CONTRACT NO. R-13133

FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	IR-74-1(106)33	1989	1	95

BRIDGES OVER 20' SPAN

INDIANA DEPARTMENT OF HIGHWAYS

NOTE:
WHENEVER INDIANA DEPARTMENT OF HIGHWAYS APPEARS ON THESE PLANS OR CONTRACT DOCUMENTS IT SHALL BE INTERPRETED AS INDIANA DEPARTMENT OF TRANSPORTATION.

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON INTERSTATE 74

PROJECT NO. IR-74-1(106)33

DECK RECONSTRUCTION AND OVERLAY FOR STRUCTURES I-74-31-4944C & JC AND I-74-31-2334C OVER U.S. 231 AND C.S.X. TRANSPORTATION RAILROAD RESPECTIVELY ON INTERSTATE 74 ALL IN SECTIONS 19 AND 20, T-19-N, R-4-W, MONTGOMERY COUNTY, INDIANA.

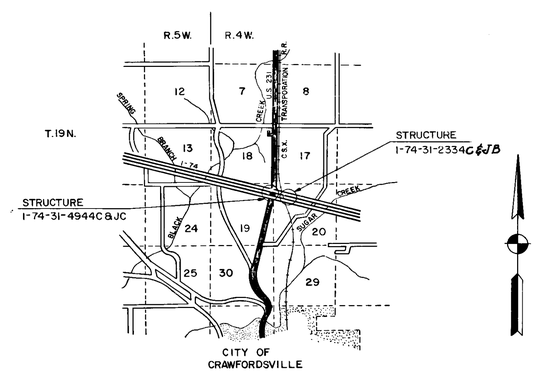
INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
IR-74-1(106)33	I-74-31-4944C & JC	DECK RECONSTRUCTION AND OVERLAY	31'-0", 43'-3", 43'-3", 37'-0"	U.S. 231	
	I-74-31-2334C & JB		60'-0", 72'-0", 60'-0"	C.S.X. RAILROAD	

SHEET NO.	SHEET DESIGNATION	SUBJECT		F.H.W.A. APPROVAL
1		INDEX & TITLE SHEET		
2-3		TRAFFIC MAINTENANCE DETAILS (4944C & JC)		
4-5		TRAFFIC MAINTENANCE DETAILS (2334C)		
6		TYPICAL CROSS SECTION		
7-8		EASTBOUND I-74 DETAILS		
9-10		WESTBOUND I-74 DETAILS		
11-12	W1-W2	GENERAL PLAN (4944C & JC)		
13	W3	REMOVAL DETAILS		
14	W4	PHASE I WBL APPROACH WIDENING	4944C	
15	W5	PHASE I BENT NO. 1 WIDENING DETAILS		
16	W6	PHASE I BENTS NO. 2 & 4 WIDENING DETAILS		
17	W7	PHASE I BENT NO. 3 WIDENING DETAILS		
18	W8	PHASE I BENT NO. 5 WIDENING DETAILS		
19-20	W9-W10	STRUCTURAL STEEL DETAILS		
21-22	W11-W12	PHASE I WBL SUPERSTRUCTURE DETAILS		
23	W13	PLAN VIEW AND LIGHTING PLAN	4944C & JC	
23A	W13A	FOUNDATION DETAILS	4944C & JC	
24	W14	PHASE I EBL APPROACH WIDENING	4944C	
25	W15	PHASE I BENT NO. 1 WIDENING DETAILS		
26	W16	PHASE I BENTS NO. 2 & 4 WIDENING DETAILS		
27	W17	PHASE I BENT NO. 3 WIDENING DETAILS		
28	W18	PHASE I BENT NO. 5 WIDENING DETAILS		
29	W19	FRAMING PLAN		
30-31	W20-W21	STRUCTURAL STEEL DETAILS		
32-33	W22-W23	PHASE I EBL SUPERSTRUCTURE DETAILS		
34-34A	W24-W24A	TRAFFIC SIGN DETAILS	4944C & JC	
35	W25	PHASE II APPROACH WIDENING DETAILS	4944C & JC	
36	W26	PHASE II EXPANSION JOINT RECONSTRUCTION		
37	W27	PHASE II CONCRETE RAILING		
38		BRIDGE SUMMARY (4944C & JC)		
39-40	W28-W29	GENERAL PLAN (2334C)		
41	W30	REMOVAL DETAILS	2334C (WBL)	
42	W31	PHASE I APPROACH RECONSTRUCTION		
43	W32	PHASE I BENT NO. 1 EXPANSION JOINT RECONSTRUCTION		
44	W33	PHASE I BENT NO. 4 EXPANSION JOINT RECONSTRUCTION		
45	W34	CONCRETE RAILING		
46	W35	PHASE II APPROACH RECONSTRUCTION		
47	W36	PHASE II BENT NO. 1 EXPANSION JOINT RECONSTRUCTION		
48	W37	PHASE II BENT NO. 4 EXPANSION JOINT RECONSTRUCTION		
49	W38	APPROACH SLAB DETAILS	2334C (EBL)	
50	W39	PHASE I BENT NO. 1 WIDENING DETAILS		
51	W40	PHASE I BENTS NO. 2 & 3 WIDENING DETAILS		
52	W41	PHASE I BENT NO. 4 WIDENING DETAILS		
53	W42	PHASE II MUDWALL RECONSTRUCTION - BENTS NO. 1 & 4		
54-56	W43-W45	STRUCTURAL STEEL DETAILS		
57-59	W46-W48	SUPERSTRUCTURE DETAILS		
60	W49	SCREEDS		
61		BRIDGE SUMMARY (2334C)		
62-68		CROSS SECTIONS		

TRAFFIC DATA	
	I-74
A.D.T. (1989)	8600 V.P.D.
A.D.T. (19 PROJECTED)	V.P.D.
D.H.V. (19 PROJECTED)	V.P.D.
TRUCKS	D.H.V. % A.D.T. %
DESIGN SPEED	M.P.H.
ACCESS CONTROL	
FUNCTIONAL CLASSIFICATION	FREEWAY

PLANS PREPARED BY
UNITED CONSULTING ENGINEERS INC.
INDIANAPOLIS INDIANA
CERTIFIED Jerry D. Ritchie DATE 4-21-89



MONTGOMERY COUNTY

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL	ADOPTED "A" REVISION "B"
	BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING		
	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS		
	BRIDGE STD. BR3	STEEL BRIDGE RAILING		
	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS		
69	BRIDGE STD. BR5	RAILING CONNECTION DETAILS	1-22-87	R-12-1-86
	BRIDGE STD.			
70	BRIDGE STD. C1	MISCELLANEOUS DETAILS	7-13-88	R-6-1-88
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
71	BRIDGE STD. C3	MISCELLANEOUS DETAILS	1-26-88	R-11-2-87
	BRIDGE STD. C4	MISCELLANEOUS DETAILS		
72	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS	1-11-89	R-9-1-88
	BRIDGE STD. D1	ADJUSTING FRAME DETAILS FOR ROADWAY DRAINS		
	BRIDGE STD.			
	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. PB	PRESTRESSED CONCRETE TYPE I-BEAMS		
	BRIDGE STD. PB6	PRESTRESSED BOX BEAMS		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. PB	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS		
	BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD. R2A	BRIDGE LIGHTING DETAILS		
	BRIDGE STD. R2B	BRIDGE LIGHTING DETAILS		
73	BRIDGE STD. S1	MISCELLANEOUS DETAILS	1-22-87	R-12-1-86
74	BRIDGE STD. SH1	STEEL SHOE DETAILS	2-1-85	R-10-29-84
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
	BRIDGE STD.			
75	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS	5-19-88	R-4-4-86
76	ROAD STD. SHEET B	STANDARD PAVEMENT JOINTS	1-26-88	R-11-2-87
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
77	ROAD STD. SHEET F	STANDARD RAMP SECTION	7-10-87	R-6-1-87
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
78	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS	7-13-88	R-6-1-88
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
79	ROAD STD. SHEET MB2	MISCELLANEOUS STANDARDS	5-21-82	R-4-1-82
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
80	ROAD STD. SHEET MT3	MISCELLANEOUS STANDARDS	8-5-88	R-8-1-88
80A	ROAD STD. SHEET MT6A	MISCELLANEOUS STANDARDS	8-5-88	A-AUG.'88
80B	ROAD STD. SHEET MT6C	MISCELLANEOUS STANDARDS	12-1-88	R-9-1-88
80C	ROAD STD. SHEET MT6F	MISCELLANEOUS STANDARDS	*	R-5-1-89
80D	ROAD STD. SHEET MT6H	MISCELLANEOUS STANDARDS	8-5-88	A-AUG.'88
80E	ROAD STD. SHEET MT8	MISCELLANEOUS STANDARDS	12-27-82	R-10-1-82
80F	ROAD STD. SHEET MT9	MISCELLANEOUS STANDARDS	8-5-88	R-AUG.'88
80G	ROAD STD. SHEET MT9A	MISCELLANEOUS STANDARDS	8-5-88	A-AUG.'88
80H	ROAD STD. SHEET MT9B	MISCELLANEOUS STANDARDS	12-1-88	R-9-1-88
80I	ROAD STD. SHEET MT9J	MISCELLANEOUS STANDARDS	12-1-88	R-9-1-88
80J	ROAD STD. SHEET MT10	MISCELLANEOUS STANDARDS	8-5-88	R-8-1-88
81	ROAD STD. SHEET MT17	MISCELLANEOUS STANDARDS	8-5-88	A-8-1-88
82	ROAD STD. SHEET MT19	MISCELLANEOUS STANDARDS	1-6-86	A-NOV.'87
83	ROAD STD. SHEET MV4	MISCELLANEOUS STANDARDS	7-13-88	R-6-1-88
84	ROAD STD. SHEET GR2	GUARD RAIL CLASS "Bs","Ds",&"Hs"	*	R-4-2-84
	ROAD STD. SHEET GR	GUARD RAIL CLASS		
	ROAD STD. SHEET GR	GUARD RAIL CLASS		
85	ROAD STD. SHEET GR 4A	GUARD RAIL CLASS "Hs"	*	R-4-2-.-.
	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS		
	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS		
86	ROAD STD. SHEET GR7	GUARD RAIL PIER CONNECTION DETAILS	*	R-4-1-82
87	ROAD STD. SHEET GR8	STEEL BEAM GUARD RAIL	*	R-4-2-84
	ROAD STD. SHEET GR9	ALUMINUM BEAM GUARD RAIL		
88	ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS	*	R-2-1-85
	ROAD STD. SHEET GR10A	GUARD RAIL BREAKAWAY CABLE TERM.		
	ROAD STD.			
89	ROAD STD. SHEET CB2	TEMPORARY CONCRETE BARRIER	*	R-9-1-88
90	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS	*	A-SEPT.'88
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1B DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
91	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS	*	A-SEPT.'88
92	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	*	R-9-1-88
93	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS	*	R-9-1-88
94	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	1-11-89	R-9-1-88
	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS		
95	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS	*	R-9-1-88

*-F.H.W.A. APPROVAL PENDING

RECOMMENDED FOR APPROVAL 7-12-89
BRIDGE ENGINEER

RECOMMENDED FOR APPROVAL 7-12-89
Edward J. Cox
DESIGN CONSULTANT SERVICES MANAGER

APPROVED 7/20/89
CHIEF, DIVISION OF DESIGN

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED
DIVISION ADMINISTRATOR DATE

BRIDGE FILE I-74-31-4944C & JC
I-74-31-2334C & JB

REVISIONS	
DATE	SHEET NO.
7-31-89	1, 12, 40
8-09-89	1, 20, 31, 60
8-17-89	1, 39

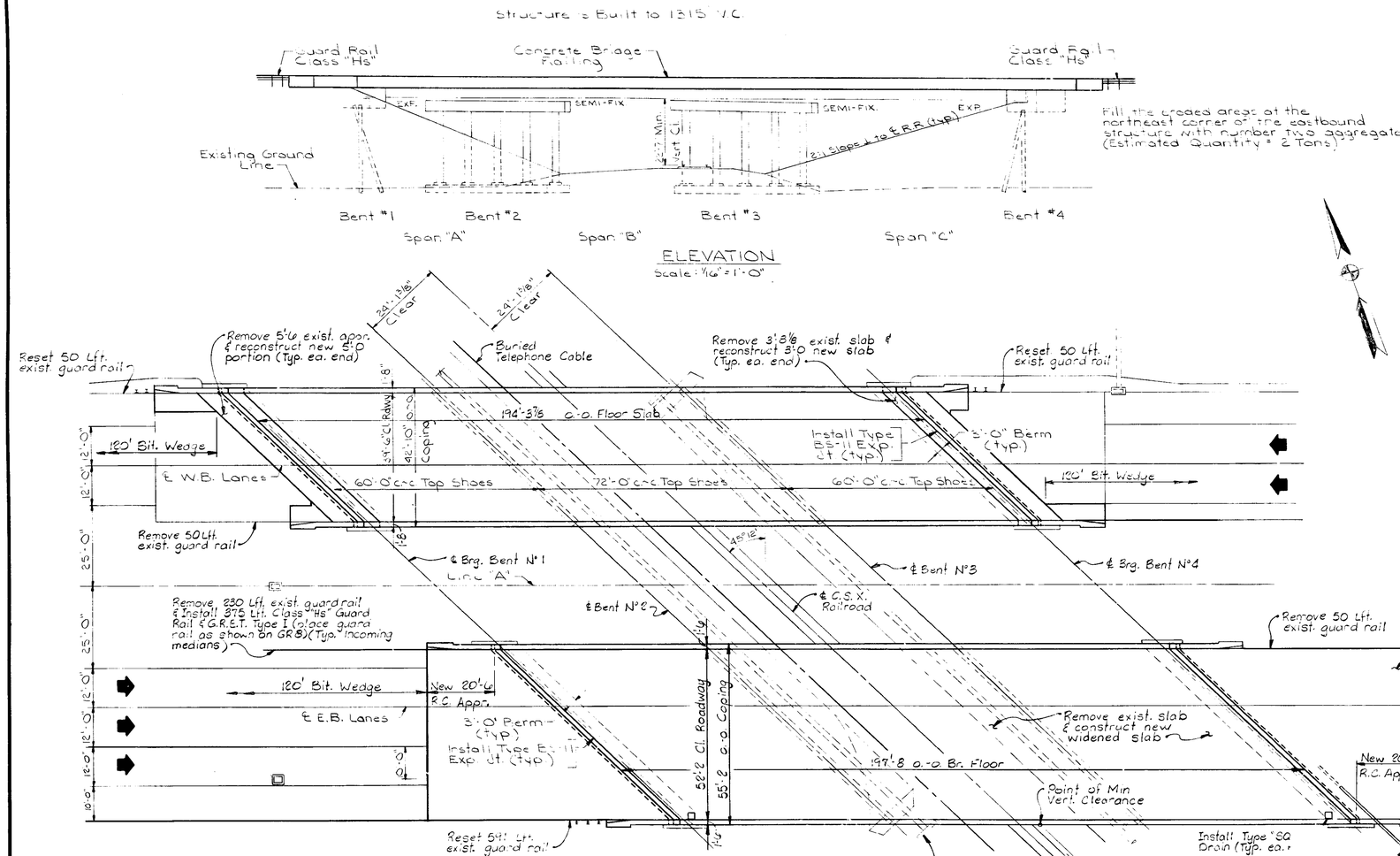
REVISIONS	
DATE	SHEET NO.

INDIANA DEPARTMENT OF HIGHWAYS
STANDARD SPECIFICATIONS DATED 1988
TO BE USED WITH THESE PLANS.

B 18182

SF-22427

TP100



DESIGN DATA

Designed for HS20-44 Live Load In Accordance with the 1983 A.A.S.H.T.O. Specifications and with all subsequent interim specifications.

Designed for actual dead load plus 35 p.s.f. future wearing surface.

STANDARD DRAWINGS

Bridge	Road	Purpose
BR5		Concrete Railing Transition
C1		Reinforcing Bar Notes
C3		Type "A" Constr. & BS Exp. Joints
D		Roadway Drains
S1		B. Borrow
SH1		Steel Shoe Details
	Sht. A	Standard Pavement Joints
	Sht. B	Approach Reinforcing
	MA	R.C. Bridge Approach
	MT3	Traffic Sign Details
	MT19	Snowplowable Pavement Markers
	MV4	Entrance Ramp
	GR2	Guard Rail Class "Hs"
	GR4A	Guard Rail Class "Hs"
	GR7	Steel Offset Bracket
	GR8	Guard Rail Class "Ds"
	GR10	Guard Rail End Treatment - Type I
	CB2	Temporary Concrete Barrier
	Sht. 1	Standard Detour Signs
	Sht. 2A	Standard Detour Signs
	Sht. 3	Standard Detour Signs
	Sht. 3A	Standard Detour Signs
	Sht. 4	Standard Detour Signs
	Sht. 5A	Standard Detour Signs

Railroad Communication and Signal Lines will be temporarily buried during construction by the Railroad.

Rev 8-17-89 Railroad note

DESIGNED ___ C'K'D. JDR
DRAWN ___ C'K'D. DR
TRACED ___ C'K'D. ___

GENERAL PLAN

BRIDGE DECK RECONSTRUCTION & OVERLAY
CONTINUOUS STEEL BEAM BRIDGES
3 SPANS: 60'-0", 72'-0", 60'-0" SKEW 45° 12' LEFT
39'-6" CLEAR ROADWAY W.B. 52'-2" CLEAR ROADWAY E.B.
INTERSTATE 74 OVER C.S.X. RAILROAD

INDIANA DEPARTMENT OF HIGHWAYS

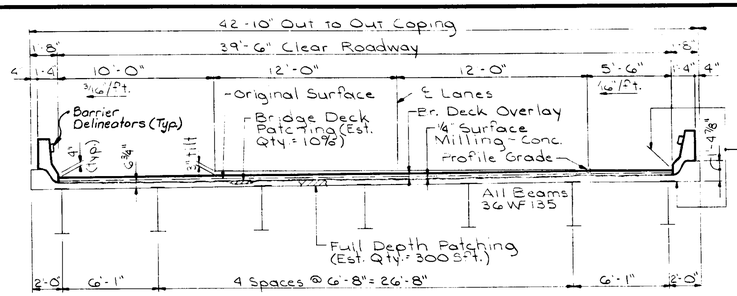
MONTGOMERY COUNTY

SCALE:— As Noted DATE:- 4-21-89

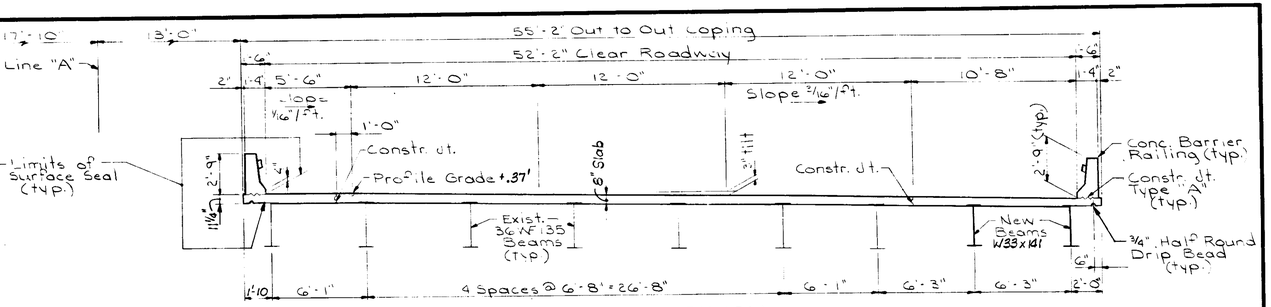
Jerry D. Ritchie

DRAWING:- W28 OF W49 SHEET:- 39 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I 74-31-2334C & JB

TP118

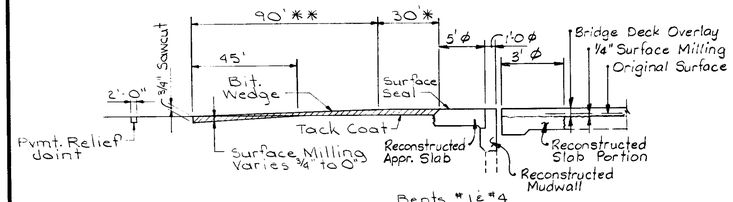


W.B. TYPICAL SECTION
Scale: 1/4" = 1'-0"

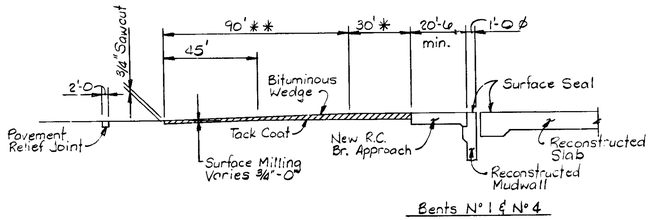


E.B. TYPICAL SECTION
Scale: 1/4" = 1'-0"

* Wedge to be a continuation of bridge deck profile.
** Taper wedge uniformly to meet existing roadway surface.
Pavement Relief Joint to be placed at first pavement joint beyond wedge limits or as directed by the engineer.
Note: Seal all joints and cracks in the approach pavement with a hot poured joint sealer before placing the bituminous wedges.
℄ Indicates dimensions perpendicular to skew.



LONGITUDINAL SECTION - WB
NO SCALE



LONGITUDINAL SECTION - EB
No Scale

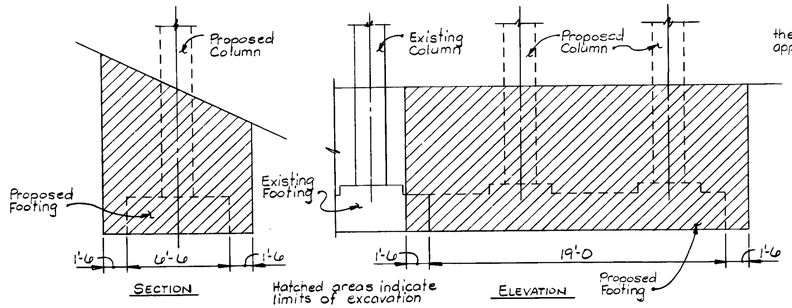
MATERIAL NOTES

Bridge Deck Overlay
1 3/4" Modified Portland Cement Concrete
or
2 1/2" Dense Portland Cement Concrete
(1 1/2" or 2 1/4" respectively above original surface)

Bituminous Wedge
110 lbs/Syd. H.A.C. Surface Type 11, HV on Variable Depth Bituminous Binder.

Pavement Relief Joint
110 lbs/Syd. H.A.C. Surface Type 11, HV over 1870 lbs/Syd. Bituminous Base.

Bituminous Widening
990 lbs./Syd. Bituminous Base Type 5D, HV



EXCAVATION DETAILS
Bents N° 2 & N° 3
No Scale

GENERAL NOTES

Plans for these structures are on file in the Central Office as Br. Files I-74-31-2334, I-74-31-2334A, & I-74-31-2334B 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.

The hand chipping and cleaning of the deteriorated concrete areas shall be as directed by the Engineer. It is the intent of these plans that all such deteriorated concrete be removed and should there be any doubt as to the quality of the concrete, removal shall continue until PERFECTLY SOUND CONCRETE is exposed. All existing non-full depth patches shall be removed.

Patches for deteriorated concrete areas, up to the milled surface, to be Bridge Deck Patching Concrete bonded with an epoxy bonding compound or Modified Portland Cement Concrete.

For composition of concrete in overlay doms, see the "Special Provisions".

All bituminous material required in this contract is to be included in the pay item "Bituminous Mixture For Approaches, HV", except tack coat which is to be paid for as "Bituminous Material For Tack Coat" in Sys.

The length and quantity of bituminous wedge and leveling is based on the use of Modified Portland Cement Concrete Overlay. See the "Special Provisions."

Reinforcing steel covering shall be 2" in all parts unless noted.

Piles shall have minimum bearing value shown on the detail drawings. Determine pile lengths by Article 701.03a of the Specifications.

Concrete in footings to be Class "B".

Concrete in superstructure and concrete railings to be Class "C".

Concrete in end bents, wingwalls, columns, bent caps, & steel encased concrete piles to be Class "A".

Continuous concrete pours shall be required between construction joints as shown on the detail plans.

All exposed edges shall be chamfered 1" unless noted.

Surface seal all concrete railings, face and underside of copings to the flange of the outside beams, top of mudwalls, top of reconstructed approach slab, and all exposed portions of the wingwalls.

All Reinforcing Steel to be Grade 40.

GENERAL PLAN CONT.

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:— As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W29 OF W49 SHEET:- 40 OF 95

PROJECT:- IR-74-1(106)33

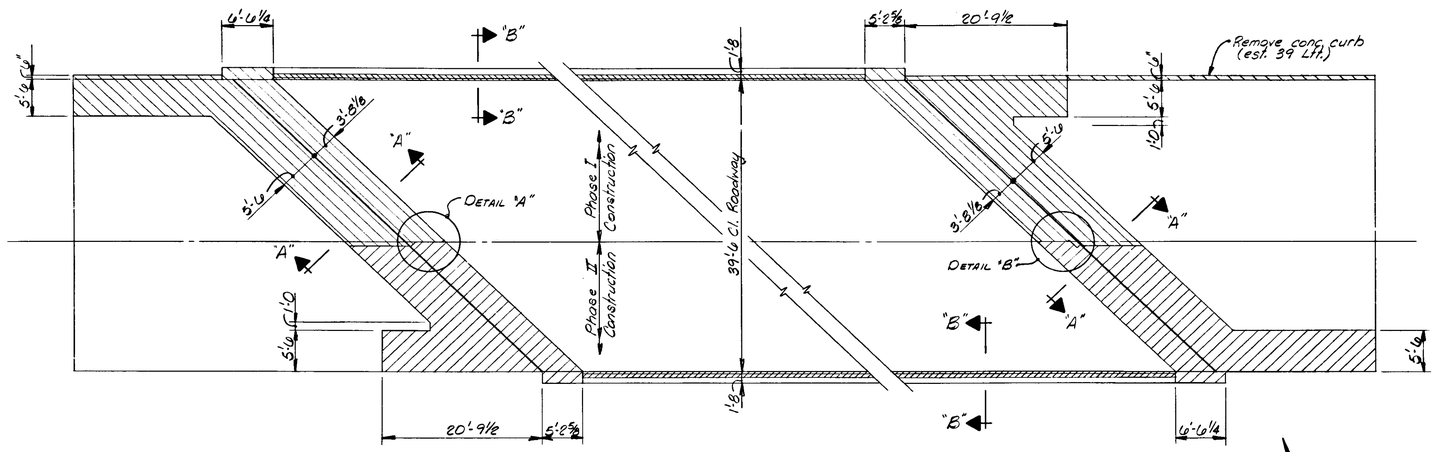
BRIDGE CONTRACT NO. B-18182

BRIDGE FILE:- I-74-31-2334C & JB

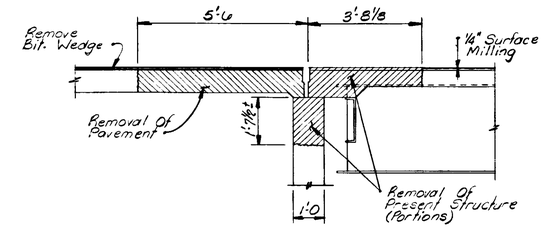
DESIGNED N.D.R. CK'D JDB
DRAWN N.N.S. CK'D DB
TRACED CK'D

Rev. : 07/31/89 ; Revised Notes

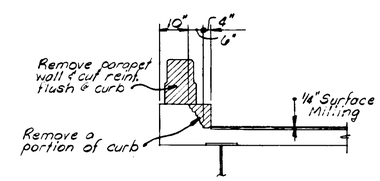
TP118



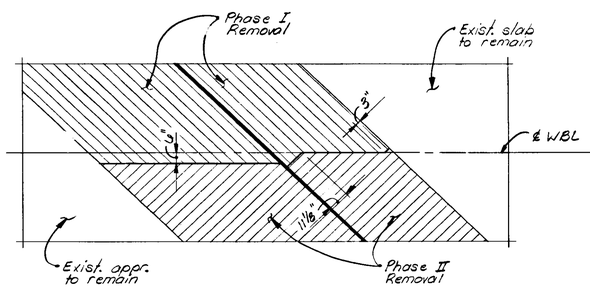
REMOVAL PLAN
Scale: 1/8" = 1'-0



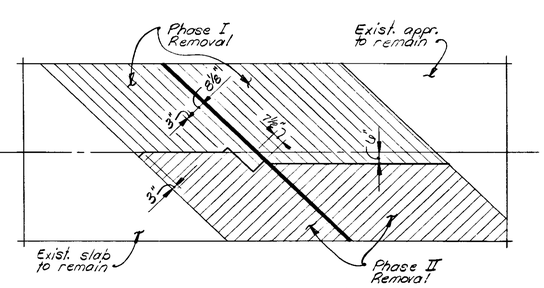
SECTION "A-A"
Scale: 1/2" = 1'-0



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



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



DETAIL "B"
Scale: 3/8" = 1'-0

REMOVAL DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W30 OF W49 SHEET:- 41 OF 95

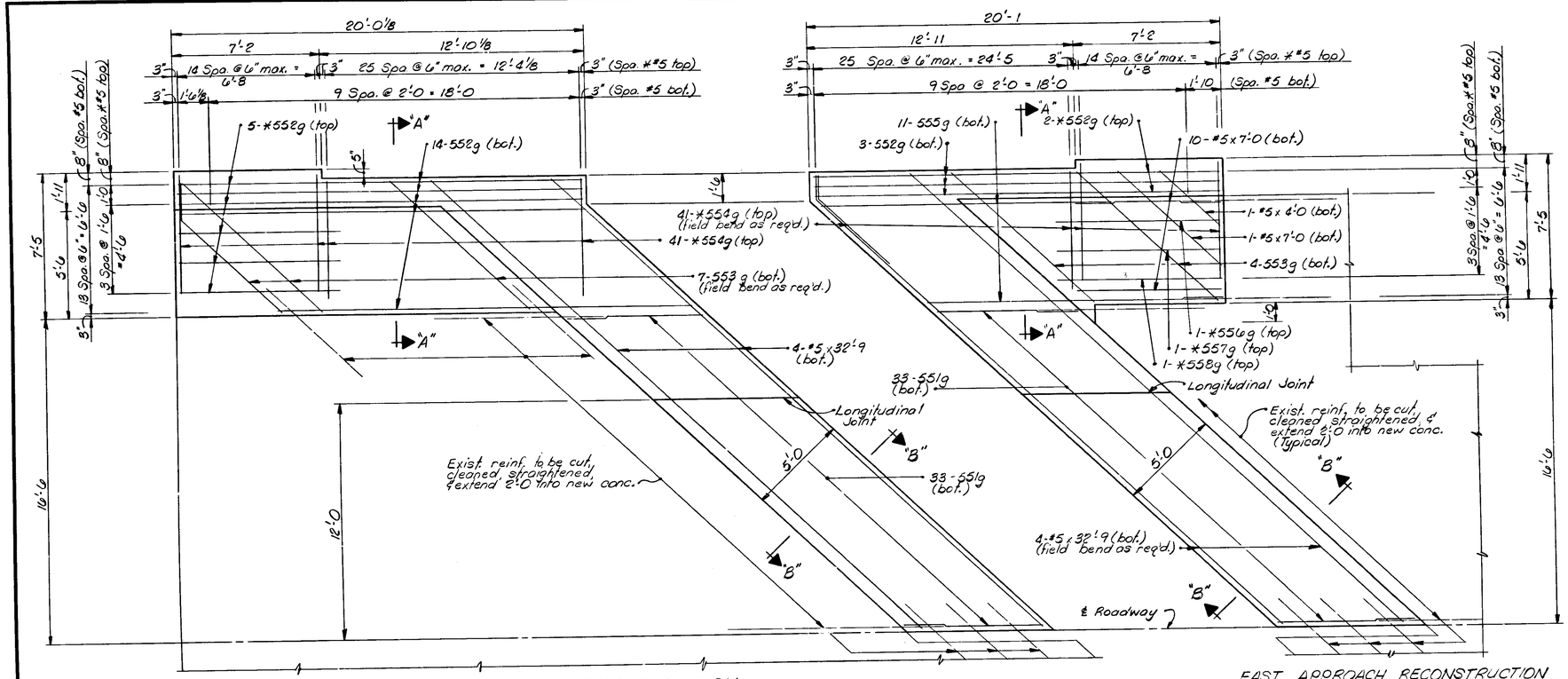
PROJECT:- IR-74-1(104) 33

BRIDGE CONTRACT NO. B-18182

BRIDGE FILE:- I-74-51-2334C (W18)

DESIGNED	C'K'D
DRAWN JF (11-88)	C'K'D
TRACED	C'K'D

TP118



WEST APPROACH RECONSTRUCTION
Scale : 3/8" = 1'-0

EAST APPROACH RECONSTRUCTION
Scale : 3/8" = 1'-0

BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
*552g	7	20'-7	
*554g	82	6'-7	
*556g	1	18'-10	
*557g	1	17'-4	
*558g	1	15'-10	
Total *#5			768
A.) 2-Case I Railing Transitions @ 328# ea.			656
* Total E.C. Reinf.			1424
Reinforcing Steel			
551g	66	7'-4	
552g	17	20'-7	
553g	11	10'-1	
555g	11	14'-10	
#5	8	32'-9	
#5	11	7'-0	
#5	1	4'-0	
Total Reinforcing			1513
Miscellaneous			Quantity
Reinf. Conc. Pvmt., 10"			58 Sys.
Type "O" Compacted Aggregate for Base, 6"			19 Tons
Surface Seal (est.)			534 Sft.
Class "C" Conc. Railing			42.5 Lft.
Barrier Delineators			2 Each

A.) For reinf. bar details, see Br. Std. BR5.

"a"
7" hook

Mark	"a"	Length
551g	6'-9	7'-4
(*)552g	20'-0	20'-7
553g	9'-6	10'-1
*554g	6'-0	6'-7
555g	14'-3	14'-10
*556g	18'-3	18'-10
*557g	16'-9	17'-4
*558g	15'-3	15'-10

Notes:

For "Reinforcing Bar Notes", see Br. Std. C1.

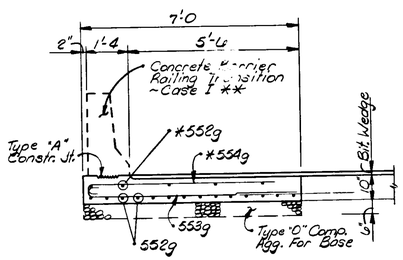
*- Indicates epoxy coated reinforcing.

**- For concrete barrier railing transition, see Br. Std. BR5.

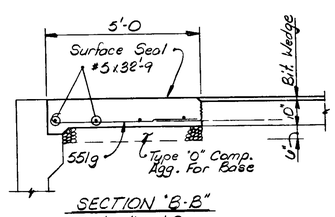
For Type "A" Construction Joint, see Br. Std. C3.

The Case I Barrier Railing Transition is to be surface sealed.

The additional concrete thickness in the pavement adjacent to the end bent is included in the cost of the concrete pavement.



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



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

PHASE I - APPROACH RECONSTRUCTION

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W31 OF W49 SHEET:- 42 OF 95

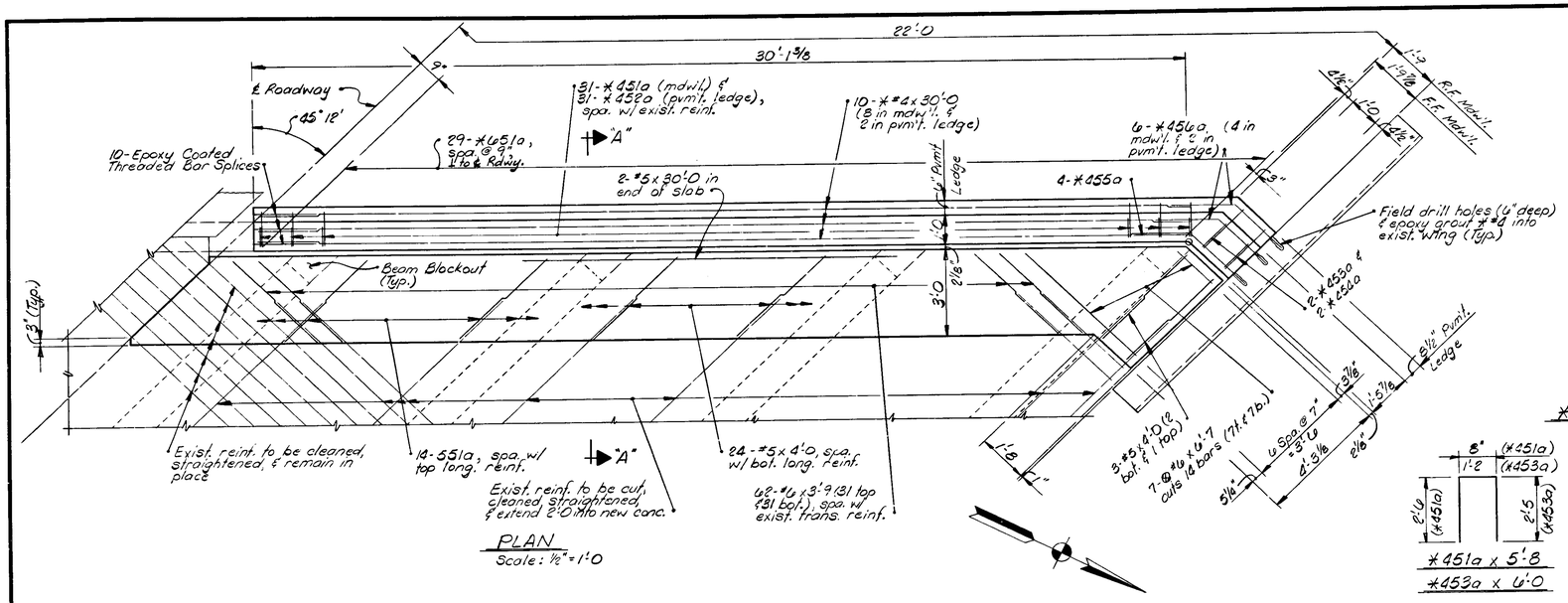
PROJECT:- IR-74-1(104) 33

BRIDGE CONTRACT NO. B-18182

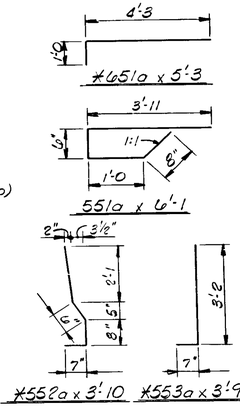
BRIDGE FILE:- I-74-31-2334C (WB)

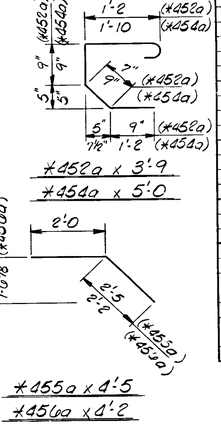
DESIGNED ____ C'K'D ____
DRAWN JF (2-89) C'K'D ____
TRACED ____ C'K'D ____

TP118



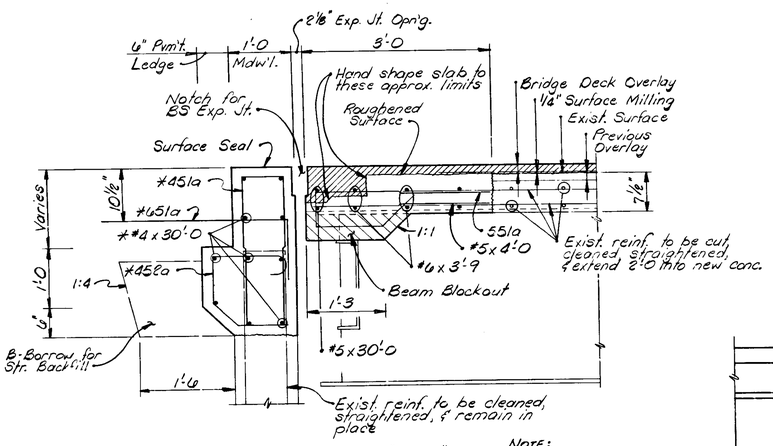
PLAN
Scale: 1/8" = 1'-0





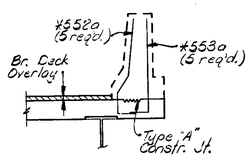
BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
*651a	29	5'-3	
	Total *#6		229
*552a	5	3'-10	
*553a	5	3'-9	
	Total *#5		40
*451a	31	5'-8	
*452a	31	3'-9	
*453a	2	6'-0	
*454a	2	5'-0	
*455a	4	4'-5	
*456a	6	4'-2	
*#4	10	30'-0	
	Total *#4		439
* Total E.C. Reinf.			708
Reinforcing Steel			
⊗#6	7	6'-7	
#6	62	3'-9	
	Total #6		418
551a	14	6'-1	
#5	2	30'-0	
#5	27	4'-0	
	Total #5		264
Total Reinforcing			682
Concrete			Cys.
Class "C" In Superstr.			7.0
Miscellaneous			Quantity
Surface Seal (est.)			33 Sft.
Epoxy Coated Threaded Bar Splice (*#4x4'-0)			10 Each
Field Drilled Holes In Conc.			10 Each
B. Borrow For Structure Backfill			3 Cys.
Shear Connectors			24 Each

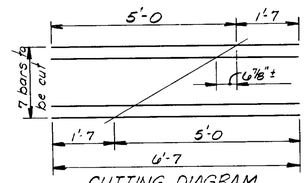


SECTION "A-A"
Scale: 1" = 1'-0

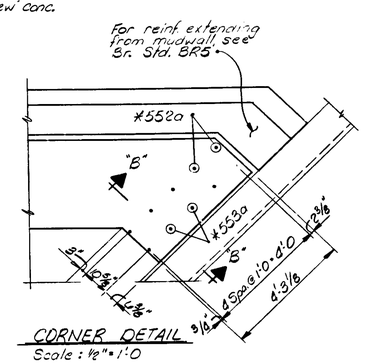
Note:
Repour the new slab portion to the level of surface milling.



SECTION "B-B"
Scale: 1/8" = 1'-0



CUTTING DIAGRAM
⊗#6 x 6'-7



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

NOTES:

For "Reinf. Bar Notes", see Br. Std. C1.

For Type "A" Constr. Jt. & Type BS Exp. Jt., see Br. Std. C3.

* - Indicates epoxy coated reinforcing.

⊗ - Indicates cutting diagram required.

The top & sides of the top flange of all beams and the top of the end diaphragms within the slab removal area shall be thoroughly cleaned and primed with one coat of zinc silicate paint before repouring the slab. Cost of cleaning & painting to be included in the cost of other items.

For "Beam Blockout Detail", see Dwg. W12.

For removal details, see Dwg. W30.

Attach shear connectors to the top of the exposed beams. For Shear Connector Detail, see Dwg. W16.

For additional shear connector notes, see Dwg. W43.

PHASE I, BENT No. 1
EXPANSION JOINT RECONSTRUCTION

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W32 OF W49 SHEET:- 45 OF 95

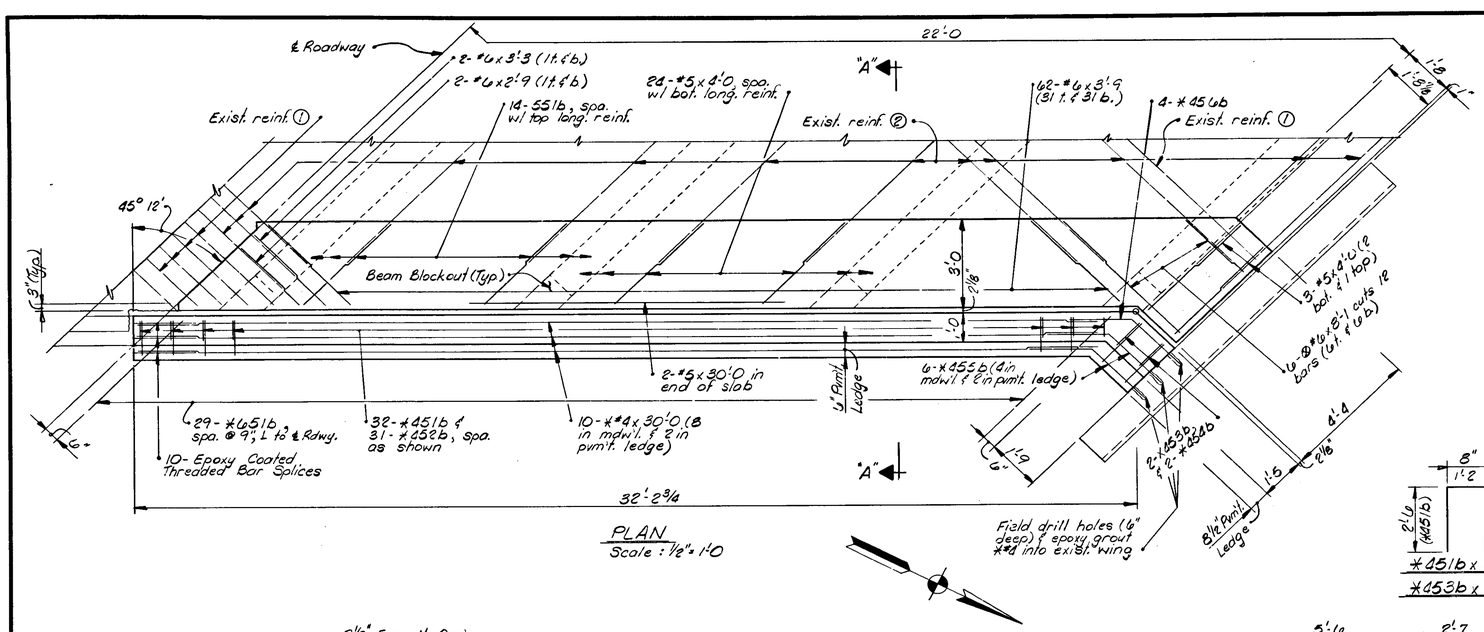
PROJECT:- IR-74-1(106)38

BRIDGE CONTRACT NO. B-18182

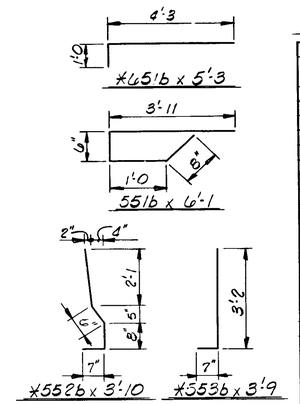
BRIDGE FILE:- I-74-31-2334C (WS)

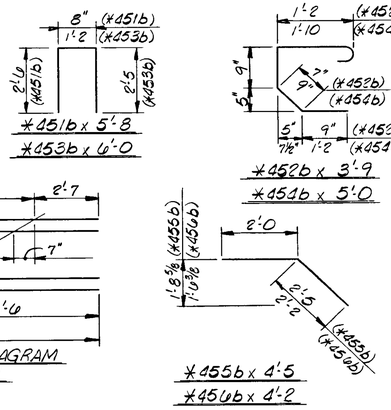
DESIGNED _____ C'K'D _____
DRAWN JF (11-88) C'K'D _____
TRACED _____ C'K'D _____

TP118



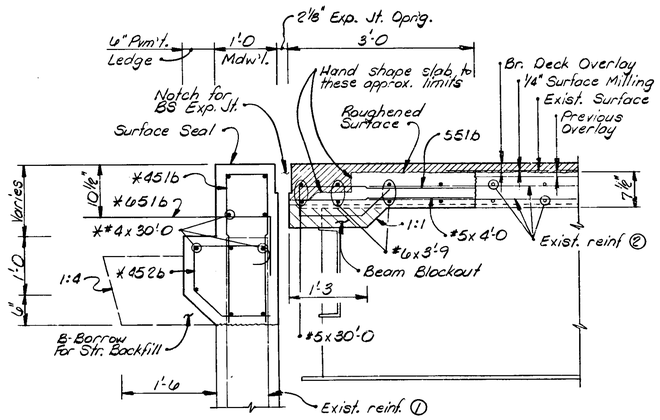
PLAN
Scale: 1/2" = 1'-0





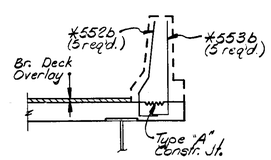
BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
*651b	29	5'-3	
	Total *#6		229
*552b	5	3'-10	
*553b	5	3'-9	
	Total *#5		40
*451b	32	5'-8	
*452b	31	3'-9	
*453b	2	6'-0	
*454b	2	5'-0	
*455b	4	4'-5	
*456b	4	4'-2	
*#4	10	30'-0	
	Total *#4		443
*Total E.C. Reinf.			712
Reinforcing Steel			
⊗#6	6	8'-1	
#6	62	3'-9	
#6	2	3'-3	
#6	2	2'-9	
	Total #6		440
551b	14	6'-1	
#5	2	30'-0	
#5	27	4'-0	
	Total #5		264
Total Reinforcing			704
Concrete			Cys.
Class "C" In Superstr.			6.9
Miscellaneous			Quan.
Field Drilled Holes In Conc.			10 Each
Epoxy Coated Threaded Bar Splices (*#4x4'-0)			10 Each
B-Borrow For Structure Backfill			3 Cys.
Surface Seal (est.)			3d Sft.

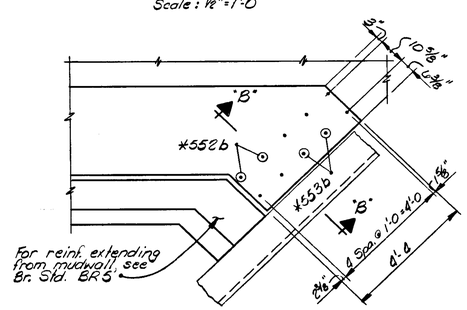


SECTION "A-A"
Scale: 1" = 1'-0

Note:
Repour the new slab portion to the level of surface milling.



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



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

Notes:

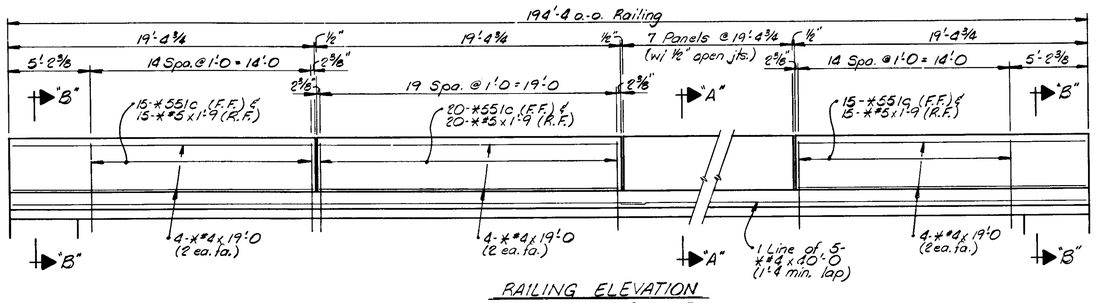
*- Indicates epoxy coated reinforcing.
For "Reinf. Bar Notes", see Br. Std C1.
For Type "A" Constr. Jt. & Type BS Exp. Jt., see Br. Std. C3.
Attach shear connectors to the top of the exposed beams. For Shear Connector Detail, see Dwg W26

⊗- Indicates cutting diagram required.
The top & sides of the top flange of all beams and the top of the end diaphragms within the slab removal area shall be thoroughly cleaned and primed with one coat of zinc silicate paint before repouring the slab. Cost of cleaning & painting to be included in the cost of other items.
For "Beam Blockout Detail", see Dwg. W12.
For removal details, see Dwg. W30.
① - Exist. reinf. to be cleaned, straightened, & remain in place (cut to fit if necessary).
② - Exist. reinf. to be cut, cleaned, straightened, & extend 2'-0 into new conc.
For additional shear connector notes, see Dwg. W43.

PHASE I, BENT No. 4
EXPANSION JOINT RECONSTRUCTION
INDIANA DEPARTMENT OF HIGHWAYS
MONTGOMERY COUNTY
SCALE:- As Noted
DATE:- 4-21-89
Jerry D. Ritchie
DRAWING:- W23 OF W49 SHEET:- 44 OF 95
PROJECT:- IR-74-1 (106) 33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-31-2834C (W8)

DESIGNED ____ C'K'D ____
DRAWN JF (11-88) C'K'D ____
TRACED ____ C'K'D ____

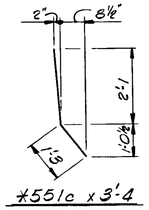
TP118



RAILING ELEVATION

Typ. Phase I & Phase II

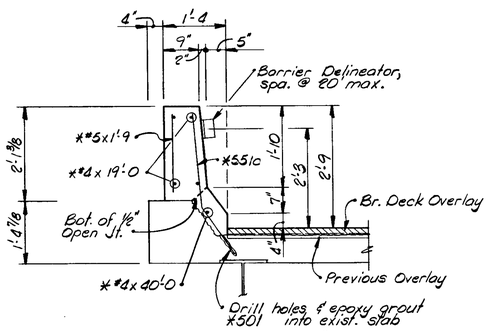
Scale : 1/4" = 1'-0 Horiz.
1/2" = 1'-0 Vert.



BILL OF MATERIALS

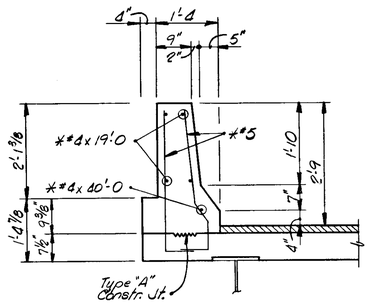
Phase I Shown, Phase II Same

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
#551c	190	3'-4	
#5	190	1'-9	
	Total #5		1007
#4	5	40'-0	
#4	40	19'-0	
	Total #4		641
# Total E.C. Reinf.			1648
Concrete			
Class "C" In Railing			195 Cu. Yd.
Miscellaneous			Quantity
Surface Seal (est.)			1749 Sq. Yd.
Barrier Delineators			9 Each
Field Drilled Holes In Conc.			190 Each



SECTION "A-A"

Scale : 3/4" = 1'-0



SECTION "B-B"

Scale : 3/4" = 1'-0

Notes :

For "Reinf. Bar Notes", see Br. Std. C1.
For Type "A" Constr. Jt., see Br. Std. C3
#-Indicates epoxy coated reinforcing.
For removal details, see Dwg. W30.

CONCRETE RAILING

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:— As Noted

DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W34 OF W49 SHEET:- 45 OF 96

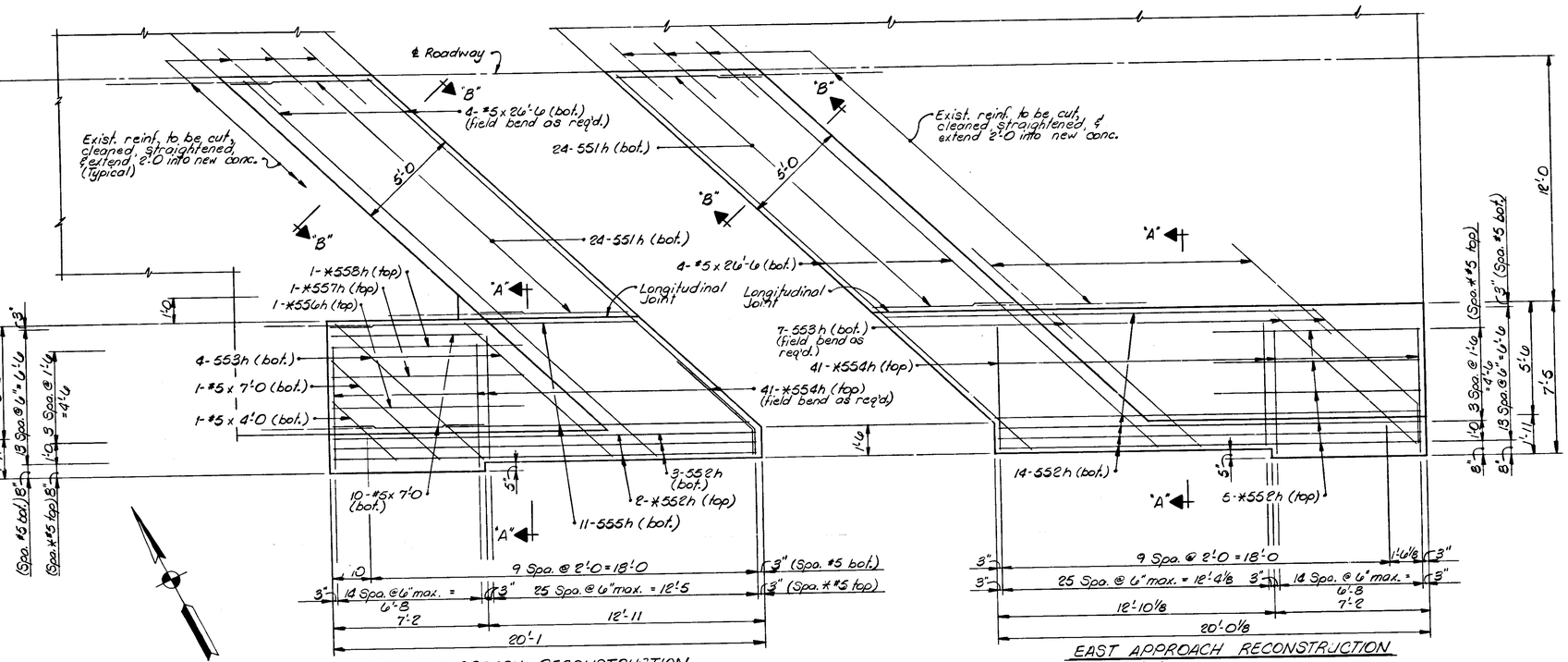
PROJECT:- IR-74-1(106)33

BRIDGE CONTRACT NO. B-18192

BRIDGE FILE:- I-74-31-2334 C (V.B)

DESIGNED _____ C'K'D _____
DRAWN JF (11-88) C'K'D _____
TRACED _____ C'K'D _____

TP118



WEST APPROACH RECONSTRUCTION
Scale: 3/8" = 1'-0

EAST APPROACH RECONSTRUCTION
Scale: 3/8" = 1'-0

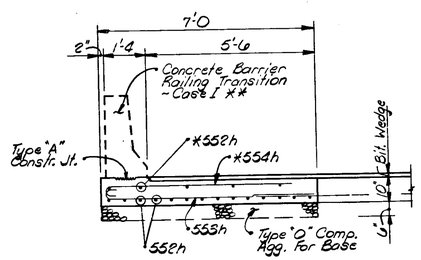
BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
*552h	7	20'-7	
*554h	82	6'-7	
*556h	1	18'-10	
*557h	1	17'-4	
*558h	1	15'-10	
Total *#5			768
A) 2-Case I Railing Transitions @ 328# ea.			656
*Total E.C. Reinf.			1424
Reinforcing Steel			
551h	48	7'-4	
552h	17	20'-7	
553h	11	10'-1	
555h	11	14'-10	
#5	8	26'-6	
#5	11	7'-0	
#5	1	4'-0	
Total Reinforcing			1324
Miscellaneous			Quantity
Reinf. Conc. Pvm't., 10"			51 Sys.
Type "O" Compacted Aggregate For Base, 6"			17 Tons
Surface Seal			520 Sft.
Class "C" Conc. Railing			425 Lft.
Barrier Delineators			2 Each

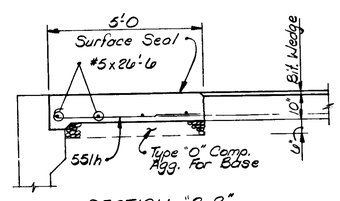
A) For reinforcing bar details, see Br. Std. BR5.

"a"
7" hook

Mark	"a"	Length
551h	6'-9	7'-4
(*)552h	20'-0	20'-7
553h	9'-6	10'-1
*554h	6'-0	6'-7
555h	14'-3	14'-10
*556h	18'-3	18'-10
*557h	16'-9	17'-4
*558h	15'-3	15'-10



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



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

Notes:

For "Reinforcing Bar Notes", see Br. Std. C1.

*- Indicates epoxy coated reinforcing.

**- For concrete barrier railing transition, see Br. Std. BR5.

For Type "A" Construction Joint, see Br. Std. C3.

The Case I Barrier Railing Transition is to be surface sealed.

The additional concrete thickness in the pavement adjacent to the end bent is included in the cost of the concrete pavement.

PHASE II - APPROACH RECONSTRUCTION

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted

DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W95 OF W99 SHEET:- 46 OF 95

PROJECT:- IR-74-1(106)33

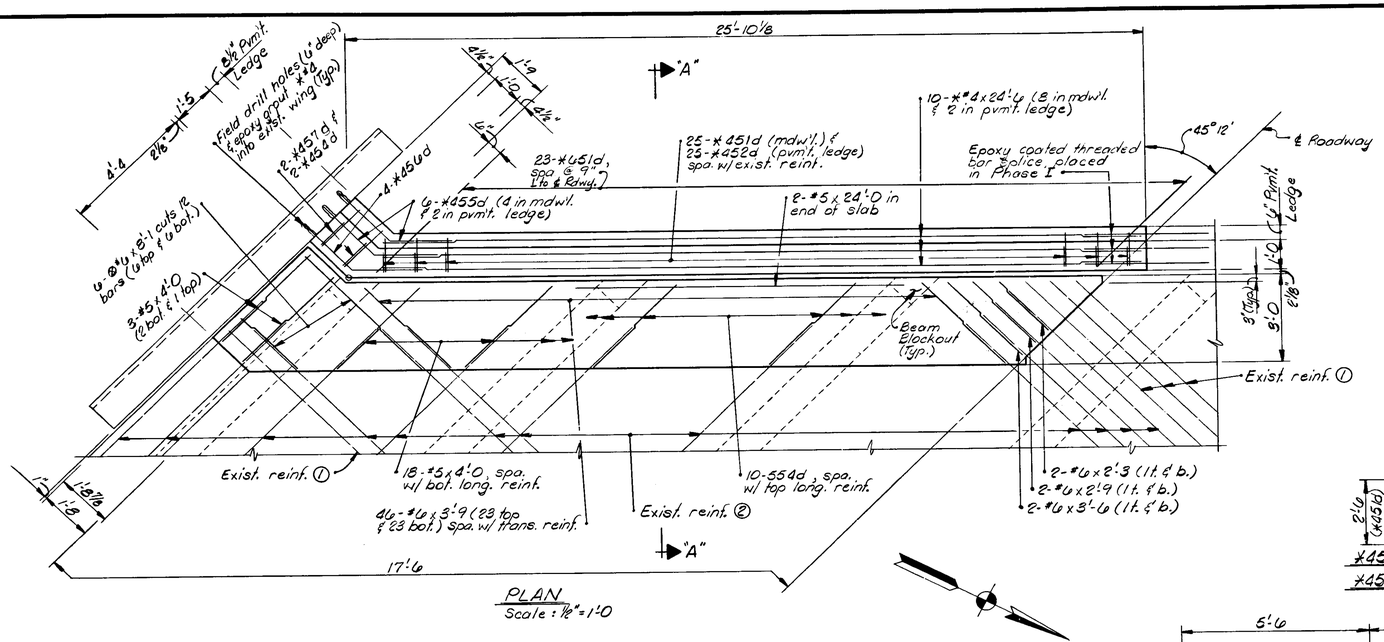
BRIDGE CONTRACT NO. B-18182

BRIDGE FILE:- I-74-31-2334C (WB)

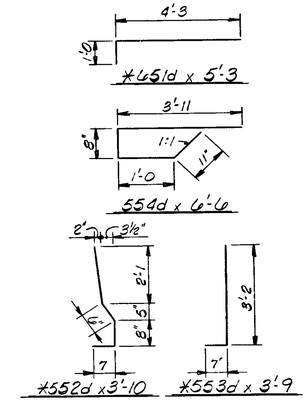
JERRY D. RITCHIE REGISTERED No. 12868 STATE OF INDIANA PROFESSIONAL ENGINEER

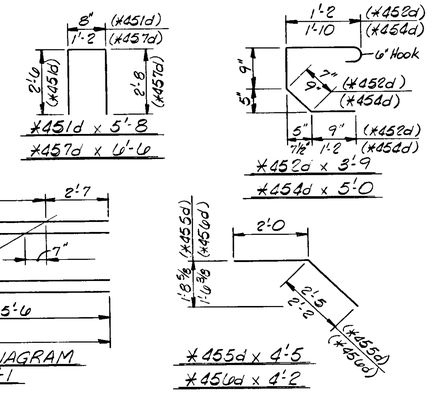
DESIGNED _____ C'K'D _____
DRAWN JF (2-89) C'K'D _____
TRACED _____ C'K'D _____

TP118



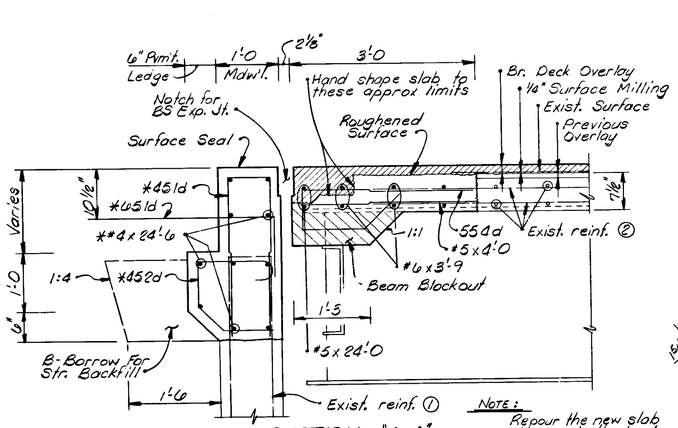
PLAN
Scale: 1/2" = 1'-0





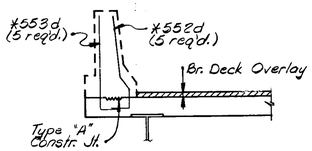
BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	# of bars	Length	Weight (Lbs.)
#451d	23	5'-3	
	Total #6		181
#553d	5	3'-10	
#553d	5	3'-9	
	Total #5		40
#451d	25	5'-8	
#452d	25	3'-9	
#454d	2	5'-0	
#455d	6	4'-5	
#456d	4	4'-2	
#457d	2	6'-6	
#4	10	24'-6	
	Total #4		365
* Total E.C. Reinf.			586
Reinforcing Steel			
@#6	6	8'-1	
#6	46	3'-9	
#6	2	3'-6	
#6	2	2'-9	
#6	2	2'-3	
	Total #6		357
554d	10	6'-6	
#5	2	24'-0	
#5	21	4'-0	
	Total #5		205
Total Reinforcing			562
Concrete			Cys.
Class "C" In Superstr.			6.2
Miscellaneous			Quantity
Surface Seal (est.)			53 Sft.
B-Borrow For Str. Backfill			3 Cys.
Field Drilled Holes In Conc.			10 Each
Shear Connectors			18 Each

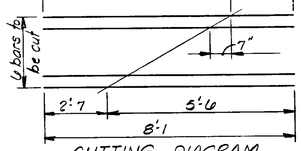


SECTION "A-A"
Scale: 1" = 1'-0

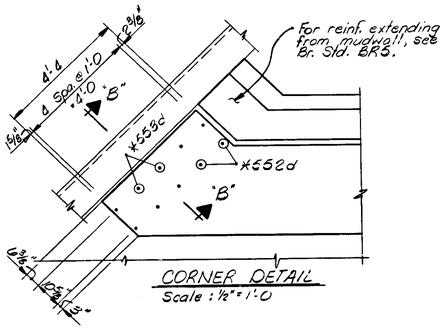
NOTE:
Repour the new slab portion up to the level of surface milling.



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



CUTTING DIAGRAM
⊗ #6 x 8'-1



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

NOTES:

For "Reinf. Bar Notes", see Br. Std. C1.

For Type "A" Constr. Jt. & Type BS Exp. Jt., see Br. Std. C3.

* Indicates epoxy coated reinforcing.

⊗ Indicates cutting diagram required.

The top & sides of the top flange of all beams and the top of the end diaphragms within the slab removal area shall be thoroughly cleaned and primed with one coat of zinc silicate paint before repouring the slab. Cost of cleaning and painting to be included in the cost of other items.

For "Beam Blockout Detail", see Dwg. W12.

For removal details, see Dwg. W30.

① - Exist. reinf. to be cleaned, straightened, & remain in place (cut to fit if necessary).

② - Exist. reinf. to be cut, cleaned, straightened, & extend 2'-0 into new concrete.

Attach shear connectors to the top of the exposed beams. For Shear Connector Detail, see Dwg. W46.

For additional shear connector notes, see Dwg. W43.

PHASE II, BENT No 1
EXPANSION JOINT RECONSTRUCTION

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted

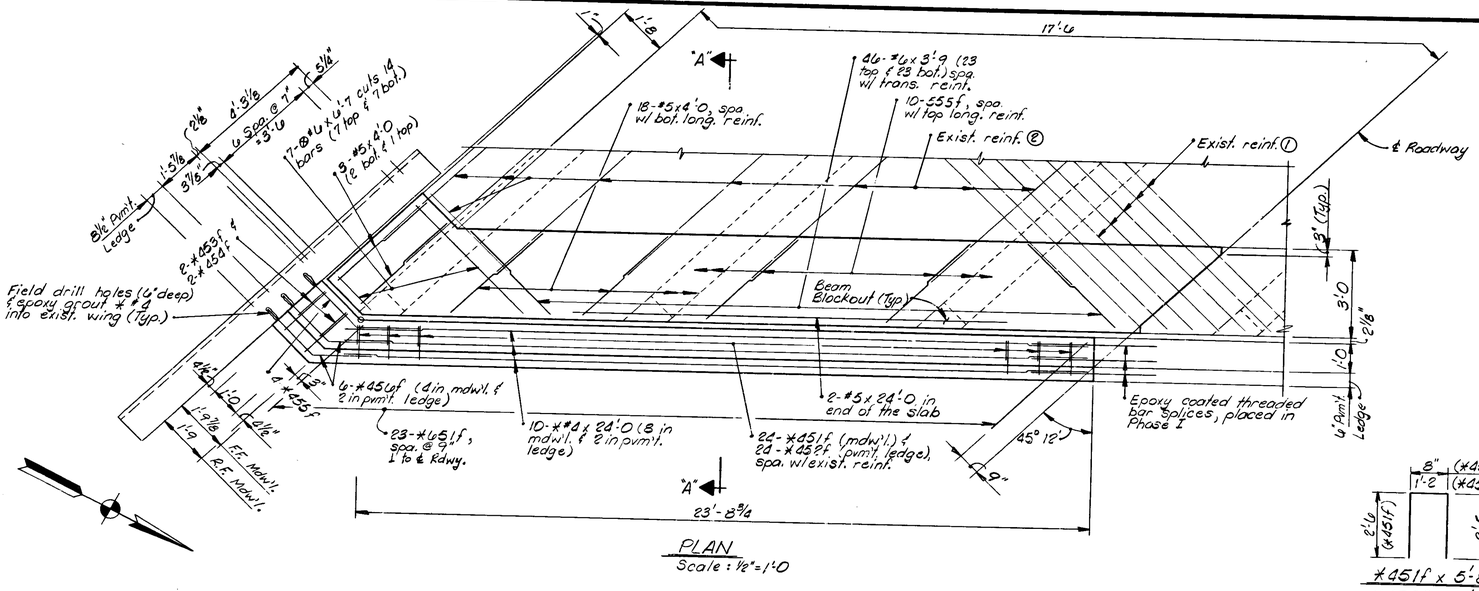
DATE:- 4-21-89

Jerry D. Ritchie

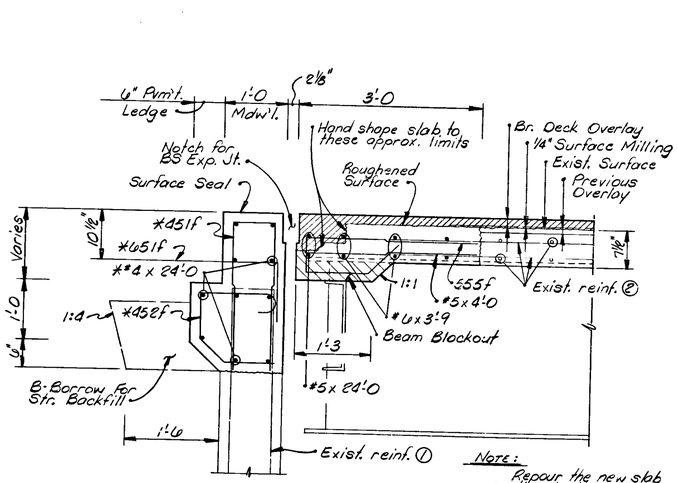
DRAWING: W36 OF W49 SHEET: 47 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-31-2334C (WB)

DESIGNED ____ C'K'D ____
DRAWN JF (11-88) C'K'D ____
TRACED ____ C'K'D ____

TP118

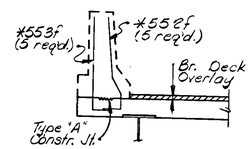


PLAN
Scale: 1/2" = 1'-0

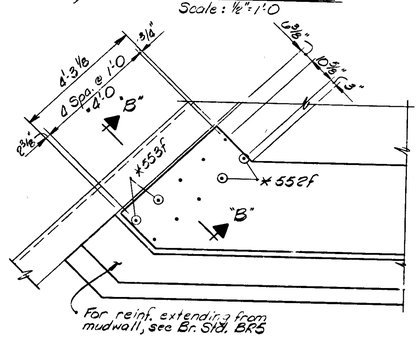


SECTION "A-A"
Scale: 1" = 1'-0

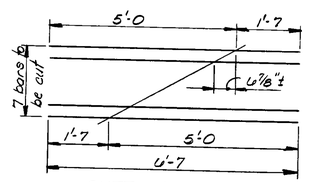
Note:
Repour the new slab portion to the level of surface milling.



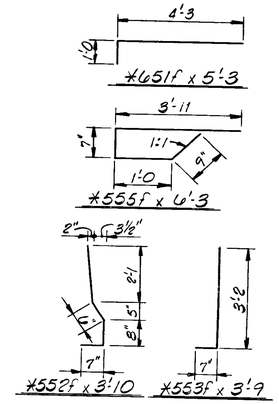
SECTION "B-B"
Scale: 1/2" = 1'-0

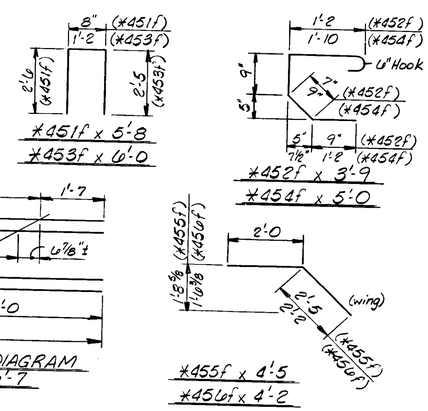


CORNER DETAIL
Scale: 1/2" = 1'-0



CUTTING DIAGRAM
⊗ #6 x 6'-7





BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. of Bars	Length	Weight (Lbs.)
*651f	23	5'-3	
	Total *#6		181
*552f	5	3'-10	
*553f	5	3'-9	
	Total *#5		40
*451f	24	5'-8	
*452f	24	3'-9	
*453f	2	6'-2	
*454f	2	5'-0	
*455f	4	4'-5	
*456f	6	4'-2	
#4	10	24'-0	
	Total *#4		355
* Total E.C. Reinf.			576
Reinforcing Steel			
⊗ #6	7	6'-7	
#6	46	3'-9	
	Total #6		328
555f	10	6'-3	
#5	2	24'-0	
#5	21	4'-0	
	Total #5		203
Total Reinforcing			531
Concrete			Cys.
Class "C" II, Superstr.			5.6
Miscellaneous			Quantity
Surface Seal (est.)			28 Sft.
B-Borrow For Structure Backfill			2 Cys.
Field Drilled Holes In Conc.			10 Ea.
Shear Connectors			18 Ea.

NOTES:

For "Reinf. Bar Notes", see Br. Std. C1.
For Type "A" Constr. Jt. & Type BS Exp. Jt., see Br. Std. C3.

*- Indicates epoxy coated reinforcing.
⊗- Indicates cutting diagram required.

The top & sides of the top flange of all beams and the top of the end diaphragms within the slab removal area shall be thoroughly cleaned and primed with one coat of zinc silicate paint before repouring the slab. Cost of cleaning and painting to be included in the cost of other items.

For "Beam Blockout Detail, see Dwg. W12.
For removal details, see Dwg. W30.
①: Exist. reinf. to be cleaned, straightened, & remain in place (cut to fit if necessary).
②: Exist. reinf. to be cut, cleaned, straightened, & extend 2'-0 into new concrete.

Attach shear connectors to the top of the exposed beams. For Shear Connector Detail, see Dwg. W26.

For additional shear connector notes, see Dwg. W23.

PHASE II, BENT No. 4
EXPANSION JOINT RECONSTRUCTION

INDIANA DEPARTMENT OF HIGHWAYS

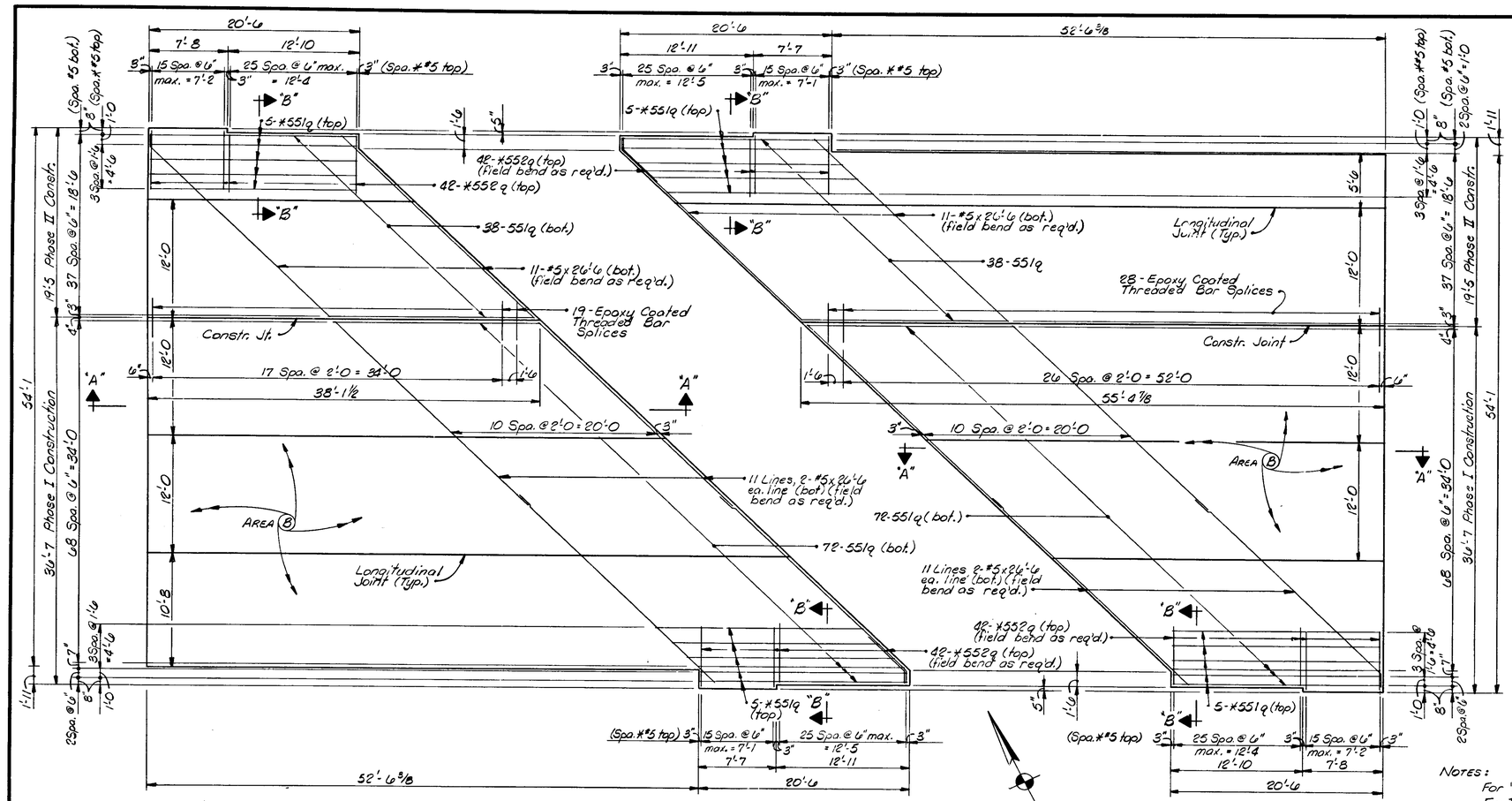
MONTGOMERY COUNTY

SCALE:- As Noted
DATE:- 4-21-89
Jerry D. Ritchie

DRAWING:- W37 OF W49 SHEET:- 48 OF 95
PROJECT:- IR-74-1(100) 33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-81-2834C (W.B.)

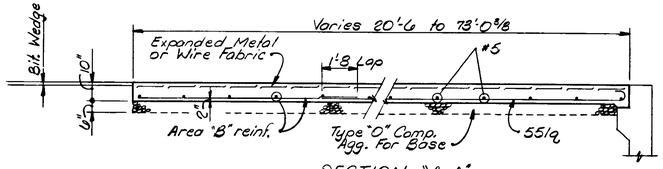
DESIGNED ____ C'K'D ____
DRAWN JF (11-88) C'K'D ____
TRACED ____ C'K'D ____

TP118

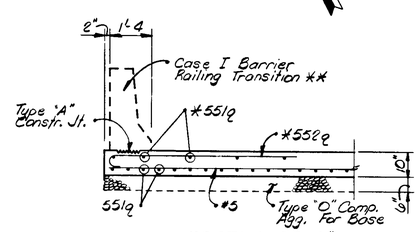


PLAN - WEST APPROACH
Scale : 3/16" = 1'-0

PLAN - EAST APPROACH
Scale : 3/16" = 1'-0



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



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

BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
*551q	20	20'-7	
*552q	168	6'-7	
	Total *#5		1583
A) 4-Case I Railing Transitions @ 328# ea.			1312
*Total E.C. Reinforcing			2895
Reinforcing Steel			
551q	220	20'-7	
#5	66	26'-6	
	Total #5		6547
Area "B" (24#/Syd.)			7308
Total Reinforcing			13,855
Miscellaneous			Quantity
Surface Seal (est.)			543 Sft.
Reinf. Conc. Pvmt. 10"			557 Sys.
Type "O" Compacted Aggregate For Base, 6"			186 Tons
Epoxy Coated Threaded Bar Splices (*#4x4'-0)			47 Each
Class "C" Conc. Railing			85 Lft.
Barrier Delineators			4 Each

A) For reinf. bar details, see Br. Std. BR5.

20'-0 (*)551q
6'-0 *552q
7" hook

(*)551q x 20'-7
*552q x 6'-7

Notes:

For "Reinforcing Bar Notes," see Br. Std. C1.
For Type "A" Constr. Jt., see Br. Std. C3.
* - Indicates epoxy coated reinforcing.
** - For concrete barrier railing transition, see Br. Std. BR3.
Th[illegible]se I Barrier Railing Transition is to be [illegible] sealed.
Fo[illegible]ional approach details, see Rd. Stds. 1-1A.
For Area "B" reinforcing, see Rd. Std. Sht. 8.

APPROACH SLAB DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- AS NOTED DATE:- 4-21-89

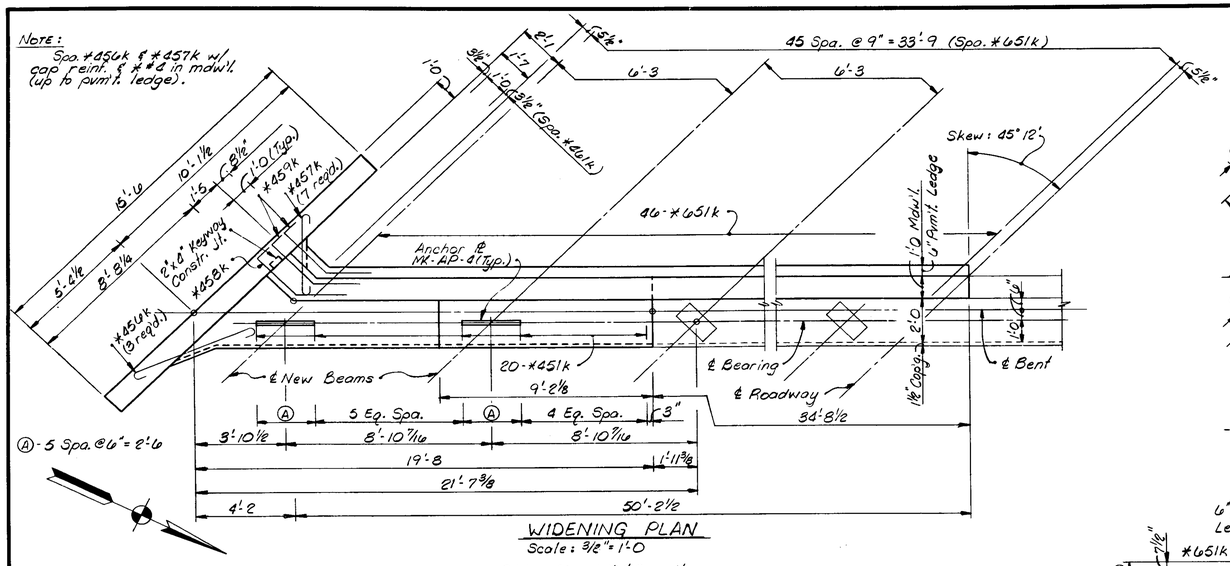
Jerry D. Ritchie

DRAWING:- W38 OF W49 SHEET:- 49 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-31-2334C (SE)

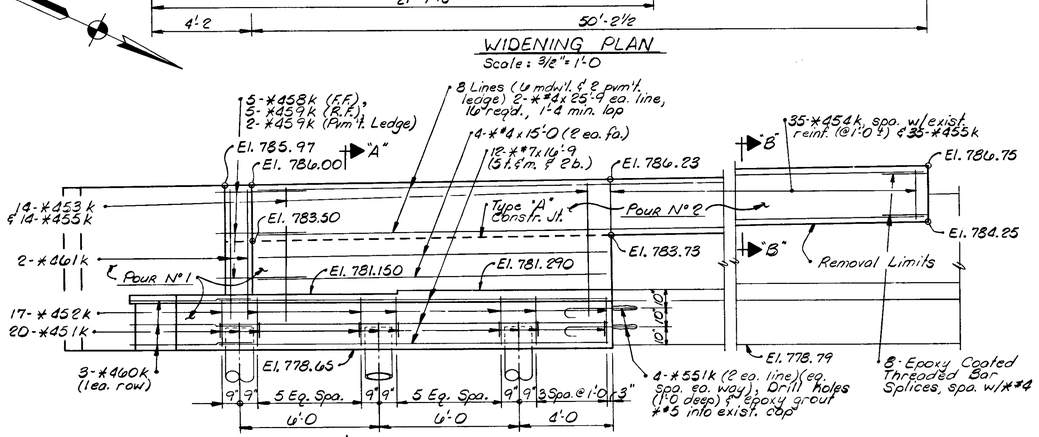
DESIGNED _____ C'K'D _____
DRAWN JF (2-89) C'K'D _____
TRACED _____ C'K'D _____

TP118

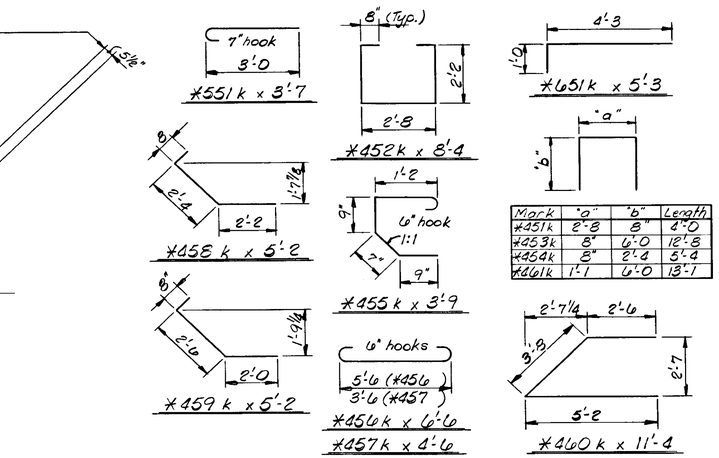
NOTE:
Spa. *456k & *457k w/ cap reint. & *#4 in mdw'l. (up to pvm't. ledge).



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



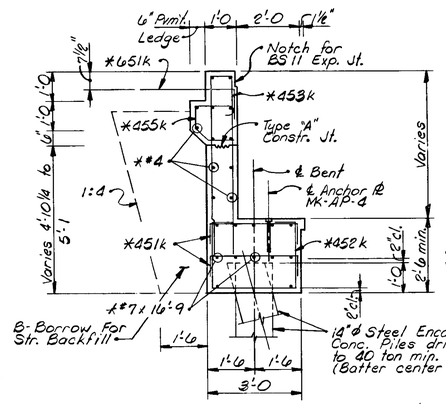
ELEVATION
Scale: 3/8" = 1'-0



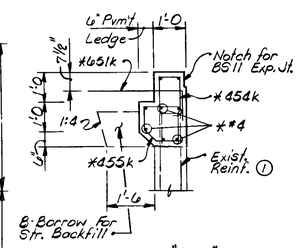
Mark	"a"	"b"	Length
*451k	2'-8	8"	4'-0
*453k	8"	6'-0	12'-8
*454k	8"	2'-4	5'-4
*461k	1'-1	6'-0	13'-1

BILL OF MATERIALS

Epoxy Coated Reinforcing Steel			
Size & Mark	No. Of Bars	Length	Weight (Lbs.)
*#7	12	16'-9	
	Total *#7		411
*651k	46	5'-3	
	Total *#6		363
*551k	4	3'-7	
	Total *#5		15
*451k	40	4'-0	
*452k	17	8'-4	
*453k	14	12'-8	
*454k	35	5'-4	
*455k	49	3'-9	
*456k	3	6'-6	
*457k	7	4'-6	
*458k	5	5'-2	
*459k	7	5'-2	
*460k	3	11'-4	
*461k	2	13'-1	
*#4	16	25'-9	
*#4	20	15'-0	
*#4	32	7'-0	
	Total *#4		1308
*Total E.C. Reinforcing			2097
Concrete			Cys.
Class "A" In Substr.			
Pour N° 1			11.7
Class "C" In Superstr.			
Pour N° 2			6.0
Miscellaneous			Quantity
14"ø Steel Encased Conc. Piles (5@48"±)			144 Lft.
8-Borrow For Str. Backfill			13 Cys.
Field Drilled Holes In Conc.			4 Each
Anchor @ MK-AP-4			2 Each
Epoxy Coated Threaded Bar Splices			8 Each
Surface Seal (est.)			403 Sft.



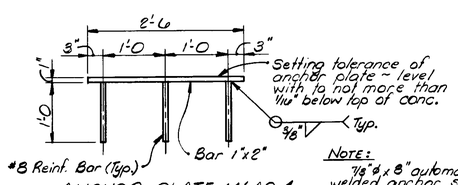
SECTION "A-A"
Scale: 1/2" = 1'-0



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

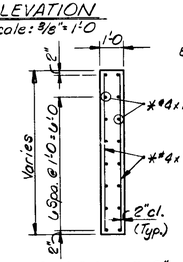
① Exist. reint. to be cleaned, straightened, & remain in place.

Notes:
For reinf. to extend from the mudwall, see Br. Std. BR5.
For "Reinforcing Bar Notes", see Br. Std. C1.
For Type "A" Constr. & BS-11 Exp. Jts., see Br. Std. C3.
*-Indicates epoxy coated reinforcing.
The elevations shown on this sheet are based on the existing plans (Br. File: I-74-31-2334; Project N°: I-74-1(57)31).
For removal details, see Dwg. W41.

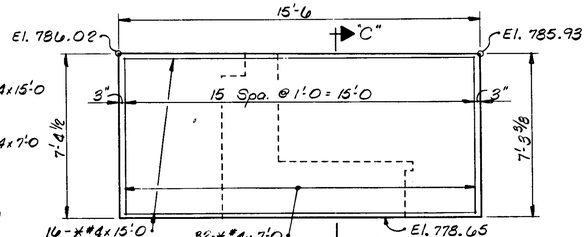


ANCHOR PLATE MK-AP-4
No Scale

NOTE:
7/8"ø x 8" automatically welded anchor studs (headed) may be used in lieu of the #8 reinf. bars.



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



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

PHASE I - BENT N° 1 WIDENING DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-87

Jerry D. Ritchie

DRAWING:- W39 OF W49 SHEET:- 50 OF 95

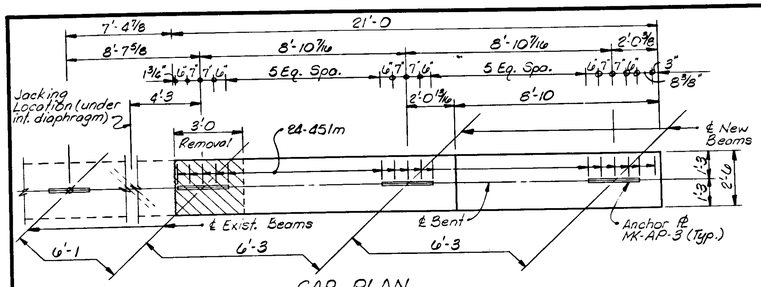
PROJECT:- IR-74-1(106) 33

BRIDGE CONTRACT NO. B-18182

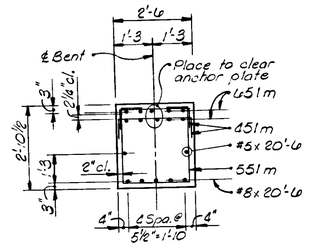
BRIDGE FILE:- I-74-31-2334C (EB)

DESIGNED PDB ⅈ C'K'D
DRAWN JF (2-87) C'K'D
TRACED C'K'D

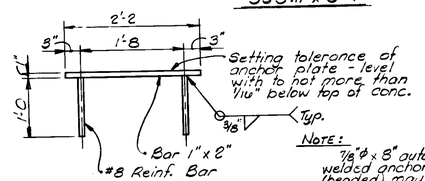
TP118



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

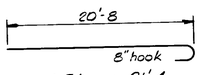


SECTION "A-A"
Scale : 1/2" = 1'-0

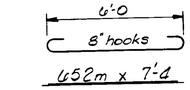


ANCHOR PLATE MK-AP-3
No Scale

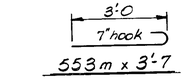
Note: 7/8" ϕ x 8" automatically welded anchor studs (headed) may be used in lieu of the #8 reinf. bar.



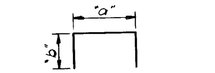
651m x 21'-4



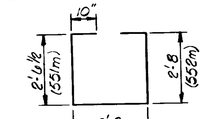
652m x 7'-4



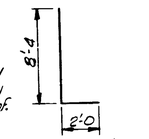
553m x 3'-7



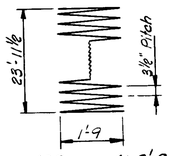
Mark	"a"	"b"	Length
451m	2'-3	8"	3'-7
452m	1'-11	2'-0	5'-11



551m x 9'-0
552m x 9'-3



1151m x 10'-4



453m x 468'-9

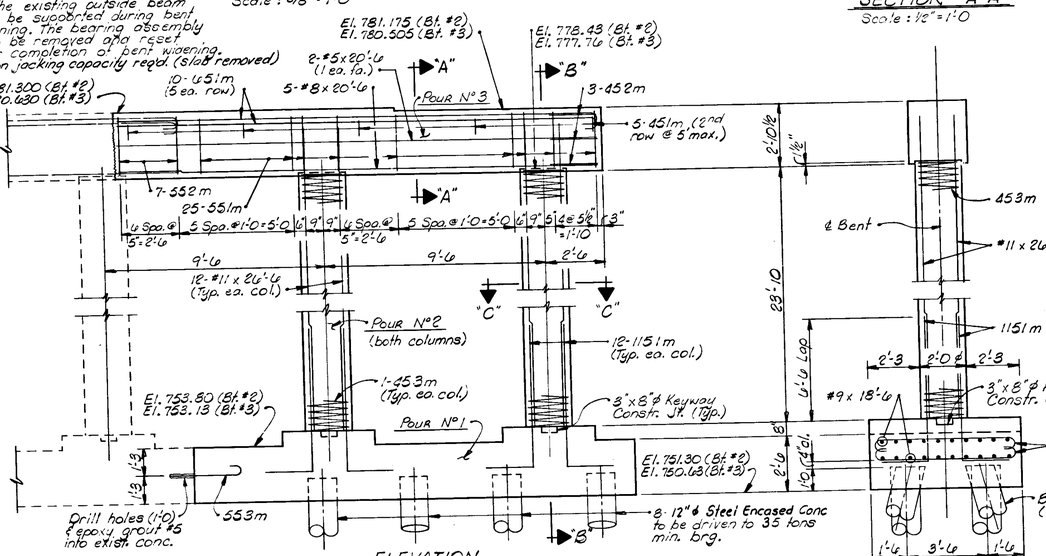
BILL OF MATERIALS

Bent No 2 Shown, Bent No 3 Same

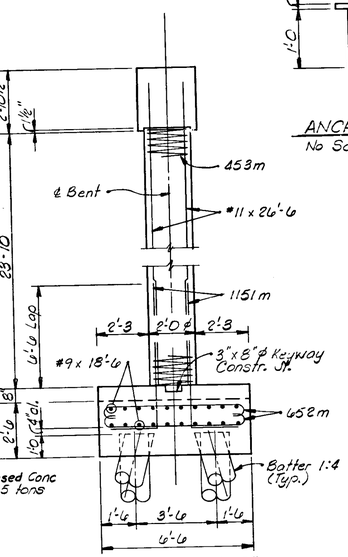
Reinforcing Steel			
Size & Mark	No Of Bars	Length	Weight (LBS.)
1151m	24	10'-4	
#11	26	26'-6	
Total #11			4,697
#9	20	18'-6	
Total #9			1,258
#8	5	20'-6	
Total #8			274
651m	10	21'-4	
652m	34	7'-4	
Total #6			695
551m	25	9'-0	
552m	7	9'-3	
553m	4	3'-7	
#5	2	20'-6	
Total #5			360
451m	29	3'-7	
452m	3	5'-11	
453m	2	468'-9	
Total #4			708
Total Reinforcing			7,992

Concrete	Cys.
Class "B" In Footing	
Pour No 1	12.7
Class "A" In Substr.	
Pour No 2	5.5
Pour No 3	5.7
Total Class "A" Conc.	11.2

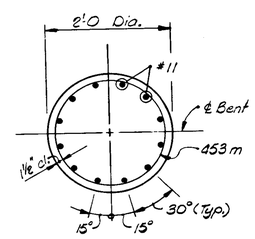
Miscellaneous	Quan.
Anchor Pl. MK-AP-3	3 Each
Field Drilled Holes In Conc.	4 Each
12" ϕ Steel Encased Conc. Piles (5 @ 23'-2") =	184 Lft.



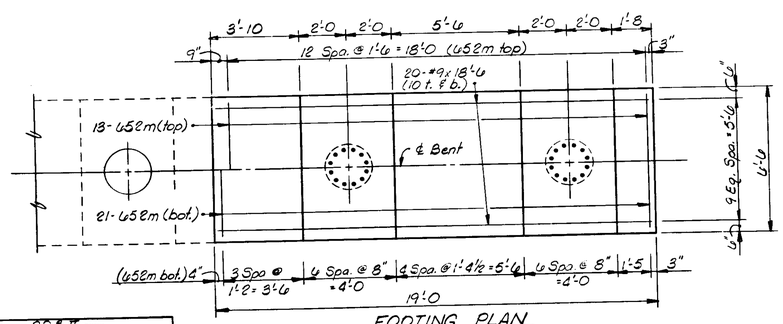
ELEVATION
Scale : 3/8" = 1'-0



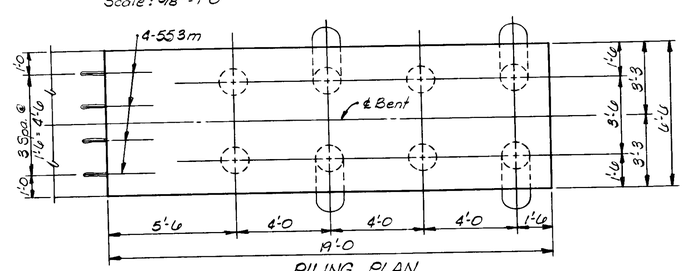
SECTION "B-B"
Scale : 3/8" = 1'-0



SECTION "C-C"
Scale : 1" = 1'-0



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



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

Notes:

For "Reinforcing Bar Notes", see Br. Std. Cl.

The elevations shown are based on the existing plans (Br. File : I-74-31-2334 ; Project No: I-74-1(57)31).

For excavation details, see Dwg. W29.

The jacking and supporting of the existing outside beam is to be paid for as "Jacking & Supporting Beams".

PHASE I
BENTS No 2 & No 3 WIDENING DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W40 OF W49 SHEET:- 51 OF 95

PROJECT:- IR-74-1(106)33

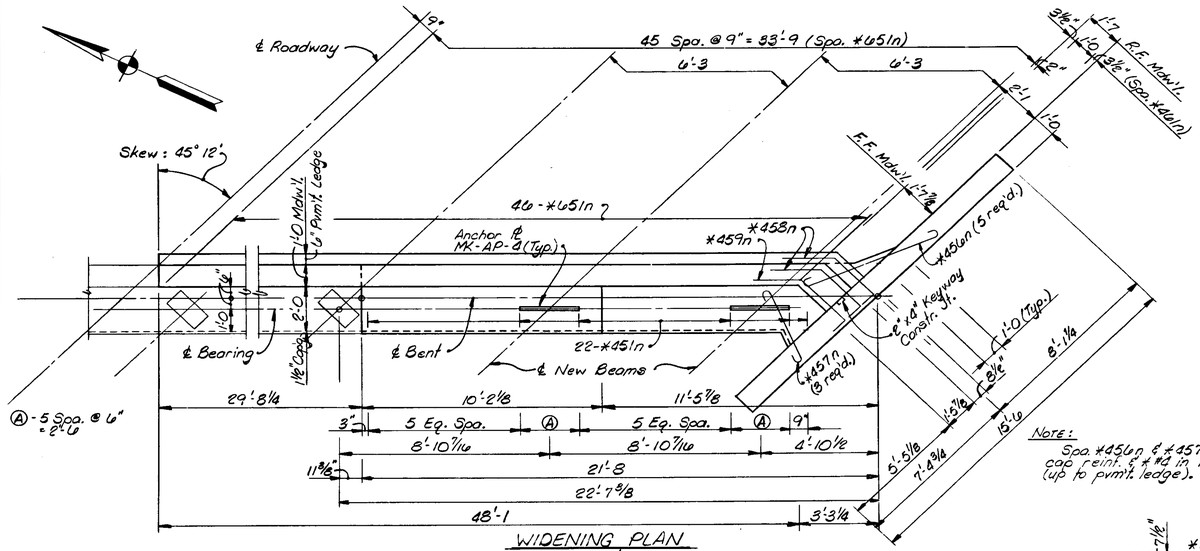
BRIDGE CONTRACT NO. B-18182

BRIDGE FILE:- I-74-31-2334C (E.B.)

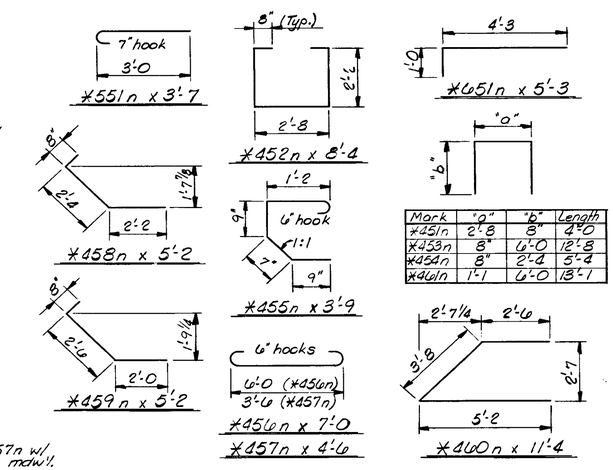
No. 112866

DESIGNED EOB & JF C'K'D
DRAWN JF (2-89) C'K'D
TRACED C'K'D

TP118



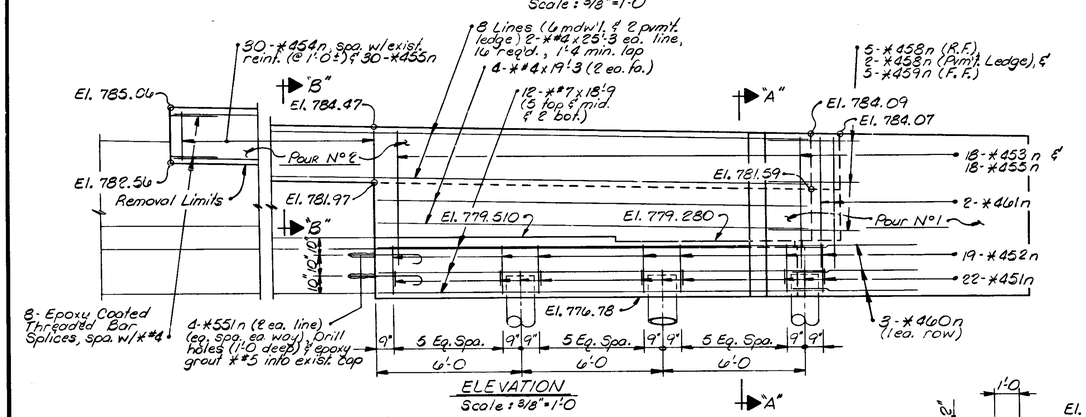
WIDENING PLAN
Scale: 3/8" = 1'-0



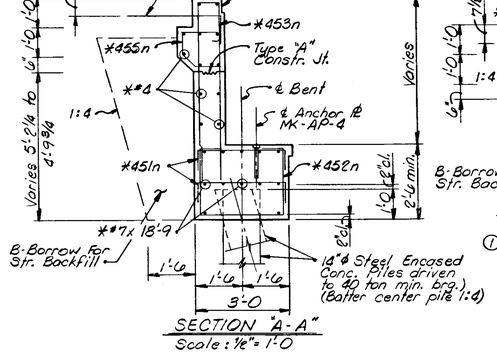
Mark	"a"	"b"	Length
*451n	2'-8	8"	4'-0
*453n	8"	6'-0	12'-8
*454n	8"	2'-4	5'-4
*460n	1'-1	6'-0	13'-1

BILL OF MATERIALS

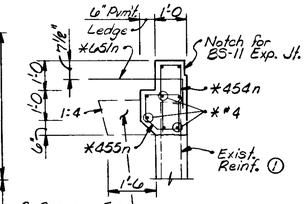
Epoxy Coated Reinforcing Steel			
Size & Mark	N° Of Bars	Length	Weight (Lbs.)
*#7	12	18'-9	
	Total *#7		460
*651n	46	5'-3	
	Total *#6		363
*551n	4	3'-7	
	Total *#5		15
*451n	44	4'-0	
*452n	19	8'-4	
*453n	18	12'-8	
*454n	30	5'-4	
*455n	48	3'-9	
*456n	5	7'-0	
*457n	3	4'-6	
*458n	7	5'-2	
*459n	5	5'-2	
*460n	3	11'-4	
*461n	2	18'-1	
*#4	16	25'-3	
*#4	4	19'-3	
*#4	16	15'-0	
*#4	32	7'-0	
	Total *#4		1348
*Total E.C. Reinforcing			2186
Concrete			Cys.
Class "A" In Substr.			
Pour N°1			12.1
Class "C" In Superstr.			
Pour N°2			5.9
Miscellaneous			Quantity
Field Drilled Holes In Conc.			4 Each
Anchor ℞ MK-AP-4			2 Each
Surface Seal (est.)			391 S.Ft.
14"ø Steel Encased Conc. Piles (3 @ 48')			144 Lft.
B-Borrow For Str. Backfill			15 Cys.
Epoxy Coated Threaded Bar Splices			8 Each



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



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

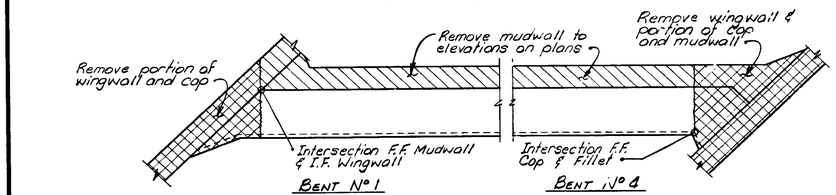


SECTION "B-B"
Scale: 3/8" = 1'-0

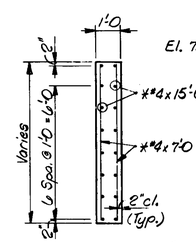
① - Exist. reinf. to be cleaned, straightened, & extend into new concrete.

NOTES:

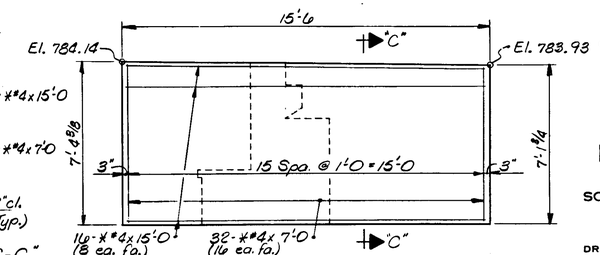
For reinf. to extend from the mudwall, see Br. Std. BR5.
For "Reinforcing Bar Notes", see Br. Std. C1.
For Type "A" Constr. & BS-11 Exp. Jts., see Br. Std. C3.
*- Indicates epoxy coated reinforcing.
The elevations shown on this sheet are based on the existing plans (Br. File: I-74-31-2332; Project N°: I-74-1(57)31).
For Anchor ℞ MK-AP-4, see Dwg. W39.



REMOVAL DETAIL
No Scale



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



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

PHASE I - BENT N° 4 WIDENING DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

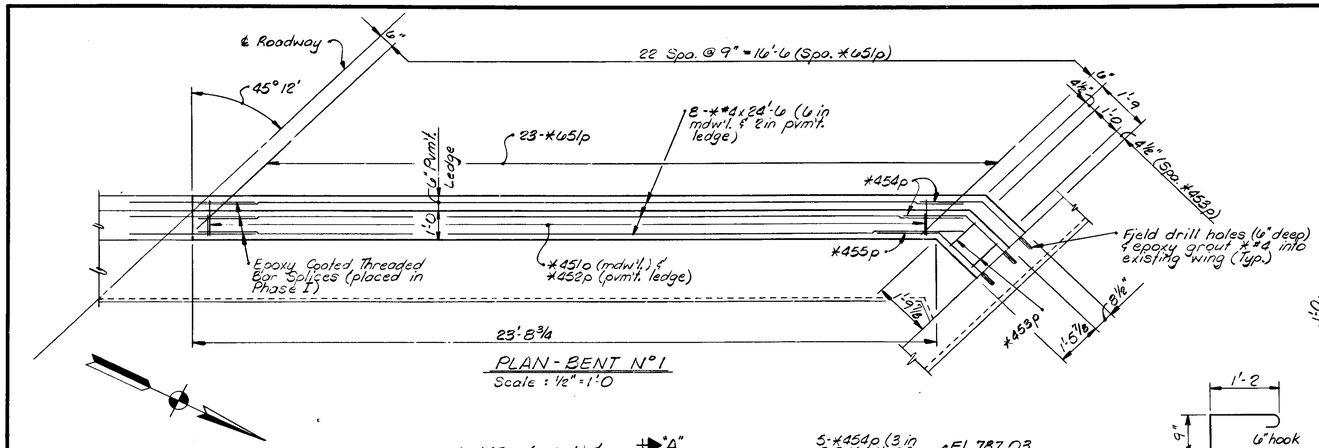
SCALE:- AS NOTED DATE:- 4-21-89

Jerry D. Ritchie

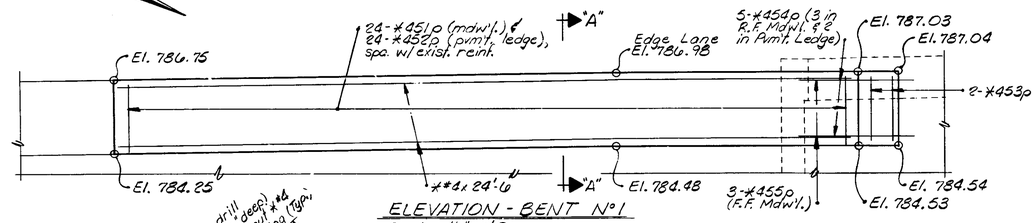
DRAWING: W41 OF W49 SHEET: 52 OF 95
PROJECT:- IR-74-1(106) 33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-31-2334 C (EB)

DESIGNED FOB II C'K'D
DRAWN JF (2-87) C'K'D
TRACED C'K'D

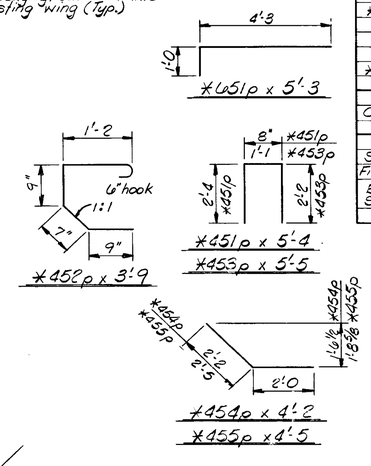
TP118

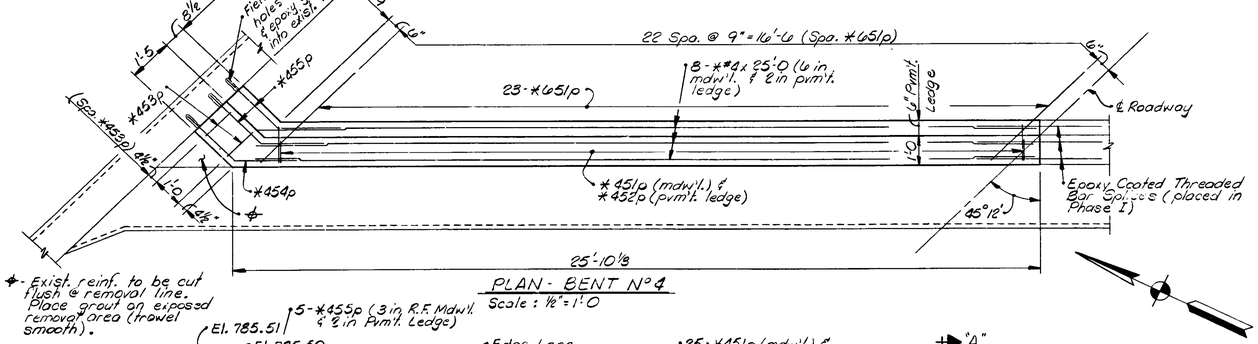


PLAN - BENT N° 1
Scale : ½" = 1'-0



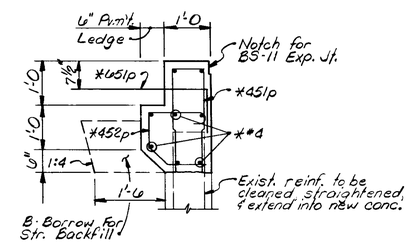
ELEVATION - BENT N° 1
Scale : ½" = 1'-0



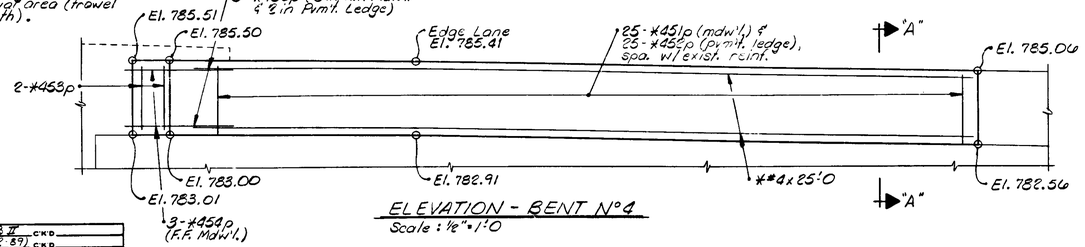


PLAN - BENT N° 4
Scale : ½" = 1'-0

*- Exist. reinf. to be cut flush @ removal line. Place grout on exposed removal area (trowel smooth).



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



ELEVATION - BENT N° 4
Scale : ½" = 1'-0

BILL OF MATERIALS
BENT N° 1

EPOXY COATED REINFORCING STEEL			
Size & Mark	N° Of Bars	Length	Weight (LBS.)
*651p	23	5'-3	
	Total *#6		181
*451p	24	5'-4	
*452p	24	3'-9	
*453p	2	5'-5	
*454p	5	4'-2	
*455p	3	4'-5	
*#4	8	24'-6	
	*Total *#4		307
*Total E.C. Reinf.			488
CONCRETE			Cys.
Class "C" In Superstr.			3.1
MISCELLANEOUS			Quantity
Surface Seal (est.)			153 Sft.
Field Drilled Holes In Conc.			8 Each
B: Borrow For Str. Backfill			3 Cys.

BILL OF MATERIALS
BENT N° 4

EPOXY COATED REINFORCING STEEL			
Size & Mark	N° Of Bars	Length	Weight (LBS.)
*651p	23	5'-3	
	Total *#6		181
*451p	25	5'-4	
*452p	25	3'-9	
*453p	2	5'-5	
*454p	3	4'-2	
*455p	5	4'-5	
*#4	8	25'-0	
	*Total *#4		316
*Total E.C. Reinf.			497
CONCRETE			Cys.
Class "C" In Superstr.			3.2
MISCELLANEOUS			Quantity
Surface Seal (est.)			161 Sft.
Field Drilled Holes In Conc.			8 Each
B: Borrow For Str. Backfill			3 Cys.

NOTES:

For "Reinforcing Bar Notes", see Br. Std. C1.
For BS-11 Expansion Joint, see Br. Std. C3.
Surface seal the top and front face of the mudwall.
*- Indicates epoxy coated reinforcing.
The elevations shown are based on the existing alignment (Er. File: I-74-31-2334; Project N° I-74-1(57)31).
Remove the mudwall down to the elevations shown. The existing reinforcing is to be cleaned, straightened, & extend into the new concrete.

PHASE II - MUDWALL RECONSTRUCTION
BENTS N° 1 & 4

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

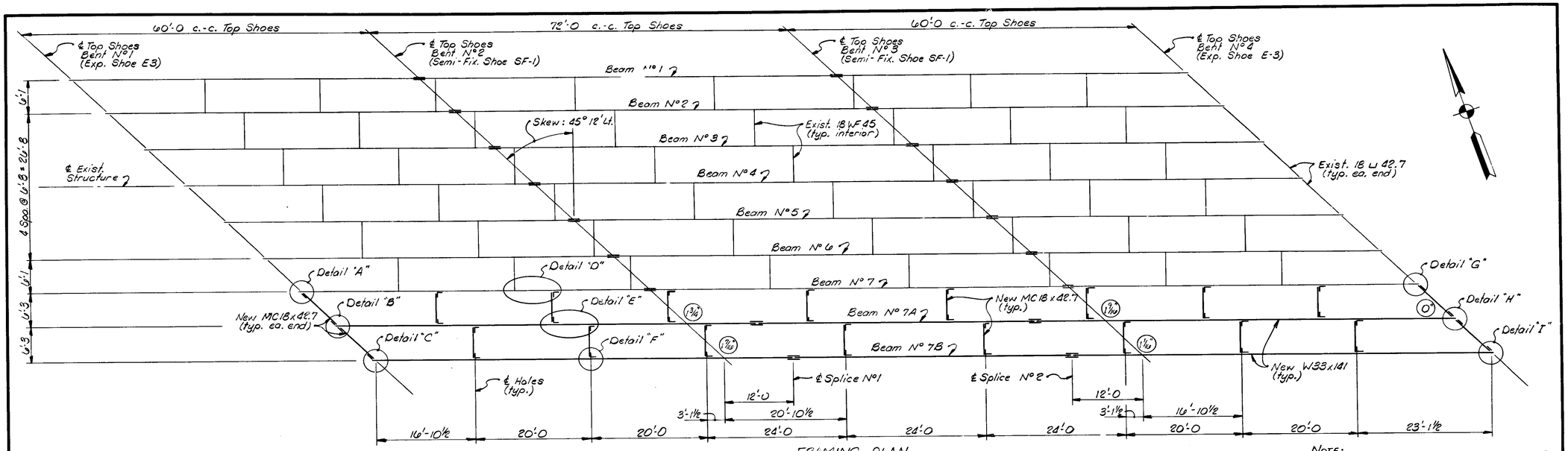
SCALE:- AS NOTED DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W42 OF W49 SHEET:- 53 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-12182
BRIDGE FILE:- I-74-31-2334 C(ES)

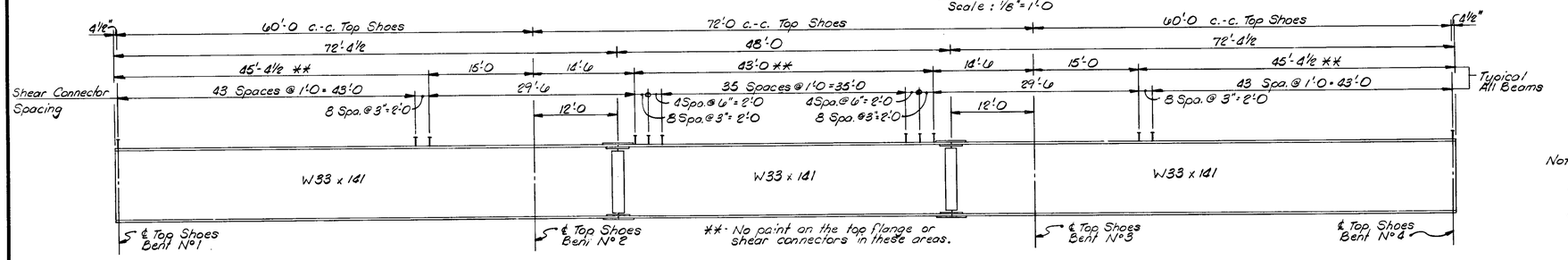
DESIGNED PCB II CK'D
DRAWN JF (2-89) CK'D
TRACED CK'D

TP118



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

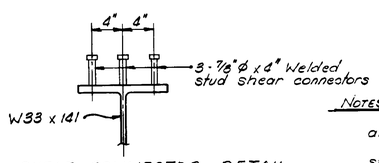
Note:
All shims to be ½" unless noted ○.



** No paint on the top flange or shear connectors in these areas.

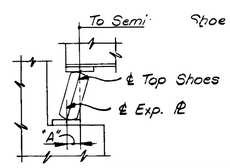
BEAM ELEVATION
Beams N° 7A & 7B
Scale: 1/8" = 1'-0 Horiz.
1/2" = 1'-0 Vert.

Notes:
For "Fabrication and Erection Notes", see the "Special Provisions".
For Expansion Shoe E-3, see Br. Std. SH1.
For Semi-Fixed Shoe SF-1, see Dwg. W45.
For additional steel details, see Dwg. W44 & W45.
Estimated weight of str. steel = 66,000 Lbs. (includes 49,600 Lbs. for A-36, 300 Lbs. for A-588, & 1,100 Lbs. for A-514).
Estimate weight of bronze plates = 119 Lbs.



SHEAR CONNECTOR DETAIL
No Scale

Notes:
Shear connectors are to be fastened to all beam lines (including existing).
The contractor may use 3/4"ϕ welded studs or welded channels as an alternate shear connector. If used, they shall have equivalent shear value and the proposed size and spacing shall be submitted for approval.
Shear connectors fastened to the new beams are to be included in the cost of "Structural Steel".
Shear connectors fastened to the existing beams are to be paid for as "Shear Connectors" Each.



Temp.	0°	20°	40°	60°	80°	100°	120°
Dim. "A"	7/16"	3/16	5/8"	1/2"	3/16"	1/4"	1/8"

SHOE SETTING DIAGRAM
No Scale

STRUCTURAL STEEL DETAILS
INDIANA DEPARTMENT OF HIGHWAYS
MONTGOMERY COUNTY
SCALE:— AS NOTED DATE:- 4-21-89
Jerry D. Ritchie
DRAWING:- W43 OF W49 SHEET:- 54 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-31-2334C (EE)

DESIGNED ____ CKD ____
DRAWN JF (1-89) CKD ____
TRACED ____ CKD ____

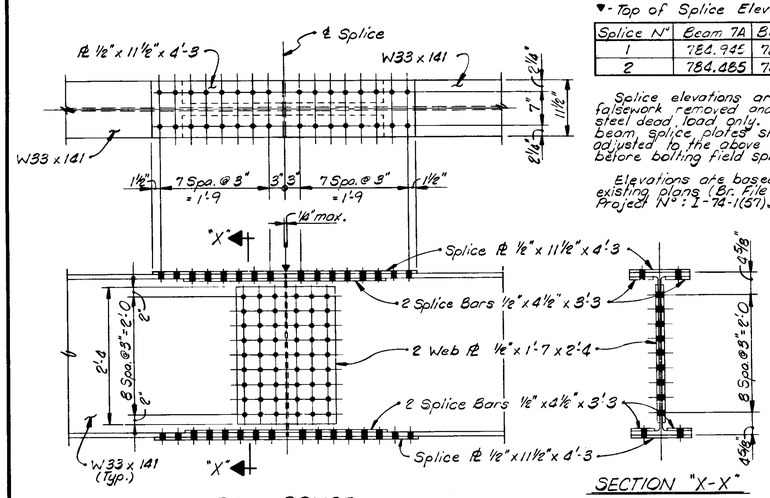
TP118

▼- Top of Splice Elevations

Splice N°	Beam 7A	Beam 7B
1	784.945	784.790
2	784.485	784.325

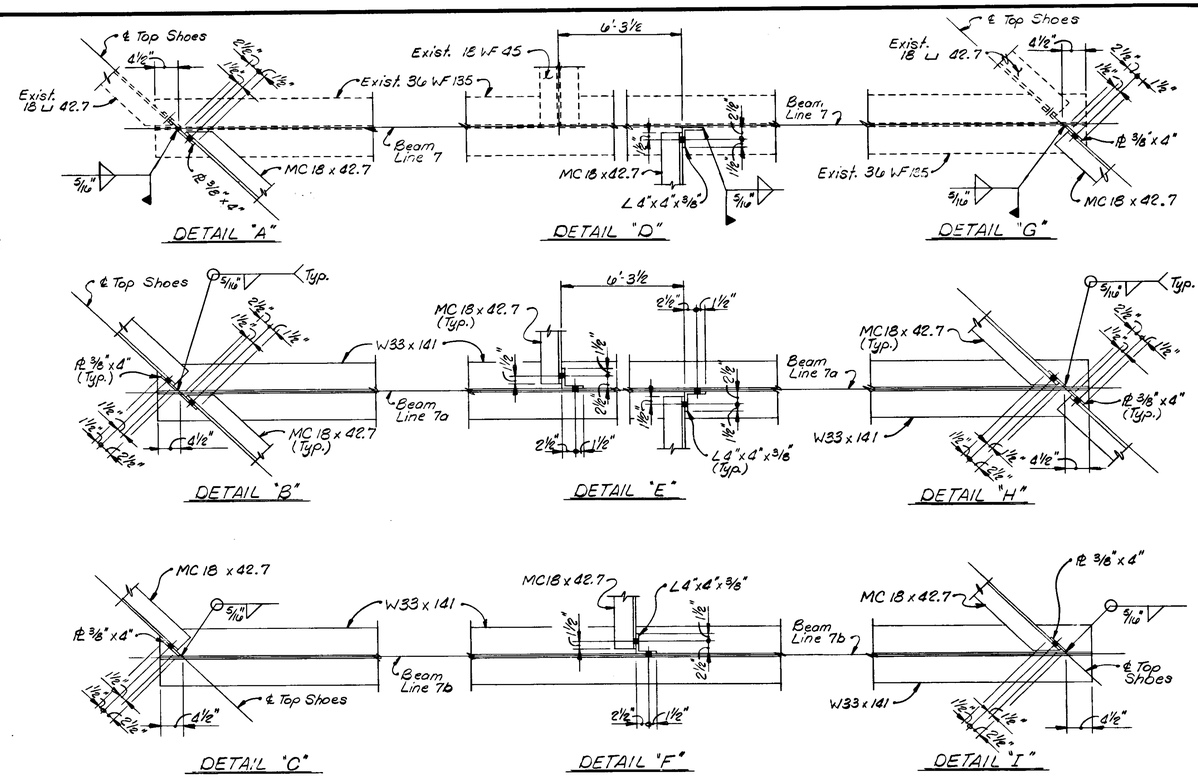
Splice elevations are with falsework removed and carrying steel dead load only. Top of beam splice plates shall be adjusted to the above elevations before bolting field splices.

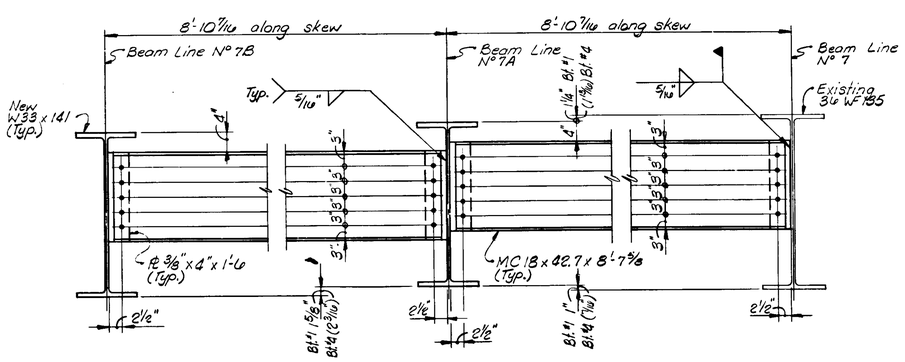
Elevations are based on the existing plans (Br. File: I-74-31-2334; Project N°: I-74-1(57)31)



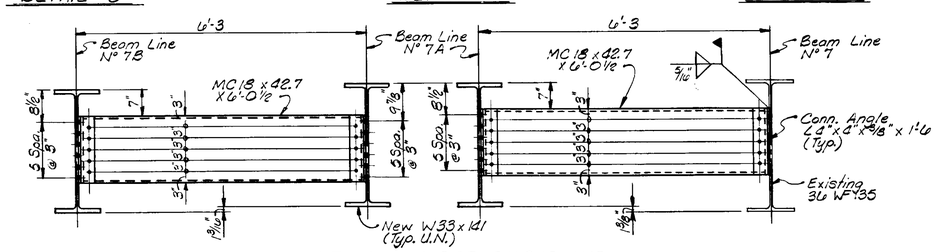
FIELD SPLICE

SECTION "X-X"





ELEVATION - END DIAPHRAGM



ELEVATION - INTERIOR DIAPHRAGMS

STRUCTURAL STEEL DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- 1"=1'-0 U.N.

DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W44 OF W49 SHEET:- 55 OF 95

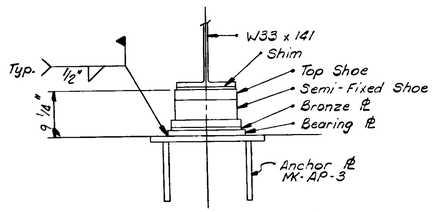
PROJECT:- IR-74-1(106)33

BRIDGE CONTRACT NO. B-18182

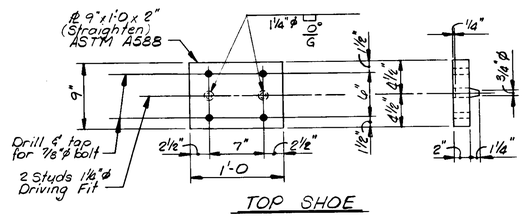
BRIDGE FILE:- I-74-31-2334C (EB)

DESIGNED PDB II C'K'D
DRAWN JF (1-89) C'K'D
TRACED C'K'D

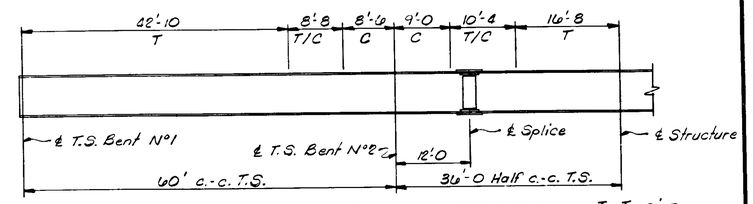
TP118



SEMI-FIXED SHOE (SF-1) ASSEMBLY

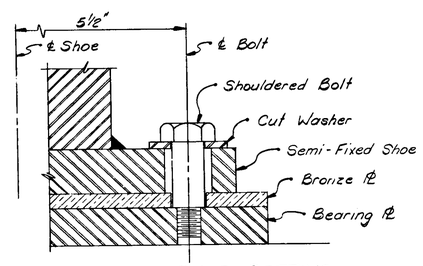


TOP SHOE

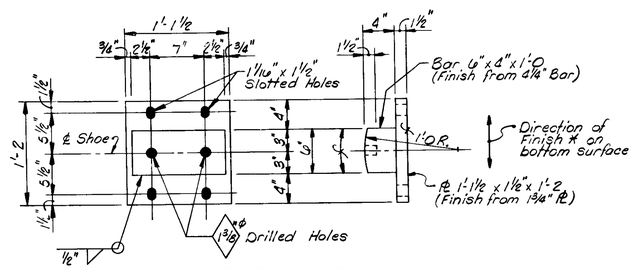


TENSION - COMPRESSION DIAGRAM
No Scale

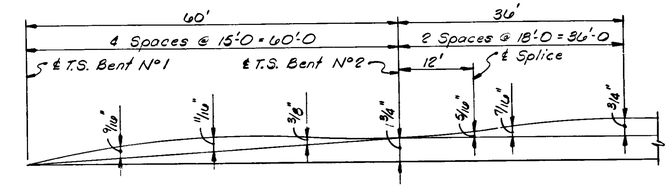
T - Tension
C - Compression
T/C - Reversal



SEMI-FIXED SHOE SETTING
No Scale

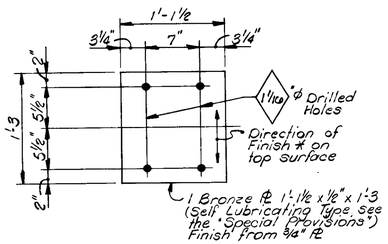


SEMI - FIXED SHOE

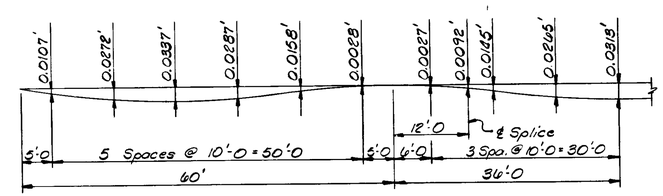


NO LOAD CAMBER & REAMING DIAGRAM
New W 33 x 141
No Scale

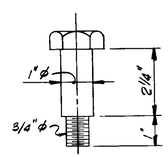
* - Minimum finish to be 125 micro-inch rms



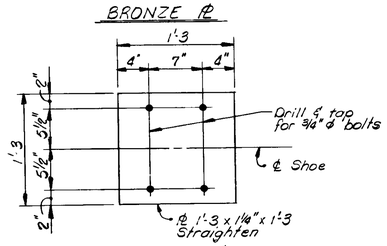
BRONZE ℞



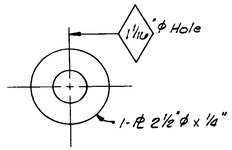
CONCRETE DEAD LOAD DIAGRAM



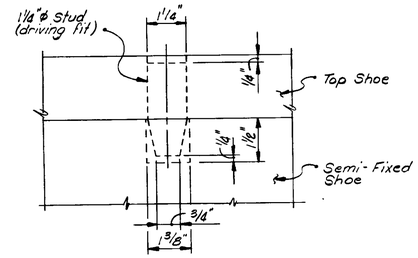
SHOULDERED BOLT



BEARING ℞



WASHER



STUD DETAIL
No Scale

DESIGN DATA

LIVE LOADS: HS20-44 loading with impact and distribution of loads in accordance with 1983 A.A.S.H.T.O. Standard Specifications & Interim Specifications.

DEAD LOADS: Actual weight plus 35 Lbs./Sft. future wearing surface.

SLAB: Design for 16,000 lbs. wheel plus impact.
Slab designed with a structural depth of 6 1/2".

STRUCTURAL STEEL DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

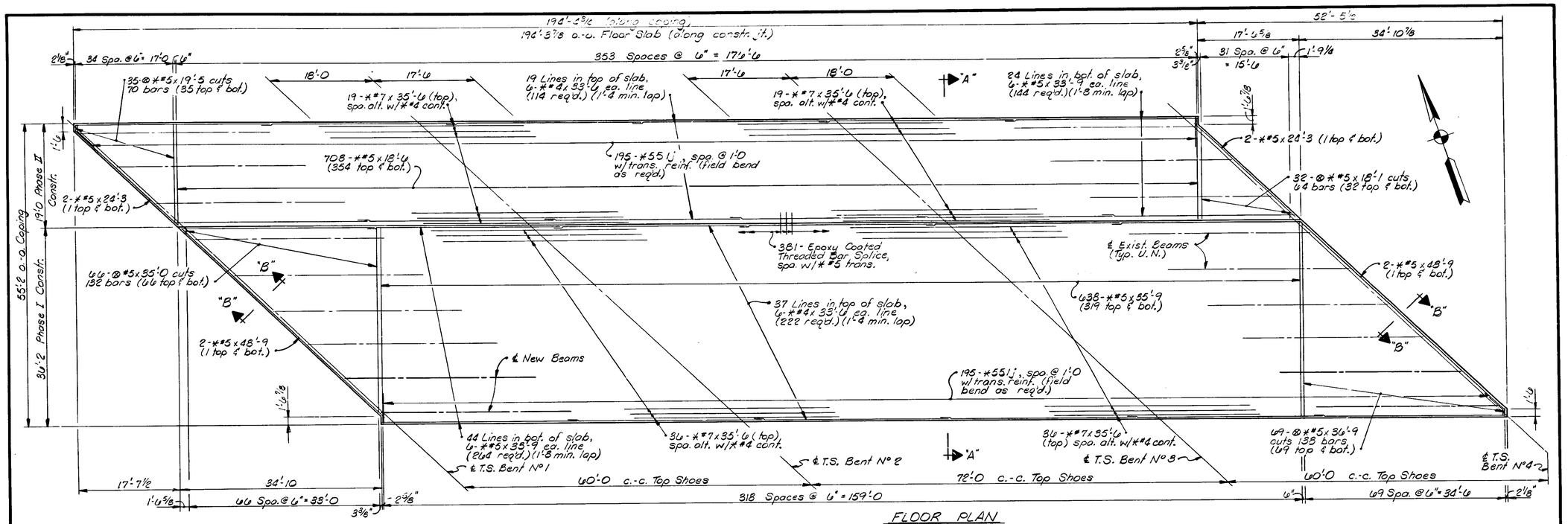
SCALE:- 1 1/2" = 1'-0 DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W45 OF W49 SHEET:- 56 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-12182
BRIDGE FILE:- I-74-31-2334C (EB)

DESIGNED DOB II C'K'D
DRAWN JF (1-89) C'K'D
TRACED C'K'D

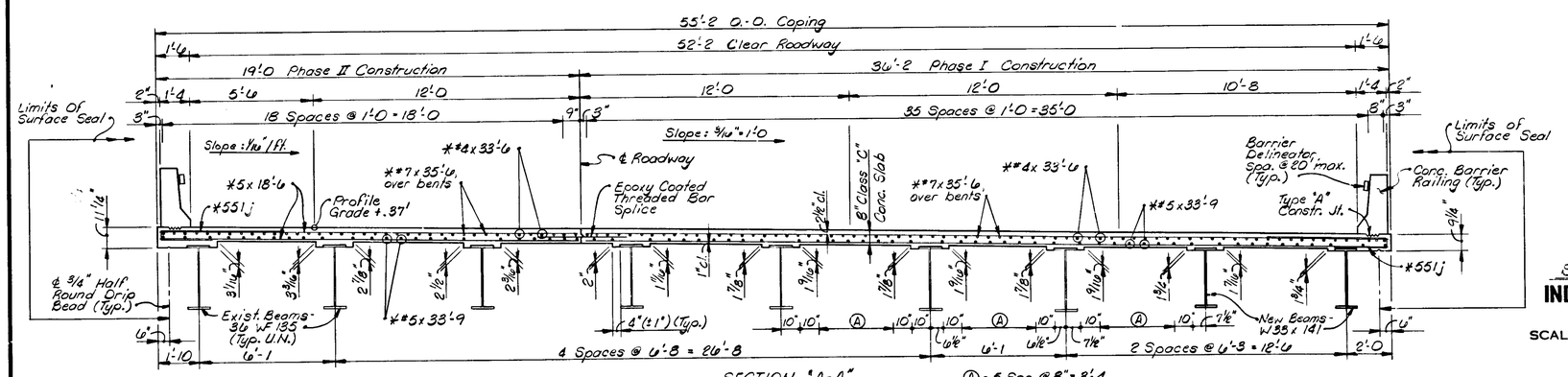
TP118



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

NOTES:

For "Reinforcing Bar Notes", see Br. Std. C1.
For Type "A" Construction Joints, see Br. Std. C3.
*- Indicates epoxy coated reinforcing.
⊗- Indicates cutting diagram required, see Dwg. W48.
Permanent metal deck forms may be substituted for removable forms at this structure.
The top reinforcing in the deck shall be securely tied down to the deck forms and/or the beams to prevent lifting during concrete placement.
For additional superstructure details, see Dwg. W47.
For "Bill Of Materials", see Dwg. W48.



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

SUPERSTRUCTURE DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING:- W46 OF W49 SHEET:- 57 OF 95

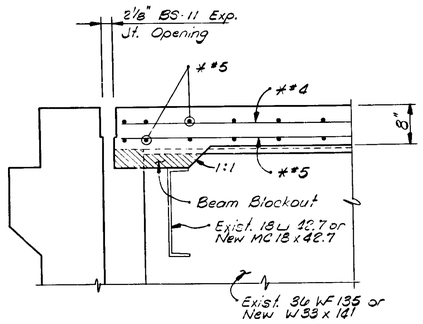
PROJECT:- IR-74-1(106) 33

BRIDGE CONTRACT NO. B-18182

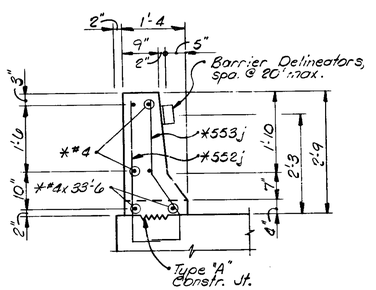
BRIDGE FILE:- I-74-31-2334C (EB)

DESIGNED PDB II C'K'D
DRAWN JF (1-89) C'K'D
TRACED C'K'D

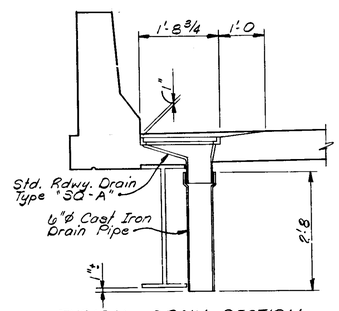
TP118



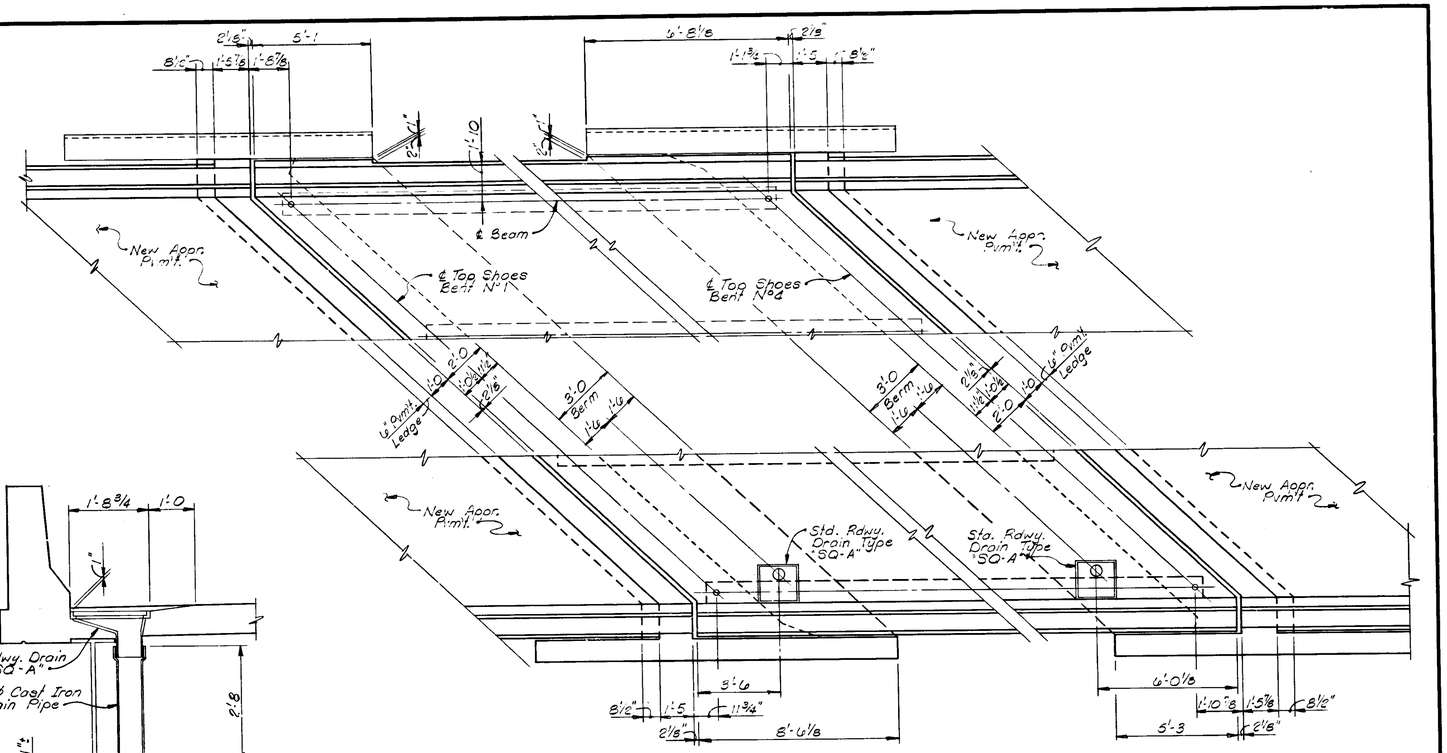
SECTION "B-B"
Scale: 1" = 1'-0



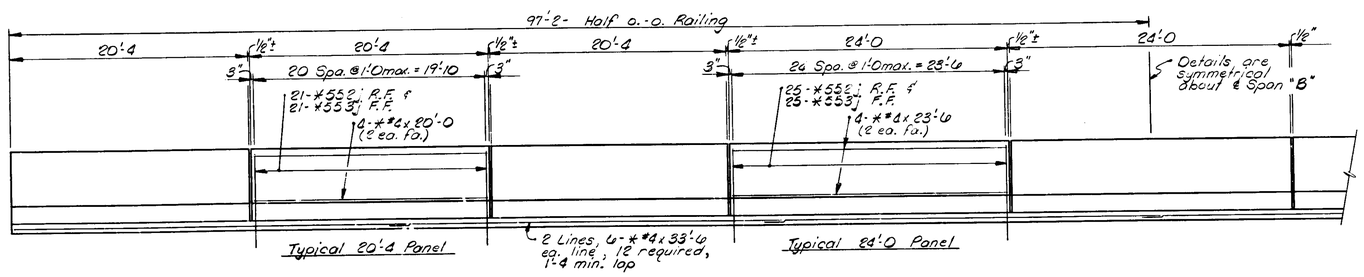
TYPICAL RAILING SECTION
Scale: 3/4" = 1'-0



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



CORNER DETAILS
Scale: 3/8" = 1'-0



RAILING ELEVATION
Scale: 3/16" = 1'-0 Horiz.
1/2" = 1'-0 Vert.

SUPERSTRUCTURE DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE:- As Noted DATE:- 4-21-89

Jerry D. Ritchie

DRAWING: W47 OF W49 SHEET: 58 OF 95

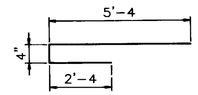
PROJECT:- IR-74-1(106) 33

BRIDGE CONTRACT NO. B-18182

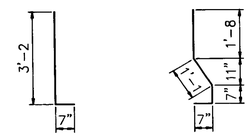
BRIDGE FILE:- I-74-31-2334 C (EB)

DESIGNED		C'K'D
DRAWN	JF (1-89)	C'K'D
TRACED		C'K'D

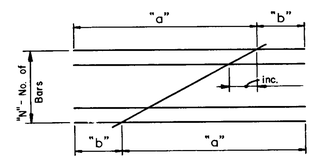
TP118



*551j x 8'-0



*552j x 3'-9 *553j x 3'-11



Mark	"a"	"b"	inc.	"N"
⊗*#5 x 36'-9	35'-6	1'-3	6"–	69
⊗*#5 x 35'-0	33'-10	1'-2	6"–	66
⊗*#5 x 19'-5	18'-2	1'-3	6"–	35
⊗*#5 x 18'-1	16'-9	1'-4	6"–	32

BILL OF MATERIALS PHASE I

REINFORCING STEEL			
Size & Mark	No. of Bars	Length	Weight (Lbs.)
*#7	72	35'-6	
	Total *#7		5,224
*551j	195	8'-0	
*552j	201	3'-9	
*553j	201	3'-11	
*#5	4	48'-9	
⊗*#5	69	36'-9	
*#5	638	35'-9	
⊗*#5	66	35'-0	
*#5	264	33'-9	
	Total *#5		41,574
*#4	234	33'-6	
*#4	12	23'-6	
*#4	24	20'-0	
	Total *#4		5,745
* Total E.C. Reinforcing			52,543

CONCRETE	Cys.
Class "C" In Superstructure	183.8
Class "C" In Railing	195 Lft.

MISCELLANEOUS	Quantity
Surface Seal (est.)	8,257 Sft.
Standard Roadway Drain Type "SQ-A" (2 @ 192#)	384 Lbs.
Cast Iron Drain Pipe, 6"	107 Lbs.
Barrier Delineators	9 Each
Exp. Jt. Type BS-11	102 Lft.
Epoxy Coated Threaded Bar Splices (⊗*#5 x 4'-0)	381 Each

BILL OF MATERIALS PHASE II

REINFORCING STEEL			
Size & Mark	No. of Bars	Length	Weight (Lbs.)
*#7	38	35'-6	
	Total *#7		2,757
*551j	195	8'-0	
*552j	201	3'-9	
*553j	201	3'-11	
*#5	144	33'-9	
*#5	4	24'-3	
⊗*#5	35	19'-5	
*#5	708	18'-6	
⊗*#5	32	18'-1	
	Total *#5		23,378
*#4	126	33'-6	
*#4	12	23'-6	
*#4	24	20'-0	
	Total *#4		3,329
* Total E.C. Reinforcing			29,464

CONCRETE	Cys.
Class "C" In Superstructure	101.6
Class "C" In Railing	195 Lft.

MISCELLANEOUS	Quantity
Surface Seal (est.)	4,961 Sft.
Barrier Delineators	9 Each
Exp. Jt. Type BS-11	53 Lft.

NOTES:

For Reinforcing Bar Notes", see Br. Std. C1.
* Indicates epoxy coated reinforcing.
⊗ Indicates cutting diagram required.
For additional superstructure details, see Dwgs. W44 & W45.

DESIGNED _____ C'K'D _____
DRAWN _____ C'K'D _____
TRACED _____ C'K'D _____

SUPERSTRUCTURE DETAILS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

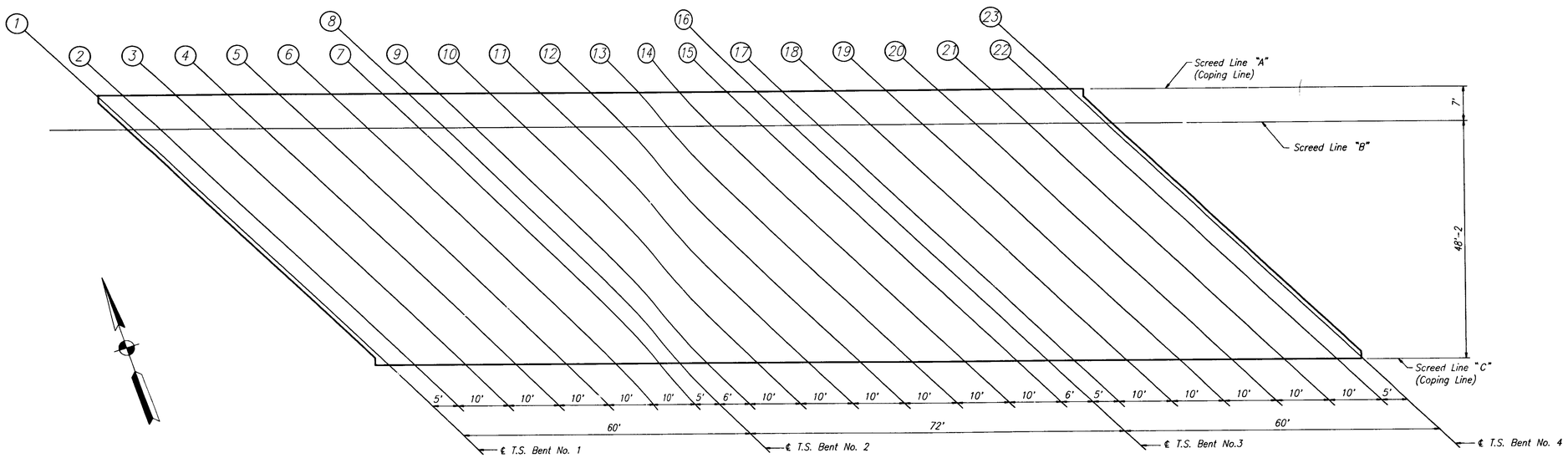
SCALE:– NO SCALE DATE:– 4-21-89

Jerry A. Ritchie

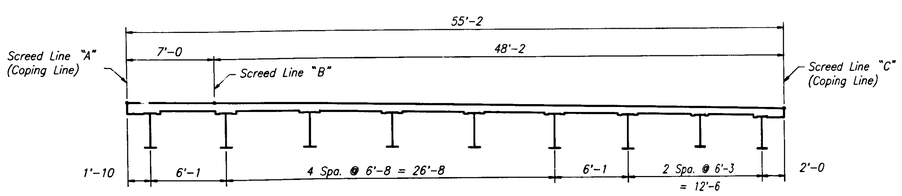
DRAWING:- W48 OF W49 SHEET:- 59 OF 95
PROJECT:- IR-74-1(106)33
BRIDGE CONTRACT NO. B-18182
BRIDGE FILE:- I-74-33-2334C (EB)

TP118

POINT	LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	Elevation – Top Of Coping Form	787.035	787.025	786.995	786.950	786.895	786.825	786.750	786.715	786.675	786.620	786.560	786.490	786.405	786.310	786.210	786.155	786.110	786.030	785.940	785.845	785.735	785.605	785.540
	Elevation – Top Of Beam																							
	Distance – Top Of Beam To Top Of Coping																							
B	Elevation – Top Of Screed	786.970	786.955	786.925	786.880	786.815	786.745	786.665	786.630	786.590	786.535	786.470	786.395	786.310	786.210	786.110	786.050	786.005	785.920	785.835	785.735	785.620	785.490	785.425
	Elevation – Top Of Beam																							
	Distance – Top Of Beam To Top Of Screed																							
C	Elevation – Top Of Coping Form	785.955	785.930	785.880	785.820	785.740	785.650	785.555	785.510	785.460	785.380	785.300	785.210	785.105	784.990	784.870	784.800	784.750	784.645	784.540	784.420	784.290	784.145	784.065
	Elevation – Top Of Beam																							
	Distance – Top Of Beam To Top Of Coping																							



SCREED PLAN



SCREED SECTION

NOTES:

After the beams are set, take elevations at all screed points on top of the beams. Enter these elevations in the table. Subtract these elevations from the tabulated elevations and use the resulting dimensions as the height for setting screed forms above these points. These dimensions remain constant regardless of how much or in what order the concrete is poured. DO NOT SET SCREED FORMS BY LEVELING. No concrete in the floor slab shall be poured until the above operations are completed. Screed elevations as shown in the table include an allowance for concrete dead load deflections.

For Concrete Dead Load Deflections, see Dwg. W45.

Rev: 8-09-89, Screed Line "C" Elevations

DESIGNED PDB II CYD.
DRAWN JF (CAD) (1-89) CYD.
TRACED CYD.

SCREEDS

INDIANA DEPARTMENT OF HIGHWAYS

MONTGOMERY COUNTY

SCALE: NO SCALE

DATE: 4-21-89

Jerry D. Ritchie

DRAWING: W49 OF W49 SHEET: 60 OF 95

PROJECT: IR-74-1(106)33

BRIDGE CONTRACT NO. B-18182

BRIDGE FILE: I-74-31-2334C(EB)

JERRY D. RITCHIE REGISTERED NO. 12868 PROFESSIONAL ENGINEER

BRIDGE FILE

STRUCTURE QUANTITIES

ITEM	CONCRETE CLASS C SUPERSTR. CU. YDS.	CONCRETE CLASS A SUBSTR. CU. YDS.	CONCRETE CLASS B ABOVE FTG. CU. YDS.	CONCRETE CLASS B IN. FTG. CU. YDS.	CONCRETE RAILING CLASS C CU. YDS.	CONCRETE RAILING CLASS C LIN. FT.	REINF. STEEL TOTAL LBS.	STRUCT. STEEL *** LBS.	EPOXY COATED REINF. STEEL LBS.	ANCHOR PLATES MK-AP3 EACH	PILES UNTREATED TIMBER NO.	PILES UNTREATED TIMBER LIN. FT.	PILES 12" STEEL ENCASED CONC. NO.	PILES 12" STEEL ENCASED CONC. LIN. FT.	PILES 14" STEEL ENCASED CONC. NO.	PILES 14" STEEL ENCASED CONC. LIN. FT.	PILES STEEL H BEARING NO.	PILES STEEL H BEARING LIN. FT.	CAST IRON DRAIN PIPE 6" LBS.	CAST IRON, GRATES, BASINS, & FITTINGS LBS.	RAILING TYPE OR LIN. FT.	EXP. JOINT TYPE BS11 LIN. FT.	ANCHOR PLATES MK-AP4 LIN. FT.	CONC. STR. MEMBERS BOX BEAMS TYPE SQ. FT.	CONC. STR. MEMBERS I BEAM TYPE LIN. FT.	10" R.C. PAVEMENT SQ. YDS.	FIELD DRILLED HOLES IN CONCRETE EACH	TYPE "O" COMP. AGG. FOR BASE TONS	B. BORROW FOR BACKFILL SQ. YDS.	E.C. THREADED BAR SPLICES EACH	SURFACE SEAL SQ. FT.	BARRIER DELINEATORS EACH	BLASTING AND CLEANING SQ. YD.
IR-74-31-2334C (160)																																			
APPROACH WIDENING - PHASE I						42.5	1315		1424																	56						584	2		
EXP. JOINT BENT NO. 1 - PHASE I	7.0						682		708																		10		3	10	33				
EXP. JOINT BENT NO. 4 PHASE I	6.9						704		718																		10		3	10	34				
CONCRETE RAILING - PHASE I						195			1648																	51	190	17			1749	9			
APPROACH WIDENING - PHASE II						42.5	1324		1424																		10		3		28		520	2	
EXP. JOINT - BENT NO. 1 - PHASE II	6.2						562		586																		10		2		28				
EXP. JOINT - BENT NO. 4 - PHASE II	5.6						531		576																		190				1749	9			
CONCRETE RAILING - PHASE II						195			1648																										
																						117				109	420	56	11	20	4725	22			
SUBTOTAL - 2334 B	25.7					475	5316		8726																										
IR-74-31-2334C (168)																										557		186		47	543	4			
APPROACH SLAB						85	13,855		7095																		4		13	6	408				
BENT NO. 1 WIDENING - Ph. I	6.0	11.7							2097						3	144							2				4								
BENT NO. 2 WIDENING - Ph. I		11.2		12.7			7992		—	3			8	184													4								
BENT NO. 3 WIDENING - Ph. I		11.2		12.7			7992		—	3			8	184													4		13	6	391				
BENT NO. 4 WIDENING - Ph. I	5.9	12.1							2186						3	144							2				6		3		153				
EXP. JT. - BENT NO. 1 - Ph. II	3.1								488																		6		3		161				
EXP. JT. - BENT NO. 4 - Ph. II	3.2					195		66,000	497										107	384		102								901	8257	9			
SUPERSTRUCTURE - Ph. I	183.8					195			30,543													53									4961	9			
SUPERSTRUCTURE - Ph. II	101.6								29,464																										
SUBTOTAL - JB	303.6	46.2		25.4		475	29,839	66,000	90,170	6			16	368	6	288			107	384		155	4			557	32	186	34	444	14,074	22			
Reinf. Steel for Approach Structures																																			
Reinf. Steel for R.C. Bridge Approaches																																			
Reinf. Steel for Lip Gutter, Pvmt., Tapers, etc.																																			
TOTALS	329.3	46.2		25.4		950	35,155	66,000	98,896	6			16	368	6	288			107	384		272	6			666	452	222	43	404	19,599	44			

BRIDGE FILE

APPROACH STRUCTURES

STRUCT. NO.	LOCATION	DESCRIPTION SIZE	DESCRIPTION KIND	LENGTH LIN. FT.	CONCR. CL. A IN STRS. CU. YDS.	REINF. STEEL LBS.	PIPE END SEC. EACH		REMARKS
	1290+00 Rt.	6"	F.B.C.C.S. - 0.052"	20					Extend existing end beat drain
	1297+00 Rt.	6"	F.B.C.C.S. - 0.052"	20					Extend existing end beat drain
	1290+90 Rt.	18"	Gr. "A" - 0.064"	15					Remove headwall - connect to exist. str. (Headwall removal included in cost of pipe)
				TOTALS					Total of Reinforcing Steel Carried to "Structure Quantities"

PAVED SIDE DITCH & SODDING SUMMARY

L.T. OR RT.	STATION TO STATION	PAVED SIDE DITCH (LIN. FT.) TYPE	PAY LENGTH	NO. OF LUGS	PAY LENGTH	CUT OFF WALLS	PAY LENGTH	TOTAL PAY LENGTH	SODDING (SQ. YD.) FOR PSD	FOR DITCHES	SHOULDERS	OTHER	TOTAL SOD

APPROACH TABLE

LOCATION LT/RT	LOCATION STATION	DESCRIPTION	WIDTH FT.	RADII FT.	GRADE %	LENGTH FT.	DIST. BEYOND R/W FT.	EXCAVATION (CYS) CUT	EXCAVATION (CYS) FILL	BITUM. SURFACE #/SQ.YD.	BITUM. SURFACE TONS	BITUM. BINDER #/SQ.YD.	BITUM. BINDER TONS	BITUM. BASE #/SQ.YD.	BITUM. BASE TONS	COMP. AGG. BASE Depth (In)	COMP. AGG. BASE TONS

REVISIONS

DATE	ITEM

NOTES:
Weight of Spirals includes weight of 1½ extra turns top and bottom.
Spacers and 1½ turns at laps included in cost of Spiral.
*** The weight of structural steel is approximate only, and it shall be the Contractor's responsibility to determine the weight on which he bases his bid.
For Test Bar Samples See Bridge Standard C1.

SUMMARIZED JDR C'K'D
TRACED MLJ 3/89 C'K'D

BRIDGE SUMMARY
INDIANA DEPARTMENT OF HIGHWAYS

DATE 4-21-89
Jerry D. Ritchie
SHEET 61 OF 95

PROJECT: IR-74-1(106)33
CONTRACT NO: B-17177
BRIDGE FILE: I 74-31-2334C (EB & WB)

TP103