FORM 100-A '65

Fed. Proj. No.

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR BRIDGE NO. 55515

COUNTY STATE AID HIGHWAY NO. 3

BETWEEN SALEM CORNERS **AND** ROCK DELL

From

To

Give proper reference to Sections, Township and Range

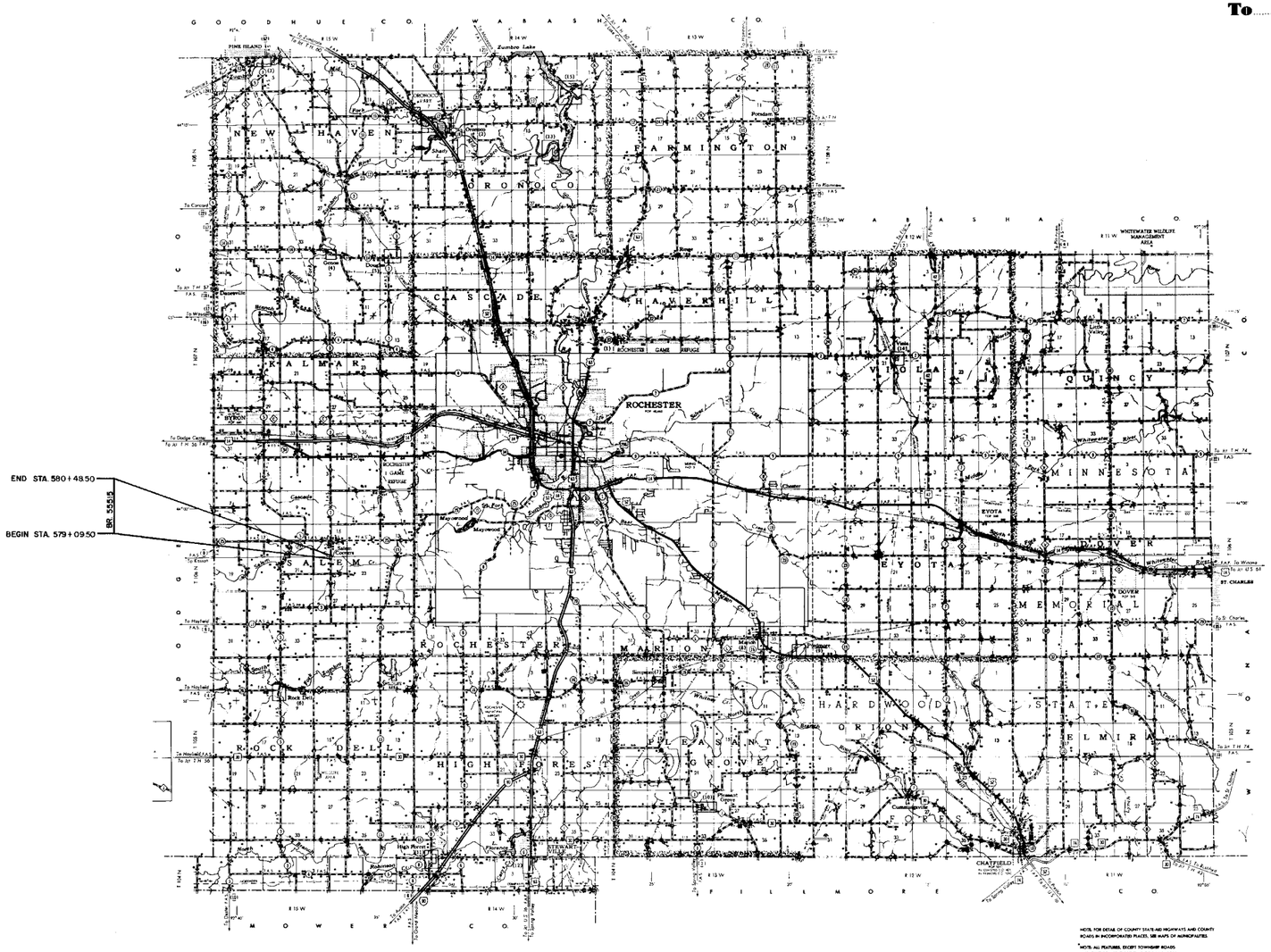
GROSS LENGTH		FEET	MILES
BRIDGES-LENGTH	139.00	FEET	.0263 MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH		FEET	MILES

PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
(TIMBER)
CATCH BASIN C.B.
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F 75'
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN G—G
WATER MAIN W—W
CONDUIT
TELEPHONE CABLE IN CONDUIT T
ELECTRIC CABLE IN CONDUIT P
TELEPHONE MANHOLE T
ELECTRIC MANHOLE P
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
AERIAL TELEPHONE CABLE T-AE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



NOTE: FOR DETAIL OF COUNTY STATE AID HIGHWAYS AND COUNTY ROADS IN INCORPORATED PLACES, SEE MAPS OF MUNICIPALITIES.

*NOTE: ALL FEATURES, EXCEPT TOWNSHIP ROADS AND CULTURE, ARE CURRENT AS OF JAN. 1, 1965.

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

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.

E. J. Sullivan — DATE 8-23-66
COUNTY ENGINEER

COUNTY REG. NO. 1207

RECOMMENDED FOR APPROVAL Oswald Zyhlarz 8/30/ 1966
DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL A. E. Wilderson 11-1 1966
BRIDGE ENGINEER

APPROVED 11-1 1966 — A. R. Mason
ACTING STATE AID ENGINEER

— SPECIFICATIONS —

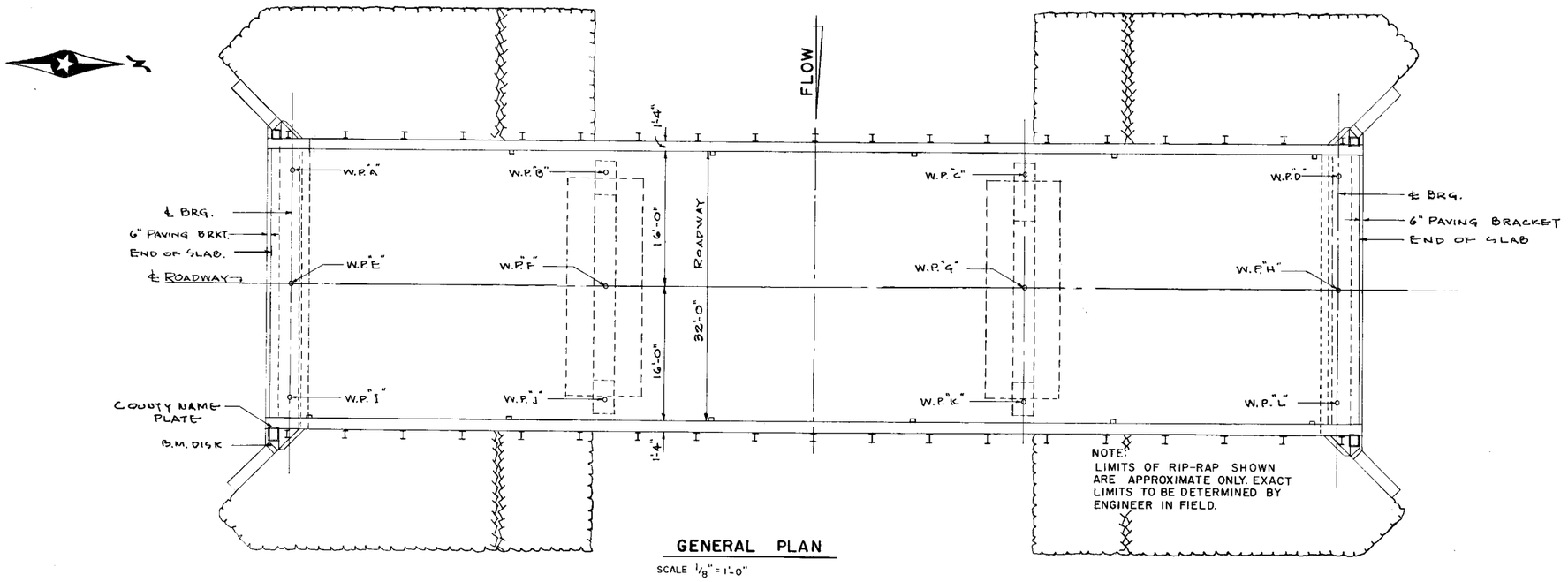
THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JAN. 1, 1964 AS AMENDED BY 'SUPPLEMENTAL SPECIFICATIONS' DATED FEB. 1, 1966 SHALL GOVERN."

S.A.P. 55-603-10

Minn. Project No.

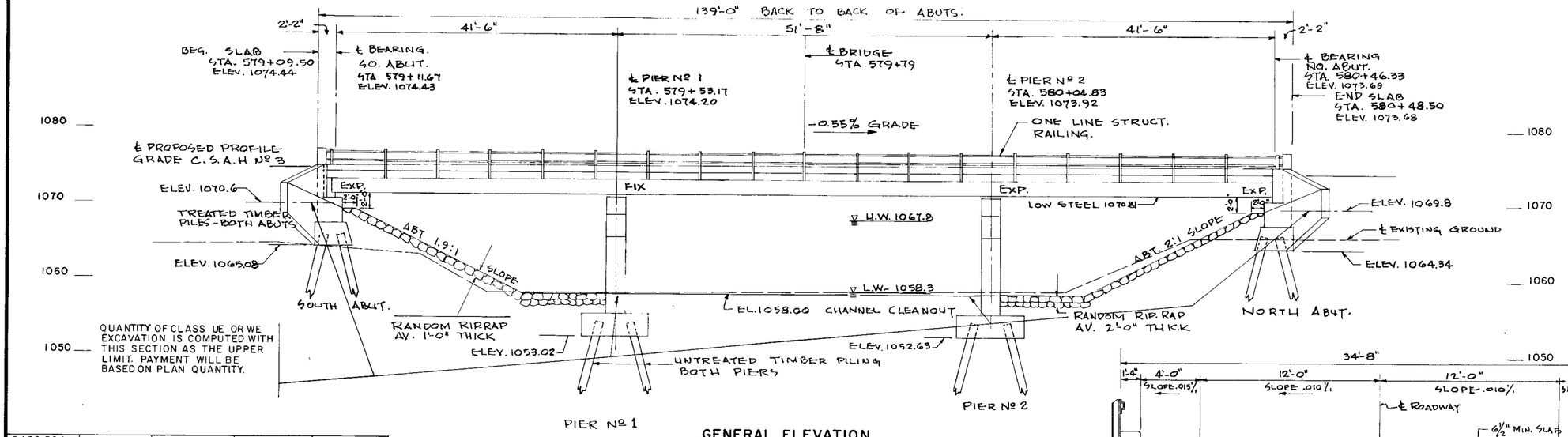
Olmsted County, Minnesota. County Proj. No. Plan No. Sheet 1 of 14 Sheets

ALBINSON, INC.
MINNEAPOLIS, MINN. 55418



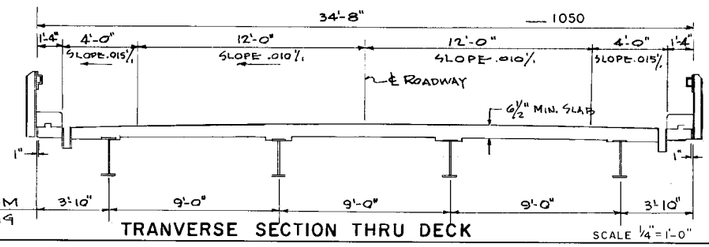
GENERAL PLAN

SCALE 1/8" = 1'-0"



GENERAL ELEVATION

SCALE 1/8" = 1'-0"



TRANVERSE SECTION THRU DECK

SCALE 1/4" = 1'-0"

2452.504	2452.501	2452.502	2402.546	2476.501
TREATED TIMBER PILING DRIVEN	UNTREATED TIMBER PILING DELIVERED	UNTREATED TIMBER PILING DRIVEN	FLOOR DRAINS TYPE (BD-12)	PAINTING METAL STRUCTURES
LIN. FT.	LIN. FT.	LIN. FT.	UNIT	STRUCTURE
396	600	552	12	ONE

CONSTRUCTION OF EACH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL AT THAT ABUTMENT HAS BEEN CONSTRUCTED TO THE FULL HEIGHT & CROSSECTION.

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2401.521	2401.521	2401.501	2401.501	2401.501	2401.539	2401.540	2402.532	2402.533	2402.593		2402.594		2402.594	2402.577	2442.501	2511.501	2031.501	2452.517	2452.516	2452.503
ITEM	STRUCTURE EXCAVATION (CLASS UE)	STRUCTURE EXCAVATION (CLASS WE)	CONCRETE, MIX NO. 1A6	CONCRETE, MIX NO. 3Y6	CONCRETE, MIX NO. 3Y60	REINFORCEMENT BARS DELIVERED	REINFORCEMENT BARS PLACED	FURNISHING STRUCTURAL STEEL (3306)	ERECTING STRUCTURAL METALS	FIXED BEARING ASSEMBLIES (TYPE1)		EXPANSION BEARING ASSEMBLIES (TYPE2)		EXPANSION BEARING ASSEMBLIES (TYPE4)	STANDARD NAME PLATES	REMOVE OLD BRIDGE	RANDOM RIPRAP CLASS A	FIELD OFFICE TYPE A	TREATED TIMBER TEST PILES-INPL. 45' LONG	UNTREATED TIMBER TEST PILES-INPL. 35' LONG	TREATED TIMBER PILING DELIVERED
UNIT	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	LB.	LB.	LB.	LB.	UNIT		UNIT		UNIT	UNIT	BRIDGE	CU. YD.	EACH	PILE	PILE	LIN. FT.
QUANTITY	132	106	78	212	13	59436	59436	66466	66466	4		8		4	ONE	ONE	293	ONE	4	4	420

NORSTAR #15

Area No. **Job No.** Design Squad .....

State Aid Proj. No. 55-603-10

Sheet No. 2 of 14 Sheets

Fed. Proj. No.

DESIGN DATA

1961 A.A.S.H.O. SPECIFICATIONS.
2 LANES H-20 LOADING
f_s REINFORCING STEEL - 20,000 PSI
f_c 1600 PSI n=8
f_s 20,000 PSI M.H.D. 3306

LIST OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN & ELEVATION
3	BRIDGE LAYOUT
4	ABUTMENT PLAN, ELEVATION, & REINFORCEMENT
5	PIER PLAN, ELEVATION, & REINFORCEMENT
6	SUPERSTRUCTURE REINFORCEMENT & SECTIONS
7	FRAMING PLAN & BEAM DETAILS
8	DETAILS
9	DETAILS
10	DETAILS
11	DETAILS
12	DETAILS
13	BRIDGE SURVEY
14	BRIDGE SURVEY

CONSTRUCTION NOTES

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JAN. 1, 1964 AS AMENDED' BY 'SUPPLEMENTAL SPECIFICATIONS' DATED FEB. 1, 1966 SHALL GOVERN."

FOR CONC. JOINT SEALER SEE SPECIAL PROVISIONS.

CURBS SHALL NOT BE PLACED UNTIL ENTIRE ROADWAY SLAB HAS BEEN PLACED.

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 Lowry Langston

DATE 8/20/66 REG. NO. 5325

B.M. ELEV. 1070.07 M.S.L. 19.... ADJ.)
SPIKE IN CONC. CURB
BRIDGE STA. 579+34
SW. COR.

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55515

C.S.A.H. NO. 3 OVER THE W. FORK S. BRANCH ZUMBRO RIVER
41 FT. - 52 FT. - 41 FT.
STEEL BEAM SPANS
32' RDWY. 2 - 1'4" CURBS

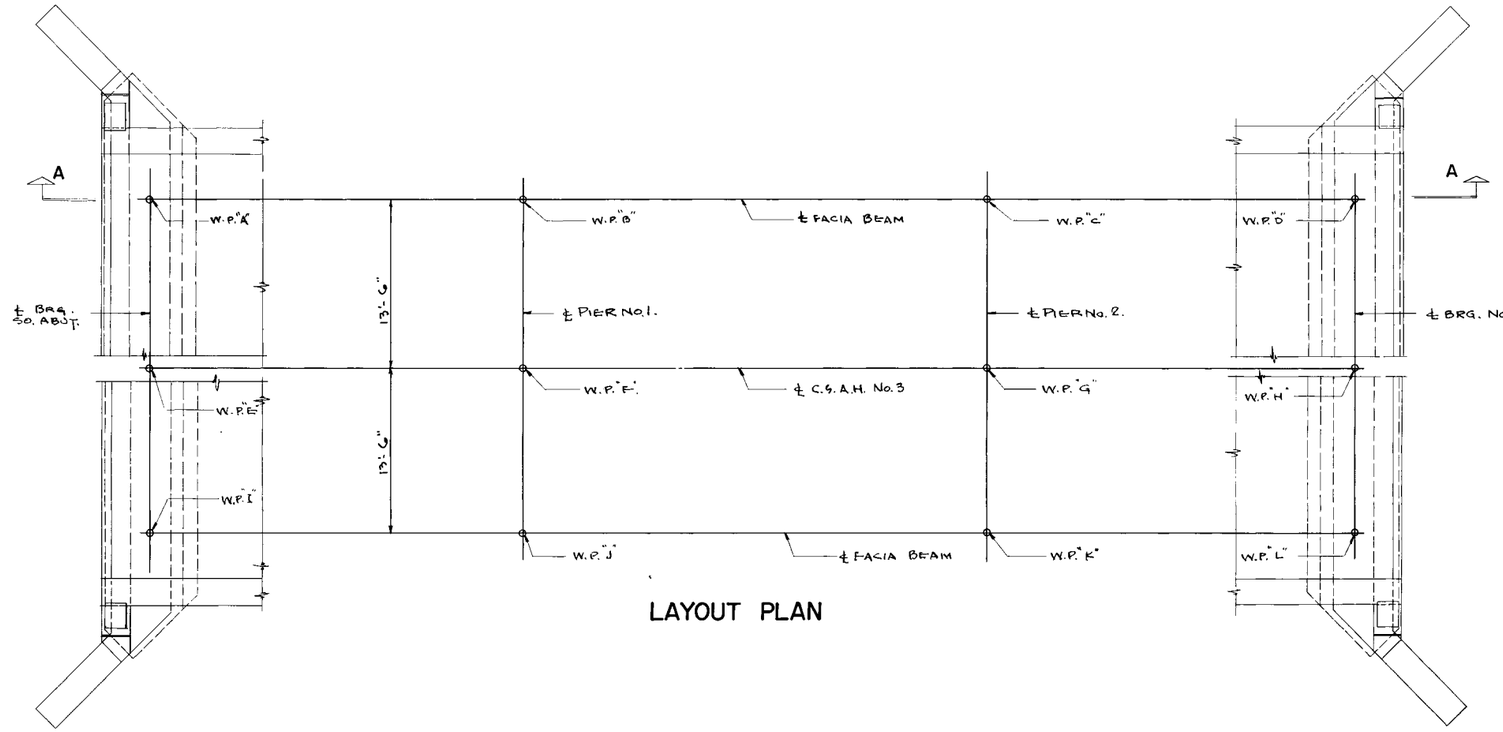
GENERAL PLAN AND ELEVATION

SEC. 15 T. 106 N R. 15 W
SALEM TOWNSHIP OLMSTED COUNTY

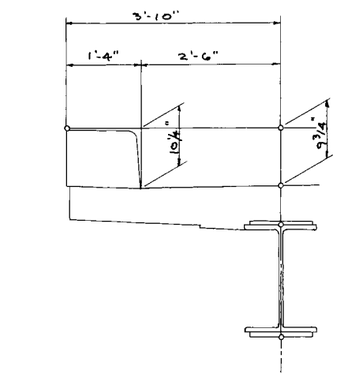
APPROVED: 11-1-66
C.H. Wiederanders
BRIDGE ENGINEER

DES.	DR.	55515
CHK.	CHK.	

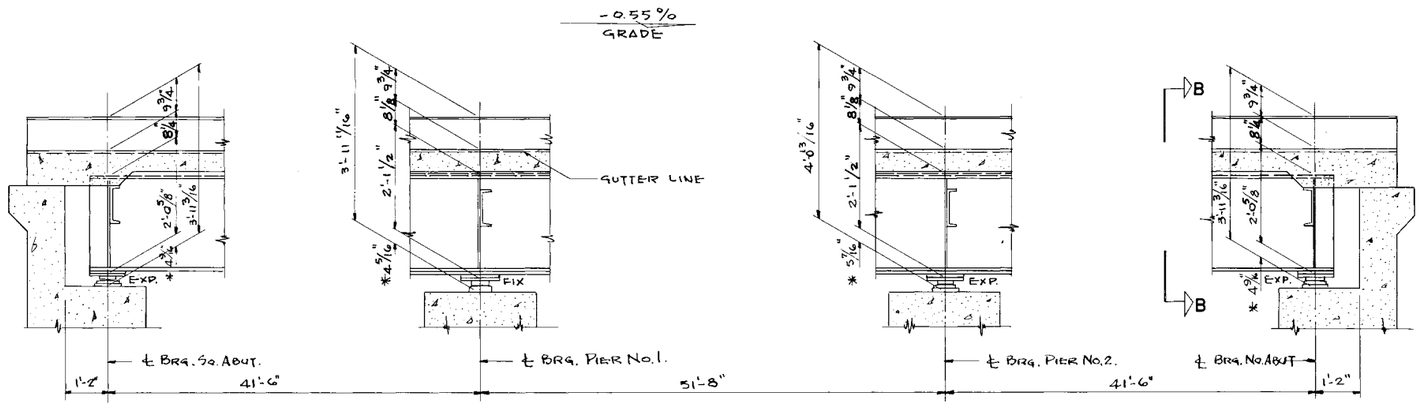
Fed. Proj. No.



LAYOUT PLAN



SECTION B-B



PART LONGITUDINAL SECTION A–A

* INCLUDES 8# SHEET LEAD

PREFORMED EXP. JOINT FILLER - CORK TYPE

4 PCS. 1/2" X 18" X 1'-7" AT ABUT. CORNERS

CORK SHALL COMPLY WITH A.A.S.H.O. SPEC. M153, TYPE I

PREFORMED EXP. JOINT FILLER - BIT. TYPE

2 PCS. 1/2"X1-0"X 32'-0" AT TOP PARAPET
4 PCS. 1/2" X 1'-6" X 2'-8" AT TOP PARAPET CORNERS

BIT FELT SHALL COMPLY WITH M.H.D. 3701

SECURE CORK JOINT FILLER WITH 2 1/2" LONG 11 GA. COPPER NAILS ABOUT 18" CTRS. CORK & NAILS TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. TRIM JOINT FILLER TO FACE OF CONCRETE OR TO DEPTH OF VEE WHERE CORNERS HAVE BEEN VEED.

THE LIST OF JOINT FILLER IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. ANY ADDITIONAL JOINT FILLER REQUIRED, AS SHOWN ON THE PLANS, SHALL BE FURNISHED BY THE CONTRACTOR AT NO ADDITIONAL COMPENSATION.

DISTANCE														ELEVATION			
POINT	STATION	A	B	C	D	E	F	G	H	I	J	K	L	COPING	COP-BR.ST.	BR. SEAT	POINT
A	579+11.6667													1075.10	3.93	1071.17	A
B	579+53.1667	41.50												1074.87	3.97	1070.90	B
C	580+04.8333	93.17	51.67											1074.59	4.07	1070.52	C
D	580+46.3333		93.17	41.50										1074.36	3.93	1070.43	D
E	579+11.6667	13.50	43.64	94.14													E
F	579+53.1667	43.64	13.50	53.40		41.50											F
G	580+04.8333	94.14	53.40	13.50	43.64	93.17	51.67										G
H	580+46.3333		94.14	43.64	13.50		93.17	41.50									H
I	579+11.6667	27.00	49.51	97.00		13.50	43.64	94.14						1075.10	3.93	1071.17	I
J	579+53.1667	49.51	27.00	58.30	97.00	43.64	13.50	53.40	94.14	41.50				1074.87	3.97	1070.90	J
K	580+04.8333	97.00	58.30	27.00	49.51	94.14	53.40	13.50	43.64	93.17	51.67			1074.59	4.07	1070.52	K
L	580+46.3333		97.00	49.51	27.00		94.14	43.64	13.50		93.17	41.50		1074.36	3.93	1070.43	L

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55515

BRIDGE LAYOUT

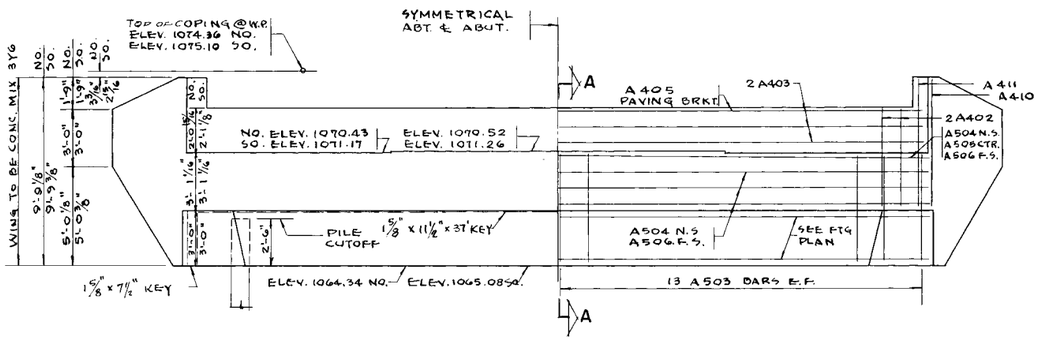
APPROVED: 11-1-66

DES.	DR.	55515
CHK.	CHK.	

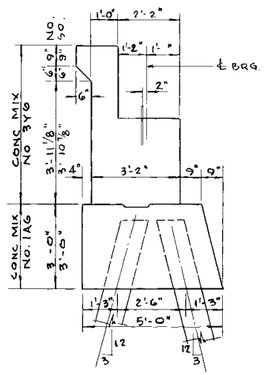
State Aid Proj. No. 55-603-10

Sheet No. 3 of 14 Sheets

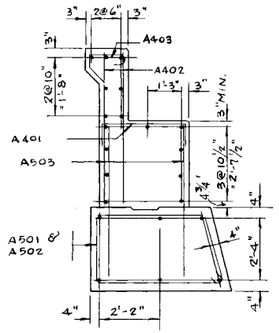
Fed. Proj. No.



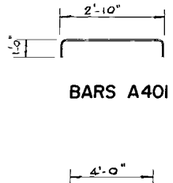
FRONT ELEVATION



SECTION A-A



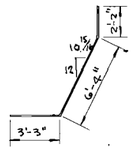
SECTION A-A



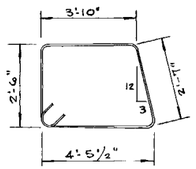
BARS A401

BARS A508

BARS A502



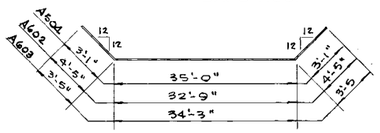
BARS A518



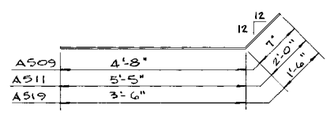
BARS A501



BARS A404



BARS A504, A602 & A603

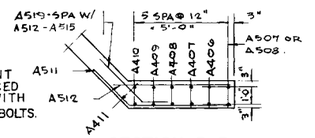


BARS A509, A511 & A519

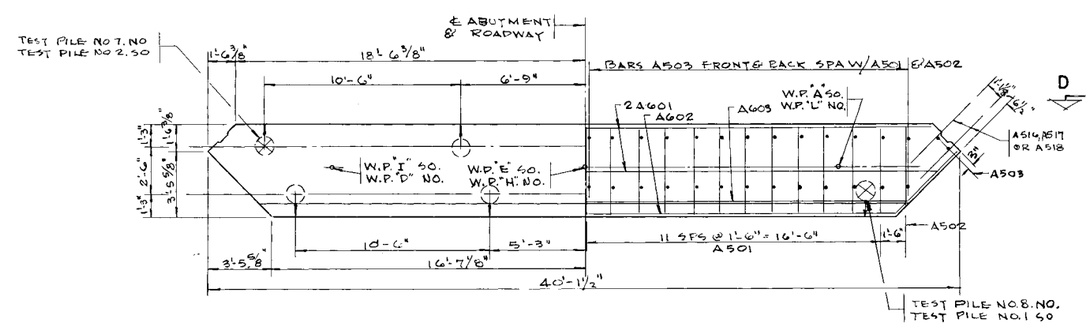
TOP VIEW

NOTE:
THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING FOR & PLACING ANCHOR BOLTS

NOTE:
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS.

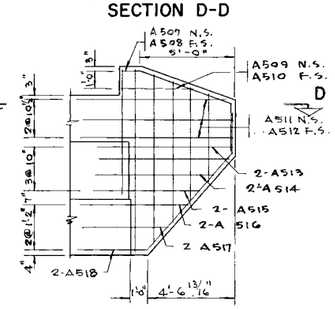


SECTION D-D



FOOTING PLAN

NOTE:
PILE SPS SHOWN IS ℄ BOTTOM OF FTG



VIEW C-C
VIEW B-B OPPOSITE HAND.

BILL OF REINFORCEMENT FOR TWO ABUTS.

MARK	SIZE	NO.	LENGTH	SHAPE	LOCATION
A401	4	86	4'-10"	BENT	BRIDGE SEAT
A402	4	148	4'-8"	STR.	PARAPET VERT
A403	4	12	39'-6"	STR.	PARAPET LONGIT.
A404	4	74	3'-6"	BENT	PAVING BRACKET
A405	4	2	38'-0"	STR.	" "
A406	4	8	4'-5"	STR.	WING VERTICAL
A407	4	8	5'-10"	STR.	" "
A408	4	8	7'-2"	STR.	" "
A409	4	8	8'-7"	STR.	" "
A410	4	8	9'-5"	STR.	" "
A411	4	4	6'-5"	STR.	" "
A501	5	46	14'-3"	BENT	FTG. TIE
A502	5	4	14'-0"	BENT	" "
A503	5	100	4'-8"	STR.	FTG. DOWEL
A504	5	8	41'-2"	BENT	SEAT LONGIT.
A505	5	2	37'-4"	STR.	" "
A506	5	8	39'-6"	STR.	" "
① A507	5	4	8'-9"	BENT	WING HORIZ.
A508	5	4	7'-7"	BENT	" "
A509	5	4	5'-3"	BENT	" "
A510	5	4	4'-11"	STR.	" "
A511	5	12	7'-5"	BENT	" "
A512	5	12	6'-7"	STR.	" "
A513	5	8	6'-10"	STR.	" "
A514	5	8	6'-0"	STR.	" "
A515	5	8	5'-2"	STR.	" "
A516	5	8	5'-7"	STR.	" "
A517	5	8	4'-7"	STR.	" "
A518	5	8	11'-9"	BENT	" "
A519	5	28	5'-0"	BENT	" "
A601	6	8	37'-0"	STR.	FTG. LONGIT.
A602	6	2	41'-7"	BENT	" "
A603	6	2	41'-1"	BENT	" "

① BEND IN FIELD
ALL BAR DIMENSIONS ARE OUT TO OUT
ALL BAR DETAILS SHALL CONFORM TO A.C.I. 315 (LATEST EDITION)

SUMMARY OF QUANTITIES FOR TWO ABUTS.

	ITEM	QUAN.
	STRUCTURE EXCAVATION (CLASS UE)	132 C.Y.
	CONCRETE MIX NO. 1A6	38.2 C.Y.
	CONCRETE MIX NO. 3Y6	45.1 C.Y.
②	BENCH MARK DISC (STD. PLT. 9390)	1
	REINFORCEMENT BARS	4920 LB.
③	ANCHOR BOLTS	16
	TREATED TIMBER TEST PILES 45 FT. LONG	4
④	TREATED TIMBER PILING	420 L.F.

② COUNTY WILL FURNISH DISC. PAYMENT FOR PLACING DISC TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.

③ INCLUDED IN BEARING ASSEMBLIES - SEE SHEET NO. 8

④ DOES NOT INCLUDE TEST PILES

NOTE:
N.S., F.S., & E.F. REFERS TO NEAR SIDE, FAR SIDE, AND EACH FACE RESPECTIVELY.

PILE NOTES

NO. ABUT.
2 TREATED TIMBER TEST PILES 45 FT. LONG
6 TREATED TIMBER PILES - EST. LENGTH 35 FT.
8 TREATED TIMBER PILES FOR NO. ABUT.

SO. ABUT.
2 TREATED TIMBER TEST PILES 45 FT. LONG
6 TREATED TIMBER PILES - EST. LENGTH 35 FT.
8 TREATED TIMBER PILES FOR SO. ABUT.

ALL PILES TO BE TREATED AS PER M.H.D. 3491

ALL PILES MARKED THUS O→ TO BE BATTERED 3" PER FOOT IN DIRECTION SHOWN.

ESTIMATED PENETRATION OF PILES IS TWO FT. LESS THAN LENGTHS GIVEN.

ALL PILES TO BE DRIVEN TO A BEARING OF NOT LESS THAN 24 TONS EACH.

COMPUTED PILE LOADS	TONS/PILE
DEAD LOAD & EARTH PRESSURE	19.3
LIVE LOAD	4.7
TOTAL	24.0

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55515

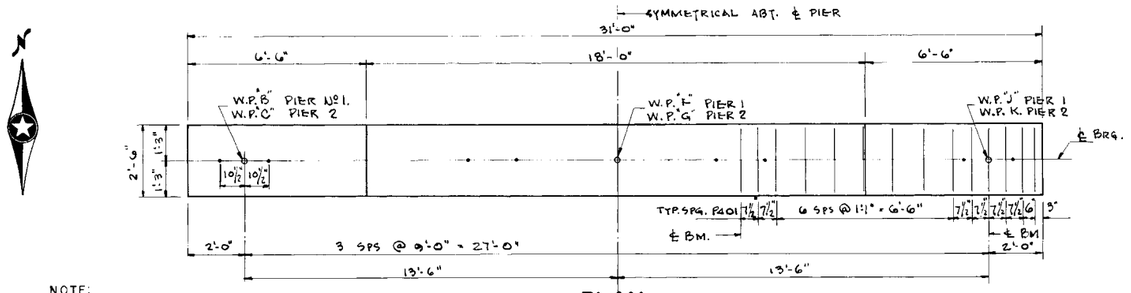
ABUTMENT DETAILS

APPROVED: 11-1-66

DES.	DR.	55515
CHK.	CHK.	

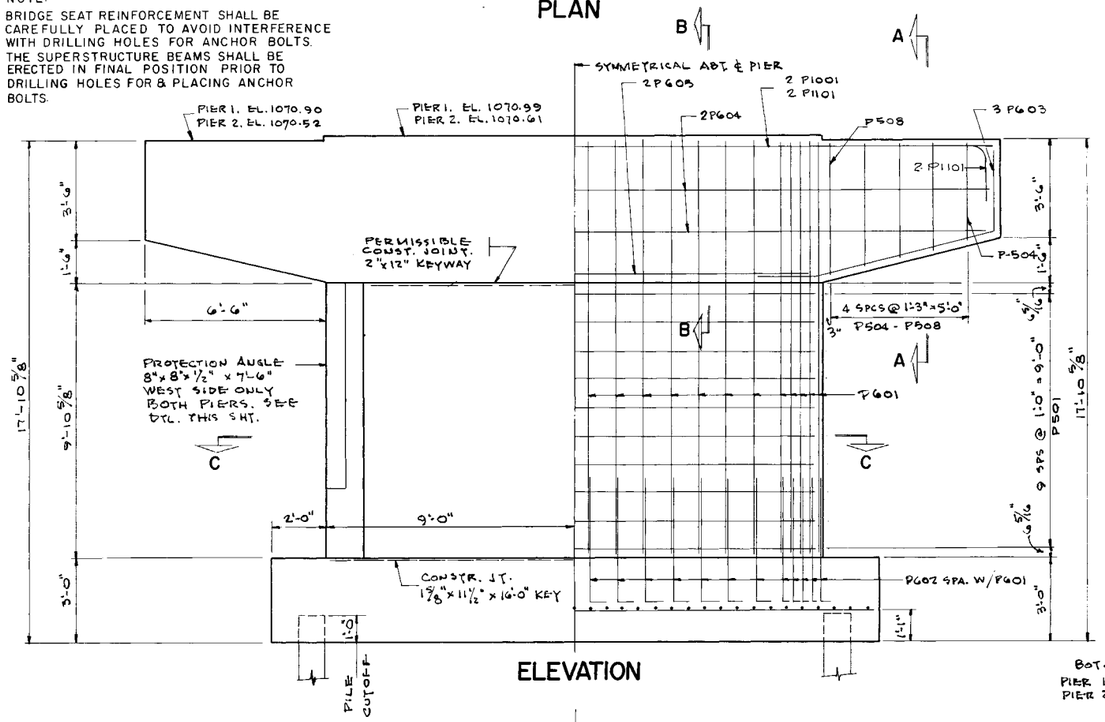
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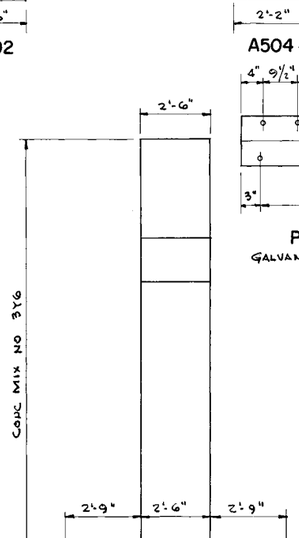


PLAN

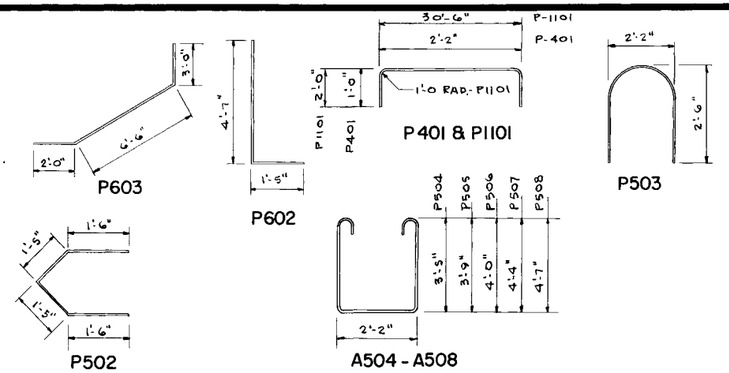
NOTE:
BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS. THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING HOLES FOR & PLACING ANCHOR BOLTS.

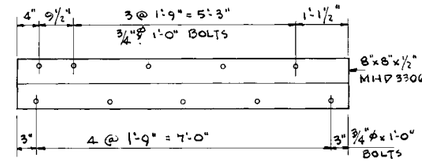


ELEVATION

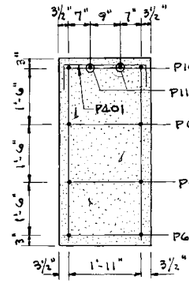


END VIEW

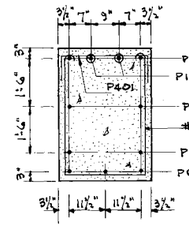




PROTECTION ANGLE DETAIL
GALVANIZE AFTER FABRICATION AS PER MHD 3394



SECTION B-B



SECTION A-A

BILL OF REINFORCENT FOR TWO PIERS

MARK	SIZE	NO.	LENGTH	SHAPE	LOCATION
P401	#4	74	4'-2"	BENT	CAP TRANS
P501	#5	40	15'-6"	STR.	COL. HORIZ.
P502		20	5'-10"	BENT	COL. TIE
P503		20	10'-6"	BENT	" "
P504		4	10'-2"	BENT	CAP STIRRUP
P505		4	10'-10"	BENT	" "
P506		4	11'-4"	BENT	" "
P507		4	12'-0"	BENT	" "
P508		4	12'-6"	BENT	" "
P509		16	21'-4"	STR.	FTG.
P601	#6	88	14'-8"	STR.	COL. VERT
P602		88	6'-0"	BENT	FTG. DOWEL
P603		12	11'-6"	BENT	CAP. HORIZ.
P604		8	30'-8"	STR.	" "
P605		4	17'-6"	STR.	" "
P606		74	7'-4"	STR.	FTG.
P1001	#10	4	30'-8"	STR.	CAP HORIZ.
P1101	#11	4	33'-8"	BENT	CAP HORIZ.

ALL BAR DIMENSIONS ARE OUT TO OUT
ALL BAR DETAILS SHALL CONFORM TO A.C.I. 315 (LATEST EDITION)

SUMMARY OF QUANTITIES FOR TWO PIERS

	STRUCTURE EXCAVATIONS (CLASS WE)	106 C.Y.
	CONCRETE MIX NO. 1A6	39.0 C.Y.
	CONCRETE MIX NO. 3Y6	58.8 C.Y.
	REINFORCEMENT BARS	7130 LB.
	UNTREATED TIMBER TEST PILES 35 ' LONG	4
①	UNTREATED TIMBER PILING	600 L.F.
②	ANCHOR BOLTS	16
	STRUCTURAL STEEL M.H.D. 3306	438 LB.

① DOES NOT INCLUDE TEST PILES.
② INCLUDED IN BRG. ASSEMBLIES - SEE SHT. NO. 8

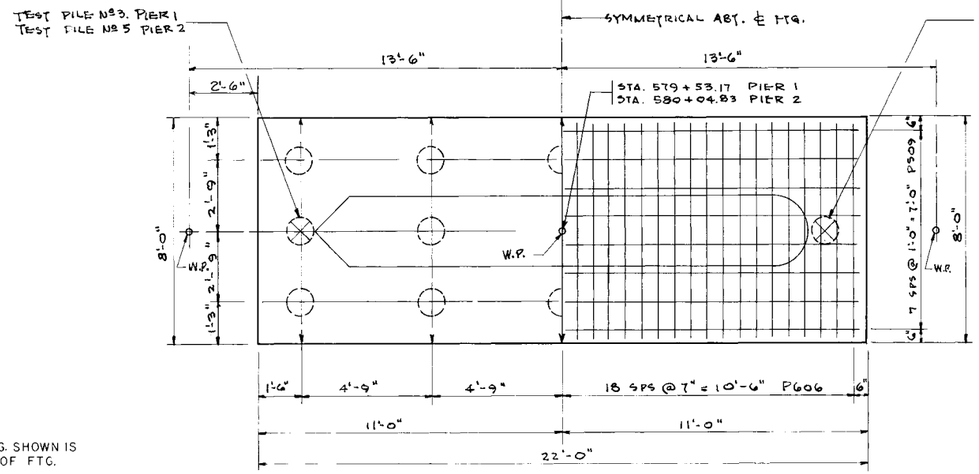
PILE NOTES

PIER 1
2 UNTREATED TIMBER TEST PILES **35** FT. LONG
12 UNTREATED TIMBER PILES EST LENGTH 25 FT.
14 UNTREATED TIMBER PILES REQ'D. FOR PIER 1

PIER 2
2 UNTREATED TIMBER TEST PILES 35' LONG
12 UNTREATED TIMBER PILES EST. LENGTH 25 FT.
14 UNTREATED TIMBER PILES REQD. FOR PIER 2

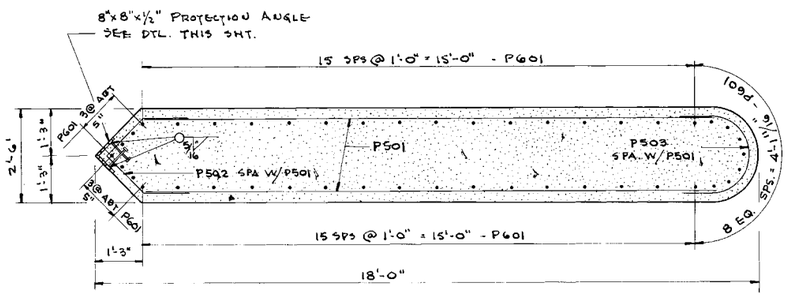
ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN.
ALL PILES TO BE DRIVEN TO A BRG. OF NOT LESS THAN 24 TONS PER PILE. SEE MHD 2452.3E1
PILES MARKED THUS O→ TO BE BATTERED 1½" PER FT. IN DIRECTION SHOWN.

COMPUTED PILE LOADS	TONS / PILE
DEAD LOAD	15.0
LIVE LOAD	4.2
OVERTURNING	11.8
TOTAL (GROUP VIII)	31.0
TOTAL ÷ 1.40	22.2



NOTE:
PILE SPG. SHOWN IS AT BOT. OF FTG.

FOOTING PLAN



SECTION C-C

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

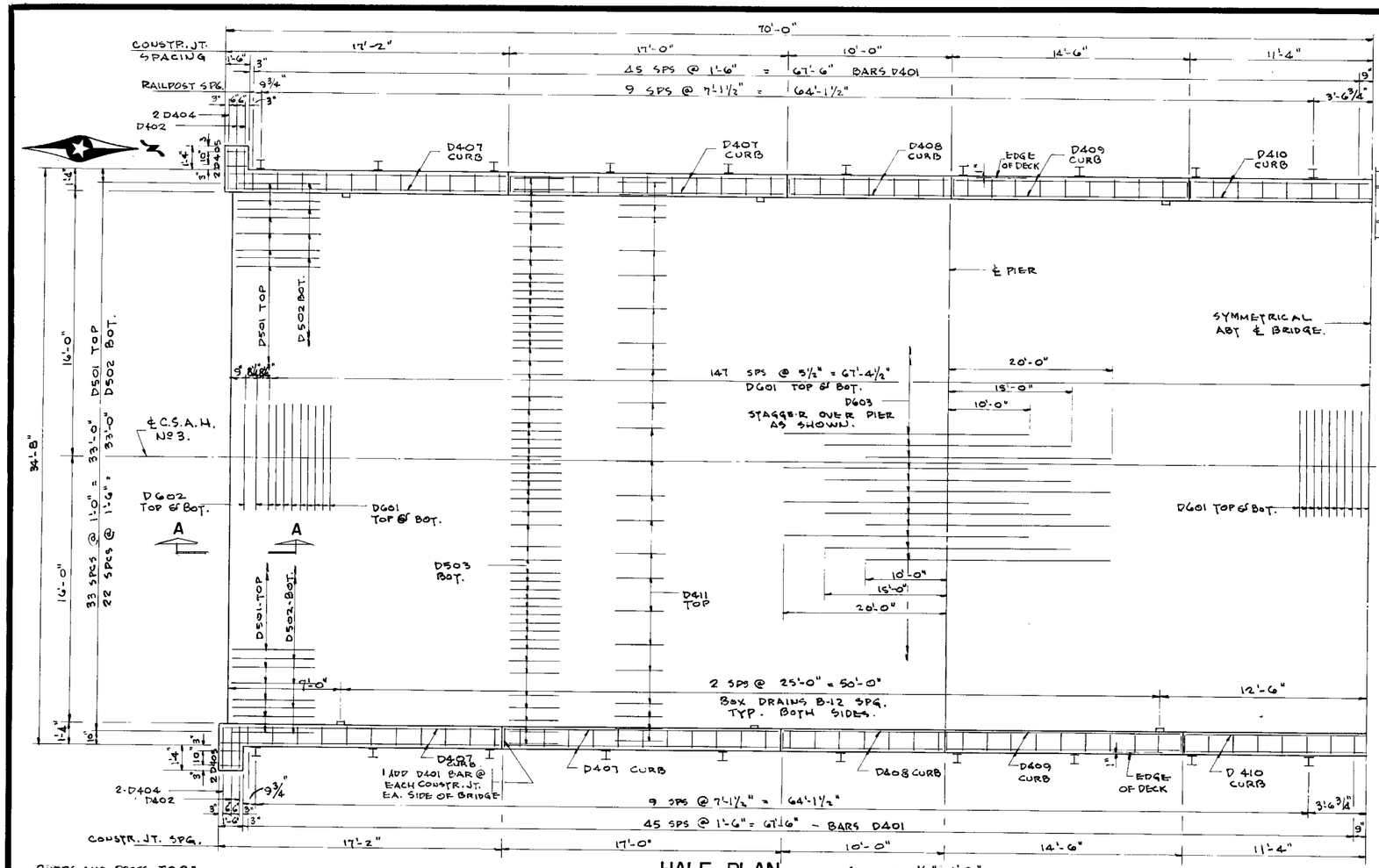
Bridge No. 55515
PIERS 1 & 2
PLAN - ELEVATION & REINFORCEMENT

APPROVED: 11-1-66

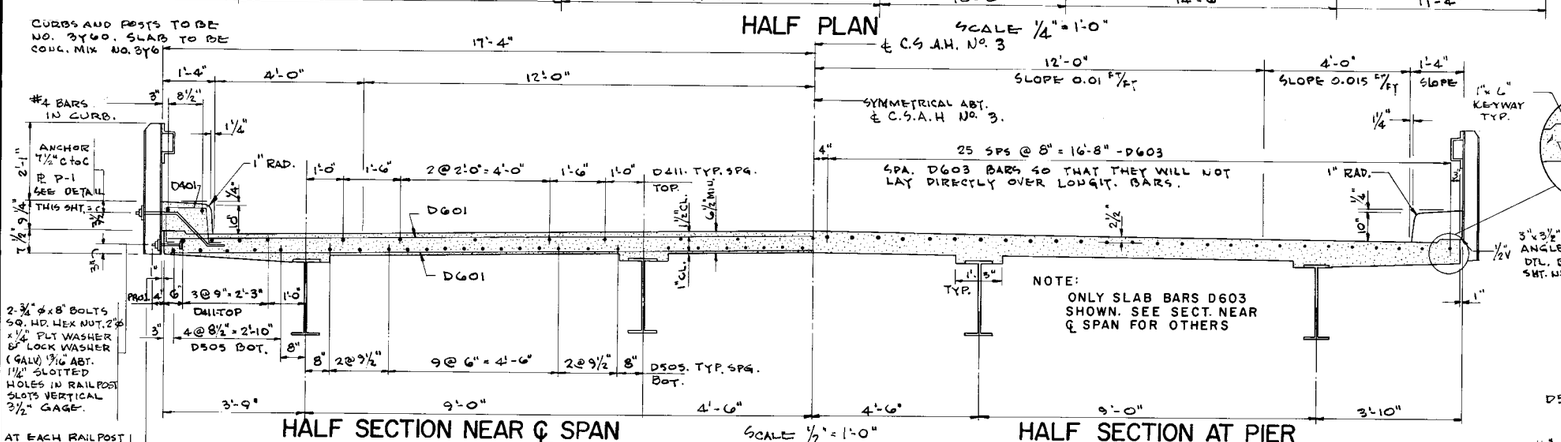
DES.	DR.	55515
CHK.	CHK.	

State Aid Proj. No. 55-603-10

Sheet No. 5 **of** 14 **Sheets**



HALF PLAN SCALE 1/4" = 1'-0"

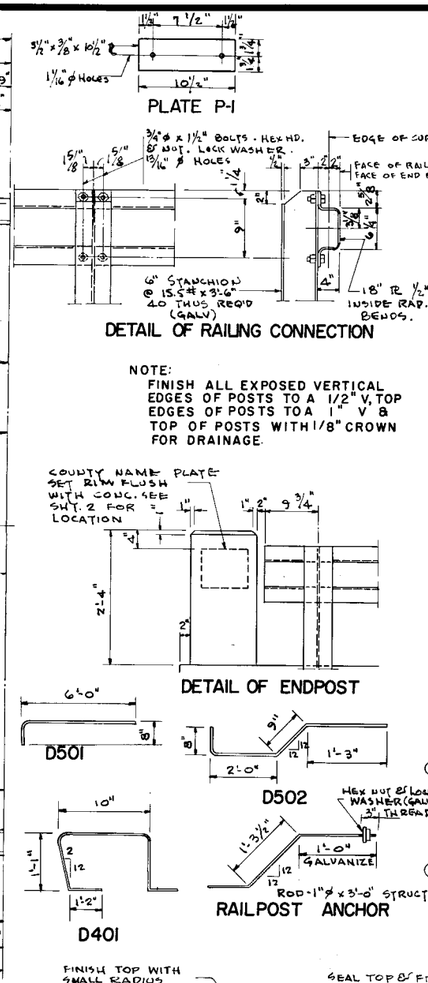


HALF SECTION NEAR ℄ SPAN SCALE 1/2" = 1'-0" HALF SECTION AT PIER

AT EACH RAILPOST BOLT FOR PLUMBING POST FURNISH 2" ø CIRCULAR FILLS THUS: 1-1/2" THICK, 1-3/8" THICK, 1-1/4" THICK, 1-3/16 THICK & 1-1/8" THICK. FILLS TO BE MEASURED AND PAID FOR AS STRUCTURAL STEEL. (GALV)

RAILING NOTES

RAILING TO BE 18" X 1/4" U.M. PLATE BENT TO DIM. SHOWN W/ 1/2" INSIDE RAD. BENDS
RAILING TO BE CONTINUOUS FOR A MIN. OF TWO PANELS & A MAX. OF 3 PANELS. LEAVE 1/8" CL. OPENING AT JTS. BTWN. ENDS AT RAILS.
THE FABRICATOR WILL BE PERMITTED TO SPLICE CONTINUOUS BENT PLATE RAILINGS AT THE ℄ OF RAILPOSTS USING A BUTT WELD GROUND SMOOTH.
ALL RAILINGS, POSTS, BOLTS & ALL FITTINGS TO BE MEASURED & PAID FOR AS STRUCTURAL STEEL.
GALVANIZE STRUCTURAL STEEL ITEMS AFTER FABRICATION AS PER MHD 3394
GALVANIZE BOLTS, NUTS, WASHERS, FILLS & ANCHORS AS PER MHD. 3392



Fed. Proj. No.

BILL OF REINFORCEMENT · SUPERSTRUCTURE

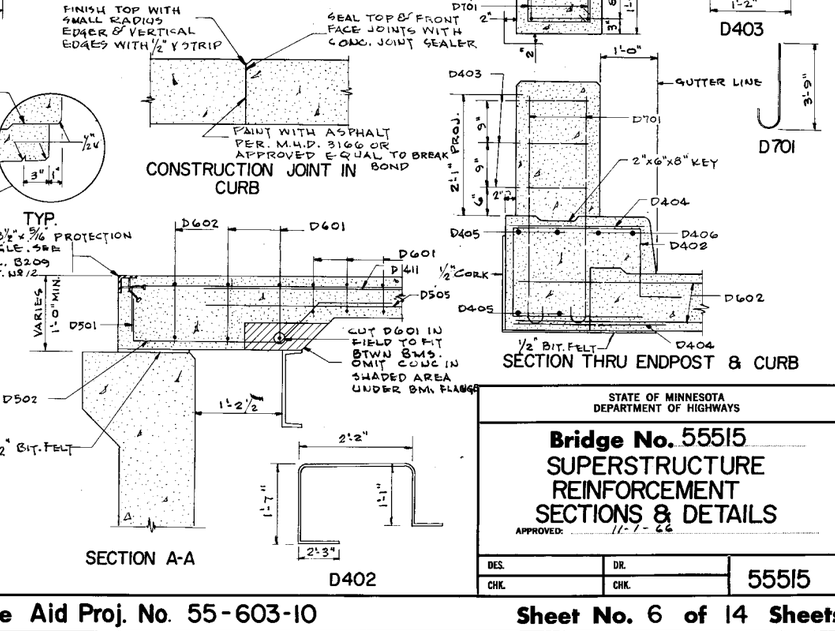
MARK	SIZE	NO.	LENGTH	SHAPE	LOCATION
D401	#4	200	5'-4"	BENT	CURB TRANS.
D402		8	8'-3"	BENT	" "
D403		12	4'-10"	BENT	RAIL POST TIE
D404		8	2'-4"	STR.	POST BASE
D405		16	1'-3"	STR.	" "
D407		16	16'-10"	STR.	CURB LONGIT.
D408		8	9'-10"	STR.	" "
D409		8	14'-4"	STR.	" "
D410		8	22'-6"	STR.	" "
D411		115	28'-5"	STR.	SLAB LONGIT.
D501	#5	68	6'-8"	BENT	SLAB CANTILEVER
D502		46	4'-8"	BENT	" "
D503		208	35'-3"	STR.	SLAB LONGIT.
D601	#6	594	34'-3"	STR.	SLAB TRANS.
D602		4	37'-3"	STR.	" "
D603		104	30'-0"	STR.	SLAB OVER PIERS
D701	#7	16	4'-7"	BENT	RAIL POST VERT.

ALL BAR DIMENSIONS ARE OUT TO OUT.
ALL BAR DETAILS SHALL CONFORM TO A.C.I. 315 (LATEST EDITION).
THE VOLUME OF DECK CONCRETE FOR PAYMENT SHALL BE COMPUTED USING AN AVERAGE STOOL HEIGHT OF 1 1/2"

SUMMARY OF QUANTITIES · SUPERSTRUCTURE

CONCRETE MIX NO. 3Y6	1073 C.Y.
CONCRETE MIX NO. 3Y60	12.5 C.Y.
REINFORCEMENT BARS	47386 LB.
STRUCTURAL STEEL MHD. 3306	66028 LB.
① PREFORMED CORK & BIT. JOINT FILLER	
BRG. ASSEMBLIES FIX TYPE 1	4
COUNTY NAME PLATE (DETAIL NO. 2104)	1
BRG. ASSEMBLIES EXP. TYPE 2	8
BRG. ASSEMBLIES EXP. TYPE 4	4
BOX DRAINS BD12	12

① SEE SCHEDULE SHEET NO. 3



STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55515

SUPERSTRUCTURE REINFORCEMENT SECTIONS & DETAILS

APPROVED: 11-7-66

DES.	DR.	55515
CHK.	CHK.	

State Aid Proj. No. 55-603-10

Sheet No. 6 of 14 Sheets

Fed. Proj. No.

PAINT NOTE

PAINT ALL STRUCTURAL STEEL EXCEPT GALV MATERIALS AS FOLLOWS:

SHOP COAT, RED LEAD	M.H.D. 3506
FIRST FIELD COAT, ALUMINUM	M.H.D. 3527
SECOND FIELD COAT, ALUMINUM	M.H.D. 3528

STRUCTURAL STEEL NOTES

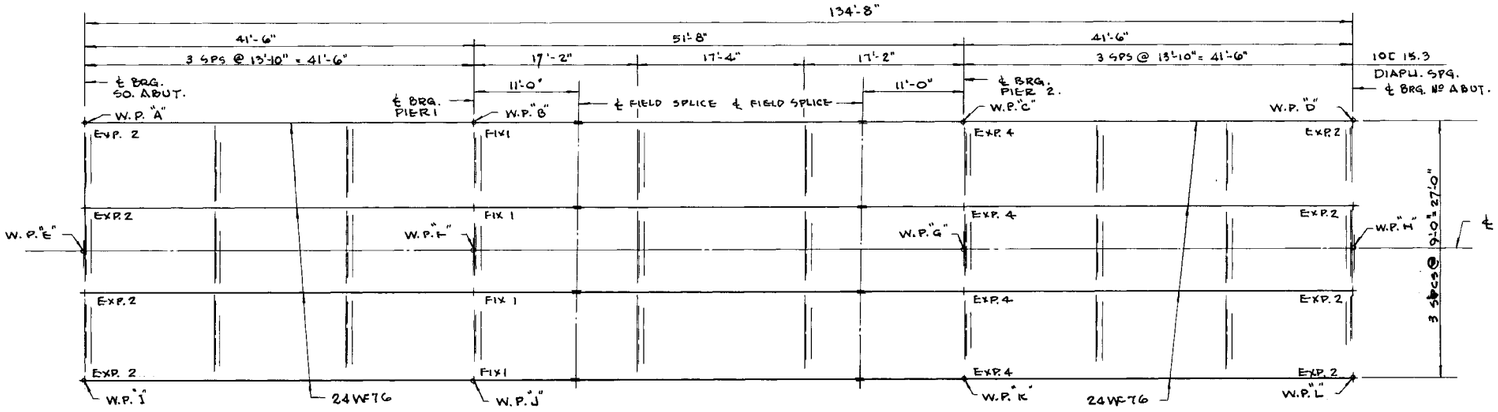
ALL STEEL FOR STRUCTURAL ITEMS SHALL CONFORM TO M.H.D. 3306

ALL FIELD CONNECTIONS SHALL BE MADE USING $\frac{7}{8}$" RIVETS OR $\frac{7}{8}$" HIGH STRENGTH BOLTS, EXCEPT AS NOTED; RIVETS SHALL CONFORM TO M.H.D. 3316 TYPE I. HIGH STRENGTH BOLTS SHALL CONFORM TO M.H.D. 3391-B, STYLE II, $\frac{15}{16}$" HOLES EXCEPT AS NOTED.

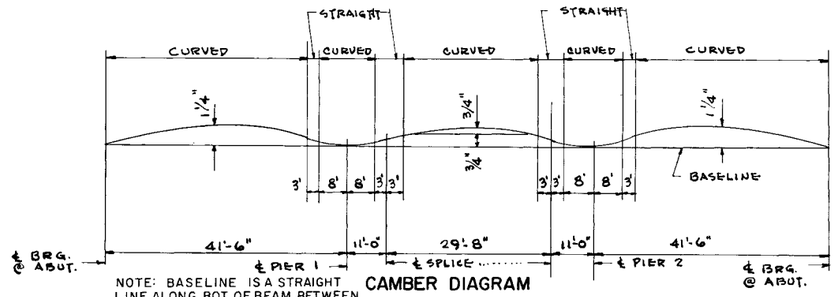
SPECIAL REAMING AS PER M.H.D. 2471.3E1b WILL BE REQUIRED FOR BEAM SPLICES. HOLES SHALL BE SUBPUNCHED OR DRILLED $\frac{11}{16}$" Ø AND REAMED TO $\frac{15}{16}$" Ø IN ASSEMBLED POSITION

THE SECTION TO BE ASSEMBLED FOR REAMING SHALL BE FROM ABUT. 1 TO ABUT. 2, ALL OTHER HOLES, MAY BE FULL PUNCHED AS PER M.H.D. 2471.3E1a.

START COVER PLATE WELDS AT CENTER OF PLATE AND PROCEED SIMULTANEOUSLY ON BOTH SIDES OF PLATES TOWARD EITHER END. DO NOT TACK WELD. USE "C" CLAMPS AND RELEASE CLAMPS AS WELDING PROCEEDS, TO RELIEVE STRESS.



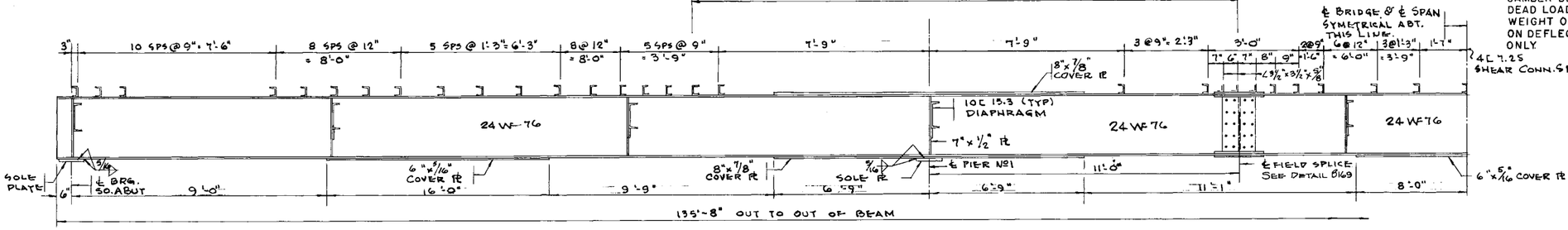
FRAMING PLAN



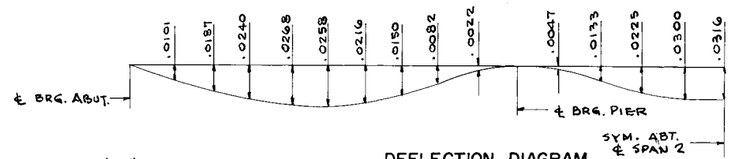
CAMBER DIAGRAM

NOTE: BASELINE IS A STRAIGHT LINE ALONG BOT. OF BEAM BETWEEN ABUTMENTS.

CAMBER DIAGRAM SHOWN IS FOR BEAM CAMBER WITHOUT ANY DEAD LOAD DEFLECTION. DEAD LOAD DEFLECTION DUE TO WEIGHT OF STEEL ARE 14.4% OF DEFLECTIONS SHOWN ON DEFLECTION DIAGRAM FOR WEIGHT OF CONCRETE ONLY.



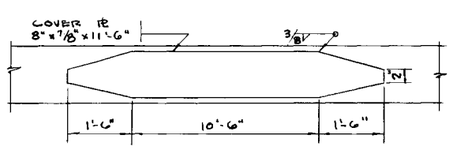
HALF BEAM ELEVATION



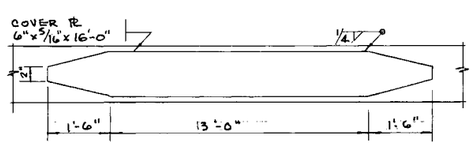
DEFLECTION DIAGRAM

DEFLECTIONS SHOWN ARE FOR WEIGHT OF SLAB, CURB & RAILING.

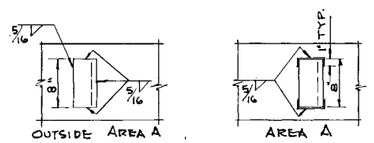
THE ENGINEER WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTIONS SHOWN TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.



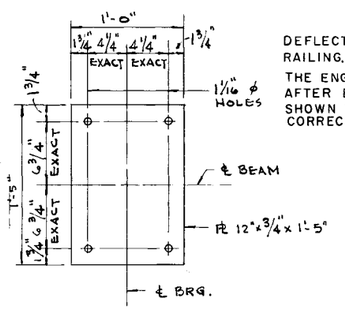
COVER PLATE DETAIL
TOP & BOT. FLANGE OF BEAM OVER PIERS



COVER PLATE DETAIL
BOTTOM FLANGE OF BEAM



SHEAR CONNECTOR DETAILS
TOE OF CHANNEL TO FACE NEAREST SUPPORT



SOLE PLATE DETAIL

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. 55515

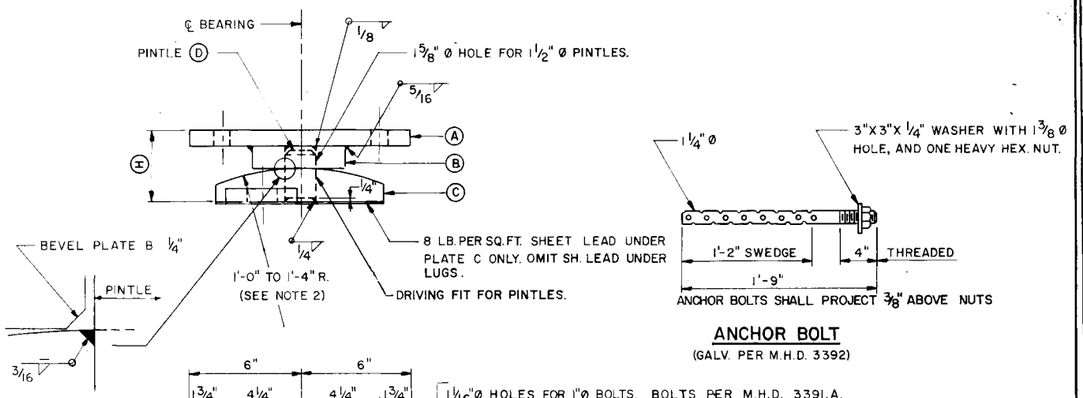
FRAMING PLAN & BEAM DETAILS

APPROVED: 11-1-66

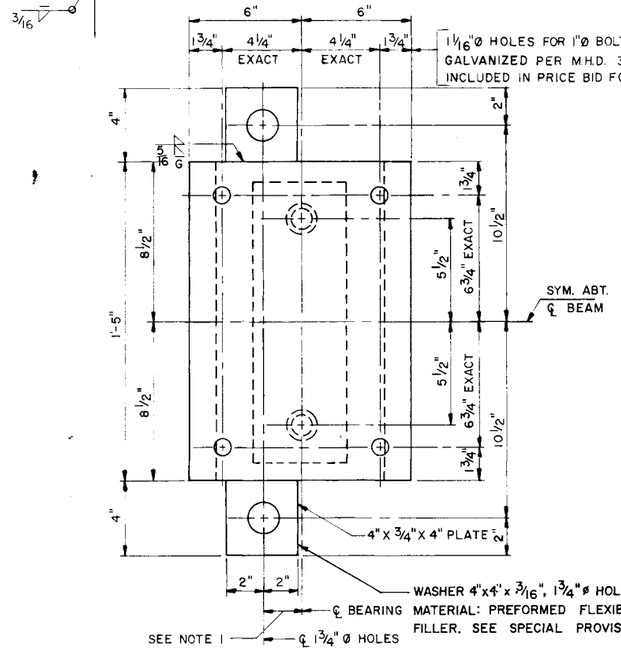
DES.	DR.	55515
CHK.	CHK.	

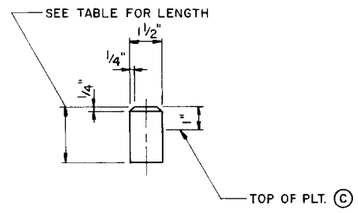
State Aid Proj. No. 55-603-10

Sheet No. 7 **of** 14 **Sheets**



ANCHOR BOLT
(GALV. PER M.H.D. 3392)





PINTLE D

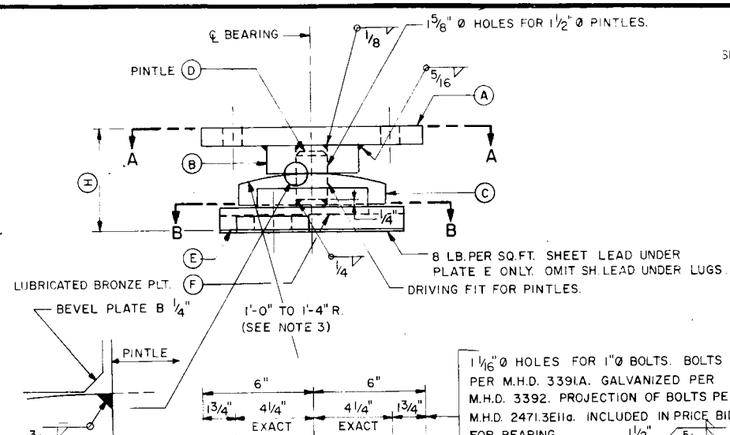
NOTES:

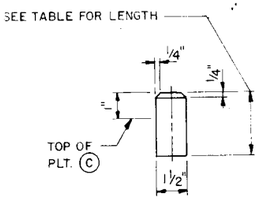
1. POSITION OF ANCHOR BOLTS SHOWN IS FOR SQUARE BRIDGES. REVISE POSITION OF ANCHOR BOLT HOLES FOR SKEW TO PERMIT DRILLING HOLES IN BRIDGE SEAT WITH END DIAPHRAMS IN PLACE.
2. PINTLE D SHALL COMPLY WITH M.H.D. 3314, TYPE II.
3. ALL OTHER STRUCTURAL STEEL AS PER M.H.D. 3306.
4. MACHINE TOP OF PLATE C TO RADIUS SHOWN AND TO 250 MICRO.
5. PLATES SHALL BE FLAT AFTER WELDING AND FABRICATION.
6. GALVANIZE AFTER FABRICATION PER M.H.D. 3394, NO PAINT.
7. PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

LOAD KIPS	A	B	C △	D	H (MIN.)	CODE
200	12"X1"X 1'-5"	5"X1 1/4"X1'-3"	12"X2 1/2"X1'-5"	1 1/2"ØX3 1/4"	4 11/16"	B137-200
160	12"X1"X 1'-5"	5"X1 1/4"X1'-3"	10"X 2" X1'-5"	1 1/2"ØX2 3/4"	4 3/16"	B137-160
120	12"X 7/8"X1'-5"	5"X1 1/4"X1'-3"	8"X1 1/2"X1'-5"	1 1/2"ØX2 1/4"	3 9/16"	B137-120

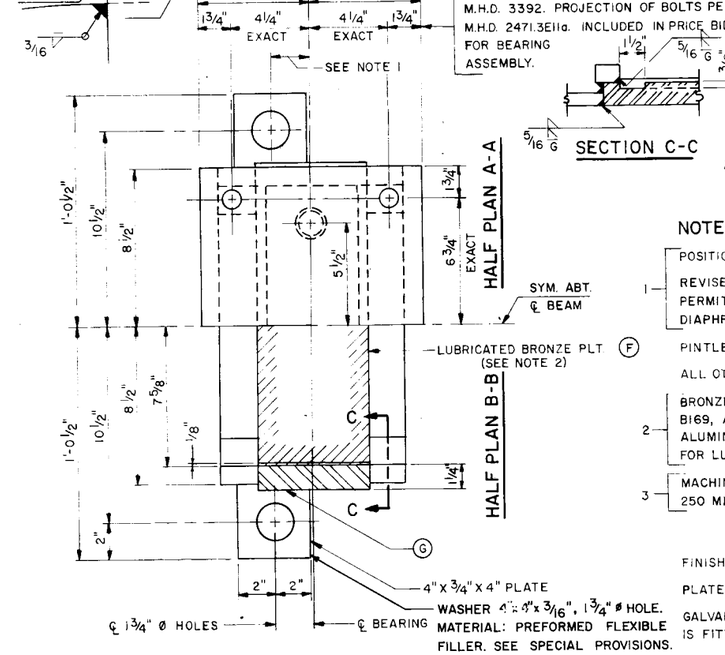
△ FINISHED THICKNESS OF PLATE C MAY BE 1/16" LESS THAN THICKNESS SHOWN.

APPROVED MAY 17, 1960	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
A. E. LaBonte BRIDGE ENGINEER	FIXED BEARING ASSEMBLY FOR BEAMS WITH 9" TO 10 1/2" FLANGE	5/11/60-A 9/26/61-B 5/22/63 8/28/63 6/15/64 4/28/65 11/15/65	B137

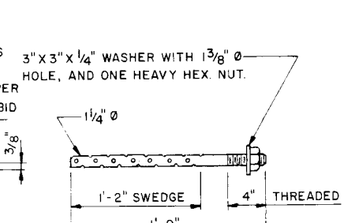




PINTLE D



SECTION C-C



ANCHOR BOLT
(GALV. PER M.H.D. 3392)

NOTES:

1. POSITION OF ANCHOR BOLTS SHOWN IS FOR SQUARE BRIDGES. REVISE POSITION OF ANCHOR BOLT HOLES FOR SKEW TO PERMIT DRILLING HOLES IN BRIDGE SEAT WITH END DIAPHRAGMS IN PLACE.
2. PINTLE D SHALL COMPLY WITH M.H.D. 3314, TYPE II.
3. ALL OTHER STRUCTURAL STEEL PER M.H.D. 3306.
4. BRONZE TO BE ROLLED ALUMINUM BRONZE PLATE A.S.T.M. B169, ALLOY D, SOFT TEMPER, MILL FINISH; OR CAST ALUMINUM BRONZE A.S.T.M. B148, ALLOY 9C OR 9D.* FOR LUBRICATION SEE M.H.D. 3329.
5. MACHINE TOP OF PLATE C TO RADIUS SHOWN AND TO 250 MICRO. MACHINE BOTTOM TO 125 MICRO.
6. FINISH RECESS IN PLATE E TO 250 MICRO.
7. PLATES SHALL BE FLAT AFTER WELDING AND FABRICATION.
8. GALVANIZE AFTER FABRICATION AND BEFORE BRONZE IS FITTED IN PLACE PER M.H.D. 3394, NO PAINT.

LOAD KIPS	A	B	C △	D	E	F*	G	H (MIN.)	CODE
200	12"X1"X1'-5"	5"X1 1/4"X1'-3"	9"X 2" X1'-3"	1 1/2"ØX2 3/4"	12"X1 1/2"X1'-5"	7"X 1/2"X1'-3"	1 1/4"X1"X7"	5 13/16"	B138-200
160	12"X1"X1'-5"	5"X1 1/4"X1'-3"	8"X1 3/4"X1'-3"	1 1/2"ØX2 1/2"	10"X1 1/4"X1'-5"	6"X 1/2"X1'-3"	1 1/4"X1"X6"	5 5/16"	B138-160
120	12"X 7/8"X1'-5"	5"X1 1/4"X1'-3"	6"X1 1/4"X1'-3"	1 1/2"ØX 2"	8"X1"X1'-5"	4"X1/2"X1'-3"	1 1/4"X1"X4"	4 7/16"	B138-120

* CAST BRONZE SHALL HAVE MACHINE-FINISHED EDGES TO WIDTH AND LENGTH SHOWN.
BOTTOM SURFACE TO BE MACHINED TO 250 MICRO AND TOP SURFACE TO 125 MICRO.
WIDTH AND LENGTH OF CAST OR WROUGHT BRONZE SHALL BE HELD TO +0.000 AND -0.050 INCH TOLERANCE.
△ FINISHED THICKNESS OF PLATE C MAY BE 1/16" LESS THAN THICKNESS SHOWN

BRONZE BEARING PLATES SHALL BE BOXED FOR SHIPMENT PER M.H.D. 2471.3K.

PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

APPROVED MAY 17, 1960	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
A. E. LaBonte BRIDGE ENGINEER	EXPANSION BEARING ASSEMBLY FOR BEAMS WITH 9" TO 10 1/2" FLANGE WITH GUIDE BARS	5/11/60-A 9/26/61-B 5/22/63 8/28/63 3/11/64 6/15/64 4/28/65 11/15/65	B138

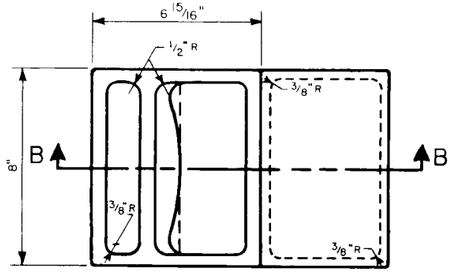
STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS

Bridge No. .....

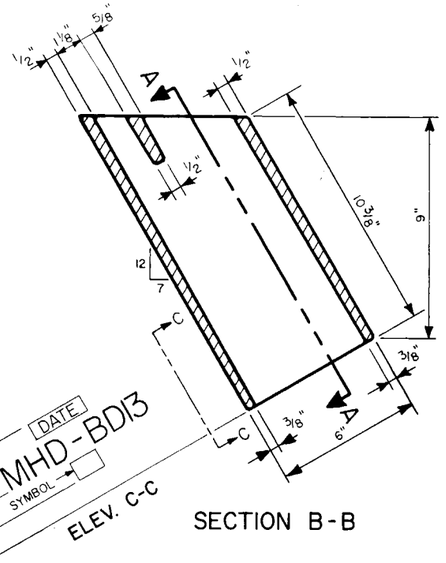
DETAILS

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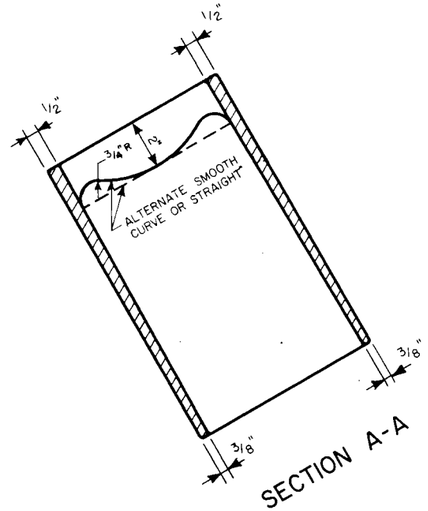
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TOP VIEW



SECTION B-B



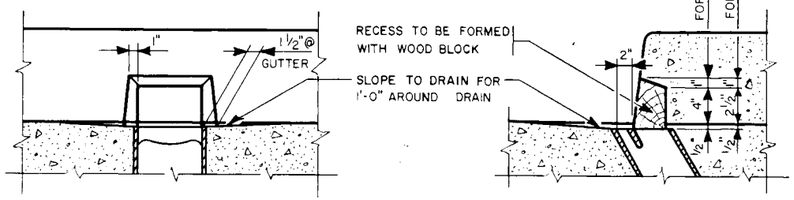
SECTION A-A

MATERIAL:
GRAY IRON CASTING PER M.H.D. 3320.

HOT-DIP GALVANIZED AS PER M.H.D. 3394. NO PAINT.
SHOP INSPECTION BY M.H.D. BEFORE AND AFTER GALVANIZING.

BOX CASTING BD-13

EACH CASTING TO BE IDENTIFIED BY FOUNDRY SYMBOL, CASTING DATE AND CASTING TYPE (MHD-BDI3). SEE MHD 3320.2B.

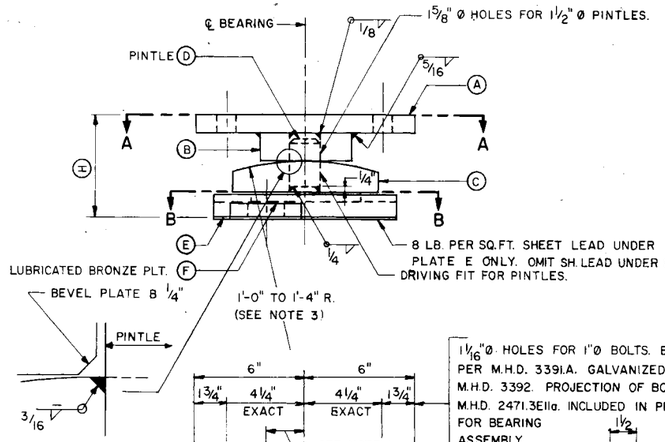


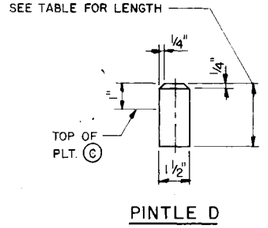
PLACING DIAGRAM

BOX CASTING BD-13

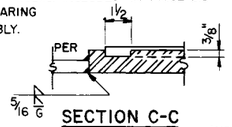
LEB

APPROVED 10-23 1958	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
C. L. La Bonte BRIDGE ENGINEER	CAST IRON FLOOR DRAIN FOR BRIDGES	4-10-59 9-7-62 9-23-63 9-14-64	B13



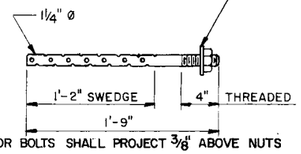


PINTLE D



SECTION C-C

3"x3"x 1/4" WASHER WITH 1 3/8" Ø HOLE, AND ONE HEAVY HEX. NUT.



ANCHOR BOLTS SHALL PROJECT 3/8" ABOVE NUTS

ANCHOR BOLT
(GALV. PER M.H.D. 3392)

NOTES:

1 — POSITION OF ANCHOR BOLTS SHOWN IS FOR SQUARE BRIDGES.
REVISE POSITION OF ANCHOR BOLT HOLES FOR SKEW TO PERMIT DRILLING HOLES IN BRIDGE SEAT WITH END DIAPHRAGMS IN PLACE.

PINTLE D SHALL COMPLY WITH M.H.D. 3314, TYPE II.
ALL OTHER STRUCTURAL STEEL PER M.H.D. 3306.

2 — BRONZE TO BE ROLLED ALUMINUM BRONZE PLATE A.S.T.M. B169, ALLOY D, SOFT TEMPER, MILL FINISH; OR CAST ALUMINUM BRONZE A.S.T.M. B148, ALLOY 9C OR 9D.* FOR LUBRICATION SEE M.H.D. 3329.

3 — MACHINE TOP OF PLATE C TO RADIUS SHOWN AND TO 250 MICRO. MACHINE BOTTOM TO 125 MICRO.

FINISH RECESS IN PLATE E TO 250 MICRO.

PLATES SHALL BE FLAT AFTER WELDING AND FABRICATION.

GALVANIZE AFTER FABRICATION AND BEFORE BRONZE IS FITTED IN PLACE PER M.H.D. 3394, NO PAINT.

LOAD KIPS	A	B	C△	D	E	F*	H (MIN.)	CODE
200	12"X1"X1'-5"	5"X1 1/4"X1'-3"	9"X2"X1'-3"	1 1/2" Ø X2 3/4"	12"X1 1/2"X1'-5"	7"X1/2"X1'-3"	5 13/16"	B139-200
160	12"X1"X1'-5"	5"X1 1/4"X1'-3"	8"X1 3/4"X1'-3"	1 1/2" Ø X2 1/2"	10"X1 1/4"X1'-5"	6"X1/2"X1'-3"	5 5/16"	B139-160
120	12"X7/8"X1'-5"	5"X1 1/4"X1'-3"	6"X1 1/4"X1'-3"	1 1/2" Ø X 2"	8"X 1"X1'-5"	4"X1/2"X1'-3"	4 7/16"	B139-120

* CAST BRONZE SHALL HAVE MACHINE-FINISHED EDGES TO WIDTH AND LENGTH SHOWN.
BOTTOM SURFACE TO BE MACHINED TO 250 MICRO AND TOP SURFACE TO 125 MICRO.
WIDTH AND LENGTH OF CAST OR WROUGHT BRONZE SHALL BE HELD TO +0.000 AND -0.050 INCH TOLERANCE.
△ FINISHED THICKNESS OF PLATE C MAY BE 1/16" LESS THAN THICKNESS SHOWN.

BRONZE BEARING PLATES SHALL BE BOXED FOR SHIPMENT PER M.H.D. 2471.3K.

PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL SHOWN ON THIS DETAIL.

APPROVED MAY 17, 1960	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS	DETAIL NO.
A. L. La Bonte BRIDGE ENGINEER	EXPANSION BEARING ASSEMBLY FOR BEAMS WITH 9" TO 10 1/2" FLANGE WITHOUT GUIDE BARS	5/11/60-A 9/26/61-B 5/22/63 8/28/63 6/15/64 4/28/65 11/15/65	B139

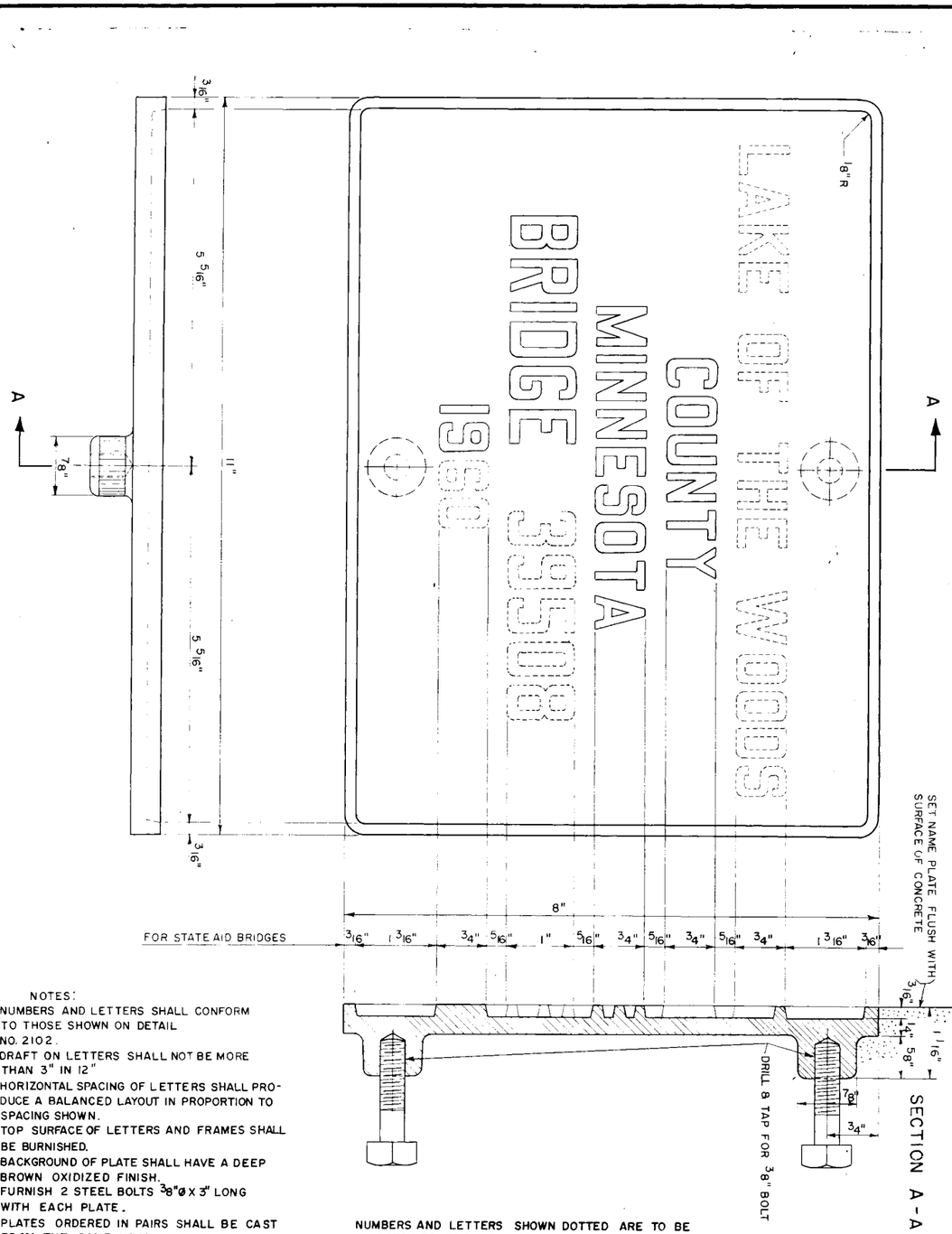
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

Bridge No. .....

DETAILS

APPROVED .....

Sheet No. of Sheets



NOTES:
NUMBERS AND LETTERS SHALL CONFORM TO THOSE SHOWN ON DETAIL NO. 2102.
DRAFT ON LETTERS SHALL NOT BE MORE THAN 3" IN 12"
HORIZONTAL SPACING OF LETTERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
TOP SURFACE OF LETTERS AND FRAMES SHALL BE BURNISHED.
BACKGROUND OF PLATE SHALL HAVE A DEEP BROWN OXIDIZED FINISH.
FURNISH 2 STEEL BOLTS 3/8"ø X 3" LONG WITH EACH PLATE.
PLATES ORDERED IN PAIRS SHALL BE CAST FROM THE SAME HEAT.

NUMBERS AND LETTERS SHOWN DOTTED ARE TO BE OBTAINED FROM BRIDGE PLANS.

SPECIFICATION REFERENCE 2471.3 H, 3327 (BRONZE CASTINGS TYPE 2)

APPROVED _____ 1959 BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS BRIDGE NAME PLATE FOR COUNTY BRIDGES	REVISIONS	DETAIL NO. 2104

ABCDEFGHIJKLMN

OPQRSTUVWXYZ

1234567890

NOTE:
ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN ABOVE FOR THE 1" HIGH LETTERS AND NUMBERS. THE THICKNESS OF THE LETTERS AND NUMBERS SHALL BE 3/16".

APPROVED 7/3 1959 a.e. la Conte BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS LETTERS FOR BRIDGE NAME PLATES	REVISIONS	DETAIL NO. 2102

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

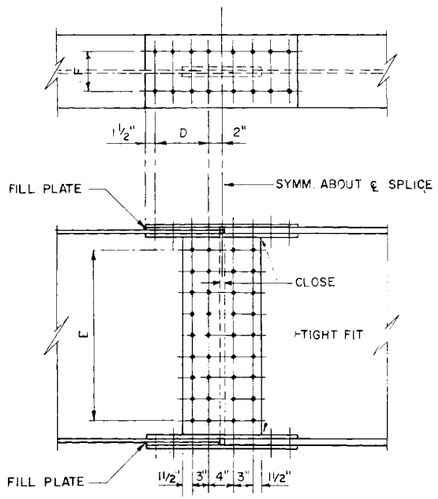
Bridge No. _____

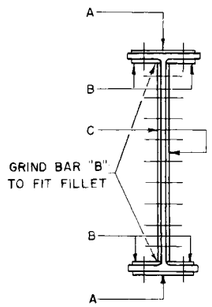
DETAILS

APPROVED _____

Sheet No. _____ of _____ Sheets

NOTES:
SPLICE DESIGN IS FOR STRUCTURAL STEEL M.H.D. 3306.
SPLICE DEVELOPS 100% OF NET SECTION.
USE 7/8" RIVETS PER M.H.D. 3316, TYPE I OR 7/8" HIGH STRENGTH BOLTS PER M.H.D. 2471.3 E IIc, M.H.D. 3391B STYLE II, AND SPECIAL PROVISIONS.
IF RIVETS ARE USED, FILL PLATES THICKER THAN 1/4" SHALL BE DEVELOPED WITH ADDITIONAL RIVETS.
WHEN BEAMS ARE OF UNEQUAL WEIGHT, USE DESIGN FOR LIGHTER BEAM.





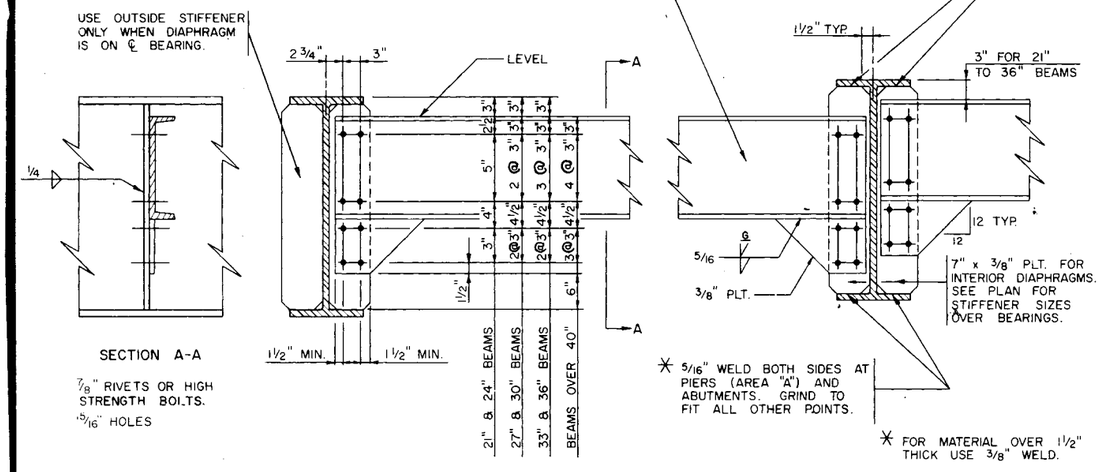
SIZE	A	B	C	D	E	F	FILL PL
21 WF 55	8 X 5/16	3 3/4 X 5/16	13 X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"	
21 WF 62	8 X 3/8	3 3/4 X 7/16	13 X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"	
21 WF 68	8 X 3/8	3 3/4 X 9/16	13 X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"	
21 WF 73	8 X 7/16	3 3/4 X 9/16	13 X 5/16	2 SPS. @ 3"	5 SPS. @ 3"	5"	
21 WF 82	9 X 7/16	4 X 9/16	13 X 5/16	3 SPS. @ 3"	5 SPS. @ 3"	5"	
21 WF 96	9 X 9/16	4 X 5/8	13 X 5/16	3 SPS. @ 3"	5 SPS. @ 3"	5"	
24WF 68	9 X 3/8	4 X 3/8	13X 5/16	2 SPS. @ 3"	5 SPS. @ 3 5/8"	5"	
24WF 76	9 X 3/8	4 X 1/2	13 X 5/16	2 SPS. @ 3"	5 SPS. @ 3 5/8"	5"	
24WF 84	9 X 7/16	4 X 1/2	13 X 5/16	3 SPS. @ 3"	5 SPS. @ 3 5/8"	5"	
24WF 94	9 X 1/2	4 X 9/16	13 X 5/16	3 SPS. @ 3"	5 SPS. @ 3 5/8"	5"	
24WF 100	12X 7/16	5 1/2 X 1/2	13 X 5/16	4 SPS. @ 3"	5 SPS. @ 3 5/8"	6 1/2"	
24WF 110	12X 1/2	5 1/2 X 9/16	13 X 5/16	5 SPS. @ 3"	5 SPS. @ 3 5/8"	6 1/2"	
24WF 120	12X 9/16	5 1/2 X 5/8	13 X 5/16	5 SPS. @ 3"	5 SPS. @ 3 5/8"	6 1/2"	
27WF 84	10X 3/8	4 1/2 X 7/16	13 X 5/16	3 SPS. @ 3"	6 SPS @ 3 1/2"	5 1/2"	
27WF 94	10X 7/16	4 1/2 X 9/16	13 X 5/16	3 SPS. @ 3"	6 SPS @ 3 1/2"	5 1/2"	
27WF 102	10X 1/2	4 1/2 X 5/8	13 X 5/16	4 SPS. @ 3"	6 SPS @ 3 1/2"	5 1/2"	
27WF 114	10X 9/16	4 1/2 X 11/16	13 X 5/16	4 SPS. @ 3"	6 SPS @ 3 1/2"	5 1/2"	
30WF 99	10X 7/16	4 1/2 X 1/2	13 X 5/16	3 SPS. @ 3"	6 SPS. @ 4"	5 1/2"	
30WF 108	10X 7/16	4 1/2 X 5/8	13 X 5/16	4 SPS. @ 3"	6 SPS. @ 4"	5 1/2"	
30WF 116	10X 1/2	4 1/2 X 11/16	13 X 5/16	4 SPS. @ 3"	6 SPS. @ 4"	5 1/2"	
30WF 124	10X 9/16	4 1/2 X 3/4	13 X 5/16	5 SPS. @ 3"	6 SPS. @ 4"	5 1/2"	
30WF 132	10X 5/8	4 1/2 X 13/16	13 X 5/16	5 SPS. @ 3"	6 SPS @ 4"	5 1/2"	
33WF 118	11X 7/16	5 X 9/16	13 X 5/16	4 SPS. @ 3"	8 SPS. @ 3 3/8"	6 1/2"	
33WF 130	11X 9/16	5 X 5/8	13 X 5/16	5 SPS. @ 3"	8 SPS @ 3 3/8"	6 1/2"	
33WF 141	11X 9/16	5 X 3/4	13 X 5/16	5 SPS. @ 3"	8 SPS @ 3 3/8"	6 1/2"	
33WF 152	11X 5/8	5 X 7/8	13 X 3/8	6 SPS. @ 3"	8 SPS @ 3 3/8"	6 1/2"	
36WF 135	12X 7/16	5 1/2 X 9/16	13 X 5/16	4 SPS. @ 3"	9 SPS. @ 3 1/4"	6 1/2"	
36WF 150	12X 9/16	5 1/2 X 5/8	13 X 3/8	5 SPS. @ 3"	9 SPS. @ 3 1/4"	6 1/2"	
36WF 160	12X 5/8	5 1/2 X 11/16	13 X 3/8	6 SPS @ 3"	9 SPS @ 3 1/4"	6 1/2"	
36 WF 170	12 X 5/8	5 1/2 X 3/4	13 X 3/8	6 SPS. @ 3"	9 SPS @ 3 1/4"	6 1/2"	
36WF 182	12X 11/16	5 1/2 X 13/16	13 X 3/8	7 SPS. @ 3"	10 SPS @ 2 15/16"	6 1/2"	
36WF 194	12X 3/4	5 1/2 X 15/16	13 X 3/8	8 SPS. @ 3"	10 SPS @ 2 15/16"	6 1/2"	

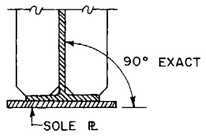
LAM

APPROVED 4-2 1964	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 4-2-64 10-2-64	DETAIL NO.
A.E. La Bonte BRIDGE ENGINEER	BEAM SPLICES		B 169

10" [15.3# FOR 21" & 24" BEAMS.
12" [20.7# FOR 27" & 30" BEAMS.
15" [33.9# FOR 33" & 36" BEAMS
18" [42.7# FOR BEAMS 40" AND OVER.

GRIND TO FIT WHERE BEAMS ARE CONTINUOUS OVER PIERS. (AREA "A" ON PLANS). 5/16" WELD BOTH SIDES AT OTHER POINTS. *



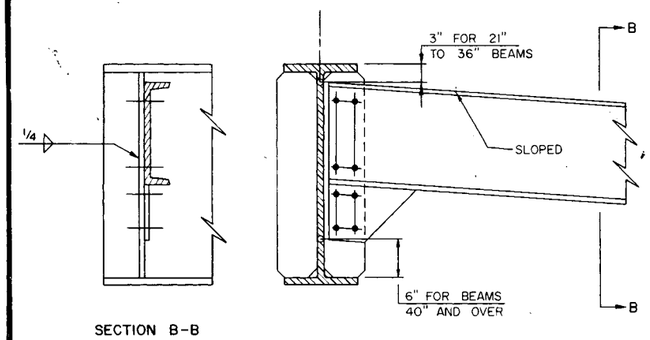


FACIA BEAM

INTERMEDIATE BEAM

PIER & INTERMEDIATE DIAPHRAGMS

TYPICAL DETAIL AT BEARINGS



NOTE:
FOR SKEWS OVER 17 1/2° USE 7/8" Ø HIGH STRENGTH BOLTS FOR ACUTE ANGLE CONNECTIONS.

FACIA BEAM

INTERMEDIATE BEAM

DIAPHRAGMS AT ABUTMENTS

SEE INTERMEDIATE DIAPHRAGMS FOR DETAILS NOT GIVEN

TJH

APPROVED 196	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS	REVISIONS 7-12-63 10-4-64 10-23-64	DETAIL NO.
BRIDGE ENGINEER	BEAM DIAPHRAGMS		B 197

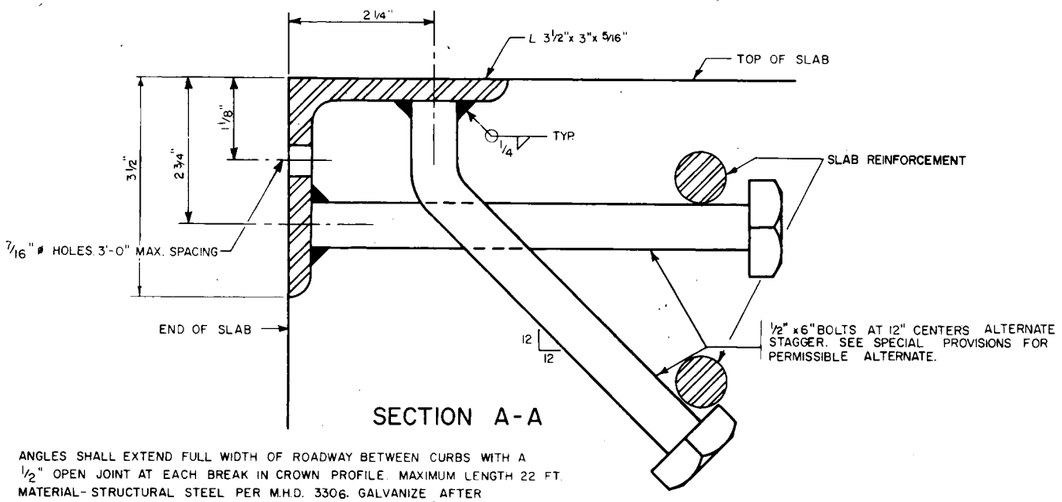
STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS

Bridge No. .....

DETAILS

APPROVED .....

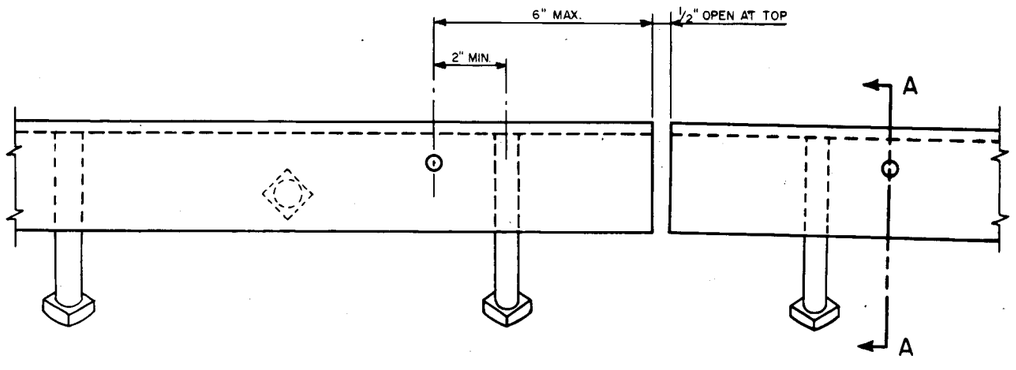
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SECTION A-A

ANGLES SHALL EXTEND FULL WIDTH OF ROADWAY BETWEEN CURBS WITH A 1/2" OPEN JOINT AT EACH BREAK IN CROWN PROFILE. MAXIMUM LENGTH 22 FT. MATERIAL- STRUCTURAL STEEL PER M.H.D. 3306. GALVANIZE AFTER FABRICATION PER M.H.D. 3394.

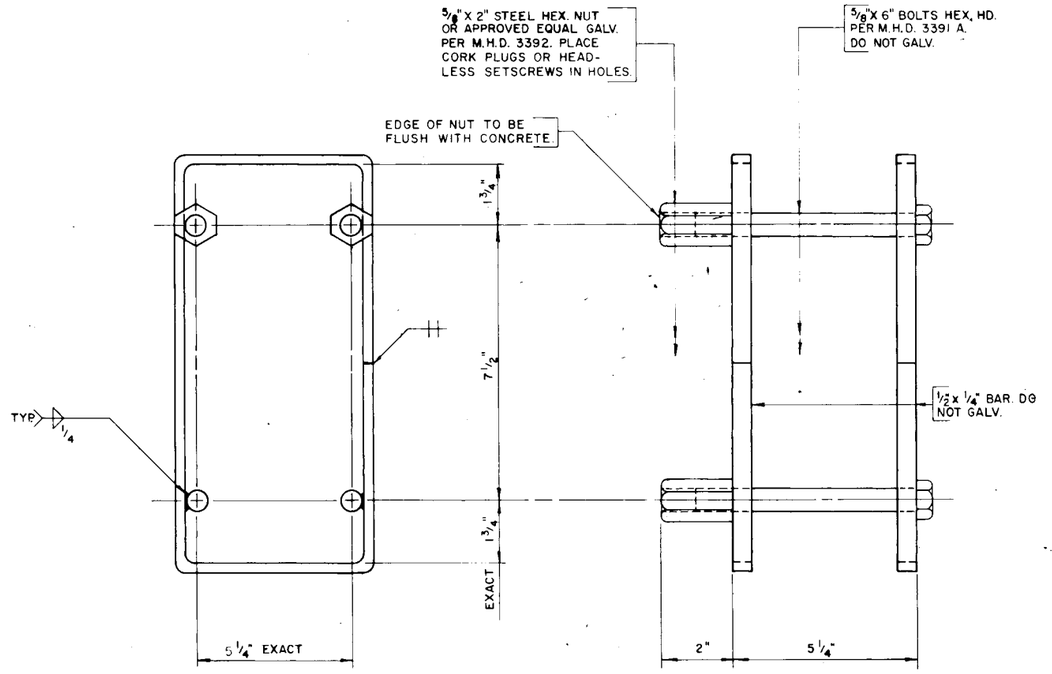
SET ANGLE TO PROPER GRADE AND CROWN.



ELEVATION

LEB

APPROVED 9-24 1963 A. E. LaBonte BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS PROTECTION ANGLE FOR END OF SLAB	REVISIONS 3/8/65 11/15/65 12/2/65	DETAIL NO. B209



NOTE:
1/2" x 1/4" BAR TO BE M.H.D. SPEC. 330F "BLACK IRON."

ESTIMATED WT. 7 LBS.

FURNISHING AND PLACING INSERT SHALL BE PAID FOR AS

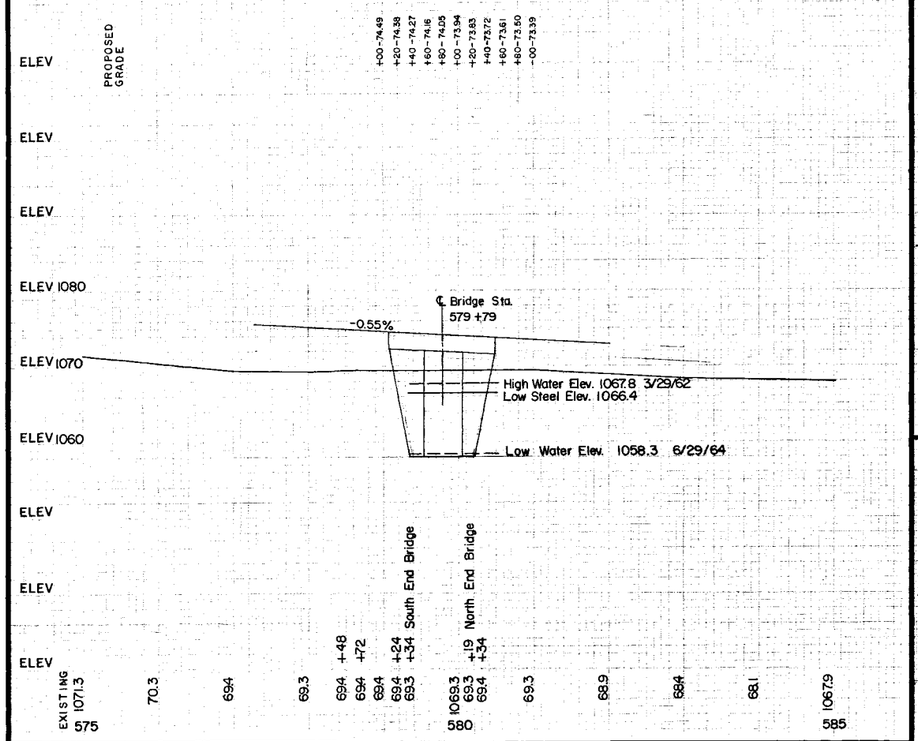
GRC

APPROVED SEPT. 5 1963 BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS INSERT FOR PLATE BEAM GUARD RAIL CONNECTION	REVISIONS 12-2-63 7-30-64 8-5-64 8-14-64 10-7-64 11-15-64	DETAIL NO. B 46

STATE OF MINNESOTA DEPARTMENT OF HIGHWAYS
Bridge No. .....
DETAILS
APPROVED .....
Sheet No. of Sheets

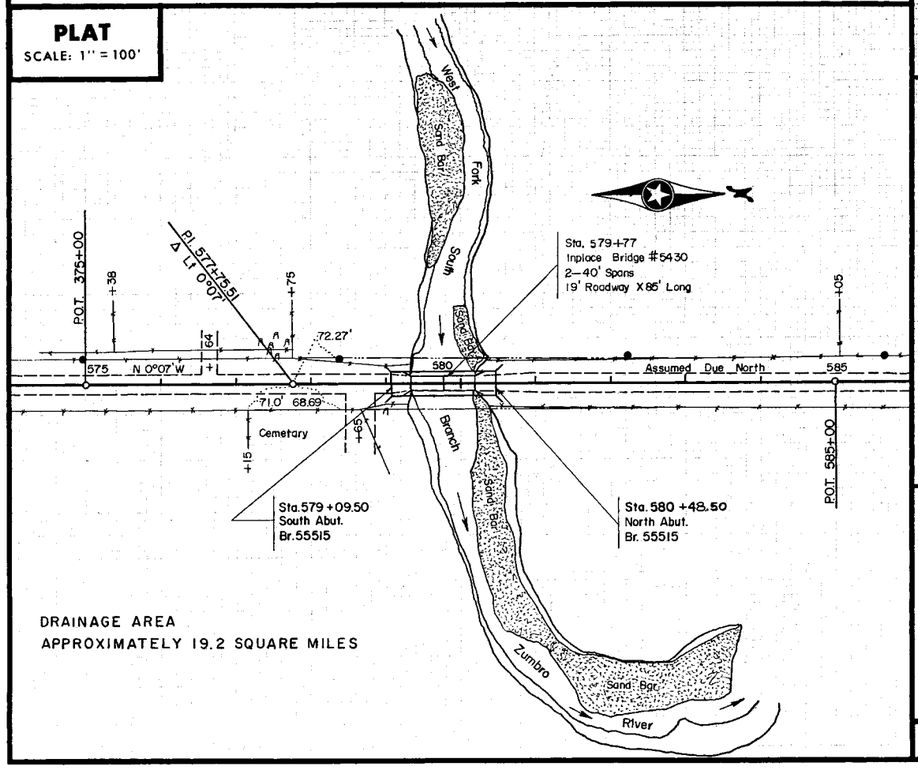
CONTRACTED PROFILE

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



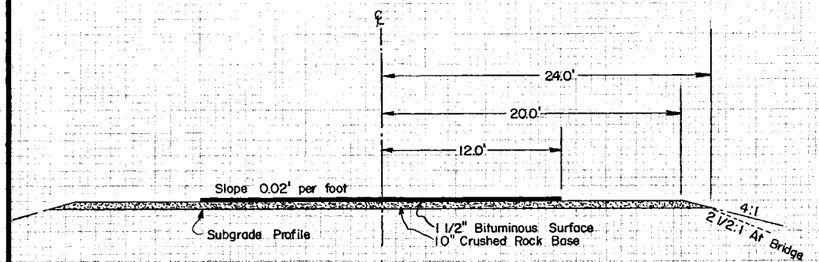
PLAT

SCALE: 1" = 100'

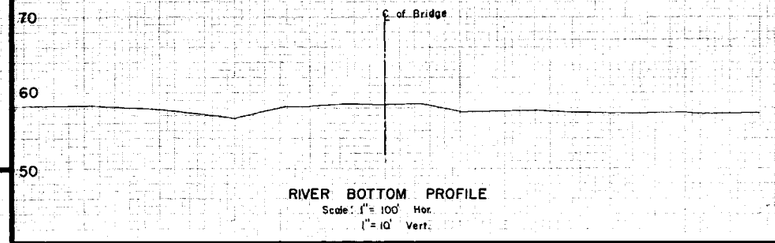


TYPICAL SECTIONS & PERTINENT DATA

SCALES AS SHOWN

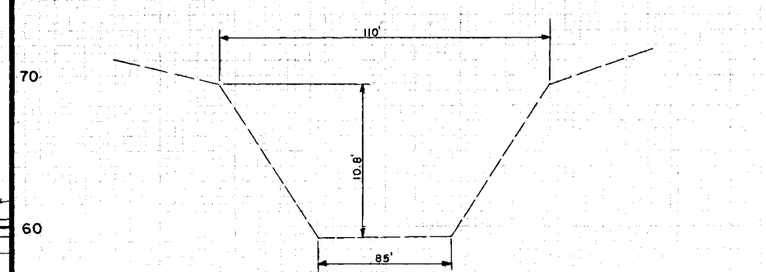


TYPICAL HIGHWAY SECTION



RIVER BOTTOM PROFILE

Scale: 1"= 100' Hor.
1"= 10' Vert.

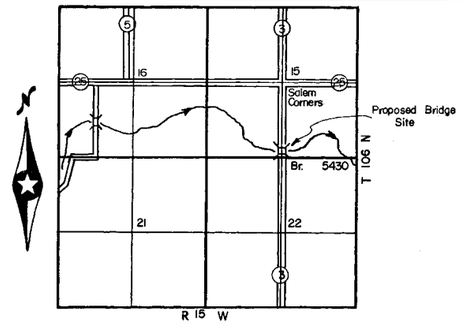


TYPICAL CHANNEL SECTION

B.M. ELEV 1070.07' (M.S.L. 19 ADJ.)
SPK IN CONC CURB BRIDGE
STA. 579+34 SW CORNER

SEE SHEET 14 OF 14 SHEETS FOR PLAN AND PROFILE

Fed. Proj. No.



R 15 W
INDEX MAP
(FOUR SECTIONS)

FOLLOW SEPARATE "INSTRUCTIONS FOR PREPARATION OF BRIDGE SURVEYS" WHEN MAKING BRIDGE SURVEYS.

DATA

1. Preliminary recommendations of Engineer in charge of Bridge Survey:
   a. Net span length and type of bridge: 130' 3 SPAN CONTINUOUS STEEL BEAM
   b. Width of roadway on bridge: 32'
   c. Number and width of sidewalks, if any:
   d. Locate center of bridge at station: 579+79
   e. If a skew bridge is recommended, the angle of skew should be:
   f. Is piling required? Yes
2. Special features: Waterfalls, dams, exceptional floods, ice, driftwood, sliding banks, logging, etc.
   Subject to driftwood and ice jams.
3. Changes: In height or length from that of old bridge, and reasons why: Bridge must be raised to obtain a 3 foot clearance to low steel. Must be lengthened to increase waterway and reduce the velocity.
4. Other bridges in vicinity:
   a. Over same stream (particularly structures which carry high water without overflow of roadway); give location, length, height above water, net cross-sectional area at high water stage and estimated age: Upstream 1 1/4 miles multiple span (7 spans) total length 112 feet, 9 foot waterway, two spans washed out March 29, 1962, Upstream 2 3/4 miles inplace 80' truss, 13' waterway. Downstream 2.0 miles 134' span, 14' waterway built 1963, water 3' below steel March 1st 1965.
   b. Over or under same highway or railroad; give location, length, horizontal and vertical clearances and estimated age:
   c. Reasons why these bridges are, or are not, fair indications of what length the proposed bridge should be: The two upstream bridges are inundated during periods of extreme high water. Bridge downstream adequate.
5. If structure is over a drainage ditch, is ditch gradient liable to be altered?
6. Navigation clearances required, if any: None
7. Information and evidence in regard to high water stages was obtained as follows: Observation during extreme high water March 29, 1962 and March 1st 1965
8. Must contractor provide for traffic during construction of proposed bridge? Yes
   If so, by what means? Temporary By-Pass

HYDRAULIC ENGINEERS RECOMMENDATION

HIGH AND LOW WATER ELEVATIONS

Data obtained from Observation reflects highest water elevation in the area of this construction to be 1067.80 and the lowest water elevation to be 1058.30. The above figures are for informational purposes only. The state neither warrants nor represents that these figures for high water and low water are in any way indicative of the high water or low water to be expected or encountered during this construction.

SHIPPING POINT

Proposed Bridge is Approx. 5 miles SE of * Byron which is the nearest Railroad shipping point.

*(Give name of town, station or siding)

11-5-65 Date — D. J. Sullivan, Project or County Engineer

11-6-65 Date — Claude Zeblon, District Engineer S.A.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE SURVEY

FOR

PROPOSED BRIDGE LOCATED 5 MILES SE OF Byron (TOWN OR CITY) ON CSAH 3 (T.H., C.S.A.H. OR C.A.R. NUMBER)

SEC. 15 TWP. 106N R. 15W

TOWNSHIP Salem COUNTY Olmsted

SURVEY MADE DURING MONTH OF April 19 65

SURVEY MADE BY R.L. Gustine

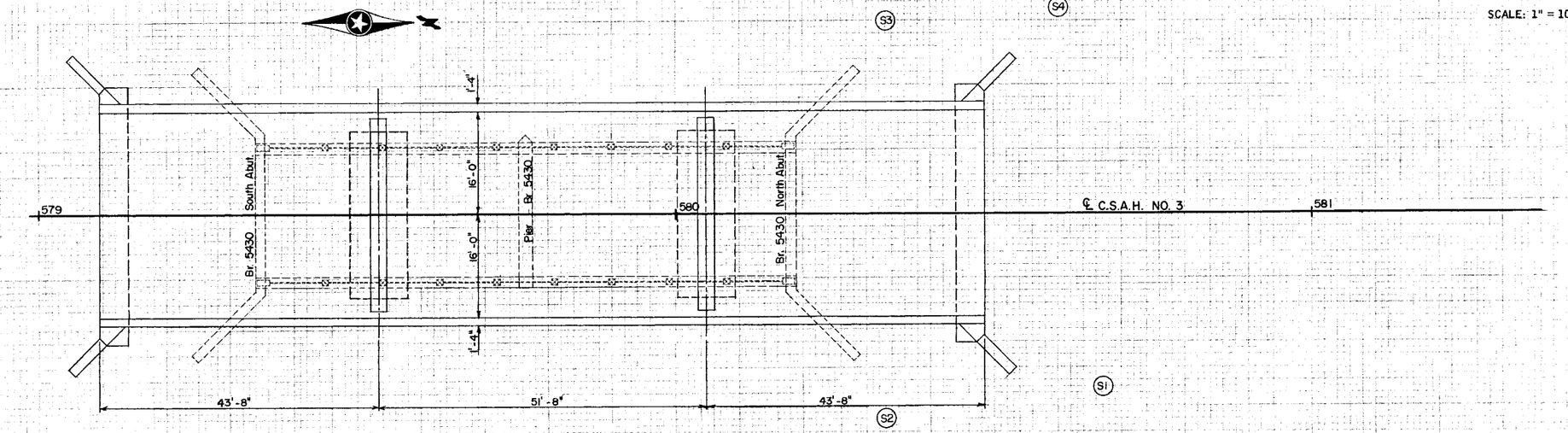
BRIDGE NO. 55515

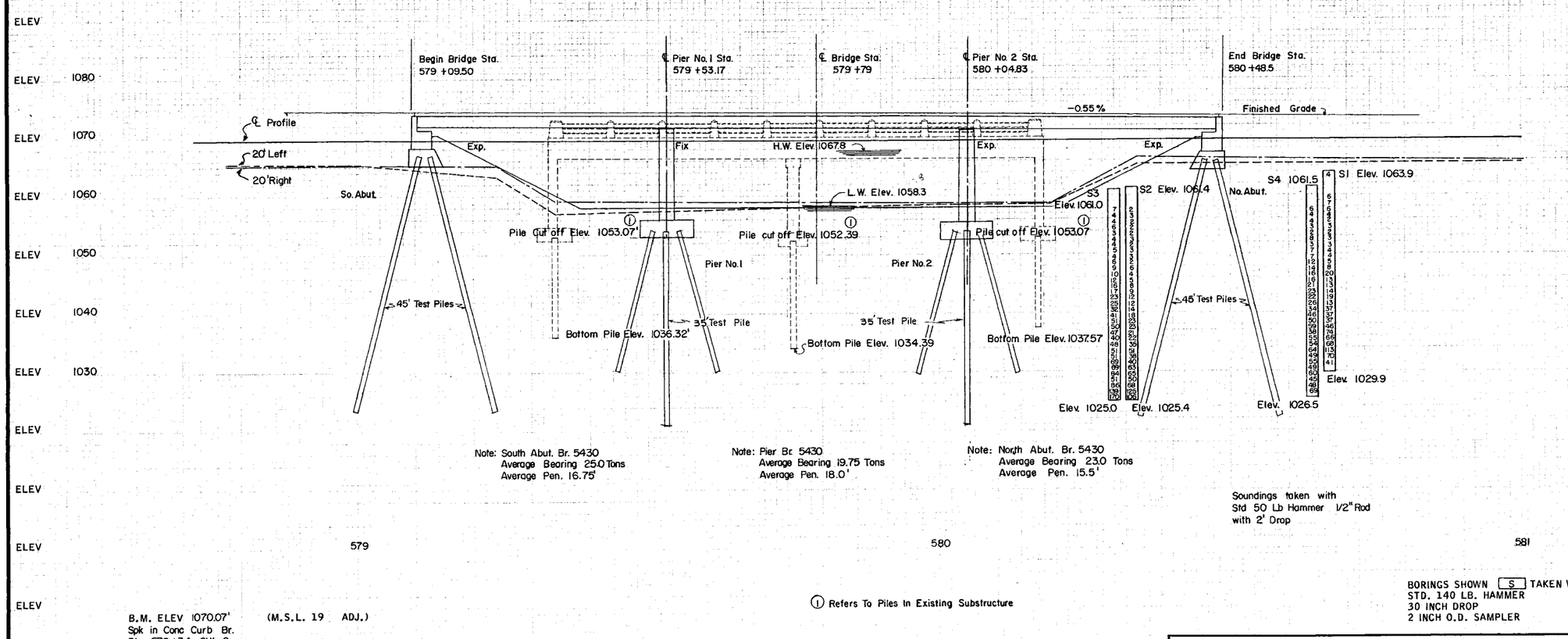
Area No. Job No. | State Aid Proj. No. 55-603-10 | Sheet No. 13 of 14 Sheets

Bridge Survey Sheet (Sheet 1 of 2)

Fed. Proj. No.

SCALE: 1" = 10'





Note: South Abut. Br. 5430
Average Bearing 25.0 Tons
Average Pen. 16.75'

Note: Pier Br. 5430
Average Bearing 19.75 Tons
Average Pen. 18.0'

Note: North Abut. Br. 5430
Average Bearing 23.0 Tons
Average Pen. 15.5'

Soundings taken with
Std 50 Lb Hammer 1/2" Rod
with 2' Drop

B.M. ELEV 1070.07' (M.S.L. 19 ADJ.)
Spk in Conc Curb Br.
Sta. 579+34 SW Corner

① Refers To Piles In Existing Substructure

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

TRUNK HIGHWAY NO.
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

BRIDGE NO. 55515

BRIDGE SURVEY
PLAN AND PROFILE

SEE SHEET NO 13 FOR ADDITIONAL INFORMATION

State Aid Proj. No. 55-603-10

Sheet No. 14 of 14 Sheets

Bridge Survey Sheet (Sheet 2 of 2)