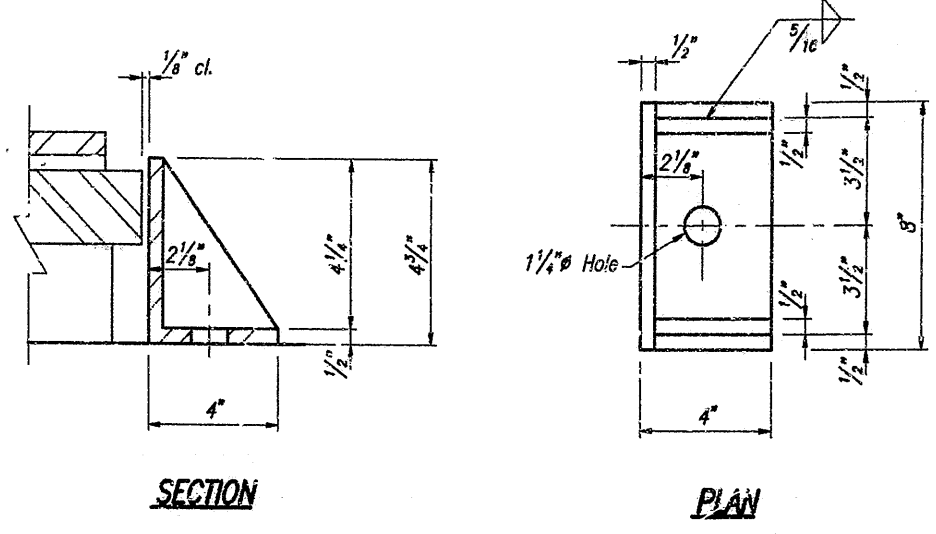


SECTION S2-S2

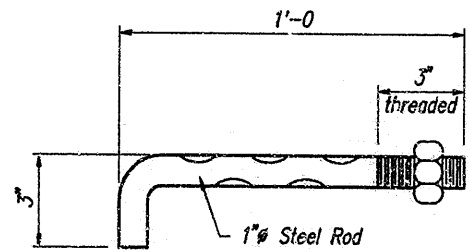


BEARING ASSEMBLY DETAILS-BENT NO. 1 & 5  
Scale: 3"=1'-0"

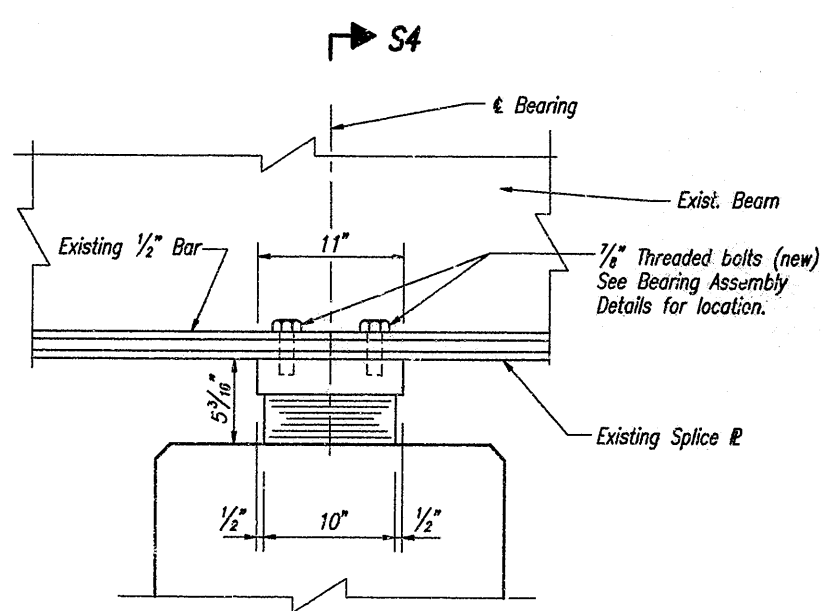
NOTES:  
\* Bearing Pads to be positively attached to bridge seats. (typ.)  
All dimensions of elastomer portions of bearing assemblies shown are for the unloaded condition (non-compressed)



SIDE RETAINER-BENT NO. 1 & 5  
Scale: 3"=1'-0"

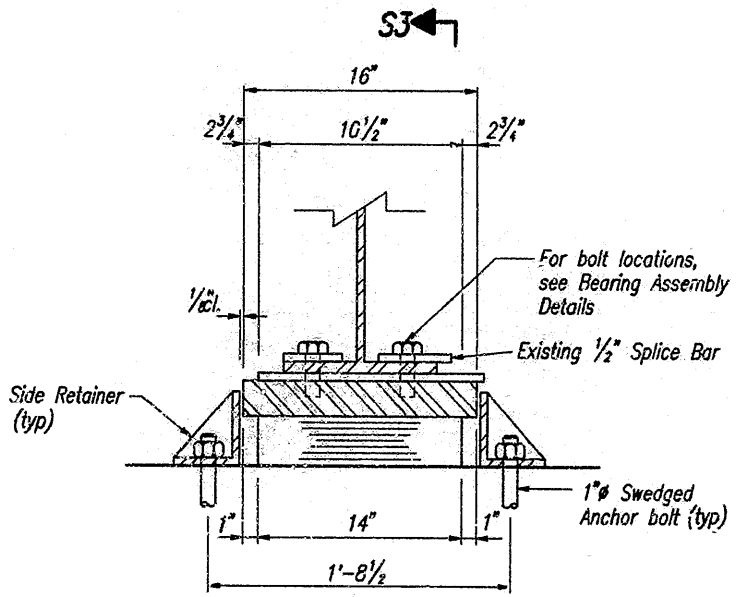


ANCHOR BOLT  
Scale: 3"=1'-0"

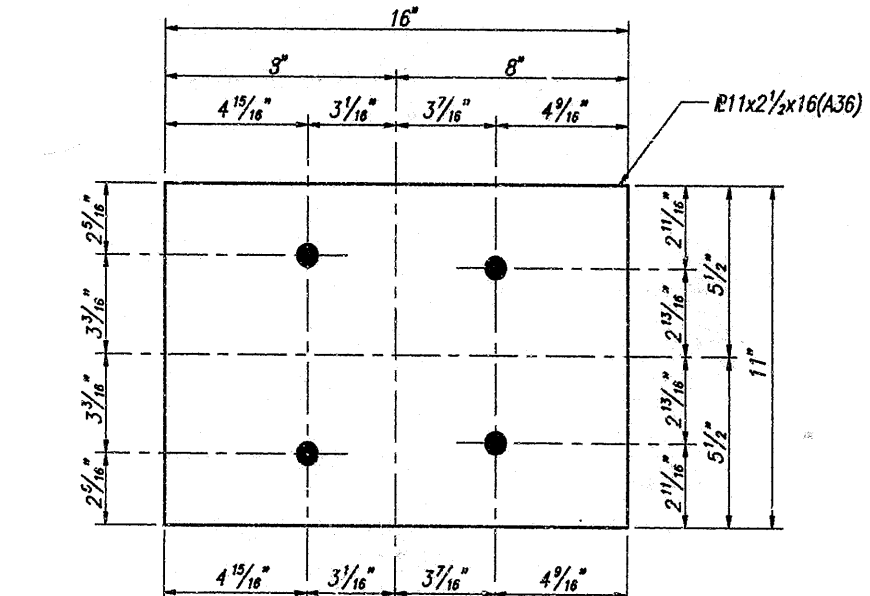


SECTION S3-S3

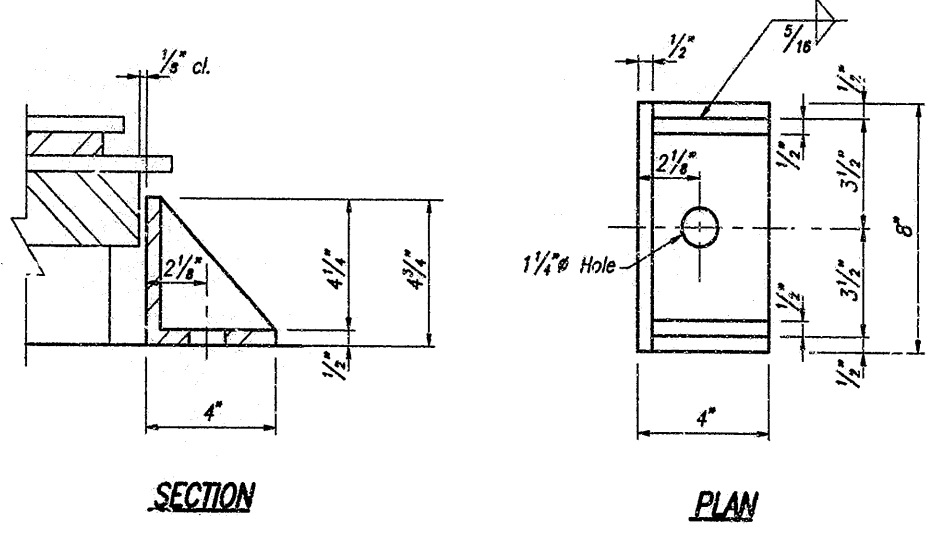
TYPICAL BEARING ASSEMBLY  
PIERS NO. 2 & 4  
Scale: 1 1/2"=1'-0"



SECTION S4-S4



BEARING ASSEMBLY DETAILS-PIER NO. 2 & 4  
Scale: 3"=1'-0"



SIDE RETAINER-PIER NO. 2 & 4  
Scale: 3"=1'-0"

The Pay Item "Bearing Assembly (5473)"-Each is to include furnishing and installing bearing assembly, anchor bolts, side retainers, and threaded bolts. Total Bearing Assemblies required = 20 Each.

BEARING ASSEMBLY DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION  
BOONE COUNTY

SCALE: AS NOTED

DATE: 4-23-91

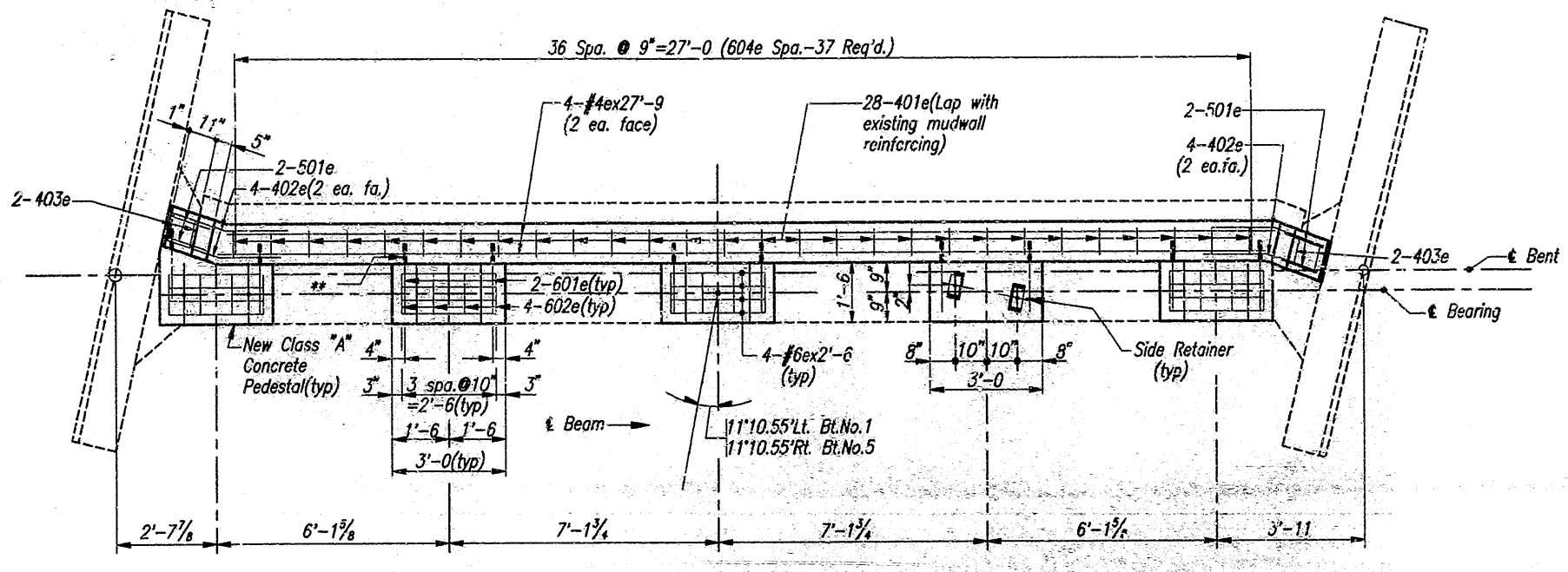
*Jerry D. Ritchie*

DRAWING: D16A OF 41 SHEET: 20A OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-136-5473B

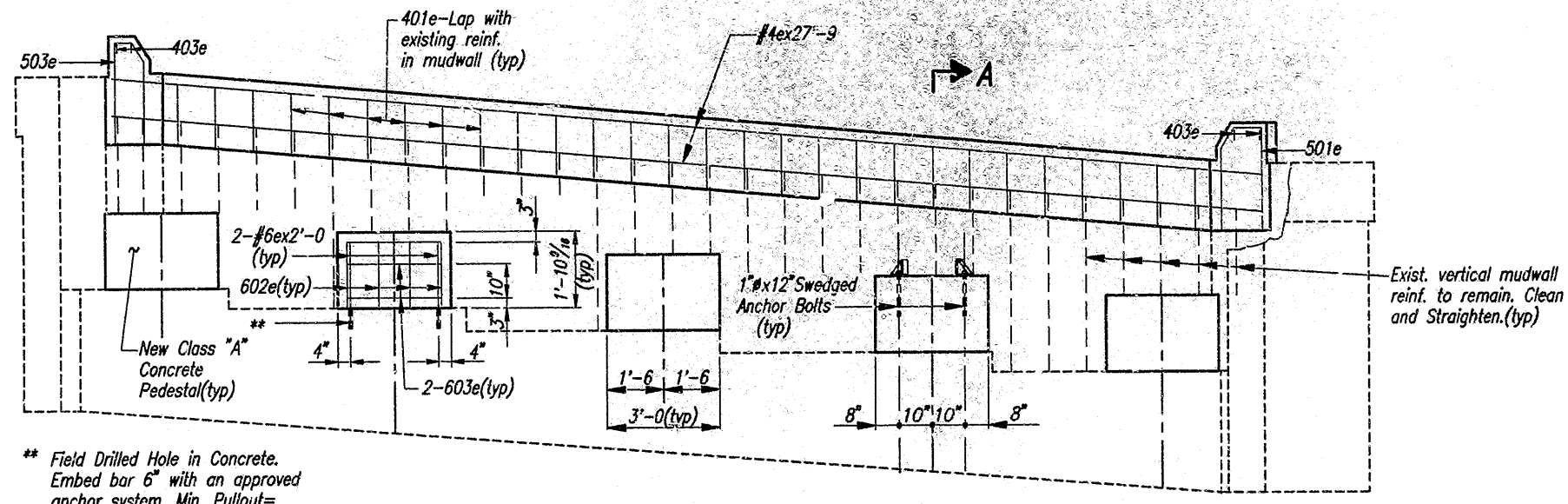


DESIGNED BY	J.D.R.	CHECKED BY	R.C.M.
DRAWN BY	W.L.V.	CHECKED BY	J.D.R.
TRACED BY		CHECKED BY	

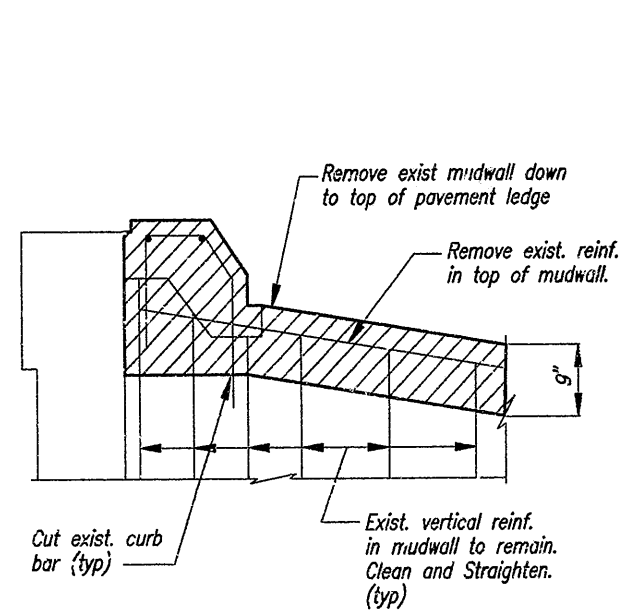




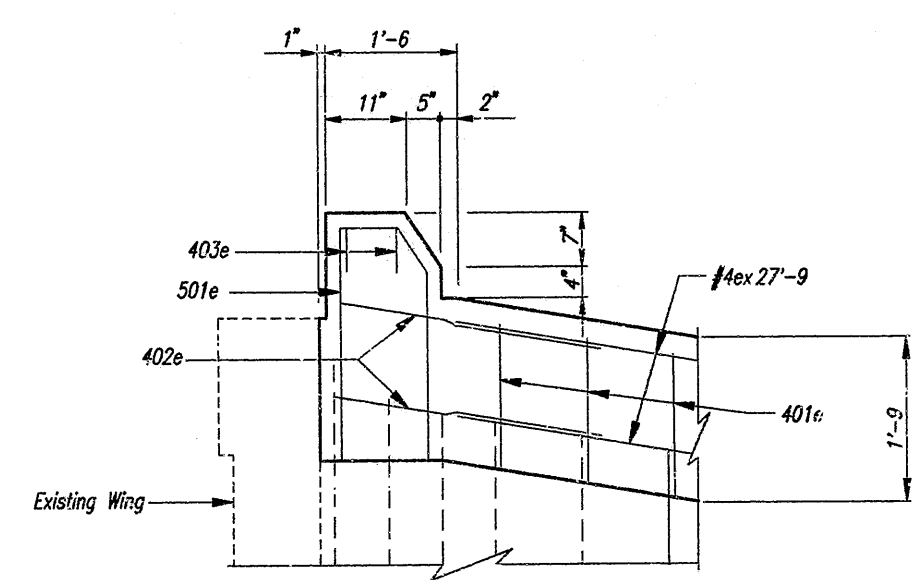
**PLAN**  
Scale: 1/8" = 1'-0"



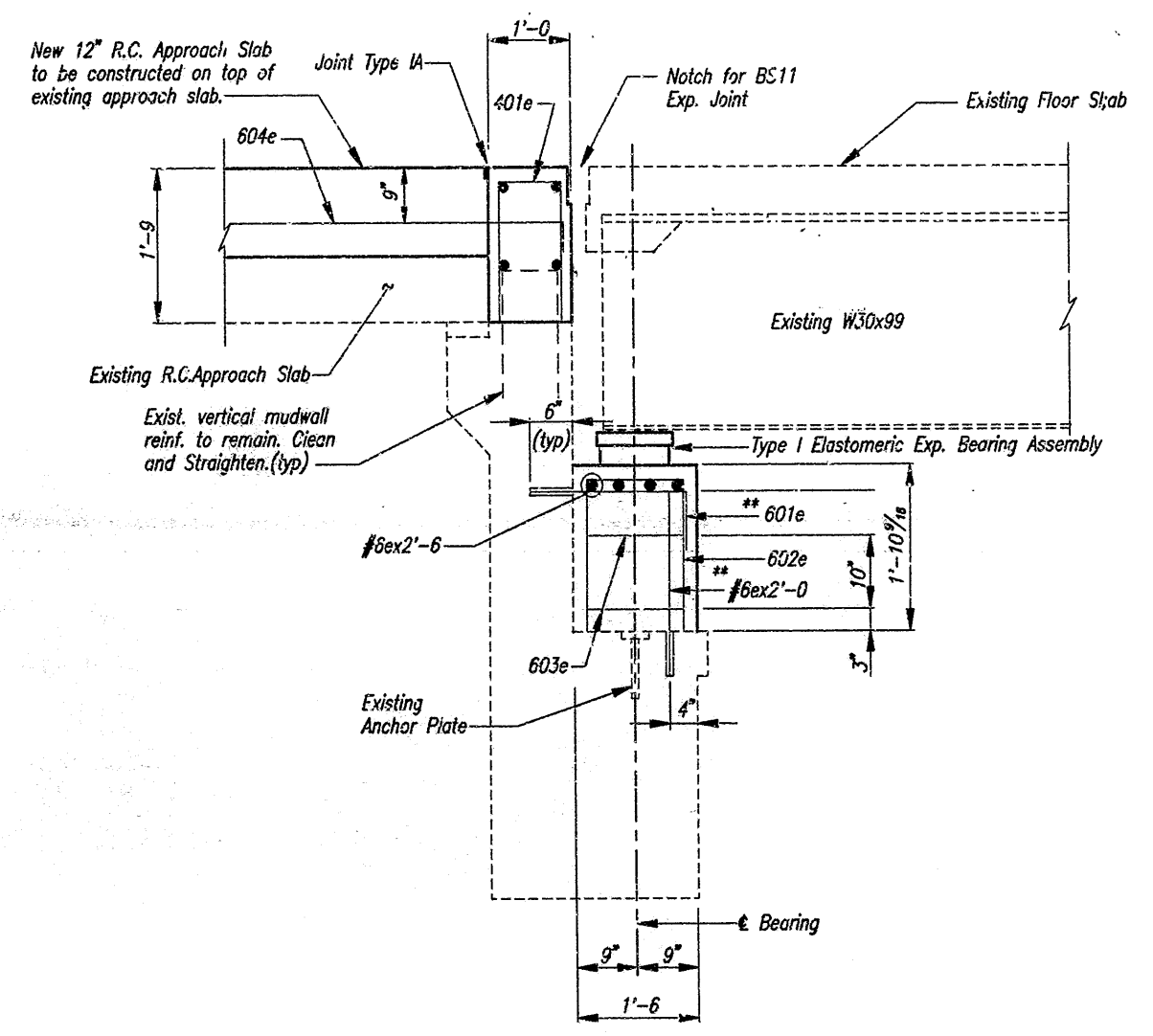
**ELEVATION**  
Scale: 1/8" = 1'-0"



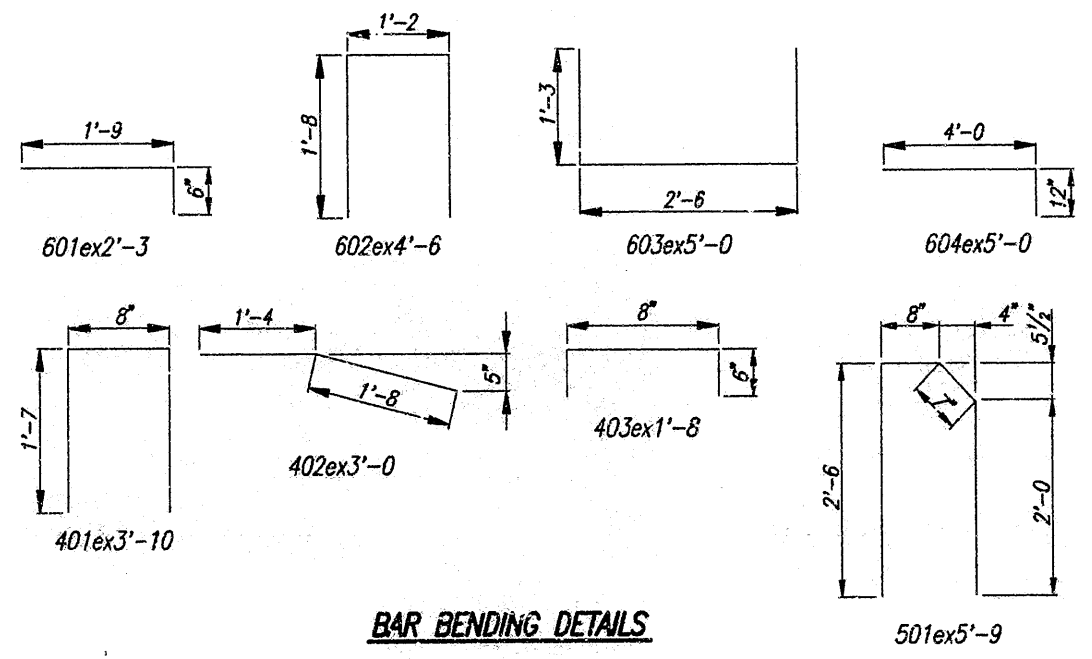
**TYPICAL REMOVAL DETAIL**  
Scale: 1/4" = 1'-0"



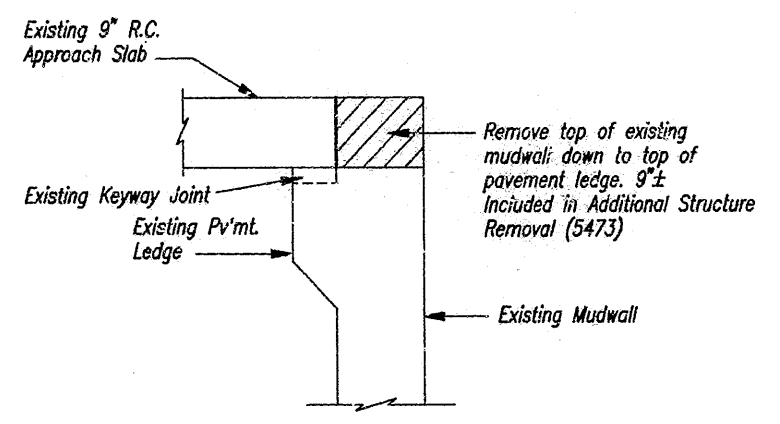
**TYPICAL CURB CONSTRUCTION DETAIL**  
Scale: 1/4" = 1'-0"



**SECTION "A-A"**  
Scale: 3/4" = 1'-0"



**BAR BENDING DETAILS**



**MUDWALL REMOVAL SECTION**  
Scale: 3/4" = 1'-0"

BILL OF MATERIALS BENT NO.1 SHOWN (BENT NO.5 SAME)			
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
601e	10	2'-3	
602e	20	4'-6	
603e	10	5'-0	
604e	37	5'-0	
#6e	20	2'-6	
#6e	10	2'-0	
Total #6e			627 lbs.
501e	4	5'-9	
Total #5e			24 lbs.
401e	28	3'-10	
402e	8	3'-0	
403e	4	1'-8	
#4e	4	27'-9	
Total #4e			166 lbs.
Total Epoxy Coated Reinforcing 817 lbs.			
CONCRETE CLASS "A" IN SUBSTRUCTURE			
5 Pedestals @ 0.3 cys=			1.5 cys.
Mudwall			2.1 cys.
Total Class "A" in Substructure			3.6 cys.
MISCELLANEOUS			
Field Drilled Holes in Concrete			20 ea.
Surface Seal			110 Sft.

**NOTE:**  
Bent No.1 Shown—Bent No.5 Same but Opposite Hand.

For reinforcing bar notes, see Bridge Std.C1  
For Expansion Joint Type BS11, see Bridge Std.C3  
For Bearing Assembly and Anchor Bolt Details, see Dwg.20A  
Surface Seal top of Mudwall and all Faces of Pedestals.

**BENT NO.1 AND BENT NO.5 DETAILS**  
**INDIANA DEPARTMENT OF TRANSPORTATION**  
BOONE COUNTY

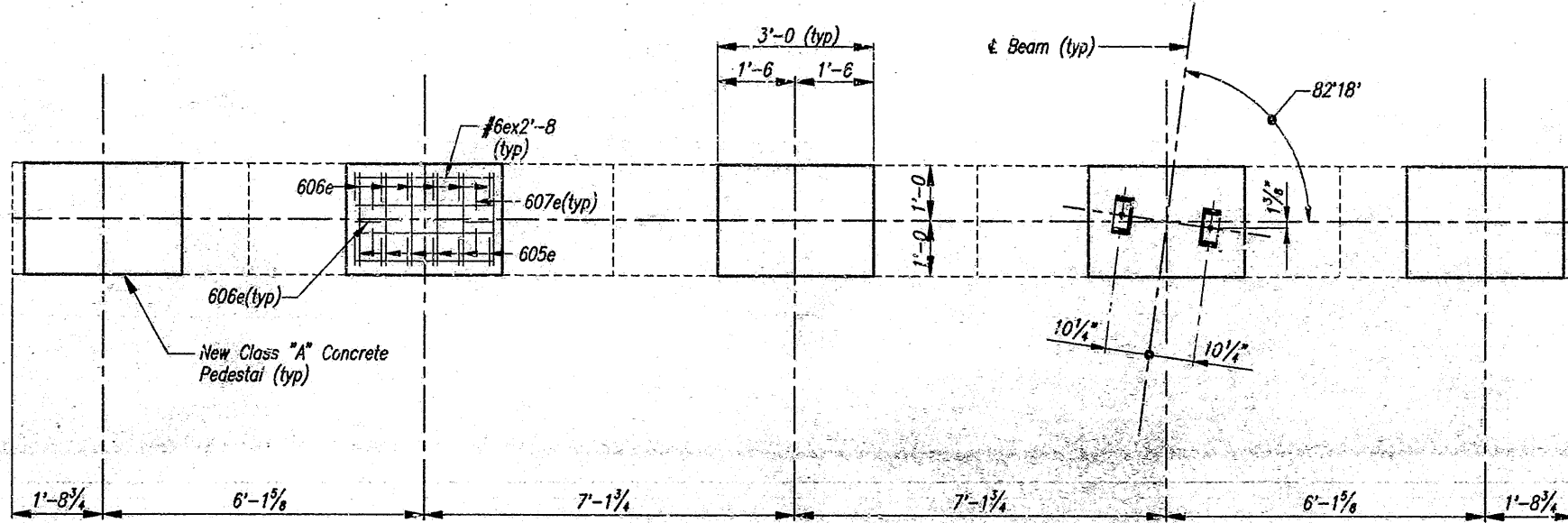
SCALE: As Noted DATE: 4-23-91

DRAWING: D16B OF 41 SHEET: 20B OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-136-5473B

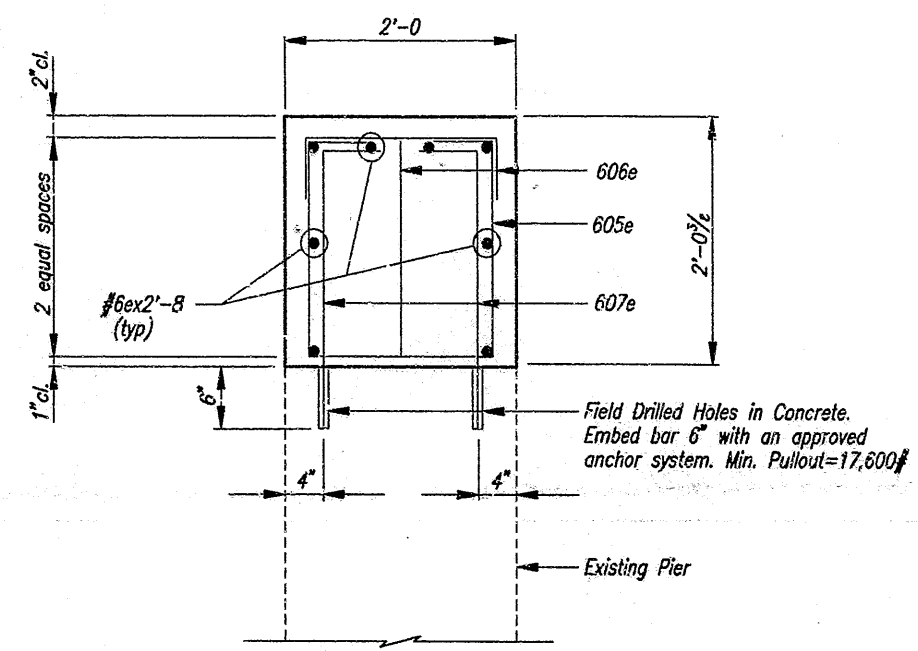
*Jerry D. Ritchie*



DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.L.V.	CHKD	J.D.R.
IN CHARGE			



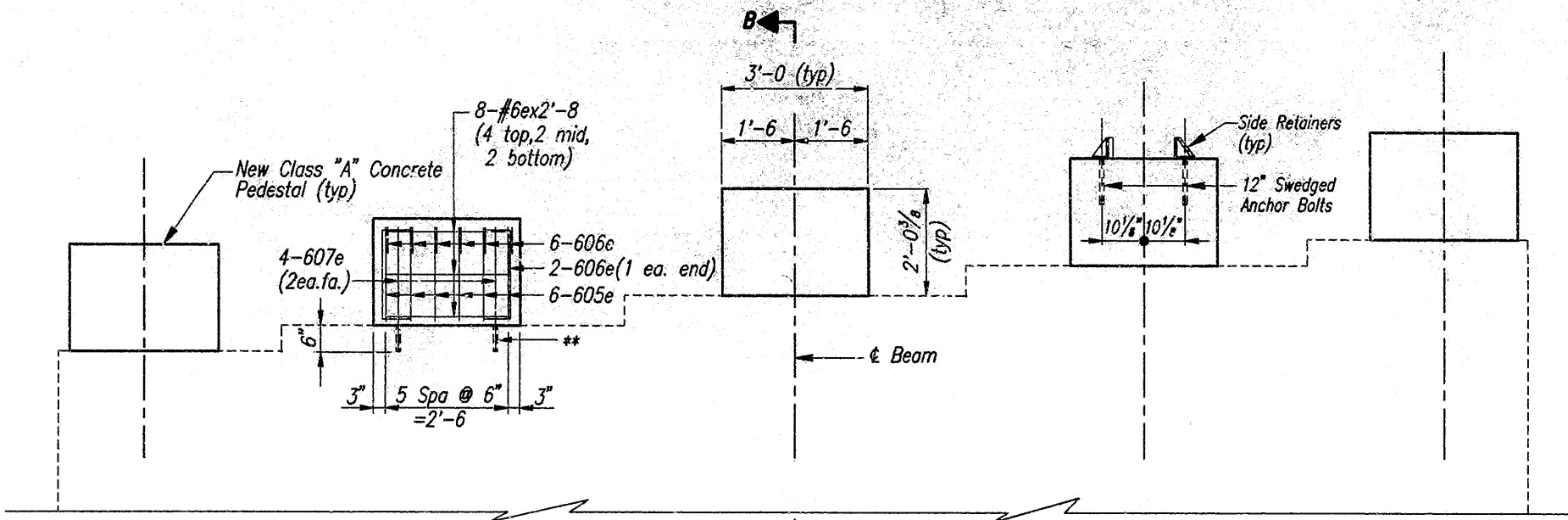
**PLAN**  
Scale: 1/2" = 1'-0"



**SECTION "B-B"**  
Scale: 3/4" = 1'-0"

**BILL OF MATERIALS  
PIER NO. 2 SHOWN  
(PIER NO. 4 SAME)**

EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
605e	30	30'-2	
606e	40	2'-40	
607e	20	2'-9	
#6	40	2'-40	
Total #6e			681 lbs.
Total Epoxy Coated Reinforcing			681 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
5 Pedestals @ 0.5 cys each =			2.5 cys.
MISCELLANEOUS			
Field Drilled Holes in Concrete			20 ea.
Surface Seal			158 Sft.

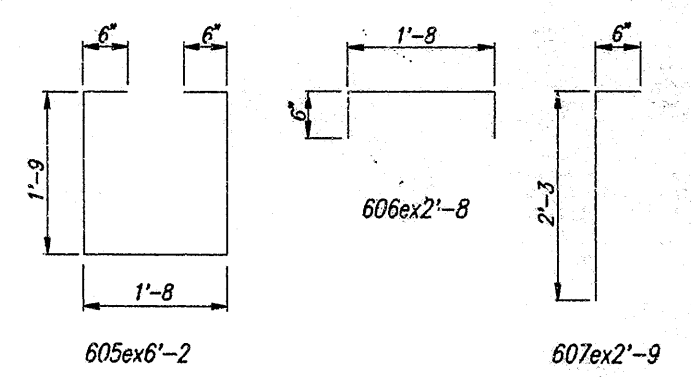


**ELEVATION**  
Scale: 1/2" = 1'-0"

**CONSTRUCTION PROCEDURE**

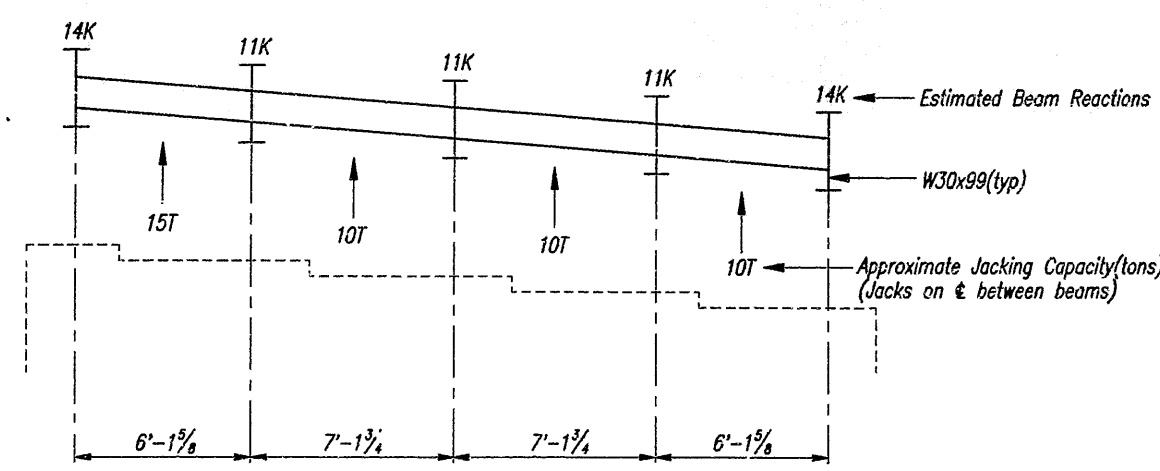
1. Close structure to traffic.
2. Install jacks and all equipment necessary to raise structure 12".
3. Raise structure while maintaining equal ( $\pm 1/4$ ") jacking height at each support.
4. Construct Pier Pedestals.
5. Install Bearing Pads and Fixed Shoes.
6. Construct all approach items.
7. Install BS Joint Seals.
8. Open Structure to traffic.

**NOTE:** The pay item "JACKING AND SUPPORTING BEAMS (5473)"-LUMP SUM is to include preparing jacking plans and all materials and equipment necessary to jack the structure and place it on the new bearing pads, and to reset the fixed bearings.



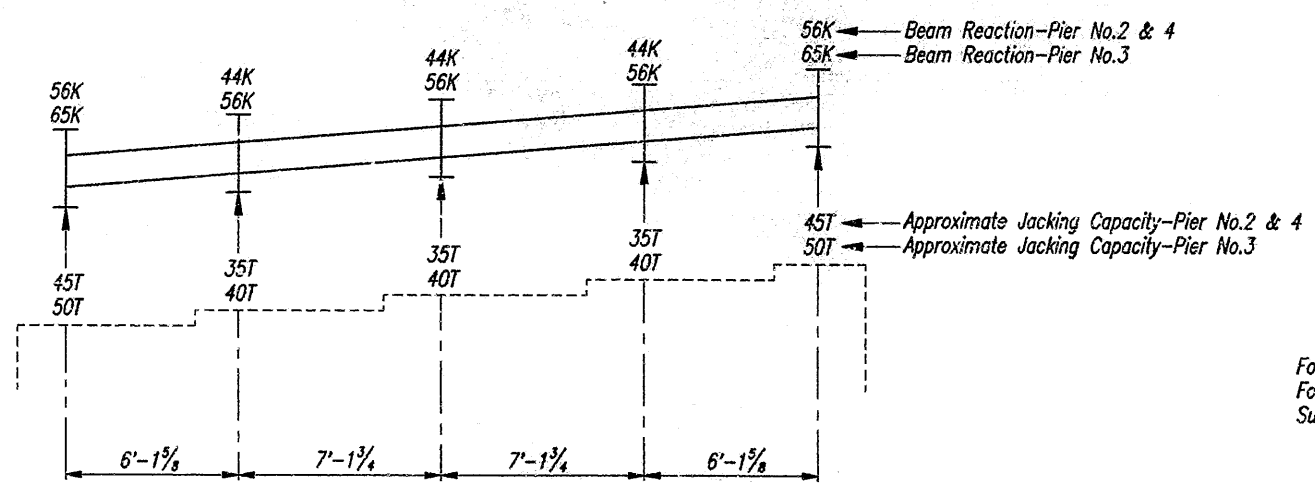
**BAR BENDING DETAILS**  
No Scale

**NOTE:**  
Pier No. 2 Shown - Pier No. 4 Same



**JACKING SCHEME - BENT NO. 1 AND NO. 5**  
No Scale

**NOTE:** Contractor may propose different Jacking Scheme from that shown above.



**TYPICAL SECTION AT PIERS NO. 2, 3 AND 4**  
No Scale

**INTERIOR PIER JACKING**  
The contractor shall determine a proposed jacking plan and submit details signed by a registered professional engineer. Existing diaphragms may NOT be used for jacking.

For reinforcing bar notes, see Bridge Std. C1.  
For Bearing Assembly and Anchor Bolt Details, See Dwg. 20A  
Surface Seal all faces of Pedestals.

**PIER NO. 2 AND NO. 4 DETAILS**  
**INDIANA DEPARTMENT OF TRANSPORTATION**

SCALE: As Noted

BOONE COUNTY  
DATE: 4-23-91

Jerry D. Ritchie

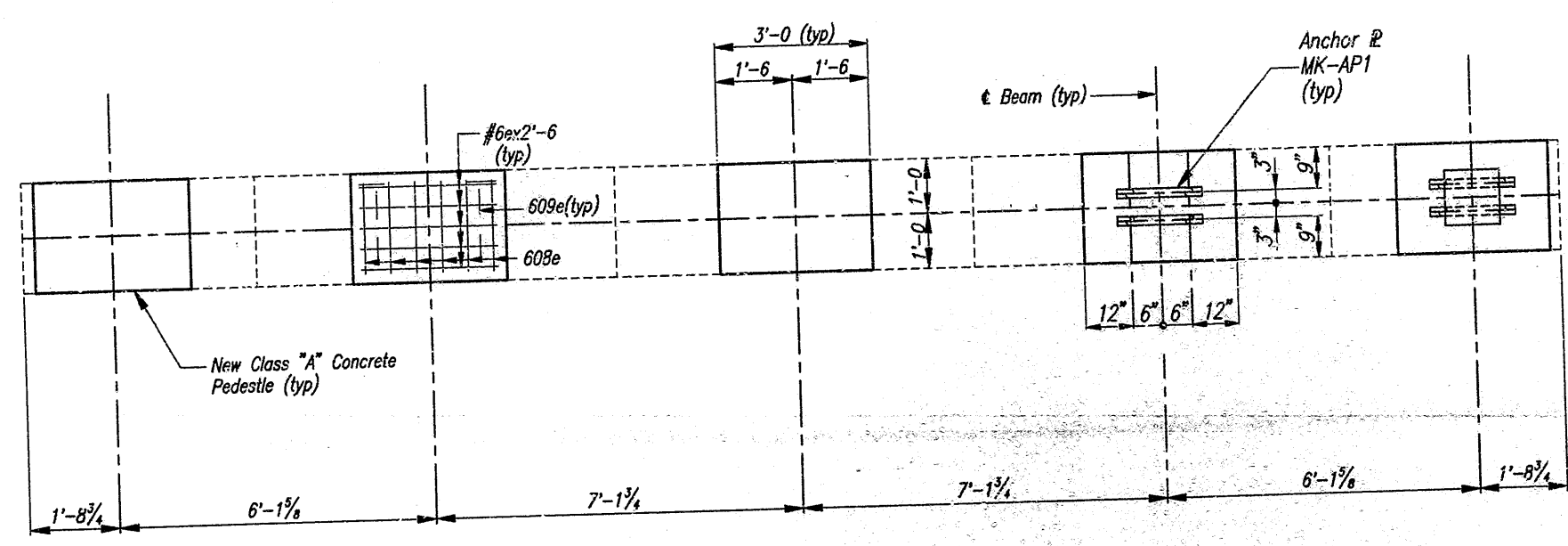
DRAWING: D16C OF 41 SHEET: 20C OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-136-5473B



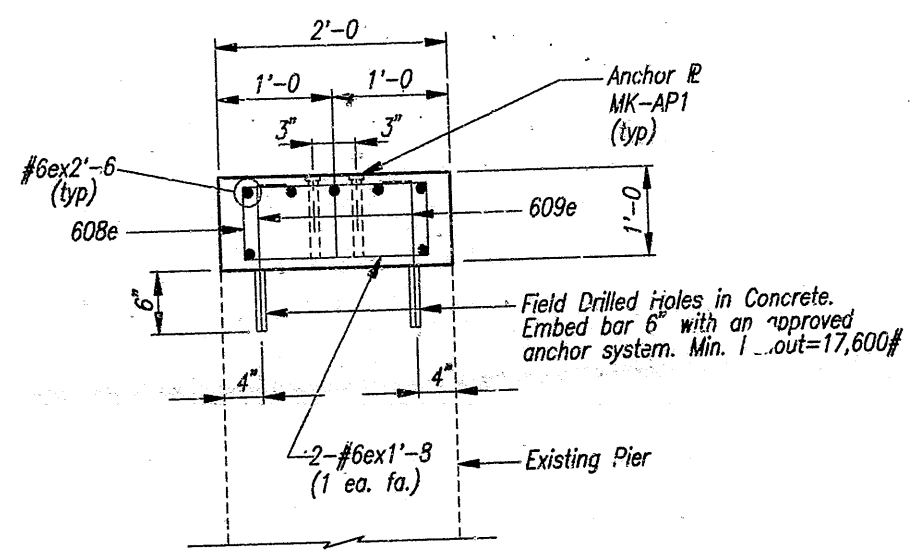
DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.L.V.	CHECKED	J.D.R.
TRACED		CHECKED	

**BILL OF MATERIALS  
PIER NO.3**

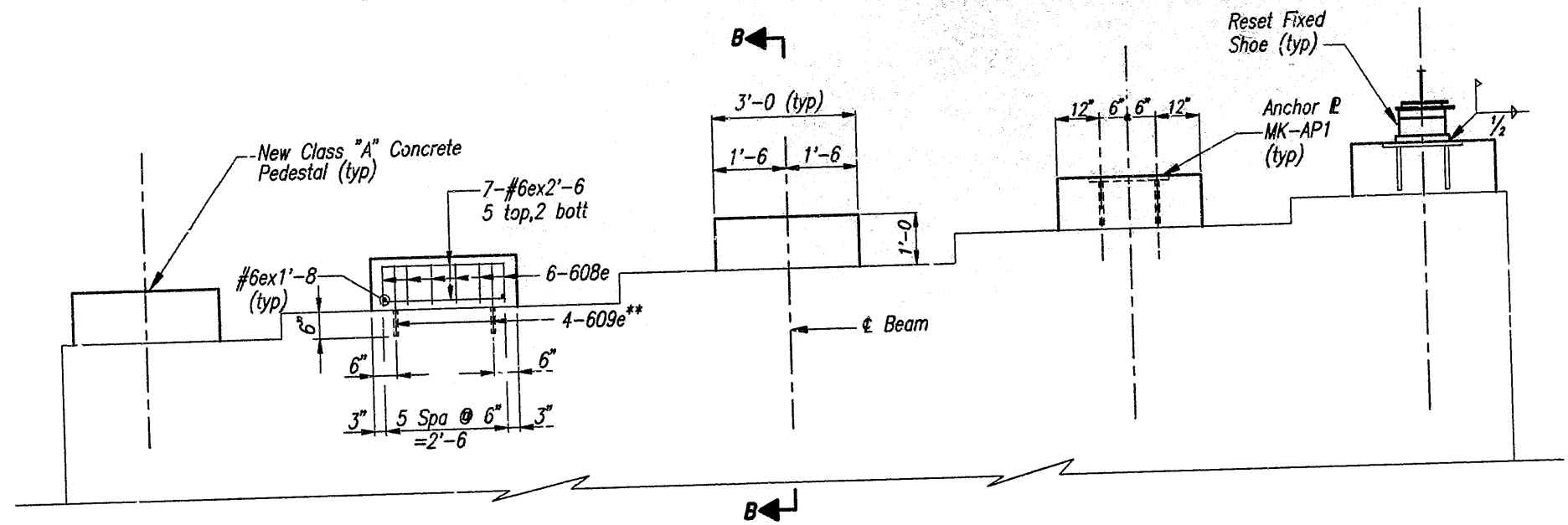
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
608e	30	3'-0"	
609e	20	1'-9"	
#6e	35	2'-6"	
#6e	10	1'-8"	
Total #6e			344 lbs.
Total Epoxy Coated Reinforcing			344 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
5 Pedestals @ 0.22 cys each=			1.1 cys.
MISCELLANEOUS			
Field Drilled Holes in Concrete			20 ea.
Anchor Plate MK-AP1			10 ea.
Surface Seal			96 Sft.



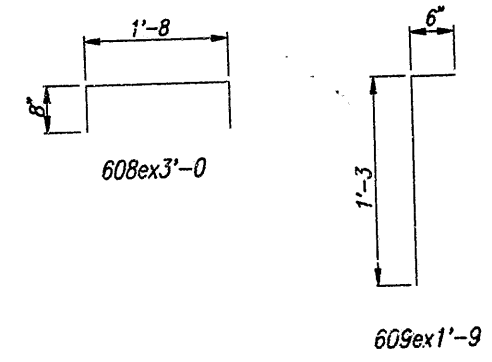
**PLAN**  
Scale: 1/2" = 1'-0"



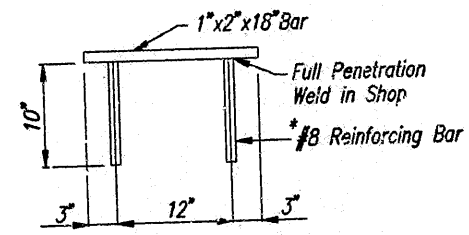
**SECTION "B-B"**  
Scale: 3/4" = 1'-0"



**ELEVATION**  
Scale: 1/2" = 1'-0"



**BAR BENDING DETAILS**  
No Scale



\* As an alternate, a 7/8"x8" long headed Automatic welded stud may be used.  
NOTE: Setting tolerance of anchor plate to be level with, to not more than 1/16" below top of concrete.

**ANCHOR PLATE DETAILS**  
No Scale

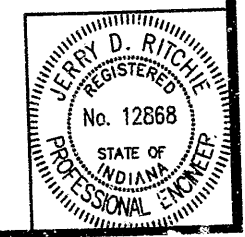
For reinforcing bar notes, see Bridge Std.C1.  
Surface Seal all faces of Pedestals.

**PIER NO.3 DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION**

SCALE: As Noted

BOONE COUNTY  
DATE: 4-23-91  
*Jerry D. Ritchie*

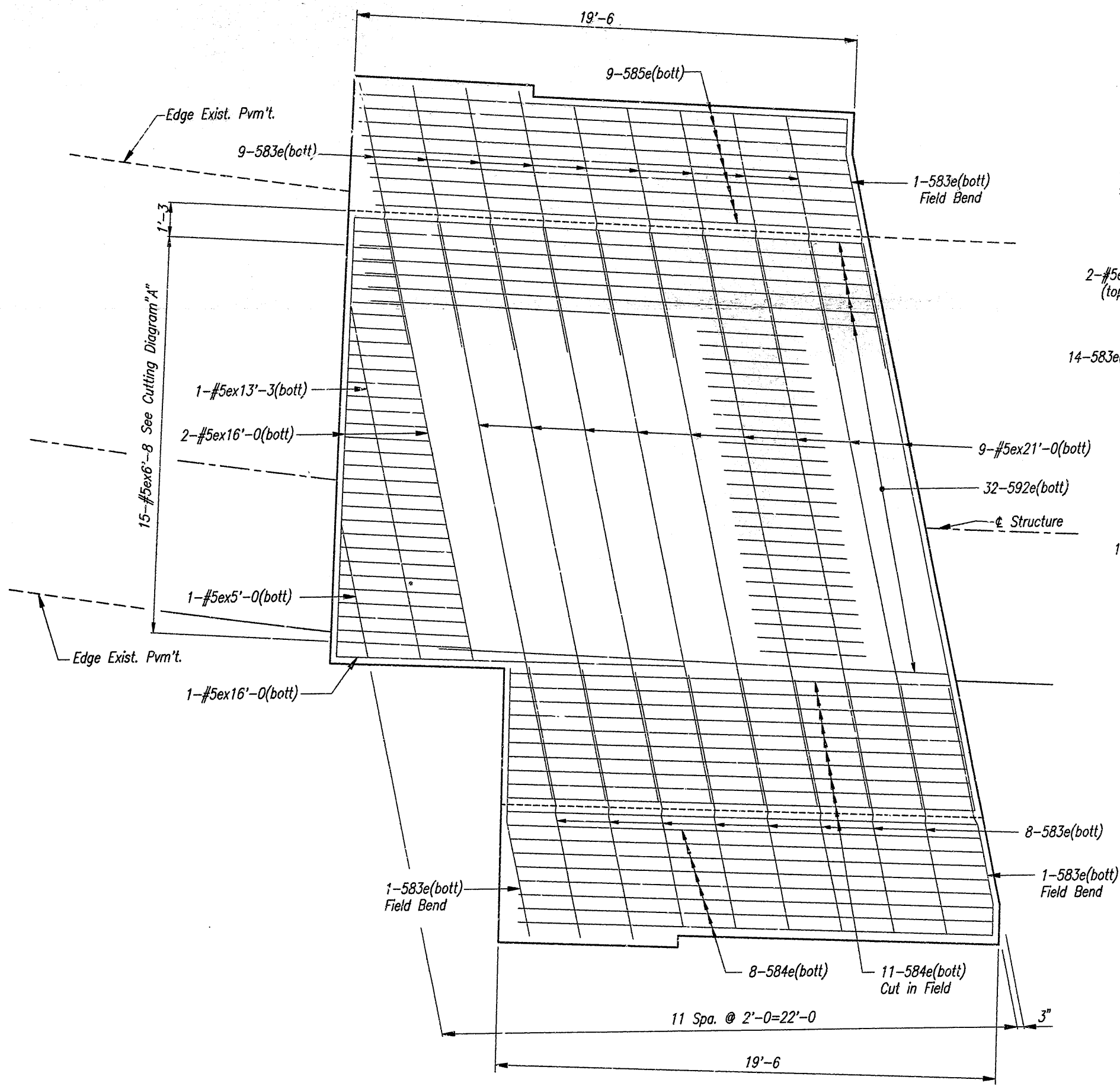
DRAWING: D16D OF 41 SHEET: 20D OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-136-5473B



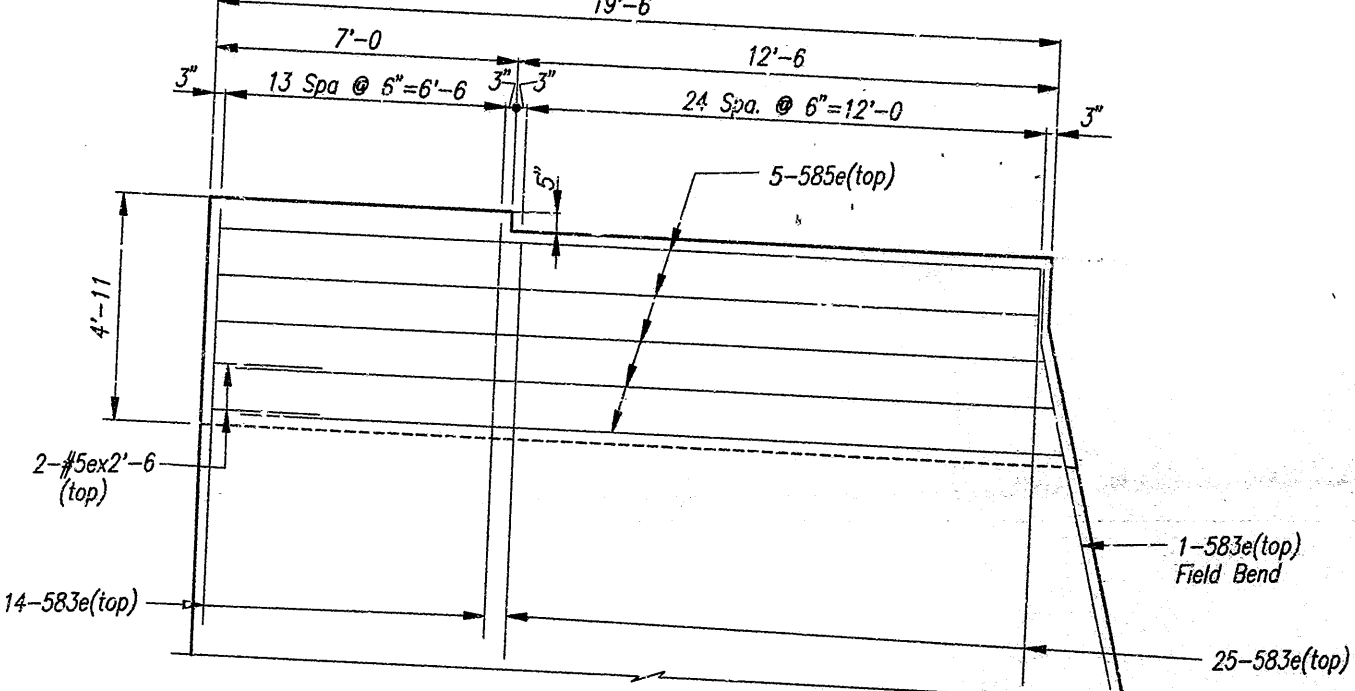
DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.L.V.	CHECKED	J.D.R.
TRACED		CHECKED	



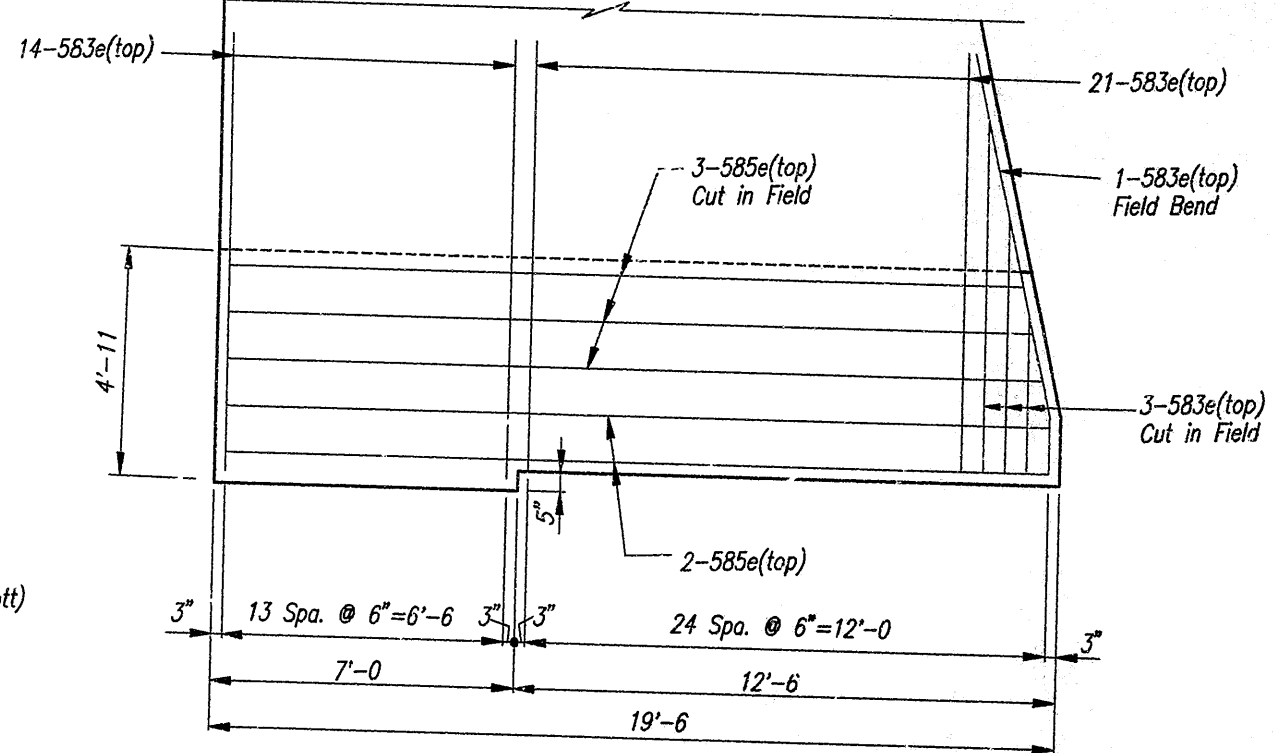
BILL OF MATERIALS			
R.C. APPROACH SLAB			
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
583e	99	6'-7"	
584e	19	19'-1"	
585e	19	19'-7"	
592e	32	20'-5"	
#5e	9	21'-0"	
#5e	3	16'-0"	
#5e	1	13'-3"	
#5e	15	6'-8"	
#5e	1	5'-0"	
#5e	2	2'-6"	
Total #5e			2,503 lbs.
12" R.C. CONCRETE PAVEMENT			73 sys.



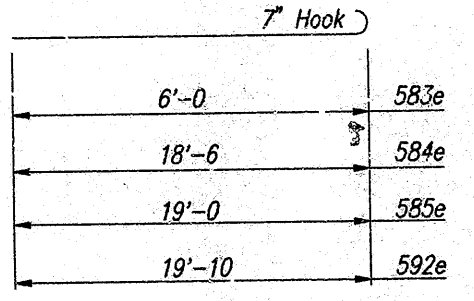
PLAN SHOWING BOTTOM STEEL



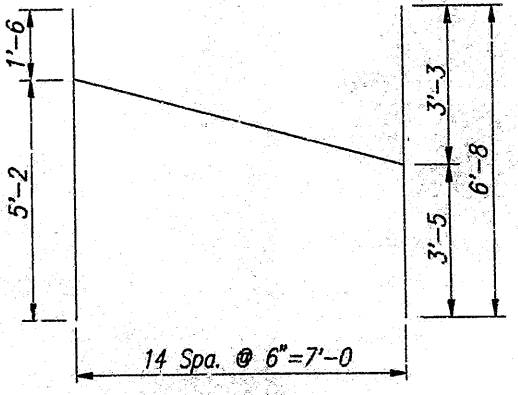
PLAN EXTENSION TOP STEEL



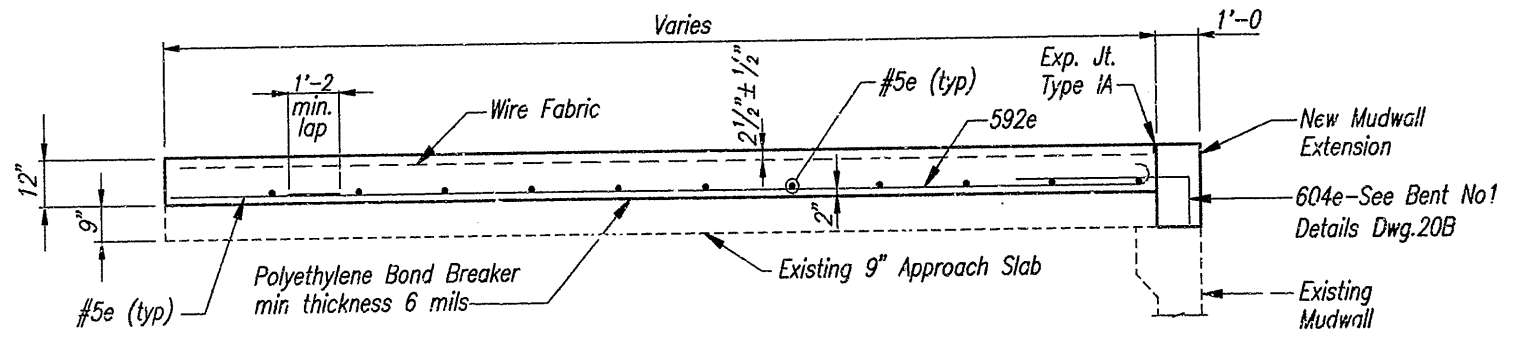
PLAN EXTENSION TOP STEEL



592x20'-5  
584x19'-1 583x6'-7  
585x19'-7



CUTTING DIAGRAM "A"



TYPICAL SECTION

For reinforcing bar notes, see Bridge Std.C1  
For Barrier Rail Transition Details, see Drawings D29 and D33.

The Pay Item "Additional Structure Removal (5473)", Lump Sum shall include Removal of Top Portion of Mudwall and Barrier Rail Transitions.

NOTE: APPROACH SLAB AT BENT NO.1 SHOWN-APPROACH SLAB AT BENT NO.5 SAME, BUT OPPOSITE HAND

APPROACH SLAB DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: 3/8"=1'-0"

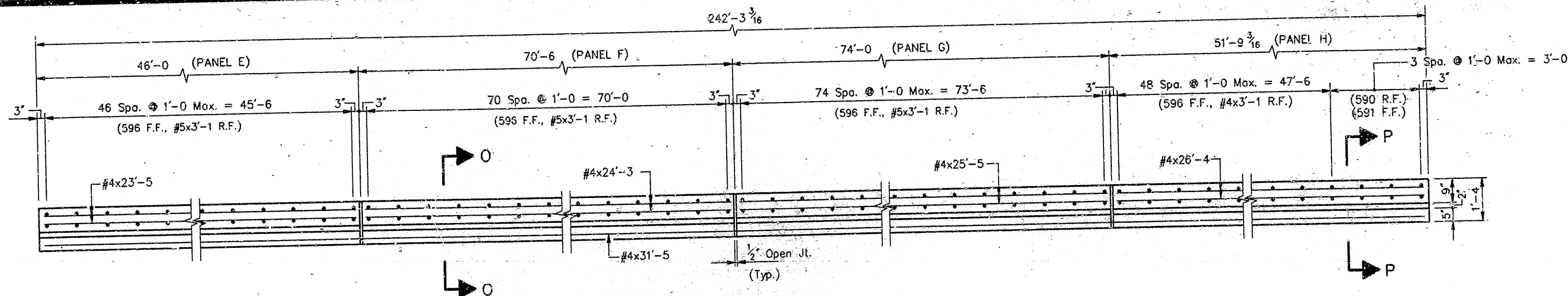
DATE: 4-23-91  
Jerry D. Ritchie

DRAWING: D16E OF 41 SHEET: 20E OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-136-5473B



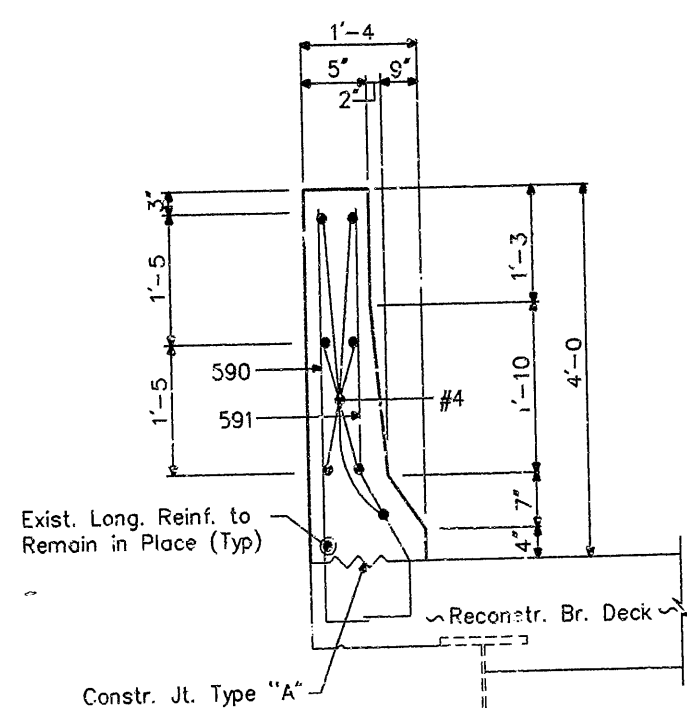
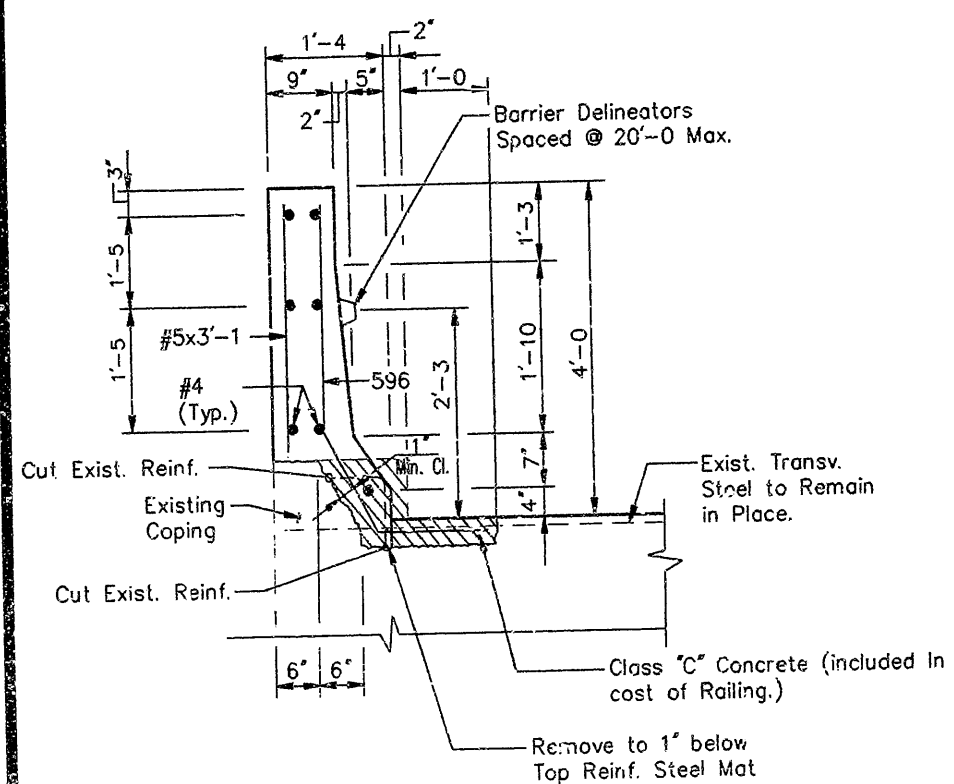
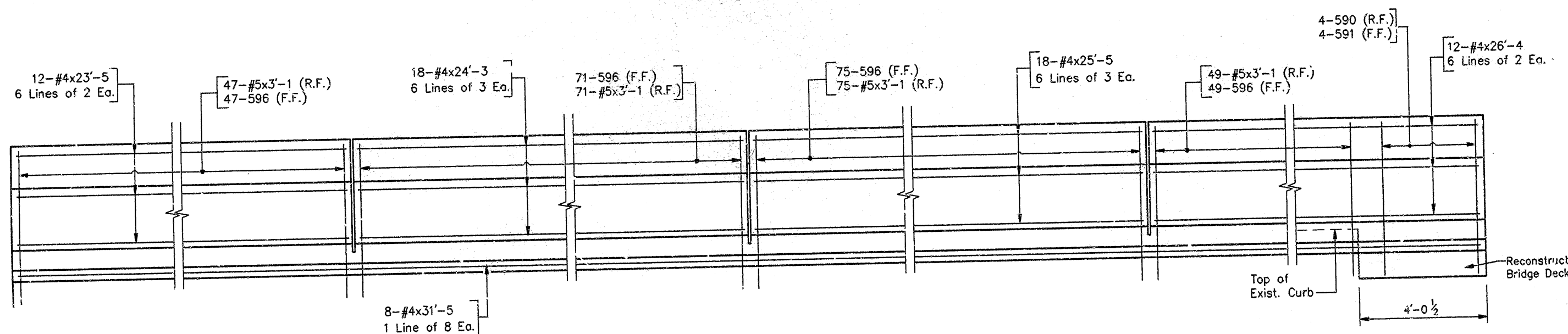
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DRAWN	W.L.V.	CHECKED	J.D.R.
TRACED		CHECKED	





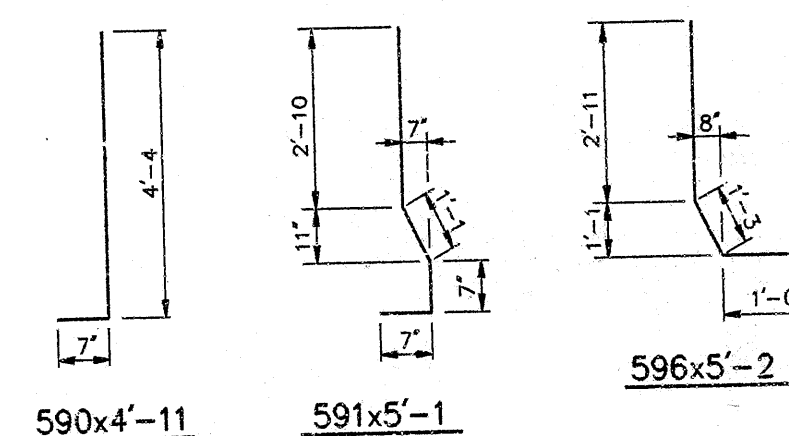
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
590	4	4'-11"	
591	4	5'-1"	
596	242	5'-2"	
#5	242	3'-1"	
TOTAL #5 BARS			2124
#4	8	31'-5"	
#4	12	25'-4"	
#4	18	25'-5"	
#4	18	24'-3"	
#4	12	23'-5"	
TOTAL #4 BARS			1164
TOTAL EPOXY COATED REIN.			3288
MISCELLANEOUS			
Class 'C' Concrete Rolling			242 Lft.
Barrier Delineators			.13 Ea.



**NOTES:**

- Existing Reinforcing to Remain in Place shall be Cleaned and Realigned.
  - For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Railing to be Constructed on Same Horizontal Curve as Existing Curb.
  - Railing to be Constructed Perpendicular to Superelevation of Deck.
  - Concrete in Barrier Rail to be Class 'C'.
  - Minimum Lap For #4 bar is 1'-4".
  - For Barrier Rail Transition Details & Bill of Materials for: Panel 14 See Dwg. D29, Panel 15 See Dwg. D30, Panel 22 See Dwg. D33, Panel 23 See Dwg. D34.
- /// Limits Of Concrete Removal. Include in 'Removal of Present Structure (Portions).'



**CONCRETE RAILING DETAILS**  
BRIDGE STRUCTURE -5435B

INDIANA DEPARTMENT OF HIGHWAYS  
BOONE COUNTY

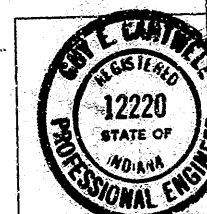
SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Cantwell*

DRAWING: D18 OF 41 SHEET: 22 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-136--5435B

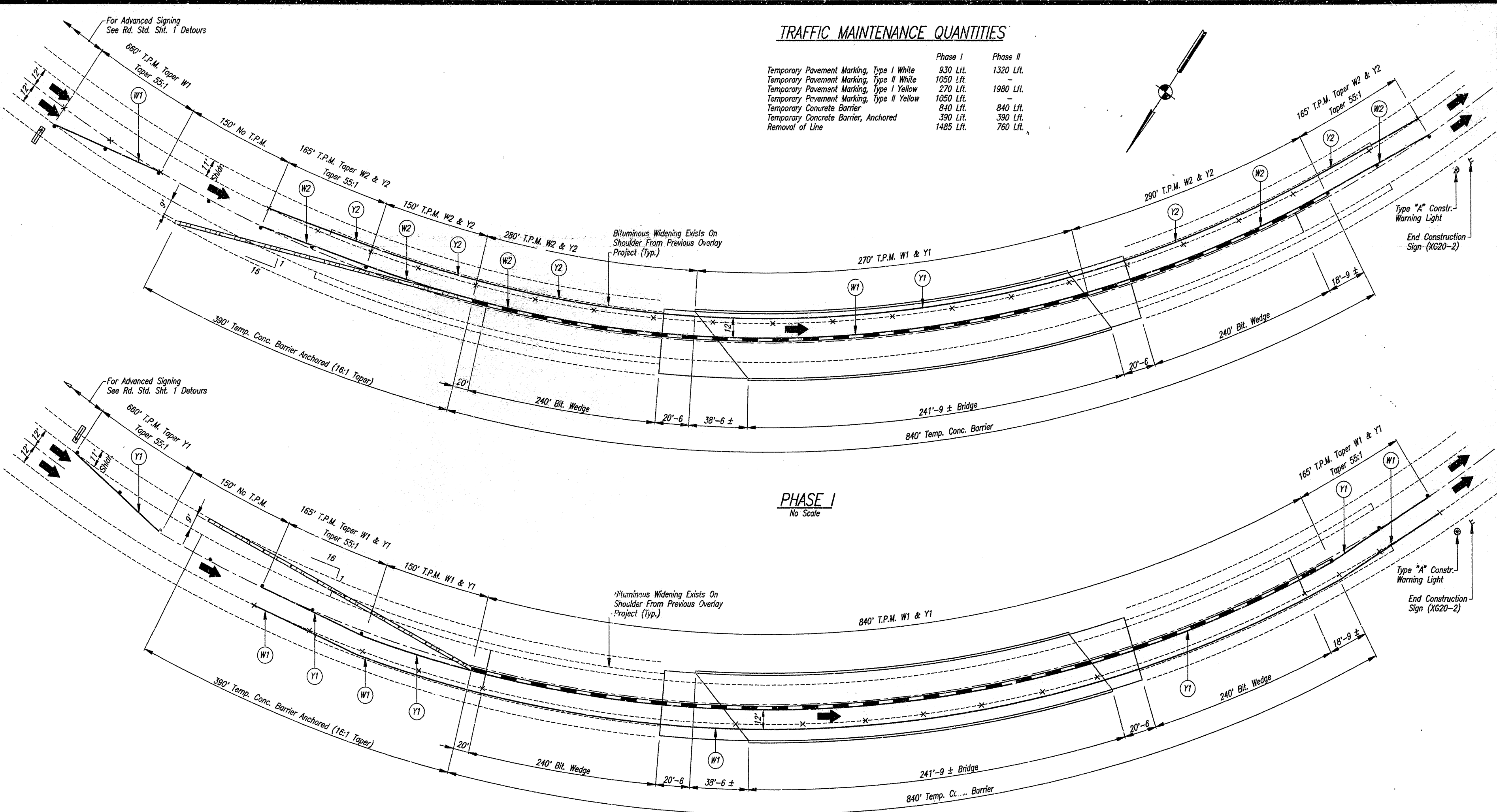
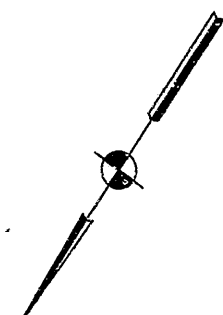


DESIGNED: DJJ C'K'D TWL  
DRAWN: DJJ C'K'D TWL  
TRACED: C'K'D



**TRAFFIC MAINTENANCE QUANTITIES**

	Phase I	Phase II
Temporary Pavement Marking, Type I White	930 Lft.	1320 Lft.
Temporary Pavement Marking, Type II White	1050 Lft.	-
Temporary Pavement Marking, Type I Yellow	270 Lft.	1980 Lft.
Temporary Pavement Marking, Type II Yellow	1050 Lft.	-
Temporary Concrete Barrier	840 Lft.	840 Lft.
Temporary Concrete Barrier, Anchored	390 Lft.	390 Lft.
Removal of Line	1485 Lft.	760 Lft.

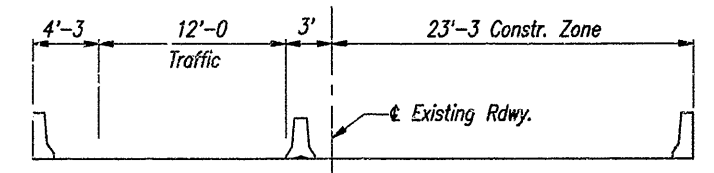


**PHASE I**  
No Scale

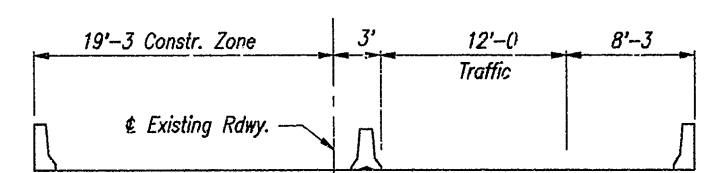
**PHASE II**  
No Scale

**LEGEND**

- Temporary Concrete Barrier, Anchored (390 Lft. Total)
- Temporary Concrete Barrier (840 Lft. Total)
- Drum or Barricade Type II with Type "C" Steady Burning Light (not a pay item)
- Removal of Line
- Flashing Arrow Sign
- (W1) Temporary Pavement Marking, Type I White
- (W2) Temporary Pavement Marking, Type II White
- (Y1) Temporary Pavement Marking, Type I Yellow
- (Y2) Temporary Pavement Marking, Type II Yellow
- Type "A" Construction Warning Light
- Construction Sign



**PHASE I**  
No Scale



**PHASE II**  
No Scale

**INDIANA DEPARTMENT OF TRANSPORTATION**  
BOONE COUNTY

SCALE: NONE  
DATE: 4-23-91

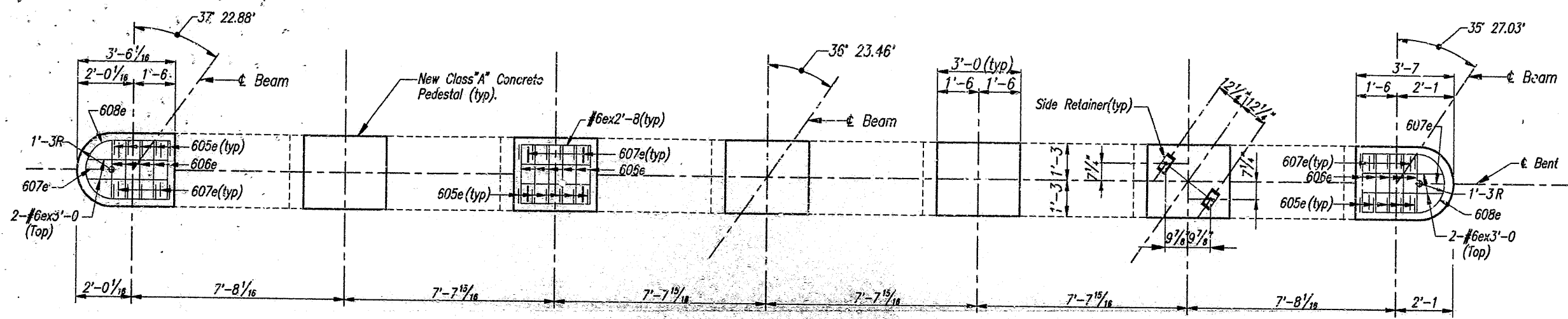
*Jerry D. Ritchie*

DRAWING: D18A OF 41 SHEET: 22A OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-136-5435B

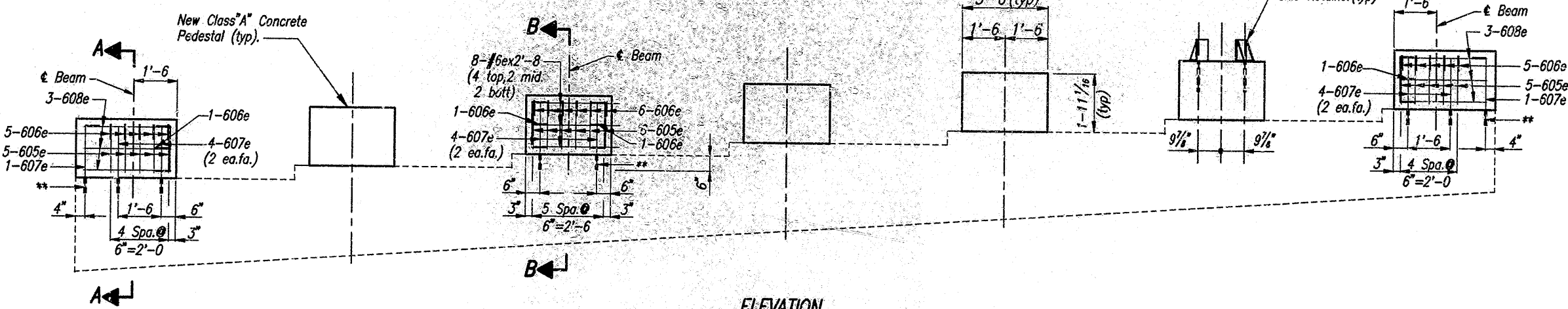


DESIGNED: W.K.S. c.m. J.D.R.  
DRAWN: W.K.S. c.m. J.D.R.  
CHECKED: c.m.

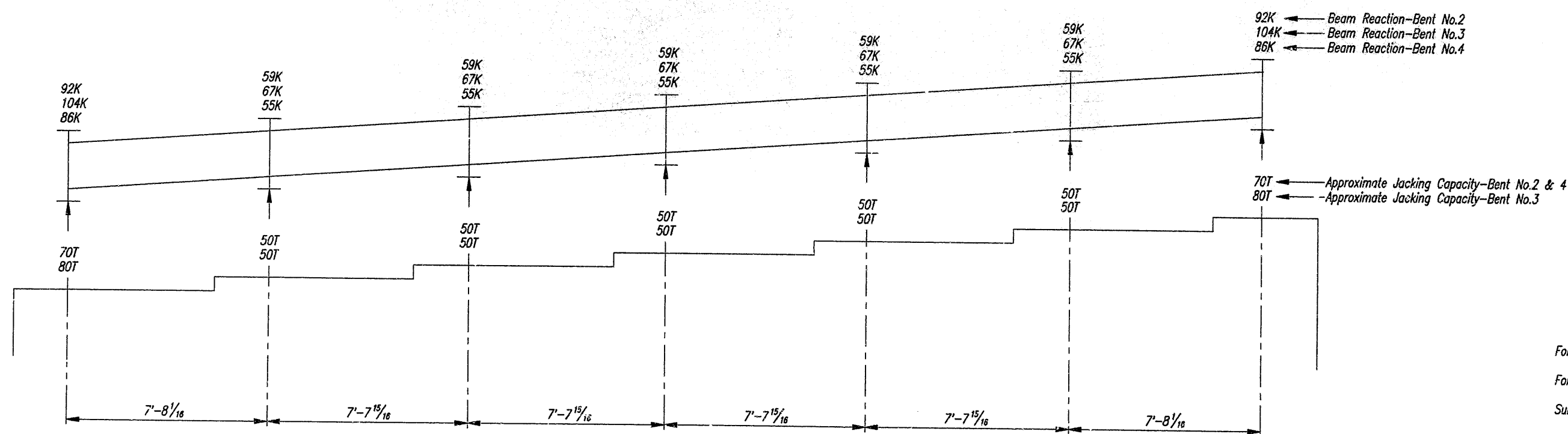




CAF PLAN  
Scale: 1/4" = 1'-0"

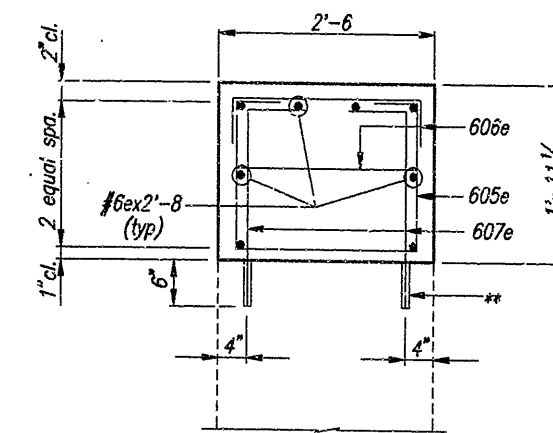


ELEVATION  
Scale: 1/4" = 1'-0"

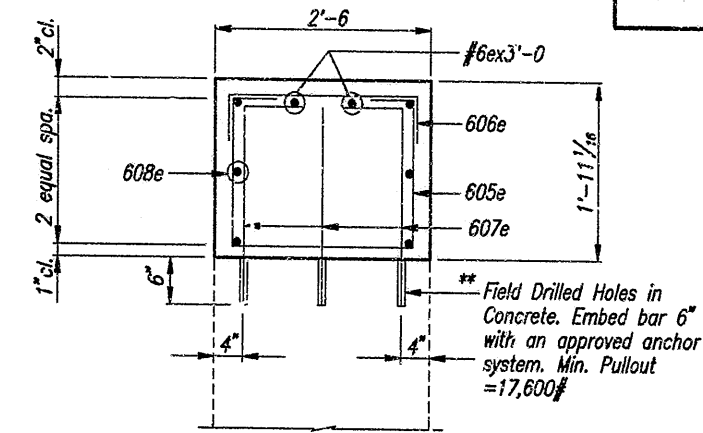


TYPICAL SECTION AT BENTS NO. 2, 3 AND 4  
No Scale

INTERIOR PIER JACKING  
The contractor shall determine a proposed jacking plan and submit details signed by a registered professional engineer. Existing diaphragms may NOT be used for jacking.

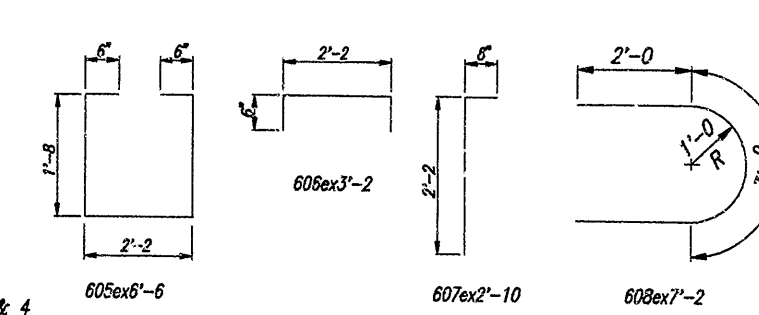


SECTION B-B  
Scale: 1/4" = 1'-0"



SECTION A-A  
Scale: 1/4" = 1'-0"

BILL OF MATERIALS BENT NO. 2			
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
605e	40	6'-6"	
606e	52	3'-2"	
607e	30	2'-10"	
608e	6	7'-2"	
#6	4	3'-0"	
#6	40	2'-8"	
Total #6e			1008 lbs.
Total Epoxy Coated Reinforcing			1008 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
5 Pedestals @ 0.54 cys each=		2.7 cys.	
2 Pedestals @ 0.60 cys each=		1.2 cys.	
Total Class "A" in Substr.=		3.9 cys.	
MISCELLANEOUS			
Field Drilled Holes in Concrete		30 ea.	
Surface Seal		202 sft.	



BAR BENDING DETAILS  
No Scale

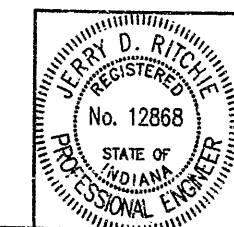
For reinforcing bar notes, see Bridge Std.C1.  
For Bearing Assembly and Anchor Bolt Details, see Dwg. D18G & D18H  
Surface Seal all Faces of Pedestals.

BENT NO. 2 DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION

BOONE COUNTY  
SCALE: As Noted  
DATE: 4-23-91

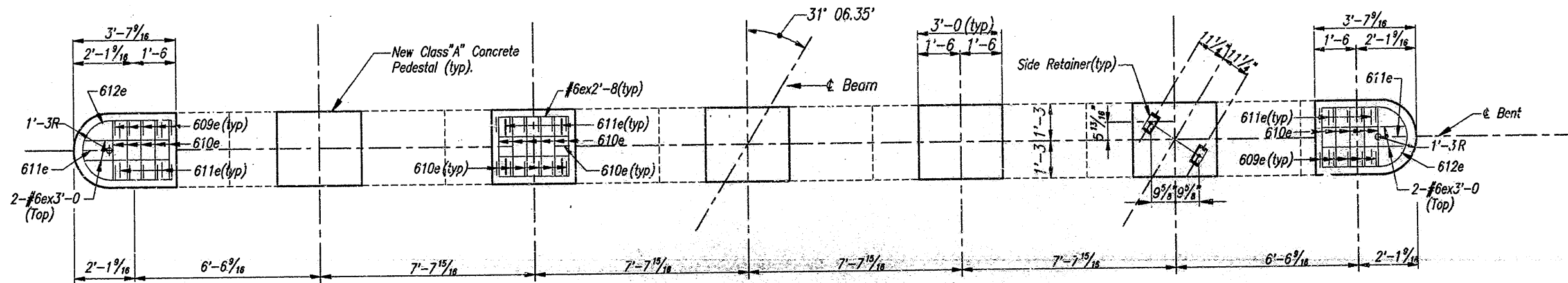
Jerry D. Ritchie

DRAWING: D18C OF 41 SHEET: 22C OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-136-5435B

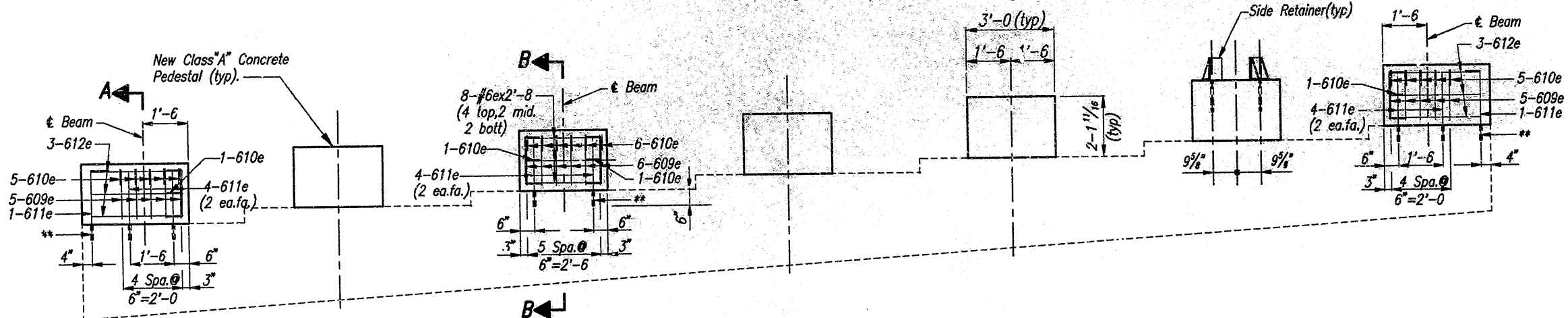


DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.L.V.	CHKD	J.D.R.
IN CHARGE		CHKD	

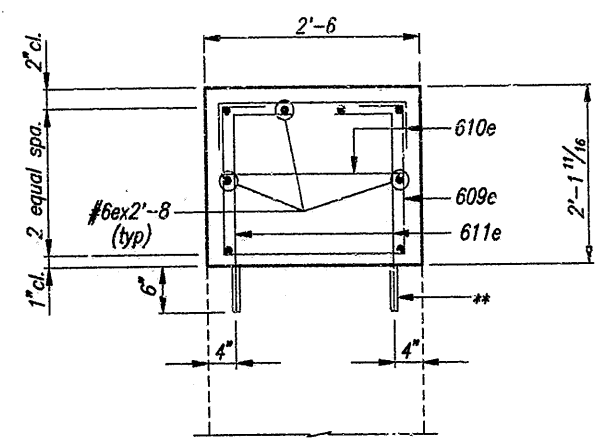




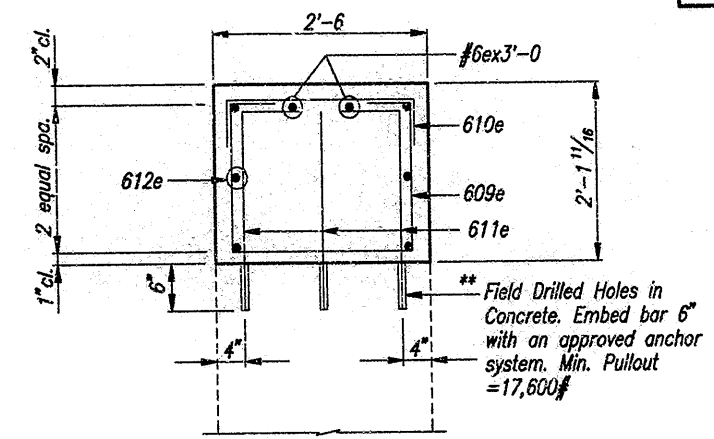
**CAP PLAN**  
Scale: 3/4" = 1'-0"



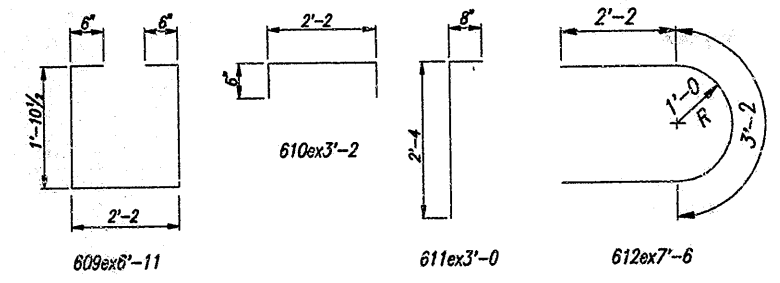
**ELEVATION**  
Scale: 3/4" = 1'-0"



**SECTION B-B**  
Scale: 3/4" = 1'-0"



**SECTION A-A**  
Scale: 3/4" = 1'-0"



**BAR BENDING DETAILS**  
No Scale

BILL OF MATERIALS BENT NO. 3			
EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
609e	40	6'-11"	
610e	52	3'-2"	
611e	30	3'-0"	
612e	6	7'-6"	
#6	4	3'-0"	
#6	40	2'-8"	
Total #6e			1044 lbs.
Total Epoxy Coated Reinforcing			1044 lbs.
CONCRETE CLASS "A" IN SUBSTRUCTURE			
5 Pedestals @ 0.6 cys each=			3.0 cys.
2 Pedestals @ 0.7 cys each=			1.4 cys.
Total Class "A" in Substr.=			4.4 cys.
MISCELLANEOUS			
Field Drilled Holes in Concrete			30 ea.
Surface Seal			220 sft.

For reinforcing bar notes, see Bridge Std.C1.  
For Bearing Assembly and Anchor Bolt Details, see Dwg.D18G & D18H  
Surface Seal all Faces of Pedestals.

**BENT NO. 3 DETAILS**  
**INDIANA DEPARTMENT OF TRANSPORTATION**  
BOONE COUNTY

SCALE: As Noted DATE: 4-23-91

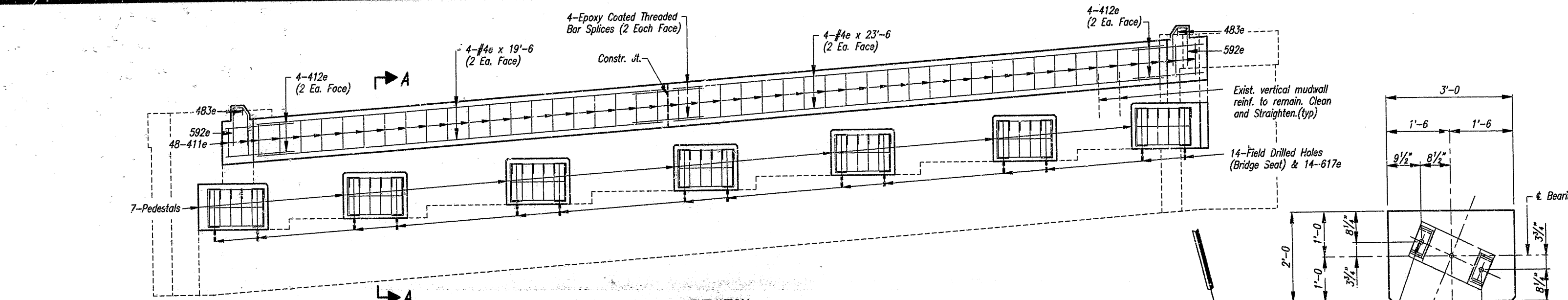
*Jerry D. Ritchie*

DRAWING: D18D OF 41 SHEET: 22D OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-136-5435B

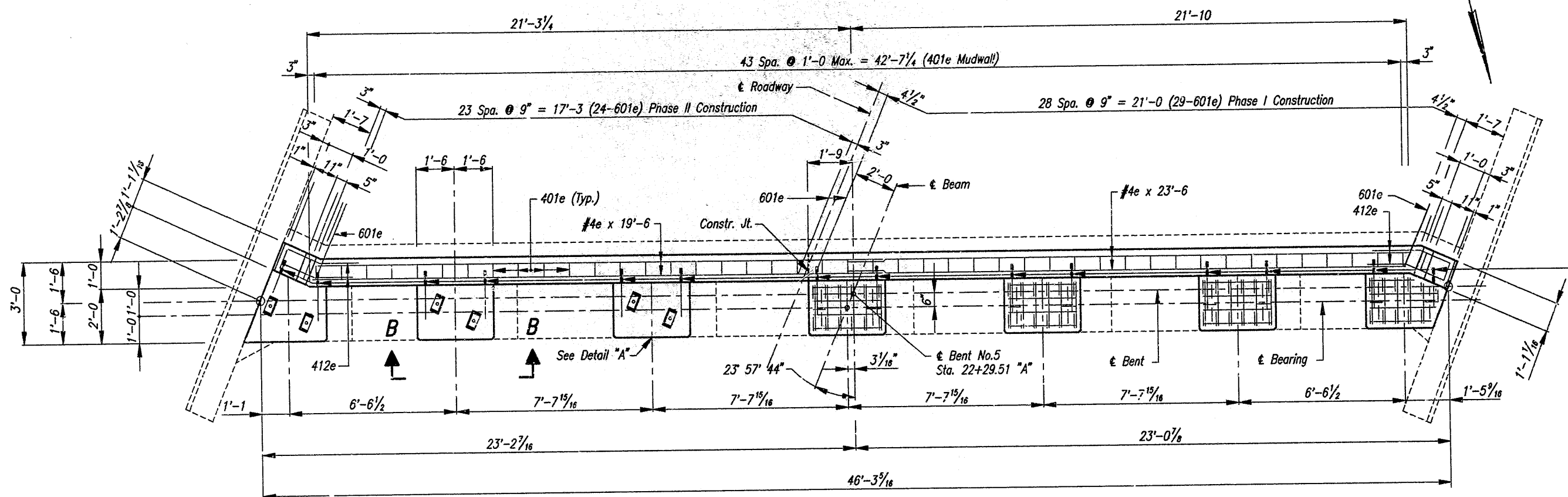


DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.L.V.	CHECKED	J.D.R.
TRACED		CHECKED	

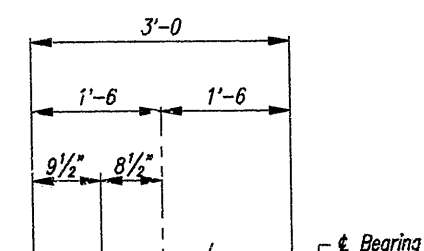




**ELEVATION**  
Scale:  $\frac{3}{8}'' = 1'-0''$



**PLAN**  
Scale:  $\frac{3}{8}'' = 1'-0''$



**DETAIL "A"**  
Scale:  $\frac{3}{4}'' = 1'-0''$

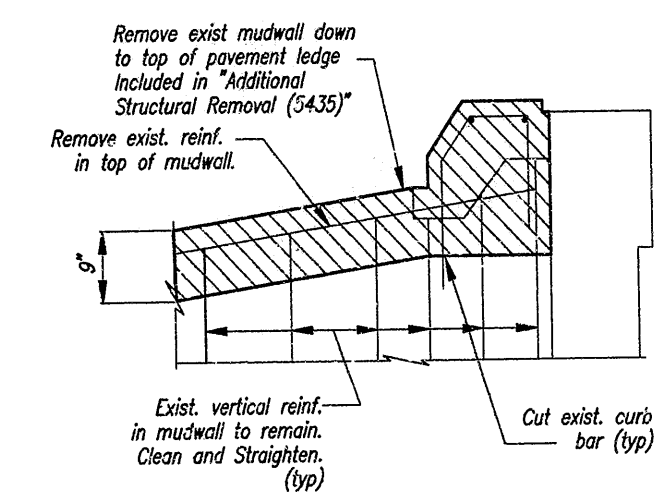
**BILL OF MATERIALS  
BENT NO. 5**

**EPOXY COATED REINFORCING STEEL**

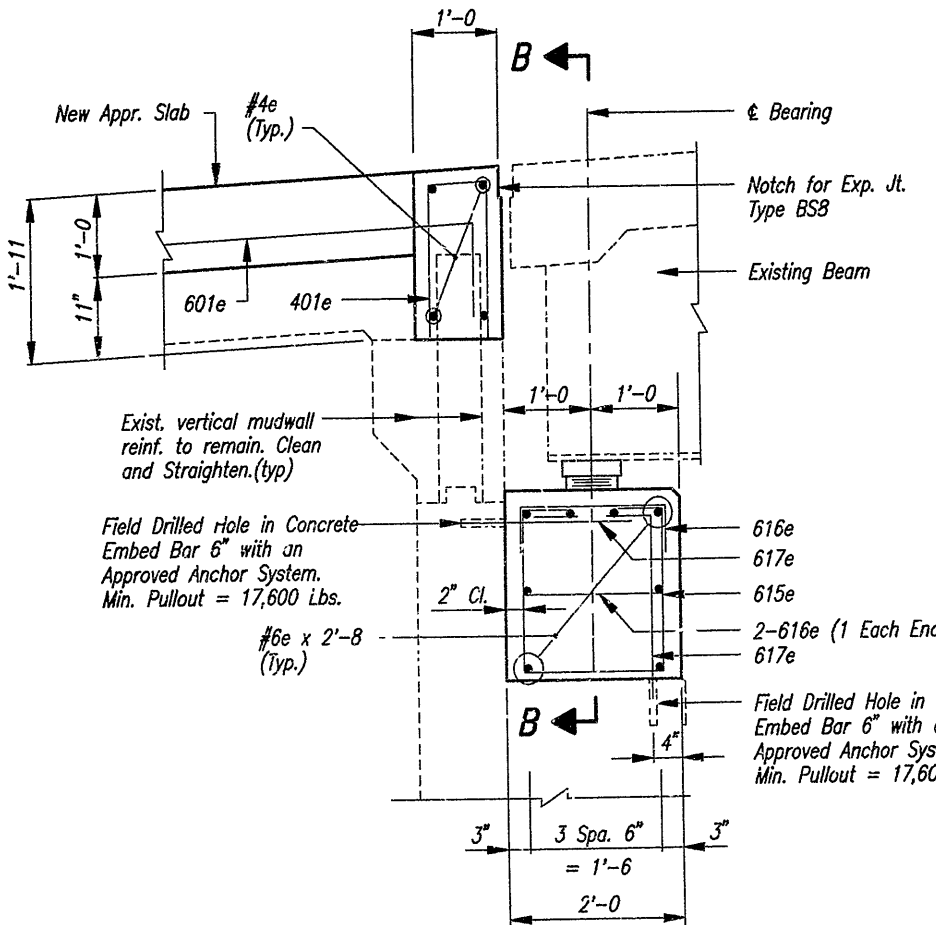
Size or Mark	No. of Bars	Length	Weight (lbs.)
601e	53	5'-0	
615e	42	6'-2	
616e	56	2'-8	
617e	28	2'-9	
#6e	56	2'-8	
Total #6e			1,351 lbs.
411e	48	3'-10	
412e	8	2'-11	
#4e	4	23'-6	
#4e	4	19'-6	
Total #4e			253 lbs.
Total Epoxy Coated Reinforcing			1,604 lbs.
<b>CONCRETE CLASS "A" IN SUBSTRUCTURE</b>			
7 Pedestals @ 0.45 cys=			3.2 cys.
Mudwall Phase I			1.6 cys.
Mudwall Phase II			1.9 cys.
Total Class "A" in Substructure			6.7 cys.
<b>MISCELLANEOUS</b>			
Field Drilled Holes in Concrete			28 Ea.
Surface Seal			180 Sft.



**BAR BENDING DETAILS**  
No Scale

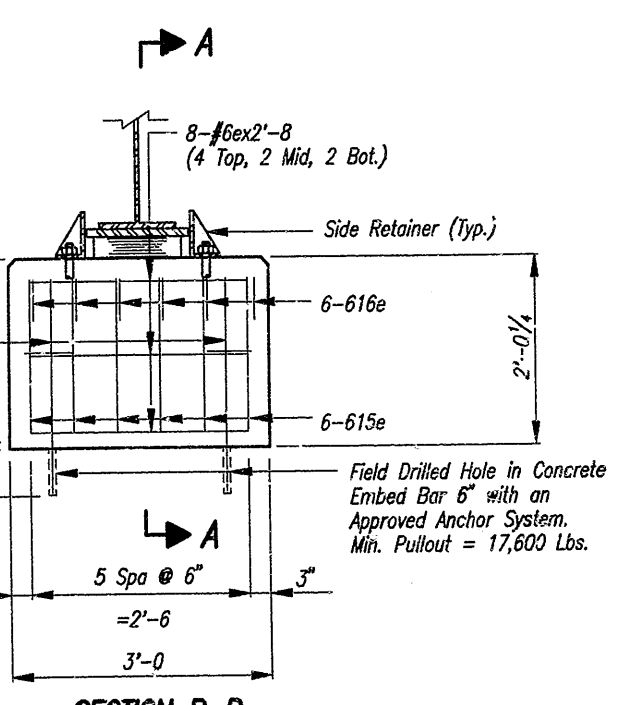


**TYPICAL REMOVAL DETAIL**  
Scale:  $\frac{3}{4}'' = 1'-0''$

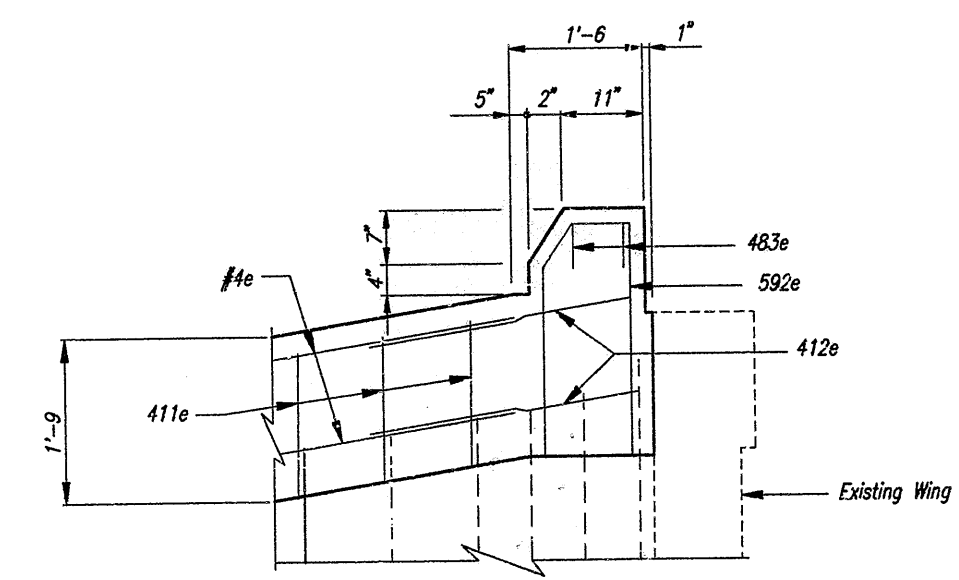


**SECTION A-A**

**TYPICAL PEDESTAL DETAILS BENT NO. 1**  
Scale:  $\frac{3}{4}'' = 1'-0''$



**SECTION B-B**



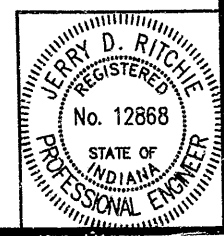
**TYPICAL CURB CONSTRUCTION DETAIL**  
Scale:  $\frac{3}{4}'' = 1'-0''$

**BENT NO. 5 DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION  
BOONE COUNTY**

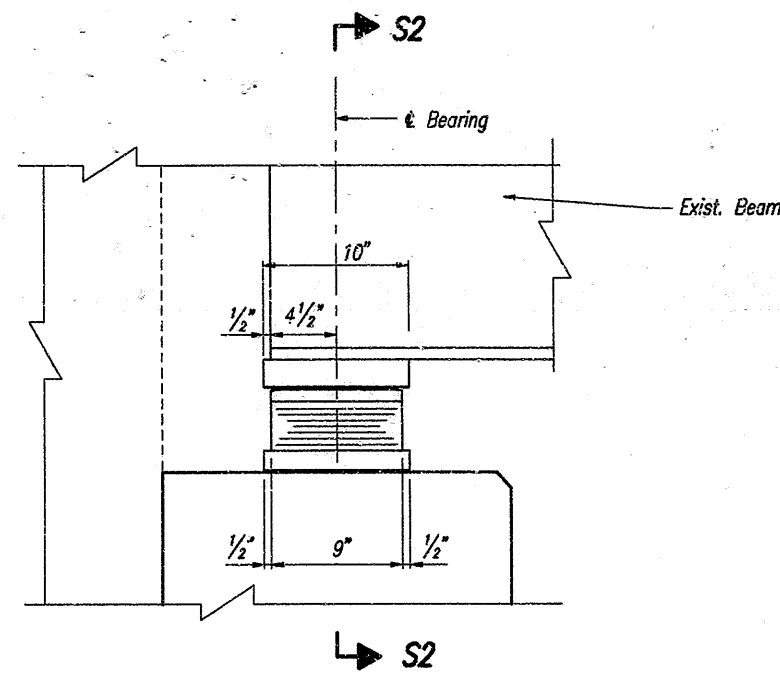
For reinforcing bar notes, see Bridge Std.C1  
For Expansion Joint Type BS11, see Bridge Std.C3  
For Bearing Assembly and Anchor Bolt Details, see Dwg. D181  
For Bar 483e & 592e Details, see Dwg. D30 & D34.  
Surface Seal all Faces of Pedestals.

As Noted  
DATE: 4-23-91  
DRAWING: D18F OF 41 SHEET: 22F OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-136-5435B

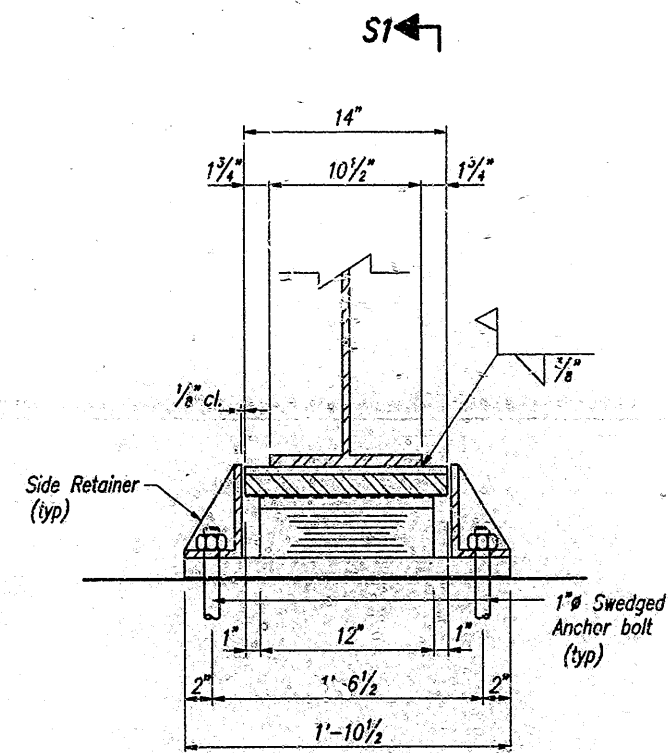
*Jerry D. Ritchie*



DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.K.S.	CHECKED	J.D.R.
TRAFFIC			

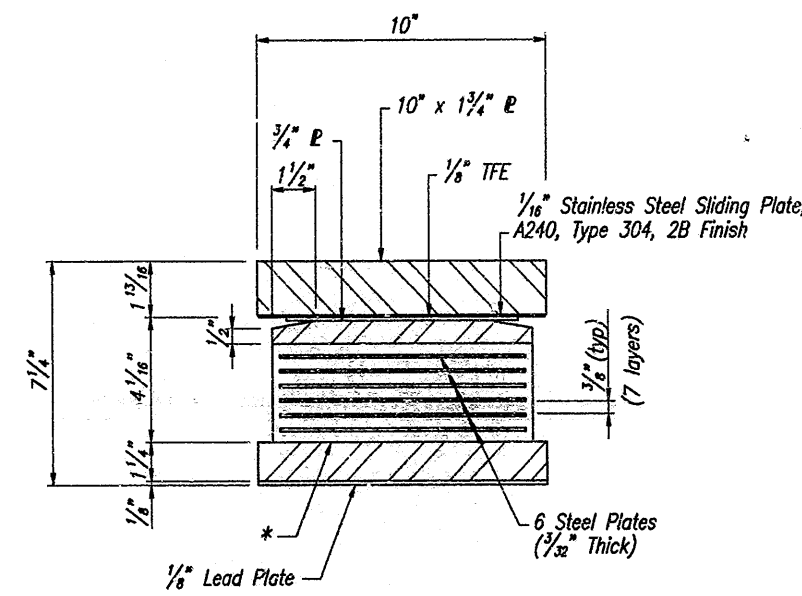


SECTION S1-S1



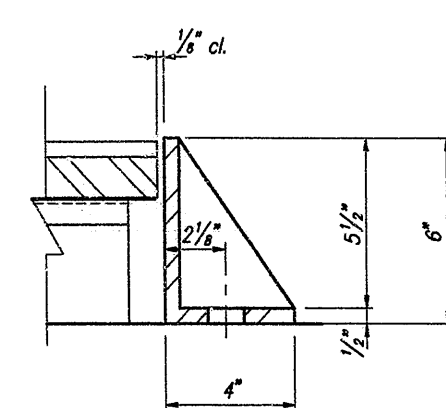
SECTION S2-S2

TYPICAL BEARING ASSEMBLY  
BENTS NO. 1  
Scale: 1/2"=1'-0"

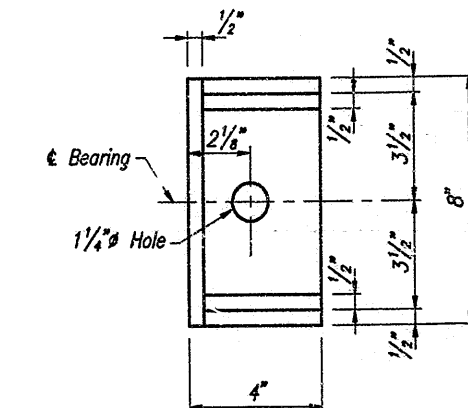


BEARING ASSEMBLY  
Scale: 3/4"=1'-0"

NOTES:  
\* Bearing Pads to be positively attached to bearing plate. (typ)  
All dimensions of elastomer portions of bearing assemblies shown are for the unloaded condition (non-compressed)

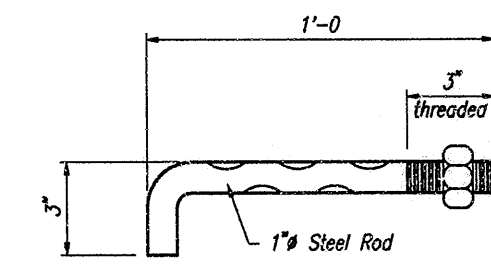


SECTION

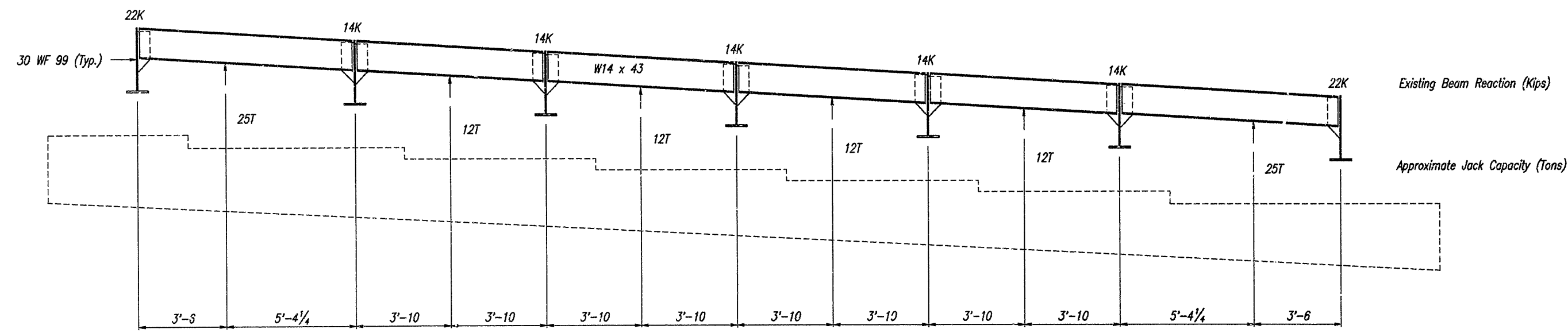


PLAN

SIDE RETAINER  
Scale: 3/4"=1'-0"



ANCHOR BOLT  
Scale: 3/4"=1'-0"



JACKING SCHEME - BENTS NO. 1  
Scale: 1/8"=1'-0"

Note:  
Contractor May Propose Different  
Jacking Scheme From that Shown Above.

BENT NO. 1 BEARING ASSEMBLY & JACKING DETAILS  
INDIANA DEPARTMENT OF TRANSPORTATION  
BOONE COUNTY

SCALE: AS NOTED

DATE: 4-23-91

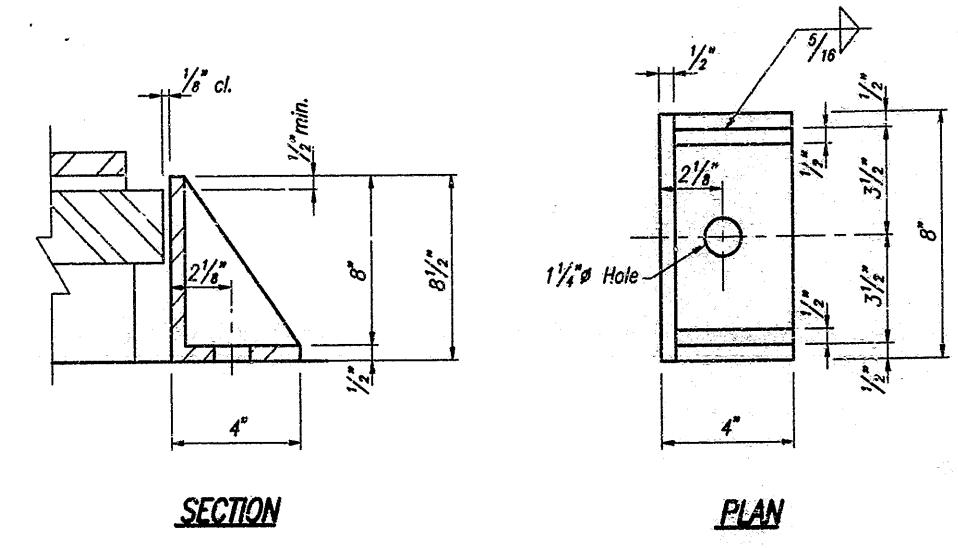
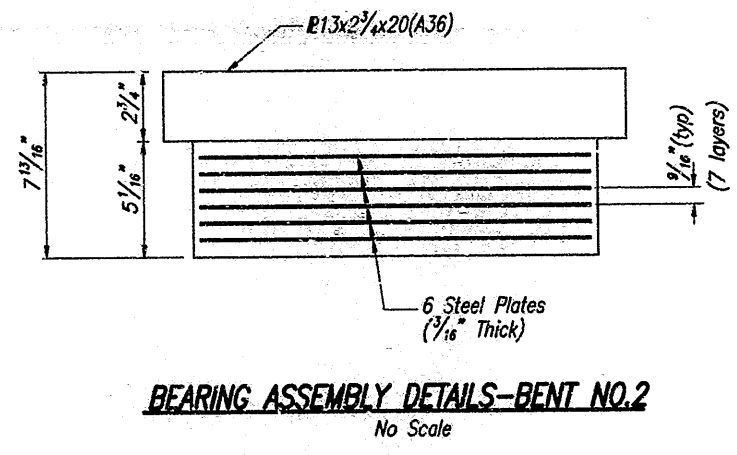
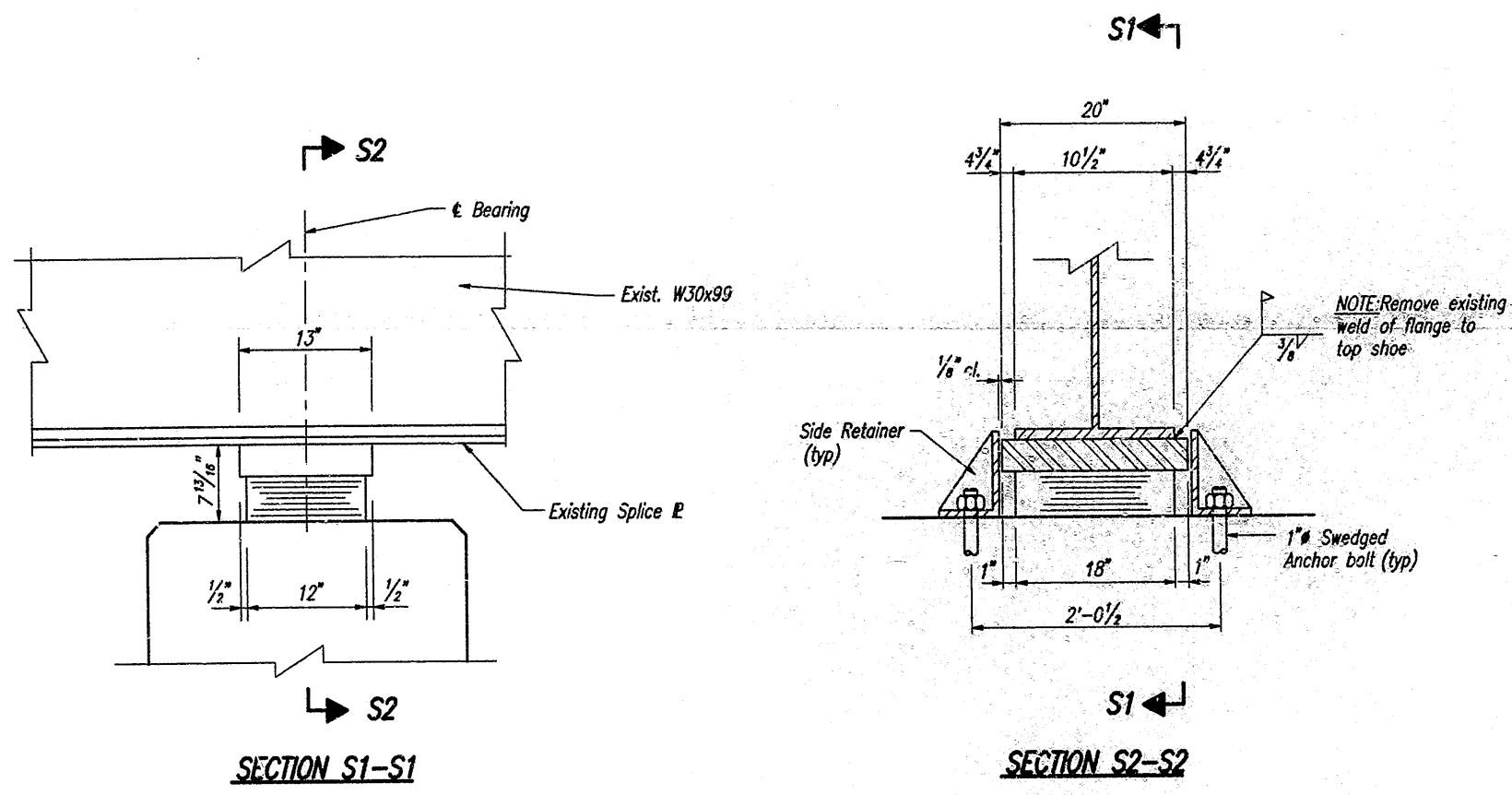
Jerry D. Ritchie

DRAWING: D186 OF 41 SHEET: 226 OF 57  
PROJECT: ACIR-465-4(258)131  
BRIDGE CONTRACT NO.  
BRIDGE FILE: 1-465-143-54.35B



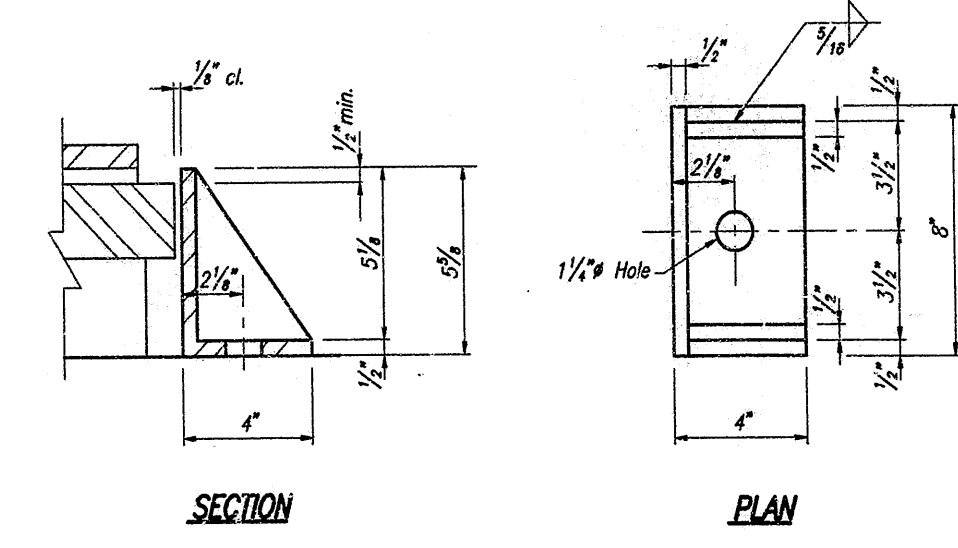
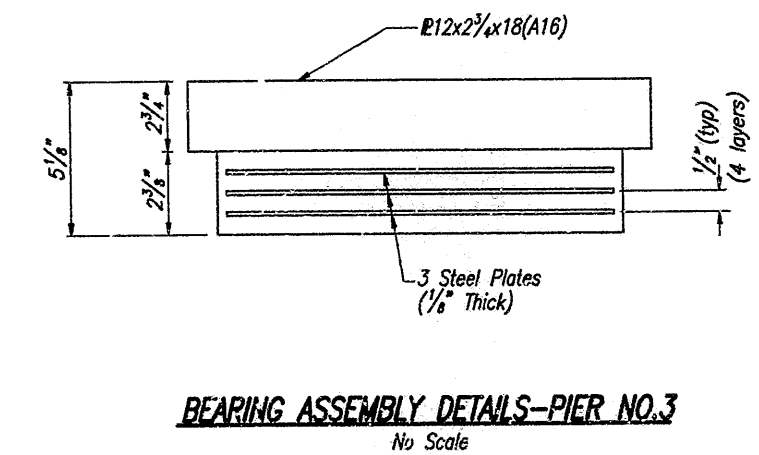
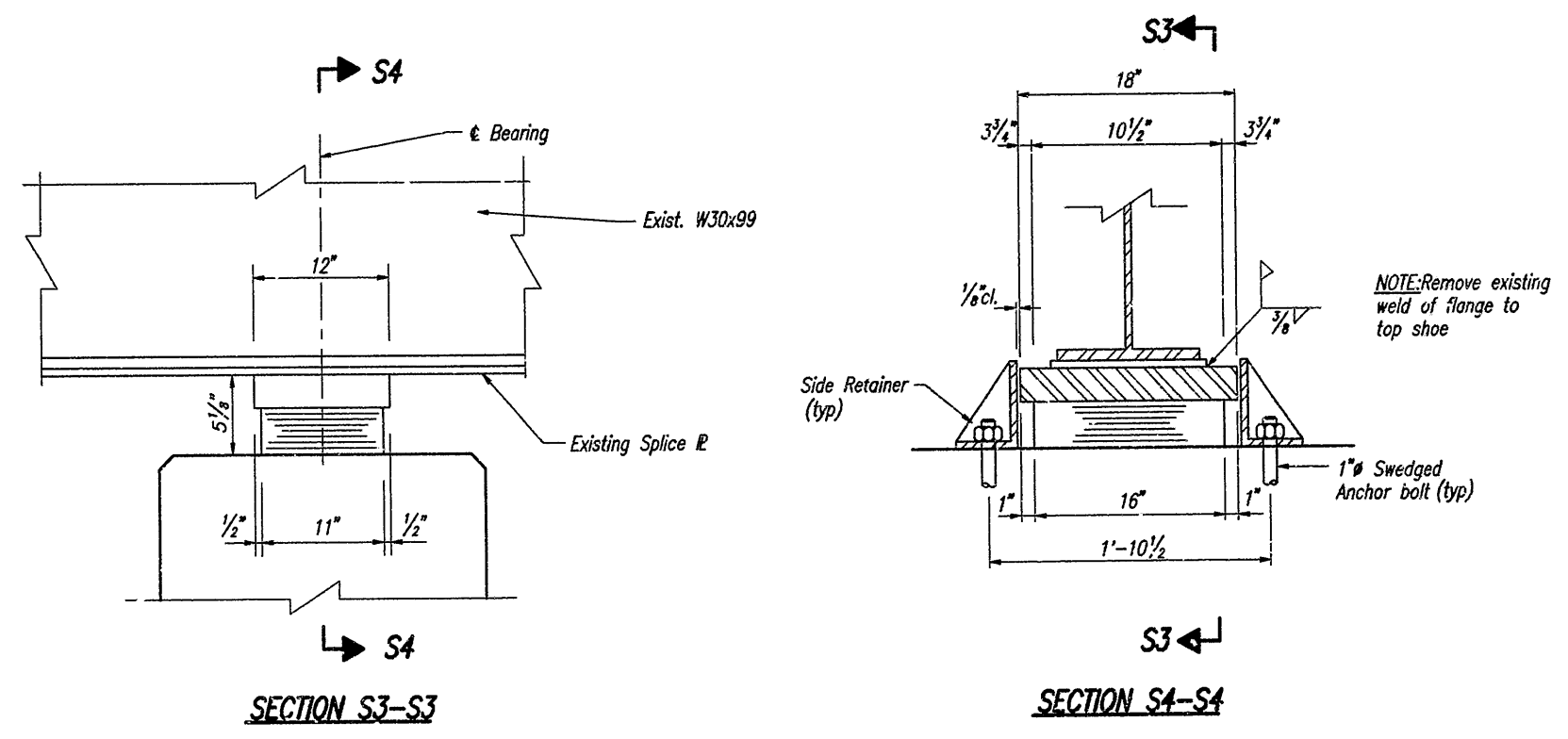
DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.K.S.	CHECKED	J.D.R.
TRACED		CHECKED	





**SIDE RETAINER-BENT NO. 2  
No Scale**

**NOTE:**  
All dimensions of elastomer portions of bearing assemblies shown are for the unloaded condition (non-compressed)  
For Anchor Bolt Details, see Dwg. D18G



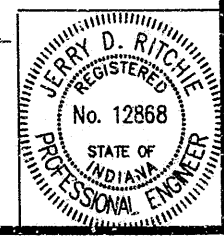
**SIDE RETAINER-PIER NO. 3  
No Scale**

**BENT NO. 2 AND NO. 3  
BEARING ASSEMBLY DETAILS**

**INDIANA DEPARTMENT OF TRANSPORTATION**

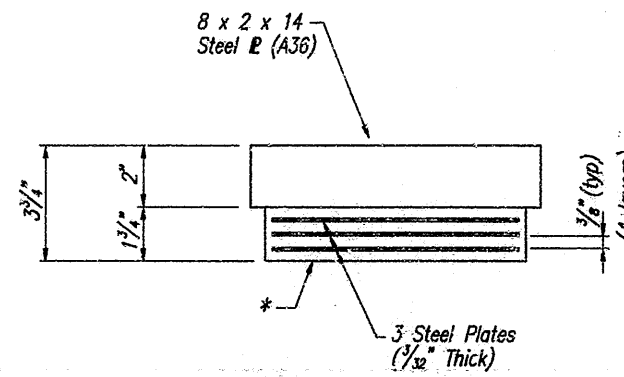
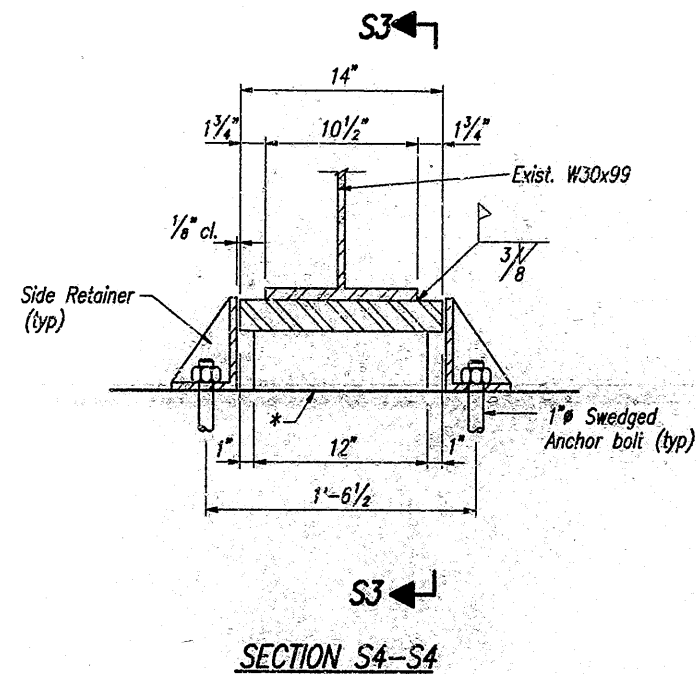
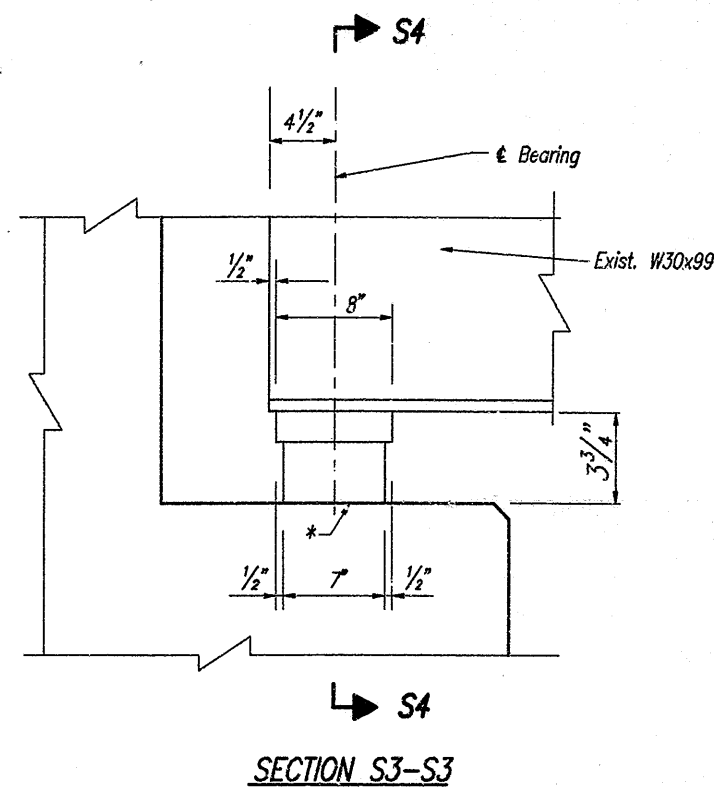
BOONE COUNTY  
SCALE: AS NOTED  
DATE: 4-23-91  
*Jerry D. Ritchie*

DRAWING: D18H OF 41 SHEET: 22H OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-136-5435B

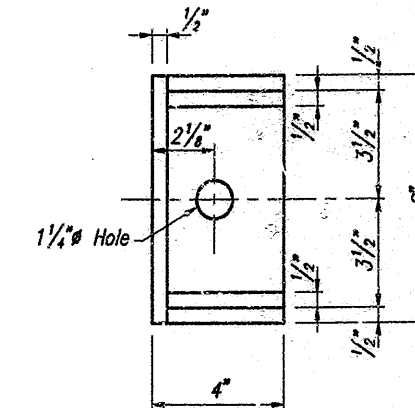
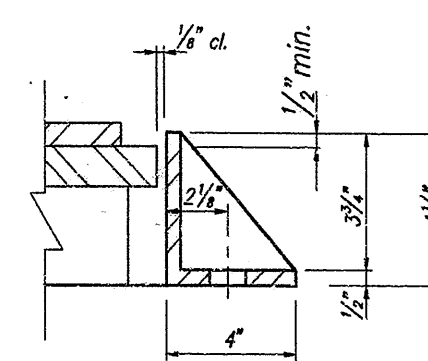


DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.L.V.	CHECKED	J.D.R.
TRACED		CHECKED	

The Pay Item "Bearing Assembly (5435)"-Each is to include furnishing and installing bearing assembly, anchor bolts, side retainers, and field welding.



**TYPE I ELASTOMERIC EXPANSION BEARING**  
Scale: 3"=1'-0"

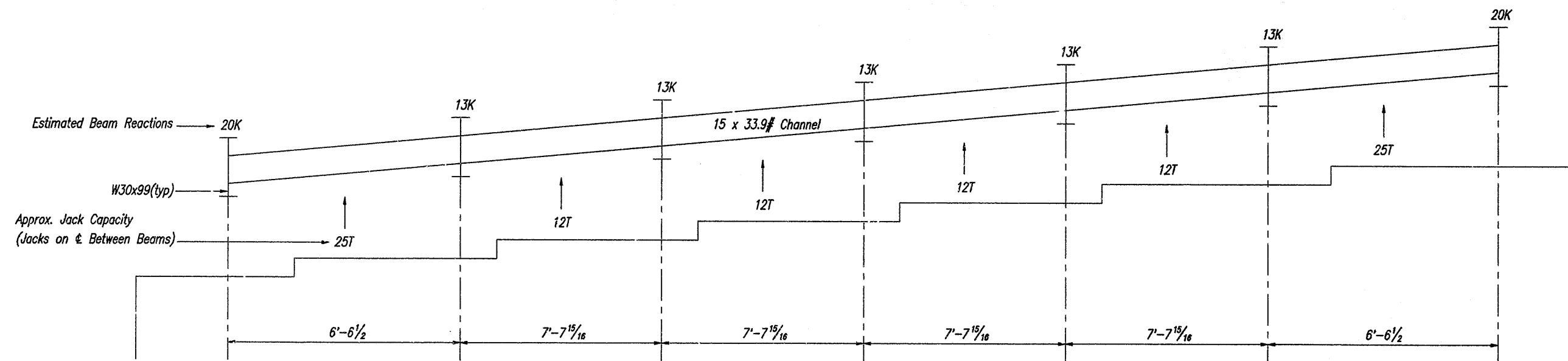


**SECTION**

**PLAN**

**SIDE RETAINER**  
No Scale

**TYPICAL BEARING ASSEMBLY**  
**BENTS NO.5**  
Scale: 1/2"=1'-0"



**JACKING SCHEME-BENT NO.5**  
No Scale

NOTE: Contractor may propose different Jacking Scheme from that shown above.

**NOTES:**

\* Bearing Pads to be positively attached to bridge seats. (typ)

All dimensions of elastomer portions of bearing assemblies shown are for the unloaded condition (non-compressed)

**NOTES:**

The Pay Item "Bearing Assembly (5435)" - Each is to include furnishing and installing bearing assembly, anchor bolts, side retainers, and field welding.

The pay item "Jacking and Supporting Beams" - Lump Sum - is to include Preparing Jacking Plans and All materials and Equipment Necessary to Jack the Structure and Place it on the New Bearing Pads and Reset Fixed Bearing.

For Anchor Bolt Details, see Dwg. No. D186

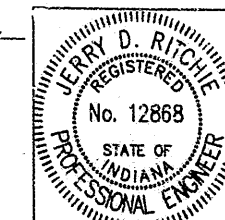
**BENT NO.5**  
**BEARING ASSEMBLY & JACKING DETAILS**  
**INDIANA DEPARTMENT OF TRANSPORTATION**  
BOONE COUNTY

SCALE: AS NOTED

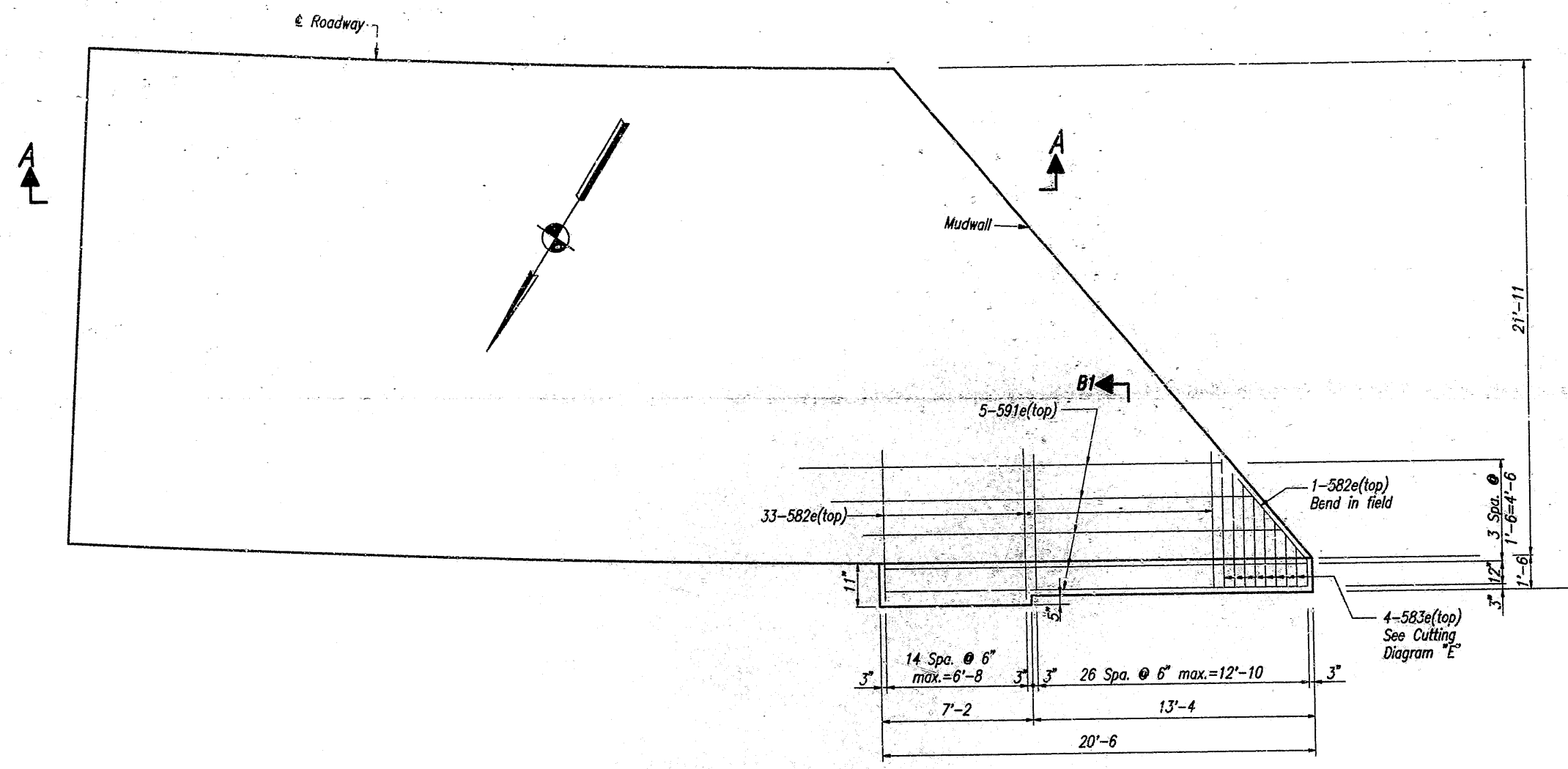
DATE: 4-23-71

*Jerry D. Ritchie*

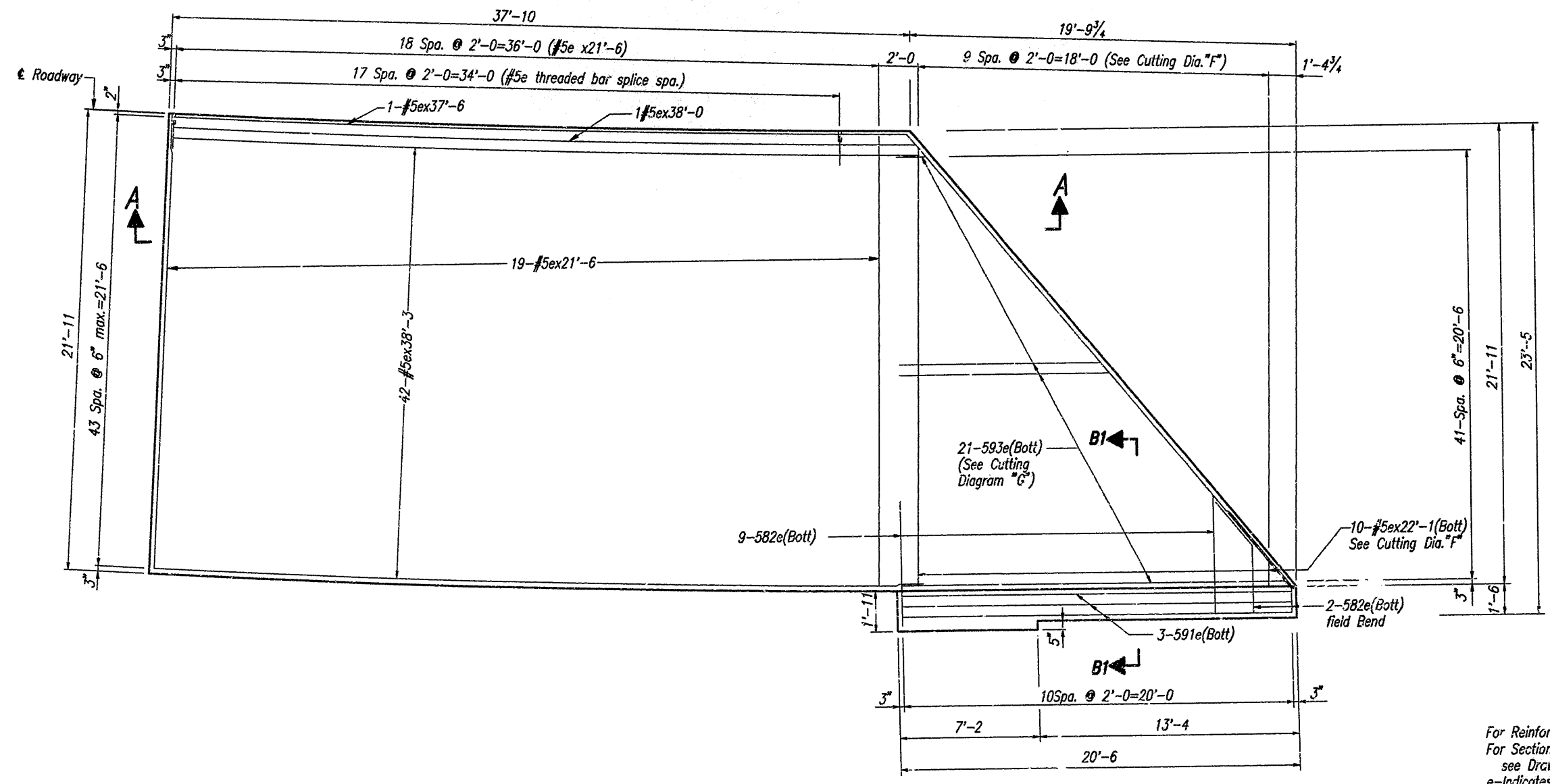
DRAWING: D181 OF 41 SHEET: 221 OF 57  
PROJECT: ACIR-465-4(258)131  
CONTRACT NO. R-18930  
BRIDGE FILE: 1-465-143-5435B



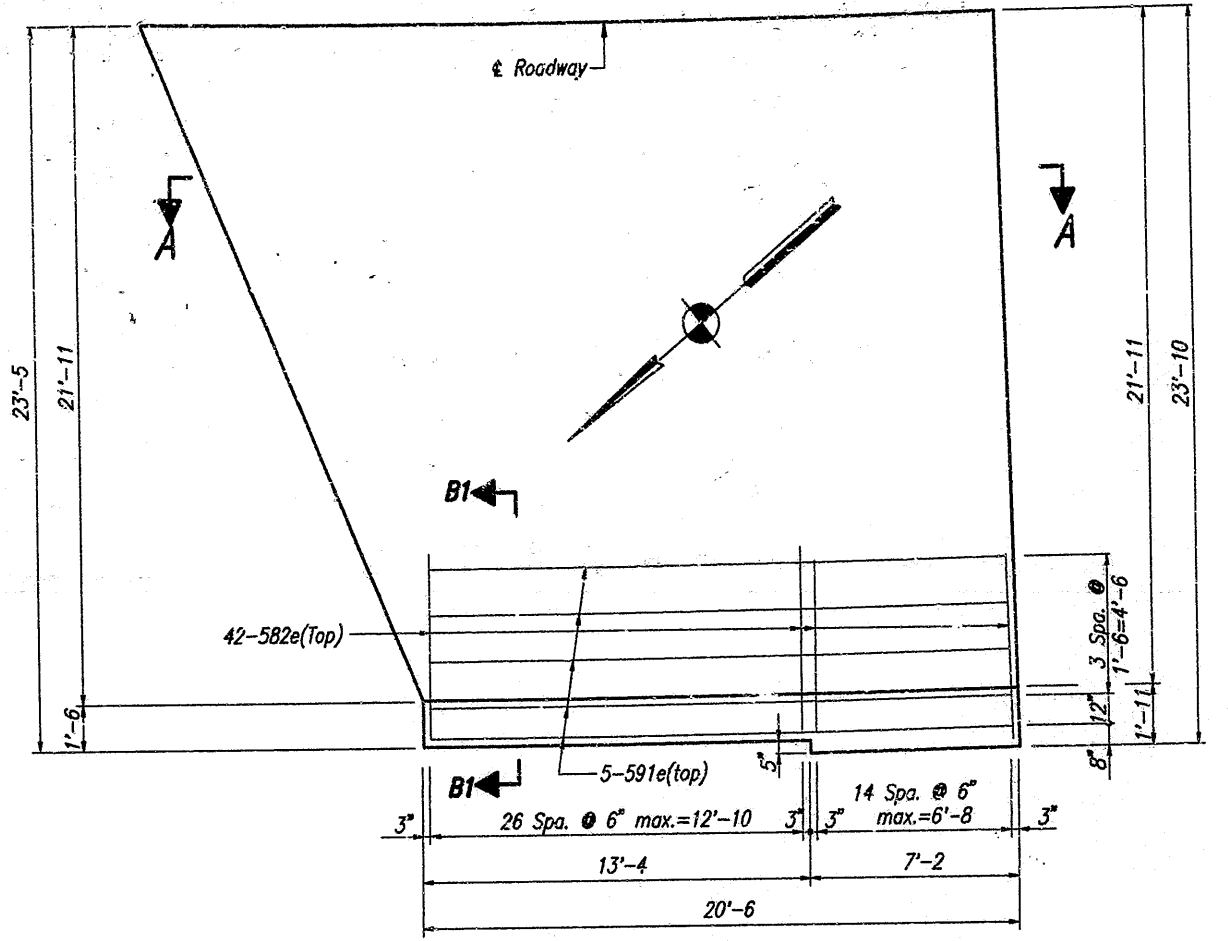
DESIGNED: J.D.R.	CHKD: R.C.M.
DRAWN: W.L.V.	CHKD: J.D.R.
TRACED:	



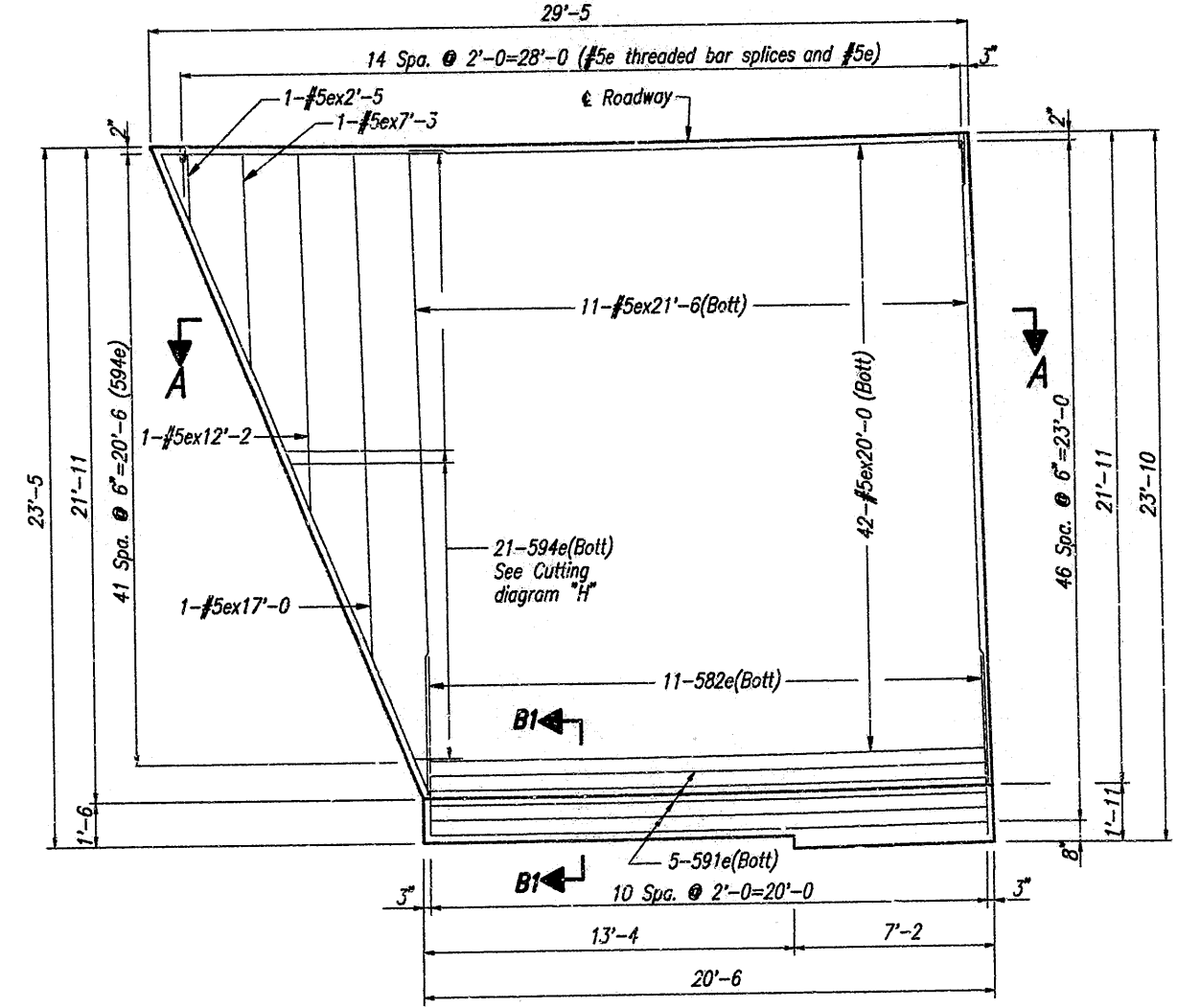
**BENT NO.1 PLAN SHOWING TOP REINF.**  
Scale: 1/4"=1'-0



**BENT NO.1 PLAN SHOWING BOTTOM REINF.**  
Scale: 1/4"=1'-0



**BENT NO.5 PLAN SHOWING TOP REINF.**  
Scale: 1/4"=1'-0



**BENT NO.5 PLAN SHOWING BOTTOM REINF.**  
Scale: 1/4"=1'-0

**APPROACH DETAILS-PHASE I**  
**INDIANA DEPARTMENT OF TRANSPORTATION**  
BOONE COUNTY

SCALE: As Noted

DATE: 4-23-91

*Jerry D. Ritchie*

DRAWING: D18J OF 41 SHEET: 22J OF 57  
PROJECT: ACIR-465-4(253)131  
CONTRACT NO. R-18930  
BRIDGE FILE: I-465-136-5435B

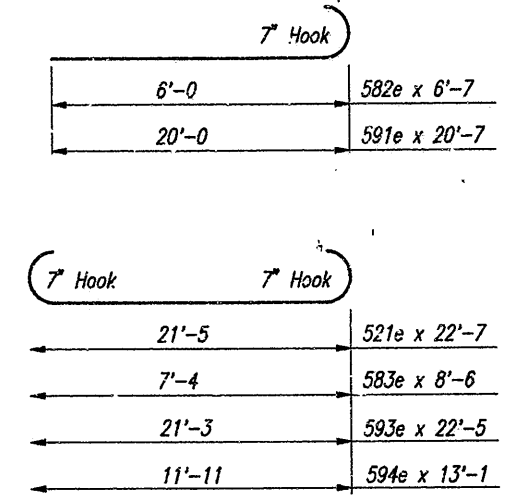
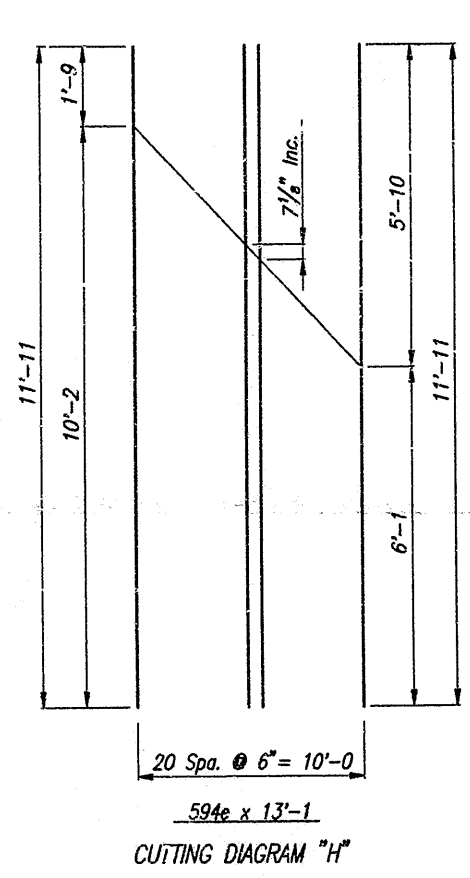
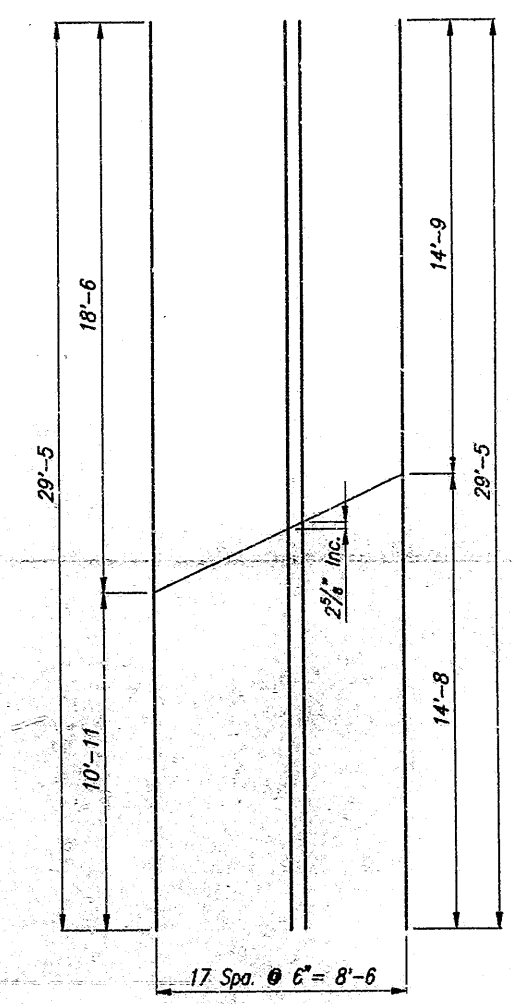
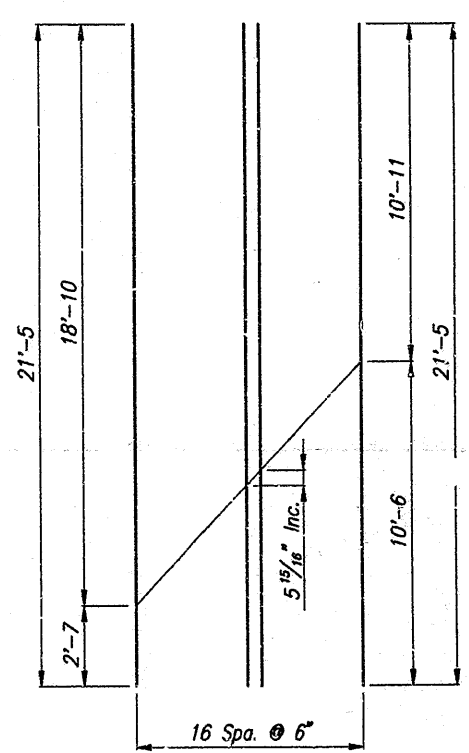
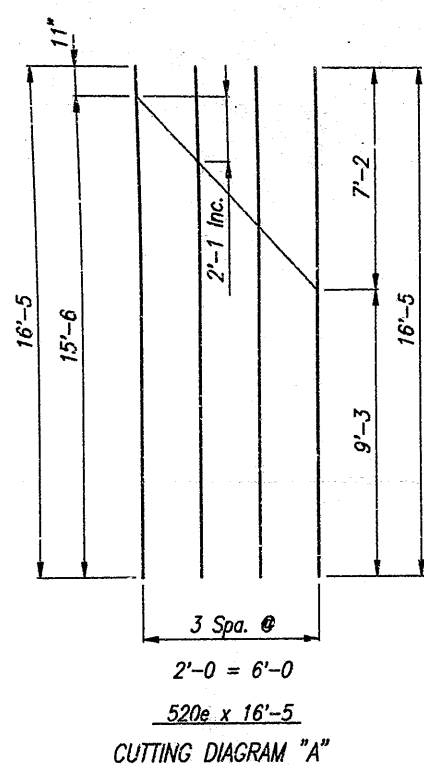


For Reinforcing Bar Notes, See Bridge Standard C1.  
For Section A-A and Section B1-B1, see Drawing D18L.  
e-Indicates Epoxy Coated Reinforcing Steel.  
Cost of Joint Type IA Shall be Included in the Cost of Reinforced Concrete Pavement.  
For Bar Bending Details, Cutting Diagrams and Bill of Materials, see Drawing D18L.

DESIGNED	J.D.R.	CHKD	R.C.M.
DRAWN	W.L.V.	CHKD	J.D.R.
TRACED		CHKD	

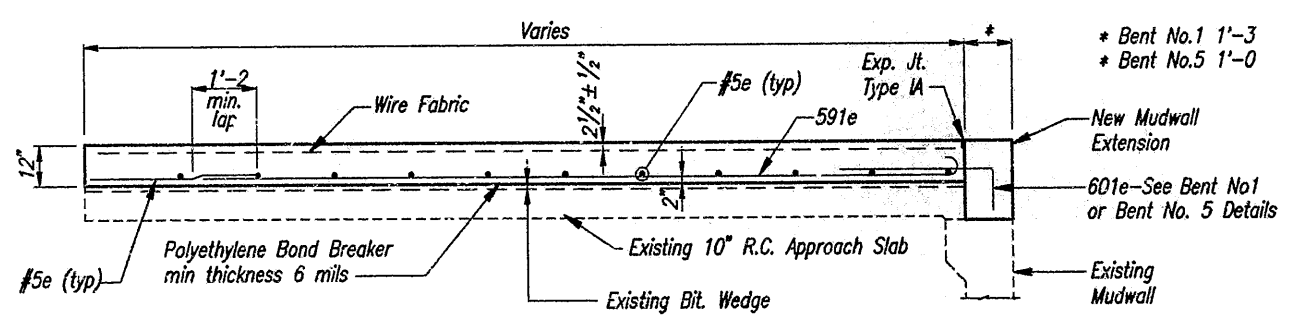
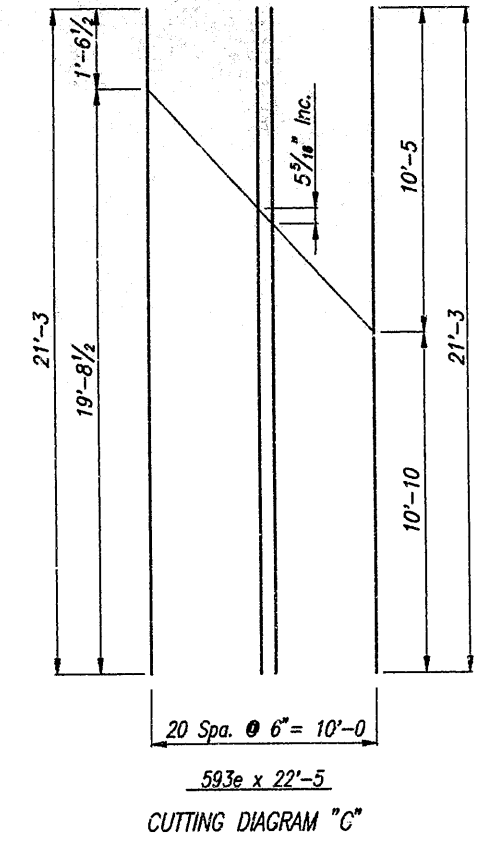
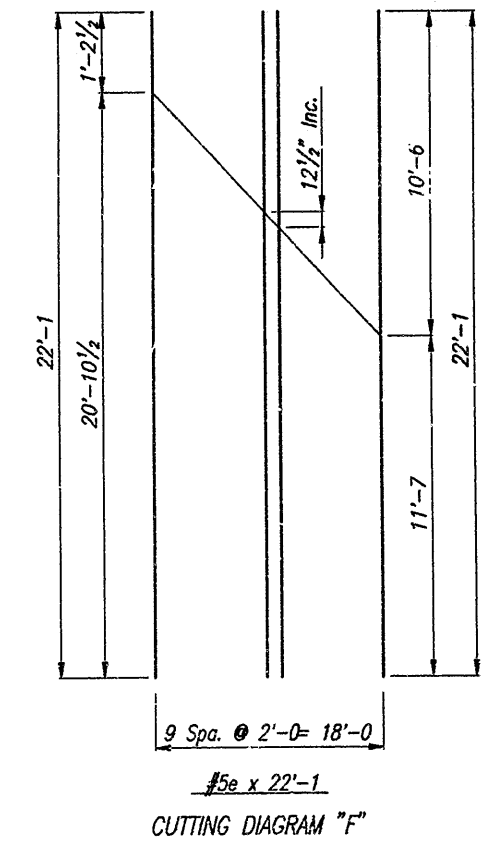
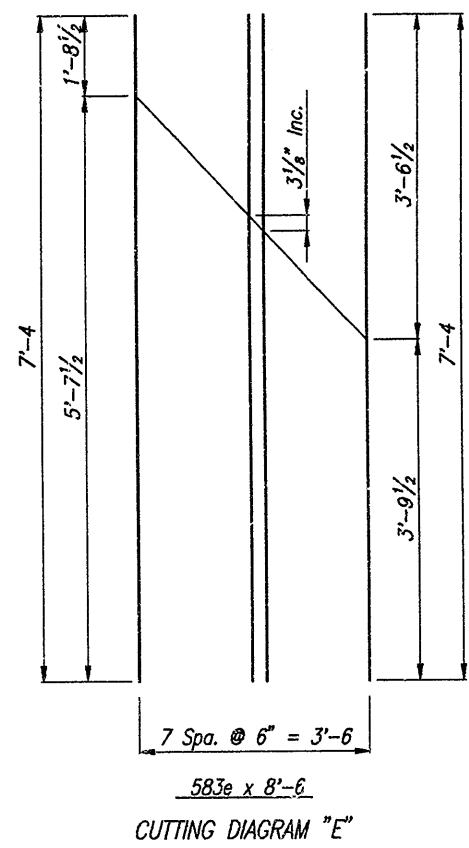




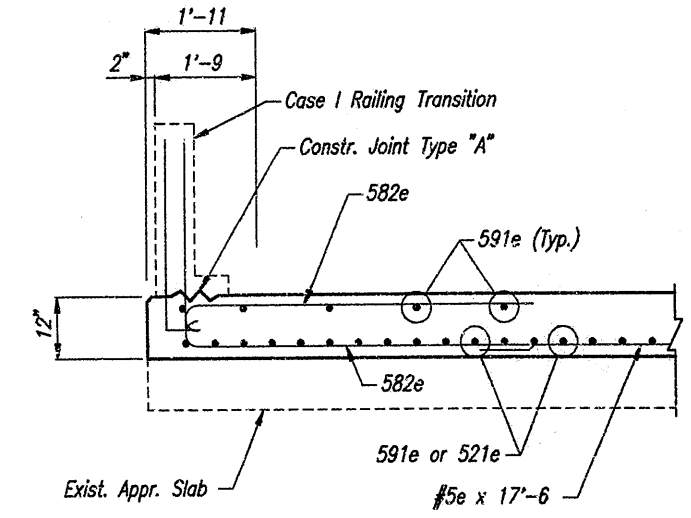


BAR BENDING DETAILS  
No Scale

BILL OF MATERIALS PH I APPR. SLAB				BILL OF MATERIALS PH II APPR. SLAB			
EPOXY COATED REINFORCING STEEL				EPOXY COATED REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)	Size or Mark	No. of Bars	Length	Weight (lbs.)
582e	98	6'-7		520e	4	18'-5	
583e	4	8'-6		521e	17	22'-7	
591e	18	20'-7		523e	18	29'-5	
593e	21	22'-5		582e	106	6'-7	
594e	21	13'-1		591e	88	20'-7	
#5e	42	38'-3		#5e	1	23'-9	
#5e	1	38'-0		#5e	1	19'-9	
#5e	1	37'-6		#5e	1	18'-6	
#5e	10	22'-1		#5e	26	17'-6	
#5e	30	21'-6		#5e	1	12'-0	
#5e	42	20'-0		#5e	1	7'-6	
#5e	1	17'-0		#5e	1	3'-0	
#5e	1	12'-2					
#5e	1	7'-3					
#5e	1	2'-5					
				Total #5e 4,201 lbs.			
				Total Epoxy Coated Reinforcing 4,201 lbs.			
				Total #5e 5446 lbs.			
Total Epoxy Coated Reinforcing 5446 lbs.							
MISCELLANEOUS				MISCELLANEOUS			
12" R.C. Concrete Pavement				12" R.C. Concrete Pavement			
Bent No.1 120.0 Sys.				Bent No.1 62 Sys.			
Bent No.5 65 Sys.				Bent No.5 71 Sys.			
Total 185 Sys.				Total 133 Sys.			
#5 E.C. Threaded Bar Splices 33 each							



SECTION A-A  
Scale: 3/8" = 1'-0



SECTION B1-B1  
Scale: 1/2" = 1'-0

NOTES:  
For Reinforcing Bar Notes, See Bridge Standard C1.  
e-Indicates Epoxy Coated Reinforcing Steel.  
Cost of Joint Type IA Shall be Included in the Cost of Reinforced Concrete Pavement.  
For General Notes, See Drawing

APPROACH DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

BOONE COUNTY

SCALE: As Noted

DATE: 4-23-91

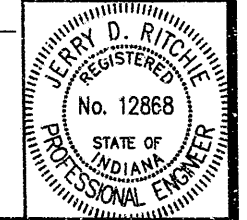
Jerry D. Ritchie

DRAWING: D18L OF 41 SHEET: 22L OF 57

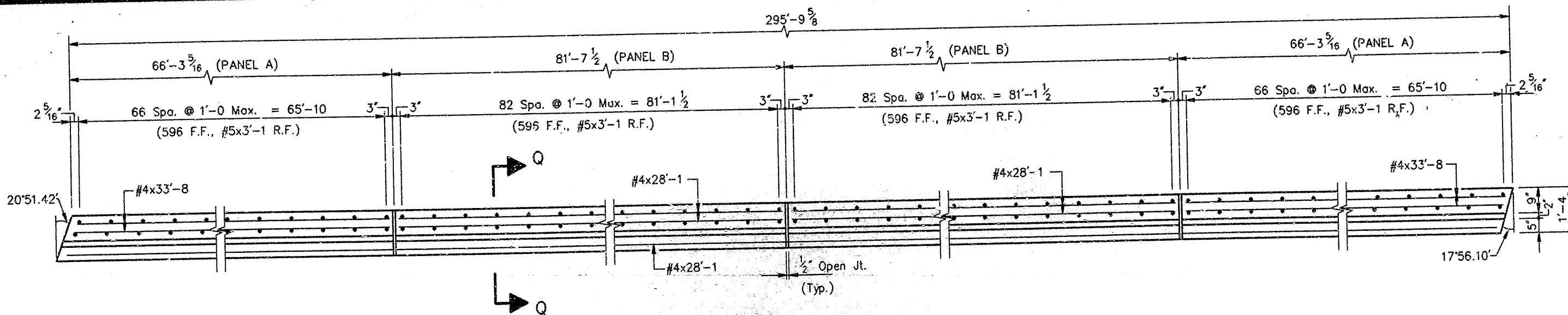
PROJECT: ACIR-465-4(258)131

CONTRACT NO. R18930

BRIDGE FILE: I-465-136-5435B



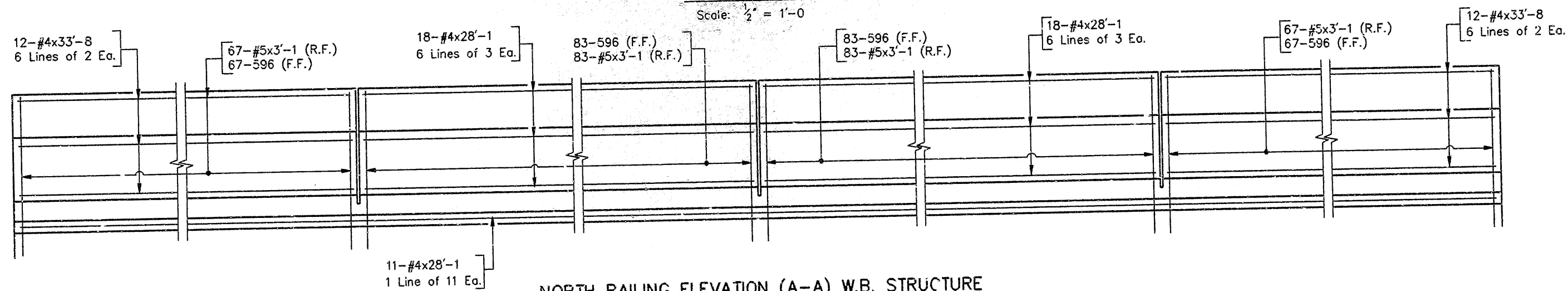
DESIGNED	J.D.R.	CHECKED	R.C.M.
DRAWN	W.K.S.	CHECKED	J.D.R.
TRACED		CHECKED	



NORTH RAILING PLAN W.B. STRUCTURE

(STRUCTURE-5259B)

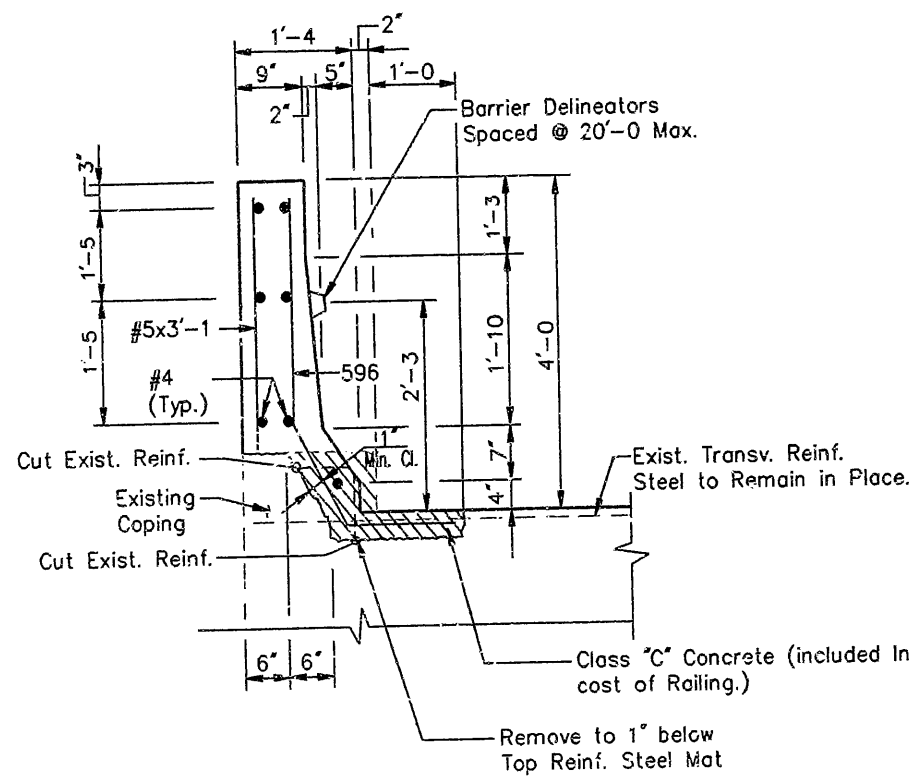
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NORTH RAILING ELEVATION (A-A) W.B. STRUCTURE

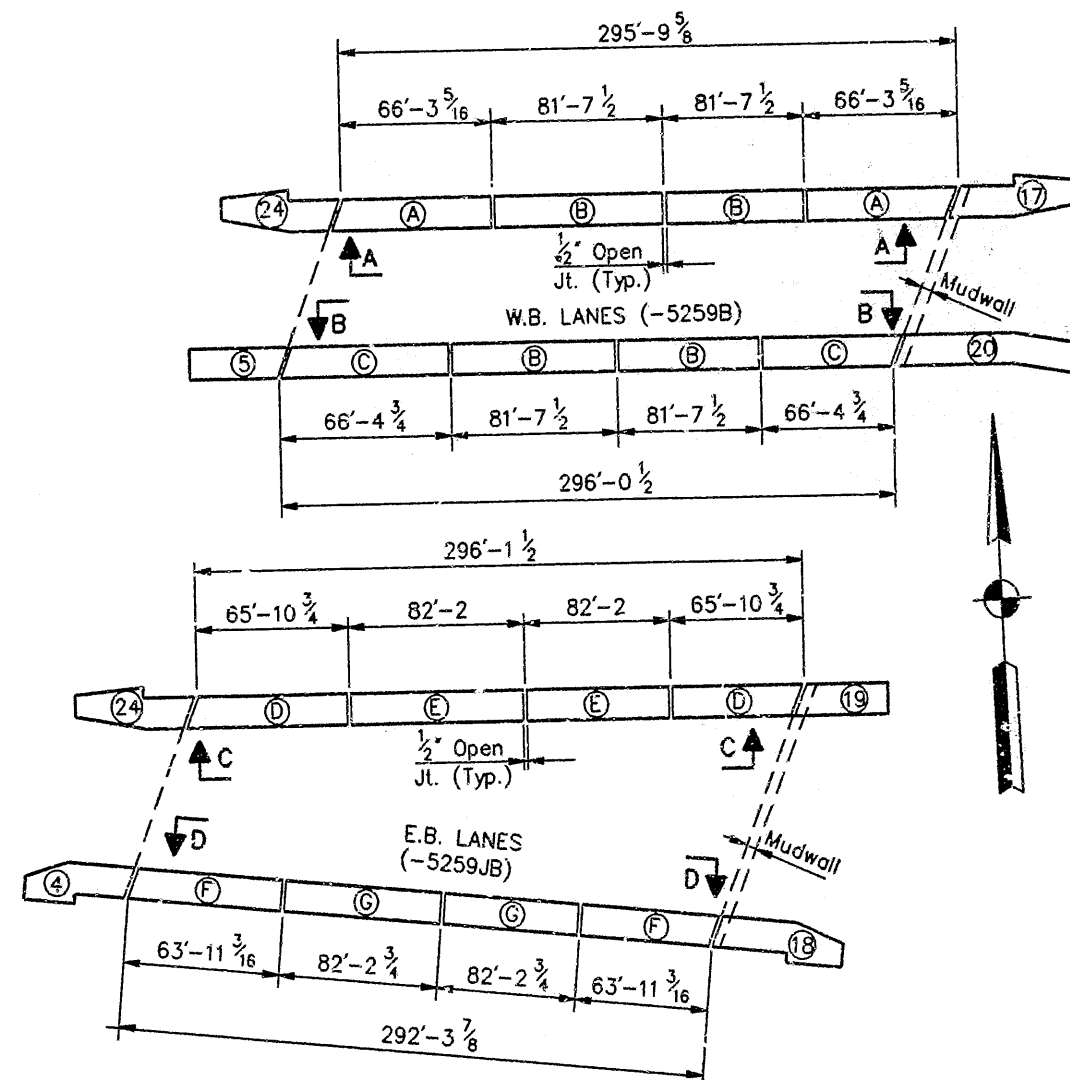
(STRUCTURE-5259B)

Scale: 1/2" = 1'-0"



SECTION Q-Q

Scale: 3/4" = 1'-0"



PLAN

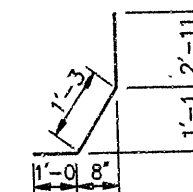
No Scale  
(STRUCTURE -5259B & JB)

BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
596	300	5'-2"	
#5	300	3'-1"	
TOTAL #5 BARS			2581
#4	24	33'-8"	
#4	47	28'-1"	
TOTAL #4 BARS			1421
TOTAL EPOXY COATED REINF.			4002
MISCELLANEOUS			
Class 'C' Concrete Railing			296 L.Ft.
Barrier Delineators			15 Ec.

NOTES:

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class 'C'.
- Minimum Lap For #4 Bar is 1'-4"
- Existing Reinforcing to Remain in Shall be Cleaned & realigned.
- For Details and Bill of Materials for Panel 24 & 17, See Dwg. D31 D34.
- ▨ Limits Of Concrete Removal. Include in 'Removal of Present Structure (Portions)'.  
- For Barrier Rail Transition Details & Bill of Materials for: Panel 24 See Dwg. D34.  
Panel 17 See Dwg. D31.



596x5'-2

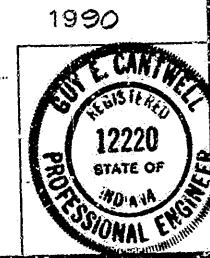
CONCRETE RAILING DETAILS  
BRIDGE STRUCTURE -5259B & JB  
INDIANA DEPARTMENT OF HIGHWAYS  
MARION COUNTY

SCALE: - As Noted

DATE: - 2-27

*Ray E. Cartmell*

DRAWING: D19 OF 41 SHEET: 23 OF 57  
PROJECT: IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - 1-465-136-5259B & JB



DESIGNED:	P.E.B.	C.W.D.	T.W.L.
DRAWN:	PCR	C.W.D.	T.W.L.
TRACED:		C.W.D.	

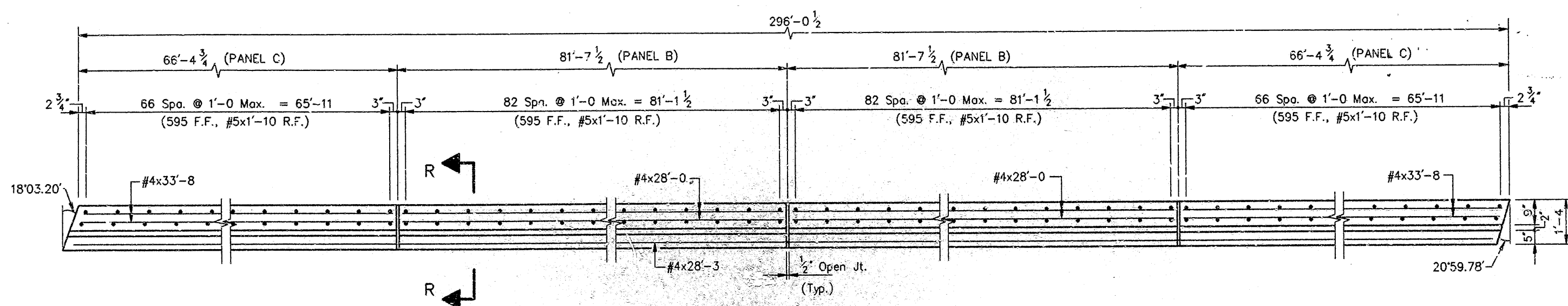
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OPERATOR: spm

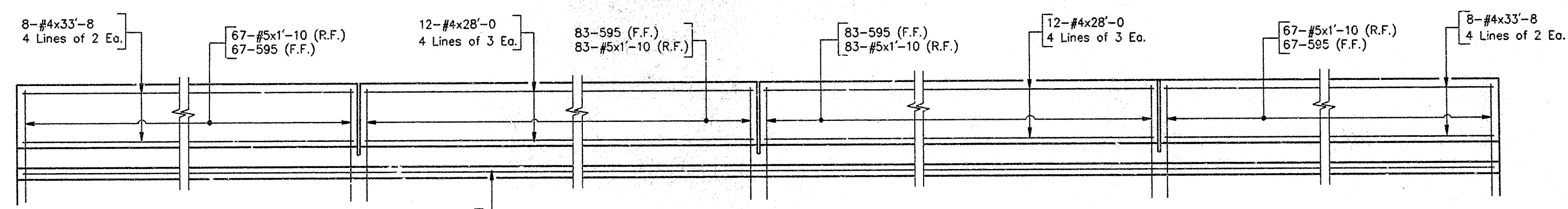


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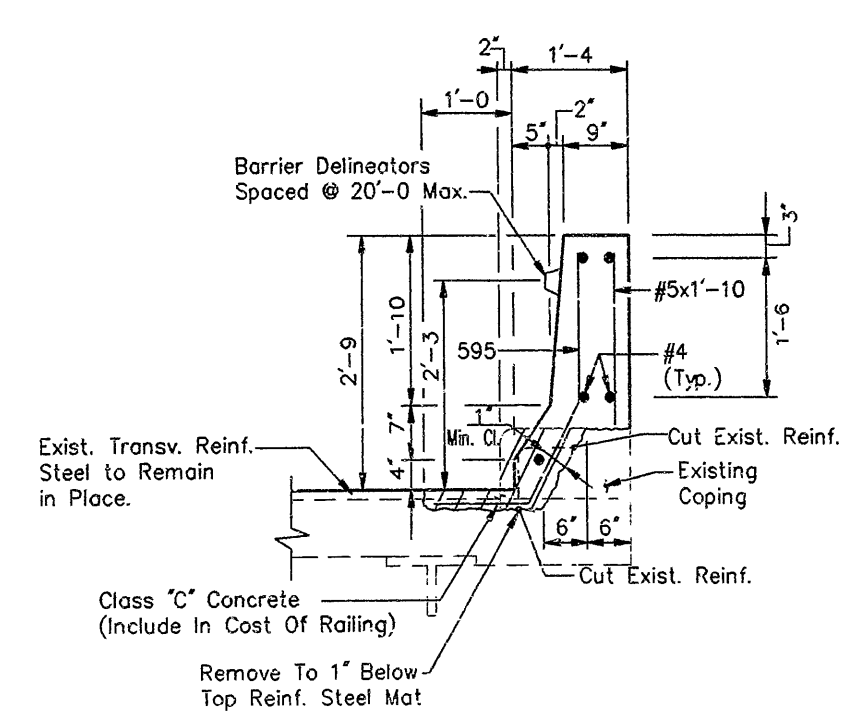
DWG. FILE: 5259RA12  
 OPERATOR: cpm



**SOUTH RAILING PLAN W.B. STRUCTURE**  
 (STRUCTURE-5259B)  
 Scale: 1/2" = 1'-0



**SOUTH RAILING ELEVATION (B-B) W.B. STRUCTURE**  
 (STRUCTURE-5259B)  
 Scale: 1/2" = 1'-0



**SECTION R-R**  
 Scale: 3/4" = 1'-0

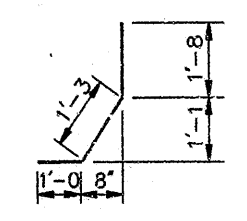
DESIGNED:	PEB	C'K'D	TWL
DRAWN:	PCR	C'K'D	TWL
TRACED:		C'K'D	

**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
595	300	3'-4"	
#5	300	1'-10"	
TOTAL #5 BARS			1799
#4	16	33'-8"	
#4	11	28'-3"	
#4	24	28'-0"	
TOTAL #4 BARS			1016
TOTAL EPOXY COATED REINF.			2815
MISCELLANEOUS			
Class "C" Concrete Railing			296 Lft.
Barrier Delineators			15 Ea.

**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- Minimum Lap For #4 Bar Is 1'-4
- For Plan Of Structure 5259B&JB See Dwg. D19.
- Existing Reinforcing to Remain in Place Shall be Cleaned & realigned.
- For Details and Bill of Materials for Panels 5 & 20, See Dwg. D26 & D32.
- ▨ Limits Of Concrete Removal. Include in 'Removal of Present Structure (Portions)'.  
 - For Barrier Rail Transition Details & Bill of Materials for: Panel 5 See Dwg. D26. Panel 20 See Dwg. D32.



**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5259B & JB**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
**MARION COUNTY**

SCALE:- As Noted

DATE:- 2-27

1990

*Ray S. Cantwell*

DRAWING: D20 OF 41 SHEET: 24 OF 57  
 PROJECT:- IR-465-4( ) STATION:-  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE:- I-465-136-5259B & JB

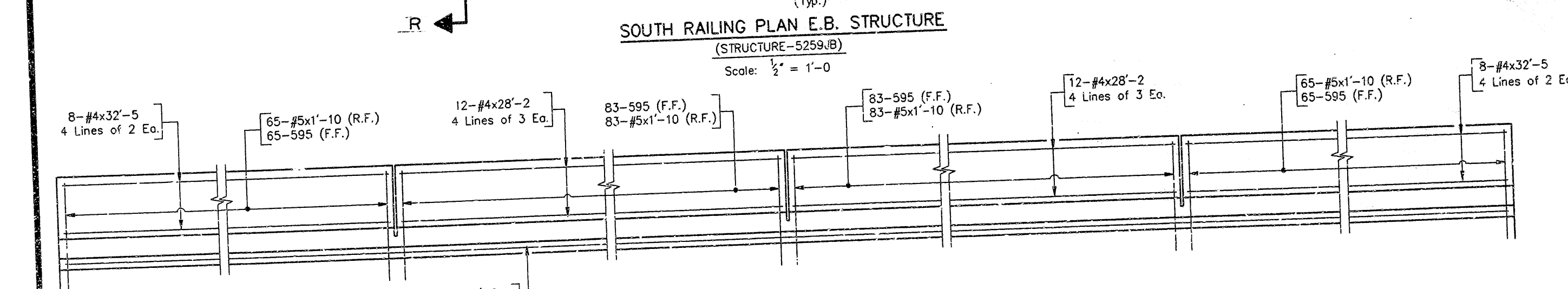
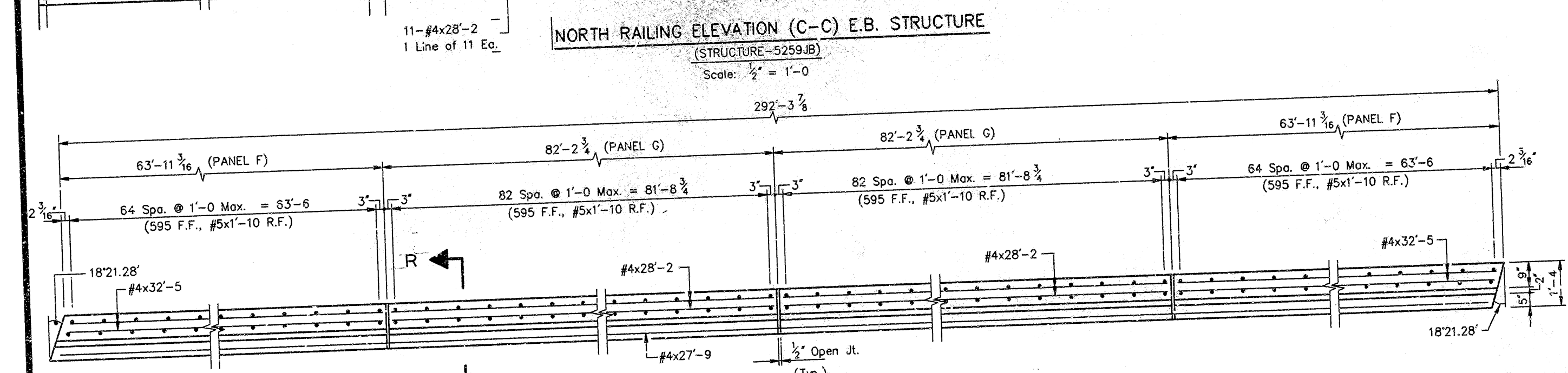
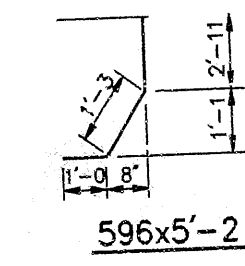
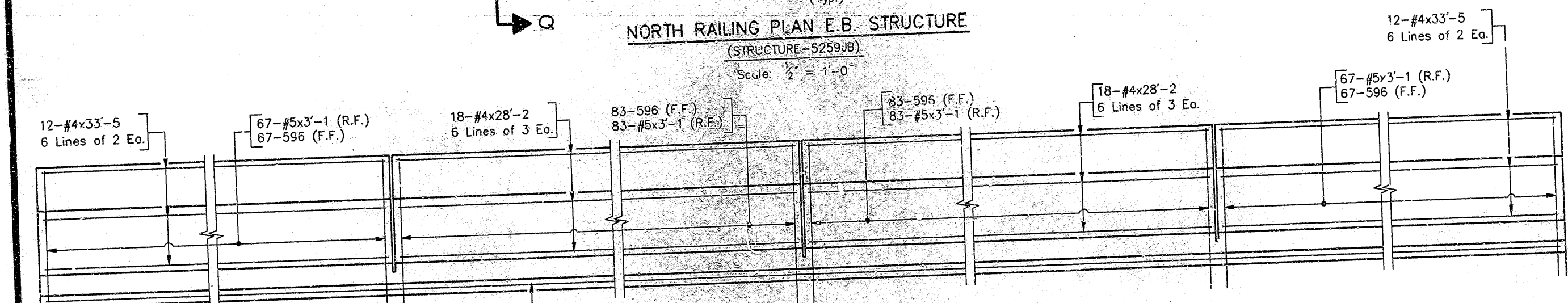
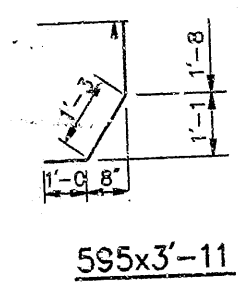
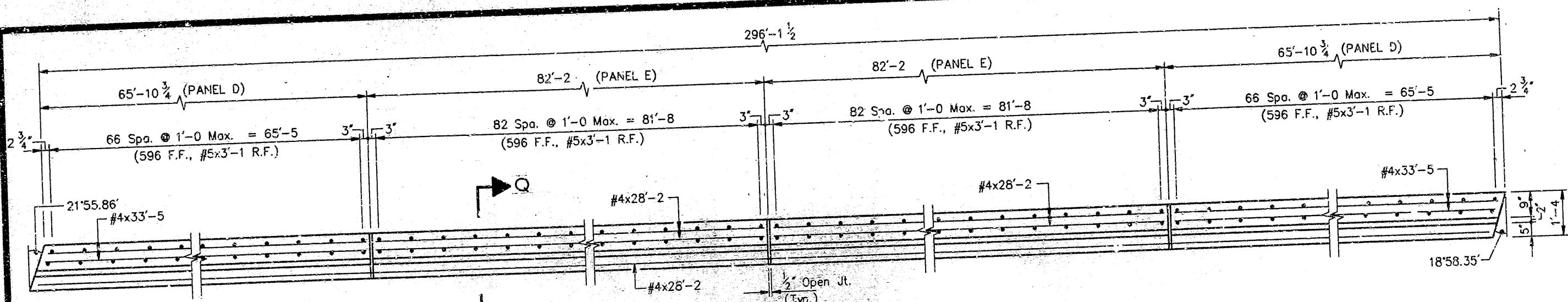


**NORTH RAILING E.B. STRUCTURE  
BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
596	300	3'-2"	
#5	300	3'-1"	
TOTAL #5 BARS			2581
#4	24	33'-5"	
#4	47	28'-2"	
TOTAL #4 BARS			1420
TOTAL EPOXY COATED REINF.			4001
MISCELLANEOUS			
Class "C" Concrete Railing			296 Lft.
Barrier Delineators			15 Ea.

**SOUTH RAILING E.B. STRUCTURE  
BILL OF MATERIALS**

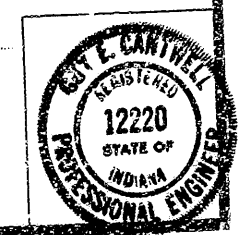
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
595	296	3'-11"	
#5	296	1'-10"	
TOTAL #5 BARS			1775
#4	16	32'-5"	
#4	24	28'-2"	
#4	11	27'-9"	
TOTAL #4 BARS			1002
TOTAL EPOXY COATED REINF.			2777
MISCELLANEOUS			
Class "C" Concrete Railing			293 Lft.
Barrier Delineators			15 Ea.



- NOTES:**
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - Minimum Lap For #4 Bar is 1'-4"
  - For Plan Of Structure 5259B&JB See Dwg. D19.
  - Existing Reinforcing to Remain in Place Shall be Cleaned and Realigned.
  - For Details & Bill of Materials for:
    - Panel 4 See Dwg. D26.
    - Panel 18 See Dwg. D31.
    - Panel 19 See Dwg. D32.
    - Panel 24 See Dwg. D34.
  - For Section Q-Q, See Dwg. D19.
  - For Section R-R, See Dwg. D20.
  - Limits Of Concrete Removal, Include in 'Removal of Present Structure (Portions)'

**CONCRETE RAILING DETAILS  
BRIDGE STRUCTURE -5259B & JB  
INDIANA DEPARTMENT OF HIGHWAYS  
MARION COUNTY**

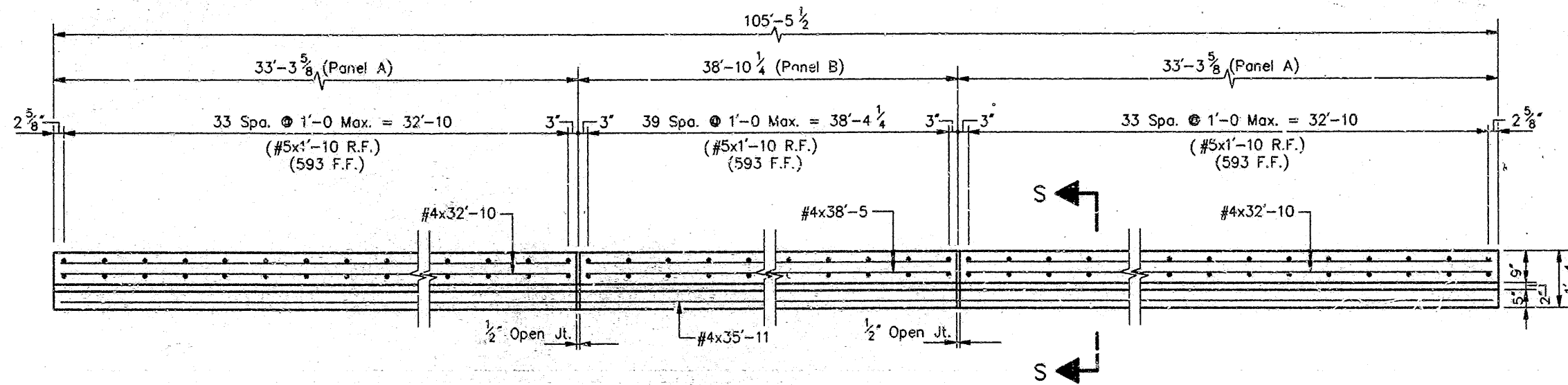
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DATE: - 2-27 1990  
DRAWING: D21 OF 41 SHEET: 25 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - 1-465-136-5259B & JB



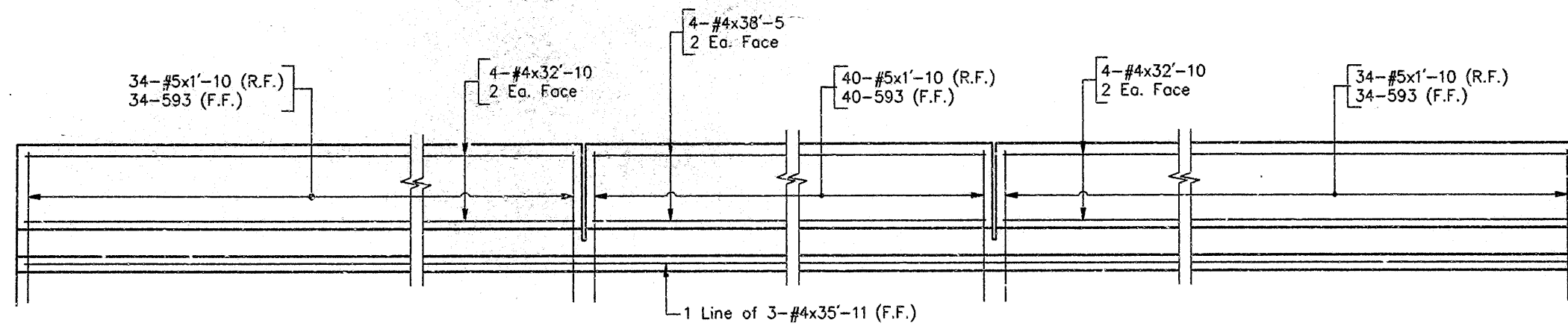
DESIGNED	PEB	C.K'D	TWL
DRAWN	PCR	C.K'D	TWL
TRACED		C.K'D	

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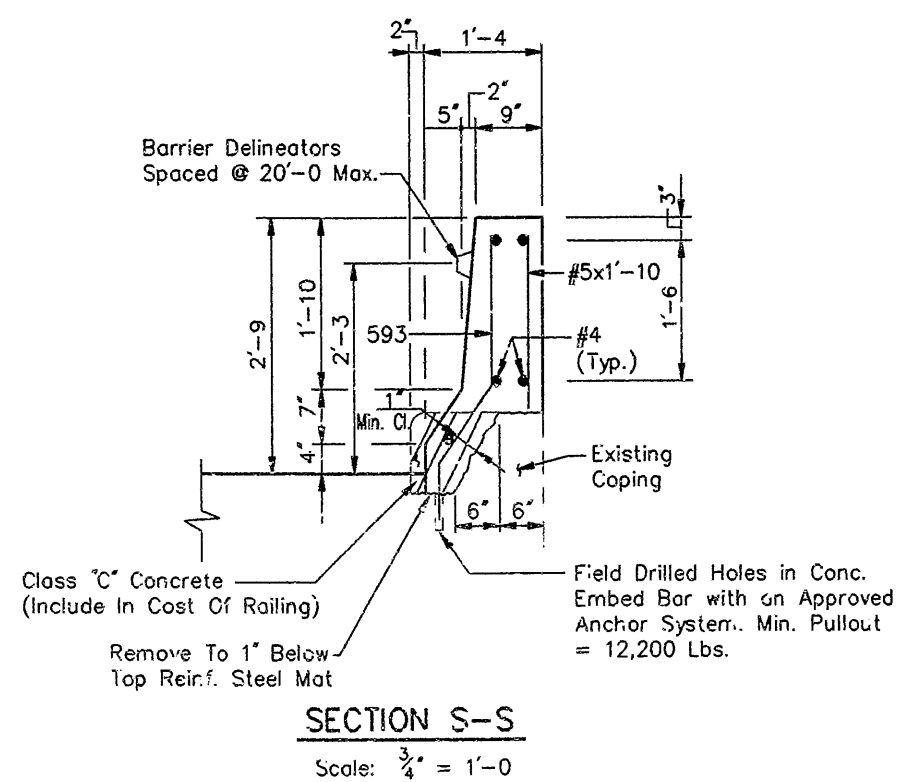
DWG. FILE: 5259RA13 OPERATOR: cpm



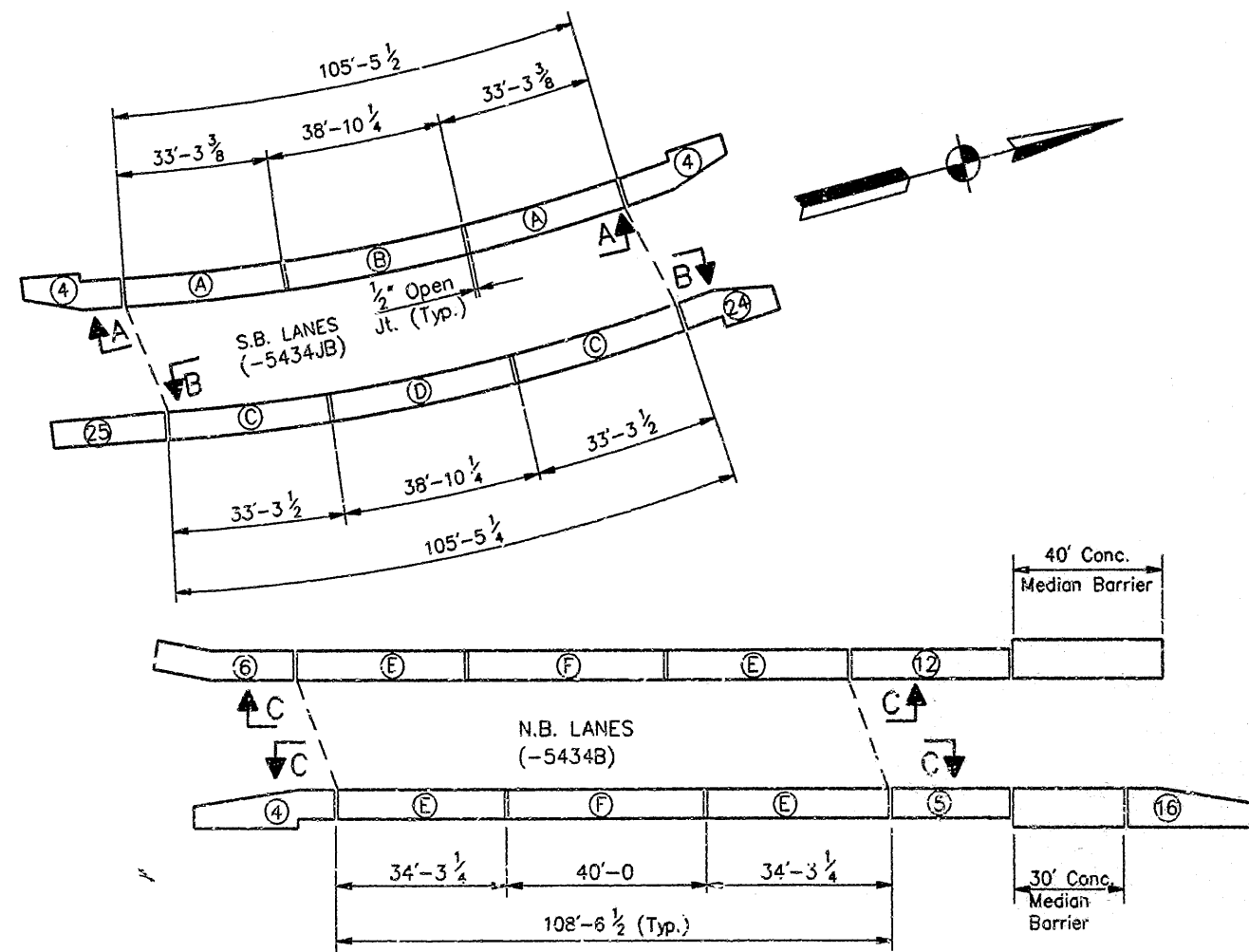
**WEST RAILING PLAN S.B. STRUCTURE**  
(STRUCTURE -5434JB)  
Scale: 1/2" = 1'-0"



**WEST RAILING ELEVATION (A-A) S.B. STRUCTURE**  
(STRUCTURE -5434JB)  
Scale: 1/2" = 1'-0"



**SECTION S-S**  
Scale: 3/4" = 1'-0"



**PLAN**  
No Scale  
(STRUCTURE -5434B&JB)

**WEST RAILING  
S.B. STRUCTURE  
BILL OF MATERIALS**

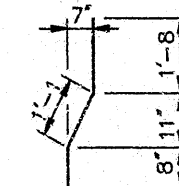
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#5	108	3'-5"	
#5	108	1'-10"	
TOTAL #5 BARS			591
#4	4	38'-5"	
#4	3	35'-11"	
#4	8	32'-10"	
TOTAL #4 BARS			350
TOTAL EPOXY COATED REINF.			941
MISCELLANEOUS			
Class "C" Concrete Railing			106 LFT.
Field Drilled Holes in Conc.			108 Ea.
Barrier Delineators			6 Ea.

NOTE: 90 LFT. of Concrete Median Barrier Req'd. And 6 additional Barrier Delineators Req'd. for the Concrete Median Barrier Sections. (Includes Panel 16)

**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- Minimum Lap For #4 Bar is 1'-4"
- For Barrier Rail Transition Details and Bill of Materials: Panel 4, 5 & 6, See Dwg. D26. Panel 12, See Dwg. D28. Panel 16, See Dwg. D30. Panel 24, See Dwg. D34. Panel 25, See Dwg. D35.

▨ Limits Of Concrete Removal. Include in "Removal of Present Structure (Portions)."



593x3'-5"

**CONCRETE RAILING DETAILS  
BRIDGE STRUCTURE -5434B&JB  
INDIANA DEPARTMENT OF HIGHWAYS  
BOONE & MARION COUNTIES**

SCALE: - As Noted

DATE: - 2-27

1390

*Ray E. Cartwright*

DRAWING: D22 OF 41 SHEET: 26 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-134-5434B&JB

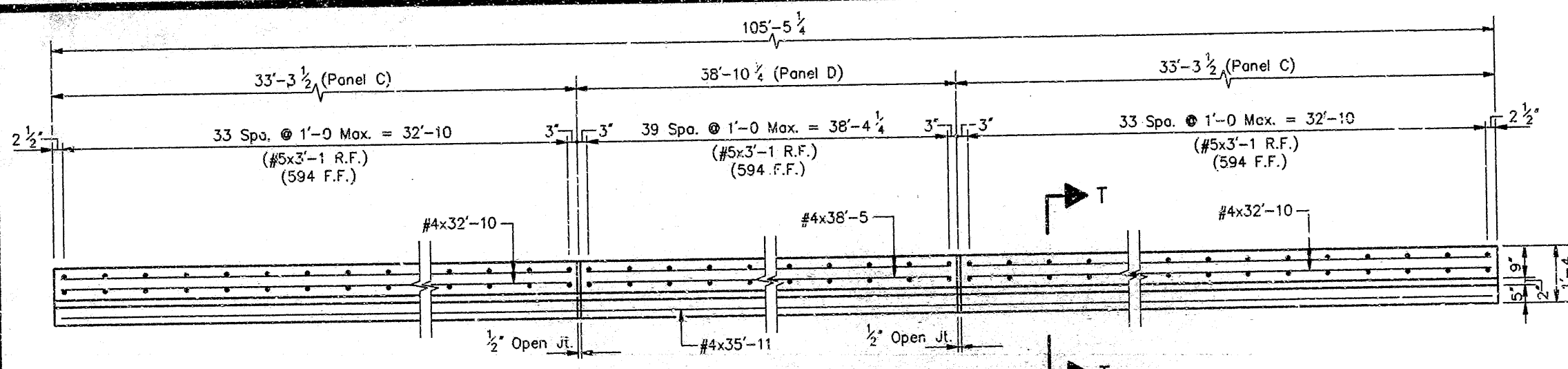


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TIME: 12:5:37

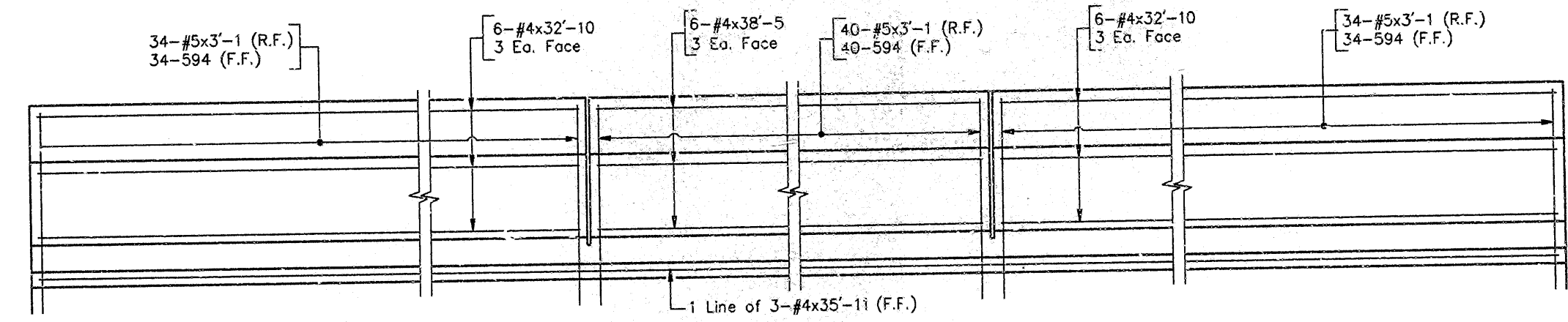
DWG. FILE: 5434RAIL  
OPERATOR: CPM

DESIGNED: PER	CHK'D: TWL
DRAWN: PCR	CHK'D: TWL
TRACED: _____	CHK'D: _____

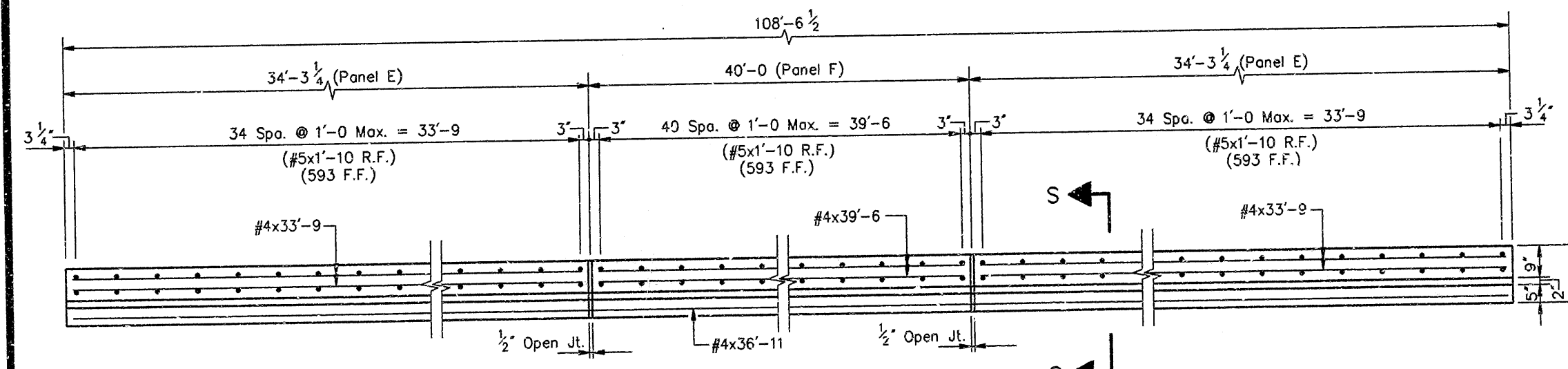




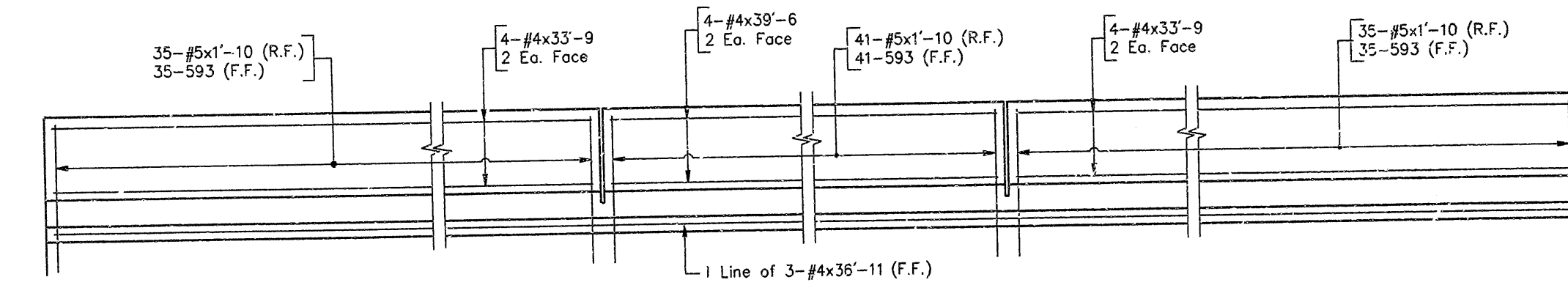
**EAST RAILING PLAN S.B. STRUCTURE**  
(STRUCTURE -5434JB)  
Scale: 1/2" = 1'-0"



**EAST RAILING ELEVATION (B-B) S.B. STRUCTURE**  
(STRUCTURE -5434JB)  
Scale: 1/2" = 1'-0"



**RAILING PLAN N.B. STRUCTURE**  
(STRUCTURE -5434B)  
Scale: 1/2" = 1'-0"



**RAILING ELEVATION (C-C) N.B. STRUCTURE**  
(STRUCTURE -5434B)  
Scale: 1/2" = 1'-0"

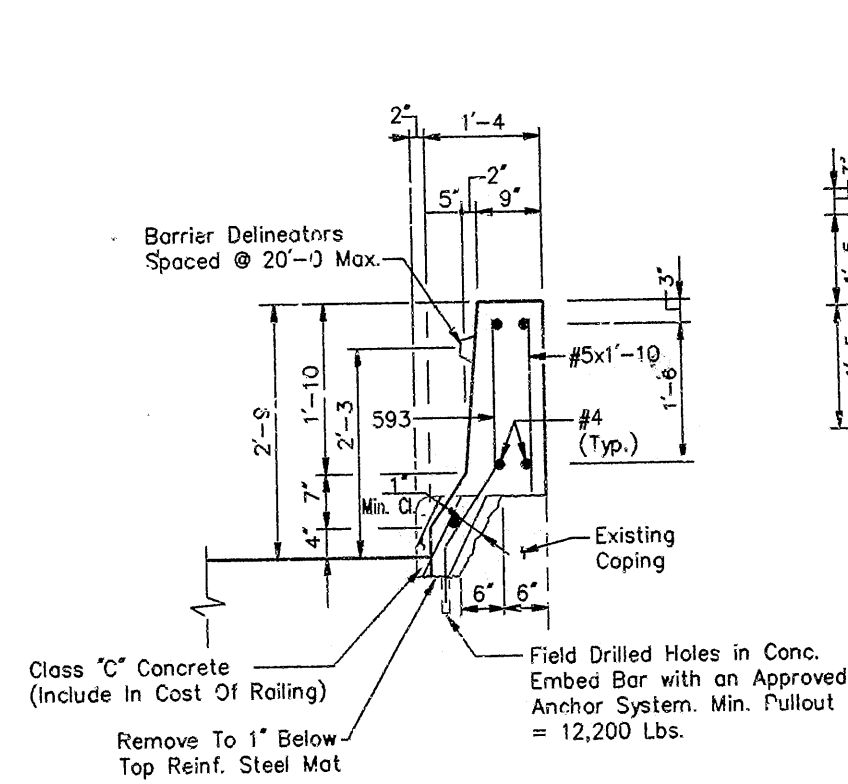
**EAST RAILING S.B. STRUCTURE BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#5	108	4'-8"	
#5	108	3'-1"	
TOTAL #5 BARS			873
#4	6	38'-0"	
#4	3	35'-11"	
#4	12	32'-10"	
TOTAL #4 BARS			489
TOTAL EPOXY COATED REINF.			1362
MISCELLANEOUS			
Class "C" Concrete Railing			106 Lft.
Field Drilled Holes in Conc.			108 Ea.
Barrier Delineators			6 Ea.

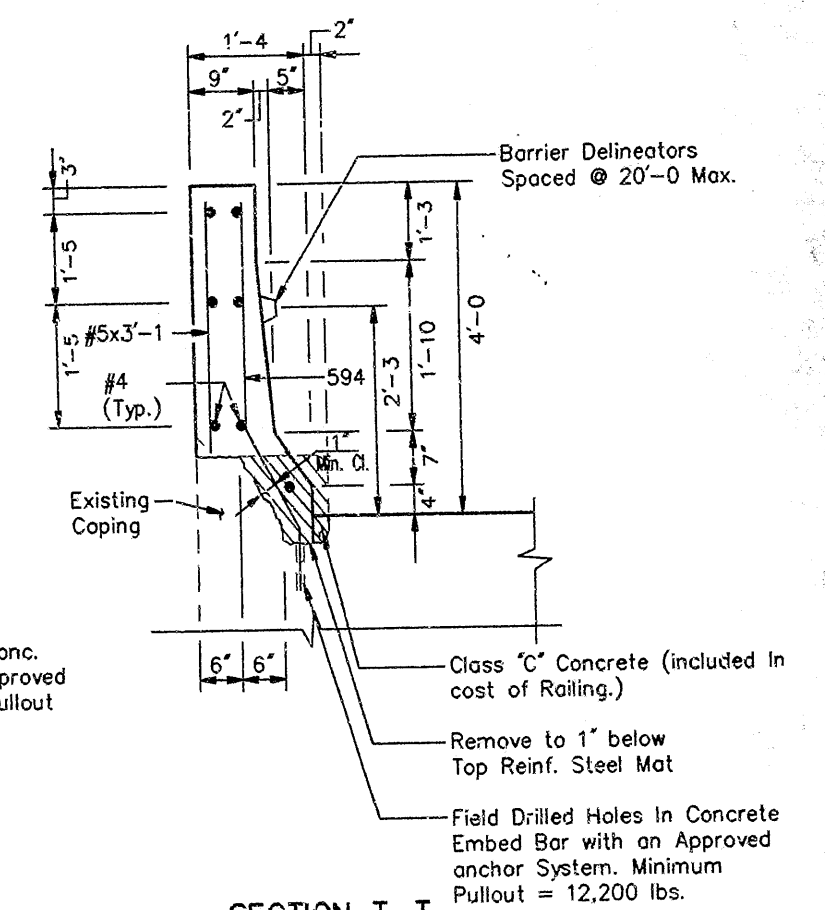
**N.B. STRUCTURE BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#5	111	3'-5"	
#5	111	1'-10"	
TOTAL #5 BARS			608
#4	4	39'-6"	
#4	3	36'-11"	
#4	8	33'-9"	
TOTAL #4 BARS			360
TOTAL EPOXY COATED REINF.			968
MISCELLANEOUS			
Class "C" Concrete Railing			109 Lft.
Field Drilled Holes in Conc.			111 Ea.
Barrier Delineators			6 Ea.

Quantities For One Rail Only, Two (2) Req'd

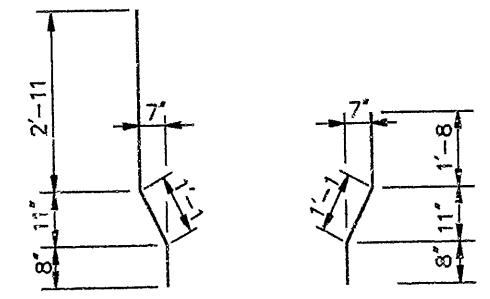


**SECTION S-S**  
Scale: 3/4" = 1'-0"



**SECTION T-T**  
Scale: 3/4" = 1'-0"

- NOTES:**
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - Minimum Lap For #4 Bar Is 1'-4"
  - For Plan Of Structure 5434B&JB See Dwg. D22.
  - ▨ Limits Of Concrete Removal. Include in "Removal of Present Structure (Portions)."

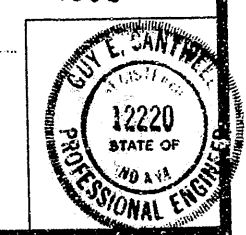


**CONCRETE RAILING DETAILS**  
BRIDGE STRUCTURE -5434B&JB

**INDIANA DEPARTMENT OF HIGHWAYS**  
BOONE & MARION COUNTIES

SCALE: - As Noted DATE: - 2-27 1990

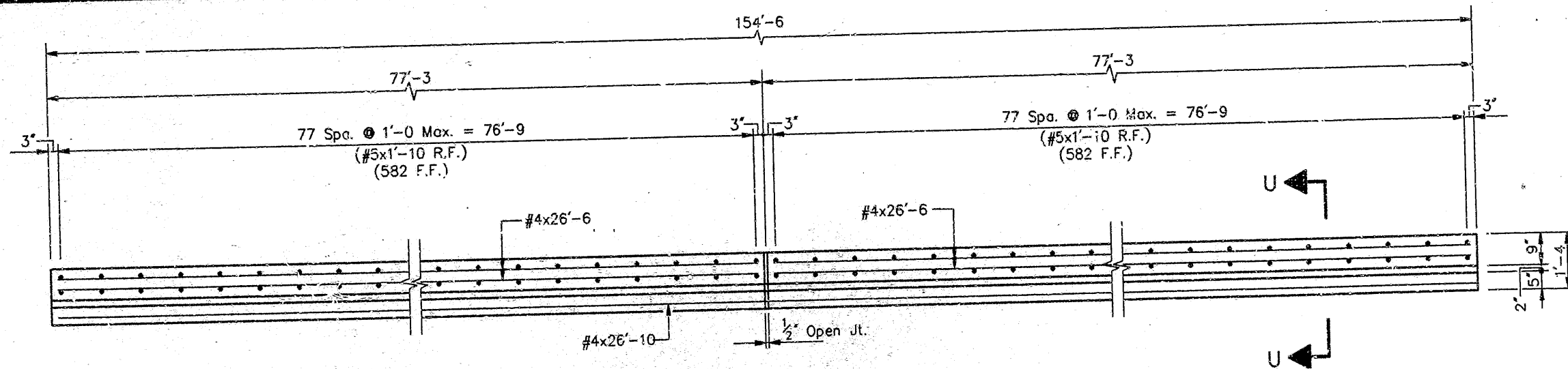
DRAWING: D23 OF 41 SHEET: 27 OF 57  
PROJECT: IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-134-5434B&JB



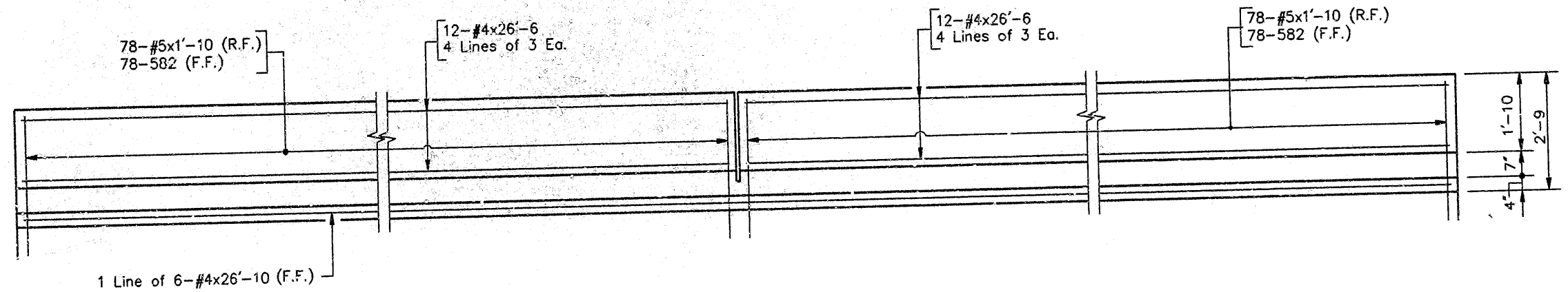
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DWG. FILE: 5434RAZ OPERATOR: CPM

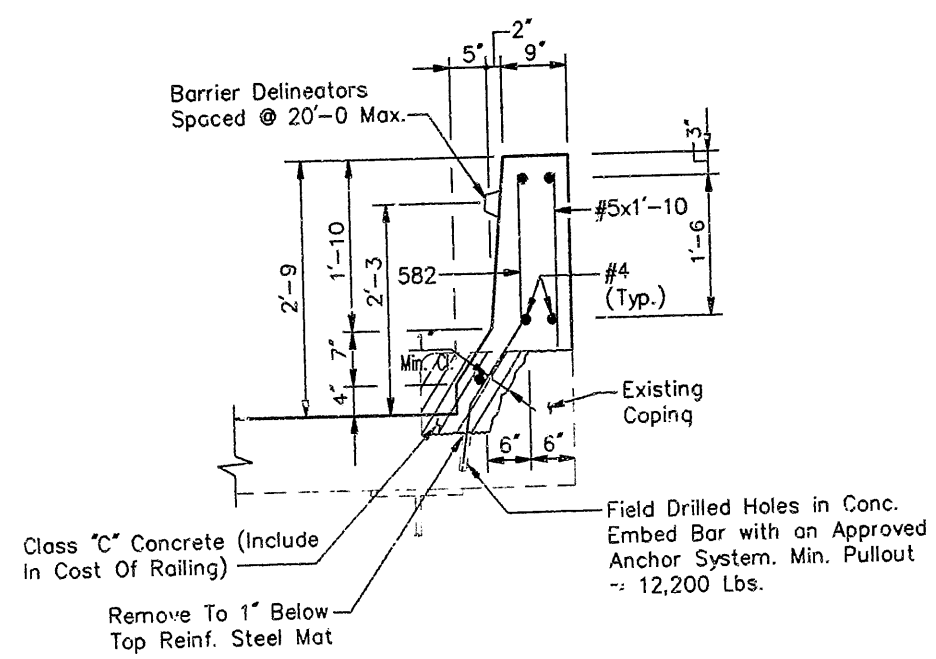
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DRAWN: PCR	CK'D: TWL
TRACED: CPM	



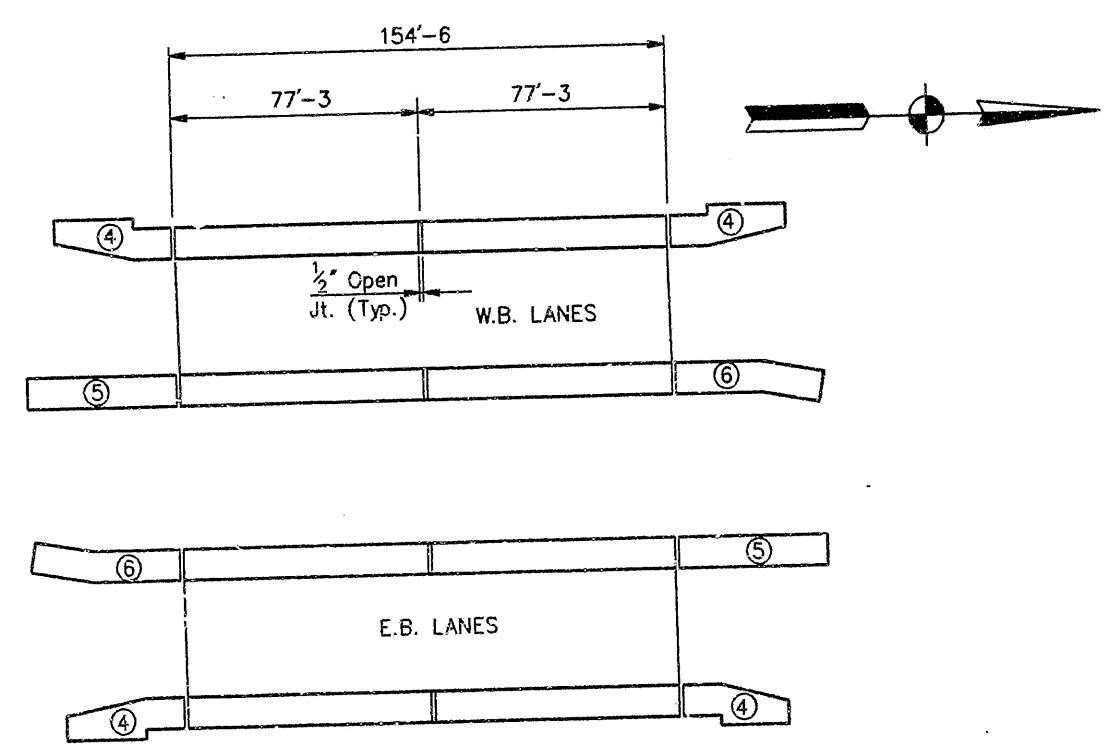
**BRIDGE RAILING PLAN**  
(STRUCTURE -5433B)  
Scale: 1/2" = 1'-0"



**BRIDGE RAILING ELEVATION**  
(STRUCTURE -5433B)  
Scale: 1/2" = 1'-0"



**SECTION U-U**  
Scale: 3/4" = 1'-0"



**PLAN**  
No Scale  
(STRUCTURE -5433B)

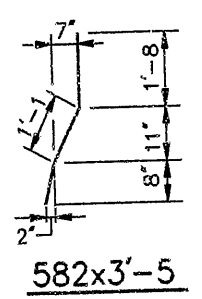
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
#5	156	3'-5"	
#5	156	1'-10"	
TOTAL #5 BARS			854
#4	6	26'-10"	
#4	24	26'-6"	
TOTAL #4 BARS			532
TOTAL EPOXY COATED REINF.			1386
MISCELLANEOUS			
Class 'C' Concrete Railing			155 Lft.
Field Drilled Holes in Conc.			156 Ea.
Barrier Delineators			9 Ea.

Quantities for One Rail Only, Four (4) Req'd.

**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class 'C'.
- Minimum Lap For #4 Bar Is 1'-4"
- For Barrier Rail Transition Details & Bill of Materials: Panels 4, 5 & 6, See Dwg. D26.
- ▨ Limits Of Concrete Removal. Include in Removal of Present Structure (Portions).



**CONCRETE RAILING DETAILS**  
BRIDGE STRUCTURE -5433B

**INDIANA DEPARTMENT OF HIGHWAYS**  
MARION COUNTY

SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Cantwell*

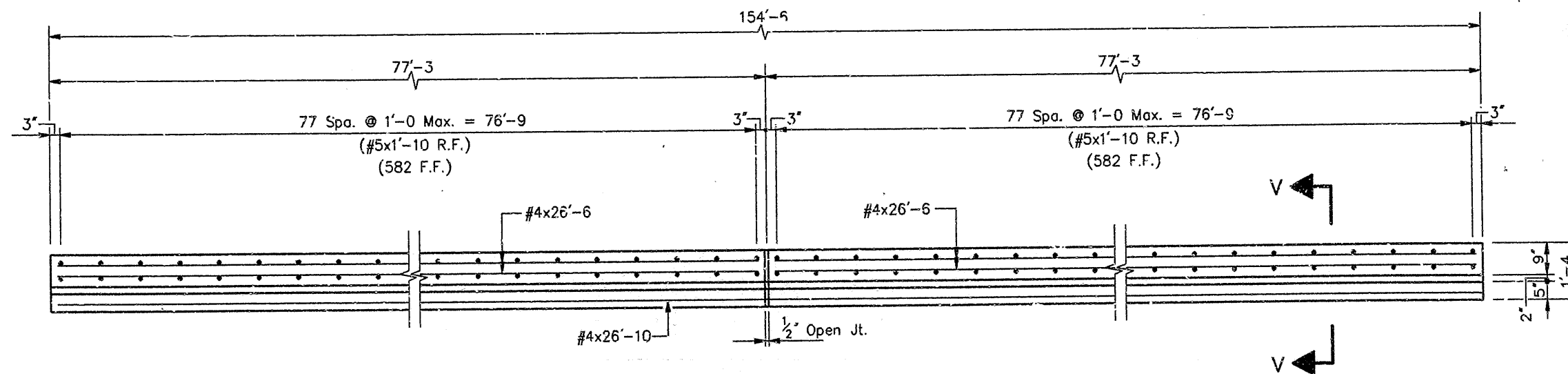
DRAWING: D24 OF 41 SHEET: 28 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-142-5433B



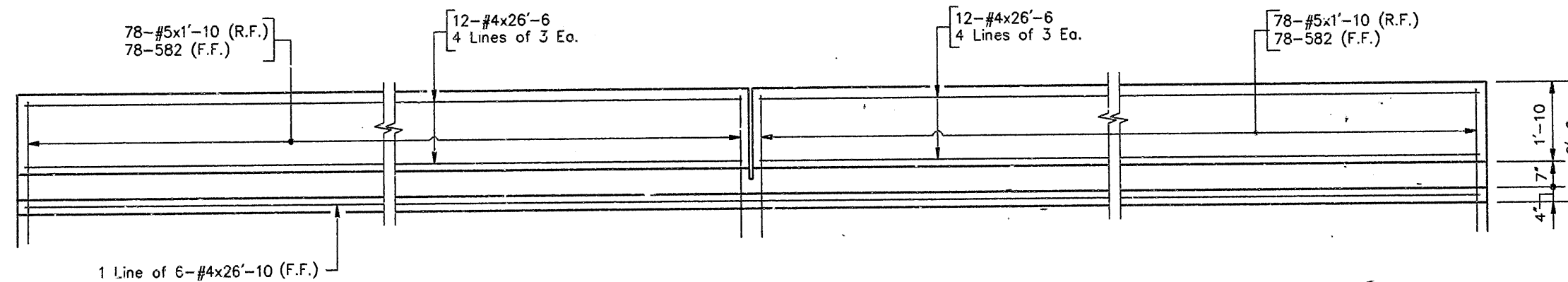
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DRAWN	DJJ	C'K'D	TWL
TRACED		C'K'D	

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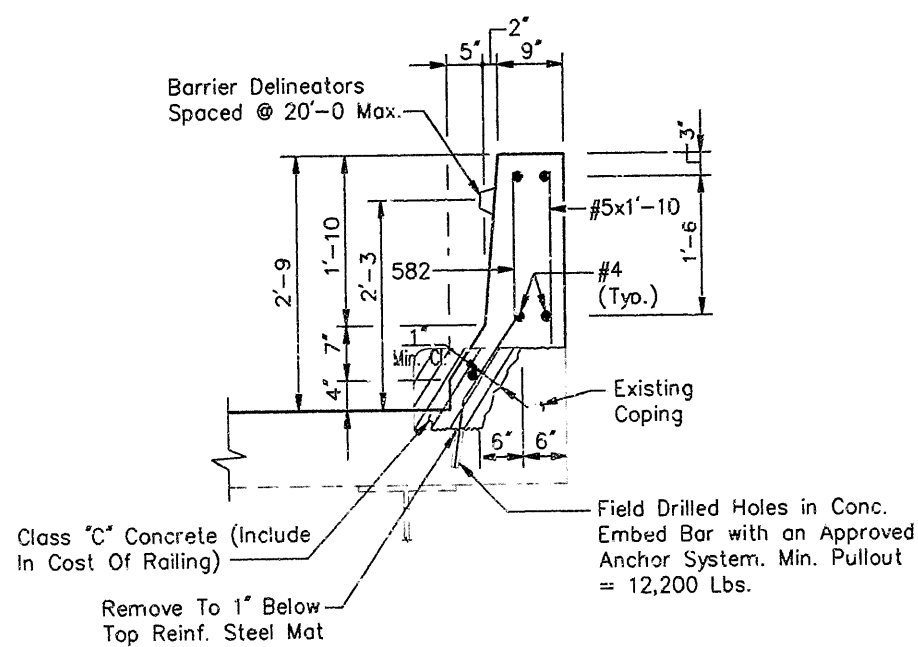
DWG. FILE: 54333-rail OPERATOR: cp n



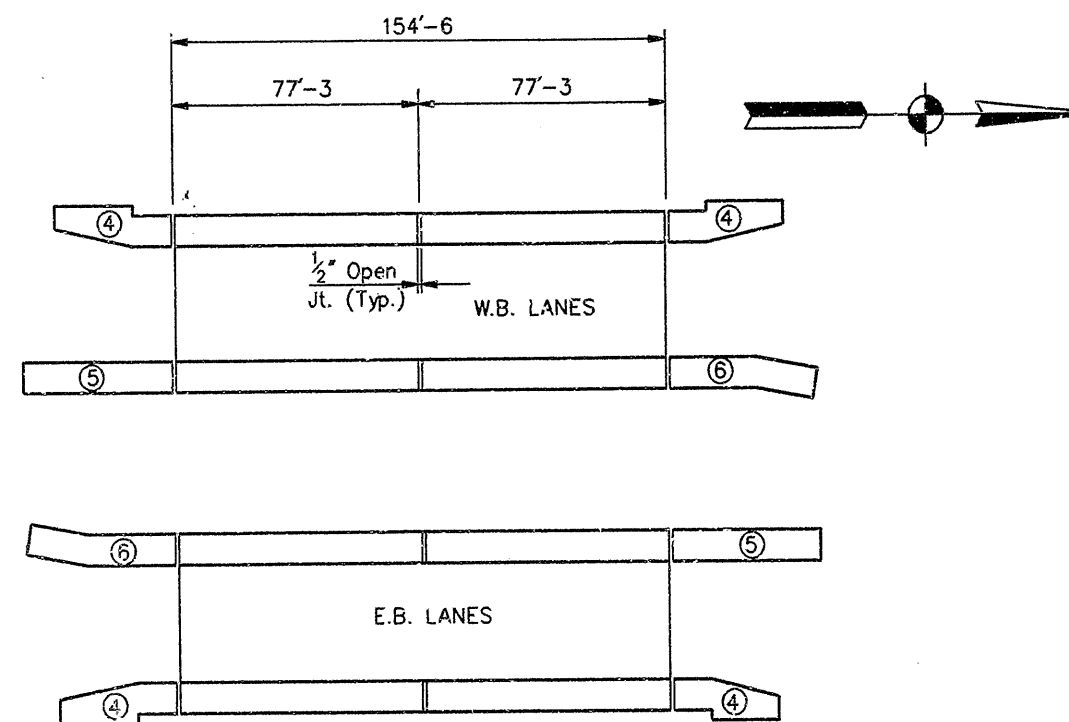
**BRIDGE RAILING PLAN**  
(STRUCTURE -5431B)  
Scale: 1/2" = 1'-0"



**BRIDGE RAILING ELEVATION**  
(STRUCTURE -5431B)  
Scale: 1/2" = 1'-0"



**SECTION V-V**  
Scale: 3/4" = 1'-0"



**PLAN**  
No Scale  
(STRUCTURE -5431B)

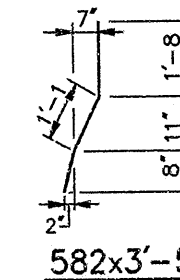
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
582	156	3'-5"	
#5	156	1'-10"	
TOTAL #5 BARS			854
#4	6	26'-10"	
#4	24	26'-6"	
TOTAL #4 BARS			532
TOTAL EPOXY COATED REINF.			1386
MISCELLANEOUS			
Class "C" Concrete Railing			155 Lft.
Field Drilled Holes in Conc.			155 Ea.
Barrier Delineators			9 Ea.

Quantities for One Rail Only, Four (4) Req'd.

**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- Minimum Lap For #4 Bar Is 1'-4"
- For Barrier Transition Details & Bill of Materials: Panels 4, 5 & 6 See Dwg. D26.
- ▨ Limits Of Concrete Removal, Include in "Removal of Present Structure (Portions)."



**CONCRETE RAILING DETAILS**  
**BRIDGE STRUCTURE -5431B**

**INDIANA DEPARTMENT OF HIGHWAYS**  
MARION COUNTY

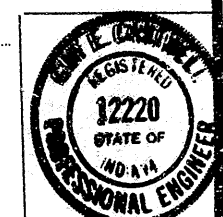
SCALE:- As Noted

DATE:- 2-27

1990

*Ray C. Cantrell*

DRAWING:- D25 OF 41 SHEET:- 29 OF 57  
PROJECT:- IR-465-4( ) STATION:-  
BRIDGE CONTRACT NO.  
BRIDGE FILE:- I-465-144-5431B

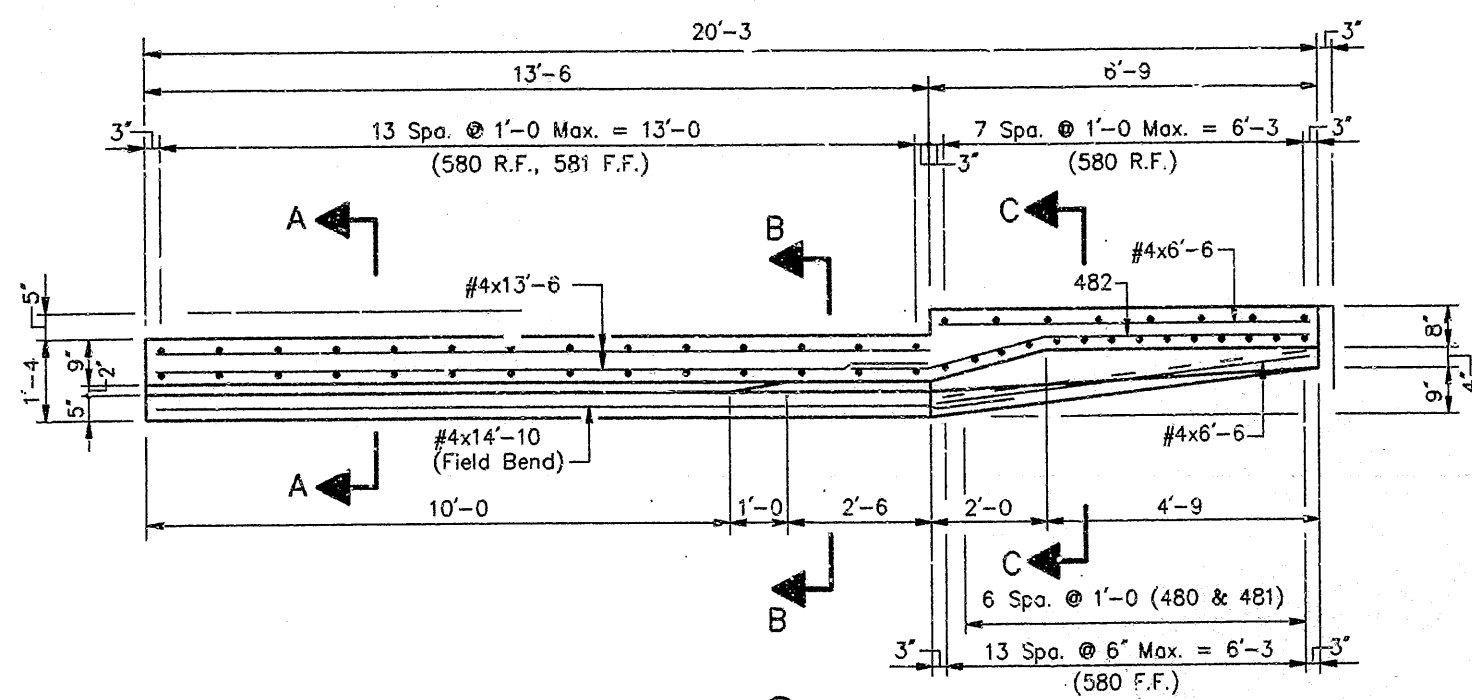


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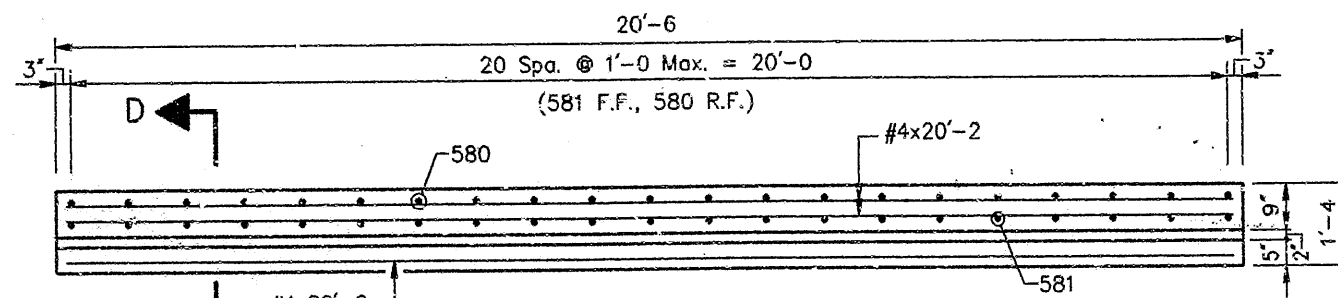
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DRAWN:	DJJ	C'K'D.	TWL
TRACED:		C'K'D.	

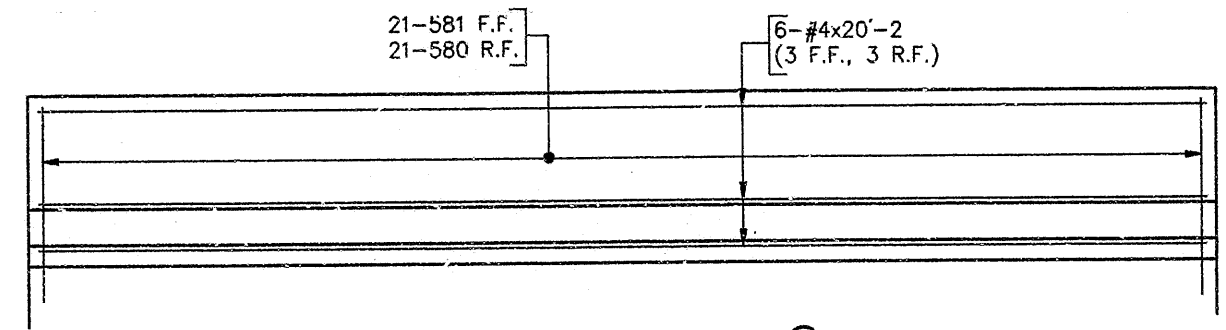




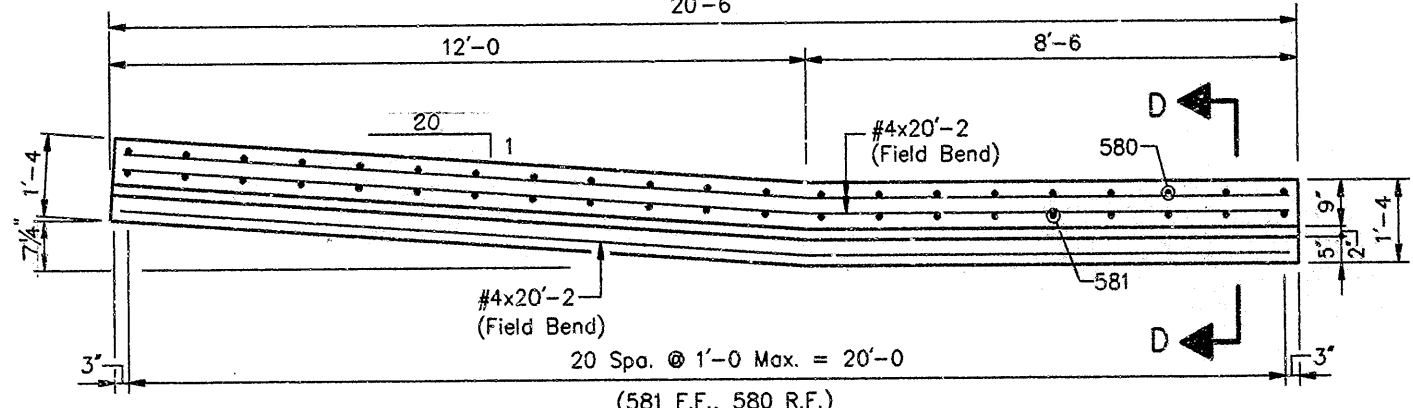
PLAN-PANEL 4  
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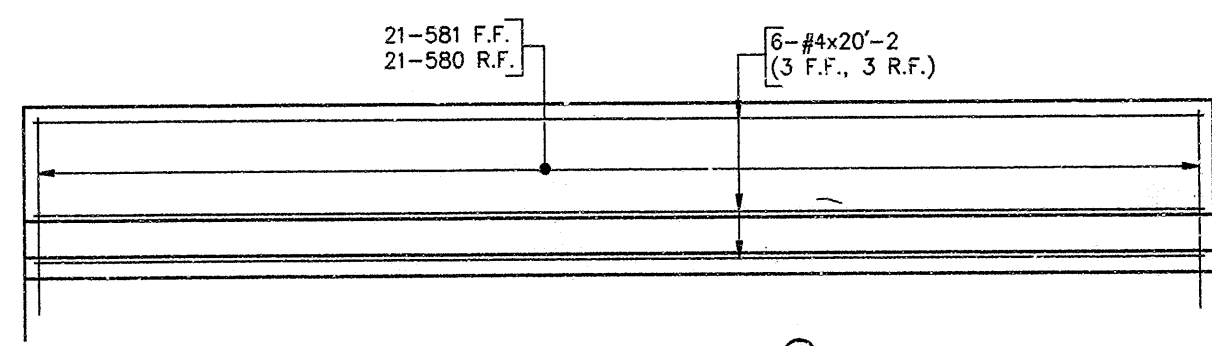
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Scale: 1/2" = 1'-0"



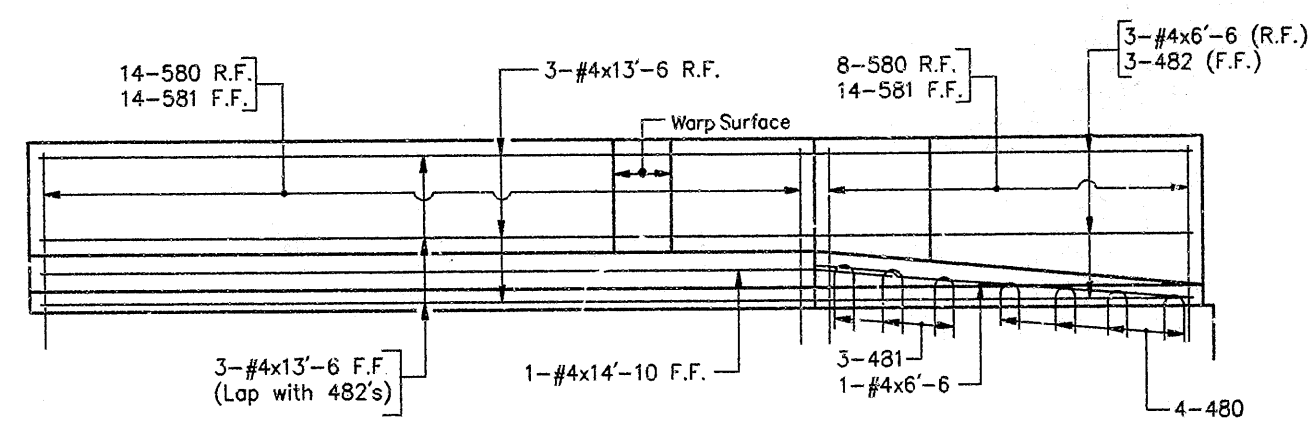
ELEVATION-PANEL 5  
Scale: 1/2" = 1'-0"



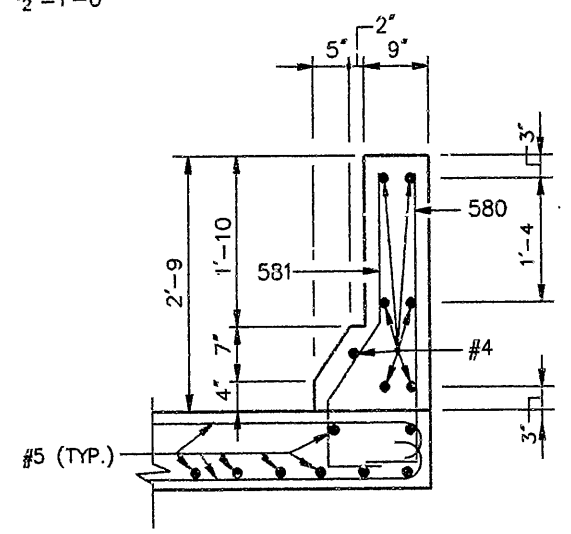
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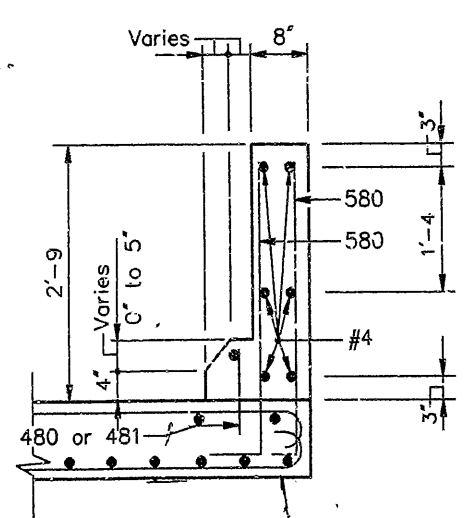
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Scale: 1/2" = 1'-0"



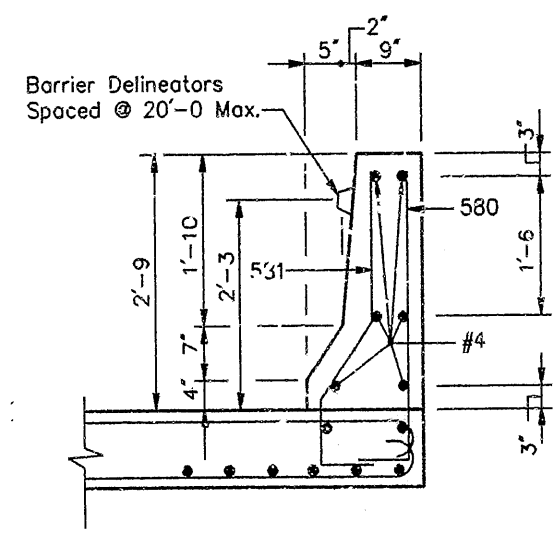
ELEVATION-PANEL 4  
Scale: 1/2" = 1'-0"



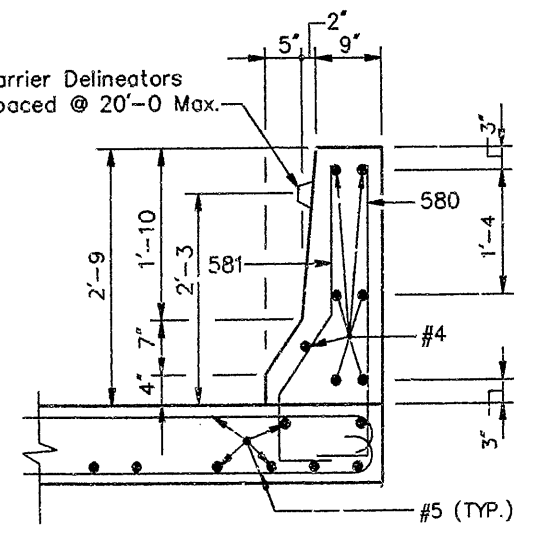
SECTION B-B  
Scale: 3/4" = 1'-0"



SECTION C-C  
Scale: 3/4" = 1'-0"



SECTION D-D  
Scale: 3/4" = 1'-0"



SECTION A-A  
Scale: 3/4" = 1'-0"

**PANEL 4**  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
581	28	3'-11"	
580	22	3'-9"	
TOTAL #5 BARS			200
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	1	14'-10"	
#4	6	13'-6"	
#4	4	6'-6"	
TOTAL #4 BARS			108
TOTAL EPOXY COATED REINF.			308
MISCELLANEOUS			
Class "C" Concrete Railing			21 Lft.
Barrier Delineators			1 Ea.

Quantities for 1 Panel, 23 Total Req'd.

**PANEL 5**  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
581	21	3'-11"	
580	21	3'-9"	
TOTAL #5 BARS			168
#4	6	20'-2"	
TOTAL #4 BARS			81
TOTAL EPOXY COATED REINF.			249
MISCELLANEOUS			
Class "C" Concrete Railing			21 Lft.
Barrier Delineators			1 Ea.

Quantities for 1 Panel, 12 Total Req'd.

**PANEL 6**  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
581	21	3'-11"	
580	21	3'-9"	
TOTAL #5 BARS			168
#4	6	20'-2"	
TOTAL #4 BARS			81
TOTAL EPOXY COATED REINF.			249
MISCELLANEOUS			
Class "C" Concrete Railing			21 Lft.
Barrier Delineators			1 Ea.

Quantities for 1 Panel, 10 Total Req'd.

- NOTES:**
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - For Guard Rail Connection Details, See Br. Std. BR5.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - For Location of Panels 4, 5 & 6, See Dwgs. D11,D13,D14,D19,D22,D24,D25.

**CONCRETE RAILING DETAILS**  
**PANELS 4 5 6**

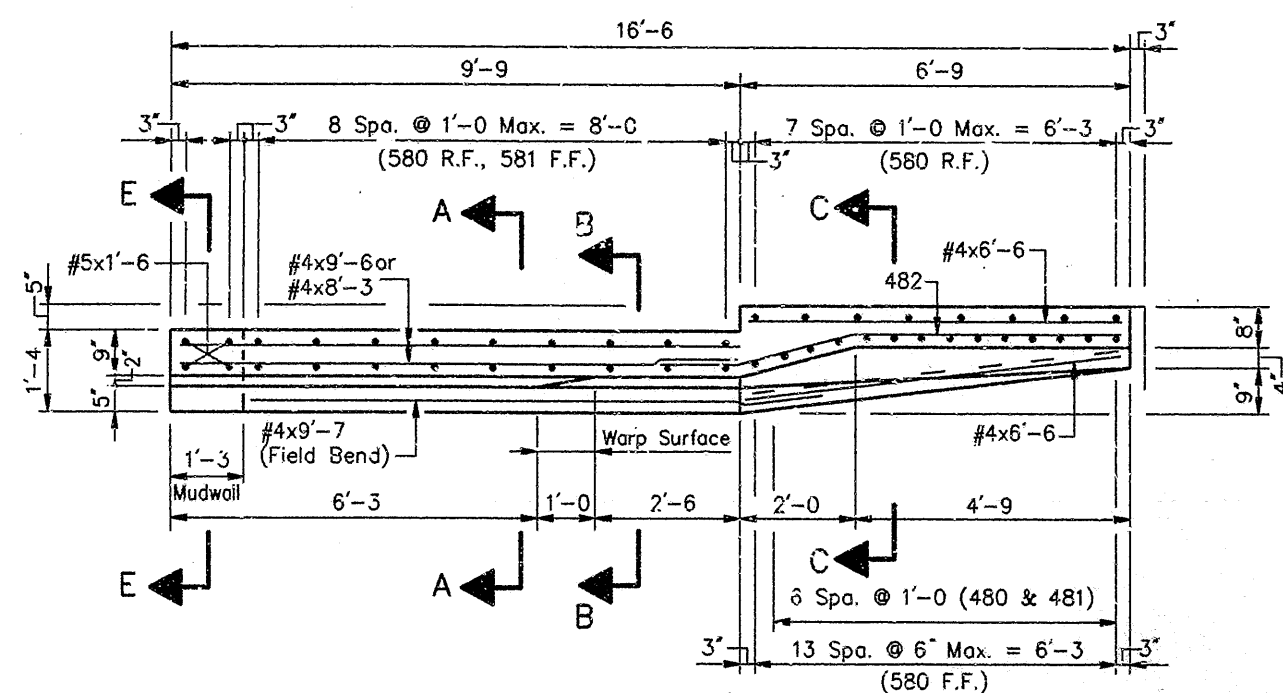
**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE & MARION COUNTIES**

SCALE: - As Noted  
DATE: - 2-27-1990  
DRAWING: D26 OF 41  
PROJECT: - 1R-465-4( )  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-134-5285B; I-465-135-2379B&B; I-465-136-5287B&B; I-465-134-5259B&B; I-465-141-5435B&B; I-465-142-5433B; I-465-144-5431B

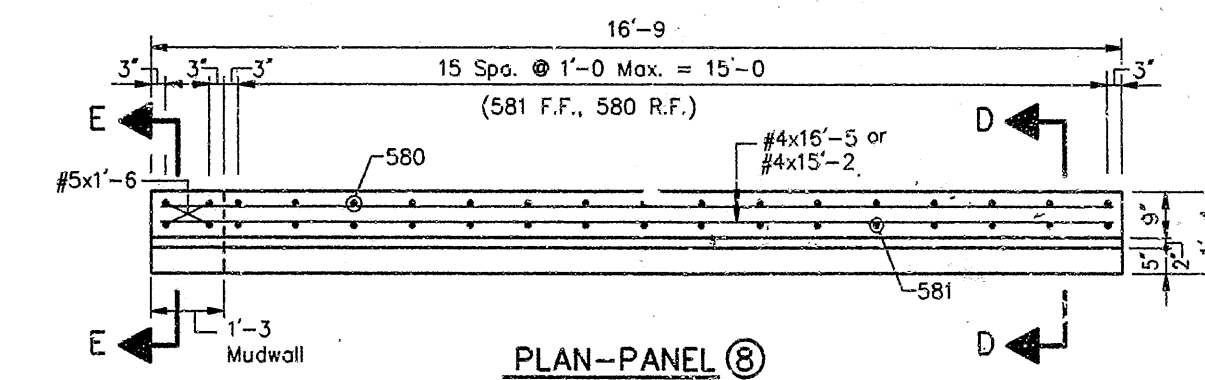


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DWG. FILE: RAILEND1  
OPERATOR: cpm

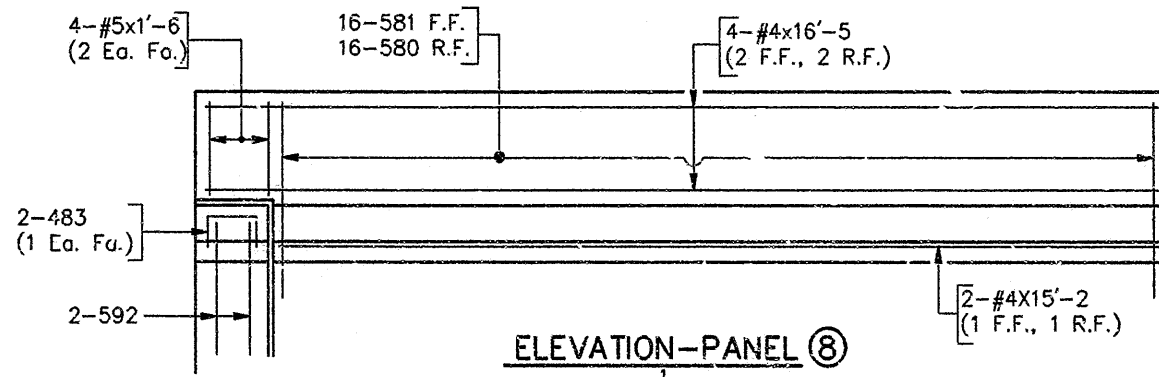
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DRAWN	CDM	C.K.D.	TWL
TRACED		C.K.D.	



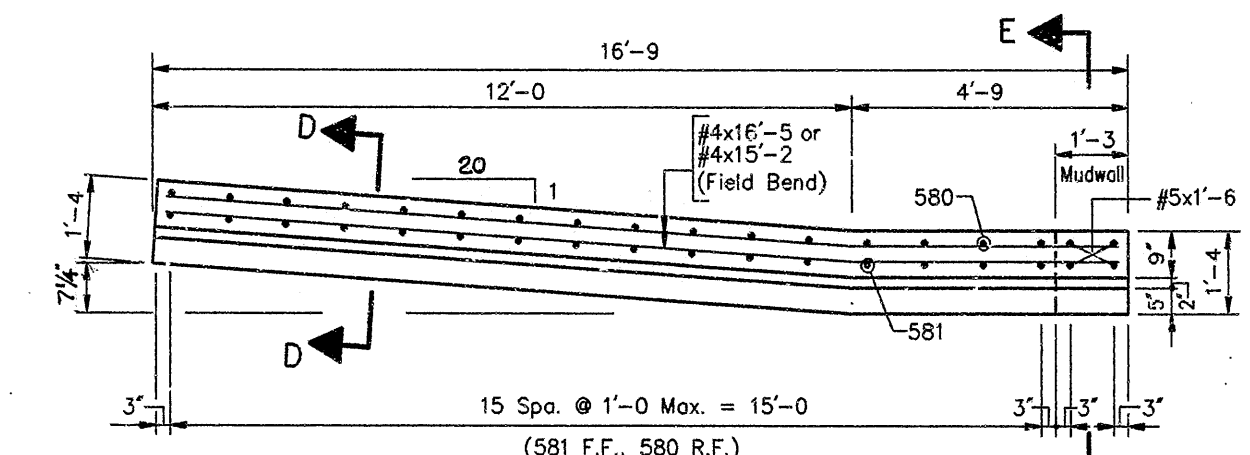
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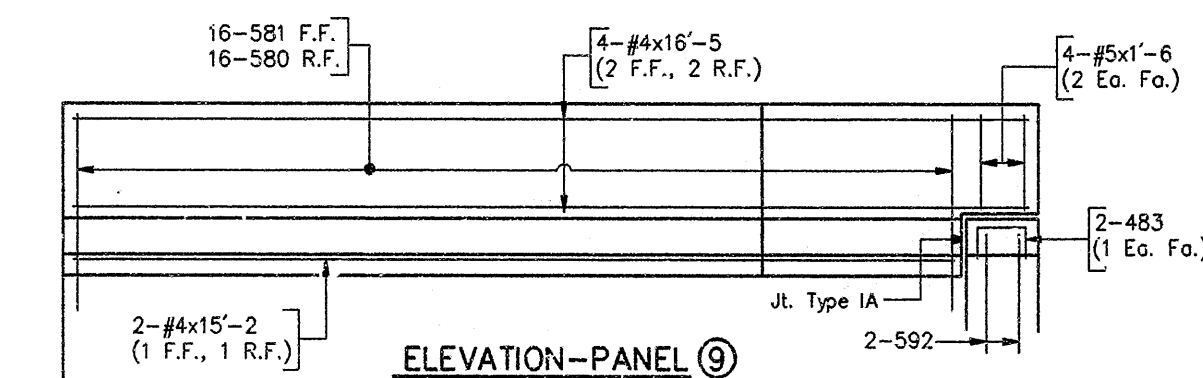
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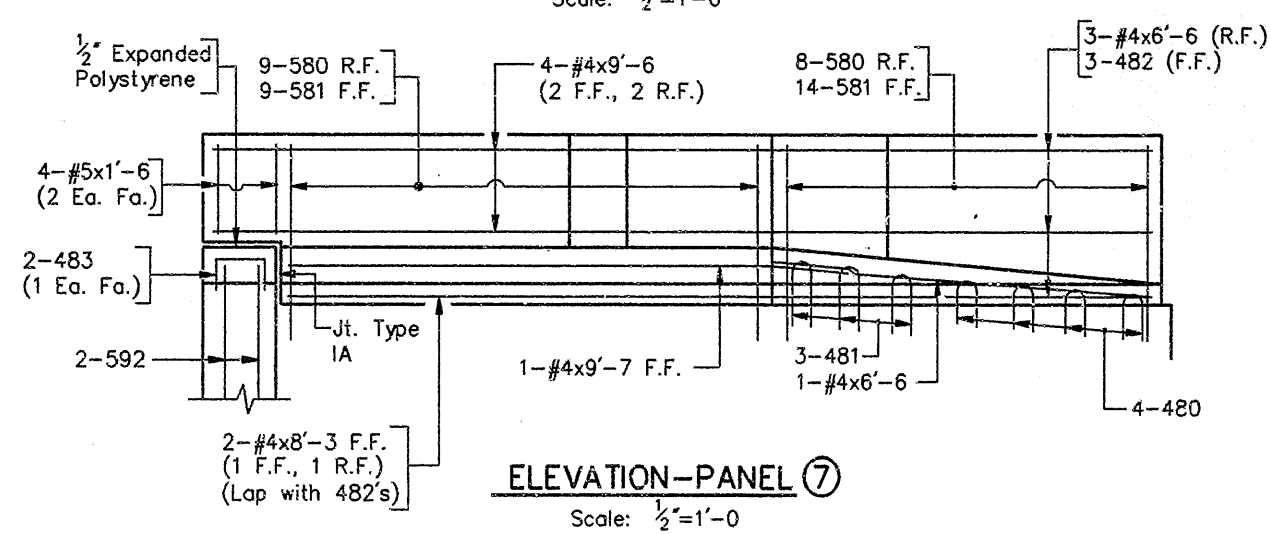
ELEVATION-PANEL 8  
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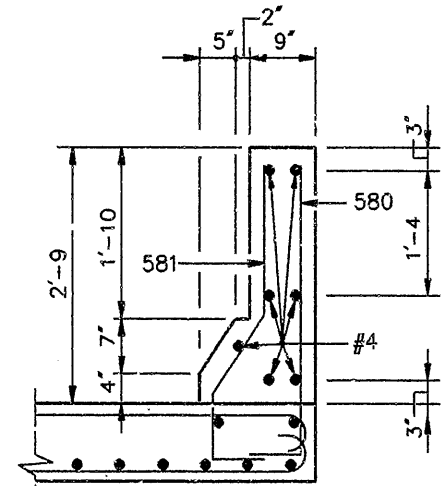
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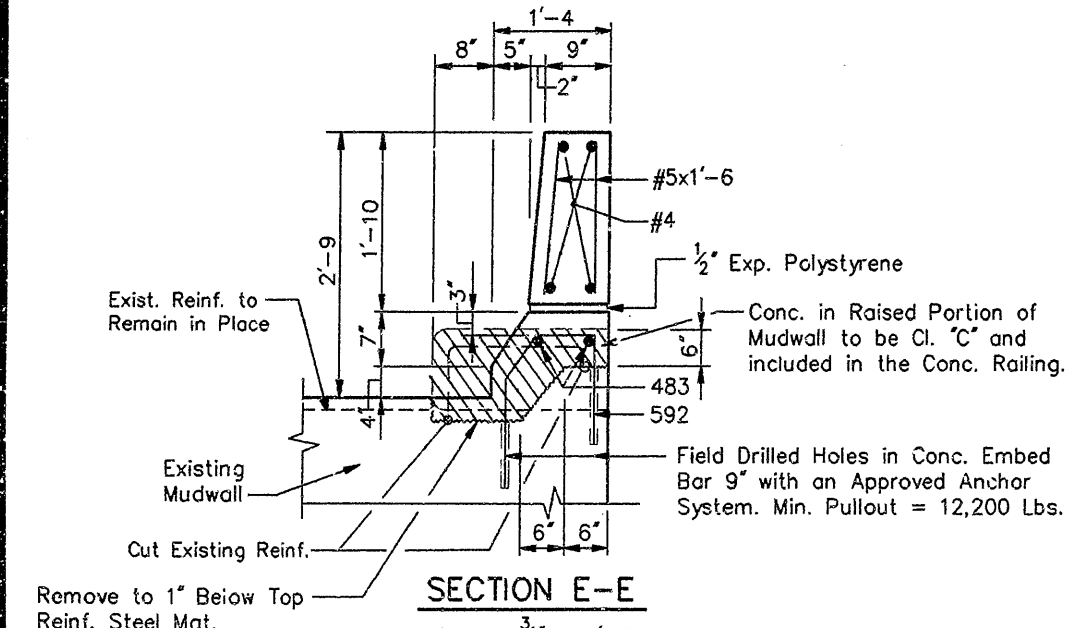
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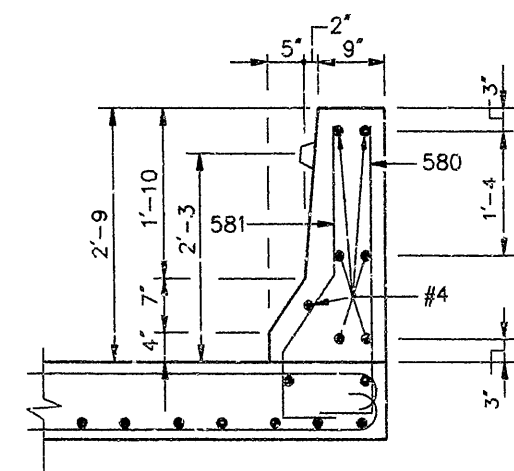
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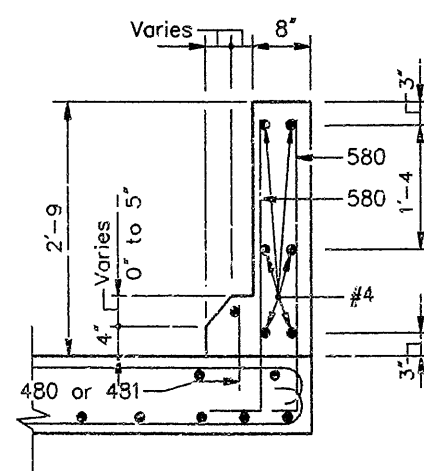
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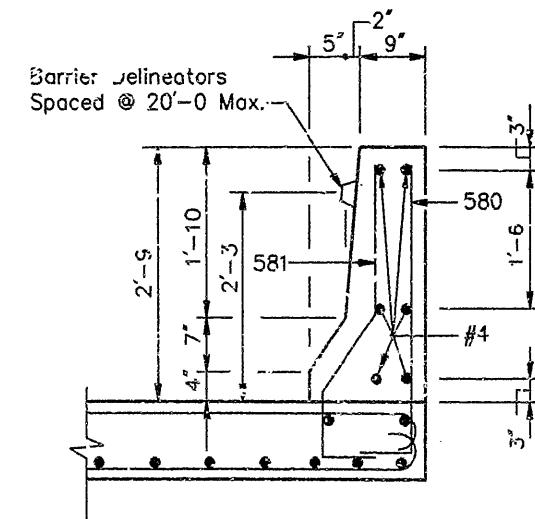
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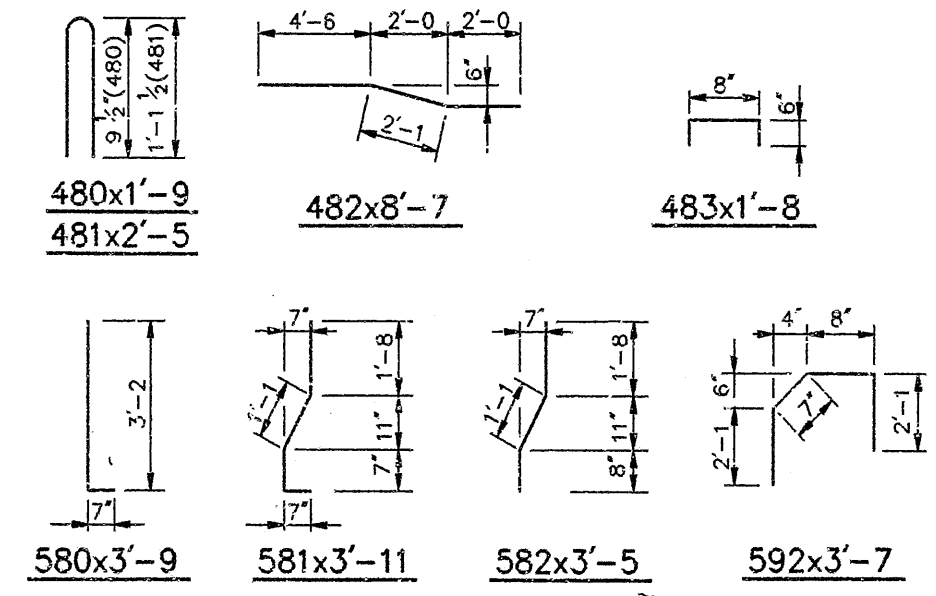
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SECTION C-C  
Scale: 3/4" = 1'-0"



SECTION D-D  
Scale: 3/4" = 1'-0"



PANEL 7  
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	3'-7"	
581	23	3'-11"	
580	17	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			174
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
430	4	1'-5"	
#4	1	9'-7"	
#4	4	8'-9"	
#4	2	8'-3"	
#4	4	6'-6"	
TOTAL #4 BARS			89
TOTAL EPOXY COATED REINF.			263

MISCELLANEOUS	
Class 'C' Concrete Railing	17 Lft.
Barrier Delineators	1 Ea.
Field Drilled Holes in Conc.	4 Each
Quantities for 1 Panel, 3 Total Req'd.	

PANEL 8  
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	3'-7"	
581	16	3'-11"	
580	16	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			142
483	2	1'-8"	
#4	4	16'-5"	
#4	2	15'-2"	
TOTAL #4 BARS			66
TOTAL EPOXY COATED REINF.			208

MISCELLANEOUS	
Class 'C' Concrete Railing	17 Lft.
Barrier Delineators	1 Ea.
Field Drilled Holes in Conc.	4 Each
Quantities for 1 Panel, 4 Total Req'd.	

PANEL 9  
BILL OF MATERIALS  
(1 Req'd.)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	3'-7"	
581	16	3'-11"	
580	16	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			142
483	2	1'-8"	
#4	4	16'-5"	
#4	2	15'-2"	
TOTAL #4 BARS			66
TOTAL EPOXY COATED REINF.			208

MISCELLANEOUS	
Class 'C' Concrete Railing	17 Lft.
Barrier Delineators	1 Ea.
Field Drilled Holes in Conc.	4 Each

NOTES:

- Existing Reinforcing to Remain in Place shall be Cleaned & Realigned.
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- For Guard Rail Connection Details, See Br. Std. BR5.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class 'C'.
- For Location of Panels 7, 8 & 9, See Dwg. D-12
- [Symbol] Indicates Limits of Removal. Include in 'Removal of Present Structure (Portions).'

CONCRETE RAILING DETAILS

PANELS 7 8 9

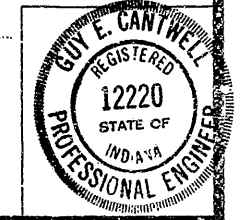
INDIANA DEPARTMENT OF HIGHWAYS  
BOONE & MARION COUNTIES

SCALE: - As Noted

DATE: - 2-27

1990

*Ray E. Cantwell*



DRAWING: D27 OF 41 SHEET: 31 OF 57  
PROJECT: 1R-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: 1-465-135-5286B

Rev: 05-23-90; Median Barrier Flare Rate

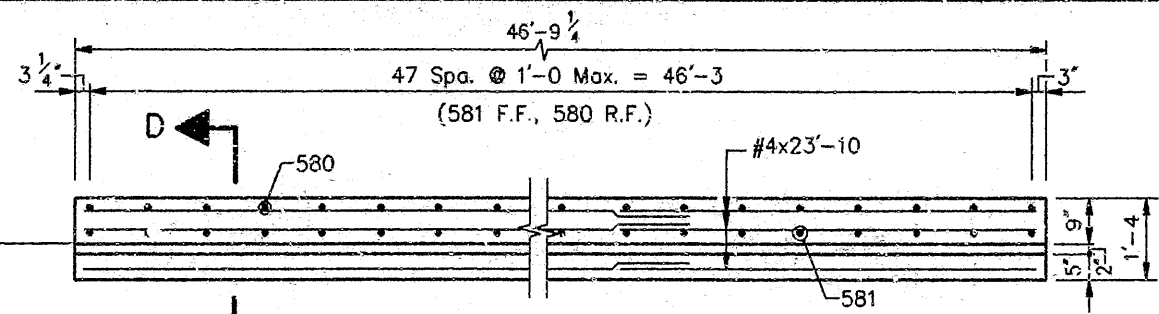
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OPERATOR: CPM

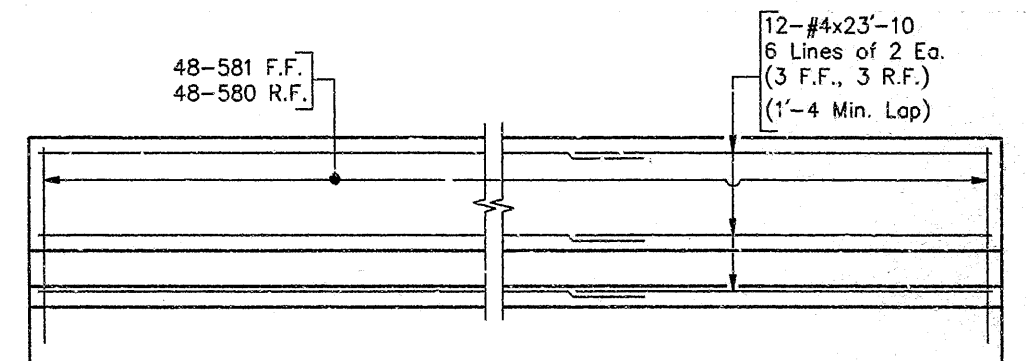
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LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0"  
 TIME: 14:55:36

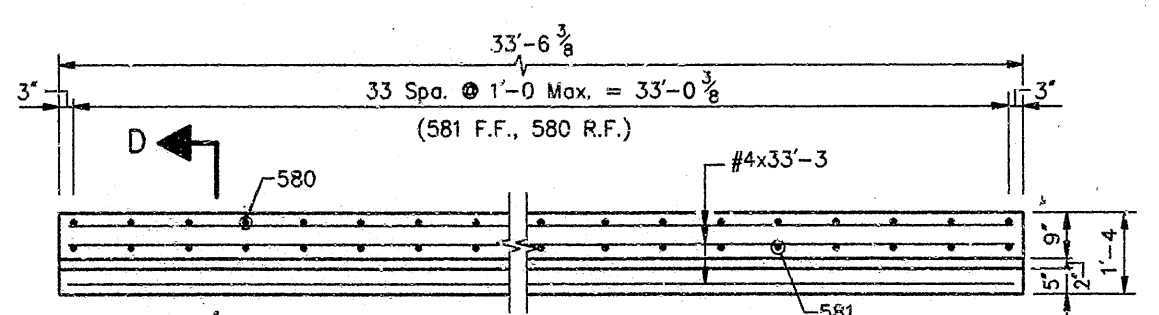
DWG. FILE: RAILVND03  
 OPERATOR: cpm



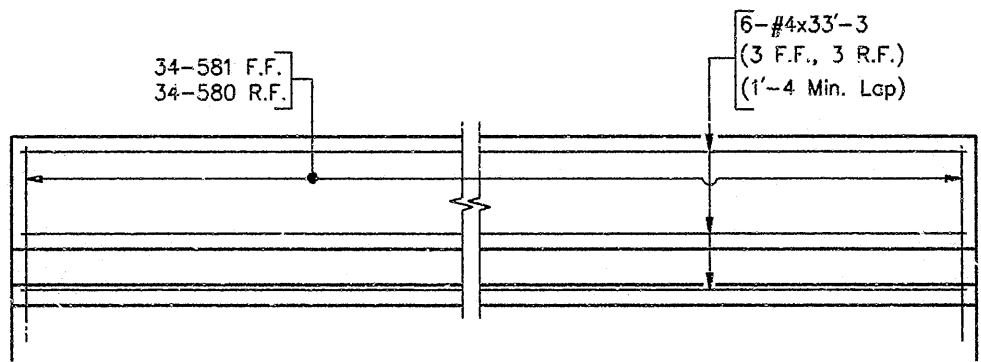
**PLAN-PANEL 10**  
 (1-465-136-5287B & JB)  
 Scale: 1/2" = 1'-0"



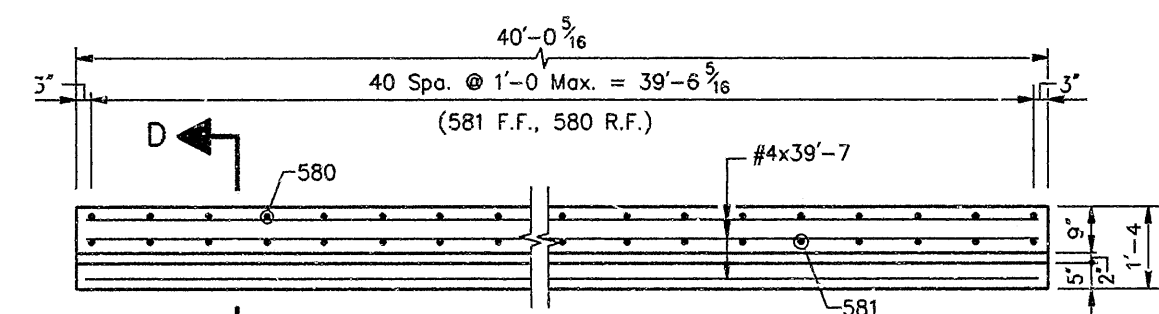
**ELEVATION-PANEL 10**  
 Scale: 1/2" = 1'-0"



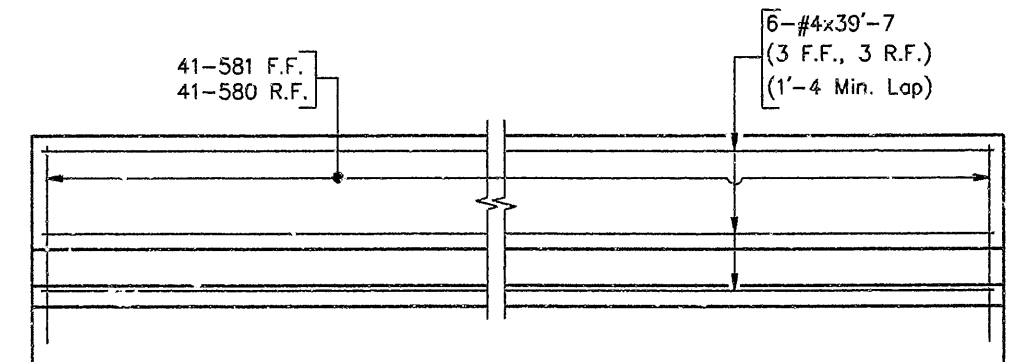
**PLAN-PANEL 12**  
 (1-465-134-5434B & JB)  
 Scale: 1/2" = 1'-0"



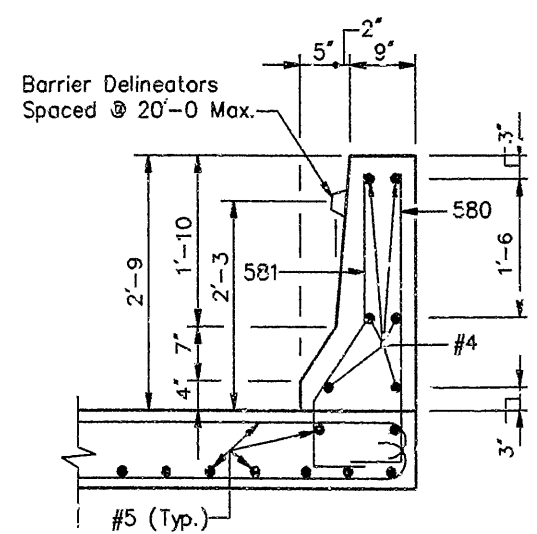
**ELEVATION-PANEL 12**  
 Scale: 1/2" = 1'-0"



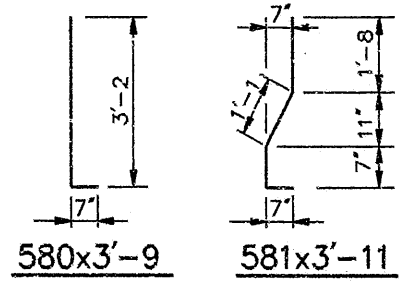
**PLAN-PANEL 11**  
 (1-465-136-5287B & JB)  
 Scale: 1/2" = 1'-0"



**ELEVATION-PANEL 11**  
 Scale: 1/2" = 1'-0"



**SECTION D-D**  
 Scale: 3/4" = 1'-0"



**NOTES:**

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class 'C'.
- For Location of Panels 10 & 11, See Dwg. D14
- For Location of Panel 12, See Dwg. D22

**PANEL 10**  
**BILL OF MATERIALS**  
 (1 REQ'D)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
581	45	3'-11"	
580	48	3'-9"	
TOTAL #5 BARS			384
#4	12	23'-10"	
TOTAL #4 BARS			191
TOTAL EPOXY COATED REINF.			575
MISCELLANEOUS			
Class 'C' Concrete Railing			47 Lft.
Barrier Delineators			2 Ea.

**PANEL 11**  
**BILL OF MATERIALS**  
 (1 REQ'D)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
581	41	3'-11"	
580	41	3'-9"	
TOTAL #5 BARS			328
#4	6	39'-7"	
TOTAL #4 BARS			159
TOTAL EPOXY COATED REINF.			487
MISCELLANEOUS			
Class 'C' Concrete Railing			40 Lft.
Barrier Delineators			2 Ea.

**PANEL 12**  
**BILL OF MATERIALS**  
 (1 REQ'D)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
581	34	3'-11"	
580	34	3'-9"	
TOTAL #5 BARS			272
#4	6	33'-3"	
TOTAL #4 BARS			133
TOTAL EPOXY COATED REINF.			405
MISCELLANEOUS			
Class 'C' Concrete Railing			34 Lft.
Barrier Delineators			1 Ea.

CONCRETE RAILING DETAILS  
 PANELS 10, 11, 12  
 INDIANA DEPARTMENT OF HIGHWAYS  
 BOONE & MARION COUNTIES

SCALE:- As Noted DATE:- 2-27 1990

DRAWING: D28 OF 41 SHEET: 32 OF 57  
 PROJECT: IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO. 1-465-134-5434B & JB  
 BRIDGE FILE: 1-465-136-5287B & JB

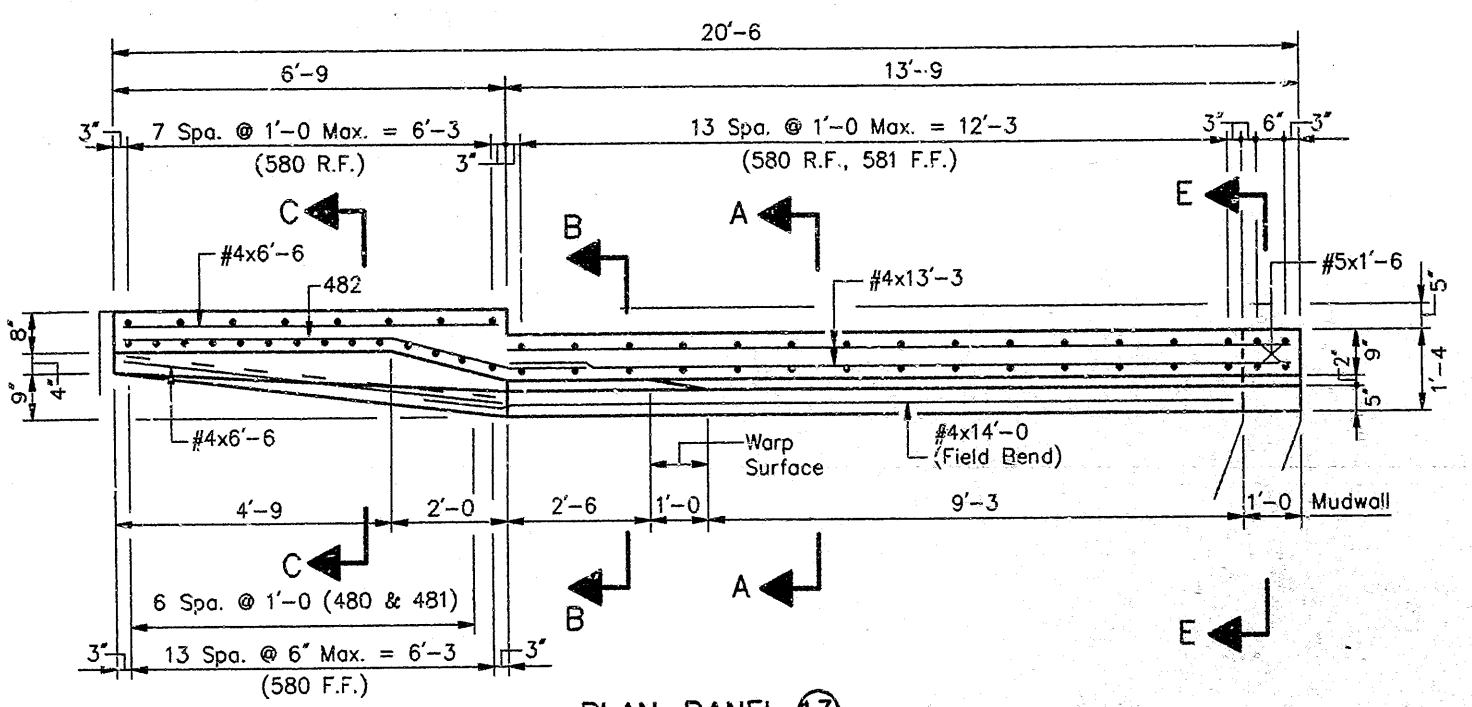


DESIGNED	CPM	C.K'D	PFB
DRAWN	CPM	C.K'D	TWL
TRACED		C.K'D	

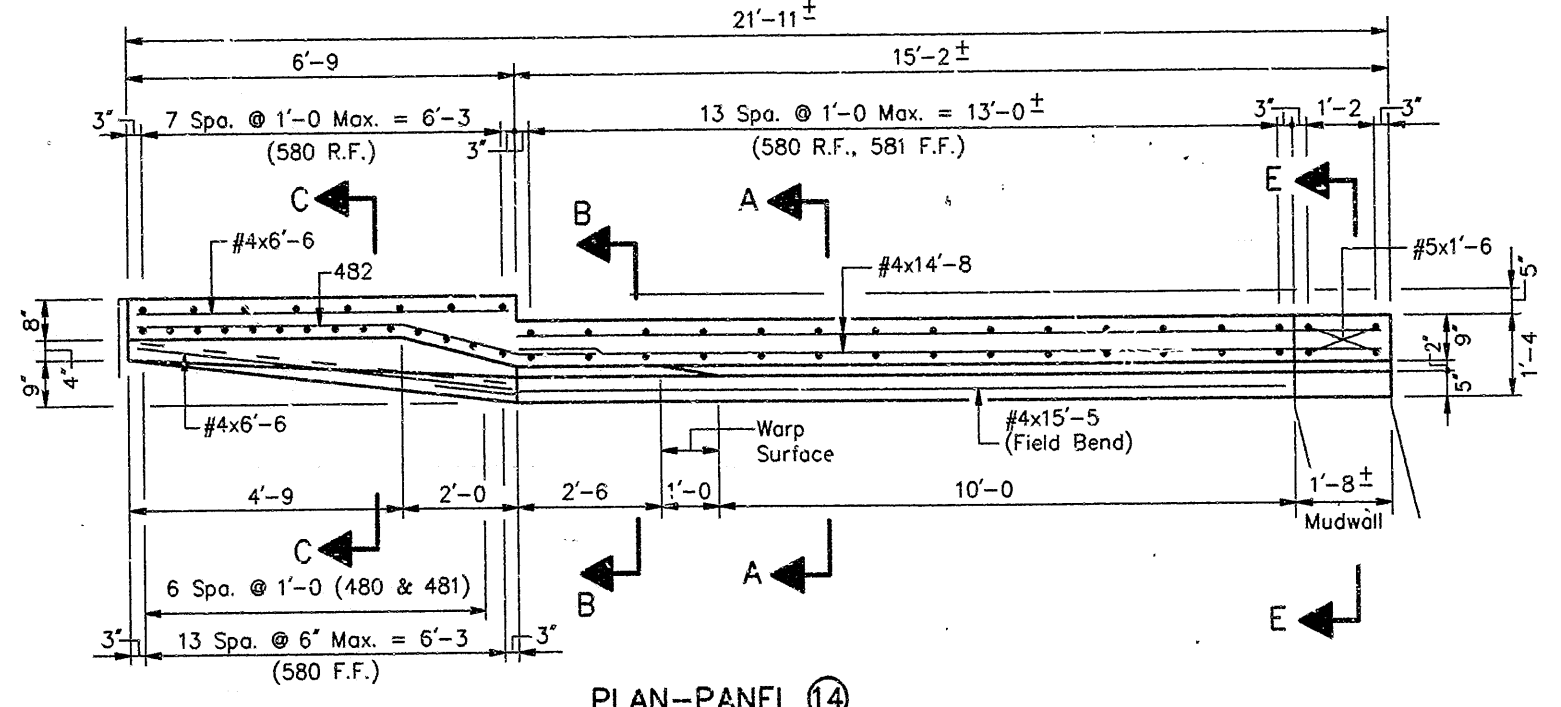


LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0"  
 TIME: 13:43:41

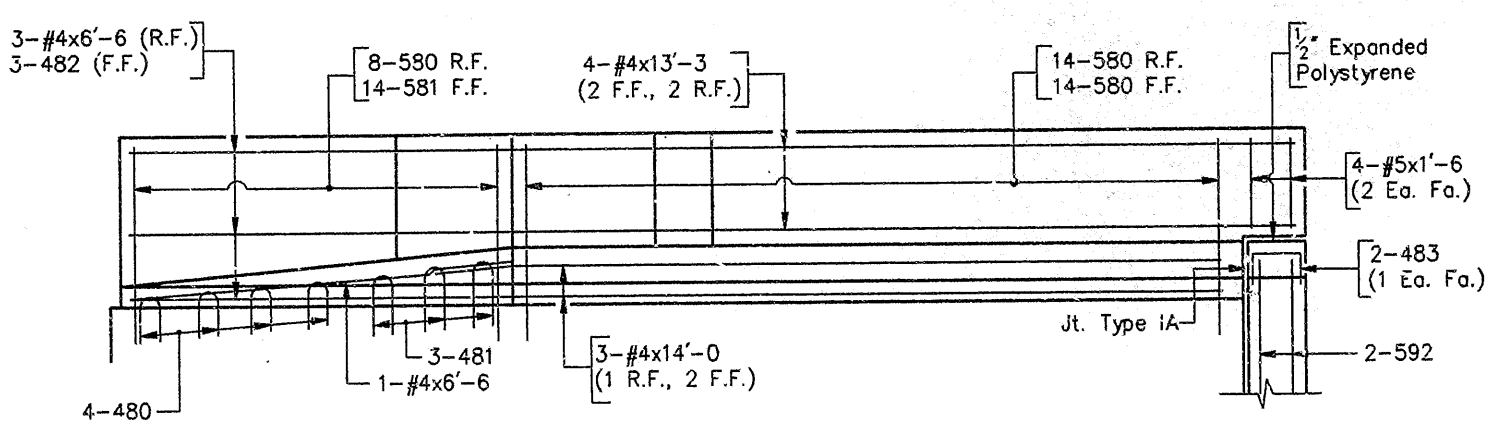
DWG. FILE: RAILEND4  
 OPERATOR: cpm



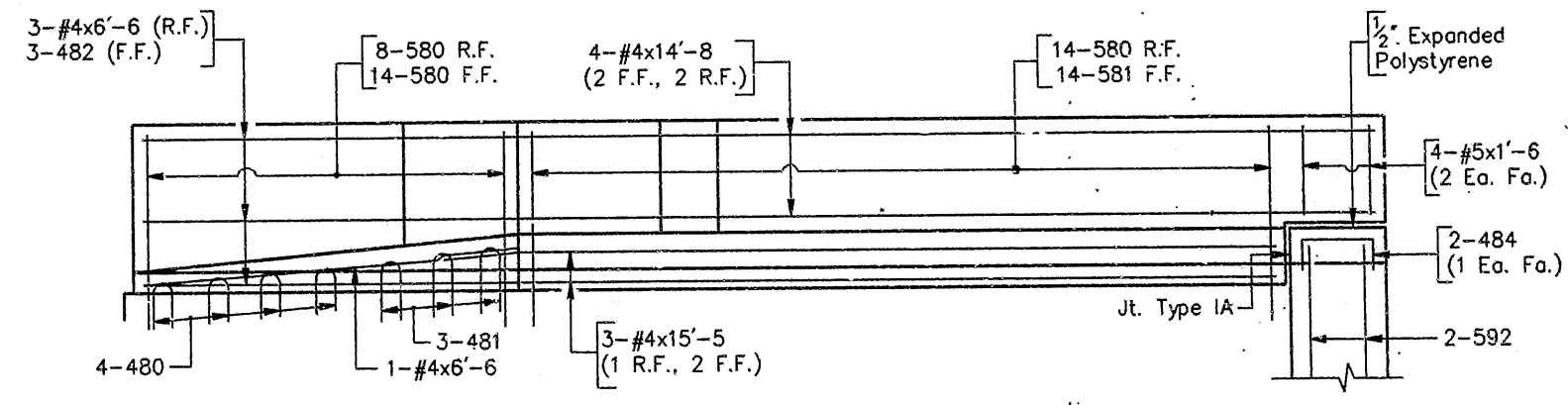
**PLAN-PANEL 13**  
 (1-465-136-5473B)  
 Scale: 1/2" = 1'-0"



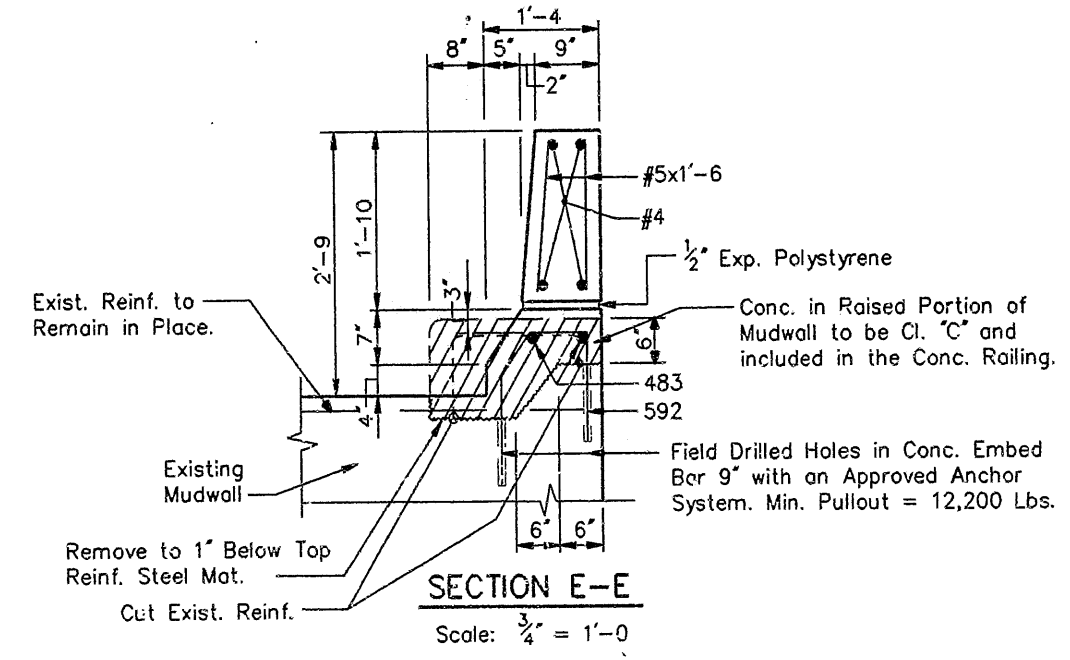
**PLAN-PANEL 14**  
 (1-465-136-5435B)  
 Scale: 1/2" = 1'-0"



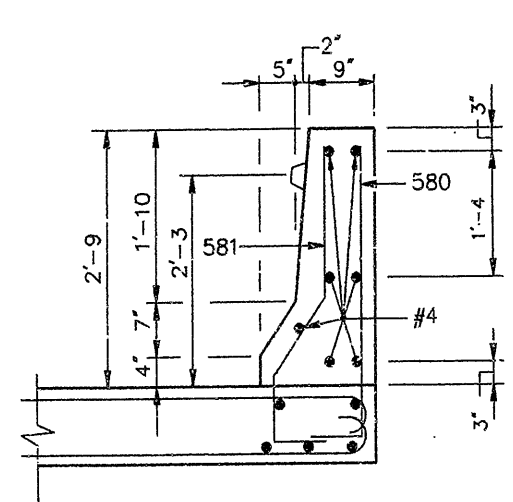
**ELEVATION-PANEL 13**  
 Scale: 1/2" = 1'-0"



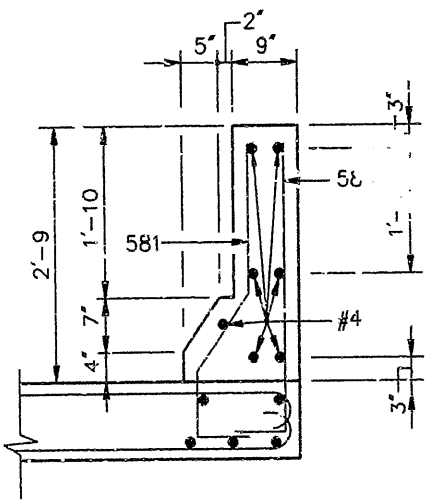
**ELEVATION-PANEL 14**  
 Scale: 1/2" = 1'-0"



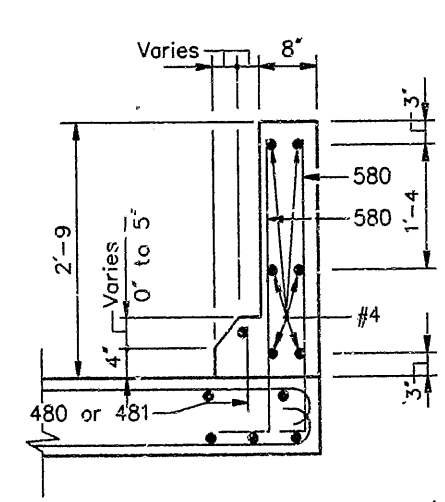
**SECTION E-E**  
 Scale: 3/4" = 1'-0"



**SECTION A-A**  
 Scale: 3/4" = 1'-0"



**SECTION B-B**  
 Scale: 3/4" = 1'-0"



**SECTION C-C**  
 Scale: 3/4" = 1'-0"

**NOTES:**

- Existing Reinforcing to Remain in Place shall be Cleaned & Realigned.
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class 'C'.
- For Locations of Panels 13, & 14, See Dwg. D15 & D17
- [Hatched Area] Indicates Limits of Removal. Include in "Removal of Present Structure (Portions)".

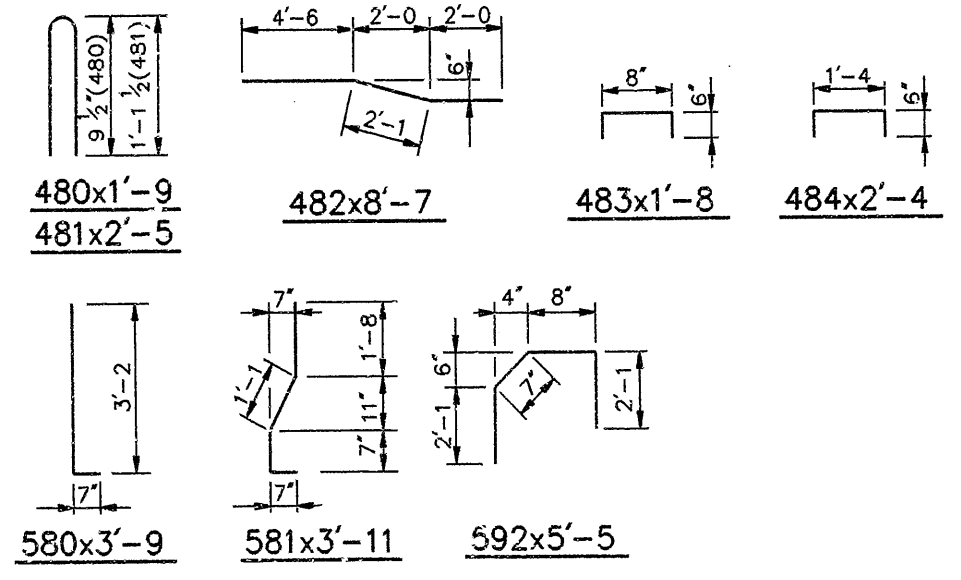
**PANEL 13**  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
581	14	3'-11"	
580	36	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			216
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	3	14'-0"	
#4	4	13'-3"	
#4	4	6'-6"	
TOTAL #4 BARS			110
TOTAL EPOXY COATED REINF.			326
MISCELLANEOUS			
Class 'C' Concrete Railing			21 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Each

Quantities For 1 Panel, 2 Total Req'd.

**PANEL 14**  
**BILL OF MATERIALS**  
 (1 Req'd)

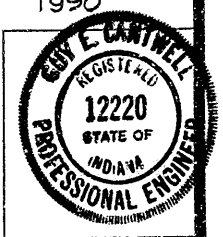
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
581	14	3'-11"	
580	36	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			216
484	2	2'-4"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	3	15'-5"	
#4	4	14'-8"	
#4	4	6'-6"	
TOTAL #4 BARS			117
TOTAL EPOXY COATED REINF.			333
MISCELLANEOUS			
Class 'C' Concrete Railing			22 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Each



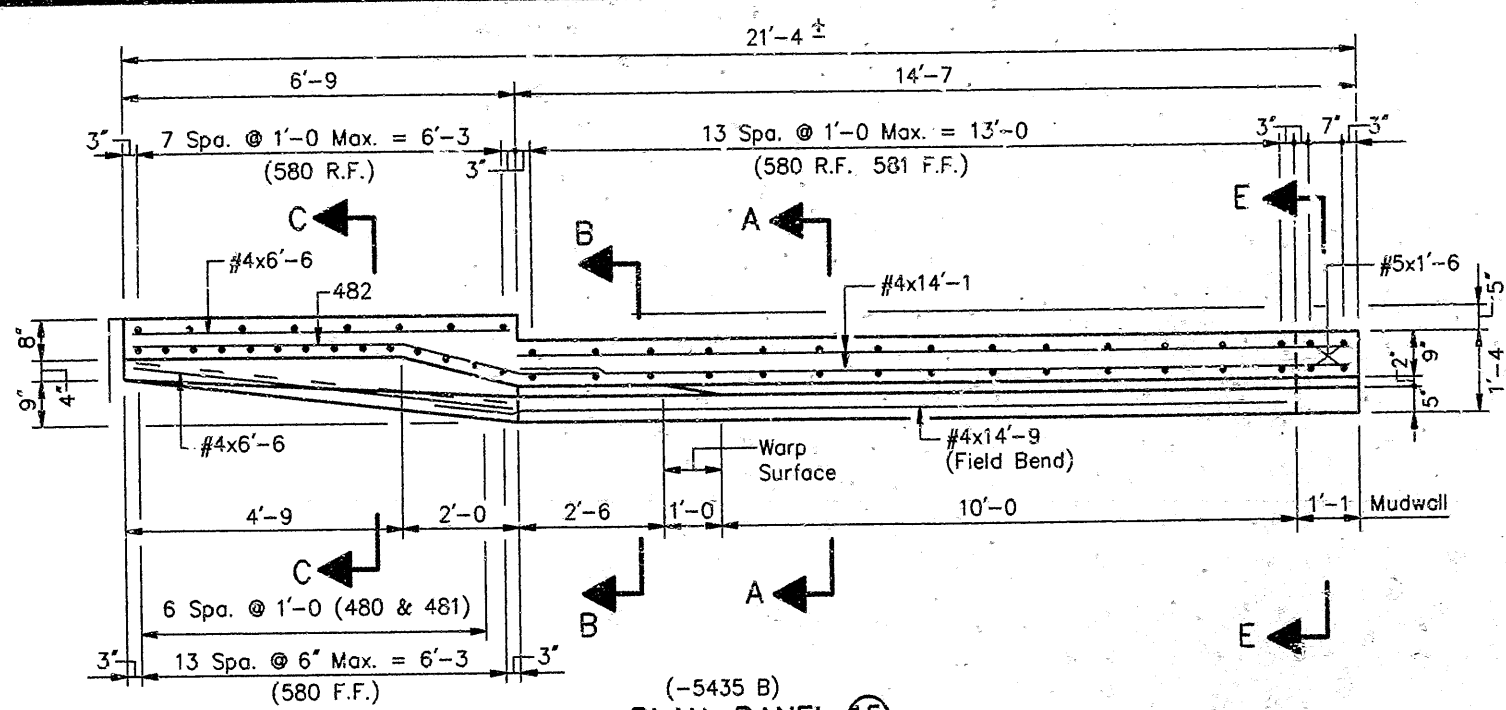
**CONCRETE RAILING DETAILS**

**PANELS 13 & 14**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
**MARION COUNTY**

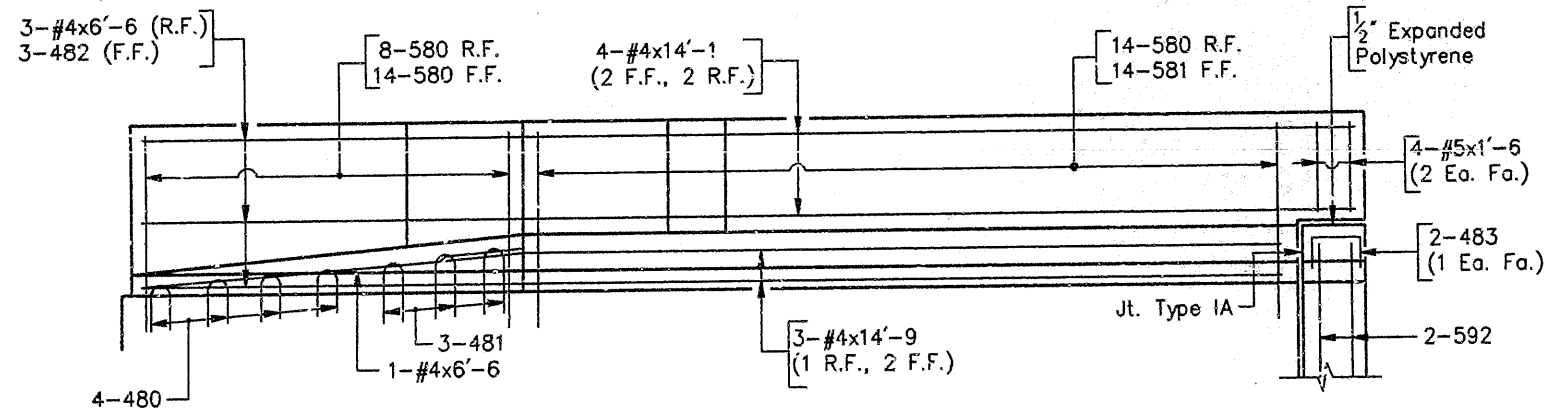
SCALE: - As Noted  
 DATE: - 2-27  
 1990  
 DRAWING: D29 OF 41 SHEET: 33 OF 57  
 PROJECT: - IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO. -  
 BRIDGE FILE: - 1-465-136-5435B  
 1-465-136-5473B



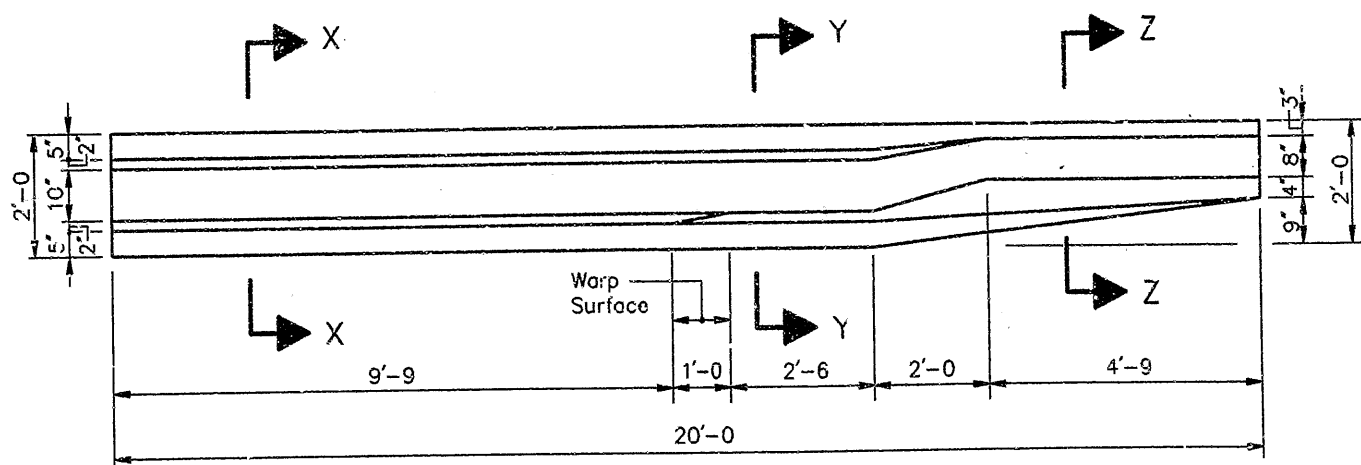
DESIGNED: PEB C.K'D. TWL  
 DRAWN: CPM C.K'D. TWL  
 TRACED: C.K'D.



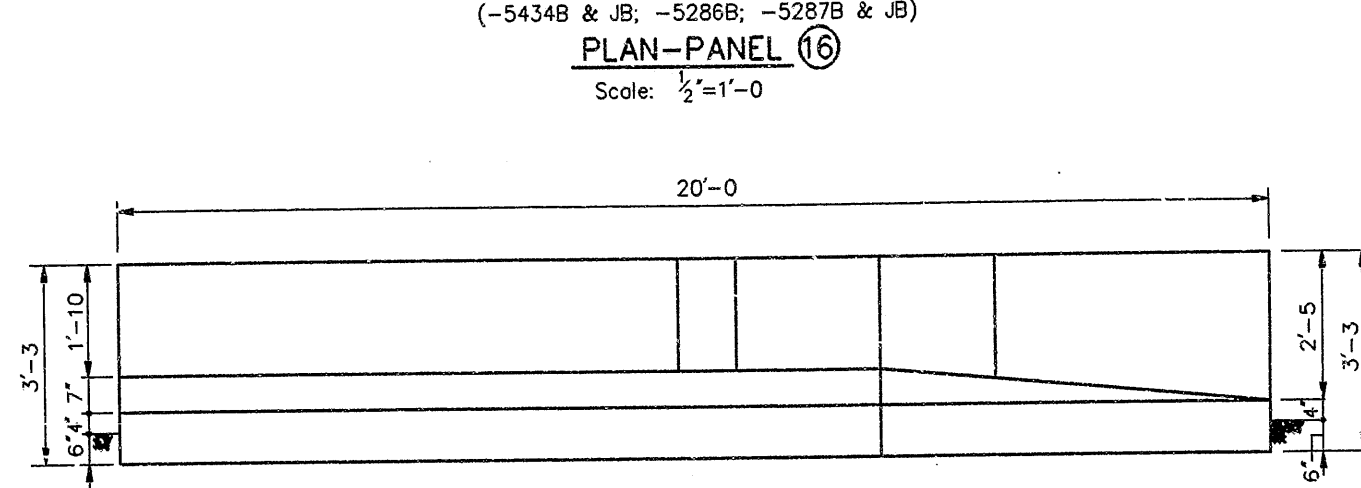
PLAN-PANEL 15  
Scale: 1/2"=1'-0"



ELEVATION-PANEL 15  
Scale: 1/2"=1'-0"



PLAN-PANEL 16  
Scale: 1/2"=1'-0"

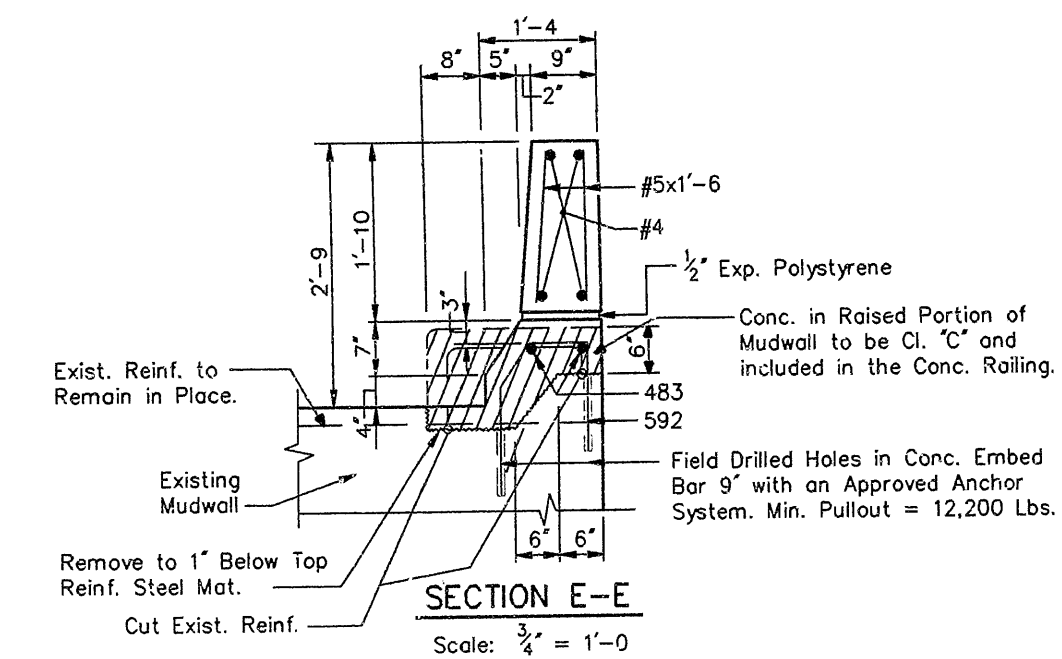


ELEVATION-PANEL 16  
Scale: 1/2"=1'-0"

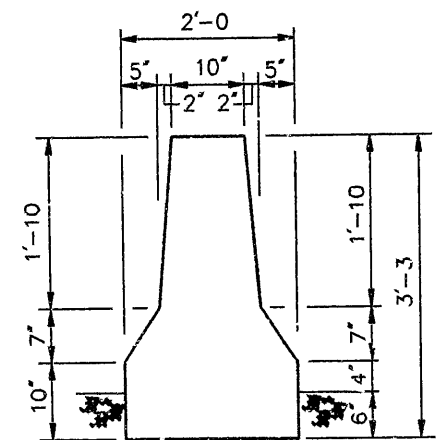
PANEL 15  
BILL OF MATERIALS  
(1 Req.)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
581	14	3'-11"	
580	36	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			216
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	3	14'-9"	
#4	4	14'-1"	
#4	4	6'-6"	
TOTAL #4 BARS			114
TOTAL EPOXY COATED REINF.			330
MISCELLANEOUS			
Class 'C' Concrete Rolling			22 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Ea.

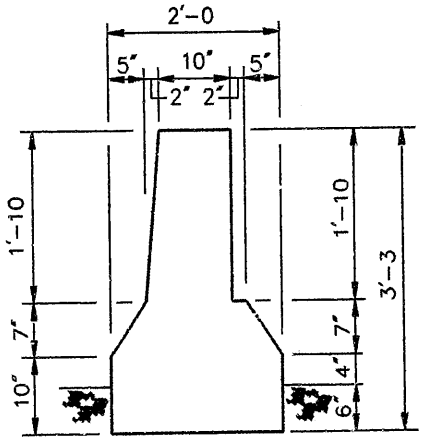
Panel 16 to be Paid for as  
20 LFT. "Concrete Median  
Barrier" Included 1 Barrier  
Delineator w/ Each Panel 16.



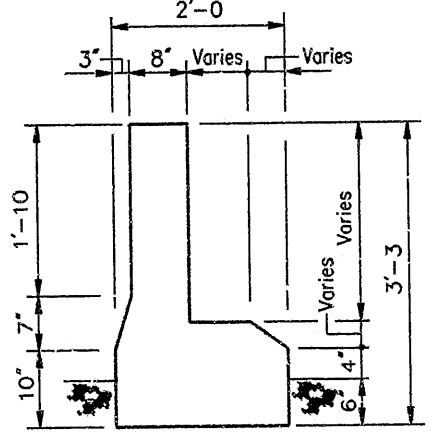
SECTION E-E  
Scale: 3/4"=1'-0"



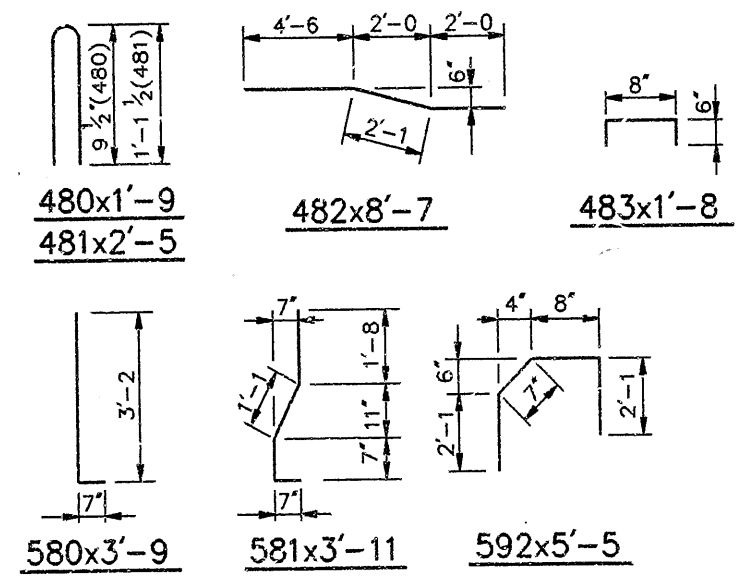
SECTION X-X  
Scale: 3/4"=1'-0"



SECTION Y-Y  
Scale: 3/4"=1'-0"



SECTION Z-Z  
Scale: 3/4"=1'-0"



CONCRETE RAILING DETAILS

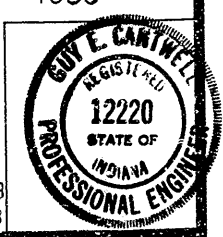
PANELS 15 16

INDIANA DEPARTMENT OF HIGHWAYS  
BOONE & MARION COUNTIES

SCALE: - As Noted DATE: - 2-27 1990

- NOTES:
- Reinforcing to Remain in Place Shall be Cleaned & Realigned.
  - For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - For Guard Rail Connection Details, See Br. Std. BR5.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - For Location of Panels 15, & 16 See Dwg. D12, D17, D18, D22
  - Indicates Limits of Removal. Include in "Removal of Present Structure (Portions)." (hatched area)

DRAWING: D30 OF 41 SHEET: 34 OF 57  
PROJECT: IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO. 1-465-135-5286B 1-465-136-5287B & JB  
BRIDGE FILE: 1-465-136-5435B 1-465-141-5434B & JB



LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0  
TIME: 12:8:59

DWG FILE: RAILENDS  
OPERATOR: CPM

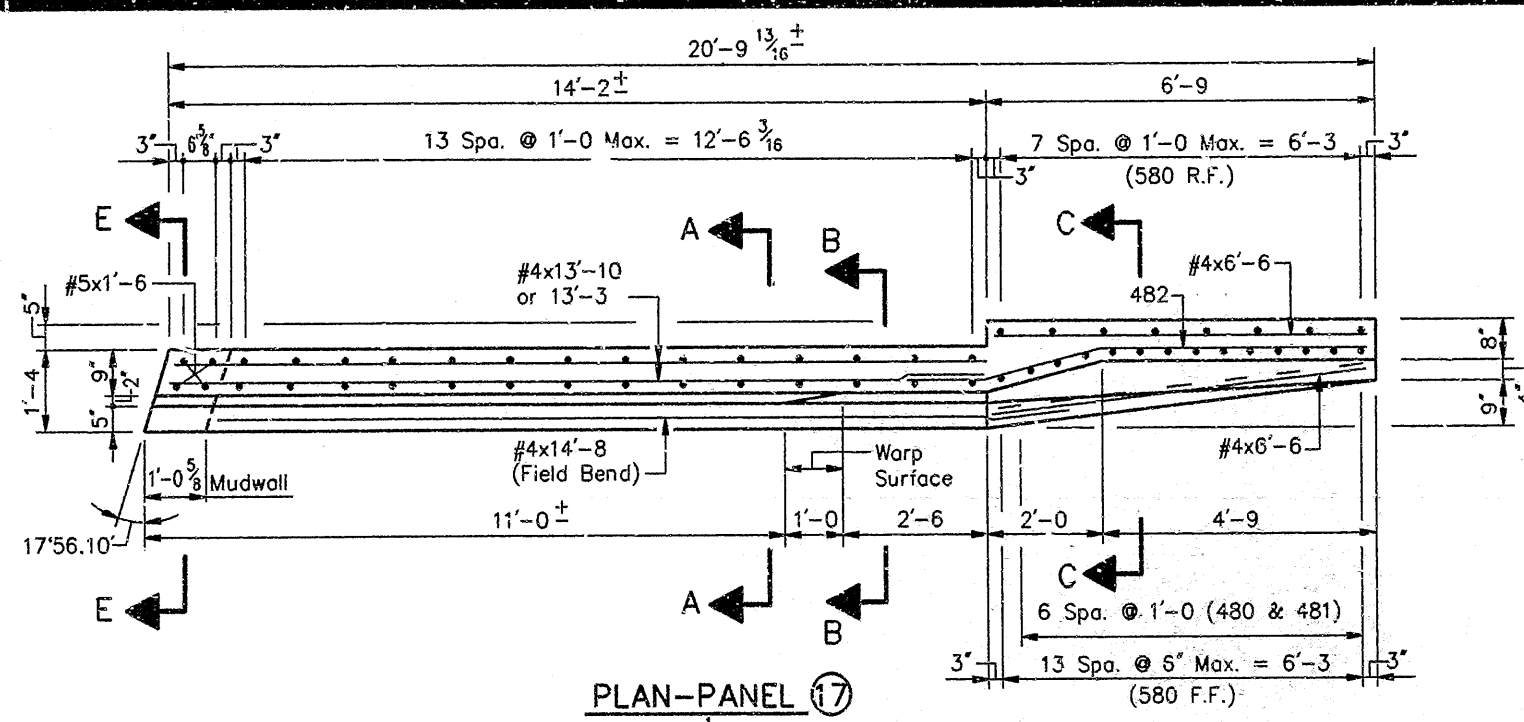
DESIGNED: PEB	C.K'D	TWL
DRAWN: CPM	C.K'D	TWL
TRACED: C.K'D		

SECTION A-A  
Scale: 3/4"=1'-0"

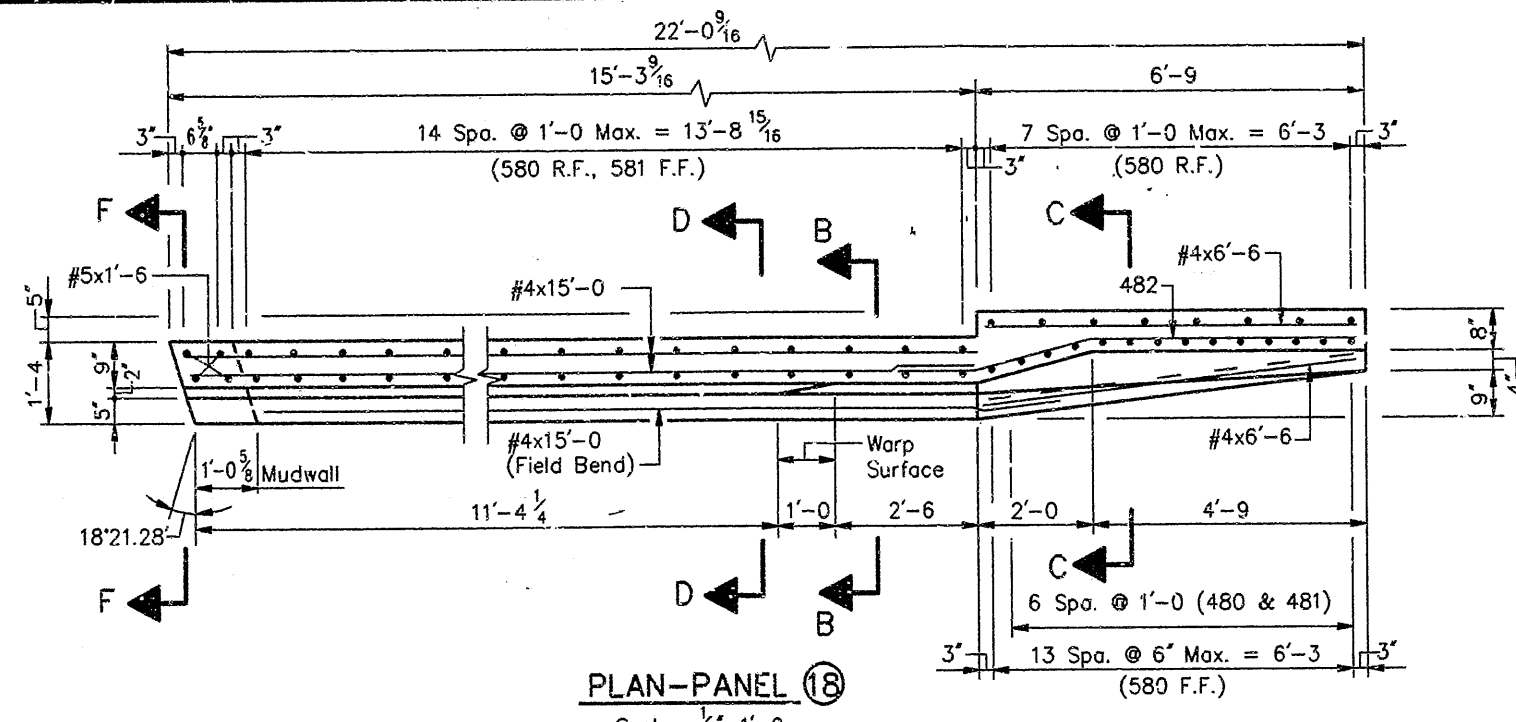
SECTION B-B  
Scale: 3/4"=1'-0"

SECTION C-C  
Scale: 3/4"=1'-0"

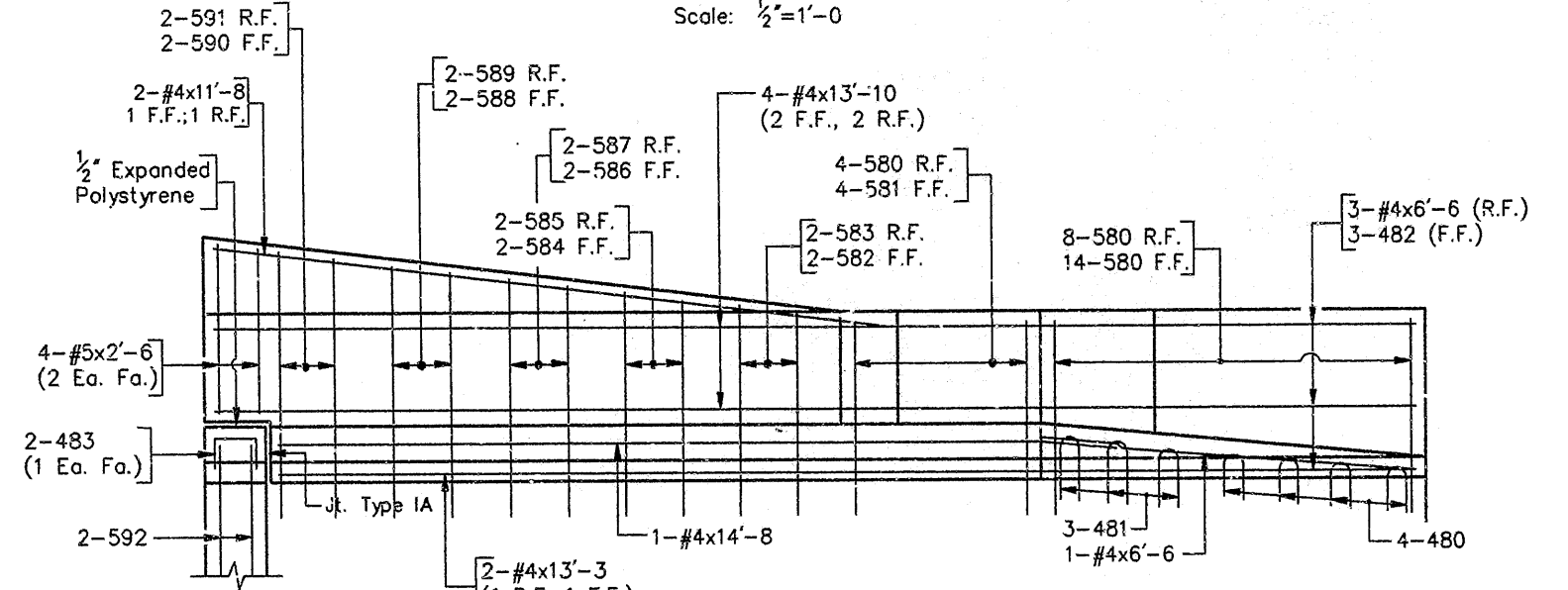
LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0"  
 TIME: 14:37:31  
 DWG. FILE: RAILENDS OPERATOR: cpm



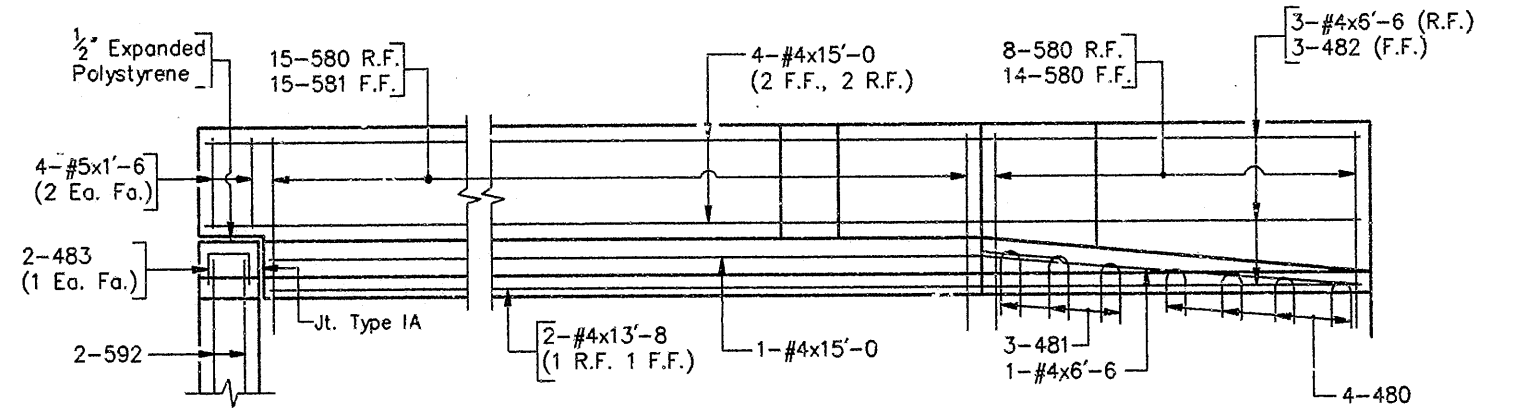
**PLAN-PANEL 17**  
Scale: 1/2" = 1'-0"



**PLAN-PANEL 18**  
Scale: 1/2" = 1'-0"



**ELEVATION-PANEL 17**  
Scale: 1/2" = 1'-0"



**ELEVATION-PANEL 18**  
Scale: 1/2" = 1'-0"

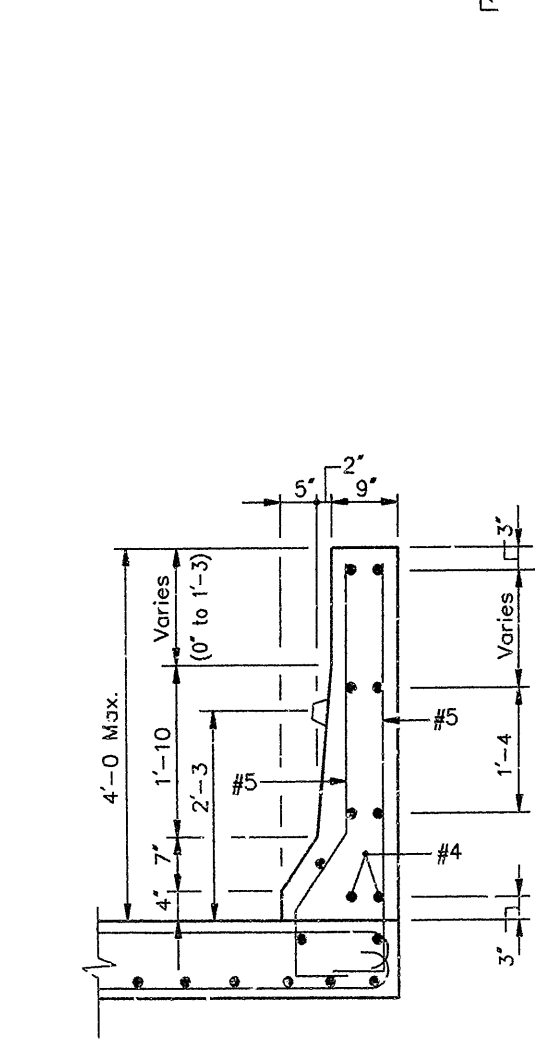
- NOTES:**
- Reinforcing to Remain in Place Shall be Cleaned & Realigned.
  - For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - For Location of Panels 17, & 18, See Dwg. D.
  - [Hatched Area Symbol] Indicates Limits of Removal. Include in "Removal of Present Structure (Portions)".

**PANEL 17**  
**BILL OF MATERIALS**  
(1 Req'd.)

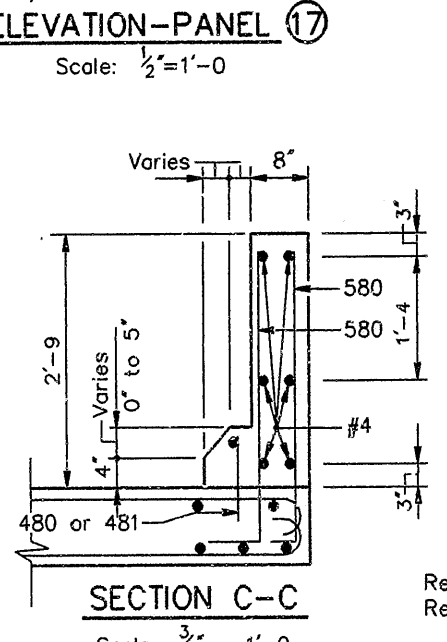
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
591	2	5'-1"	
590	2	4'-10"	
589	2	4'-10"	
588	2	4'-8"	
587	2	4'-7"	
586	2	4'-5"	
584	2	4'-4"	
583	2	4'-2"	
582	2	3'-11"	
581	4	3'-11"	
580	26	3'-9"	
#5	4	2'-6"	
TOTAL #5 BARS			234
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	1	14'-8"	
#4	4	13'-10"	
#4	2	13'-3"	
#4	2	11'-8"	
#4	4	6'-6"	
TOTAL #4 BARS			126
TOTAL EPOXY COATED REINF.			360
<b>MISCELLANEOUS</b>			
Class "C" Concrete Railing			21 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Ea.

**PANEL 18**  
**BILL OF MATERIALS**  
(1 Req'd.)

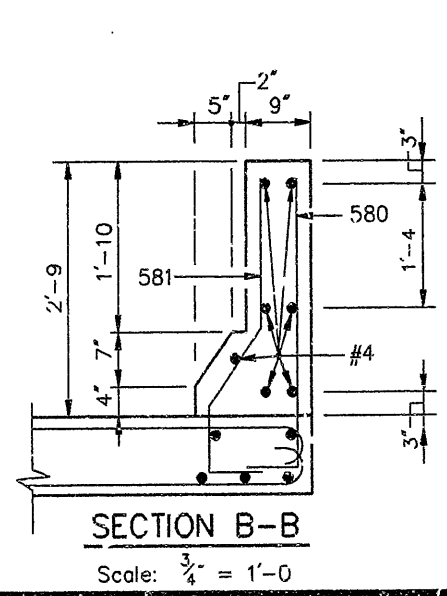
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
581	15	3'-11"	
580	37	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			224
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	5	15'-0"	
#4	2	13'-8"	
#4	4	6'-6"	
TOTAL #4 BARS			115
TOTAL EPOXY COATED REINF.			339
<b>MISCELLANEOUS</b>			
Class "C" Concrete Railing			22 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Ea.



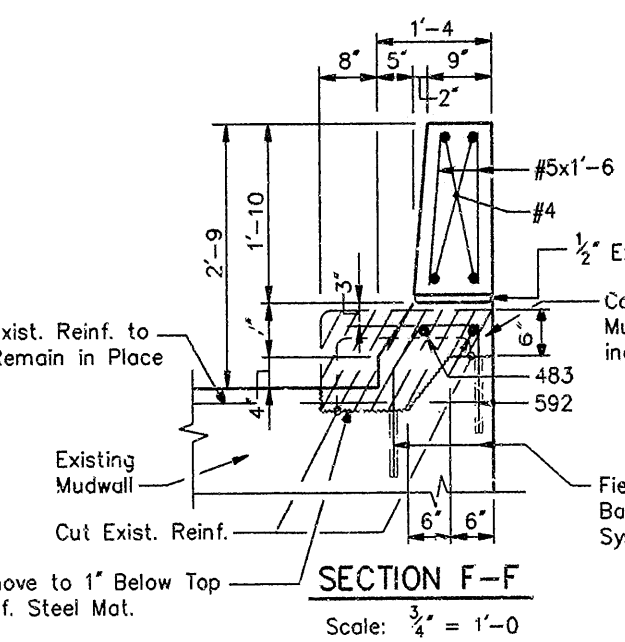
**SECTION A-A**  
Scale: 3/4" = 1'-0"



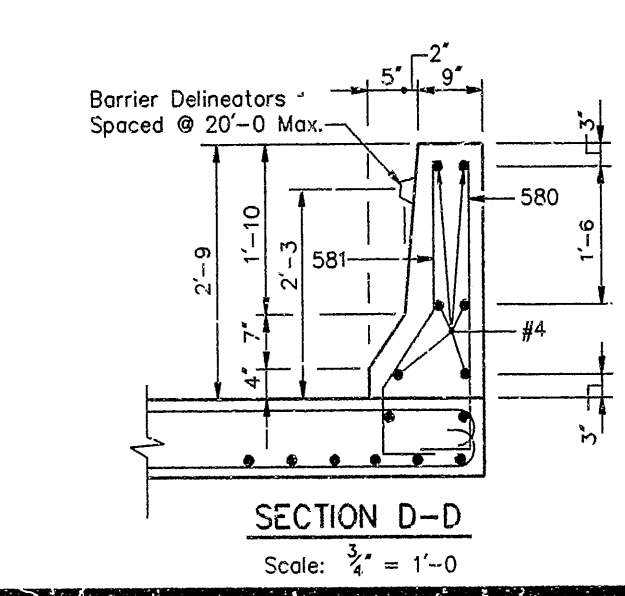
**SECTION C-C**  
Scale: 3/4" = 1'-0"



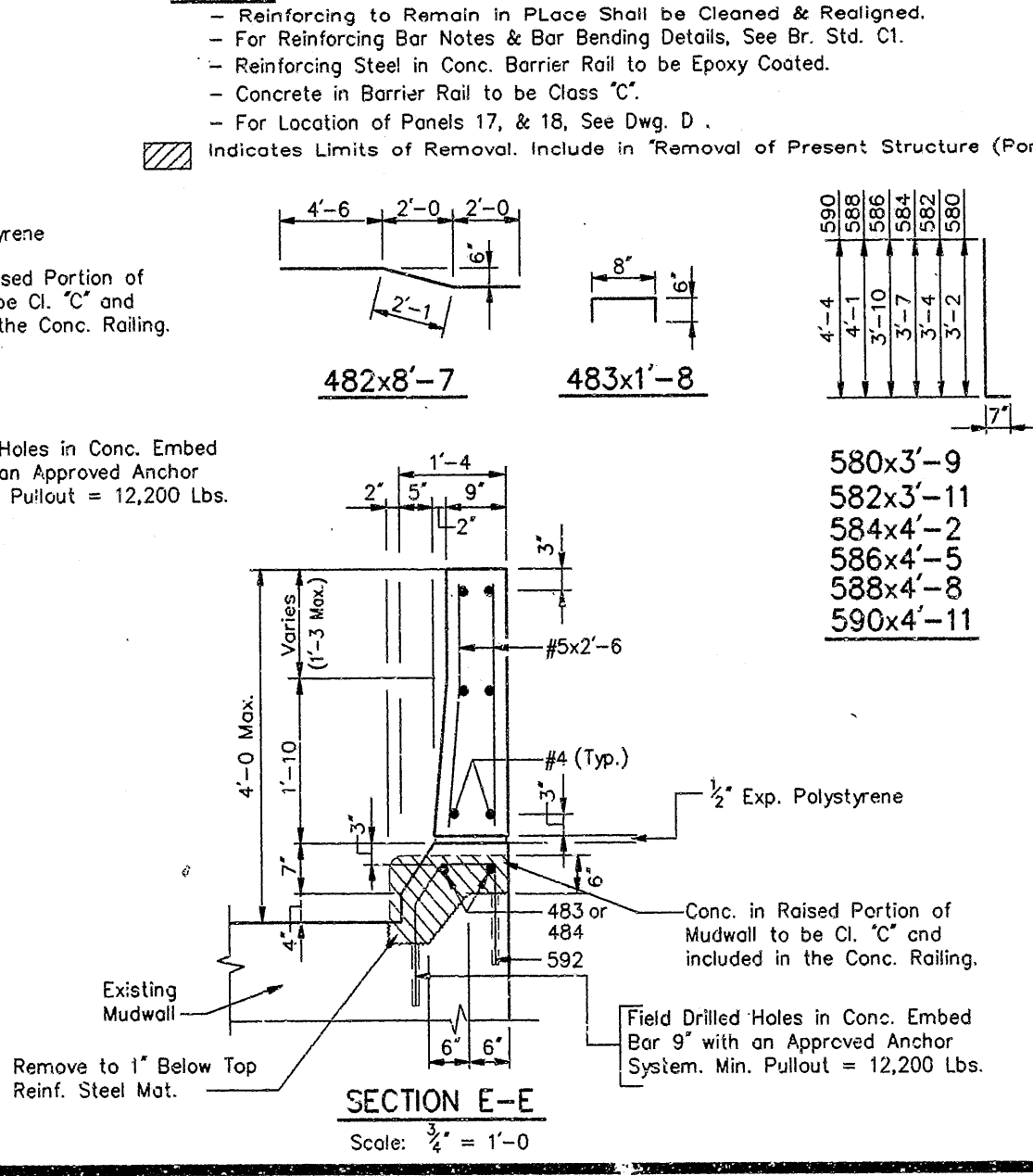
**SECTION B-B**  
Scale: 3/4" = 1'-0"



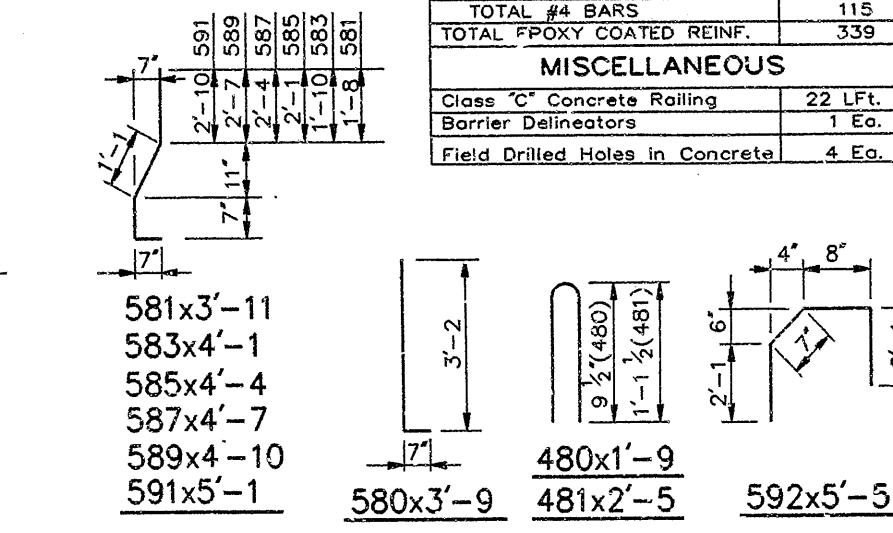
**SECTION F-F**  
Scale: 3/4" = 1'-0"



**SECTION D-D**  
Scale: 3/4" = 1'-0"



**SECTION E-E**  
Scale: 3/4" = 1'-0"



**CONCRETE RAILING DETAILS**  
PANELS 17 & 18

**INDIANA DEPARTMENT OF HIGHWAYS**  
MARION COUNTY

SCALE: - As Noted  
DATE: - 2-27  
DRAWING: D31 OF 41 SHEET: 35 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-137-5259B & JP

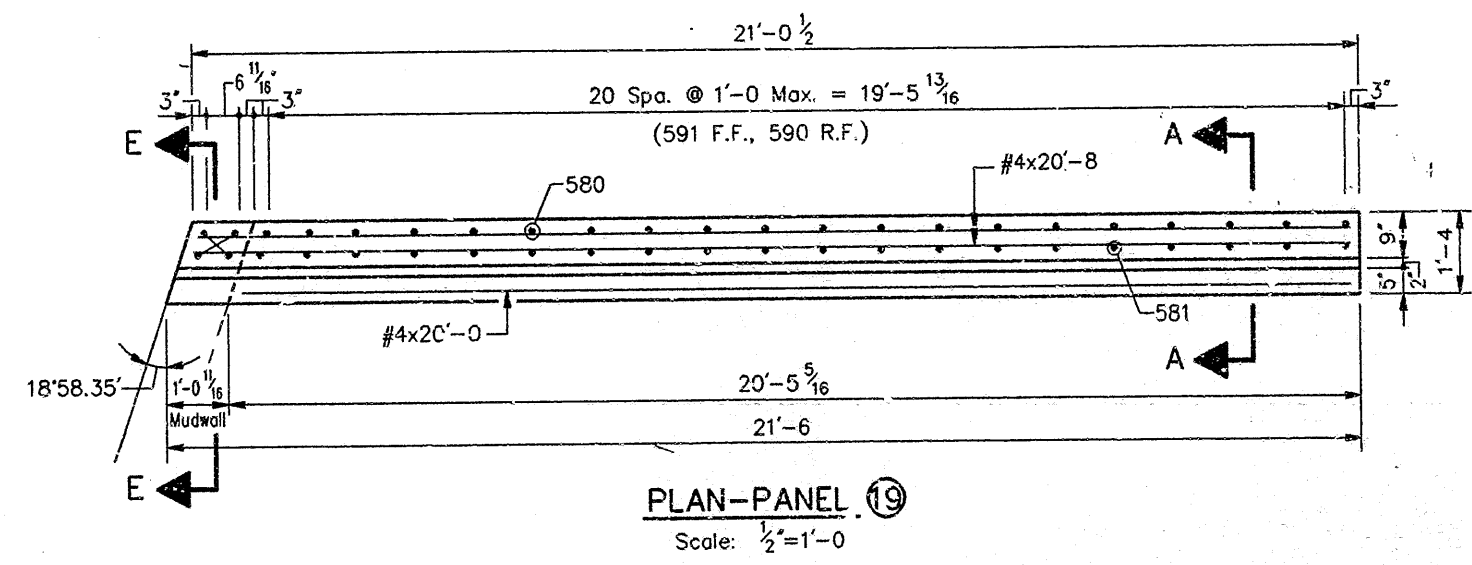
1990

*Ray C. Cantwell*

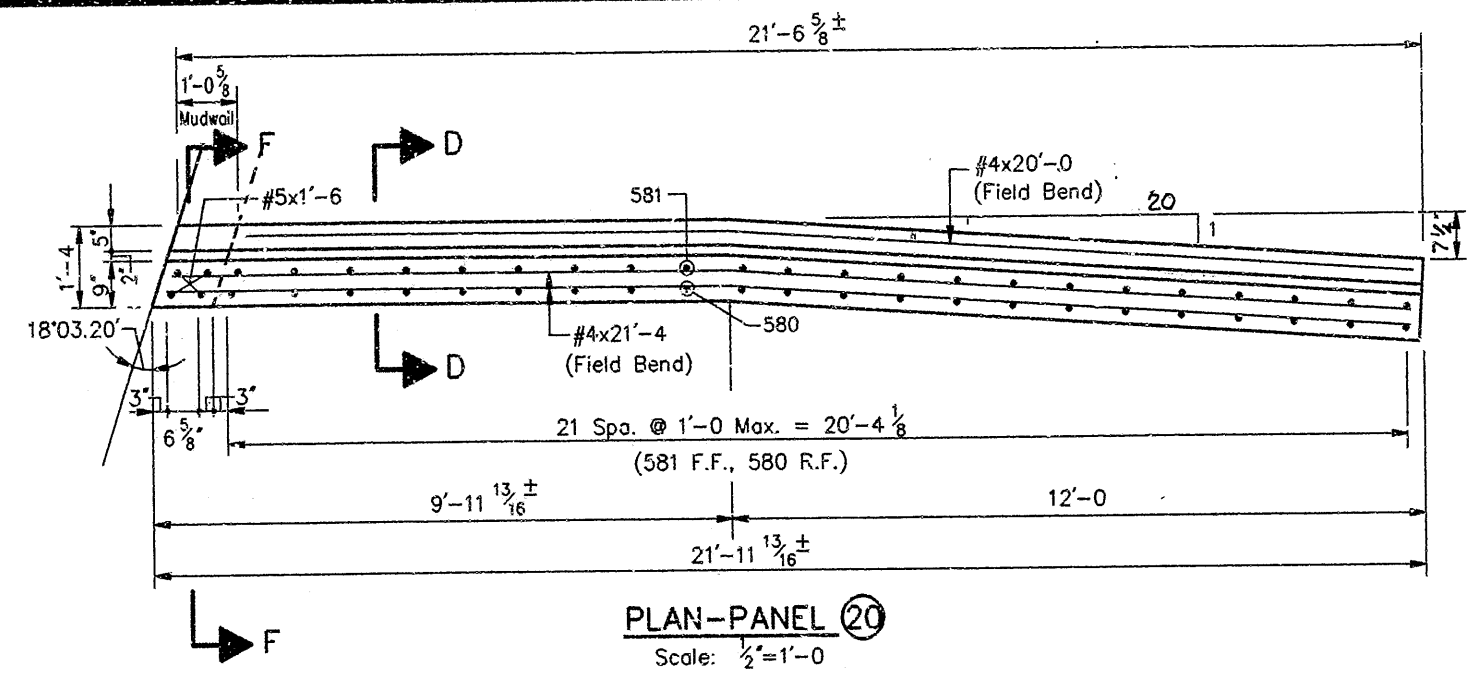
12220  
STATE OF INDIANA



LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0"  
 TIME: 12:10:21  
 DWG. FILE: RAILEND7  
 OPERATOR: cpm



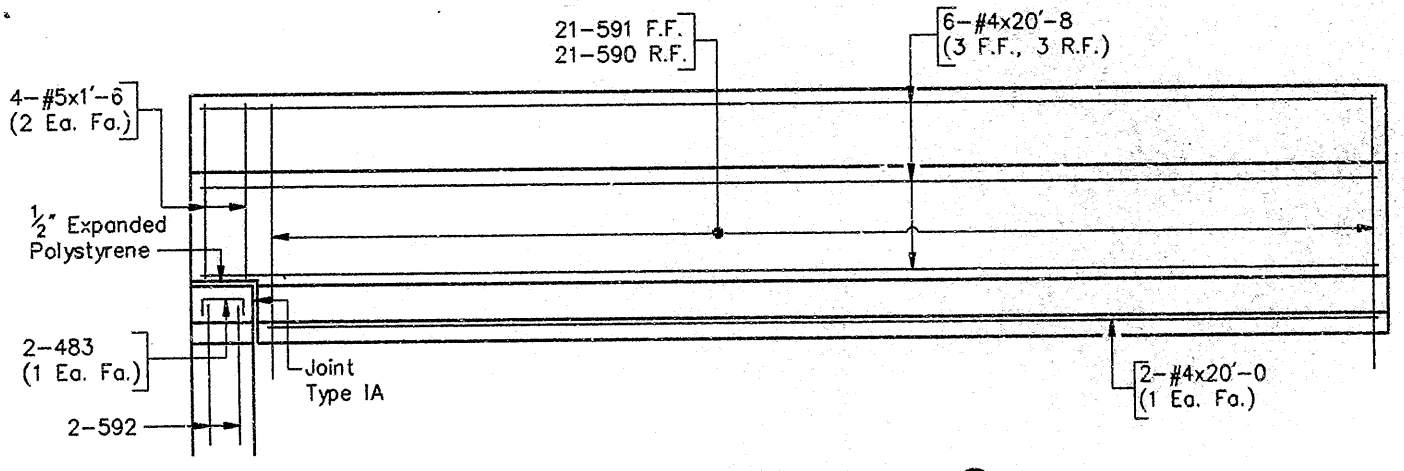
**PLAN-PANEL 19**  
Scale: 1/2" = 1'-0"



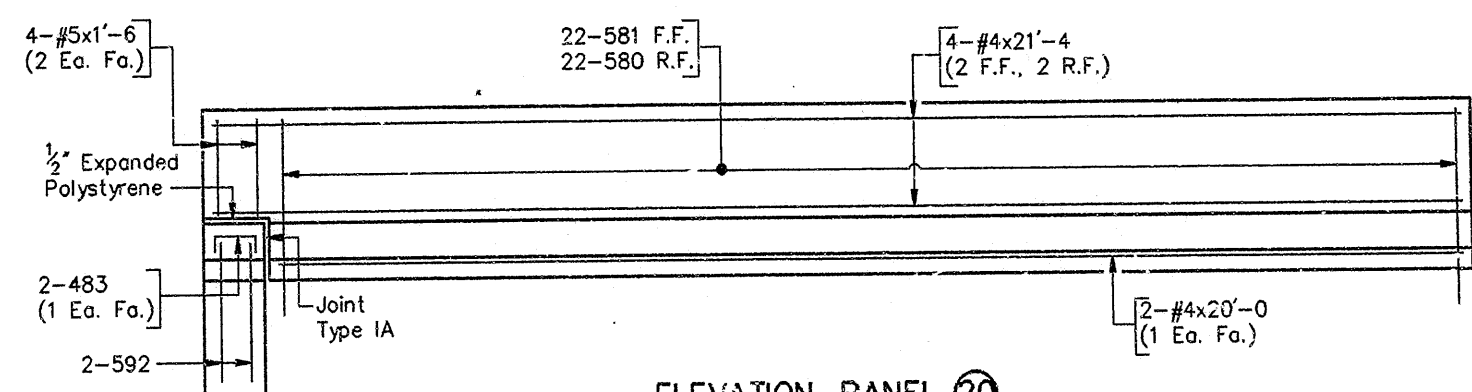
**PLAN-PANEL 20**  
Scale: 1/2" = 1'-0"

**PANEL 19**  
BILL OF MATERIALS  
(1 Req'd.)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
591	21	5'-11"	
590	21	4'-11"	
#5	4	1'-6"	
TOTAL #5 BARS			237
483	2	1'-8"	
#4	2	20'-0"	
#4	6	20'-8"	
TOTAL #4 BARS			112
TOTAL EPOXY COATED REINF.			349
MISCELLANEOUS			
Class "C" Concrete Railing			21 L.F.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Ea.



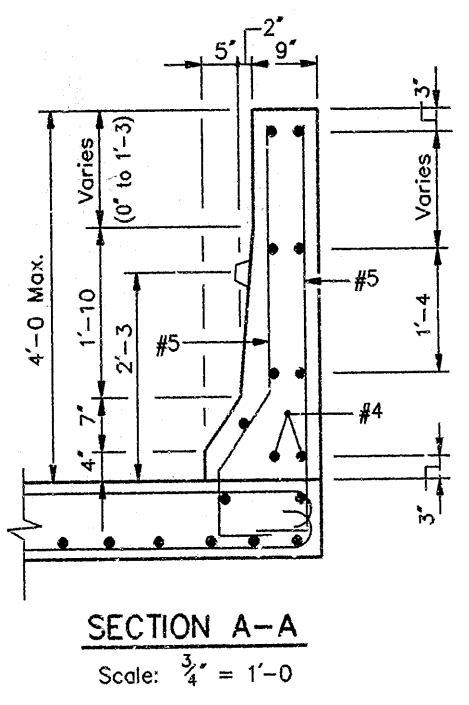
**ELEVATION-PANEL 19**  
Scale: 1/2" = 1'-0"



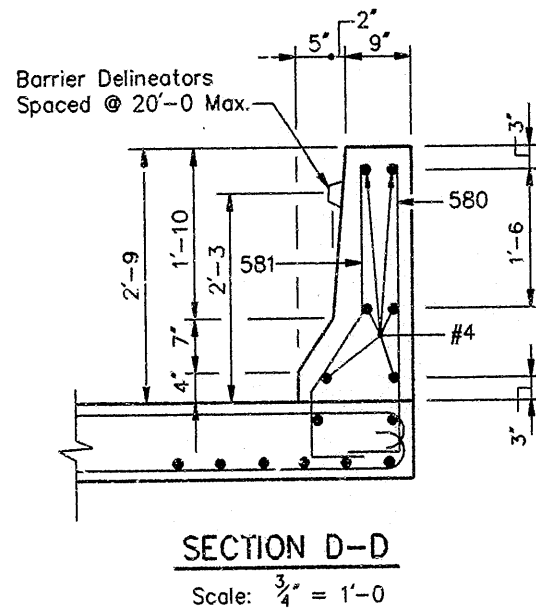
**ELEVATION-PANEL 20**  
Scale: 1/2" = 1'-0"

**PANEL 20**  
BILL OF MATERIALS  
(1 Req'd.)

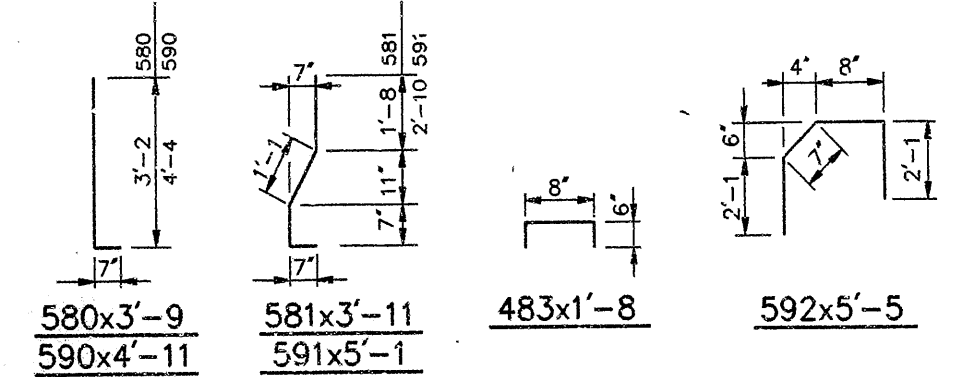
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
592	2	5'-5"	
581	22	3'-11"	
580	22	3'-9"	
#5	4	1'-6"	
TOTAL #5 BARS			193
483	2	1'-8"	
#4	4	21'-4"	
#4	2	20'-0"	
TOTAL #4 BARS			86
TOTAL EPOXY COATED REINF.			278
MISCELLANEOUS			
Class "C" Concrete Railing			22 L.F.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Ea.



**SECTION A-A**  
Scale: 3/4" = 1'-0"

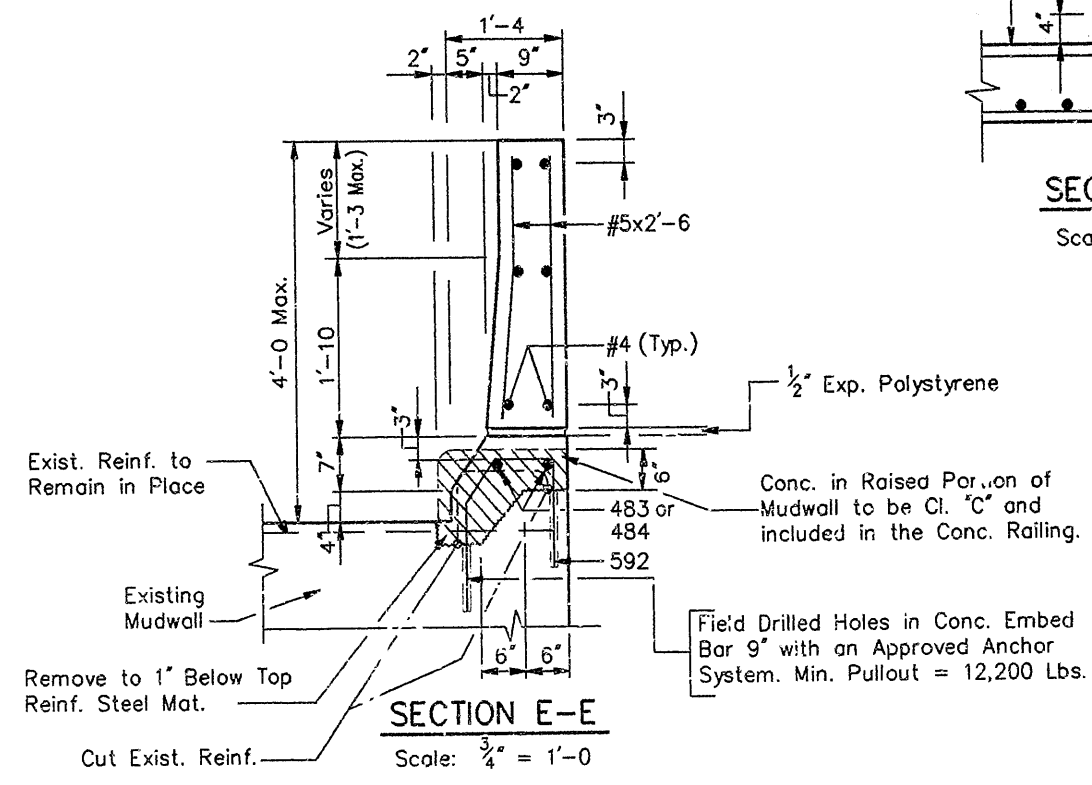


**SECTION D-D**  
Scale: 3/4" = 1'-0"

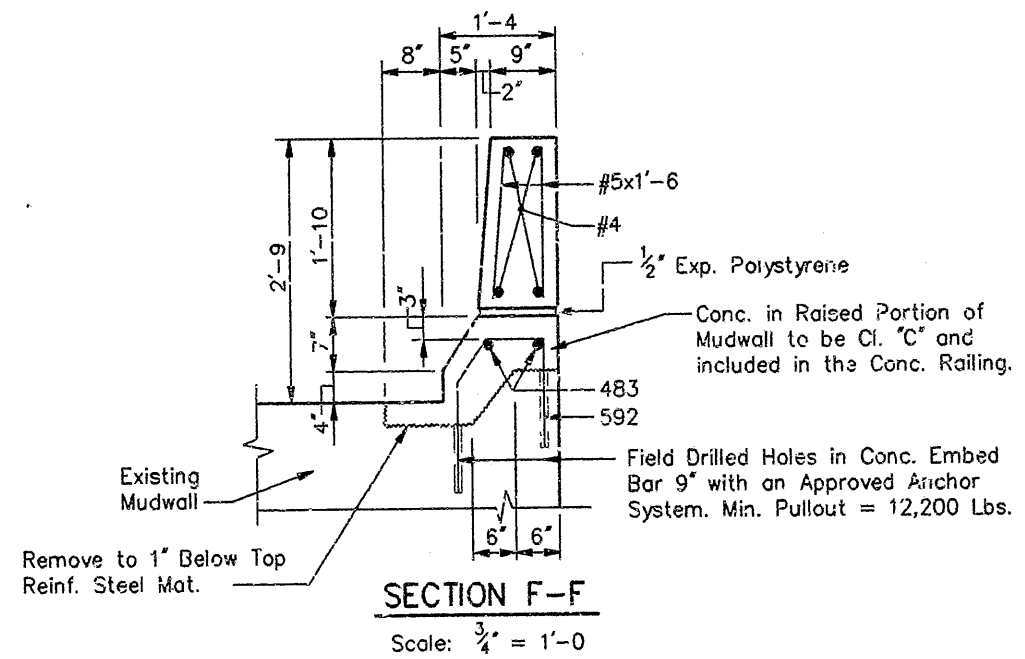


**NOTES:**

- Reinforcing to Remain in Place Shall Be Cleaned & Realigned.
- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- For Location of Panels 19, & 20, See Dwg. D19
- [Hatched Area] Indicates Limits of Removal. Include in "Removal of Present Structure (Portions)."



**SECTION E-E**  
Scale: 3/4" = 1'-0"



**SECTION F-F**  
Scale: 3/4" = 1'-0"

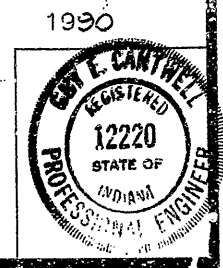
**CONCRETE RAILING DETAILS**  
PANELS 19 20

**INDIANA DEPARTMENT OF HIGHWAYS**  
BOONE & MARION COUNTIES

SCALE: - As Noted DATE: - 2-27

*Ray E. Cantwell*

DRAWING: D32 OF 41 SHEET: 36 OF 57  
 PROJECT: 1R-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: - 1-465-137-5259 B & JB



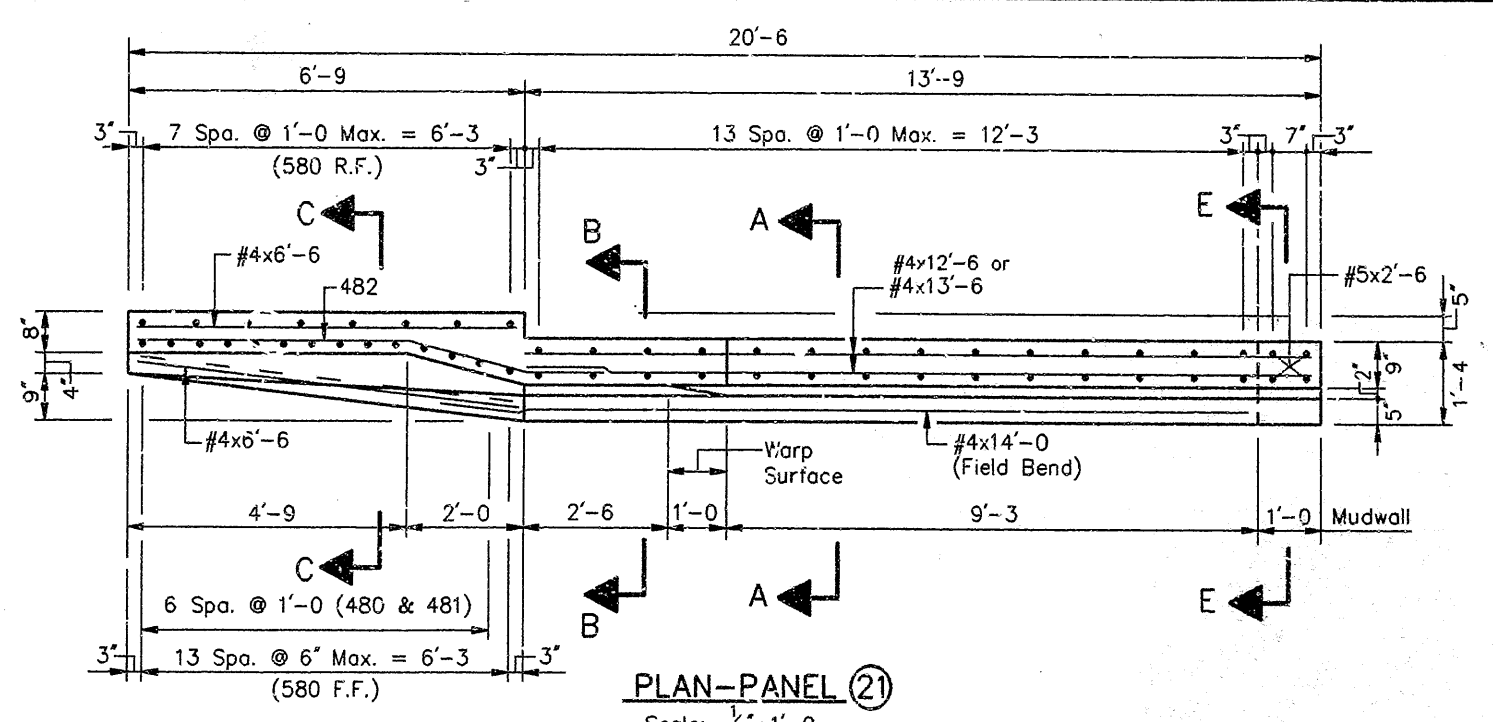
DESIGNED	CPM	CHK'D	TWL
DRAWN	CPM	CHK'D	TWL
TRACED	CPM	CHK'D	

Rev: 03-25-90; Median Barrier Flare Rate

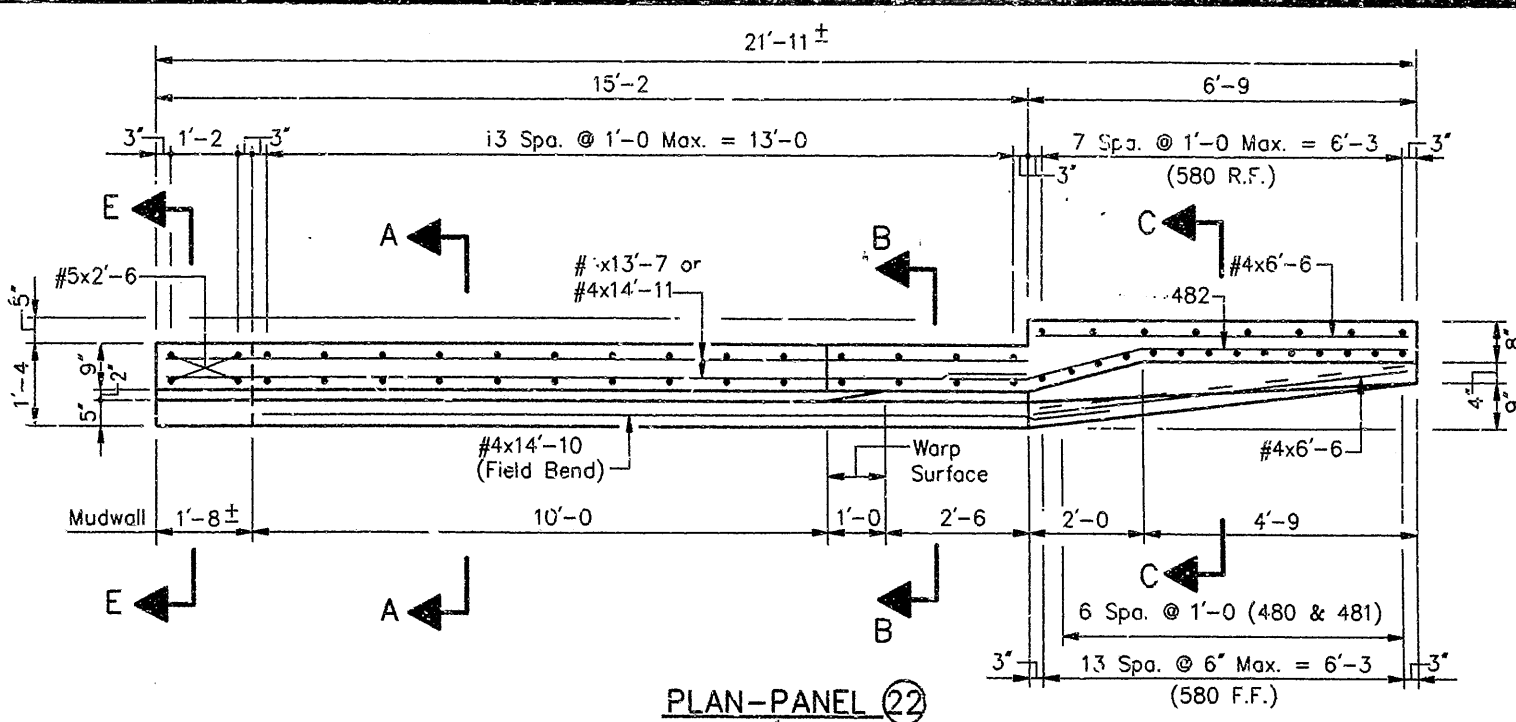


LAST UPDATE: 2/20/1990 DWG. SCALE: 0.5000 = 1'-0"  
 TIME: 11:2:57

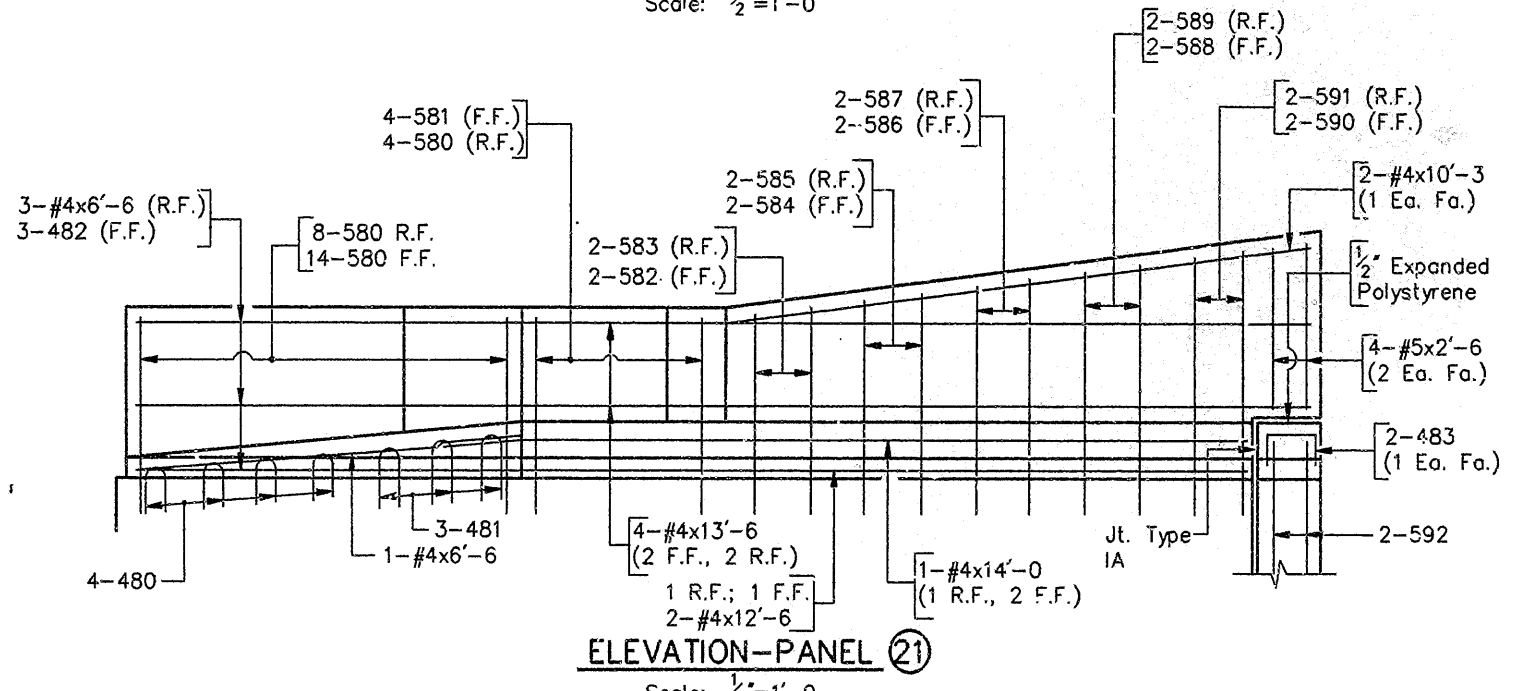
DWG FILE: RAILLENDB  
 OPERATOR: cpm



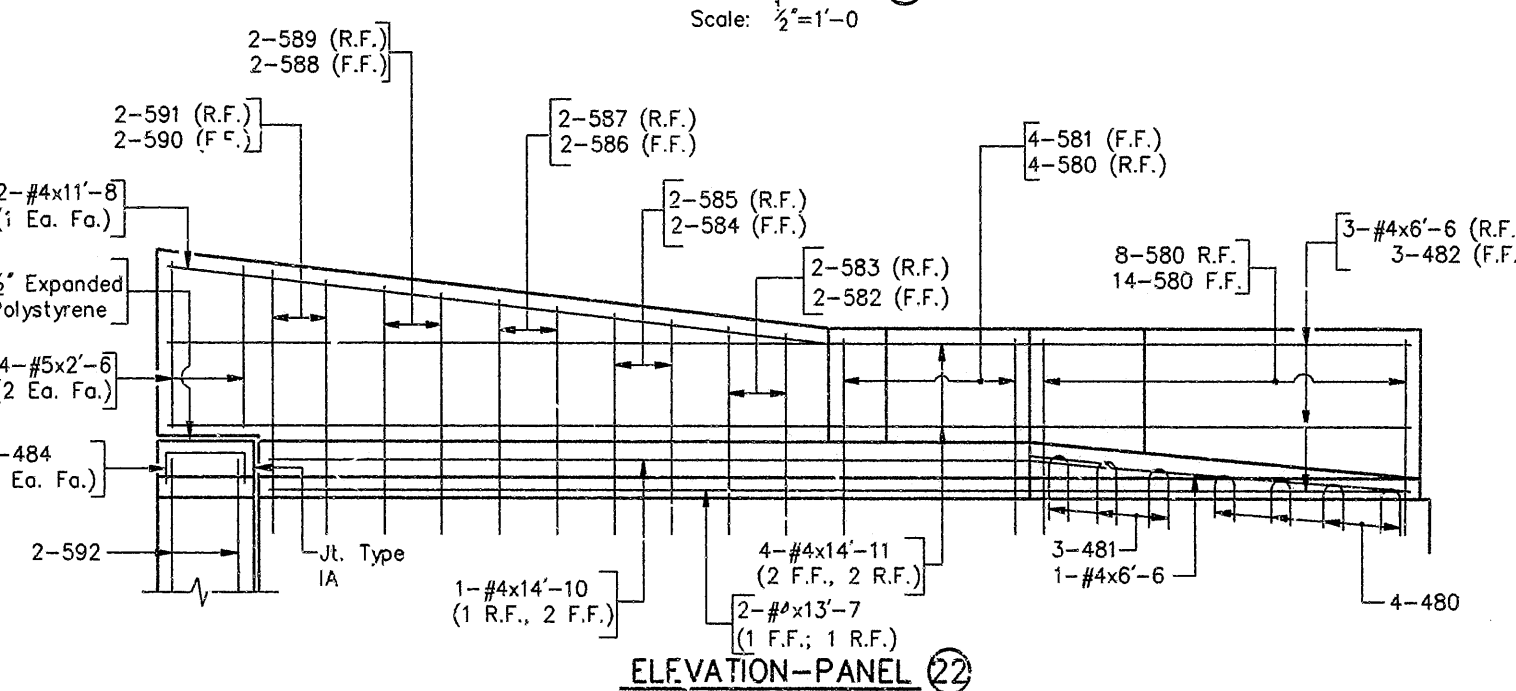
PLAN-PANEL 21  
 Scale: 1/2" = 1'-0"



PLAN-PANEL 22  
 Scale: 1/2" = 1'-0"



ELEVATION-PANEL 21  
 Scale: 1/2" = 1'-0"



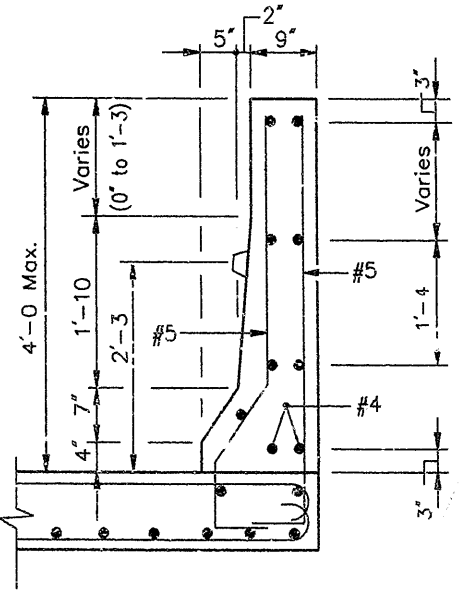
ELEVATION-PANEL 22  
 Scale: 1/2" = 1'-0"

- NOTES:**
- Reinforcing to Remain In Place to be Cleaned & Realigned.
  - For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - For Guard Rail Connection Details, See Br. Std. BR5.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - For Location of Panels 21, & 22 See Dwg. D15, D17.
  - For R.C. Bridge Approach Widening Details, See Dwg. D38-D40.
  - Barrier Rail Transitions to be Constructed on same Horizontal Curve as Railing on Bridge.
  - Barrier Rail Transitions to be Constructed Perpendicular to Super-elevated Approach Slab.
  - Indicates Limits of Removal Include in Removal of Present Structure (Portions)

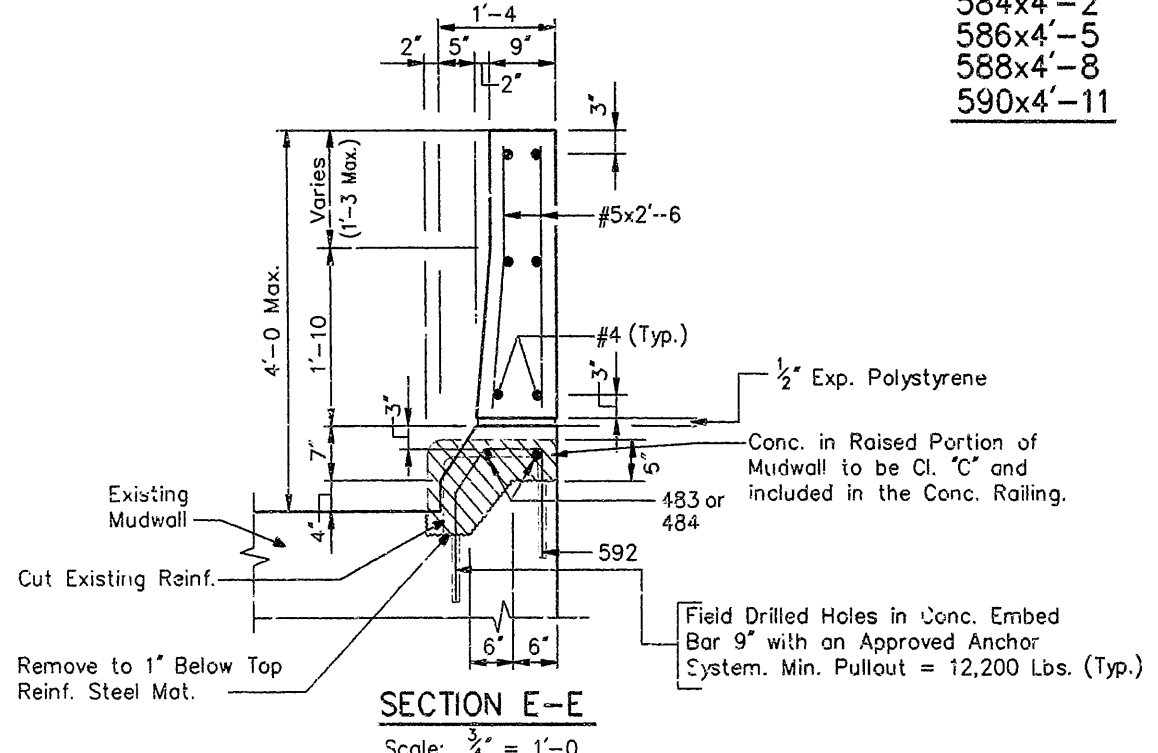
590	4'-4"
589	4'-1"
588	3'-10"
587	3'-7"
586	3'-4"
585	3'-2"
584	3'-2"
583	3'-2"
582	3'-2"
581	3'-2"

581x3'-11"	7'-7"
583x4'-1"	2'-7"
585x4'-4"	2'-7"
587x4'-7"	2'-7"
589x4'-10"	2'-7"
591x5'-1"	2'-7"

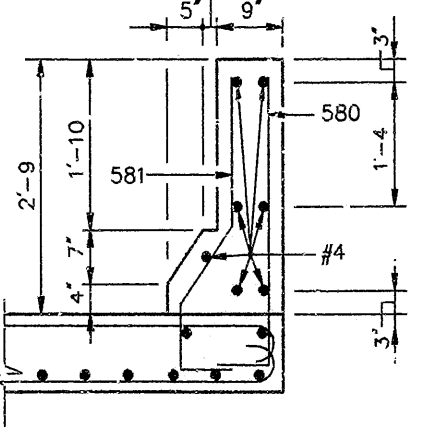
592x3'-7"	5'-5"
480x1'-9"	2'-1"
481x2'-5"	2'-1"
482x8'-7"	2'-1"
483x1'-8"	2'-1"
484x2'-4"	2'-1"



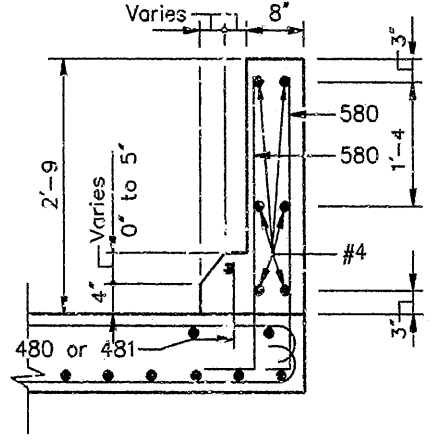
SECTION A-A  
 Scale: 3/4" = 1'-0"



SECTION E-E  
 Scale: 3/4" = 1'-0"



SECTION B-B  
 Scale: 3/4" = 1'-0"



SECTION C-C  
 Scale: 3/4" = 1'-0"

PANEL 21  
 BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
<b>EPOXY COATED REINFORCING STEEL</b>			
592	2	3'-9"	5'-5"
591	2	5'-1"	
590	2	4'-11"	
589	2	4'-10"	
588	2	4'-8"	
587	2	4'-7"	
586	2	4'-5"	
585	2	4'-4"	
584	2	4'-2"	
583	2	4'-1"	
582	2	3'-11"	
581	4	3'-11"	
580	26	3'-9"	
#5	4	2'-6"	
<b>TOTAL #5 BARS</b>			<b>234-230</b>
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	1	14'-0"	
#4	4	13'-6"	
#4	2	12'-6"	
#4	2	10'-3"	
#4	4	6'-6"	
<b>TOTAL #4 BARS</b>			<b>122</b>
<b>TOTAL EPOXY COATED REINF.</b>			<b>356-352</b>
<b>MISCELLANEOUS</b>			
Class "C" Concrete Railing			21 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes In Concrete			4 Ea.

Quantities for 1 Panel, 2 Total Req'd.

PANEL 22  
 BILL OF MATERIALS  
 (1 Req'd.)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
<b>EPOXY COATED REINFORCING STEEL</b>			
592	2	3'-9"	5'-5"
591	2	5'-1"	
590	2	4'-11"	
589	2	4'-10"	
588	2	4'-8"	
587	2	4'-7"	
586	2	4'-5"	
585	2	4'-4"	
584	2	4'-2"	
583	2	4'-1"	
582	2	3'-11"	
581	4	3'-11"	
580	26	3'-9"	
#5	4	2'-6"	
<b>TOTAL #5 BARS</b>			<b>234-230</b>
484	2	2'-4"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	1	14'-0"	
#4	4	13'-6"	
#4	2	13'-7"	
#4	2	11'-8"	
#4	4	6'-6"	
<b>TOTAL #4 BARS</b>			<b>131</b>
<b>TOTAL EPOXY COATED REINF.</b>			<b>365-361</b>
<b>MISCELLANEOUS</b>			
Class "C" Concrete Railing			22 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes In Concrete			4 Ea.

CONCRETE RAILING DETAILS

PANELS 21/22

INDIANA DEPARTMENT OF HIGHWAYS  
 BOONE COUNTY

SCALE: - As Noted

DATE: - 2-27

*Ray E. Cantwell*

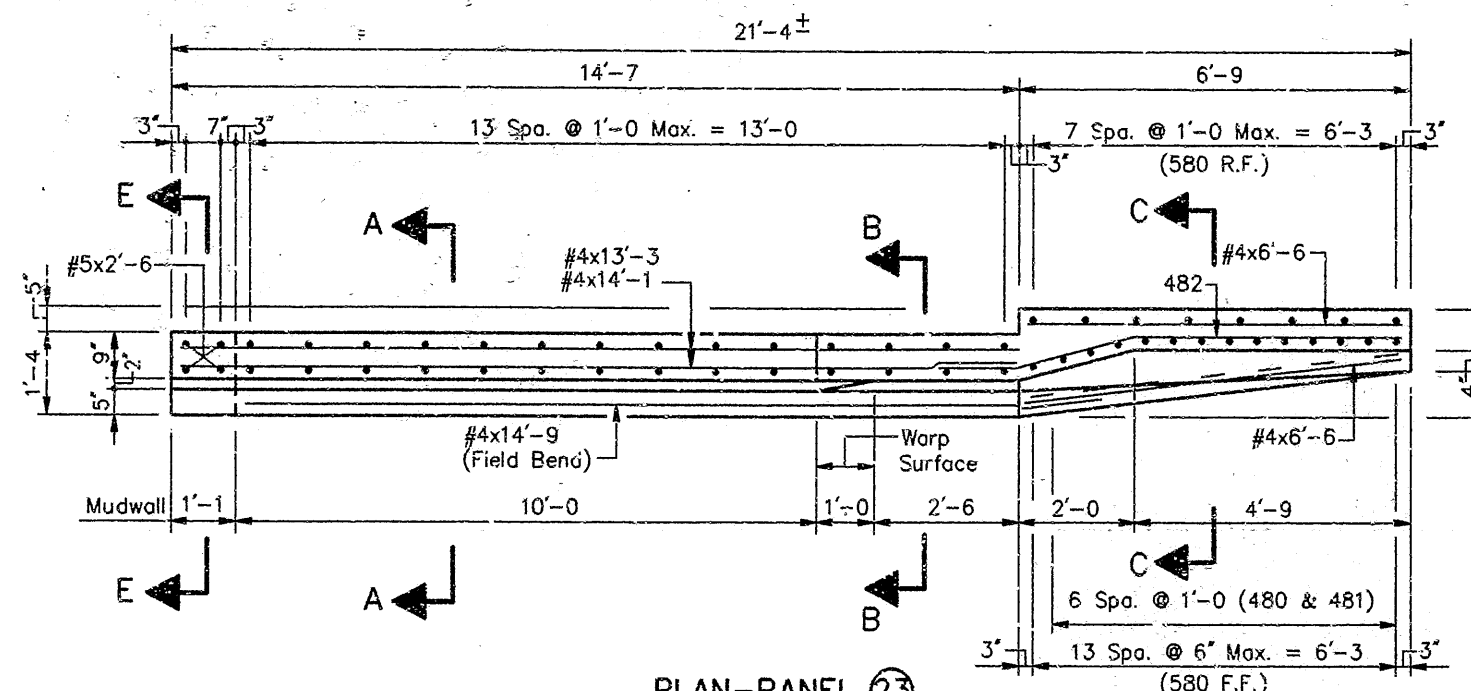


DRAWING: D33 OF 41 SHEET: 37 OF 57  
 PROJECT: IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE: - I-465-136-5473B; I-465-136-5435B

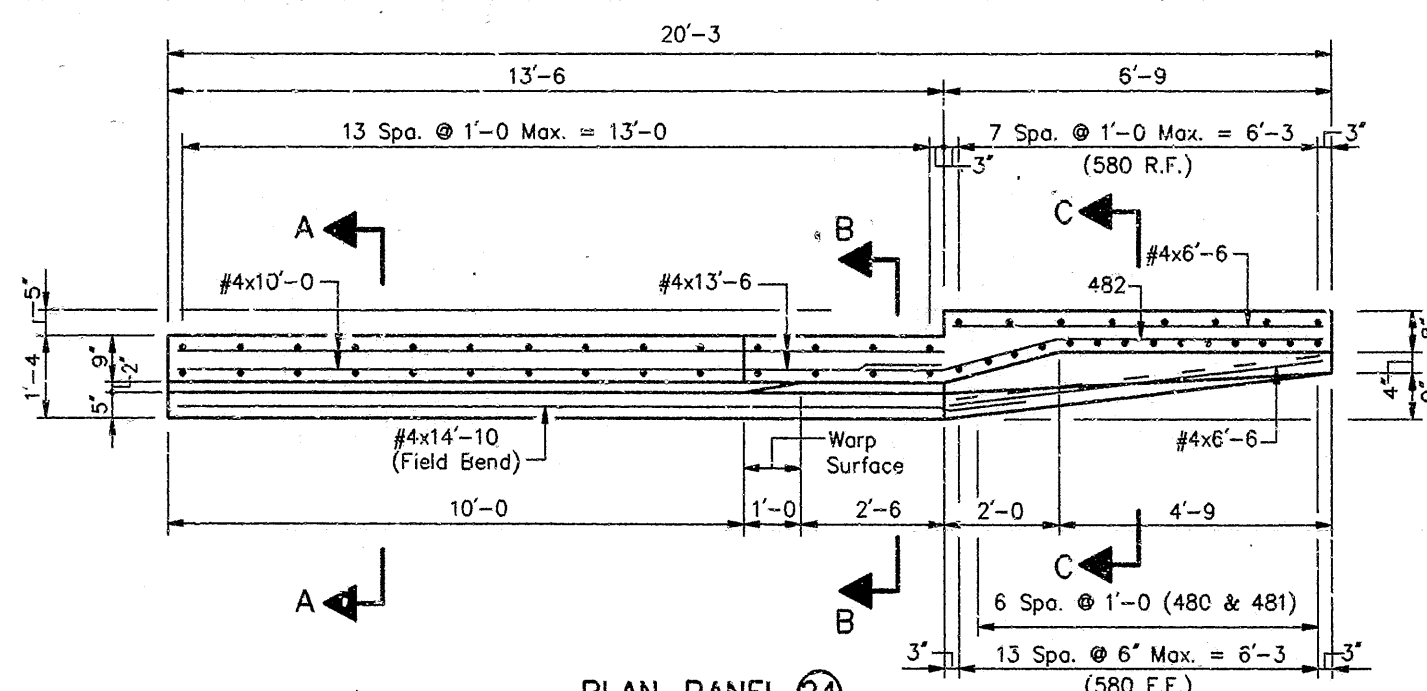
REVISED 4/23/91 592 BAR

LAST UPDATE: 2/19/1990 DWG. SCALE: 0.5000 = 1'-0" TIME: 17:3:20

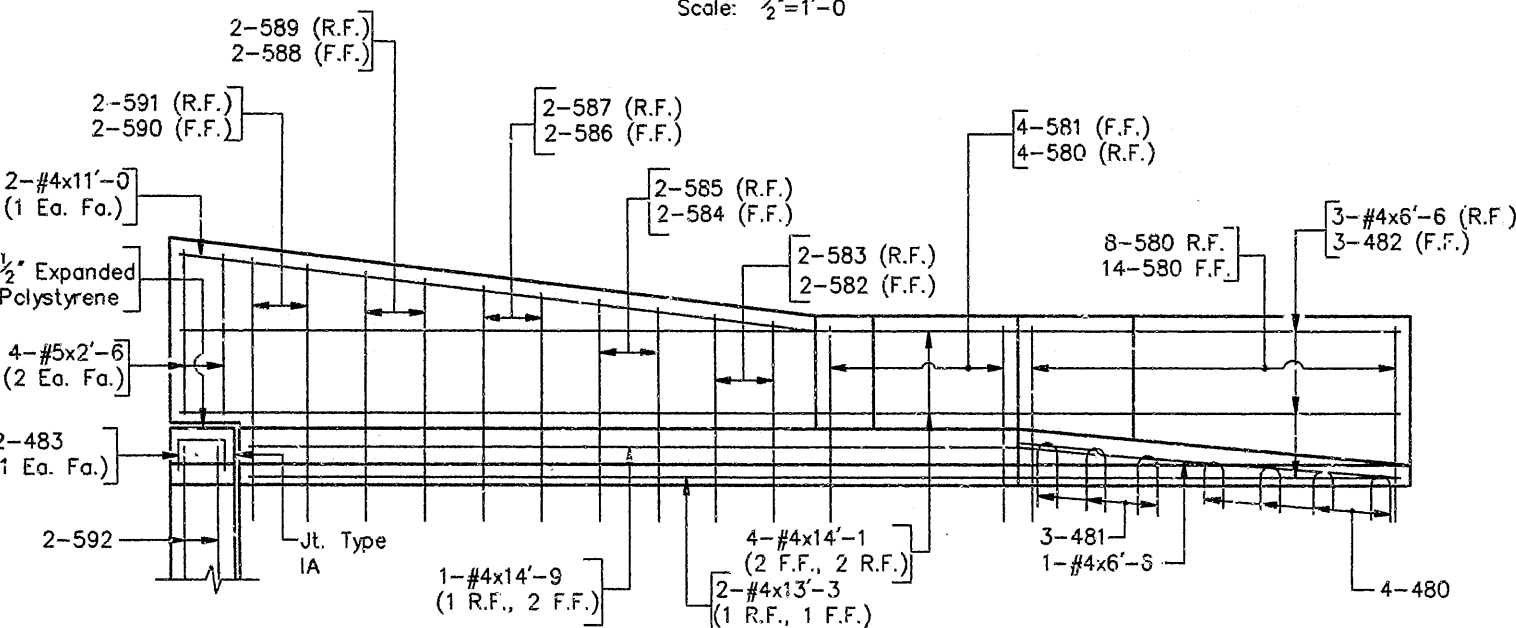
DWG. FILE: RAILEND9 OPERATOR: CPM



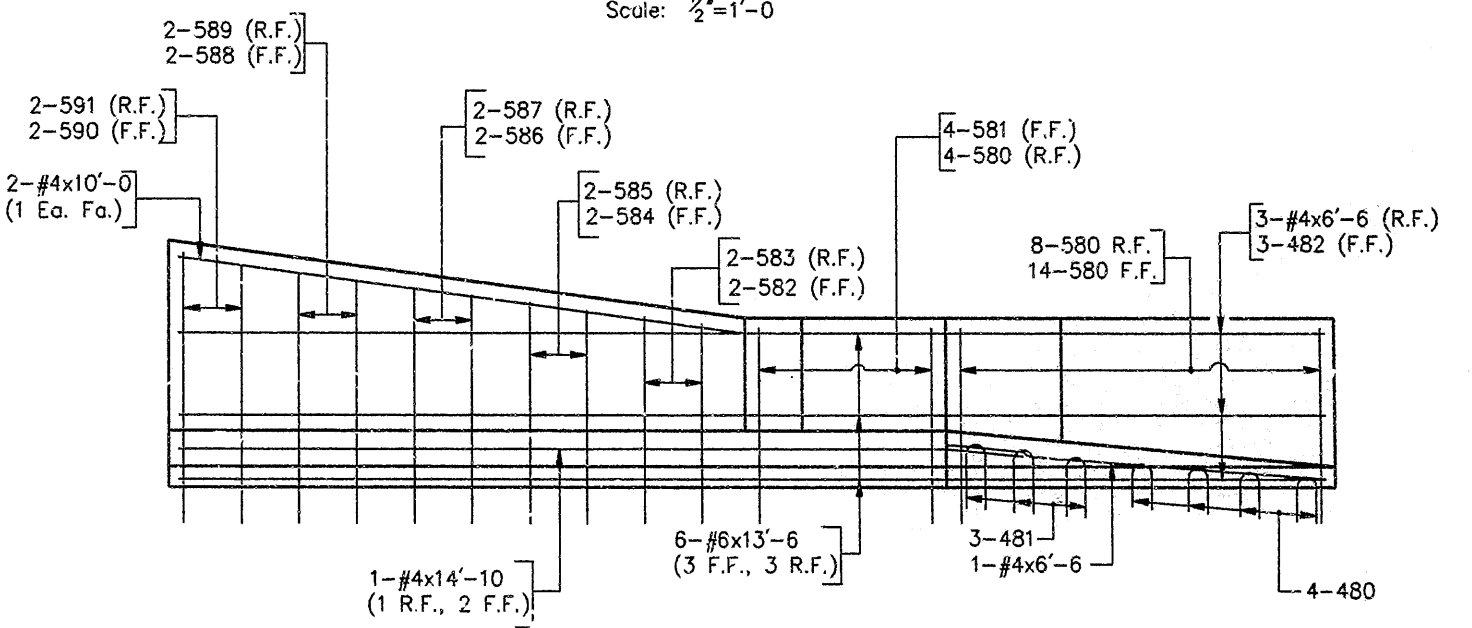
**PLAN-PANEL 23**  
Scale: 1/2" = 1'-0"



**PLAN-PANEL 24**  
Scale: 1/2" = 1'-0"



**ELEVATION-PANEL 23**  
Scale: 1/2" = 1'-0"

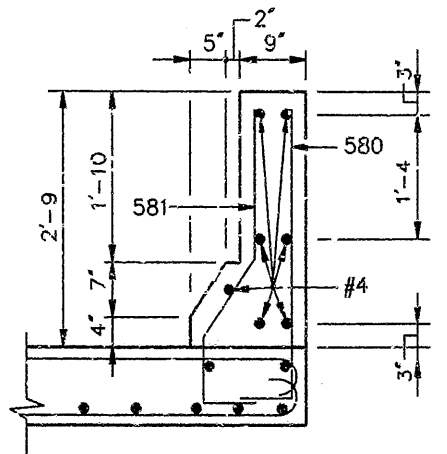
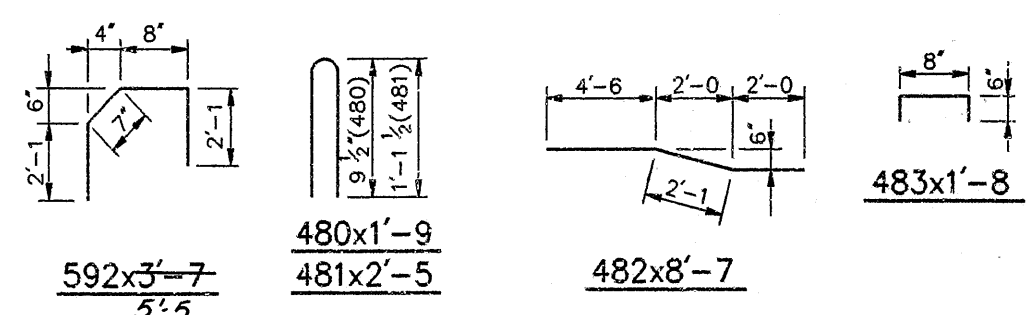


**ELEVATION-PANEL 24**  
Scale: 1/2" = 1'-0"

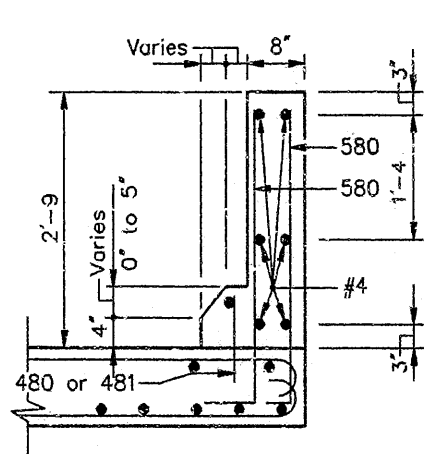
- NOTES:**
- Reinforcing to Remain In Place to be Cleaned & Realigned.
  - For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
  - For Guard Rail Connection Details, See Br. Std. BR5.
  - Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
  - Concrete in Barrier Rail to be Class "C".
  - For Location of Panels 23, & 24 See Dwg. D17, D22.
  - For R.C. Bridge Approach Widening Details, See Dwg. D38-D40.
  - Barrier Rail Transitions to be Constructed on same Horizontal Curve as Railing on Bridge.
  - Barrier Rail Transitions to be Constructed Perpendicular to Super-elevated Approach Slab.
  - Indicates Limits of Removal Include in Removal of Present Structure (Portions)

590	4'-4"
588	4'-1"
586	3'-10"
584	3'-7"
582	3'-4"
580	3'-2"

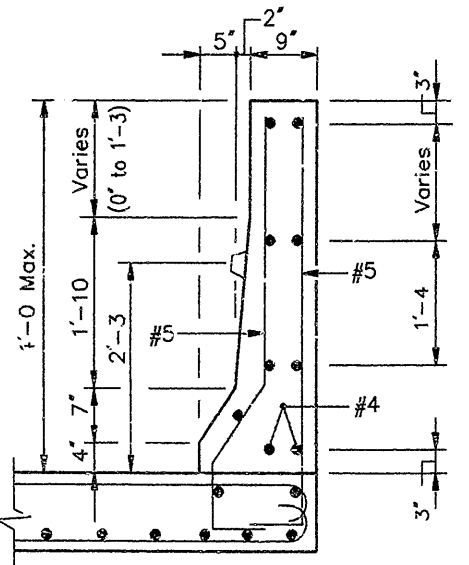
591	2'-10"
589	2'-7"
587	2'-4"
585	2'-1"
583	1'-10"
581	1'-8"



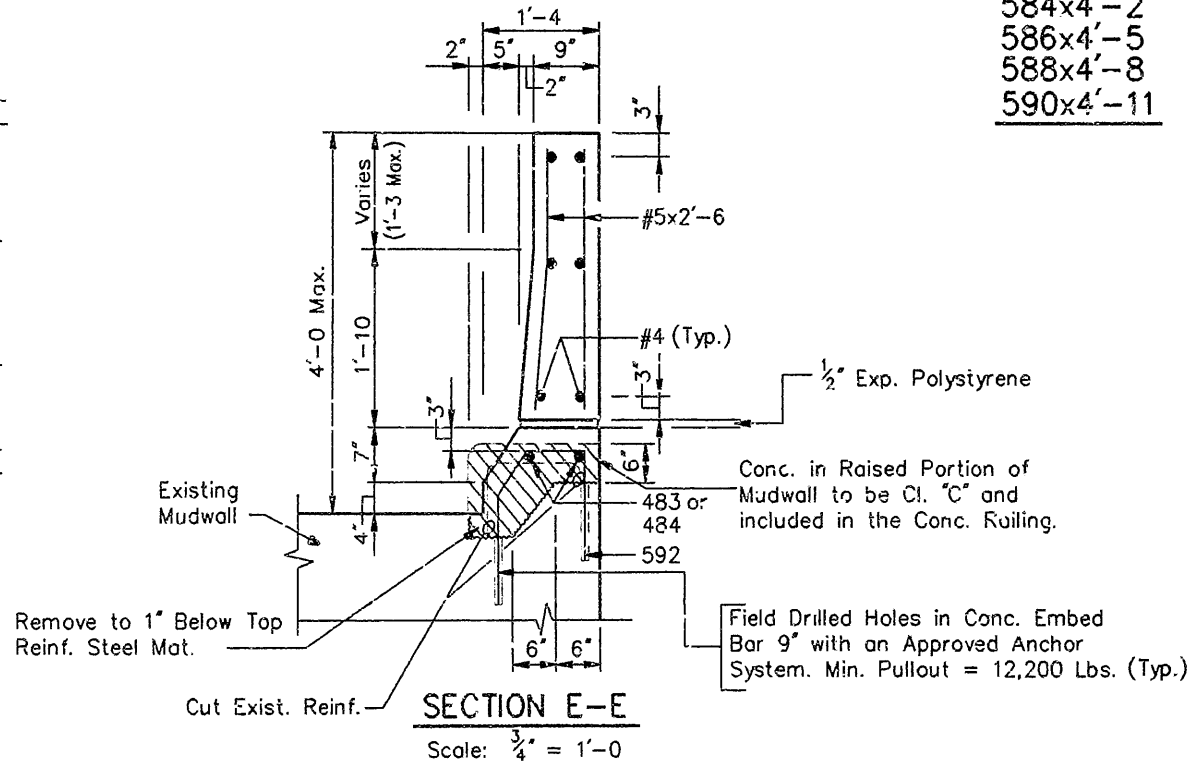
**SECTION B-B**  
Scale: 3/4" = 1'-0"



**SECTION C-C**  
Scale: 3/4" = 1'-0"



**SECTION A-A**  
Scale: 3/4" = 1'-0"



**SECTION E-E**  
Scale: 3/4" = 1'-0"

**PANEL 23**

**BILL OF MATERIALS**  
(1 Req'd.)

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
<b>EPOXY COATED REINFORCING STEEL</b>			
592	2	3'-7"	5'-5"
591	2	5'-1"	
590	2	4'-11"	
589	2	4'-10"	
588	2	4'-8"	
587	2	4'-7"	
586	2	4'-5"	
585	2	4'-4"	
584	2	4'-2"	
583	2	4'-1"	
582	2	3'-11"	
581	4	3'-11"	
580	26	3'-9"	
#5	4	2'-8"	
<b>TOTAL #5 BARS</b>			<b>234-239</b>
483	2	1'-8"	
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	1	14'-9"	
#4	4	14'-1"	
#4	2	13'-3"	
#4	2	11'-0"	
#4	4	6'-6"	
<b>TOTAL #4 BARS</b>			<b>126</b>
<b>TOTAL EPOXY COATED REINF.</b>			<b>360-366</b>
<b>MISCELLANEOUS</b>			
Class "C" Concrete Rolling			22 Lft.
Barrier Delineators			1 Ea.
Field Drilled Holes in Concrete			4 Ea.

**PANEL 24**

**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
<b>EPOXY COATED REINFORCING STEEL</b>			
591	2	5'-1"	
590	2	4'-11"	
589	2	4'-10"	
588	2	4'-8"	
587	2	4'-7"	
586	2	4'-5"	
585	2	4'-4"	
584	2	4'-2"	
583	2	4'-1"	
582	2	3'-11"	
581	4	3'-11"	
580	26	3'-9"	
<b>TOTAL #5 BARS</b>			<b>212</b>
482	3	8'-7"	
481	3	2'-5"	
480	4	1'-9"	
#4	1	14'-10"	
#4	6	13'-8"	
#4	2	10'-0"	
#4	4	6'-6"	
<b>TOTAL #4 BARS</b>			<b>121</b>
<b>TOTAL EPOXY COATED REINF.</b>			<b>333</b>
<b>MISCELLANEOUS</b>			
Class "C" Concrete Rolling			21 Lft.
Barrier Delineators			1 Ea.

Quantities for 1 Panel, 3 Total Req'd.

**CONCRETE RAILING DETAILS**

**PANELS 23/24**

**INDIANA DEPARTMENT OF HIGHWAYS**  
BOONE & MARION COUNTIES

SCALE: - As Noted DATE: - 2-27 1990

DRAWING: D34 OF 41 SHEET: 38 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-136-5435B; I-465-134-5434B & JB  
I-465-136-5259B & JB

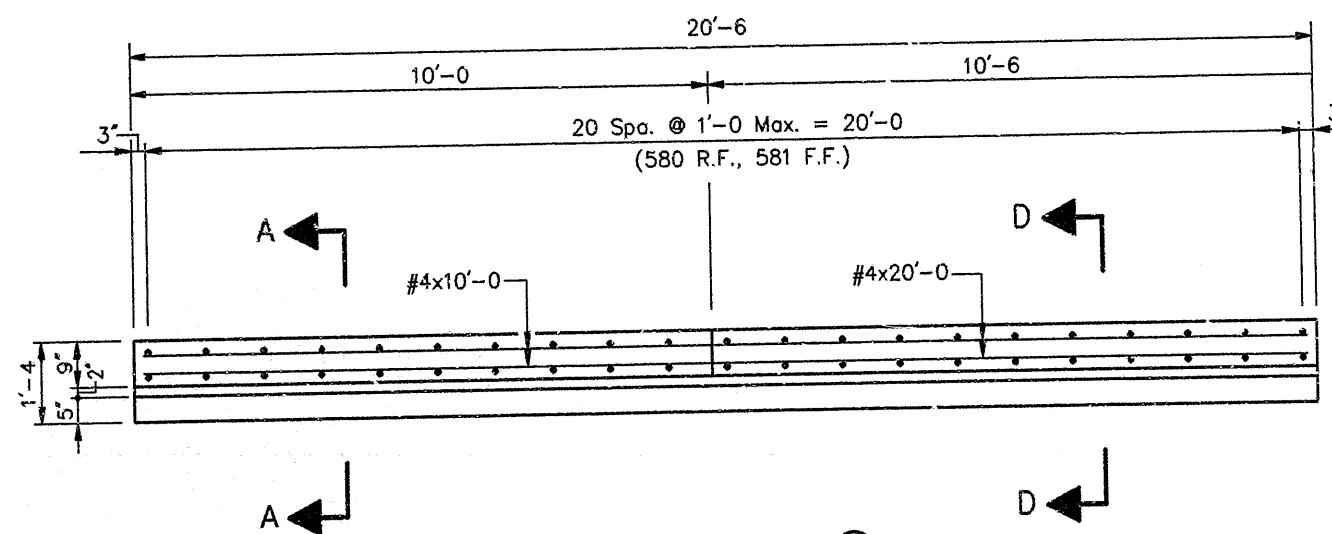


REVISED 4/23/91 592 BAR

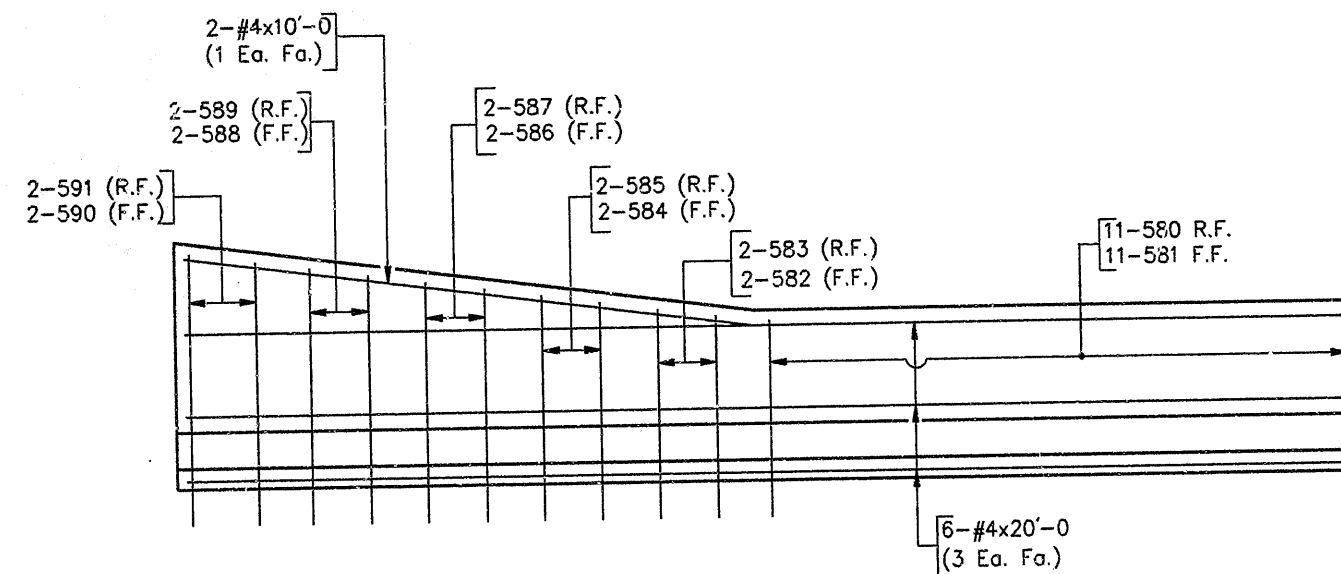
PANEL 25

BILL OF MATERIALS  
(1 Req'd)

REINFORCING STEEL			
SIZE & MARK	No OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING STEEL			
591	2	5'-1"	
590	2	4'-11"	
589	2	4'-10"	
588	2	4'-8"	
587	2	4'-7"	
586	2	4'-5"	
585	2	4'-4"	
584	2	4'-2"	
583	2	4'-1"	
582	2	3'-11"	
581	11	3'-11"	
580	11	3'-9"	
TOTAL #5 BARS			182
#4	6	20'-0"	
#4	2	10'-0"	
TOTAL #4 BARS			94
TOTAL EPOXY COATED REINF.			276
MISCELLANEOUS			
Class "C" Concrete Railing			21 LF.
Barrier Delineators			1 Ea.



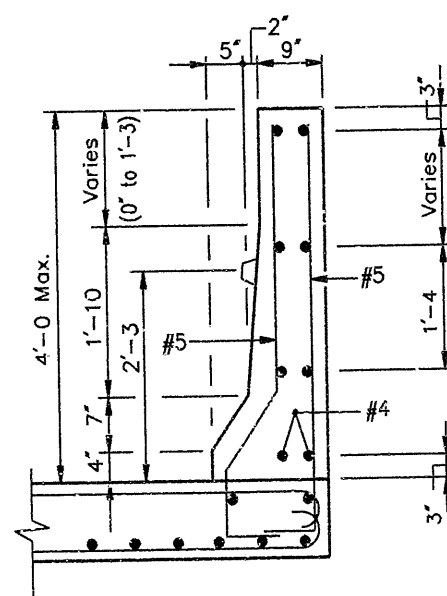
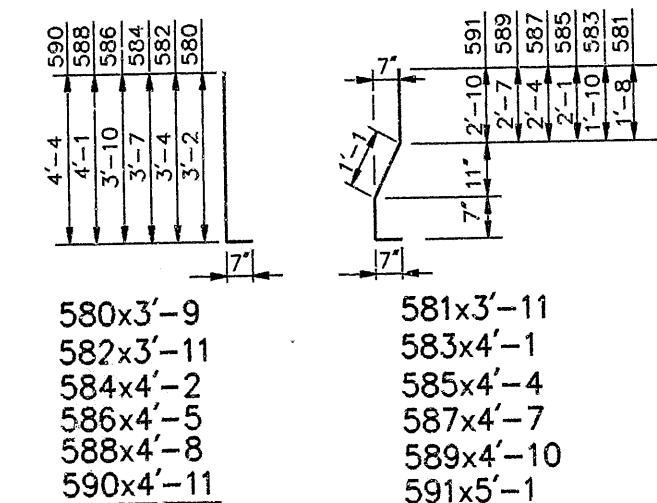
PLAN-PANEL 25  
Scale: 1/2" = 1'-0"



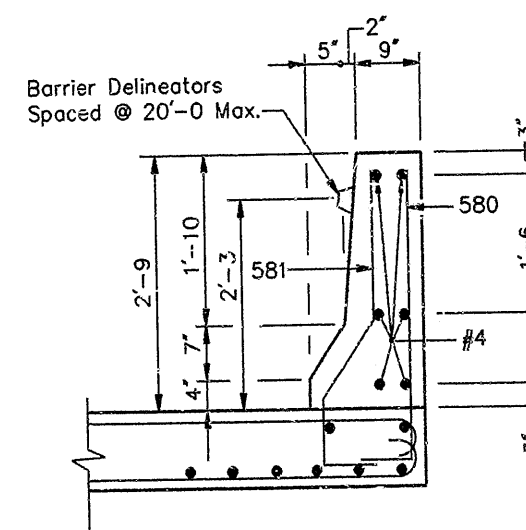
ELEVATION-PANEL 25  
Scale: 1/2" = 1'-0"

NOTES:

- For Reinforcing Bar Notes & Bar Bending Details, See Br. Std. C1.
- For Guard Rail Connection Details, See Br. Std. BR5.
- Reinforcing Steel in Conc. Barrier Rail to be Epoxy Coated.
- Concrete in Barrier Rail to be Class "C".
- For Location of Panel 25, See Dwg. D22.
- For R.C. Bridge Approach Widening Details, See Dwg. D38, D39, D40.
- Barrier Rail Transitions to be Constructed on same Horizontal Curve as Railing on Bridge.
- Barrier Rail Transitions to be Constructed Perpendicular to Superelevated Approach Slab.



SECTION A-A  
Scale: 3/4" = 1'-0"



SECTION D-D  
Scale: 3/4" = 1'-0"

CONCRETE RAILING DETAILS

PANELS 25

INDIANA DEPARTMENT OF HIGHWAYS  
MARION COUNTY

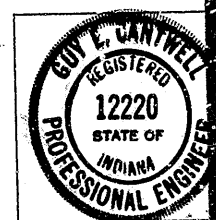
SCALE:- As Noted

DATE:- 2-27-1990

19

*Ray E. Contreras*

DRAWING:- D35 OF 41 SHEET:- 39 OF 57  
PROJECT:- IR-465-4( ) STATION:-  
BRIDGE CONTRACT NO.  
BRIDGE FILE:- i-465-141-5434B & JB



DESIGNED	PEB	C.K'D.	TWL
DRAWN	CPM	C.K'D.	TWL
TRACED		C.K'D.	

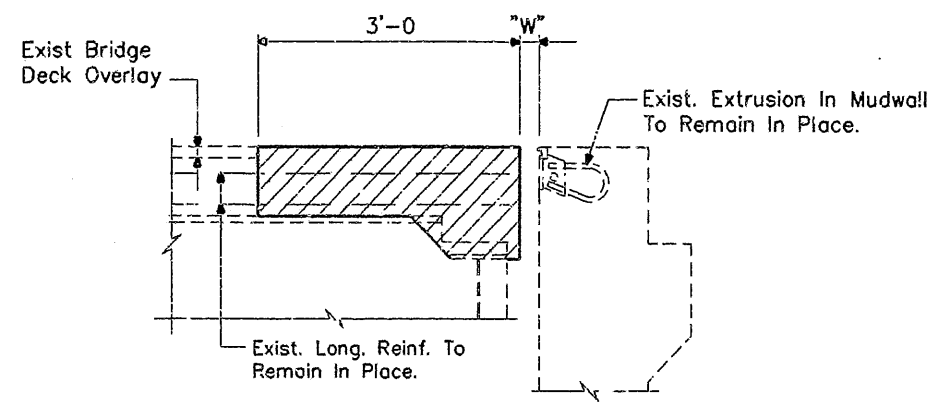
LAST UPDATE: 2/17/1990 DWG. SCALE: 0.5000 = 1'-0  
TIME: 14:7:45

DWG. FILE: RAILENTO  
OPERATOR: cpm

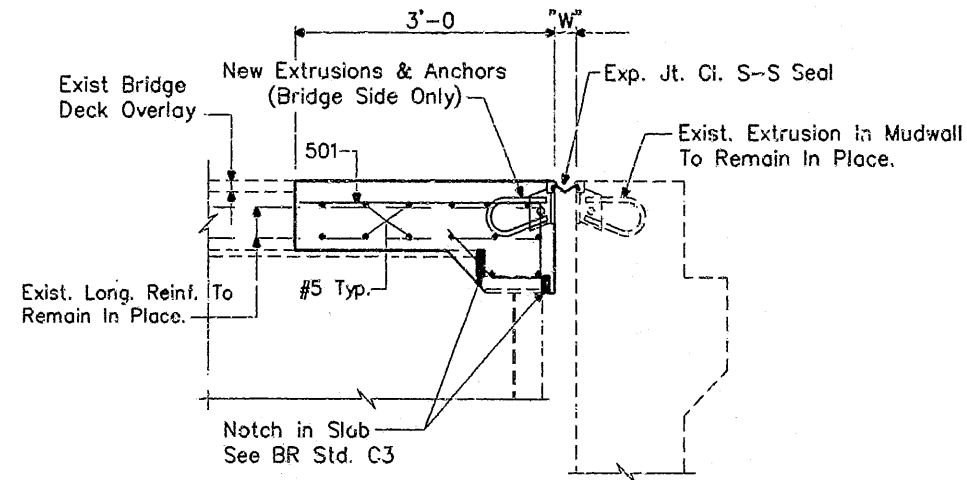


LAST UPDATE: 1/1/1980 DWG. SCALE: 0.2500 = 1'-0"  
 TIME: 17:26:31

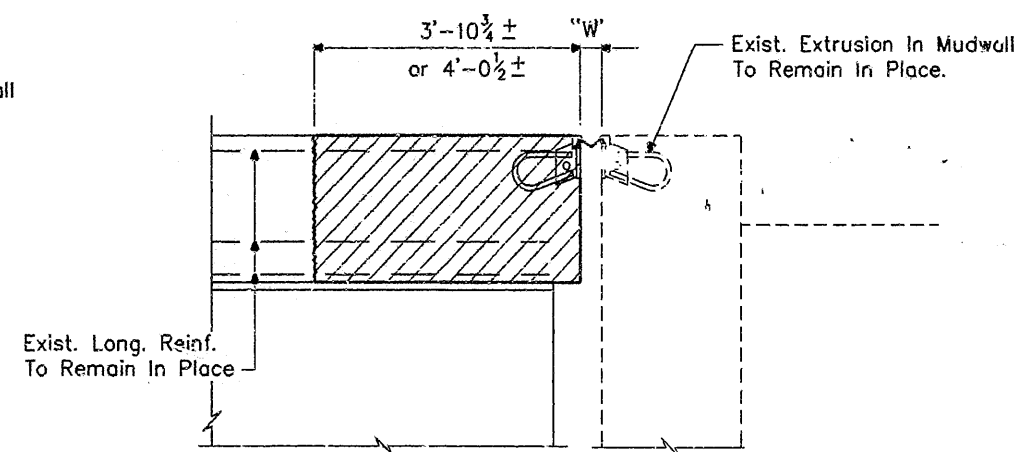
DWG. FILE: S55435 OPERATOR: cpm



**SECTION A-A**  
 Showing Limits Of Removal  
 Scale: 3/4" = 1'-0"



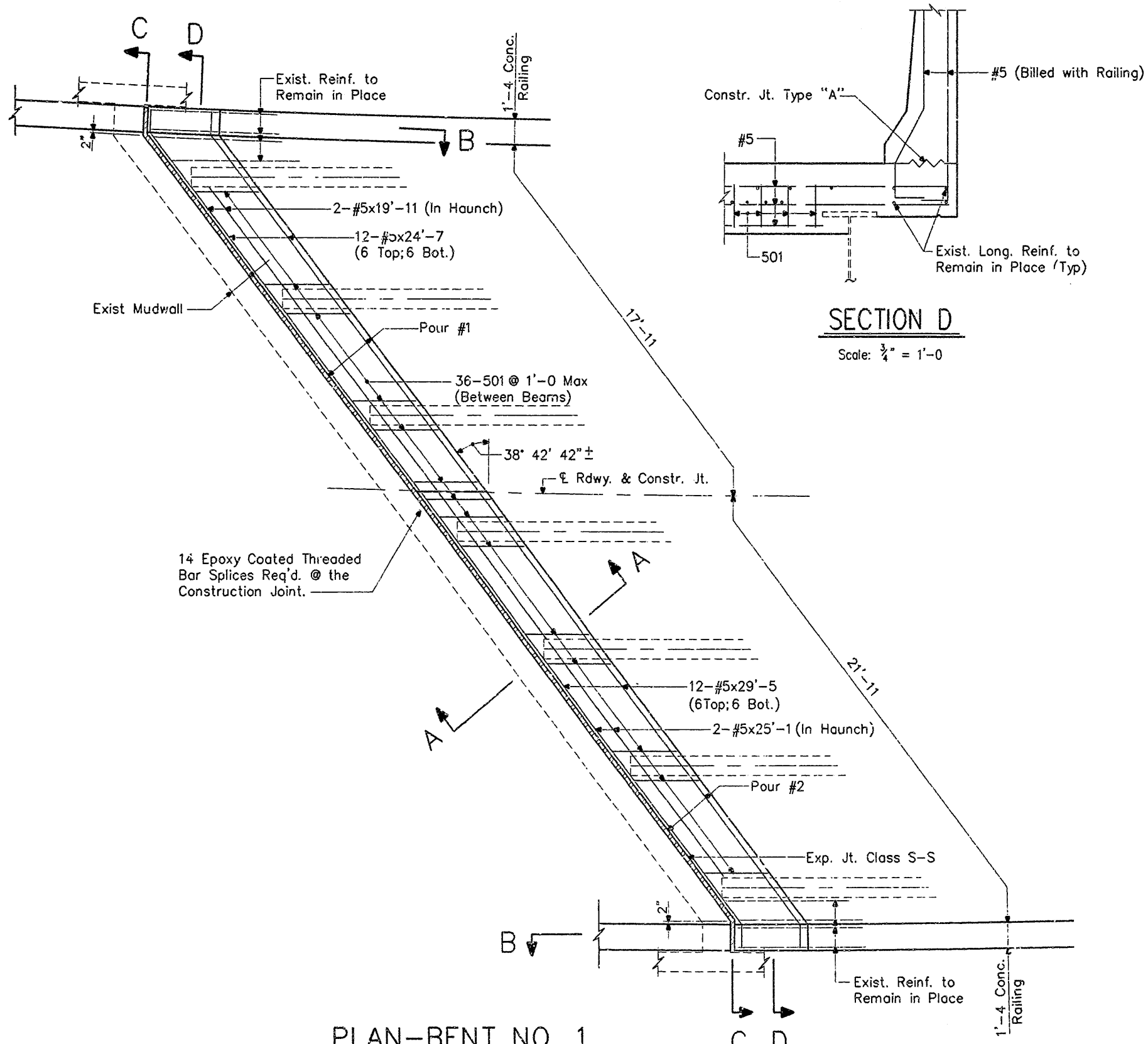
**SECTION A-A**  
 Showing New Construction  
 Scale: 3/4" = 1'-0"



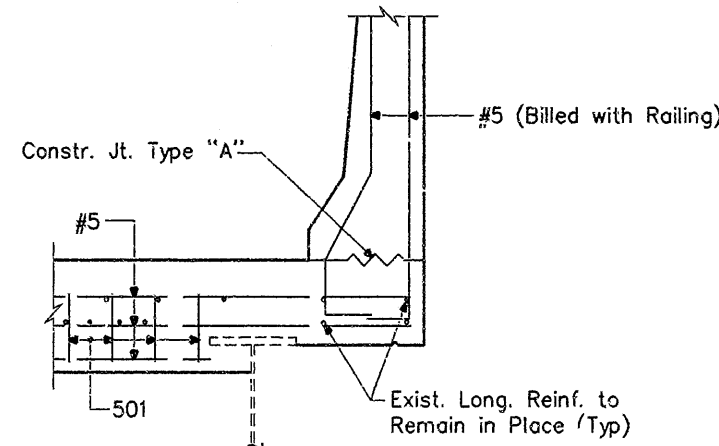
**SECTION B-B**  
 Showing Limits Of Removal  
 Scale: 3/4" = 1'-0"

BILL OF MATERIALS			
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
PLAIN REINFORCING			
501	36	4'-11"	
#5	12	29'-5"	
#5	2	25'-1"	
#5	12	24'-7"	
#5	2	19'-11"	
TOTAL #5 BARS			954
TOTAL PLAIN REINFORCING			954
MISCELLANEOUS			
Class "C" Concrete in Superstructure:			
Pour #1		2.5 Cys	
Pour #2		3.2 Cys	
Total Cl. "C" Conc. IN Superstr.			5.7 Cys
E.C. Threaded Bar Splices			14 Each
Expansion Joint Class S-S			53 Lft

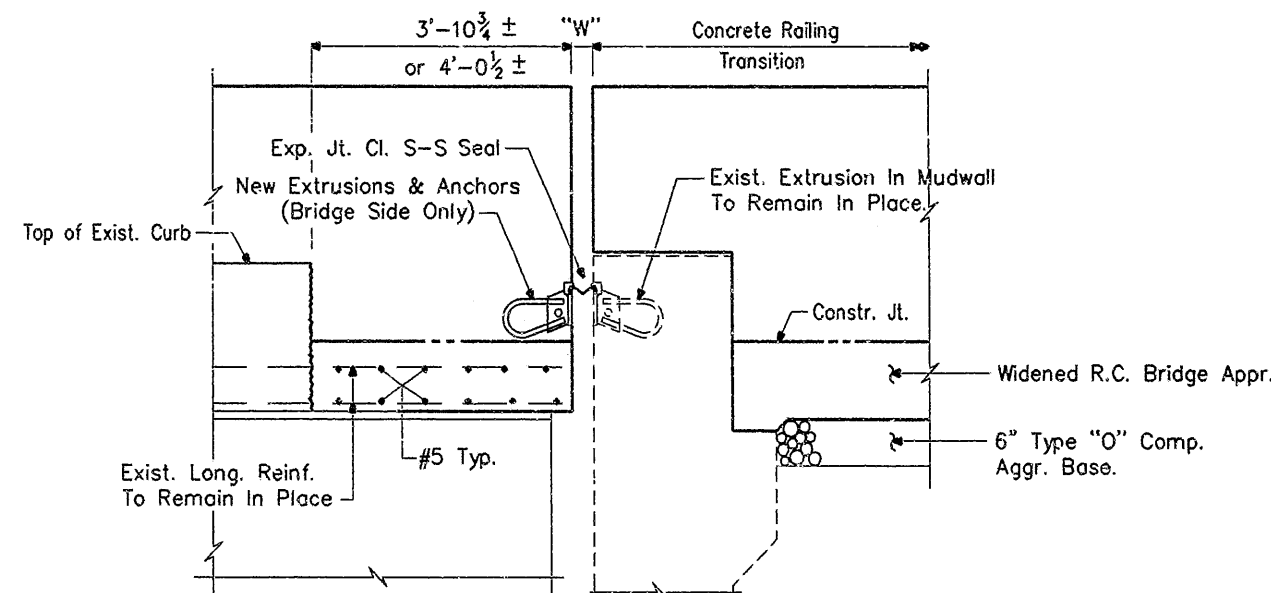
\* Includes Extrusion and Anchors for Bridge Side and the Joint Seal.



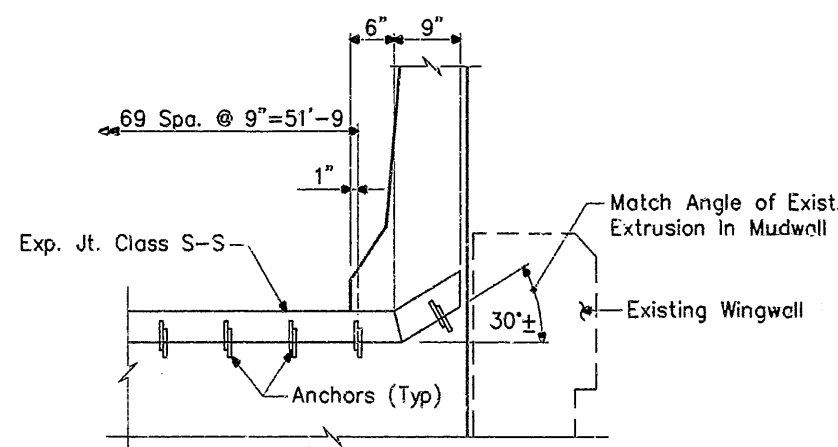
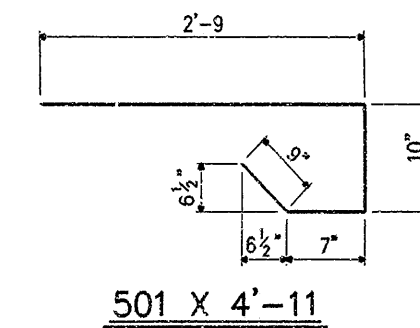
**PLAN-BENT NO. 1**  
 Scale: 3/4" = 1'-0"



**SECTION D**  
 Scale: 3/4" = 1'-0"



**SECTION B-B**  
 Showing New Construction  
 Scale: 3/4" = 1'-0"



**SECTION C**  
 Scale: 3/4" = 1'-0"

**NOTES:**

- For R.C. Bridge Approach Details, See Dwg. D38, D39, & D40.
- For Concrete Barrier Railing Details, See Dwg. D11 Thru D35
- Dimension "W" to be as Shown in the Joint Setting Table on Dwg. D37.
- For Reinforcing Bar Notes & Bar Bending Details, See Bridge Standard C1.
- Existing Reinforcing to Remain in Place Shall Be Cleaned & Realigned.
- All Concrete in Superstructure to be Class "A"
- All Reinforcing Steel in Bridge Deck to be Epoxy Coated.
- Manufacturer and type of new extrusion & Seal shall match that of existing. (Manufacturer- Structural Rubber, Inc. For Details, See Shop Drawings for Contract B-13219.)

**EXPANSION JOINT CLASS S-S DETAILS**

INDIANA DEPARTMENT OF HIGHWAYS  
 BOONE COUNTY

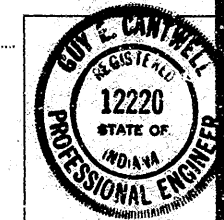
SCALE:- AS NOTED

DATE:- 2-27

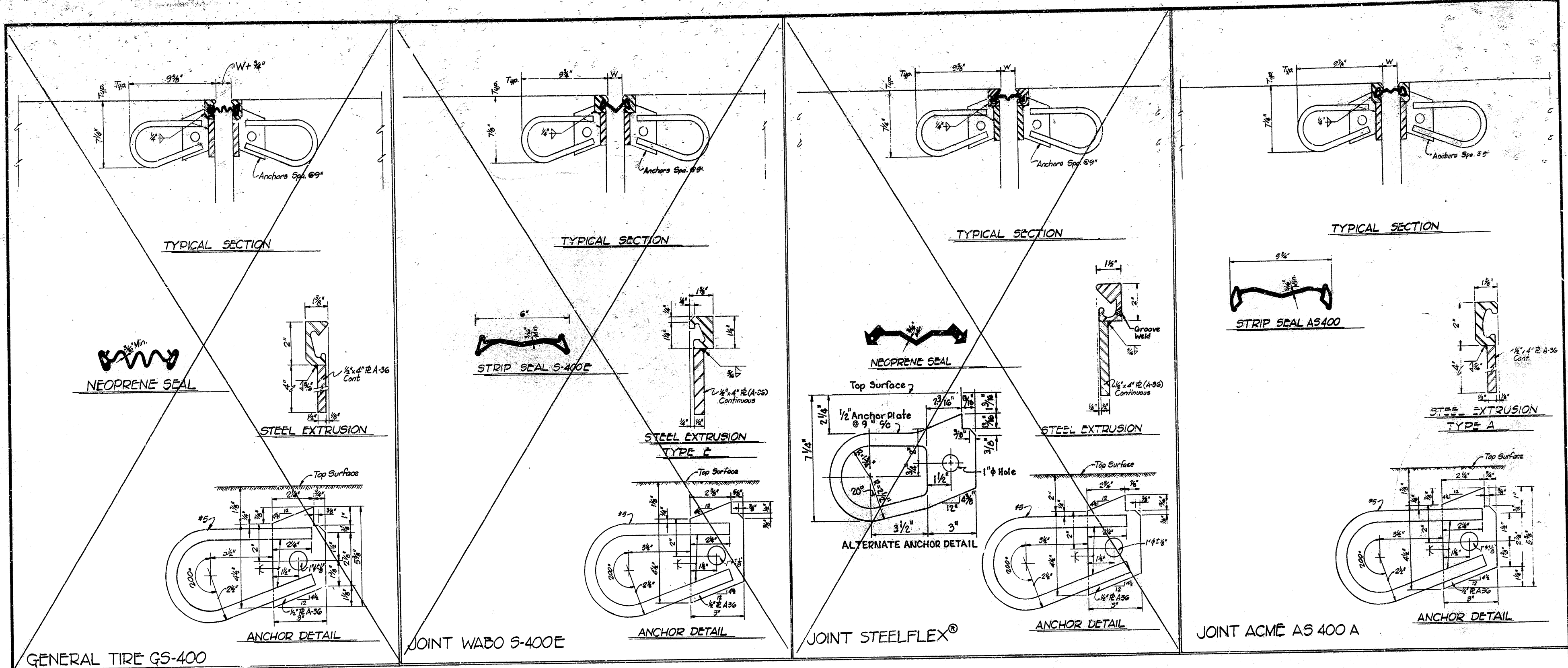
1990

*Ray E. Cantwell*

DRAWING:- D36 OF 41 SHEET:- 40 OF 57  
 PROJECT:- IR-465-4( ) STATION:-  
 BRIDGE CONTRACT NO.  
 BRIDGE FILE:- I-465-136-5435B



DESIGNED	TWL	C'K'D	PEB
DRAWN	TWL	C'K'D	PEB
TRACED	C'K'D		



**NOTES**

SEE THE SPECIAL PROVISIONS FOR PROPERTIES OF MATERIALS.  
 THE STRIP SEAL GLAND SHALL BE SIZED TO ACCOMMODATE AT LEAST FOUR (4) INCHES OF MOVEMENT.  
 THE STRIP SEAL GLAND SHALL BE INSTALLED IN AN EXTRUDED MOUNTING UNIT.  
 THE COST OF EXTRUSIONS, ELASTOMERIC SEAL ELEMENTS, SEALANTS, ADHESIVE, CEMENT GROUT, ANCHOR SYSTEM AND INSTALLATION OF JOINT SHALL BE INCLUDED IN THE COST OF EXPANSION JOINT.  
 THE PROFILE OF THE JOINT IS TO CONFORM TO THE ROADWAY CROSS SECTION.  
 THE SEAL ELEMENT SHALL BE MOULDED AND FURNISHED IN A CONTINUOUS LENGTH EQUAL TO THAT REQUIRED FOR THE JOINT.  
 AT CHANGES IN DIRECTION (AT CURBS, MEDIAN BARRIERS, ETC.) THE SECTIONS OF JOINT ARE TO BE CUT TO THE BEVEL REQUIRED TO PRODUCE THE SAME CROSS SECTION ON EACH PIECE BEING JOINED.  
 THE ANCHOR ASSEMBLY IS TO BE SHOP FABRICATED AND DELIVERED TO THE JOB SITE AS A COMPLETE CONTINUOUS UNIT FOR JOINT LENGTHS UP TO 44 FEET. JOINTS ABOVE LENGTHS OF 44 FEET OR JOINTS USED WITH STAGE CONSTRUCTION SHALL BE FIELD WELDED WITH ENDS TO BE SHOP PREPARED.  
 ALL WORK, BOTH SHOP & FIELD, SHALL BE IN ACCORDANCE WITH 711.03.  
 ALL EXPOSED STRUCTURAL STEEL SURFACES WILL BE PAINTED IN ACCORDANCE WITH IDOH STANDARD SPECIFICATIONS.  
 THE CONTRACTOR SHALL SUBMIT 3 COPIES OF SHOP DRAWINGS FOR ALL JOINTS INVOLVING CURBS OR OTHER SPECIAL FEATURES.

Ambient Temperature	JOINT SETTING TABLE		
	DIMENSION "W"		
	Expansion Length		
	100' - 200'	200' - 300'	300' - 400'
120°	2 1/8"	1 3/4"	1 1/2"
100°	2 7/8"	1 3/4"	1 1/4"
80°	2 1/2"	2 3/4"	2 1/4"
60°	3"	2 3/4"	2 1/4"
40°	3 1/2"	3 1/4"	2 3/4"
20°	3 3/4"	3 1/2"	3 1/4"
0°	3 7/8"	3 1/2"	4"

NOTE: EXTRUSIONS WITH HEIGHTS BETWEEN 1 1/2" and 2" MAY BE SUBSTITUTED FOR THOSE SHOWN. IF SUCH A SUBSTITUTION IS MADE, THE NOTCH IN THE ANCHOR PLATE AND THE STRIP SEAL GLAND SHALL BE MODIFIED ACCORDINGLY AND IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.  
 NOTE: JOINT ONFLEX 40SF MAY BE USED IN LIEU OF JOINTS SHOWN ABOVE.  
 NOTE: JOINT STEELFLEX EXTRUSION MAY BE FABRICATED FROM TWO HOT ROLLED SHAPES JOINED WITH A FULL PENETRATION GROOVE WELD.

**EXPANSION JOINTS CLASS S-S**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
 BOONIE COUNTY

SCALE: NONE  
 DATE: 2-27-1990  
*Mary C. Cantwell*

DRAWING: D37 OF 41 SHEET: 41 OF 57  
 PROJECT: IR-465-4( )  
 CONTRACT NO.  
 BRIDGE FILE: I-465-136-5435 B

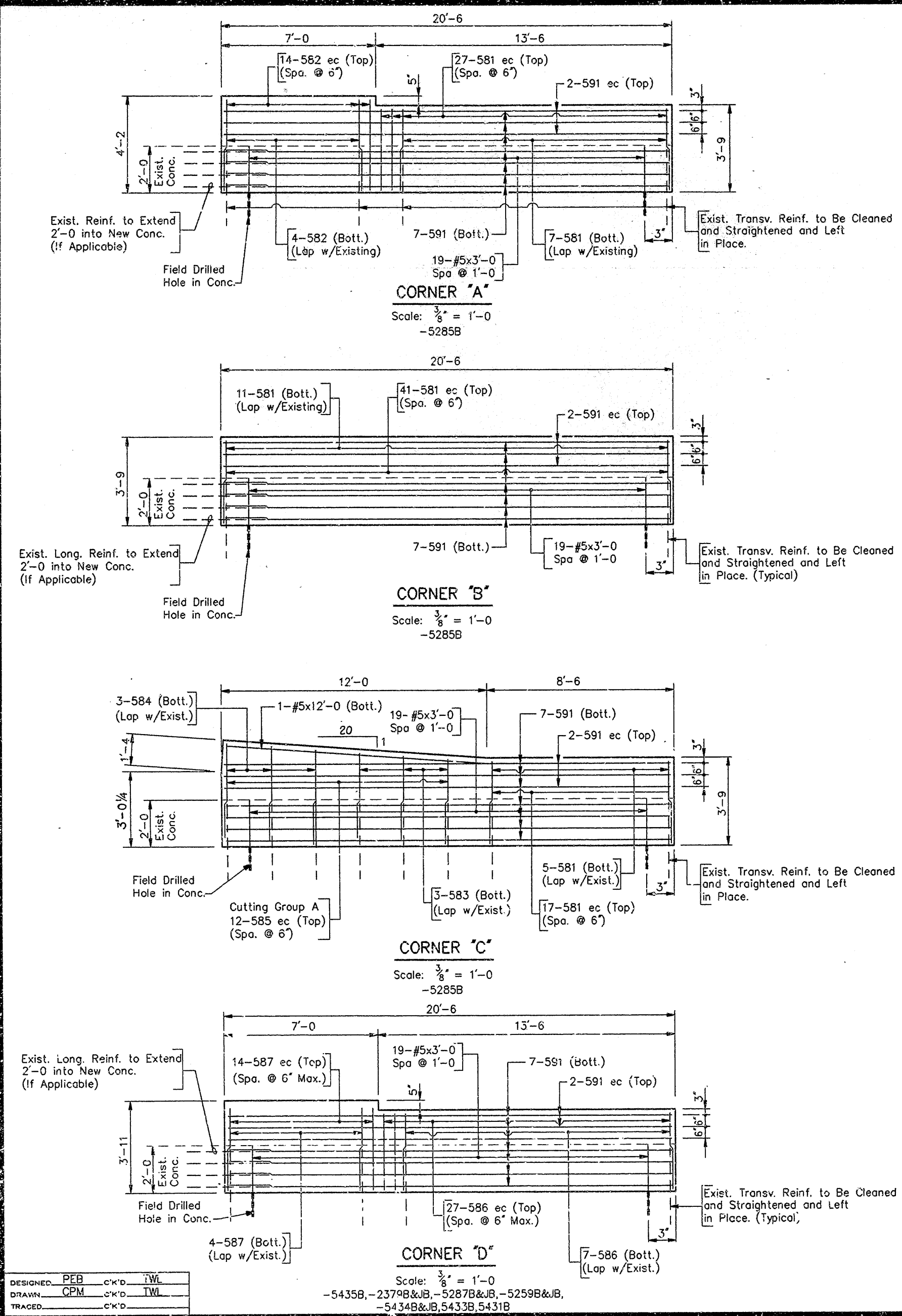


DESIGNED: CKD  
 DRAWN: DAS 2/24/82  
 TRACED: CKD

3-18-87 Steelflex Alt. Anchor Detail  
 Revised 7/1/82-Notes, 6/21/83, 2/29/84-Notes, 4/10/85 Notes, 9/2/86-Steelflex Joint B Notes

DWG. SCALE: 0.3750 = 1'-0"  
 LAST UPDATE: 2/20/1990  
 TIME: 13:13:21

DWG. FILE: CDDTAIL  
 OPERATOR: spm



**CORNER "A"**  
(4 TOTAL REQ'D.)  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
582	14	4'-5"	
581	27	4'-0"	
#5	19	3'-0"	
TOTAL #5 BARS			280
TOTAL EPOXY COATED REINF.			280
PLAIN REINFORCING			
591	7	20'-6"	
582	4	4'-5"	
581	7	4'-0"	
TOTAL #5 BARS			197
TOTAL PLAIN REINFORCING			197
MISCELLANEOUS			
Total 10" R.C. Pavement	9 Sys.		
Type "O" Comp. Aggr. Base	3 Tons		
Removal of Pavement	5 Sys.		
Field Drilled Holes in Conc.	19 Each		

**CORNER "B"**  
(2 TOTAL REQ'D.)  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
581	41	4'-0"	
#5	19	3'-0"	
TOTAL #5 BARS			273
TOTAL EPOXY COATED REINF.			273
PLAIN REINFORCING			
591	7	20'-7"	
581	11	4'-0"	
TOTAL #5 BARS			196
TOTAL PLAIN REINFORCING			196
MISCELLANEOUS			
Total 10" R.C. Pavement	9 Sys.		
Type "O" Comp. Aggr. Base	3 Tons		
Removal of Pavement	5 Sys.		
Field Drilled Holes in Conc.	19 Each		

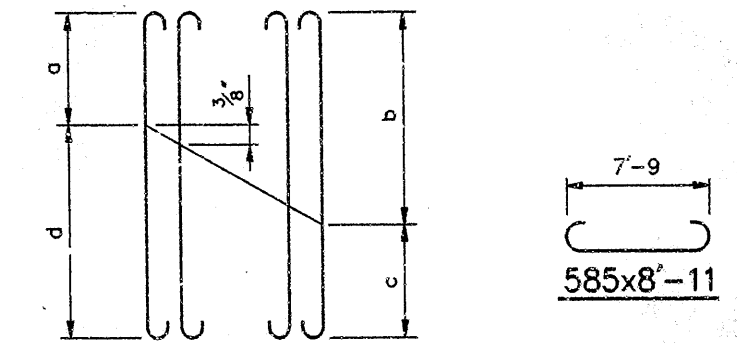
**CORNER "C"**  
(2 TOTAL REQ'D.)  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
585	12	8'-11"	
581	17	4'-0"	
#5	19	3'-0"	
TOTAL #5 BARS			285
TOTAL EPOXY COATED REINF.			285
PLAIN REINFORCING			
591	7	20'-7"	
584	3	4'-7"	
583	3	4'-2"	
581	5	4'-0"	
#5	1	12'-0"	
TOTAL #5 BARS			210
TOTAL PLAIN REINFORCING			210
MISCELLANEOUS			
Total 10" R.C. Pavement	9 Sys.		
Type "O" Comp. Aggr. Base	3 Tons		
Removal of Pavement	5 Sys.		
Field Drilled Holes in Conc.	19 Each		

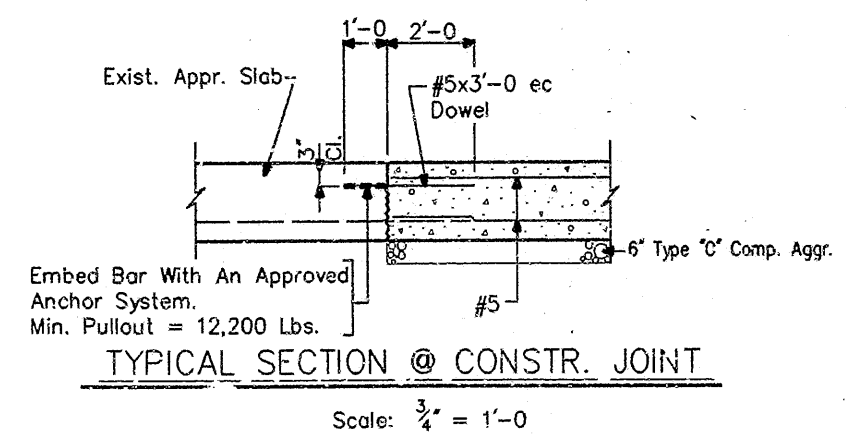
**CORNER "D"**  
(28 TOTAL REQ'D.)  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
587	14	4'-2"	
586	27	3'-9"	
#5	19	3'-0"	
TOTAL #5 BARS			269
TOTAL EPOXY COATED REINF.			269
PLAIN REINFORCING			
591	7	20'-6"	
587	4	4'-2"	
586	7	3'-9"	
TOTAL #5 BARS			194
TOTAL PLAIN REINFORCING			194
MISCELLANEOUS			
Total 10" R.C. Pavement	8 Sys.		
Type "O" Comp. Aggr. Base	3 Tons		
Removal of Pavement	5 Sys.		
Field Drilled Holes in Conc.	19 Each		

MARK	X	LENGTH
581	3'-5"	4'-0"
582	3'-10"	4'-5"
583	3'-7"	4'-2"
584	4'-0"	4'-7"
586	3'-2"	3'-9"
587	3'-7"	4'-2"
591	20'-0"	20'-7"



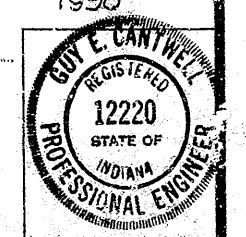
Cutting Group	No. Of Spa. @ 6"	No. Of #5 Bars	Length	a	b	c	d
A	11	12	7'-9	3'-6 3/16	3'-10 5/16	3'-10 11/16	4'-2 13/16



- NOTES:**
- All Existing reinforcing steel which is to remain in place to be cleaned and realigned.
  - For reinforcing notes and bar bending details, see Br. Std. C1.
  - ec indicates Epoxy Coated Reinforcing.
  - Contractor to Adjust Alignment of Reinforcing Adjacent to End of Bridge to Conform to Skew Angle.
  - Approach widenings to be paid for as 10" R.C. Pavement
  - Bars in Field Drilled Holes in Concrete to be embedded with an approved anchor system. Min. Pullout=12,200 Lbs.

**APPROACH SLAB  
CORNER DETAILS "A", "B", "C" & "D"**

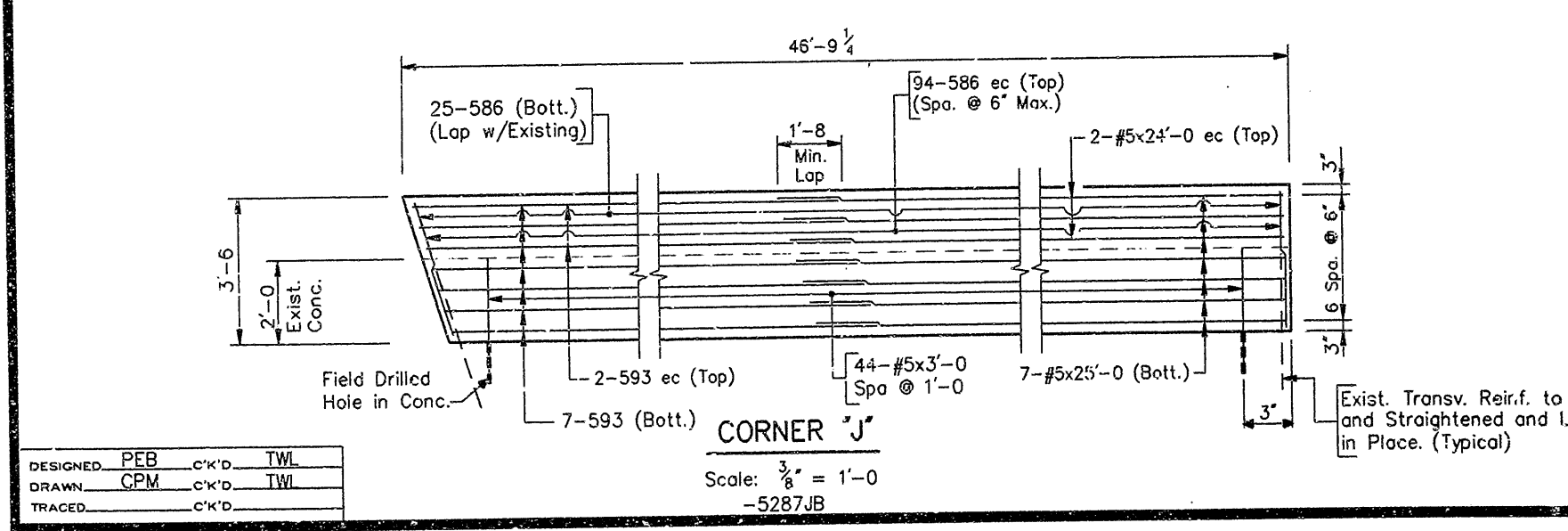
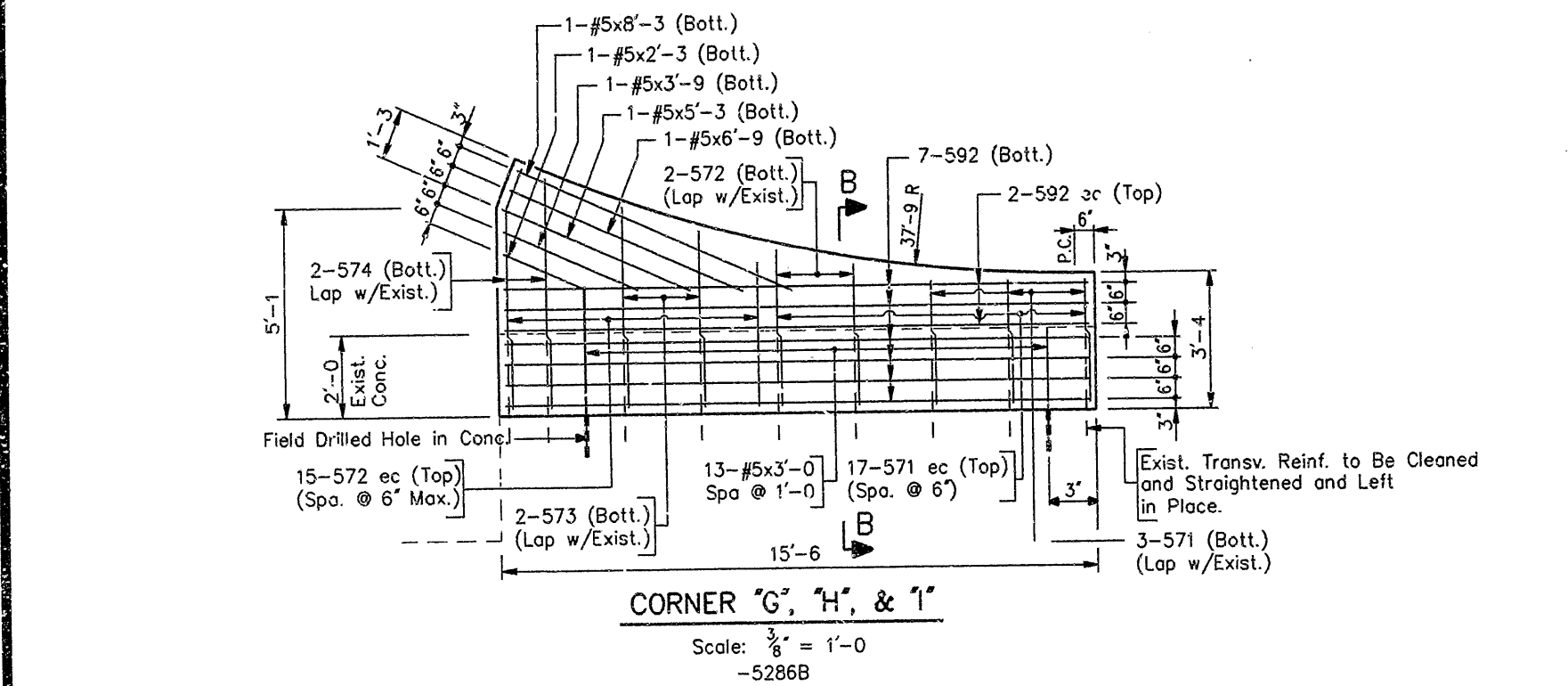
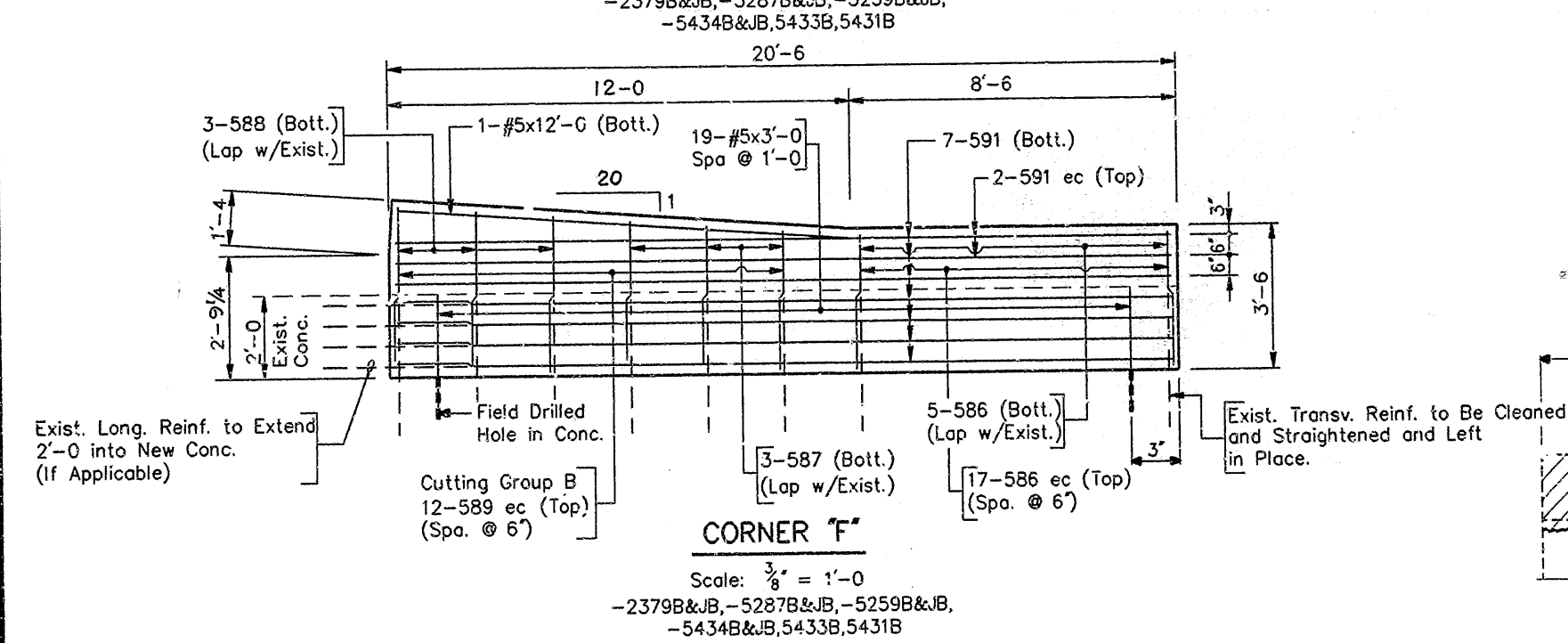
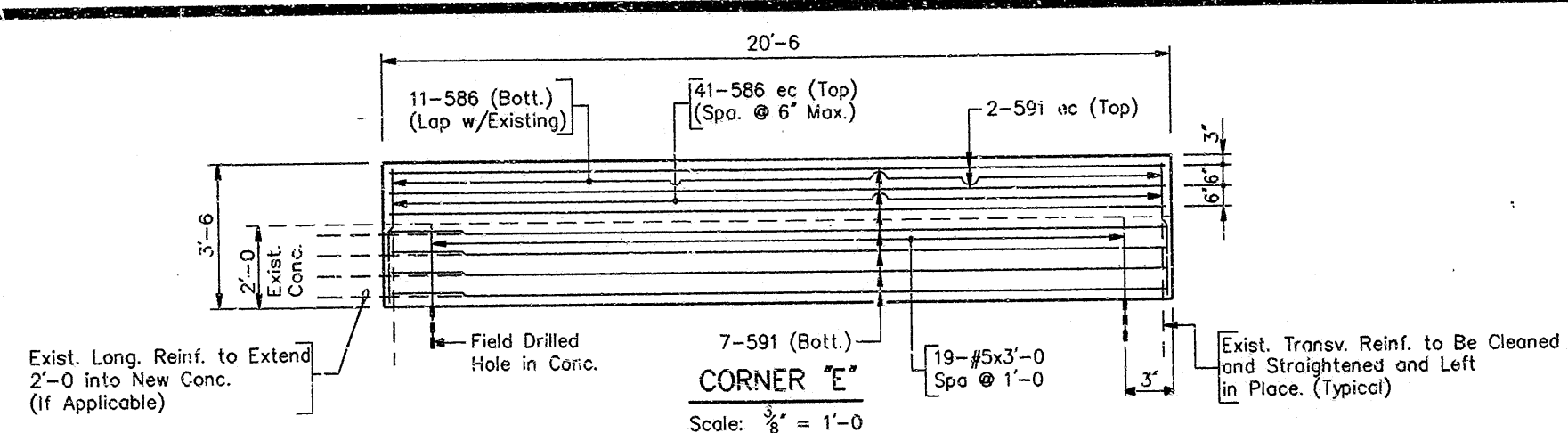
**INDIANA DEPARTMENT OF HIGHWAYS**  
 BOONE AND MARION COUNTIES  
 SCALE: - As Noted  
 DATE: - 2-27  
 1990  
 SHEET: 42 OF 57  
 PROJECT: - IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO. \_\_\_\_\_  
 BRIDGE FILE: - 1-465-134-5285B; 1-465-136-23799&B; 1-465-136-52878&B; 1-465-137-52592&B; 1-465-141-54348&B; 1-465-142-54338; 1-465-144-54318; 1-465-136-54358





LAST UPDATE: 1/1/1980 DWG. SCALE: 0.3750 = 1'-0"  
 TIME: 14:58:36

DWG. FILE: codtail  
 OPERATOR: cpm



**CORNER 'E'**  
(12 TOTAL REQ'D.)  
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
586	41	3'-9"	
#5	19	3'-0"	
TOTAL #5 BARS			263
TOTAL EPOXY COATED REINF.			263
PLAIN REINFORCING			
591	7	20'-7"	
586	11	3'-9"	
TOTAL #5 BARS			193
TOTAL PLAIN REINFORCING			193
MISCELLANEOUS			
Total 10" R.C. Pavement	8 Sys.		
Type 'O' Comp. Aggr. Base	3 Tons		
Removal of Pavement	5 Sys.		
Field Drilled Holes in Conc.	19 Each		

**CORNER 'F'**  
(9 TOTAL REQ'D.)  
BILL OF MATERIALS

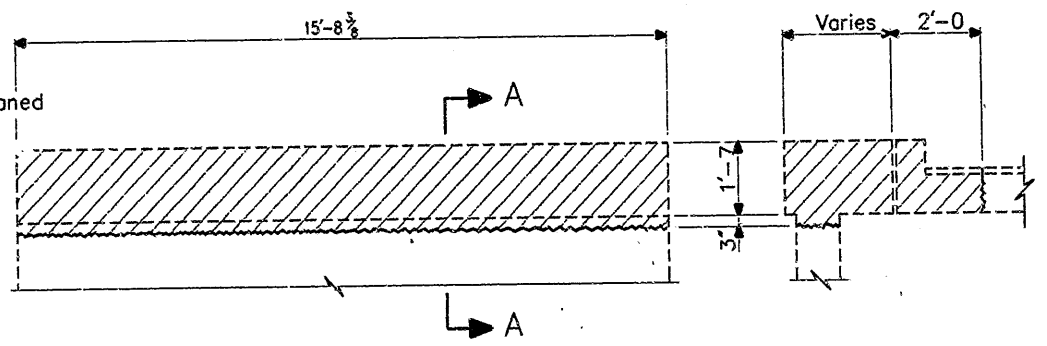
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
588	12	8'-5"	
586	17	3'-9"	
#5	19	3'-0"	
TOTAL #5 BARS			274
TOTAL EPOXY COATED REINF.			274
PLAIN REINFORCING			
591	7	20'-7"	
588	3	4'-4"	
587	3	4'-2"	
586	5	3'-3"	
#5	1	12'-0"	
TOTAL #5 BARS			209
TOTAL PLAIN REINFORCING			209
MISCELLANEOUS			
Total 10" R.C. Pavement	9 Sys.		
Type 'O' Comp. Aggr. Base	3 Tons		
Removal of Pavement	5 Sys.		
Field Drilled Holes in Conc.	19 Each		

**CORNER 'G', 'H', & 'I'**  
(G: 3 TOTAL REQ'D.)  
(H: 4 TOTAL REQ'D.)  
(I: 1 TOTAL REQ'D.)  
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
592	2	15'-9"	
572	17	4'-1"	
571	19	3'-7"	
#5	19	3'-0"	
TOTAL #5 BARS			201
TOTAL EPOXY COATED REINF.			201
PLAIN REINFORCING			
592	7	15'-9"	
574	2	6'-2"	
573	2	4'-10"	
572	2	4'-1"	
571	3	3'-7"	
#5	1	8'-3"	
#5	1	6'-9"	
#5	1	5'-3"	
#5	1	3'-9"	
#5	1	2'-3"	
TOTAL #5 BARS			185
TOTAL PLAIN REINFORCING			185
MISCELLANEOUS			
Total 10" R.C. Pavement	8 Sys.		
Type 'O' Comp. Aggr. Base	3 Tons		
Removal of Pavement	4 Sys.		
Field Drilled Holes in Conc.	13 Each		
Special Class A Concrete	16 Sft.		

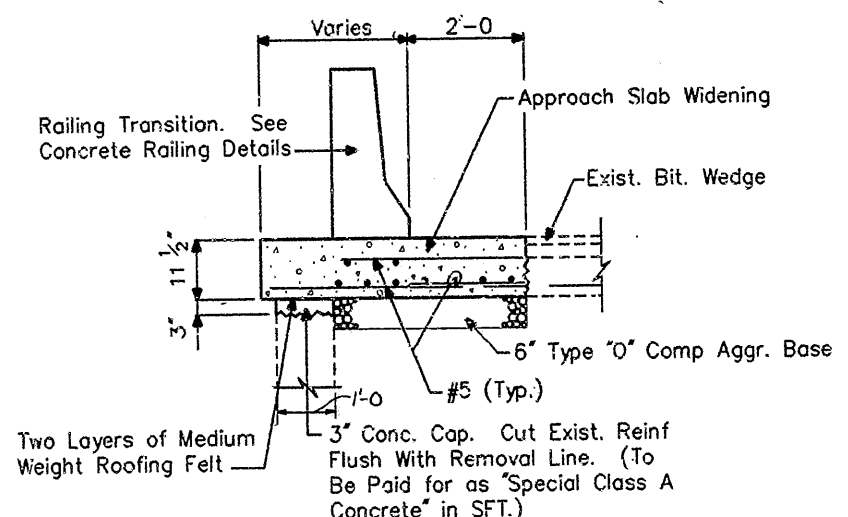
**CORNER 'J'**  
(1 TOTAL REQ'D.)  
BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
593	2	24'-7"	
586	94	3'-9"	
#5	2	24'-0"	
#5	19	3'-0"	
TOTAL #5 BARS			607
TOTAL EPOXY COATED REINF.			607
PLAIN REINFORCING			
593	7	24'-7"	
586	25	3'-9"	
#5	7	25'-0"	
TOTAL #5 BARS			460
TOTAL PLAIN REINFORCING			460
MISCELLANEOUS			
Total 10" R.C. Pavement	18 Sys.		
Type 'O' Comp. Aggr. Base	6 Tons		
Removal of Pavement	10 Sys.		
Field Drilled Holes in Conc.	44 Each		

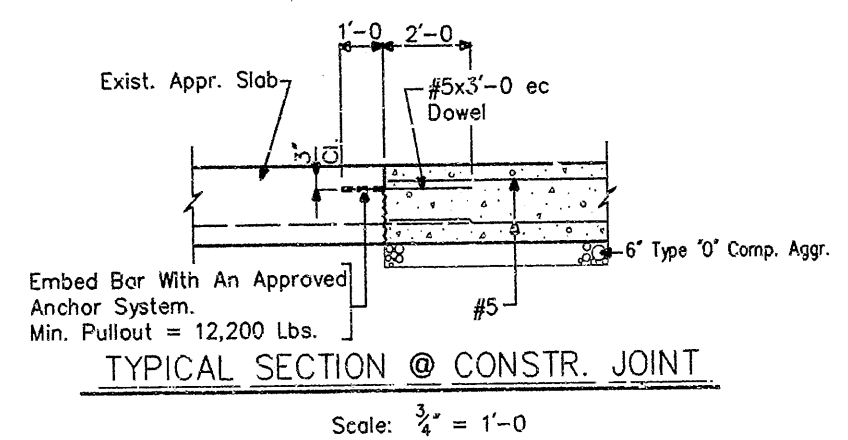


**WING ELEVATION**  
SHOWING LIMITS OF REMOVAL  
Scale: 3/8" = 1'-0"  
-5286B

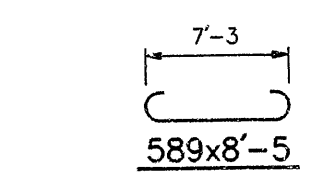
**SECTION A-A**  
SHOWING LIMITS OF REMOVAL  
Scale: 3/8" = 1'-0"  
-5286B



**SECTION B-B**  
Scale: 1/2" = 1'-0"  
-5286B



**TYPICAL SECTION @ CONSTR. JOINT**  
Scale: 3/4" = 1'-0"



MARK	X	LENGTH
571	3'-0	3'-7
572	3'-6	4'-1
573	4'-3	4'-10
574	5'-7	6'-2
586	3'-2	3'-9
587	3'-7	4'-2
588	3'-9	4'-4
591	20'-0	20'-7
592	15'-2	15'-9
593	24'-0	24'-7

Cutting Group	No. Of Spa. @ 6"	No. Of #5 Bars	Length	a	b	c	d
B	11	12	7'-3	3'-3 3/16	3'-7 5/16	3'-7 11/16	3'-11 13/16

**NOTES:**

- All Existing reinforcing steel which is to remain in place to be cleaned and realigned.
- For reinforcing notes and bar bending details, see Br. Std. C1.
- ec indicates Epoxy Coated Reinforcing.
- Approach widening to be paid for as "10" R.C. Pavement.
- Bars in Field Drilled Holes in Concrete to be embedded with an approved anchor system. Min. Pullout=12,200 Lbs.

**APPROACH SLAB**

CORNER DETAILS 'E', 'F', 'G', 'H', 'I' & 'J'  
**INDIANA DEPARTMENT OF HIGHWAYS**  
 BOONE AND MARION COUNTIES

SCALE: - As Noted

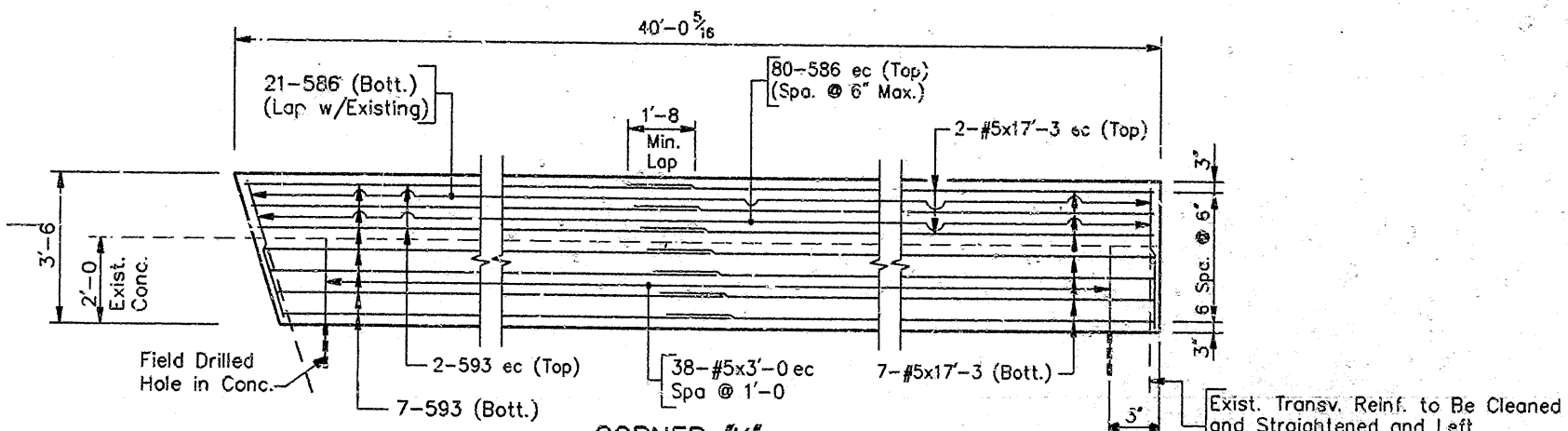
DATE: - 2-27

1990

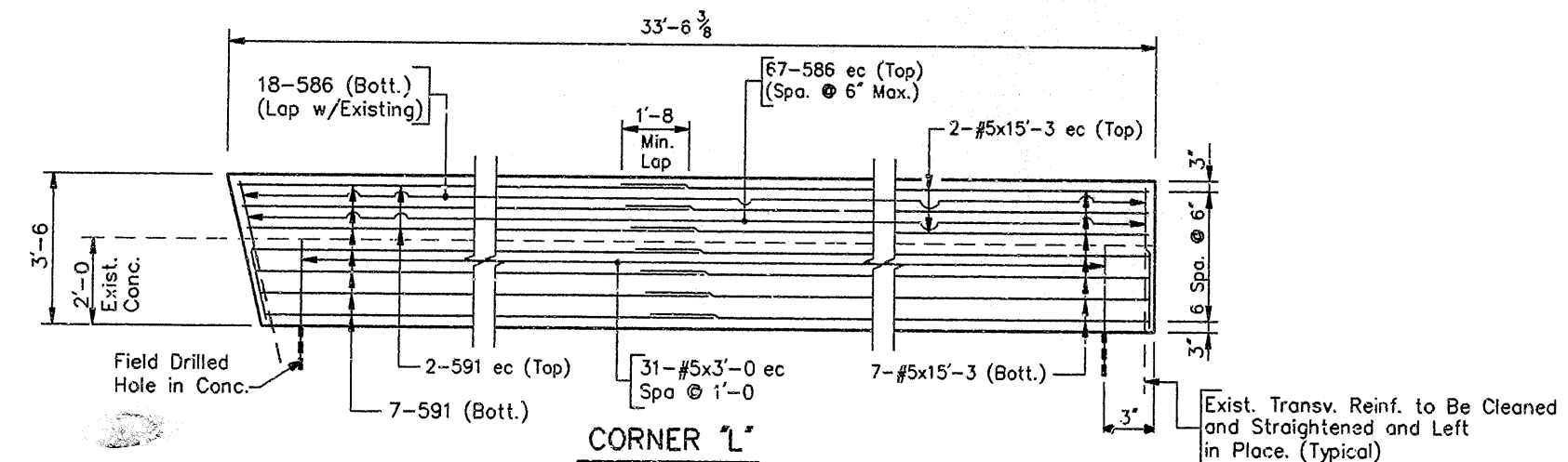
*Ray E. Cantwell*



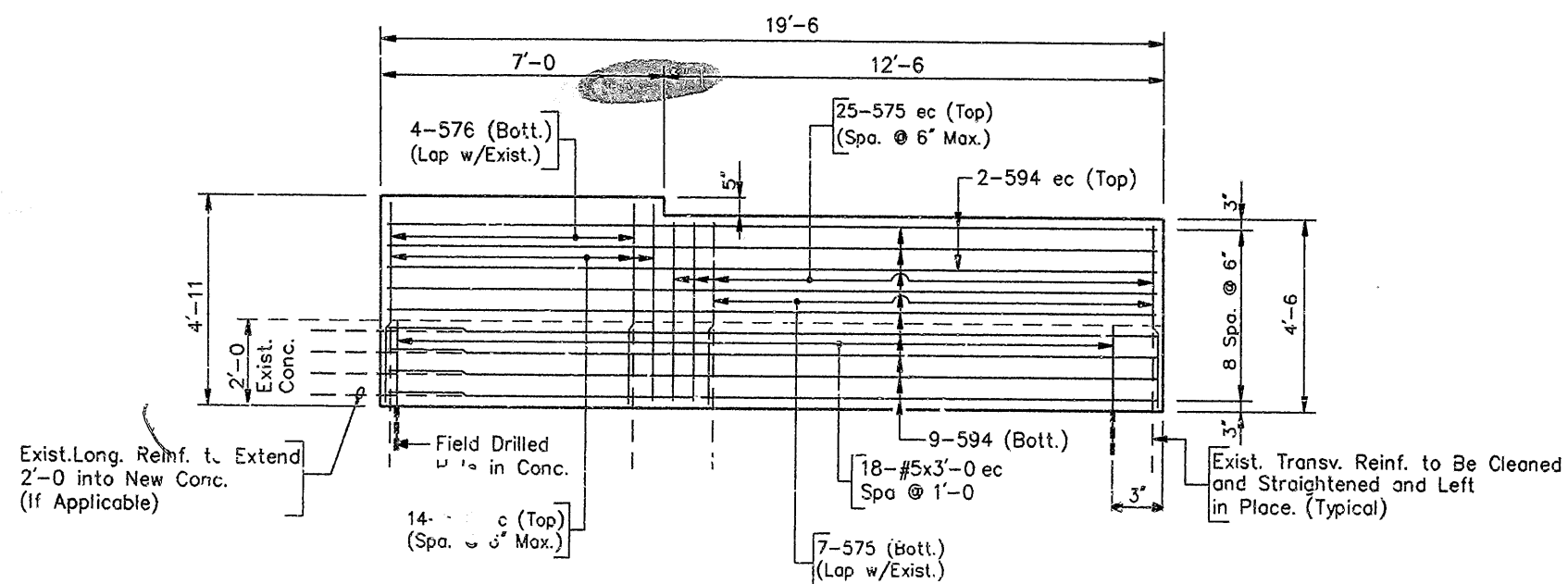
DRAWING: D39 OF 41 SHEET: 43 OF 57  
 PROJECT: IR-465-4( ) STATION: -  
 BRIDGE CONTRACT NO. -  
 BRIDGE FILE: 1-465-135-5286B; 1-465-136-2379B&J; 1-465-136-5287B&J; 1-465-137-5259B&J; 1-465-141-5434B&J; 1-465-142-5433B; 1-465-144-5431B



**CORNER "K"**  
Scale:  $\frac{3}{8}" = 1'-0$   
(-5287B)



**CORNER "L"**  
Scale:  $\frac{3}{8}" = 1'-0$   
(-5434B)



**CORNER "M"**  
Scale:  $\frac{3}{8}" = 1'-0$   
(-5473B)

**CORNER "K"**  
(1 TOTAL REQ'D.)  
**BILL OF MATERIALS**

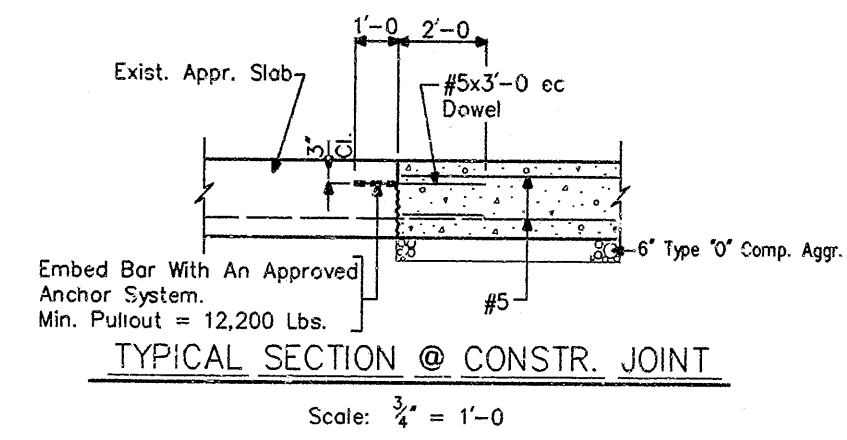
REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
593	2	24'-7"	
586	80	3'-9"	
#5	2	17'-3"	
#5	38	3'-0"	
TOTAL #5 BARS			519
TOTAL EPOXY COATED REINF.			519
PLAIN REINFORCING			
593	7	24'-7"	
586	21	3'-9"	
#5	7	17'-3"	
TOTAL #5 BARS			388
TOTAL PLAIN REINFORCING			388
MISCELLANEOUS			
Total 10" R.C. Pavement	15 Sys.		
Type "O" Comp. Aggr. Base	5 Tons		
Removal of Pavement	9 Sys.		
Field Drilled Holes In Conc.	38 Each		

**CORNER "L"**  
(1 TOTAL REQ'D.)  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
591	2	20'-7"	
586	67	3'-9"	
#5	2	15'-3"	
#5	31	3'-0"	
TOTAL #5 BARS			434
TOTAL EPOXY COATED REINF.			434
PLAIN REINFORCING			
591	7	20'-7"	
586	18	3'-9"	
#5	7	15'-3"	
TOTAL #5 BARS			332
TOTAL PLAIN REINFORCING			332
MISCELLANEOUS			
Total 10" R.C. Pavement	13 Sys.		
Type "O" Comp. Aggr. Base	4 Tons		
Removal of Pavement	7 Sys.		
Field Drilled Holes In Conc.	31 Each		

**CORNER "M"**  
(4 TOTAL REQ'D.)  
**BILL OF MATERIALS**

REINFORCING STEEL			
SIZE & MARK	No. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINFORCING			
594	2	19'-9"	
576	14	5'-2"	
575	25	4'-9"	
#5	18	3'-0"	
TOTAL #5 BARS			297
TOTAL EPOXY COATED REINF.			297
PLAIN REINFORCING			
594	9	19'-9"	
576	4	5'-2"	
575	7	4'-9"	
TOTAL #5 BARS			242
TOTAL PLAIN REINFORCING			242
MISCELLANEOUS			
Total 10" R.C. Pavement	10 Sys.		
Type "O" Comp. Aggr. Base	3 Tons		
Removal of Pavement	4 Sys.		
Field Drilled Holes In Conc.	18 Each		



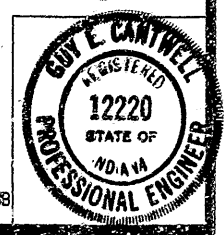
**TYPICAL SECTION @ CONSTR. JOINT**  
Scale:  $\frac{3}{4}" = 1'-0$

MARK	X	LENGTH
575	4'-2	4'-9
576	4'-7	5'-2
586	3'-2	3'-9
591	20'-0	20'-7
593	24'-0	24'-7
594	19'-2	19'-9

- NOTES:**
- All Existing reinforcing steel which is to remain in place to be cleaned and realigned.
  - For reinforcing notes and bar bending details, see Br. Std. C1.
  - ec indicates Epoxy Coated Reinforcing.
  - Contractor to Adjust Alignment of Reinforcing Steel Adjacent to End of Bridge to Conform to Skew Angle.
  - Approach widenings to be paid for as "10" R.C. Pavement".
  - Bars in Field Drilled Holes in Concrete to be embedded with an approved anchor system. Min. Pullout=12,200 Lbs.

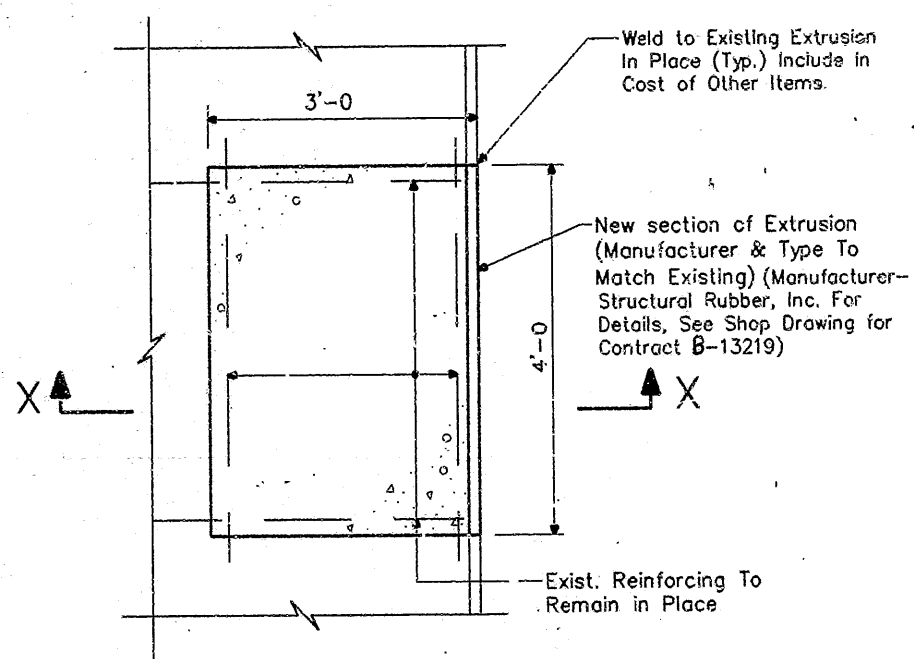
**APPROACH SLAB**  
**CORNER DETAILS "K", "L" & "M"**  
**INDIANA DEPARTMENT OF HIGHWAYS**  
**BOONE AND MARION COUNTIES**

SCALE: - As Noted  
DATE: - 2-27  
1990  
*Tom E. Cantwell*  
DRAWING: D40 OF 41 SHEET: 44 OF 57  
PROJECT: - IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO.  
BRIDGE FILE: - I-465-136-5287B & .B; I-465-136-5473B; I-465-141-5434B & .B



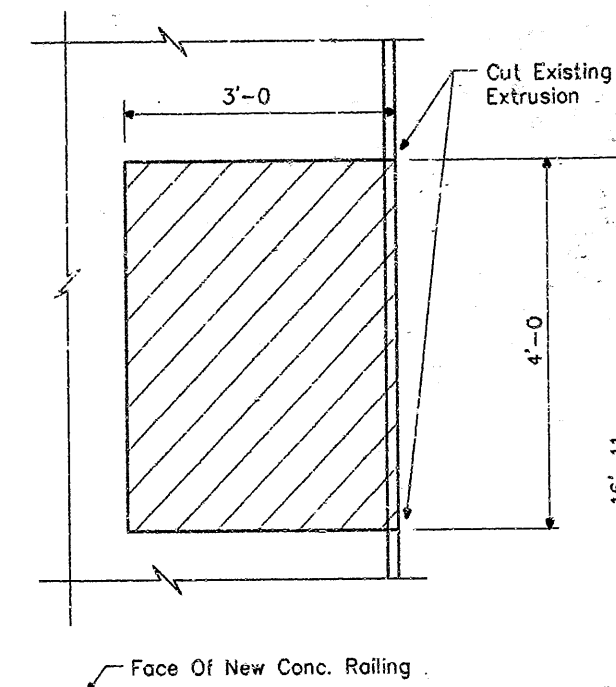
DESIGNED	PEB	CK'D
DRAWN	CPM	CK'D
TRACED		CK'D

LAST UPDATE: 1/1/1980 DWG. SCALE: 0.3750 = 1'-0  
 TIME: 16:53:53  
 DWG. FILE: CDDTAL2 OPERATOR: CPM



**PLAN-JOINT REPAIR**

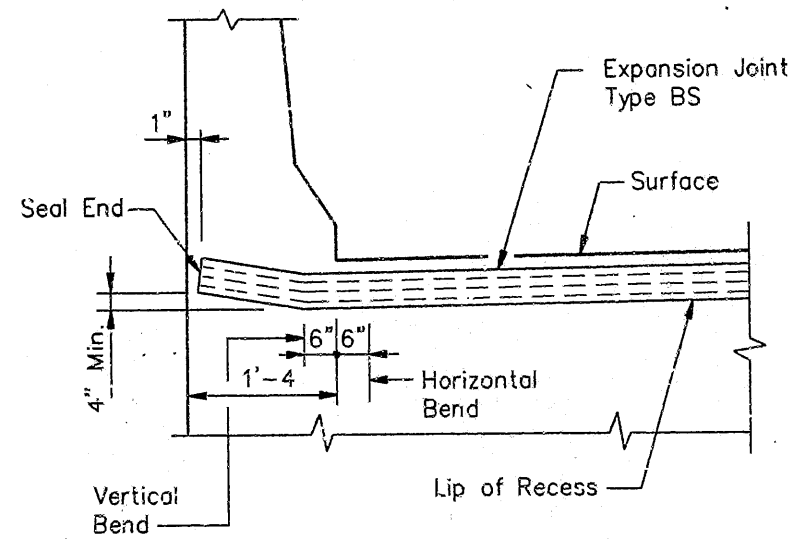
Showing New Construction  
Scale:  $\frac{3}{4}$ " = 1'-0"



**PLAN-JOINT REPAIR**

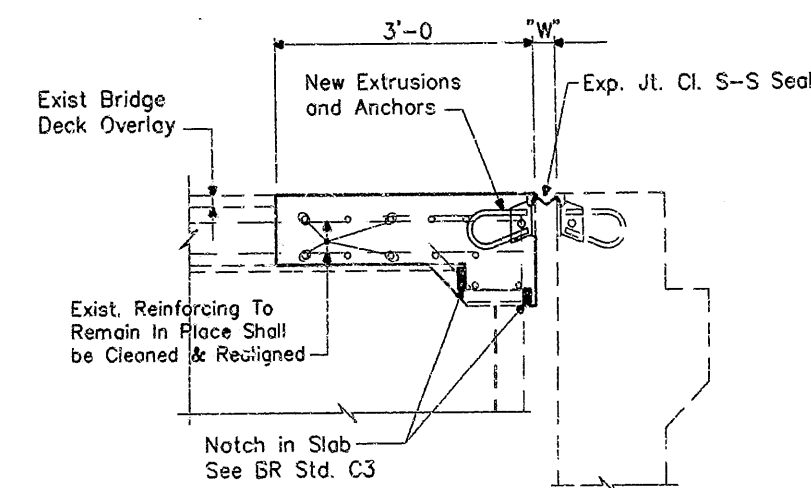
Showing Limits of Removal  
Scale:  $\frac{3}{4}$ " = 1'-0"

Estimated Quantities:  
Cl. "C" Conc. in Superstr.: 0.5 Cys



**TYPICAL BS JOINT INSTALLATION AT RAILING**

No Scale



**SECTION X-X**

Showing New Construction  
Scale:  $\frac{3}{4}$ " = 1'-0"

**NOTES:**

- Dimension "W" to be as in the joint setting Table on Dwg. D47.
- For Reinforcing Bar Notes & Bar bending Details, see Bridge Std. C1
- Concrete in Superstructure to be Class "C".
- Reinforcing Steel in Bridge Deck to be Epoxy Coated.
- Extrusion to be included in the cost of "Expansion Joint S-S", Lft.

**MISCELLANEOUS DETAILS**

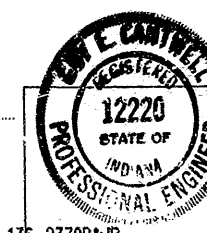
**INDIANA DEPARTMENT OF HIGHWAYS**

MARION AND BOONE COUNTIES

SCALE: -  $\frac{3}{4}$ " = 1'-0"

DATE: - 2-27-1990

*Ray E. Cantwell*



DRAWING: D41 OF 41 SHEET: 45 OF 57  
PROJECT: IR-465-4( ) STATION: -  
BRIDGE CONTRACT NO. 1-465-134-5285B, 1-465-135-5286B, 1-465-136-23798&B, 1-465-136-52878&B, 1-465-137-52598&B, 1-465-141-54343&B  
BRIDGE FILE: - 1-465-142-54338, 1-465-144-54318, 1-465-136-54358, & 1-465-136-5473

DESIGNED	TWL	CKD	PEB
DRAWN	TWL	CKD	PEB
TRACED		CKD	

LAST UPDATE: 2/19/1990, DWG. SCALE: 0.7500 = 1'-0  
TIME: 16:32:30

DWG. FILE: MISC  
OPERATOR: CPM



**BRIDGE SUMMARY**

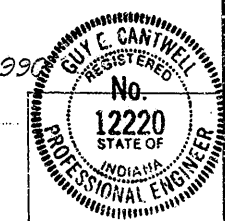
-ITEM-	UNIT	(-5285)	(-5286)	(-2379)	(-5287)	(-5473)	(-5435)	(-5259)	(-5434)	(-5433)	(-5431)	TOTALS
Class "C" Conc. in Superstructure	CYS		0.5				5.7					6.2
Repointing Masonry in Substructures	SFt					5						5
Special Class "A" Concrete	SFt		128									128
Reinforcing Steel	Lbs	1600	1480	1580	2025	968	1730	1565	1703	1580	1580	15811
Epoxy Coated Reinforcing Steel	Lbs	10,268	18,273	16,350	10,942	6629	8096	18,289	8985	9922	9922	117,676
E.C. Threaded Bar Splices	Each						14					14
Class "C" Concrete Railing	Lft	808	1796	940	793	441	576	1351	611	788	788	8892
Expansion Joint Type BS11	Lft	232		282	304	62				218	218	1316
Expansion Joint Type BS9	Lft							98	221			319
Expansion Joint Type BS8	Lft						45					45
Expansion Joint Class S-S	Lft		196				53	110				359
Surface Seal (-5285) (6529 SFt)	LSum	1										1
Surface Seal (-5286) (14,891 SFt)	LSum		1									1
Surface Seal (-2379) (7595 SFt)	LSum			1								1
Surface Seal (-5287) (6538 SFt)	LSum				1							1
Surface Seal (-5473) (4119 SFt)	LSum					1						1
Surface Seal (-5435) (5398 SFt)	LSum						1					1
Surface Seal (-5259) (12,851 SFt)	LSum							1				1
Surface Seal (-5434) (5603 SFt)	LSum								1			1
Surface Seal (-5433) (7076 SFt)	LSum									1		1
Surface Seal (-5431) (7059 SFt)	LSum										1	1
Removal of Pres. Str.(Portions)(-5285)	LSum	1										1
Removal of Pres. Str.(Portions)(-5286)	LSum		1									1
Removal of Pres. Str.(Portions)(-2379)	LSum			1								1
Removal of Pres. Str.(Portions)(-5287)	LSum				1							1
Removal of Pres. Str.(Portions)(-5473)	LSum					1						1
Removal of Pres. Str.(Portions)(-5435)	LSum						1					1
Removal of Pres. Str.(Portions)(-5259)	LSum							1				1
Removal of Pres. Str.(Portions)(-5434)	LSum								1			1
Removal of Pres. Str.(Portions)(-5433)	LSum									1		1
Removal of Pres. Str.(Portions)(-5431)	LSum										1	1
Field Drilled Holes in Concrete	Each	800	1808	76	196	88	92	168	602	776	776	5382
Clean & Paint Brg. Assemblies (-5473)	LSum					1						1
Clean & Paint Brg. Assemblies (-5435)	LSum						1					1
Clean & Paint Brg. Assemblies (-5433)	LSum								1			1
Clean & Paint Brg. Assemblies (-5431)	LSum									1		1
Bridge Deck Overlay Patching	SFt	5	2	14	17	4		17				59
Epoxy Injection (Crack Prep)	Lft									120		120
Epoxy Injection (Material)	GAL									4		4
Epoxy Injection (Furnishing Equip.)	LSum									1		1
Concrete Slopewall 5"	SYS	62										62
Removal of Concrete Slopewall	SYS	62										62
Inspection Holes	Each		8							8		16
Flowable Mortar	CYS		30							16		46
10" R.C. Pavement	SYS	72	64	66	82	40	32	65	70	66	66	623
Removal of Pavement	SYS	40	32	40	49	16	20	40	42	40	40	359
Type "O" Comp. Aggr. Base	Tons	24	24	24	29	12	12	24	25	24	24	222
Concrete Median Barrier	Lft		570		260					90		920
Cap Exist. Inlet	Each		1									1
Barrier Delineators	Each	44	129	60	62	24	31	68	38	44	44	544
Reset Fence	Lft								32			32

**BRIDGE SUMMARY  
INDIANA DEPARTMENT OF HIGHWAYS**

SCALE:-

DATE:- February 27, 1990

*Way E. Cantwell*



DRAWING: D41AOF 41 SHEET: 45 A OF 57  
 PROJECT: STATION:-  
 BRIDGE CONTRACT NO. I-465-134-5285B, I-465-135-5286B, I-465-136-2379B&B  
 I-465-136-5287D&B, I-465-137-5259B&B, I-465-41-5434B&B  
 BRIDGE FILE:- I-465-142-5433B, I-465-144-5431B, I-465-136-5435B, I-465-136-5473

DESIGNED: TWL C.K.D. PER  
 DRAWN: DJJ C.K.D. PER  
 TRACED: C.K.D.

BRIDGE SUMMARY

ITEM	UNITS	5432B	5473B	5435B	TOTAL
Concrete Class "A" in Substructure	Cys.	14.7	13.3	25.0	53.0
Epoxy Coated Reinforcing Steel	Lbs.	3,326	8,346	15,452	27,124
Epoxy Coated Threaded Bar Splices	Each	-	-	33	33
Class "C" Concrete Railing	Lft.	-	84	88	172
Expansion Joint Type BS11	Lft.	72	62	-	134
Expansion Joint Type BS8	Lft.	-	-	46	46
Expansion Joint Class S-S	Lft.	-	-	55	55
Barrier Delineators	Each	-	4	4	8
Surface Seal (5432) (653 Sft.)	LSum	1	-	-	1
Surface Seal (5473) (1,169 Sft.)	LSum	-	1	-	1
Surface Seal (5435) (1,261 Sft.)	LSum	-	-	1	1
Additional Structure Removal (5473)	LSum	-	1	-	1
Additional Structure Removal (5435)	LSum	-	-	1	1
Jacking & Supporting Beams (5432)	LSum	1	-	-	1
Jacking & Supporting Beams (5473)	LSum	-	1	-	1
Jacking & Supporting Beams (5435)	LSum	-	-	1	1
Anchor Plate MK AP1	Each	18	10	-	28
Anchor Plate MK AP2	Each	-	-	21	21
Field Drilled Holes in Concrete	Each	152	100	146	398
Bearing Assembly (5432)	Each	12	-	-	12
Bearing Assembly (5473)	Each	-	20	-	20
Bearing Assembly (5435)	Each	-	-	28	28
Removal of Pavement	Sys.	38	-	-	38
9" R.C.C. Pavement	Sys.	42	-	-	42
12" R.C.C. Pavement	Sys.	-	146	318	464
Surface Milling (Bit.)	Sys.	187	-	-	187
Type "O" Compacted Aggregate for Base	Ton	14	-	-	14
Cap Inlet	Each	4	-	-	4
Reset Guard Rail	Lft.	1,000	-	-	1,000
Removal of Integral Curb	Lft.	60	-	-	60
Temporary Concrete Barrier	Lft.	-	-	840	840
Temporary Concrete Barrier, Anchored	Lft.	-	-	390	390
Temporary Pavement Marking, Type I, White	Lft.	-	-	2,250	2,250
Temporary Pavement Marking, Type I, Yellow	Lft.	-	-	2,250	2,250
Temporary Pavement Marking, Type II, White	Lft.	-	-	1,050	1,050
Temporary Pavement Marking, Type II, Yellow	Lft.	-	-	1,050	1,050
Removal of Line	Lft.	-	-	2,245	2,245

BRIDGE SUMMARY

INDIANA DEPARTMENT OF TRANSPORTATION

BOONE-MARION COUNTY

SCALE: None

DATE: 4-23-91

*Jerry D. Ritchie*

DRAWING: D41B OF 41 SHEET: 45B OF 57

PROJECT: ACIR-465-4(258)131

CONTRACT NO. R-18930

BRIDGE FILE: I-465-143-5432B, I-465-143-5473B, I-465-143-5435B

