CONTRACT NO. B-22132

B-22132

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
NHI-70-I(84)8	I-70-8-2342B	BRIDGE DECK RECONSTRUCTION AND WIDENING	4 SPANS: 47'-0, 2 @ 56'-6, 47'-0	CMSP & P R.R. & CANAL ST.	

SHEET NO.	SHEET DESIGNATION	SUBJECT	F. H. W. A. APPROVAL
1	ONE SHEET	INDEX AND TITLE SHEET	
2	ONE SHEET	TRAFFIC MAINTENANCE DETAILS - PHASE I	
3	ONE SHEET	TRAFFIC MAINTENANCE DETAILS - PHASE II	
4	R1	GENERAL PLAN	
5	R2	GENERAL PLAN DETAILS	
6	R3	BENT NO. 1 E.B.L. REMOVAL DETAILS	
7	R4	BENT NO. 1 W.B.L. REMOVAL DETAILS	
8	R5	BENT NO. 5 E.B.L. REMOVAL DETAILS	
9	R6	BENT NO. 5 W.B.L. REMOVAL DETAILS	
10	R7	END BENT DETAILS	
11-15	R8-R12	SUPERSTRUCTURE DETAILS	
16-17	R13-R14	R.C. BRIDGE APPROACH DETAILS	
18	R15	MODIFIED CONCRETE BRIDGE RAILING TRANSITION TYPE TGB	
~~19-20~~	~~R16-R17~~	~~CONCRETE BARRIER DETAILS~~	
21	ONE SHEET	BRIDGE SUMMARY	

TRAFFIC DATA	I-70	
A.A.D.T. 1992	30,900	V.P.D.
A.A.D.T.		V.P.D.
D.H.V.		V.P.H.
DIRECTIONAL DISTRIBUTION		%
TRUCKS		% D.H.V.
		% A.A.D.T.
DESIGN DATA		
DESIGN SPEED	70	M.P.H.
PROJECT DESIGN CRITERIA	PARTIAL RECONSTRUCTION (4R)(FREEWAY)	
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL	
RURAL/URBAN	URBAN (INTERMEDIATE)	
TERRAIN	LEVEL	
ACCESS CONTROL	FULL	

INDIANA DEPARTMENT OF TRANSPORTATION

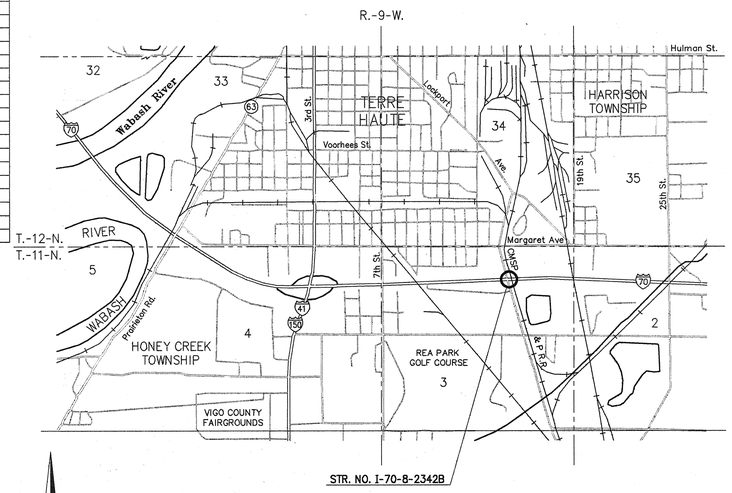
BRIDGE PLANS

FOR SPANS OVER 20 FEET ON INTERSTATE 70

PROJECT NO. NHI-70-1(084)8

( ) P.E.
( ) R/W
( ) CONST.

The structure is located on I-70 approximately 1.06 miles east of the U.S. 41 interchange in Section 3, T.-11-N., R.-9-W., Honey Creek Township, Vigo County, Indiana at R.P. 7+91.



Scale: 1"= 2000'

VIGO COUNTY

NOTE
WHENEVER NH-70-1(084)8
APPEARS ON THESE PLANS OR CONTRACT DOCUMENTS
IT SHALL BE INTERPRETED AS NHI-70-1(84)8

BRIDGES OVER 20' SPAN

FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	NHI-70-1(84)8	1995	1	53

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	F. H. W. A. APPROVAL	ADOPTED "A" REVISION "R"
	BRIDGE STD. BR1	CONCRETE BRIDGE RAILING TRANSITION TYPE TGB		
22	BRIDGE STD. BR1A	CONCRETE BRIDGE RAILING TRANSITION TYPE TGB	3-09-93	A Aug., 1992
	BRIDGE STD. BR2	CONCRETE BRIDGE RAILING TRANSITION TYPE WGB		
	BRIDGE STD. BR2A	CONCRETE BRIDGE RAILING TRANSITION TYPE WGB		
23	BRIDGE STD. C1	MISCELLANEOUS DETAILS	1-26-93	A Dec., 1992
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
24	BRIDGE STD. C3	MISCELLANEOUS DETAILS	1-26-95	R 1-03-95
	BRIDGE STD. C4	PRESTRESSED CONCRETE PILES		
	BRIDGE STD. C5	PRECAST DECK PANEL DETAILS		
25	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. PB6	PRESTRESSED BOX BEAMS		
	BRIDGE STD. PB10	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS		
	BRIDGE STD. PB11	ELASTOMERIC BEARING PAD DETAILS		
	BRIDGE STD. R2B	BRIDGE LIGHTING DETAILS		
	BRIDGE STD. S1	"B" BORROW PLACEMENT		
	BRIDGE STD. SH1	STEEL SHOE DETAILS		
	BRIDGE STD. SS1A	STRUCTURAL EXPANSION JOINTS CLASS SS, SHEET 1		
	BRIDGE STD. SS1B	STRUCTURAL EXPANSION JOINTS CLASS SS, SHEET 2		
	BRIDGE STD. SS2	STRUCTURAL EXPANSION JOINTS CLASS SS, SHEET 3		
	BRIDGE STD. TA	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. TB	STANDARD TEMPORARY BRIDGE		
26	ROAD STD. SHEET CCPJ-1	LONGITUDINAL JOINT	PENDING	A Aug. 1, 1994
27	ROAD STD. SHEET CCPJ-2	LONGITUDINAL CONSTRUCTION JOINT	PENDING	A Aug. 1, 1994
	ROAD STD. SHEET CCPJ-3	TYPE D-1 CONTRACTION JOINT		
28	ROAD STD. SHEET CCPJ-4	TRANSVERSE CONSTRUCTION JOINT	PENDING	A Aug. 1, 1994
	ROAD STD. SHEET CCPJ-5	EXPANSION JOINT		
	ROAD STD. SHEET CCPJ-6	CONCRETE PAVEMENT PATCH DETAILS		
29	ROAD STD. SHEET RCBA-1	REINFORCED CONCRETE BRIDGE APPROACH	PENDING	A Nov. 1, 1994
30	ROAD STD. SHEET RCBA-2	REINFORCED CONCRETE BRIDGE APPROACH	PENDING	A Nov. 1, 1994
	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS		
~~31~~	ROAD STD. SHEET MC2	MISCELLANEOUS STANDARDS	~~1-11-89~~	~~R 9-1-88~~
32	ROAD STD. SHEET MB2	MISCELLANEOUS STANDARDS	5-21-82	R 4-1-82
33	ROAD STD. SHEET MB4	MISCELLANEOUS STANDARDS	6-14-74	R 1-2-74
~~34~~	ROAD STD. SHEET MD2	MISCELLANEOUS STANDARDS	~~PENDING~~	~~R 5-1-95~~
35	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS	5-19-88	R 4-4-88
	ROAD STD. SHEET MH	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH2	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MH2A	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS		
36	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS	3-20-95	R 3-1-95
37	ROAD STD. SHEET MT3	MISCELLANEOUS STANDARDS	8-5-88	R 8-1-88
38	ROAD STD. SHEET G-1	W-BEAM GUARDRAIL COMPONENTS	3-09-93	A Aug., 1992
39	ROAD STD. SHEET G-2	THRIE-BEAM GUARDRAIL COMPONENTS	7-20-92	A Dec., 1991
40	ROAD STD. SHEET G-3	W-BEAM GUARDRAIL ASSEMBLIES	7-20-92	A Dec., 1991
41	ROAD STD. SHEET T-1	GUARDRAIL TRANSITION TYPE TGB	3-09-93	A Aug., 1992
	ROAD STD. SHEET T-1A	GUARDRAIL TRANSITION TYPE WGB		
	ROAD STD. SHEET T-2	GUARDRAIL TRANSITION TYPE GP		
42	ROAD STD. SHEET T-3	GUARDRAIL TRANSITION TYPE VH	3-09-93	A Aug., 1992
	ROAD STD. SHEET T-4	PIER CONNECTION DETAILS		
	ROAD STD. SHEET E-1	GUARDRAIL END TREATMENT TYPE I		
	ROAD STD. SHEET E-2	GUARDRAIL END TREATMENT TYPE OS		
42A	ROAD STD. SHEET E-3	GUARDRAIL END TREATMENT TYPE MS	*7-20-92*	*A Dec., 1991*
	ROAD STD. SHEET E-4	CURVED W-BEAM GUARDRAIL SYSTEM		
42B	ROAD STD. SHEET B-1	TYPICAL BRIDGE APPROACH GUARDRAIL	*3-9-93*	*A Aug., 1992*
	ROAD STD. SHEET P-1	PIER PROTECTION GUARDRAIL		
~~43~~	ROAD STD. SHEET CB1	CONCRETE MEDIAN BARRIER	~~PENDING~~	~~R 5-1-95~~
	ROAD STD. SHEET CB1A	CONCRETE MEDIAN BARRIER		
44	ROAD STD. SHEET CB2	TEMPORARY CONCRETE BARRIER	PENDING	R 5-01-95
45	ROAD STD. SHEET CB2A	TEMPORARY CONCRETE BARRIER	1-21-94	A Nov., 1993
46	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS	PENDING	A Sept., 1988
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1B DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
47	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS	PENDING	A Sept., 1988
48	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	PENDING	R 9-01-88
49	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS	PENDING	R 9-01-88
50	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	1-11-89	R 9-01-88
	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS		
51	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS	PENDING	R 9-01-88
	TEMP. EROSION CONTROL TEC-1, 2, 3	PERIMETER PROTECTION		
	TEMP. EROSION CONTROL TEC-4, 5, 6, 7	TEMPORARY SLOPE PROTECTION		
	TEMP. EROSION CONTROL TEC-8, 9, 11	SIDE DITCH PROTECTION		
	TEMP. EROSION CONTROL TEC-10	SIDE DITCH PROTECTION		
	TEMP. EROSION CONTROL TEC-12	SEDIMENT BASIN		
	TEMP. EROSION CONTROL TEC-13,14,15,16	STORM INLET PROTECTION		
	TRAFFIC STD. SHEET MT17	MISCELLANEOUS TRAFFIC STANDARDS		
52	TRAFFIC STD. SHEET MT18	MISCELLANEOUS TRAFFIC STANDARDS	1-6-88	A Nov. 1987
53	TRAFFIC STD. SHEET MT19	MISCELLANEOUS TRAFFIC STANDARDS	1-6-88	A Nov. 1987

PLANS PREPARED BY:

AMERICAN CONSULTING ENGINEERS, INC.
4165 MILLERSVILLE ROAD
INDIANAPOLIS, INDIANA 46205-2998
TEL 317-547-5580
FAX 317-543-0270

CERTIFIED BY Michael H. Wenning
August 11, 1995
DATE

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

APPROVED FOR LETTING 8/25/95
CHIEF, DIVISION OF DESIGN

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED: -
DIVISION ADMINISTRATOR DATE

BRIDGE FILE: - I-70-8-2342B

REVISIONS	
DATE	SHEET NO.
9/11/95	Deleted: 19, 20, 31, 34 & 43 Revised: 1, 4, 16, 17, 18 & 21 Added: 42A & 42B

REVISIONS	
DATE	SHEET NO.

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 1995
TO BE USED WITH THESE PLANS.
DES. NO. 9139855

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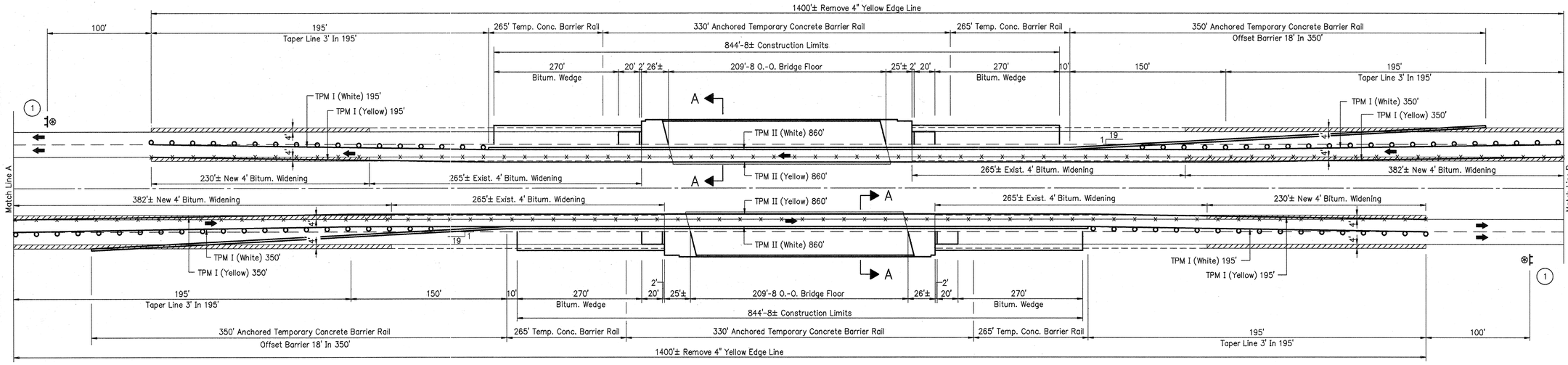
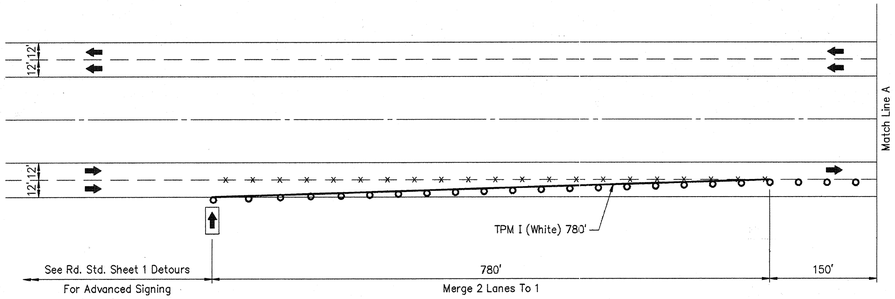
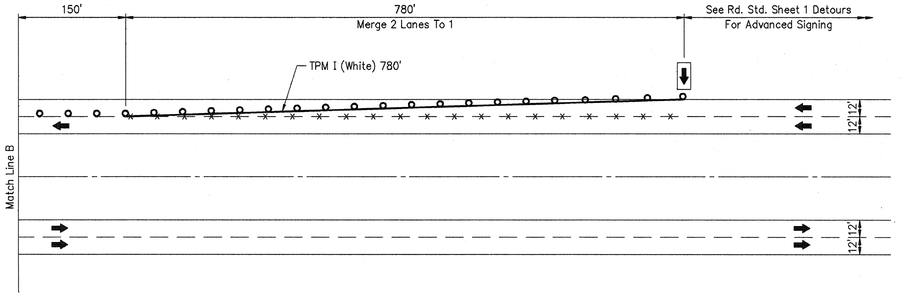
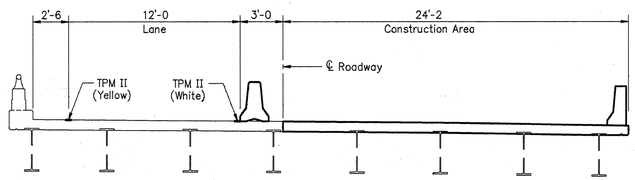
PLOT ORIGIN: 0.00,0.00
SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JC - S57



PLAN







SECTION A-A

LEGEND

	Indicates Removal of Existing Lane Markings
	Indicates Temporary Bituminous Widening 990 Lbs./Syd. Bituminous Base No.5D HV. Bituminous Widening to remain in place. To be paid for as "Bituminous Mixture for Approaches".
	Indicates Drums with Steady Burning Light Type C.
	Indicates Temporary Concrete Barrier
TPM I	Indicates Temporary Pavement Marking Type I
TPM II	Indicates Temporary Pavement Marking Type II
⊛	Indicates Low Intensity Flashing Yellow Light Type A
1	End Construction Sign XG20-2
	Flashing Arrow Sign

NOTES:

Two "Lane Closure Notice" Signs (XG20-5) to be placed as directed by the engineer prior to construction. See the Standard Specifications.

One Lane Of Traffic Shall Be Maintained Each Way Throughout The Length Of The Project.

TRAFFIC MAINTENANCE DETAILS - PHASE I

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- None

DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- OF SHEET:- 2 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	TLH 2/2/95	C'K'D	DSH 3/13/95
TRACED		C'K'D	

DWG FILE: C:\94\94459802
PLOT SCALE: 1:50.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JC - SS7

PLAN

SECTION A-A

LEGEND

- Indicates Removal of Existing Lane Markings
- Indicates Temporary Bituminous Widening 990 Lbs./Syd. Bituminous Base No.3D HV. Bituminous Widening to remain in place. To be paid for as "Bituminous Mixture for Approaches".
- Indicates Drums with Steady Burning Light Type C.
- Indicates Temporary Concrete Barrier
- TPM I — Indicates Temporary Pavement Marking Type I
- TPM II — Indicates Temporary Pavement Marking Type II
- Indicates Low Intensity Flashing Yellow Light Type A
- End Construction Sign X220-2
- Flashing Arrow Sign

NOTES:

Two "Lane Closure Notice" Signs (X220-5) to be placed as directed by the engineer prior to construction. See the Standard Specifications.

One Lane Of Traffic Shall Be Maintained Each Way Throughout The Length Of The Project.

TRAFFIC MAINTENANCE DETAILS - PHASE II

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- None

DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- OF SHEET:- 3 OF 33

PROJECT:- NH-70-1(084)B

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

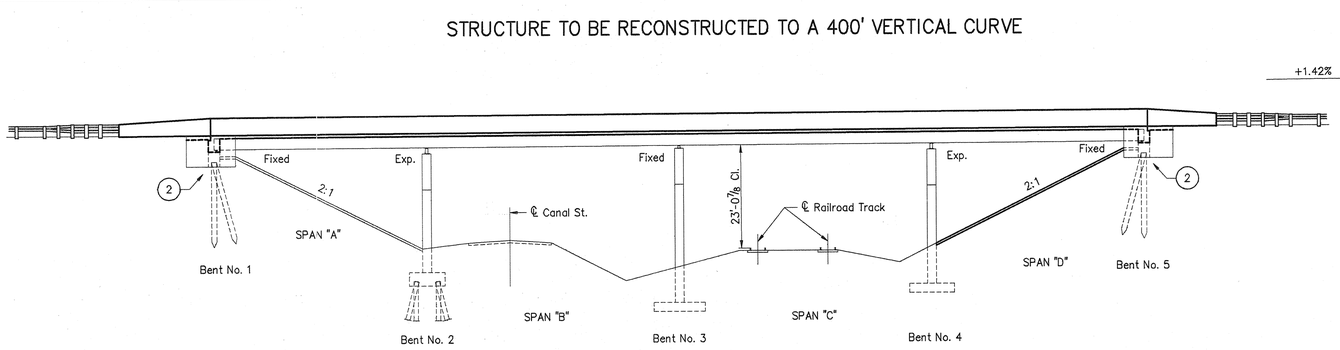
MICHAEL H. MCNINCH
No. 880409
REGISTERED
STATE OF INDIANA
PROFESSIONAL ENGINEER

DESIGNED — C.K.D.
DRAWN TLH 2/15/95 DSH 3/13/95 C.K.D.
TRACED — C.K.D.

DWG FILE: C:\94\942802
PLOT SCALE: 1.00.000
PLOT ORIGIN: 0.00,0.00

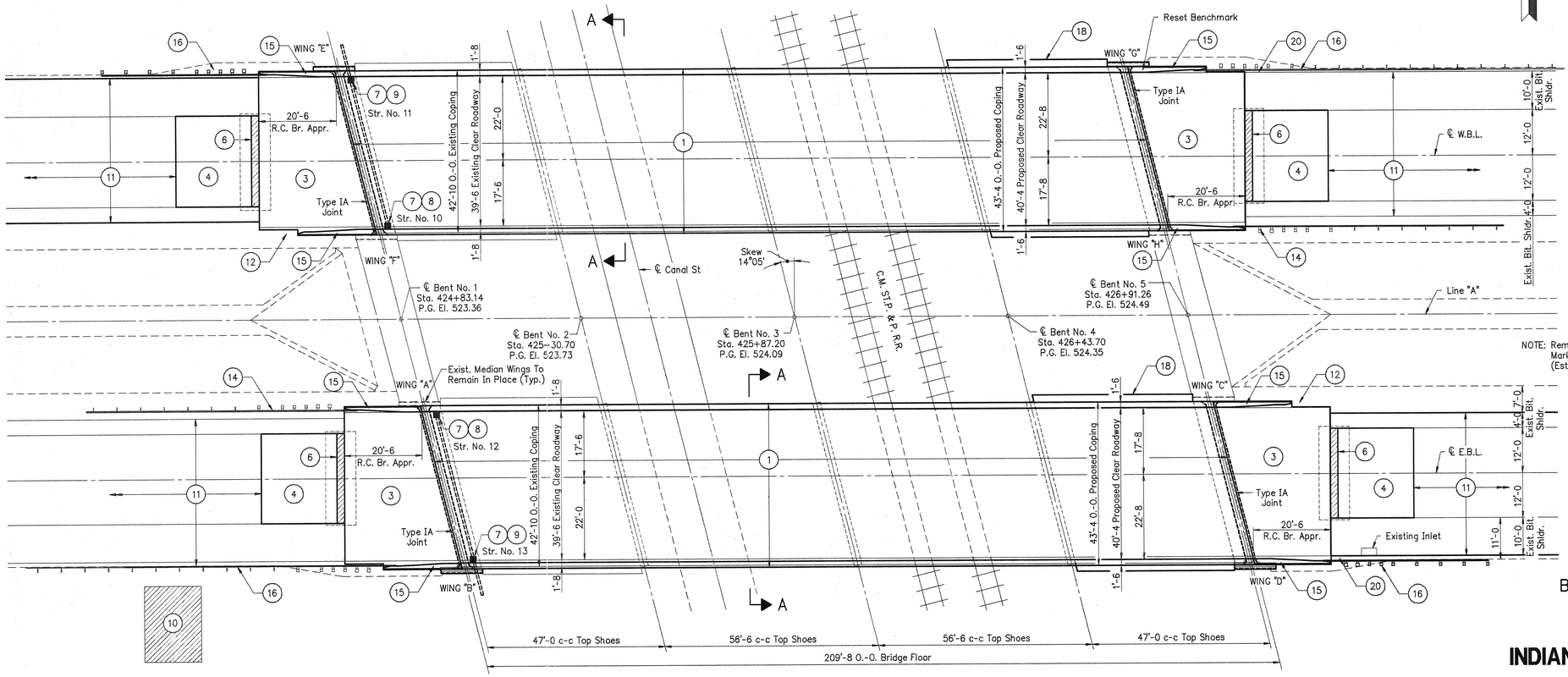
SPELLCHK: 08/08/95
EDIT DATE: 08/17/95
EDITED BY: xc - scr

STRUCTURE TO BE RECONSTRUCTED TO A 400' VERTICAL CURVE



ELEVATION

Scale: 1/16" = 1'-0



PLAN

Scale: 1/16" = 1'-0

NOTE: Remove And Replace Snowplowable Markers Within Construction Limits. (Est. Qty. = 20 Each)

NOTES:
For General Notes, Standard Drawings, Material Notes and Design Data, See Drawing R2.

For Existing And Proposed Section A-A, See Drawing R2.

LEGEND

1. Remove existing Bridge Deck and Barrier Railings. Weld Shear Studs to the top of the existing Beams. Construct 8" Composite Concrete Bridge Deck with 3'-10 Concrete Bridge Railings.
2. Remove existing Mudwall to the top of Bent Cap. Construct Semi-Integral End Bents.
3. Remove existing R.C. Bridge Approach and construct new 11" thick R.C. Bridge Approaches. Attach to Bridge Deck with #6 bars.
4. Construct 20'-0 Cement Concrete Pavement.
6. Construct Terminal Joint.
7. Install Roadway Drain Type SQ-A.
8. Install Inlet Type U and 12" Fully Bituminous Coated and Lined Corrugated Steel Pipe.
9. Install Inlet Type W and 12" Fully Bituminous Coated and Lined Corrugated Steel Pipe.
10. Fill Eroded Area with Dumped Riprap from existing Bridge Deck as directed by the Engineer. (Estimated Quantity = 80 Cys.)
11. Construct 270' Bituminous Wedge.
12. Remove 25 Lft. Existing Guardrail.
14. Remove 350 Linear Feet of existing Guardrail. Install Guardrail Transition Type TGB, 325 Linear Feet of Double Faced W-Beam Guardrail and Guardrail End Treatment, MS.
15. Construct Modified Concrete Bridge Railing Transition Type TGB On Widened R.C. Bridge Approach.
16. Remove 70 Lft. existing Guardrail. Install Guardrail Transition TGB and Guardrail Transition VH, taper 15 to 1 max. and connect to existing Guardrail.
18. Construct 4" Concrete Slopewall. (8.9 Sys. Special Concrete Curb, 265.4 Sys. Slopewall and 63.5 Sys. Toewall)
20. Remove existing Concrete Curb. Construct Bituminous Curb to end of existing Inlet. See Sheet 17 for details.

GENERAL PLAN

BRIDGE DECK WIDENING AND RECONSTRUCTION

CONTINUOUS COMPOSITE STEEL BEAM BRIDGES
4 SPANS: 47'-0, 2 @ 56'-6, 47'-0
2 - 40'-4 CLEAR ROADWAYS SKEW: 14°05' LEFT
I-70 OVER CANAL STREET AND CMSP&P RAILROAD

INDIANA DEPARTMENT OF TRANSPORTATION

VIGO COUNTY

SCALE:- As Noted DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R1 OF R17 SHEET:- 4 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

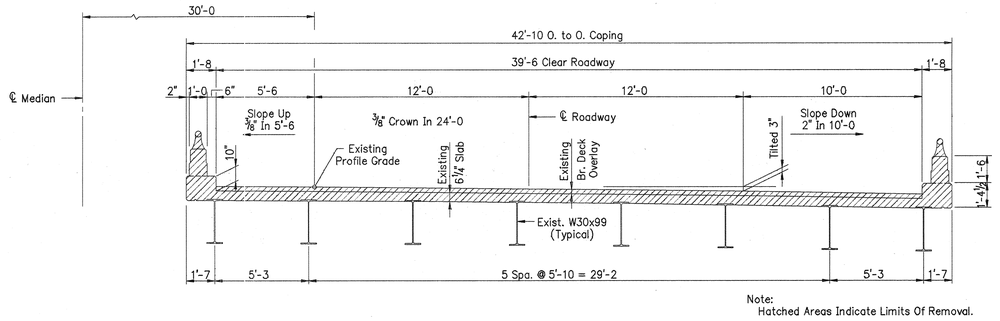
MICHAEL H. MEWHINNEY REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	JC 11/8/94	C'K'D	DSH 3/13/95
TRACED		C'K'D	

Rev. 9/11/95 Approach Railing, Inlets

DWG FILE: C:\94\94459B01
PLOT SCALE: 1:16.000
PLOT ORIGIN: 0.00,0.00

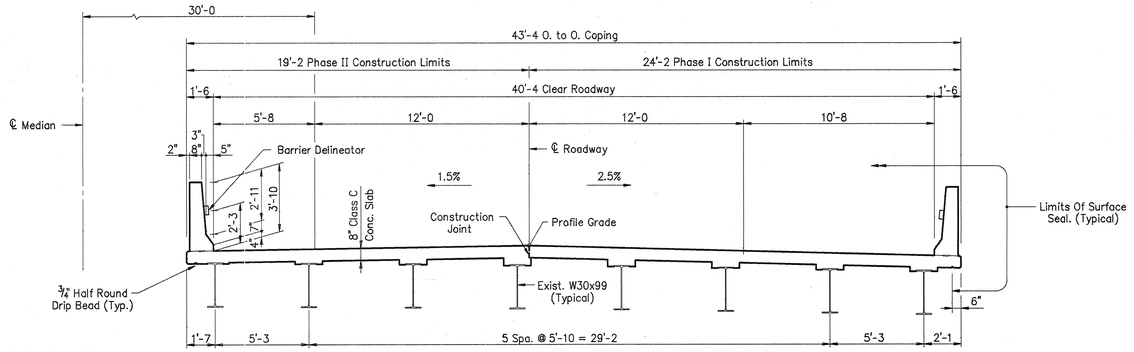
SPELLCHK: 06/08/95
EDIT DATE: 09/11/95
EDITED BY: DSH - S91



Note:
Hatched Areas Indicate Limits Of Removal.

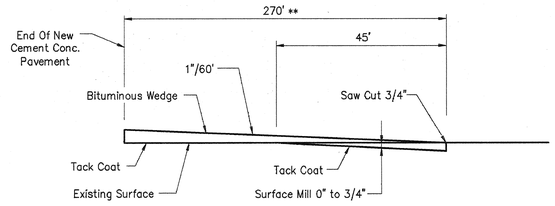
EXISTING SECTION A-A

Scale: 1/4" = 1'-0



PROPOSED SECTION A-A

Scale: 1/4" = 1'-0



** Taper wedge uniformly to meet existing roadway surface.

TYPICAL WEDGE DETAIL

No Scale

MATERIAL NOTES

BITUMINOUS WEDGE :	110 Lbs./Sys. Bituminous Surface Type 11, HV Over Variable Depth Bituminous Binder, HV Or Base, HV
BITUMINOUS WIDENING :	990 Lbs./Sys. Bituminous Base Type 5, HV
TERMINAL JOINT:	110 Lbs./Sys. Bituminous Surface Type 11, HV Over 1100 Lbs./Sys. Bituminous Base 5, HV

DESIGN DATA

LIVE LOAD:	HS20-44 truck loading distribution in accordance with 1992 AASHTO Specifications and Interim Specifications. Checked for Special Loading of 2-24,000 Lbs axles spaced at 4'-0 centers.
DEAD LOADS:	Actual weight plus 35 psf to provide for future wearing surface. Floor Slab designed for 16,000 pound wheel load plus impact with a structural depth of 6 1/2".
UNIT STRESSES:	Fy = 60,000 psi Reinforcing Steel f'c = 4,000 psi Concrete Class C f'c = 3,500 psi Concrete Class A f'c = 3,000 psi Concrete Class B

GENERAL NOTES

Plans of the existing structure are on file in the Bridge Department, Indiana Department of Transportation, as Bridge No.: I-70-8-2342 and I-70-8-2342A.

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

Seal all joints and cracks in the approach pavement within the limits of the bituminous wedges with a joint sealer before placing the bituminous wedge.

Length and quantities of the bituminous wedges shown in the plans are based on an approximate grade raise of 4". See the Special Provisions.

Embed bar in field drilled holes in concrete with approved anchor system.

Upon completion of the project, repaint all lane markings within the limits of the project.

STANDARD DRAWINGS		
BRIDGE	ROAD	DESCRIPTION
BR-1A		Concrete Bridge Railing Transition Type TGB
C1		Reinforcing Bar Notes
C3		Type IA Joint, Opt. Vert. Rail Splice, Constr. Jt. Type A
D		Roadway Drain Type SQ-A, Grate A
	RCBA-1	Terminal Joint
	RCBA-2	Terminal Joint
	CCPJ-1	Sawed Longitudinal Joint
	CCPJ-2	Longitudinal Construction Joint
	CCPJ-4	Sawed Contraction Joint Seal
	G-1	W-Beam Guardrail
	G-2	W-Beam Guardrail
	G-3	W-Beam Guardrail
	T-1	Guardrail Transition Type TGB
	T-3	Guardrail Transition Type VH
	B-1	Approach Railing
	E-3	G.R.E.T., MS
	MB4	Inlets Type U and W
	MB2	Slopewall Details
	ME	Bituminous Curb, Integral Concrete Curb
	MP	Group A Pipe
	MT-18	Snowplowable Raised Pavement Markers
	MT-19	Snowplowable Raised Pavement Markers
	CB-2	Temporary Concrete Barrier
	CB-2A	Temporary Concrete Barrier
	Detours 1,2A,3, 3A,4 & 5A	Standard Detour Signs
	MT3	Sign Reflectorization

GENERAL PLAN DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 1/4" = 1'-0, UNLESS NOTED DATE: - August 11, 1995

SUBMITTED FOR APPROVAL Michael H. Wenning

DRAWING: - R2 OF R17 SHEET: - 5 OF 53

PROJECT: - NH-70-1(084)8

CONTRACT NO. B-22132

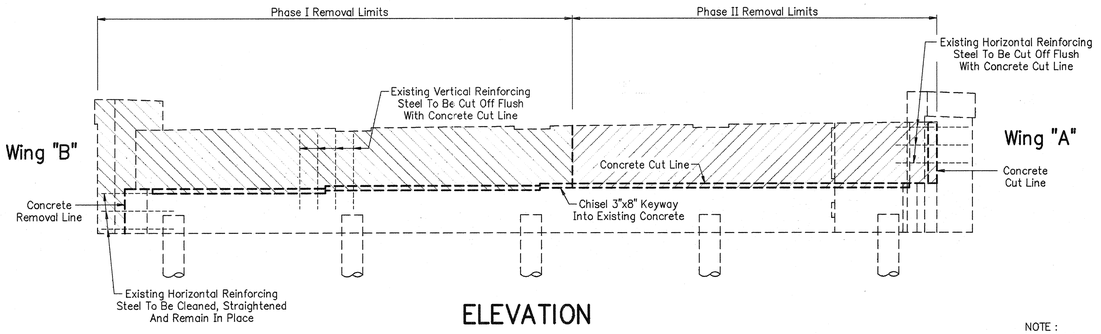
BRIDGE FILE: - I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	TLH 2/15/95	C'K'D	DSH 3/13/95
TRACED		C'K'D	

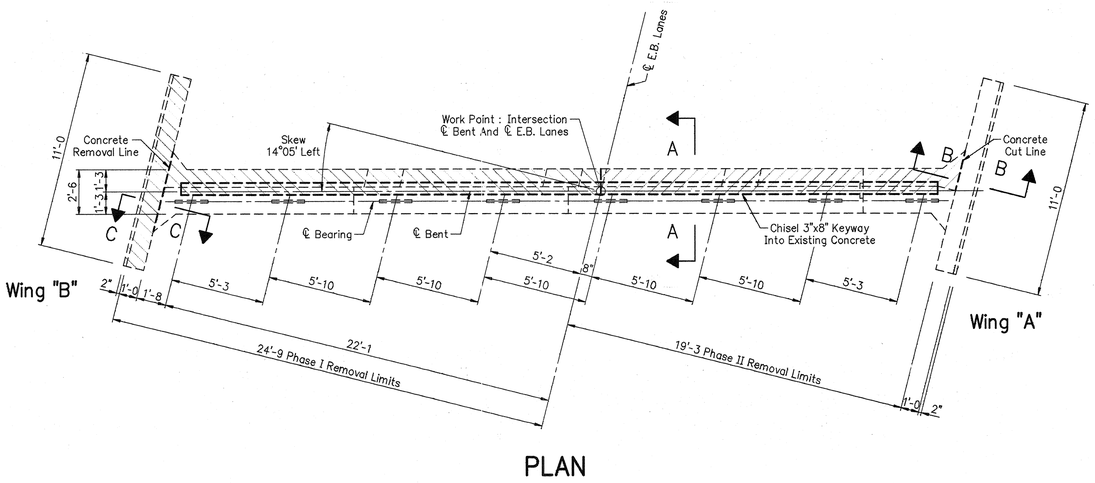
DWG FILE: C:\84\94459B04
PLOT SCALE: 1:4.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 09/11/95
EDITED BY: DSH - S91

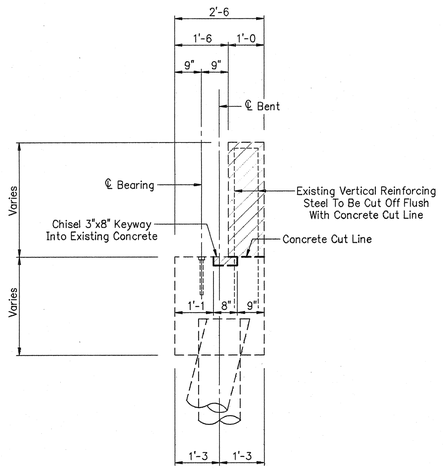


ELEVATION

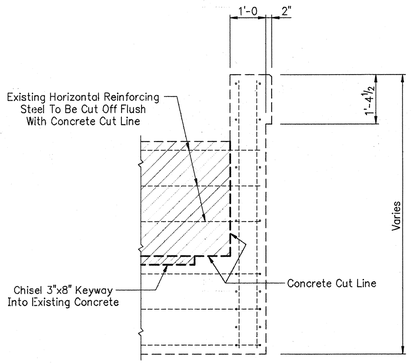
NOTE :
Hatched Areas Indicate
Limits Of Concrete Removal.



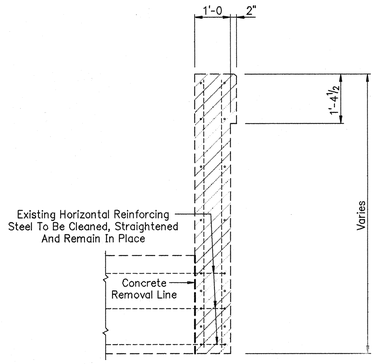
PLAN



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



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



SECTION C-C
Scale- 1/2"= 1'-0

BENT NO.1 EBL REMOVAL DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

DESIGNED	DAD 5/8/95	CK'D	MDR 5/10/95
DRAWN	DSH 5/8/95	CK'D	DAD 6/6/95
TRACED		CK'D	

SCALE:- 1/4"= 1'-0, UNLESS NOTED DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R3 OF R17 SHEET:- 6 OF 53

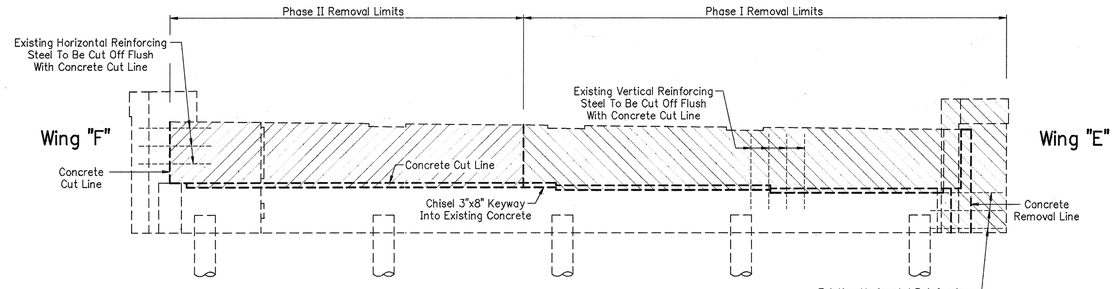
PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

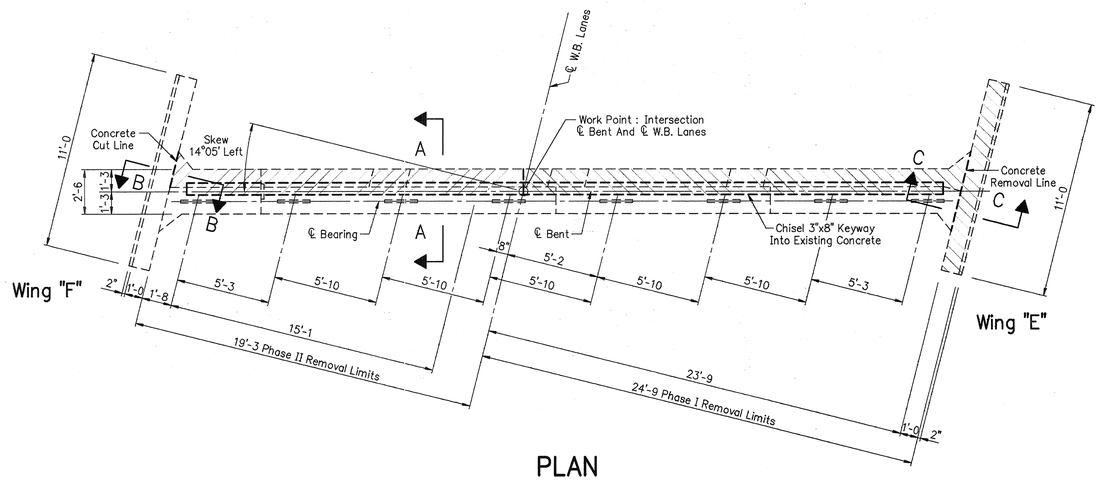
MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DWG FILE: C:\94\94459\94459B09
PLOT SCALE: 1:4.000
PLOT ORIGIN: 0.00,0.00
SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JEE - SBD

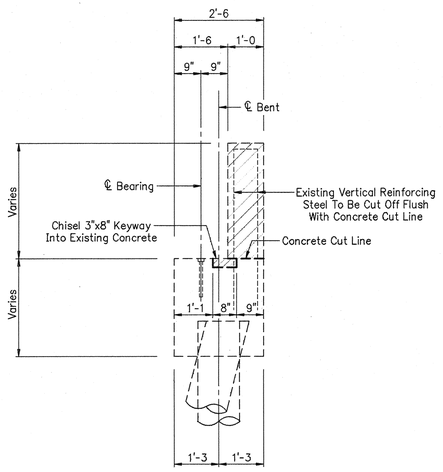


ELEVATION

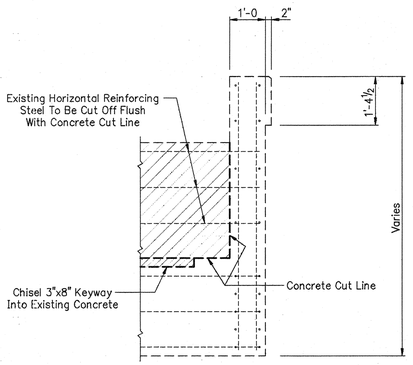
NOTE :
Hatched Areas Indicate Limits Of Concrete Removal.



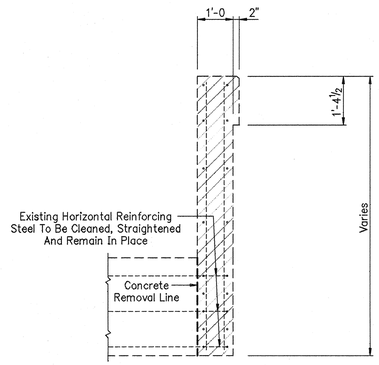
PLAN



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



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



SECTION C-C
Scale- 1/2"= 1'-0

BENT NO.1 WBL REMOVAL DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- 1/4"= 1'-0, UNLESS NOTED DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R4 OF R17 SHEET:- 7 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

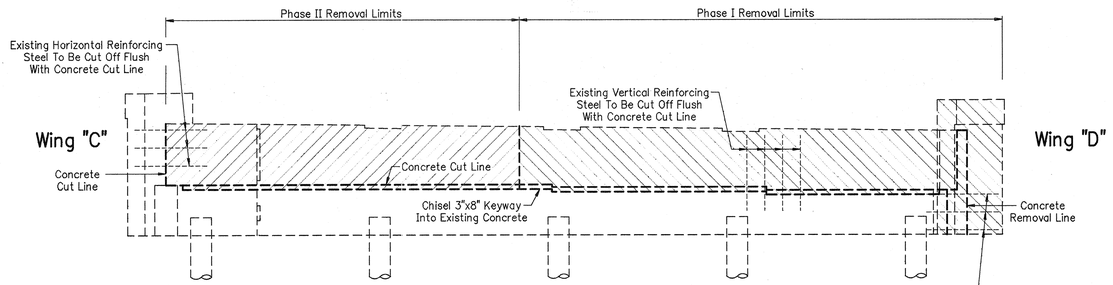
BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DAD 5/8/95	CK'D	MDR 5/10/95
DRAWN	DSH 5/10/95	CK'D	DAD 6/6/95
TRACED		CK'D	

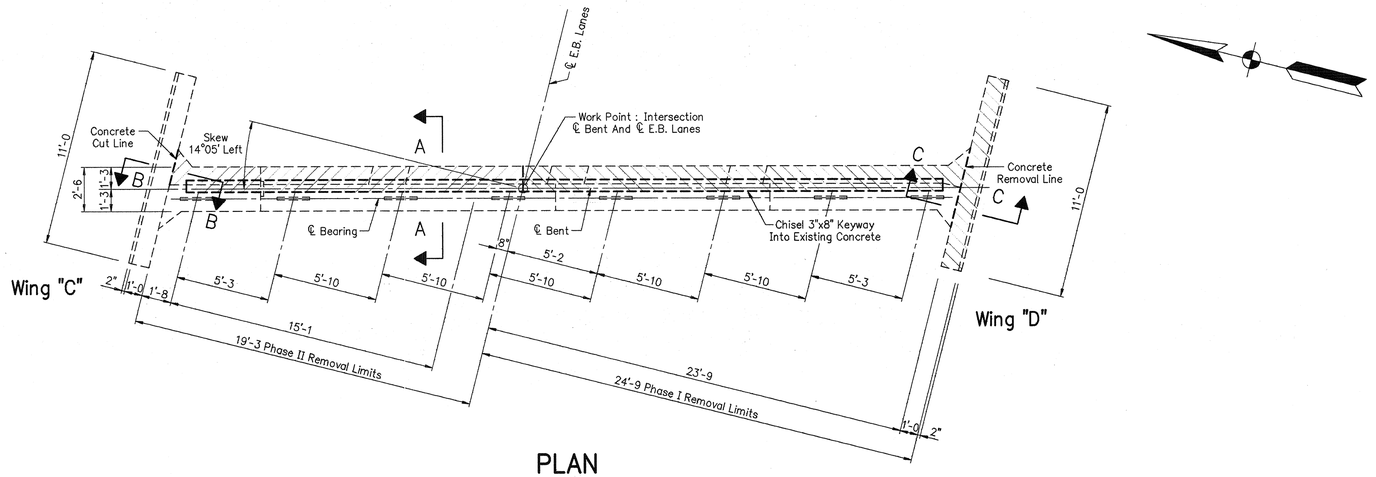
DWG FILE: C:\94\944459\944598I1
PLOT SCALE: 1:4.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JEE - SBO

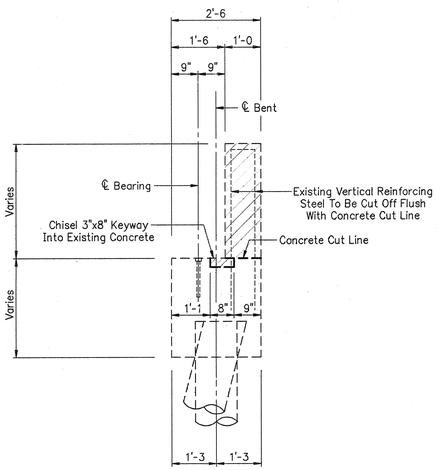


ELEVATION

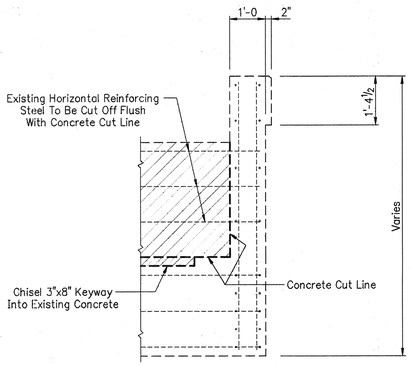
NOTE :
Hatched Areas Indicate Limits Of Concrete Removal.



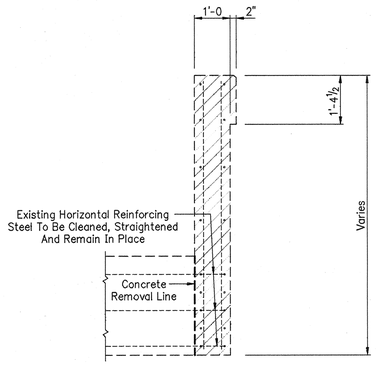
PLAN



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



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



SECTION C-C
Scale- 1/2"= 1'-0

BENT NO.5 EBL REMOVAL DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- 1/4"= 1'-0, UNLESS NOTED DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R5 OF R17 SHEET:- 8 OF 53

PROJECT:- NH-70-1(084)8

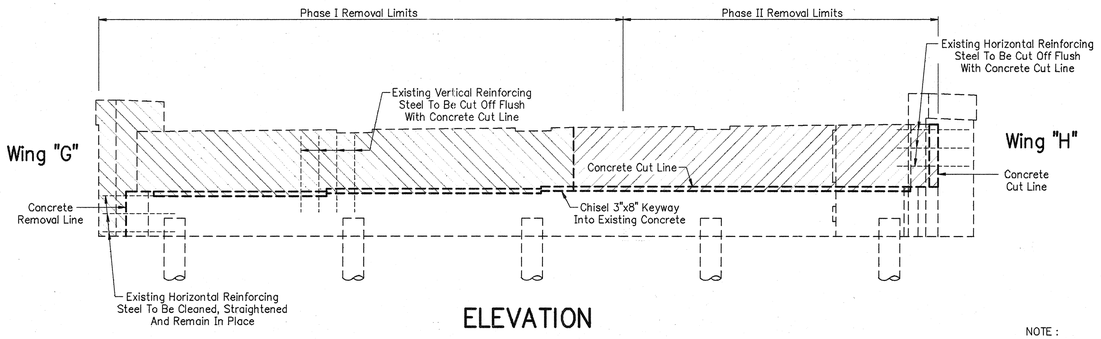
CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

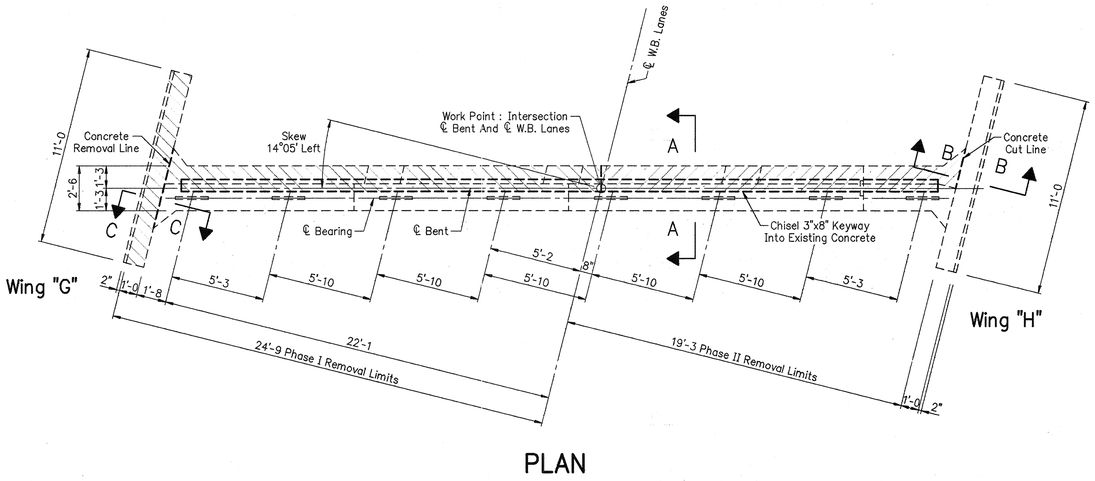
DESIGNED	DAD 5/8/95	CK'D	MDR 5/10/95
DRAWN	DSH 5/10/95	CK'D	DAD 6/6/95
TRACED		CK'D	

DWG FILE: C:\94\94459\94459B10
PLOT SCALE: 1:4.000
PLOT ORIGIN: 0.00,0.00
SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JEE - SBO

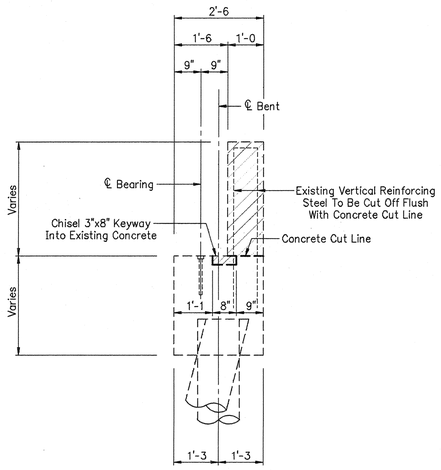


ELEVATION

NOTE :
Hatched Areas Indicate
Limits Of Concrete Removal.

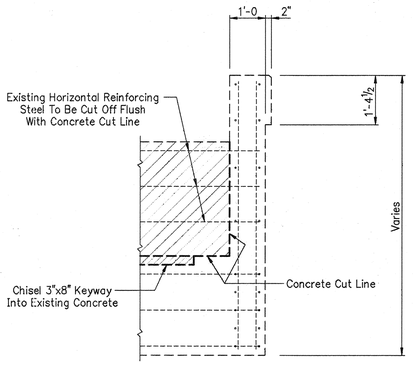


PLAN



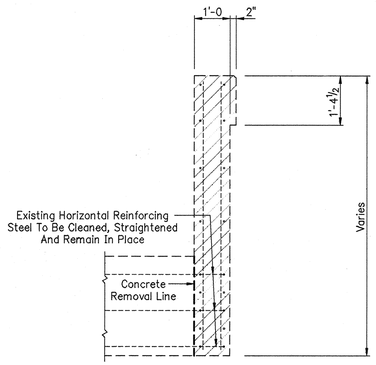
SECTION A-A

Scale- 1/2"= 1'-0



SECTION B-B

Scale- 1/2"= 1'-0



SECTION C-C

Scale- 1/2"= 1'-0

BENT NO.5 WBL REMOVAL DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- 1/4"= 1'-0, UNLESS NOTED DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R6 OF R17 SHEET:- 9 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

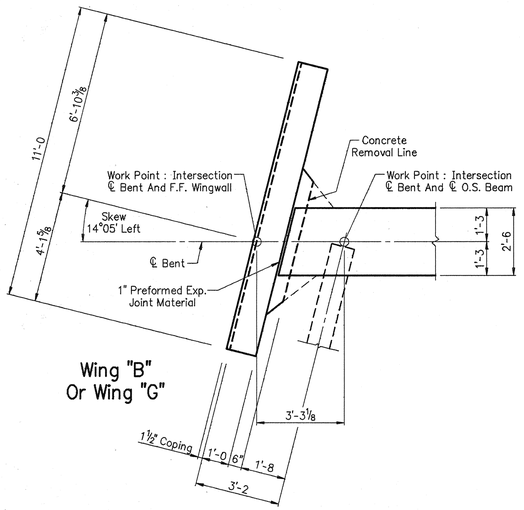
BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DAD 5/8/95	CK'D	MDR 5/10/95
DRAWN	DSH 5/8/95	CK'D	DAD 6/6/95
TRACED		CK'D	

DWG FILE: C:\94\94459\94459B12
PLOT SCALE: 1:4.000
PLOT ORIGIN: 0.00,0.00

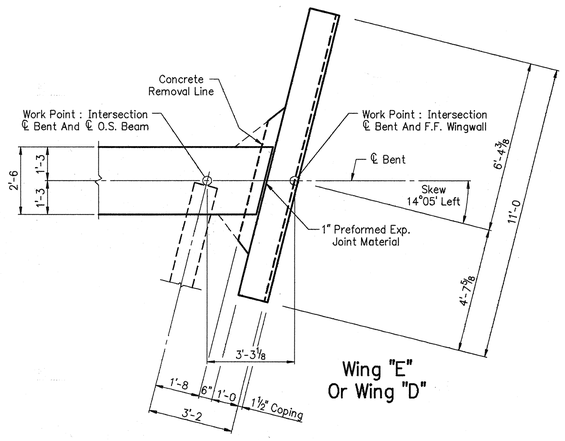
SPELLCHK: 08/08/95
EDIT DATE: 08/11/95
EDITED BY: JEE - SBO



Wing "B"
Or Wing "G"

PLAN AT BENT NO.1 EBL

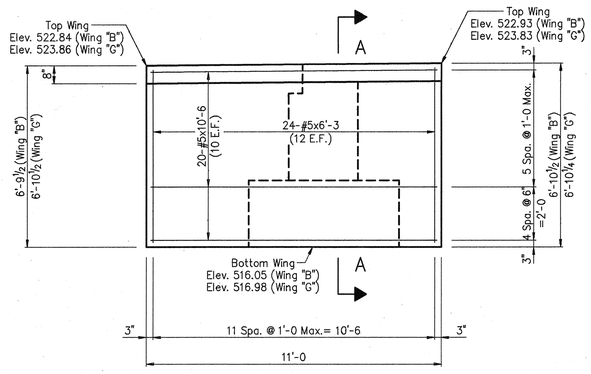
Plan At Bent No.5 W.B.L. Same



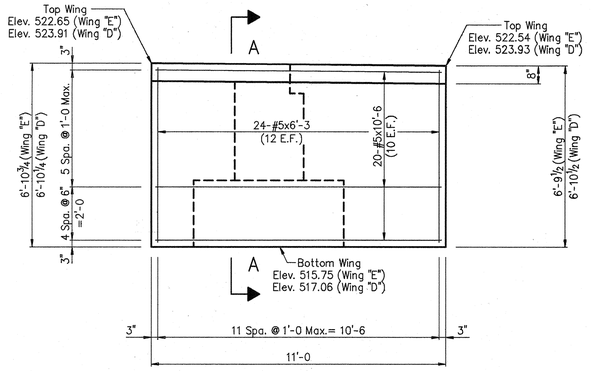
Wing "E"
Or Wing "D"

PLAN AT BENT NO.1 WBL

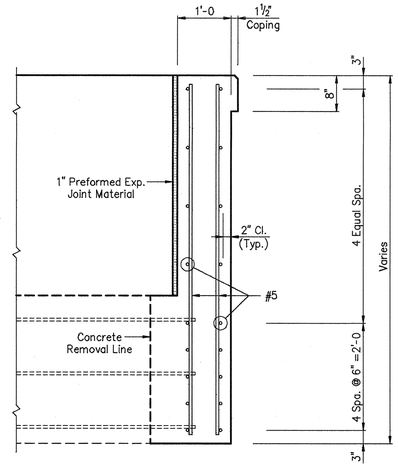
Plan At Bent No.5 E.B.L. Same



ELEVATION - WINGS "B" AND "G"



ELEVATION - WINGS "E" AND "D"



SECTION A-A

Scale- 3/4"= 1'-0

BENT NO.1 E.B.L.
BILL OF MATERIALS

Bent No.5 E.B.L., Bent No.1 W.B.L.
And Bent No.5 W.B.L. Same

Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
#5	20	10'-6	
#5	24	6'-3	
Total Epoxy Coated Reinforcing Steel			375
Concrete			
Class "A" In Substructure			3.1 Cys.
Miscellaneous			
Surface Seal			60 Sft.

NOTES :

All reinforcing steel to be epoxy coated.

For reinforcing bar notes, see Bridge Standard C1.

END BENT DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 3/8"= 1'-0, UNLESS NOTED DATE: - August 11, 1995

SUBMITTED FOR APPROVAL .....

DRAWING: - R7 OF R17 SHEET: - 10 OF 53

PROJECT: - NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE: - I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DAD 5/8/95	C'K'D	MDR 5/10/95
DRAWN	DSH 5/11/95	C'K'D	DAD 6/6/95
TRACED		C'K'D	

DWG FILE: C:\94\94459\94459B14
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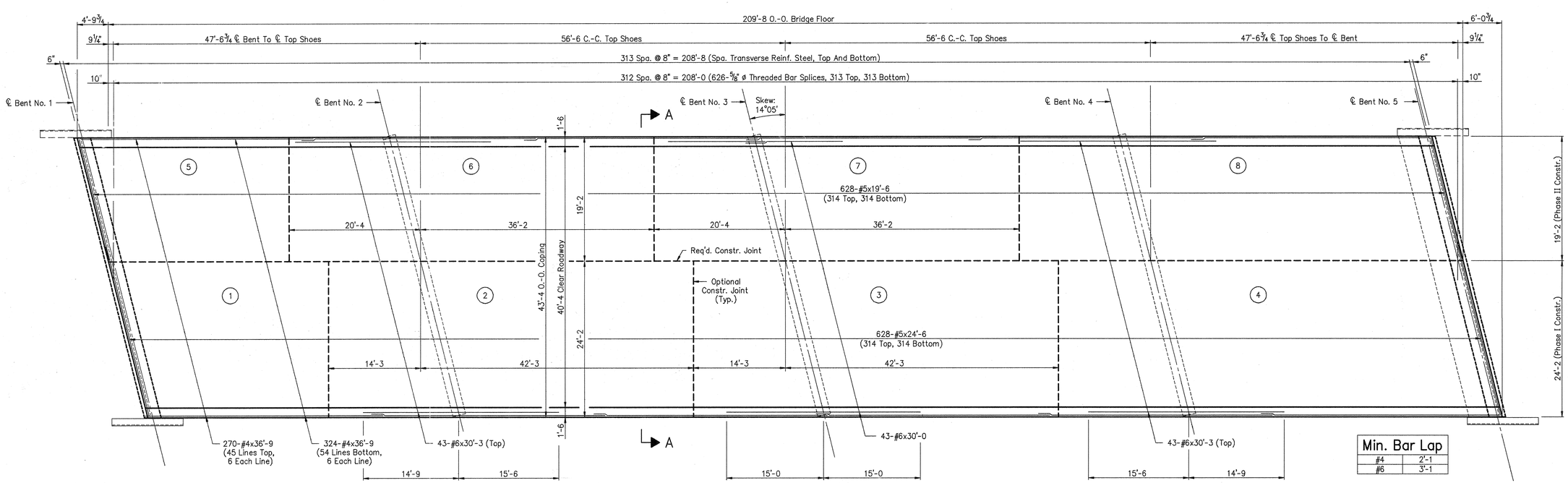
PLOT ORIGIN: 0.00,0.00

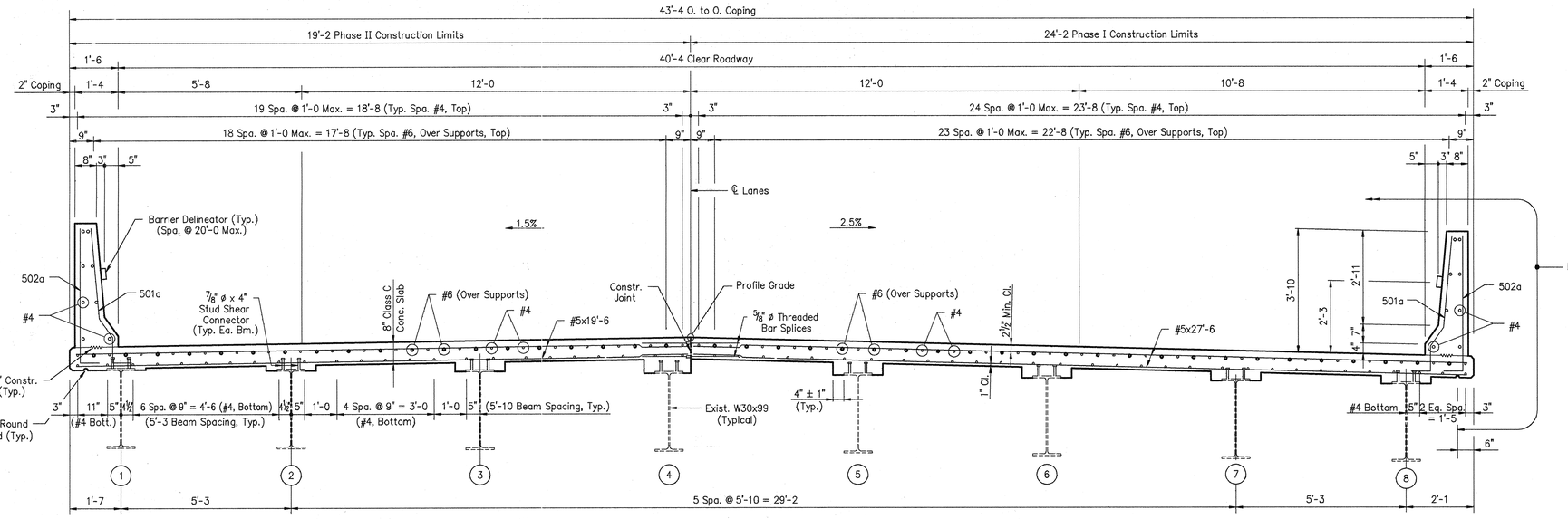
SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JEE - SBO



Min. Bar Lap	
#4	2'-1
#6	3'-1

PLAN - E.B.L.
(W.B.L. SAME BY 180° ROTATION)

Scale: 1/8" = 1'-0



PROPOSED SECTION A-A

Scale: 1/2" = 1'-0

NOTES:

All reinforcing steel to be epoxy coated.

For reinforcing bar notes, see Bridge Standard C1.

For additional details, see Drawings R9 through R12.

For Bill of Materials, see Drawing R12.

For location of roadway drains, see General Plan Drawing R1.

("X") Indicates concrete pour number.

Sequence of pours to be made in order of pour numbers.

SUPERSTRUCTURE DETAILS
INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- As Noted DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R8 OF R17 SHEET:- 11 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

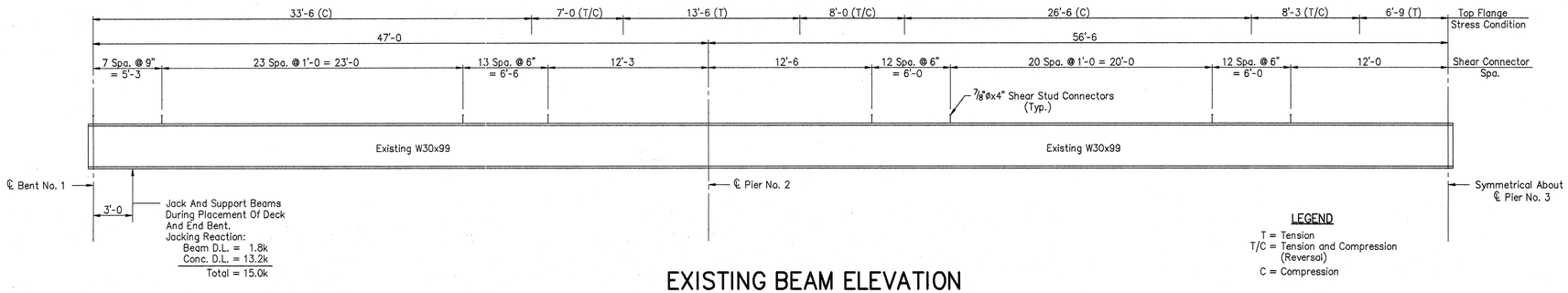
BRIDGE FILE:- I-70-8-2342B

DESIGNED	MDR 4/3/95	CK'D	DAD 5/2/95
DRAWN	JC 4/6/95	CK'D	DAD 5/2/95
TRACED		CK'D	

DWG FILE: C:\94\94459\94459B05
PLOT SCALE: 1:8.000
PLOT ORIGIN: 0.00,0.00

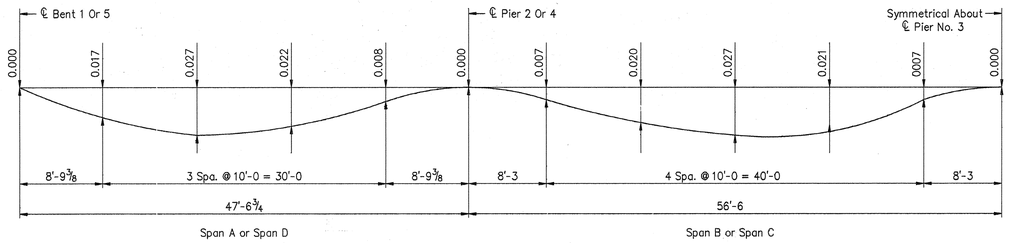
SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JEE - 580

MICHAEL H. WENNING
REGISTERED
No. 860409
STATE OF INDIANA
PROFESSIONAL ENGINEER



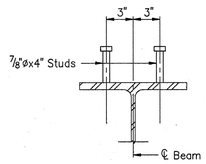
EXISTING BEAM ELEVATION

No Scale



CONCRETE DEAD LOAD DEFLECTION (FEET)

No Scale



The contractor may use welded channels or 3/4" diameter welded studs as alternate shear connectors. If used they shall have equivalent shear value and the proposed size and spacing submitted for approval.

TYPICAL SHEAR CONNECTOR DETAILS

No Scale

PURPOSE

SCREED NOTE:
Screed elevations shall be determined by adding concrete dead load deflections to the final concrete elevations at all screed points. Take elevations at screed points on top of beams adjacent to screed points. Subtract these elevations from the elevations corrected for deflection and use the resulting dimension as the height for setting the screed or coping form above that point. This dimension remains constant regardless of how much or in what order the concrete is poured. Do not set screeds by leveling.

No concrete in the Floor Slab is to be poured until the above operations are complete.

Screed data will be furnished upon request.

SUPERSTRUCTURE DETAILS
INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- As Noted DATE:- August 11, 1995

SUBMITTED FOR APPROVAL .....

DRAWING:- R9 OF R17 SHEET:- 12 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

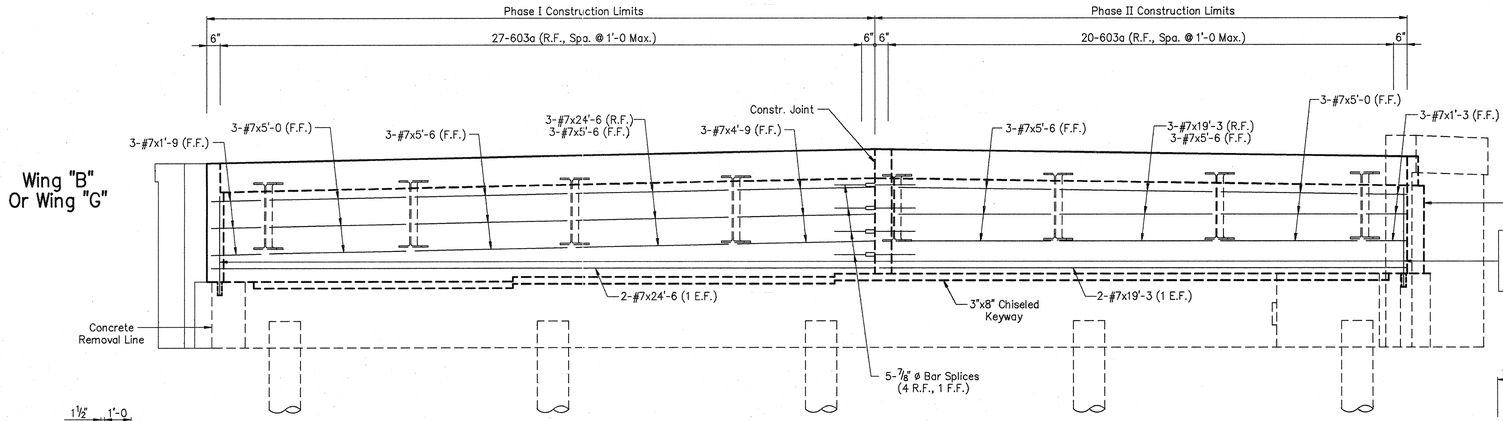
BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DAD 5/5/95	C'K'D	MDR 5/10/95
DRAWN	JC 5/23/95	C'K'D	DAD 6/6/95
TRACED		C'K'D	

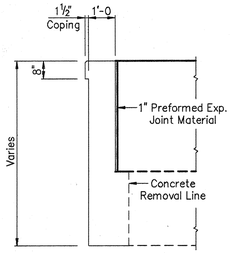
DWG FILE: C:\94\94459B16
PLOT SCALE: 1:1.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JC - S57

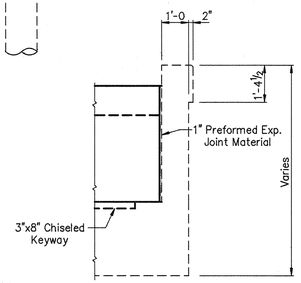


ELEVATION AT BENT NO.1 EBL

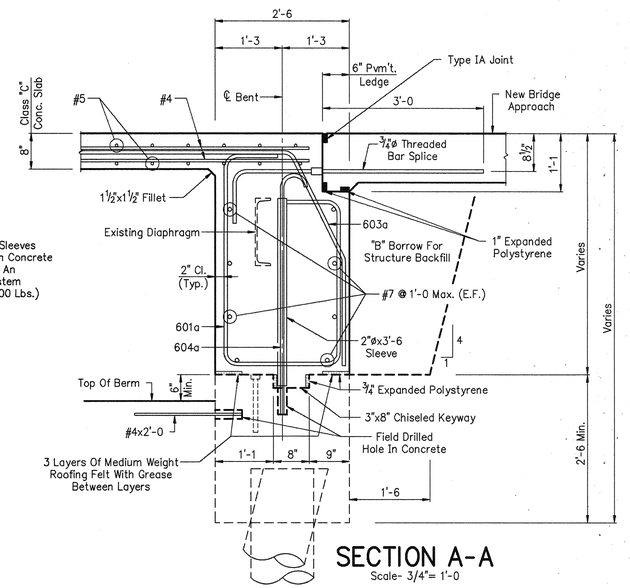
Elevation At Bent No.5 WBL Same



SECTION D-D

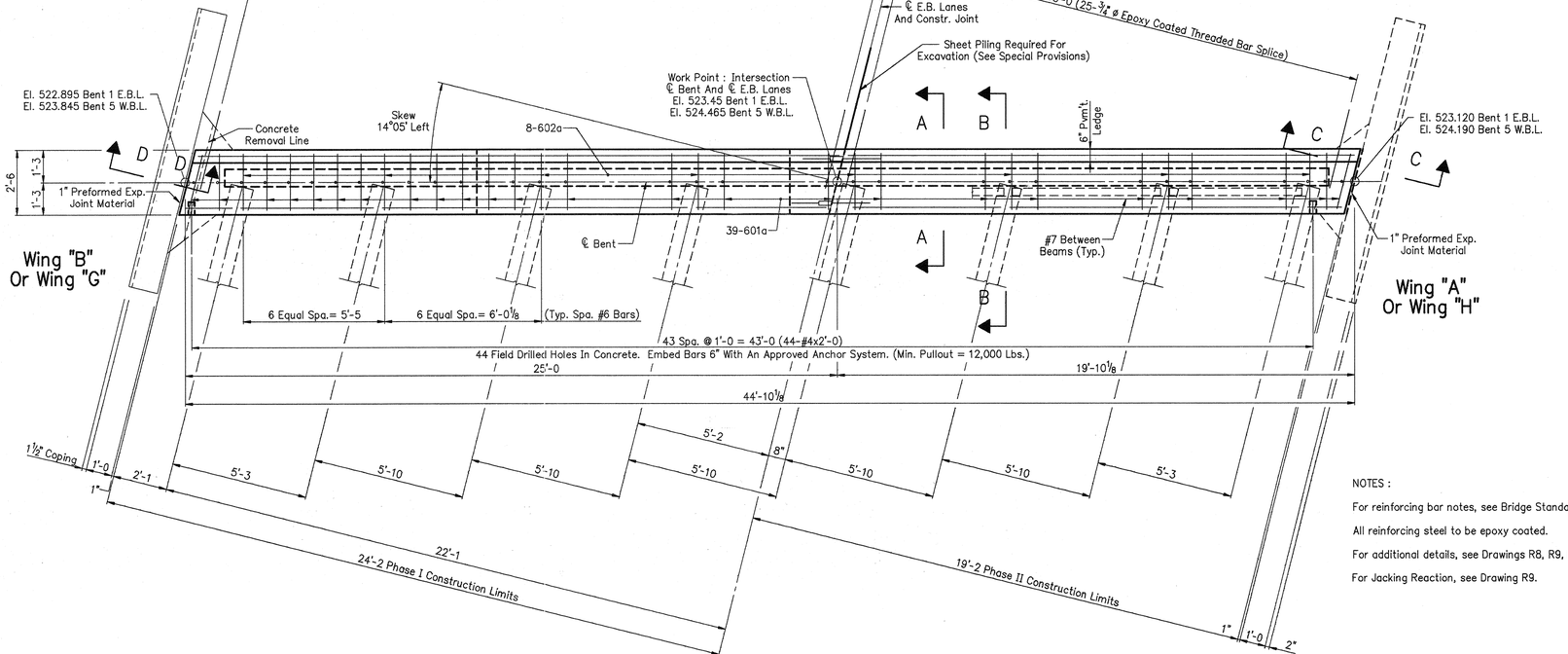


SECTION C-C



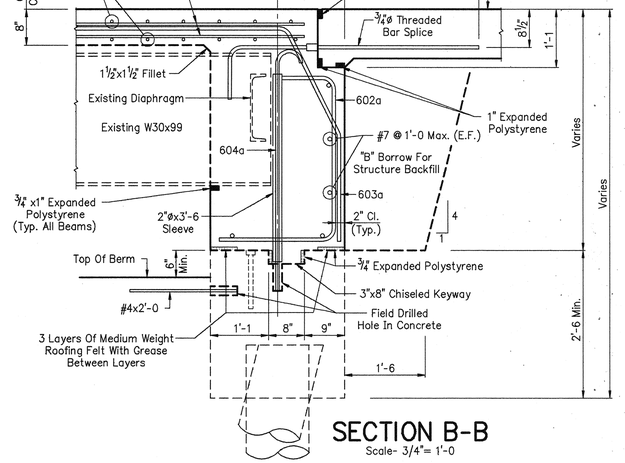
SECTION A-A

Scale- 3/4"= 1'-0



PLAN AT BENT NO.1 EBL

Plan At Bent No.5 WBL Same By 180° Rotation



SECTION B-B

Scale- 3/4"= 1'-0

NOTES :

For reinforcing bar notes, see Bridge Standard C1.

All reinforcing steel to be epoxy coated.

For additional details, see Drawings R8, R9, R11 & R12.

For Jacking Reaction, see Drawing R9.

SUPERSTRUCTURE DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 3/8"= 1'-0, UNLESS NOTED DATE: - August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING: - R10 OF R17 SHEET: - 13 OF 53

PROJECT: - NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE: - I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DAD 5/8/95	C'K'D	MDR 5/10/95
DRAWN	DSH 5/10/95	C'K'D	DAD 6/6/95
TRACED		C'K'D	

DWG FILE: C:\94\B4459813
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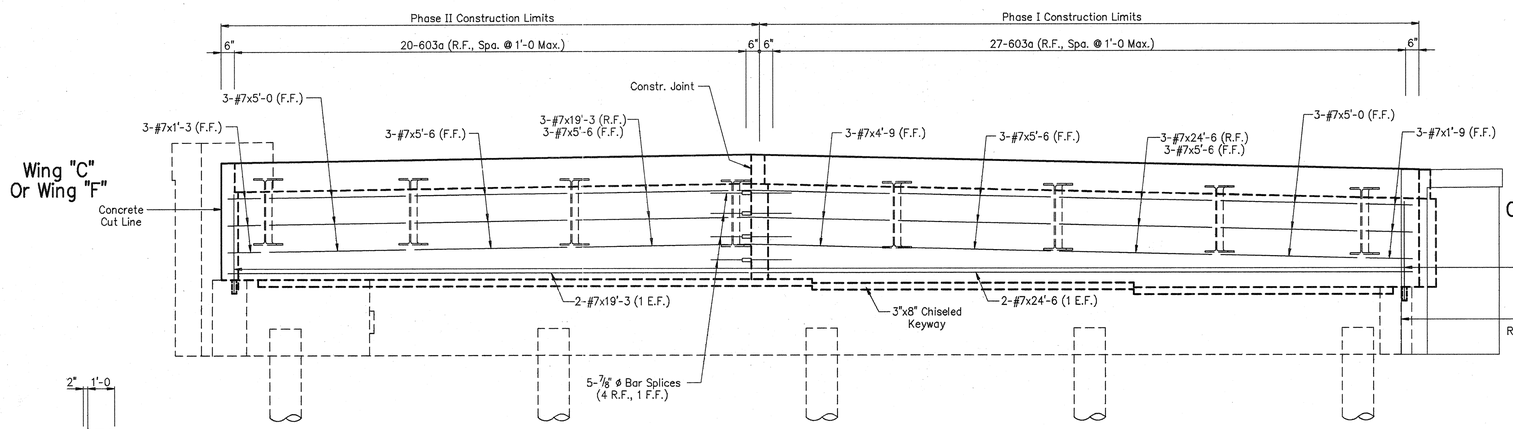
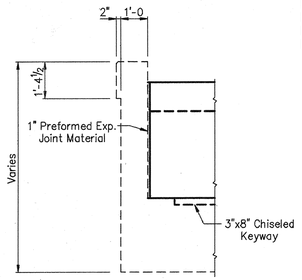
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JC - 557

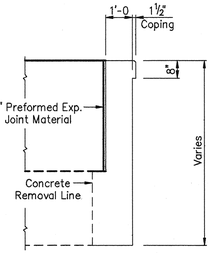


ELEVATION AT BENT NO.5 EBL

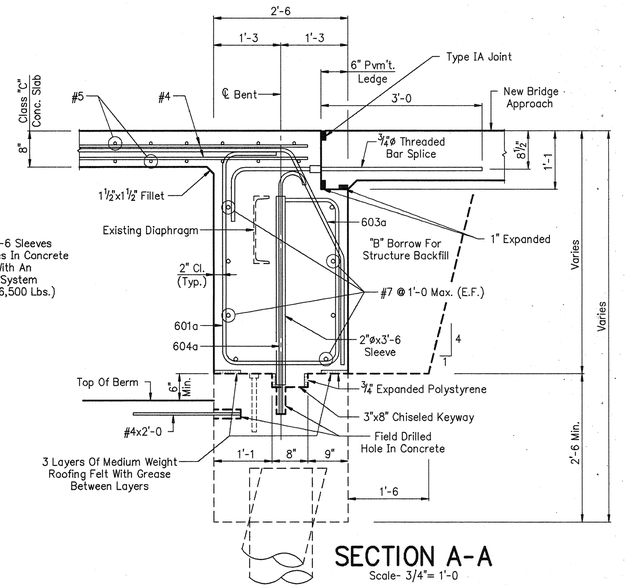
Elevation At Bent No.1 WBL Same



SECTION D-D

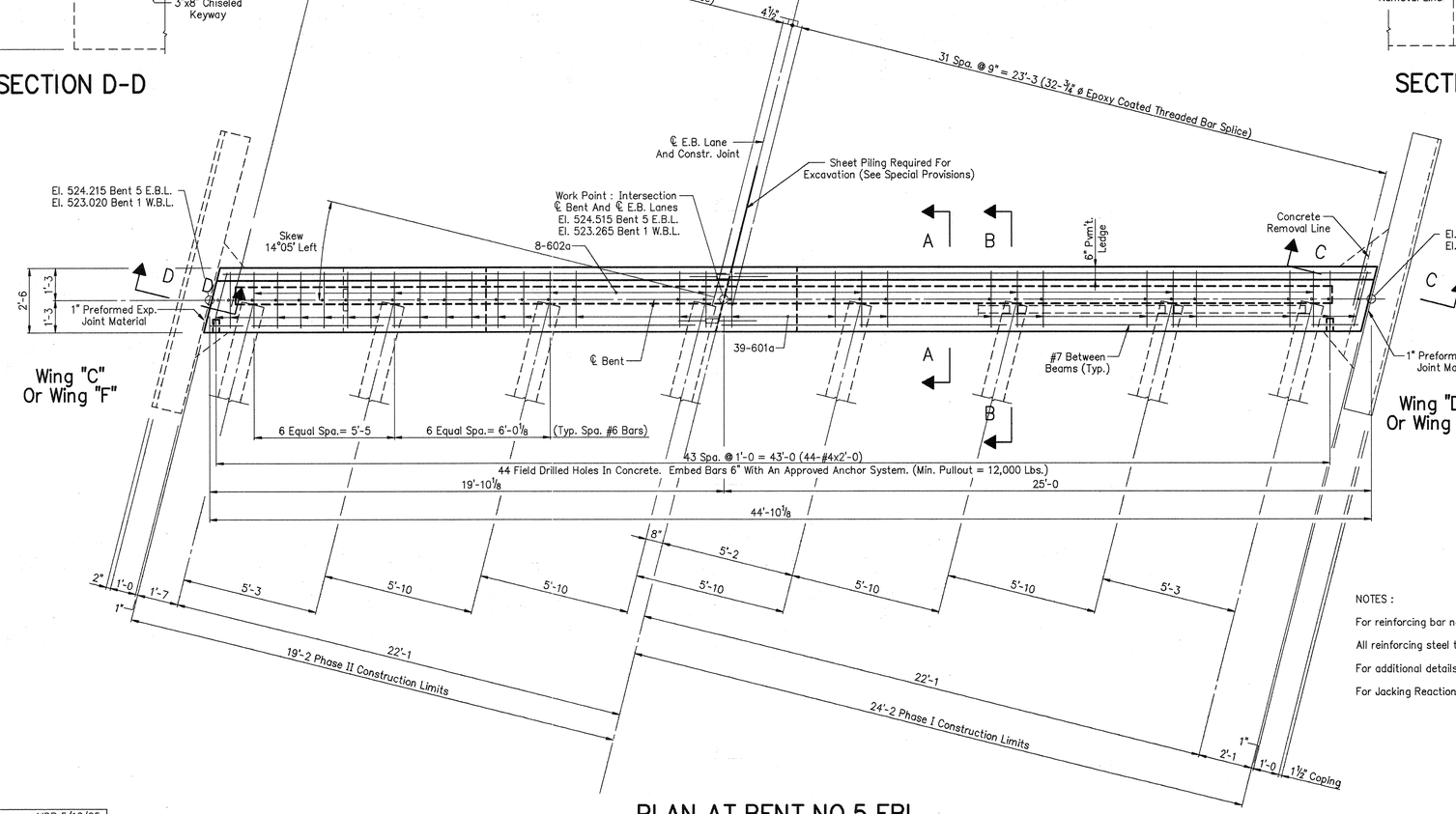


SECTION C-C



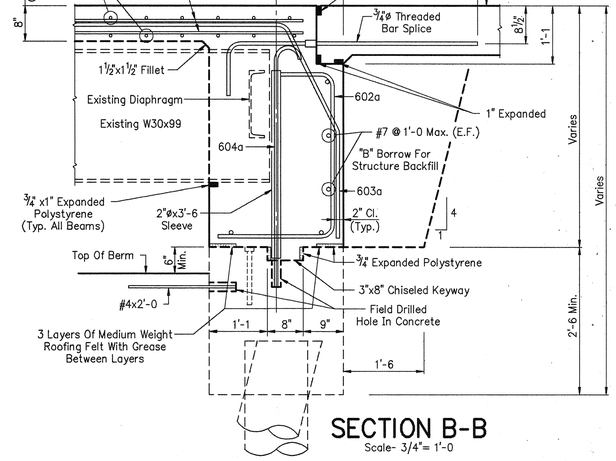
SECTION A-A

Scale- 3/4"= 1'-0



PLAN AT BENT NO.5 EBL

Plan At Bent No.1 WBL Same By 180° Rotation



SECTION B-B

Scale- 3/4"= 1'-0

NOTES :

For reinforcing bar notes, see Bridge Standard C1.

All reinforcing steel to be epoxy coated.

For additional details, see Drawings R8, R9, R10 & R12.

For Jacking Reaction, see Drawing R9.

SUPERSTRUCTURE DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 3/8"= 1'-0, UNLESS NOTED DATE: - August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R11 OF R17 SHEET:- 14 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE: - I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	DAD 5/8/95	CK'D	MDR 5/10/95
DRAWN	DSH 5/15/95	CK'D	DAD 6/6/95
TRACED		CK'D	

DWG FILE: C:\94\B4459\94459B15
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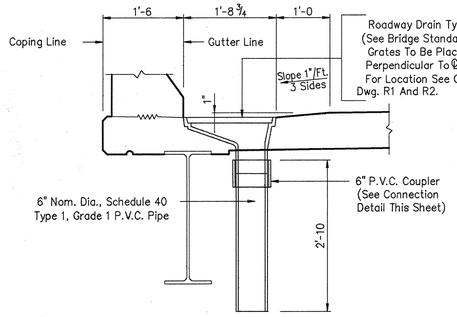
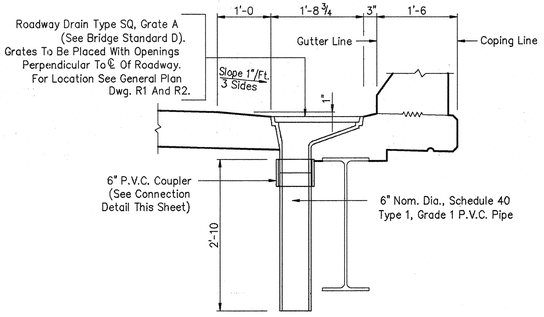
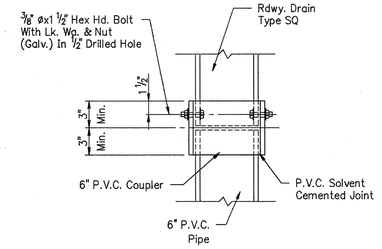
SPELLCHK: 06/08/95
EDIT DATE: 06/11/95
EDITED BY: JEE - SBO



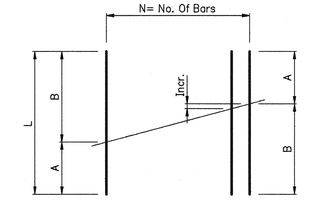


ROADWAY DRAIN TYPE SQ-A DETAILS
(4 REQUIRED)

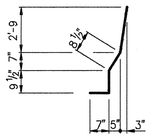
Scale: 3/4" = 1'-0



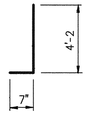
CONNECTION DETAIL
Scale: 1 1/2" = 1'-0



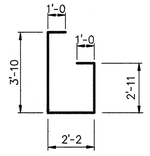
Mark	L	A	B	Incr.	N
503a	17'-3	2'-0	15'-3	2'-7 13/16±	6
504a	22'-0	1'-9	20'-3	2'-7 11/16±	8



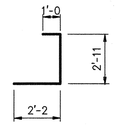
501a x 4'-10



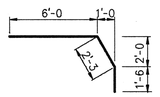
502a x 4'-9



601a x 10'-11



602a x 6'-1



603a x 9'-9

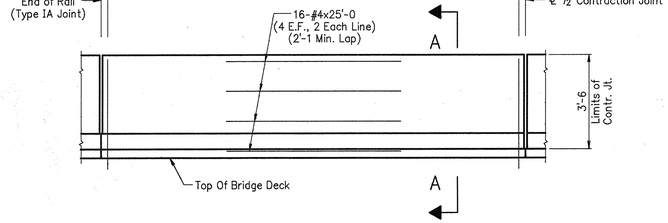
604a x 5'-2

SUPERSTRUCTURE-E.B.L.
BILL OF MATERIALS
(W.B.L. THE SAME)

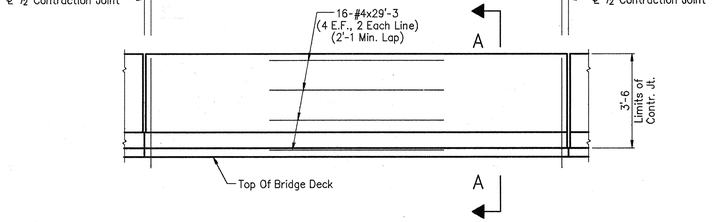
Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
#7	10	24'-6	
#7	10	19'-3	
#7	24	5'-6	
#7	12	5'-0	
#7	6	4'-9	
#7	6	1'-9	
#7	6	1'-3	
Total No. 7			1,382
601a	78	10'-11	
602a	16	6'-1	
603a	94	9'-9	
604a	94	5'-2	
#6	86	30'-3	
#6	43	30'-0	
Total No. 6			9,376
501a	424	4'-10	
502a	424	4'-9	
#5	628	24'-6	
#5	628	19'-6	
Total No. 5			33,058
#4	594	36'-9	
#4	64	29'-3	
#4	64	25'-0	
#4	88	2'-0	
Total No. 4			17,019
Total Epoxy Coated Reinforcing Steel			60,835

Concrete	
Class "C" In Superstructure	
Pour No. 1	28.0 Cys.
Pour No. 2	36.6 Cys.
Pour No. 3	36.6 Cys.
Pour No. 4	50.2 Cys.
Pour No. 5	21.8 Cys.
Pour No. 6	29.0 Cys.
Pour No. 7	29.0 Cys.
Pour No. 8	39.9 Cys.
Total Class "C" In Superstructure	271.1 Cys.
Class "C" Concrete Railing	53.0 Cys.

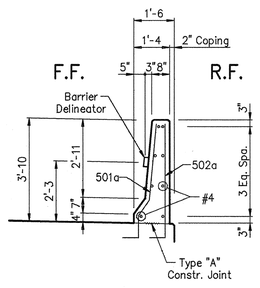
Miscellaneous	
Surface Seal	12,230 Sft.
Barrier Delineators	24 Each
7/8"x4" Welded Stud Connectors	2,816 Each
Roadway Drains	384 Lbs.
Field Drilled Holes In Concrete	182 Each
5/8" ø Threaded Bar Splices, Epoxy Coated	626 Each
3/4" ø Threaded Bar Splices, Epoxy Coated	114 Each
7/8" ø Threaded Bar Splices, Epoxy Coated	10 Each



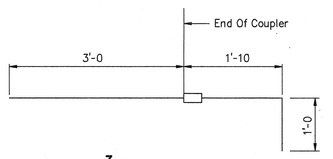
END PANEL RAILING
(4 REQ'D.)
No Scale



INTERIOR PANEL RAILING
(4 REQ'D.)
No Scale



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

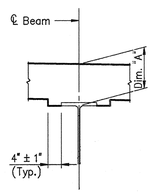


3/4" ø THREADED BAR SPLICE DETAIL

NOTES:

For reinforcing bar notes, see Bridge Standard C1.

All reinforcing steel to be Epoxy Coated (fy = 60,000 psi).



	Dimension "A"							
	Beam No. 1	Beam No. 2	Beam No. 3	Beam No. 4	Beam No. 5	Beam No. 6	Beam No. 7	Beam No. 8
Bent No. 1 - W.B.L.	9 1/2"	10 1/8"	10 3/4"	11 1/2"	1'-0 1/8"	10 3/4"	9"	7 5/8"
Pier No. 2 - W.B.L.	10 1/4"	10 7/8"	11 3/8"	1'-0 1/8"	1'-0 1/8"	11 1/8"	9 5/8"	8 3/8"
Pier No. 3 - W.B.L.	10 1/4"	10 7/8"	11 3/8"	1'-0 1/8"	1'-0 1/8"	11"	9 5/8"	8 3/8"
Pier No. 4 - W.B.L.	10 1/4"	10 7/8"	11 3/8"	1'-0 1/8"	1'-0 1/8"	11 1/8"	9 5/8"	8 3/8"
Bent No. 5 - W.B.L.	9 5/8"	10 1/8"	10 3/4"	11 1/2"	1'-0 1/8"	10 3/4"	9"	7 5/8"
Bent No. 1 - E.B.L.	7 5/8"	9"	10 5/8"	1'-0 1/8"	11 3/8"	10 3/4"	10 1/8"	9 5/8"
Pier No. 2 - E.B.L.	8 3/8"	9 5/8"	11 1/8"	1'-0 1/4"	1'-0 1/8"	11 3/8"	10 3/4"	10 1/4"
Pier No. 3 - E.B.L.	8 3/8"	9 5/8"	11"	1'-0 1/8"	1'-0 1/8"	11 3/8"	10 1/8"	10 1/4"
Pier No. 4 - E.B.L.	8 3/8"	9 5/8"	11"	1'-0 1/4"	1'-0	11 3/8"	10 1/8"	10 1/4"
Bent No. 5 - E.B.L.	7 1/8"	9"	10 5/8"	1'-0 1/8"	11 1/2"	10 3/4"	10 1/8"	9 5/8"

TYPICAL SLAB FILLET DETAIL
No Scale

SUPERSTRUCTURE DETAILS
INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- As Noted DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R12 OF R17 SHEET:- 15 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

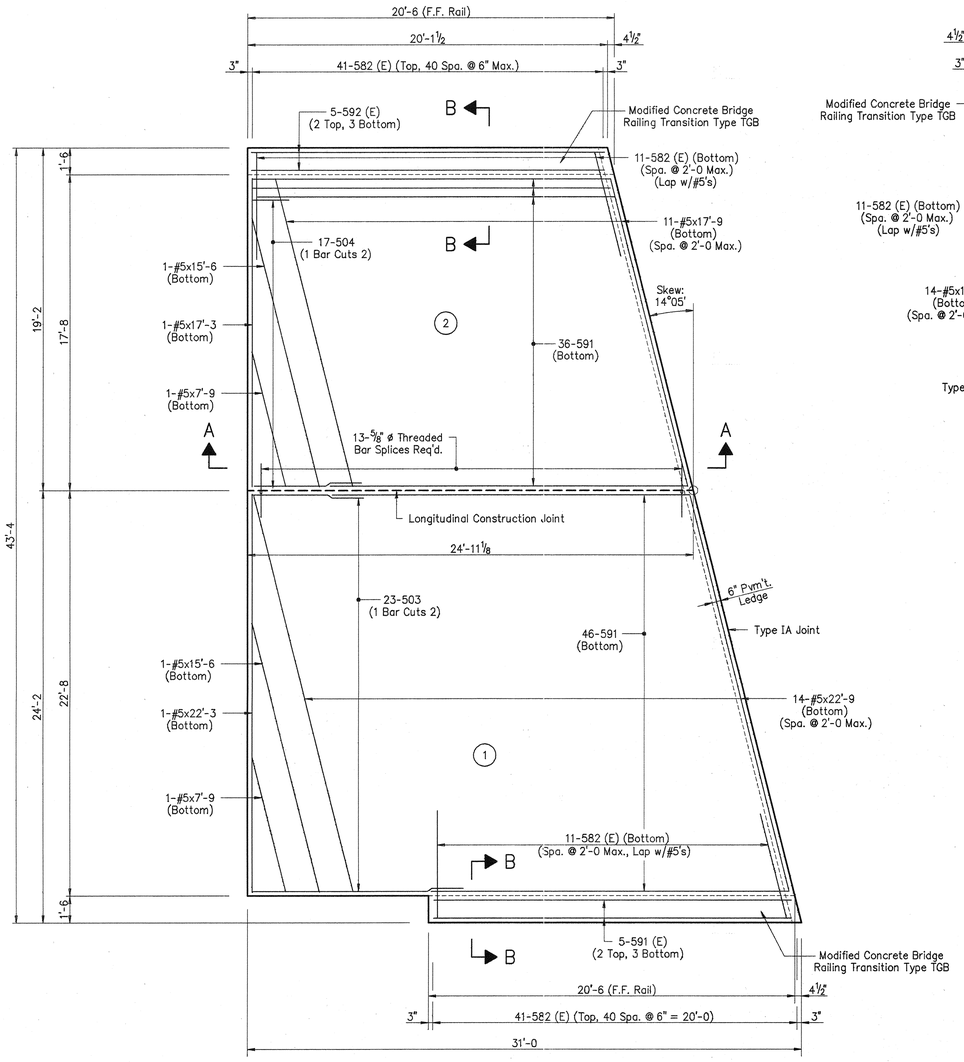
BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

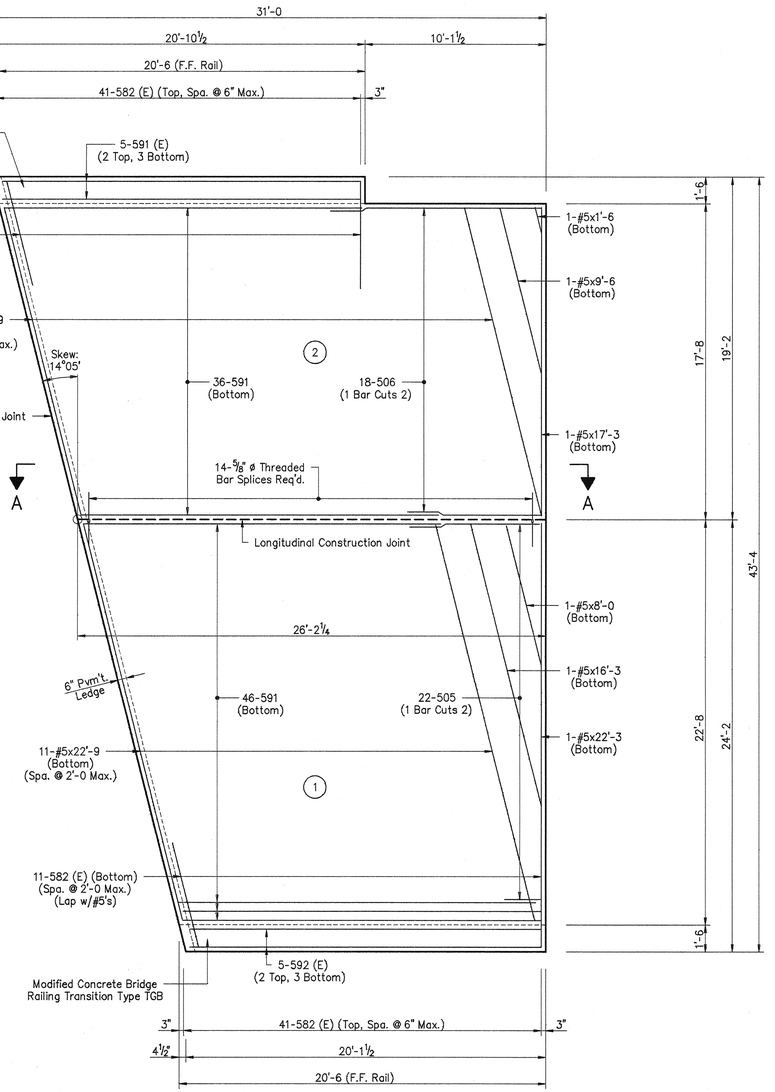
DESIGNED	MDR 4/3/95	C'K'D	DAD 5/2/95
DRAWN	JC 4/11/95	C'K'D	DAD 5/2/95
TRACED		C'K'D	

DWG FILE: C:\94\94459\94459B06
PLOT SCALE: 1.16.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 08/11/95
EDITED BY: JDE - SBG



PLAN @ BENT NO. 1 E.B.L.
(BENT NO. 5 W.B.L. SAME BY 180°)



PLAN @ BENT NO. 5 E.B.L.
(BENT NO. 1 W.B.L. SAME BY 180°)

NOTES:

For Sections A-A, B-B, Concrete Railing Details, Bill Of Materials And Additional Details, See Dwg R14.

For Modified Concrete Bridge Railing Transition Type TGB, See Sheet No. 18.

(E) Indicates Epoxy Coated Reinforcing Steel.

Minimum Lap For #5 Bar = 1'-9.

For Reinforcing Bar Notes, See Bridge Standard C1.

For Type IA Joint Installation Details, See Bridge Standard C3.

For Additional Notes And Details, See Road Standard Sheets RCBA-1 And RCBA-2.

(X) Indicates Concrete Pour Number.

R.C. BRIDGE APPROACH DETAILS
INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- 1/4" = 1'-0 DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R13 OF R17 SHEET:- 16 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

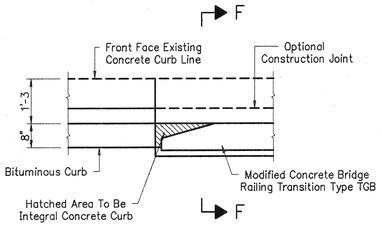
MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	JC 4/11/95	C'K'D	DAD 6/5/95
TRACED		C'K'D	

Rev. 9/11/95 Concrete Dimensions, Quantities

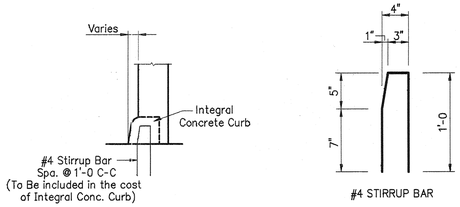
DNG FILE: D:\94\94459B07
PLOT SCALE: 1:4.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 09/11/95
EDITED BY: DSH - S91



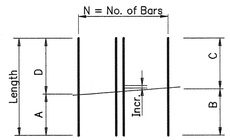
CURB DETAIL
(REQUIRED AT OUTSIDE SHOULDER, EAST APPROACH)

No Scale



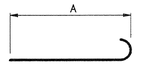
PARTIAL SECTION F-F

No Scale

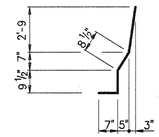


Cutting Diagram
(1 Bar Cuts 2)

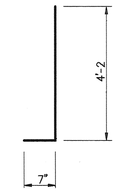
Mark	Length	A	B	C	D	N	Incr.
503	18'-0	6'-3	8'-11 1/4	9'-0 3/4	11'-9	23	1 1/16" ±
504	8'-0	2'-0	3'-11 1/4	4'-0 3/4	6'-0	17	1 1/16" ±
505	9'-3	2'-0	4'-5 5/8	4'-9 1/8	7'-3	22	1 1/16" ±
506	19'-3	7'-6	9'-6 15/16	9'-8 1/16	11'-9	18	1 1/16" ±



Mark	A	Length
582	6'-0	6'-7
591	20'-0	20'-7
592	19'-5	20'-0



501 x 4'-10



502 x 4'-9

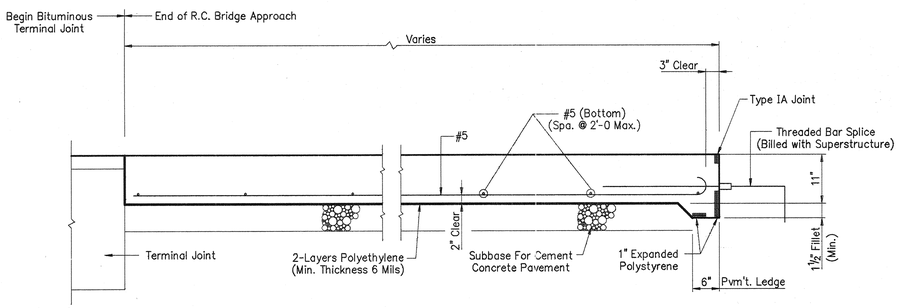
BILL OF MATERIALS
BENT NO.1 E.B.L.
(BENT NO. 5 W.B.L. SAME)

Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
582	104	6'-7	
591	5	20'-7	
592	5	20'-0	
Total Epoxy Coated Reinforcing Steel			925
Plain Reinforcing Steel			
503	23	18'-0	
504	17	8'-0	
591	82	20'-7	
#5	14	22'-9	
#5	1	22'-3	
#5	11	17'-9	
#5	1	17'-3	
#5	2	15'-6	
#5	2	7'-9	
Total Plain Reinforcing Steel			2,960
Concrete			
Cement, Conc, Pvmt., Reinf., 11"			
Pour No.1			73.5 Sys.
Pour No.2			48.0 Sys.
Total Cement, Conc. Pvmt.			121.5 Sys.
Miscellaneous			
Subbase For Cement Concrete Pavement			24 Cys.
5/8"ø Threaded Bar Splices			13 Each
* Integral Concrete Curb			2 Lft.

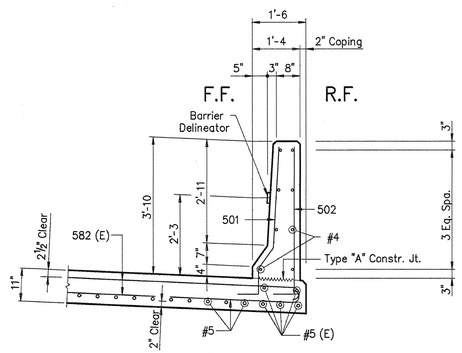
BILL OF MATERIALS
BENT NO.5 E.B.L.
(BENT NO. 1 W.B.L. SAME)

Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
582	104	6'-7	
591	5	20'-7	
592	5	20'-0	
Total Epoxy Coated Reinforcing Steel			925
Plain Reinforcing Steel			
505	22	9'-3	
506	18	19'-3	
591	82	20'-7	
#5	11	22'-9	
#5	1	22'-3	
#5	14	17'-9	
#5	1	17'-3	
#5	1	16'-3	
#5	1	9'-6	
#5	1	8'-0	
#5	1	1'-6	
Total Plain Reinforcing Steel			2,932
Concrete			
Cement, Conc, Pvmt., Reinf., 11"			
Pour No.1			62.0 Sys.
Pour No.2			59.5 Sys.
Total Cement, Conc. Pvmt.			121.5 Sys.
Miscellaneous			
Subbase For Cement Concrete Pavement			24 Cys.
5/8"ø Threaded Bar Splices			14 Each
* Integral Concrete Curb			2 Lft.

* For Bent No.5 Only.



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



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

NOTES :

(E) Indicates epoxy coated reinforcing steel.

For reinforcing bar notes, see Bridge Standard C1.

R.C. BRIDGE APPROACH DETAILS
INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- As Noted DATE:- August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING:- R14 OF R17 SHEET:- 17 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

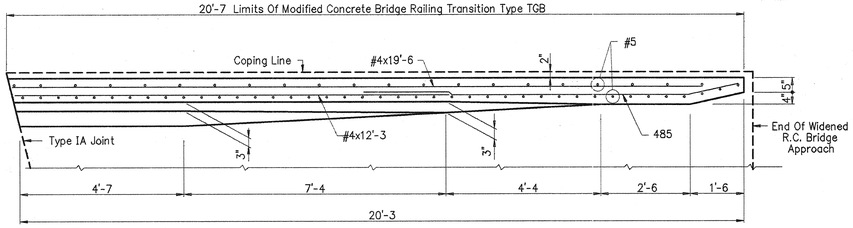
MICHAEL H. MENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	JC 4/18/95	C'K'D	DAD 6/5/95
TRACED		C'K'D	

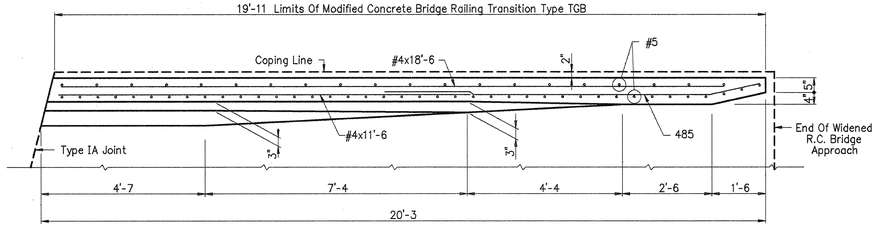
Rev. 9/11/95 Quantities, Delete Railing

DWG FILE: C:\91\B4459B08
PLOT SCALE: 1:24.000
PLOT ORIGIN: 0.00,0.00

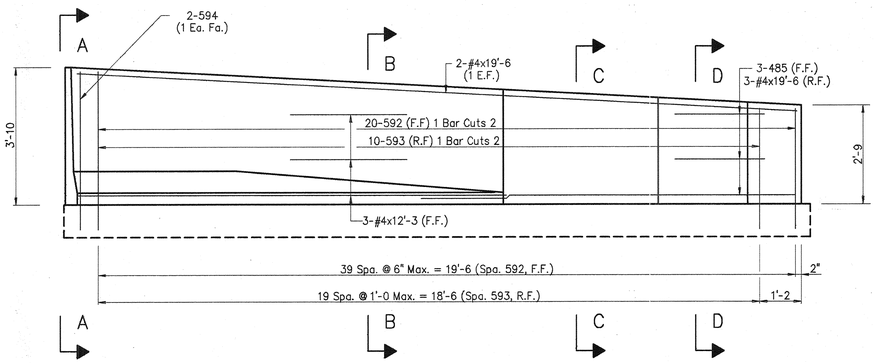
SPELLCHK: 06/08/95
EDIT DATE: 06/11/95
EDITED BY: DSH - 591



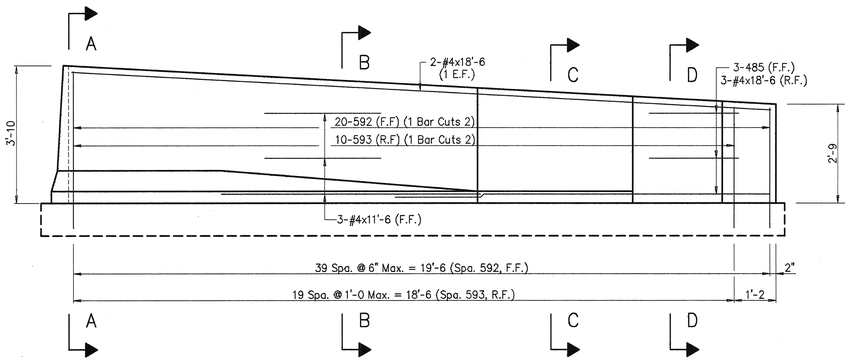
PLAN
(TRANSITION @ WING A OR WING C)
Scale: 1/2" = 1'-0



PLAN
(TRANSITION @ WING B OR WING D)
Scale: 1/2" = 1'-0



ELEVATION
(TRANSITION @ WING A OR WING C)
Scale: 1/2" = 1'-0



ELEVATION
(TRANSITION @ WING B OR WING D)
Scale: 1/2" = 1'-0

BILL OF MATERIALS
(TRANSITION @ WING A OR WING C)

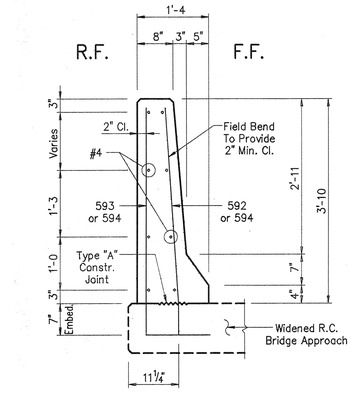
NOTE :
These quantities are for one Modified Concrete Bridge Railing Transition Type TGB. 4 Required.

Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
592	20	9'-0	
593	10	9'-0	
594	2	5'-0	
Total No.5			292
485	3	10'-6	
#4	5	19'-6	
#4	3	12'-3	
Total No.4			111
Total Epoxy Coated Reinforcing Steel			403
Miscellaneous			
Class "C" Concrete			2.2 Cys.
Surface Seal			150 Sft.

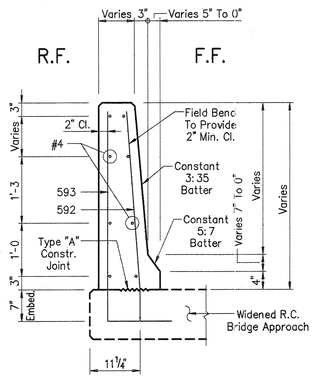
BILL OF MATERIALS
(TRANSITION @ WING B OR WING D)

NOTE :
These quantities are for one Modified Concrete Bridge Railing Transition Type TGB. 4 Required.

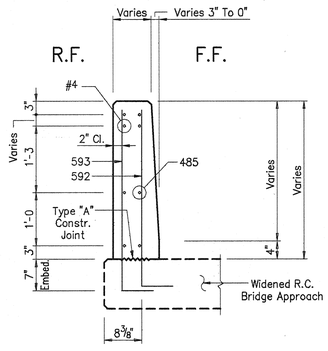
Epoxy Coated Reinforcing Steel			
Size And Mark	No. Of Bars	Length (Feet)	Weight (Lbs.)
592	20	9'-0	
593	10	9'-0	
Total No.5			282
485	3	10'-6	
#4	5	18'-6	
#4	3	11'-6	
Total No.4			106
Total Epoxy Coated Reinforcing Steel			388
Miscellaneous			
Class "C" Concrete			2.1 Cys.
Surface Seal			150 Sft.



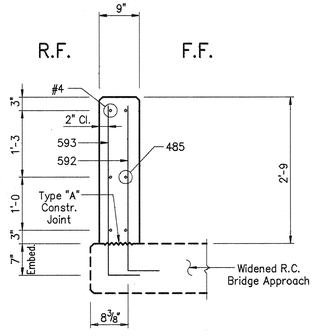
SECTION A-A



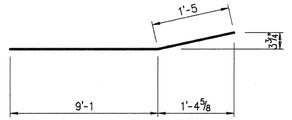
SECTION B-B



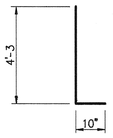
SECTION C-C



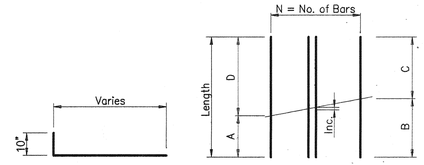
SECTION D-D



485 x 10'-6



594 x 5'-0



Bending Diagram — Cutting Diagram (1 Bar Cuts 2)

Mark	Length	A	B	C	D	N	Inc.
592	9'-0	4'-0	4'-5⅞	4'-6⅛	5'-0	20	5/16" ±
593	9'-0	4'-0	4'-5¾	4'-6¼	5'-0	10	5/8"±

NOTES :

All reinforcing steel to be epoxy coated.

For reinforcing bar notes, see Bridge Standard C1.

Quantities shown for information only. Cost shall be included in the pay item "Modified Concrete Bridge Railing Transition Type TGB, Each".

Minimum Lap for #4 Bar = 1'-7.

MODIFIED CONCRETE BRIDGE RAILING TRANSITION TYPE TGB

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 3/4"= 1'-0, Unless Noted DATE: - August 11, 1995

SUBMITTED FOR APPROVAL

DRAWING: - R15 OF R17 SHEET: - 18 OF 53

PROJECT: - NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE: - I-70-8-2342B

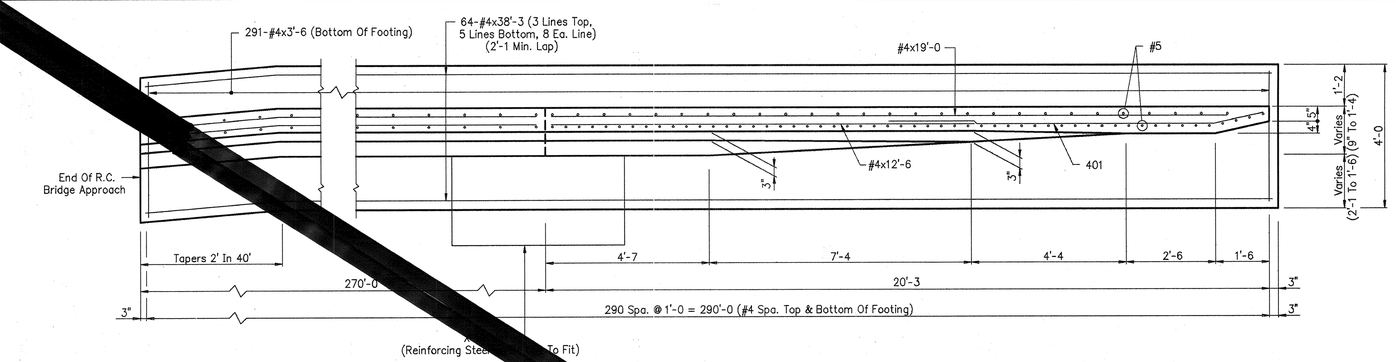
MICHAEL H. WENING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED		C'K'D	
DRAWN	JC 3/21/95	C'K'D	TLH 5/11/95
TRACED		C'K'D	

Rev. 9/11/95 Number Required

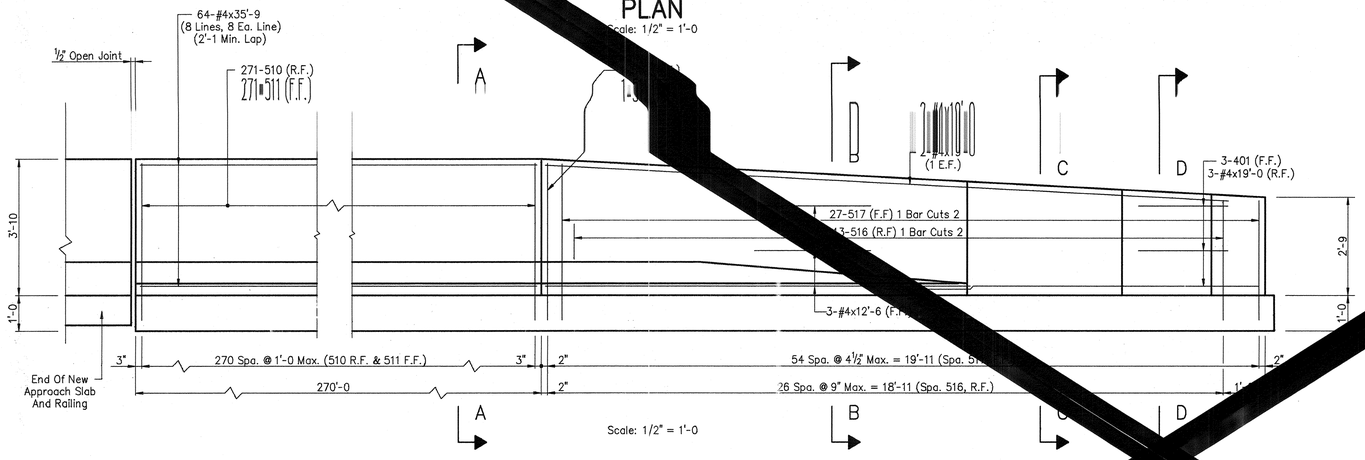
DWG FILE: C:\PE\94456817
PLOT SCALE: 1:16.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 09/11/95
EDITED BY: DSH - S91



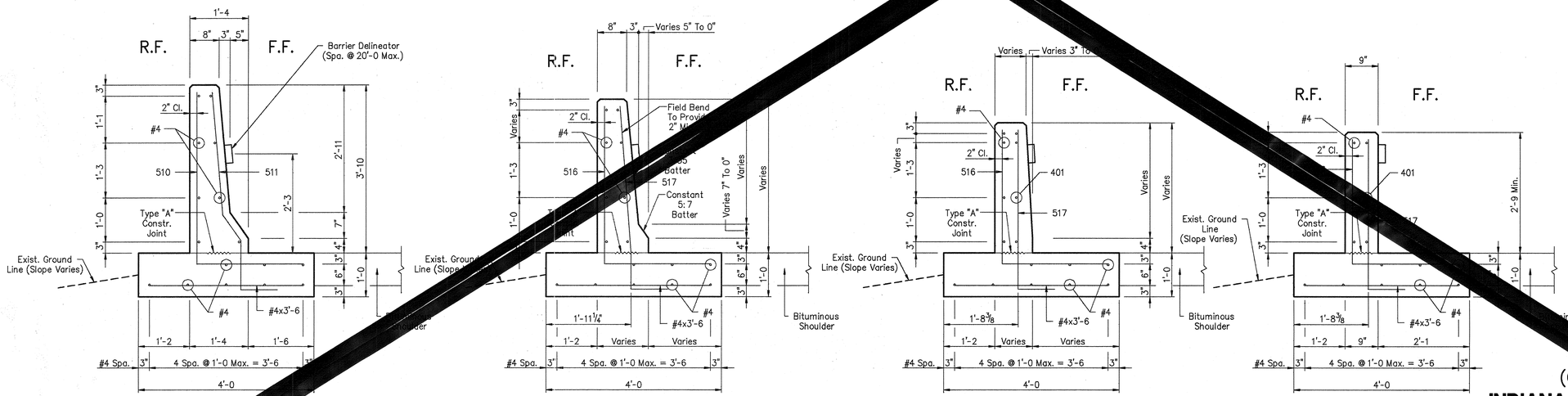
PLAN

Scale: 1/2" = 1'-0



ELEVATION

Scale: 1/2" = 1'-0

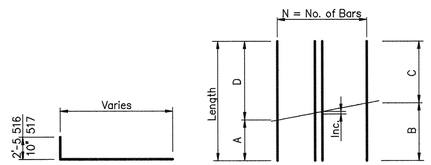


SECTION A-A

SECTION B-B

SECTION C-C

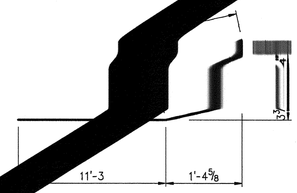
SECTION D-D



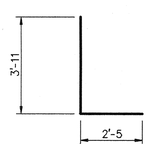
Bending Diagram

Cutting Diagram (1 Bar Cuts 2)

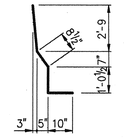
Mark	Length	A	B	C	D	N	
516	11'-6	5'-3	5'-8⅝	5'-9⅜	6'-3	13	
517	9'-6	4'-3	4'-8⅞	4'-9⅜	5'-3		4 ±



401 x 12'-8



510 x 6'-4



511 x 5'-4

BILL OF MATERIALS

NOTE :
These quantities are for [illegible] Concrete Barrier Railing, 2 required.

Epoxy Coated Reinforcing Steel			
Size And	No. Of Bars	Length (Feet)	Weight (Lbs.)
510	272	6'-4	
511	272	5'-4	
516	13	11'-6	
517	27	9'-6	
Total #5			3,733
401	3	12'-8	
#4	64	38'-3	
#4	64	35'-9	
#4	5	19'-0	
#4	3	12'-6	
#4	291	3'-6	
Total #4			3,958
Total Epoxy Coated Reinforcing Steel			7,691

Miscellaneous	
Concrete	
Concrete Railing Class "C"	36.1 Cys.
Class "B" In Footing	43.0 Cys.
Surface Seal	2,440 Sft.
Barrier Delineators	15 Each

Min. Bar Lap	
#4	2'-1

NOTES :

All reinforcing steel to be epoxy coated.

For reinforcing bar notes, see Bridge Standard C1.

Exposed surfaces of railing to be Surface Sealed.

X-5 Inlet is half H-5 Inlet. See Road Standard MD2.

CONCRETE BARRIER DETAILS

(OUTSIDE SHOULDERS @ INCOMING ENDS)

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- 3/4" = 1'-0, Unless Noted DATE: [illegible]st 11, 1995

SUBMITTED FOR APPROVAL [illegible]

DRAWING:- R16 OF R17 SHEET:- 19 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-23428

DESIGNED [illegible] CK'D

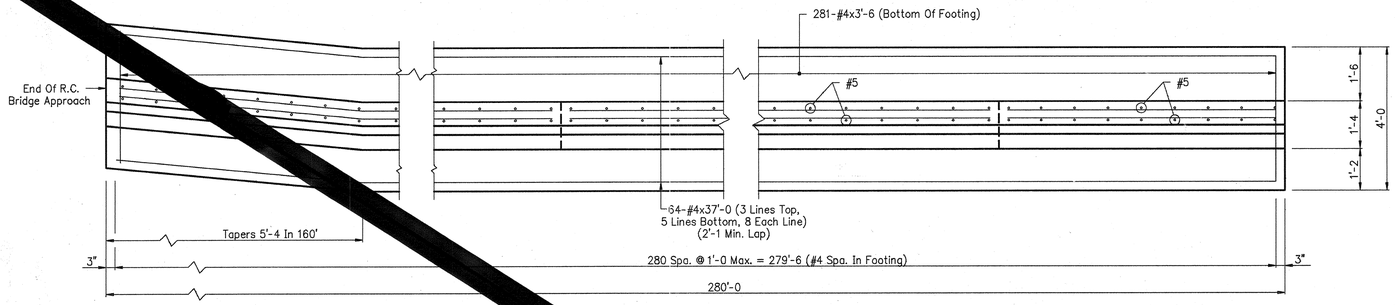
DRAWN [illegible] CK'D MLL 8/8/95

[illegible] CK'D

DWG FILE: C:\94\94458818
PLOT SCALE: 1:16.000
PLOT ORIGIN: 0.00,0.00

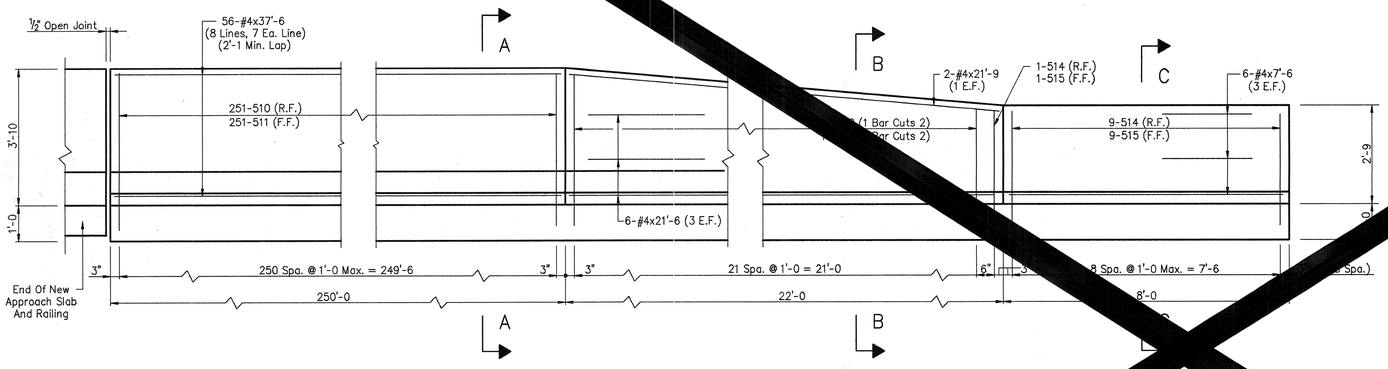
SPELLCHK:
EDIT DATE: 08/11/95
EDITED BY: JC - 557

CHAEL H. WEINING REGISTERED No. 60409 PROFESSIONAL ENGINEER



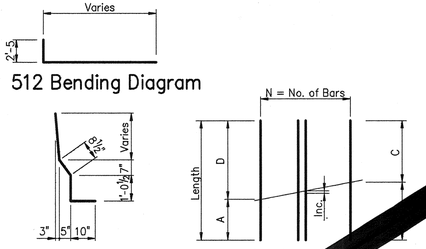
PLAN

Scale: 1/2" = 1'-0

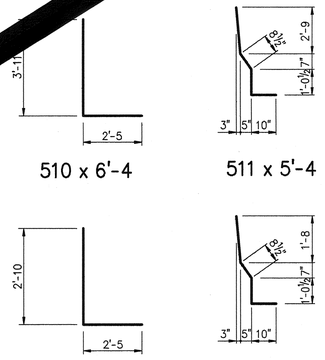


ELEVATION

Scale: 1/2" = 1'-0



Mark	Length	A	B	C	D	N	Inc.
512	11'-8	5'-4	5'-9½	1'-0½	6'-4	11	½" ±
513	9'-8	4'-4	4'-9½	1'-0½	5'-4	11	½" ±



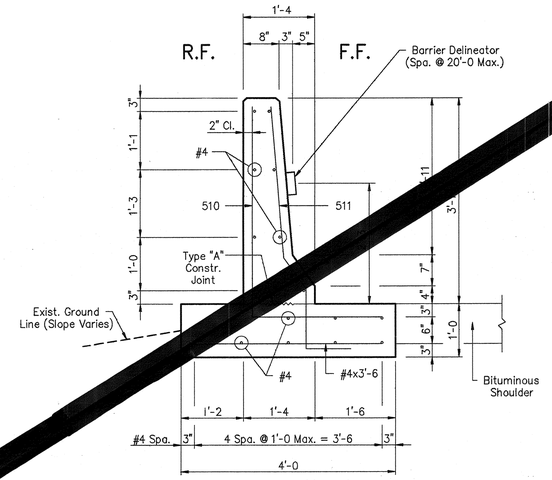
BILL OF MATERIALS

NOTE :
These quantities [illegible] Concrete Barrier Railing, 2 req[illegible]

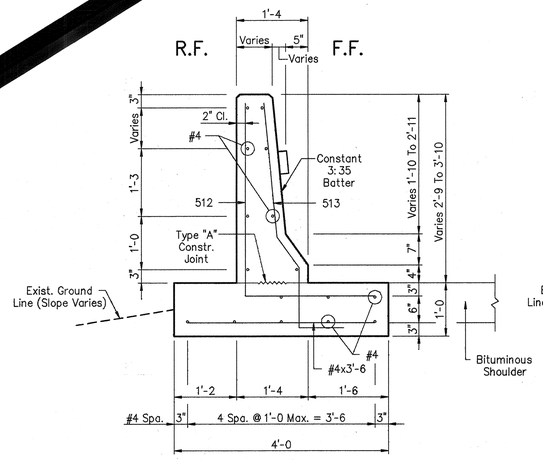
Size	Epoxy Coated Reinforcing Steel No. Of Bars	Length (Feet)	Weight (Lbs.)
510	251	6'-4	
511	251	5'-4	
512	11	11'-8	
513	11	9'-8	
514	10	5'-3	
515	10	4'-3	
Total #5			3,398
#4	56	37'-6	
#4	64	37'-0	
#4	2	21'-9	
#4	6	21'-6	
#4	6	7'-6	
#4	281	3'-6	
Total #4			3,787
Total Epoxy Coated Reinforcing Steel			7,185

Miscellaneous Concrete	
Concrete Railing Class "C"	34.6 Cys.
Class "B" In Footing	41.5 Cys.
Surface Seal	2,340 Sft.
Barrier Delineator	15 Each

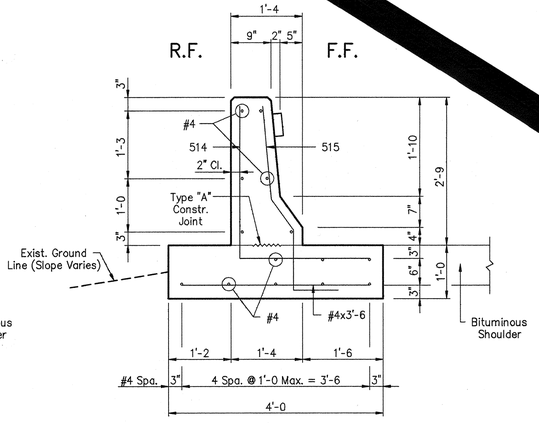
Min. Bar Lap	
#4	2'-1



SECTION A-A



SECTION B-B



SECTION A-A

NOTES :

All reinforcing steel to be epoxy coated.

For reinforcing bar notes, see Bridge Standard C1.

Exposed surfaces of railing to be Surface Sealed.

CONCRETE BARRIER DETAILS

(MEDIAN [illegible]LDERS @ INCOMING ENDS)

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE: - 3/4" = 1'-0, Unless Noted DATE: [illegible] 1995

SUBMITTED FOR APPROVAL [illegible]

DRAWING:- R17 OF R17 SHEET:- 20 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

RAEL H. WENNING REGISTERED No. [illegible] PROFESSIONAL ENGINEER

DESIG[illegible]	8/3/95	C'K'D	
[illegible]		C'K'D	MLL 8/8/95
[illegible]		C'K'D	

DWG FILE: C:\94\944598620
PLOT SCALE: 1:16.005
PLOT ORIGIN: 0.00,0.00

SPELLCHK:
EDIT DATE: 08/11/95
EDITED BY: JC - S57

STRUCTURE QUANTITIES

BRIDGE FILE: I-70-8-2342B

ITEM	CONCRETE: CLASS C IN SUPERSTR. CU. YDS.	CLASS A IN SUBSTR. CU. YDS.	CLASS B IN FOOTING CU. YDS.	CONCRETE RAILING CLASS C: CU. YDS.	CONCRETE RAILING CLASS C: LIN. FT.	CONCRETE PAVEMENT REINF., 11" SYS.	SUBBASE FOR CEMENT CONC. PVM'T. SYS.	REINF. STEEL TOTAL LBS.	STRUCT. STEEL *** LBS.	EPOXY COATED REINF. STEEL LBS.	SLOPEWALL, 4" SYS.	ANCHOR PLATES MK-AP3 EACH	ANCHOR PLATES MK-AP4 EACH	PILES: EPOXY COATED SHELLS NO.	EPOXY COATED SHELLS LIN. FT.	TREATED TIMBER NO.	TREATED TIMBER LIN. FT.	STEEL ENCASED CONCRETE NO.	STEEL ENCASED CONCRETE LIN. FT.	STEEL H BEARING NO.	STEEL H BEARING LIN. FT.	CAST IRON, GRATES, BASINS & FITTINGS LBS.	EXPANSION JOINT TYPE BS9 LIN. FT.	EXPANSION JOINT TYPE BS11 LIN. FT.	EXPANSION JOINT CLASS SS LIN. FT.	CONC. STR. MEMBERS: BOX BEAMS TYPE SQ. FT.	CONC. STR. MEMBERS: I BEAM TYPE LIN. FT.	3/4" ø THREADED BAR SPLICE EACH	WELDED SHEAR CONNECTORS EACH	BARRIER DELINEATOR EACH	FIELD DRILLED HOLES IN CONCRETE EACH	7/8" ø THREADED BAR SPLICE EACH	SURFACE SEAL * SQ. FT.	5/8" ø THREADED BAR SPLICE EACH	FIELD DRILLED HOLES EACH	BITUM. CURB LIN. FT.	INTEGRAL CONCRETE CURB LIN. FT.
SUPERSTRUCTURE																																						
W.B.L.	271.1			53.0						60,835												384						114	2,848	24	94	10	12,230	626	182		
E.B.L.	271.1			53.0						60,835												384						114	2,848	24	94	10	12,230	626	182		
SUBSTRUCTURE																																						
BENT NO.1 (W.B.L.)		3.1								375																								60			
BENT NO.5 (W.B.L.)		3.1								375	337.8																							60			
BENT NO.1 (E.B.L.)		3.1								375																								60			
BENT NO.5 (E.B.L.)		3.1								375	337.8																							60			
R.C. BRIDGE APPROACH																																						
BENT NO.1 (W.B.L.)						121.5	24	2,932		925																									14			
BENT NO.5 (W.B.L.)						121.5	24	2,960		925																									13		20	2
BENT NO.1 (E.B.L.)						121.5	24	2,960		925																									13			
BENT NO.5 (E.B.L.)						121.5	24	2,932		925																									14		5	2
Reinf. Steel For Approach Structures																																						
Reinf. Steel For Lip Gutter, Pvmt., Tapers, etc.																																						
TOTALS	542.2	12.4		106.0		486	96	11,784		126,870	675.6											768						228	5,696	48	188	20	24,700	1,306	364	25	4

STRUCTURE SUMMARY

STRUCTURE NUMBER	LOCATION	LEFT	RIGHT	CROSS	SIZE INCHES	DESCRIPTION: GROUP	DESCRIPTION: SEE RD. STD. SHEET "MP" FOR ACCEPTABLE TYPE OF PIPE IN WITHIN EACH GROUP	LENGTH FT.	SKEW	FLOW LINE: COVER FT.	FLOW LINE: UP STREAM ELEV.	FLOW LINE: DOWN STREAM ELEV.	CONC. CL. A IN STRS. CU. YDS.	"B" BORROW FOR STR. BACKFILL CU. YDS.	METHOD OF BACKFILL	THICKNESS: STEEL *	THICKNESS: ALUM. *	VELOCITY	RIPRAP SYS.	PIPE END SECTION EACH	REINF. STEEL LBS.	REMARKS
10	Bent 1 WBL	X			12		Inlet Type U F.B.C.L.C.S.	40			514.1±	513.5±				0.064							Connect to Str. 11
11	Bent 1 WBL		X		12		Inlet Type W F.B.C.L.C.S.	55			514.5±	*				0.064							Connect to Str. 13
12	Bent 1 EBL	X			12		Inlet Type U F.B.C.L.C.S.	40			514.4±	513.8±				0.064							
13	Bent 1 EBL		X		12		Inlet Type W F.B.C.L.C.S.	55			514.8±	*				0.064							
												TOTALS										Total Of Reinforcing Steel Carried To "Structure Quantities"

* Pipe to Drain to Toe of Slope

APPROACH TABLE

LOCATION LT/RT	LOCATION STATION	DESCRIPTION	WIDTH FT.	RADII FT.	GRADE %	LENGTH FT.	DISTANCE BEYOND R/W FT.	EXCAVATION (CYS.) CUT	EXCAVATION (CYS.) FILL	BITUMINOUS SURFACE LBS./SYD.	BITUMINOUS SURFACE TONS	BITUMINOUS BINDER LBS./SYD.	BITUMINOUS BINDER TONS	BITUMINOUS BASE LBS./SYD.	BITUMINOUS BASE TONS	COMP. AGG. BASE DEPTH (IN.)	COMP. AGG. BASE TONS

F.B.C.L.C.S. ---Fully Bituminous Coated & Lined Corrugated Steel

C.S.A.C., 2--- Corrugated Steel Aluminum Coated, Type 2

NOTES :

Weight of Spirals includes weight of 1½ extra turns top and bottom.

Spacers and 1½ turns at laps included in cost of Spiral.

* Estimated Quantity, to be paid for as "LSUM".

** If the Contractor elects to use metal pipe, the thickness shall be as shown in the Approach Quantity Table.

*** 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.

TEMPORARY EROSION AND SEDIMENT CONTROL SUMMARY

LT. OR RT.	STATION TO STATION	Perimeter Protection LFT	Drainage Barrier LFT	Interceptor Ditch LFT	Slope Drain LFT	Straw Bale Ditch Chk LFT	Riprap Ditch Chk LFT	Sediment Trap CYS	Sediment Basin CYS	Culvert Pipe Protection EACH	Drop Inlet Protection EACH	Curb Inlet Protection EACH
TOTALS												

PAVED SIDE DITCH AND SODDING SUMMARY

LT. 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. YDS.): FOR PSD	FOR DITCHES	SHOULDERS	OTHER	TOTAL SOD
TOTALS													

REVISIONS

DATE	ITEM
9/11/95	Rev.: Conc. Rail, Cl. C, 11" R.C. Pvmt., Epoxy Coated Reinf. Steel, Surface Seal, Bitum. Curb, Conc. Curb, F.B.C.L.C.S. Pipe Reinf. Steel
	Del.: Conc. Cl. B In Ftg., Str.14, Str.15

BRIDGE SUMMARY
INDIANA DEPARTMENT OF TRANSPORTATION

DATE:- August 11, 1995

SUBMITTED FOR APPROVAL .....

SHEET:- 21 OF 53

PROJECT:- NH-70-1(084)8

CONTRACT NO. B-22132

BRIDGE FILE:- I-70-8-2342B

MICHAEL H. WENNING REGISTERED No. 860409 STATE OF INDIANA PROFESSIONAL ENGINEER

SUMMARIZED DAD 6/7/95 C'K'D JC 6/7/95

TRACED JC 6/7/95 C'K'D DAD 6/7/95

DWG FILE: C:\P4\94459B19
PLOT SCALE: 1:1.000
PLOT ORIGIN: 0.00,0.00

SPELLCHK: 06/08/95
EDIT DATE: 09/11/95
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