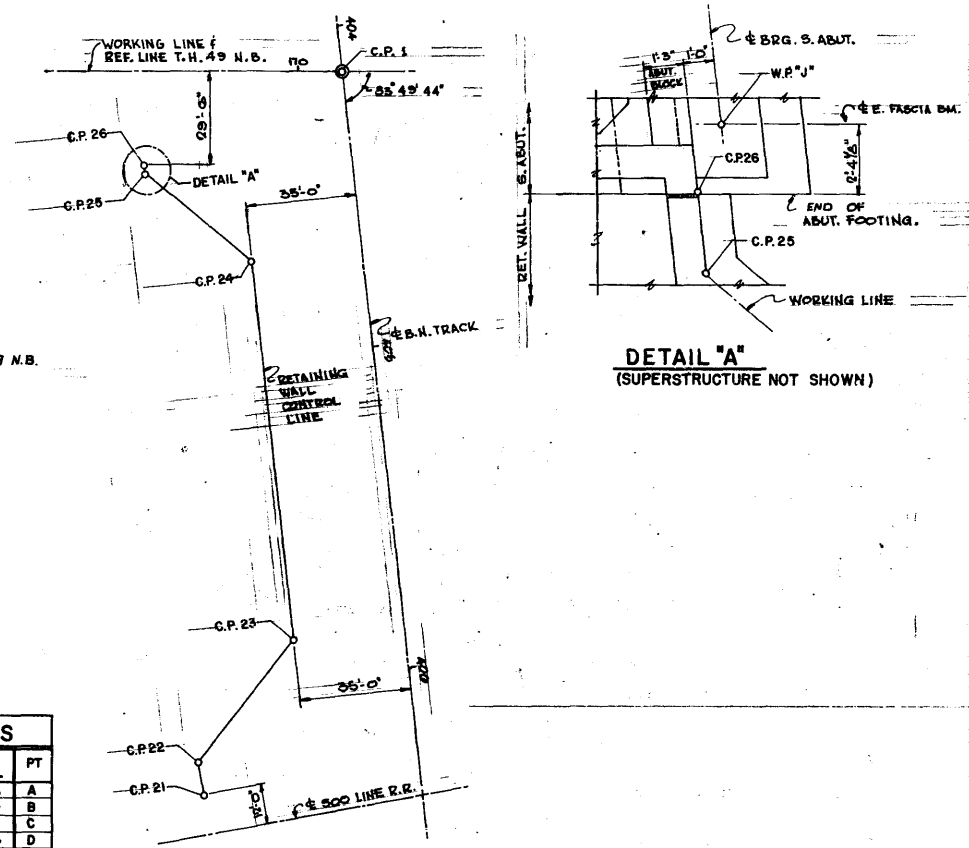


WORKING POINT LAYOUT



RET. WALL CONTROL POINT LAYOUT

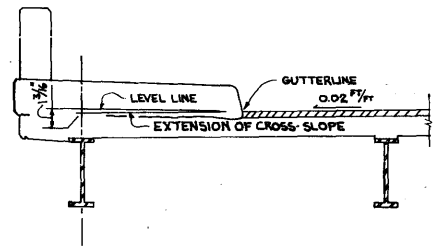
DIMENSIONS BETWEEN WORKING POINTS													ELEVATIONS				
PT	STATION	A	B	C	D	E	F	G	H	J	K	L	M	TOP OF SLAB EL.*	TOP OF SLAB TO BR. SEAT	BRIDGE SEAT EL.	PT
A	169+44.07													925.26	3.35	921.93	A
B	169+84.07	40.00												925.46	3.30	922.16	B
C	170+34.07		50.00											925.71	3.30	922.41	C
D	170+74.07			40.00										925.91	3.35	922.56	D
E	169+88.40	40.28												925.72			E
F	169+88.40	59.74	40.28			40.00								925.92			F
G	170+38.40		67.49	40.28			50.00							926.17			G
H	170+78.40			59.74	40.28			40.00						926.37			H
J	169+51.32		74.65	106.52		27.20								925.30	3.35	921.97	J
K	169+91.32	81.06		79.59	106.52	50.75	21.20			40.00				925.60	3.30	922.30	K
L	170+41.32	118.15	88.19	14.65			59.43	27.20			50.00			925.75	3.30	922.45	L
M	170+81.32		118.15	82.06				50.75	21.20			40.00		925.95	3.35	922.64	M

RETAINING WALL ALIGNMENT					
AZIMUTH FROM NORTH	DISTANCE	CONTROL POINT	COORDINATES N E	§ B.N.R.R. STA.+OFFSET	§ 500 LINE R.R. STA.+OFFSET
		C.P. 21	34,411.729 931,489.822	406+31.59 68.63' LT.	217+42.98 12.00' LT.
258° 47' 42"	10.00'	C.P. 22	34,409.788 931,480.013	406+21.82 69.33' LT.	
307° 48' 54"	48.55'	C.P. 23	34,439.555 931,441.685	405+87.28 35.00' LT.	
262° 48' 54"	118.04'	C.P. 24	34,424.792 931,324.546	404+89.25 35.00' LT.	
217° 48' 54"	43.30'	C.P. 25	34,390.588 931,297.988	404+38.63 65.62' LT.	T.H. 49 N.B. STA.+OFFSET
262° 48' 54"	2.51'	C.P. 26	34,390.271 931,295.503	404+36.12 65.62' LT.	169+50.59 29.50' RT.

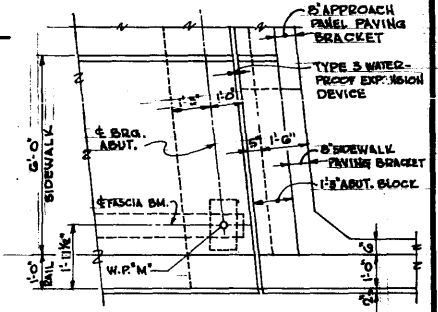
* TOP OF SLAB ELEVATION FOR FASCIA GIRDER IS MEASURED AT GUTTERLINE.

	ABUTMENTS		PIERS	
	FASCIA	INTERIOR	FASCIA	INTERIOR
SLAB THICKNESS	9"	9"	9"	9"
SLOPE ADJUSTMENT	1 3/16"		1 3/16"	
STOOL HEIGHT	7/16"	1 5/8"	3/8"	1 9/16"
BEAM HEIGHT	24 7/8"	24 7/8"	24 1/2"	24 1/2"
BEARING HEIGHT	5 1/8"	5 1/8"	4 1/2"	4 1/4"
TOTAL (IN)	40"	40"	39 1/4"	39 5/16"
TOTAL (FT)	3.33'	3.33'	3.30'	3.28'

DETAIL "A"
(SUPERSTRUCTURE NOT SHOWN)



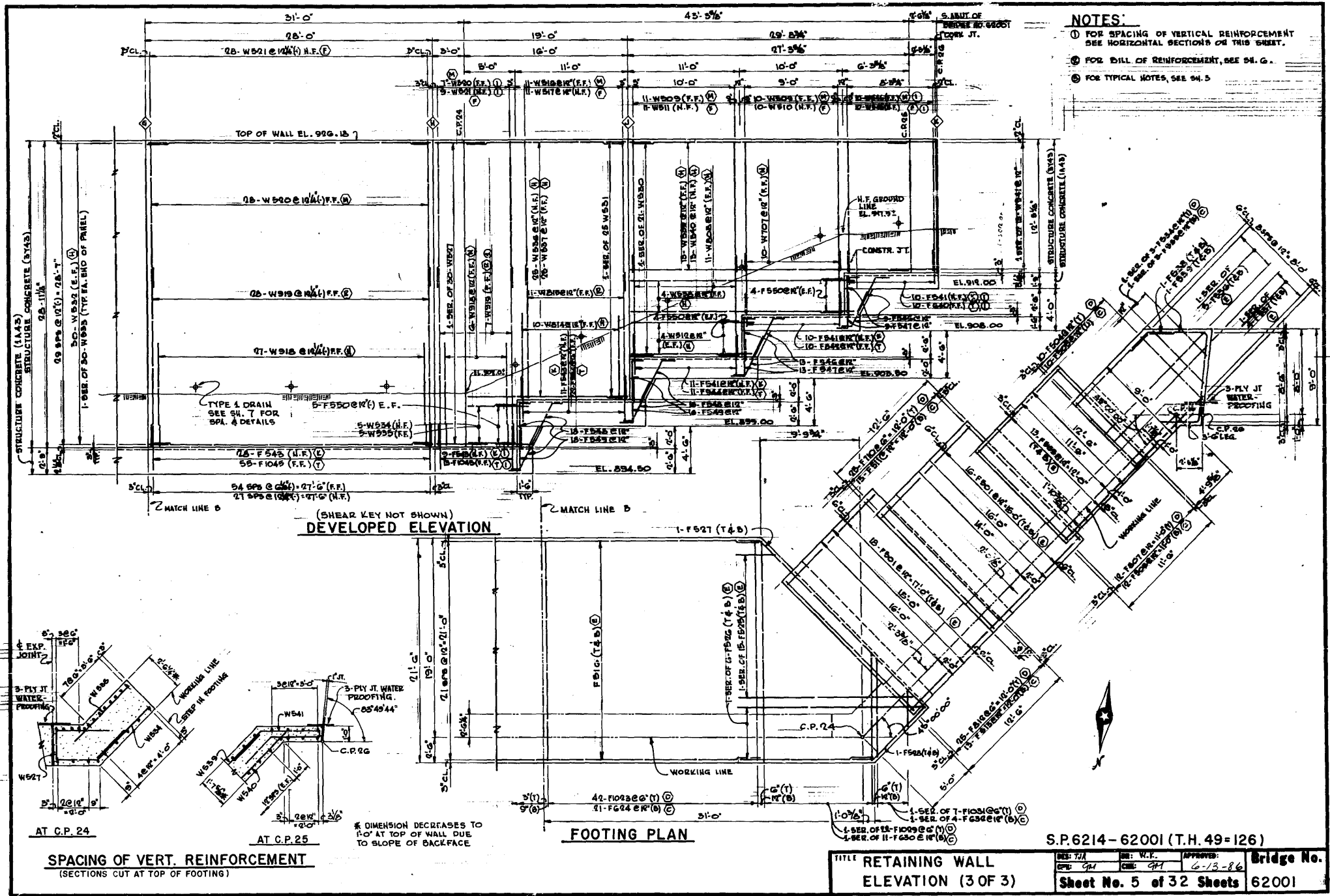
SECTION AT FASCIA



N.E. CORNER DETAIL
(OTHERS SIMILAR)

S.P.6214 - 62001 (T.H. 49 = 126)

TITLE	DES: JmR	DR: W.L.	APPROVED:	Bridge No.
BRIDGE LAYOUT	CHK: C.S.-K	CHK: C.S.-K	6-13-86	62001
	Sheet No. 2 of 32 Sheets			



- NOTES:**
- ① FOR SPACING OF VERTICAL REINFORCEMENT SEE HORIZONTAL SECTIONS OF THIS SHEET.
 - ② FOR BILL OF REINFORCEMENT, SEE SH. G.
 - ③ FOR TYPICAL NOTES, SEE SH. 5.

DEVELOPED ELEVATION

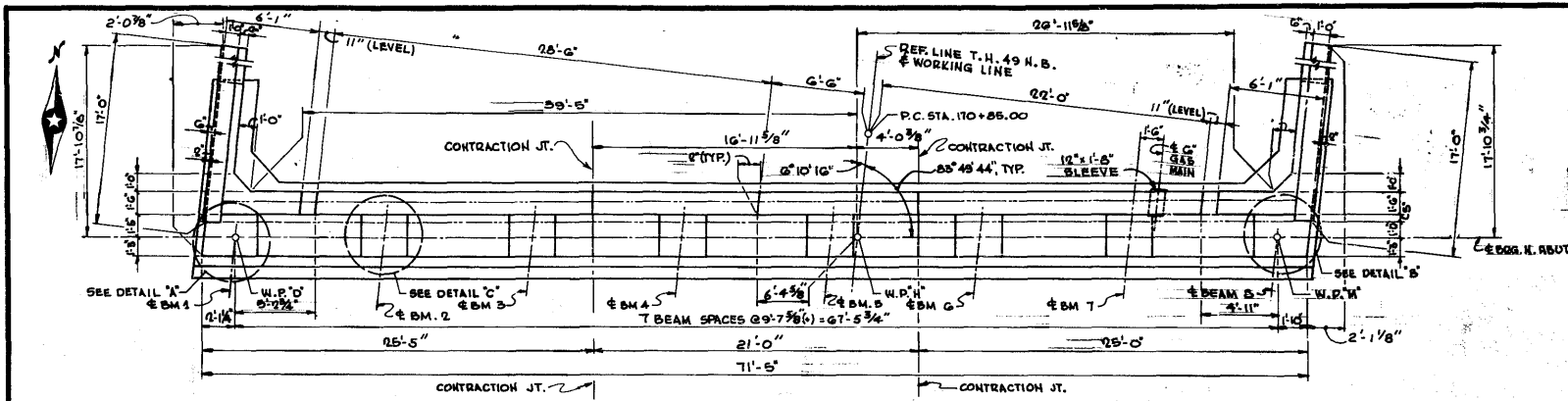
FOOTING PLAN

SPACING OF VERT. REINFORCEMENT
(SECTIONS CUT AT TOP OF FOOTING)

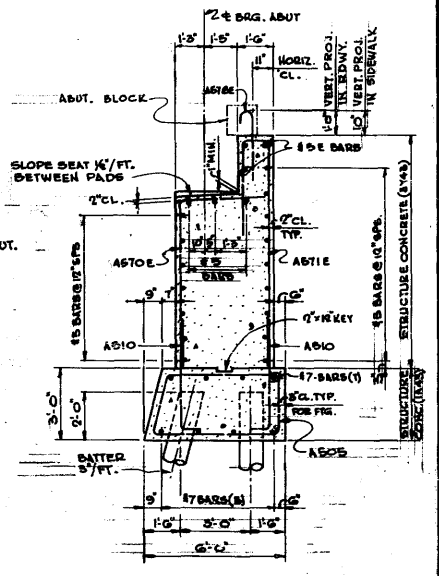
S.P.6214-62001 (T.H. 49-126)

TITLE RETAINING WALL
ELEVATION (3 OF 3)

DES: JJA	DR: W.F.	APPROVED:	Bridge No.
CHE: GHI	CHK: GHI	6-13-86	
Sheet No. 5 of 32 Sheets			62001



PLAN



SECTION E-E

NOTES:

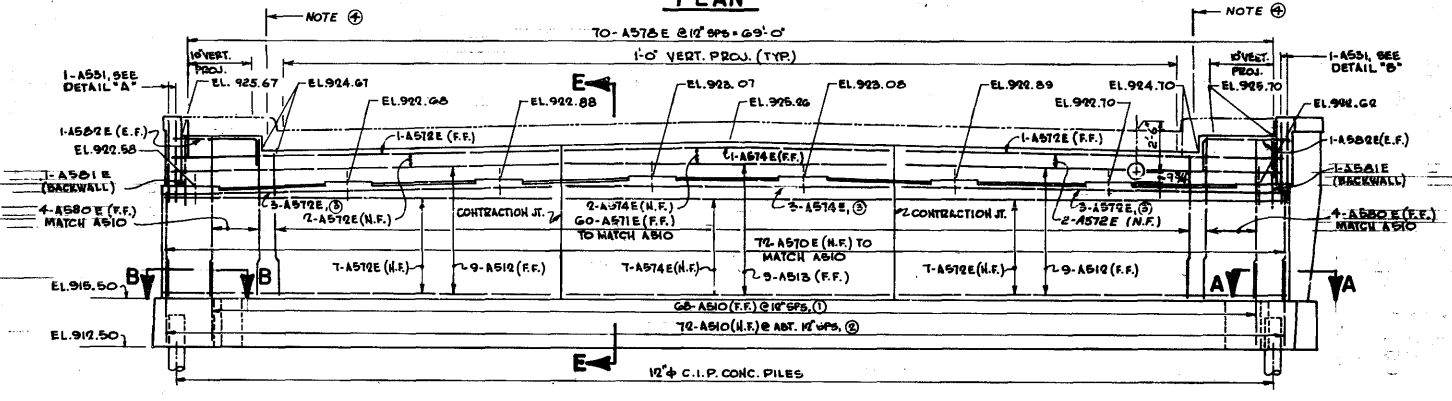
FOR WINGWALL ELEVATIONS, DETAILS AND SECTIONS, SEE CH. 10. CONCRETE BASE FOR FENCE RAILING IS NOT SHOWN SEE SHEETS 10, 17 & 18 FOR FURTHER INFORMATION. FOR ABUTMENT BLOCK DETAIL AND REINFORCEMENT, SEE CH. 10. SLEEVE FOR GAS MAIN TO BE INCLUDED IN PRICE BIDD FOR GAS MAIN HANGER.

REINFORCEMENT NOTES:

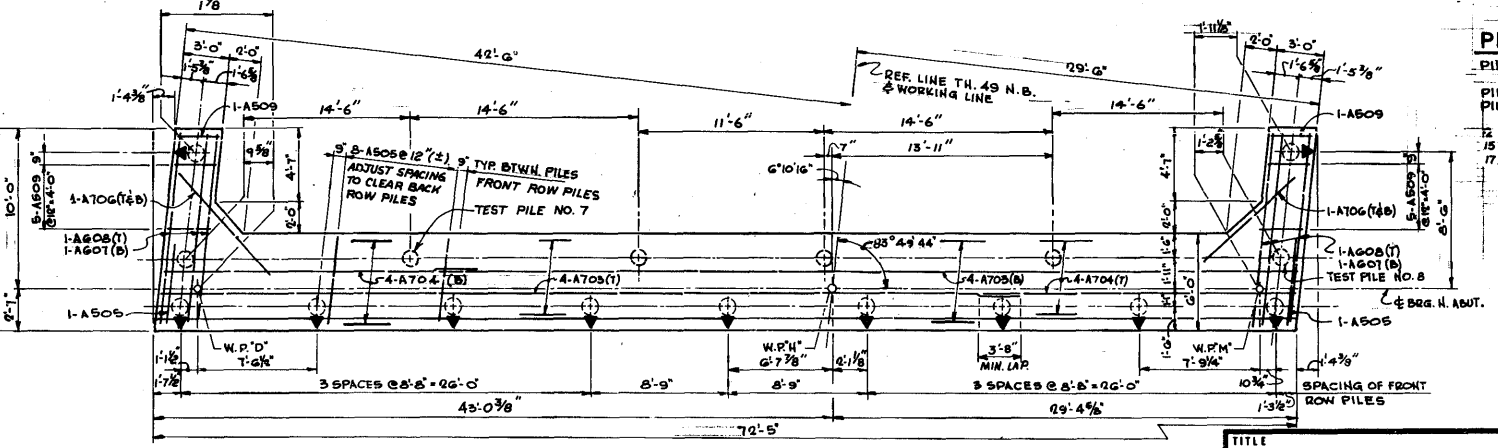
- ① PLACE ONE BAR 4" FROM E CONTRACTION JOINT (EA. SIDE) ADJUST SPACING TO CLEAR FRONT ROW PILES.
- ② PLACE BARS AS SHOWN IN SEC. E-E.
- ③ FOR WINGWALL AND SLIDE SEAT REINFORCEMENT, SEE CH. 10. FOR BILL OF REINFORCEMENT, SEE CH. 12.
- ④ PROJECT BARS TO SAME ELEVATION AS OTHER A575E BARS WITHIN SIDEWALK LIMITS. ADJUST SPACING OF A571E AND A575E BARS, AND CUT A575E BARS AS NECESSARY TO AVOID INTERFERENCE WITH SLEEVE FOR GAS MAIN.

PILE NOTES:

- PILES TO HAVE A NOMINAL DIAMETER OF 12".
- PILE SPACING SHOWN IS AT BOTTOM OF FOOTING. PILES DENOTED THUS (P) SHALL BE BATTERED 3" PER 12" IN THE DIRECTION SHOWN.
- 12 C.I.P. CONC. TEST PILES 15 FT. LONG.
- 15 C.I.P. CONC. PILES EST. LENGTH 65 FT.
- 7 C.I.P. CONC. PILES REQUIRED FOR NORTH ABUTMENT.



ELEVATION



FOOTING PLAN

COMPUTED PILE LOADS TONS PER PILE	
DEAD LOAD + EARTH	31.0
LIVE LOAD	7.4
DESIGN LOAD Σ	38.4

* $\frac{38.4}{1.0} = 38.4$ AASHTO GROUP I LOADING

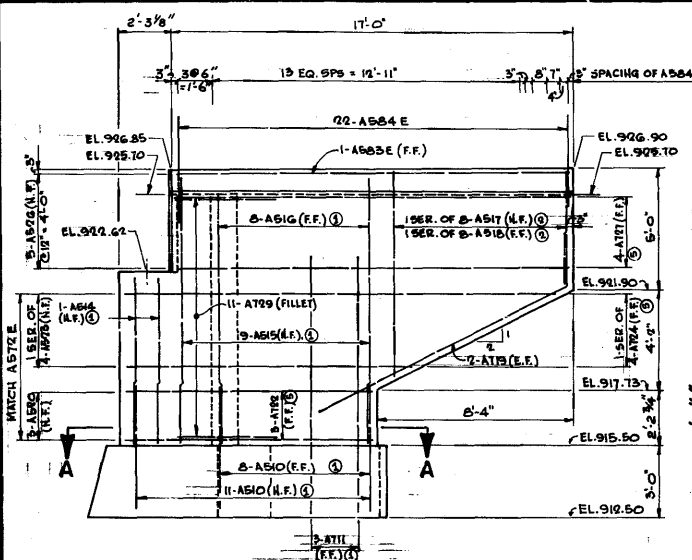
S.P. 6214-62001 (T.H. 49=126)

TITLE
NORTH ABUTMENT

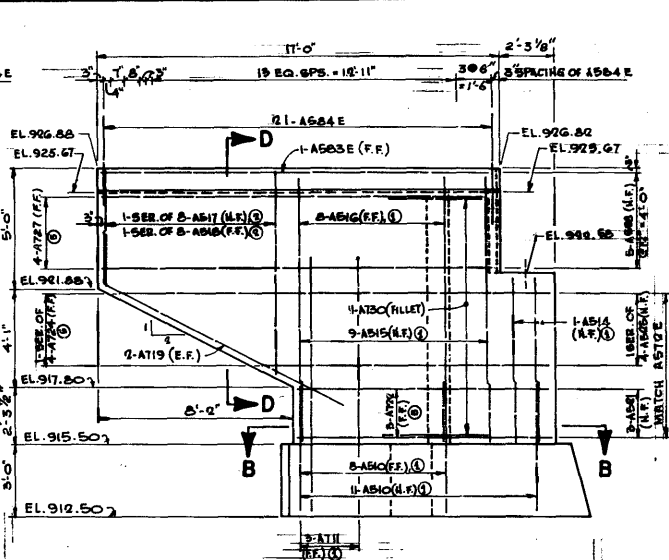
DES: GH
CHK: CS-K
APP: W.K.
CHK: CS-K
DATE: 6-13-86

Bridge No.
62001

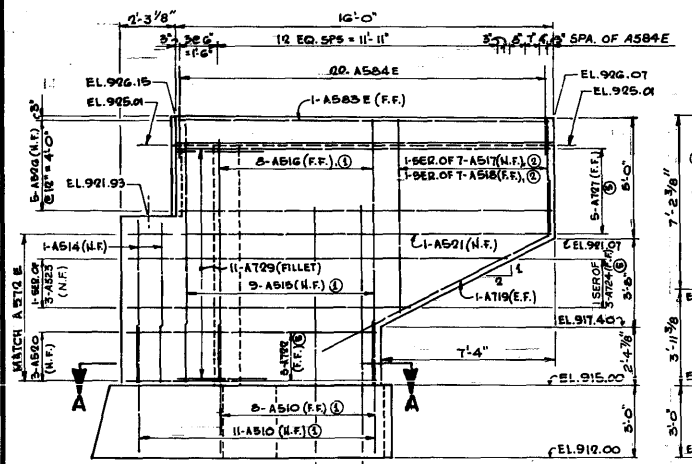
Sheet No. 9 of 32 Sheets



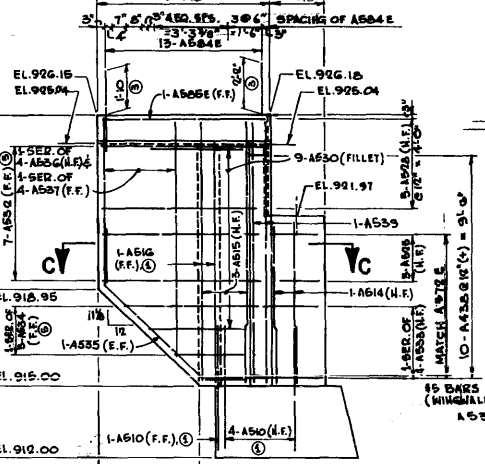
NORTHEAST WINGWALL



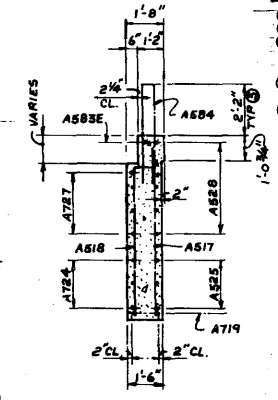
NORTHWEST WINGWALL



SOUTHWEST WINGWALL

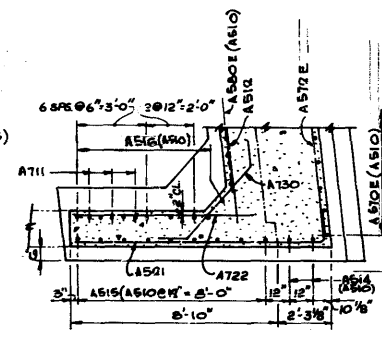


SOUTHEAST WINGWALL

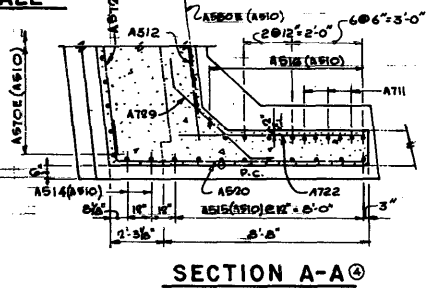


**SECTION D-D
(PER ANALOGY FOR OTHER WINGWALLS)**

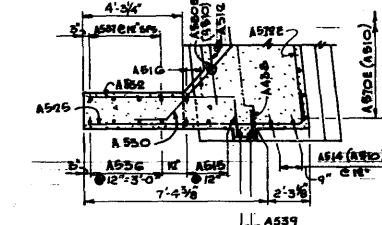
NOTES:
 ① SPACE BARS AS SHOWN IN HORIZONTAL SECTIONS. SPACE BARS @ 12" SPACES.
 ② VERTICAL PROJECTION FOR A584 E; EXCEPT FOR SOUTHEAST WINGWALL, WHERE PROJECTION VARIES AS SHOWN IN WINGWALL ELEVATION.
 ③ BAR MARKS IN PARENTHESES INDICATE DOWEL BARS WHICH THE WALL BAR IS SPICED TO.
 ④ FAR FACE BARS IN WINGWALL TO MATCH NEAR FACE BAR SPACING.



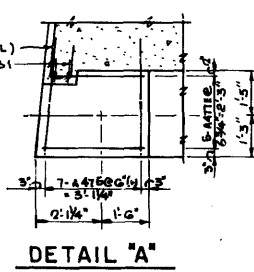
SECTION B-B



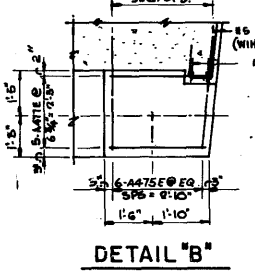
SECTION A-A



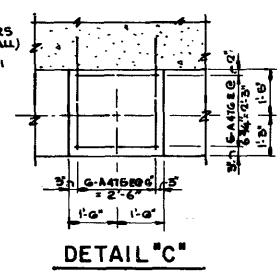
SECTION C-C



DETAIL "A"



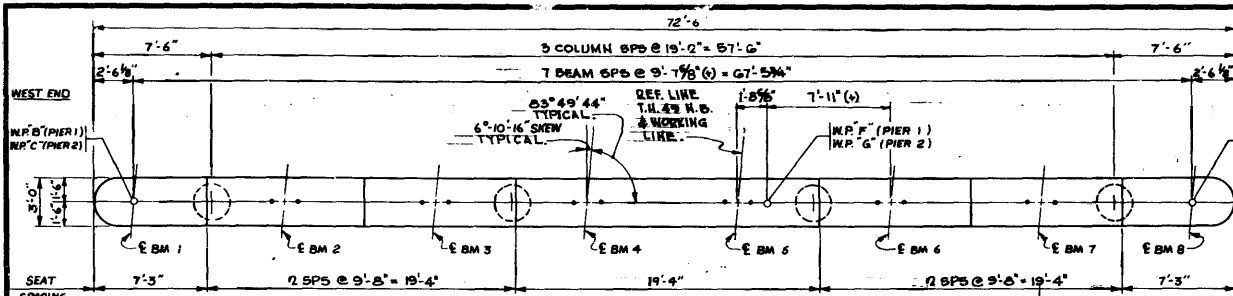
DETAIL "B"



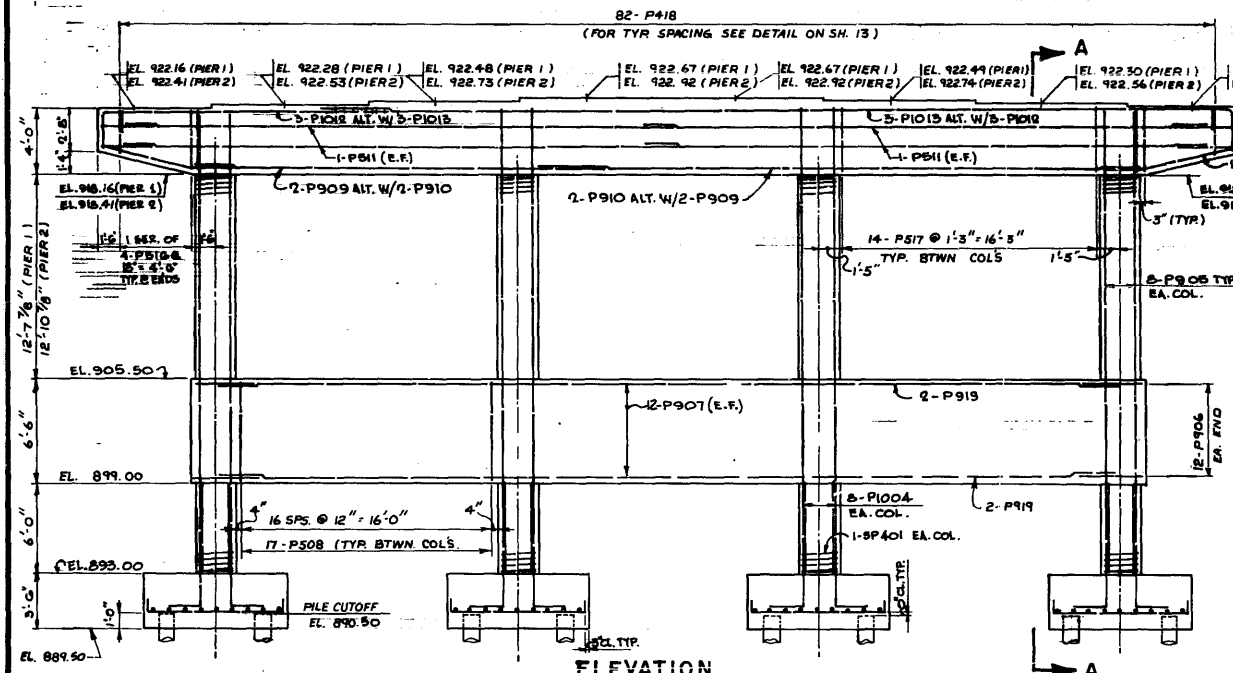
DETAIL "C"

TITLE		DES: CH	DR: W.E.	APPROVED:	Bridge No.
ABUTMENT WINGWALLS AND DETAILS		CHK: CS-K	CHK: CS-K	6-18-66	62001
Sheet No. 10 of 32 Sheets					

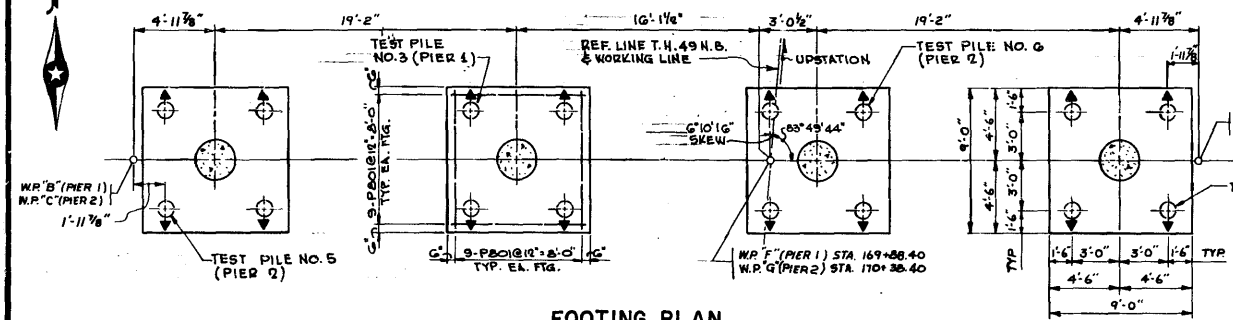
S.P. 6214-62001 (T.H. 49=126)



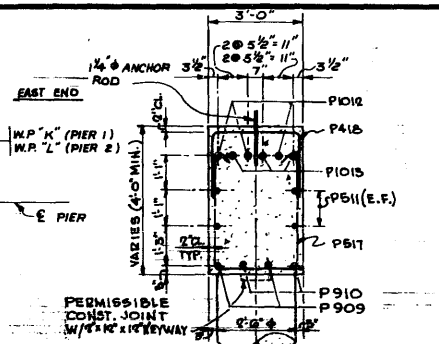
PLAN



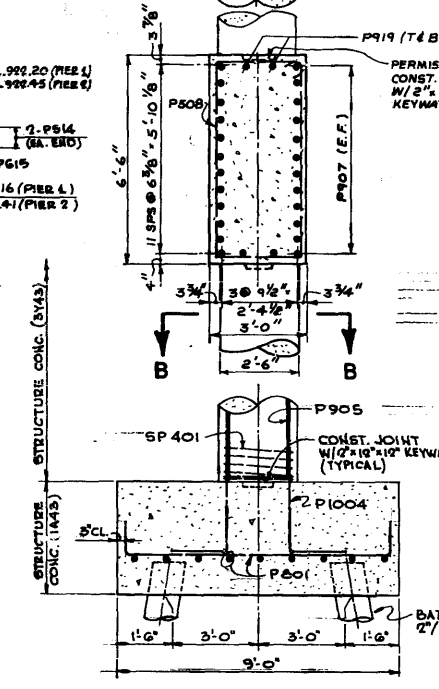
ELEVATION



FOOTING PLAN



SECTION A-A



**COMPUTED PILE LOADS
TONS PER PILE**

	PIER 1 & PIER 2
DEAD LOAD	37.7
LIVE LOAD	5.8
OVERTURNING	14.5
DESIGN LOAD *	49.0

* 0.1.3 = 49.0 TONS PER PILE PER ABUTTO 5.02 GROUP IV LOADING

PILE NOTES:

2-12" C.I.P. TEST PILES 50 FT. LG. PER PIER.
 14-12" C.I.P. PILES 40 FT. LG. PER PIER.
 32-12" C.I.P. PILES 25'0" FOR TWO PIERS.
 PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
 PILES MARKED WITH ⊕ TO BE BATTERED 2"/FT. IN DIRECTION SHOWN.
 PILES TO HAVE A NOMINAL DIAMETER OF 12".
 ALL PILES ARE C.I.P. CONCRETE WITH STEEL SHELLS CONFORMING TO SPEC. 3371.

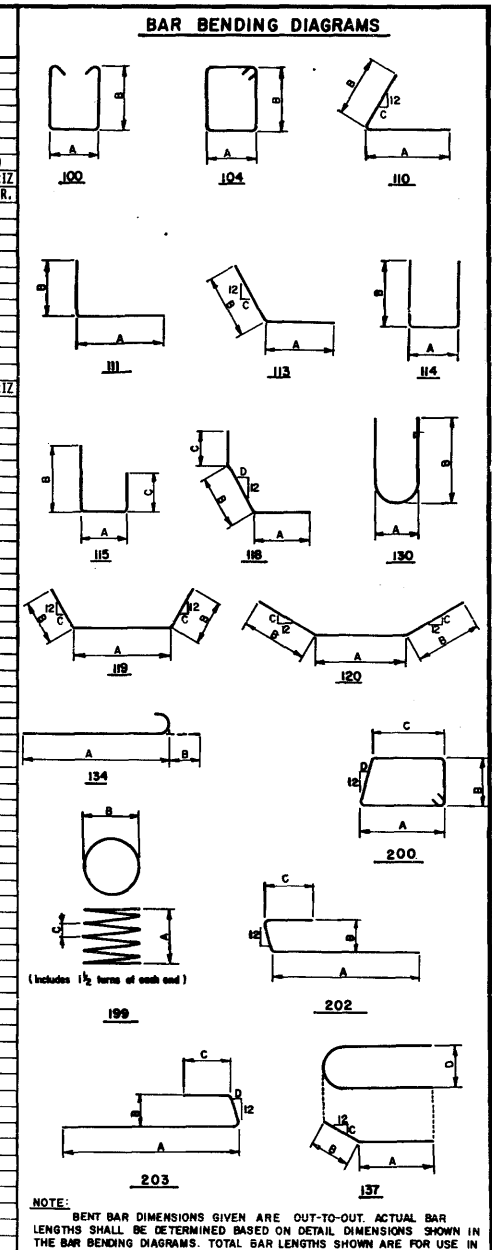
S.P. 6214 - 62001 (T.H. 49 = 126)

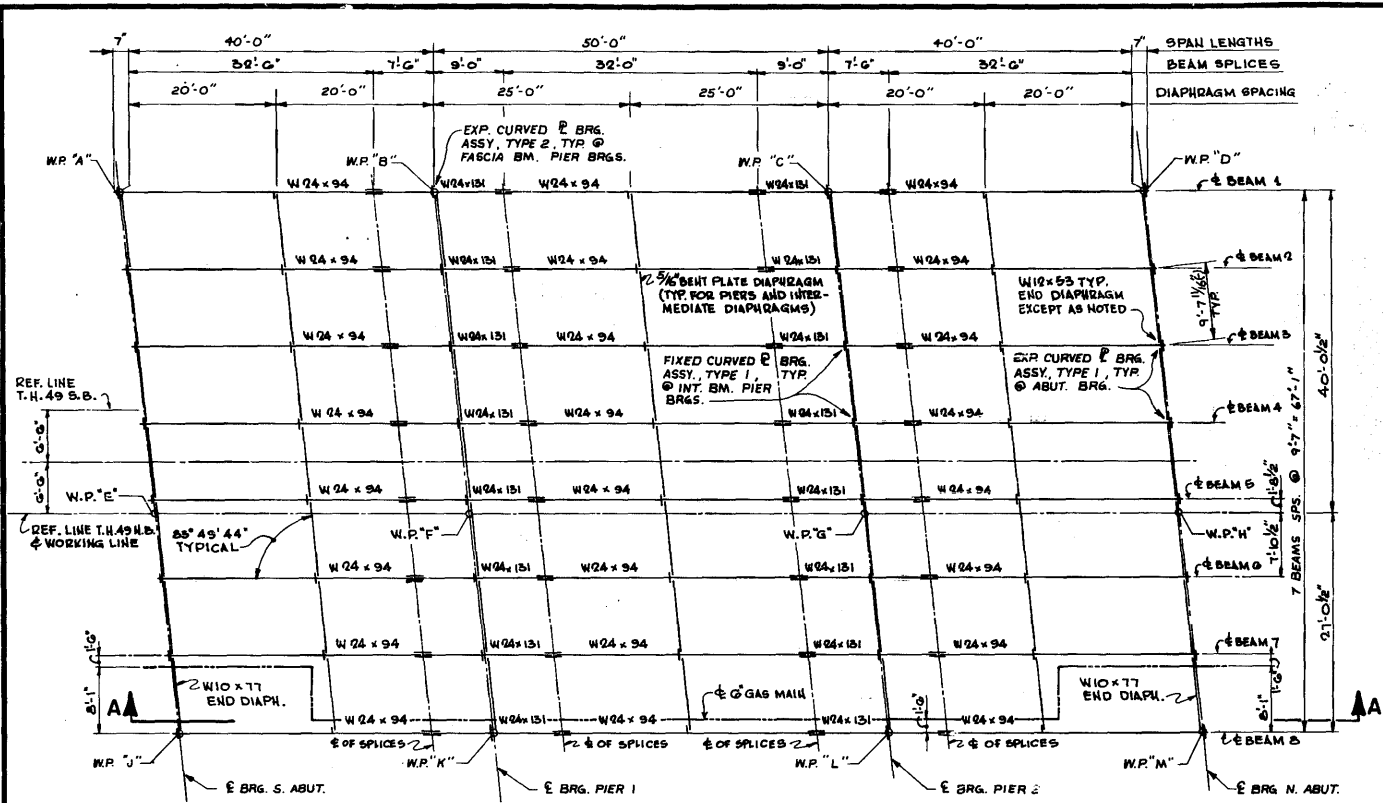
TITLE	BR: YJR	DR: G-R/W.L.	APPROVED:	Bridge No. 62001
PIERS	CHK: CS-K	CHK: CS-K	6-13-86	
Sheet No. 11 of 32 Sheets				

BAR NO.	LENGTH	TYPE	DIMENSIONS				LOCATION	
			A	B	C	D		
SOUTH ABUTMENT UNCOATED BARS								
A 703	8	55'-7"	STR				FTG. LONG.	
A 704	8	20'-0"	STR				FTG. LONG.	
A 505	68	15'-1"	200	5'-4"	2'-6"	4'-9"	3	FTG. TRANS.
A 706	2	8'-0"	STR					FTG. FILLET
A 607	3	12'-0"	STR					FTG. WINGWALL
A 608	3	11'-4"	STR					FTG. WINGWALL
A 509	6	10'-11"	104	2'-6"	2'-6"			FTG. WINGWALL
A 510	164	6'-2"	111	5'-2"	1'-0"			FTG. DOME
A 711	3	11'-6"	111	10'-4"	1'-2"			FTG. DOME
A 512	18	24'-0"	STR					ABUT. HORIZ.
A 513	9	20'-10"	STR					ABUT. HORIZ.
A 514	4	6'-9"	STR					WINGWALL VERT.
A 515	12	10'-9"	STR					WINGWALL VERT.
A 516	10	10'-10"	111	9'-10"	1'-0"			WINGWALL VERT.
A 517	1 SER	4'-9"	STR					SW WINGWALL VERT.
	OF 7	7'-11"						
A 518	1 SER	4'-6"	111	3'-6"	1'-0"			SW WINGWALL VERT.
	OF 7	7'-10"						
A 719	2	12'-8"	113	10'-6"	2'-2"		6	SW WINGWALL BOT.
A 520	3	12'-0"	113	10'-6"	1'-6"	1-1/4		SW WINGWALL HORIZ
A 521	1	19'-8"	113	17'-10"	1'-6"	1-1/4		SW WINGWALL HORIZ
A 722	3	8'-0"	STR					SW WINGWALL HORIZ
A 523	1 SER	13'-8"	113	11'-10"	1'-6"	1-1/4		SW WINGWALL HORIZ
	OF 3	17'-4"						
A 724	1 SER	9'-8"	STR					SW WINGWALL HORIZ
	OF 3	13'-8"						
A 525	3	10'-6"	110	9'-0"	1'-6"	1-1/4		SE WINGWALL HORIZ
A 526	5	17'-3"	202	15'-7"	0'-8"	1'-0"	1-1/4	SW WINGWALL HORIZ
A 727	5	15'-3"	STR					SW WINGWALL HORIZ
A 528	5	8'-5"	205	6'-9"	0'-8"	1'-0"	1-1/4	SE WINGWALL HORIZ
A 729	11	6'-7"	120	4'-3"	1'-2"	10-3/4		SW FILLET HORIZ.
A 530	9	6'-4"	119	4'-0"	1'-2"	10-3/4		SE FILLET HORIZ.
A 531	4	5'-0"	STR					WINGWALL VERT.
A 532	7	6'-4"	STR					SE WINGWALL HORIZ
A 533	1 SER	6'-6"	110	5'-0"	1'-6"	1-1/4		SE WINGWALL HORIZ
	OF 4	9'-3"						
A 534	1 SER	3'-0"	STR					SE WINGWALL HORIZ
	OF 3	4'-10"						
A 535	2	10'-0"	118	2'-2"	5'-8"	2'-2"	11-1/8	SE WINGWALL BOT.
A 536	1 SER	6'-10"	STR					SE WINGWALL VERT.
	OF 4	9'-7"						
A 537	1 SER	6'-10"		5'-10"	1'-0"			SE WINGWALL VERT.
	OF 4	9'-7"		8'-7"				
A 438	10	3'-4"	202	1'-6"	0'-8"	1'-2"	1-1/4	SE WINGWALL HORIZ
A 539	2	11'-0"	STR					SE WINGWALL VERT.
EPOXY COATED BARS								
A 570E	72	10'-4"	113	6'-6"	3'-10"	1/2		ABUT. VERT.
A 571E	60	13'-8"	115	1'-2"	8'-10"	3'-6"		ABUT. VERT.
A 572E	26	24'-8"	STR					ABUT. HORIZ.
A 574E	13	20'-10"	STR					ABUT. HORIZ.
A 475E	49	5'-1"	111	3'-10"	1'-3"			BRIDGE SEAT
A 476E	30	5'-2"	114	2'-8"	1'-3"			BRIDGE SEAT
A 477E	10	5'-5"	114	2'-11"	1'-3"			BRIDGE SEAT
A 477E	10	5'-5"	114	2'-11"	1'-3"			BRIDGE SEAT
A 578E	70	3'-6"	134	2'-11"	0'-7"			ABUT. BLOCK
A 580E	8	15'-8"	115	1'-2"	10'-0"	4'-6"		ABUT. VERT.
A 581E	2	10'-2"	114	1'-2"	4'-6"			ABUT. VERT.
A 582E	4	7'-0"	111	5'-6"	1'-6"			ABUT. HORIZ.
A 583E	2	16'-6"	STR					WINGWALL HORIZ.
A 584E	42	9'-0"	114	0'-7"	4'-2"			WINGWALL RAILING
A 590E	33	4'-8"	STR					ABUT. SIDEWALK
A 593E	1 SER	14'-9"	STR					ABUT. SIDEWALK
	OF 6	15'-3"						
A 594E	1 SER	15'-6"	STR					ABUT. SIDEWALK
	OF 6	16'-0"						

BAR NO.	LENGTH	TYPE	DIMENSIONS				LOCATION	
			A	B	C	D		
NORTH ABUTMENT UNCOATED BARS								
A 703	8	55'-7"	STR				FTG. LONG.	
A 704	8	20'-0"	STR					FTG. LONG.
A 505	66	16'-1"	200	5'-4"	2'-6"	4'-9"	3	FTG. TRANS.
A 706	4	8'-0"	STR					FTG. FILLET
A 607	6	12'-0"	STR					FTG. WINGWALL
A 608	6	11'-4"	STR					FTG. WINGWALL
A 509	12	10'-11"	104	2'-6"	2'-6"			FTG. WINGWALL
A 510	178	6'-2"	111	5'-2"	1'-0"			FTG. DOME
A 711	6	11'-6"	111	10'-4"	1'-2"			FTG. DOME
A 512	18	24'-0"	STR					ABUT. HORIZ.
A 513	9	20'-10"	STR					ABUT. HORIZ.
A 514	4	6'-9"	STR					WINGWALL VERT.
A 515	18	11'-0"	STR					WINGWALL VERT.
A 516	16	11'-0"	111	10'-0"	1'-0"			WINGWALL VERT.
A 517	2 SER	4'-9"	STR					WINGWALL VERT.
	OF 8	8'-5"						
A 518	2 SER	4'-6"	111	3'-6"	1'-0"			WINGWALL VERT.
	OF 8	8'-2"						
A 719	4	13'-8"	113	11'-6"	2'-2"		6	WINGWALL BOT.
A 520	3	12'-0"	113	10'-6"	1'-6"	1-1/4		NE WINGWALL HORIZ
A 521	3	12'-2"	110	10'-8"	1'-6"	1-1/4		NE WINGWALL HORIZ
A 722	6	8'-0"	STR					WINGWALL HORIZ.
A 523	1 SER	13'-6"	113	12'-0"	1'-6"	1-1/4		NE WINGWALL HORIZ
	OF 4	19'-6"						
A 724	2 SER	9'-6"	STR					WINGWALL HORIZ.
	OF 4	15'-6"						
A 525	1 SER	13'-8"	110	12'-2"	1'-6"	1-1/4		NE WINGWALL HORIZ
	OF 4	19'-8"						
A 526	5	18'-3"	202	16'-7"	0'-8"	1'-0"	1-1/4	NE WINGWALL HORIZ
A 727	8	16'-3"	STR					WINGWALL HORIZ.
A 528	5	18'-3"	205	16'-7"	0'-8"	1'-0"	1-1/4	NE WINGWALL HORIZ
A 729	11	6'-7"	120	4'-3"	1'-2"	10-3/4		NE FILLET HORIZ.
A 730	11	6'-4"	119	4'-0"	1'-2"	10-3/4		NE FILLET HORIZ.
A 531	4	5'-0"	STR					WINGWALL VERT.
EPOXY COATED BARS								
A 570E	72	10'-4"	113	6'-6"	3'-10"	1/2		ABUT. VERT.
A 571E	60	13'-8"	115	1'-2"	8'-10"	3'-6"		ABUT. VERT.
A 572E	26	24'-8"	STR					ABUT. HORIZ.
A 574E	13	20'-10"	STR					ABUT. HORIZ.
A 475E	49	5'-1"	111	3'-10"	1'-3"			BRIDGE SEAT
A 476E	30	5'-2"	114	2'-8"	1'-3"			BRIDGE SEAT
A 477E	10	5'-5"	114	2'-11"	1'-3"			BRIDGE SEAT
A 477E	10	5'-5"	114	2'-11"	1'-3"			BRIDGE SEAT
A 578E	70	3'-6"	134	2'-11"	0'-7"			ABUT. BLOCK
A 580E	8	15'-8"	115	1'-2"	10'-0"	4'-6"		ABUT. VERT.
A 581E	2	10'-2"	114	1'-2"	4'-6"			ABUT. VERT.
A 582E	4	7'-0"	111	5'-6"	1'-6"			ABUT. HORIZ.
A 583E	2	16'-6"	STR					WINGWALL HORIZ.
A 584E	42	9'-0"	114	0'-7"	4'-2"			WINGWALL RAILING
A 590E	33	4'-8"	STR					ABUT. SIDEWALK
A 593E	1 SER	14'-9"	STR					ABUT. SIDEWALK
	OF 6	15'-3"						
A 594E	1 SER	15'-6"	STR					ABUT. SIDEWALK
	OF 6	16'-0"						

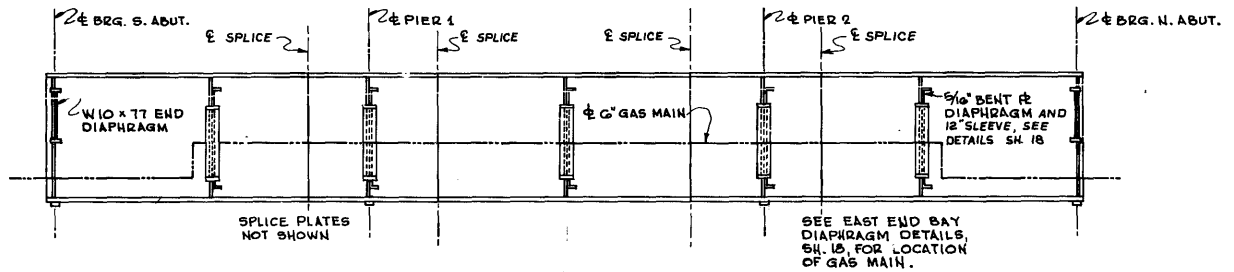
BAR NO.	LENGTH	TYPE	DIMENSIONS				LOCATION	
			A	B	C	D		
PIERS UNCOATED BARS								
P 801	144	11'-2"	114	8'-6"	1'-4"		FTG.	
P100A	64	8'-8"	111	1'-10"	6'-10"			FTG. DOME
P 905	64	28'-8"	STR					COLUMN VERT.
P 906	48	12'-9"	130	2'-6"	5'-8"			CRASH STRUT END
P 907	48	57'-6"	STR					CRASH STRUT HORIZ
P 508	102	18'-7"	104	2'-8"	6'-2"			CRASH STRUT STR.
P 909	8	26'-4"	STR					CAP BOTTOM
P 910	8	38'-8"	STR					CAP BOTTOM
P 511	16	35'-8"	STR					CAP HORIZ.
P1012	12	20'-0"	111	2'-4"	17'-8"			CAP TOP
P1013	12	60'-0"	111	2'-4"	57'-8"			CAP TOP
P 514	8	7'-2"	130	2'-6"	3'-1"			CAP HORIZ.
P 615	4	17'-8"	137	2'-1"	6'-0"	2-5/8	2'-6"	END CAP BOTTOM
P 516	4 SER	8'-11"	100	2'-8"	2'-8"			CAP STIRRUP
	OF 4	11'-1"						
P 517	84	11'-1"	100	2'-8"	3'-9"			CAP STIRRUP
P 418	164	5'-10"	114	2'-8"	1'-7"			CAP TIES
P 919	8	60'-0"	STR					CRASH STRUT HORIZ
SPND1	8	199	25'-4"	2'-2"		3'		COLUMN SPIRAL





NOTES
 SEE SHEET 15, 18, 23 & 24 FOR
 BEAM ELEVATION AND STRUCTURAL
 STEEL DETAILS.

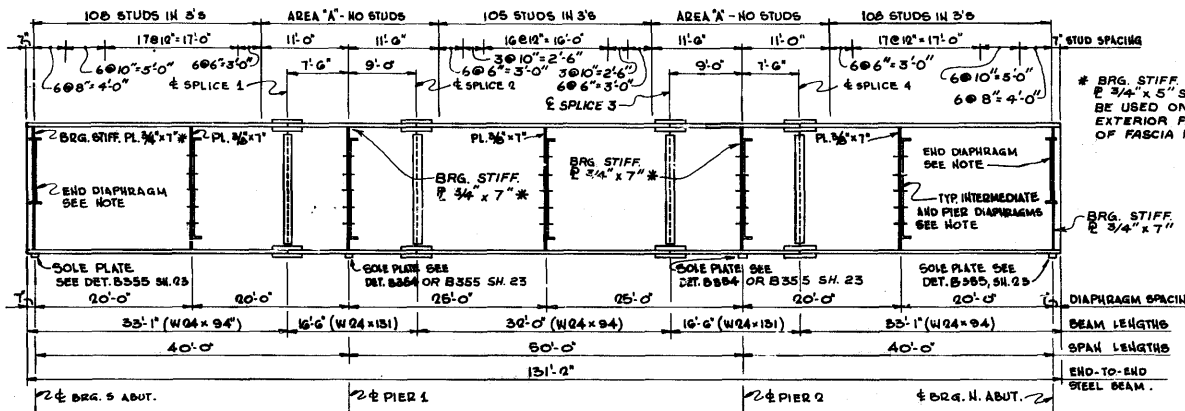
FRAMING PLAN



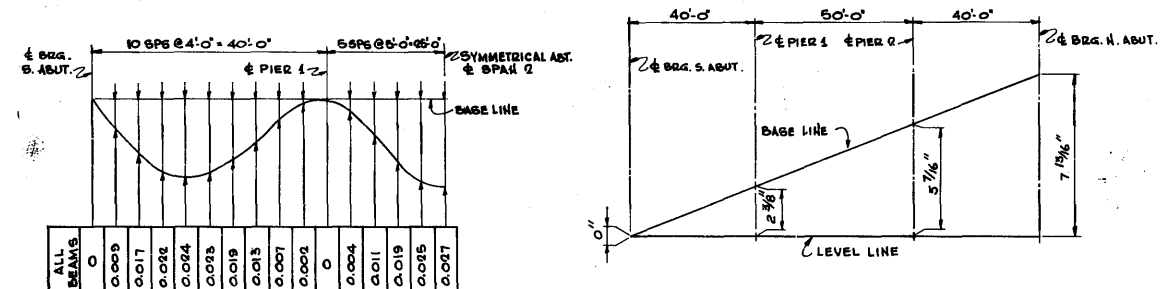
SECTION A-A
 GAS MAIN ELEVATION

S.P. 6214- 62001 (T.H. 49- 126)

TITLE		DES: TJR	DR: W.L.C.	APPROVED:	Bridge No. 62001
FRAMING PLAN		CHK: CS-K	CHK: CS-K	6-13-86	
Sheet No. 14 of 32 Sheets					



TYPICAL BEAM ELEVATION

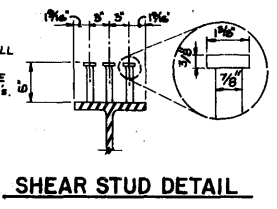


DEAD LOAD DEFLECTIONS (FEET)

BEAM NO.	TOP OF WEB ELEVATION			
	S. ABUT.	PIER 1	PIER 2	N. ABUT.
BEAM 1	924.30	924.50	924.76	924.96
BEAM 2	924.40	924.60	924.85	925.05
BEAM 3	924.60	924.80	925.05	925.25
BEAM 4	924.79	924.99	925.24	925.44
BEAM 5	924.80	925.00	925.25	925.45
BEAM 6	924.61	924.81	925.06	925.26
BEAM 7	924.43	924.63	924.88	925.08
BEAM 8	924.34	924.54	924.79	924.99

BEAM NO.	FIELD SPLICE ELEVATIONS			
	SPLICE 1	SPLICE 2	SPLICE 3	SPLICE 4
BEAM 1	924.39	924.67	924.84	924.92
BEAM 2	924.69	924.77	924.93	925.01
BEAM 3	924.88	924.97	925.13	925.21
BEAM 4	925.08	925.16	925.32	925.41
BEAM 5	925.09	925.17	925.33	925.41
BEAM 6	924.90	924.98	925.14	925.23
BEAM 7	924.71	924.80	924.96	925.04
BEAM 8	924.63	924.71	924.87	924.95

ELEVATIONS SHOWN AT FIELD SPLICES ARE THEORETICAL ELEVATIONS ON THE TOP PLATE AT 1/2 OF THE SPLICE AND ARE FURNISHED AS A GUIDE FOR ERECTION.



SHEAR STUD DETAIL

CAMBER AND DEFLECTION NOTES:
 DEAD LOAD DEFLECTIONS SHOWN ARE FOR WEIGHT OF SLAB, WEARING COURSE, SIDEWALK AND RAILINGS. BASE LINE IS A STRAIGHT LINE FROM 1/4 BRG. TO 1/4 BRG. AT TOP OF WEB (= BOTTOM OF TOP FLANGE). DEAD LOAD DEFLECTIONS DUE TO THE WEIGHT OF STEEL ARE ROUGHLY 10 1/2 % OF THE TABULATED DEAD LOAD DEFLECTIONS. NO BEAM CAMBER IS REQUIRED, BUT BEAMS SHALL BE PLACED SO THAT ANY EXISTING NATURAL CAMBER IS UPWARD.

STRUCTURAL STEEL NOTES:
 ALL STRUCTURAL STEEL SHALL CONFORM TO SPEC. 3309 UNLESS OTHERWISE NOTED. SPECIAL REAMING PER SPEC. 2471.3E11 WILL BE REQUIRED FOR THE BEAM SPLICES THE SECTION TO BE ASSEMBLED FOR REAMING SHALL BE FROM ABUT. TO ABUT. BEARING STIFFENERS SHALL BE PERPENDICULAR TO FLANGES. ENDS OF BEAMS SHALL BE VERTICAL. ROWS OF SHEAR CONNECTORS SHALL BE ALIGNED PARALLEL TO THE TRANSVERSE SLAB REINFORCEMENT BARS. SHEAR CONNECTORS TO BE INCLUDED IN WEIGHT OF STRUCTURAL STEEL (3309). ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH 7/8" HIGH STRENGTH BOLTS CONFORMING TO ASTM A325 (TYPE 3) UNLESS OTHERWISE NOTED. STEEL CONFORMING TO SPEC. 3309 SHALL BE PAINTED UNLESS OTHERWISE NOTED FOR SPECIFIC ITEMS.

SPLICES SHOWN ON THE FRAMING PLAN AND BEAM ELEVATION MAY BE SHOP BOLTED OR FIELD BOLTED AT THE CONTRACTOR'S OPTION. ALL WELD METAL MUST BE EQUIVALENT TO THE BASE METAL IN STRENGTH, CORROSION RESISTANCE AND WEATHERED APPEARANCE. AREA 'A' SHOWN IS THE PORTION OF THE TOP BEAM FLANGE WHICH IS THE TENSION DUE TO DEAD LOAD. SOLE PLATES ARE INCLUDED FOR PAYMENT WITH STRUCTURAL STEEL (3309) AND SHALL BE WELDED TO BEAMS AS SHOWN ON DETAILS B354 AND B355 ON SHEET 23. STRUCTURAL STEEL (3309) SHALL BE PAINTED IN ACCORDANCE WITH MDDOT SPEC. 2477. THE COLOR OF THE VINYL FINISH COATING FOR STEEL SUPERSTRUCTURE SHALL BE BROWN, (3529-3). ALL OTHER STRUCTURAL STEEL SHALL BE GALVANIZED PER MDDOT SPEC. 3594 AFTER FABRICATION UNLESS OTHERWISE NOTED.

DIAPHRAGM NOTES:
 FOR 9/16" PLATE INTERMEDIATE AND PIER DIAPHRAGM DETAILS SEE SHEET 24, DETAIL B402, AND SHEET 14, DIAPHRAGM DETAILS. FOR W10x55 END DIAPHRAGM DETAILS SEE SHEET 24, DETAIL B402. FOR W10x71 END DIAPHRAGM DETAILS SEE SHEET 14, DIAPHRAGM DETAILS.

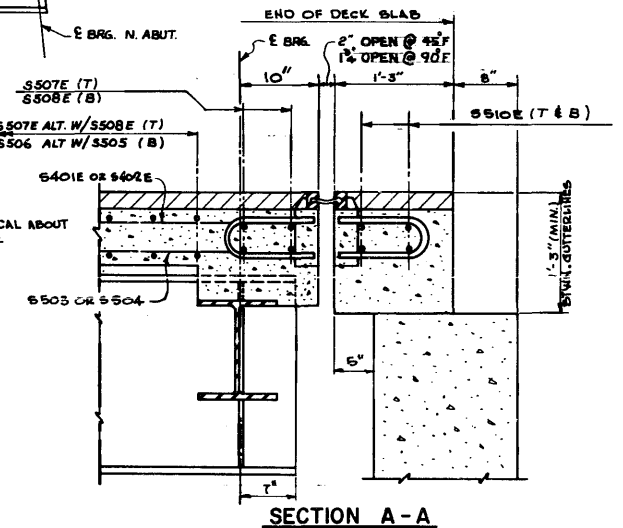
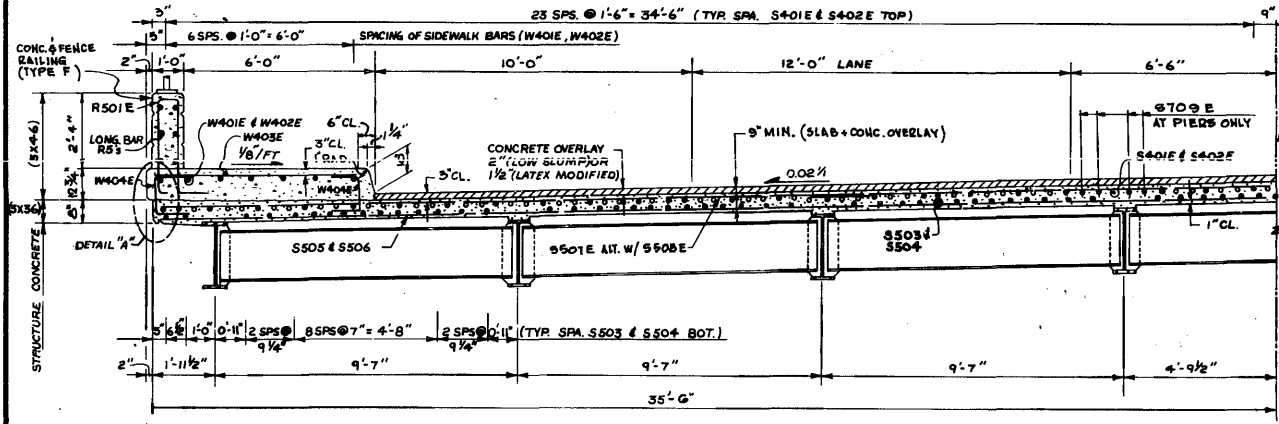
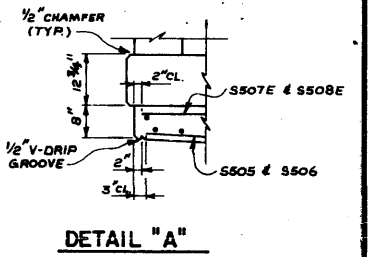
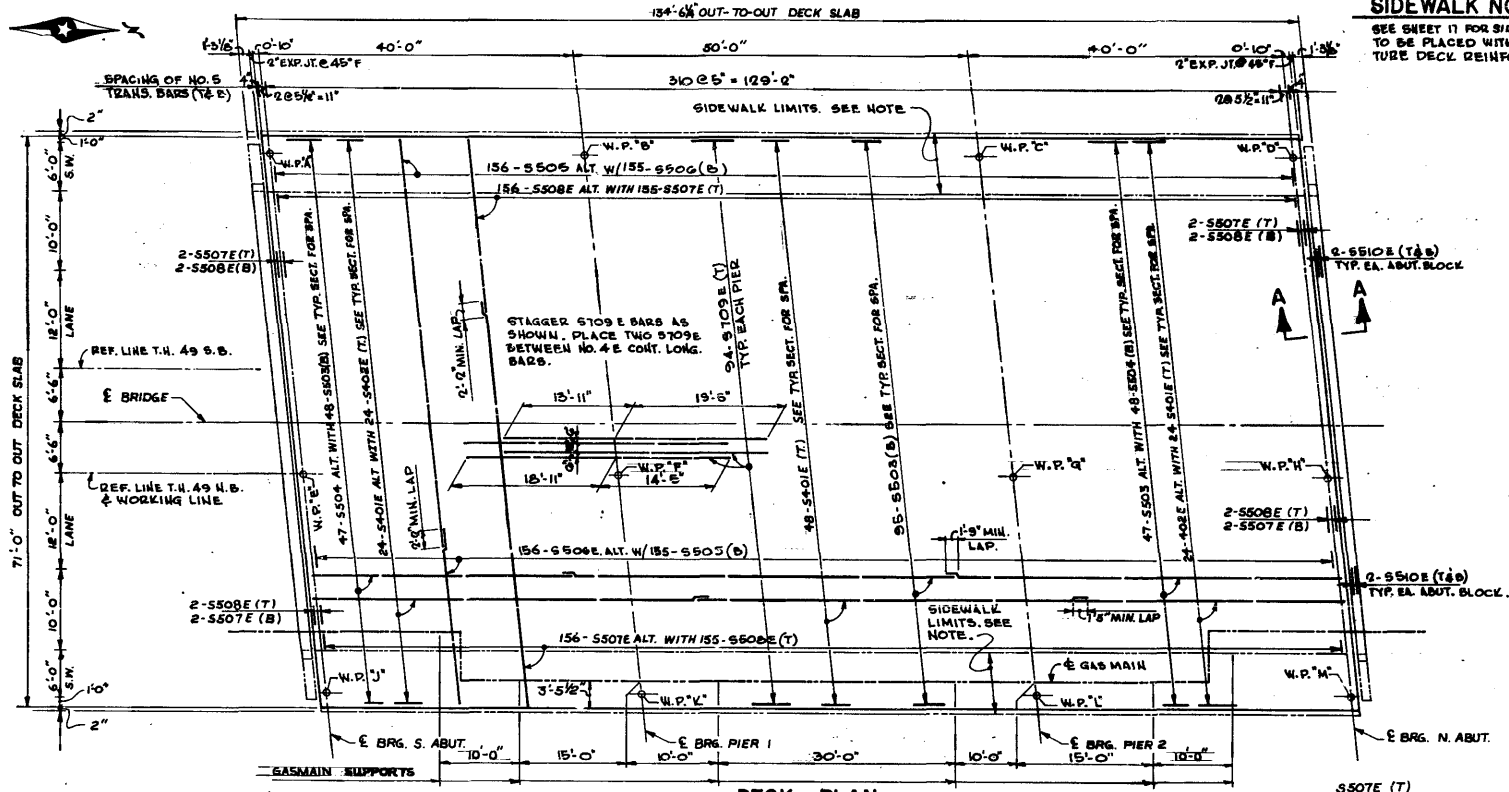
TITLE
BEAM ELEVATION AND DETAILS

S.P. 6214 - 62001 (T.H. 49-126)
 DES: TJA DR: W.V. APPROVED: [Signature]
 CHK: CS-K CHK: CS-K 6-15-16
Sheet No. 15 of 32 Sheets **Bridge No. 62001**



SIDEWALK NOTE:
SEE SHEET 17 FOR SIDEWALK BARS TO BE PLACED WITH SUPERSTRUCTURE DECK REINFORCING.

BILL OF REINFORCEMENT FOR DECK SLAB				
MARK	NO.	LENGTH	SHAPE	LOCATION
EPOXY COATED				
6431E	95	50'-0"	STR.	SLAB LONG. (T)
6402E	45	34'-0"	STR.	SLAB LONG. (T)
5501E	319	50'-0"	STR.	SLAB TRANS. (T)
5508E	319	43'-3"	STR.	SLAB TRANS. (T)
5709E	185	35'-4"	STR.	SLAB LONG. @ PIER (T)
5502E	16	30'-8"	STR.	ABUT. BLOCK
UNCOATED				
5503	190	50'-0"	STR.	SLAB LONG. (B)
5504	95	34'-0"	STR.	SLAB LONG. (B)
5505	311	50'-0"	STR.	SLAB TRANS. (B)
5506	311	45'-1"	STR.	SLAB TRANS. (B)



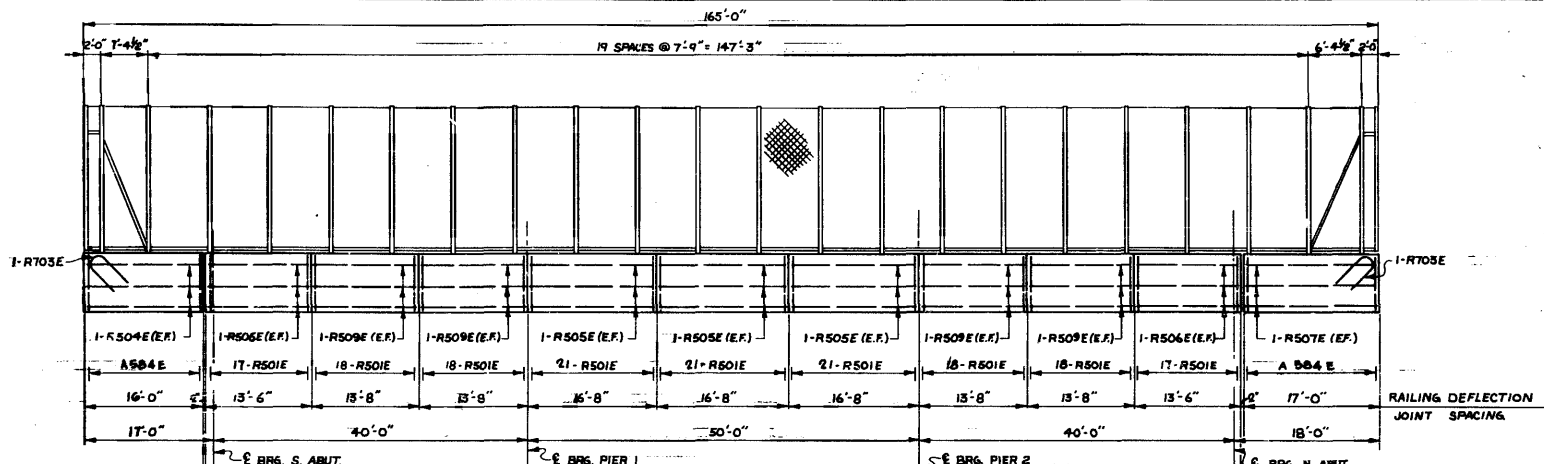
TYPICAL SECTION

S.P.6214 - 62001 (T.H. 49 = 126)

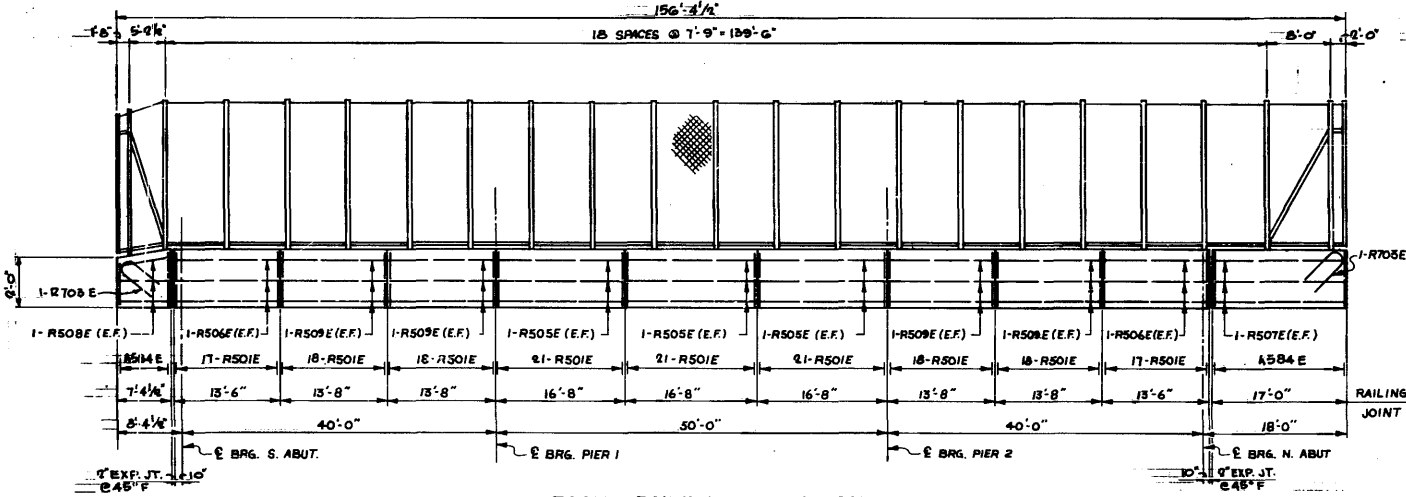
TITLE DECK PLAN AND TYPICAL SECTION

DES: JMR
CHK: CS-K
APP: G.M./H.V.
CHK: CS-K
6-13-16

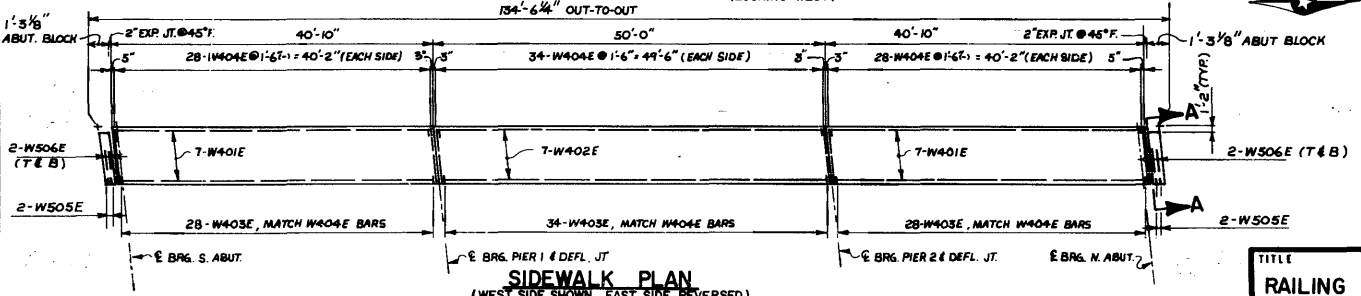
Bridge No. 62001
Sheet No. 16 of 32 Sheets



WEST RAILING ELEVATION
(LOOKING WEST)



EAST RAILING ELEVATION
(LOOKING WEST)

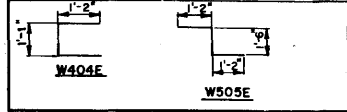


SIDEWALK PLAN
(WEST SIDE SHOWN, EAST SIDE REVERSED)

BILL OF REINFORCEMENT FOR SIDEWALK *

MARK	NO.	LENGTH	SHAPE	LOCATION
EPOXY COATED				
W401E	75	40'-4"	STR.	SIDEWALK LONG.
W402E	14	49'-8"	STR.	"
W403E	180	6'-8"	STR.	SIDEWALK TRANS.
W404E	360	5'-8"	"	"
W505E	8	5'-10"	L	ABUT. BLOCK
W506E	16	5'-4"	STR.	ABUT. BLOCK

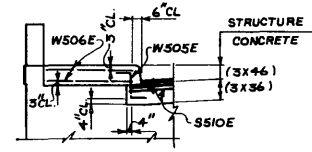
REINFORCEMENT BAR BENDING DIAGRAMS



* SEE SHEET 19 FOR BILL OF REINFORCEMENT FOR RAILING.

NOTES

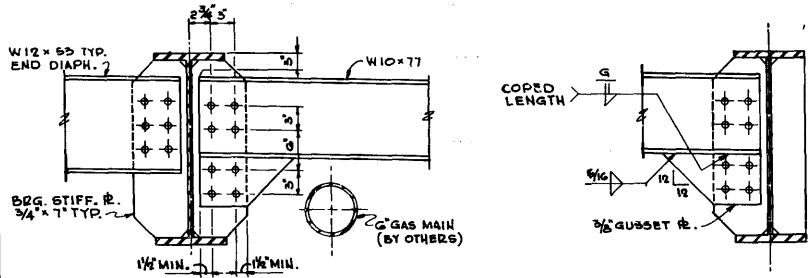
- SEE SHEET 19 FOR FENCE AND RAILING DETAILS.
- SEE TYPICAL SECTION ON SHEET 16 FOR SECTION THRU SIDEWALK.
- SEE ABUTMENT WINGWALLS, SHEET 10, FOR A584E BARS.
- FINISH TOP OF ALL SIDEWALK JOINTS WITH SMALL RADIUS EDGER AND VERTICAL EDGES WITH 1/2" V-STRIPS. BREAK BOND AT JOINT BY APPROVED METHOD. NO REINFORCMENT THROUGH JOINT.



SECTION A-A

S.P. 6214-62001(T.H. 49=126)

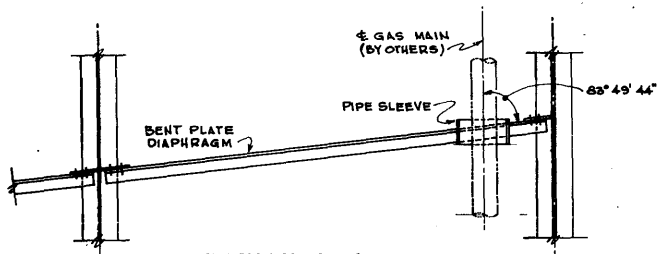
TITLE	DES: D.M.R.	CHK: D.M.R./M.V.	APPROVED:	Bridge No.
RAILING & SIDEWALK	CHK: C.S.-K	CHK: C.S.-K	6-15-86	62001
Sheet No. 17 of 32 Sheets				



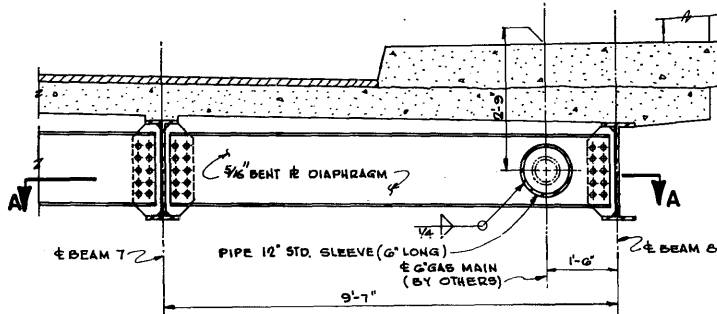
FIRST INTERMEDIATE BEAM

ABUTMENT DIAPHRAGM

FASCIA BEAM

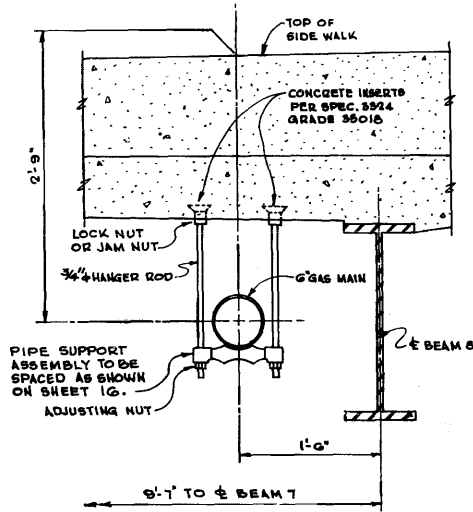


SECTION A-A



PIER & INTERMEDIATE DIAPHRAGM

EAST END BAY DIAPHRAGM DETAILS



GAS MAIN SUPPORT
(SEE SPECIAL PROVISIONS)

PREFORMED JOINT FILLER LIST *			
TYPE	NO.	SIZE	LOCATION
1" CORK	16	1" x 11" x 2'-3 1/2"	RAILING DEFLECTION JOINT
1" CORK	4	1" x 13" x 7'-2"	SIDEWALK DEFLECTION JOINT
1/2" BIT. FELT	4	1/2" x 10" x 7'-0"	WATERPROOF EXPANSION DEVICE
1/2" BIT. FELT	4	1/2" x 13" x 5'-1"	ABUTMENT SIDEWALK
1" POLYSTY.	1	1" x 13" x 14'-11"	ABUTMENT SIDEWALK
1" POLYSTY.	1	1" x 13" x 6'-0"	ABUTMENT SIDEWALK
1" POLYSTY.	1	1" x 13" x 15'-8"	ABUTMENT SIDEWALK
1" POLYSTY.	1	1" x 13" x 15'-11"	ABUTMENT SIDEWALK

* SEE SPECIAL PROVISIONS

SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE

ITEM	UNIT	QUANTITY
① BRIDGE SLAB CONCRETE (3x36)	SQ. FT.	9581
② SIDEWALK CONCRETE (3x46)	SQ. FT.	1928
③ TYPE "F" RAILING CONCRETE (3x46)	LIN. FT.	322
④ CONCRETE OVERLAY, TYPE SPECIAL	SQ. FT.	1668
REINFORCEMENT BARS, UNCOATED	POUND	37070
REINFORCEMENT BARS, EPOXY COATED	POUND	50470
EXPANSION CURVED PLATE BEARING ASSEMBLY, TYPE 1	EACH	16
FIXED CURVED PLATE BEARING ASSEMBLY, TYPE 1	EACH	12
STRUCTURAL STEEL (3309)	POUND	145510
EXPANSION JOINT DEVICE TYPE 3	LIN. FT.	159
GAS MAIN PROVISIONS	LB/PSUM	1
WIRE FENCE, DESIGN S-1	LIN. FT.	314
ZINC-RICH PAINT SYSTEM (NEW)	SQ. FT.	9080
EXPANSION CURVED PLATE BEARING ASSEMBLY, TYPE 2	EACH	4

QUANTITY NOTES:

- ① BRIDGE SLAB CONCRETE (3x36) VOLUME IS APPROXIMATELY 218 CU. YD. USING LOW SLUMP CONCRETE WEARING COURSE ALTERNATE (235 CU. YD. USING LATEX OPTION).
- ② SIDEWALK CONC. (3x46) VOLUME IS APPROX. 75 CU. YD. (70 CU. YD. USING LATEX OPTION).
- ③ TYPE "F" RAILING CONCRETE (3x46) VOLUME IS APPROXIMATELY 28 CU. YD.
- ④ CONCRETE OVERLAY VOLUME IS APPROXIMATELY 48 CU. YD. USING LOW SLUMP CONCRETE ALTERNATE (36 CU. YD. USING LATEX OPTION).
- ⑤ BRIDGE SLAB CONCRETE (3x36) VOLUME IS BASED ON AN AVERAGE STOOD HEIGHT OF 1 1/2".

TABULATION OF QUANTITIES
GAS MAIN HANGER SYSTEM

ITEM	QUANTITY
CONCRETE INSERTS	12
LOCK OR JAM NUT FOR 3/4" DIA. ROD	12
HANGER ROD 3/4" DIA.	12
ADJUSTING NUT FOR PIPE SUPPORT	12
PIPE SUPPORT ASSEMBLIES	5
② PIPE 12" STD. SLEEVE (1'-8" LONG)	2

- ① ITEMS SHOWN ARE TO BE INCLUDED IN PRICE BID FOR ITEM NO. 0506.001 "GAS MAIN PROVISIONS". LIST SHOWN IS FOR CONTRACTOR'S CONVENIENCE ONLY. SEE SPECIAL PROVISIONS.
- ② ABUTMENT PARAPET SLEEVE, SLEEVE SHALL BE STRUCTURAL STEEL SPEC 3306 AND SHALL BE GALVANIZED AFTER FABRICATION PER SPEC. 3394.

EAST BAY DIAPHRAGMS NOTES:

ALL PERTINENT DETAILS AND NOTES ON DETAIL 6402, SHEET 24, SHALL ALSO APPLY TO THESE MODIFIED DIAPHRAGMS.

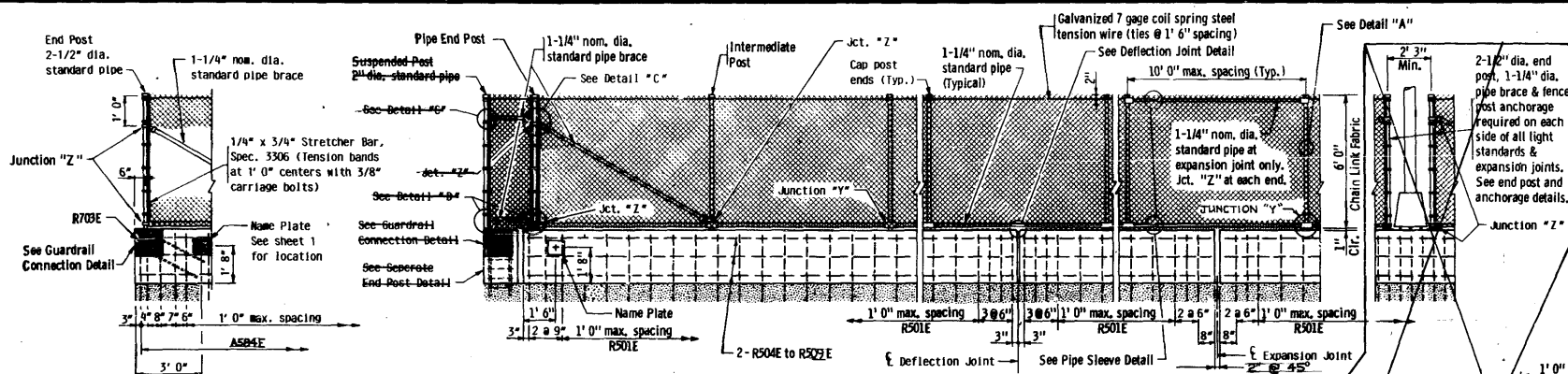
PIPE SLEEVES ARE INCLUDED FOR PAYMENT WITH STRUCTURAL STEEL (3309) AND ARE TO BE 12" STD PIPE (49.56 LB./FT.). FIVE 6' LONG PIPE SLEEVES ARE REQUIRED.

S.P.6214-62001(T.H. 49=126)

TITLE
SUPERSTRUCTURE DETAILS
AND QUANTITIES

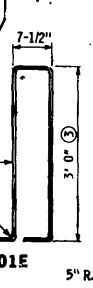
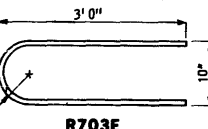
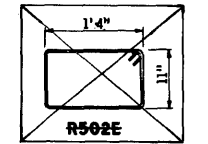
DES: C.S.-K
CON: TRK
DR: W.V.
CON: TRK
APPROVED:
6-13-86

Bridge No.
Sheet No. 18 of 32 Sheets
62001



BAR	NO.	LENGTH	SHAPE	LOCATION
R501E	238	8' 1"	Bent	Rail Base Vertical
R502E	4	5' 5"	Bent	End Post Ties
R703E	4	6' 6"	Bent	Integral End Post
R504E	6	15' 8"	Straight	Rail Base Longitudinal
R505E	36	16' 3"	"	"
R506E	72	13' 1"	"	"
R507E	12	16' 8"	"	"
R508E	6	7' 0"	"	"
R509E	48	13' 3"	"	"

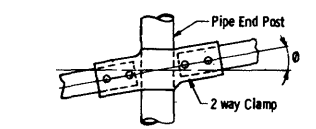
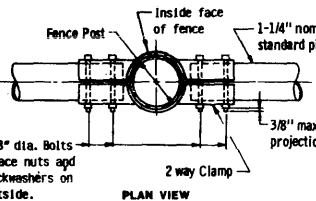
Concrete Base = 0.086 Cu. Yds./ft.
Concrete Base = 350 Lbs./ft.



GENERAL NOTES:

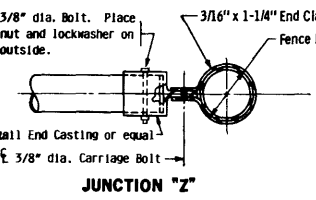
Fence post anchorages shall be Type A. See Standard Detail B905 "Fence Post Anchorage".
Bars marked with the suffix "E" shall be epoxy coated in accordance with Spec. 3301.
All posts shall have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top wire.
Wire ties may be 9 gage galvanized steel or 0.179" minimum aluminum alloy conforming to ASTM B211, Alloy 1100-H18. Use 12-1/2 gage galvanized hog rings for tension wire ties.
End posts and bracing shall be at 500 ft. maximum intervals.
Concrete in the rail base and the end posts shall be Mix No. 3X46
For spacing of fence post, joints and electrical grounds, see superstructure sheets.
All material in the concrete base and end posts is included in the superstructure quantities.
See special provisions for requirements not included on this sheet and for basis of payment.
ƒ of fence post anchorage shall be a minimum of 6" from joints.
Fence posts and fence post anchorages shall be set vertical, unless otherwise noted.
The guard rail connection is included in the price bid for other items.
Maximum spacing of deflection joints shall be 20' 0"
The length of railing concrete shall be measured for payment between the outside faces of the end posts or the ends of the concrete rail base.
Guardrail connection shall be Structural Steel, Spec. 3306 and galvanized after fabrication per Spec. 5394

INTEGRAL END POST INSIDE ELEVATION

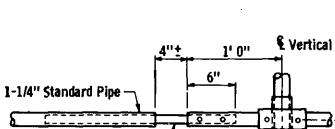
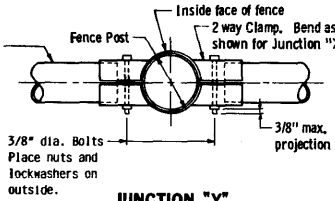


2-WAY CLAMP BENDING TABLE

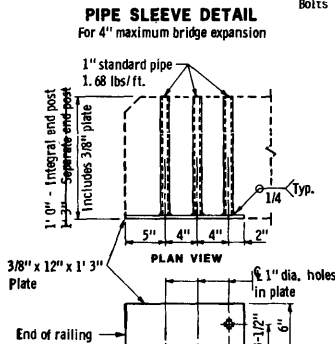
Grade of Fence	θ
00 to 20	00
20 to 40	40
40 to 60	60
60 to 100	80



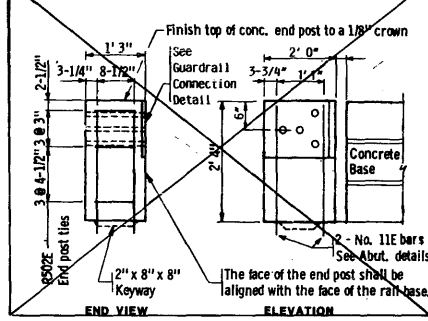
SEPARATE END POST



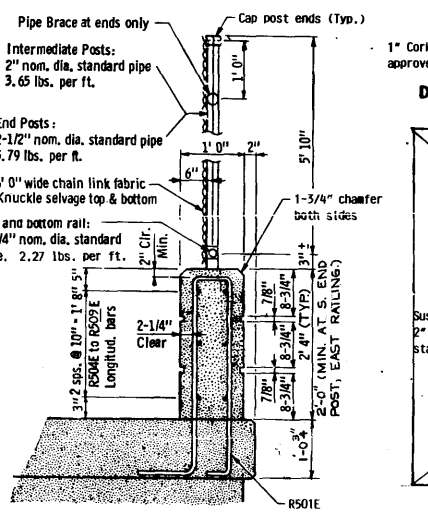
PIPE SLEEVE DETAIL
For 4" maximum bridge expansion



DEFLECTION JOINT



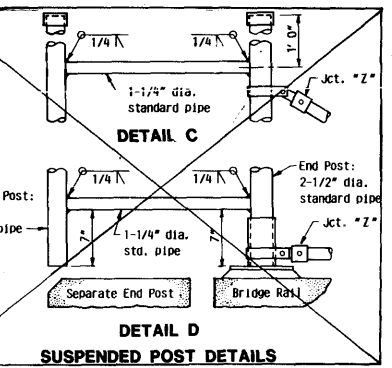
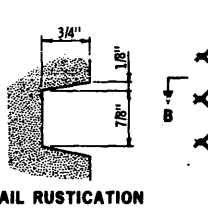
SEPARATE END POST DETAIL



TYPICAL SECTION THRU FENCE
(Intermediate Post Shown)

EXPANSION JOINT
(EXPANSION DEVICE NOT SHOWN)

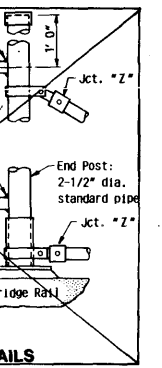
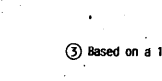
An expansion joint is required only if an expansion device is used. Provide pipe sleeve in span between the vertical posts at expansion joint. See Superstructure Sheets for location.



SUSPENDED POST DETAILS

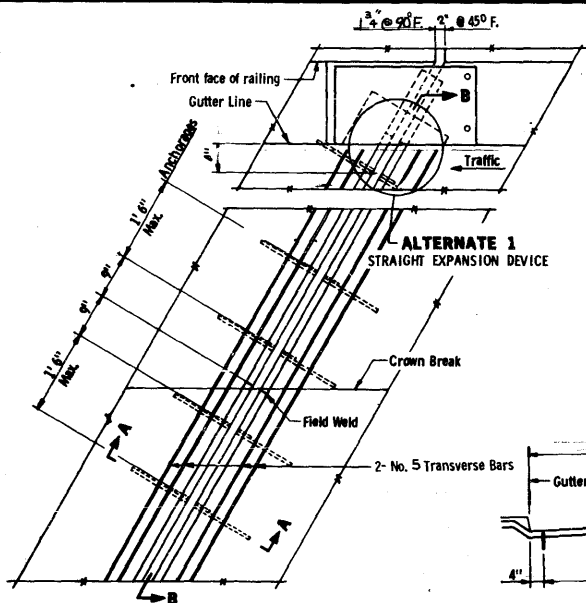
LIGHT STANDARD

See Standard Bridge Detail Sheets for light anchorage and conduit system details.

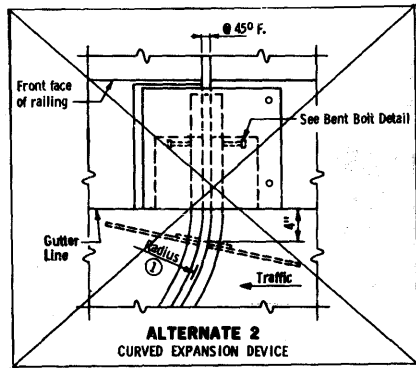


DETAIL D

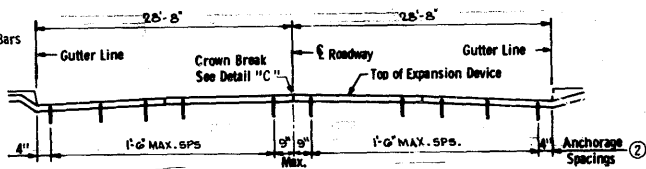
REVISED:	APPROVED: NOV. 26, 1985	FIG. 5-397.120
TITLE: CONCRETE & FENCE RAILING (TYPE F)	DES: M.R. DOT	BR: 6-13-86
	CNR:	APPROVED: 6-13-86
	Sheet No. 19 of 32 Sheets	Bridge No. 62001



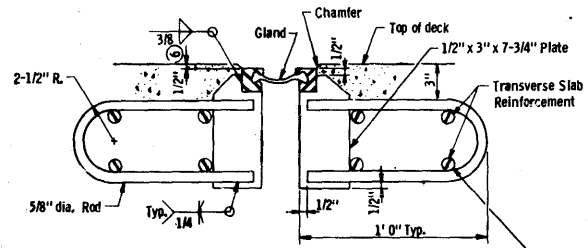
PLAN VIEW AT EXPANSION DEVICE



ALTERNATE 2 CURVED EXPANSION DEVICE

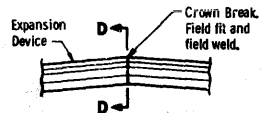


SECTION B-B

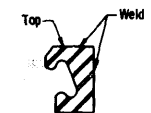


SECTION A-A ANCHORAGE

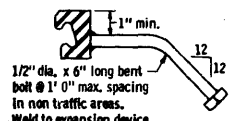
4 - No. 4 Bars full length of device in Approach Panel only (To be provided by the roadway contractor)



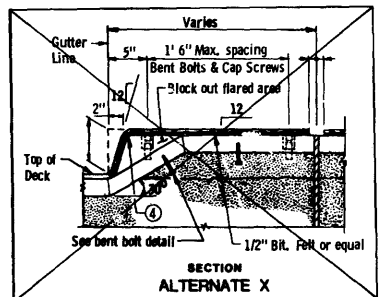
DETAIL C



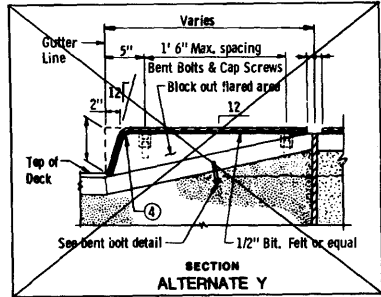
SECTION D-D



BENT BOLT DETAIL

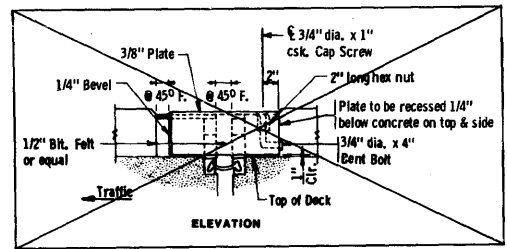


SECTION ALTERNATE X

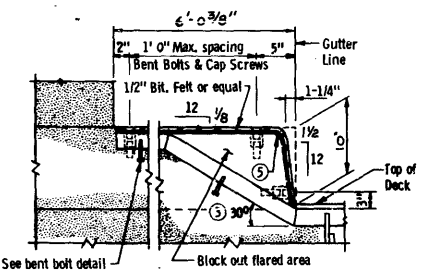


SECTION ALTERNATE Y

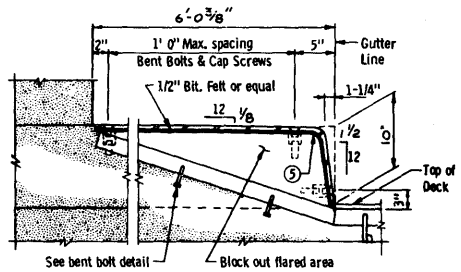
RAISED MEDIAN DETAILS



ELEVATION

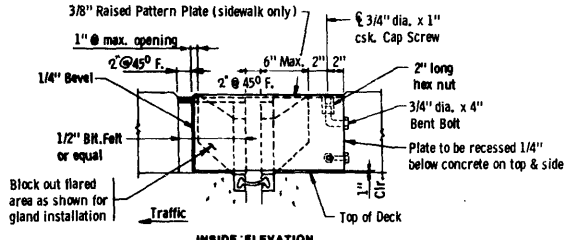


SECTION ALTERNATE X



SECTION ALTERNATE Y

SIDEWALK DETAILS



INSIDE ELEVATION

NOTES:
 Galvanize structural steel after fabrication as per Spec. 3394.
 Joints in roadway plate or extrusion shall be located at e. ends in transverse profile and as otherwise required. Joints shall be close fit and welded. Repair after welding as per Spec. 247L. 3L.
 Structural steel shall comply with Spec. 3306, Spec. 3307 & Spec. 3309.
 Expansion device shall be straightened to a tolerance of 1/8" in 10 ft.
 Cap screws shall be countersunk 1/16" below top of plate.
 Galvanize screws and nuts as per Spec. 3392.
 See superstructure sheets for expansion device alternate at railing.
 When expansion devices are used at ends of bridge, the bridge contractor shall furnish expansion device and gland. The roadway contractor shall install the part of the expansion device which includes the gland as shown on this sheet.

- ① Varies 18" to 24"
- ② Dimension along centerline of joint.
- ③ For roadway skewers over 25° use 45°.
- ④ 2-3/4" outside radius of steel plate
- ⑤ 3/4" outside radius of steel plate
- ⑥ 5/8" max. when Snowplow Fingers are used. Use 1/8" (with 1/4" max.) when Snowplow Fingers are not used.

Revised: October 15, 1982 Approved: July 16, 1982

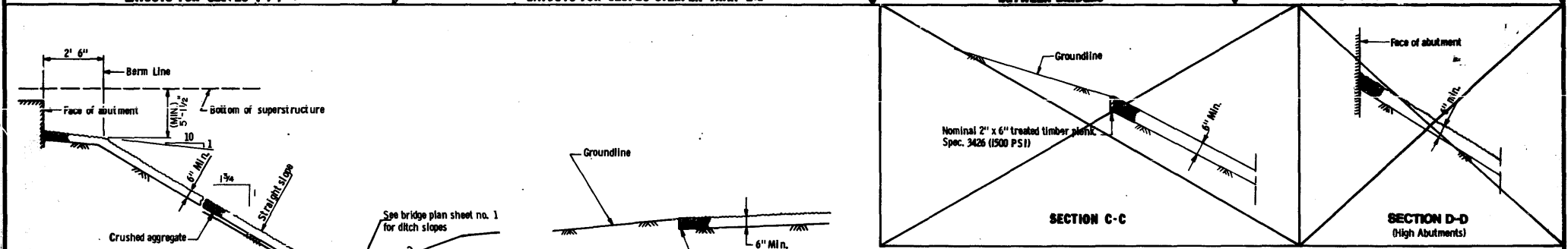
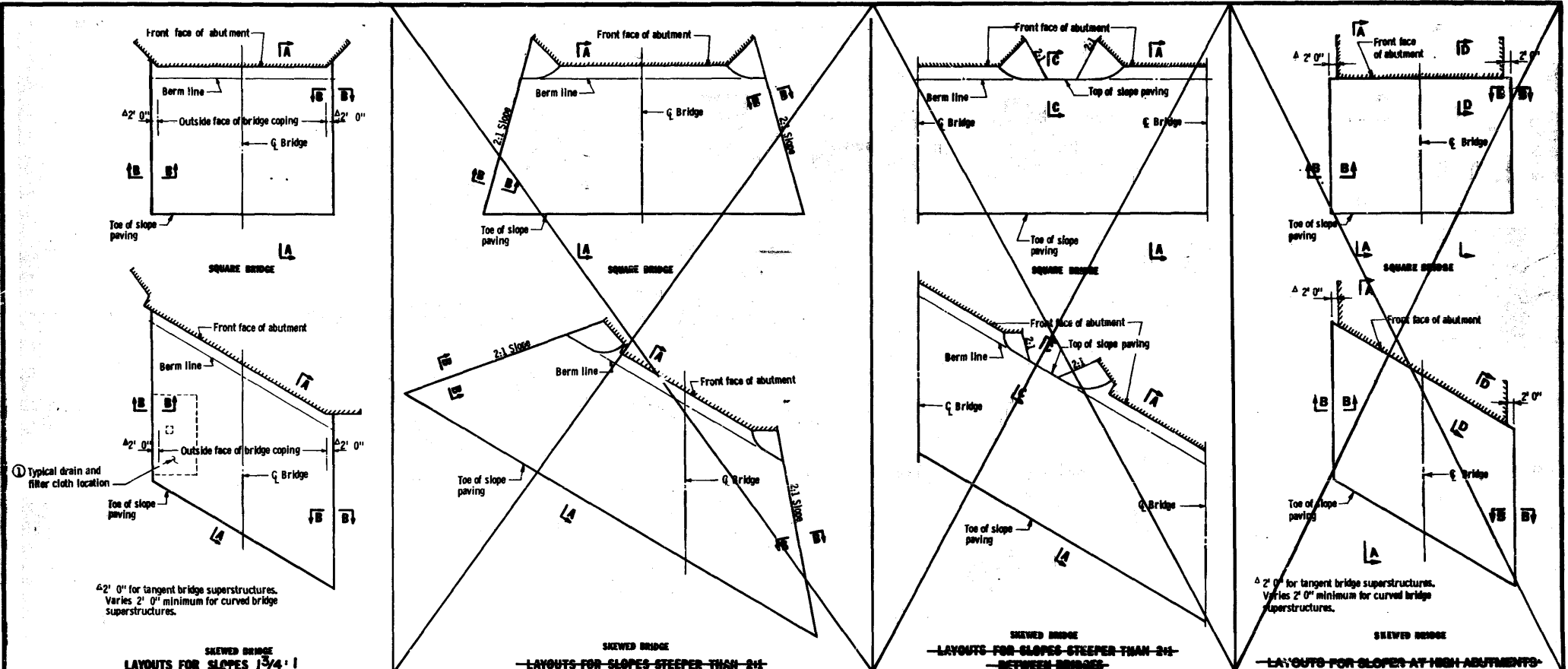
FIG. 5-397.630

WILE WATERPROOF EXPANSION DEVICE WITH SIDEWALK OR RAISED MEDIAN

Sheet No. 20 of 32 Sheets

Bridge No. 62001

S.P. 6214-62001 (T.H. 49 = 126)



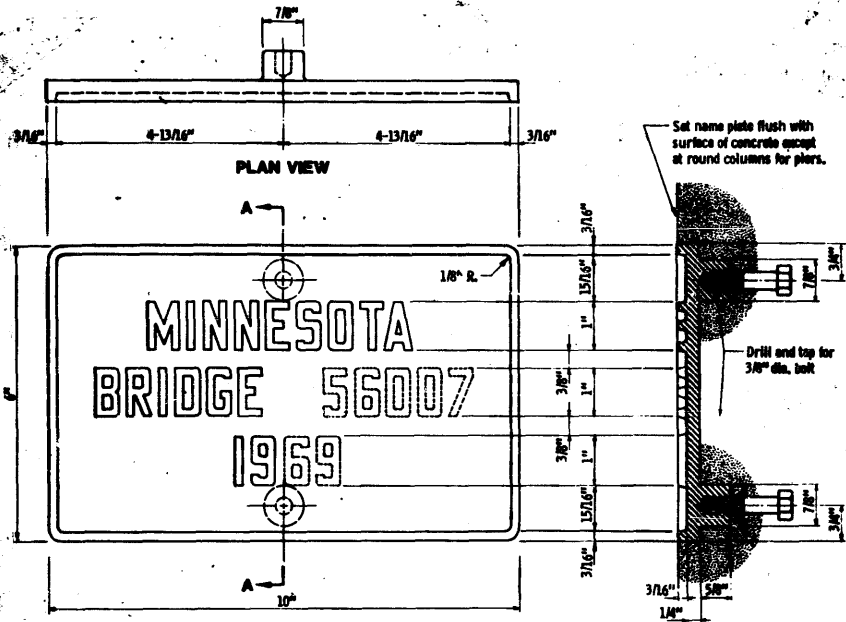
① Place Geotextile, Spec. 3733, under aggregate in areas under Bridge Deck Drains to reduce erosion from splashing.

MODIFIED
 FIG. 5-367.362

Approved: December 23, 1983

S.P. 6214-62001 (T.H.49-126)

TITLE:	DES: Mn/DOT	DR: Mn/DOT	APPROVED:	BRIDGE No.
STABILIZED AGGREGATE SLOPE PAVING UNDER BRIDGES	CHK: CS-X	CHK: CS-X	6-3-84	62001
	Sheet No. 21 of 32 Sheets			

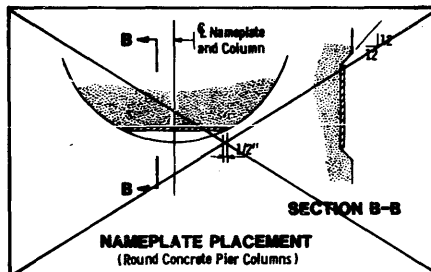


ELEVATION
The dotted numbers shown above are for illustration. Data to be shown on name plate is as follows:

BRIDGE 62001
YEAR 1987



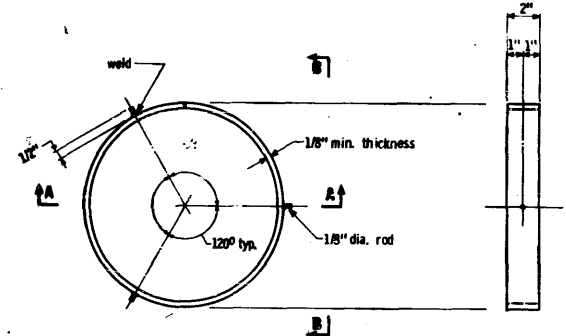
NUMBERS FOR NAMEPLATES



NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

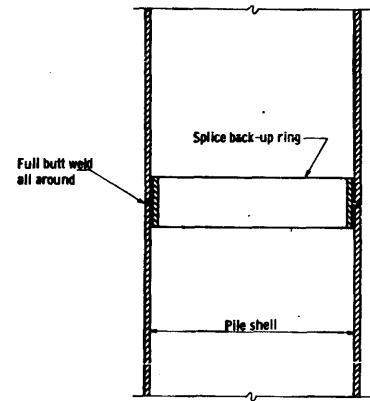
NOTES:
No shop drawing required.
Material shall comply with Spec. 3327.
Letters and numbers shall conform to those shown.
Draft on letters and numbers shall not be more than 3\"/>

APPROVED: Rev 1, 1985	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
Developed by: ENGINEERING STANDARDS & INSPECTION DIVISION	BRIDGE NAMEPLATE		B101
Issued by: OFFICE OF ENGINEERING STANDARDS	TRUNK HIGHWAY BRIDGES		



PLAN VIEW
(Pile not shown)

SECTION B - B
(Pile not shown)



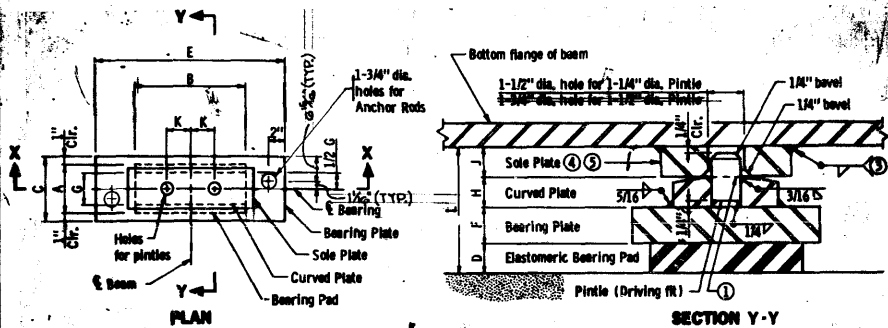
SECTION A - A

NOTES:
Approved commercial pile splice back-up ring may be used in lieu of the type detailed. Back-up ring shall have a tight fit.
Welding electrodes shall be A. W. S. Type E7016 or E7018 (low-hydrogen).
Low-hydrogen electrodes shall be supplied in hermetically (air-tight) sealed containers.
Low-hydrogen electrodes shall be stored in holding ovens at a temperature of not less than 250° F.
Low-hydrogen electrodes shall be placed in a holding oven for at least 8 hours, after having been exposed to the atmosphere for more than 2 hours.
Electrodes which have become wet, soiled or damaged shall not be used.
Welding shall not be done when the ambient temperature is lower than 0° F. or when the pile is wet or exposed to falling rain or snow. When the pile metal temperature is below 32° F., the pile metal in the area of the weld shall be heated to a minimum temperature of 70° F. and maintained at this temperature during welding.

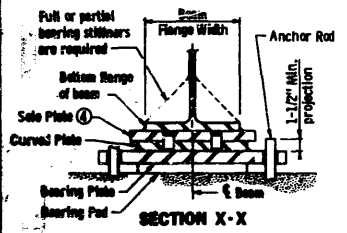
APPROVED: July 21, 1972	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION	REVISION	DETAIL NO.
<i>Shirley A. Duff</i> Engineering Standards Section RESEARCH AND STANDARDS DIVISION	PILE SPLICE		B201
	CAST-IN-PLACE CONCRETE PILES		

S.P. 6214-62001 (T.H. 49 = 126)

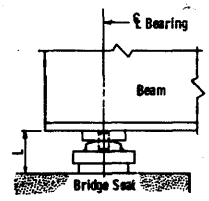
TITLE	DES: Mn/DOT	DR: Mn/DOT	APPROVED:	Bridge No.
STANDARD DETAILS	CHK: CS-K	CHK: CS-K	6-13-86	62001
B101 & B201	Sheet No. 22	of 32 Sheets		



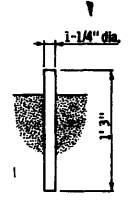
SECTION Y-Y
(ENLARGED BEARING ASSEMBLY)



SECTION X-X



END ELEVATION
(Anchor Rods Not Shown)



ANCHOR ROD DETAIL
NOTE: No Anchor Rods at Fascia Beams (Nos 1 & 8)

TABLE 2

Beam Flange Size	Bearing Pad Size			Shape Factor	Bearing Plate Size			Curved Plate Size			Sole Plate Size			Pintle Dia.	Pintle Spacing	Assy. Height	Assembly Type					
	A	B	D		C	E	F	G	B	H	Width	Length	J									
9" to 10-1/2"	B	14	2 1/2	4	3/8	3	3/8	6.8	10	16	1	4 1/2	14	1	6	16	1	1 1/4	2-3/4"	5 1/2	1	
11-1/2" to 12"	14	16	1 1/4	2	1/2	1	1/2	6.2	12	18	1 1/4	4 1/2	16	1	6	18	1	1 1/4		4 1/2	2	
13" to 14"																						

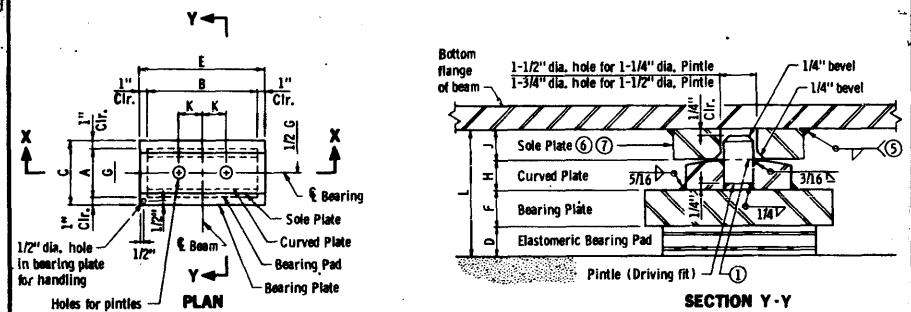
NOTES:
For elastomeric materials and pad construction, see Spec. 3741 and special provisions, except as noted.
All steel plates & anchor rods shall comply with Spec. 3306, except as noted.
All plates shall be flat after fabrication and galvanizing. Welding distortion of the bearing plates shall be straightened to within 1/16" of flatness by mechanical means without damage to the zinc coating.
Pintles shall comply with Spec. 3314, Type II
Galvanize structural steel bearing assembly after fabrication per Spec. 3394, except as noted.
Payment for bearing assembly shall include all material on this detail, except the Sole Plate.

- ① The radius of the curved plate shall be 1' 0" min. and 1' 6" max. Finish to 250 Micro. The finished thickness of the plate may be 1/16" less than shown.
- ② See Bridge Design Manual for design requirements.
- ③ 5/16" min. fillet weld for 3/4" up to & including 1-1/2" thick sole plates. 3/8" min. fillet weld for over 1-1/2" to 2-1/4" thick sole plates, except as noted in the plans.
- ④ Sole plate may be tapered, only as shown on superstructure details.
- ⑤ When the sole plate is tapered, dimension "J" is the minimum thickness of the plate.

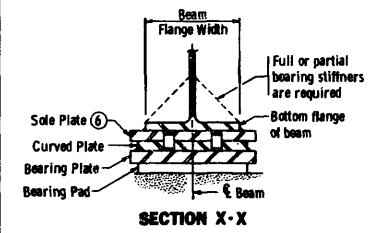
APPROVED: May 25, 1982
Developed by: ENGINEERING STANDARDS & BRIDGES AND STRUCTURES OFFICES
Issued by: OFFICE OF ENGINEERING STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**CURVED PLATE BEARING ASSEMBLY
STEEL BEAMS
(FIXED)**

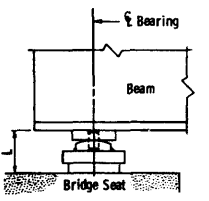
REVISION: May 31, 1983
DETAIL NO. **B354**
MODIFIED



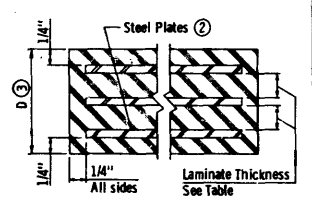
SECTION Y-Y
(ENLARGED BEARING ASSEMBLY)



SECTION X-X



END ELEVATION



SECTION THRU BEARING PAD

TABLE 3

Beam Flange Size	Bearing Pad Size			Steel Plates	Laminates	Shape Factor	Bearing Plate Size			Curved Plate Size			Sole Plate Size		Pintle Dia.	Pintle Spacing	Assy. Height	Assembly Type				
	A	B	D				No.	Thick.	No.	Thick.	C	E	F	G					B	H	Width	Length
9" to 10-1/2"	B	14	2 1/2	4	3/8	3	3/8	6.8	10	16	1	4 1/2	14	1	6	16	1	1 1/4	2-3/4"	5 1/2	1	
11-1/2" to 12"	14	16	1 1/4	2	1/2	1	1/2	6.2	12	18	1 1/4	4 1/2	16	1	6	18	1	1 1/4		4 1/2	2	
15" to 16"																						

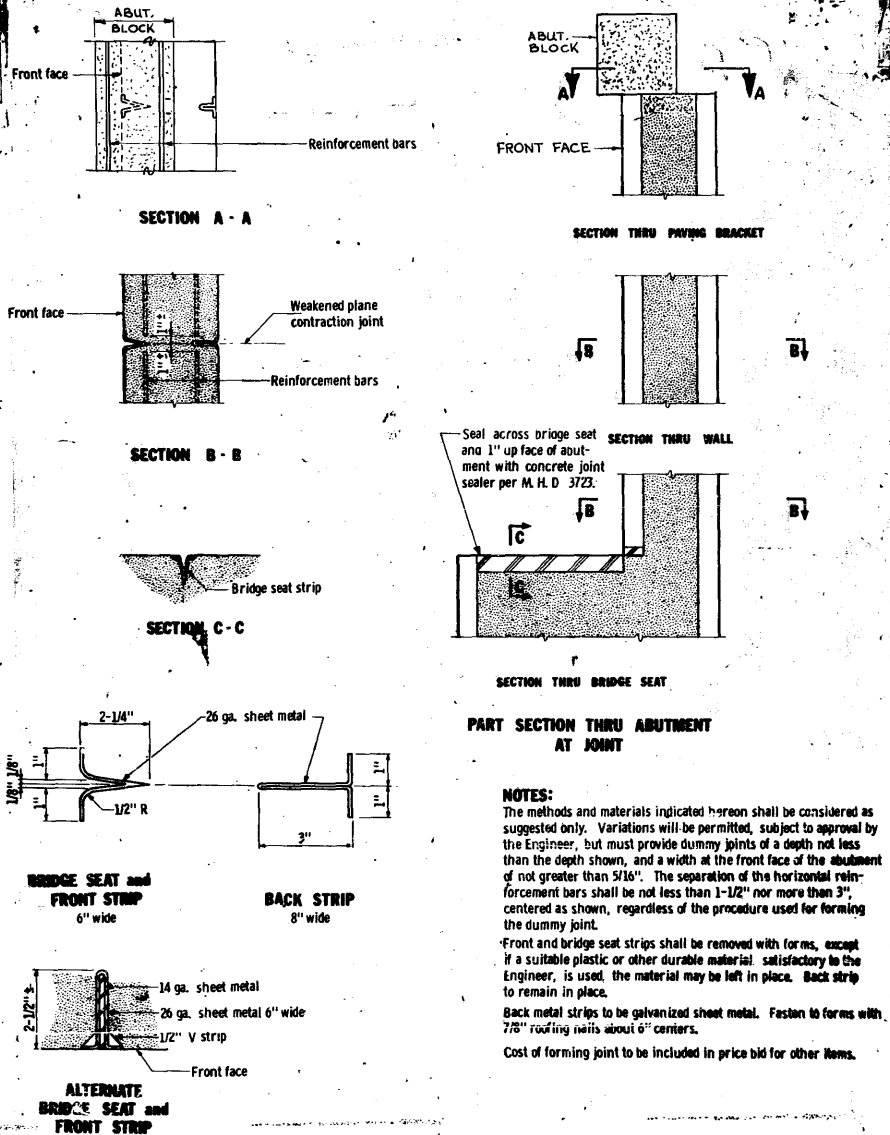
NOTES:
For elastomeric materials and pad construction, see Spec. 3741, except as noted.
All steel plates shall comply with Spec. 3306, except as noted.
All plates shall be flat after fabrication and galvanizing. Welding distortion of the bearing plates shall be straightened to within 1/16" of flatness by mechanical means without damage to the zinc coating.
Pintles shall comply with Spec. 3314, Type II
Galvanize structural steel bearing assembly after fabrication per Spec. 3394, except as noted.
Payment for bearing assembly shall include all material on this detail, except the Sole Plate.

- ① The radius of the curved plate shall be 1' 0" min. and 1' 6" max. Finish to 250 Micro. The finished thickness of the plate may be 1/16" less than shown.
- ② Do not galvanize these plates.
- ③ The total thickness shown includes the steel plates.
- ④ See Bridge Design Manual for design requirements.
- ⑤ 5/16" min. fillet weld for 3/4" up to & including 1-1/2" thick sole plates. 3/8" min. fillet weld for over 1-1/2" to 2-1/4" thick sole plates, except as noted in the plans.
- ⑥ Sole plate may be tapered, only as shown on superstructure details.
- ⑦ When sole plate is tapered, dimension "J" is min. thickness of plate.

APPROVED: May 25, 1982
Developed by: ENGINEERING STANDARDS & BRIDGES AND STRUCTURES OFFICES
Issued by: OFFICE OF ENGINEERING STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
**CURVED PLATE BEARING ASSEMBLY
STEEL BEAMS
(EXPANSION)**

REVISION: May 31, 1983
DETAIL NO. **B355**



NOTES:

The methods and materials indicated hereon shall be considered as suggested only. Variations will be permitted, subject to approval by the Engineer, but must provide dummy joints of a depth not less than the depth shown, and a width at the front face of the abutment of not greater than 5/16". The separation of the horizontal reinforcement bars shall be not less than 1-1/2" nor more than 3", centered as shown, regardless of the procedure used for forming the dummy joint.

Front and bridge seat strips shall be removed with forms, except if a suitable plastic or other durable material, satisfactory to the Engineer, is used, the material may be left in place. Back strip to remain in place.

Back metal strips to be galvanized sheet metal. Fasten to forms with 7/8" roofing nails about 6" centers.

Cost of forming joint to be included in price bid for other items.

APPROVED Feb. 15, 1972

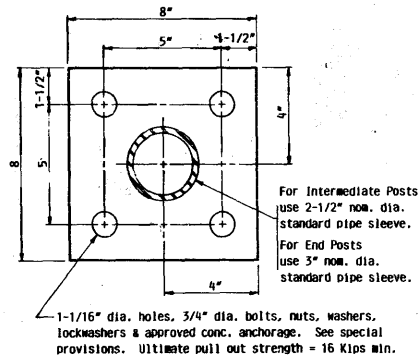
Donald D. Dill
Engineering Standards Engineer
RESEARCH AND STANDARDS
DIVISION

MINNESOTA
DEPARTMENT OF TRANSPORTATION

CONTRACTION JOINT

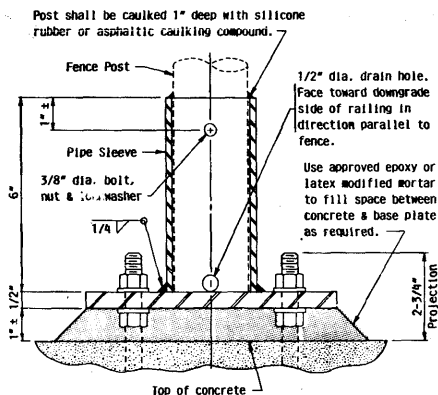
DETAIL NO.

B801

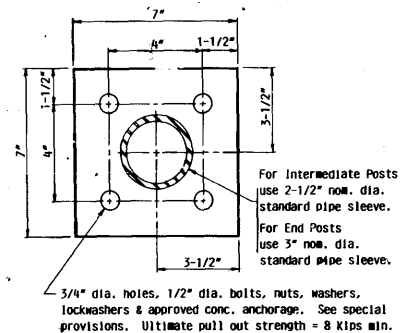


PLAN VIEW

TYPE A
Estimated Weight = 11 or 12 lbs.

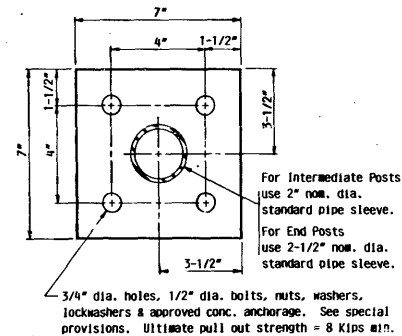


TYPICAL SECTION



PLAN VIEW

TYPE B
Estimated Weight = 10 or 11 lbs.



PLAN VIEW

TYPE C
Estimated Weight = 9 or 10 lbs.

NOTES:

Structural Steel per Spec. 3306
Structural Pipe per Spec. 3362

Galvanize the fence post anchorage after fabrication per Spec. 3394. Galvanize the fasteners per Spec. 3392

STANDARD PIPE WEIGHTS:
2" nom. dia. = 3.65 lbs./ft.
2-1/2" nom. dia. = 5.79 lbs./ft.
3" nom. dia. = 7.58 lbs./ft.

APPROVED: Nov. 26, 1985

Developed by: ENGINEERING STANDARDS
& BRIDGES AND STRUCTURES
OFFICES

Issued by: OFFICE OF ENGINEERING
STANDARDS

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

FENCE POST ANCHORAGE

REVISION

DETAIL NO.

B905

TITLE:

DETAILS

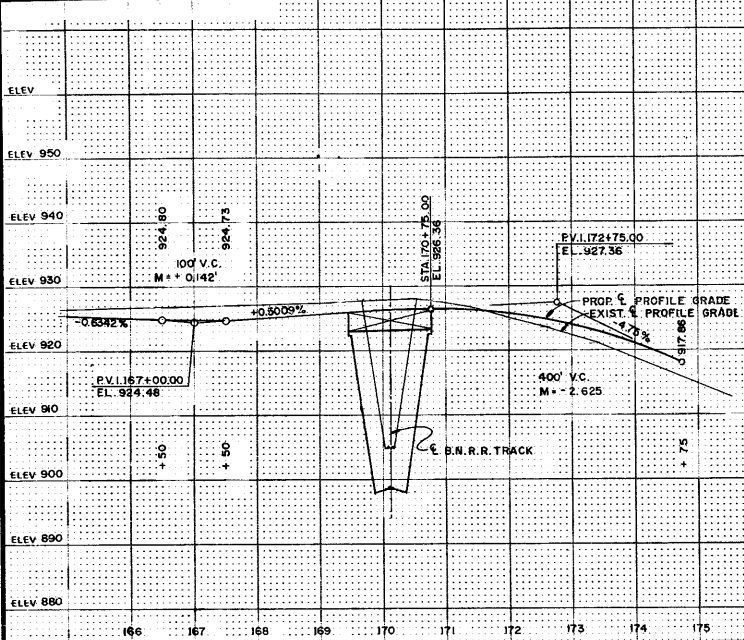
DES: Mv/DOT DR: _____ APPROVED: _____
CHK: _____ CHR: _____ 6-13-86

Sheet No. 25 of 32 Sheets

Bridge No. 62001

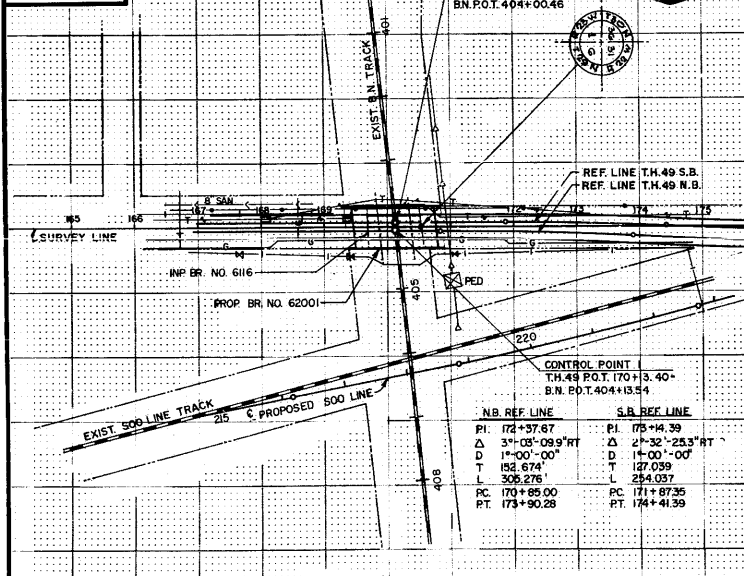
CONTRACTED PROFILE

SCALE: HOR. 1" = 50' VER. 1" = 10'



PLAT

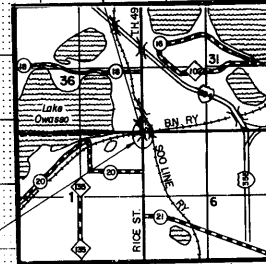
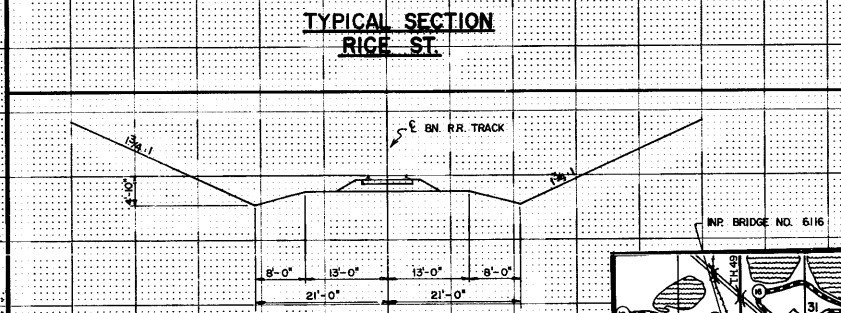
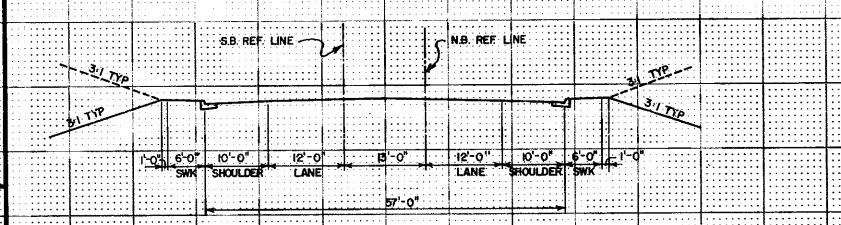
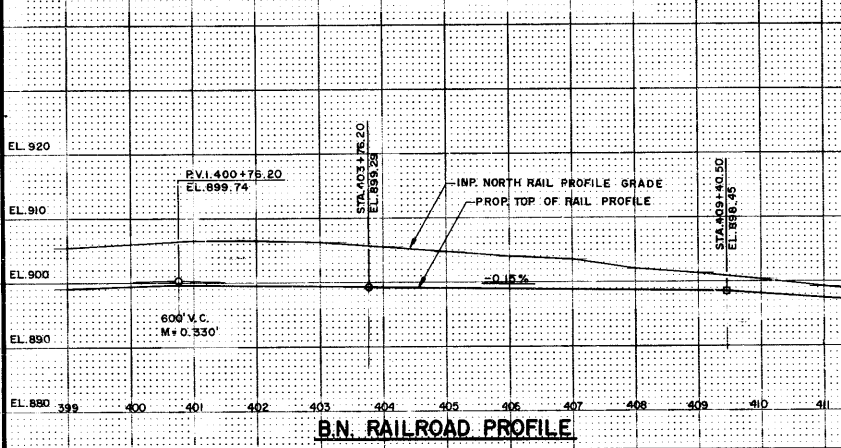
SCALE: 1" = 50'



N.B. REF. LINE		S.B. REF. LINE	
PI.	172+37.67	PI.	175+14.39
Δ	3°-03'-09.9" RT	Δ	2°-32'-25.3" RT
D	1°-00'-00"	D	1°-00'-00"
T	152.674'	T	127.039'
L	329.276'	L	254.037'
PC	170+85.00	PC	171+87.35
PT	173+90.28	PT	174+41.39

TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Watertails, dams, floods, ice, debris, sliding banks, recreational boating.
- Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area etc.
- Apparent highest water elevation: _____ Obtained from _____
- Other data: Approx. velocity of water at time of survey: _____

HYDRAULIC ENGINEERS RECOMMENDATION

DATE _____

Stream or ditch designation _____

Drainage area _____

Max. flood on record: _____ Design flood (____ yr. freq.) _____ C.F.S.

Max. observed highest water elevation _____ Design highest water elevation _____

Design mean velocity through structure _____ F.P.S.

Low superstructure at or above elevation _____

Flowline elevation _____ Slope angle _____

Waterway area req'd. below elevation _____ Sq. Ft. at RL. angles to channel _____

In the interest of flood plain zoning the regional flood (100 yr. freq.) is _____ C.F.S. at stage _____ and mean velocity of _____ F.P.S. with _____ Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE _____

Bridge survey sheets made from: _____

Bench mark elevation 928.56 (M.S.L. 1929 Adj.)

Location: TOP NUT ON HYDRANT AT STA. 182+46, 45' LT.

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT _____ ON T.H. 49 (T.H. C.S.A.H. CR. #16)

PROPOSED BRIDGE LOCATED _____ MILES _____ OF

UCT. I 69.4 B.T.H. 49

SEC. 31 29N R 22W

SEC. 1, 6 TWP. 30N R 23W

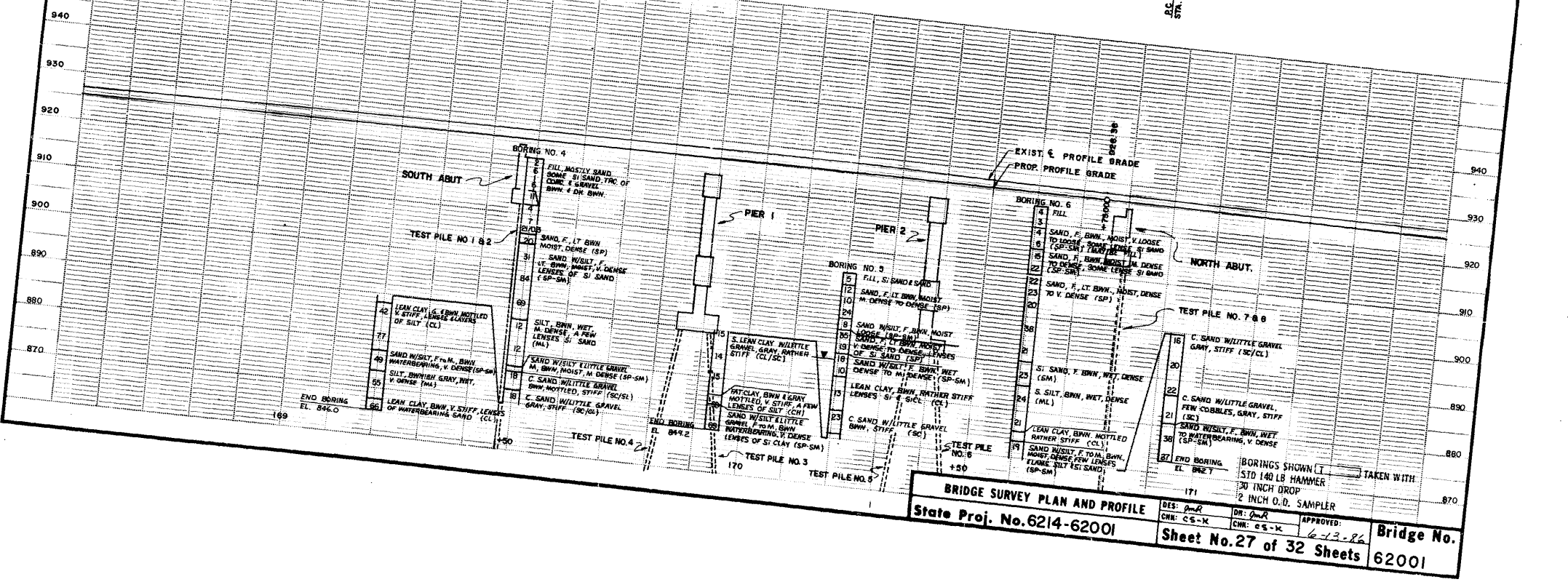
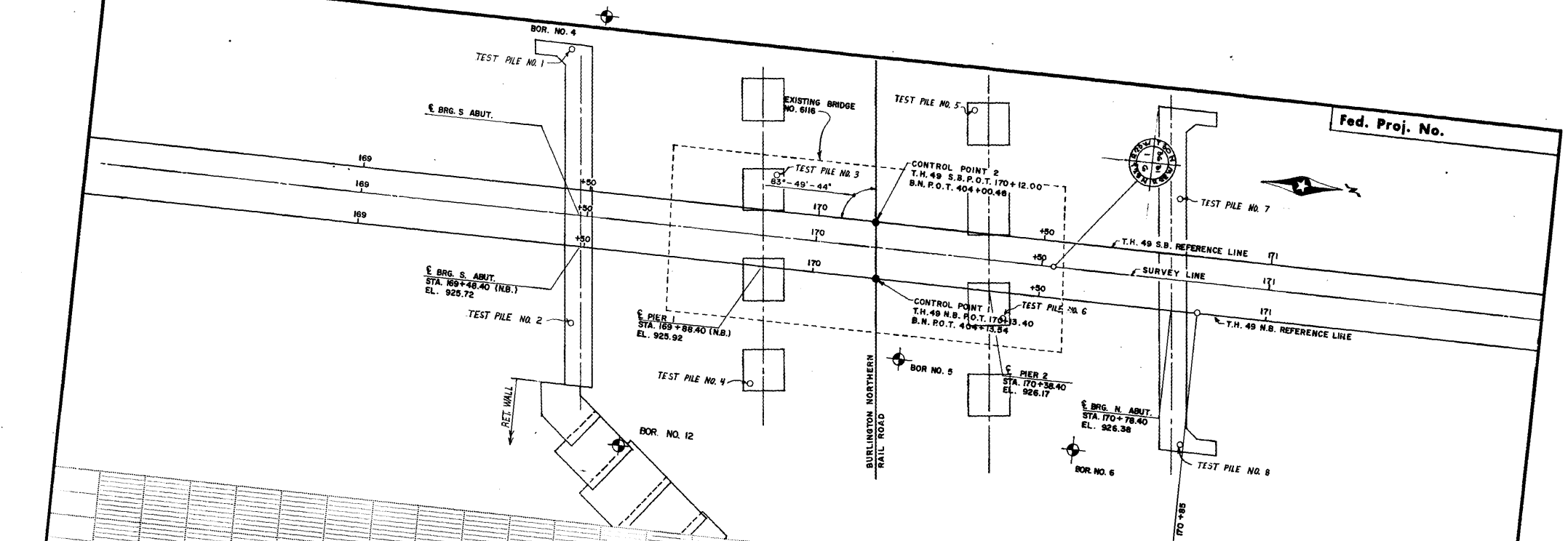
TOWNSHIP _____ COUNTY RAMSEY

BRIDGE NO. **62001**

Area No. 90 Job No. 912

State Proj. No. 6214-62001 (T.H. 49-126)

Sheet No. 26 of 32 Sheets



BRIDGE SURVEY PLAN AND PROFILE

DES: JmR
 CWR: CS-K
 DR: JmR
 CWR: CS-K

APPROVED: 6-13-86

State Proj. No. 6214-62001

Sheet No. 27 of 32 Sheets

Bridge No. 62001

BORINGS SHOWN TAKEN WITH
 STD 140 LB HAMMER
 30 INCH DROP
 2 INCH O.D. SAMPLER

LOG OF TEST BORING											
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'			BORING NO. 4						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN											
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	NO	TYPE	LABORATORY TESTS				
							W	D	LL	Qu	
	FILL, MOSTLY SAND, some silty sand, traces of concrete and gravel, brown, and dark brown	FILL	2		1	SB					
			6		2	SB					
			6		3	SB					
			11		4	SB					
			4		5	SB					
			7		6	SB					
			21		7	SB					
16	SAND, fine grained, light brown, moist, dense (SP)	COARSE ALLUVIUM	0.3		7	SB					
18	SAND W/SILT, fine grained, light brown, moist, very dense, lenses of silty sand (SP-SM)		20		8	SB					
			31		9	SB					MA
			84		10	SB					
30	Continued on next page										

LOG OF TEST BORING											
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'			BORING NO. 4 (con't)						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN											
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	NO	TYPE	LABORATORY TESTS				
							W	D	LL	Qu	
30	SAND W/SILT AND A LITTLE GRAVEL (con't) (SP-SM)	COARSE ALLUVIUM (con't)	69		11	SB					
34	SILT, brown, wet, medium dense, a few lenses of silty sand (ML)	FINE ALLUVIUM	12		12	SB	25	100			
			12		13	SB					
44	SAND W/SILT AND A (See #1) (SP-SM)	COARSE ALLUVIUM	14		14	SB					
45	CLAYEY SAND W/A LITTLE GRAVEL, brown mottled, stiff (SC/CL)	TILL	18		15	SB	21	106	31		TR
49	CLAYEY SAND W/A LITTLE GRAVEL, gray, stiff (SC/CL)		18		16	SB					
53 1/2	LEAN CLAY, gray and brown mottled, very stiff, lenses and layers of silt (CL)	FINE ALLUVIUM	42		17	SB					
60	Continued on next page										
	#1 - LITTLE GRAVEL, medium grained, brown, moist, medium dense (SP-SM)										
	*Estimated dry density										

LOG OF TEST BORING											
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'			BORING NO. 4 (con't)						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN											
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	NO	TYPE	LABORATORY TESTS				
							W	D	LL	Qu	
60	LEAN CLAY (con't) (CL)	FINE ALLUVIUM (con't)	77		18	SB					
63 1/2	SAND W/SILT AND GRAVEL, fine to medium grained, brown, waterbearing, very dense (SP-SM)	COARSE ALLUVIUM	49		19	SB					
68	SILT, brownish gray, wet, very dense (ML)	FINE ALLUVIUM	55		20	SB					
74	LEAN CLAY, brown, very stiff, lenses of waterbearing sand (CL)		66		21	SB					
76	End of Boring										
WATER LEVEL MEASUREMENTS							START 10-29-84		COMPLETE 10-29-84		
DATE	TIME	STANDARD DEPTH	FIELD DEPTH	CAVE IN DEPTH	BALED DEPTHS	WATER LEVEL	METHOD HSA 0' - 29 1/2'				
10-29		31'	29 1/2'			None	DM 29 1/2' - 74 1/2'				
10-29	3:10	76'	29 1/2'			NMR					
10-29	3:25	76'	None			NMR					
							CREW CHIEF Kulhanek				

S.P. 6214-62001 (T.H.49=126)

TITLE		DES: SEC	DR: SEC	APPROVED:	Bridge No.
TEST BORING LOGS		CHK: TJA	CHK: TJA	6-19-86	
Sheet No. 28 of 32 Sheets					62001

LOG OF TEST BORING												
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'		BORING NO. 5								
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN												
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE		LABORATORY TESTS					
					NO	TYPE	W	D	L	U	Qu	
	FILL, MIXTURE OF SILTY SAND AND SAND, brown and black	FILL	5		1	SB						
2 1/2	SAND, fine grained, light brown, moist, medium dense to dense (SP)	COARSE ALLUVIUM	12		2	SB						
			10		3	SB						
			24		4	SB						
9 1/2	SAND W/SILT, fine grained, brown, moist, loose (SP-SM)		8		5	SB						
12	SAND, fine grained, light brown, moist, very dense to dense, lenses of silty sand (SP)		35		6	SB						
			19		7	SB						
17	SAND W/SILT, fine grained, brown, wet to about 18 1/2' then waterbearing, dense to medium dense (SP-SM)		18		8	SB						
			10		9	SB						
22	LEAN CLAY, brown, rather stiff, lenses of silt and silty clay (CL)	FINE ALLUVIUM	13		10	SB	25	100	30	24		
29	CLAYEY SAND W/A LITTLE GRAVEL, brown, stiff (SC)	TILL										
30	Continued on next page											
*Estimated dry density												

LOG OF TEST BORING												
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'		BORING NO. 5 (con't)								
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN												
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE		LABORATORY TESTS					
					NO	TYPE	W	D	L	U	Qu	
30	CLAYEY SAND W/A LITTLE GRAVEL (con't) (SC)	TILL (con't)	23		11	SB	16	176				
34	SANDY LEAN CLAY W/A LITTLE GRAVEL, gray, rather stiff (CL/SC)		15		12	SB	16	176				
			14		13	SB						
			15		14	SB	NSR					
48 1/2	FAT CLAY, brown and gray mottled, very stiff, a few lenses of silt (CH)	FINE ALLUVIUM	50		15	SB	20	108				
50 1/2	SAND W/SILT AND A LITTLE GRAVEL, fine to medium grained, brown, waterbearing, very dense, lenses of silty clay (SP-SM)	COARSE ALLUVIUM	50		16	SB						
56	End of Boring		69		17	SB						
*Estimated dry density												
WATER LEVEL MEASUREMENTS						START 11-9-84 COMPLETE 11-9-84						
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	WATER LEVEL	BAILED DEPTHS	METHOD						
11-9	11:00	21'	19 1/2'	18 1/2'		HSA 0' - 19 1/2'	2:00					
11-9	2:00	56'	19 1/2'			DM 19 1/2' - 54 1/2'						
11-9	2:20	56'	None									
						CREW CHIEF	Kulhanek					

S.P. 6214-6200I (T.H. 49-126)

TITLE	DR: SEC	BR: SEC	APPROVED:	Bridge No.
TEST BORING LOGS	CON: TX	CON: TX	6-13-86	6200I
	Sheet No. 29 of 32 Sheets			

LOG OF TEST BORING										
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'			BORING NO. 6					
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN										
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO	TYPE	LABORATORY TESTS			
							W	D	LL	Qu
	FILL, MIXTURE OF SAND AND SILTY SAND, brown and black	FILL	4		1	SB				
			3		2	SB				
4 1/2	SAND, fine grained, brown, moist, very loose to loose, some lenses of silty sand (may be fill)	FILL OR COARSE ALLUVIUM	4		3	SB				
			6		4	SB				
9	SAND, fine grained, brown, moist, medium dense to dense, some lenses of silty sand	COARSE ALLUVIUM	15		5	SB				
			22		6	SB				
14 1/2	SAND, fine grained, light brown, moist, dense to very dense to dense (SP)		22		7	SB				
			23		8	SB				
			20		9	SB				
			38		10	SB				
30	Continued on next page									

LOG OF TEST BORING										
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'			BORING NO. 6 (con't)					
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN										
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO	TYPE	LABORATORY TESTS			
							W	D	LL	Qu
30	SAND (con't)	(SP)	21		11	SB				
		COARSE ALLUVIUM (con't)								
33	SILTY SAND, fine grained, brown, wet, dense	(SM)	23		12	SB				
38	SANDY SILT, brown, wet, dense (ML)	FINE ALLUVIUM	24		13	SB	19	110	45%	
			21		14	SB				
48	LEAN CLAY, brown mottled, rather stiff	(CL)	15		15	SB				
50	SAND W/SILT, fine to medium grained, brown, moist, dense a few lenses and laminations of silt and silty sand	(SP-SM)	19		16	SB				
		COARSE ALLUVIUM								
54	CLAYEY SAND W/A LITTLE GRAVEL, gray, stiff	(SC/CL)	16		17	SB	15	118		
60	Continued on next page									
	*Estimated dry density									
	** Percent passing #200 sieve									

LOG OF TEST BORING										
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'			BORING NO. 6 (con't)					
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN										
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO	TYPE	LABORATORY TESTS			
							W	D	LL	Qu
60	CLAYEY SAND W/A LITTLE GRAVEL (con't)	(SC/CL)	20		18	SB				
		TILL (con't)								
			22		19	SB				
67	CLAYEY SAND W/A LITTLE GRAVEL, a few cobbles, gray, stiff	(SC)	21		20	SB				
73	SAND W/SILT, fine grained, brown, wet to waterbearing, very dense	(SP-SM)	38		21	SB				
		COARSE ALLUVIUM								
			37		22	SB				
81	End of Boring									
WATER LEVEL MEASUREMENTS					START 10-26-84		COMPLETE 10-26-84			
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTHS	WATER LEVEL	METHOD HSA 0' - 29 1/2' @ 3:30			
10-26		31'	29 1/2'		no	NONE	DM 29 1/2' - 79 1/2'			
10-26	3:30	81'	29 1/2'		no	NMR				
10-29	9:00	81'	None		no	NMR	CHIEF Chemak			

S.P. 6214-62001 (T.H. 49=126)

TITLE		DR: SEC	DR: SEC	APPROVED:	Bridge No. 62001
TEST BORING LOGS		DATE: 10-26-84	DATE: 10-26-84	6-13-86	
Sheet No. 30 of 32 Sheets					

LOG OF TEST BORING										
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'		BORING NO. 11						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN										
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO	TYPE	LABORATORY TESTS			
							W	D	LL	OU
	SURFACE ELEVATION 922.7									
	FILL, MOSTLY SILTY SAND W/A LITTLE GRAVEL, brown, a layer of blacktop at the surface	FILL			1	HSA				
2	SILTY SAND, fine grained, dark brown, moist, loose (SM)	TOPSOIL			2	SB				
3	SAND W/SILT, fine grained, brown, moist, medium dense (SP-SM)	COARSE ALLUVIUM	8		3	SB				
5	SILTY SAND, fine grained, brown, moist, medium dense (SM)		9		4	SB				
7	SAND W/SILT, fine grained, light brown, moist, dense, some lenses of silt (SP-SM)		16		5	SB				
9	SAND, fine grained, light brown, moist, dense to very dense, a few lenses of silty sand (SP)		16		6	SB				
			16		7	SB				
			18		8	SB				
			44		9	SB				
			69		10	SB				
24	SILTY SAND, fine grained, brown, moist, dense (SM)									
25	Continued on next page									

LOG OF TEST BORING										
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'		BORING NO. 11 (con't)						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN										
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO	TYPE	LABORATORY TESTS			
							W	D	LL	OU
25	SILTY SAND (con't) (SM)	COARSE ALLUVIUM (con't)			24	SB				
27	SAND W/SILT, fine grained, brown, moist, very dense, lenses and layers of silt and silty sand (SP-SM)				34	SB				
					33	SB				
					36	SB				
35	SANDY LEAN CLAY W/A LITTLE GRAVEL, brown, rather stiff (CL)	TILL			14	SB				
37	End of Boring									

WATER LEVEL MEASUREMENTS							START	COMPLETE
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTHS	WATER LEVEL	10-24-84	10-24-84
10-24	2:10	37'	34 1/2'	36'	to	None		
10-24	2:25	37'	None	25'	to	None		

METHOD	HSA 0' - 34 1/2'	2:10
CREW CHIEF	Kulhanek	

SP. 6214 - 62001 (T.H. 49 = 126)

TITLE	DES. SEC.	DR. SEC.	APPROVED:	Bridge No. 62001
TEST BORING LOGS	CHK: TJA	CHK: TJA	6-13-86	
Sheet No. 31 of 32 Sheets				

LOG OF TEST BORING												
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'				BORING NO. 12						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN												
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO.	TYPE	LABORATORY TESTS				Qu	
							W	D	L	PL		
	SURFACE ELEVATION 922.6'											
	FILL, MIXTURE OF SAND AND SILTY SAND, a trace of concrete and gravel, brown and light brown, a layer of blacktop at the surface	FILL			1	HSA						
			4		2	SB						
			5		3	SB						
			2		4	SB						
			5		5	SB						
12	SAND, fine grained, light brown, moist, medium dense to dense, some lenses of silty sand	COARSE ALLUVIUM			6	SB						
			17		7	SB						
			19		8	SB						
			21		9	SB						
			24		10	SB						
25	Continued on next page											

LOG OF TEST BORING												
JOB NO. 120-12463		VERTICAL SCALE 1" = 4'				BORING NO. 12 (con't)						
PROJECT PROPOSED BRIDGE & ROADWAY IMPROVEMENTS, RICE STREET, LITTLE CANADA, MN												
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE NO.	TYPE	LABORATORY TESTS				Qu	
							W	D	L	PL		
25	SAND (con't)	(SP) COARSE ALLUVIUM (con't)			18	SB						
27	SILTY SAND, fine grained, brown, moist, dense	(SM)			18	SB						
29	SILT, brown, moist, dense, some layers of silty clay, silty sand and sand	(ML) FINE ALLUVIUM			26	SB						
			25		14	SB						
34	SANDY LEAN CLAY W/A LITTLE GRAVEL, brown, rather stiff	(SC) TILL			13	SB						
36	End of Boring											
WATER LEVEL MEASUREMENTS							START	10-25-84		COMPLETE	10-25-84	
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTH	WATER LEVEL	METHOD		HSA 0' - 34'		@ 1:20	
10-25	1:20	36'	34'	36'	10	None						
10-25	1:35	36'	NONE	26'	10	None						
							CREW CHIEF		Kulhanek			

S.P. 6214-62001 (T.H. 49 = 126)

TITLE		DES: SEC	DR: SEC	APPROVED:	Bridge No.
TEST BORING LOGS		CHK: TJA	CHK: TJA	6-13-86	
Sheet No. 32 of 32 Sheets					