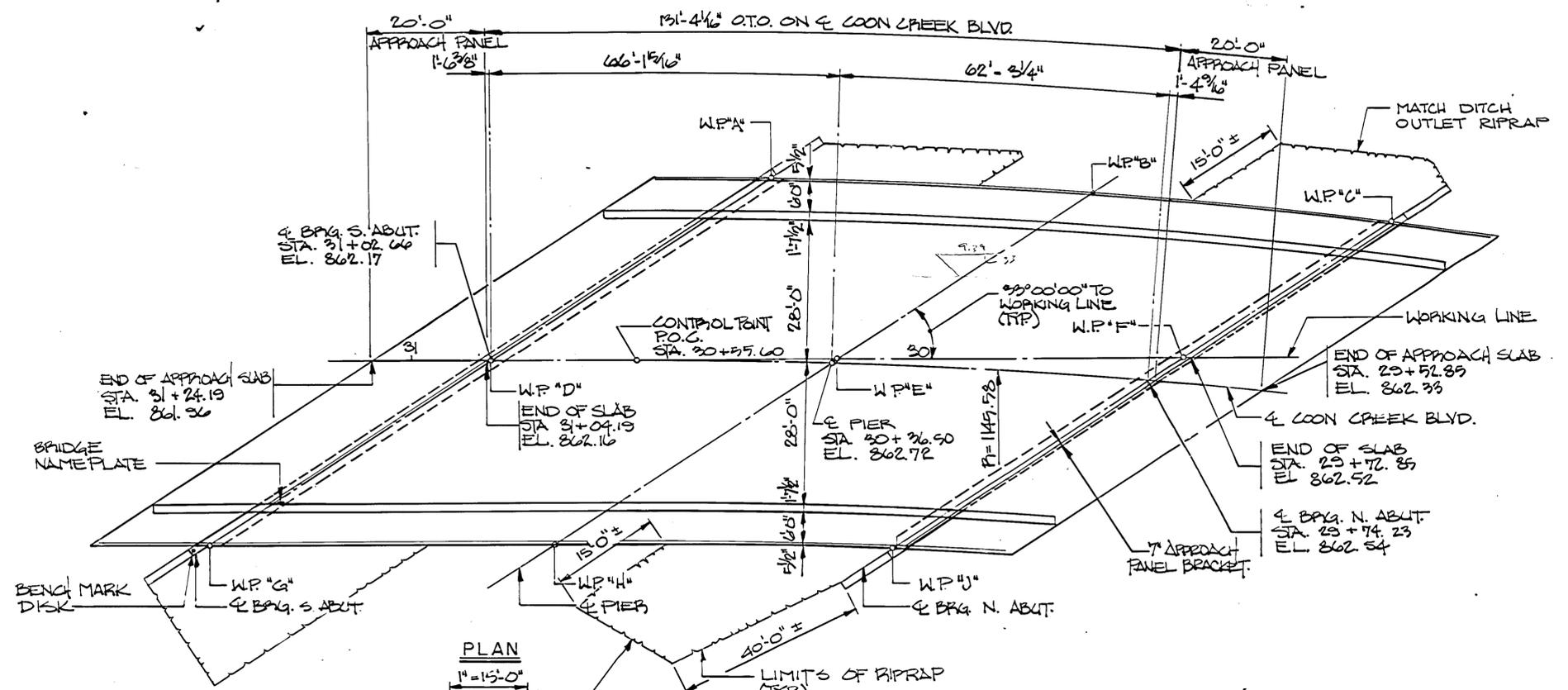


DESIGN DATA

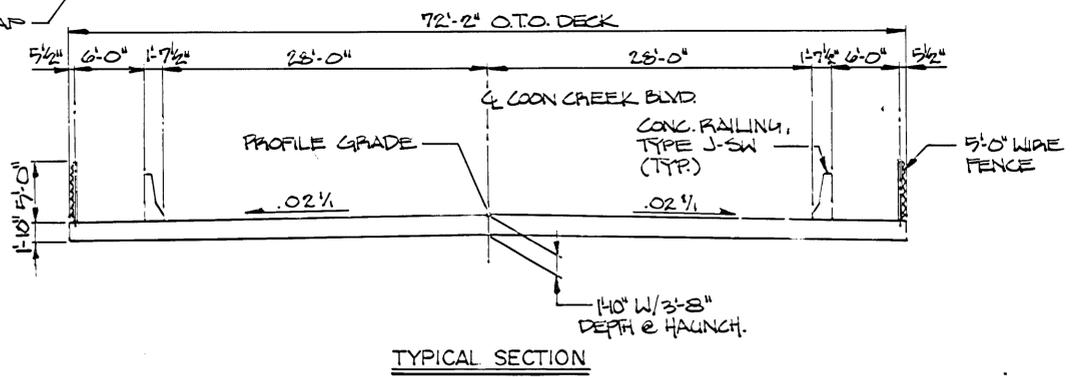
- 1983 AND INTERIM AASHTO DESIGN SPECIFICATIONS.
- LOAD FACTOR DESIGN METHOD HS20 LOADING.
- INCLUDES 17 PSF DEAD LOAD ALLOWANCE FOR FITZPATRICK WEARING COURSE.
- MAXIMUM ALLOWABLE DESIGN STRESSES:
 $f_c = 4700$ P.S.I. SLAB & PAVEMENT
 $f_c = 4000$ P.S.I. ABUT & PIER
 $f_y = 60000$ P.S.I. WIRE FENCE
- DECK AREA 9447 SQ. FT. (COPING TO CURB & O.T.O. SLAB)

LIST OF SHEETS

NO.	DESCRIPTION
1	GENERAL PLAN & ELEVATION
2	BRIDGE LAYOUT
3	ABUTMENT DETAILS
4	PIER DETAILS
5	SUPERSTRUCTURE DETAILS
6	CONCRETE RAILING (TYPE J-SW)
7	WIRE FENCE, DESIGN
8	BRIDGE STANDARD DETAILS
10	BRIDGE SURVEY
11	BRIDGE SURVEY PLAN & PROFILE



PLAN
1" = 15'-0"
SCALE

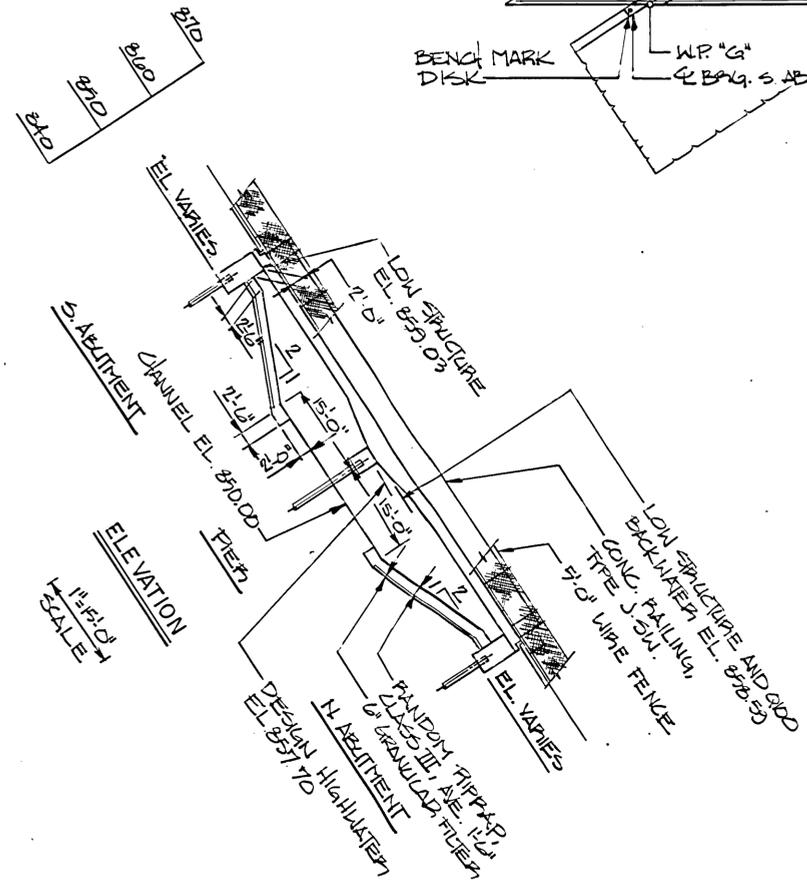


TYPICAL SECTION

CONSTRUCTION NOTES

1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.
 THE FIRST DIGIT OF THE FIRST TWO DIGITS OF EACH BARS MARK INDICATES THE BAR SIZE.
 BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH THE SPEC. 3301.
 THE LENGTH OF BARS SHOWN IN THE BILL OF MATERIALS AND THE WEIGHT OF BARS SHOWN IN THE SCHEDULE OF QUANTITIES DO NOT INCLUDE ANY DEDUCTION FOR BENDS.

- 1 - PREVISIONS APRIL 15, 1988
- 2 - PREVISIONS MAY 26, 1988



ELEVATION
1" = 15'-0"
SCALE

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2451.501	2481.501	2401.512	2401.513	2401.541	2401.541	2401.501	2452.501	2452.501	2452.502	2452.502	2452.519	2452.519	2511.501	2511.511	2557.501	2301.551
ITEM	STRUCTURE EXCAVATION CLASS U	THREE-PLY BRIDGE JT. WATER PROOFING (3X36)	TYPE J PAUL CONC. (3X46)	PIELNF BARS	PIELNF BARS (EPOXY COATED)	STRUCTURE CONCRETE (3Y43)	C.I.P. CONC. PILING (12") DELIVERED	C.I.P. CONC. PILING (16") DELIVERED	C.I.P. CONC. PILING (12") DRIVEN	C.I.P. CONC. PILING (16") DRIVEN	C.I.P. CONC. TEST PILES 12" x 45'	C.I.P. CONC. TEST PILES 16" x 50'	RANDOM RIPRAP CLASS III	GRANULAR FILTER	WIRE FENCE DESIGN S-3	BRIDGE APP. PANEL DES. C	
UNIT	CU. YD.	LIN. FT.	SQ. FT.	LIN. FT.	LB.	CU. YD.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EA.	EA.	CU. YD.	CU. YD.	LIN. FT.	EACH	
QUANTITY	464 (P)	282 (P)	9447 (P)	340 (P)	125,261 (P)	99,183 (P)	264 (P)	980	920	980	920	4	2	516 (P)	149 (P)	341 (P)	2



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNED: *[Signature]*
 DATE: 2/2/88 REG. NO. 8476

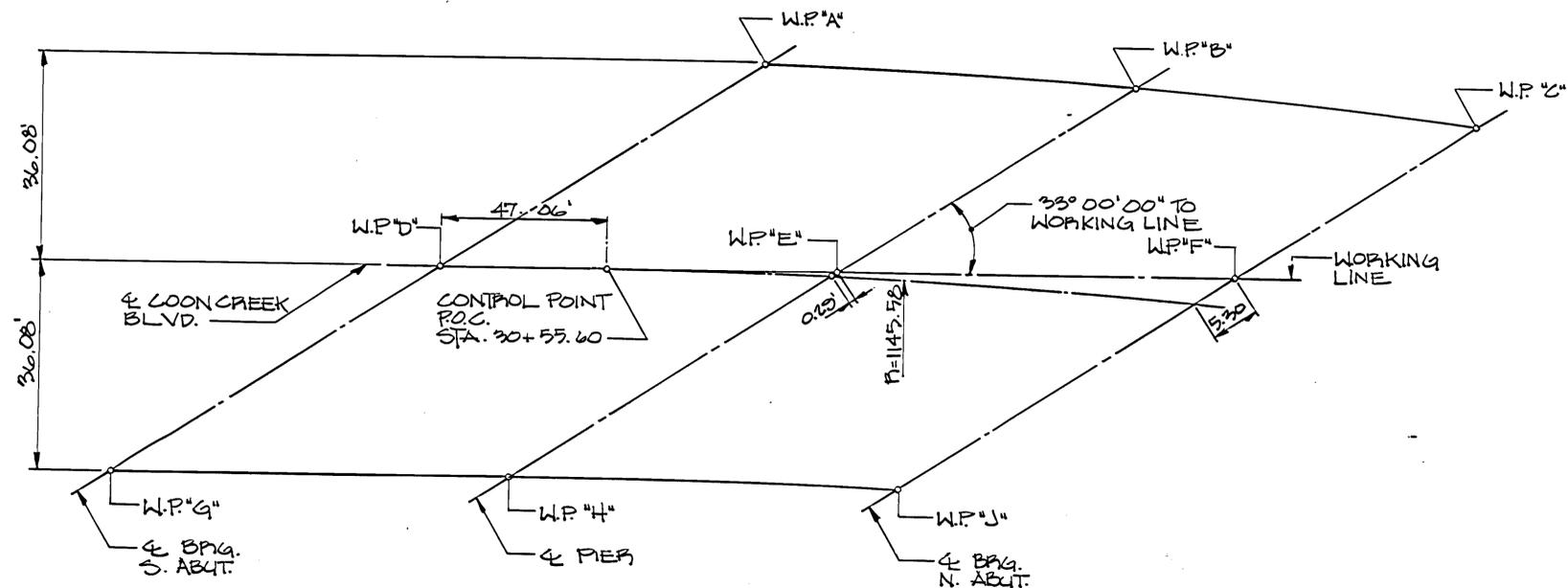
B.M. ELEV. 862.18 (M.S.L. 19... ADJ.)
 TOP - BRONZE DISK AT S.E. CORNER OF BRIDGE AT COON CREEK AND HWY 242.

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION

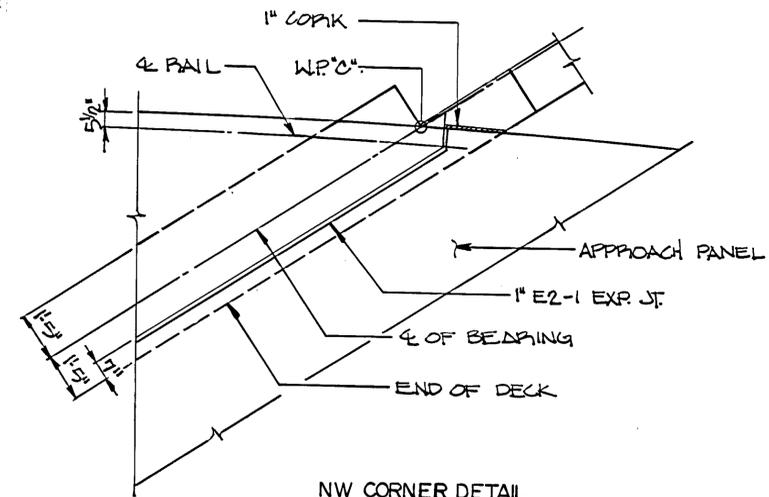
Bridge No. 02549
 COON CREEK BLVD OVER COON CREEK IN COON RAPIDS, 2 SPANS - 63' & 67'.
 CONT. CONC. SLAB W/56' RIDG & 2-6' SDWKS AND 33'00'-00" SKEW.
 IDENT. NO. 209

GENERAL PLAN AND ELEVATION
 SEC. 4 T.32. N R.24. W
 CITY OF COON RAPIDS ANOKA COUNTY

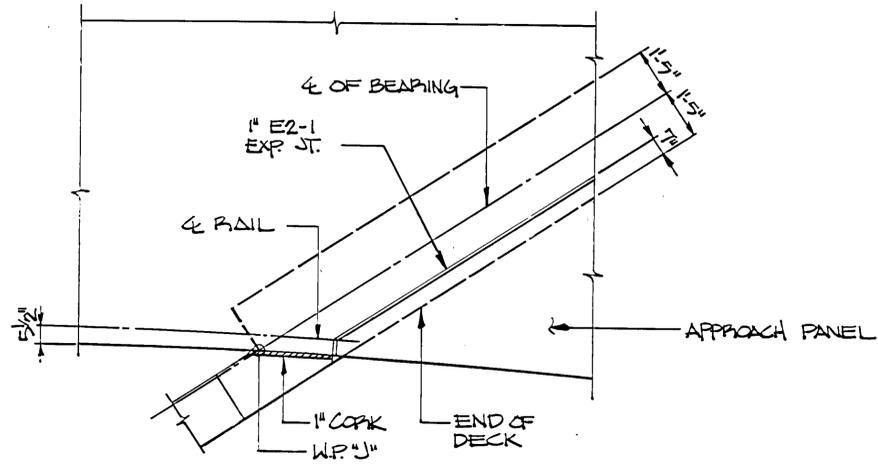
APPROVED: _____
 BRIDGE ENGINEER DIRECTOR ENGINEERING SERVICES
 DES. B.J.J. DR. C.B-Y. 02549
 CHK. S.A. CHK. B.J.J.



WORKING POINT LAYOUT



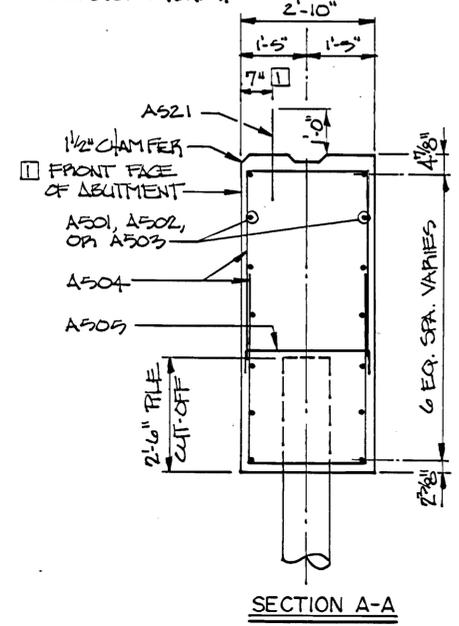
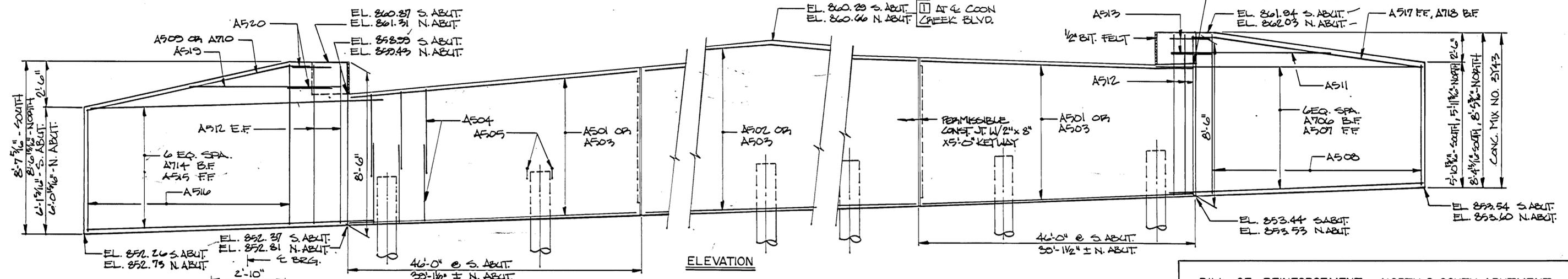
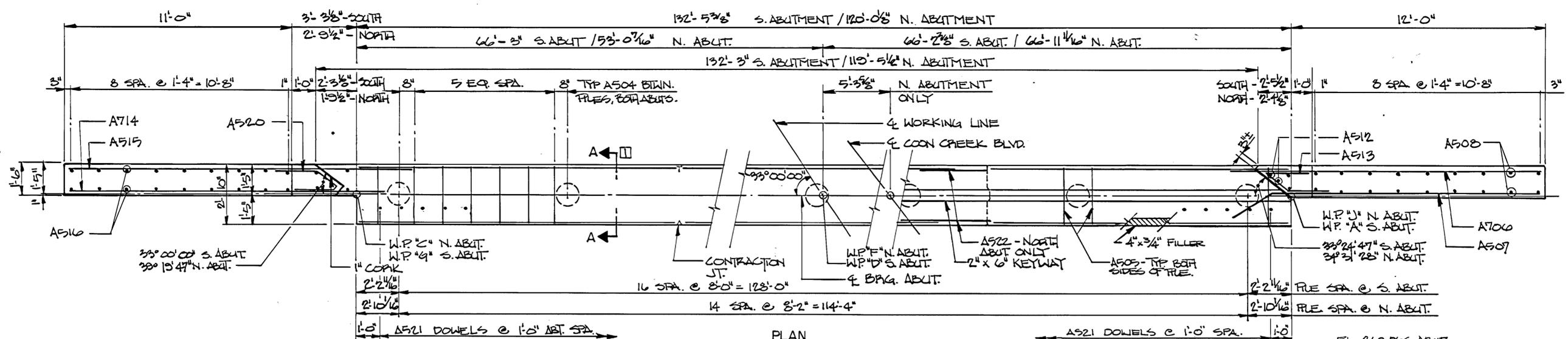
NW CORNER DETAIL
SE CORNER SIMILAR



NE CORNER DETAIL
SW CORNER SIMILAR

POINT	STATION	DISTANCE BETWEEN WORKING POINTS														COORDINATES		ELEVATIONS			POINT	
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	N- COORDINATES	E- COORDINATES	TOP OF RDWY.	TOP OF RDWY. TO BR. SEAT		BRIDGE SEAT
A	29+47.14		63.15		66.20	37.60			24.87	75.54							13234.250	13269.101	861.30	1.88	860.08	A
B	29+24.05			50.88		62.27	26.76	87.93		81.50							13348.026	13272.234	861.50	3.71	858.15	B
C	29+25.27						53.04	24.75	178.68								13406.595	13278.301	861.37	1.88	859.45	C
D	31+02.66					66.41		66.25	37.68								13228.848	13304.222	862.17	1.88	860.20	D
E	30+36.26						66.40		66.25	37.85							13255.244	13305.331				E
F	31+58.22								66.40	66.38							13361.633	13306.440				F
G	31+58.22																13172.690	13339.373	860.50	1.88	859.02	G
H	30+01.82									65.80							13235.085	13340.482	861.56	3.71	857.85	H
J	30+26.02																13304.867	13341.574	862.05	1.88	860.15	J
K																						K
L																						L
M																						M
N																						N
P																						P
Q																						Q
R																						R
S																						S
T																						T
U																						U
V																						V
W																						W

	ABUT. S.	ABUT. N.	PIER	PIER
SLAB THICKNESS	1'-10"	1'-10"	3'-8"	
STOOL HEIGHT	0	0	0	
BEAM HEIGHT	0	0	0	
BEARING HEIGHT	1/2"	1/2"	1/2"	
TOTAL	1'-10 1/2"	1'-10 1/2"	3'-8 1/2"	

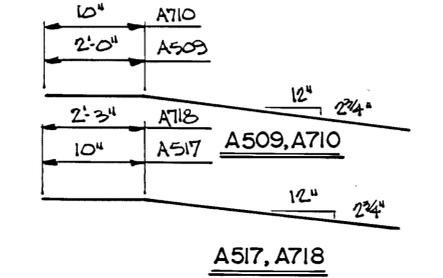


COMPUTED PILE LOADS - TONS/PILE

	NORTH ABUTMENT	SOUTH ABUTMENT
DEAD LOAD	32.0	29.6
LIVE LOAD	6.0	5.3
DESIGN LOAD	38.0	34.9

PILE NOTES:

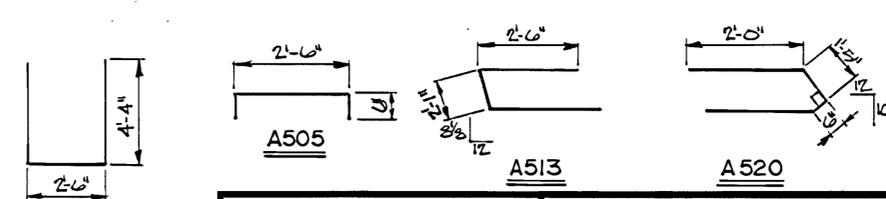
- 4 - CAST-IN-PLACE TEST PILES 45' LG.
- 23 - CAST-IN-PLACE CONC. PILES, EST. LENGTH 35'.
- 13 - CAST-IN-PLACE CONC. PILES REQD. FOR NORTH ABUTMENT.
- 15 - CAST-IN-PLACE CONC. PILES REQD. FOR SOUTH ABUTMENT.
- FILES TO HAVE A NOMINAL DIA. OF 12".



SUMMARY OF QUANTITIES - NORTH & SOUTH ABUTMENTS

ITEM	NORTH ABUTMENT		SOUTH ABUTMENT		TOTAL
	UNIT	QUANTITY	UNIT	QUANTITY	
STRUCTURE CONC. MIX NO. 3Y43	CY	102	CY	108	210
REINFORCEMENT BARS	LB.	5038	LB.	5479	10,517
BENCH MARK DISK	EA.	-	EA.	1	1
CAST-IN-PLACE CONC. PILING DELIVER.	LN. FT.	455	LN. FT.	525	980
CAST-IN-PLACE CONC. PILING DRIVEN	LN. FT.	455	LN. FT.	525	980
CAST-IN-PLACE CONC. TEST PILES	EA.	2	EA.	2	4
STRUCTURE EXCAVATION CLASS U	CU. YD.	221	CU. YD.	243	464
3-PLY JT. WATERPROOFING	LN. FT.	14	LN. FT.	14	28

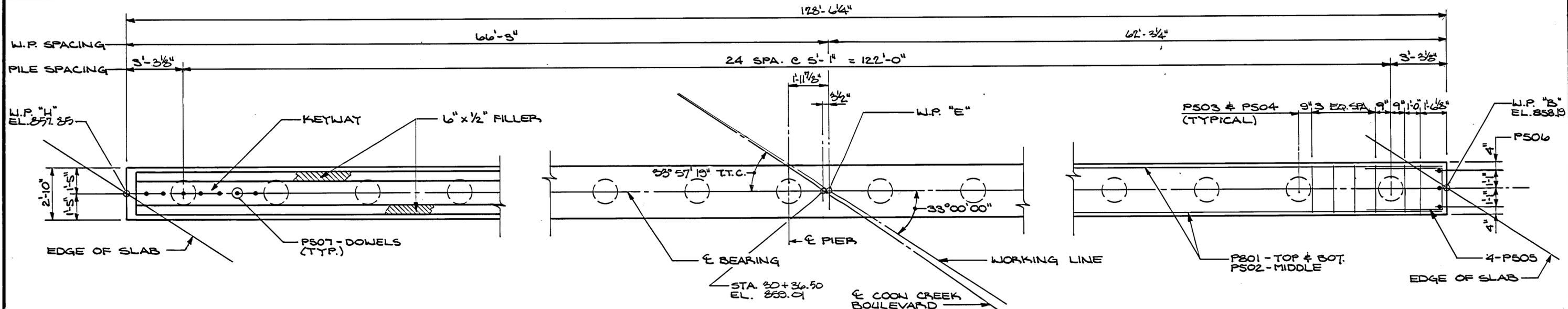
① DOES NOT INCLUDE TEST PILES.
 ② THE CITY WILL FURNISH DISK. PAYMENT FOR TRACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STD. RATE NO. 9301 FOR TRACING.



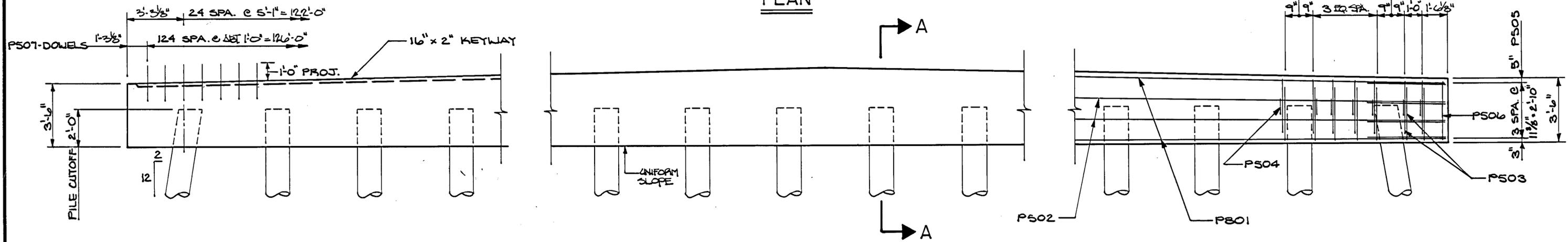
BILL OF REINFORCEMENT - NORTH & SOUTH ABUTMENT

MARK	NO.	LENGTH	SHAPE	LOCATION
A501	28	45'-8"	STR.	HORIZ. @ S. ABUT.
A502	14	39'-8"	STR.	HORIZ. @ S. ABUT.
A503	42	38'-3"	STR.	HORIZ. @ N. ABUT.
A504	208	11'-4"	BENT	STIRRUPS
A505	64	3'-6"	BENT	CAP TIES
A706	14	14'-3"	STR.	HORIZ. @ W.W. BF
A507	14	14'-0"	STR.	HORIZ. @ W.W. FF
A508	36	(1)	STR.	VERT. @ W.W. EF
A509	2	12'-3"	BENT	DIAGONAL HORIZ @ W.W.
A710	2	11'-7"	BENT	DIAGONAL HORIZ @ W.W.
A511	4	7'-4"	STR.	HORIZ. @ W.W. BF & FF
A512	16	8'-1"	STR.	VERT. @ W.W. (ALL W.W.S)
A513	4	7'-1"	BENT	TIES @ W.W.
A714	14	16'-7"	STR.	HORIZ. @ W.W. BF
A515	14	15'-10"	STR.	HORIZ. @ W.W. FF
A516	36	(2)	STR.	VERT. @ W.W. EF
A517	2	11'-7"	BENT	DIAGONAL HORIZ @ W.W.
A718	2	13'-0"	BENT	DIAGONAL HORIZ @ W.W.
A519	4	7'-8"	STR.	HORIZ. @ W.W. BF & FF
A520	4	8'-11"	BENT	TIES @ W.W.
A521	245	2'-0"	STR.	DOWELS
A522	14	5'-0"	STR.	HORIZ @ N. ABUT.

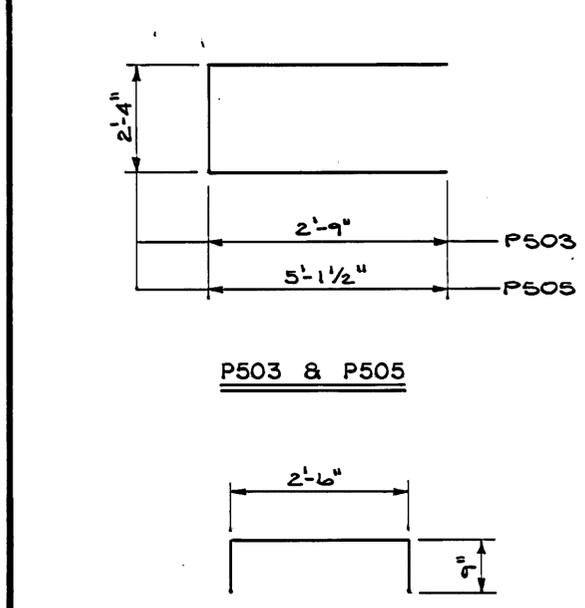
① 4 EACH, (5'-7 3/8'-1') OF 3 BARS @ 3 3/8" INCREMENTS.
 ② 4 EACH, (5'-0 3/8'-1') OF 3 BARS @ 3/8" INCREMENTS.
 * FIELD BEND TO CLEAR FILE.
 ▲ FIELD BEND AS NECESSARY.
 □ REVISIONS APRIL 15, 1928.



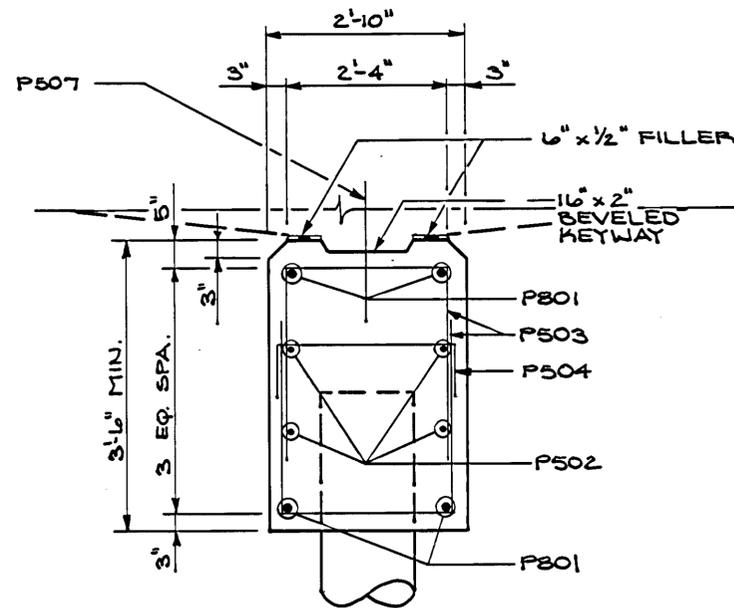
PLAN



ELEVATION



P504



SECTION A-A

COMPUTED PILE LOADS TONS PER PILE-	
DEAD LOAD	41.3
LIVE LOAD	11.0
TOTAL	52.3

PILE NOTES:

- 2 CAST-IN-PLACE CONC. TEST PILES, 50 FT. LONG.
- 23 CAST-IN-PLACE CONC. PILES, EST LENGTH = 40 FT.
- 25 CAST-IN-PLACE CONC. PILES REQUIRED.
- PILES HAVE A NOMINAL DIAMETER OF 16". PILE SPACING SHOWN IS AT BOTTOM OF CAP.
- FOR PAINTING OF PILES, SEE SPECIAL PROVISIONS.
- FOR PILE SPLICE, SEE DETAIL 8201.

BILL OF REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
P801	12	41'-11"	STR.	CAP-LONG.
P502	12	41'-11"	STR.	CAP-LONG.
P503	198	7'-10"	BENT	CAP-STIRRAUP
P504	100	4'-0"	BENT	CAP-TIES
P505	8	12'-7"	BENT	CAP-END TIES
P506	6	3'-2"	STR.	CAP-VERT.
P807	125	2'-0"	STR.	CAP-DOWELS
P808	4	4'-0"	STR.	CAP-LONG.
P509	4	4'-0"	STR.	CAP-LONG.

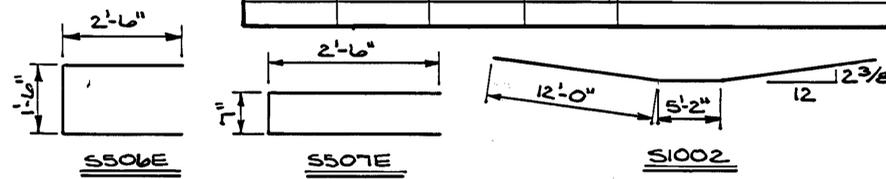
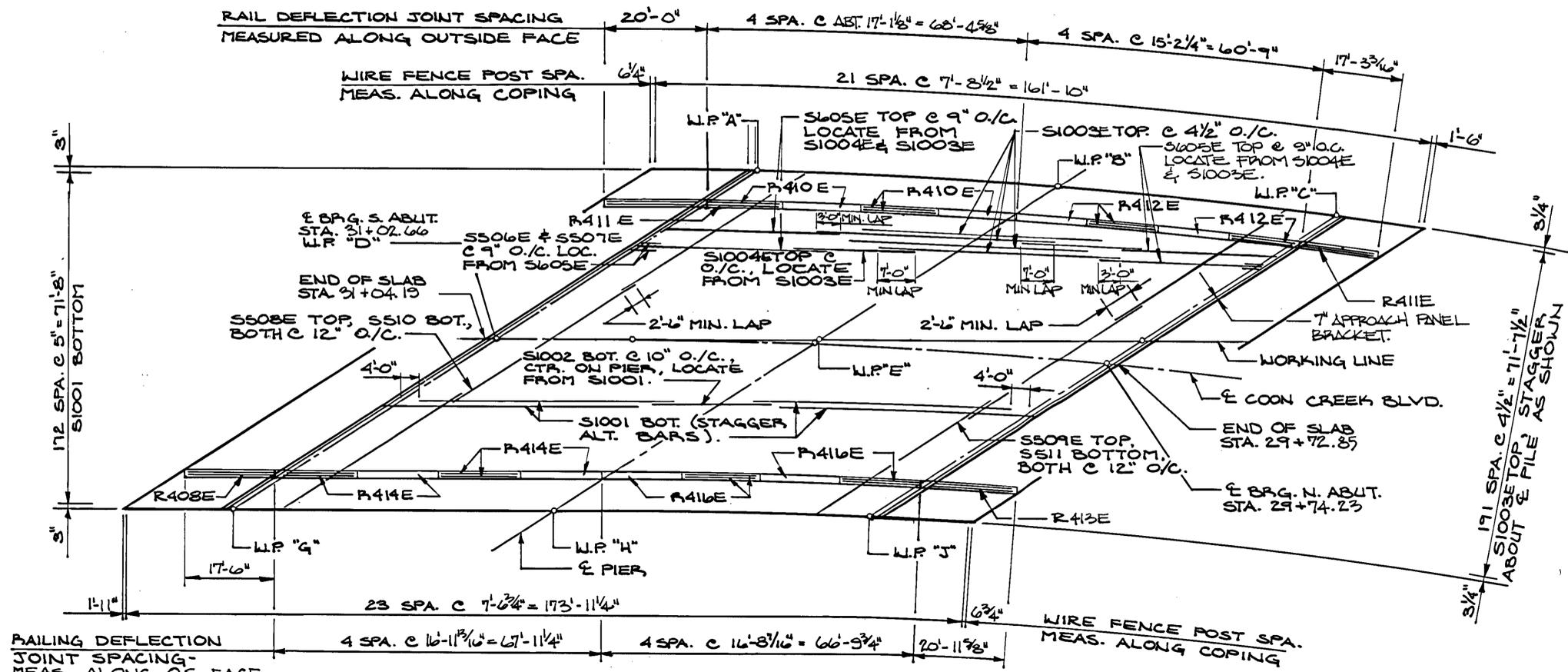
SUMMARY OF QUANTITIES		
ITEM	UNIT	QUANTITY
CONCRETE MIX NO. 3Y43	CU. YD.	54
REINFORCEMENT BARS	POUND	4390
CAST-IN-PLACE CONC. TEST PILES, 50' LONG.	EACH	2
CAST-IN-PLACE CONC. PILING DEL'D.	LIN. FT.	920
CAST-IN-PLACE CONC. PILING, DRIVEN	LIN. FT.	920

- ① FOR TEST PILE LOCATIONS, SEE SURVEY SHT.
- ② DOES NOT INCLUDE TEST PILES.



PIER DETAILS

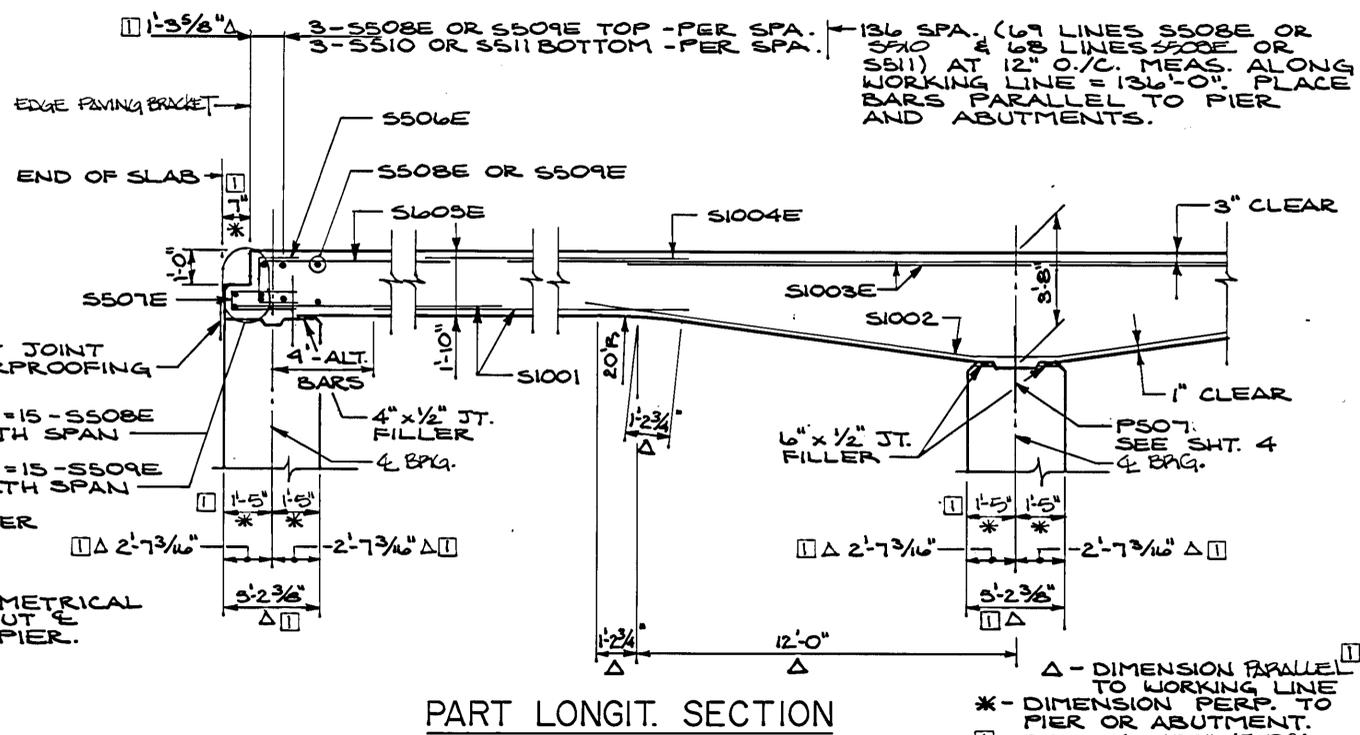
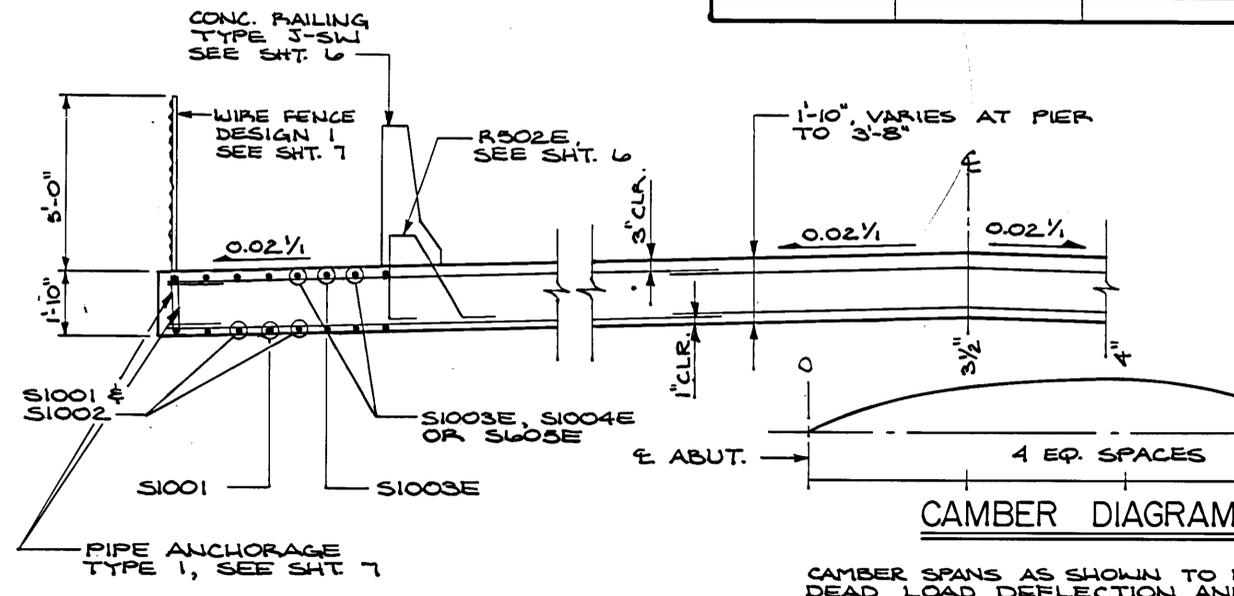
BILL OF REINFORCEMENT				
MARK	NO.	LENGTH	SHAPE	LOCATION
S1001	346	54'-0"	STR.	BOT. - LONGIT.
S1002	87	29'-2"	BENT	BOT. - LONGIT.
S1003E	192	50'-0"	STR.	TOP - LONGIT.
S1004E	96	25'-0"	STR.	TOP - LONGIT.
S1005E	192	30'-0"	STR.	TOP - LONGIT.
S506E	192	6'-6"	BENT	END SLAB
S507E	192	5'-7"	BENT	END SLAB
S508E	222	45'-6"	STR.	TOP - TRANS.
S509E	219	43'-6"	STR.	TOP - TRANS.
S510	207	45'-6"	STR.	BOT. - TRANS.
S511	204	43'-6"	STR.	BOT. - TRANS.



SUMMARY OF QUANTITIES - SUPERSTRUCTURE		
ITEM	UNIT	QUANTITY
BRIDGE SLAB CONCRETE (3X36)	SQ. FT.	9447
TYPE J-SW RAILING CONCRETE (3X46)	LIN. FT.	340
REINFORCEMENT BARS (EPOXY COATED)	LBS.	93,183
REINFORCEMENT BARS	LBS.	110,394
PREFORMED JOINT FILLER	SEE TABLE *	
BRIDGE NAMEPLATE	EA.	1
WIRE FENCE, DESIGN 1	LIN. FT.	341
3-PLY JOINT WATERPROOFING	LIN. FT.	254

- ① VOL. OF SLAB CONC. (3X36) IS APPROX. 751 C.Y.
- ② VOL. OF RAILING CONC. (3X46) IS APPROX. 54 C.Y.
- ③ INCLUDES RAILING REINFORCEMENT.
- ④ INCLUDES RAILING ON APPROACH PANELS.
- ⑤ TO BE INCLUDE IN PRICE BID FOR OTHER ITEMS.

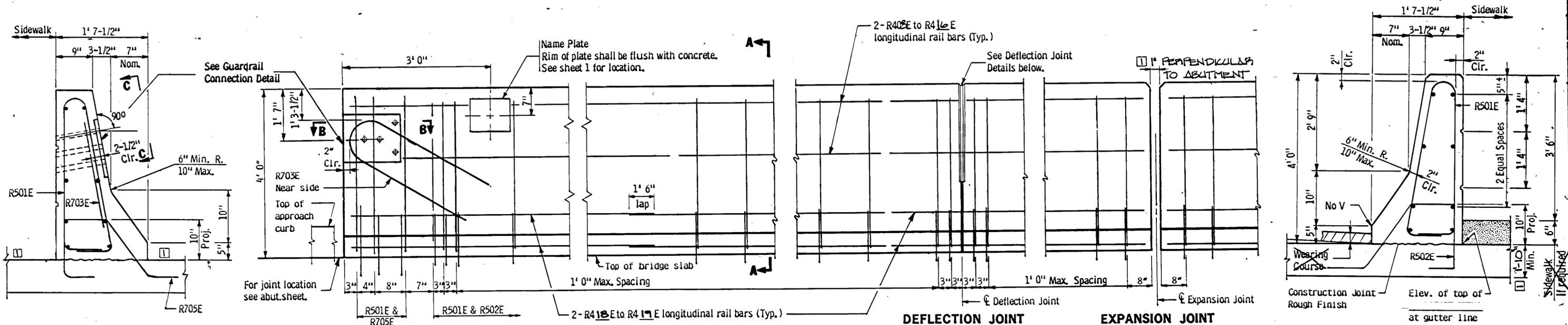
PREFORMED JOINT FILLER *			
TYPE	SIZE	NO.	LOCATION
1" CORK	11 1/2" x 2'-9"	14 PIECES	RAIL DEF. JTS.
1" CORK	1'-10 1/2" x 2'-6"	4 PIECES	ABUT. CORNERS
1/2" BIT. FELT	4" x 250'		ABUT. SEAT
1/2" BIT. FELT	6" x 242'		PIER SEAT
1" BIT. FELT	11" x 257'		APPROACH PANEL JT.



PART TRANS. SECTION

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION ONLY EQUALS APPROXIMATELY 1/10 OF CAMBER VALUES SHOWN.

PART LONGIT. SECTION



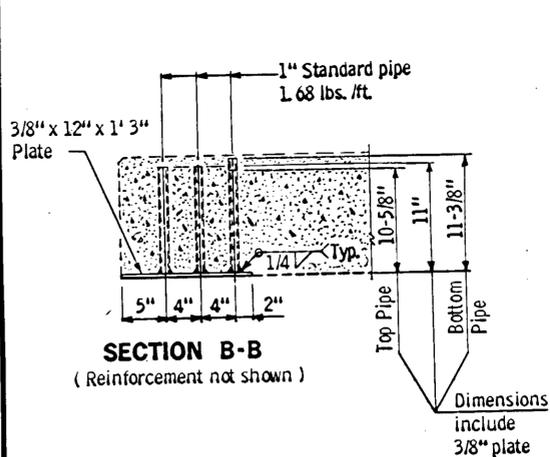
END VIEW

INSIDE ELEVATION OF RAILING (WEARING COURSE NOT SHOWN)

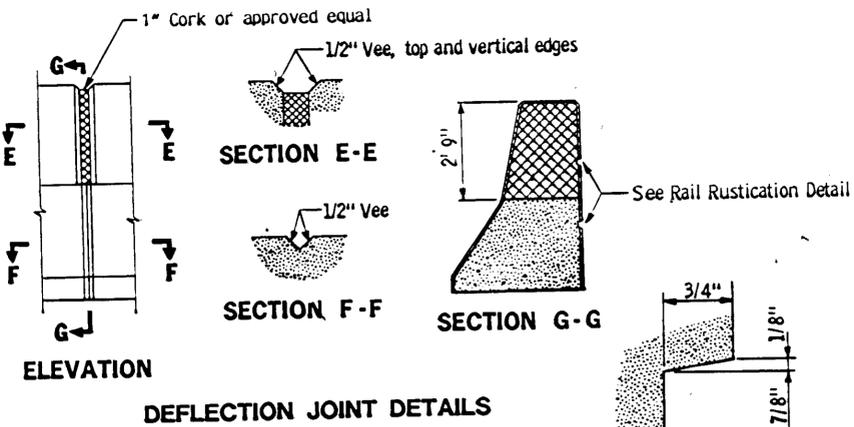
DEFLECTION JOINT

EXPANSION JOINT (EXPANSION DEVICE NOT SHOWN)
 Expansion joint required only if expansion device is used. See superstructure sheets.

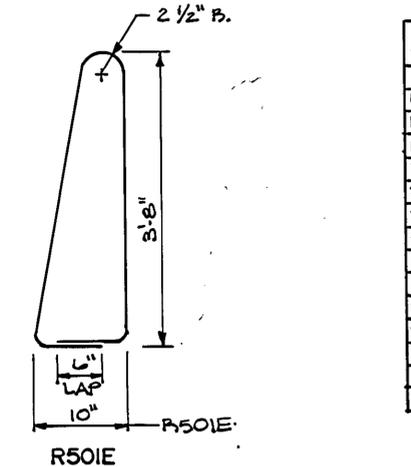
SECTION A-A



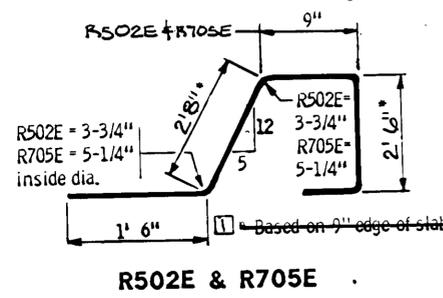
SECTION B-B (Reinforcement not shown)



DEFLECTION JOINT DETAILS



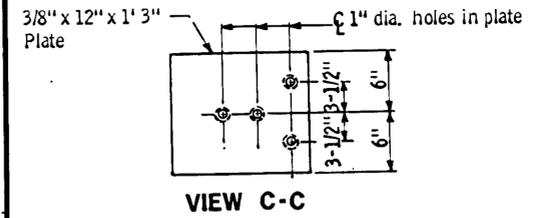
RAIL RUSTICATION



R502E & R705E

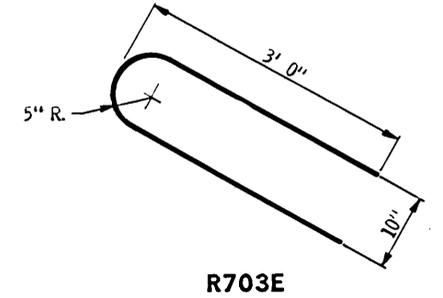
BILL OF REINFORCEMENT FOR RAILING

BAR	NO.	LENGTH	SHAPE	LOCATION
R501E	400	8'-11"	BENT	RAIL - VERTICAL
R502E	388	7'-11"	BENT	RAIL - VERTICAL
R705E	4	6'-6"	BENT	END POST
R703E	12	7'-11"	BENT	END POST
R408E	4	17'-8"	STR.	RAIL - LONGIT.
R409E	4	19'-8"	STR.	RAIL - LONGIT.
R410E	16	16'-8"	STR.	RAIL - LONGIT.
R411E	4	16'-10"	STR.	RAIL - LONGIT.
R412E	16	14'-8"	STR.	RAIL - LONGIT.
R413E	4	20'-6"	STR.	RAIL - LONGIT.
R414E	16	16'-8"	STR.	RAIL - LONGIT.
R415E	16	16'-2"	STR.	RAIL - LONGIT.
R416E	16	3'-0"	STR.	RAIL - LONGIT.
R417E	16	3'-5"	STR.	RAIL - LONGIT.



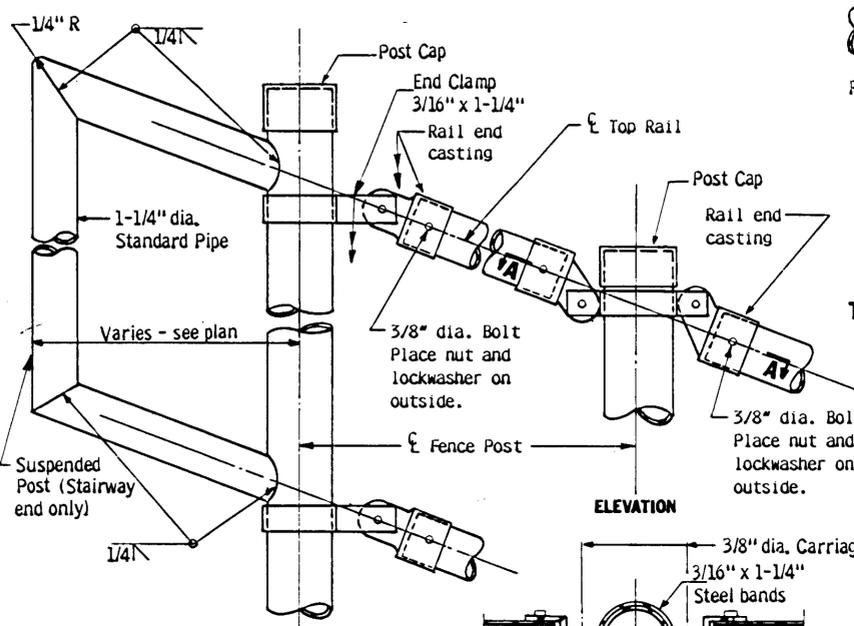
VIEW C-C

GUARDRAIL CONNECTION DETAIL
 Galvanize after fabrication per Spec. 3394
 Estimated Weight = 25 lbs.



R703E

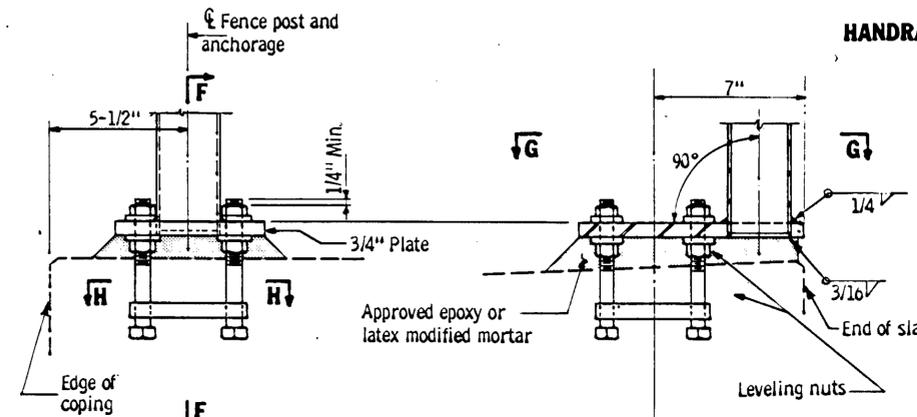
GENERAL NOTES:
 Conc. Railing = 640 lbs./ft.
 Conc. Railing = .158 cu. yds./ft.
 Rail and end post to be Concrete Mix No. 3x46
 Guardrail connection to be Structural Steel, Spec. 3306
 Finish all edges of rail and end post with 1/2" vee except where otherwise noted.
 See superstructure sheet for joint spacing.
 Maximum spacing of concrete deflection joints shall be 20' 0"
 Guardrail connection to be included in price bid for other items.
 Rail quantities are included in summary of quantities for superstructure.
 Length of railing concrete to be measured for payment between outside faces of railing.
 Bars marked with the suffix "E" shall be epoxy coated in accordance with Spec. 3301



JUNCTION "Z"

DETAIL "A"

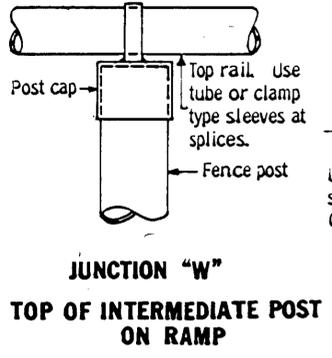
POST CONNECTIONS ON STAIRWAY



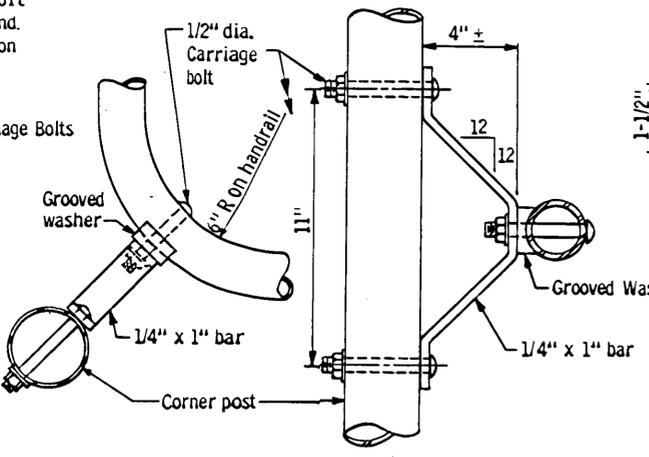
ELEVATION

SECTION F-F

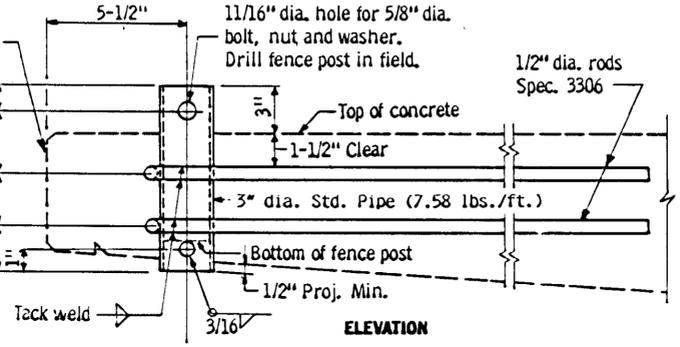
BOLT ANCHORAGE FOR FENCE POSTS TYPE 2



JUNCTION "W"
TOP OF INTERMEDIATE POST ON RAMP



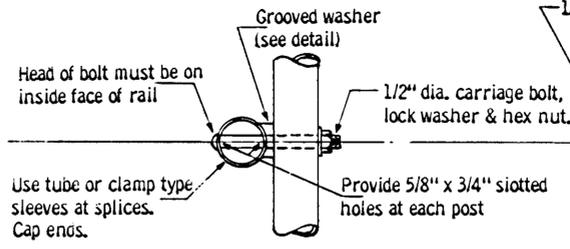
HANDRAIL CORNER DETAIL



ELEVATION

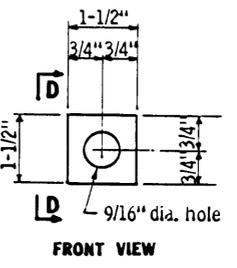
PLAN VIEW FOR REGULAR FENCE POSTS

PIPE ANCHORAGE FOR FENCE POSTS TYPE 1



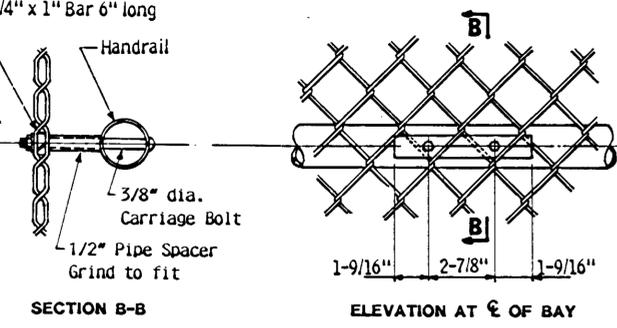
JUNCTION "H"

HANDRAIL



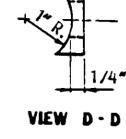
FRONT VIEW

GROOVED WASHER
An approved alternate will be considered.

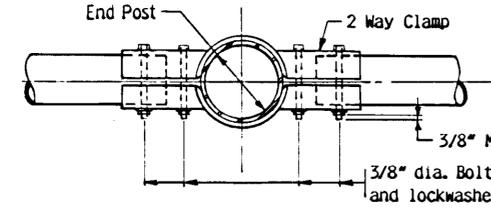


SECTION B-B

ELEVATION AT C OF BAY



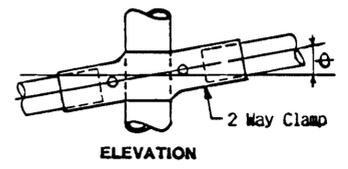
VIEW D-D



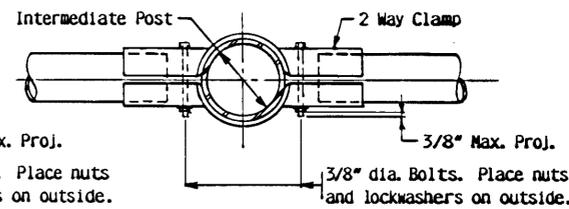
JUNCTION "X"

2 WAY CLAMP BENDING TABLE

GRADE OF FENCE	θ
0° to 2°	0°
2° to 6°	4°
6° to 10°	8°

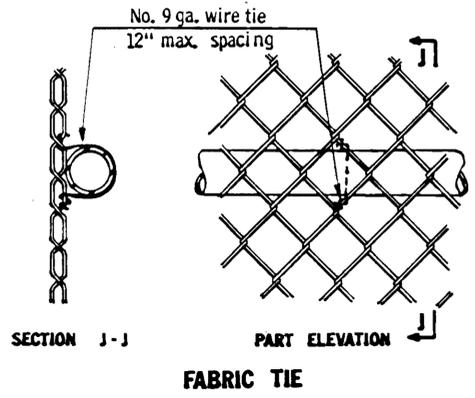


ELEVATION



PLAN VIEW

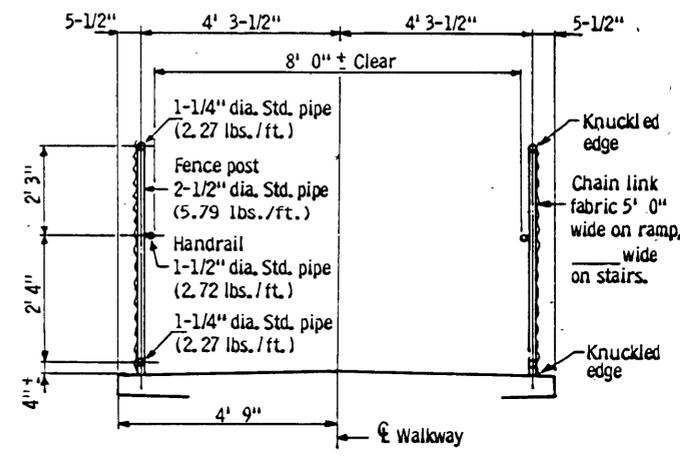
JUNCTION "Y"
An approved alternate will be considered.



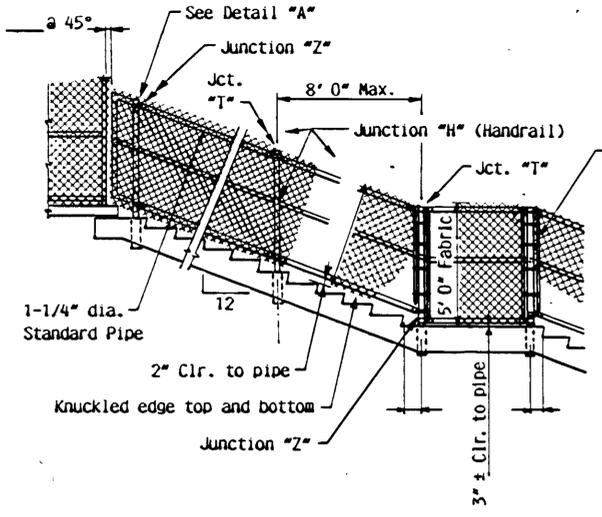
SECTION J-J

PART ELEVATION

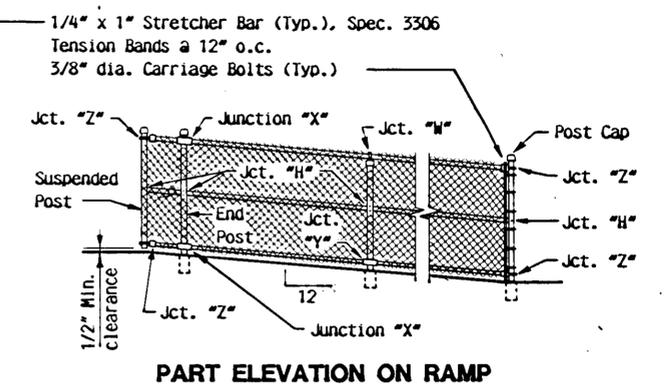
FABRIC TIE



TYPICAL SECTION THRU WALKWAY



PART ELEVATION ON STAIRWAY



PART ELEVATION ON RAMP

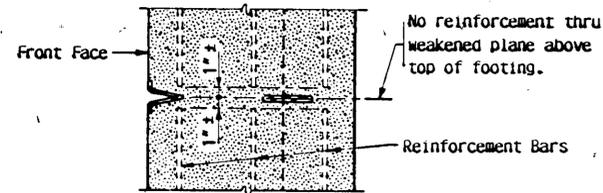
GENERAL NOTES:

For alternate to Type 1 anchorages, see Detail B905, Type A For End Posts.
For post spacing, location of anchorages & other details, see sheet ____
All pipe diameters are nominal.
Max. horiz. spacing for 2-1/2" dia. standard pipe posts = 8' 0".
Fence posts and anchorages shall be set vertical, unless otherwise noted. At bolt type anchorages, pack space between base plate and concrete with approved mortar after nuts have been adjusted and tightened.
See special provisions for requirements not included on this sheet and for basis of payment.

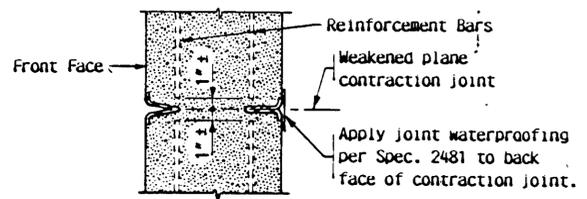
REVISED: _____ APPROVED: Nov. 26, 1985
DES: MN/DOT DR: MN/DOT APPROVED: _____
CHK: B.J.J. CHK: B.J.J.

WIRE FENCE, DESIGN 1
5 FT. FENCE FOR PEDESTRIAN BRIDGES

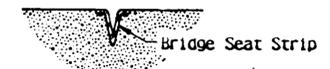
FIG. 5-397.202
Bridge No. 02549
Sheet No. 7 of 11 Sheets



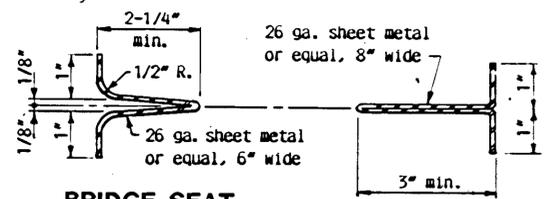
SECTION A-A



SECTION B-B

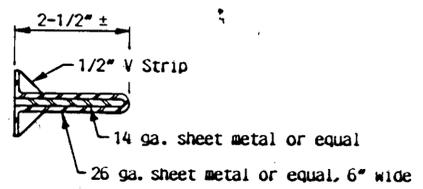


SECTION C-C

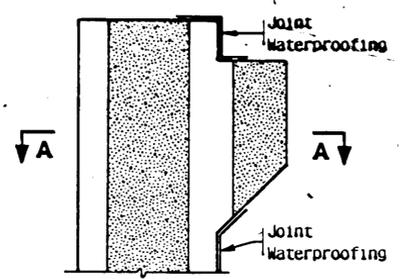


BRIDGE SEAT and FRONT STRIP

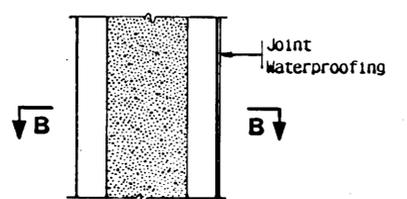
BACK STRIP



ALTERNATE BRIDGE SEAT and FRONT STRIP

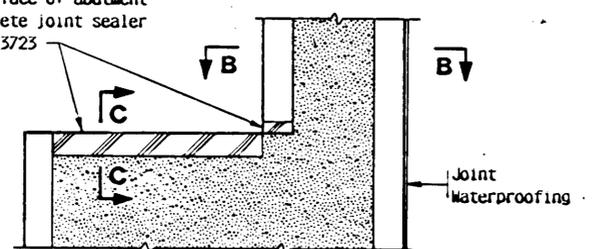


SECTION THRU PAVING BRACKET



SECTION THRU WALL

Seal across bridge seat and 1\"/>



SECTION THRU BRIDGE SEAT
PART SECTION THRU ABUTMENT AT JOINT

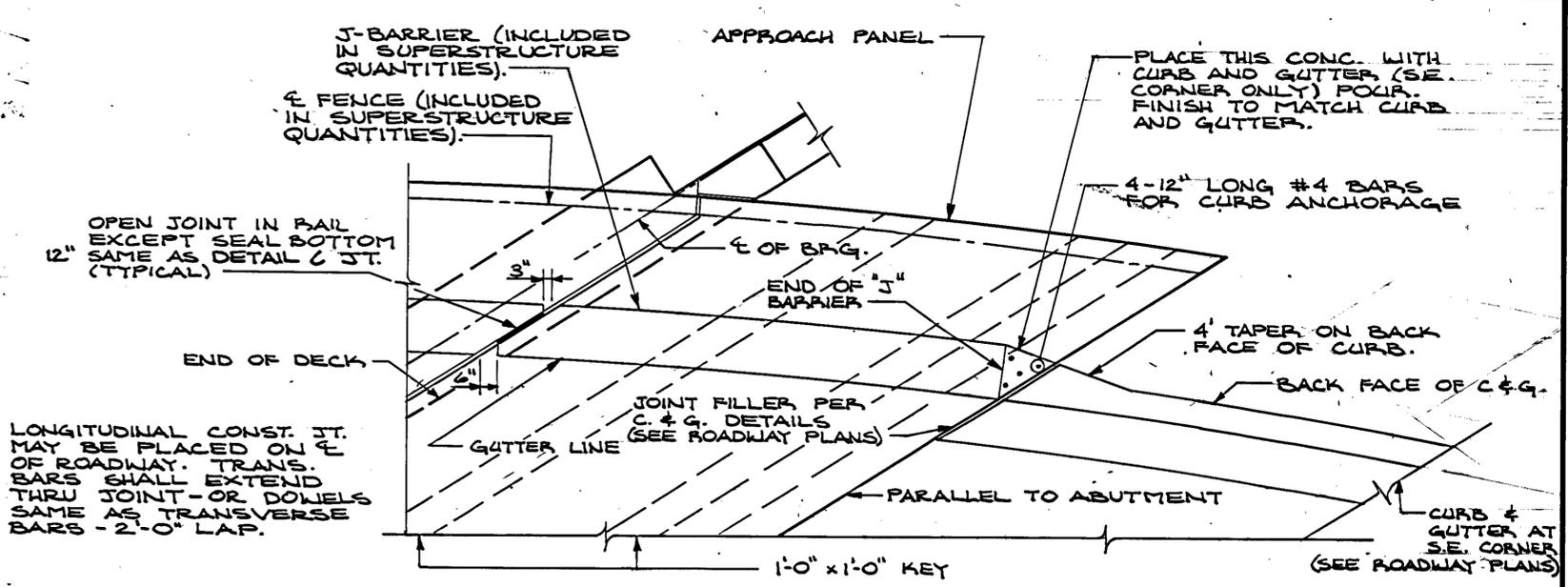
NOTES:
The methods and materials indicated on this sheet shall be considered as suggested only. Variations will be permitted, subject to approval by the Engineer, but must provide dummy joints of a depth not less than the depth shown, and a width at the front face of the abutment of not greater than 5/16\"/>

APPROVED: February 20, 1987
Developed by: ENGINEERING STANDARDS and BRIDGES & STRUCTURES
Issued by: ENGINEERING STANDARDS

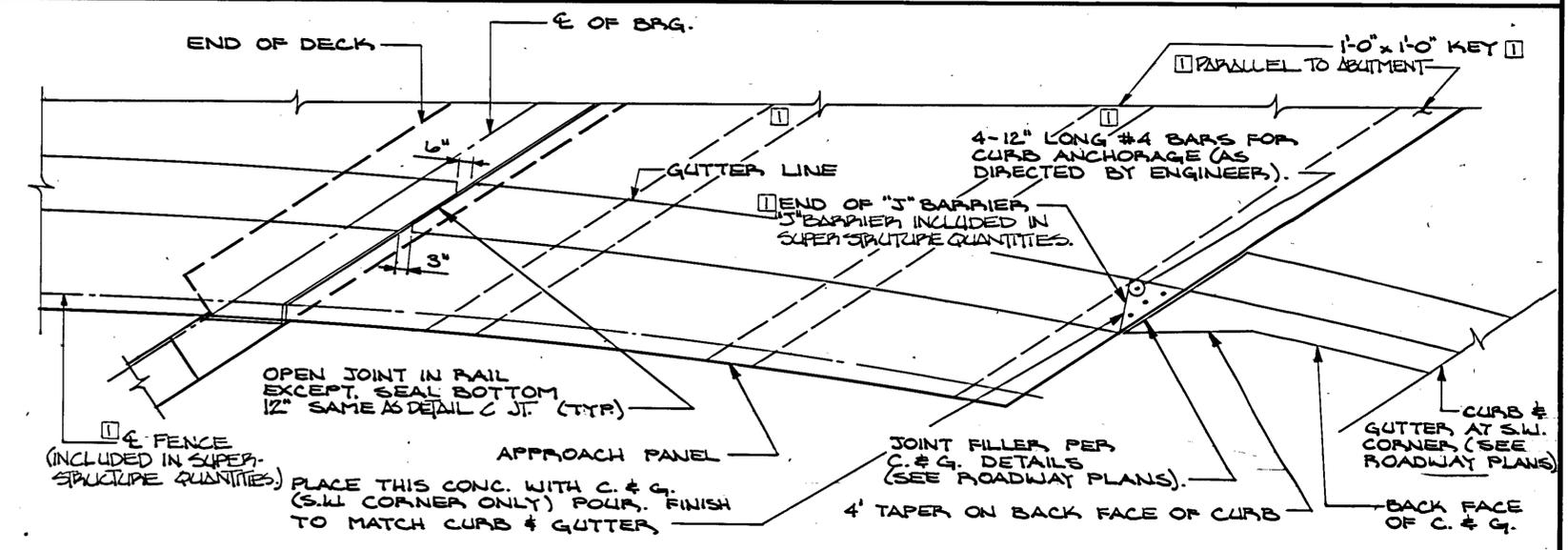
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
CONTRACTION JOINT

REVISION
DETAIL NO.
B801

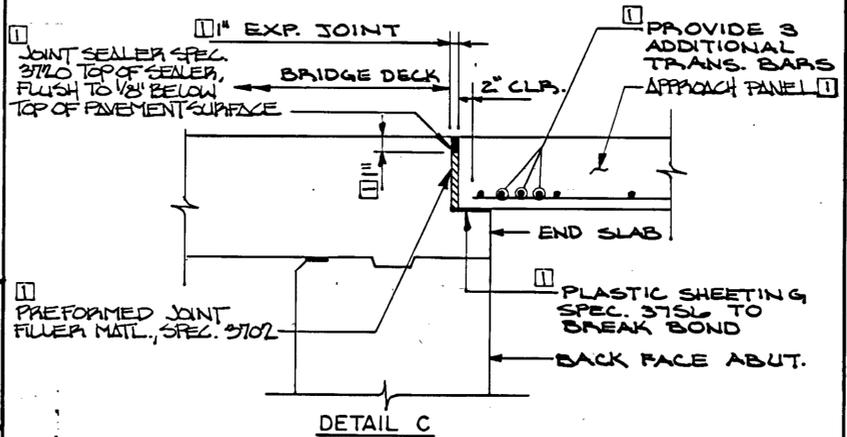
PREVIOUS EDITIONS APRIL 15, 1988



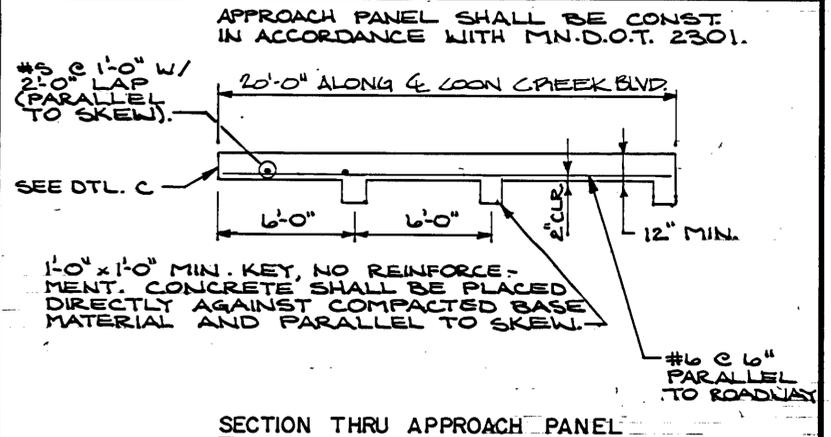
NW CORNER DETAIL
SE CORNER SIMILAR



NE CORNER DETAIL
SW CORNER SIMILAR



DETAIL C



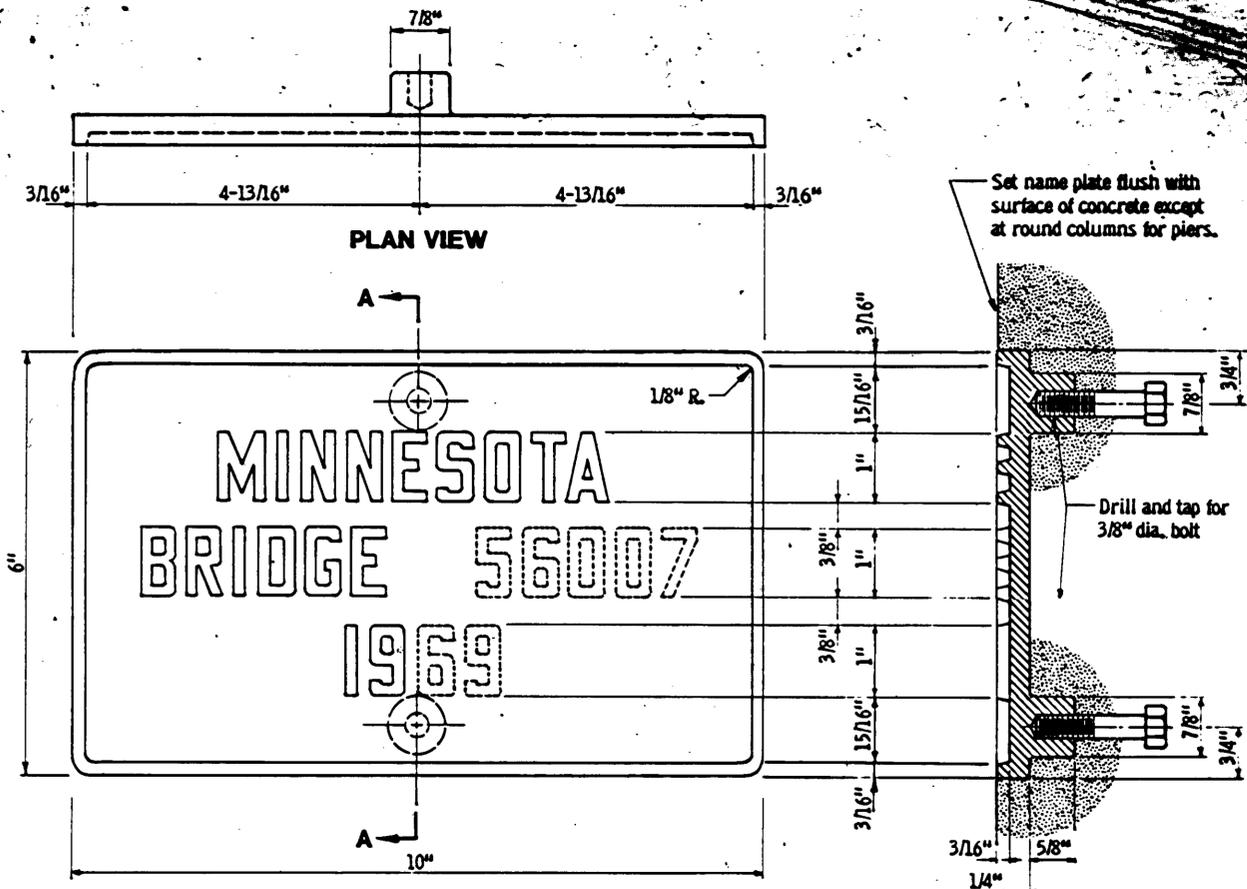
SECTION THRU APPROACH PANEL

CONCRETE APPROACH PANEL

TITLE:
DETAILS

DES: MN/DOT DR: MN/DOT APPROVED:
CHK: B.J.J. CHK: B.J.J.
Sheet No. 8 of 11 Sheets

Bridge No.
02549



ELEVATION

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

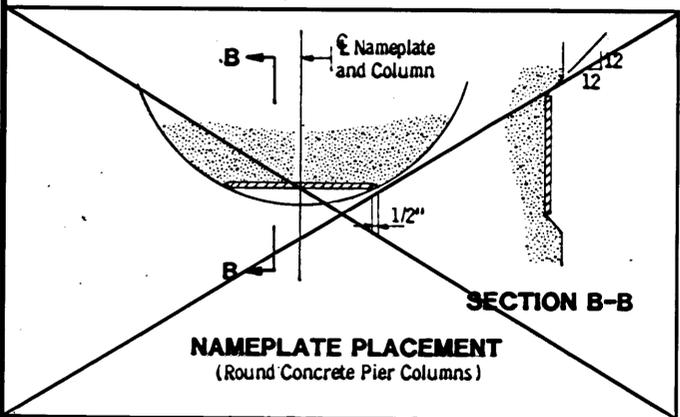
- BRIDGE 02549
- YEAR 1988
- CITY CITY OF COON RAPIDS, MINNESOTA



NUMBERS FOR NAMEPLATES

NOTES:

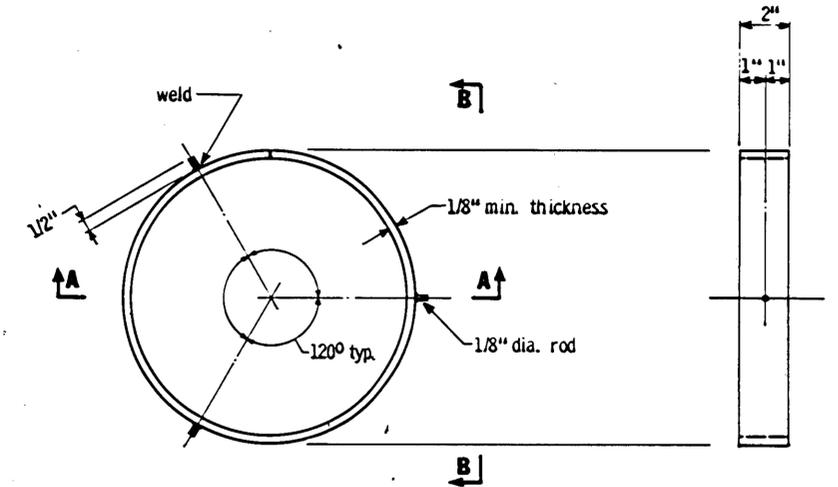
- No shop drawing required.
- Material shall comply with Spec. 3327
- Letters and numbers shall conform to those shown.
- Draft on letters and numbers shall not be more than 3" in 12".
- Horizontal spacing of letters and numbers shall produce a balanced layout in proportion to spacing shown.
- Top surface of letters, numbers and frames shall be burnished.
- Furnish 2 steel bolts 3/8" dia. x 3" long with each plate.



SECTION B-B

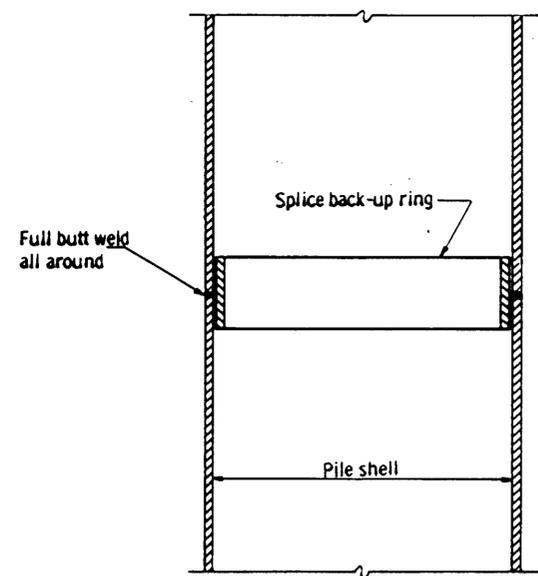
NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

APPROVED: May 1, 1985 Developed by: ENGINEERING STANDARDS & BRIDGES AND STRUCTURES OFFICES Issued by: OFFICE OF ENGINEERING STANDARDS	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION BRIDGE NAMEPLATE TRUNK HIGHWAY BRIDGES	REVISION	DETAIL NO. B101
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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.

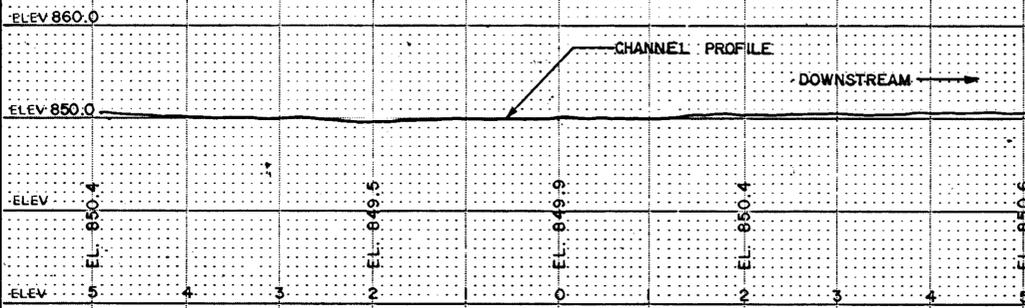
APPROVED July 21, 1972 <i>Stephen J. Duff</i> Engineering Standards Engineer RESEARCH AND STANDARDS DIVISION	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION PILE SPLICE CAST-IN-PLACE CONCRETE PILES	DETAIL NO. B201
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TITLE: DETAILS	DES: MN/DOT CHK: B.J.J.	DR: MN/DOT CHK: B.J.J.	APPROVED:	REVISED APRIL 15, 1988
Sheet No. 9 of 11 Sheets	Bridge No. 02549			

CONTRACTED PROFILE

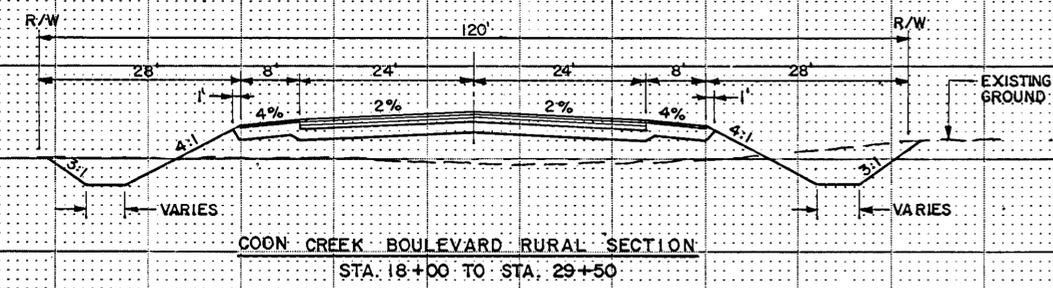
SCALE: HOR. 1" = 100' VER. 1" = 10'

COON CREEK PROFILE

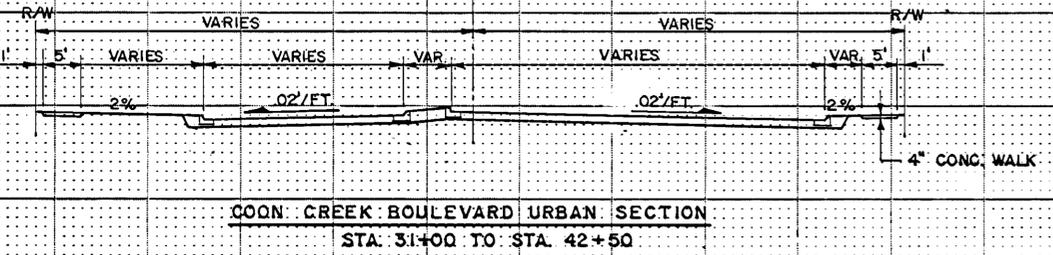
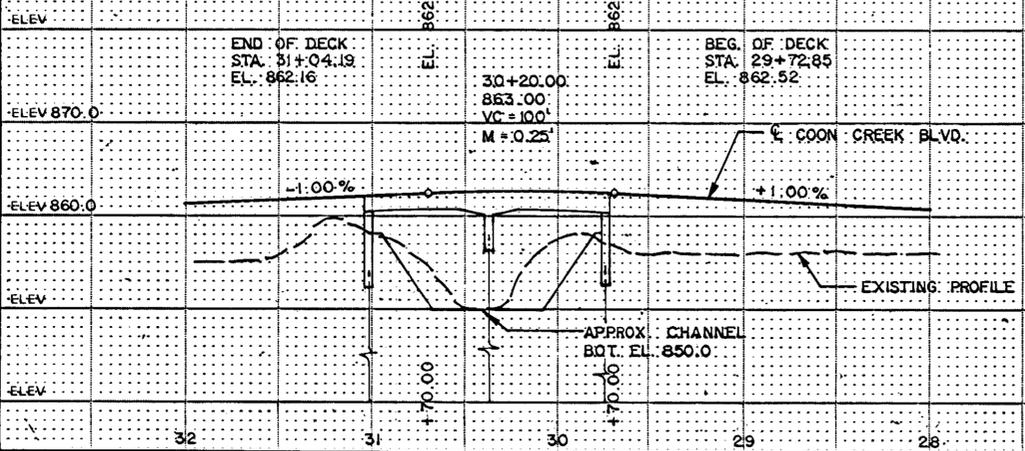


TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

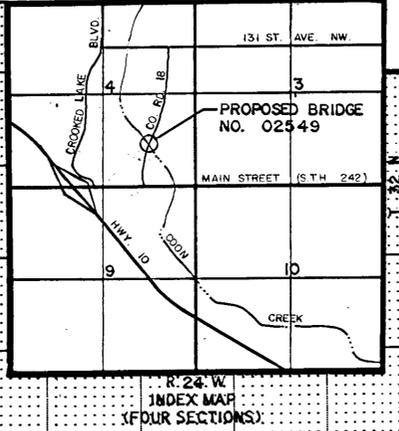
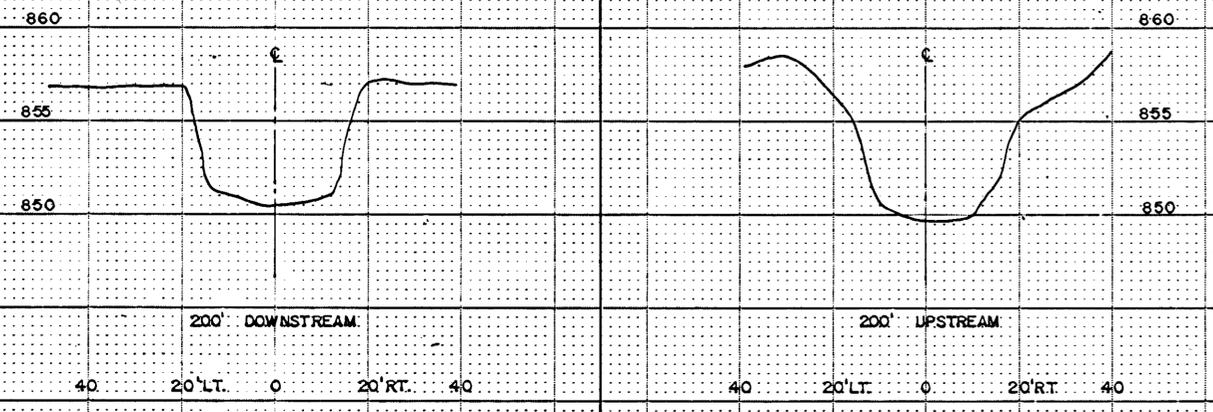
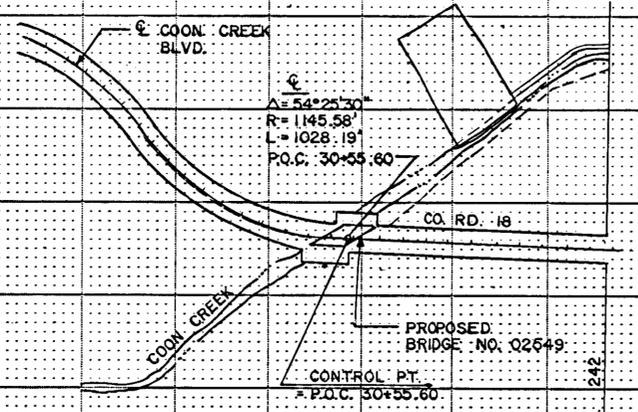


PROFILE COON CREEK BLVD.



PLAT

SCALE: 1" = 200' 400'



Fed. Proj. No.

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Waterfalls, 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 highwater elevation _____ Obtained from _____
- Other data: Approx. velocity of water at time of survey _____

HYDRAULIC ENGINEERS RECOMMENDATION

DATE JAN. 1988

Stream or ditch designation COON CREEK
 Drainage area 63
 Max. flood on record UNKN. Design flood (. . . 50 . . . yr. freq.) 1580 C.F.S.
 Max. observed highwater elevation UNKN. Design highwater elevation 857.70
 Design mean velocity through structure 4.5 F.P.S.
 Low superstructure at or above elevation 858.6
 Flowline elevation 850.0 Skew angle 57°
 Waterway area req'd. below elevation 857.7 = 349 Sq. Ft. at Rt. angles to channel
 In the interest of flood plain zoning the regional flood (100 yr. freq.) is 1816 C.F.S. at stage 857.9 and mean velocity of 5.0 F.P.S. with 0.7 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 862.16 (M.S.L. 1929 Adj.)
 Location: TOP BRONZE DISK AT S.E. CORNER OF BRIDGE AT COON CREEK AND HWY. 242.

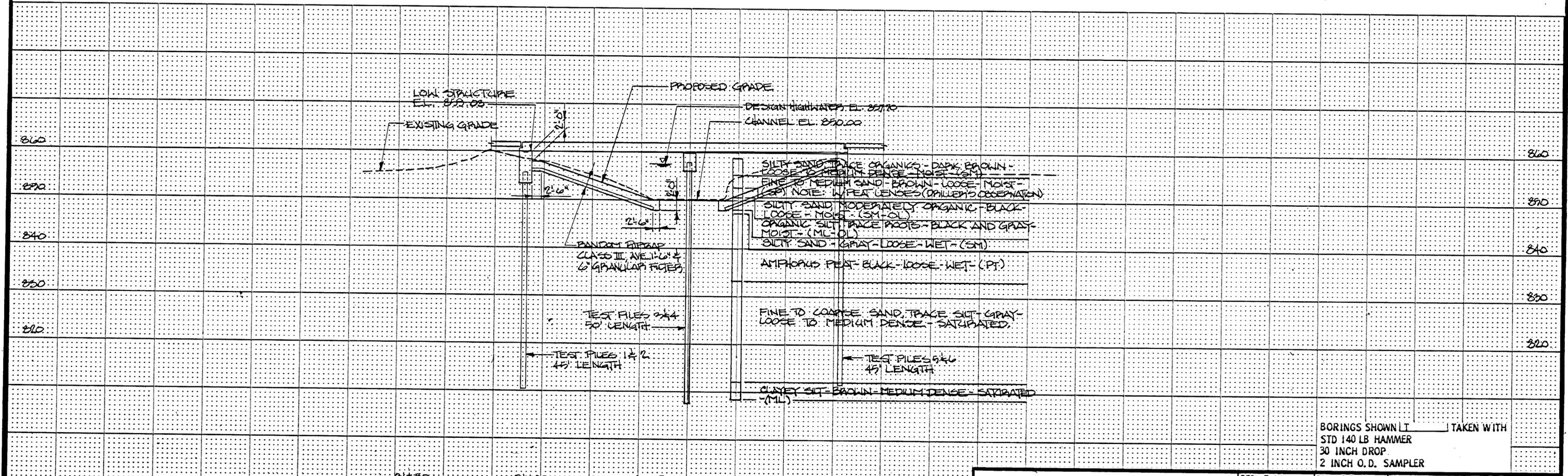
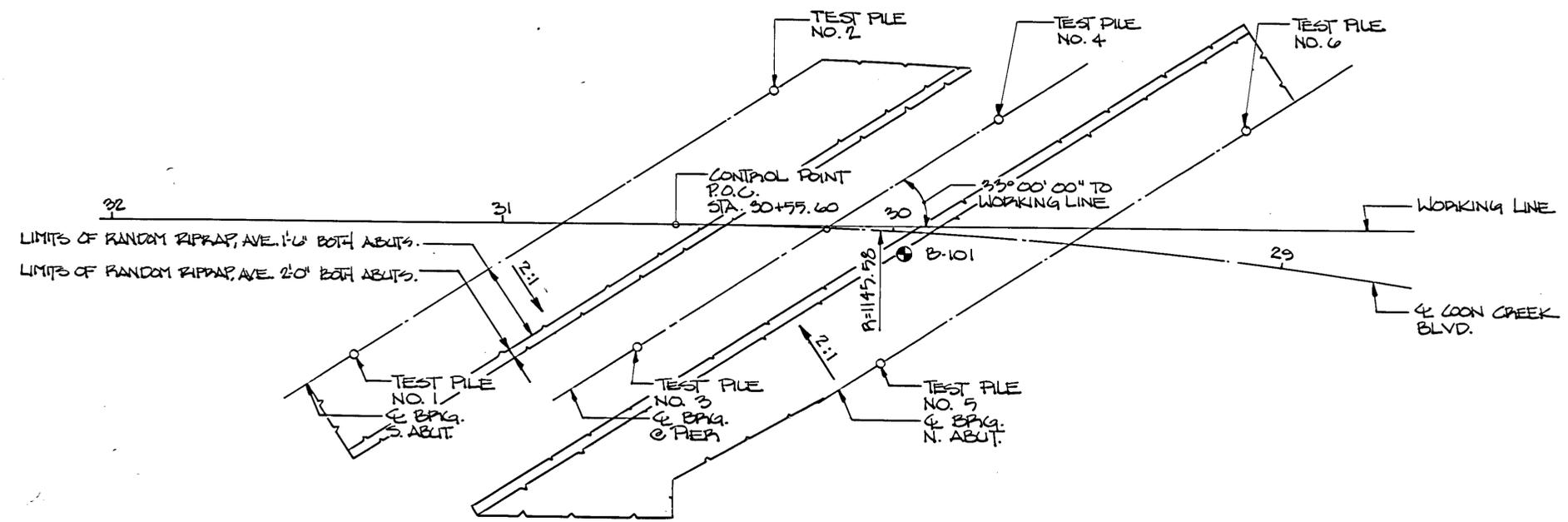
MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT _____ ON _____ (T.H., C.S.A.H., C.R. etc.)
 PROPOSED BRIDGE LOCATED _____ MILES _____ OF _____
 SEC. 4 TWP. 32 R. 24
 TOWNSHIP _____ COUNTY ANOKA
 BRIDGE NO. 02549



1" = 20'
SCALE



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