BRIDGE CONTRACT No. B-10215

INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
BRF-68(16)	41-61-5977	CONTINUOUS COMPOSITE STEEL BEAM	66'-0" 3 @ 82'-6", 66'-0"	BIG RACCOON CREEK	255 + 75.00	B-10215

SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL
1		INDEX & TITLE SHEET	
2	ONE SHEET	INFORMATION SHEET	
3	ONE SHEET	TYPICAL CROSS SECTIONS	
4	ONE SHEET	PLAT № 1	
5-9	FIVE SHEETS	ROAD PLAN & PROFILE	
10-11	TWO SHEETS	DETAILS	
12	ONE SHEET	APPROACH TABLE	
13	ONE SHEET	MASS DIAGRAM	
14-32	NINETEEN SHEETS	CROSS SECTIONS	
33	ONE SHEET	TEST BORINGS	
34	S-1	LAYOUT	
35	S 2	SPUR DIKE & CHANNEL CHANGE DETAILS	
36	S 3	GENERAL PLAN	
37	S 4	BENT № 1 DETAILS	
38	S 5	BENT № 1 DETAILS	
39	S 6	PIER № 2 DETAILS	
40	S 7	PIER № 3 & № 4 DETAILS	
41	S 8	PIER № 5 DETAILS	
42	S 9	BENT № 6 DETAILS	
43	S 10	BENT № 6 DETAILS	
44	S 11	FRAMING PLAN	
45	S 12	STEEL DETAILS	
46	S13	TOOTHED EXPANSION JOINT DETAILS at BENT №6	
47	S 14	FLOOR DETAILS	
48	S 15	FLOOR DETAILS	
49	ONE SHEET	BRIDGE SUMMARY	
50	ONE SHEET	BRIDGE ESTIMATE OF QUANTITIES	

LEGEND:-

(A) Standard Barricade	Type "III"	4
(C) Construction Sign	Type "A"	13
(D) Construction Sign	Type "B"	10

NOTE:
WHENEVER F-68(15) or RF-68(15) APPEARS IN THESE PLANS OR SPECIAL PROVISIONS IT SHALL BE INTERPRETED AS BRF-68(16).

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1974
TO BE USED WITH THESE PLANS.

STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS
FOR SPANS OVER 20 FEET
ON
STATE ROAD NO. 41

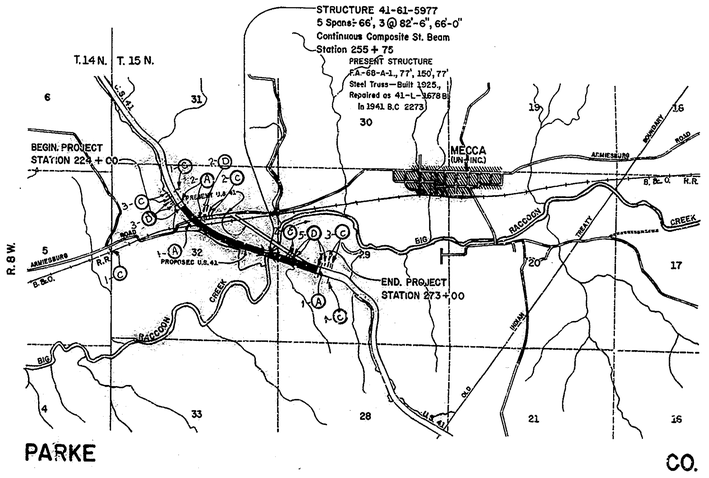
PROJECT BRF-68 (15) PE (15) R/W (16) CONST

LYFORD-VEEDERSBURG ROAD

BEGINNING AT A POINT ON PRESENT U.S. 41 APPROX. 212' SOUTH WEST OF THE EAST LINE OF THE N.W.¼ OF THE S.W. ¼ OF SECTION 32 AND EXTENDING NORTHEASTERLY A DISTANCE OF APPROX. 4900' TO A POINT ON PRESENT U.S. 41 APPROX. 1400' NORTHEAST OF THE SOUTH LINE OF SECTION 29, ALL IN SECTIONS 32 & 29—T.15N.—R.8W., PARKE COUNTY.

ROADWAY LENGTH = 0.856 MI.
BRIDGE LENGTH = 0.072 MI.
TOTAL LENGTH = 0.928 MI.

MAX. GRADE: -2.00%



Scale- 1" = 2000'

PUBLIC ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	BRF-68(16)	1974	1	86

BRIDGES OVER 20' SPAN

INDEX CONTINUED
STANDARD DRAWINGS

SHEET NO.	SHEET DESIGNATION	SUBJECT	B.P.R. APPROVAL	ADOPTED "A" REVISION "R"
51	BRIDGE STD. BR1	ALUMINUM BRIDGE RAILING		
52	BRIDGE STD. BR2	ALUMINUM BRIDGE RAILING DETAILS	10-11-73	R-9-1-73
53	BRIDGE STD. BR3	STEEL BRIDGE RAILING	10-11-73	R-9-1-73
54	BRIDGE STD. BR4	STEEL BRIDGE RAILING DETAILS	10-11-73	R-9-1-73
55	BRIDGE STD. C1	MISCELLANEOUS DETAILS	10-11-73	R-9-1-73
56	BRIDGE STD. C3	MISCELLANEOUS DETAILS		R-6-1-72
	BRIDGE STD. M	MISCELLANEOUS APPROACH DETAILS		R-12-17-74
	BRIDGE STD. M4	R.C. BRIDGE APPROACH TURNOUT DETAILS-12'-6" SHOULDERS		
	BRIDGE STD. M5	SLOPEWALL AND DRAINAGE DETAILS		
	BRIDGE STD.			
	BRIDGE STD. P8	PRESTRESSED CONCRETE TYPE I BEAMS		
	BRIDGE STD. P8C	PRESTRESSED BOX BEAMS		
	BRIDGE STD. P8	PRESTRESSED COMPOSITE BOX BEAMS WIDE		
	BRIDGE STD. P810	TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS		
	BRIDGE STD. P811	ELASTOMERIC BEARING PAD DETAILS		
	BRIDGE STD. R1-C	ALUMINUM RAILING-TYPE C		
	BRIDGE STD. R1-E	ALUMINUM RAILING DETAILS		
	BRIDGE STD. R1-F	STEEL RAIL NO-TYPE C		
	BRIDGE STD. T2A	BRIDGE LIGHTING DETAILS		
56A	BRIDGE STD. C4	PRESTRESSED CONCRETE PILES	12-4-74	R-10-29-74
57	BRIDGE STD. S1	MISCELLANEOUS DETAILS	1-17-72	R-8-2-71
58	BRIDGE STD. SH1	STEEL SHOE DETAILS	7-8-71	A-April, 1971
	BRIDGE STD. S	TYPICAL DETAILS FOR PLACING GRADE "B" SPECIAL BORROW		
	BRIDGE STD. S	TYPICAL DETAILS FOR PLACING GRADE "B" SPECIAL BORROW		
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE		
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE		
59	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS		
60	ROAD S.D. SHEET MA	MISCELLANEOUS STANDARDS		R-2-3-75
61	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS	9-29-71	R-1-4-71
62	ROAD STD. SHEET MB2	MISCELLANEOUS STANDARDS		R-2-3-75
	ROAD STD. SHEET MC1	MISCELLANEOUS STANDARDS	6-10-74	R-1-2-74
	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MD1	MISCELLANEOUS STANDARDS		
63	ROAD STD. SHEET ME1	MISCELLANEOUS STANDARDS		
64	ROAD STD. SHEET ME2	MISCELLANEOUS STANDARDS	6-11-69	R-4-1-69
	ROAD STD. SHEET MF	MISCELLANEOUS STRUCTURE STANDARDS	6-14-74	R-1-2-74
65	ROAD STD. SHEET MH1	MISCELLANEOUS STANDARDS		
66	ROAD STD. SHEET MH2	MISCELLANEOUS STANDARDS		R-2-3-75
67	ROAD STD. SHEET MI 1	MISCELLANEOUS STANDARDS		R-2-3-75
68	ROAD STD. SHEET MI 2	MISCELLANEOUS STANDARDS	6-14-74	R-1-2-74
	ROAD STD. SHEET K	MISCELLANEOUS STANDARDS	6-2-72	A-Sept. 1971
69	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS		
70	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS		R-3-3-75
	ROAD STD. SHEET MP1	MISCELLANEOUS STANDARDS	3-12-74	R-2-1-74
	ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET MR1	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET S	MISCELLANEOUS STANDARDS CENTER DITCH INLETS		
71	ROAD STD. SHEET MT1	MISCELLANEOUS STANDARDS CENTER DITCH INLETS		
72	ROAD STD. SHEET MT 1A	MISCELLANEOUS STANDARDS	6-14-74	R-1-2-74
73	ROAD STD. SHEET MT2	MISCELLANEOUS STANDARDS	8-5-74	R-7-1-74
74	ROAD STD. SHEET MT3	MISCELLANEOUS STANDARDS		R-10-1-74
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS	4-8-75	A-Mar. 75
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD. SHEET	MISCELLANEOUS STANDARDS		
	ROAD STD.	STANDARD STRUCTURE CONNECTIONS FOR EXTENSION		
	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS		
	ROAD STD.	STANDARD REINF. CONC. BOX CULVERTS-SK END & WING DETAILS		
	ROAD STD.	STANDARD REINF. CONC. CULVERTS-SLAB TOP TYPE (V.F.)		
	ROAD STD.	STANDARD REINF. CONC. CULVERTS-SLAB TOP TYPE (V.F.)		
75	ROAD STD. SHEET GR2	GUARD RAIL CLASS		
76	ROAD STD. SHEET GR3	GUARD RAIL CLASS	7-19-74	A-Dec. 73
77	ROAD STD. SHEET GR4	GUARD RAIL CLASS GA or GST		A-Sept. 1972
78	ROAD STD. SHEET GR5	ALUMINUM GUARD RAIL DETAILS	7-30-74	A-Feb. 1971
79	ROAD STD. SHEET GR8	STEEL TUBE GUARD RAIL DETAILS	2-2-72	R-10-1-71
80	ROAD STD. SHEET GR10	GUARD RAIL BURIED ENDS	7-30-74	A-Feb. 1971
81	ROAD STD. SHEET №2	STANDARDS FOR SUPER-ELEVATION	7-12-74	R-1-2-74
82	ROAD STD. SHEET 2 DETOURS	STANDARD DETOUR SIGNS	11-5-69	R-8-1-69
83	ROAD STD. SHEET 3 DETOURS	STANDARD DETOUR SIGNS		A-Nov. 74
84	ROAD STD. SHEET 4 DETOURS	STANDARD DETOUR SIGNS		R-4-2-72
85	ROAD STD. SHEET 5 DETOURS	STANDARD DETOUR SIGNS		R-10-1-74
85A	ROAD STD. SHEET 5A DETOURS	STANDARD DETOUR SIGNS		R-10-1-74
86	ROAD STD.	SPECIAL SIGNS		A-Nov. 74
	ROAD STD.	SPECIAL SIGNS		R-6-1-75
86A	ROAD STD SHEET 3A DETOUR	STANDARD DETOUR SIGNS		A-Feb. 75

TRAFFIC DATA

A.D.T. (1970)		3980 V.P.D.
A.D.T. (1990 PROJECTED)		6180 V.P.D.
A.D.T. (19 PROJECTED)		V.P.D.
TRUCKS		9%
DESIGN SPEED		65 M.P.H.
ACCESS CONTROL		NONE

APPROVED 2-12-74

H. K. Hallock
CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION

REVISIONS	
DATE	SHEET NO.
8-16-74	1, 4, 5, 6, 7, 8, 9, 11
5-7-75	1, 3, 9, 12, 34, 36, 44, 45, 47, 48, 49, 50, 56, 59, 61, 62, 64 thru 67, 69 thru 75, 80, 82, 84 & 85; 36A, 85A & 86A Added; All Detailed Project Designation changed from RF-68(15) to BRF-68(15).
5-21-75	1 & 24.
5-28-75	1, 3, 11, 19 thru 22

RECOMMENDED FOR APPROVAL 2-7-74

E. W. Walters
ENGINEER OF BRIDGE DESIGN—INDIANA STATE HIGHWAY COMMISSION

E. W. WALTERS — REGISTERED — 7059 — STATE OF INDIANA — PROFESSIONAL ENGINEER

DEPARTMENT OF COMMERCE
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ENGINEER — DATE

UTILITIES

(a) Indiana Bell Telephone Company, Inc. (Buried & Aerial Facilities)
Attention: Mr. C. A. Lotze, District Engineering Manager
3838 North Rural Street
Indianapolis, Indiana - 46205 Phone: 317-635-9811

(b) Parke County REMC (7.2 KV Distribution Pole Lines, w/minor joint telephone)
Attention: Mr. Reuben Dooley, Manager
119 West High Street
Rockville, Indiana-47872 Phone: 812-569-3133

(c) Public Service Indiana (34.5 KV Wood Pole Transmission Line)
Attention: Mr. J. E. McKinster, Engineer
1000 East Main Street
Plainfield, Indiana-46168

REVISIONS

SHEET NO.	DATE	REVISED

Rev. 5-7-75 J.J.W.

GENERAL NOTES

Standard divided lane sections for Federal Aid _____ Projects _____ as shown on Sheet No. _____ to be used on this project.
Standard ramp section _____ to be used on this project. Pavement thickness shall be _____"
Standard single lane pavement sections _____ as shown on Sheet No. _____ to be used on this project.
A _____" Pavement shall be used.

** Typical cross-section as shown on Sheets No. 3 to be used on this project.
** Standards under dates as listed in the Index ~~on this Sheet~~ to be used on this project.
** Grade line as shown on profile represents top of finished surface.
** All Ditches of 1% grade and over shall be sodded except where ditch is in rock cut or where Paved Side Ditch is to be constructed.
** Sodding shall be placed as shown on Standard and Typical Cross-Sections and on Miscellaneous Standard Sheet "MB"
** All Earth Shoulders, Median Area, Cut, and Fill slopes shall be plain or mulched seeded except where sodding is specified.
Overhaul and Added Haul Quantities as shown in the Balances are for information only.
** Excavation Quantities as shown include estimated excavation for Public and Private Approaches. See Table on Sheet No.12
** The final Cross-Sections of the "Grading Contract" shall be the original cross-sections of the "Paving Contract" except that partial or complete cross-sections shall be taken if necessary to determine the actual quantities of Excavation.
Paper Relocation is to be cross-sectioned by the Project Engineer before construction.
** Where existing surface is located outside the Limits of new construction between Sta. 245+00.0 and Sta. 272+50.0 the contractor will be required to remove the present roadway surface and base as directed by the Engineer.
Quantities for Pipe Culvert Headwalls are based on using Standard Headwalls for retaining 2:1 or 3:1 slopes, and Private Drive Headwalls for retaining 4:1 or flatter slopes.
** For "Kinds of Pipe" permitted for each size and classification as shown on the Structure Data Sheet, see Miscellaneous Standard Sheet "MP".
Such part of existing downspout drains that are disturbed by replacing the curb shall be replaced and connected as directed by the Engineer. Payment for this work shall be included in the Contract unit price for _____ Curb"
** The minimum grade for Under Drains shall be 0.20%. Where the profile grade is less than 0.20%, special grades for Subsurface Drains shall be established by the Engineer.
The Contractor must accept the plan quantities of Subbase as given on the Estimate of Quantities Sheet.
** County Road "S.I.-2" shall have 4 "Edge Lines" and "Skip Center Line" as set out in *the Specifications* and "Yellow Barrier Lines" shall be placed as shown on plans.
All Limited Access R/W (L.A.R/W) to be fenced with Chain Link Type Fence (C.L.T.F.) or Farm Field Type Fence (F.F.T.F.) as specified in the plans.
** Curves shall be Superelevated according to the Standards of *sheet 81* (Except Special "Super-Transitions" shall be detailed on Sheet No. ____).
A Keyway Joint is to be constructed on Median side of each pavement.
Contraction Joints shall be placed at all manholes within pavement limits.
Contraction Joints shall be placed at the beginning and end of all radii, at street and alley intersections.
When Guard Rail Type "A" is called for on this project the Contractor shall use the Steel Beam section only.
** When Guard Rail Type "B" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.
When Guard Rail Type "C" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.
When Guard Rail Type "D" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, or the Semi Ellipse Aluminum Tubular Section.
When Guard Rail Type "E" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.
When Guard Rail Type "F" is called for on this project the Contractor shall have the option of using either the Steel Beam Section, the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.
** When Guard Rail Type "G" is called for on this project the Contractor shall have the option of using either , the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.
When Guard Rail Type "H" is called for on this project the Contractor shall have the option of using either , the Semi Ellipse Aluminum Tubular Section or the Steel Tubular Section.
Wherever reference is made, on the design plans to Subbase Type I or II or Subbase Type II, this reference is to be interpreted as "Subbase" and the materials required will conform to a "Supplemental Specification for Subbase".
** The Quantity "Furnishing and Placing Seed (Crown-Vetch)", shown on the estimate of quantitiy sheet, is to be used at those locations where the slopes are 3 to1 or steeper or in an area requiring sand cut or sand fill or as directed by the Engineer.
** Movement of Excavation is shown on Mass Haul Diagram on Sheet No.13 with the entire project being in one balance as shown on Sheet No.13.

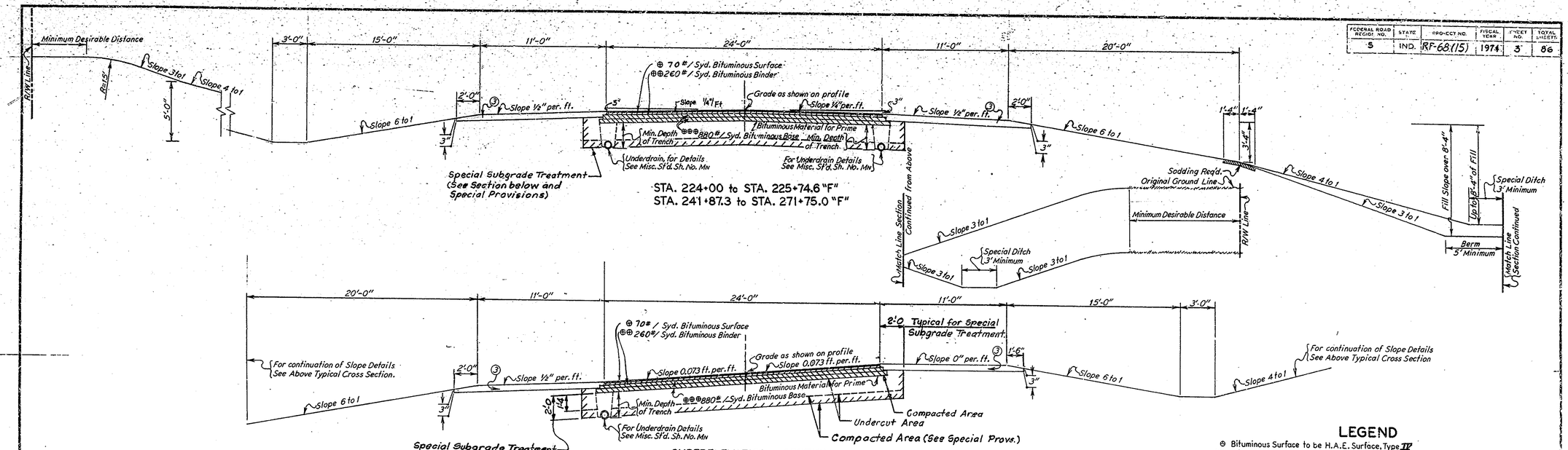
** REPRESENTS GENERAL NOTES REQUIRED

R/W INDEX

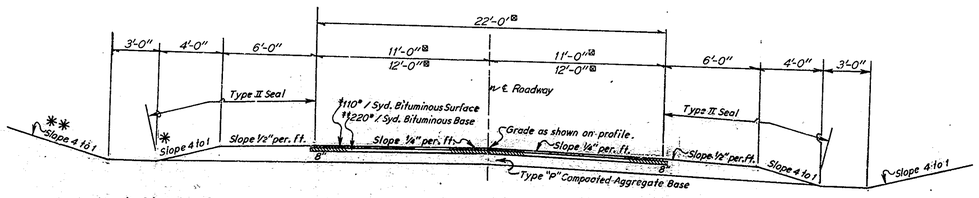
INDEX

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68(15)	1974	2	86

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68(15)	1974	3	86



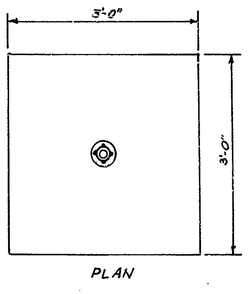
SUPERELEVATION SECTION
2°30' CURVE LT.
STA. 225+74.6 to STA. 241+87.3 "F"



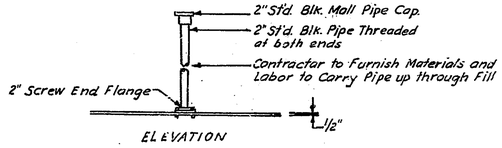
COUNTY ROAD LINE "S-1-F"
STA. 46+00 to STA. 56+00

† Bituminous Surface to be HAC Surface Type B or HAE Surface Type III
†† Bituminous Base to HAC Base or HAE Base

② 24'-0" Full Pavement Width, (12'-0" Lanes) Sta. 46+00.0 to Sta. 51+30.0
22'-0" Full Pavement Width, (11'-0" Lanes) Sta. 51+40.0 to Sta. 56+00.0.



PLAN



ELEVATION

Platform to be Furnished & Placed by the Contractor as Directed by the Engineer

STEEL SETTLEMENT PLATE
No Scale

LEGEND

⊛ Bituminous Surface to be H.A.E. Surface, Type IV
⊛⊛ Bituminous Binder to be H.A.E. Binder or H.A.C. Binder.
⊛⊛⊛ Bituminous Base to be #4 or #5 H.A.E. Base or H.A.C. Base Tack Coat Between each Lift (0.03 Gal. / Syd. / Lift).
③ 6" Bituminous Base (Size #53 8)

Settlement Plates shall be installed on ℄ at Sta. 253+25 and Sta. 258+25

Settlement stakes shall be provided at the shoulder lines and at the toe of slopes opposite each settlement plate.

TYPICAL CROSS SECTIONS

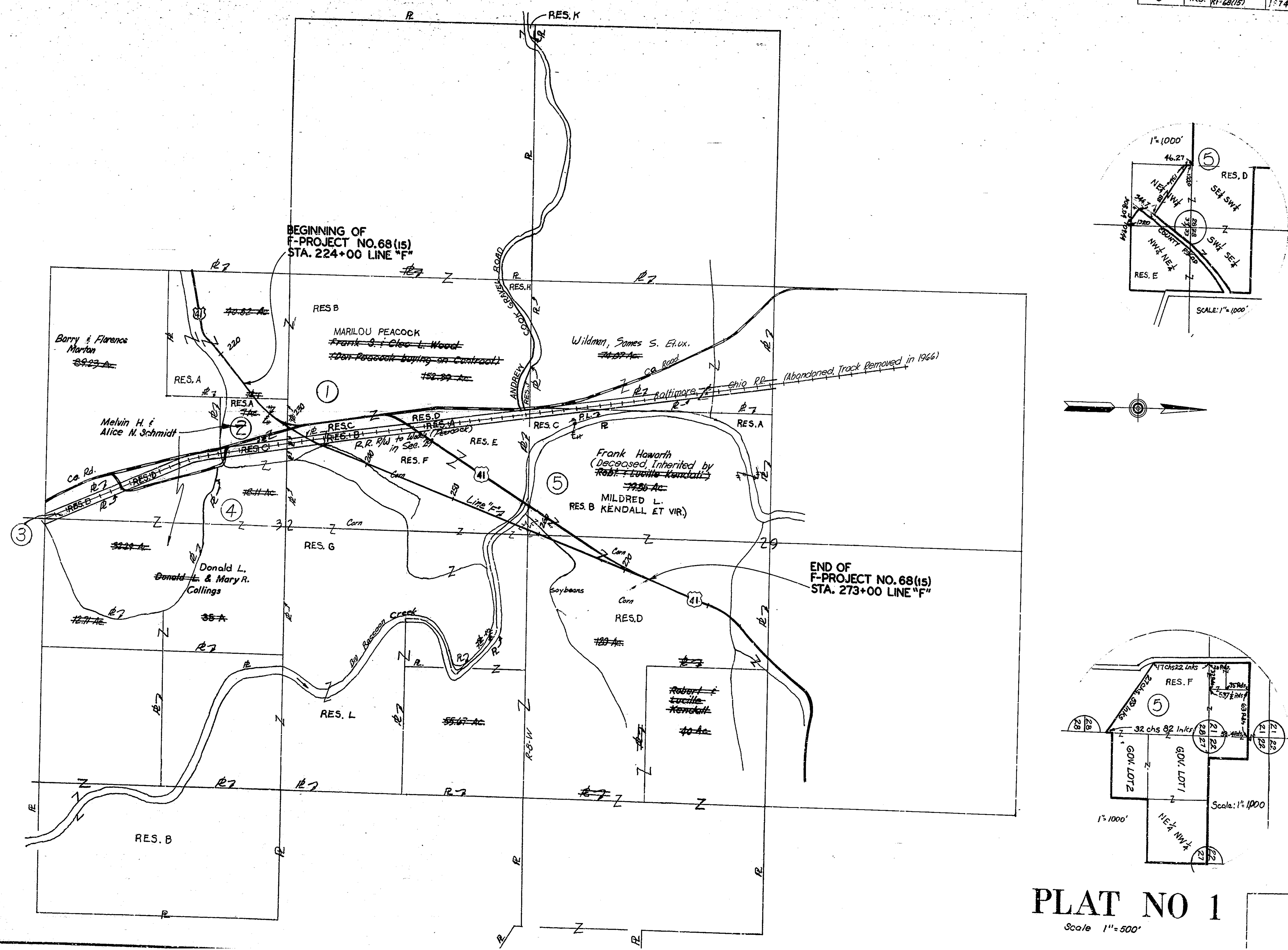
SCALE: 1/4" = 1'-0"

RECOMMENDED FOR APPROVAL

Rev. 5-7-75 J.J.W.
Rev. 5-28-75 J.J.W. C.H.W.
Rev. 6-6-75 J.J.W. A.R., C.H.W.

Rev. 6-6-75 Settlement Plate Added

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68(15)	1974	4	86



BEGINNING OF
F-PROJECT NO. 68(15)
STA. 224+00 LINE "F"
END OF
F-PROJECT NO. 68(15)
STA. 273+00 LINE "F"
RES. K
RES B
MARILOU PEACOCK
Frank S. & Cleo L. Wood
(Dan Peacock buying on Contract)
152.39 Ac.
Barry & Florence Morton
89.23 Ac.
RES. A
Melvin H. & Alice N. Schmidt
Wildman, James S. Et.ux.
74.07 Ac.
Baltimore & Ohio RR (Abandoned Track Removed in 1966)
Co. Road
COOK GRAVEL ROAD
ANDREWS
R.R. R/W to Wood (Peacock) in Sec. 29
RES. C
RES. D
RES. E
RES. F
RES. G
RES. H
Frank Howarth
(Deceased, Inherited by Robt. & Lucille Kendall)
79.56 Ac.
MILDRED L. KENDALL ET VIR.)
Donald L. & Mary R. Collings
35 A.
Big Raccoon Creek
RES. L
55.67 Ac.
Robert & Lucille Kendall
40 Ac.
RES. D
120 Ac.
Soybeans
Corn
Line "F"
Co. Rd.
RES. B
29
32
R-8-W
1" = 1000'
RES. D
COUNTY ROAD
NE¼ NW¼
SE¼ SW¼
NW¼ NE¼
SW¼ SE¼
RES. E
SCALE: 1" = 1000'
RES. F
32 chs 82 links
GOV. LOT 2
GOV. LOT 1
NE¼ NW¼
Scale: 1" = 1000
1" = 1000'

PLAT NO 1

Scale 1" = 500'

8-16-74 Land Acquisition, G.Y.C. WTN, HRP, CHM.

[redacted]

Sta. 223+00–228+00 Lt. TEMP. R/W & R/W REVISED
J. S. MITCHELL 2-27-74

5 RF-68(15) 1974 5 86
Rev 6-3-74 Temp. R/W RT STA. 235 O.W. BEST

U.S.C. & G.S. B.M.# S-85 (1946) El. 534.09 Br. Disc in Conc. Post 25' L. Sta. 203.00
B.M. #1 El. 516.13 Bt. Spk. in Rv. P. 23' R. Sta. 219+21
B.M. #2 El. 516.16 Bt. Spk. in Pw. P. 140' L. Sta. 230+90
B.M. #3 El. 503.15 Bt. Spk. in Stump 200' R. Sta. 232+50
NOTE: Bench Marks are to Sea Level Datum (U.S.C. & G.S.)

E.C. Hoffman 7-68
A.J. Rozite 7-69
E.J. Cox 8-69

BR2133

8-16-74. Land Acquistion, G.Y.C, WTN, HRP, CHM.

E.C. Hoffman 7-68
A.J. Rozite 7-69
E.J. Cox 8-69

BR2133

JAN. 8, 74

Robert W. Betge
ASSISTANT

RF-68(15)

ROBERT W. BETGE No.

[redacted]

SEC. 32-T15N-R8W.
PARKE COUNTY
CURVE DATA
I.= 40° 19' L.
D.= 2° 30'
T.= 841.4'
L.=1612.7'
E.=149.6'
P.I. 234+16.0
P.C. 225+74.6
235
240
245
250
~~FRANK S. & CLEO L. WOOD~~
~~(Donald L. Peacock Buying on Contr.)~~
(Cultivated) MARILOU PEACOCK
P.O.S.T. P.I.+564.4
P.O.T. 245+23.8
P.T. 241+87.3
U.S. 41
R.F.-68(15) 1974 6 86
5
REVISED 6-3-74 PURPOSE OF TEMP. R/W RT. STA. 250 & 240 O.W. BEST
BLANKET EASEMENT FOR POLE LINE IN FAVOR OF THE WABASH VALLEY ELECTRIC COMPANY.
R/W
+00 80'
80' R/W
+P.T. 80'
Construction Limits
LINE "F"
Flow
DITCH (No Water)
1E
1F
Brng. N.14°11'E.
PROP. ℄ RDWY.
Monument, Type "B" Req'd.
Fore Tang.
Wooden Bridge
80' R/W
Constr. Limits for 10' Channel
+P.T., 80'
10' Bottom Channel
+P.T. 150'
150' Temp. R/W for Channel Construction & Drive Construction
Temp. R/W for Channel Construction & Drive Construction
+50 80
+50 175
400'
Temp. R/W for Channel Constr. & Drive Construction
+70 Rt.
STRUCTURE NO. 8
Structure to be built by others. Construction of this structure is included in R/W consideration.
~~FRANK S. & CLEO L. WOOD~~
~~(Donald L. Peacock Buying on Contr.)~~
(Cultivated) MARILOU PEACOCK
N.R.A.
P.O.S.T. P.I.+564.4 (I.P.L.)
N.R.A.
P.T. 241+87.3 (I.P.B.)
BLANKET EASEMENT FOR POLE LINE IN FAVOR OF THE WABASH VALLEY ELECTIC COMPANY
Con. Br.
Con. Br.
P.O.T. 245+23.8 (I.P.L.)
B.M. # 3 El. 503.15 Bt. Spk. in Stump 200' Rt. Sta. 232+50
NOTE: Bench Marks are to Sea Level Datum (U.S.C. & G.S.)
E.C. Hoffman 9-68
A. Rozite 7-69
E.J. Cox 8-69
8-16-74 Land Acquistion, GYC, WTN, HRP, CHM.
520
510
500
490
+00, Lt. El. 497.25
-0.80%
-0.60%
+00, Lt. El. 494.85
-0.48%
Grade of 3' Bottom Ditch on Lt. (Plotted 20 above datum)
+00, Lt. El. 491.97
Grade of 3' Bottom Ditch on Lt. (Plotted 20' above datum)
-0.60%
-1.00%
+25
El. 499.85
400' V.C.
0.00%
+75
El. 499.85
400' V.C.
+1.3%
-0.60%
+00 Rt. El. 493.45
-0.80%
+00, Rt. El. 490.25
Grade of 10' Bottom Channel on Rt.
-0.40%
+00, Rt. El. 487.05
-0.80%
500.0
498.7
498.8
498.2
493.8
+50 493.4
496.6
495.6
494.8
494.6
494.7
494.0
30 493.7
493.4
35 493.3
492.8
492.1
490.9
490.5
490.2
235
36
37
38
48
49
250
51
50'
10'
JAN. 8, 74
Robert W. Bettge
RF-68(15)
ROBERT W. BETTGE No. 6403

LOCATION OF CENTER OF 10 FT. BOTTOM CHANNEL							
STA.	OFFSET	STA.	OFFSET	STA.	OFFSET	STA.	OFFSET
223+00		246+35	121.4	250+00	151.5		
TO		247+00	124.6	+50	171.5		
245+00	115.0	248+00	129.4	251+00	199.7		
+30	116.4	249+00	134.2				
246+00	119.8	+50	139.5				

STA. 255-258 Lt. & Rt. R REVISED TO LOW WATER MARK J.S. MITCHELL 6-14-74

STA. 259-264 Lt REVISED BDY EXISTING US. 41 J.S. MITCHELL 6-18-74

NOTE: For Continuation of R/W Limits from Sta. 254+50 Lt. to Sta. 268+00 Lt. See Sheet No. 11

MARILOU PEACOCK
~~FRANK S. & CLEO L. WOOD~~
~~(Donald L. Peacock Buying on Contr.)~~
(Cultivated)

BLANKET EASEMENT FOR POLE LINE IN FAVOR OF THE WABASH VALLEY ELECTRIC COMPANY.

P.O.T. 255+24.8 (I.P.L.)

255+24.8 O.P.O.T.-05'R.

R/W

PB-5

P.O.T. 257+03.1 O.P.O.T.-05'R.

Approx. Sec. Line

SEC. 32-T.15N.-R.8W. PARKE COUNTY

SEC. 29-T.15N.-R.8W. PARKE COUNTY

BIG RACCOON CREEK

FLOW

Elev. 481.98

Sta. 253+00 Monument, Type "B" Reqd.

PROP. R/W

LINE "F"

STRUCTURE NO. 9 See Bridge Detail

104°20'

Brng. N. 14°11'E.

Sta. 262+01.5 Monument Type "B" Reqd.

P.O.T. 262+01.5 O.P.O.T.-05'R.

App. R

FRANK HAWORTH (Weeds)

E.P. U.S. 41 (Bl. Top)

E.P. (Bl. Top over conc.)

Construction Limits

Offset Line 05'R.

(Light Woods)

P.O.T. 264+98.4

Not Used

Approx. N.E. cor. of N.W. 1/4 Sec. 32 (No Stone)

BLANKET EASEMENT FOR POLE LINE IN FAVOR OF THE WABASH VALLEY ELECTRIC COMPANY

STRUCTURE NO. 10
160' of 103"x71" Pipe Arch Reqd. on 30° Skew

MARILOU PEACOCK
~~FRANK S. & CLEO L. WOOD~~
~~(Donald L. Peacock Buying on Contr.)~~
(Cultivated)

Top of Spur Dike

Constr. Limits for 10' Channel

N.O.R.A.

10' Bottom Channel

Temp. R/W for Channel Change & Construction & Drive Construction

P.O.T. 257+03.1 (I.P.L.)

P.O.T. 257+03.1 O.P.O.T.-05'R.

LOCATION OF CENTER OF 10 FT. BOTTOM CHANNEL

STA.	OFFSET	STA.	OFFSET
250+00	191.5	253+00	251.5
250+50	171.5	253+50	258.7
251+00	159.7	254+00	265.8
251+50	226.0	254+50	273.0
252+00	237.2	255+00	279.0
252+50	244.3	255+70	280.0

P.O.T. 262+01.5 (I.P.B.)

P.O.T. 262+01.5 O.P.O.T.-05'R. (I.P.B.)

B.M. #4 El. 495.08 Bt. Spk. in 12" Syc. 125' R. Sta. 255+08

B.M. #5 El. 489.86 Bt. Spk. in 24" Syc. 100' L. Sta. 257+40

NOTE: Bench Marks are to Sea Level Datum (U.S.C. & G.S.)

P.O.T. 264+98.4

Cluster Syc.

Sta. 253+00

-0.00% Grade of 3' Bottom Ditch on Lt. (Plotted 30' above Datum)

+00 Lt. El. 488.37

+80 Lt. El. 487.45

+87 Lt. El. 482.09

Paved Side Ditch on Lt

+25 El. 508.30 900' V.C.

+1.3%

-1.3%

Max. H.W. El. 503.8 (1957)

Ave. H.W. El. 495.7

Paving Exception

170' of Guard Rail Type "B" Reqd. on Rt.

99'-6" of Guard Rail Type "G" Reqd on Rt.

270' of Guard Rail Type "B" Reqd. on Lt.

27'-6" of Guard Rail Type "G" Reqd.

-0.80%

-0.40%

Grade of 10' Bottom Channel on Rt.

+00 Rt. El. 483.85

+70 Rt. El. 482.77

L.W. El. 480.8

F.L. El. 475.8

+50 El. 488.72

+0.28% Grade of 3' Bottom Ditch Rt.

27'-6" of Guard Rail Type "G" Reqd. on Rt.

320' of Guard Rail Type "B" Reqd on Rt.

99'-6" of Guard Rail Type "G" Reqd on Lt.

520' of Guard Rail Type "B" Reqd. on Lt.

+00 El. 490

+75 El. 499.85 400' V.C.

+0.15%

+00 Lt. El. 489.68

+2.96% Grade of 3' Bottom Ditch on Lt. (Plotted 30' above datum)

+00 Lt. El. 487.00

+1.44%

+00 Rt. El. 486.78

+2.40% Grade of 3' Bottom Ditch on Rt.

+25 Rt. El. 486.15

+0.60%

490.5 490.2 490.0 489.8 486.99 488.6 490.3 491.6 491.7 490.1 491.6 491.9 494.2

JAN. 8, 74

Robert W. Retter
ASSISTANT

Rf. 68(15)

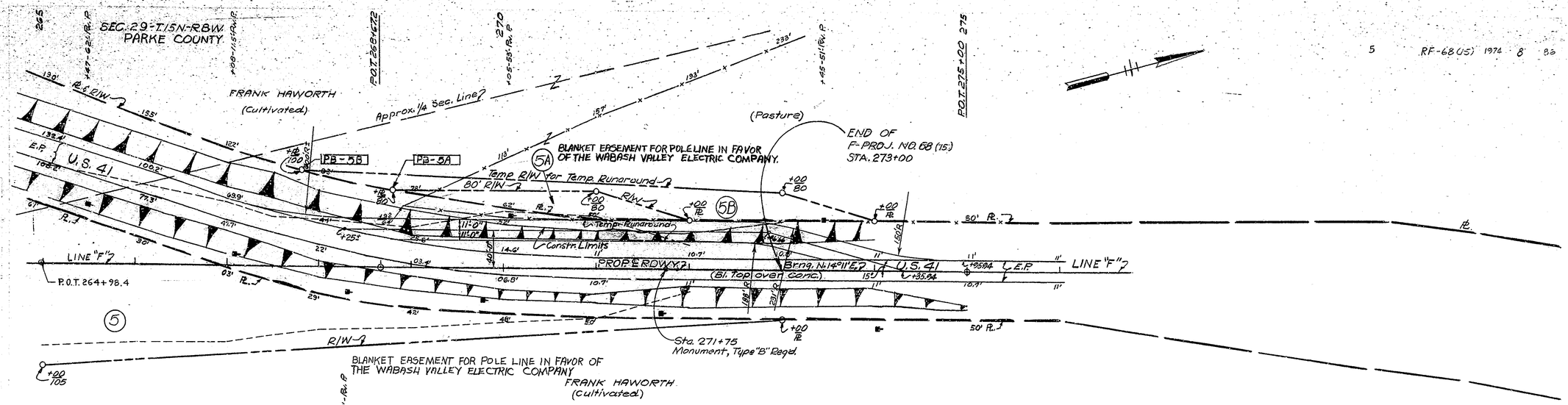
B-10215

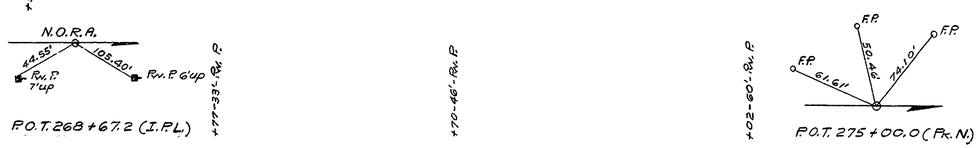
ROBERT W. RETTER REGISTERED LAND SURVEYOR No. 6403 STATE OF INDIANA

E.C. Hoffman 7-68 R.E. Rizzo 7-68 E.J. Cox 8-68

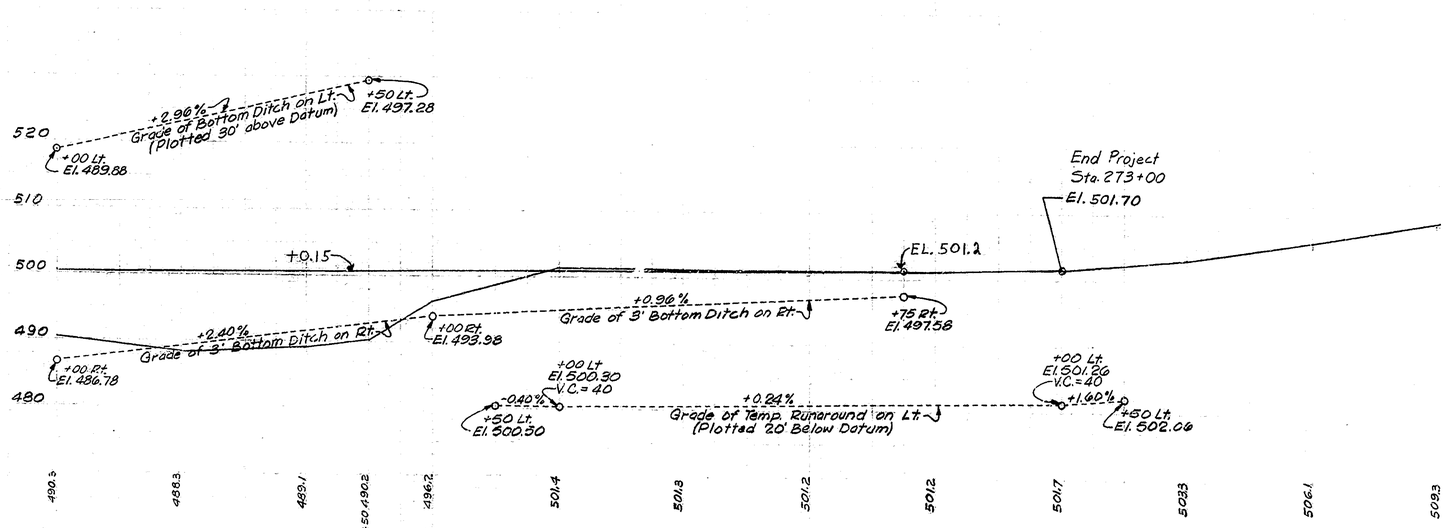
8-16 - Land Aquisition, GYC, WTN, HRP, CHM.

8R2135





B.M.#6 El. 499.30 Bt. Spk. in Pw. P. 46' R. Sta. 271+70
NOTE: Bench Marks are to Sea Level Datum. (U.S.C. & G.S.)



50' 10' JAN. 8 74

Robert W. Bettag
ASSISTANT

ROBERT W. BETTAG REGISTERED No. 6403 LAND SURVEYOR

RF-68(15)
B-10215

8-16-74 Land Aquisition, GTC, WTN, HRP, CHM.

E.C. Hoffman 9-68
A. Rozite 7-69

BR2133

8-16-74 Land Acquistion, GYC, WTN, HRP, CHM.

E.C. Hoffman 9-68
A. Rozite 7-69
E.J. Cox 8-69

Rev. 5-7-75 J.J.W.

50' 10'

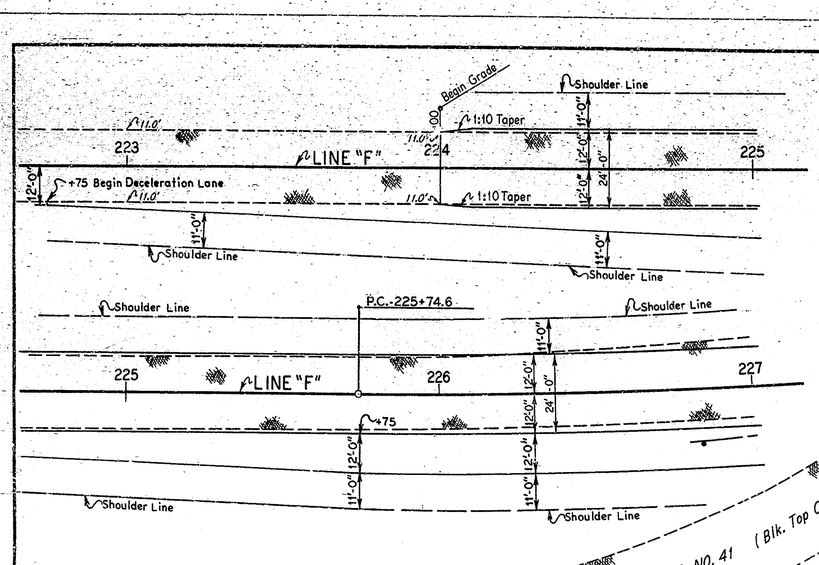
JAN. 3 74

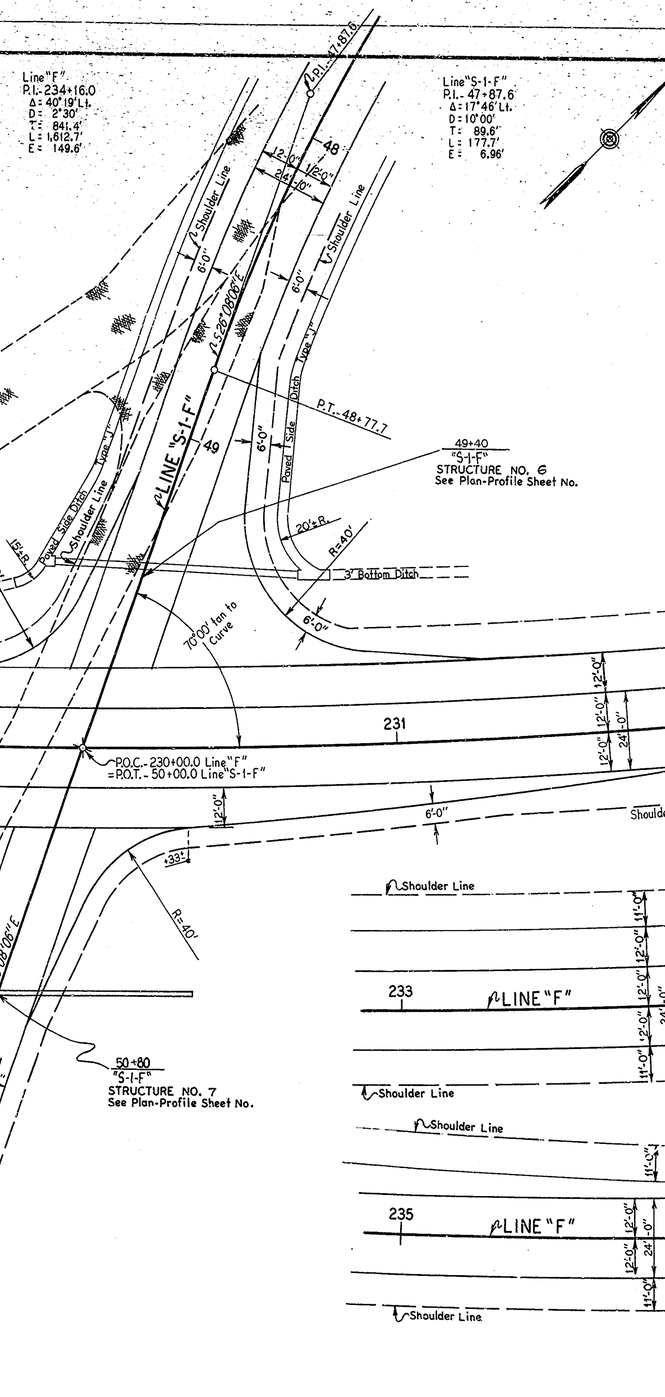
Robert W. Bettge
ASSISTANT

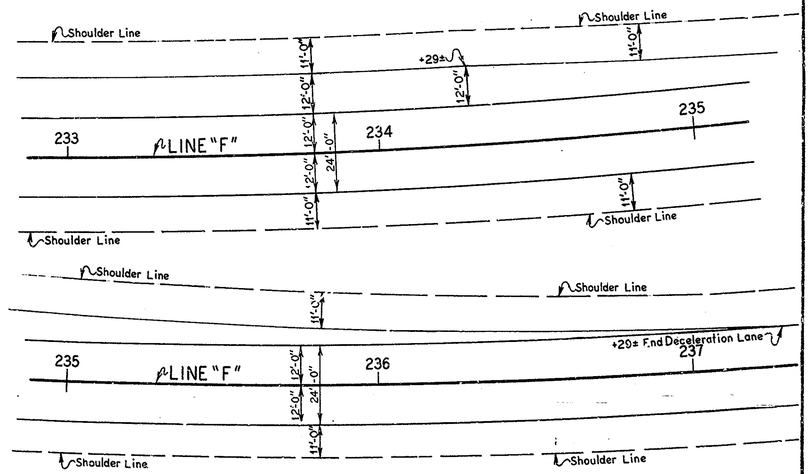
RF-68(15)

ROBERT W. BETTGE No. 6403

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68(15)	1974	10	86







DETAILS

SCALE :- 1" = 20'-0"

STA. 255-258 Lt. & Rt. ℄ REVISED TO LOW WATER MARK
J.S. MITCHELL 6/14/74

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68(15)	1974	11	86

PLAN	DATE
SURVEYED BY	
PLOTTED BY	C.E. HICKS
ALIGNMENT CHECKED BY	
RT. OF WAY CHECKED BY	C.S. RINGS
INKED BY	
NOTE BOOK NO.	

8-16-74 Land Aquistion, G.Y.C., W.T.N., H.R.P., C.H.M.
5-28-75 J.J.U. R.R. C.H.M.

SEC. 32 T.15N. R.8W. PARK COUNTY

SEC. 29 T.15N. R.8W. PARK COUNTY

R.R. R/W

Old C.&E.I.R.R. PROPERTY (Track removed in 1966)

R.R. R/W

MARILOU PEACOCK
~~FRANK S. & CLEO L. WOOD~~

BIG RACOON CREEK
~~50' Appr.~~

Bank of Rt. angles to ℄

FRANK HAWORTH
(Cultivated)

Δ=17°08' Lt.
D= 4°00'
T= 215.8'
L= 428.3'

Approx. ¼ Sec. Line

(Cultivated)

Hub +64

+85

LINE "A"

P.L. & R/W

50'

70'

+00

"F" +00 P.L.

PB-5

60'

N.31° 13' E

N 31° 14' E

PB-5A

PB-5B

Temp. R/W for Temp. Runaround Construction

80' R/W

50' P.L.

LINE "A"

LINE "F"

N 14° 11' E

P.O.T.+67.2

P.O.T.+98.4

P.O.T.+01.5

P.O.T.+03.1

P.O.T.+24.8

P.I.-240+05.6

P.I.-243+09.7

P.I.-241+87.3

Δ=39° 32' Rt.
D= 13°00'
T= 158.4'
L= 304.1'

BLANKET EASEMENT FOR POLE LINE IN FAVOR OF THE WABASH VALLEY ELECTRIC COMPANY

MARILOU PEACOCK
~~FRANK S. & CLEO L. WOOD~~
~~Donald L. Peacock Buying on Contract~~

FRANK HAWORTH
(Weeds)

05' Offset Line

NOT USED

Approx. NW Cor. of NW ¼ Sec. 32 (No Stone)

1E

1F

TEMP. R/W

150' TEMP. R/W (Cultivated)

TEMPORARY R/W FOR CHANNEL CONSTRUCTION & DRIVE CONSTRUCTION

Approx. ¼ Sec. Line

Section Line

ADJUSTED FOR CLOSURE R/W PURPOSES ONLY

NOTE :-
Existing road and Bridge to be removed and scarified from Sta. 245± to Sta. 260-
5,878 Sq. Yds. of Pavement Removal Req'd. between Sta. 245± at Railroad to Sta. 272+50 on old alignment to be used as Dumped Riprap on Spur Dyke. and at outlet ditches as directed by the engineer.
14,632 Cu. Yds. Cut estimated to be obtained from existing U.S. Rd. No. 41, Road
⊕ Fill between Sta. 245 and Sta. 260 to be used in new road embankment and spur dike.
Existing Road Fill in place between Sta. 260 and Sta. 272± to remain and serve as Levee.
Existing alignment between Sta. 245 and Sta. 260 to be cross sectioned before construction begins.

⊕ Fill + 20% in spur Dike = 3552 Cys.
in Roadway = 11080 Cys. (See cross sections)
14,632 Cys.

(N.O.R.A.)
105.40' Pw. P. (6" up)
15.55'
12" Pw. P. (7" up)
P.O.T.-268+67.2 (I.P.L.)

6" Cottonwood
5" Cottonwood
4" Map.
24.16'
P.O.T.-262+01.5 (I.P.L.)

6" Cottonwood
6" Cottonwood
4" Map.
25.00'
P.O.T.-262+01.5 & O.P.O.T.-05' Rt.

8" Maple
14" Maple
Cluster Sycamore
P.O.T.-264+98.4 (I.P.L.)

N.O.R.A.
2" Elm
6" Cottonwood
8" Elm
18" Map.
14" Map.

DETAILS

FEDERAL ROAD REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68(15)	1974	12	86

APPROACH TABLE

DESIGN DATA AND QUANTITIES BASED ON MAX. OF 10% GRADE EXCEPT AS NOTED ✻✻

LOCATION	DESCRIPTION	CUT	FILL	WIDTH "W"	RADII "R"	LENGTH "L"	✻ DISTANCE BEYOND R/W	GRADE LESS THAN 10% NOT SHOWN	BIT. SURFACE	BIT. BASE	TYPE "P" COMPACTED AGGREGATE BASE (Includes Type "P" C.A. Shoulders & Type "P" C.A. Base under pcv't)
		CYS.	CYS.	FT.	FT.		FT.		SYS. 110#/SYD	SYS. 220#/SYD	TONS
230+00.0 "F" Lt.	Type "C"	3209		24'-0"		374.46			1238	1238	982.3
230+00.0 "F" Rt.	Type "C"	614	1978	22'-0" 24'-0"		574.46			1667	1667	1365.7
245+70.0 "F" Rt.	CLASS V		80	20'-0"	20.0 5.0	88.00	20.0'				

✻ TEMPORARY R/W REQUIRED FOR CONSTRUCTION BEYOND R/W LINE.
✻✻ APPROACHES REQUIRING GRADES OVER 10% WILL BE SPECIAL CASES.

✻ If the Contractor elects to use Metal Pipe Gages as shown Below are to be used

STRUCTURE DATA

STRUCTURE NUMBER	LOCATION STATION	LEFT	RIGHT	CROSS	SIZE INCHES	GROUP	DESCRIPTION (SEE STANDARD SHEET "MP" FOR ACCEPTABLE TYPE OF PIPE WITHIN EACH GROUP)	LENGTH	SKEW	COVER	FLOW LINE UP STREAM ELEV.	FLOW LINE DOWN STREAM ELEV.	CONCRETE CLASS "A" CU.YDS.	"B" BORROW CU.YDS.	METHOD OF BACKFILL	GAGES OR THICKNESS ✻ STEEL	GAGES OR THICKNESS ✻ ALUM.	VELOCITY	RIPRAP SYS.	PIPE END SECTION EA.	REINF. STEEL LBS.	REMARKS	PLANS ON SHEET NO.
6	49+45"S-1-F"			✓	24"	D		90	20°	1.1	505.0	504.0			B	.109"				2			
7	50+80"S-1-F"			✓	18"	D		114	20°	5.4	504.4	503.8			B	.064"	.064"			2			
8	245+70±"F"		✓				Structure to be built by others															Construction of this structure is included in R/W consideration	
9	255+75			✓			Bridge over Raccoon Crk.															See Bridge Detail	
10	263+45			✓	103"x71"		S. P. S. A.✻✻ (Min. Area 40 sq. Ft.)	160	30°	8.4	486.1	485.1	4.69			.109" .138"	T&S. Bott.						

✻✻ STRUCTURAL PLATE STEEL ARCH.

PAVED SIDE DITCH & SODDING SUMMARY TABLE

FROM STATION	TO STATION	LOCATION LEFT	LOCATION MEDIAN	LOCATION RIGHT	PAVED SIDE DITCH ACTUAL LENGTH	CUT OFF WALLS (5' EQUIVALENT LENGTH EA.)	LUGS (4' EQUIVALENT LENGTH EA.)	TOTAL EQUIVALENT PAY LENGTHS TYPE "A"	"B"	"C"	"D"			"J"		SODDING FOR PAVED SIDE DITCH	FOR DITCHES	FOR MEDIAN	FOR SHOULDER	FOR UNDERDRAIN OUTLETS	SEE SHEET NO.
					LFT.	EACH	EACH	LFT.	LFT.	LFT.	LFT.	LFT.	LFT.	LFT.	LFT.	SYS.	SYS.	SYS.	SYS.	SYS.	
227+75	229+85	✓			210												303				
225+00	229+25			✓	425												472				
225+25	229+75±			✓	450														133		
230+75	232+50	✓			225												325				
230+25	233+25			✓	300												334				
232+25	254+00	✓			2175														644		
230+25	253+45			✓	2320														688		
254+05	254+87	✓			80	2	1				94					24					
257+80	267+40	✓			960														285		
257+55	271+00			✓	1345														400		
262+75	267+75	✓			500												556				
264+00	268+25			✓	425												473				
47+25 "S-1-F"	49+48 "S-1-F"	✓			223	2								233		66					
47+25 "S-1-F"	49+80 "S-1-F"			✓	255	2								265		76					
Underdrain	Outlets																				
	226+05			✓																2	
	234+29	✓																		2	
	243+10	✓																		2	
	247+76	✓		✓																4	
	264+34	✓		✓																4	

UNDERDRAIN TABLE

STATION LOCATION SOUTH BOUND LANE	6" GROUP "K" PIPE FEET	6" NON-PERF. F.B.C.C.S. PIPE .052" Thk. FEET	OUTLET	FITTING REQUIRED TEE EACH	WYE EACH	BENDS 45°	BENDS 90°	SODDING SYS.	DELINEATOR POST EACH
224+00 to 234+00	1000	40	Lt. Shoulder at Sta. 234+29			1		2	1
234+01 to 242+69	868	58	Lt. Shoulder at Sta. 243+10			1		2	1
242+70 to 253+88	1118	52	Lt. Shoulder at Sta. 247+76	1				2	1
257+76 to 271+75	1398	54	Lt. Shoulder at Sta. 264+34	1				2	1

STATION LOCATION NORTH BOUND LANE	6" GROUP "K" PIPE FEET	6" NON-PERF. F.B.C.C.S. PIPE .052" Thk. FEET	OUTLET	FITTING REQUIRED TEE EACH	WYE EACH	BENDS 45°	BENDS 90°	SODDING SYS.	DELINEATOR POST EACH
222+75 to 225+75	310	36	Rt. Shoulder at Sta. 226+05			1		2	1
242+70 to 253+74	1104	46	Rt. Shoulder at Sta. 247+76	1				2	1
257+62 to 271+75	1412	62	Rt. Shoulder at Sta. 264+34	1				2	1

R/W MARKERS

LOCATION	NEW	RE-SET	REMAIN IN PLACE	DISTANCE FROM ℄ (FT.)	LOCATION	NEW	RE-SET	REMAIN IN PLACE	DISTANCE FROM ℄ (FT.)
224+00 Rt. "F"	1			℞	249+50 Rt.	1			80
224+80 Lt.	1			℞	251+00 Lt.	1			089±
226+00 Rt.	1			95	251+70 Rt.	1			200
227+25 Lt.	1			137± ℞	254+50 Lt.	1			120
227+45 Lt.	1			160± ℞	255+00 Rt.	1			260
228+00 Lt.	1			100 ℞	256+00 Lt.	1			℞
228+50 Rt. "F"	1			100	257+50 Rt.	1			120
51+75 Rt. "S-1-F"	1			℞	257+50 Rt.	1			260
230+25 Rt. "F"	1			120	265+00 Rt.	1			105
47+00 Lt. "S-1-F"	1			℞					
231+50± Lt. "F" on ℞	1			100	268+82± Lt. on ℞	1			80
234+00 Rt.	1			80	269+00 Rt.	1			77.5±
236+00 Lt.	1			80	271+00 Lt.	1			80
238+00 Lt.	1			80	272+00 Lt.	1			50± ℞
238+00 Rt.	1			80	273+50 Rt.	1			50± ℞
P.T. 241+87.3 Lt.	1			80					
P.T. 241+87.3 Rt.	1			80	52+25 Lt. "S-1-F"	1			75
					55+50 Lt. "S-1-F"	1			40
					56+00 Lt. "S-1-F"	1			15±
					TOTAL	34			

TABLE OF MONUMENTS

STATION	TYPE	LINE	POINT
225+74.6	B	"F"	P.C.-℄
47+89.6	B	"S-1-F"	P.I.-6.96' Rt. of ℄
52+18.0	B	"S-1-F"	P.I.-6.84' Lt. of ℄
233+80.95	B	"F"	M.P.O.C.-℄
241+87.3	B	"F"	P.T.-℄
253+00.0	B	"F"	P.O.T.-℄
262+01.5	B	"F"	P.O.T.-℄
271+75.0	B	"F"	P.O.T.-℄

Rev. 5-7-75 J.J.W.

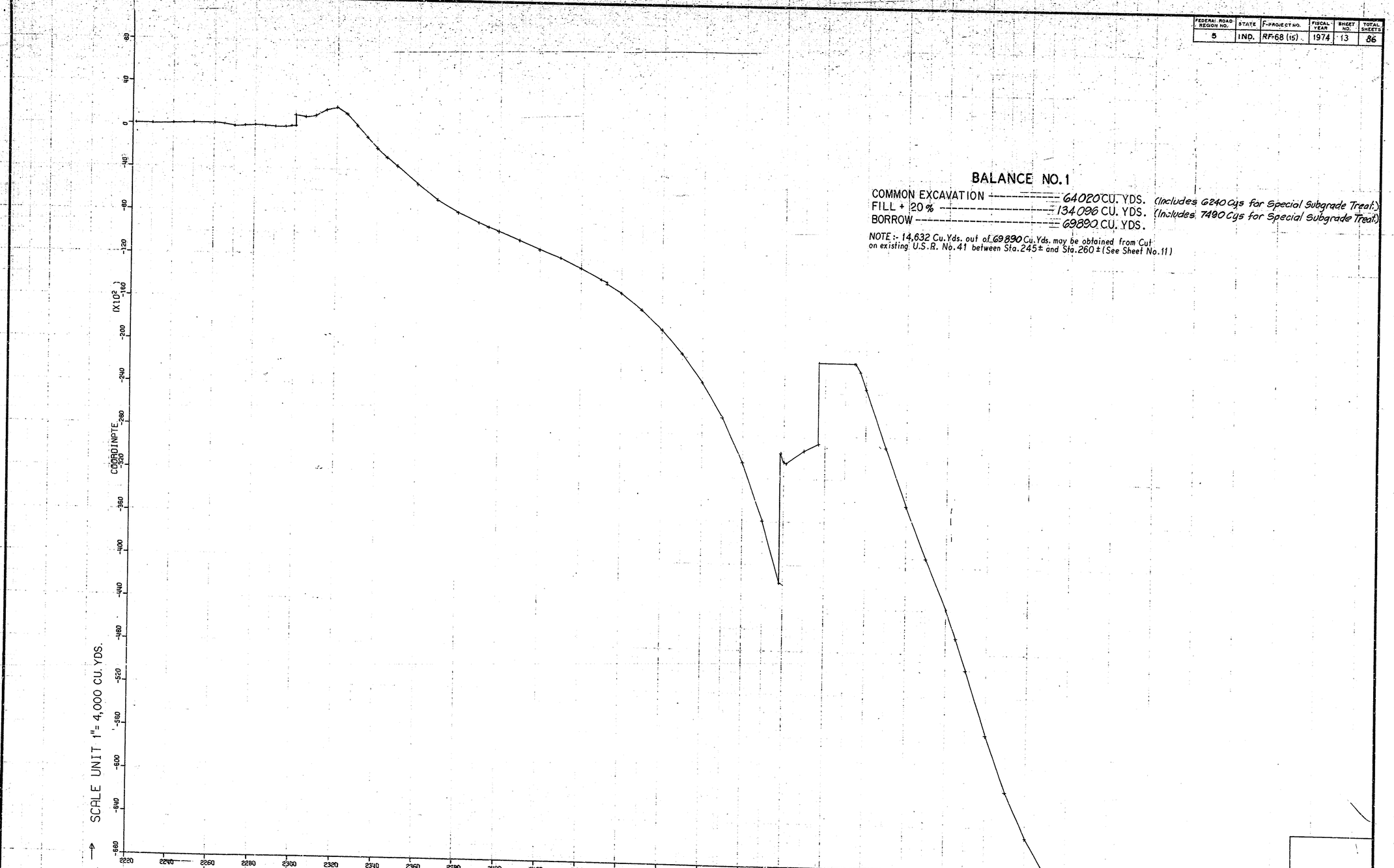
Rev. 5-7-75 Pipe Gages, Approach Table & Side Ditch Table.

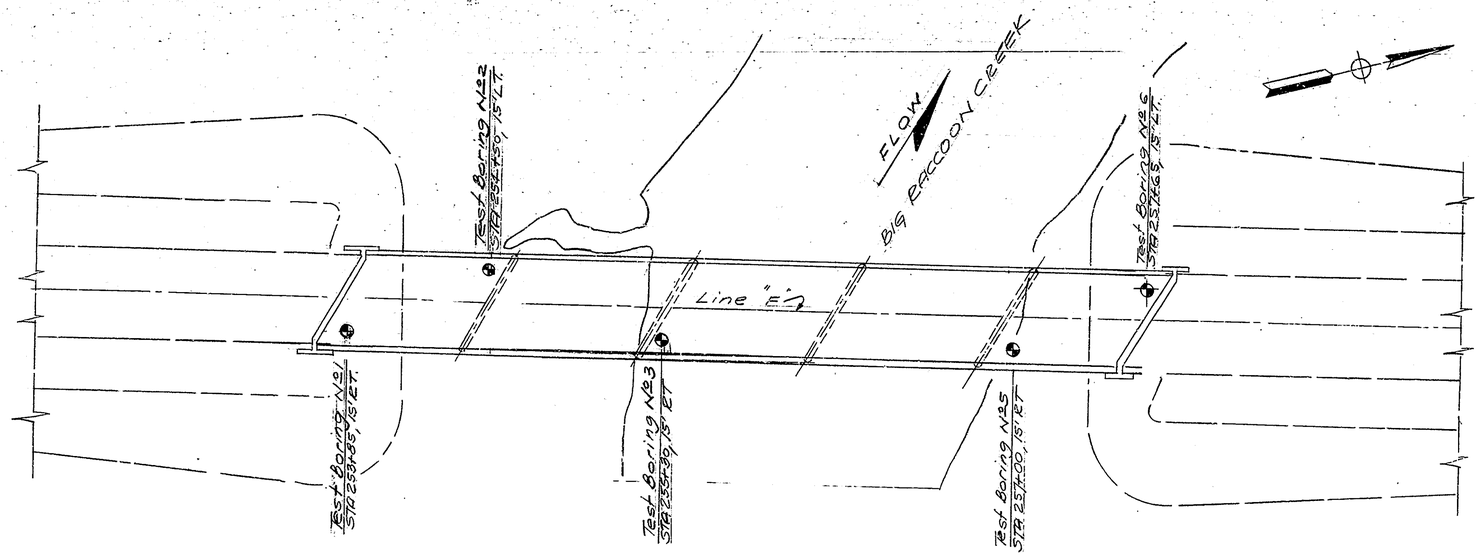
FEDERAL ROAD REGION NO.	STATE	F-PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	RF-68 (15)	1974	13	86

BALANCE NO. 1

COMMON EXCAVATION ---------- = 64020 CU. YDS. (Includes 6240 Cys for Special Subgrade Treat.)
FILL + 20 % ---------- 134096 CU. YDS. (Includes 7490 Cys for Special Subgrade Treat.)
BORROW ---------- = 69890 CU. YDS.

NOTE :- 14,632 Cu. Yds. out of 69890 Cu. Yds. may be obtained from Cut on existing U.S.R. No. 41 between Sta. 245± and Sta. 260 ± (See Sheet No. 11)





PLAN
scale 1"=30'

BORING No.	T.B. No.1				T.B. No.2				T.B. No.3				T.B. No.5				T.B. No.6			
STATION	255+85				254+50				255+30				257+00				257+65			
OFFSET	15' Rt.				75' Lt.				15' Rt.				15' Rt.				15' Lt.			
GROUND EL.	486.9				487.6				491.2				492.2				491.5			
	SAMPLE N	EL.	No.	DESCRIPTION	SAMPLE N	EL.	No.	DESCRIPTION	SAMPLE N	EL.	No.	DESCRIPTION	SAMPLE N	EL.	No.	DESCRIPTION	SAMPLE N	EL.	No.	DESCRIPTION
490		486.9				487.6				491.2				492.2				491.5		
		486.4	1	Dark Brown moist soft Silty Loam (Topsoil)		487.1	1	Dark Brown moist Silty Loam (Topsoil)	5	490.7	1	Dark Brown moist soft Silty Loam (Topsoil)	5	489.2	1	Dark Brown moist Silty Loam (Topsoil)		490.5	1	Dark Brown moist Silty Loam (Topsoil)
480	4	483.9	2	Brown moist soft Silty Loam	4	485.6	2	Brown moist soft Silty Loam	10	488.2	2	Brown moist loose Silty Loam with Sand Lenses	6	488.2	2	Brown moist soft Silty Loam	2	488.5	2	Brown moist soft Silty Loam
	8		3		4		3		5	483.2	3	Brown moist very loose Sandy Loam with Sand Seams	6		3		6	487.3	3	Brown moist very loose Sandy Loam with Silt Seams
	3	478.9	4	Brown moist medium stiff Silty Clay Loam - very soft at 6.0'	27	480.6	3	Brown moist very loose Sandy Loam	3		4		4	483.7			5		4	
	2	▼			4		4	Brown wet very loose fine Sand with trace Silt.		479.2		Brown moist very soft Silty Loam with Sand Seams	8	480.2	▼			482.0		Brown & Gray moist loose fine-Medium Sand with Silt Seams
470	15	473.9	5	Gray moist to wet very soft Silty Loam with Sand Seams	13	477.1	5		0		5	Brown wet very loose fine to medium Sand with trace Gravel - base at 18.5'			5		9	477.0	5	Brown & Gray wet loose fine to coarse Sand with little fine Gravel with Silt Seams
		469.4		Brown & Gray wet medium dense fine to coarse Sand with Clay Lenses & little fine Gravel					8		6		10		6	Brown & Gray wet loose fine to medium Sand Gravel Seam 14.0 - 15.0'		472.5	6	Gray wet medium dense fine Sand
	35		6	Brown & Gray Wet dense fine to Coarse Sand and fine to coarse Gravel with trace Silt.	12		6	Brown & Gray wet medium dense fine to coarse Sand with little fine to coarse Gravel	27	467.7	7	Brown & Gray Wet medium dense fine to Coarse Sand with some fine to medium Gravel	23	468.2		Gravel Seam 24.5 - 25.0'	9	469.0		Brown & Gray wet loose fine to Coarse Sand with little fine Gravel
460	21	463.4	7		16		7			463.7			30	462.7	7	Brown & Gray Wet medium dense fine to coarse Sand with little fine Gravel	25		7	Brown & Gray wet medium dense fine to Coarse Sand with fine Gravel
		459.4		Brown & Gray wet medium dense fine to Coarse Sand and fine to medium Gravel		460.1			15		8			459.7	8	Brown & Gray wet dense fine to coarse Sand and fine to coarse Gravel.	18	464.0		
450	24	456.9	8	Brown & Gray Wet medium dense fine to Coarse Sand with little fine Gravel	23	457.6	8	Brown & Gray Wet medium dense fine to coarse Sand with some fine Gravel.	24	456.9	9	Gray - Brown wet medium dense fine Sand	29	457.2	9	Brown & Gray wet medium dense fine to coarse Sand with little fine Gravel		461.5	8	Brown & Gray wet medium dense fine to coarse Sand with little fine to medium Gravel
		Depth of boring 30.0'				Depth of boring 30.0'				453.7		Brown & Gray wet medium dense fine to coarse Sand and fine to Coarse Gravel with trace Silt.		Depth of boring 30.0'				Depth of boring 30.0'		
440									31		10									
									38		11	Brown & Gray wet dense fine to coarse Sand with trace fine Gravel.								
430									33	441.2	12									
										Depth of boring 30.0'										

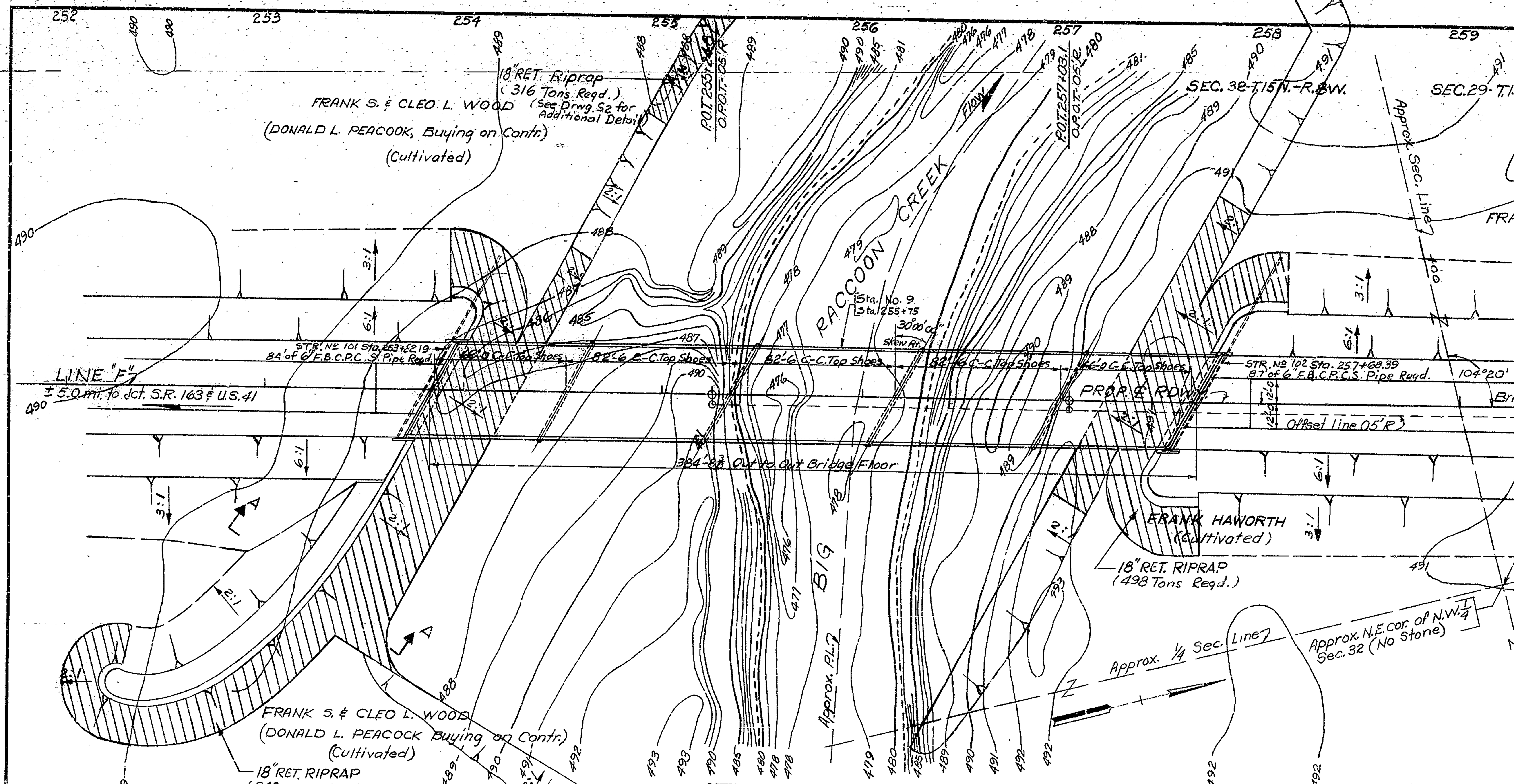
LEGEND

▼ N — Denotes Groundwater on rods
Indicates the number of blows required to drive 2" O.D. Split Spoon sampler 12" by means of a 140# Weight falling 30"

NOTE

See Art. 102.05 of the Specification regarding Test Pit Data.

TEST BORINGS
30' 10'
JAN. 8 74
Robert W. Bettge
RF-68(15)



SITUATION PLAN

SCALE:-1"=30'-0". CONTOUR INTERVAL = 1 FT.

El. 499.7 — 12'-0 — Top Riprap El. 498.2 (Typ.) — RET. RIPRAP — El. 482.0

SECTION A-A

NOTE: Pres. Structure built by Ind. State Highway Commission in 1925 as FA-68-A-1 Steel Trusses 1 @ 150', 2 @ 77' Square. Cl. Rdwy. 19'-2" Located 350'± Downstream. Plans on file in Bridge Design Office.

NOTE: SEE ROAD PLANS FOR REFERENCES
HATCHED AREA IS FOR REVETMENT RIPRAP

Earthwork Tabulation

Fill Plus 20%	134,096 Cys.
Common Excavation	64,020 Cys.
Surplus Excavation	186 Cys.
Borrow	69,890 Cys.

"B" Borrow for str. Backfill 69 Cys
Wet Excavation 630 Cys.
Tabulation includes 7490 Cys of Fill + 20% and 6240 Cys of Common Excav. for Special Subgrade Treatment.

DOWNSTREAM — UPSTREAM

PROFILE OF STREAM
Scales: Horiz. 1"=200'-0", Vert. 1"=5'-0"

DRAINAGE AREA
Approx. 465 Sq. mi. (297,600 Ac) of rolling to hilly land.

Channel of H.W. — Channel of L.W. — Proposed Roadway — Prop. Structure — Direction of Q50

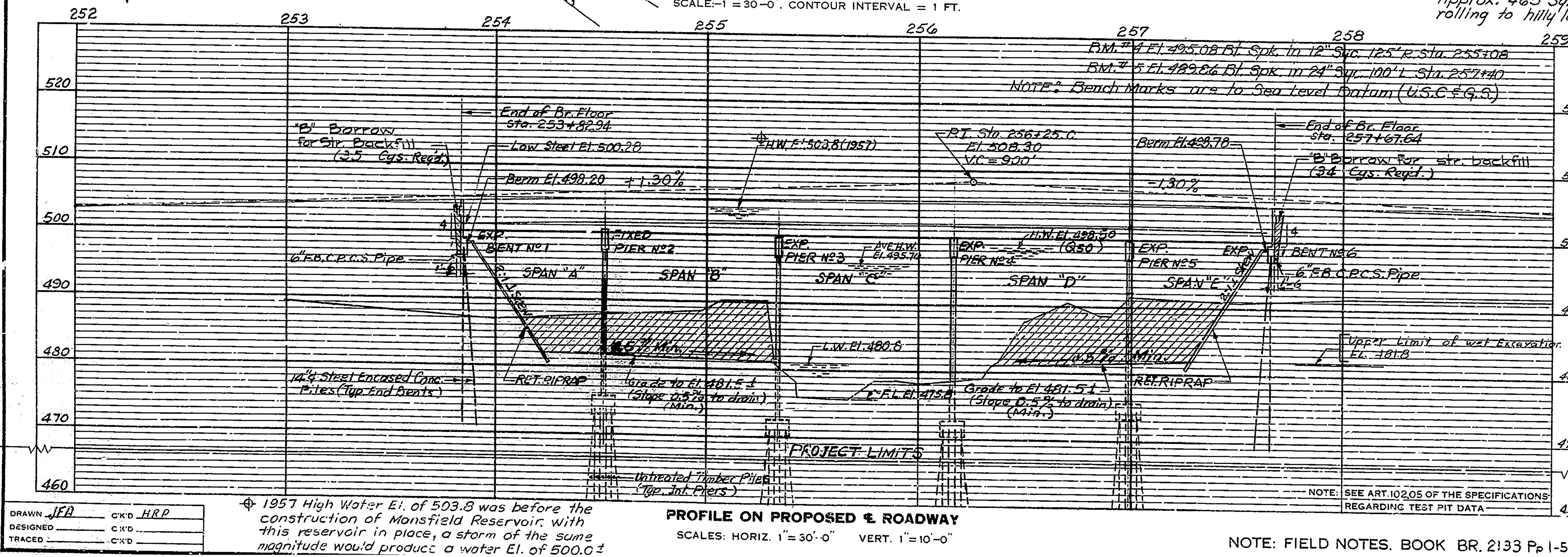
SITUATION PLAN

WATERWAY OPENING

H.W. Elev. of Q50 = El. 498.5
Discharge of Q50 = 32,500 cfs.

Waterway Area ⊥ Skew of Bridge 5,131 ft²

$V_{50} = \frac{32,500}{5,131} = 6.3$ fps



1957 High Water El. of 503.8 was before the construction of Mansfield Reservoir, with this reservoir in place, a storm of the same magnitude would produce a water El. of 500.0±

PROFILE ON PROPOSED ℄ ROADWAY

SCALES: HORIZ. 1"=30'-0" VERT. 1"=10'-0"

NOTE: FIELD NOTES. BOOK BR. 2133 Pp 1-51

REV 5-7-75 JJW/MRS/WFG

DRAWN JFA	C'K'D HRP		
DESIGNED	C'K'D		
TRACED	C'K'D		

LAYOUT
CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
5 SPANS 66'-0, 3@82'-6, 66'-0 SKEW 30°00'00" RT.
44'-0" CLEAR ROADWAY NO CURBS
OVER BIG RACCOON CREEK ON U.S. 41

INDIANA STATE HIGHWAY COMMISSION

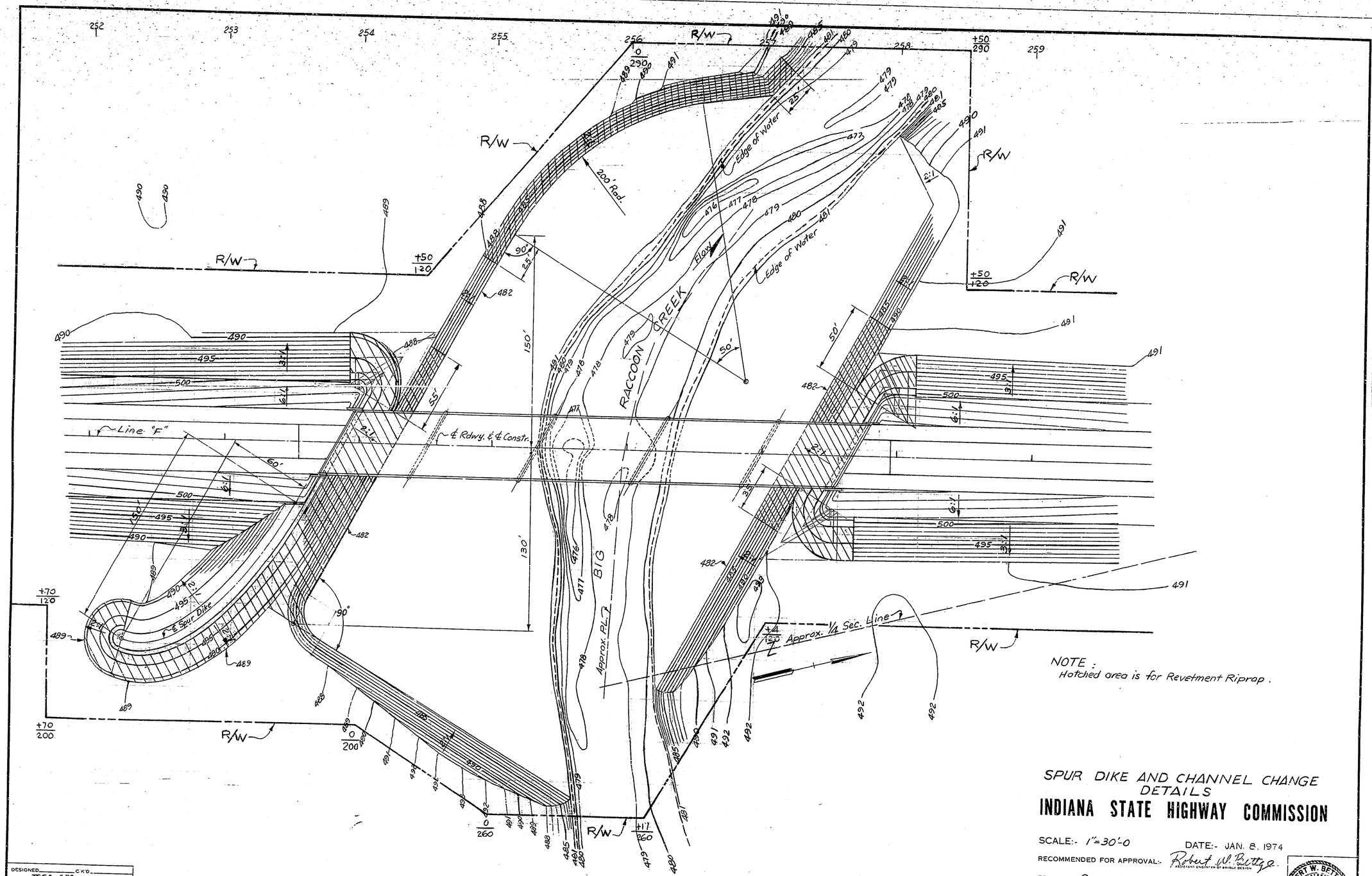
PARKE COUNTY

SCALE:—AS NOTED JAN. 8, 1974

RECOMMENDED FOR APPROVAL: Robert W. Bettge — ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S1 OF 15 SHEET:- 34 OF 86
PROJECT:- RF-68(15) STATION:- 255+75.00
BRIDGE CONTRACT NO. B-10215

ROBERT W. SETTGE — No. 6403 — STATE OF — PROFESSIONAL ENGINEER



DESIGNED _____ C'K'D _____
DRAWN TCC 8-15-73 C'K'D HRR
TRACED _____ C'K'D _____

SPUR DIKE AND CHANNEL CHANGE DETAILS

INDIANA STATE HIGHWAY COMMISSION

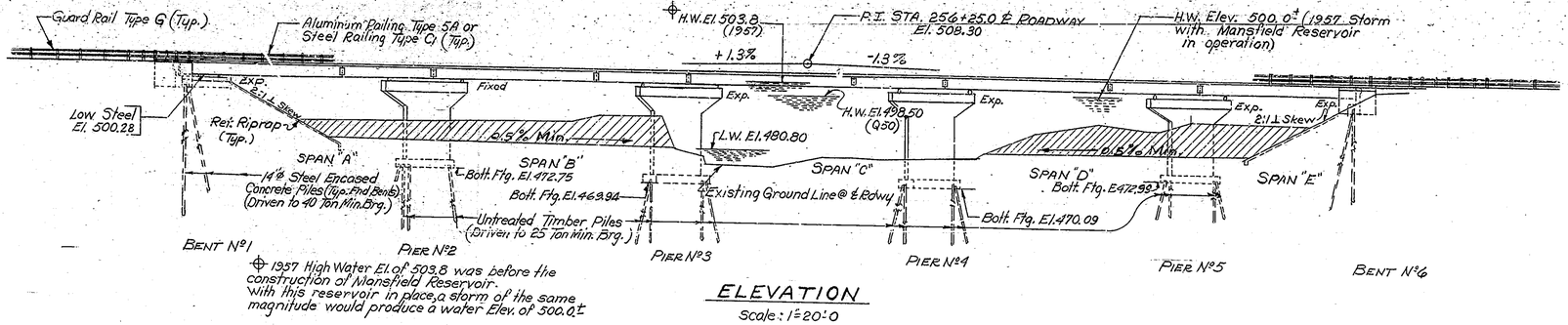
SCALE:- 1"=30'-0 DATE:- JAN. 8, 1974

RECOMMENDED FOR APPROVAL:- Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S2 OF 15 SHEET:- 35 OF 96
PROJECT:- RF-68(15)

ROBERT W. BETTGE REGISTERED No.

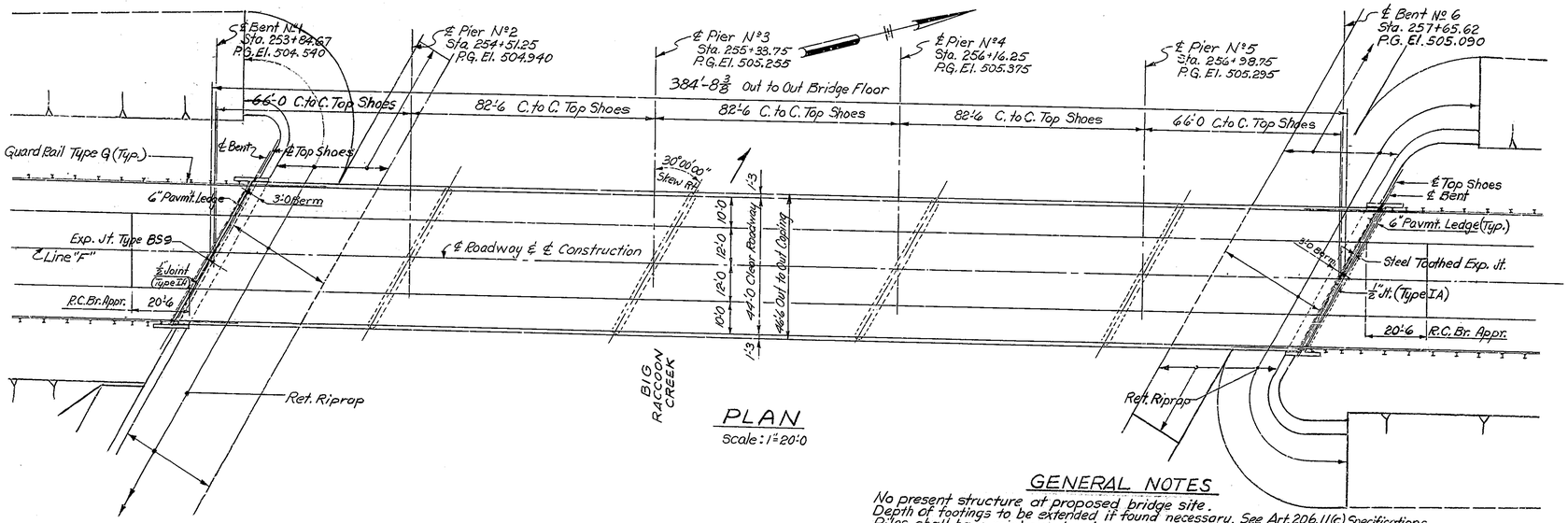
STRUCTURE TO BE BUILT TO A 900' VERTICAL CURVE



1957 High Water El. of 503.8 was before the construction of Mansfield Reservoir. With this reservoir in place, a storm of the same magnitude would produce a water Elev. of 500.0±

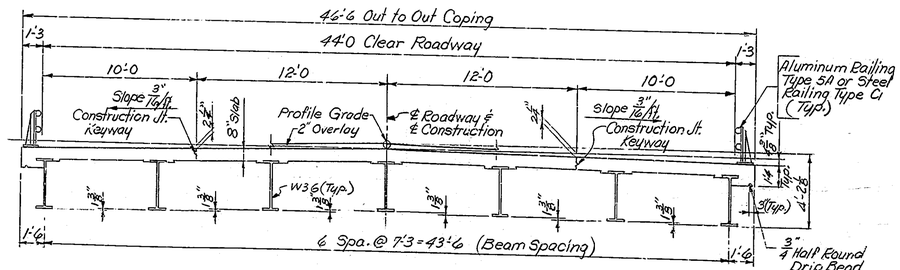
ELEVATION

Scale: 1"=20'-0



PLAN

Scale: 1"=20'-0



TYPICAL SECTION ⊥ & ROADWAY

Scale 1/4"=1'-0

DES: GNED ____ C'K'D ____
DRAWN JEA C'K'D TCC
TRACED ____ C'K'D ____

Rev. 5-1-75 JJW/MRS/WPG

DESIGN DATA

Designed for HS20-44 Loading in accordance with 1973 AASHO Specifications.

STANDARD DRAWINGS

BRIDGE STD.	ROAD STD.	PURPOSE
C1		Reinforcing Bar Notes, Steel Encased Concrete Pile
C3		℄ Joint-Type IA, Notch in Slab at End of Beams.
		Construction Joint Type A
BR1		Aluminum Bridge Railing-Type 5A
BR2		Aluminum Bridge Railing Details
BR3		Steel Bridge Railing-Type C1
BR4		Steel Bridge Railing Details
S1		Placing "B" Borrow
SH1		Steel Shoe Details
C4		Prestressed Concrete Piles
	A	Wire Fabric, Longitudinal Joint
	MA	R.C. Bridge Approach, R/W Marker
	MB2	Riprap Details
	GR4	Guard Rail-Class GA or GST
	GR5	Aluminum Guard Rail Details
	GR6	Steel Tube Guard Rail Details
	GR10	Guard Rail-Buried Ends

Note:
See Title sheet for additional Road Standards.

GENERAL NOTES

No present structure at proposed bridge site.
Depth of footings to be extended if found necessary. See Art. 206.11(c) Specifications.
Piles shall have minimum bearing value shown on detail drawings. Determine pile lengths by Art. 701 of Specifications.
For details of steel encased concrete piles see Bridge Standard C1, and applicable articles in the Specifications.
Reinforcing steel covering shall be 2½ inches in top and 1 inch min. in bottom of floor slabs, 3 inches in footing except bottom steel which shall be 4 inches and 2 inches in all other parts, unless noted.
Concrete in footing and pier stems up to construction joint to be class "B".
Concrete in superstructure to be class "C".
Concrete in end bents, top of pier stem down to construction joint and steel encased concrete piles to be class "A".

Continuous concrete pours shall be required between construction joints as shown on detail plans.
Waterproof back of mudwalls, wingwalls, in accordance with Art. 702.22 of the Specifications.
Bevel forms ⊥ under copings; and chamfer exposed edges 1 inch unless noted.
Construct riprap at location shown on layout and Spur Dike & Channel Change Details.
Tolerance in position of pile head maximum 2 inches in end bents.
All railing posts to be constructed perpendicular to grade.
Only the top of end bent caps, front face of mudwalls, face of deck coping and underside of the bridge floor from coping to face of outside beam to be sealed in accordance with Article 702.20 of the Specifications.
For pay items covering this structure see Bridge Estimate of Quantities.
See special provisions for items included in this contract.
As an alternate, prestressed concrete piles may be substituted for steel Encased Concrete Pile and/or Untreated Timber Piles See Br. Std. C4 and the Special Provisions.
Existing structure, located 350' down stream, is to be removed.

GENERAL PLAN

CONTINUOUS COMPOSITE STEEL BEAM BRIDGE
5 SPANS 66'-0, 3 @ 82'-6, 66'-0 — SKEW 30°00'00" RT.
44'-0 CLEAR ROADWAY — NO CURBS
OVER BIG RACCOON CREEK — ON U.S. 41

INDIANA STATE HIGHWAY COMMISSION

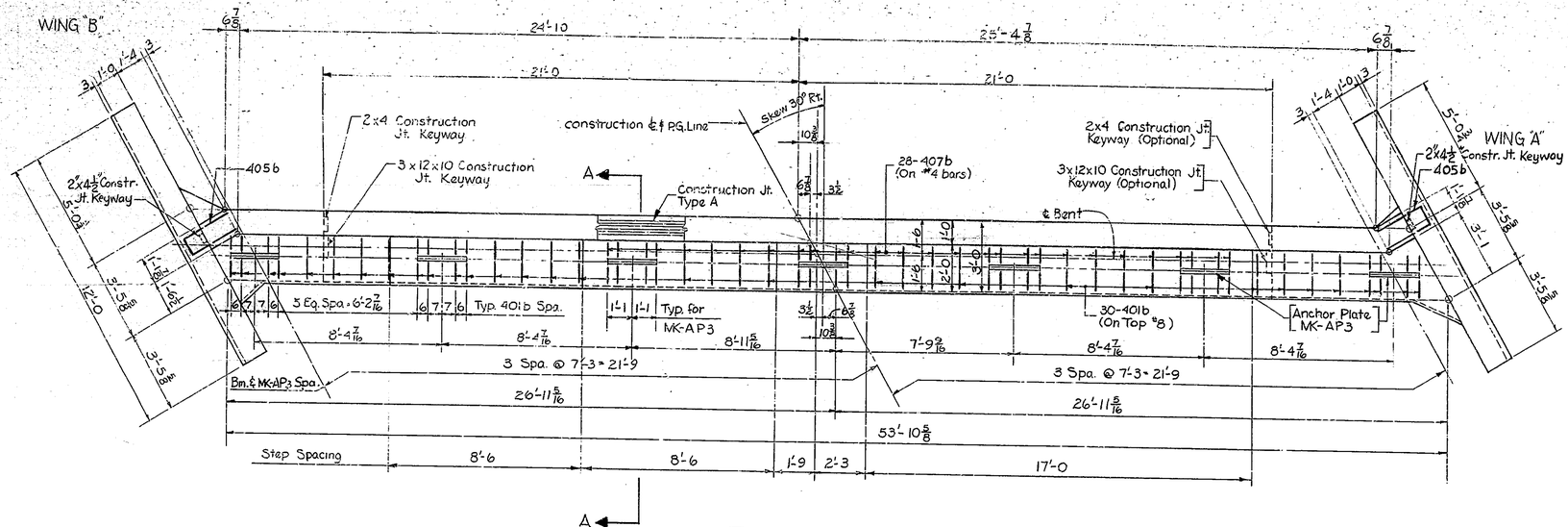
PARKE COUNTY

SCALE:- AS NOTED DATE:- JAN. 8, 1974

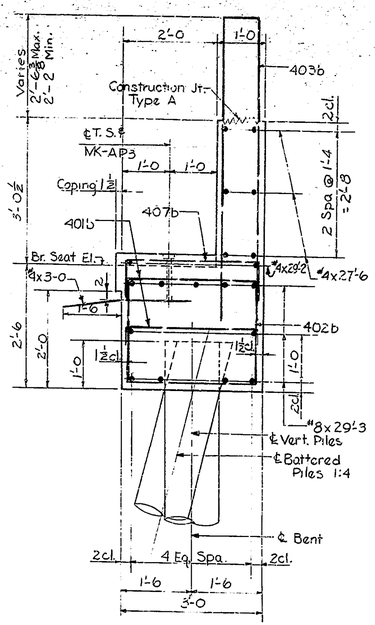
RECOMMENDED FOR APPROVAL:- Robert W. Bettge
BRIDGE AND ENGINEER OF BRIDGES AND CULVERTS

DRAWING:- S.3 OF 15 SHEET:- 36 OF 36
PROJECT:- RF-68(13)

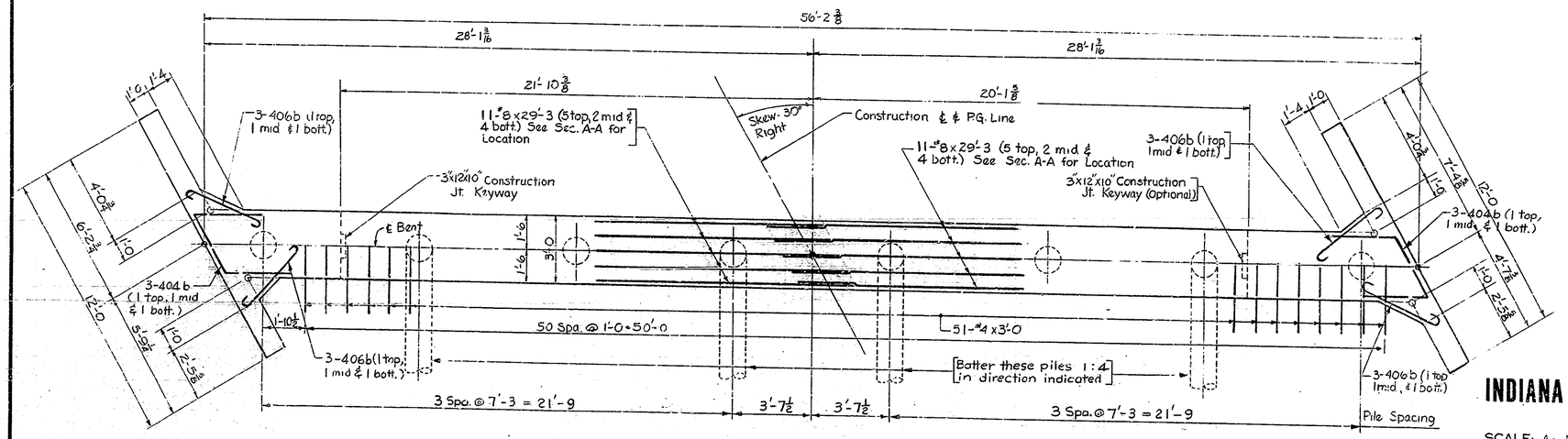
ROBERT W. BETTGE — REGISTERED — No. 5403 — STATE OF INDIANA



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



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



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

8-14"ϕ #7 Ga. Steel Encased Concrete Piles Required.
All piles to be driven to 40 Ton Min. Bearing.

Notes

For reinforcing bar notes see Br. Std. C1.
Anchor Plates MK-AP3 to be preset in concrete.

For Anchor Plate MK-AP3 Details see Drawing S5.
For additional details see Drawing S5.
For Construction Joint Type A see Br. Std. C3.

BENT NO 1 DETAILS

DESIGNED EB 9/72 C'K'D HRD 9/29/72
DRAWN DLB 1-17-73 C'K'D TCC 1-18-73
TRACED ____ C'K'D

INDIANA STATE HIGHWAY COMMISSION

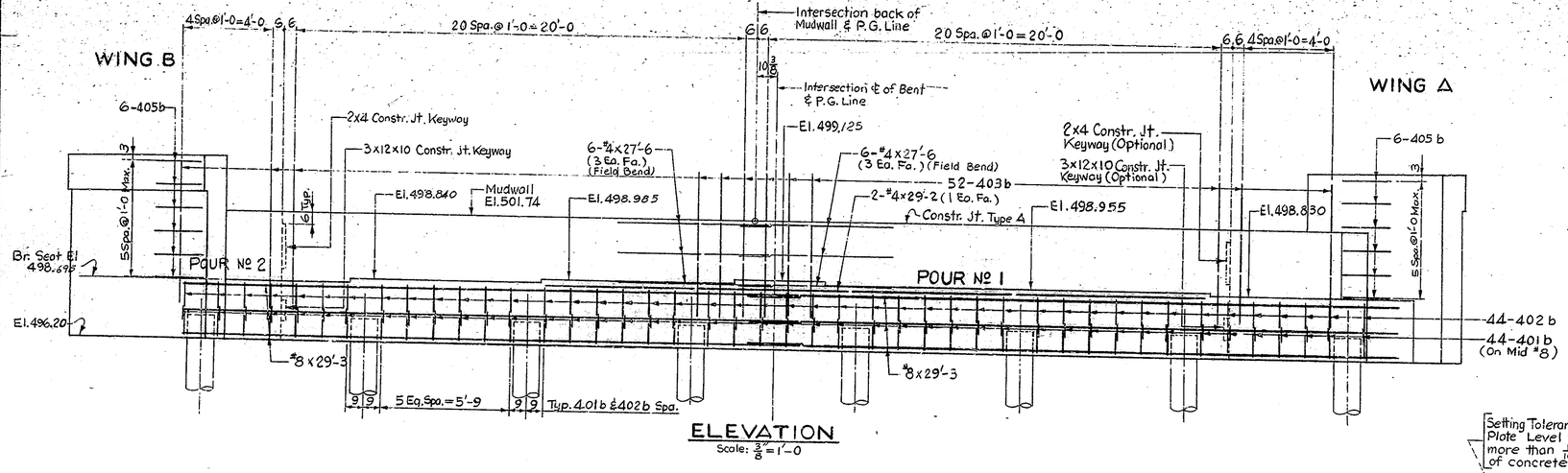
SCALE:- As Noted

DATE:- JAN. 8, 1974

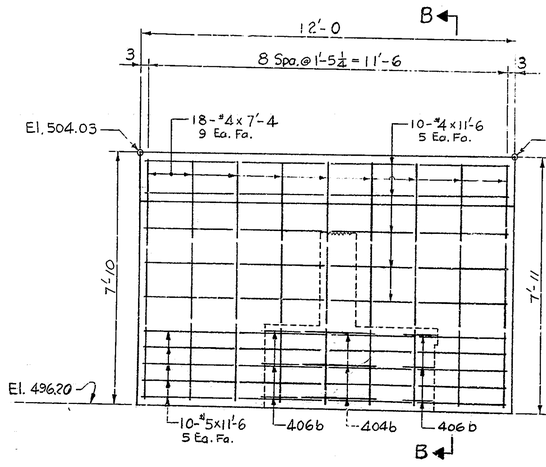
Robert W. Bettig
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S4 OF 15 SHEET:- 37 OF 86
PROJECT:- RF-68(15)
CONTRACT NO. B-10215

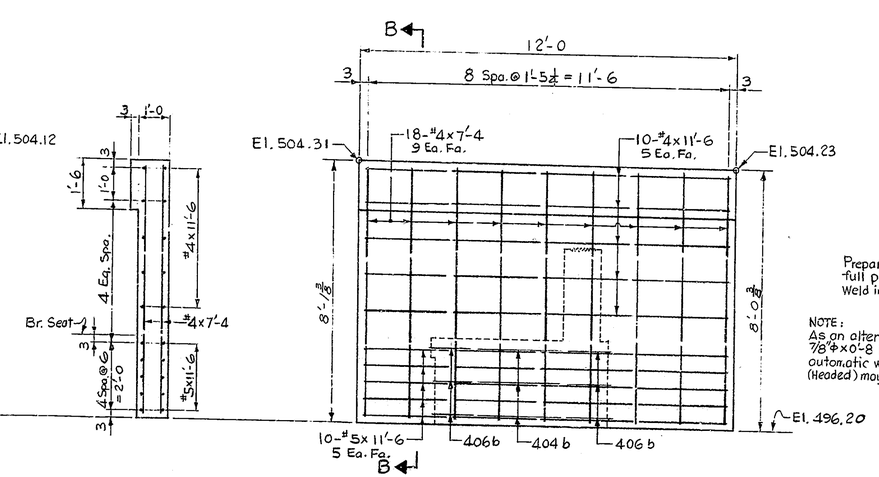
ROBERT W. BETTIG PRINCIPAL No. 6403 STATE OF INDIANA REGISTERED



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

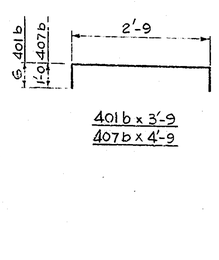


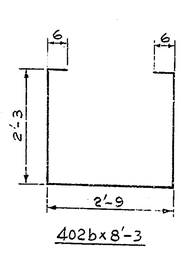
WING B ELEVATION
Scale: 1/2"=1'-0

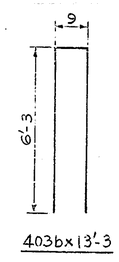


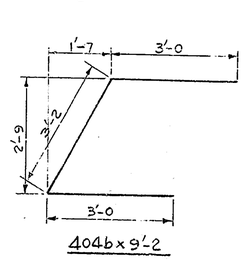
WING A ELEVATION
Scale: 1/2"=1'-0

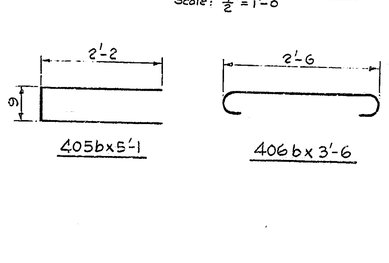
SECTION B-B
Scale: 1/2"=1'-0



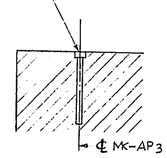


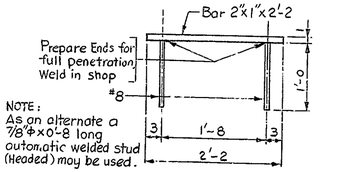






Setting Tolerance of Anchor Plate Level with to not more than 1/16" below top of concrete





NOTE:
As an alternate a 7/8"ϕx0'-8 long automatic welded stud (Headed) may be used.

DETAIL-ANCHOR PLATE
MK-AP3
Scale: 1"=1'-0

BILL OF MATERIALS

REINFORCING STEEL

SIZE AND MARK	NO. OF BARS	LENGTH	WEIGHT LBS.
#8	22	29'-3	
	Total	#8	1,718
#5	20	11'-6	
	Total	#5	240
401b	74	3'-9	
402b	44	8'-3	
403b	52	13'-3	
404b	6	9'-2	
405b	12	5'-1	
406b	12	3'-6	
407b	28	4'-9	
#4	2	29'-2	
#4	12	27'-6	
#4	20	11'-6	
#4	36	7'-4	
#4	51	3'-0	
	Total	#4	1,774
Total Reinforcing Steel			3,732

CONCRETE

Class "A" in Substructure	
Pour № 1	23.9 Cu.Yds.
Pour № 2	5.8 Cu.Yds.
Total Class "A" in Substructure	29.7 Cu.Yds.

MISCELLANEOUS

8-14"ϕ #7 Ga. Steel Encased Concrete Piles x 45'±	360 Lin.Ft.
Anchor Plate MK-AP3	7 Each

NOTE
For Notes and Adaitional Details see Drawing S4 .

BENT № 1 DETAILS
INDIANA STATE HIGHWAY COMMISSION

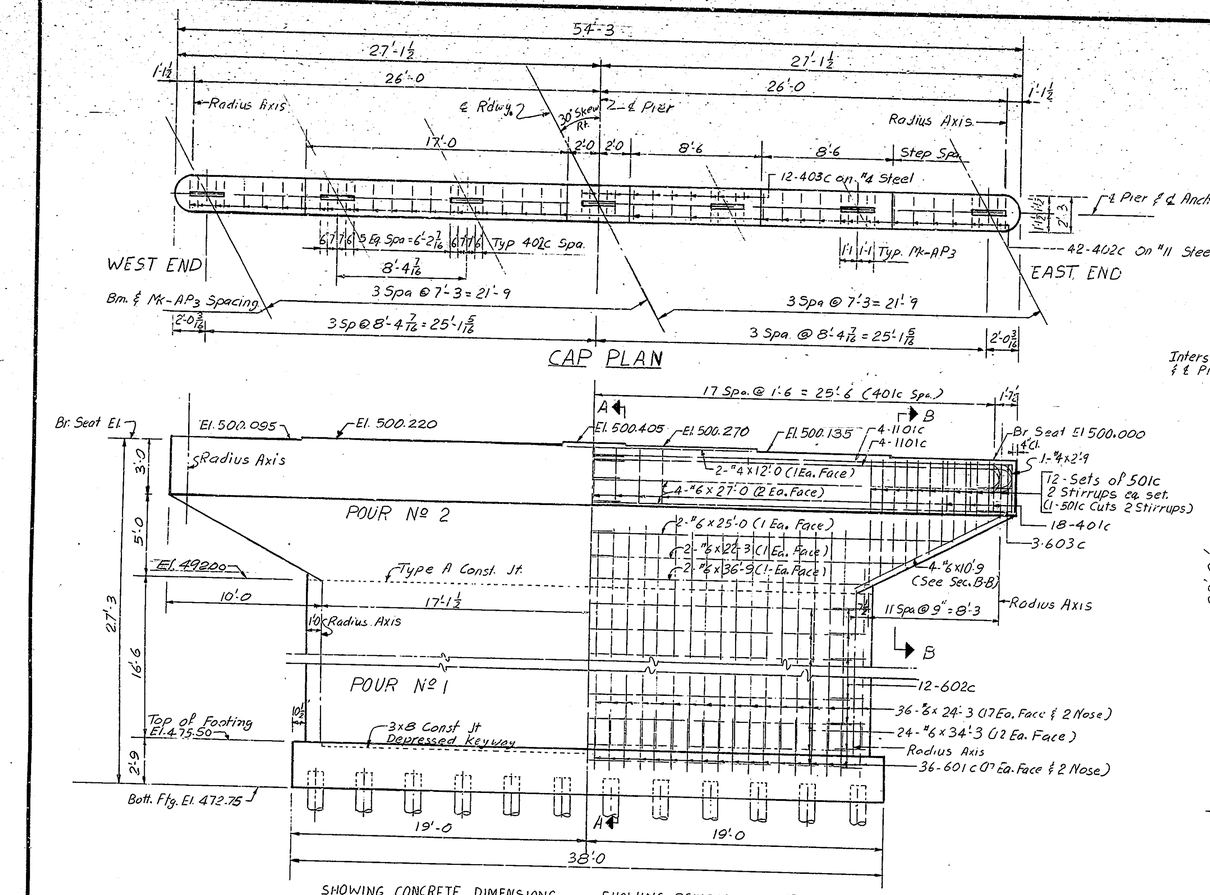
SCALE:- AS NOTED DATE:- JAN. 8, 1974

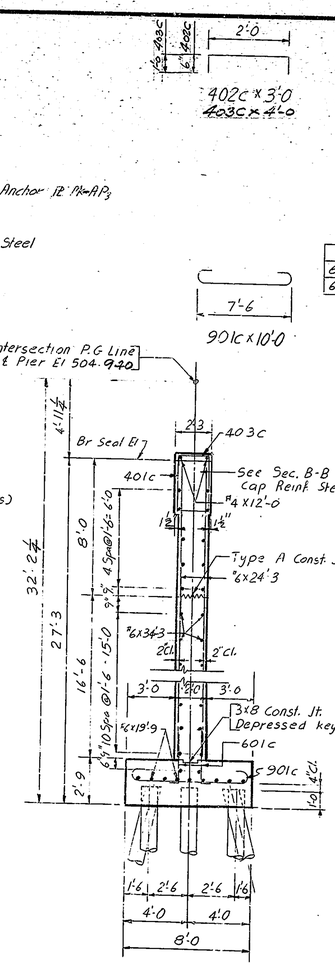
Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

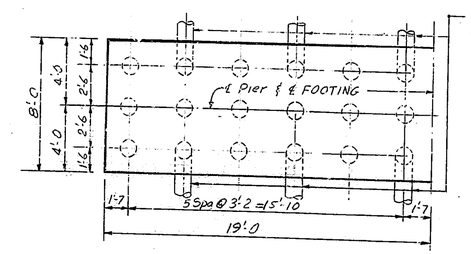
DESIGNED EB 9/11/72 C'K'D HC 10/25/72
DRAWN TCC 1-29-73 C'K'D EB 2/12/73
TRACED C'K'D

DRAWING:- S3 OF 15 SHEET:- 38 OF 86
PROJECT:- R F-68 (15)
CONTRACT NO. B-10215

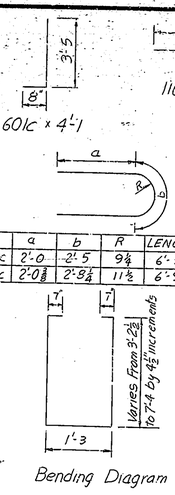
ROBERT W. BETTGE No. 6403 REGISTERED PROFESSIONAL ENGINEER

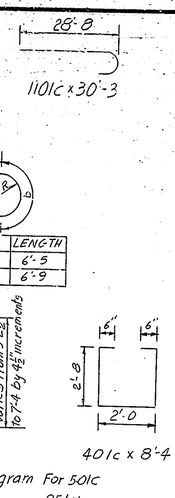






36 Untreated timber Piles Required. All Piles to be Driven to 25 Ton Min. Bearing.

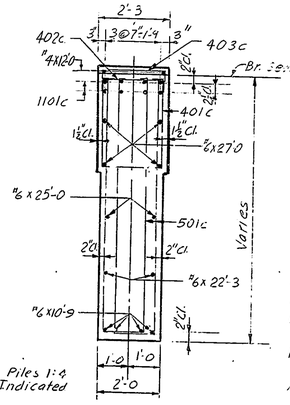




	a	b	R	LENGTH
602c	2'-0	2'-5	9½	6'-5
603c	2'-0⅜	2'-8⅛	11½	6'-9

Bending Diagram For 501c

CUTTING DIAGRAM FOR 501c 501c x 25'-11



SECTION B-B
SCALE ½ = 1'-0

NOTES:
For Reinf. Bar Notes See Br. Std C1.
For Details of Anchor Plate Mk-AP3 See Drwg. S5.
For Construction Joint Type A See Br. Std C3
Anchor Plates Mk-AP3 to be preset in concrete.

BILL OF MATERIALS

REINFORCING STEEL

SIZE & MARK	Nº OF BARS	LENGTH	WEIGHT LBS.
1101c	16	30'-3	
Total #11			2,571
901c	38	10'-0	
Total #9			1,292
601c	72	4'-1	
602c	24	6'-5	
603c	6	6'-9	
#6	2	36'-9	
#6	24	34'-3	
#6	8	27'-0	
#6	4	25'-0	
#6	72	24'-3	
#6	4	22'-3	
#6	18	19'-9	
#6	8	10'-9	
Total #6			5973
501c	24	25'-11	
Total #5			649
401c	35	8'-4	
402c	42	3'-0	
403c	12	4'-0	
#4	2	12'-0	
#4	2	2'-9	
Total #4			331
Total Reinf. Steel			10816

CONCRETE

Class 'A' in Substr.	30.6 Cu. Yds.
Class 'B' above Footing	43.8 Cu. Yds.
Class 'B' in Footing	31.0 Cu. Yds.

MISCELLANEOUS

Anchor Plate Mk-AP3	7 Each
36 Untreated Timber Piles x 20'-0	720 Lin. Ft.

PIER Nº 2 DETAILS
INDIANA STATE HIGHWAY COMMISSION

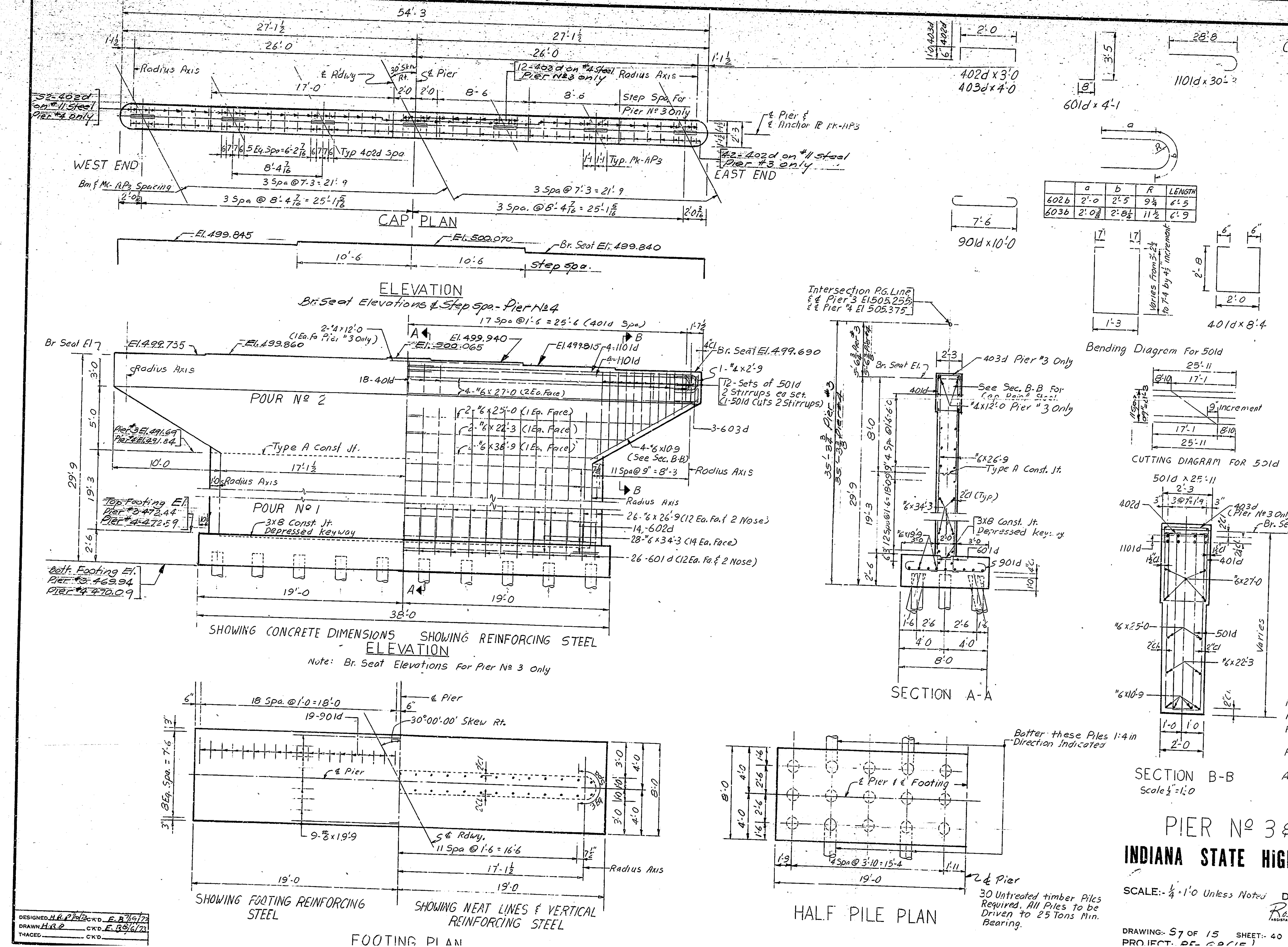
SCALE:- 1" = 1'-0 Unless Noted DATE:- JAN. 8, 1974

Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S6 OF 15 SHEET:- 39 OF 86
PROJECT:- RF-68-C(15)
CONTRACT NO. B-10315

ROBERT W. BETTGE REGISTERED No. 6403 STATE OF INDIANA

DESIGNED HRP 1/72 CK'D E.B 1/73
DRAWN H.R.P CK'D E.B 3/6/73
TRACED CK'D



BILL OF MATERIALS PIER #3
(Bill of Materials Pier #4 Same Except As Noted.)

REINFORCING STEEL			
SIZE & MARK	Nº OF BARS	LENGTH	WEIGHT (lbs)
1101d	16	30'-3	
Total #11			2,571
901d	38	10'-0	
Total #9			1,292
601d	50	4'-1	
602d	28	6'-5	
603d	6	6'-9	
#6	2	36'-9	
#6	28	34'-3	
#6	8	27'-0	
#6	50	26'-9	
#6	4	25'-0	
#6	4	22'-3	
#6	18	19'-9	
#6	8	10'-9	
Total #6			5,469
501d	24	25'-11	
Total #5			649
401d	35	8'-4	
⊗402d	52	3'-0	
Δ402d	42	3'-0	
Δ403d	12	4'-0	
Δ#4	2	12'-0	
#4	2	2'-9	
Total #4 Pier #3			331
Total #4 Pier #4			303
Total Reinf. Steel Pier #3			10312
Total Reinf. Steel Pier #4			10284
CONCRETE		Pier #3	Pier #4
Class "A" Substr.		30.5 Cu. Yds	30.2 Cu. Yds
Class "B" Abov Ftg		51.1 Cu. Yds	51.1 Cu. Yds
Class "B" in Ftg		28.1 Cu. Yds	28.1 Cu. Yds
MISCELLANEOUS			
30 Untreated Timber Piles × 20'±			600 Lin. Ft.
Anchor Plate MK-AP3			7 Each

⊗ Items For Pier Nº 4 Only
Δ Items For Pier Nº 3 Only.

Notes:-
For Reinf. Bar Notes See Br. Std. C1.
For construction Joint Type 'A' See Br. Std. C3.
For Anchor Plate MK-AP3 Details See Drwg. S5.
Anchor Plate MK-AP3 to be pressed in Concrete.

PIER Nº 3 & Nº 4 DETAILS

INDIANA STATE HIGHWAY COMMISSION

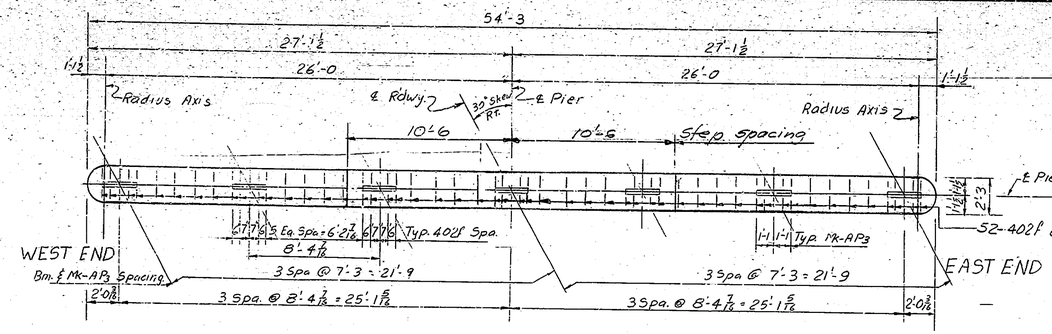
SCALE:- ¼" = 1'-0 Unless Noted   DATE:- JAN. 8, 1974

Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

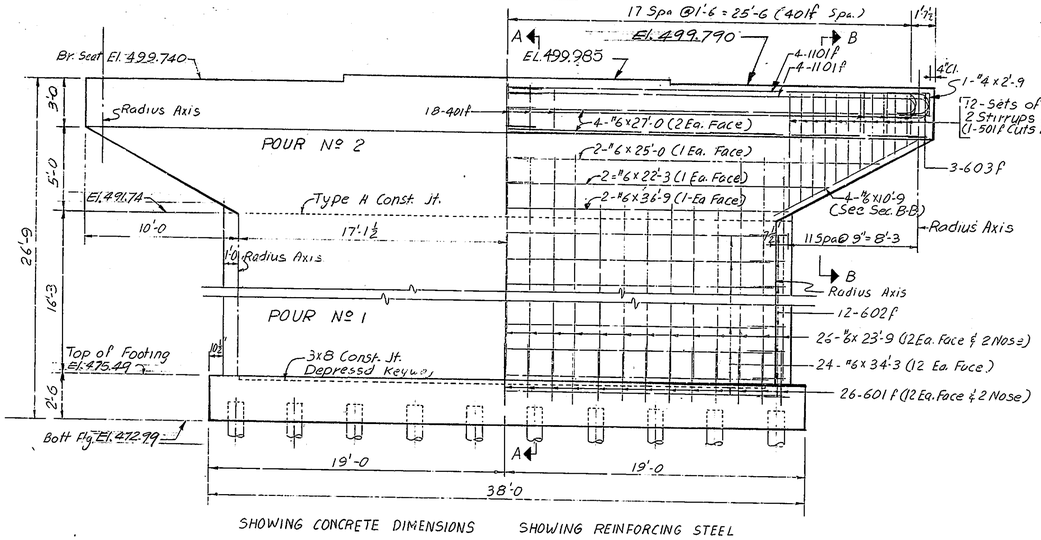
ROBERT W. BETTGE No.

DRAWING:- S7 OF 15   SHEET:- 40 OF 86
PROJECT:- RS-

DESIGNED H.B.P. 1/10/73 CK'D E.B. 7/16/73
DRAWN H.B.P. CK'D E.B. 8/6/73
TRACED CK'D

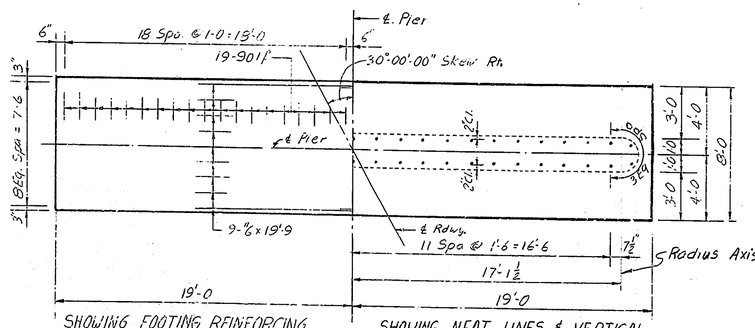


CAP PLAN



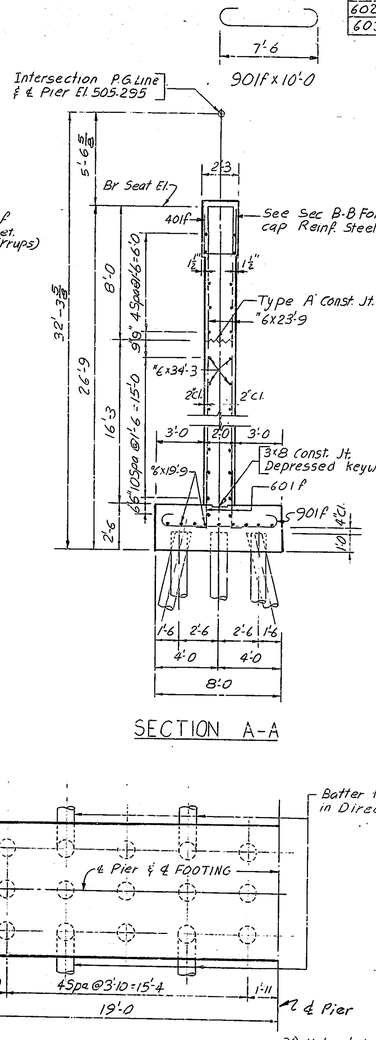
SHOWING CONCRETE DIMENSIONS SHOWING REINFORCING STEEL

ELEVATION



SHOWING FOOTING REINFORCING STEEL SHOWING NEAT LINES & VERTICAL REINFORCING STEEL

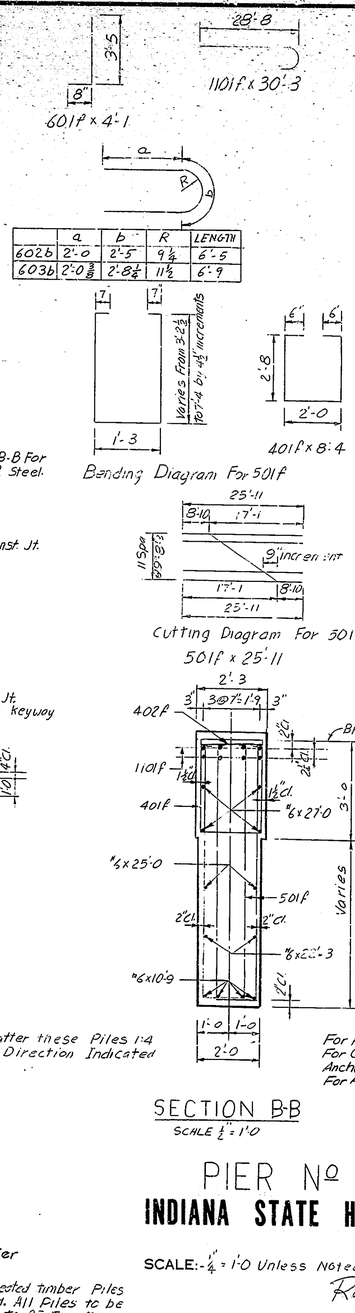
FOOTING PLAN



SECTION A-A

30 Untreated timber Piles Required. All Piles to be Driven to 25 Ton Min Bearing.

HALF PILE PLAN



SECTION B-B
SCALE ½" = 1'-0

NOTES
For Reinforcing Bar Notes see Br. Std. C1.
For Construction Joint Type A see Br. Std. C3.
Anchor Plates MK-AP3 to be preset in concrete.
For Anchor Plate MK-AP3 Detail see Drwg. S5.

BILL OF MATERIALS

REINFORCING STEEL			
SIZE & MARK	No OF BARS	LENGTH	WEIGHT LBS
1101f	16	30'-3	
Total #11			2,571
901f	38	10'-0	
Total #9			1,292
601f	50	4'-1	
602f	24	6'-5	
603f	6	6'-9	
#6	2	36'-9	
#6	24	34'-3	
#6	8	27'-0	
#6	4	25'-6	
#6	50	23'-9	
#6	4	22'-3	
#6	18	19'-9	
#6	8	10'-9	
Total #6			4,999
501f	24	25'-11	
Total #5			649
401f	35	8'-4	
402f	52	3'-0	
#4	2	2'-9	
Total #4			303
Total Steel			9814

CONCRETE	
Class A in Substr.	30.4 Cu. Yds.
Class B above Footing	43.1 Cu. Yds.
class B in Footing	28.1 Cu. Yds.
MISCELLANEOUS	
Anchor @ MK-AP3	7 Each
30 Untreated Timber Piles x 20'-0±	600 Lin. Ft.

PIER No 5 DETAILS
INDIANA STATE HIGHWAY COMMISSION

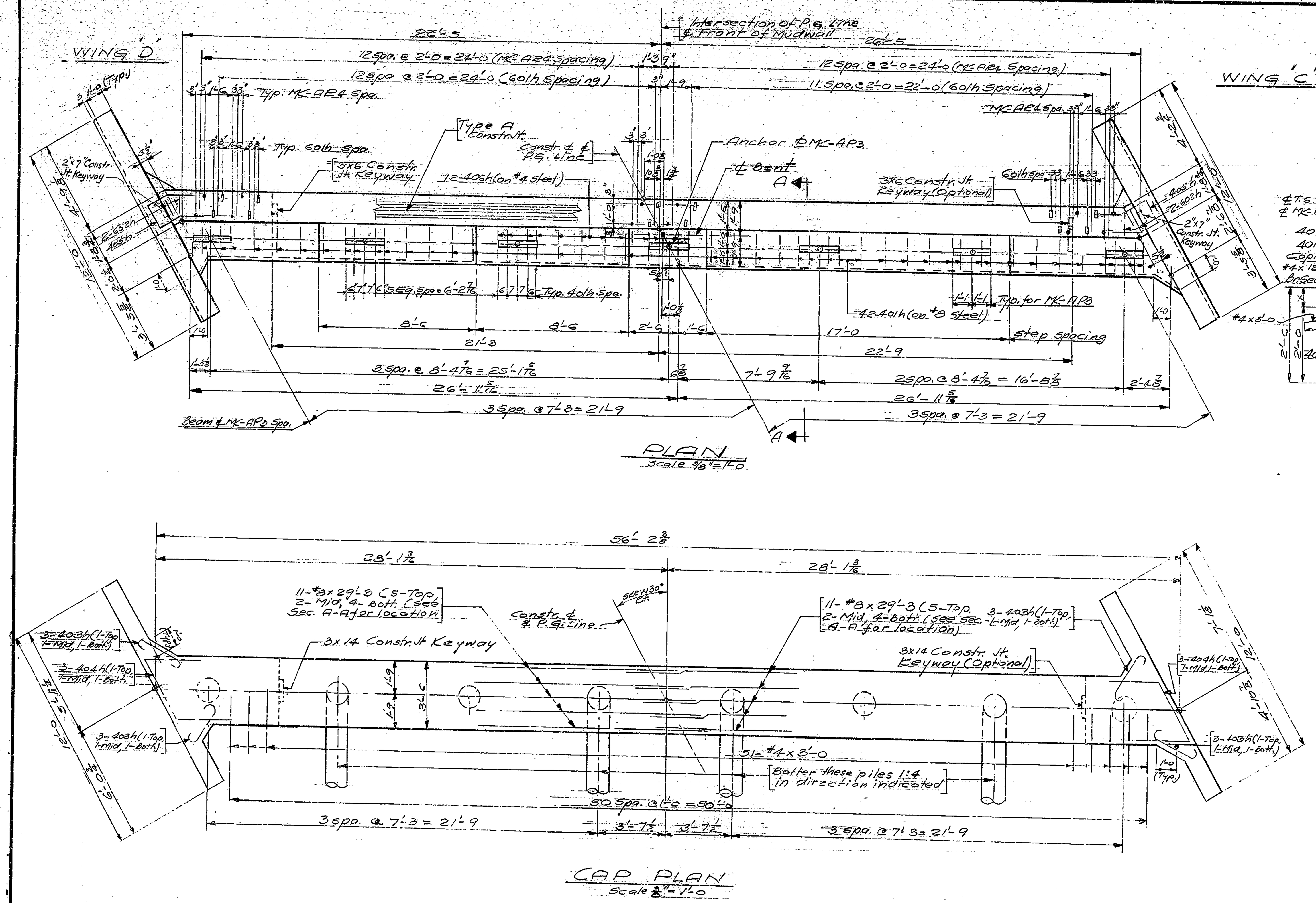
SCALE:- ¼" = 1'-0 Unless Noted DATE:- JAN. 8, 1974

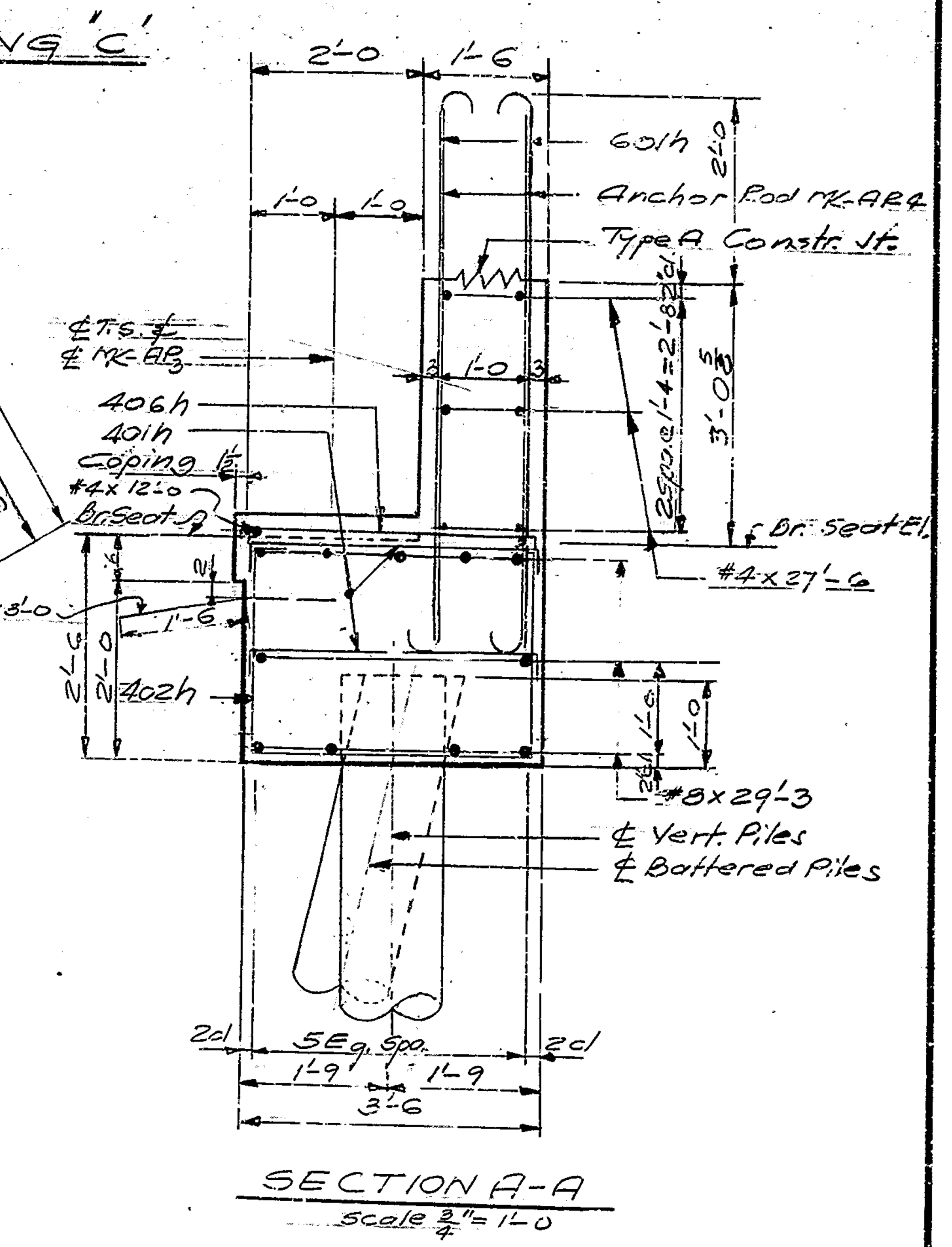
Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S8 OF 15 SHEET:- 41 OF 86
PROJECT:- R F-68 (15)

ROBERT W. BETTGE PROFESSIONAL ENGINEER No. 6403 STATE OF INDIANA

DESIGNED HRP 7/8/73 C'K'D EB 7/9/73
DRAWN SRG C'K'D EB 8/6/73
TRACED C'K'D





8-14" ⌀ #7 Ga. Steel Encased Concrete Piles required. All piles to be driven to 40 Ton Min. Bearing.

NOTES

For reinforcing bar notes see Br. Std. C1.

Anchor Plates MK-AP3 & Anchor Rods MK-AP4 to be preset in Concrete.

For Anchor plate MK-AP3 detail see Drwg. S5.

~~For additional details see Drwg. S10~~

For Type A Constr. Joint see Br. Std. C1.

For Bill of Materials see Drwg. S10.

BENT No 6 DETAILS

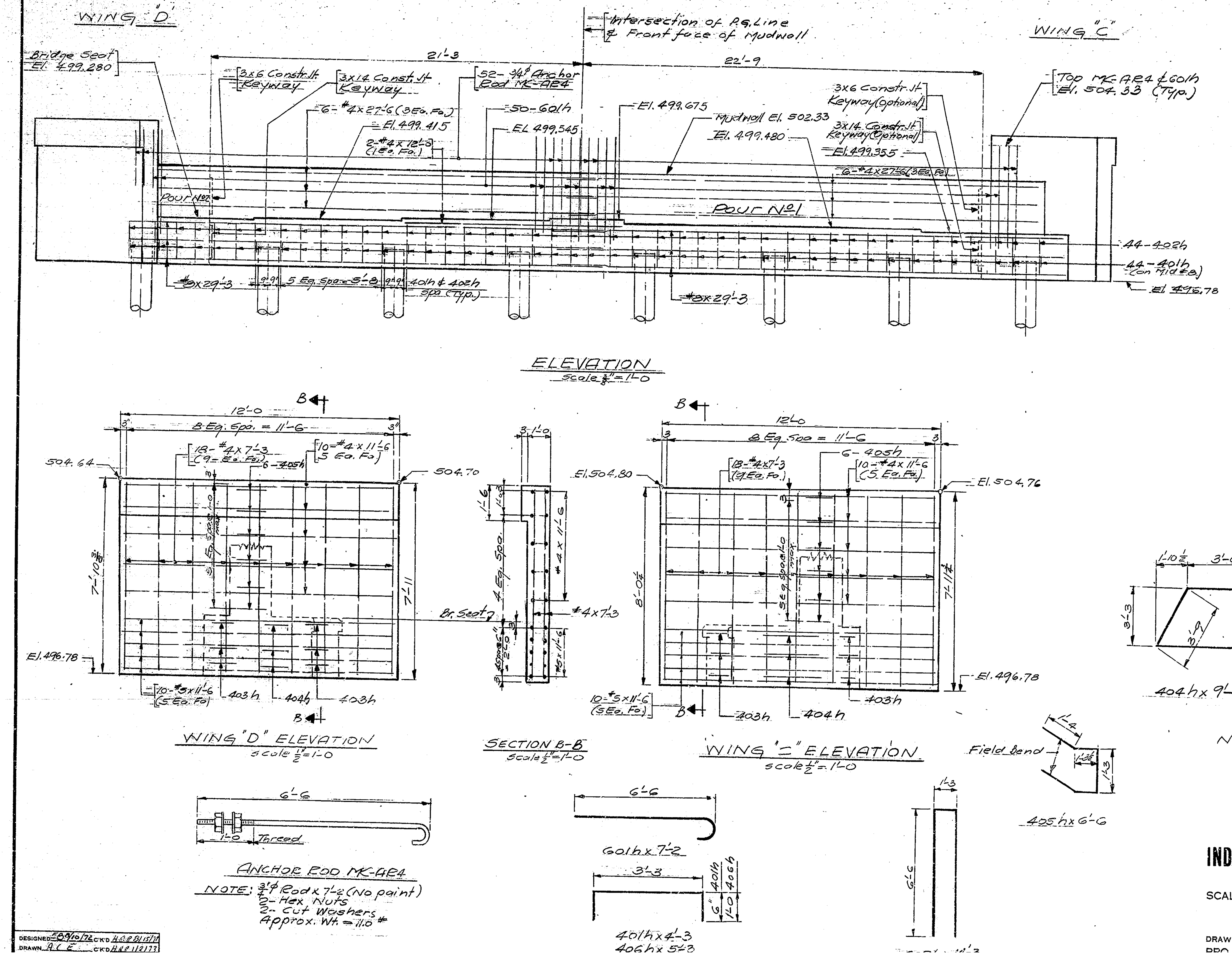
INDIANA STATE HIGHWAY COMMISSION

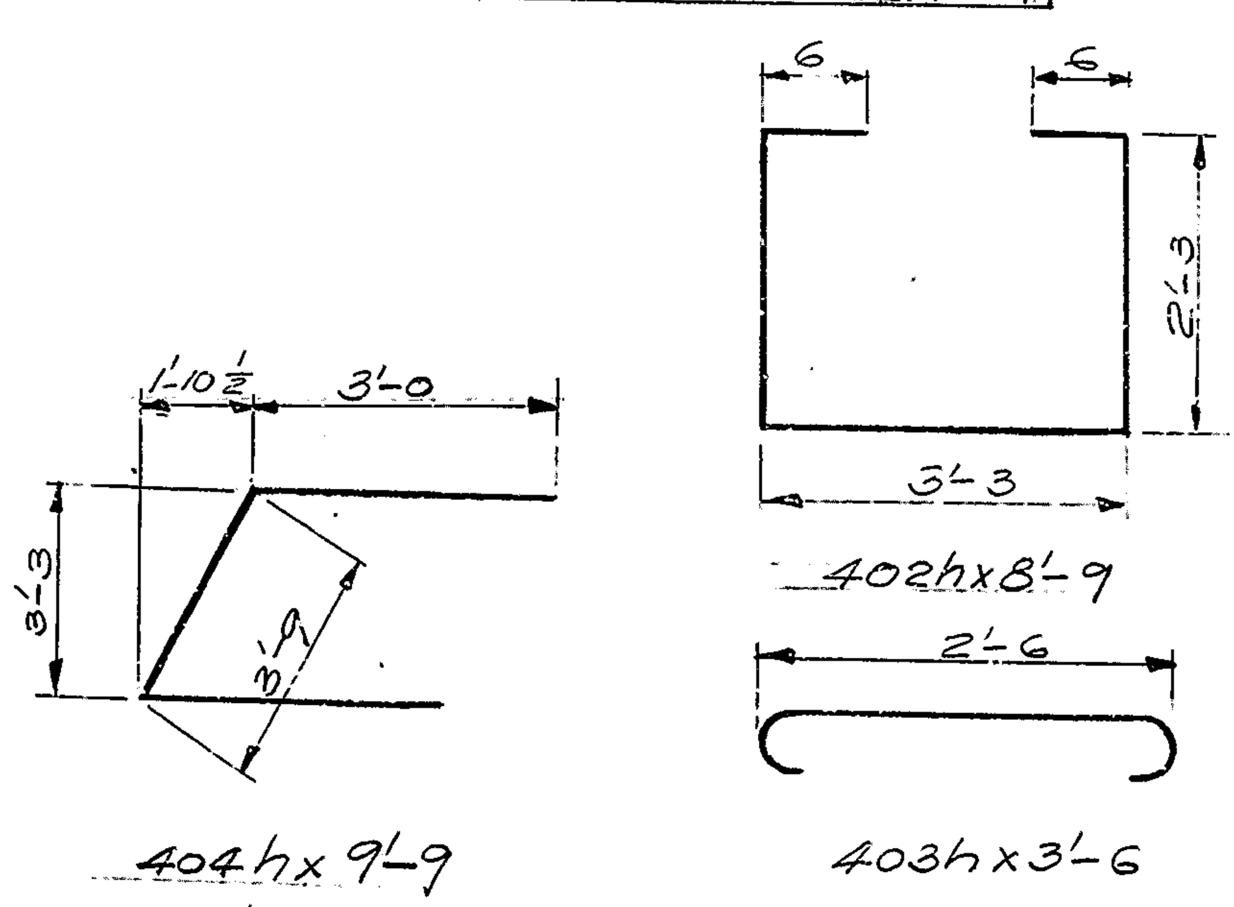
SCALE: As Noted DATE: JAN. 8, 1974

Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING: S9 OF 15 SHEET: 42 OF 96
PROJECT: RF-68(15)

DESIGNED EBB/10/72 CK'D H.E.P.
DRAWN ACE CK'D EB 1/2/73
TRACED ACE





BILL OF MATERIALS

REINFORCING STEEL			
SIZE AND MARK	NO. OF BARS	LENGTH	WEIGHT (LBS.)
#8	22	29'-3	1,718
601h	50	7'-2	
602h	4	14'-3	
	Total	#6	624
#5	20	11'-6	240
401h	86	4'-3	
402h	44	8'-9	
403h	12	3'-6	
404h	6	9'-9	
405h	12	6'-6	
406h	12	5'-3	
#4	12	27'-6	
#4	2	12'-0	
#4	20	11'-6	
#4	36	7'-3	
#4	51	3'-0	
	Total	#4	1329
	Total	Steel	3,911

CONCRETE	
Class "A" in Substr.	
Pour #1	28.6 CYS
Pour #2	6.4 CYS
Total Class "A" In Substr.	35.0 CYS

MISCELLANEOUS	
8-14"Φ 7Ga Steel Encased Conc. Piles x 45'±	360 LFT.
Anchor Plates MK-AP3	7 Ea.
Anchor Rods MK-AR4 (2 Hex Nuts 2 Cut Wa) Approx. Wt. 11.0# Ea.	52 Ea.

NOTE.
For additional details and notes see Drwg. 59

BENT No. 6 DETAILS

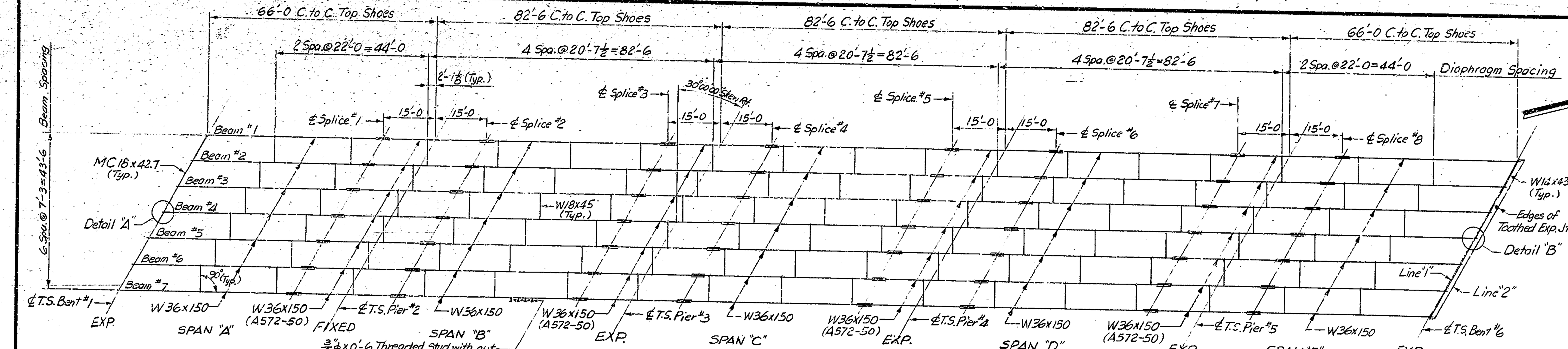
INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Noted DATE:- JAN. 8, 1974

ASSISTANT ENGINEER OF BRIDGE DESIGN

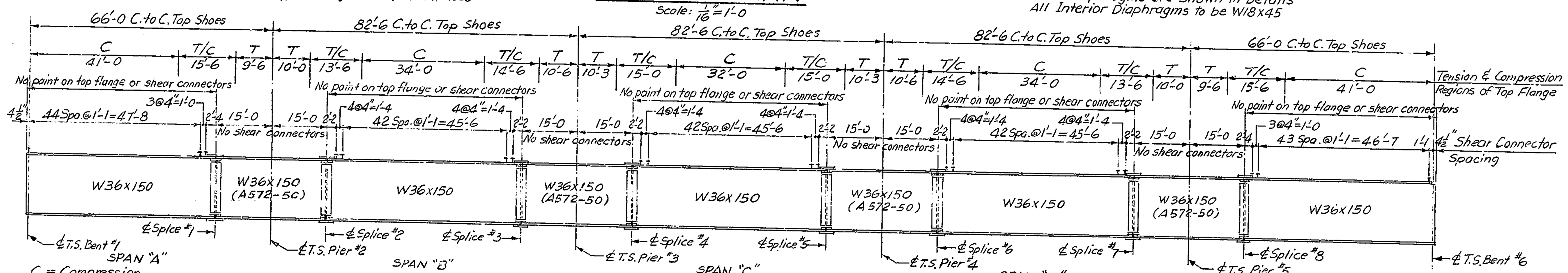
DRAWING:- S10 OF 15 SHEET:- 43 OF 96

ROBERT W. BETTGE REGISTERED No. 6403



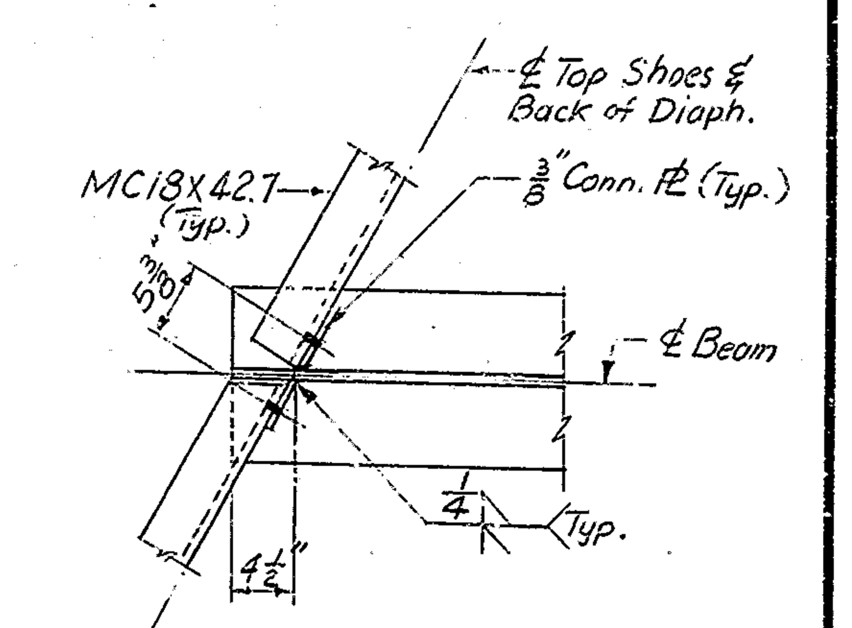
FRAMING PLAN
Scale: 1/16"=1'-0

End Diaphragms are Shown in Details
All Interior Diaphragms to be W18x45

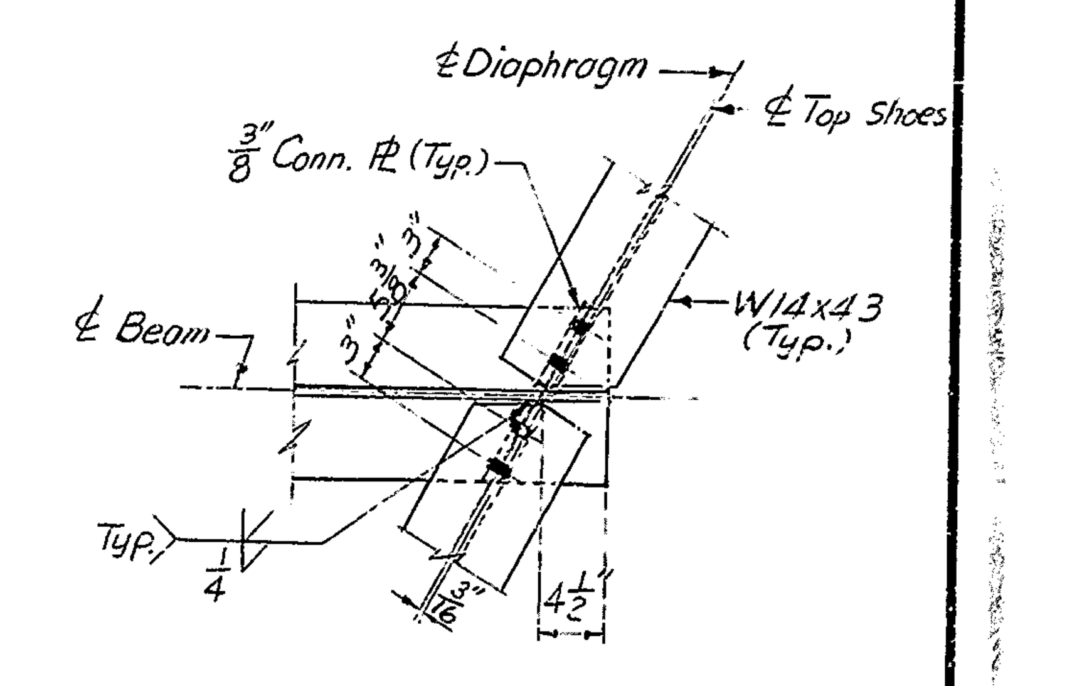


C = Compression
T/C = Tension and Compression (Reversal)
T = Tension

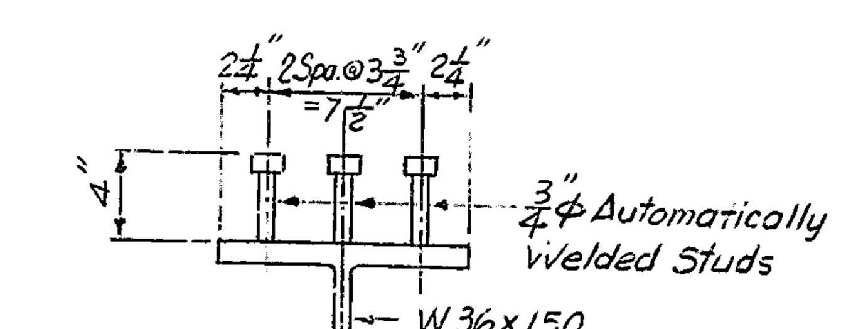
ELEVATION–ALSO SHOWING TENSION AND COMPRESSION REGIONS OF TOP FLANGE
No Scale



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



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



NOTE:
The Contractor may use welded channels or 7/8"φ welded stud as alternate shear connectors. If used they shall have equivalent shear value and the proposed size and spacing submitted for approval.

SHEAR CONNECTOR TYPICAL DETAIL
Scale: 1½"=1'-0

FABRICATION AND ERECTION NOTES

High Strength Bolts 7/8"φ unless noted; Open Holes 15/16"φ unless noted.
Shop Paint : Zinc Silicate Paint } See Special Provisions.
Field Paint : Vinyl Finish Coat }

The Contractor shall prepare detailed working or shop drawings to enable him to fabricate, erect, and construct all parts of the work in conformity with the Engineer's drawings and specifications and shall submit four (4) copies to the Engineer. See Article 711.04 of the Specifications.

The shop details shall show a plan of matchmarking for all reamed pieces.

All splice plates to be removed, cleaned, and deburred after reaming. Splice plates shall not extend beyond the end of beam after bolting for shipment.

Beams must be cambered to a smooth curve. Camber must be checked after shop welding is completed and while beams are supported in such a way as to have no bending moment in the direction of camber.

Holes for beam splices, and splice plates shall be subpunched or subdrilled and reamed to size while assembled. See Article 711.24 of the Specifications. Flange splice bars shall have planed or rolled edges and holes in bars shall be subdrilled and reamed or drilled full size while assembled.

Diameter of holes in all material connecting top shoes to beam flanges to be 1"φ. Bolts connecting beam flange to top shoe shall extend into top shoe a minimum of 1 inch.

Shims between beams and top shoe may be built up. No shim shall be less than 1/8" thickness

Structural steel shall be erected using sufficient full size drift pins to permit placement of bolts without damage thereto and to facilitate setting splices to grade. At the time of erection not less than 50 percent of the holes in any connection shall be filled with bolts. The bolts shall not be tightened more than snug tight at this stage. Any drifting required shall be only such that will draw the parts into position but not sufficient to enlarge the holes or distort the metal. Unfair holes shall be reamed or drilled.

Rivets shall not be used in the assembly of structural steel.

As soon as the Engineer has approved the field welds, all welds and any surface from which the shop coat has been omitted or becomes worn off or has otherwise become defective shall be thoroughly cleaned of all charred paint or any foreign matter and completely covered with one coat of shop paint.

Estimated weight of structural steel 485,900 lbs. (Included 9,400 lbs. for Toothed Exp. Joint, 126,000 lbs. for A572-50, 400 lbs. for A-588 and 5900 lbs. for A-514).

The weight of high strength bolts is not included in the estimated weight of structural steel. The cost of these bolts shall be included in the cost of structural steel.

Materials as listed on the shop drawings which do not require mill test reports may be changed from that shown on the contract plans subject to approval. The material specification shall be given on the shop drawings if different than that on contract plans. See Article 711.07 of Specifications.

All field splices are optional (except as noted) subject to "Regulations pertaining to the movement of over length concrete and steel beams on State Highways" as stated in Supplement #2 to General Letter #19-71 dated August 19, 1971. Shop plans shall indicate which splices the Contractor intends to eliminate and also means of transportation whether by rail or over State Highways.

All structural steel shall conform to ASTM A-36 unless otherwise noted.

The shop plans shall indicate whether reaming or drilling is to be done in shop or field. If shop reaming or drilling is used the beams shall be assembled in accordance with no load camber and reaming diagram. If the beams are shop reamed or drilled, full size drift pins shall be used in erection, and progressive beam assembly will be permitted. See Art. 711.44 of the Specifications.

Structural steel for welding may be flame cut if the flame cutting is mechanically guided. Hand flame cutting shall be used only when approved, and the surface is further treated by milling, grinding, or chipping and grinding.

A-588 may be used in lieu of A-572 at contractor's option at no increase in cost.

NOTE

Diaphragm connections to beams may be bolted in lieu of field welded connections. If the Contractor elects to use connections other than shown in the contract plans, he shall submit details to the Engineer for approval. He shall assume full responsibility for layout of all diaphragm connections and for the accuracy of all fitted parts. No increase in pay weight will be permitted.

DATA USED FOR DESIGN AND DETAILS

LIVE LOADS: HS20-44 loading with impact and distribution of loads in accordance with 1973 AASHO Specifications.

DEAD LOAD: Actual weight plus 35 #/sq.ft. of roadway to provide for overlay plus some additional future wearing surface.

FLOOR SLAB: Designed for 16,000 pound wheel plus impact, and with 1½" monolithic wearing surface. Structural slab depth = 6½ inches

ALLOWABLE STRESSES: To be in accordance with 1973 AASHO Specifications.

TOOTHED EXPANSION JOINT ELEVATIONS

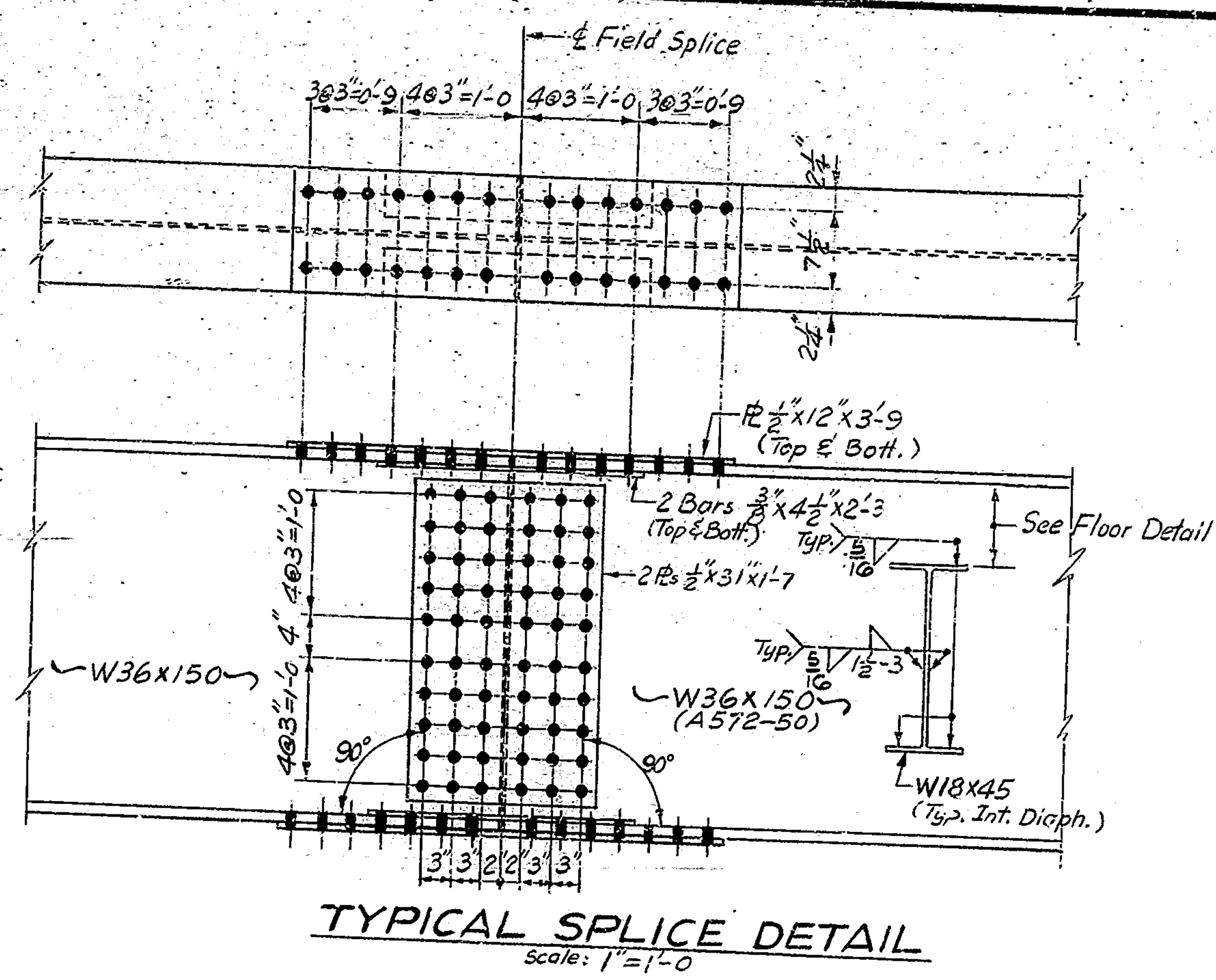
BEAM №	1	2	3	4	5	6	7
LINE "1"	504.700	504.830	504.965	505.095	504.995	504.900	504.800
LINE "2"	504.690	504.820	504.955	505.085	504.985	504.890	504.795

DESIGNED TC C'K'D EB
DRAWN TCC 12-21-72 C'K'D EB 7/13/73
TRACED ____ C'K'D ____

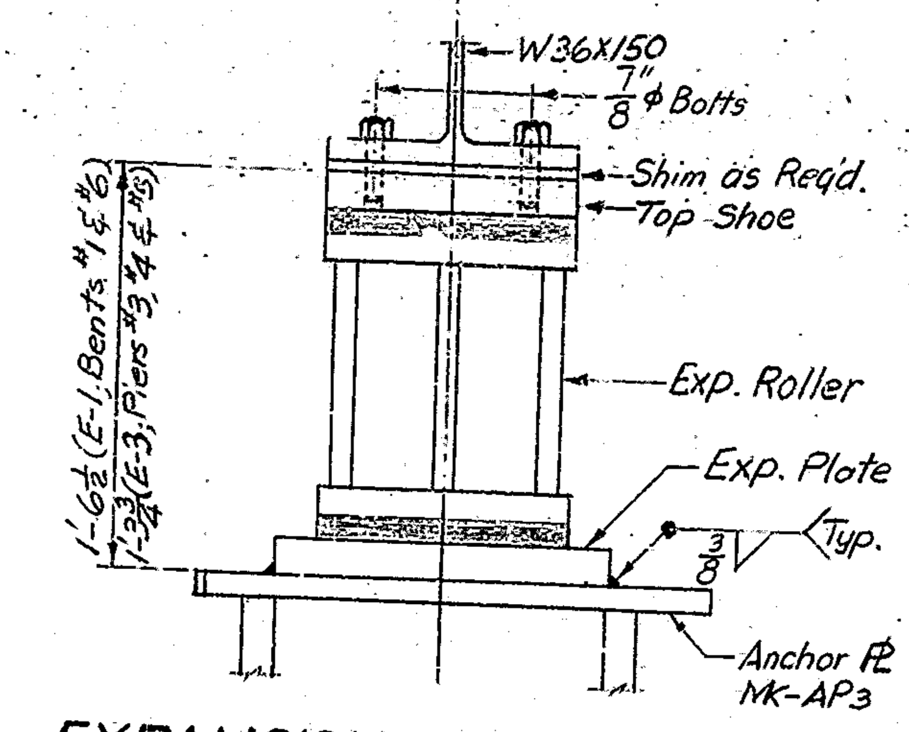
FRAMING PLAN
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- JAN. 8, 1974

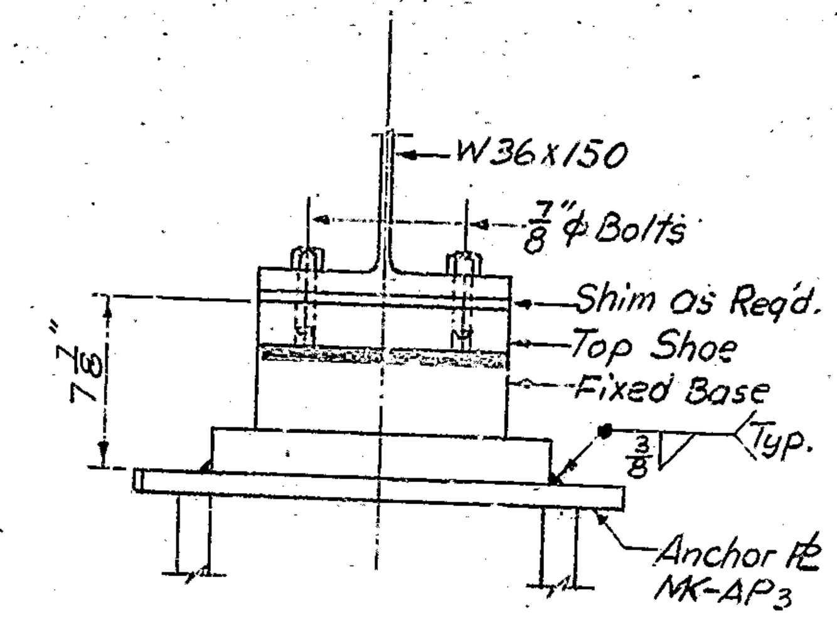
DRAWING:- S11 OF 15 SHEET:- 44 OF 8[illegible]
PROJECT:- RF-68(15)



TYPICAL SPLICE DETAIL
Scale: 1"=1'-0



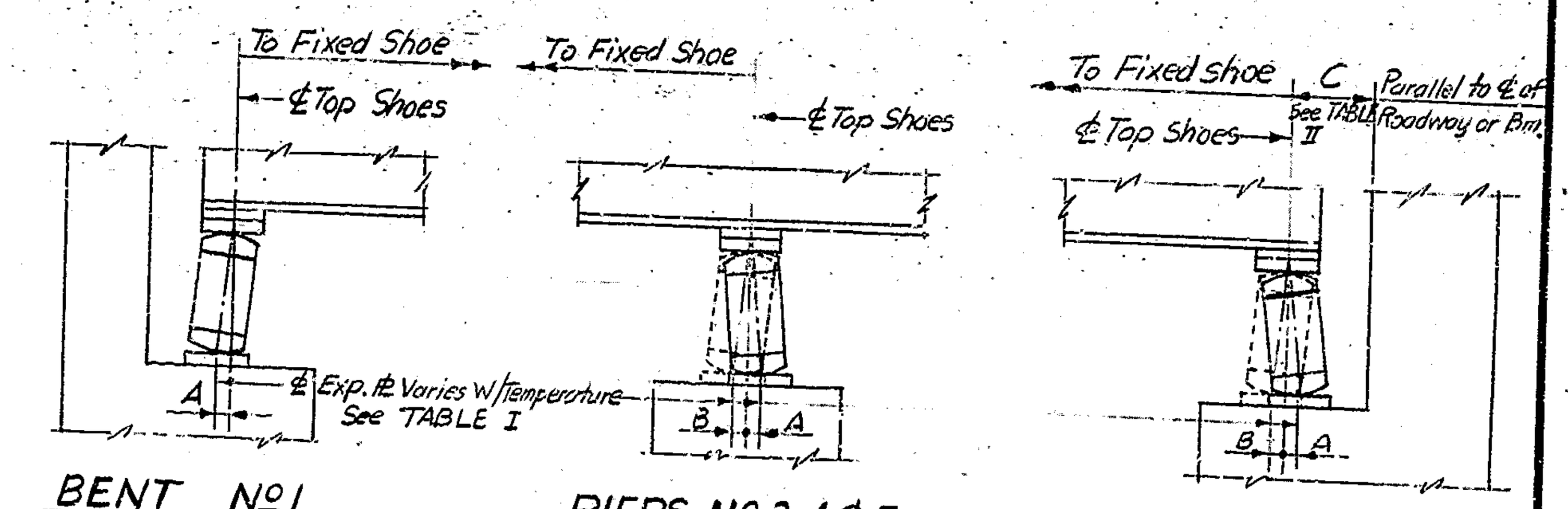
EXPANSION SHOE ASSEMBLY
E-1, Bents #1 & #6 ; E-3, Piers #3, #4 & #5
No Scale



FIXED SHOE ASSEMBLY
F-2, Pier #2
No Scale

SHIM AND STEEL SHOE TABLE

BENT OR PIER №	SHIM							STEEL SHOE
	BEAM #1	BEAM #2	BEAM #3	BEAM #4	BEAM #5	BEAM #6	BEAM #7	
BENT № 1	1"	1/2"	1 9/16"	1/2"	1/2"	1/2"	1/2"	E-1
PIER № 2	7/8"	1/2"	1 5/8"	1/2"	1/2"	1/2"	1/2"	F-2
PIER № 3	3/4"	1/2"	1 3/4"	1/2"	1/2"	1/2"	1/2"	E-3
PIER № 4	1/2"	1 7/8"	1/2"	1 7/8"	1/2"	1 7/8"	1/2"	E-3
PIER № 5	1/2"	1 15/16"	1/2"	1 15/16"	11/16"	1 [illegible]/16"	1/2"	E-3
BENT № 6	1/2"	1/2"	1/2"	1/2"	1 11/16"	1/2"	13/16"	E-1



BENT №1
No Scale

PIERS № 3, 4 & 5
No Scale

BENT № 6
No Scale

TABLE I

TEMPERATURE	DIMENSION A							DIMENSION B		
	0°	20°	40°	60°	80°	100°	120°	80°	100°	120°
BENT № 1	13/16"	11/16"	5/8"	1/2"	3/8"	5/16"	3/16"			
PIER № 3	3/8"	1/4"	1/8"	0				1/8"	1/4"	3/8"
PIER № 4	3/4"	1/2"	1/4"	0				1/4"	1/2"	3/4"
PIER № 5	1 3/16"	3/4"	3/8"	0				3/8"	3/4"	1 3/16"
BENT № 6	1 15/16"	1 1/2"	1"	1/2"				0	1/2"	15/16"

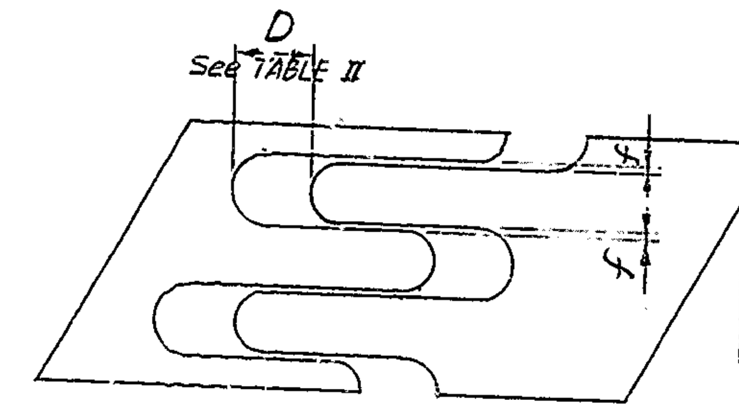
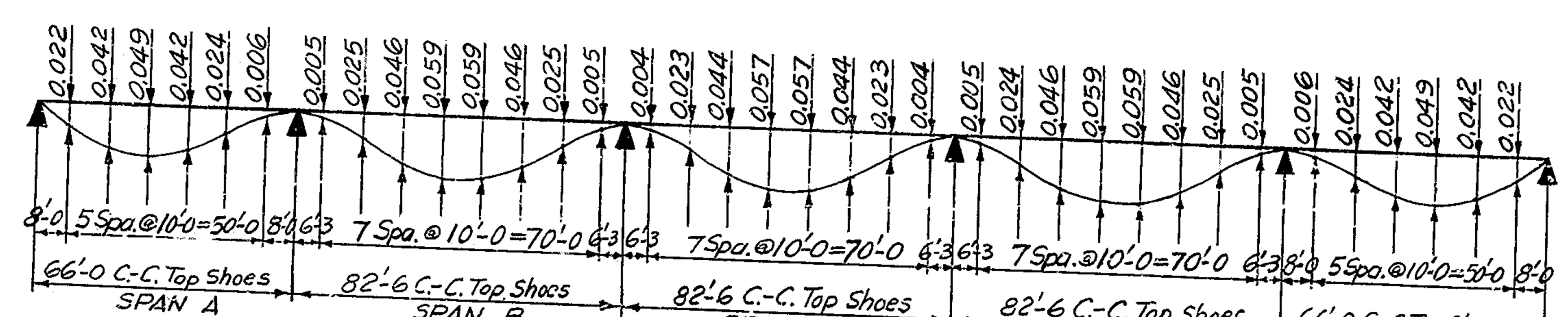


TABLE II

TEMPERATURE	0°	20°	40°	60°	80°	100°	120°
DIMENSION "C" AT BENT № 6	15 3/8"	14 7/8"	14 3/8"	13 7/8"	13 3/8"	12 7/8"	12 3/8"
DIMENSION "D" TOOTHED EXP. JT.	4 15/16"	4 7/16"	3 15/16"	3 7/16"	3"	2 1/2"	2"

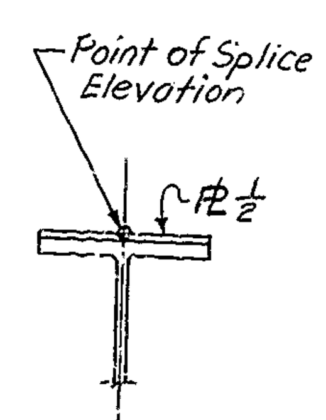


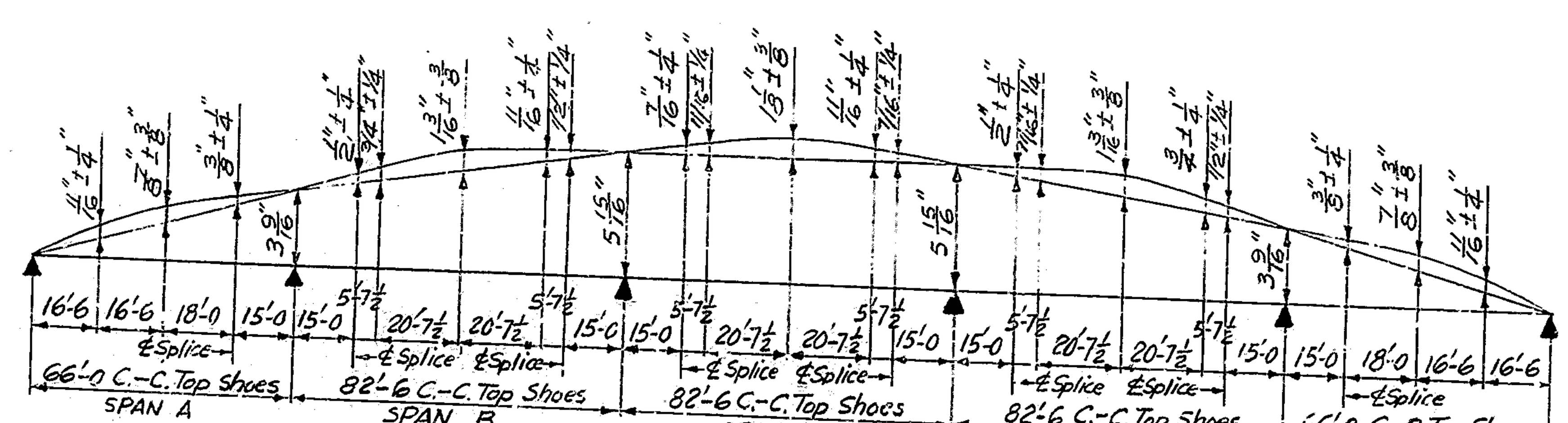
CONCRETE DEAD LOAD DEFLECTION (FT.)
No Scale

TOP OF FIELD SPLICE PLATE ELEVATIONS

BEAM №	SPLICE #1	SPLICE #2	SPLICE #3	SPLICE #4	SPLICE #5	SPLICE #6	SPLICE #7	SPLICE #8
1	503.800	503.940	504.125	504.190	504.245	504.245	504.175	504.100
2	503.890	504.035	504.225	504.295	504.360	504.360	504.300	504.225
3	503.980	504.130	504.325	504.400	504.470	504.475	504.420	504.350
4	504.070	504.225	504.425	504.505	504.580	504.590	504.540	504.475
5	503.935	504.095	504.300	504.380	504.465	504.475	504.435	504.370
6	503.800	503.960	504.175	504.260	504.345	504.365	504.325	504.265
7	503.660	503.825	504.045	504.135	504.230	504.250	504.220	504.165

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





NO LOAD CAMBER AND REAMING DIAGRAM
No Scale

NOTES

See Br. Std. SH1 for Steel Shoe Detail.
See Drwg. S11 for Fabrication And Erection Notes and Additional Details.

GENERAL PROCEDURE

(1) After all structural steel has been erected and bolting and welding completed, adjust the superstructure longitudinally so that dimension "C" from the ℄ Top Shoe to the face of mudwall at Bent № 6 equals the value shown in TABLE II for the prevailing temperature.
(2) With the superstructure in the adjusted position called for in (1), weld the Fixed Shoes to the Anchor Plates at Pier № 2.
(3) Adjust the Expansion Plates under each Expansion Shoe in accordance with dimension "A" or "B" in TABLE I for the prevailing temperature. Note that dimension "A" is always the distance from a vertical line through the ℄ of Top Shoe in a direction away from the Fixed Shoe. Weld the Expansion Plates to the Anchor Plates.
(4) Set the Toothed Expansion Joint at Bent № 6 and adjust it to the top of plate elevations shown on Drwg. S11 using the double nuts for adjustments.
(5) Adjust the Toothed Expansion Joint transversely so that the opening "f" between the teeth are equal and longitudinally so that dimension "D" corresponds to the value shown in TABLE II for the prevailing temperature.
(6) Screed elevations shall be determind by adding the Concrete Dead Load Deflections to the required final concrete elevations at all screed points. Take elevations at all screed points on top of beam 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 screed or coping forms by leveling. Screed elevations will be furnished on request.
(7) No concrete in the floor is to be poured until the above operations are completed.

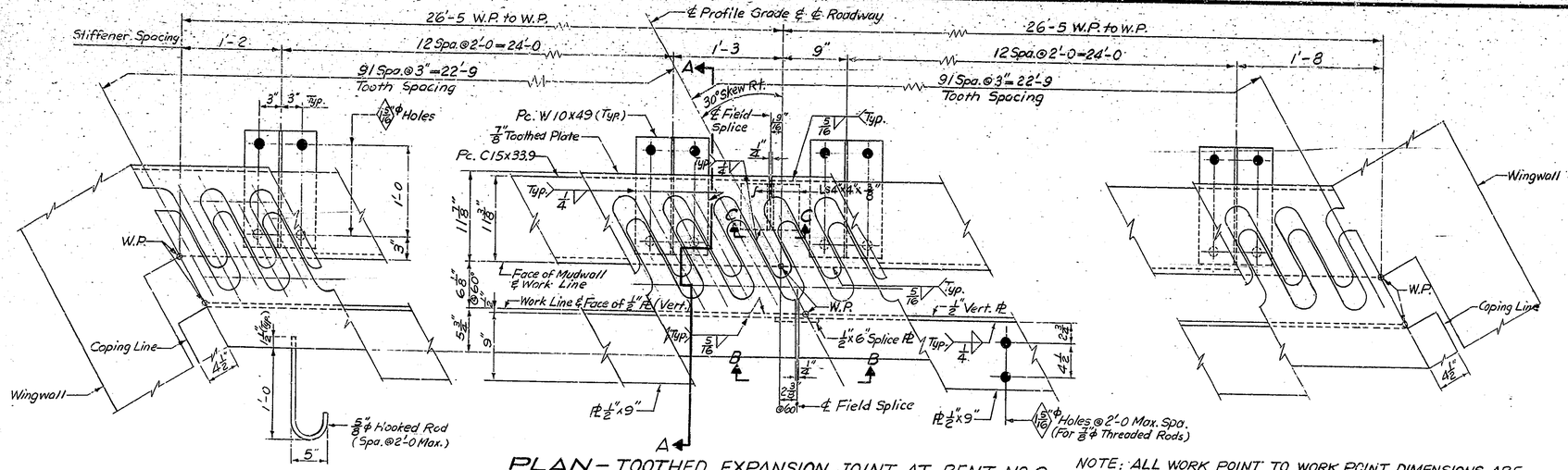
STEEL DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED
DATE:- JAN. 8, 1974

DRAWING:- S12 OF 15 SHEET:- 46 OF 36
PROJECT:- RF - 68(15)

DESIGNED TCC C'K'D EB
DRAWN TCC 2-16-73 C'K'D EB 7/17/73
TRACED C'K'D

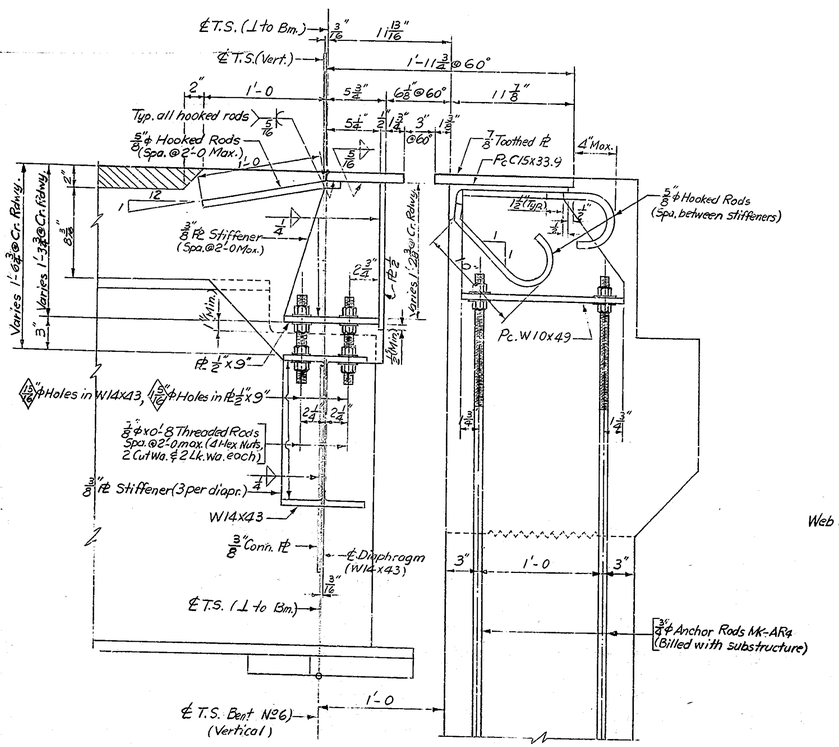
Rev 5-7-75 JJW/MRS/WFG



TYPICAL TOOTH DETAIL

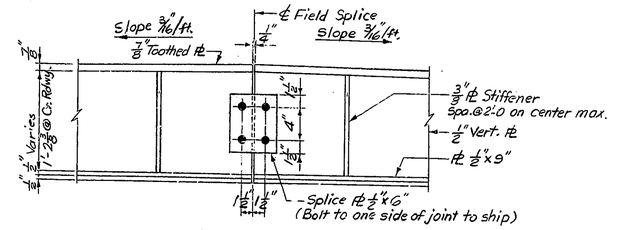
PLAN – TOOTHED EXPANSION JOINT AT BENT Nº 6

NOTE: ALL WORK POINT TO WORK POINT DIMENSIONS ARE GIVEN HORIZONTALLY

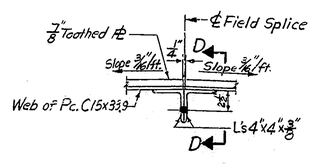


SECTION A-A

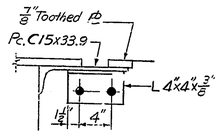
Scale: 2"=1'-0



VIEW B-B



VIEW C-C



SECTION D-D

NOTES

Bolts 3/4"φ unless noted. Open Holes 13/16"φ unless noted.
If curves in plates are flame cut, they shall be ground smooth.
Expansion Joints are to be assembled in the shop in their relative erection position and inspected for fit.
For Toothed Expansion Joint setting see Drwg. S12.
Top of Expansion Joint to comform to Roadway Crown configuration.
Estimated weight of Structural Steel in Toothed Expansion Joint 9,400 lbs.

TOOTHED EXPANSION JOINT DETAILS AT BENT Nº 6

INDIANA STATE HIGHWAY COMMISSION

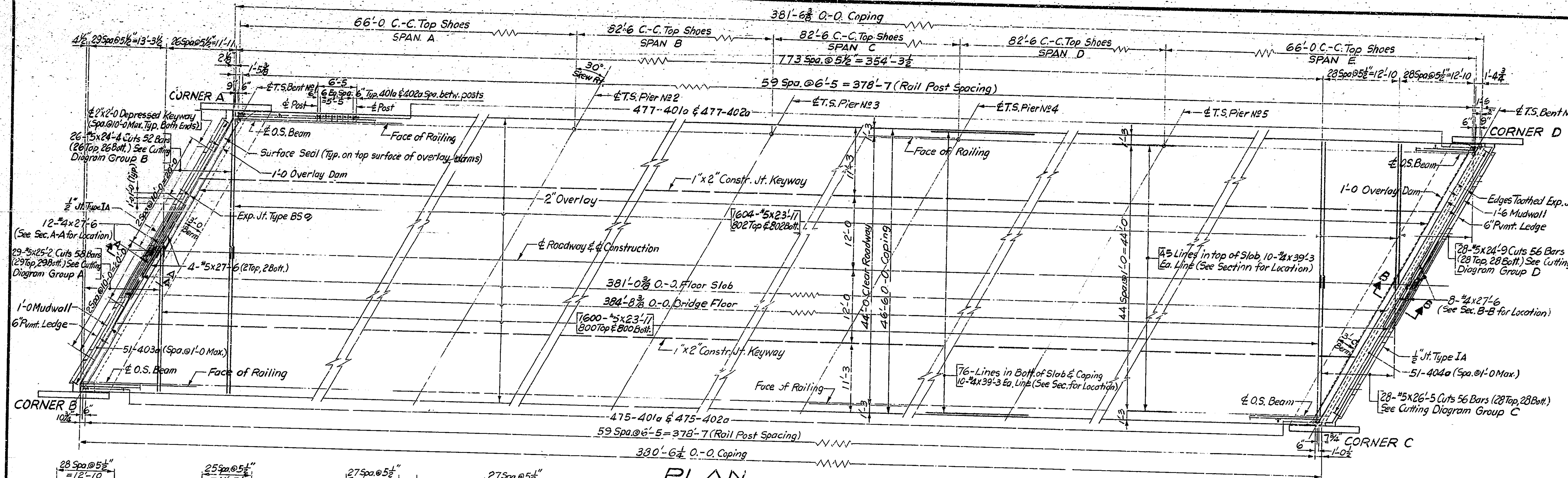
SCALE:- 1 1/2"=1'-0 UNLESS NOTED DATE:- JAN. 8, 1974

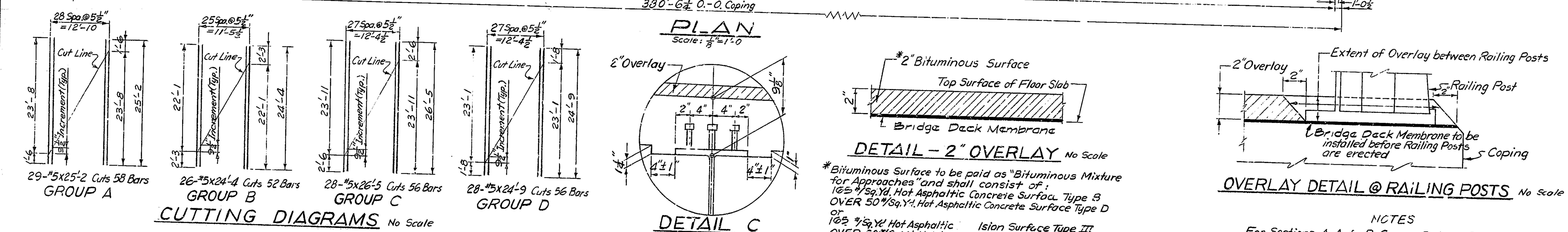
Robert W. Bettge
SUBSTANTIVE ENGINEER OF BRIDGE DESIGN

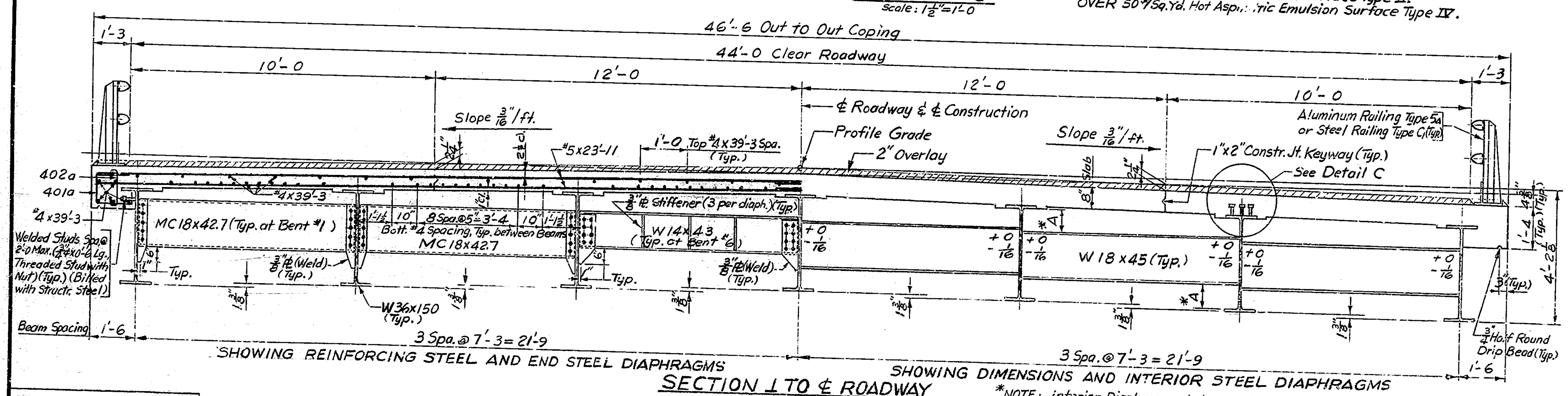
DESIGNED TCC C'K'D EB
DRAWN TCC 5-24-73 C'K'D EB 7/12/73
TRACED C'K'D

DRAWING:- S13 OF 15 SHEET:- 46 OF 86
PROJECT:- RF-68(15)
CONTRACT NO. B-10215

ROBERT W. BETTGE No. 6403 STATE OF INDIANA REGISTERED ENGINEER







NOTES

For Sections A-A, B-B, Corner Details, Bill of Materials and Additional Details see Drwg. S15.

For Reinforcing Bar Notes see Br. Std. C1.

For Railing Details see Br. Stds. BR1 thru BR4.

Surface seal the tops of overlay dams and mudwalls.

After structural steel has been erected, concrete forms shall not be blocked against the expansion end of the steel in making any pours adjacent to steel spans.

Sequence of pours to be made in order of pour numbers. All superstructure construction joints are optional except as noted, and pours may be made continuous provided the pour terminates at a construction joint indicated on the plans. The Contractor may change the width of pours, sequence of pours, or location of construction joints subject to the approval of the Engineer.

Overlay Dams at ends of floor slab shall be poured monolithic with the slab.

The top reinforcing in the slab shall be securely tied down to the floor forms and/or beams to prevent uplift during concrete placement.

FLOOR DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED

DATE:- JAN. 8, 1974

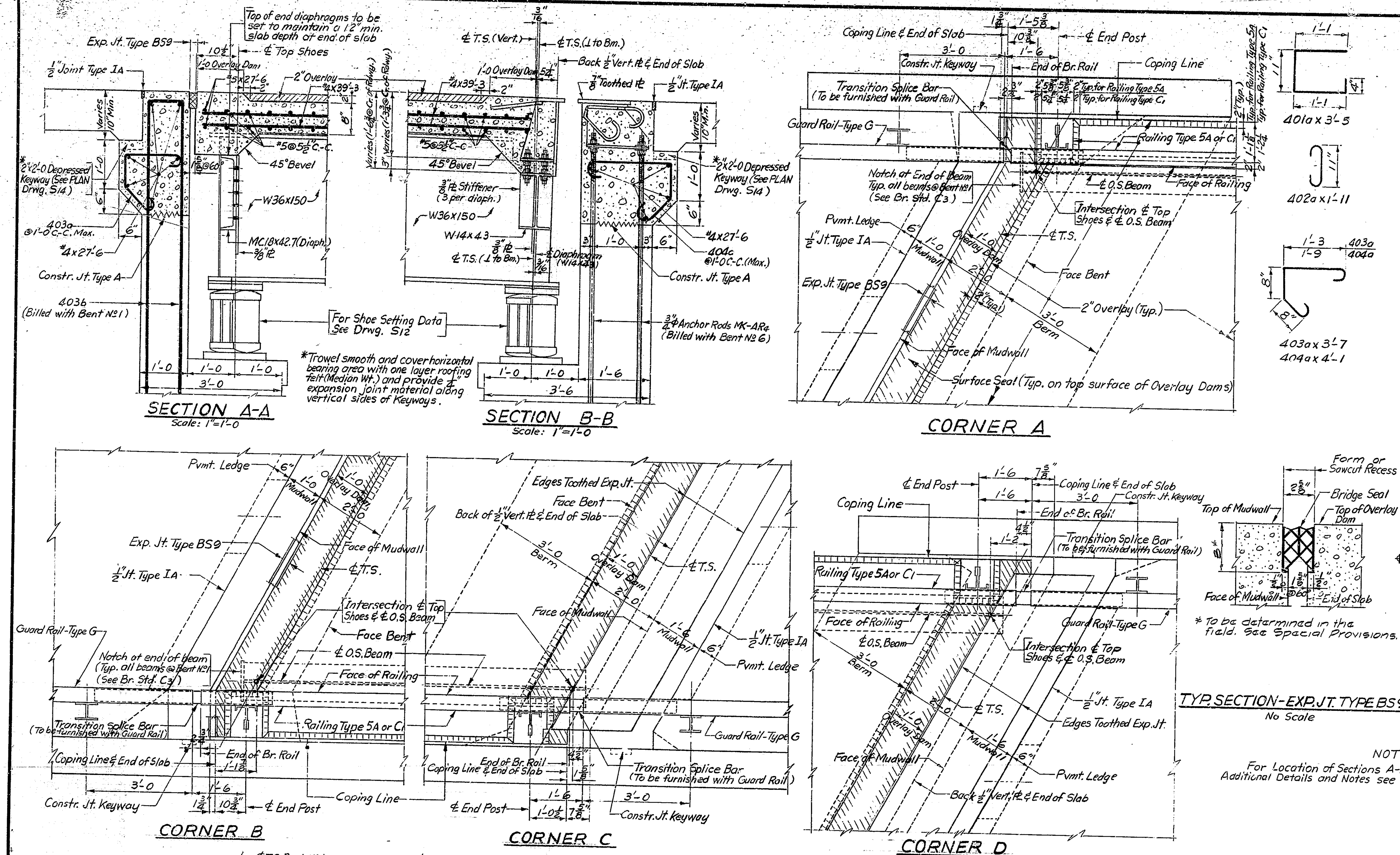
Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S14 OF 15 SHEET:- 47 OF 84

PROJECT:- RF-68(15)

DESIGNED ___ CK'D ___
DRAWN TCC 10-5-73 CK'D EB 10/22/73
TRACED ___ CK'D ___

5-7-75 JJW/MRS/WFG



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

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

CORNER A

TYP. SECTION - EXP. JT. TYPE BS9
No Scale

CORNER B

CORNER C

CORNER D

BILL OF MATERIALS

REINFORCING STEEL			
SIZE AND MARK	NO. OF BARS	LENGTH	WEIGHT LBS.
#5	4	27'-6	
#5	28	26'-5	
#5	29	25'-2	
#5	28	24'-9	
#5	26	24'-4	
#5	3,204	23'-11	
	Total	#5	82,954
401a	952	3'-5	
402a	952	1'-11	
403a	51	3'-7	
404a	51	4'-1	
#4	1,210	39'-3	
#4	20	27'-6	
	Total	#4	35,745
Total Reinforcing Steel			118,699

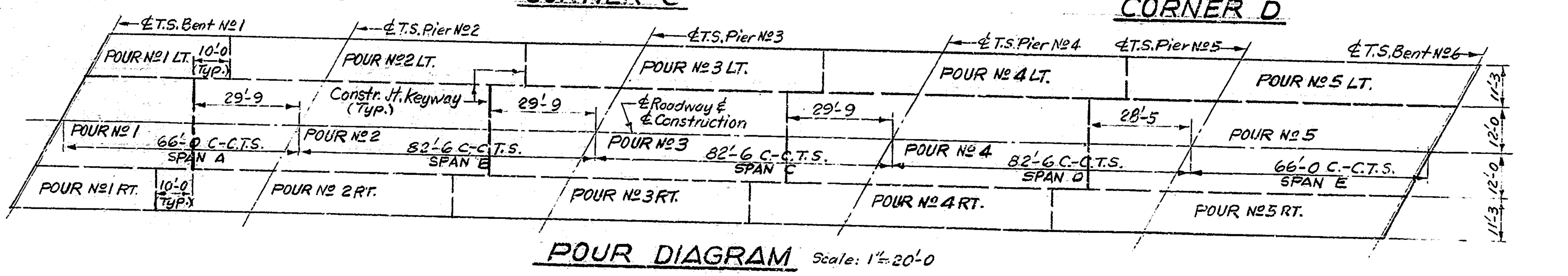
CONCRETE	
Class "C" in Superstructure	
POUR № 1 LT.	12.0 CYS.
POUR № 1	23.3 CYS.
POUR № 1 RT.	12.3 CYS.
POUR № 2 LT.	26.2 CYS.
POUR № 2	49.6 CYS.
POUR № 2 RT.	26.2 CYS.
POUR № 3 LT.	26.2 CYS.
POUR № 3	49.6 CYS.
POUR № 3 RT.	26.2 CYS.
POUR № 4 LT.	26.6 CYS.
POUR № 4	50.4 CYS.
POUR № 4 RT.	26.6 CYS.
POUR № 5 LT.	30.6 CYS.
POUR № 5	57.9 CYS.
POUR № 5 RT.	30.2 CYS.
Mudwall @ Bent № 1	6.3 CYS.
Mudwall @ Bent № 6	9.1 CYS.
Total Class "C" in Superstructure	489.3 CYS.

MISCELLANEOUS	
Railing - Type 5A or C1	762 LFT.
Expansion Joint Type BS 9	53.3 LFT.
⊕ Bridge Deck Membrane	1 LSUM
Bituminous Mixture for Approaches	213.4 Ton
Surface Seal	175 SFT.

⊕ Estimated Quantity of "Bridge Deck Membrane" = 17,586 SFT.

NOTE

For Location of Sections A-A & B-B, Corners A, B, C & D and Additional Details and Notes see Drawing S14.



POUR DIAGRAM Scale: 1"=20'-0

FLOOR DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE:- 3/4"=1'-0 UNLESS NOTED DATE:- JAN. 8, 1974

Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

DRAWING:- S15 OF 15 SHEET:- 48 OF 86

PROJECT:- R E-68 (15)

ROBERT W. BETTGE No.

DESIGNED — CK'D
DRAWN TCC 10-11-73 CK'D EB 11/20/73
TRACED

Rev 5-1-75 JJV/MES/NFG

BRIDGE FILE

41-61-5977

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 A CU. YDS.	CONCRETE RAILING CLASS A LIN. FT.	REINF. STEEL TOTAL LBS.	STRUCT. STEEL *** LBS.	ANCHOR RODS MK-AR4 EACH	ANCHOR PLATES MK-AP3 EACH	PILES UNTREATED TIMBER NO.	PILES UNTREATED TIMBER LIN. FT.	PILES TREATED TIMBER LIN. FT.	PILES STEEL ENCASED CONC.Fld NO.	PILES STEEL ENCASED CONC.Fld LIN.FT.	STEEL H BEARING NO.	STEEL H BEARING LIN. FT.	CAST IRON DRAIN PIPE LBS.	CAST IRON GRATES, BASINS, & FITTINGS LBS.	RAILING TYPE SA OR C1 LIN. FT.	EXP. JOINT TYPE B3.5 LIN.FT.	Bridge Deck Membr. SQ.FT.
SUBSTRUCTURE																							
BENT No 1		29.7					3,732			7				8	360								
PIER No 2		30.6	43.8	31.0			10,816			7	36	720											
PIER No 3		30.5	51.1	28.1			10,312			7	30	600											
PIER No 4		30.2	51.1	28.1			10,284			7	30	600											
PIER No 5		30.4	43.1	28.1			9,814			7	30	600											
BENT No 6		35.0					3,911		52	7				8	360								
SUPERSTRUCTURE	489.3						115,099	485,900												762	53.3	17,586	
Reinf. Steel for Approach Structures																							
Reinf. Steel for R.C. Bridge Approaches							2675																
Reinf. Steel for Lip Gutter, Pvmt., Tapers, etc.																							
TOTALS	489.3	186.4	189.1	115.3			170,243	485,900	52	42	126	2520		16	720					762	53.3	17,586	

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. BASE #/SQ.YD.	BITUM. BASE TONS	COMP. AGG. BASE Depth(In)	COMP. AGG. BASE TONS

PAVED SIDE DITCH & 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.YD.) FOR PSD	FOR DITCHES	SHOULDERS	OTHER	TOTAL SOD

BRIDGE FILE

APPROACH STRUCTURES

STRUCT. NO.	LOCATION	APPROACH DESCRIPTION SIZE	APPROACH DESCRIPTION KIND	APPROACH LENGTH LIN. FT.	CONCR. CL. A IN STRS. CU. YDS.	REINF STEEL LBS.	PIPE END SEC. EACH	REMARKS
101	Sta. 253+83.19	6"	F.B.C.P.C.S. Pipe thk. .052"	84				To Drain "B" Borrow
102	Sta. 257+68.39	6"	F.B.C.P.C.S. Pipe thk. .052"	87				To Drain "B" Borrow
				TOTALS				Total of Reinforcing Steel Carried to "Structure Quantities"

DECEMBER 1, 1971

CONSTRUCTION IDENTIFICATION SIGNS	EACH	*	Signs	XM-6
		*	Signs	XM-7
		*	Signs	XM-8

* Not a pay item. Place as directed by the engineer.

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 H.R.P. C'K'D. E.B.
TRACED H.R.P. C'K'D E.B. 1-3-74

Rev 5-7-75 JW/MRS/WRS

BRIDGE SUMMARY
INDIANA STATE HIGHWAY COMMISSION

DATE JAN. 8, 1974

Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

SHEET 49 OF 86

PROJECT: RF-68(15)
CONTRACT NO: B-10215

ROBERT W. BETTGE No. 6403 STATE OF INDIANA REGISTERED PROFESSIONAL ENGINEER

ESTIMATE OF QUANTITIES

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
51002	CONCRETE CLASS C IN SUPERSTRUCTURE	CYS.	4823		
51001	CONCRETE, CLASS A IN SUPERSTRUCTURE	CYS.			
51005	CONCRETE, CLASS A IN SUBSTRUCTURE	CYS.	186.4		
51010	CONCRETE, CLASS B ABOVE FOOTINGS	CYS.	189.1		
51015	CONCRETE, CLASS B IN FOOTINGS	CYS.	175.3		
51875	SPECIAL CLASS A CONCRETE	SFT			
51045	CONCRETE STRUCTURAL MEMBERS	LSUM			
51030	REINFORCING STEEL	LBS.	176,283		
51035	STRUCTURAL STEEL	LBS.			
51036	STRUCTURAL STEEL	LSUM	1		
51090	BRONZE PLATES	LBS.			
51050	ANCHOR RODS (MK-AR 1)	EACH			
51055	ANCHOR RODS (MK-AR 2)	EACH			
51060	ANCHOR RODS (MK-AR 3)	EACH			
51065	ANCHOR RODS (MK-AR 4)	EACH	52		
51070	ANCHOR PLATES (MK-AP 1)	EACH			
51075	ANCHOR PLATES (MK-AP 2)	EACH			
51080	ANCHOR PLATES (MK-AP 3)	EACH	42		
51085	ANCHOR PLATES (MK-AP 4)	EACH			
51112	ANCHOR BOLTS	EACH			
51068	TIE DOWN ASSEMBLY MK-1½	EACH			
51095	CAST IRON, DRAIN PIPE, 4 INCH	LBS.			
51100	CAST IRON, DRAIN PIPE, 6 INCH	LBS.			
51105	CAST IRON, DRAIN PIPE, 8 INCH	LBS.			
51110	CAST IRON, GRATES, BASINS AND FITTINGS	LBS.			
51132	RAILING RESET	LFT.			
51115	RAILING (TYPE 5 OR C)	LFT.			
51120	RAILING (TYPE 5A OR C1)	LFT.	762		
51125	RAILING (TYPE 6 OR D)	LFT.			
51130	RAILING (TYPE 7 OR E)	LFT.			
51020	CLASS C, CONCRETE RAILING	CYS.			
51025	CLASS C, CONCRETE RAILING	LFT.			
51131	BARRIER RAILING TYPE X	LFT.			
51215	CLASS X EXCAVATION	CYS.			
51220	WET EXCAVATION	CYS.	630		
51223	WATERWAY EXCAVATION	CYS.			
51224	WATERWAY EXCAVATION	LSUM			
51225	DRY EXCAVATION	CYS.			
51230	FOUNDATION EXCAVATION (UNCLASSIFIED)	CYS.			
51231	FOUNDATION EXCAVATION (UNCLASSIFIED)	LSUM			
51813	PNEUMATICALLY PLACED MORTAR	SFT.			
51806	REPOINTING MASONRY IN STR'S.	SFT.			
51814	WELDED STEEL WIRE FABRIC	SFT.			
51855	PAINTING OLD STEEL BRIDGE	LSUM			
51881	EXPANSION JOINT, TYPE BS2	LFT.			
51882	EXPANSION JOINT, TYPE BS3	LFT.			
51885	EXPANSION JOINT, TYPE BS6	LFT.			
51887	EXPANSION JOINT, TYPE BS8	LFT.			
51888	EXPANSION JOINT, TYPE BS9	LFT.	55.3		
51900	EXPANSION JOINT, TYPE A	LFT.			
51901	EXPANSION JOINT, TYPE B	LFT.			
51902	EXPANSION JOINT, TYPE C	LFT.			
51903	EXPANSION JOINT, TYPE D	LFT.			
51904	EXPANSION JOINT, TYPE E	LFT.			
51905	EXPANSION JOINT, TYPE H	LFT.			
51910	EXPANSION JOINT, TYPE SR2	LFT.			
51911	EXPANSION JOINT, TYPE SR2.5	LFT.			
51912	EXPANSION JOINT, TYPE SR4	LFT.			
51915	EXPANSION JOINT, TYPE SB200	LFT.			
51916	EXPANSION JOINT, TYPE SB300	LFT.			
51917	EXPANSION JOINT, TYPE SB400	LFT.			

STRUCTURE PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
51135	TIMBER PILES FURNISHED, UNTREATED	LFT.	2520		
51140	TIMBER PILES DRIVEN, UNTREATED	LFT.	2016		
51145	TIMBER PILES FURNISHED, TREATED	LFT.			
51150	TIMBER PILES DRIVEN, TREATED	LFT.			
51155	PILE SHELLS FURNISHED AND DRIVEN (12 INCH)	LFT.			
51160	PILE SHELLS FURNISHED AND DRIVEN (14 INCH)	LFT.	720		
51185	STEEL H PILES FURNISHED AND DRIVEN (8 BP 36)	LFT.			
51190	STEEL H PILES FURNISHED AND DRIVEN (10 BP 42)	LFT.			
51195	STEEL H PILES FURNISHED AND DRIVEN (12 BP 53)	LFT.			
51210	PILE ENCASEMENT (CONCRETE)	LFT.			
51328	REMOVAL OF PRESENT STRUCTURE (PORTIONS)	LSUM			
51330	REMOVAL OF PRESENT STRUCTURE	LSUM	1		
51335	TEMPORARY BRIDGE AND APPROACHES	LSUM			
51366	CONCRETE SLOPEWALL 5 INCH	SYS.			
51365	SLOPEWALL	SYS.			
51370	RIPRAP	SYS.			
51375	REVETMENT RIPRAP	TON	1662		
51371	HANDLAID RIPRAP 12 INCH	SYS.			
51372	DUMPED RIPRAP	TON	27		
51106	DECK DRAINS	EACH			
51395	STEEL DRAIN PIPE (6 INCH)	LSUM			
51400	STEEL DRAIN PIPE (8 INCH)	LSUM			
51092	STEEL PIPE CONDUIT (2 INCH)	LFT.			
51866	RIVETS REMOVED	EACH			
51864	FIELD DRILLED HOLES	EACH			
51867	STRUCTURAL STEEL CUTTING	SIN			
51826	SURFACE SEAL	SFT.	175		
51827	COAL TAR INTERLAYER PROTECTIVE COAT	LSUM			
51830	Bridge Deck MEMBRANE	LSUM	1		
51828	LIQUID APPLIED MEMBRANE	LSUM			
51831	MODIFIED PORTLAND CEMENT CONCRETE OVERLAY	CYS.			
51832	MODIFIED PORTLAND CEMENT CONCRETE (PATCHING)	CYS.			
51833	CONCRETE SCARIFYING	SYS.			
51834	REMOVAL OF SCARIFYING DUST	LSUM			
51835	HANDCHIPPING AND CLEANING	SYS.			
51836	CONCRETE SAWING	LFT.			
51837	SANDBLASTING AND CLEANING	SYS.			
51838	FINISHING AND CURING	SYS.			

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
02020	UNCLASSIFIED EXCAVATION	CYS.			
52240	COMMON EXCAVATION	CYS.	64020		
52245	BORROW	CYS.	69890		
52250	B BORROW FOR STRUCTURE BACKFILL	CYS.	60		
52303	REMOVAL OF PAVEMENT	SYS.	8,140		
02235	BREAKING PAVEMENT	SYS.			
52490	TERMINAL JOINT	LFT.			
52495	CONTRACTION JOINT, TYPE D-1	LFT.			
52280	CONCRETE PAVEMENT REINFORCED (7 INCH)	SYS.			
52285	CONCRETE PAVEMENT REINFORCED (8 INCH)	SYS.			
52290	CONCRETE PAVEMENT REINFORCED (9 INCH)	SYS.			
52300	CONCRETE PAVEMENT REINFORCED (10 INCH)	SYS.	146.3		
06070	CONCRETE SIDEWALK	SYS.			
52305	TYPE P COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON	2,348		
52600	COVER AGGREGATE	TON	22.8		
52806	COVER AGGREGATE (SIZE NO. 12)	TON			
52605	AGGREGATE FOR SHOULDER DRAINS	TON			
52610	AGGREGATE FOR UNDER DRAINS	CYS.	649		
52308	TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON			
52310	SUBBASE	CYS.			
52315	BITUMINOUS STABILIZED SUBBASE TYPE I, II, OR III	TON			
52320	BITUMINOUS STABILIZED SUBBASE	TON			
52445	BITUMINOUS BASE	TON	8,076		
52446	BITUMINOUS BASE (SIZE NO. 53B)	TON	3,898		
52451	BITUMINOUS BINDER	TON	1,764		
52450	BITUMINOUS SURFACE	TON	355		
52455	BITUMINOUS MATERIAL FOR TACK COAT	TON	6.6		
52460	BITUMINOUS MATERIAL FOR PRIME COAT	TON	30.3		
52465	BITUMINOUS MATERIAL FOR SEAL COAT	TON	4.7		
52470	BITUMINOUS MIXTURE FOR APPROACHES	TON	213.4		
52475	BITUMINOUS MIXTURE FOR SHOULDER	TON			
52480	BITUMINOUS MATERIAL, APPLIED	TON			
52500	GUARD RAIL, TYPE A	LFT.			
52505	GUARD RAIL, TYPE B	LFT.	1280		
52510	GUARD RAIL, TYPE C	LFT.			
52515	GUARD RAIL, TYPE D	LFT.			
52520	GUARD RAIL, TYPE E	LFT.			
52525	GUARD RAIL, TYPE F	LFT.			
52530	GUARD RAIL, TYPE G	LFT.	254		
52531	GUARD RAIL, TYPE H	LFT.			
06035	RESET GUARD RAIL	LFT.			
52535	REMOVAL OF GUARD RAIL	LFT.			
52380	SODDING	SYS.	4720		
52385	MULCHED SEEDING	SYS.			
52390	SEED MIXTURES "R"	LBS.	2981		
52395	SEED MIXTURES "TR"	LBS.	2,607		
1. 52400	MULCHING MATERIAL	TON	102		
2. 52405	FERTILIZER	TON	20.3		
52410	WATER	M.G.	375		
3. 52415	AGRICULTURAL LIMESTONE	TON	28.4		
06560	SEED MIXTURE "CV"	LBS.	45		
52401	MULCHING MATERIAL (WOOD CELLULOSE FIBER)	TON			
52640	MAINTAINING TRAFFIC	LSUM	1		
52370	CLEARING RIGHT-OF-WAY	LSUM	1		
	CLASS "A" CONCRETE FOR GUARD RAIL	CYS.	3		

1. INCLUDES 474 TONS FOR TEMPORARY SEEDING
2. INCLUDES 95 TONS FOR TEMPORARY SEEDING
3. INCLUDES 11.9 TONS FOR TEMPORARY SEEDING

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
07025	PIPE: GR. A (16 Ga. FBCCS) 12"	LFT.			
07075	PIPE: GR. A (16 Ga. FBCCS) 15"	LFT.			
07125	PIPE: GR. A (16 Ga. FBCCS) 18"	LFT.			
07175	PIPE: GR. A (16 Ga. FBCCS) 24"	LFT.			
07225	PIPE: GR. A (16 Ga. FBCCS) 30"	LFT.			
07275	PIPE: GR. A (16 Ga. FBCCS) 36"	LFT.			
07325	PIPE: GR. A (16 Ga. FBCCS) 42"	LFT.			
10000	PIPE: GR. D (16 Ga. CS) 12"	LFT.			
10025	PIPE: GR. D (16 Ga. CS) 15"	LFT.			
10050	PIPE: GR. D (.064"thk CS) 18"	LFT.	114		
10075	PIPE: GR. D (16 Ga. CS) 24"	LFT.			
10100	PIPE: GR. D (16 Ga. CS) 30"	LFT.			
10125	PIPE: GR. D (16 Ga. CS) 36"	LFT.			
10150	PIPE: GR. D (16 Ga. CS) 42"	LFT.			
	PIPE: GR. D (.109"Thk) 24"	LFT.	90		
34000	PIPE: (.052"thk) FBC PERF. CS 6"	LFT.	171		
29000	PIPE: 16 Ga. FBCCS 12"	LFT.			
52375	CONCRETE CLASS A IN STRUCTURE	CYS.	4.7		
52376	CONCRETE CLASS C IN STRUCTURE	CYS.			
46000	PIPE END SECTION 12"	EACH			
46005	PIPE END SECTION 15"	EACH			
46010	PIPE END SECTION 18"	EACH	2		
46015	PIPE END SECTION 21"	EACH			
46020	PIPE END SECTION 24"	EACH	2		
46025	PIPE END SECTION 27"	EACH			
46030	PIPE END SECTION 30"	EACH			
46035	PIPE END SECTION 33"	EACH			
46040	PIPE END SECTION 36"	EACH			
45000	INLET, TYPE J-1	EACH			
45025	INLET, TYPE D-6	EACH			
45030	INLET, TYPE E-7	EACH			
45070	INLET, TYPE P-12A	EACH			
06335	PAVED SIDE DITCH TYPE A	LFT.			
06340	PAVED SIDE DITCH TYPE B	LFT.			
06345	PAVED SIDE DITCH TYPE C	LFT.			
06350	PAVED SIDE DITCH TYPE D	LFT.	94		
06355	PAVED SIDE DITCH TYPE E	LFT.			
06360	PAVED SIDE DITCH TYPE F	LFT.			
06365	PAVED SIDE DITCH TYPE G	LFT.			
	PAVED SIDE DITCH TYPE "J"	LFT	428		
	PIPE, GROUP 'K' FOR UNDER DRAIN (6)	LFT	7210		
	PIPE, NON-PERF. F.B.C.CS. FOR UNDER DRAIN (.052"thk)	LFT	374		
	PIPE S.P.S.A (.109"thk T & S, .135"thk BOTT.) MIN AREA				
	40 S.F.	LFT	160		
	HOT ASPHALT EMULSION (AE) SURFACE - TYPE IV	TON	475		

*INCLUDES _____ LFT. FOR YELLOW BARRIER LINE

APPROACH PAY ITEMS

CODE NO.	DESCRIPTION	UNIT	STRUCTURE		TOTAL QUANTITY
06040	47" FENCE, F. FIELD	LFT.			
06045	48" FENCE, CHAIN LINK	LFT.			
52340	CONSTRUCTION SIGNS (TYPE A)	EACH	13		
52345	CONSTRUCTION SIGNS (TYPE B)	EACH	10		
52350	STANDARD BARRICADES (TYPE III)	EACH	4		
06650	STOP SIGN, TYPE R-1A	EACH	2		
06652	DO NOT PASS SIGN, TYPE R-11-A	EACH			
06655	YIELD SIGN, TYPE R-301	EACH			
06657	PASS WITH CARE SIGN, TYPE R-12A	EACH			
06660	CURVE SIGN, TYPE W-2AR	EACH			
06665	CURVE SIGN, TYPE W-2AL	EACH			
06670	REVERSE CURVE SIGN, TYPE W-4AR	EACH			
06675	REVERSE CURVE SIGN, TYPE W-4AL	EACH			
06680	LARGE ARROW SIGN, TYPE W-11A	EACH			
06685	STOP AHEAD SIGN, TYPE W-13A	EACH			
06725	DELINEATOR WITH POST, TYPE D-1 3 INCH	EACH			
06740	DELINEATOR WITH POST, TYPE D-2 3 INCH	EACH			
06755	DELINEATOR WITH POST, TYPE D-3 3 INCH	EACH			
06770	DELINEATOR POST	EACH	7		
06720	TEMPORARY PAVEMENT MARKING TAPE	LFT.	5160		
06715	TEMPORARY PAVEMENT MARKING PAINT	LFT.	4,970		
52360	RIGHT-OF-WAY MARKERS	EACH	34		
52365	PAINTED LINE **	LFT.			
05500	MONUMENT, TYPE A	EACH			
06505	MONUMENT, TYPE B	EACH	8		
06510	MONUMENT, TYPE C	EACH			
06515	MONUMENT, TYPE D	EACH			
	PAINTED LINE, 4 INCH.	LFT	2447		
	Settlement Plates	EACH	2		

**INCLUDES _____ LFT. FOR YELLOW BARRIER LINE

REVISIONS

DATE	ITEM
5-7-75	51030, 51826, 51830, 52250, 52440, 52451, 52450, 52405, 52390, 52395, 06500, 10050, 34000, 24" Group D Pipe, 6" Underdrain Pipe & SP.S.A. Pipe; Item 51887, 52806 Deleted; Items 51888 & 52300 Added; Items 52240 & 52245 Revised.
5-28-75	52451, 52450 HAE SURFACE - TYPE IV Added
6-6-75	Settlement Plates Added

Rev. 5-7-75 JWV/MRS/
Rev. 5-28-75 JJW, CHM
Rev. 6-6-75 JJW, CHM

SUMMARIZED H.R.P. 12/7/73 C'K'D. C.H.M.

TRACED W.T.N. 1/2/74 C'K'D E.B. 1-3-74

OCTOBER, 1973

BRIDGE ESTIMATE OF QUANTITIES
INDIANA STATE HIGHWAY COMMISSION

DATE JAN. 8, 1974

Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

SHEET 50 OF 86

PROJECT: RF-68 (15)
CONTRACT NO: B-10215

ROBERT W. BETTGE REGISTERED No. 6403 STATE OF INDIANA

ND STR