

INDEX						
PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION	CONTRACT NO.
F-875(8)	31-59-4856	TWIN STRUCTURES CONTINUOUS R.C. SLAB	30.40, 30.50, 30.15 FT.	PRAIRIE DITCH	164+08 (On Surv. 4)	R-6149
SHEET NO.	SHEET DESIGNATION	SUBJECT				
1	INDEX & TITLE SHEET	INDEX & TITLE SHEET				
2	ONE SHEET	TYPICAL CROSS SECTIONS				
3	ROAD PLAN SHEETS 31-59-4856(1) & (2)	ROAD PLAN & PROFILE-ROAD PROJ. REF. STA. 164+00 TO 164+58.77 (On Surv. 4)				
4	ONE SHEET	SOIL BORINGS				
5	C1 (STRUCTURE 31-59-4856)	LAYOUT				
6	C2	GENERAL PLAN				
7	C3	SUBSTRUCTURE				
8	C4	SUPERSTRUCTURE DETAILS				
9	C5	SUPERSTRUCTURE DETAILS				
10	C6	SUPERSTRUCTURE DETAILS				
11	ONE SHEET	SUMMARY				

STATE OF INDIANA  
STATE HIGHWAY DEPARTMENT

## BRIDGE PLANS FOR SPANS OVER 20 FEET ON STATE ROAD NO. 31 SECTION S<sub>9</sub> F.A. PROJECT NO. F-875(8)

PERU-MEXICO BY-PASS

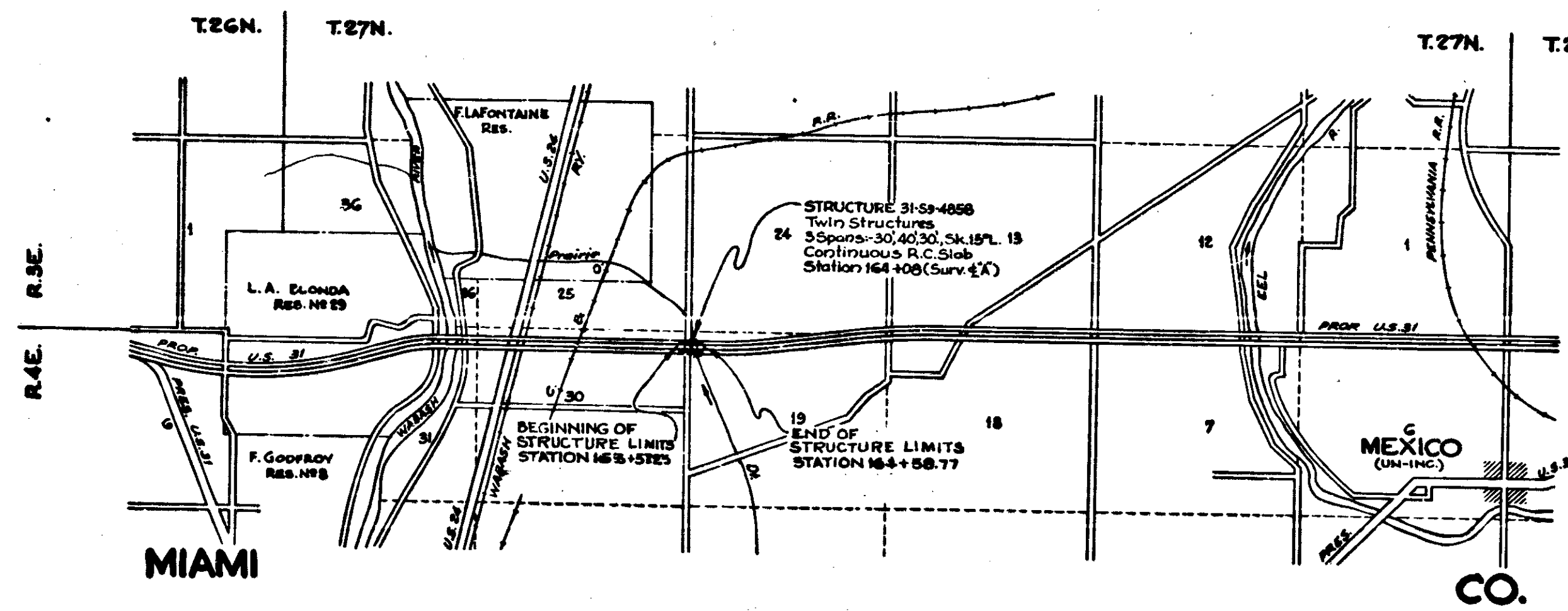
BEGINNING AT A POINT IN SECTION 19 ON PROP. U.S. 31 APPROX. 46.45' NORTH OF THE SOUTH LINE OF SECTION 19 AND EXTENDING NORTH A DISTANCE OF APPROX. 101.54' TO A POINT IN SECTION 19 ON PROP. U.S. 31 APPROX. 147.97' NORTH OF THE SOUTH LINE OF SECTION 19 ALL IN SECTION 19-T.27N.-R.4E., MIAMI COUNTY.

ROADWAY LENGTH=0.009MI.  
BRIDGE LENGTH=0.019MI.  
TOTAL LENGTH=0.019MI.

MAX. GRADE=0.00%

BRIDGES OVER 20' SPAN				
PROJECT NO.	STATE	PROJ. NO.	FISCAL YEAR	TOTAL SHEETS
4	IND	F-875(8)	1961	1 20

INDEX CONTINUED STANDARD DRAWINGS			
SHEET NO.	SHEET DESIGNATION	SUBJECT	APPROVAL
1A	BRIDGE STD. G1	STANDARD MISCELLANEOUS DETAILS	
	BRIDGE STD. G2	STANDARD MISCELLANEOUS DETAILS	
	BRIDGE STD. D	CASTING DETAILS ROADWAY DRAIN	
	BRIDGE STD. F	ROADWAY DRAIN OUTLET DETAILS	
	BRIDGE STD. G3	BEAM GUARD RAIL DETAILS	
	BRIDGE STD. H	TYP. DETAILS OF THICK PAVEMENT LOC. TOP OF R.A.E. & R.S.E.	
	BRIDGE STD. H	TYP. DETAILS OF THICK PAVEMENT & LOCATING LOC. OF SLOPE	
2	BRIDGE STD. M1	MISCELLANEOUS APPROACH DETAILS	
	BRIDGE STD. M2	MISCELLANEOUS APPROACH DETAILS	
3	BRIDGE STD. P1	SLOPE WALL, DET. P1.1	
	BRIDGE STD. P2	STANDARD CONCRETE PILE DETAILS	
4	BRIDGE STD. R1	ALUMINUM RAILING DETAILS	
10A	BRIDGE STD. S1	STEEL RAILING DETAILS	
	BRIDGE STD. S2	TYPICAL DETAILS FOR PLACING SPECIAL FILLING MATERIAL	
	BRIDGE STD. S2	TYPICAL DETAILS FOR PLACING SPECIAL FILLING MATERIAL	
	BRIDGE STD. T SHEET A	STANDARD TEMPORARY BRIDGE	
	BRIDGE STD. T SHEET B	STANDARD TEMPORARY BRIDGE	
5	ROAD STD. SHEET A	STANDARD PAVEMENT JOINTS	
	ROAD STD. SHEET MA	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MB	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MC	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MD	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET ME	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MF	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MG	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MH	MISCELLANEOUS STRUCTURE STANDARDS	
	ROAD STD. SHEET MI	MISCELLANEOUS STRUCTURE STANDARDS	
	ROAD STD. SHEET MJ	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MK	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET ML	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MN	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MO	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MP	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MQ	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET MR	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET RS	MISCELLANEOUS STANDARDS CENTER DITCH INLETS	
	ROAD STD. SHEET ST	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET SU	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET SV	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET SW	MISCELLANEOUS STANDARDS	
	ROAD STD. SHEET SX	STANDARD STRUCTURE CONNECTIONS FOR EXTENSION	
	ROAD STD. SHEET SY	STANDARD REINF. CONC. BOX CULVERTS	
	ROAD STD. SHEET SZ	STANDARD REINF. CONC. BOX CULVERTS-SK. END & WING	
	ROAD STD. SHEET TA	STANDARD REINF. CONC. CULVERTS-SLAB TOP TYPE (U.F.)	
	ROAD STD. SHEET TB	STANDARD REINF. CONC. CULVERTS-SLAB TOP TYPE (U.F.)	
	ROAD STD. SHEET TC	STANDARD GUARD RAIL	
	ROAD STD. SHEET TD	STEEL BEAM GUARD RAIL	
	ROAD STD. SHEET TE	STANDARD REINF. CONCRETE ARCH-12' SPAN	
	ROAD STD. SHEET TF	STANDARD HEADWALLS	
	ROAD STD. SHEET TG	STANDARD STRUCTURAL PLATE ARCH	
	ROAD STD. SHEET TH	CONCRETE WINGS FOR STD. STRUCTURAL PLATE ARCHES	
	ROAD STD. SHEET TI	STANDARDS FOR SUPER-ELEVATION & WIDENING OF CURVES	
	ROAD STD. SHEET TJ	STANDARD DETOUR SIGN	
	ROAD STD. SHEET TK	STANDARD DETOUR SIGN	
	ROAD STD. SHEET TL	STANDARD DETOUR SIGN	



TRAFFIC DATA	
A.D.T. (1960)	5500 V.P.D.
A.D.T. (1960 PROJECTED)	8750 V.P.D.
TRUCKS	20%
DESIGN SPEED	70 M.P.H.
ACCESS CONTROL	PARTIAL

Scale=1"=640'

APPROVED: 9-12-61  
 [Signature]  
 CHIEF ENGINEER, INDIANA STATE HIGHWAY COMMISSION

STATE HIGHWAY DEPARTMENT OF INDIANA.  
STANDARD SPECIFICATIONS DATED 1960  
TO BE USED WITH THESE PLANS.

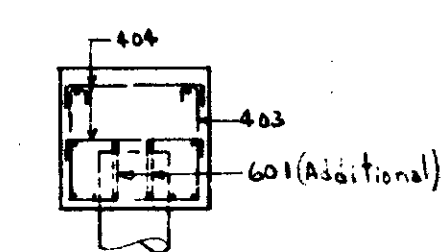
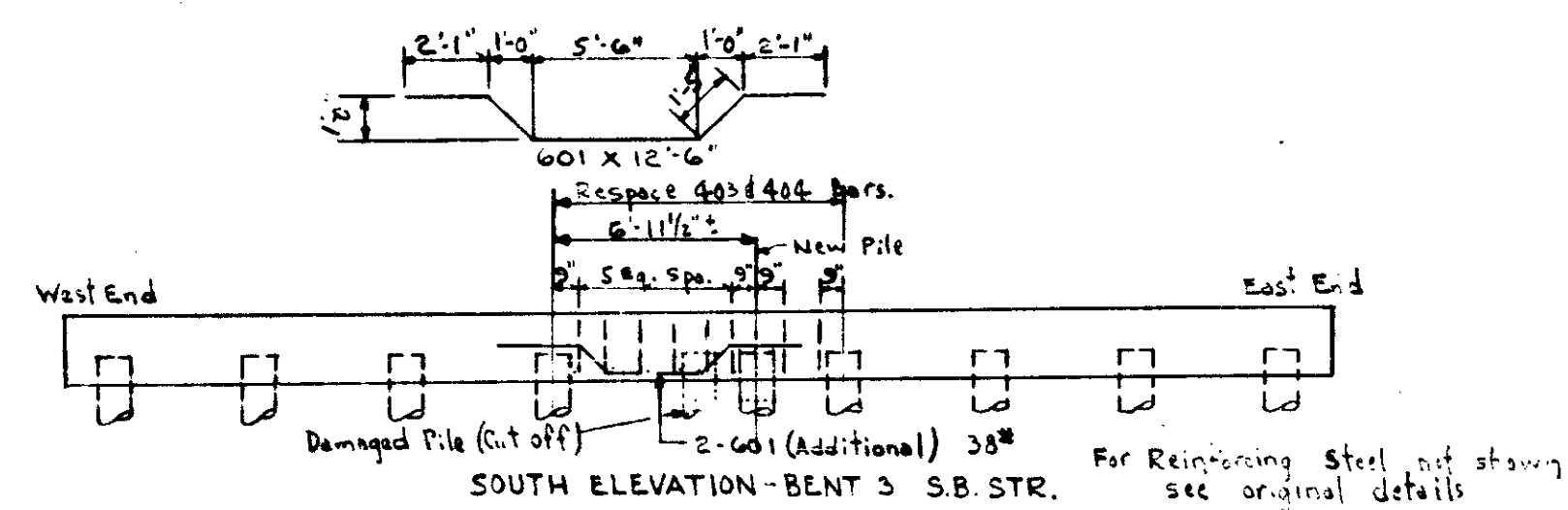
REVISIONS	
DATE	SHEET NO.
6-5-65	1, 6, 7, 9, 10, 11, 12, 14 & 15; Sheet 15A
	Added: Sheets 2, 3, 4, 13, 17, 18, 19 & 20
	Deleted: Project Designation from F-875(a) to F-875(b)

RECOMMENDED FOR APPROVAL 9-11-61  
 [Signature]

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

APPROVED: \_\_\_\_\_  
 DIVISION ENGINEER DATE

BRIDGE FILE: 31-59-4856



CAP SECTION

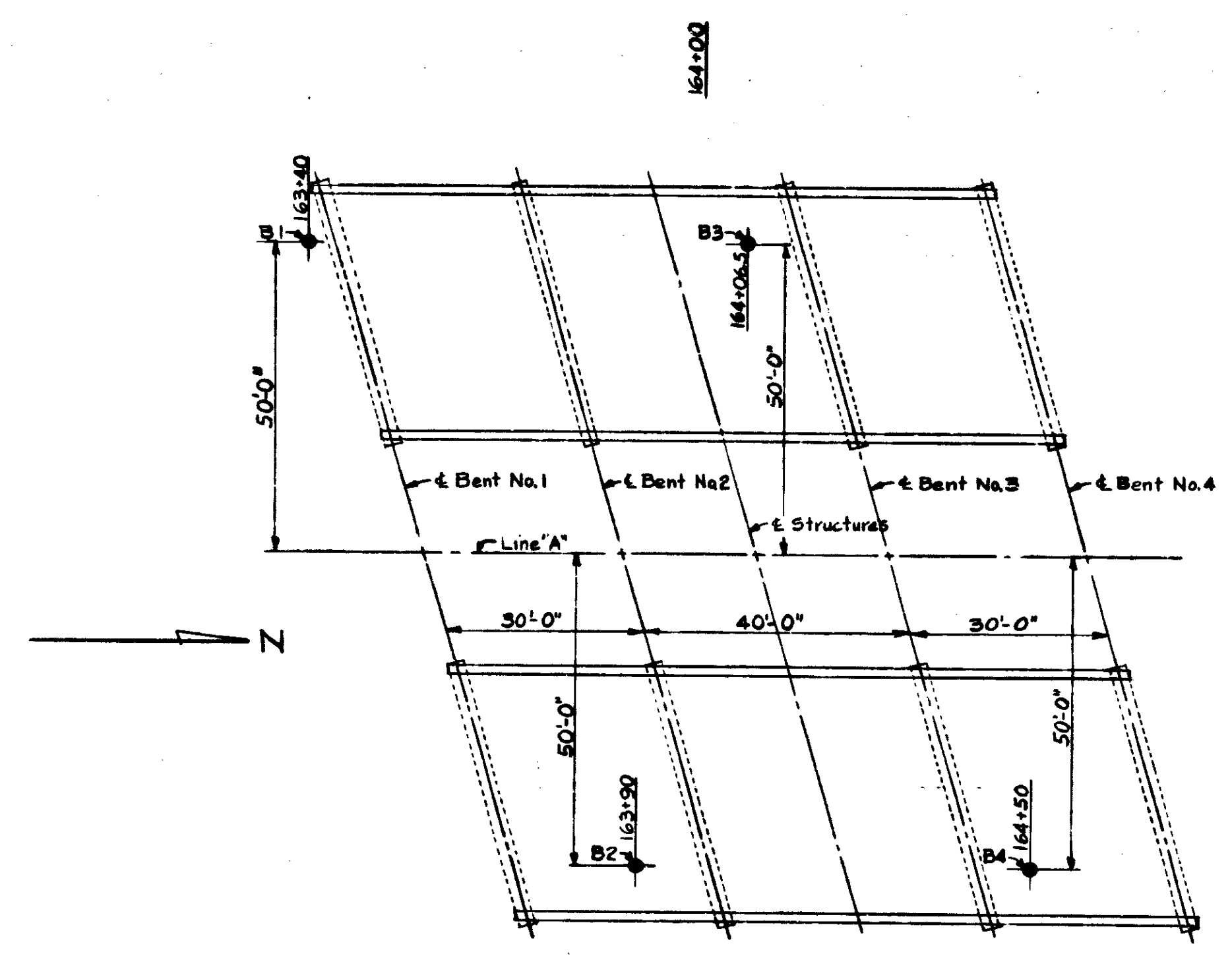
BENT NO. 3 REVISED DETAILS  
SOUTHBOUND STRUCTURE

JAN. 9, 1964

*Ch. Ruminer*  
ENGINEER, BRIDGE DESIGN

BRIDGE CONTRACT R. 6149  
BRIDGE FILE 31-55-4858

BRIDGES OVER 20' SPAN					
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-75	1961	5	20



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

Boring No. 1			Boring No. 2			Boring No. 3			Boring No. 4		
Station 163+40			Station 163+90			Station 164+06.5			Station 164+50		
Offset 50' Lt			Offset 50' Rt			Offset 50' Lt			Offset 50' Rt		
Surface Elev. 637.0			Surface Elev. 633.5			Surface Elev. 635.8			Surface Elev. 635.4		
Elev.	Depth	Description	Elev.	Depth	Description	Elev.	Depth	Description	Elev.	Depth	Description
637.0	0.0	Push Dark gray and brown clayey SILT (Topsoil)	633.5	0.0	Push Brown dry loose SILT with a little fine sand. (Topsoil)	635.8	0.0	Push Light brown dry loose SILT (Topsoil)	635.4	0.0	Push Gray moist medium stiff clayey SILT (Topsoil)
636.0	1.0	Dark brown moist medium stiff clayey SILT with a little fine sand.	631.8	1.7	Push Brown dry loose SILT with a little fine sand. (Topsoil)	634.8	1.0	Push Light brown dry loose SILT.	637.4	1.0	Push Brown moist very loose fine SAND with a little silt.
631.5	5.5	Push Brown wet loose fine SAND with a trace of silt.	629.0	4.5	Push Gray and black wet soft clayey SILT with a little fine sand and some organic matter.	631.8	4.0	Push Gray moist soft clayey SILT.	633.9	4.5	Push Black moist soft organic clayey SILT.
630.0	7.0	Gray wet medium dense fine SAND with a trace of gravel and a little silt.	625.0	8.5	Gray wet very dense fine to medium SAND with some fine to medium gravel and cobbles and a trace of limestone fragments.	627.3	8.5	1/4 Brown wet dense fine to coarse SAND with some medium to coarse gravel.	629.9	8.5	1/1 Dark gray wet soft silty CLAY with organic matter.
626.0	11.0	1/10 Gray and brown wet medium dense fine to coarse SAND with some fine to coarse gravel.	616.5	17.0	62 Gray and brown moist very dense fine to medium SAND with some fine to medium gravel and a trace of cobbles and a trace of silty clay and limestone fragments.	621.8	14.0	12/15 Gray wet dense fine to coarse SAND and fine to coarse GRAVEL with a little cobbles from 13.0 to 20.0 feet.	627.9	10.5	13/13 Brown to gray wet medium dense fine to coarse SAND with some fine to coarse gravel and a trace of silt.
616.5	20.5	1/11 Gray moist very stiff to hard silty CLAY with a trace of fine sand (Hardpan)	609.5	24.0	16/20 Gray dense fine to coarse SAND with little fine to medium gravel.	615.8	20.0	25/22 Gray dense fine to coarse SAND and silty CLAY.	617.9	20.5	25/17 Gray moist very stiff silty CLAY.
612.5	24.5	1/12 Gray and brown wet medium dense fine SAND	605.5	28.0	17/22 Gray and brown moist very dense fine to coarse SAND and fine to coarse gravel with a little cobbles and a trace of silt.	612.4	23.4	15/22 Gray moist dense fine to coarse GRAVEL with some medium to coarse sand and a trace of limestone fragments.	613.9	24.5	19/14 Gray moist dense SILT.
611.5	25.5	1/12 Gray moist stiff SILT with a little clay and fine sand.			Bottom of Test Boring	609.8	26.0	10/19 Gray moist dense fine to coarse GRAVEL with some medium to coarse sand and a trace of limestone fragments.	611.4	27.0	17/19 Gray wet medium dense fine to medium SAND with a trace of fine gravel and a trace of organic matter.
609.0	28.0	1/12 Gray moist stiff SILT with a little clay and fine sand.			Bottom of Test Boring	605.8	30.0	17/22 Gray moist dense fine to coarse GRAVEL with some medium to coarse sand and a trace of limestone fragments.	608.4	30.0	9/11 Gray wet medium dense fine to medium SAND with a trace of fine gravel and a trace of organic matter.
605.0	32.0	17/20 Gray wet dense fine to coarse SAND with some fine to coarse gravel and a trace of silt.			Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring
597.0	40.0	21/21 Weathered broken LIMESTONE with sand and gravel			Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring
595.0	32.42	32/42			Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring
590.0	27.40	27/40			Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring
587.5	49.5	79/48			Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring
585.0		Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring			Bottom of Test Boring

**SOIL BORING LOG**  
Vertical Scale: 1" = 8'-0"

◁ = Point Natural Ground Water Was Noted  
N = Number of Blows/Ft.

**SOIL BORINGS**  
**STATE HIGHWAY DEPARTMENT OF INDIANA**

SCALE: AS NOTED  
RECOMMENDED FOR APPROVAL: *C. R. Rimmer* FEBRUARY 9, 1961

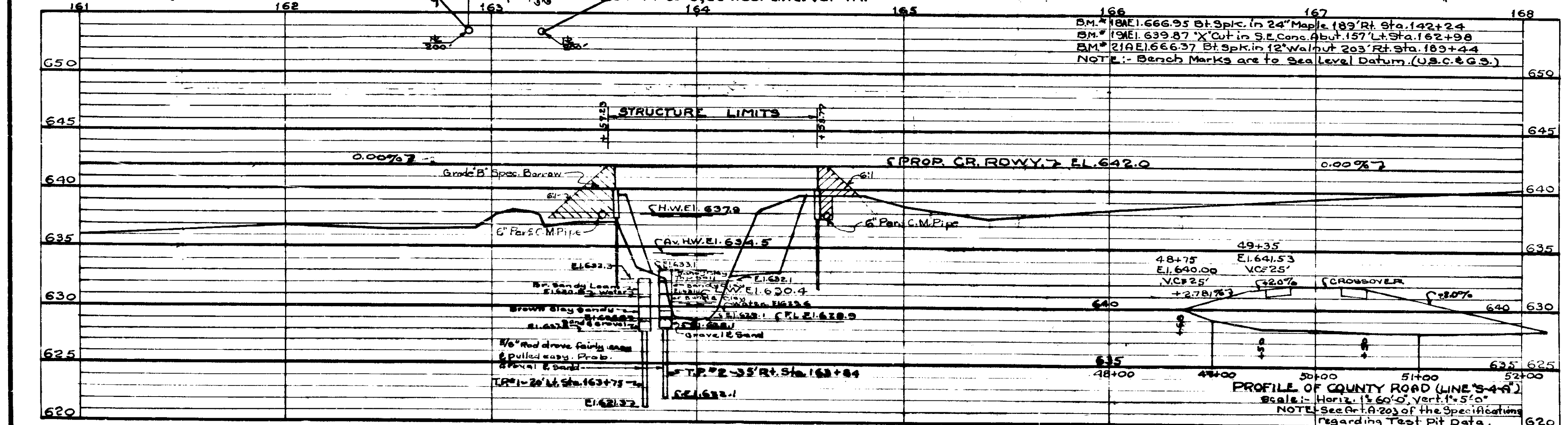
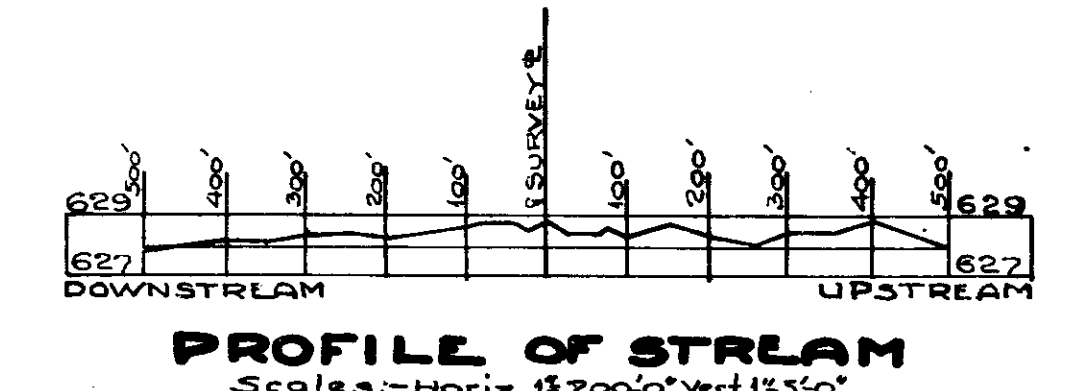
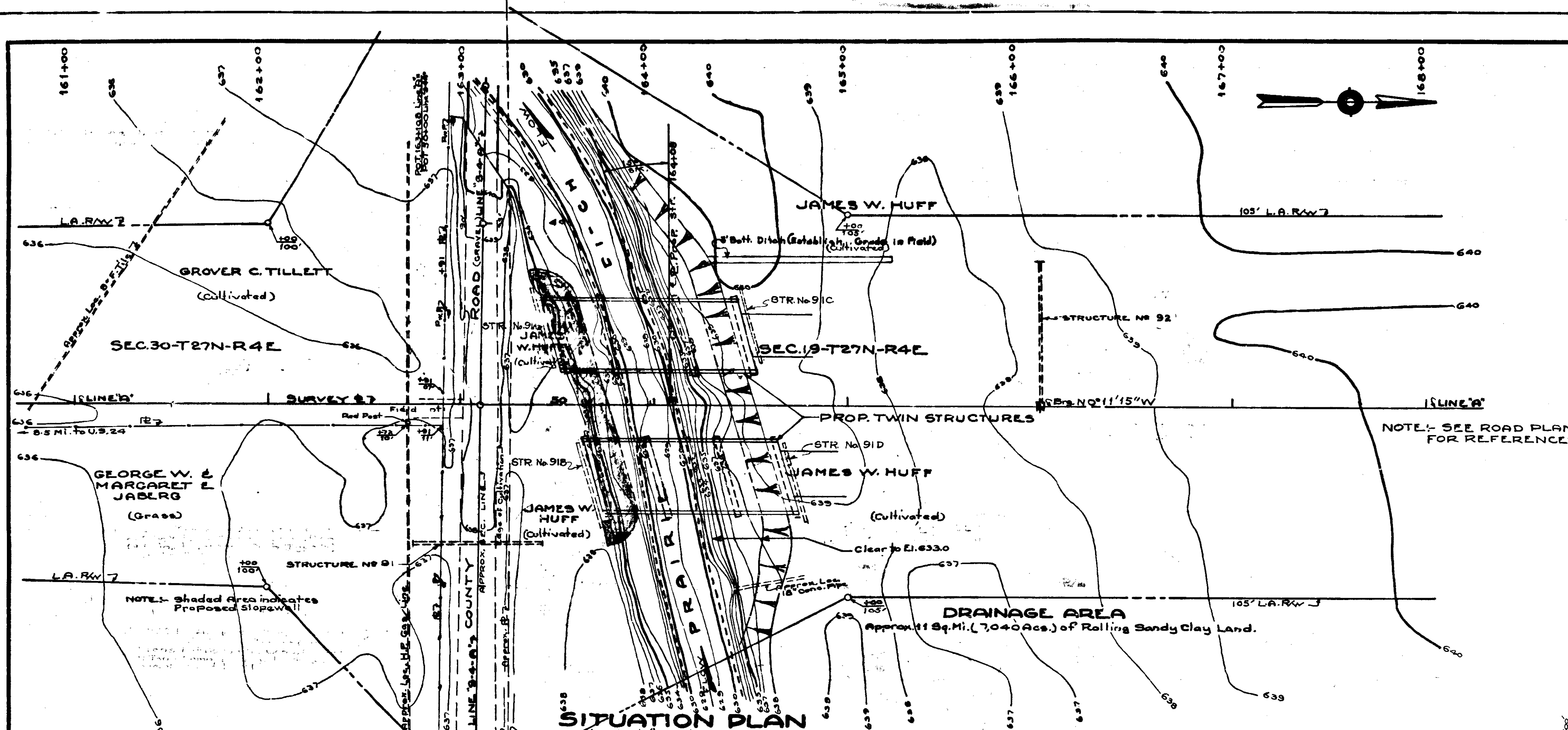
DRAWING: OF  
PROJECT: F-075(6)  
BRIDGE CONTRACT NO. R-6149  
BRIDGE FILE: 31-99-4858

DESIGNED: CKD  
DRAWN: WDK 12-6-60 CKD R.R.P. 12-16-60  
TRACED: CKD



BRIDGES OVER 20' SPAN					
PUB. ROAD REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-875	1961	6	20

UTILITY OWNERS  
 Pw. Lines Peru Elect. Co., Peru, Ind.  
 Gas (H.P.) N.I.P.S. Co.  
 T.F. Lines



LAYOUT  
**CONTINUOUS REINF. CONC. SLAB BRIDGE**  
 3 SPANS-30', 40', 30'-TWIN STRUCTS.-BK. 15' LT.-38' RDWY.  
 OVER PRAIRIE DITCH ON STATE ROAD 31-99  
 STATE HIGHWAY DEPARTMENT OF INDIANA  
 MIAMI COUNTY  
 SCALE: As Noted FEBRUARY 9, 1961.  
 RECOMMENDED FOR APPROVAL: *C.R. Remunda*  
 DRAWING: C1 of 5  
 PROJECT: F-875 (S) STATION: 164+00  
 BRIDGE CONTRACT NO. R-6149  
 BRIDGE FILE: 31-99-4858

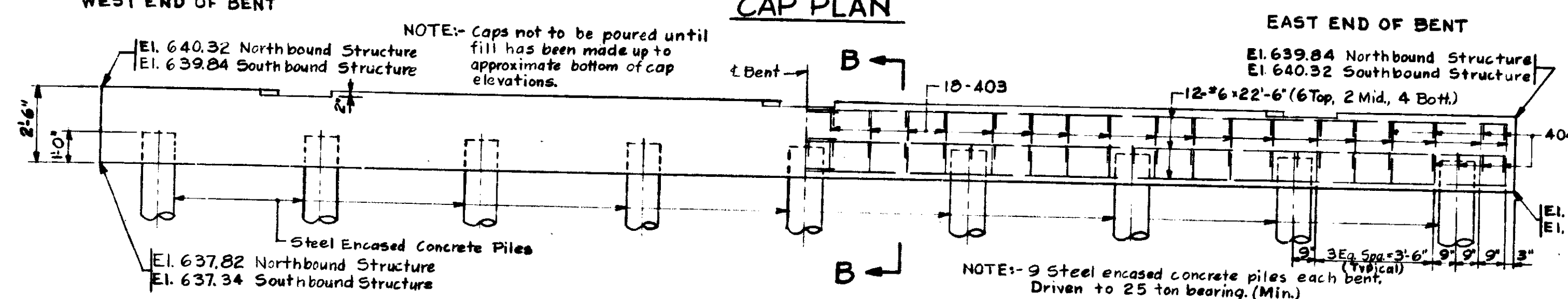
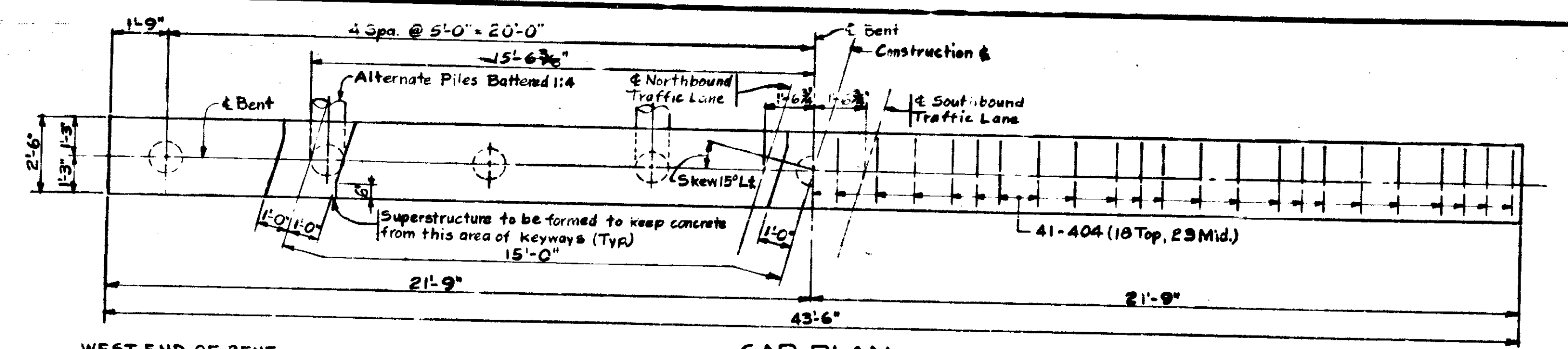
DESIGNED: C.K.D.  
 DRAWN: F.S.G. 1:21-60, K.O.D. 4-21-60  
 TRACED: W.C.B. 8-2-60, C.K.D. W.D.K. 8-2-60

NOTE: FIELD NOTES, BOOK BR. 1862-PP. 35-66  
 Rev. 6-5-63. P.O. Limits Each Work 65' of Proj. & ROAD 8341 L-PP 37

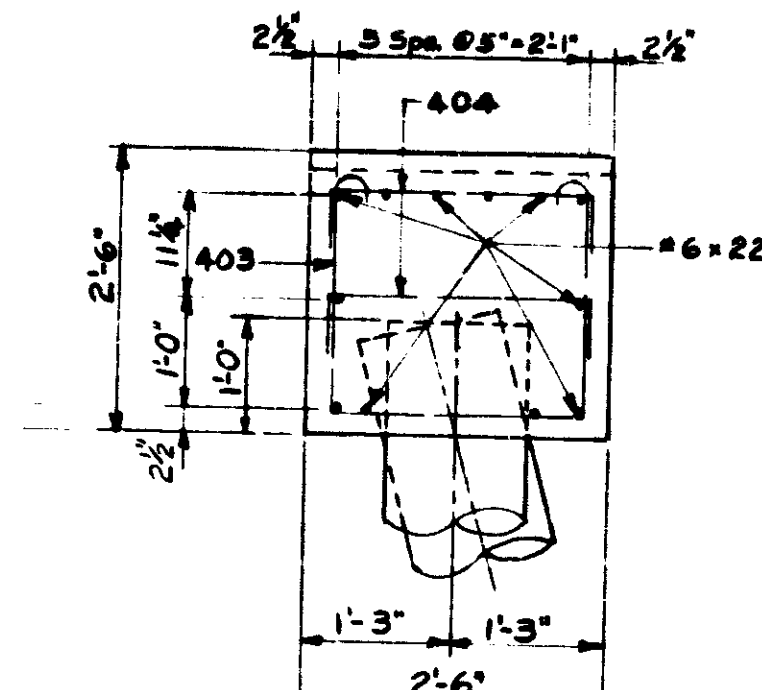




BRIDGES OVER 20' SPAN					
PUR. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	IND.	F-875(2)	1961	6	20



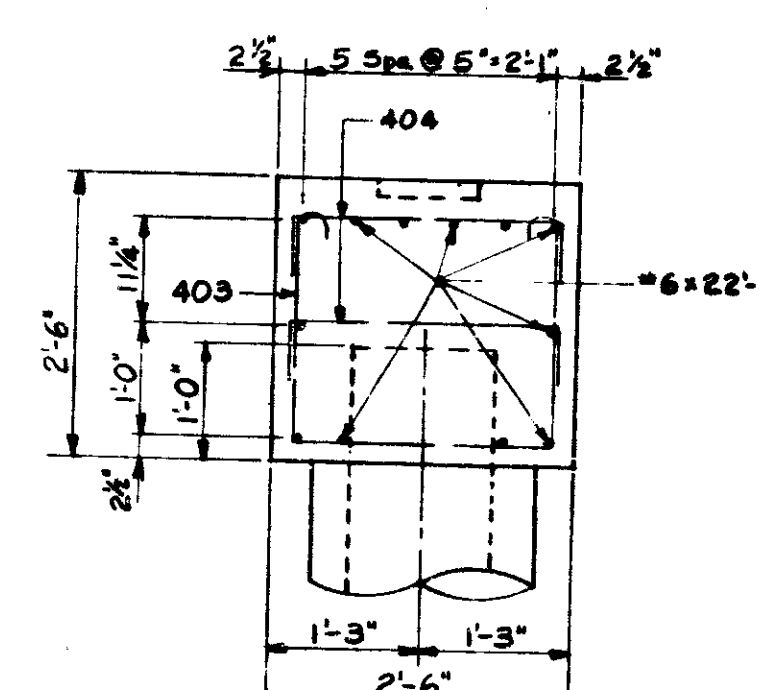
ELEVATION-BENTS NO. 1 & NO. 4



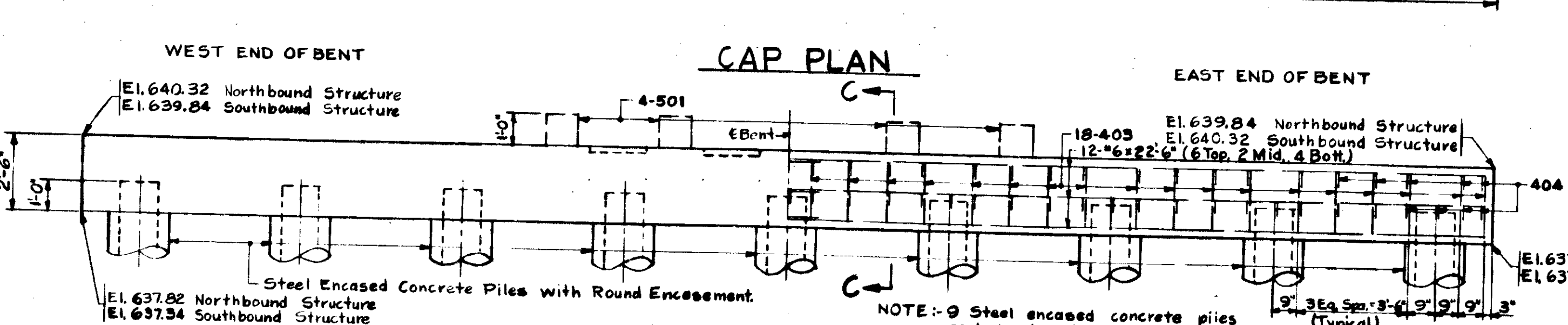
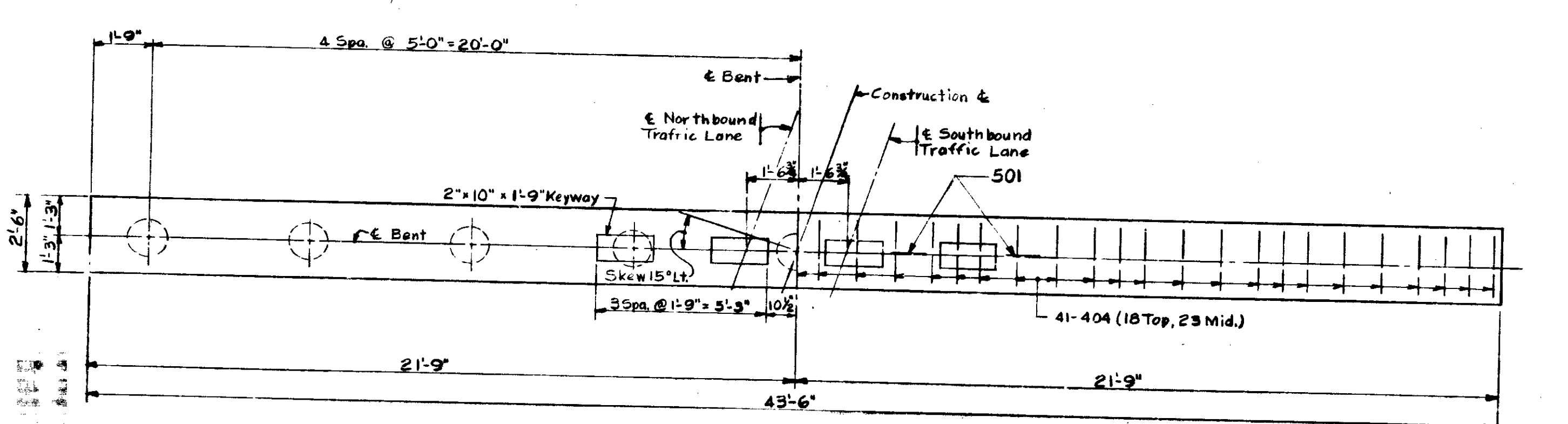
SECTION B-B  
Scale: 3/4" = 1'-0"

**BILLS OF MATERIALS**  
FOR ONE STRUCTURE ONLY

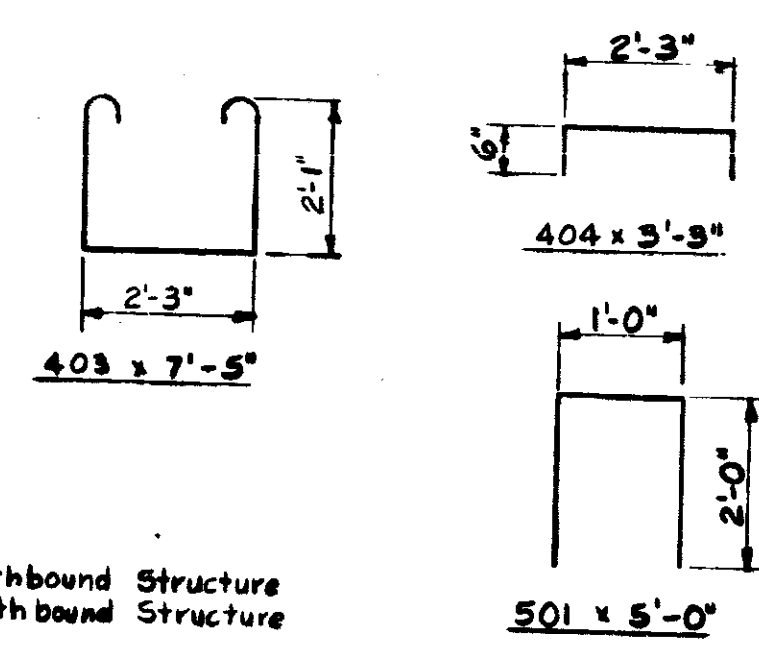
BENT NO. 1 (BENT NO. 4 SAME)			
REINFORCING STEEL			
SIZE AND MARK	NO. OF BARS	LENGTH	WEIGHT (LBS)
#6	24	22'-6"	811
403	36	7'-5"	
404	81	3'-3"	
TOTAL NO. 1			354
TOTAL STEEL			1165
CONCRETE			
Class F- Cap			10.1 Cys
MISCELLANEOUS			
9 Steel Encased Concrete Piles (14" x 25'-0", #7 Ga.)			225 L.Ft
BENT NO. 2 (BENT NO. 3 SAME)			
REINFORCING STEEL			
SIZE AND MARK	NO. OF BARS	LENGTH	WEIGHT (LBS)
#6	24	22'-6"	811
501	4	5'-0"	21
403	36	7'-5"	
404	81	3'-3"	
TOTAL NO. 2			354
TOTAL STEEL			1186
CONCRETE			
Class F- Cap			10.1 Cys
MISCELLANEOUS			
9 Steel Encased Concrete Piles (14" x 30'-0", #7 Ga.)			270 L.Ft
Concrete Encasement for Piles			*90 L.Ft
* 108 L.Ft Bent No. 2			
* 72 L.Ft Bent No. 3			



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



ELEVATION-BENTS NO. 2 & NO. 3



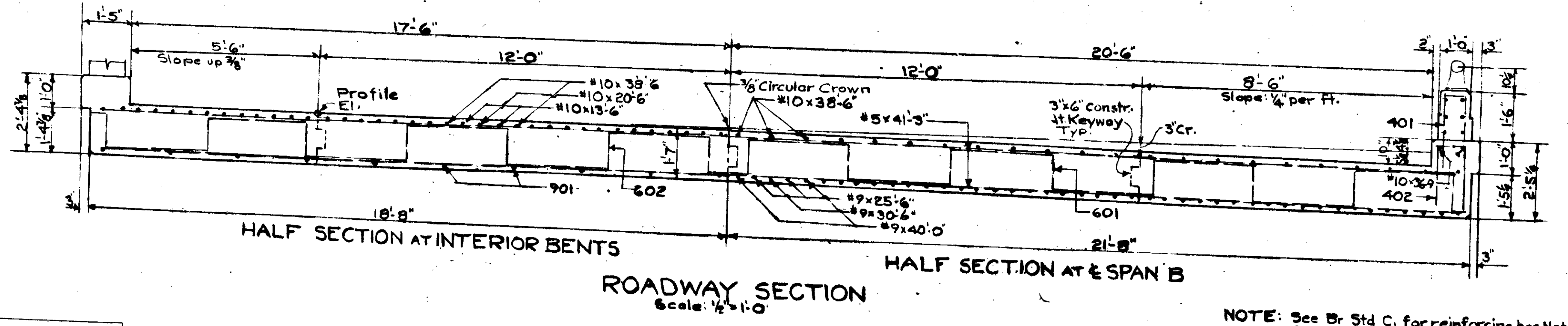
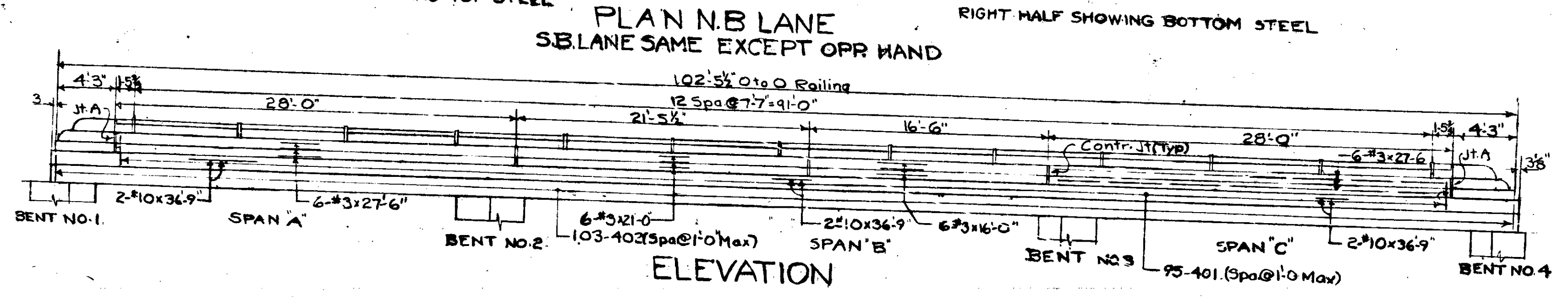
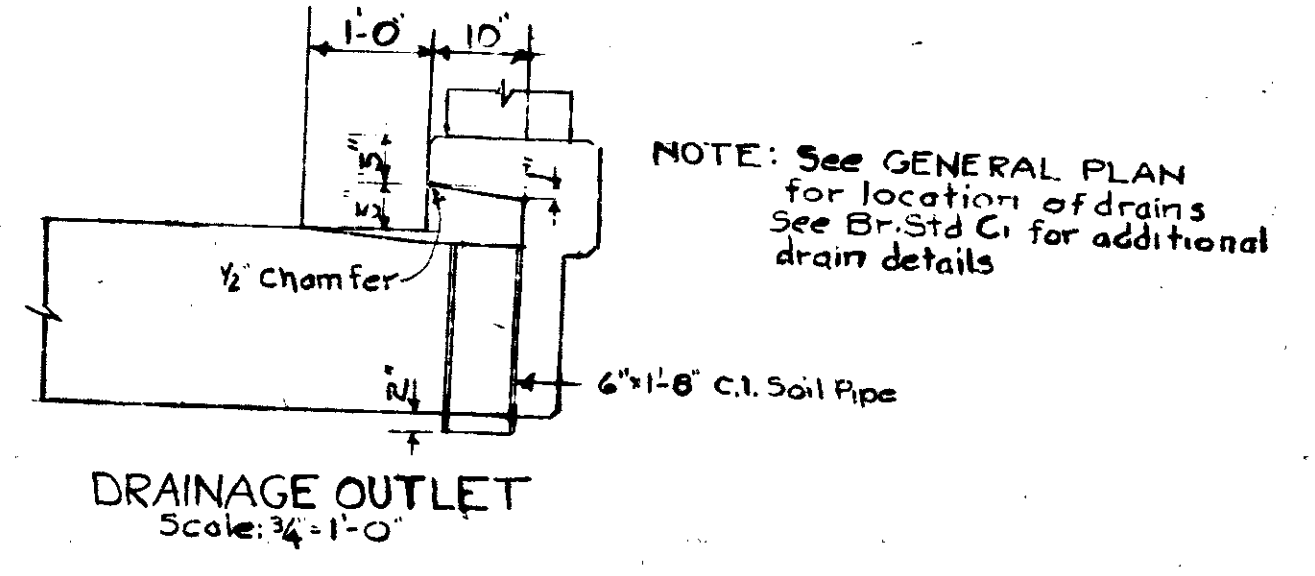
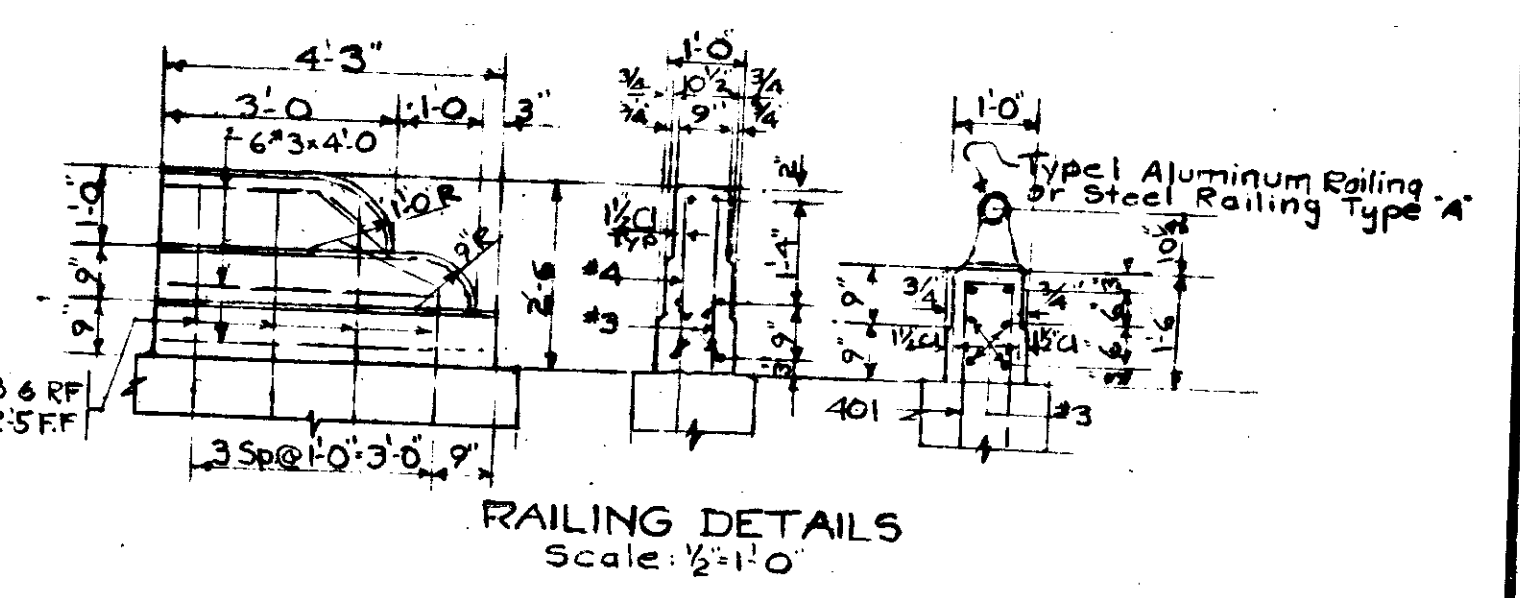
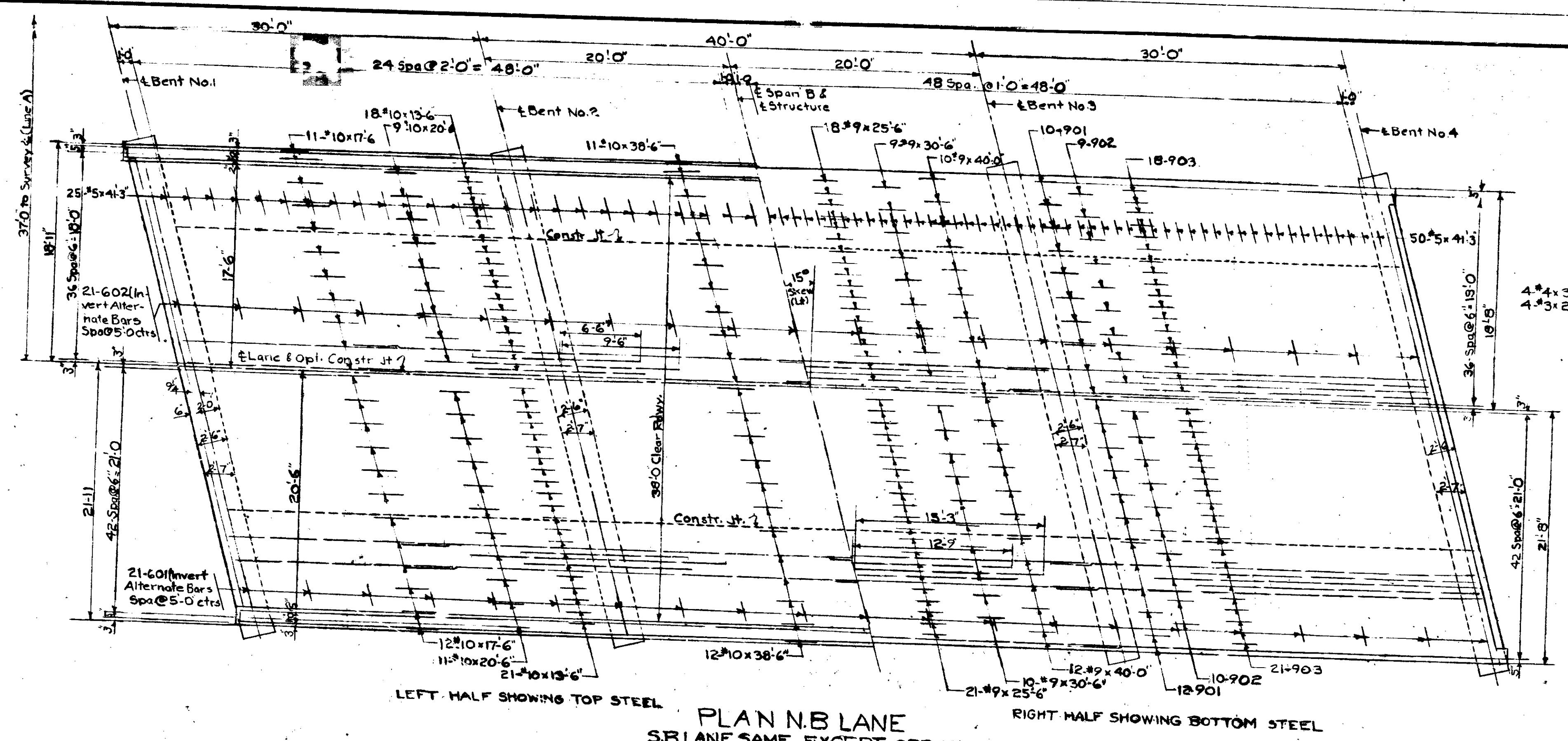
**SUBSTRUCTURE DETAILS**  
**STATE HIGHWAY DEPARTMENT OF INDIANA**

SCALE: 3/4" = 1'-0" UNLESS NOTED  
RECOMMENDED FOR APPROVAL: *[Signature]*  
DRAWING: C<sub>3</sub> OF 5  
PROJECT: F-875(2)  
BRIDGE CONTRACT NO. R-6129  
BRIDGE FILE: 31-59-4858

DESIGNED WDK:8296 WDR:10-6-60  
DRAWN WDK:27-60 CKD:DR:10-10-60  
CHECKED CKD

NOTE: See Dr. Std. C1 for Reinforcing Bar Notes

BRIDGES OVER 20' SPAN				
PUB. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	TOTAL SHEETS
4	IND.	F-875	1961	9
				20



**SUPERSTRUCTURE DETAILS**  
**STATE HIGHWAY DEPARTMENT OF INDIANA**

SCALE: 1/2" = 1'-0" UNLESS NOTED FEBRUARY 9, 1961

RECOMMENDED FOR APPROVAL: *C. P. ...*

DRAWING C-4 OF 5  
PROJECT: F-875(b)  
BRIDGE CONTRACT NO. A-6149  
BRIDGE FILE: 31-59-4858

NOTE: See Br. Std. C for reinforcing bar Notes  
See Drwg. C for Longitudinal Section

Rev. 6-5-63 Railing

DESIGNED: CKD  
DRAWN: R. B. Z. 10  
CHECKED: W. K. S. 22-60  
TRACED: CKD



STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IND	F-875	1961	10	20

**BILL OF MATERIALS**  
**SUPERSTRUCTURE SOUTH BOUND LANE**  
**NORTH BOUND LANE SAME**

SIZE & MARK	NO OF BARS	LENGTH	WEIGHT
#10	46	39'-9"	
"	40	20'-0"	
"	46	17'-6"	
"	78	13'-6"	
TOTAL NO.10			21042#

901	44	35'-0"	
902	38	27'-3"	
903	78	24'-3"	
#9	22	40'-0"	
"	18	30'-6"	
"	39	25'-6"	
TOTAL NO.9			23531#

401	21	30'-10"	
602	21	30'-7"	
TOTAL NO.6			604#

#5	149	4'-3"	641#
----	-----	-------	------

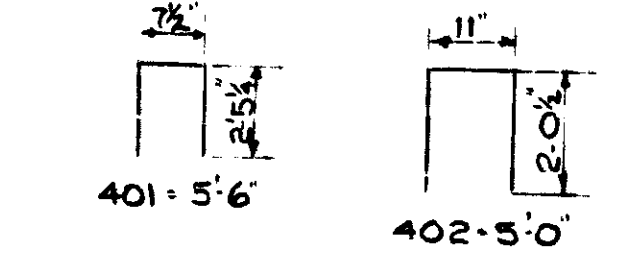
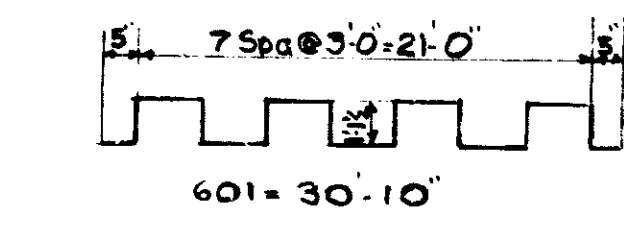
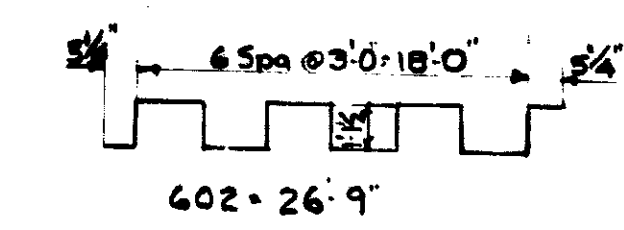
401	190	3'-6"	
402	206	3'-0"	
#4	16	3'-6"	
TOTAL NO.4			1424#

#3	24	2'-6"	
"	12	2'-6"	
"	12	16'-0"	
"	24	4'-0"	
"	16	2'-6"	
TOTAL NO.3			466#
TOTAL STEEL			34650#

CONCRETE	
Class F:	
Inner Four 2024	1444 cu yd
Lt. Outer Four	445 "
Rt. Outer Four	424 "
TOTAL	2533 cu yd

Class F: Rolling Cong.	1100 cu yd
------------------------	------------

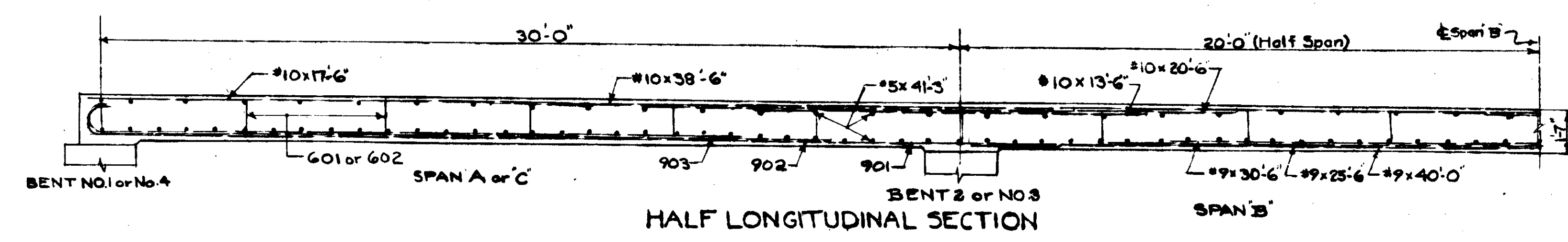
MISCELLANEOUS	
Rolling Type 12-A	183 lbs
3-Pc. Ch. 150 Pipe 6'-11/2"	70 lbs



Mark	O	Length
901	33'-9"	35'-0"
902	26'-0"	27'-3"
903	23'-0"	24'-3"

NOTE: See Br. Std. G, for reinforcing bar notes.

**DESIGN DATA**  
 Unit Stresses:  $f_s = 20000 \frac{lb}{sq. in.}$   $f_c = 1200 \frac{lb}{sq. in.}$   
 Live Load - H-20-S16.44 with impact with distribution of loads in accordance with 1957 AASHTO Specification.  
 Dead Load increased 35 sq. ft. of roadway for future wearing surface.  
 Slab designed with 1/4" wearing surface.  
 Maximum dead load deflection = 1/8"



NOTE: See Br. Std. C, for reinforcing bar notes.

**SUPERSTRUCTURE DETAILS**  
**STATE HIGHWAY DEPARTMENT OF INDIANA**

SCALE: 1/4" = 1'-0"  
 FEBRUARY 9, 1961  
 RECOMMENDED FOR APPROVAL: *C. E. Summers*  
 DRAWING: CS OF 5  
 PROJECT: F-875(a)  
 BRIDGE CONTRACT NO. A-6149  
 BRIDGE FILE: 31-S-4858

DESIGNED: CKD  
 DRAWN: E.E. V-B-60 CKD WDK 8-21-60  
 TRACED: CKD

Rev 6-5-63 Railing



