CONTRACT No. B-22476

BRIDGES OVER 20' SPAN					
FEDERAL REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	ST-056-5(L)	19	1	30

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
ST-056-5(L)	54-28-6005A	CONTINUOUS PLATE GIRDER	1 @ 83'-6" 1 @ 100'-6" 1 @ 83'-6"	RICHLAND CREEK	

SHEET NO	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL
1		INDEX AND TITLE SHEET	
2		TRAFFIC MAINTENANCE DETAIL	
3		GENERAL PLAN AND CONCRETE BRIDGE RAIL DETAILS	
4		BENT No.1 & BENT No.4 DETAILS AND R.C. BRIDGE APPROACH DETAIL	
5		SUPERSTRUCTURE DETAILS	
6-30		STANDARD DRAWINGS	

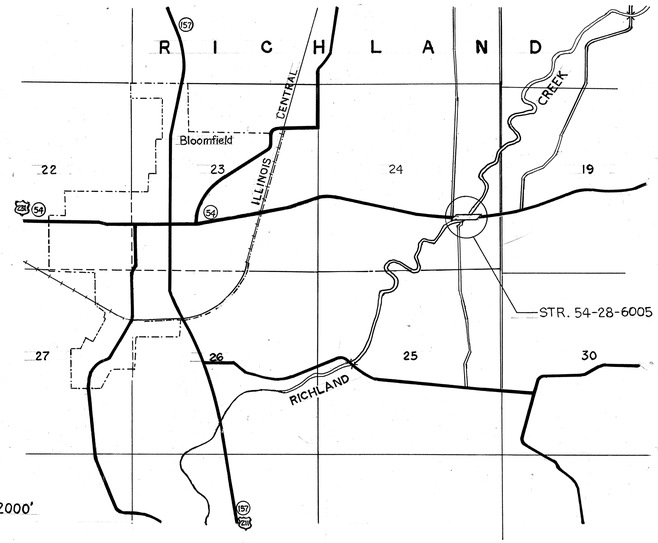
INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS

FOR SPANS OVER 20 FEET ON STATE ROAD NO. 54

PROJECT NO. ST-056-5(L)

THIS STRUCTURE IS LOCATED ON S.R. 54 OVER RICHLAND CREEK APPROXIMATELY 1.66 MILES EAST OF JUNCTION WITH S.R. 157. @ R.P. 39 + 46



SITUATION PLAN

TRAFFIC DATA		
A.A.D.T (1992)	4,910	V.P.D.
A.A.D.T (2002) PROJECTED)	6,570	V.P.D.
D.H.V. (19 PROJECTED)		V.P.D.
DIRECTIONAL DISTRIBUTION		%
TRUCKS		% D.H.V.
		% A.A.D.T.

DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON FREEWAY)
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
RURAL/URBAN	RURAL
TERRAIN	ROLLING
ACCESS CONTROL	NONE

B-22476

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	F.H.W.A. APPROVAL	ADOPTED "A" REVISION "R"
6	BRIDGE STD. BR1	CONCRETE BRIDGE RAILING TRANSITION TYPE T6B	03-09-93	A AUG 1992
7	BRIDGE STD. BR1A	CONCRETE BRIDGE RAILING TRANSITION TYPE T6B	03-09-93	A AUG 1992
	BRIDGE STD. BR3	STEEL BRIDGE RAILING		
	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS		
	BRIDGE STD. BR5	RAILING CONNECTION DETAILS		
	BRIDGE STD.			
8	BRIDGE STD. C1	MISCELLANEOUS DETAILS	01-26-93	A DEC 1992
	BRIDGE STD. C2	MISCELLANEOUS DETAILS		
9	BRIDGE STD. C3	MISCELLANEOUS DETAILS	01-26-95	R 01-03-95
	BRIDGE STD. C4	MISCELLANEOUS DETAILS		
	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAINS		
	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		
	BRIDGE STD. S1	MISCELLANEOUS DETAILS		
	BRIDGE STD. SH1	STEEL SHOE DETAILS		
	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.			
	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
	ROAD STD. SHEET B	STANDARD PAVEMENT JOINTS		
10	ROAD STD. SHEET CCPJ-4	TRANSVERSE CONSTRUCTION JOINT	PENDING	R 09-01-95
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
11	ROAD STD. SHEET RCBA-1	REINFORCED CONCRETE BRIDGE APPROACH	PENDING	R 10-02-95
12	ROAD STD. SHEET RCBA-2	REINFORCED CONCRETE BRIDGE APPROACH	PENDING	R 11-01-95
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
13	ROAD STD. SHEET B-1	BRIDGE APPROACH GUARD RAIL	03-09-93	A AUG 1992
	ROAD STD. SHEET			
14	ROAD STD. SHEET E-2	GUARD RAIL END TREATMENT TYPE OS	PENDING	R 11-01-95
15	ROAD STD. SHEET E-4	CURVED W-BEAM GUARD RAIL SYSTEM	03-09-93	A AUG 1992
16	ROAD STD. SHEET E-4A	CURVED W-BEAM GUARD RAIL SYSTEM	03-09-93	A AUG 1992
17	ROAD STD. SHEET E-4B	CURVED W-BEAM GUARD RAIL SYSTEM	03-09-93	A AUG 1992
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
18	ROAD STD. SHEET G-1	W-BEAM GUARD RAIL COMPONENTS	03-09-93	A AUG 1992
19	ROAD STD. SHEET G-2	THRIE-BEAM GUARD RAIL COMPONENTS	07-20-92	A DEC 1991
20	ROAD STD. SHEET G-3	W-BEAM GUARD RAIL ASSEMBLIES	07-20-92	A DEC 1991
	ROAD STD. SHEET GR	GUARD RAIL CLASS		
	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS		
	ROAD STD. SHEET GR6	STEEL TUBE GUARD RAIL DETAILS		
	ROAD STD. SHEET GR7	GUARD RAIL PIER CONNECTION DETAILS		
	ROAD STD. SHEET GR8	STEEL BEAM GUARD RAIL		
	ROAD STD. SHEET GR9	ALUMINUM BEAM GUARD RAIL		
	ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS		
	ROAD STD. SHEET GR10A	GUARD RAIL BREAKAWAY CABLE TERM.		
21	ROAD STD. SHEET T-1	GUARD RAIL TRANSITION TYPE T6B	03-09-93	A AUG 1992
22	ROAD STD. SHEET CB2	TEMPORARY CONCRETE BARRIER	PENDING	R 05-01-95
23	ROAD STD. SHEET CB2A	TEMPORARY CONCRETE BARRIER	01-21-94	A NOV 1993
	ROAD STD. SHEET 1 DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1A DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 1B DETOURS	STANDARD DETOUR SIGNS		
	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS		
24	ROAD STD. SHEET 2A DETOURS	STANDARD DETOUR SIGNS	PENDING	R 10-02-95
25	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS	PENDING	R 09-01-88
26	ROAD STD. SHEET 3A DETOURS	STANDARD DETOUR SIGNS	PENDING	R 09-01-88
27	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS	01-11-89	R 09-01-88
	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS		
28	TRAFFIC STD. SHEET MT 3	MISCELLANEOUS STANDARDS	08-05-88	R 05-01-88
29	TRAFFIC STD SHEET MT 18	MISCELLANEOUS STANDARDS	01-06-88	A NOV 87
30	TRAFFIC STD SHEET MT 19	MISCELLANEOUS STANDARDS	01-06-88	A NOV 87

PLANS PREPARED BY:
Randall J. Straw
(317) 232-5157

APPROVED FOR LETTING:
Phillip R. Kliska
CHIEF, DIVISION OF DESIGN, INDIANA DEPARTMENT OF TRANSPORTATION

DES No. 9303820

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 1995
TO BE USED WITH THESE PLANS.

REVISIONS	
DATE	SHEET NO.
05-01-96	1, 2

REVISIONS	
DATE	SHEET NO.

CERTIFIED BY:
George M. Snyder 12-2[illegible]
BRIDGE REHABILITATION ENGINEER

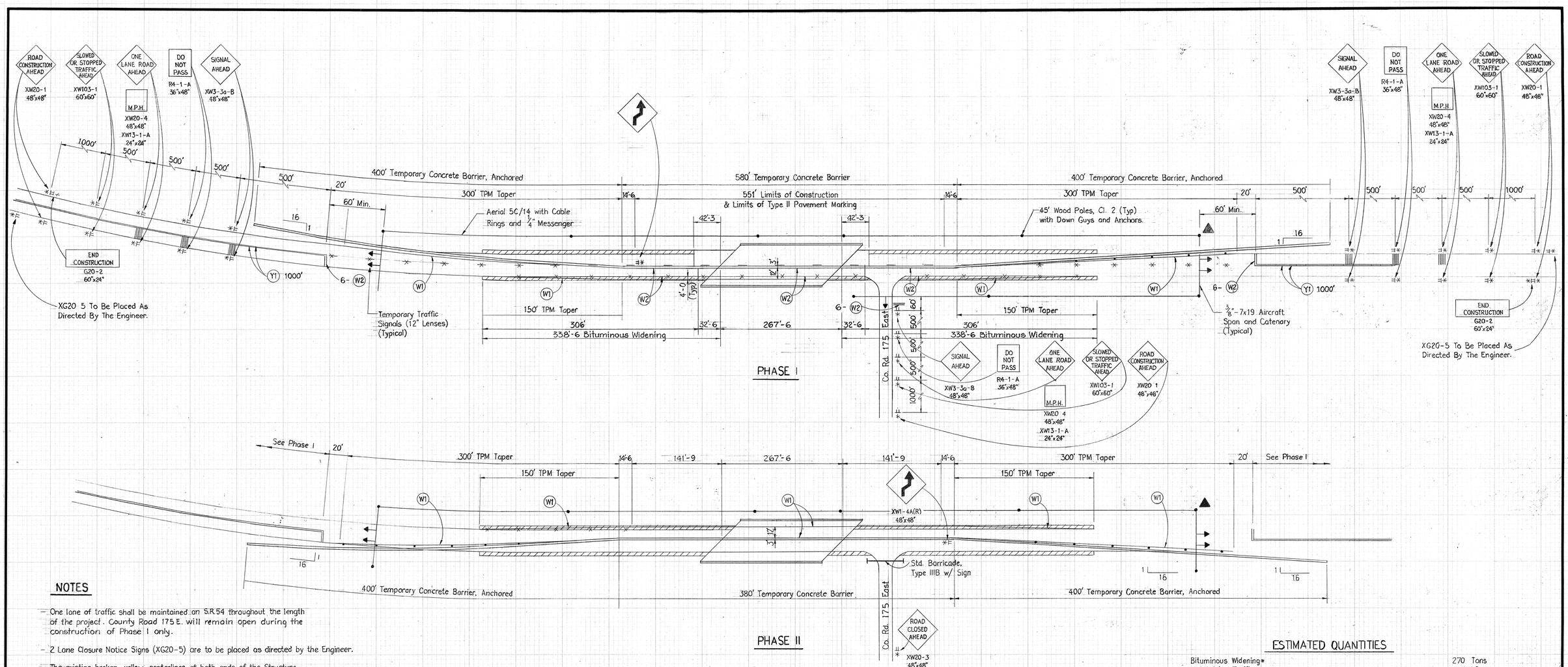
GEORGE SNYDER REGISTERED No. 10201 STATE OF INDIANA PROFESSIONAL ENGINEER

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION
APPROVED:
DIVISION ADMINISTRATOR DATE

BRIDGE FILE: 54-28-6005A

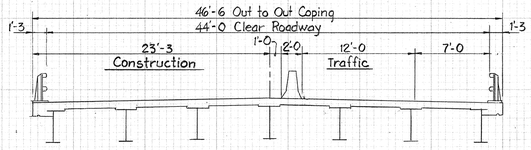
SP-22427

TP100

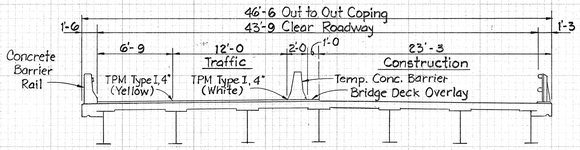


NOTES

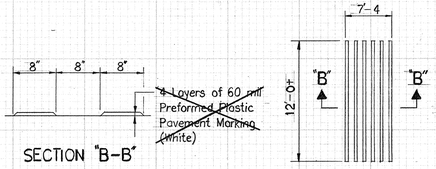
- One lane of traffic shall be maintained on S.R.54 throughout the length of the project. County Road 175 E. will remain open during the construction of Phase I only.
- 2 Lane Closure Notice Signs (XG20-5) are to be placed as directed by the Engineer.
- The existing broken, yellow, centerlines at both ends of the Structure shall be removed between the Stop Bar and the Temporary Concrete Barrier before one lane of traffic is established on the Structure.
- The existing solid, white pavement edge lines adjacent to the bituminous widening and on the bridge deck and approach pavement shall be removed from the eastbound lane prior to setting the Temporary Concrete Barrier for repair of the westbound lane in Phase 1.
- The existing solid, white pavement edge lines adjacent to the bituminous widening outside the limits of the bituminous wedge placed in Phase I shall be removed prior to setting the Temporary Concrete Barrier Rail for repair of the eastbound lane in Phase II.



PHASE I



PHASE II



SECTION "B-B"

DETAIL OF BUZZ STRIPS

LEGEND

- Bituminous Widening to Remain in Place (See Mat'l Notes Sheet 5)
- Temporary Concrete Barrier
- Remove Existing Pavement Striping
- Construction Sign Type A
- Low Intensity Flashing Yellow Light (Type A) (Not a Pay Item)
- Standard Drum with Type "C" Steady Burning Light (Not a Pay Item)
- W1 Temporary Pavement Marking Type I, White, 4"
- Y1 Temporary Pavement Marking Type I, Yellow, 4"
- W2 Temporary Pavement Marking Type II, White, 4"
- Buzz Strips. See Detail This Sheet.

▲ CONTROLLER AND SERVICE

The Contractor is to furnish sufficient poles at 200'± spacing to reach the service point from controller. Location of controller may be changed if other service points are more accessible.

Poles are to be placed as for as possible from the edge of pavement within the Right-of-Way

Controller to be controlled by Loop Detectors.

ESTIMATED QUANTITIES

Bituminous Widening*	270	Tons
Maintaining Traffic	1	LSum
Temporary Traffic Signal with Loop Detectors	1	LSum
Temporary Concrete Barrier	580	LFt.
Temporary Concrete Barrier, Anchored	800	LFt.
Construction Signs, A	33	Each
Construction Signs, B	3	Each
Temporary Pavement Marking, Type I, White, 4"	2960	LFt.
Temporary Pavement Marking, Type I, Yellow, 4"	4000	LFt.
Temporary Pavement Marking, Type II, White, 4"	1390	LFt.
Buzz Strips	452	LFt.
Line, Remove	1440	LFt.
Standard Barricade, Type IIIB with Sign	2	Each

* Included in the pay item "Bituminous Mixture for Approaches, MV"

PERMANENT PAVEMENT MARKINGS

Line, Paint, Solid, White, 4"	1865	LFt.
Line, Paint, Broken, Yellow, 4"	305	LFt.
Snowplowable Raised Pavement Marker	7	Each

TRAFFIC MAINTENANCE DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- NONE DATE:- 19

SENIOR DESIGNER

DRAWING:- OF SHEET:- 2 OF 30

PROJECT:- ST-056-5 (L) STATION:-

BRIDGE CONTRACT NO. B-22476

BRIDGE FILE:- 54-28-6005A

GEORGE SNYDER REGISTERED No. 10324 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED RFS C'K'D GMS & GFC

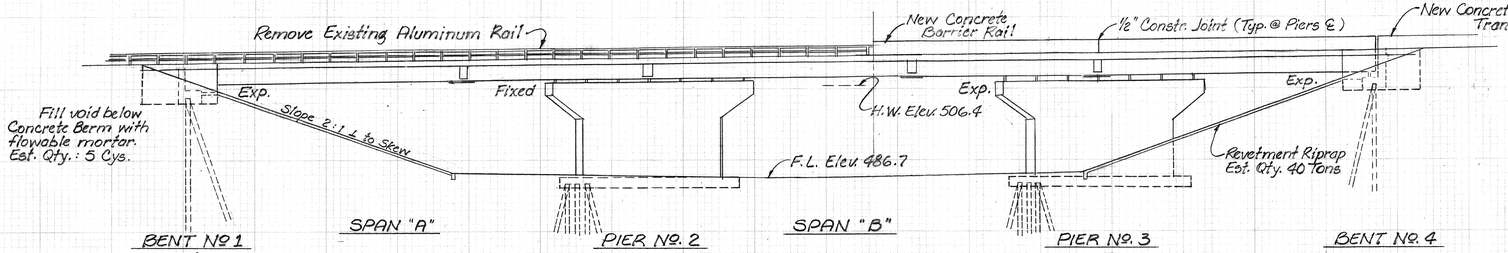
DRAWN CZU: 11/95 C'K'D RFS: 11/95

TRACED C'K'D

SF-22317

Rev: 05-01-96; Deleted Buzz Strip Detail Note

STRUCTURE BUILT ON A +0.84% GRADE

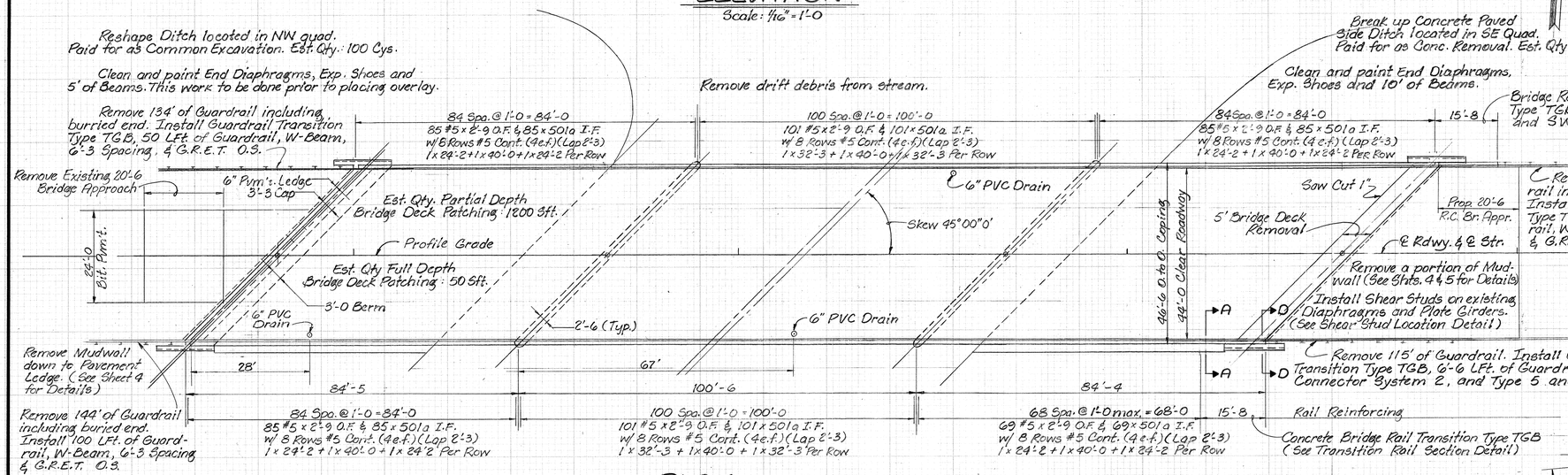


HALF ELEVATION SHOWING REMOVAL

HALF ELEVATION SHOWING RECONSTRUCTION

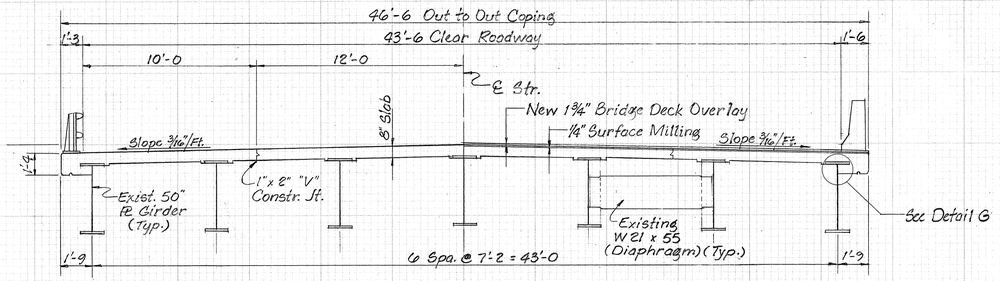
ELEVATION

Scale: 1/16" = 1'-0



PLAN

Scale: 1/16" = 1'-0

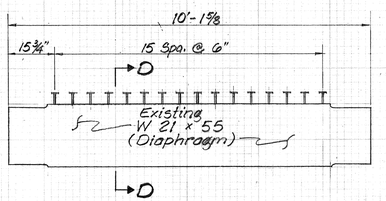


HALF SECTION SHOWING REMOVAL

HALF SECTION SHOWING RECONSTRUCTION

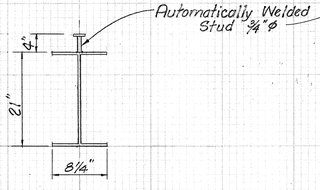
TYPICAL SECTION

Scale: ¼" = 1'-0



SHEAR STUD LOCATION DETAIL

Scale: ½" = 1'-0



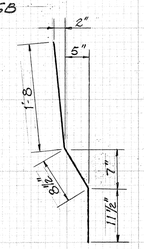
SECTION D-D

Scale: ¾" = 1'-0

Stud Spacing
First row of Studs spaced 6" from end of beam. 2 additional rows spaced 12". 6 Studs each beam line.

DETAIL G

Scale: 1" = 1'-0



501a x 3'-4

GENERAL NOTES

Plans of existing structure are on file in the Bridge Department, Indiana Department of Transportation as Bridge No. 54-28-6005.

Reinforcing Steel covering to be 2½ inches in top and 1 inch min. in bottom of floor slabs and 2 inches in all other parts, unless noted.

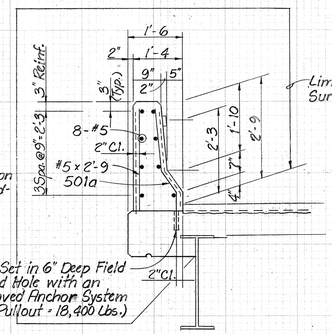
Bevel Forms ½" under Copings, Chamfer Edges 1" unless noted.

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

Field drilled holes in concrete shall extend to a depth required to embed a bar 6" with an approved anchor system having a minimum pullout equal to 18,400 Lbs. for #5 bars.

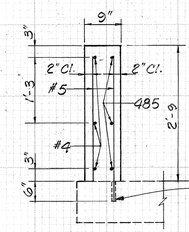
MATERIAL NOTE

Bridge Deck Overlay: 1¾" min. Portland Cement Concrete



TYPICAL RAIL SECTION

Scale: ½" = 1'-0



NOTE:
SEE BR. STD. BR 1 FOR ADDITIONAL SECTIONS (TYPICAL ANCHORAGE ON ALL SECTIONS)

#5 Set in 6" Deep Field Drilled Hole with an Approved Anchor System (Min. Pullout = 18,400 Lbs.)

TRANSITION RAIL SECTION D-D

No Scale

GENERAL PLAN and CONCRETE BRIDGE RAIL DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- AS NOTED DATE:- 19

SENIOR DESIGNER

DRAWING:- OF SHEET:- 3 OF 30

PROJECT:- ST-056-5(L) STATION:-

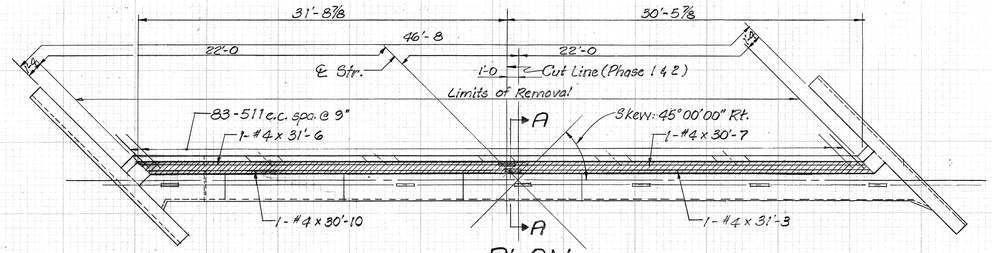
BRIDGE CONTRACT NO. B-22476

BRIDGE FILE:- 54-28-6005A

GEORGE SNYDER REGISTERED No. 10201 STATE OF INDIANA PROFESSIONAL ENGINEER

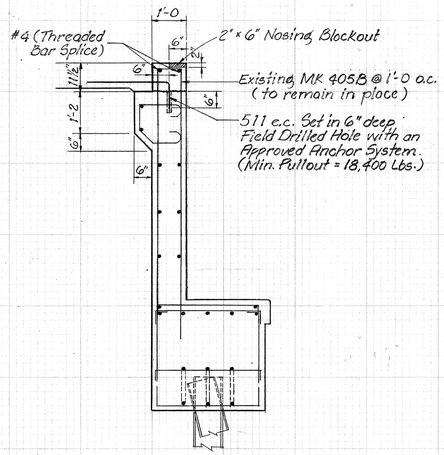
DESIGNED RFS C'K'D GMS & GFC
DRAWN CZU: 09/95 C'K'D RFS
TRACED ____ C'K'D ____

SF-22317

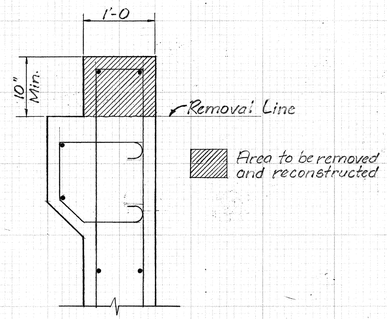


PLAN
BENT NO. 1
No Scale

Area to be reconstructed



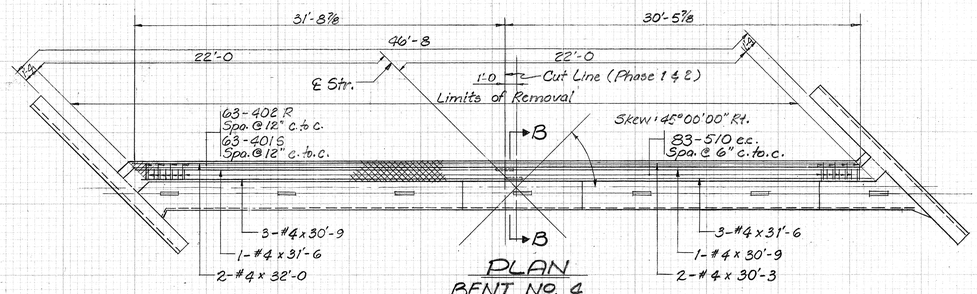
SECTION A-A
Scale: ½" = 1'-0



REMOVAL DETAILS
(BENT NO. 1)
Scale: 1" = 1'-0

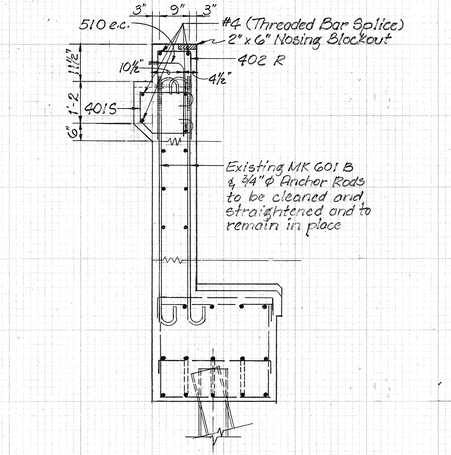
BENT NO. 1
BILL OF MATERIALS

SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
REINFORCING STEEL			
#4	1	31'-6	
#4	1	30'-10	
#4	1	30'-7	
#4	1	31'-3	
TOTAL #4			83
EPOXY COATED REINF. STEEL			
511 ec	83	3'-2	
TOTAL EPOXY COATED #5			274
MISCELLANEOUS			
THREADED BAR SPLICES			2 EA.
FIELD DRILLED HOLES IN CONCRETE			83 EA.
CONCRETE			
CLASS "A" IN SUBSTRUCTURE			2.2 CYS

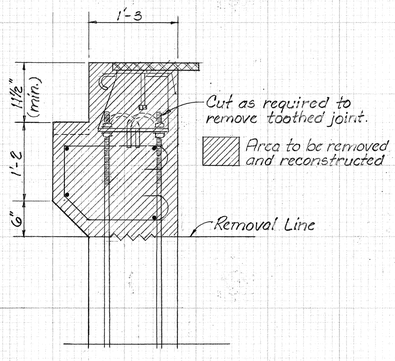


PLAN
BENT NO. 4
No Scale

Area to be reconstructed



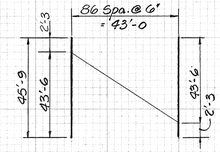
SECTION B-B
Scale: ½" = 1'-0



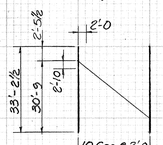
REMOVAL DETAILS
(BENT NO. 4)
Scale: 1" = 1'-0

BENT NO. 4
BILL OF MATERIALS

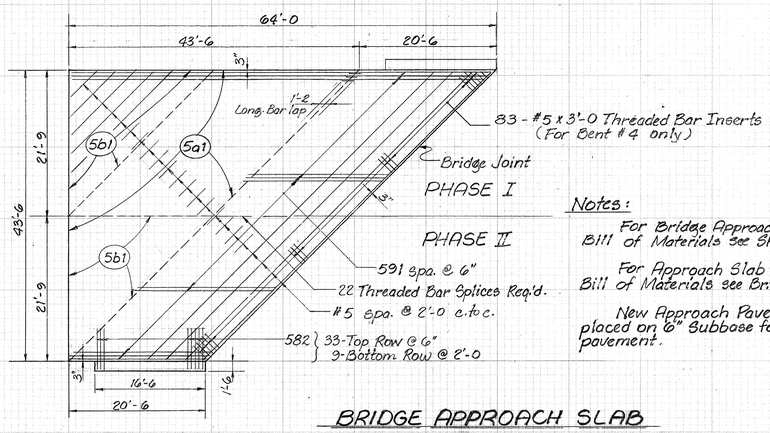
SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
REINFORCING STEEL			
#4	2	32'-0	
#4	4	31'-6	
#4	4	30'-6	
#4	2	30'-3	
MK 401 S	63	4'-9	
402 R	63	5'-5	
TOTAL #4			677
EPOXY COATED REINF. STEEL			
510 ec	83	2'-10	
TOTAL EPOXY COATED #5			245
MISCELLANEOUS			
THREADED BAR SPLICES			6 EA.
CONCRETE			
CLASS "A" IN SUBSTRUCTURE			9 CYS.



CUTTING DIAGRAM ~ 5a1
Diagram for longitudinal steel
One cuts both Approaches



CUTTING DIAGRAM ~ 5b1
Diagram for transverse steel
2 required for each Approach



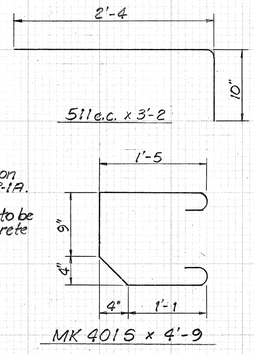
BRIDGE APPROACH SLAB
Scale: 3/32" = 1'-0

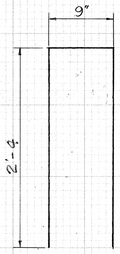
Notes:

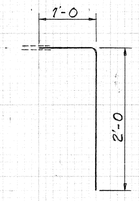
For Bridge Approach Bill of Materials see Sheet 5.

For Approach Slab Extension Bill of Materials see Br. Std. BR-1A.

New Approach Pavements to be placed on 6" Subbase for Concrete pavement.







BENT NO. 1 and BENT NO. 4 DETAILS & R.C. BRIDGE APPROACH DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- AS NOTED DATE:- 19

SENIOR DESIGNER

DRAWING:- OF SHEET:- 4 OF 30

PROJECT:- ST-056-5(L) STATION:-

BRIDGE CONTRACT NO. B-22476

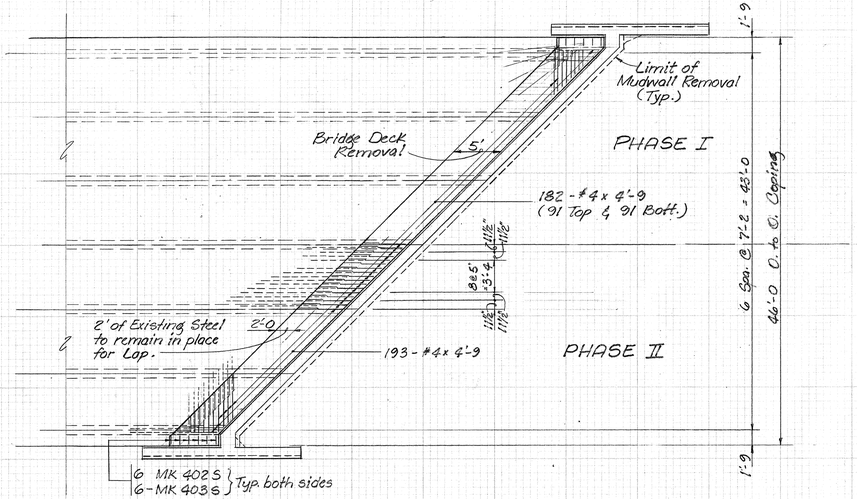
BRIDGE FILE:- 54-28-6005A

DESIGNED RFS C'K'D GMS & GFC
DRAWN CZU: 08/95 C'K'D RFS
TRACED C'K'D

SF-22317

GEORGE SNYDER REGISTERED STATE OF INDIANA PROFESSIONAL ENGINEER

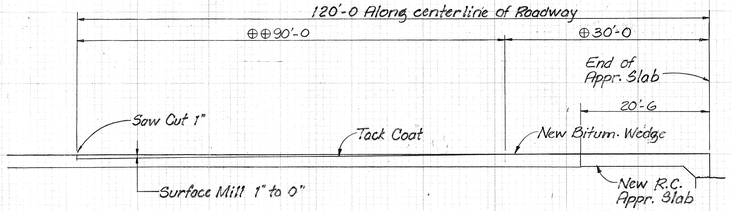
Note: Transverse Steel in deck along removal line of Phase I to remain in place in order to obtain 2' splice.



RECONSTRUCTION PLAN @ BENT NO. 4

Scale : ⅛" = 1'-0

⊕ Top of Wedge shall be a continuation of bridge deck profile.
⊕⊕ Top of Wedge shall be tapered uniformly to meet exist. pavement.



BITUMINOUS WEDGE APPROACH SECTION

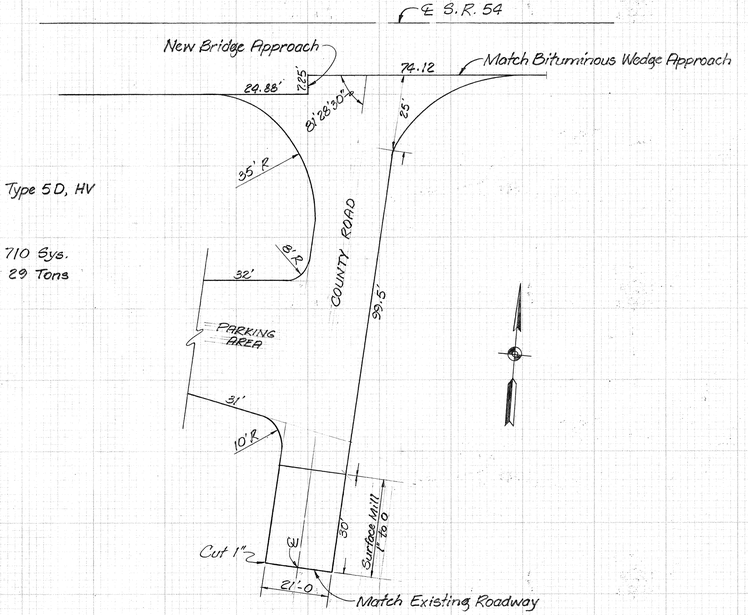
No Scale

SUPERSTRUCTURE BILL OF MATERIALS

SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
REINFORCING STEEL			
#5	182	4'-9	
#5	4	2'-3	
#5	4	2'-8	
#5	4	3'-2	
#5	4	3'-7	
#5	4	4'-1	
#5	4	4'-7	
#5	2	5'-9	
#5	2	7'-6	
#5	4	10'-0	
	TOTAL	#5	1,057
#4	193	4'-9	
MK 402S	12	3'-5	
MK 403S	12	1'-6	
	TOTAL	#4	657
EPOXY COATED REINF. STEEL			
BRIDGE RAIL			
#5	64	24'-2	
#5	48	40'-0	
#5	32	32'-3	
#5	539	2'-9	
501a	523	3'-4	
580	32	3'-3	
TOTAL EPOXY CORTED #5			8,165
CONCRETE			
CLASS "A" IN SUPERSTRUCTURE			8.6 CYS.
CONCRETE RAILING CLASS "A"			52.4 CYS.
MISCELLANEOUS			
¾" ϕ AUTOMATICALLY WELDED SHEAR STUDS			138 EA.
FIELD DRILLED HOLES			558 EA.
SURFACE SEAL			5100 EA.
BARRIER DELINEATORS			28 EA.

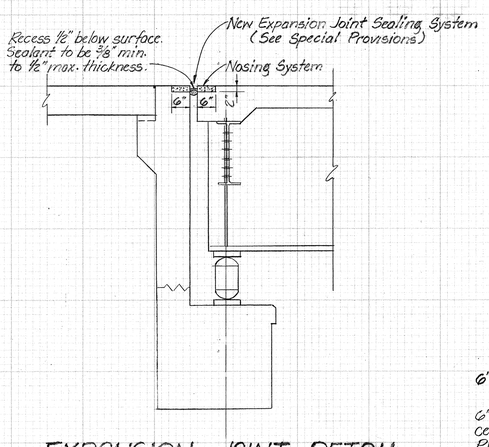
MATERIAL NOTES

Bituminous Widening : 990 Lbs./Sys. Bituminous Base Type 5D, HV
Wedge : 110 Lbs/Sys. Bituminous Surface 11 , MV
Tack Coat Estimated Quantity : 1,234 Sys.
Surface Milling Bituminous Estimated Quantity : 710 Sys.
LV Bitum. Overlay and Wedge Surface 11, Est. Qty. : 29 Tons



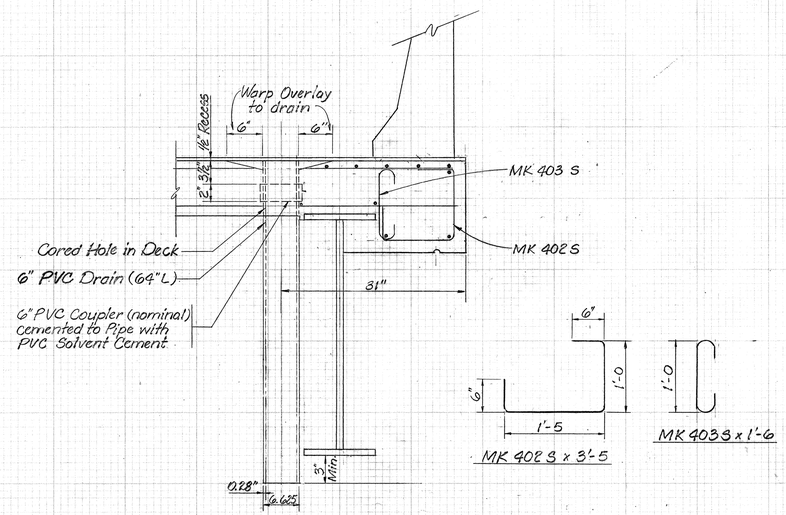
LV BITUMINOUS OVERLAY and WEDGE

No Scale



EXPANSION JOINT DETAIL

1" OPENING @ BENT NO. 1
2" OPENING @ BENT NO. 4
Scale : ½" = 1'-0



PVC DRAIN ON DECK

No Scale

R.C. BRIDGE APPROACH (TOTAL BOTH APPROACHES) BILL OF MATERIALS

SIZE & MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
EPOXY COATED REINF. STEEL			
#5	66	30'-6	
591	174		
5a1	(1 REQ'D.)		
5b1	(4 REQ'D.)		
TOTAL E.C. REINF. STEEL			1,152
CONCRETE			
CEMENT, CONCRETE PAVEMENT, REINF., 10"			409 SYS.
MISCELLANEOUS			
SUBBASE FOR CEMENT CONCRETE PAVEMENT			68 CYS.
EPOXY COATED THREADED BAR SPLICES			127 EA.

SUPERSTRUCTURE DETAILS

INDIANA DEPARTMENT OF TRANSPORTATION

SCALE:- AS NOTED DATE:- 19

SENIOR DESIGNER

DRAWING:- OF SHEET:- 5 OF 30
PROJECT:- ST-056-5(L) STATION:-
BRIDGE CONTRACT NO. B-22476
BRIDGE FILE:- 54-28-6005A

GEORGE SNYDER REGISTERED No. 15284 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED	RFS	C'K'D	
DRAWN	CZU: 10/95	C'K'D	RFS
TRACED		C'K'D	

SF-22317