MINN. PROJ. NO. BROS 9562 (006)
MINN. PROJ. NO. MRP 9562 (006)

MINN DEPT OF TRANSPORTATION

RAMSEY COUNTY

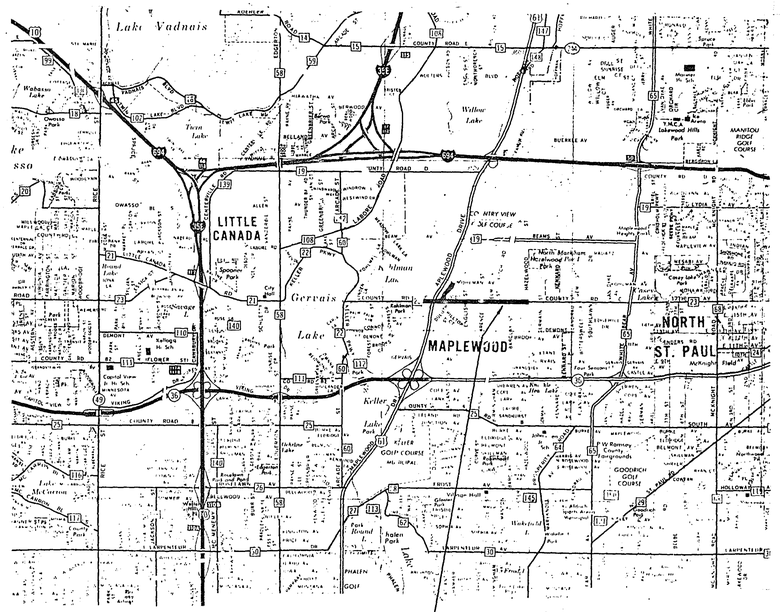
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN:

FOR BRIDGE NO. 62563

C. S. H. A. 23
COUNTY ROAD C

BETWEEN T.H. 61 AND HAZELWOOD STREET
(0.55 MI. EAST OF T.H. 61)



S.P. 62-623-36
STA. 34+87.23 TO 35+79.06

INDEX OF SHEETS

THIS PLAN CONTAINS 23 SHEETS

STREET CENTERLINE
SURVEY BASELINE
PROPERTY LINE
RIGHT OF WAY
TEMPORARY EASEMENT
PERMANENT EASEMENT

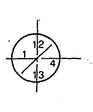
EXISTING

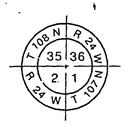
- SANITARY SEWER AND MANHOLE
- STORM SEWER AND MANHOLE
- WATERMAIN, HYDRANT AND VALVE
- FORCEMAIN
- BULKHEAD
- SANITARY SEWER SERVICE
- WATER SERVICE AND CURB STOP BOX
- CATCH BASIN
- WATER VALVE MANHOLE
- CULVERT
- UNDERGROUND TELEPHONE CABLE OR CONDUIT
- UNDERGROUND ELECTRIC CABLE OR CONDUIT
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- CABLE TV PEDESTAL
- ELECTRIC MANHOLE
- POWER POLE
- DOWN GUY ANCHOR
- STEEL LIGHT POLE
- TRAFFIC SIGNAL, STANDARD
- GAS MAIN
- GAS VALVE
- SOIL BORING
- CONCRETE CURB AND GUTTER
- CONCRETE PAVEMENT OR SIDEWALK
- SIGN (HWY, PARK, STOP, ETC.)
- STREET SIGN
- DITCH
- RAILROAD TRACKS
- FENCE
- TREE (DECIDUOUS)
- TREE (CONIFEROUS)
- BUSH–SHRUB
- WOODED AREA
- BUILDING

NEW CONSTRUCTION

- SANITARY SEWER AND MANHOLE
- STORM SEWER AND MANHOLE
- WATERMAIN, HYDRANT AND VALVE
- FORCEMAIN
- BULKHEAD
- SANITARY SEWER SERVICE
- WATER SERVICE AND CURB STOP BOX
- CATCH BASIN
- WATER VALVE MANHOLE
- CULVERT
- CONCRETE CURB AND GUTTER
- STEEL LIGHT POLE
- TRAFFIC SIGNAL, STANDARD
- SIGN (HWY, PARK, STOP, ETC.)
- STREET LIGHT FEED POINT
- STREET LIGHTING CABLE
- SILT FENCE
- BALE CHECKS
- TREES TO BE CLEARED AND GRUBBED

EASEMENT DESCRIPTION NO. 0
TEMPORARY EASEMENT
PERMANENT EASEMENT





Section Numbers Read From The South

DESIGN DESIGNATION S.P. 62-623-36
PRESENT ADT (YEAR) 2,500(1993) PROJECTED ADT(YEAR) 4250(2013)
FUNCTIONAL CLASSIFICATION COLLECTOR(LOW DENSITY)
NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0
10 TON DESIGN PROJECTED HCADT(YEAR) 8%(2012)
DESIGN SPEED 40MPH R-VALUE 15
SIGMA-N18 326,000

STOPPING SITE DISTANCE BASED ON:
3.5' HEIGHT OF EYE, 0.5' HEIGHT OF OBJECT.

PLAN REVISIONS		
DATE	SHEET NO.	BY

S.P. 62-623-36

	FEET	MILES
BRIDGE LENGTH	91.83	.02

NOTES: EXACT LOCATION OF UNDERGROUND UTILITIES IS UNKNOWN. CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENCING EXCAVATION (454-0002).

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", AS AMENDED BY THE 1-2-91 SUPPLEMENTAL SPECIFICATIONS, SHALL GOVERN.

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL _____ 19__
Director, Right of Way Operations

RIGHT OF WAY APPROVAL _____ 19__
Metro Division Engineer

RECOMMENDED FOR APPROVAL _____ 19__
Director, Office of Traffic Engineering

RECOMMENDED FOR APPROVAL _____ 19__
Director, Pre-letting Engineering

RECOMMENDED FOR APPROVAL _____ 19__
Director, Office of Technical Support

APPROVED _____ 19__
Deputy Division Director
Technical Services Division

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

MINNESOTA DEPARTMENT OF TRANSPORTATION

Recom'd. For Approval _____ Date 5-11-93
State Aid Plans Engineer

RECOM'D FOR APPROVAL _____ DATE 5-14-93
State Bridge Engineer

RECOM'D FOR APPROVAL _____ DATE 5-17-93
for District State Aid Engineer

APPROVED _____ DATE 5/17/93
State Aid Engineer

RAMSEY COUNTY

RECOM'D FOR APPROVAL _____ DATE 11-9-92
Coordinating Engineer

RECOM'D _____ DATE 11/9/92
County Engineer

APPROVED _____ DATE _____

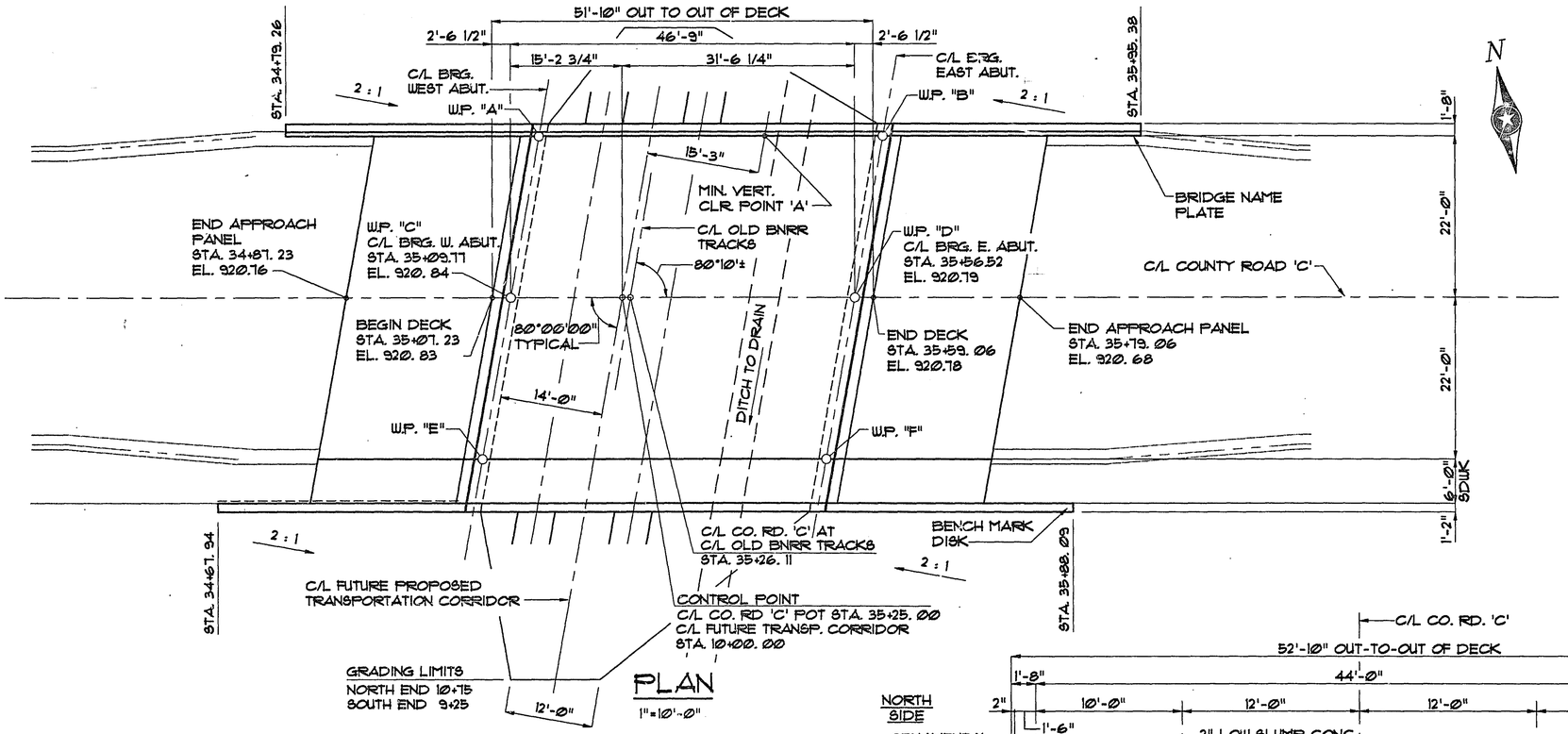
APPROVED _____ DATE _____

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 _____

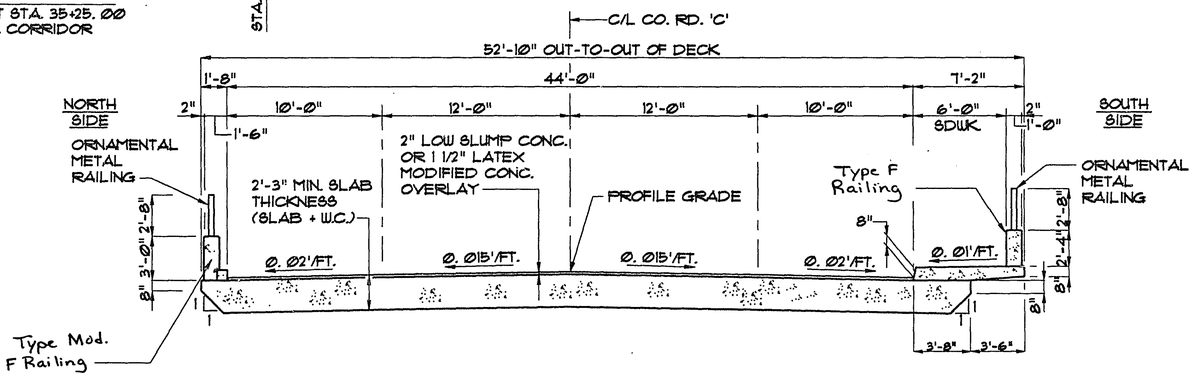
DATE 11/6/92 REG. NO. 17280

State Proj. No. S.P. 62-623-36 **Sheet No. 1 of 20 Sheets**



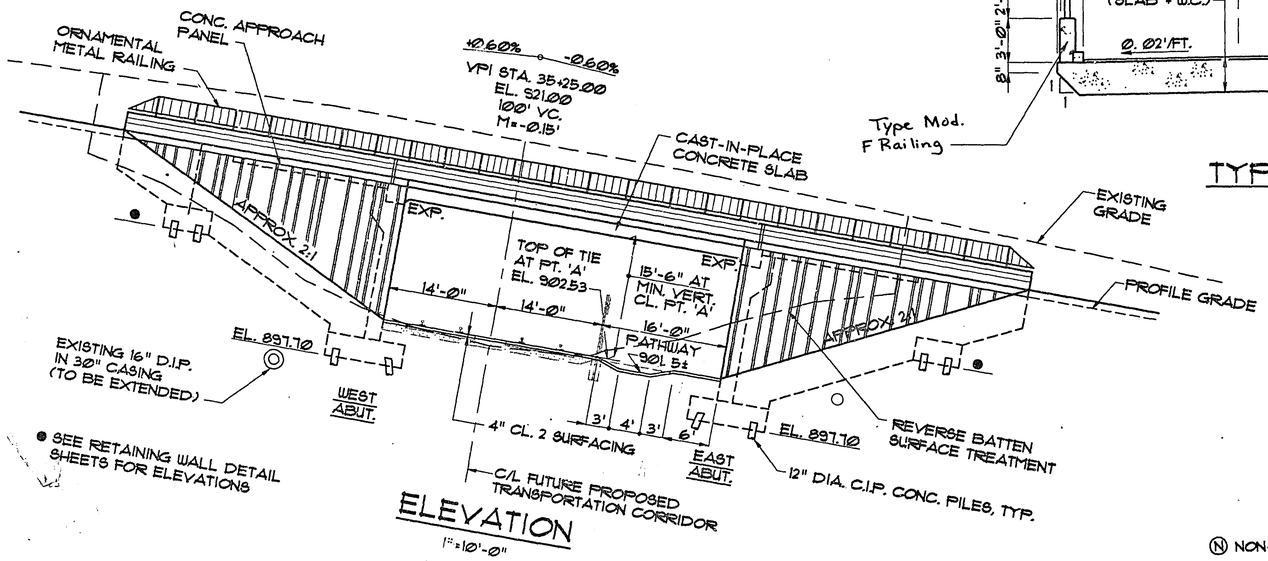
PLAN

1"=10'-0"



TYPICAL TRANSVERSE SECTION

1"=5'-0"



ELEVATION

1"=10'-0"

NOTE:

CONSTRUCTION OF EACH ABUTMENT SHALL NOT BE STARTED UNTIL THE APPROACH FILL AT THAT ABUTMENT HAS BEEN CONSTRUCTED TO THE FULL HEIGHT AND CROSS SECTION (AND ALLOWED TO SETTLE FOR 3 DAYS). APPROACH FILL AND ROUGH GRADING PROVIDED BY OTHERS. RESTORATION OF SIDE SLOPES SHALL BE INCLUDED IN PRICE BID FOR STRUCTURE EXCAVATION.

DESIGN DATA

1988 AND INTERIM A.A.S.H.T.O. DESIGN SPECIFICATIONS LOAD FACTOR DESIGN METHOD H525 LOADING. INCLUDES 11 P.S.F. DEAD LOAD ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.
MAXIMUM ALLOWABLE DESIGN STRESSES:
REINFORCED CONCRETE:
f'c=4000 P.S.I., n=8
fy=60000 P.S.I. REINFORCEMENT (GRADE 60)
STRUCTURAL STEEL:
fy=36000 P.S.I. STRUCTURAL STEEL (3306)

DESIGN SPEED= 40 MPH.
DECK AREA= 2739 SQ. FT.
OPERATING RATING=HS45
PROJECTED ADT(2010)= 4250

NOTE:

GRADING OF TRAIL WITHIN HORIZONTAL AND VERTICAL LIMITS SHOWN OR NOTED INCLUDING ALL COMMON BORROW, EXCAVATION AND SHAPING TO BE CONSIDERED INCIDENTAL TO PRICE BID FOR STRUCTURE EXCAVATION.

BASES FOR PLAN QUANTITY FOR ITEM "2118501 AGGREGATE SURFACING CLASS 2" IS 140 POUNDS PER CUBIC FOOT.

CONSTRUCTION NOTES

THE 1988 EDITION OF THE MN/DOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION", AS AMENDED BY THE JANUARY 2, 1991 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.
THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.
THE BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.
DRAWINGS ARE NOT TO BE SCALED.

APPROVED: Paul Kurtenbach
COUNTY ENGINEER RAMSEY COUNTY
DATE: 11/9/92

ENGINEERS ARCHITECTS PLANNERS

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 Jeffrey A. Thone
DATE 10-29-92 REG. NO. 17280

B.M. EL. 889. 59 (M.S.L. 1929 Adj.)
TOP NE. BOLT ON TRAFFIC SIGNAL NE. COR. T.H. 61 AND CO. RD. C.

2402590	(N) 2118501	(N) 0503.603
ELASTOMERIC BEARING PAD TYPE I	AGGREGATE SURFACING CLASS 2	30" STEEL SPLIT CASING, 3/8" WALL
EACH	TON	LIN. FT.
16	117	12

(N) NON-PARTICIPATING

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

ITEM NO.	2021501	2401501	2401501	2401512	2401513	2401513	2401515	2401541	2401541	2402583	2402591	2404501	(N) 2442501	2452507	2452508	2452519	2452519	(N) 0301601	0401601	0401603	0502603
ITEM	MOBILIZATION	STRUCTURE CONCRETE (1A43)	STRUCTURE CONCRETE (3Y43)	BRIDGE SLAB CONCRETE (3Y36)	Type Mod F RAILING CONCRETE (3Y46)	Type F Railing Concrete (3Y46)	SIDEWALK CONCRETE (3Y46)	REINFORCEMENT BARS	REINFORCEMENT BARS (EPOXY COATED)	ORNAMENTAL METAL RAILING	EXPANSION JOINT DEVICES, TYPE 4	CONCRETE OVERLAY TYPE SPECIAL	REMOVE OLD BRIDGE	C.I.P. CONC. PILING DELIVERED 12"	C.I.P. CONC. PILING DRIVEN 12"	C.I.P. CONC. TEST PILES 50 FT. LONG 12"	C.I.P. CONC. TEST PILES 60 FT. LONG 12"	BRIDGE APPROACH PANELS	STRUCTURE EXCAVATION	REVERSE BATTEN SURFACE TREATMENT	DRAINAGE SYSTEM (B910)
UNIT	LUMP SUM	CU. YD.	CU. YD.	SQ. FT.	LIN. FT.	LIN. FT.	SQ. FT.	POUND	POUND	LIN. FT.	LIN. FT.	SQ. FT.	LUMP SUM	LIN. FT.	LIN. FT.	EACH	EACH	LUMP SUM	LUMP SUM	SQ. FT.	LUMP SUM
QUANTITY	1	154 (P)	286 (P)	2557 (P)	116 (P)	120	369	13 940 (P)	72 280 (P)	236 (P)	104 (P)	2266 (P)	1	1600	1600	4	4	1	1	1476	1

COUNTY ROAD C
MINNESOTA
DEPARTMENT OF TRANSPORTATION

Bridge No. 62563

COUNTY ROAD 'C' OVER THE ABANDONED BURLINGTON NORTHERN RAILROAD (RAMSEY COUNTY REGIONAL RAILROAD AUTHORITY)
0.55 MI. EAST OF T.H. 61, IN MAPLEWOOD
46' C.I.P. CONC. SLAB SPAN, 44' RDWY, (1) 6' SDWK.
IDENTIFICATION NO. 109

GENERAL PLAN AND ELEVATION

SEC. 10 T. 29 N R. 22 W
MAPLEWOOD CITY RAMSEY COUNTY

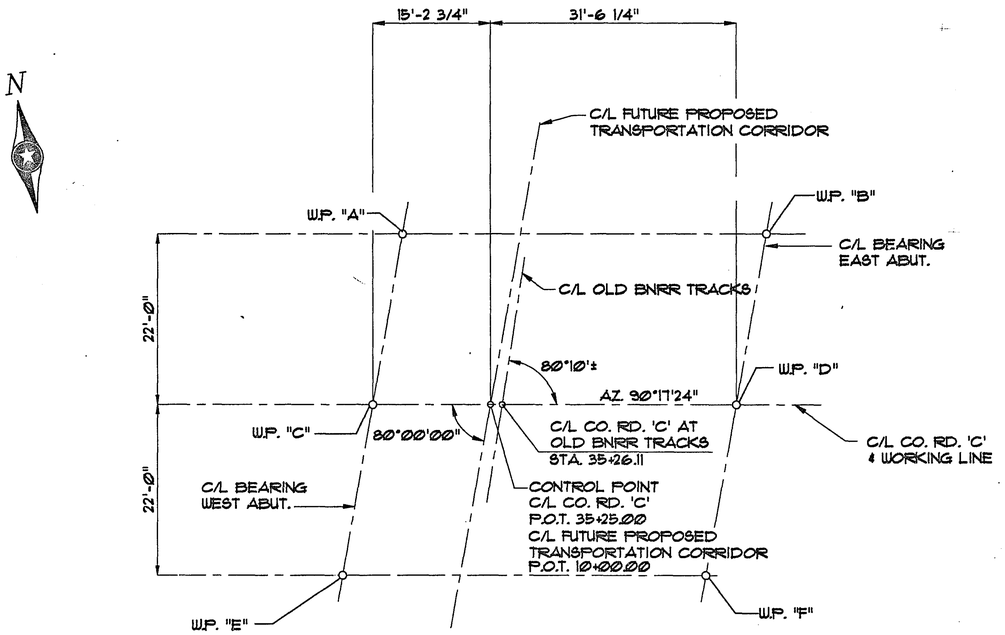
APPROVED: Donald J. Flemming
STATE BRIDGE ENGINEER
28-128
5-14-93

DES.	MW	DR.	MW	62563
CHK.	MLH	CHK.	MLH	

State Proj. No. S.P. 62-623-36

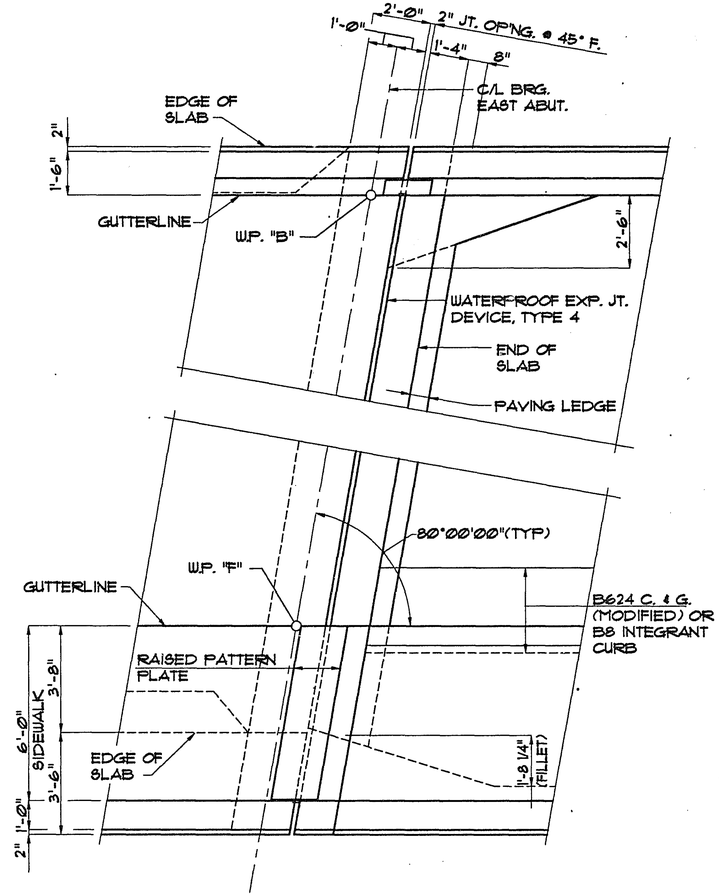
Sheet No. 1A of 20 Sheets

01061GP_



WORKING POINT LAYOUT

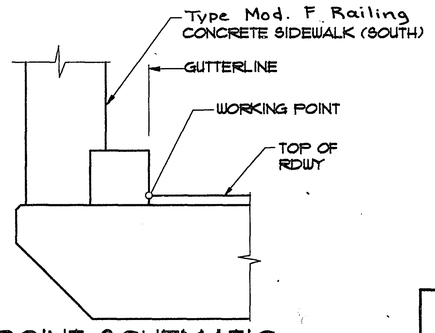
	DIMENSIONS BETWEEN WORKING POINTS														ELEVATIONS			
	POINT	STATION	A	B	C	D	E	F							TOP OF RDWY.	TOP OF RWY. TO BR. SEAT	BRIDGE SEAT	POINT
	A	35+13.65													920.46			A
	B	35+60.40	46.75												920.39			B
	C	35+09.77	22.34	55.20											920.84			C
	D	35+56.52	48.19	22.34	46.75										920.79			D
	E	35+05.89		70.05	22.34	55.20									920.45			E
	F	35+52.64	58.79		48.19	22.34	46.75								920.42			F



TYPICAL CORNER LAYOUT

EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR BY ROTATION.

TOP OF ROADWAY TO BRIDGE SEAT				
	W. ABUT	E. ABUT.		
SLAB THICKNESS	27"	27"		
STOOL HEIGHT	6"	6"		
BEAM HEIGHT	———	———		
BEARING HEIGHT	1 1/8"	1 1/8"		
TOTAL (IN.)	34 1/8"	34 1/8"		
TOTAL (FT.)	2.84'	2.84'		



WORKING POINT SCHEMATIC

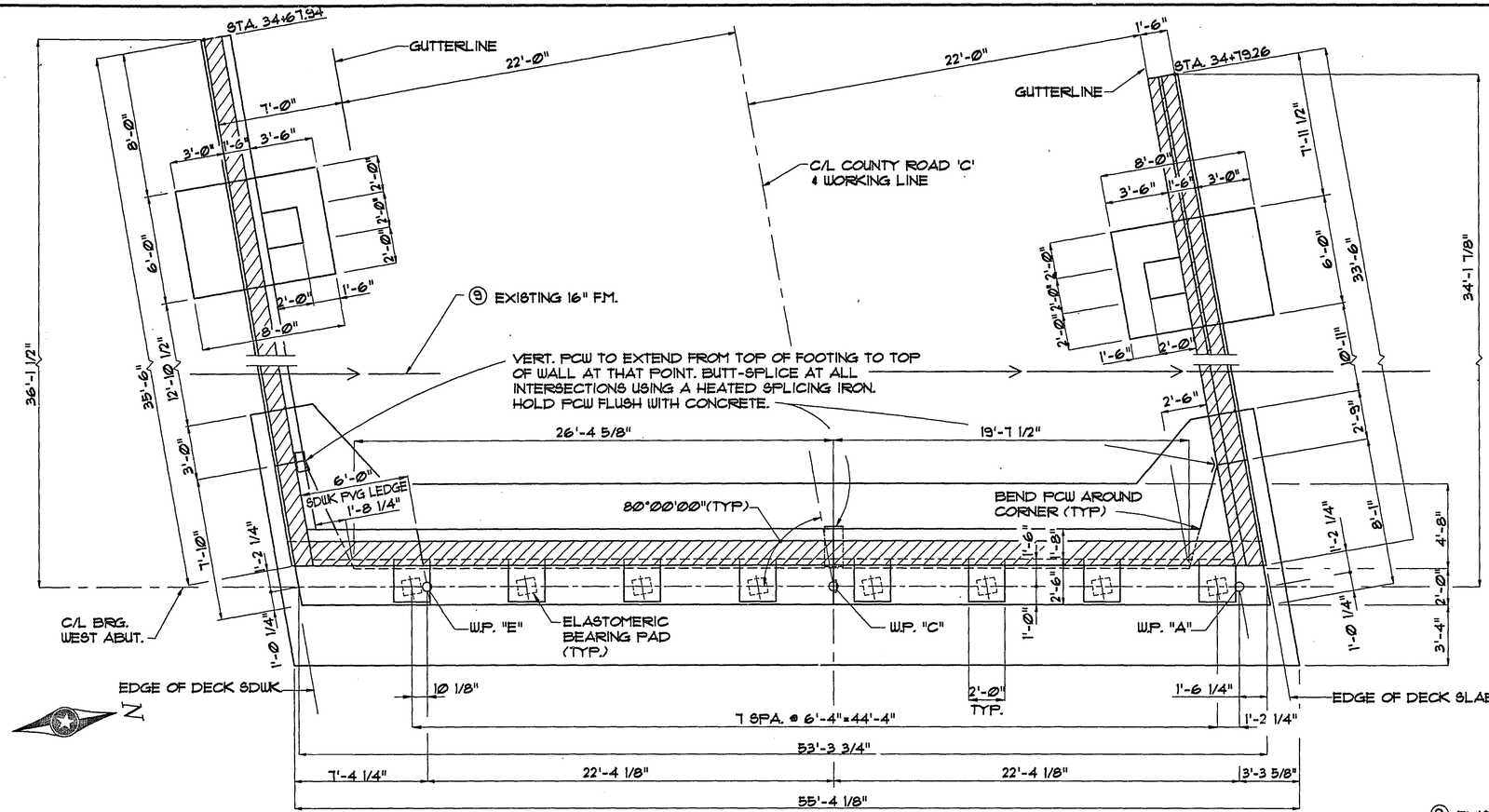
S.P. 62-623-36 28-128

ENGINEERS ARCHITECTS PLANNERS

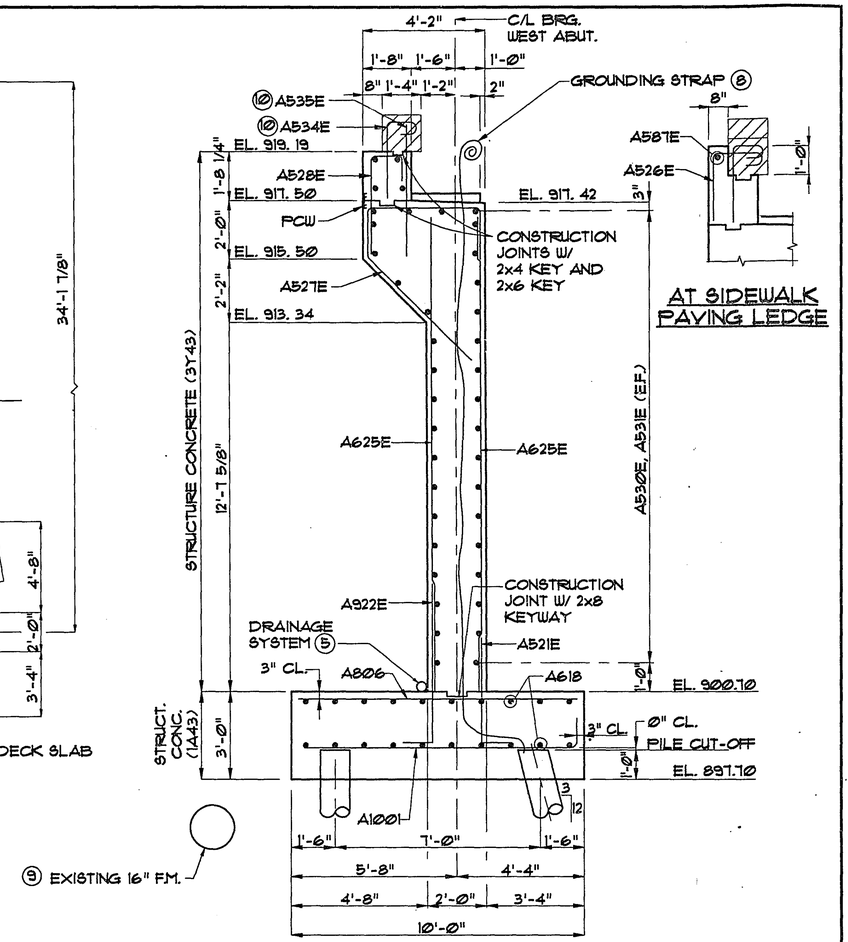
BRIDGE LAYOUT

DES: MW	DR: MW	APPROVED: 5-14-93	Bridge No.
CHK: MLH	CHK: MLH		
Sheet No. 2 of 20 Sheets			62563

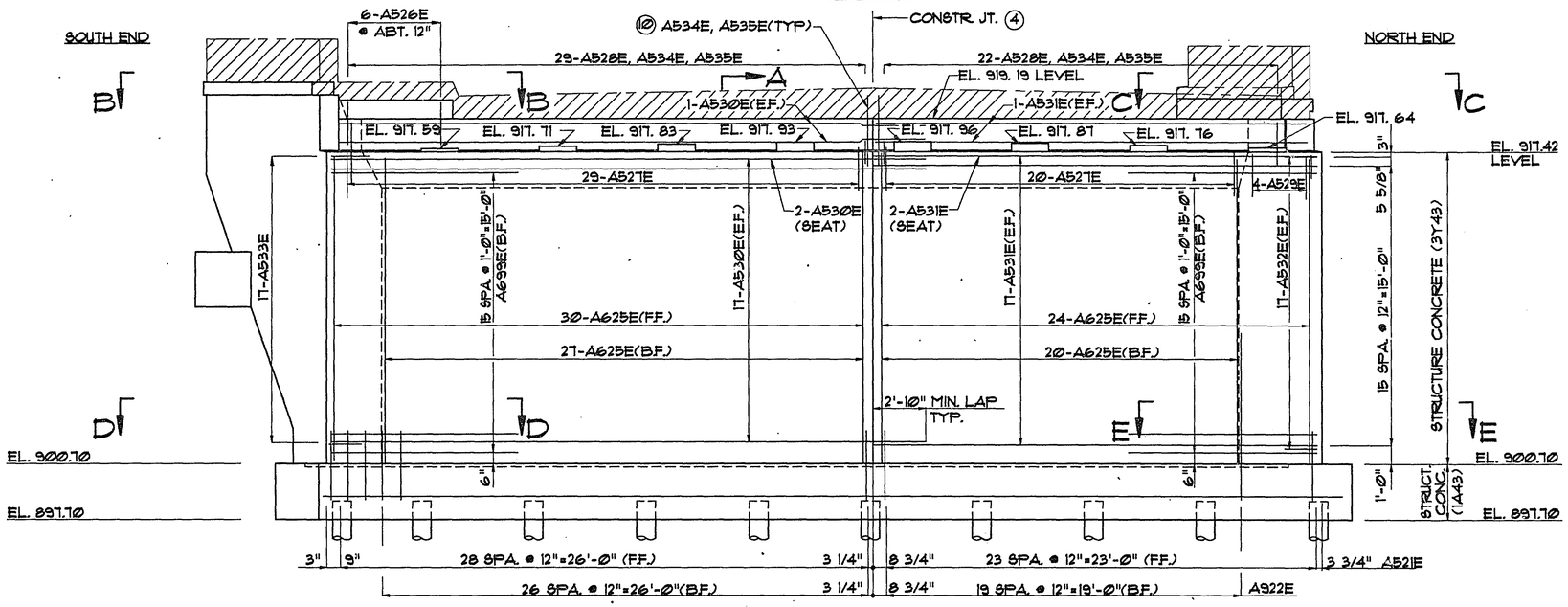
01061WP_



PLAN



TYPICAL SECTION A-A



ELEVATION

NOTES:

1. SEE SHEET 6 FOR WEST ABUTMENT BAR LIST & SUMMARY OF QUANTITIES FOR WEST ABUTMENT.
2. HATCHED AREA INDICATES THAT PORTION TO BE PLACED WITH THE SUPERSTRUCTURE CONCRETE.
3. ALL REINFORCEMENT TO BE PLACED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
4. PROVIDE 2" x 8" VERTICAL KEY CENTERED IN MAIN SHAFT. 72 HOUR DELAY REQUIRED BETWEEN POURS TO ALLOW FOR SHRINKAGE.
5. SEE DETAIL B910, SHEET 18, FOR DRAINAGE SYSTEM.
6. SEE SHEETS 4 & 5 FOR ADDITIONAL ABUTMENT DETAILS.
7. F.F. = FRONT FACE
   B.F. = BACK FACE
   E.F. = EACH FACE
8. SEE SHEET 13 & 14.
9. LOCATE EXISTING 16" F.M. BEFORE EXCAVATING OR DRIVING PILING. PAYMENT TO BE INCLUDED UNDER "STRUCTURE EXCAVATION".
10. PROJECT 1'-4" AT CENTER AND 1'-0" AT GUTTERLINES. PROJECTION IS FROM TOP OF PARAPET WALL AT EL. 919. 19.

28-128

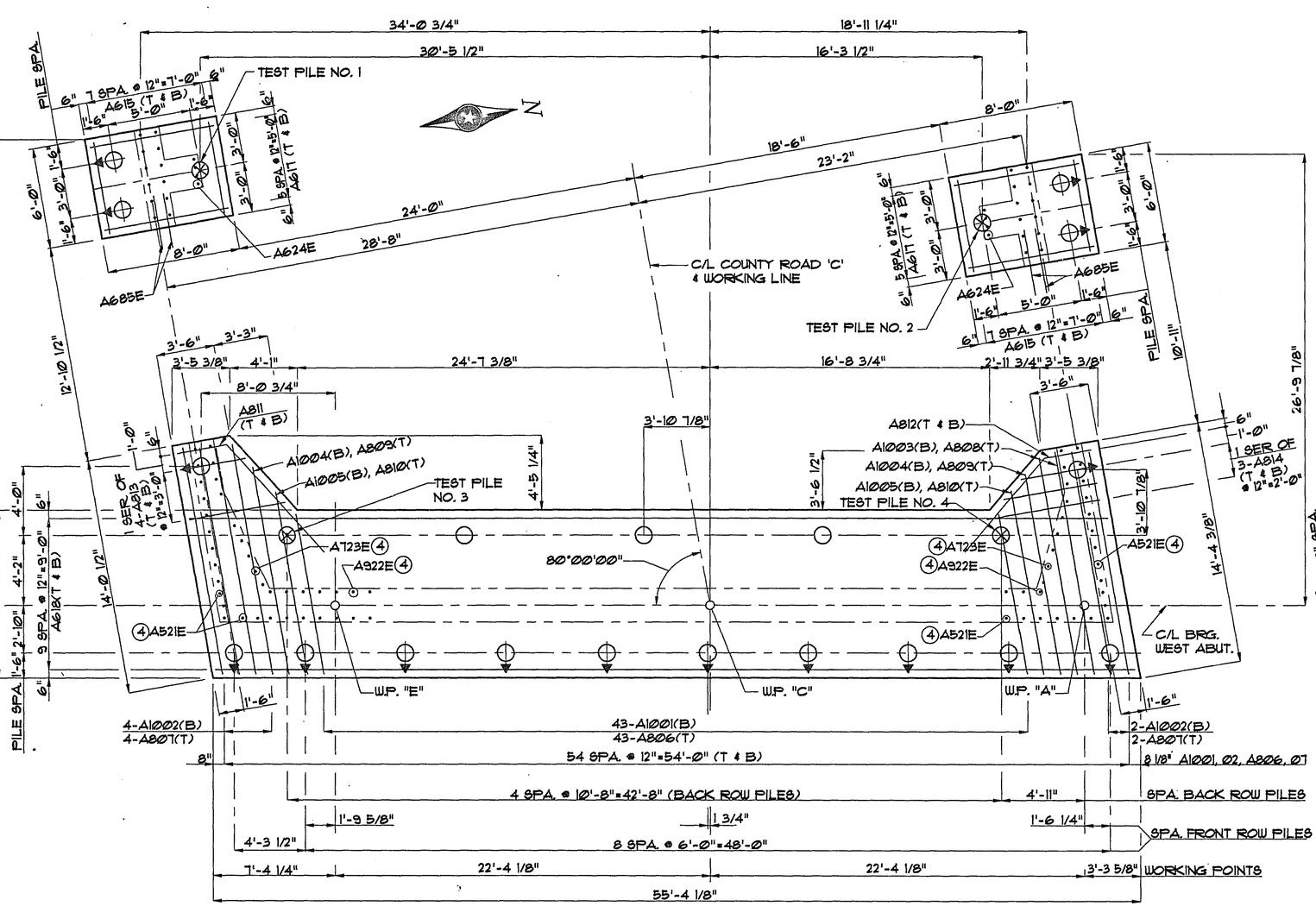
S.P. 62-623-36

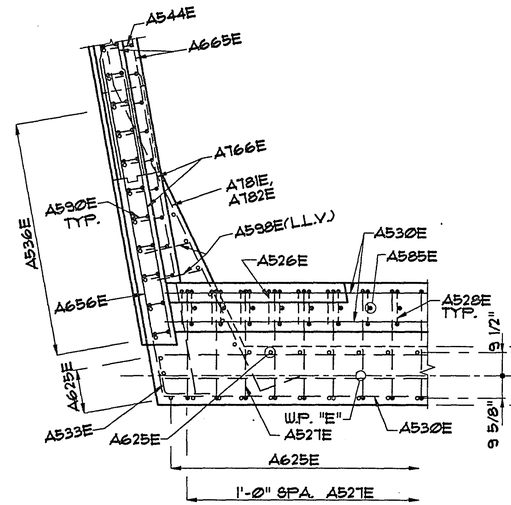
ENGINEERS ARCHITECTS PLANNERS

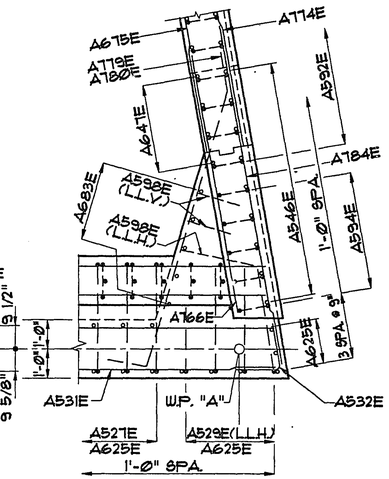
WEST ABUTMENT

DES: MLH	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MLH	Sheet No. 3 of 20 Sheets	

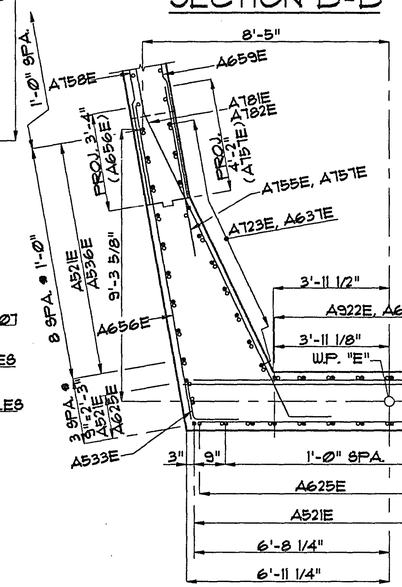
01061WA1



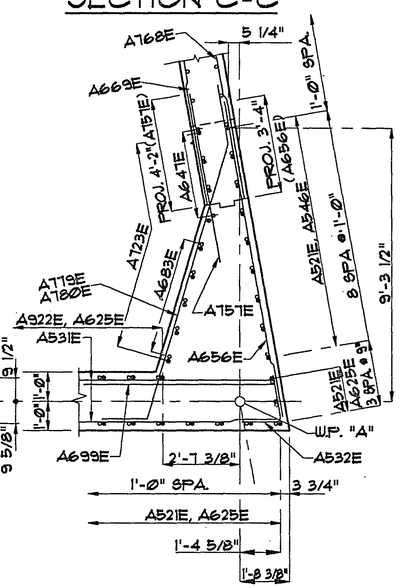




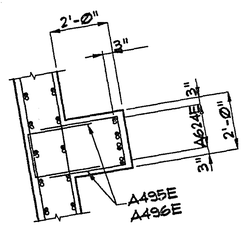
SECTION B-B



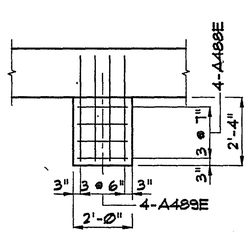
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

BEARING SEAT

PILE NOTES:

PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

PILES MARKED ⊕ TO BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN.

PILES HAVE A NOMINAL DIAMETER OF 12".

FOR PILE SPLICE DETAILS, SEE DETAIL B201, SHEET 17.

2 C.I.P. CONC. TEST PILES, 50 FEET LONG.
15 C.I.P. CONC. PILES ESTIMATED LENGTH 40 FEET LONG.
2 C.I.P. CONC. TEST PILES, 60 FEET LONG.
4 C.I.P. CONC. PILES ESTIMATED LENGTH 50 FEET LONG.

23 C.I.P. CONC. PILES REQUIRED FOR WEST ABUTMENT. SEE SPECIFICATIONS FOR REQUIRED PREBORING OF PILES.

COMPUTED PILE LOADS

TONS PER PILE

DEAD LOAD + EARTH PRESSURE	59. 3
LIVE LOAD (SUPER. & SURCH.)	6. Ø
* DESIGN LOAD	65. 3

* 65. 3 / 1. Ø = 65.3 , REDUCTION PER A.A.S.H.T.O. 3. 22 GROUP 1 LOADING

NOTES:

1. SEE SHEET 6 FOR WEST ABUTMENT BAR LIST & SUMMARY OF QUANTITIES FOR WEST ABUTMENT.
2. SEE DETAIL B910, SHEET 18, FOR DRAINAGE SYSTEM.
3. F.F. = FRONT FACE, B.F. = BACK FACE, E.F. = EACH FACE; L.L.V. = LONG LEG VERTICAL, L.L.H. = LONG LEG HORIZONTAL
4. SEE SECT. B-B THRU F-F FOR VERTICAL DOWEL PLACEMENT IN STEM.

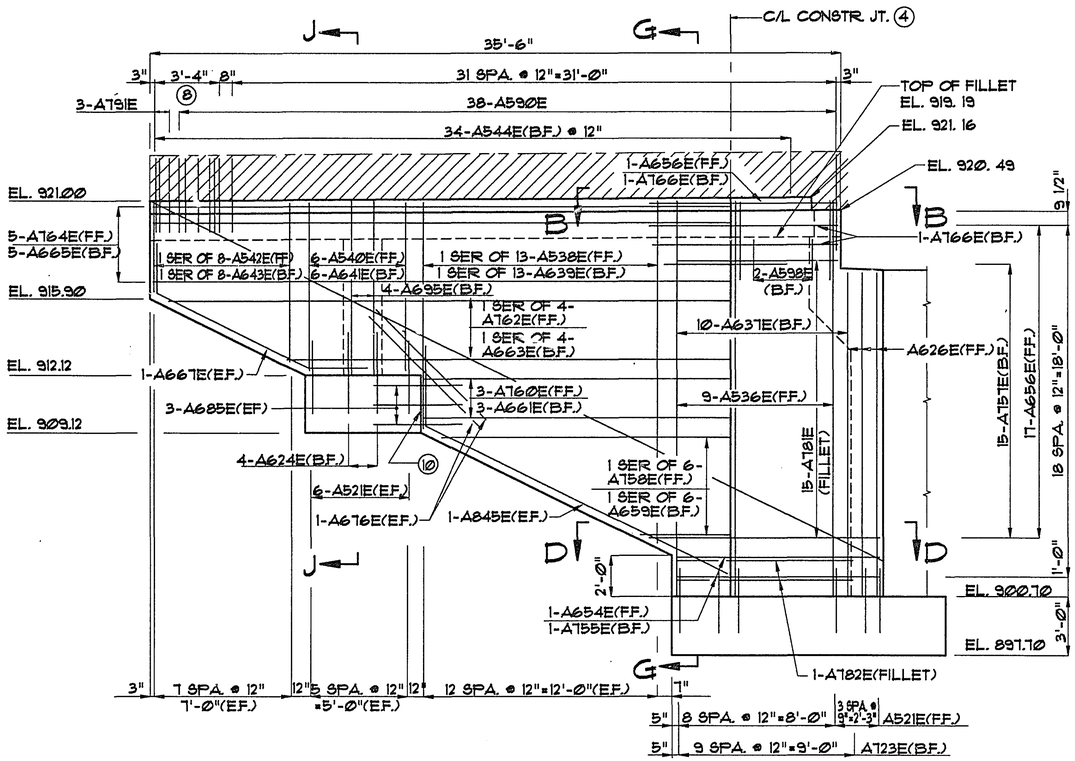
PLAN

S.P. 62-623-36

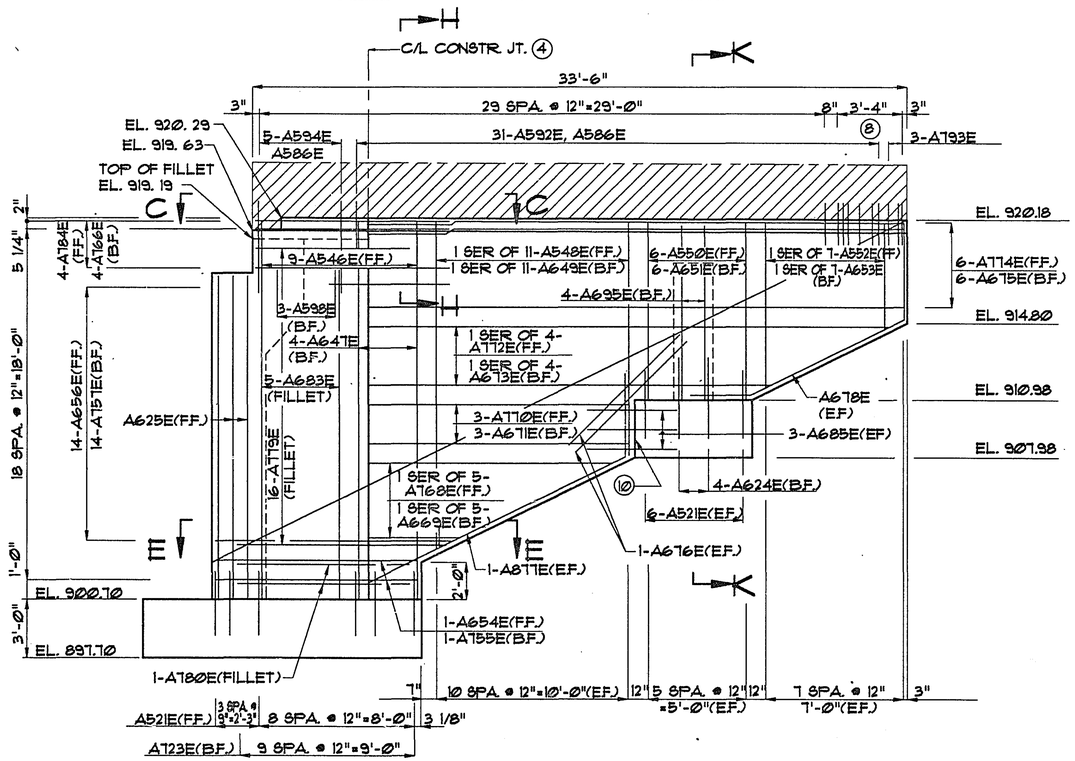
28-128

ENGINEERS ARCHITECTS PLANNERS	WEST ABUTMENT	DES: MLH / CHK: JDS	DR: MW / CHK: MLH	APPROVED: 5-14-93
		Sheet No. 4 of 20 Sheets		Bridge No. 62563

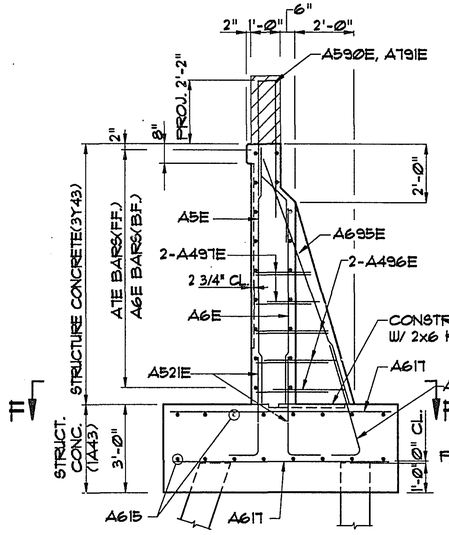
01061WA2



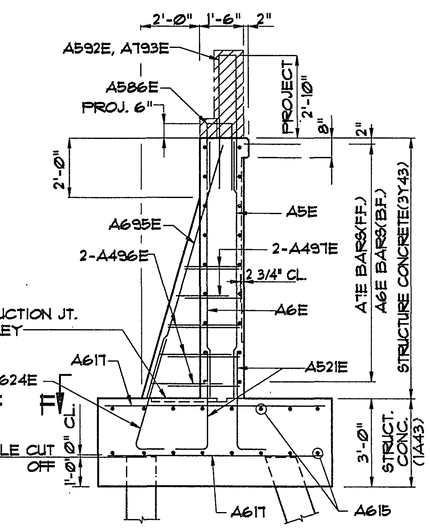
SOUTHWEST WINGWALL ELEVATION



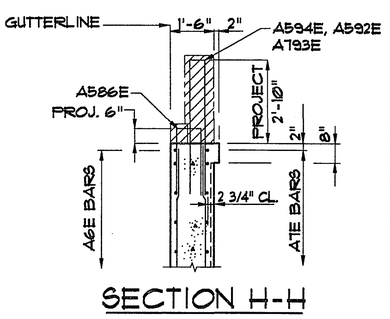
NORTHWEST WINGWALL ELEVATION



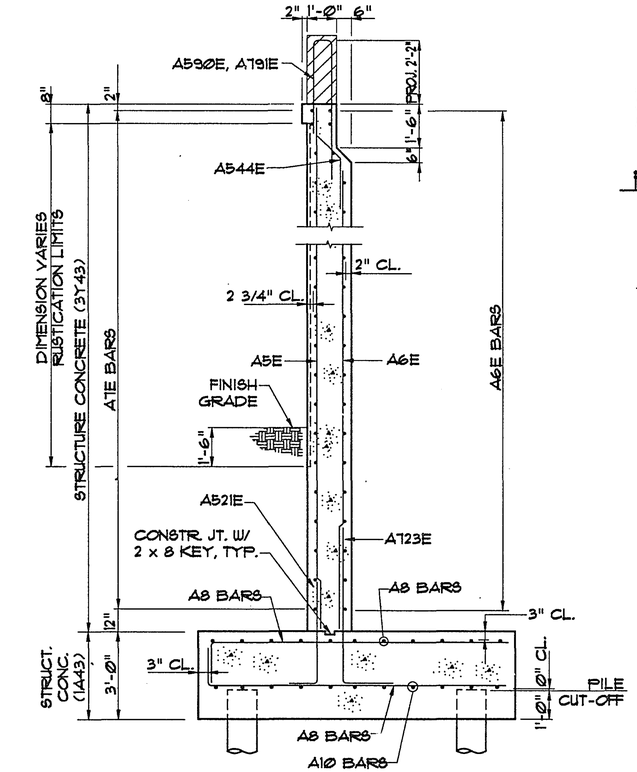
SECTION J-J



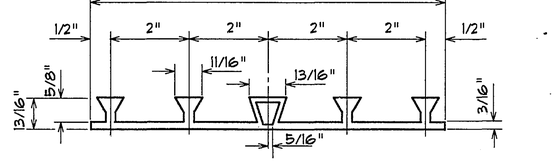
SECTION K-K



SECTION H-H



SECTION G-G



POLYVINYL CHLORIDE WATERSTOP (P.C.W.) ⑪

NOTES:

1. SEE SHEET 6 FOR WEST ABUTMENT BAR LIST & SUMMARY OF QUANTITIES FOR WEST ABUTMENT.
2. HATCHED AREA INDICATES THAT PORTION TO BE PLACED WITH THE SUPERSTRUCTURE CONCRETE.
3. ALL REINFORCEMENT TO BE PLACED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
4. PROVIDE 2" x 6" VERTICAL KEY CENTERED IN WALL. 12 HOUR DELAY REQUIRED BETWEEN POURS TO ALLOW FOR SHRINKAGE.
5. SEE DETAIL B910, SHEET 18, FOR DRAINAGE SYSTEM.
6. SEE SHEETS 3 & 4 FOR ADDITIONAL ABUTMENT DETAILS.
7. F.F. = FRONT FACE
   B.F. = BACK FACE
   E.F. = EACH FACE
8. SEE SHEET 13 FOR REINFORCEMENT SPACING.
9. SEE SHEET 4 FOR SECTIONS B-B THRU F-F.
10. CONSTRUCTION JOINT WITH 2x6 KEY.
11. P.C.W. SHALL BE BUTT-SPLICED AT ALL INTERSECTIONS BY USING A HEATED SPLICING IRON. HOLD P.C.W. FLUSH WITH CONCRETE. WATERSTOPS SHALL COMPLY WITH THE REQUIREMENTS OF CORPS OF ENGINEERS SPEC. CRD-C572.

S.P. 62-623-36 28-128

ENGINEERS ARCHITECTS PLANNERS

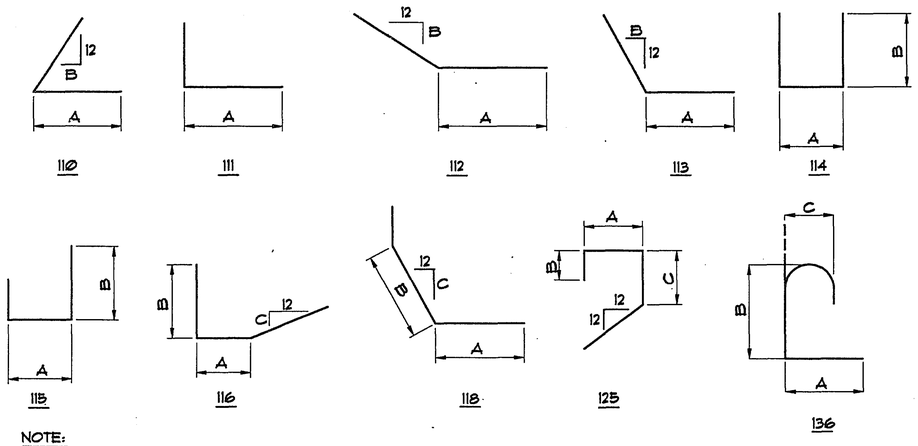
WEST ABUTMENT DETAILS

DES: MLH	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MLH		
Sheet No. 5 of 20 Sheets			

01061WA3

BAR MARK	NO. OF SERIES	NO. OF BARS	LENGTH	TYPE	DIMENSION A	B	C	D	LOCATION
WEST ABUTMENT									
UNCOATED BARS									
A1001		43	11'- 6"	111	9'-8"				TRANSV. (B)
A1002		6	15'- 6"	111	13'-8"				TRANSV. (B)
A1003		2	14'-10"	111	13'-0"				TRANSV. (B)
A1004		2	13'-10"	111	12'-0"				TRANSV. (B)
A1005		2	12'-10"	111	11'-0"				TRANSV. (B)
A806		43	9'- 8"	STR					TRANSV. (T)
A807		6	13'- 8"	STR					TRANSV. (T)
A808		2	13'- 0"	STR					TRANSV. (T)
A809		2	12'- 0"	STR					TRANSV. (T)
A810		2	11'- 0"	STR					TRANSV. (T)
A811		2	12'- 0"	113	3'-0"	8			CORNER
A812		2	12'- 0"	112	3'-0"	10			CORNER
A813	2	4	5'- 5"	111	3'-11"				CORNER
			7'- 4"		5'-10"				
A814	2	3	5'-10"	111	4'-4"				CORNER
			8'- 3"		6'-9"				
A615		32	5'- 6"	STR					LONG. WING
A617		24	7'- 6"	STR					TRANSV. WING
A618		20	54'-10"	STR					TRANSV. WING
WEST ABUTMENT									
EPOXY COATED BARS									
A521E		100	4'- 9"	111	3'-9"				DOWEL
A922E		47	10'- 7"	111	9'-0"				DOWEL
A723E		19	5'- 9"	111	4'-7"				DOWEL
A624E		8	5'- 6"	110	1'-0"	4			CNTRFRT DOWEL
A625E		105	16'- 5"	STR					VERT. ABUT.
A526E		6	6'- 3"	136	4'-4"	1'-4"	0'-5"		SDWK. PVG. BLK.
A527E		49	12'- 3"	125	3'-10"	1'-9"	1'-8"	12	ABUT. SEAT
A528E		51	8'- 2"	114	1'-4"	3'-5"			ABUT. BACKWALL
A529E		4	5'- 7"	111	3'-10"				ABUT. SEAT
A530E		38	32'- 4"	STR					HORIZ. ABUT.
A531E		38	23'- 4"	STR					HORIZ. ABUT.
A532E		17	3'- 6"	110	1'-9"	2			CORNER ABUT.
A533E		17	3'- 6"	113	1'-9"	2			CORNER ABUT.
A534E		51	4'- 0"	136	2'-6"	0'-11"	0'-7"		PAVING BLOCK
A535E		51	4'- 6"	STR					PAVING BLOCK
A536E		9	20'- 3"	STR					VERT WALL(FF.)
A637E		10	18'- 2"	STR					VERT WALL(BF.)
A538E	1	13	11'- 6"	STR					VERT WALL(FF.)
			17'- 6"						
A639E	1	13	9'- 6"	STR					VERT WALL(BF.)
			15'- 6"						
A540E		6	8'- 6"	STR					VERT WALL(FF.)
A641E		6	6'- 6"	STR					VERT WALL(BF.)
A542E	1	8	4'- 9"	STR					VERT WALL(FF.)
			8'- 1"						
A643E	1	8	2'- 9"	STR					VERT WALL(BF.)
			6'- 1"						
A544E		34	3'- 0"	112	1'-6"	12			VERT WALL(BF.)
A845E		2	21'- 4"	113	17'-2"	6			DIAG. WING
A546E		9	19'- 4"	STR					VERT WALL(FF.)
A647E		4	19'- 4"	STR					VERT WALL(BF.)
A548E	1	11	12'- 0"	STR					VERT WALL(FF.)
			16'- 9"						
A649E	1	11	12'- 0"	STR					VERT WALL(BF.)
			16'- 9"						
A550E		6	9'- 1"	STR					VERT WALL(FF.)
A651E		6	9'- 1"	STR					VERT WALL(BF.)
A552E	1	7	5'- 5"	STR					VERT WALL(FF.)
			8'- 5"						
A653E	1	7	5'- 5"	STR					VERT WALL(BF.)
			8'- 5"						
A654E		4	10'- 4"	STR					HORIZ WALL(FF)
A755E		4	5'- 0"	STR					HORIZ WALL(BF)
A656E		32	11'- 2"	STR					HORIZ WALL(FF)
A757E		29	8'- 0"	STR					HORIZ WALL(BF)
A758E	1	6	4'- 7"	STR					HORIZ WALL(FF)
			14'- 9"						
A659E	1	6	4'- 7"	STR					HORIZ WALL(BF)
			14'- 9"						
A760E		3	15'- 8"	STR					HORIZ WALL(FF)
A661E		3	15'- 8"	STR					HORIZ WALL(BF)
A762E	1	4	22'- 9"	STR					HORIZ WALL(FF)
			28'-10"						

BAR BENDING DIAGRAMS



NOTE:
BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS. TOTAL BAR LENGTHS SHOWN ARE FOR USE IN COMPUTING REINFORCEMENT BAR WEIGHTS FOR PAYMENT ONLY.

BAR MARK	NO. OF SERIES	NO. OF BARS	LENGTH	TYPE	DIMENSION A	B	C	D	LOCATION
EPOXY COATED BARS (CONT.)									
A663E	1	4	22'- 9"	STR					HORIZ WALL(BF)
			28'-10"						
A764E		5	29'- 8"	STR					HORIZ WALL(FF)
A665E		5	29'- 8"	STR					HORIZ WALL(BF)
A766E		7	11'- 8"	STR					HORIZ WALL(BF)
A667E		2	14'- 3"	118	2'-6"	8'-9"	6		DIAG. WING
A768E	1	5	4'- 8"	STR					HORIZ WALL(FF)
			12'- 6"						
A669E	1	5	4'- 8"	STR					HORIZ WALL(BF)
			12'- 6"						
A710E		3	13'- 4"	STR					HORIZ WALL(FF)
A671E		3	13'- 4"	STR					HORIZ WALL(BF)
A772E	1	4	20'- 7"	STR					HORIZ WALL(FF)
			26'- 8"						
A673E	1	4	20'- 7"	STR					HORIZ WALL(BF)
			26'- 8"						
A774E		6	27'- 5"	STR					HORIZ WALL(FF)
A675E		6	27'- 5"	STR					HORIZ WALL(BF)
A676E		8	6'- 0"	STR					DIAG. WING
A877E		2	18'-10"	113	14'-7"	6			DIAG. WING
A678E		2	16'- 8"	118	4'-11"	8'-9"	6		DIAG. WING
A779E		16	11'-10"	116	9'-6"	1'-2"	6		FILLET HORIZ
A780E		2	10'- 8"	111	9'-6"				FILLET HORIZ
A781E		15	13'- 8"	116	11'-4"	1'-2"	4		FILLET HORIZ
A782E		2	12'- 6"	111	11'-4"				FILLET HORIZ
A683E		5	18'- 2"	STR					FILLET VERT
A784E		4	10'- 0"	STR					HORIZ WALL(FF)
A586E		34	6'- 2"	114	1'-2"	2'-6"			VERTICAL RAIL
A587E		1	5'- 6"	STR					SDWK BRKT
A488E		32	5'- 8"	114	1'-8"	2'-0"			BEARING SEAT
A489E		32	5'- 7"	111	3'-7"				BEARING SEAT
A590E		38	8'- 5"	115	6 1/2"	4'-8"			VERT. RAIL
A791E		3	9'- 0"	115	6 1/2"	4'-8"			VERT. RAIL
A592E		31	11'- 7"	114	0'-7"	5'-6"			VERT. RAIL
A793E		3	11'- 7"	114	0'-7"	5'-6"			VERT. RAIL
A594E		5	12'- 7"	114	0'-7"	6'-0"			VERT. RAIL
A695E		8	8'- 9"	STR					VERT CNTRFRT
A496E		12	6'- 6"	114	2'-5"	1'-8"			STIRRUP CNTRFRT
A497E		8	5'- 4"	114	1'-10"	1'-8"			STIRRUP CNTRFRT
A598E		6	4'- 0"	111	1'-6"				TOP FILLET
A699E		32	10'- 0"	STR					CORNER (BF)

SUMMARY OF QUANTITIES

	ITEM	UNIT	QUANTITY
	STRUCTURE CONCRETE (1A43)	CU. YD.	77
	STRUCTURE CONCRETE (3Y43)	CU. YD.	143
	REINFORCEMENT BARS (EPOXY COATED)	POUND	18 480
	REINFORCEMENT BARS	POUND	6970
③	CAST-IN-PLACE CONC. PILING DELIVERED 12"	LIN. FT.	800
③	CAST-IN-PLACE CONC. PILING DRIVEN 12"	LIN. FT.	800
	CAST-IN-PLACE CONC. TEST PILES, 50' LONG, 12"	EACH	2
	CAST-IN-PLACE CONC. TEST PILES, 60' LONG, 12"	EACH	2
	REVERSE BATTEN SURFACE TREATMENT	SQ. FT.	738
②	STRUCTURE EXCAVATION	LUMP SUM	-
④	DRAINAGE SYSTEM	LUMP SUM	-
①	P.V.C. WATERSTOP	LIN. FT.	115

QUANTITY NOTES:

① INCLUDED IN PRICE BID FOR OTHER ITEMS.
② SEE SPECIAL PROVISIONS.
③ DOES NOT INCLUDE TEST PILES.
④ SEE STD. DETAIL B910, SHEET 18.

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ENGINEERS ARCHITECTS PLANNERS

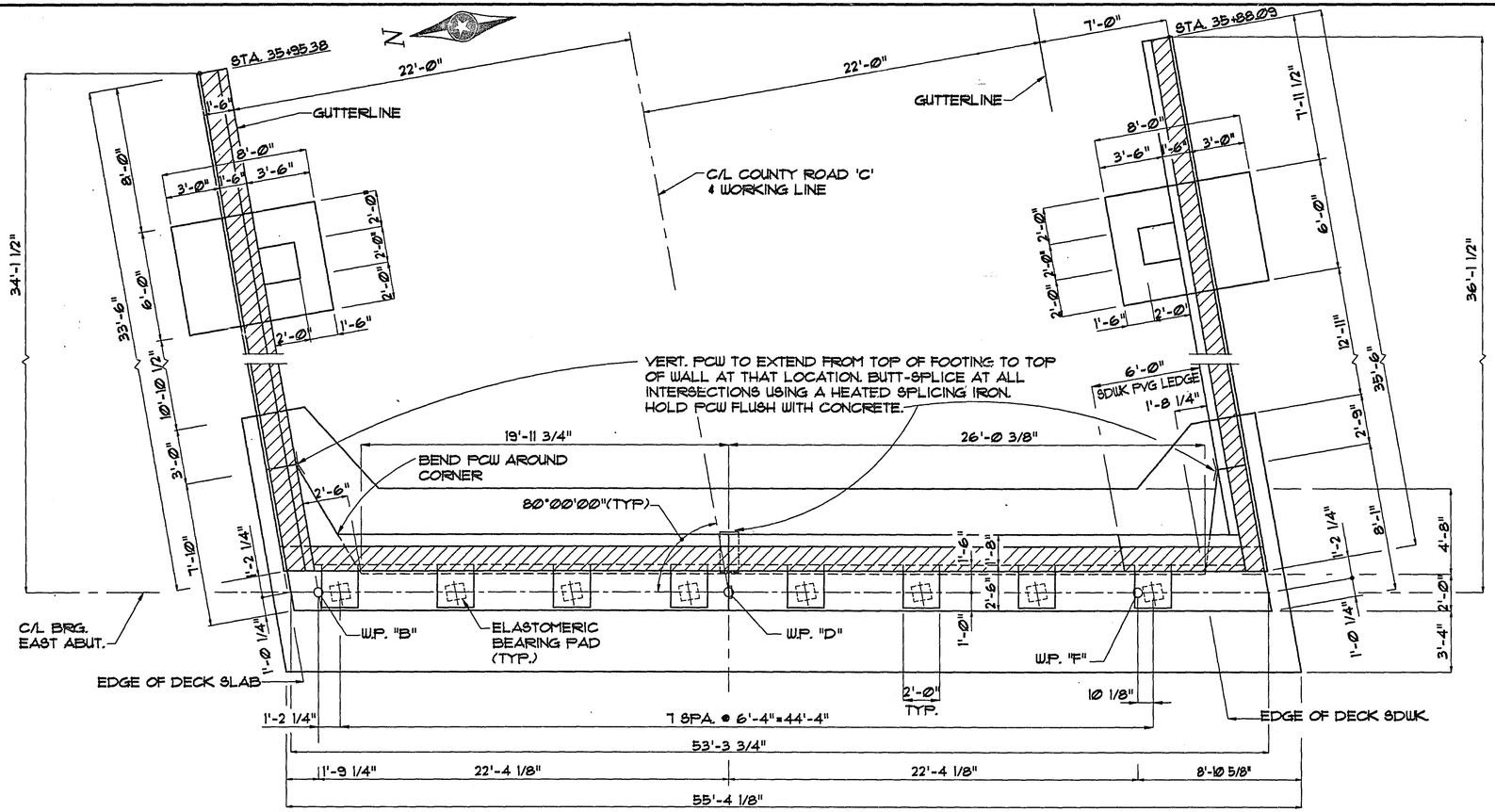
WEST ABUTMENT
BAR LIST & QUANTITIES

DES: MW	DR: MW	APPROVED: 5-14-93
CHK: MLH	CHK: MLH	

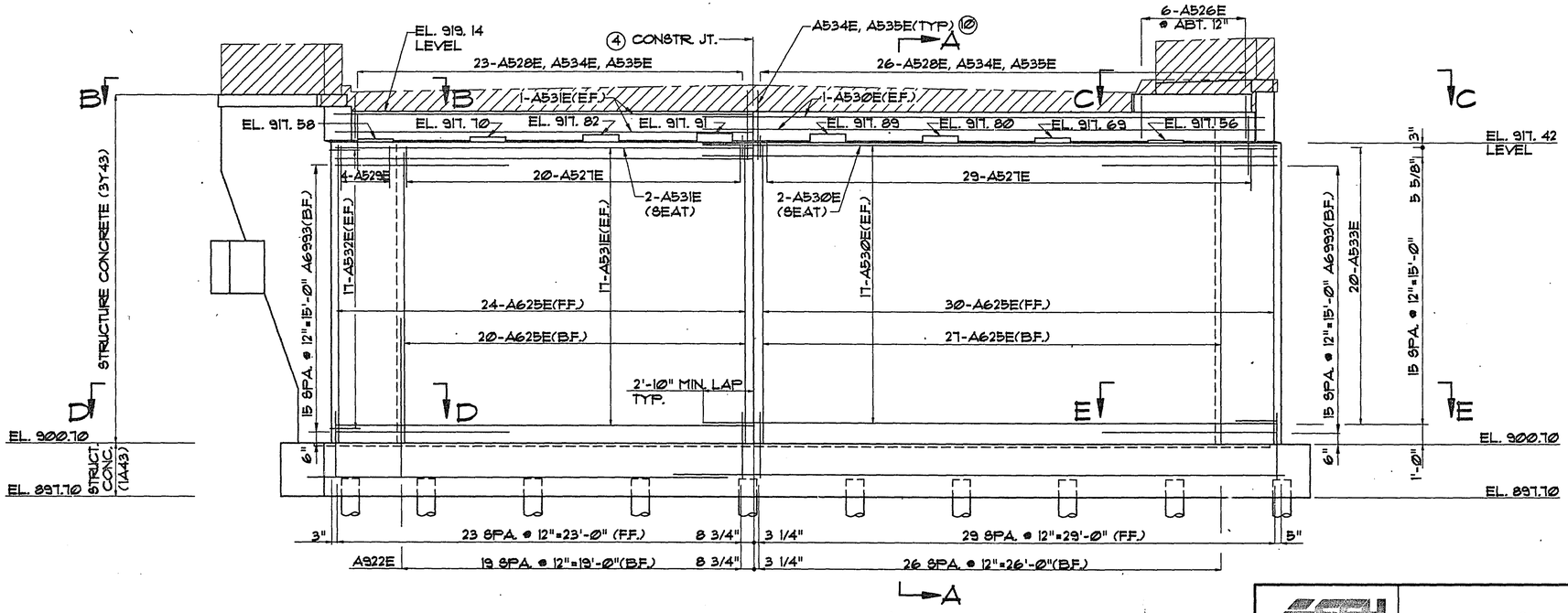
Sheet No. 6 of 20 Sheets

Bridge No. 62563

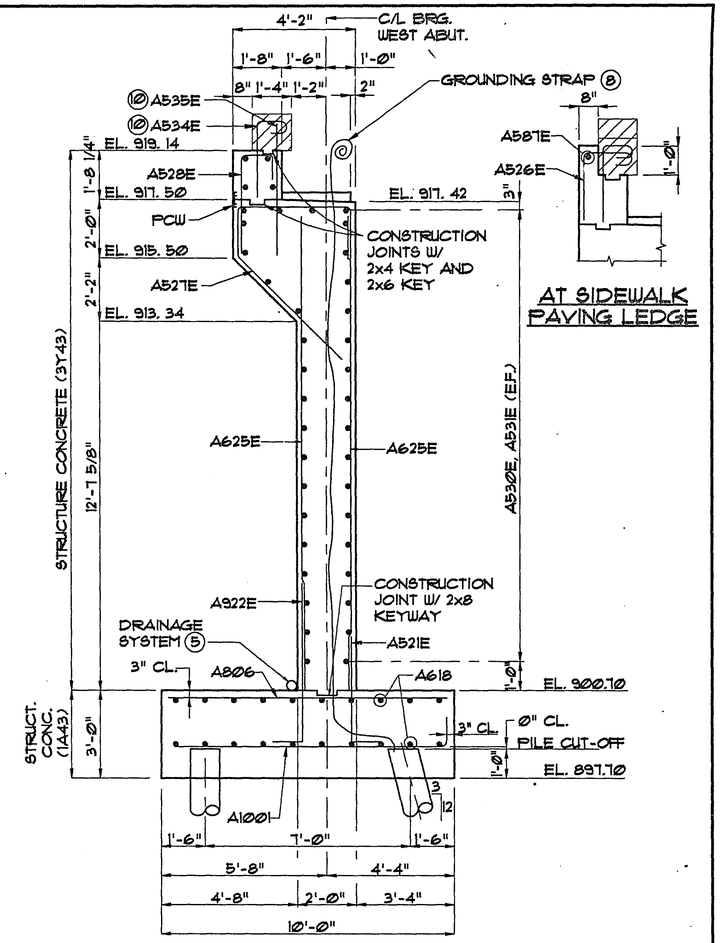
0106WA4



PLAN



ELEVATION



TYPICAL SECTION A-A

NOTES:

1. SEE SHEET 10 FOR EAST ABUTMENT BAR LIST & SUMMARY OF QUANTITIES FOR EAST ABUTMENT.
2. SHADED AREA INDICATES THAT PORTION TO BE PLACED WITH THE SUPERSTRUCTURE CONCRETE.
3. ALL REINFORCEMENT TO BE PLACED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
4. PROVIDE 2" x 8" VERTICAL KEY CENTERED IN MAIN SHAFT. 72 HOUR DELAY REQUIRED BETWEEN POURS TO ALLOW FOR SHRINKAGE.
5. SEE DETAIL B910, SHEET 18, FOR DRAINAGE SYSTEM.
6. SEE SHEETS 8 & 9 FOR ADDITIONAL ABUTMENT DETAILS.
7. F.F. = FRONT FACE
   B.F. = BACK FACE
   E.F. = EACH FACE
8. GROUNDING WIRE. SEE SHEET 13 & 14.
9. PROJECT 1'-4" AT CENTER AND 1'-0" AT GUTTERLINES. PROJECTION IS FROM TOP OF PARAPET WALL AT EL. 919.14.

S.P. 62-623-36

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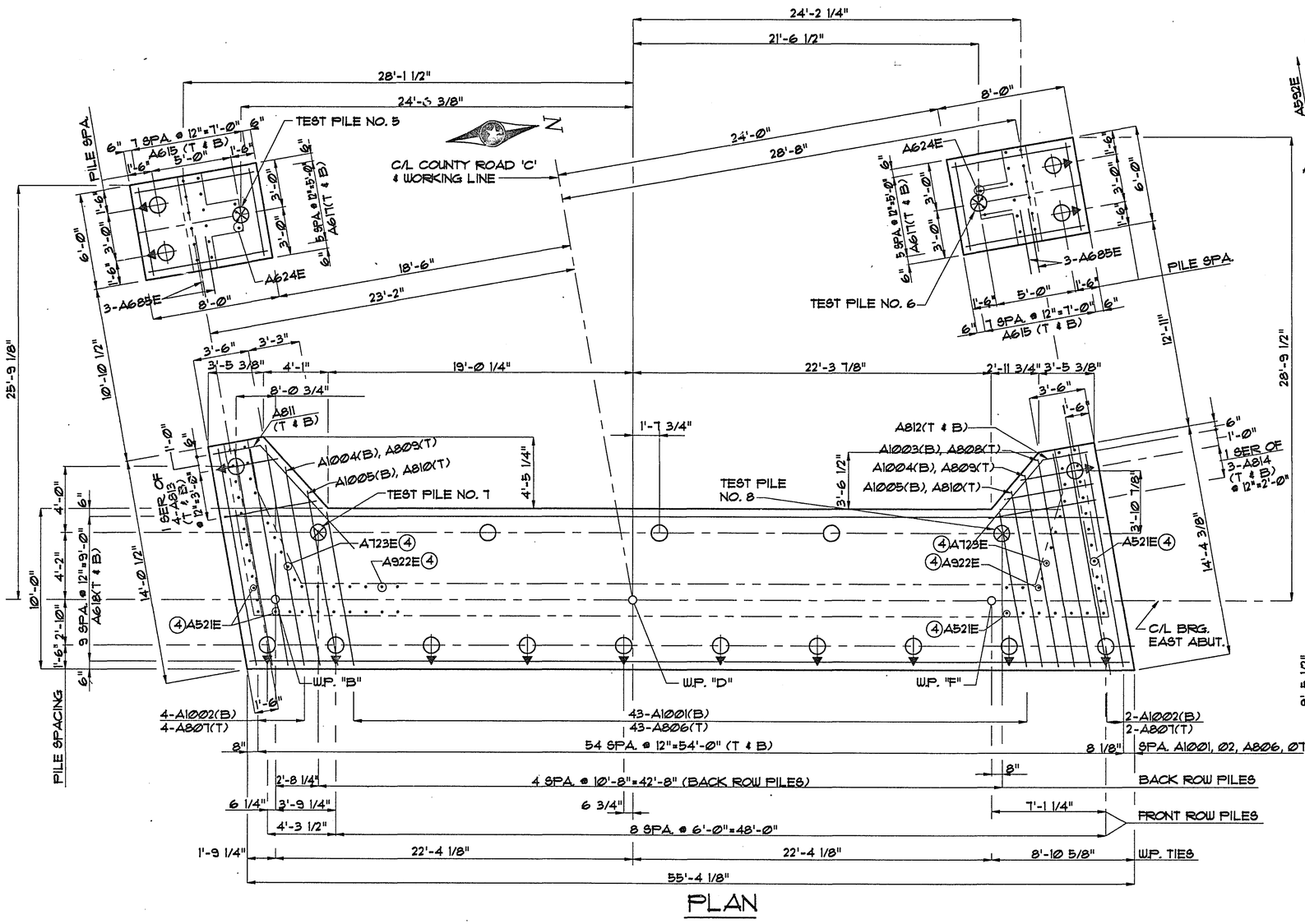
ENGINEERS ARCHITECTS PLANNERS

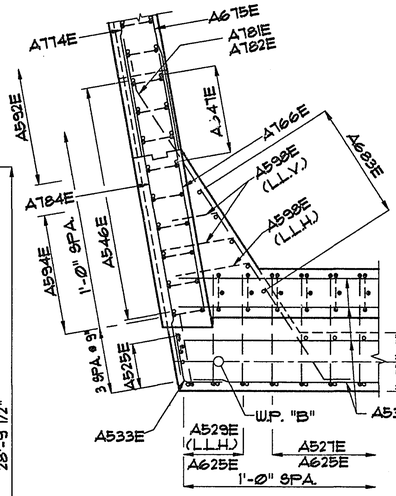
EAST ABUTMENT

DES: MLH	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MLH		
Sheet No. 7 of 20 Sheets			

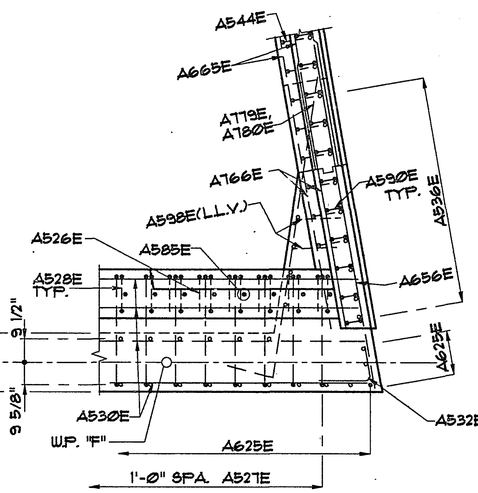
01061EA1



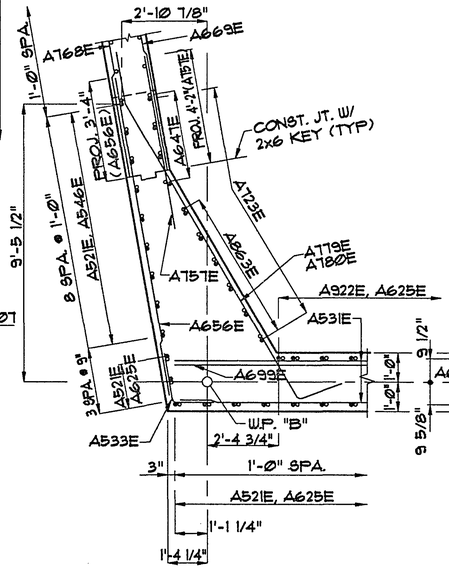
PLAN



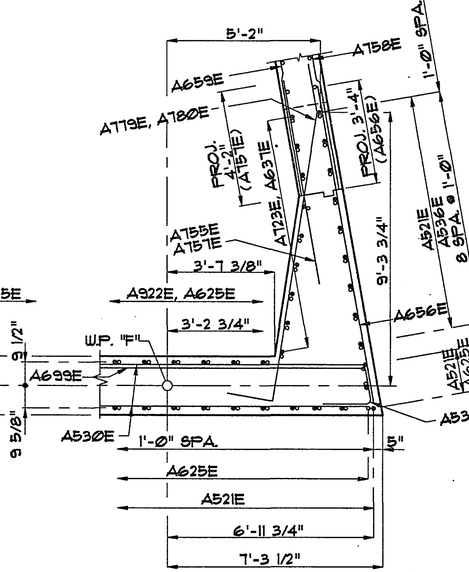
SECTION B-B



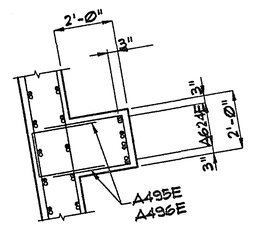
SECTION C-C



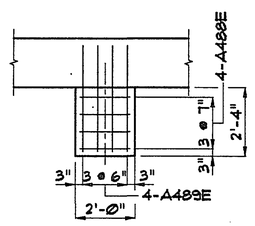
SECTION D-D



SECTION E-E.



SECTION F-F



BEARING SEAT

PILE NOTES:

PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

PILES MARKED ⊕ TO BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN.

PILES HAVE A NOMINAL DIAMETER OF 12".

FOR PILE SPLICE DETAILS, SEE DETAIL B201, SHEET 17.

2 C.I.P. CONC. TEST PILES, 50 FEET LONG.
15 C.I.P. CONC. PILES ESTIMATED LENGTH 40 FEET LONG.
2 C.I.P. CONC. TEST PILES, 60 FEET LONG.
4 C.I.P. CONC. PILES ESTIMATED LENGTH 50 FEET LONG.
23 C.I.P. CONC. PILES REQUIRED FOR EAST ABUTMENT.
SEE SPECIFICATIONS FOR REQUIRED PREBORING OF PILES.

COMPUTED PILE LOADS

TONS PER PILE

DEAD LOAD + EARTH PRESSURE	59.3
LIVE LOAD (SUPER & SURCH.)	6.0
* DESIGN LOAD	65.3

* $\frac{65.3}{1.0}$ =65.3: REDUCTION PER A.A.S.H.T.O. 3.22 GROUP I LOADING

NOTES:

① SEE SHEET 10 FOR EAST ABUTMENT BAR LIST & SUMMARY OF QUANTITIES FOR EAST ABUTMENT.

② SEE DETAIL B910, SHEET 18, FOR DRAINAGE SYSTEM.

③ F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE
L.L.V.=LONG LEG VERTICAL
L.L.H.=LONG LEG HORIZONTAL

④ SEE SECT. B-B THRU F-F FOR VERTICAL DOWEL PLACEMENT IN STEM.

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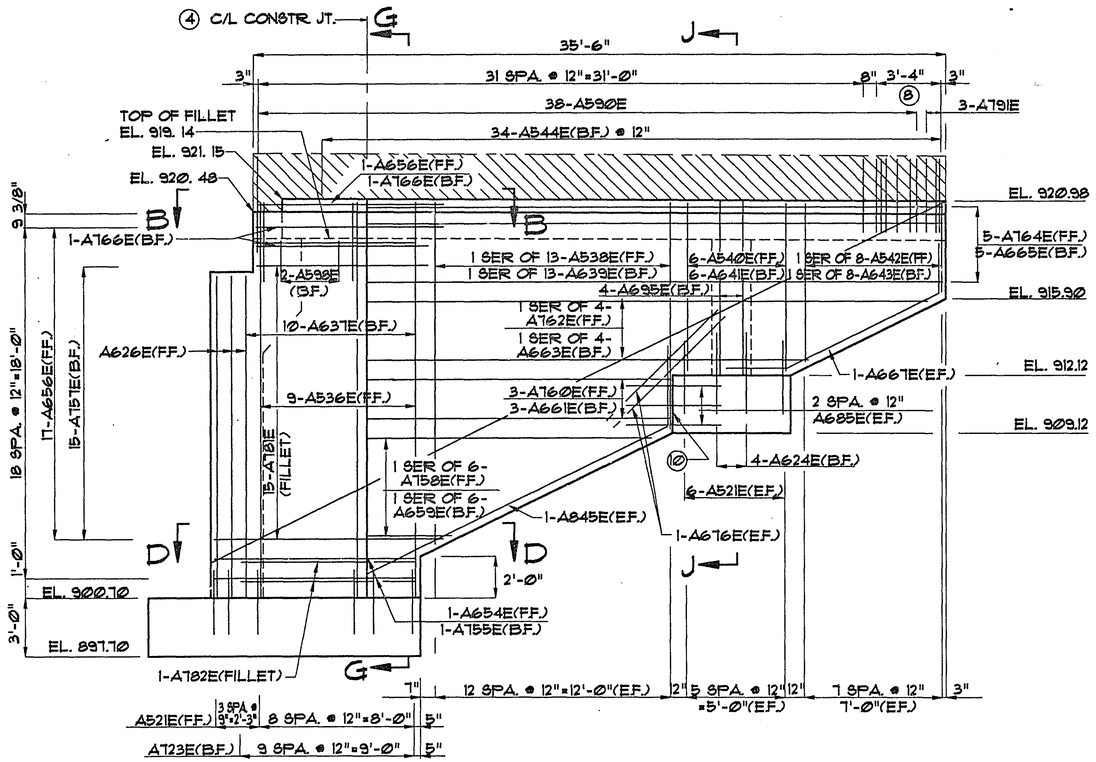
S.P. 62-623-36

ENGINEERS ARCHITECTS PLANNERS

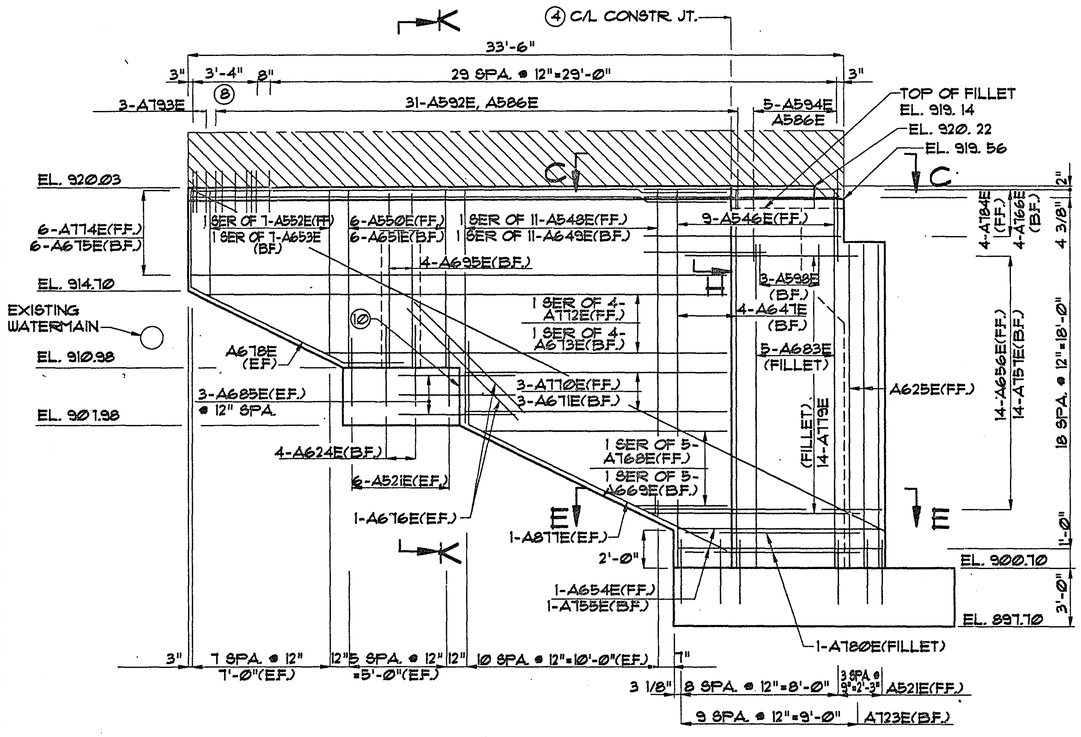
EAST ABUTMENT

DES: MLH	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MLH	Sheet No. 8 of 20 Sheets	

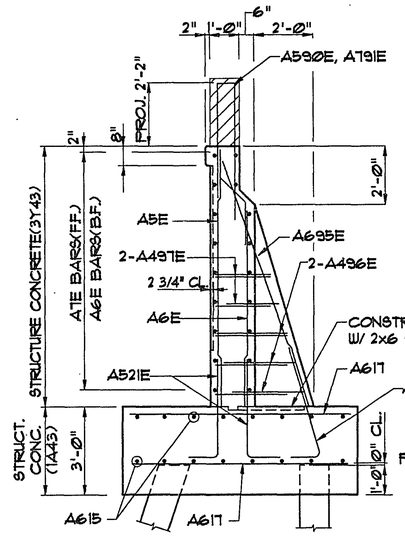
01061EA2



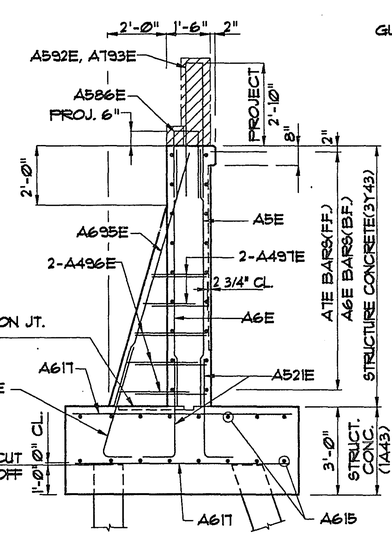
SOUTHEAST WINGWALL ELEVATION



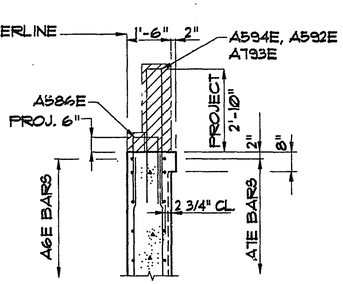
NORTHEAST WINGWALL ELEVATION



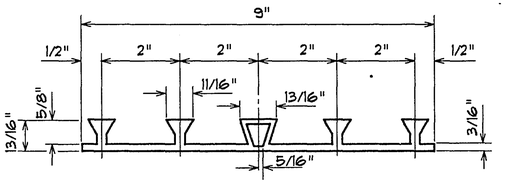
SECTION J-J



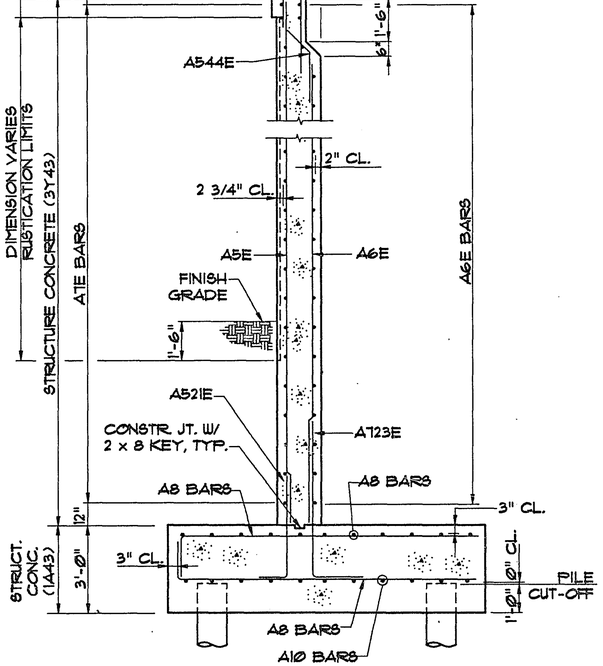
SECTION K-K



SECTION H-H



POLYVINYL CHLORIDE WATERSTOP (P.C.W.) ⑪



SECTION G-G

NOTES:

① SEE SHEET 10 FOR WEST ABUTMENT BAR LIST & SUMMARY OF QUANTITIES FOR WEST ABUTMENT.

② HATCHED AREA INDICATES THAT PORTION TO BE PLACED WITH THE SUPERSTRUCTURE CONCRETE.

③ ALL REINFORCEMENT TO BE PLACED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

④ PROVIDE 2" x 6" VERTICAL KEY CENTERED IN WALL. 72 HOUR DELAY REQUIRED BETWEEN POURS TO ALLOW FOR SHRINKAGE.

⑤ SEE DETAIL B910, SHEET 18, FOR DRAINAGE SYSTEM.

⑥ SEE SHEETS 7 & 8 FOR ADDITIONAL ABUTMENT DETAILS.

⑦ FF. = FRONT FACE
BF. = BACK FACE
EF. = EACH FACE

⑧ SEE SHEET 13 FOR REINFORCEMENT SPACING.

⑨ SEE SHEET 4 FOR SECTIONS B-B THRU F-F.

⑩ CONSTRUCTION JOINT WITH 2x6 KEY.

⑪ P.C.W. SHALL BE BUTT-SPLICED AT ALL INTERSECTIONS BY USING A HEATED SPLICING IRON. HOLD P.C.W. FLUSH WITH CONCRETE. WATERSTOPS SHALL COMPLY WITH THE REQUIREMENTS OF CORPS OF ENGINEERS SPEC. CRD-C572.

S.P. 62-623-36 28-128

ESH ENGINEERS ARCHITECTS PLANNERS

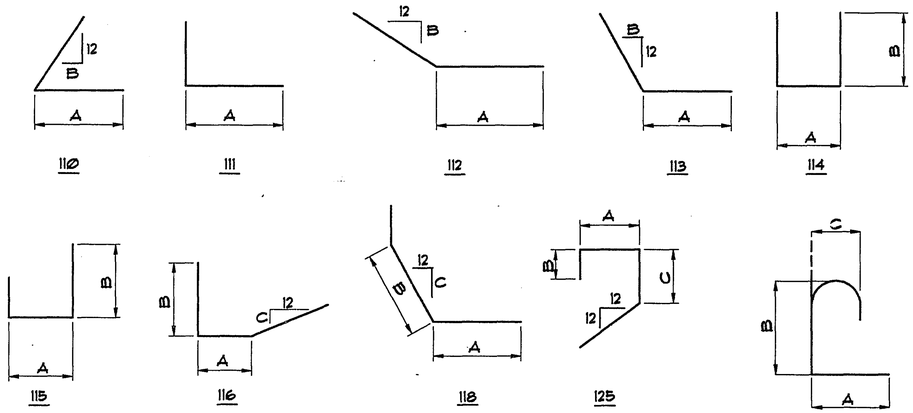
EAST ABUTMENT DETAILS

DES: MLH	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MLH	Sheet No. 9 of 20 Sheets	

01061EA3

BAR MARK	NO. OF SERIES	NO. OF BARS	LENGTH	TYPE	DIMENSION A	B	C	D	LOCATION
EAST ABUTMENT									
UNCOATED BARS									
A1001		43	11'- 6"	111	9'-8"				TRANSV. (B)
A1002		6	15'- 6"	111	13'-8"				TRANSV. (B)
A1003		2	14'-10"	111	13'-0"				TRANSV. (B)
A1004		2	13'-10"	111	12'-0"				TRANSV. (B)
A1005		2	12'-10"	111	11'-0"				TRANSV. (B)
A806		43	9'- 8"	STR					TRANSV. (T)
A807		6	13'- 8"	STR					TRANSV. (T)
A808		2	13'- 0"	STR					TRANSV. (T)
A809		2	12'- 0"	STR					TRANSV. (T)
A810		2	11'- 0"	STR					TRANSV. (T)
A811		2	12'- 0"	113	3'-0"	8			CORNER
A812		2	12'- 0"	112	3'-0"	10			CORNER
A813	2	4	5'- 5"	111	3'-11"				CORNER
			7'- 4"		5'-10"				
A814	2	3	5'-10"	111	4'-4"				CORNER
			8'- 3"		6'-9"				
A615		32	5'- 6"	STR					LONG. WING
A617		24	7'- 6"	STR					TRANSV. WING
A618		20	54'-10"	STR					TRANSV. WING
EAST ABUTMENT									
EPOXY COATED BARS									
A521E		100	4'- 9"	111	3'-9"				DOWEL
A922E		47	10'- 7"	111	9'-0"				DOWEL
A723E		19	5'- 9"	111	4'-7"				DOWEL
A624E		8	5'- 6"	110	1'-0"	4			CNTRFRT DOWEL
A625E		105	16'- 5"	STR					VERT. ABUT.
A526E		6	6'- 3"	136	4'-4"	1'-4"	0'-5"		SDWK. PVG. BLK.
A527E		49	12'- 3"	125	3'-10"	1'-9"	1'-8"	12	ABUT. SEAT
A528E		51	8'- 2"	114	1'-4"	3'-5"			ABUT. BACKWALL
A529E		4	5'- 7"	111	3'-10"				ABUT. SEAT
A530E		38	32'- 4"	STR					HORIZ. ABUT.
A531E		38	23'- 4"	STR					HORIZ. ABUT.
A532E		17	3'- 6"	110	1'-9"	2			CORNER ABUT.
A533E		17	3'- 6"	113	1'-9"	2			CORNER ABUT.
A534E		51	4'- 0"	136	2'-6"	0'-11"	0'-7"		PAVING BLOCK
A535E		51	4'- 6"	STR					PAVING BLOCK
A536E		9	20'- 3"	STR					VERT WALL(F.F.)
A637E		10	18'- 2"	STR					VERT WALL(B.F.)
A538E	1	13	11'- 6"	STR					VERT WALL(F.F.)
			17'- 6"						
A639E	1	13	9'- 6"	STR					VERT WALL(B.F.)
			15'- 6"						
A540E		6	8'- 6"	STR					VERT WALL(F.F.)
A641E		6	6'- 6"	STR					VERT WALL(B.F.)
A542E	1	8	4'- 9"	STR					VERT WALL(F.F.)
			8'- 1"						
A643E	1	8	2'- 9"	STR					VERT WALL(B.F.)
			6'- 1"						
A544E		34	3'- 0"	112	1'-6"	12			VERT WALL(B.F.)
A845E		2	21'- 4"	113	17'-2"	6			DIAG. WING
A546E		9	19'- 4"	STR					VERT WALL(F.F.)
A647E		4	19'- 4"	STR					VERT WALL(B.F.)
A548E	1	11	12'- 0"	STR					VERT WALL(F.F.)
			16'- 9"						
A649E	1	11	12'- 0"	STR					VERT WALL(B.F.)
			16'- 9"						
A550E		6	9'- 1"	STR					VERT WALL(F.F.)
A651E		6	9'- 1"	STR					VERT WALL(B.F.)
A552E	1	7	5'- 5"	STR					VERT WALL(F.F.)
			8'- 5"						
A653E	1	7	5'- 5"	STR					VERT WALL(B.F.)
			8'- 5"						
A654E		4	10'- 4"	STR					HORIZ WALL(FF)
A755E		4	5'- 0"	STR					HORIZ WALL(BF)
A656E		32	11'- 2"	STR					HORIZ WALL(FF)
A757E		29	8'- 0"	STR					HORIZ WALL(BF)
A758E	1	6	4'- 7"	STR					HORIZ WALL(FF)
			14'- 9"						
A659E	1	6	4'- 7"	STR					HORIZ WALL(BF)
			14'- 9"						
A760E		3	15'- 8"	STR					HORIZ WALL(FF)
A661E		3	15'- 8"	STR					HORIZ WALL(BF)
A762E	1	4	22'- 9"	STR					HORIZ WALL(FF)
			28'-10"						

BAR BENDING DIAGRAMS



NOTE:
BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS. TOTAL BAR LENGTHS SHOWN ARE FOR USE IN COMPUTING REINFORCEMENT BAR WEIGHTS FOR PAYMENT ONLY.

BAR MARK	NO. OF SERIES	NO. OF BARS	LENGTH	TYPE	DIMENSION A	B	C	D	LOCATION
EPOXY COATED BARS (CONT.)									
A663E	1	4	22'- 9"	STR					HORIZ WALL(BF)
			28'-10"						
A764E		5	29'- 8"	STR					HORIZ WALL(FF)
A665E		5	29'- 8"	STR					HORIZ WALL(BF)
A766E		7	11'- 8"	STR					HORIZ WALL(BF)
A667E		2	14'- 3"	118	2'-6"	8'-9"	6		DIAG. WING
A768E	1	5	4'- 8"	STR					HORIZ WALL(FF)
			12'- 6"						
A669E	1	5	4'- 8"	STR					HORIZ WALL(BF)
			12'- 6"						
A770E		3	13'- 4"	STR					HORIZ WALL(FF)
A671E		3	13'- 4"	STR					HORIZ WALL(BF)
A772E	1	4	20'- 7"	STR					HORIZ WALL(FF)
			26'- 8"						
A673E	1	4	20'- 7"	STR					HORIZ WALL(BF)
			26'- 8"						
A774E		6	27'- 5"	STR					HORIZ WALL(FF)
A675E		6	27'- 5"	STR					HORIZ WALL(BF)
A676E		8	6'- 0"	STR					DIAG. WING
A877E		2	18'-10"	113	14'-7"	6			DIAG. WING
A678E		2	16'- 8"	118	4'-11"	8'-9"	6		DIAG. WING
A779E		16	11'-10"	116	9'-6"	1'-2"	6		FILLET HORIZ
A780E		2	10'- 8"	111	9'-6"				FILLET HORIZ
A781E		15	13'- 8"	116	11'-4"	1'-2"	4		FILLET HORIZ
A782E		2	12'- 6"	111	11'-4"				FILLET HORIZ
A683E		5	18'- 2"	STR					FILLET VERT
A784E		4	10'- 0"	STR					HORIZ WALL(FF)
A586E		34	6'- 2"	114	1'-2"	2'-6"			VERT. RAIL
A587E		1	5'- 6"	STR					SDWK. BRKT.
A488E		32	5'- 8"	114	1'-8"	2'-0"			BRG. SEAT
A489E		32	5'- 7"	111	3'-7"				BRG. SEAT
A590E		38	8'- 5"	115	6 1/2"	4'-8"			VERT. RAIL
A791E		3	9'- 0"	115	6 1/2"	4'-8"			VERT. RAIL
A592E		31	11'- 7"	114	0'-7"	5'-6"			VERT. RAIL
A793E		3	11'- 7"	114	0'-7"	5'-6"			VERT. RAIL
A594E		5	12'- 7"	114	0'-7"	6'-0"			VERT. RAIL
A695E		8	8'- 9"	STR					VERT CNTRFRT
A496E		12	6'- 6"	114	2'-5"	1'-8"			STIRRUP CNTRFRT
A497E		8	5'- 4"	114	1'-10"	1'-8"			STIRRUP CNTRFRT
A598E		6	4'- 0"	111	1'-6"				TOP FILLET
A698E		32	10'- 0"	STR					CORNER (BF)

SUMMARY OF QUANTITIES

	ITEM	UNIT	QUANTITY
	STRUCTURE CONCRETE (1A43)	CU. YD.	77
	STRUCTURE CONCRETE (3Y43)	CU. YD.	143
	REINFORCEMENT BARS (EPOXY COATED)	POUND	18 480
	REINFORCEMENT BARS	POUND	6970
③	CAST-IN-PLACE CONC. PILING DELIVERED 12"	LIN. FT.	800
③	CAST-IN-PLACE CONC. PILING DRIVEN 12"	LIN. FT.	800
	CAST-IN-PLACE CONC. TEST PILES, 50' LONG, 12"	EACH	2
	CAST-IN-PLACE CONC. TEST PILES, 60' LONG, 12"	EACH	2
	REVERSE BATTEN SURFACE TREATMENT	SQ. FT.	738
②	STRUCTURE EXCAVATION	LUMP SUM	-
④	DRAINAGE SYSTEM	LUMP SUM	-
①	P.V.C. WATERSTOP	LIN. FT.	115

QUANTITY NOTES:

① INCLUDED IN PRICE BID FOR OTHER ITEMS.
② SEE SPECIAL PROVISIONS.
③ DOES NOT INCLUDE TEST PILES.
④ SEE STD. DETAIL B910, SHEET 18.

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s.p. 62-623-36

ENGINEERS ARCHITECTS PLANNERS

EAST ABUTMENT
BAR LIST & QUANTITIES

DES: MW	DR: MW	APPROVED: 5-14-93
CHK: MLH	CHK: MLH	

Sheet No. 10 of 20 Sheets

Bridge No. 62563

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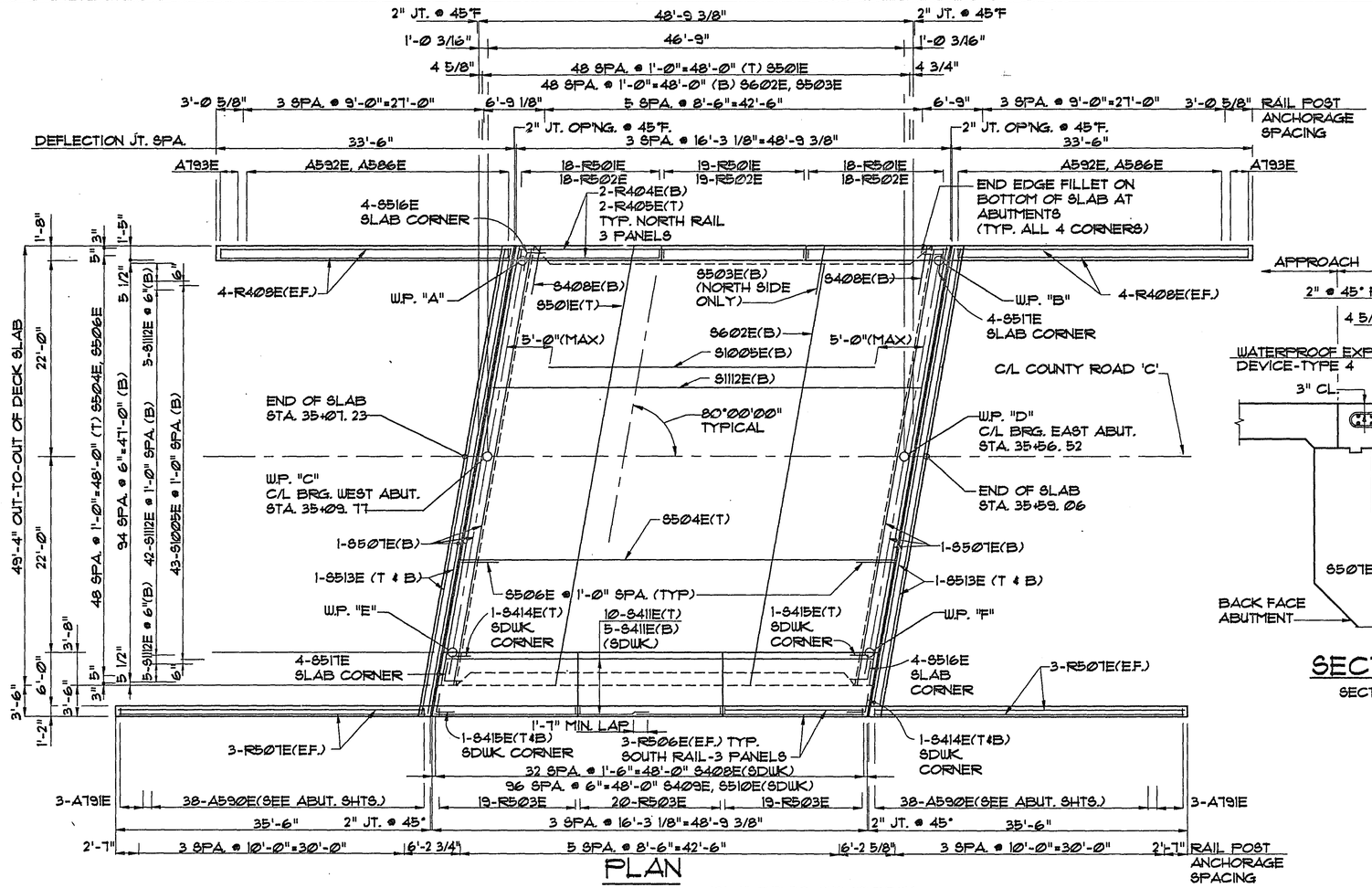
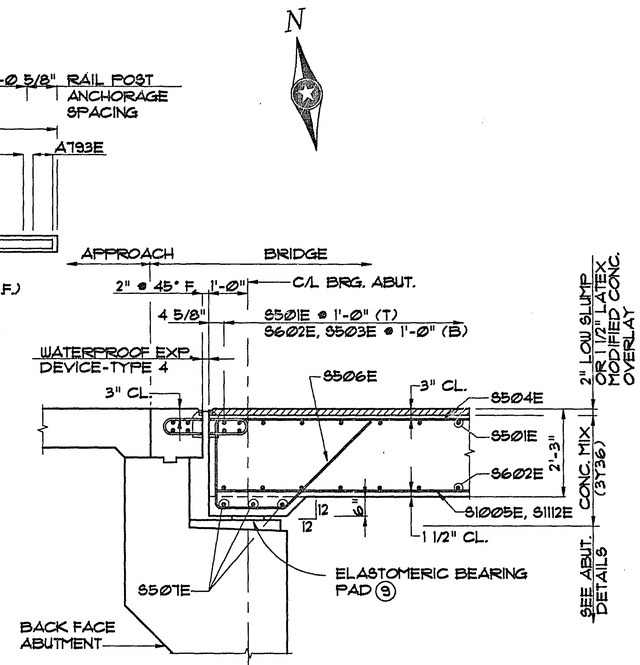
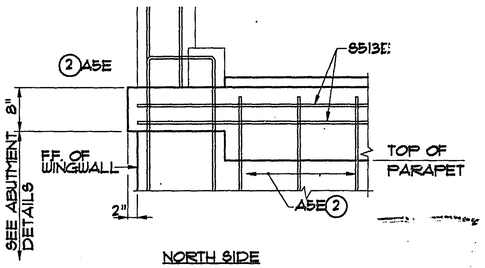


PLAN

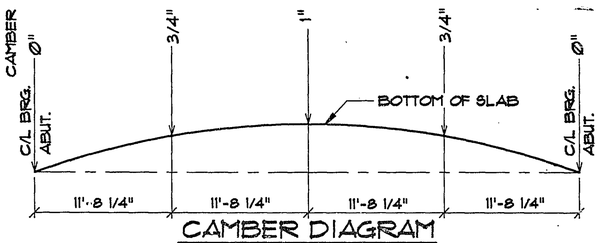


SECTION AT ABUTMENT

SECTION IS TAKEN NORMAL TO JOINT.

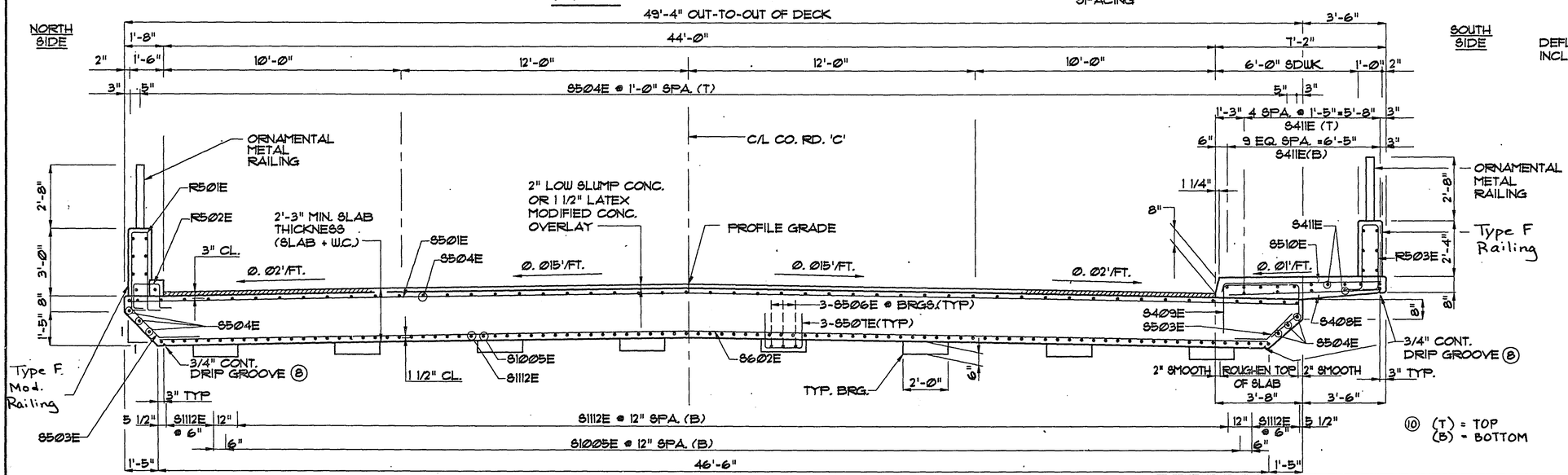


TYP. ELEVATIONS OF END BLOCKS AT WINGWALLS



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION & FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR VERTICAL CURVATURE OR FORM SETTLEMENT.



TYPICAL TRANSVERSE SECTION

NOTES:

1. SEE SHEET 12 FOR SUPERSTRUCTURE BAR LIST & SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
2. SEE SHEET 13 & 14 FOR RAILING DETAILS.
3. ALL PLAN DIMENSIONS ARE TAKEN PARALLEL OR PERPENDICULAR TO WORKING LINE.
4. ALTERNATE TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0 CENTERS. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0 CENTERS.
5. TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE C/L OF SUBSTRUCTURE UNITS.
6. THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).
7. TURN EDGE OF CONCRETE SIDEWALK DOWN TO TOP OF CORBEL BETWEEN FILLET AND APPROACH SLAB.
8. STOP DRIP GROOVE 1'-0" FROM EACH ABUTMENT FACE.
9. SEE SHEET 12 FOR ELASTOMERIC BRG. PAD DETAIL.

(10) (T) = TOP (B) = BOTTOM

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ENGINEERS ARCHITECTS PLANNERS

SUPERSTRUCTURE DETAILS

DES: MLH	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MLH	Sheet No. 11 of 20 Sheets	

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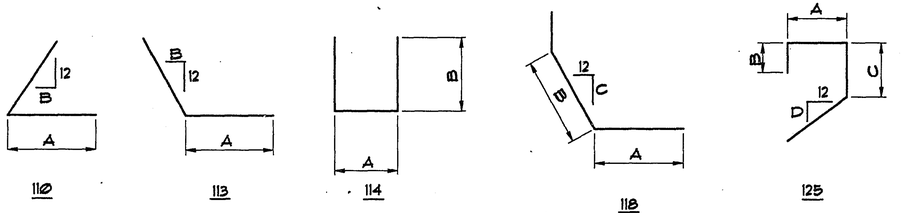
BAR MARK	NO. OF SERIES	NO. OF BARS	LENGTH	TYPE	DIMENSION A	B	C	D	LOCATION
SUPERSTRUCTURE									
EPOXY COATED BARS									
S101E		49	49'- 0"	STR					TRANSV. (T)
S602E		49	46'- 4"	STR					TRANSV. (B)
S503E		98	3'- 8"	118	1'-6"	1'-9"	12		TRANVS. EDGE
S504E		57	48'- 5"	STR					LONG. (T)
S1005E		43	36'- 9"	STR					LONG. (B)
S506E		48	9'- 0"	125	2'-2"	2'-0"	1'-11"	11"	LONG. AT BRGS.
S507E		48	5'- 8"	114	1'-8"	2'-0"			TRANSV AT BRGS.
S408E		35	6'- 8"	STR					TRANSV SDWK
S409E		97	7'-11"	125	3'-2"	2'-0"	1'-3"	11"	SDWK DOWELS
S510E		97	7'- 2"	113	6'-8"	2			TRANSV SDWK (T)
S411E		30	25'- 0"	STR					LONG. SDWK
S1112E		52	48'- 5"	STR					LONG. (B)
S513E		8	52'- 0"	STR					PAVING BLOCK
S414E		3	4'- 0"	113	2'-0"	2			CORNER SDWK
S415E		3	4'- 0"	110	2'-0"	2			CORNER SDWK
S516E		8	4'- 0"	113	2'-0"	2			CORNER SLAB
S517E		8	4'- 0"	110	2'-0"	2			CORNER SLAB
RAILING									
EPOXY COATED BARS									
R501E		55	8'- 9"	126	0'-8"	3'-4"	0'-6"		VERT. RAIL
R502E		55	4'- 6"	126	1'-0"	0'-10"	0'-10"		VERT. RAIL
R503E		58	7'- 6"	126	7 1/2"	2'-8"	0'-6"		VERT. RAIL
R404E		8	25'- 4"	STR					HORIZ. RAIL
R405E		12	15'-11"	STR					HORIZ. RAIL
R506E		18	15'-11"	STR					HORIZ. RAIL
R507E		12	35'- 2"	STR					HORIZ. RAIL
R508E		16	33'- 2"	STR					HORIZ. RAIL
R109E		4	6'- 6"	130	0'-10"	3'-0"			RAIL END POST

BAR BENDING DIAGRAMS



* BAR TYPE USES STANDARD STIRRUP AND TIE HOOKS.

NOTE:
BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. ACTUAL BAR LENGTHS SHALL BE DETERMINED BASED ON DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS. TOTAL BAR LENGTHS SHOWN ARE FOR USE IN COMPUTING REINFORCEMENT BAR WEIGHTS FOR PAYMENT ONLY.

SUMMARY OF QUANTITIES

	ITEM	UNIT	QUANTITY
(4)	BRIDGE SLAB CONCRETE (3Y36)	SQ. FT.	2557
(5)	TYPE MOD F RAILING	LIN. FT.	116
(6)	TYPE F RAILING	LIN. FT.	120
(4)	SIDEWALK CONCRETE (3Y46)	SQ. FT.	369
	REINFORCEMENT BARS (EPOXY COATED)	POUND	35 320
(4)	CONCRETE OVERLAY TYPE SPECIAL	SQ. FT.	2266
	EXPANSION JOINT DEVICE, TYPE 4	LIN. FT.	104
(3)(2)(1)	PREFORMED JOINT FILLER		
(1)	BRIDGE NAMEPLATE	UNIT	1
	ORNAMENTAL METAL RAILING	LIN. FT.	236
	ELASTOMERIC BEARING PAD, TYPE 1	EA.	16

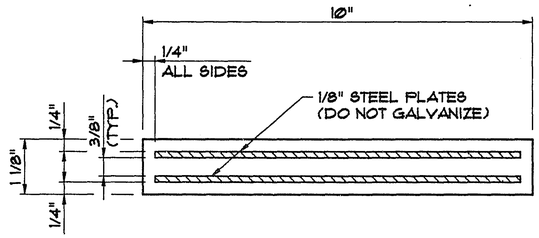
QUANTITY NOTES:

(1) INCLUDED IN PRICE BID FOR OTHER ITEMS.
(2) SEE JOINT FILLER TABLE, THIS SHEET.
(3) SEE SPECIAL PROVISIONS.
(4) THE APPROXIMATE CONCRETE QUANTITIES ARE:
BRIDGE SLAB CONCRETE
WITH 2" W. C. CU. YD. 191
WITH 1 1/2" W. C. CU. YD. 195
CONCRETE OVERLAY
WITH 2" W. C. CU. YD. 14
WITH 1 1/2" W. C. CU. YD. 11
SIDEWALK CONCRETE
(DOES NOT INCLUDE SIDEWALK ON APPROACH PANEL)
WITH 2" W. C. CU. YD. 12
WITH 1 1/2" W. C. CU. YD. 11
(5) TYPE MOD F RAILING (3Y46) APPROX. VOLUME = 13 CU. YD.
(6) TYPE F RAILING (3Y46) APPROX. VOLUME = 10 CU. YD.

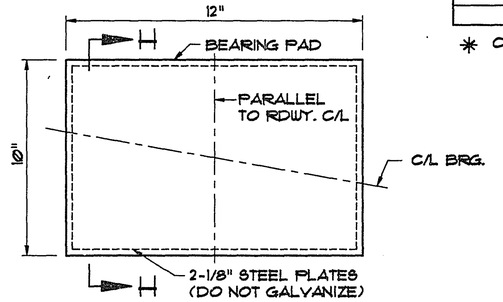
(1)(3) PREFORMED JOINT FILLER LIST

TYPE	NO.	SIZE	LOCATION
CORK *	1	1" x 16" x 1'-5 1/2"	TYPE MOD F RAILING DEFL. JTS.
CORK	2	1" x 9" x 2'-2 1/2"	TYPE F RAILING DEFL. JTS.
BIT. FELT	2	1/2" x 11" x 20'-0"	APPROACH PANEL
BIT. FELT	2	1/2" x 3" x 20'-0"	APPROACH PANEL
BIT. FELT	2	1/2" x 9 1/2" x 6'-8"	SIDEWALK EXPANSION JOINT

* CUT TWO FROM ONE.



SECTION H-H



PLAN

ELASTOMERIC BEARING PAD
TYPE 1

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S.P. 62-623-36

ENGINEERS ARCHITECTS PLANNERS

SUPERSTRUCTURE
BAR LIST & QUANTITIES

DES: MW	DR: MW	APPROVED: 5-14-93
CHK: MLH	CHK: MLH	

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Bridge No. 62563

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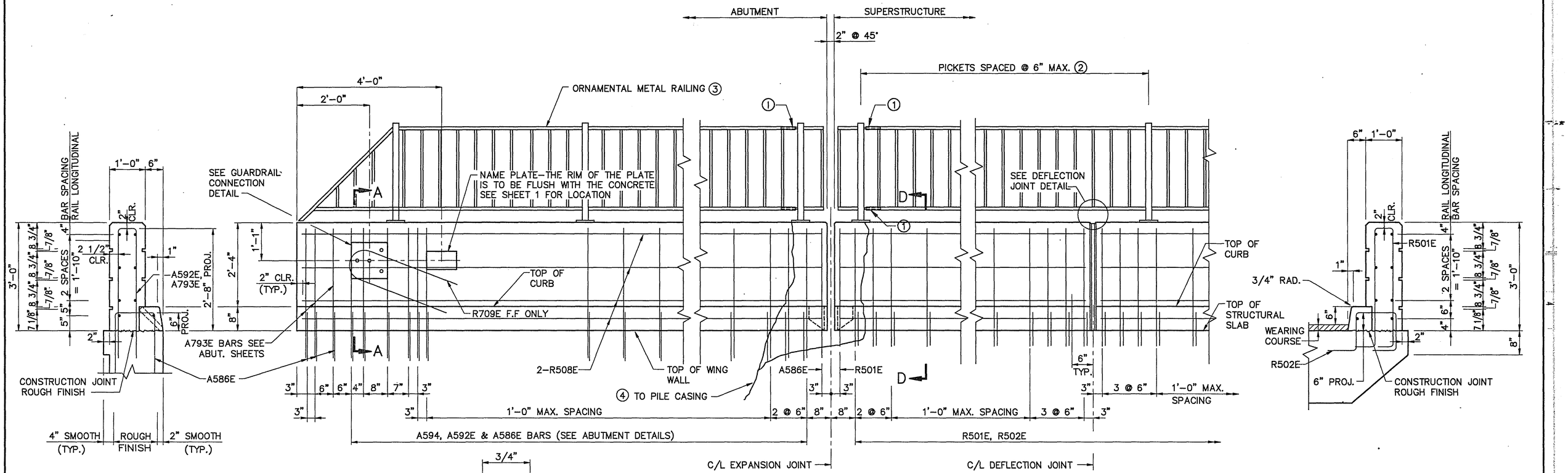


SECTION A–A

SECTION ON WALL ONLY

CONC. RAILING = 0.112 CU. YD./FT.
CONC. RAILING = 454 LBS./FT.

EXPANSION JOINT

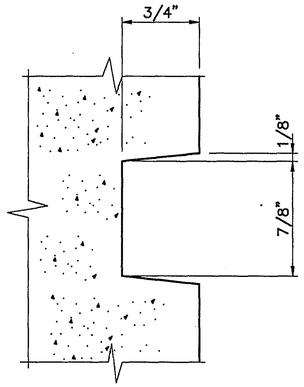
(EXPANSION DEVICE NOT SHOWN)
SEE SUPERSTRUCTURE SHEETS

DEFLECTION JOINT

SECTION D–D

SECTION ON BRIDGE

CONC. RAILING = 0.112 CU. YD./FT.
CONC. RAILING = 454 LBS./FT.



RAIL RUSTICATION

INSIDE ELEVATION OF RAILING INTEGRAL END POST

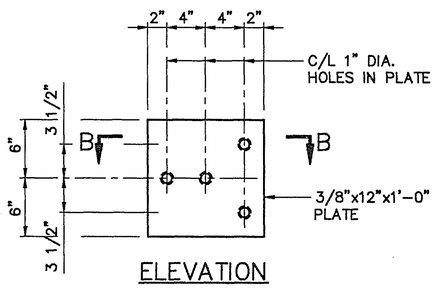
NOTES:

① BOLTED EXPANSION CONNECTION.

② SEE SHEET 11 FOR RAIL POST SPACING.

③ SEE SHEET 14 FOR RAILING DETAILS.

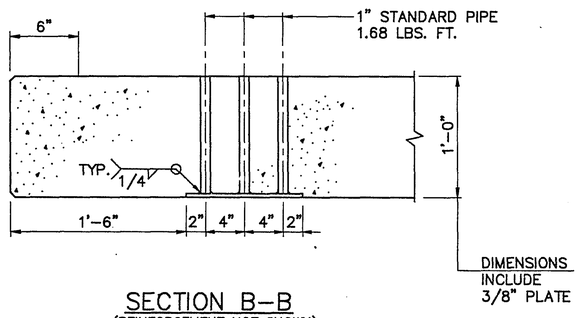
④ ATTACH RAIL ANCHORAGES TO PILE CASINGS WITH A SOLID NO. 6 GAGE COPPER WIRE WITH AN APPROVED TYPE CLAMP OR BRAZING.



ELEVATION

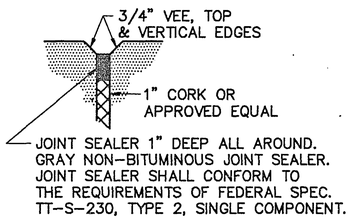
GUARDRAIL CONNECTION

GALVANIZE AFTER FABRICATION PER SPEC. 3394
ESTIMATED WEIGHT = 22 LBS.



SECTION B–B

(REINFORCEMENT NOT SHOWN)



DEFLECTION JOINT DETAIL

GENERAL NOTES:

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.

GUARDRAIL CONNECTION SHALL BE STRUCTURAL STEEL, SPEC. 3306.

FINISH ALL EDGES OF RAIL AND END POST WITH 1/2" VEE EXCEPT WHERE OTHERWISE NOTED.

CONCRETE BASE QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.

LENGTH OF CONCRETE RAILING TO BE MEASURED FOR PAYMENT BETWEEN OUTSIDE FACES OF CONCRETE PARAPET.

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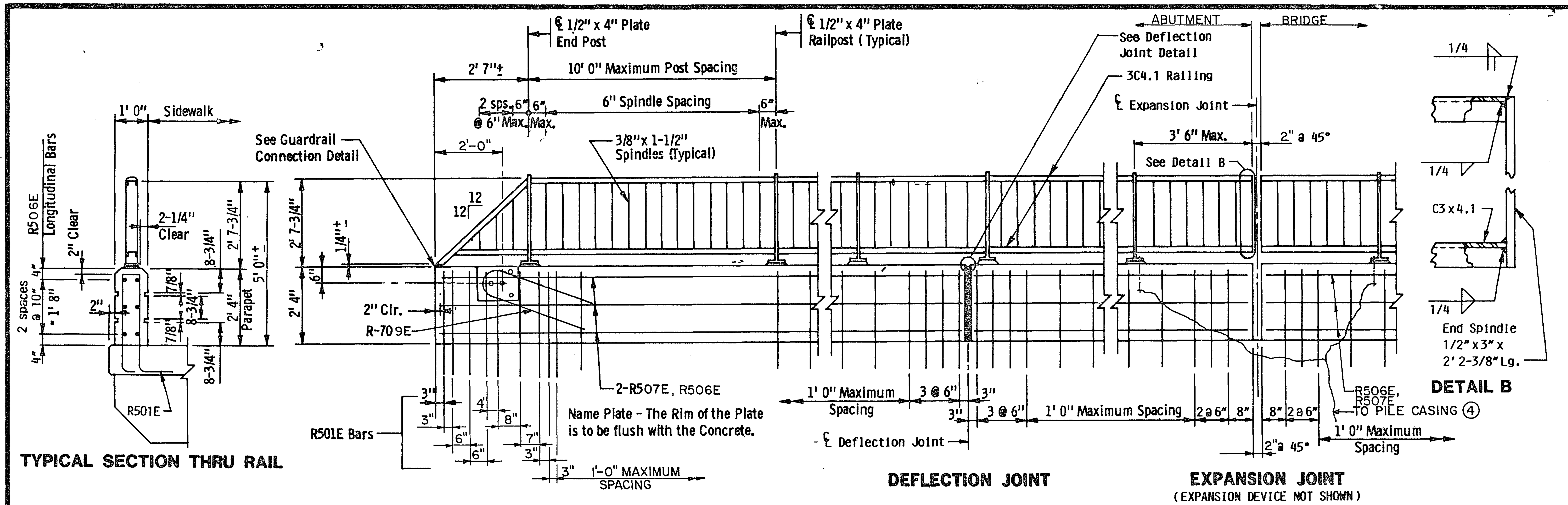
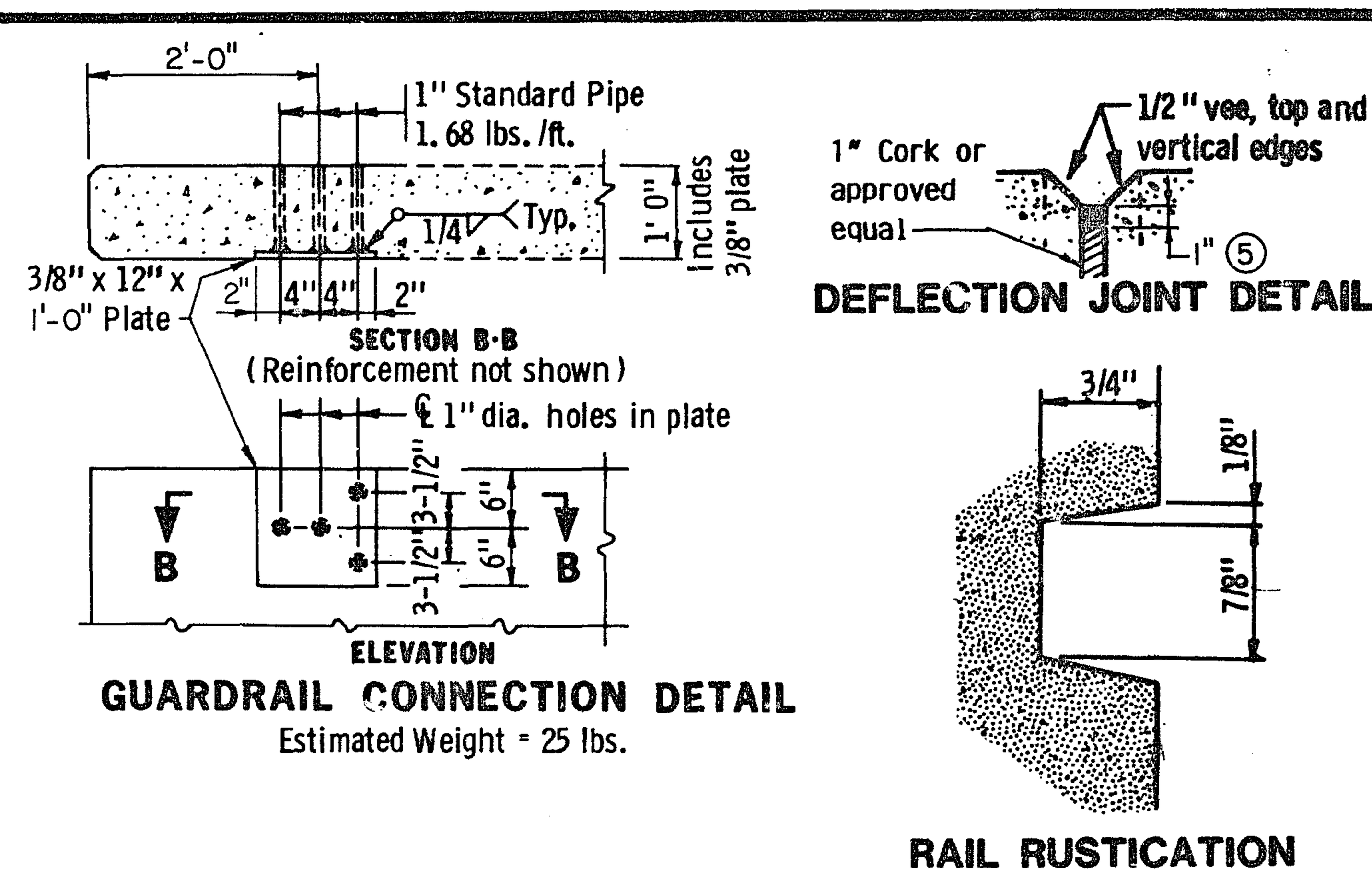
ENGINEERS ARCHITECTS PLANNERS

Type Mod. F Railing
WITH INTEGRAL END POST

DES: JAJ	DR: SEO	APPROVED: 5-14-93	Bridge No. 62563
CHK: JDS	CHK: MW	Sheet No. 13 of 20 Sheets	

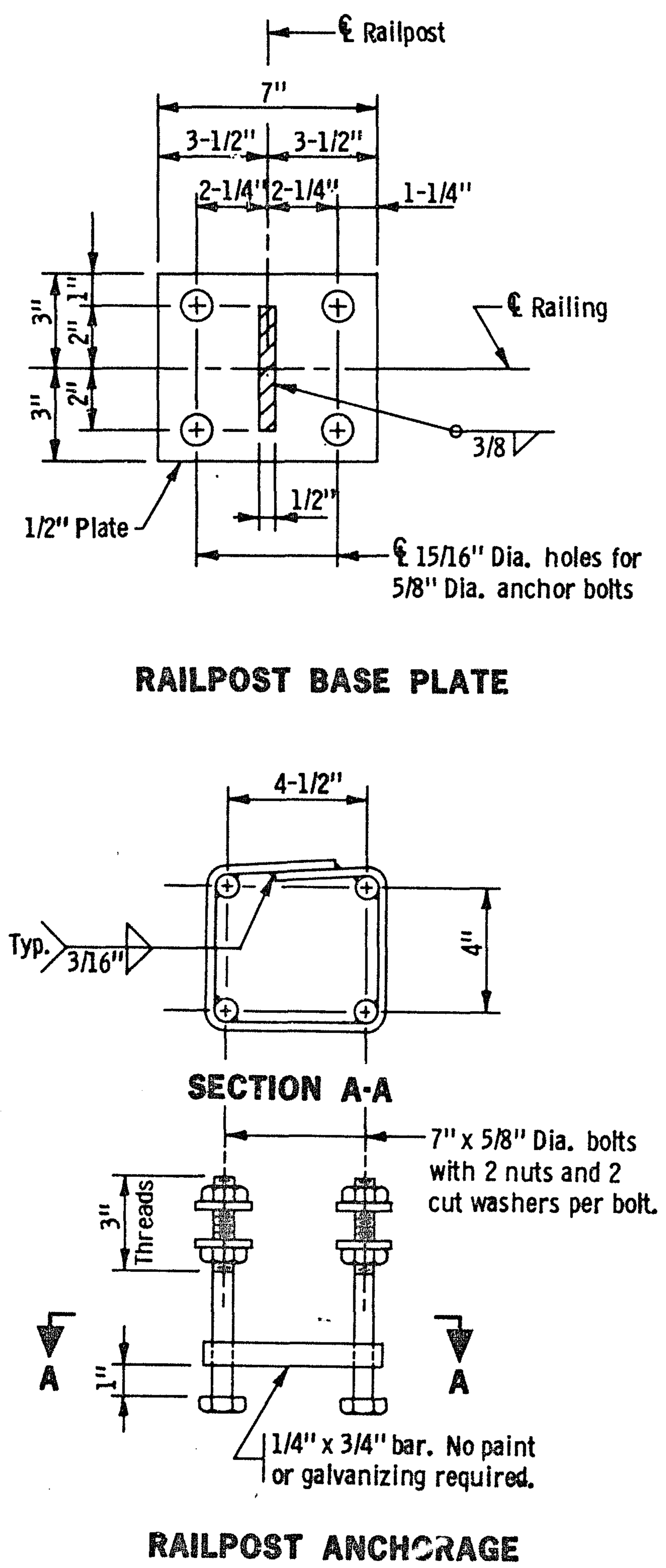
01061RD1

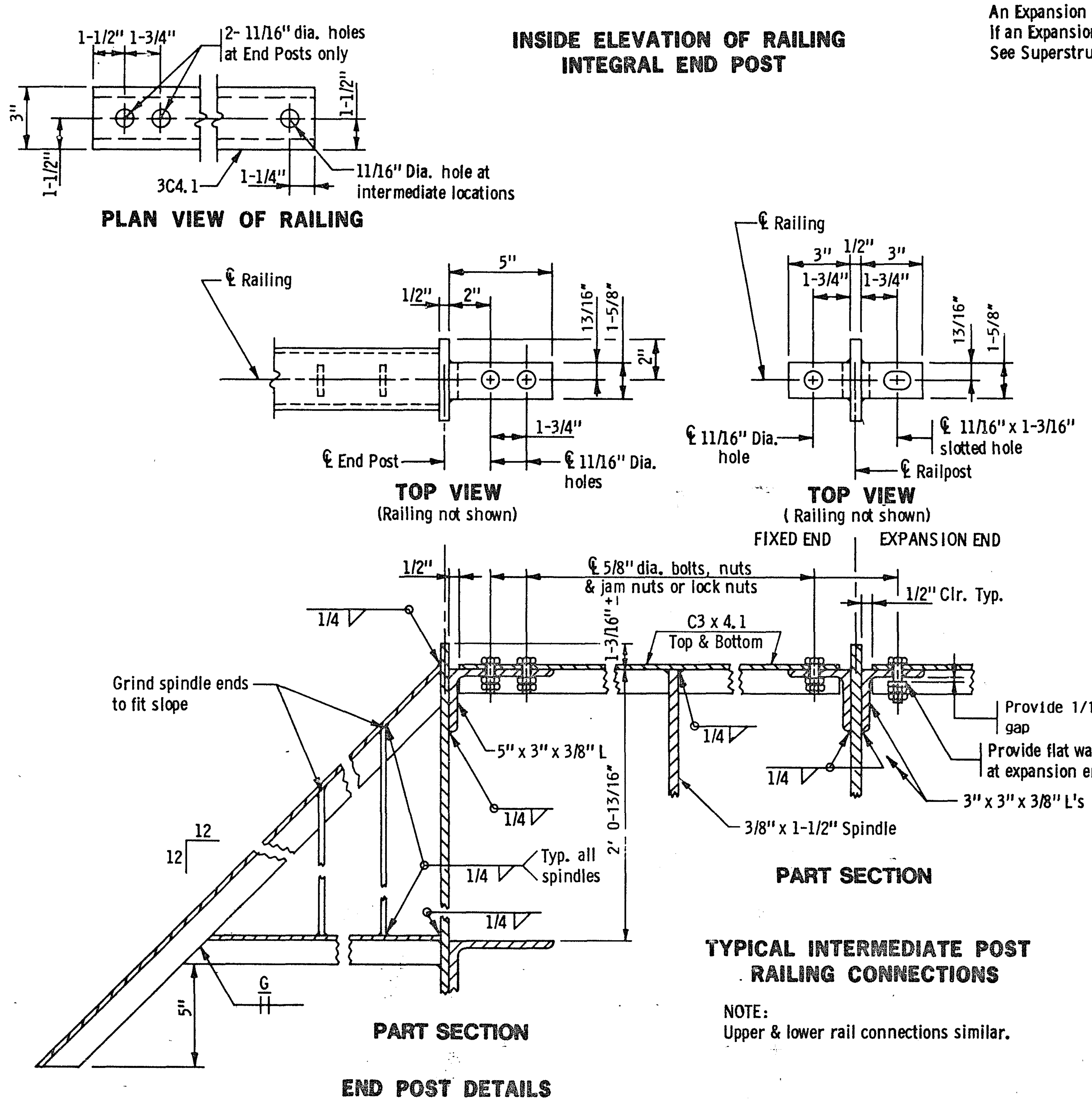




④ ATTACH RAIL ANCHORAGES TO PILE CASINGS WITH A SOLID NO. 6 GAGE COPPER WIRE WITH APPROVED TYPE METAL CLAMPS OR BRAZING.

⑤ NON STAINING GRAY, NON BITUMINOUS JOINT SEALER. JOINT SEALER SHALL CONFORM TO THE REQUIREMENTS OF FEDERAL SPEC. TT-S-230, TYPE II, SINGLE COMPONANT.





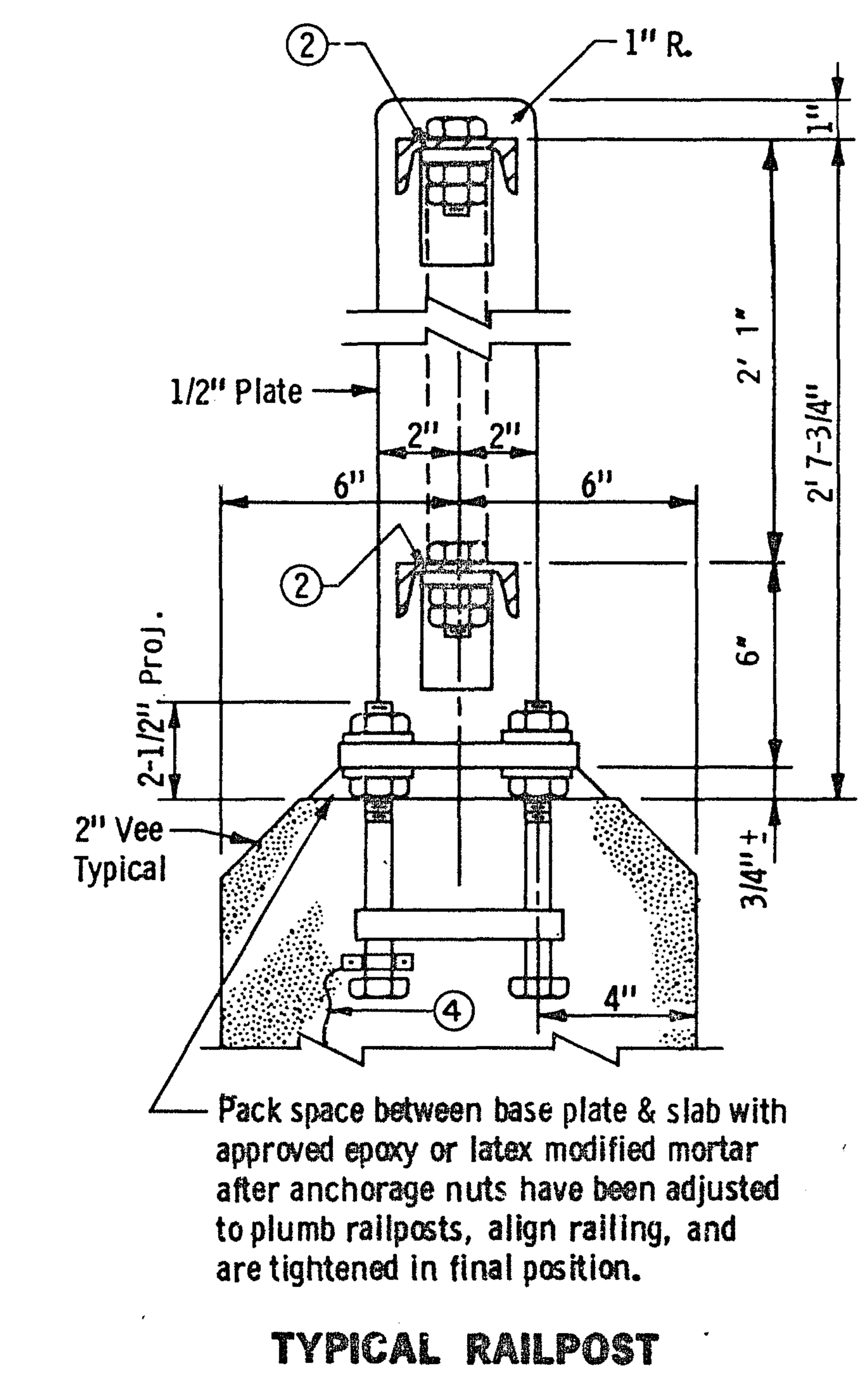
TYPICAL INTERMEDIATE POST RAILING CONNECTIONS

NOTE:
Upper & lower rail connections similar.

① See Standard Bridge Detail Sheets for light anchorage and conduit system details.

② Provide 3/32" thick nominal washer shims or equal, top and bottom of angle.

③ Based on a 8" sidewalk.



Concrete Base = 0.086 Cubic Yards Per Foot
Concrete Base = 350 Pounds Per Foot

GENERAL NOTES:

Concrete in the rail base shall be Mix No. 3Y46.

All material in the concrete base, is included in the superstructure quantities.

The guardrail connection is included in the price bid for other items.

Maximum spacing of deflection joints shall be 20' 0".

Bars marked with the suffix "E" shall be Epoxy Coated in accordance with Spec. 3301. SEE SHEET 12 FOR RAILING BAR LIST & SUMMARY OF QUANTITIES.

Length of concrete and metal railing for payment is measured between the outside faces of concrete parapet.

All railposts are to be set vertically.

Anchorages shall be accurately placed to provide correct alignment of railing. Set vertically.

All structural steel material shall comply with Spec. 3306

Galvanize bolts, nuts, and washers per Spec. 3392

Galvanize all other structural steel per Spec. 3394 after fabrication.

Price bid for metal railing includes anchorage and all material above top of concrete parapet.

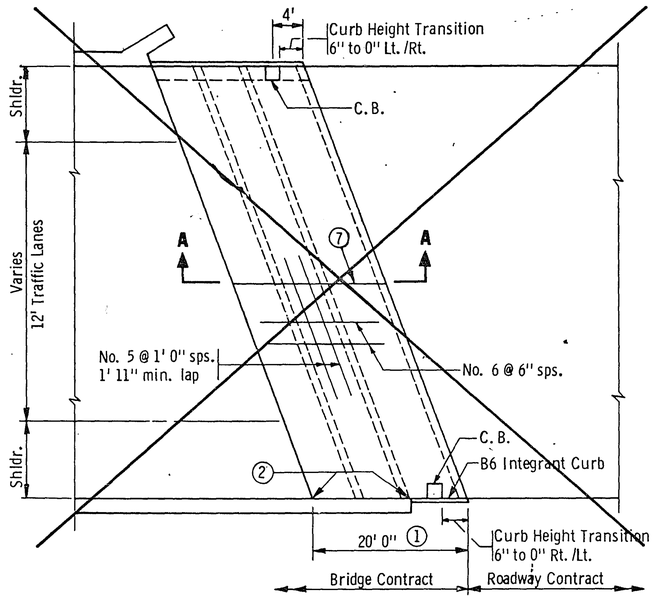
All railing members shall be flat after fabrication and galvanizing to within 1/8" in 10 ft. by mechanical means without damage to the zinc coating.

28-128

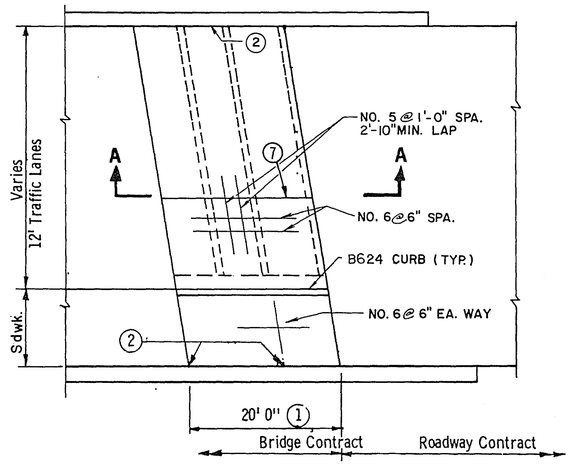
FIG. 5-397.154
Approved: September 18, 1989

SP 62-623-36

TITLE:	DES: MN/DOT	DR: MN/DOT MW	APPROVED:	Bridge No.
Type F Railing & METAL RAILING BIKEWAY RAILING WITH INTEGRAL END POST	CHK:	CHK: MLH	5-14-93	62563
	Sheet No. 14	of 20 Sheets		



PARALLEL WINGWALLS LESS THAN 14 FT. IN LENGTH

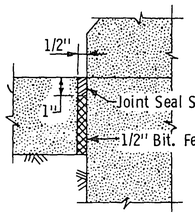


PARALLEL WINGWALLS 14 FT. AND OVER

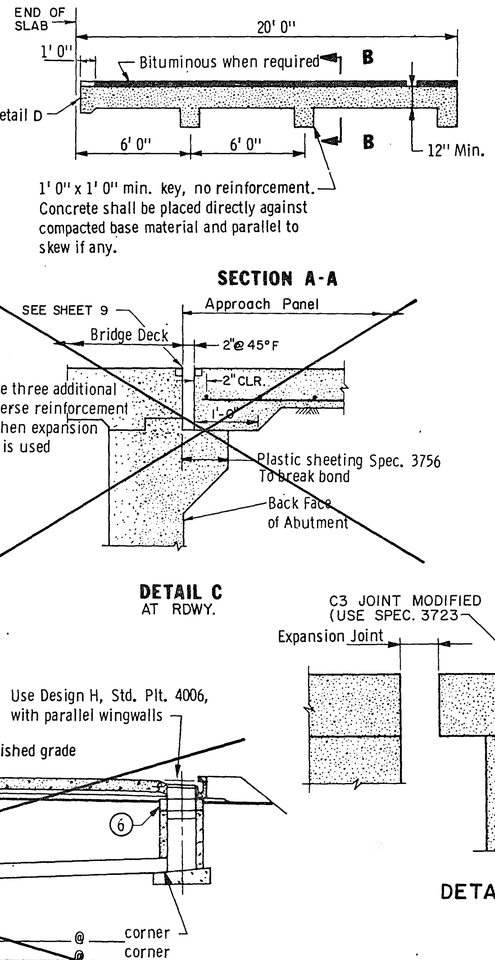
MULTI-LANE AND TWO LANE ROADWAYS

① Use No. 6 @ 6" longitudinal and No. 5 @ 1' 0" transverse reinforcement

② See Joint Detail

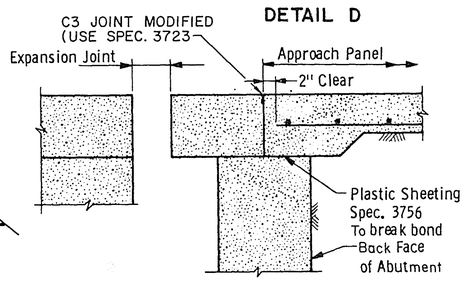


JOINT DETAIL

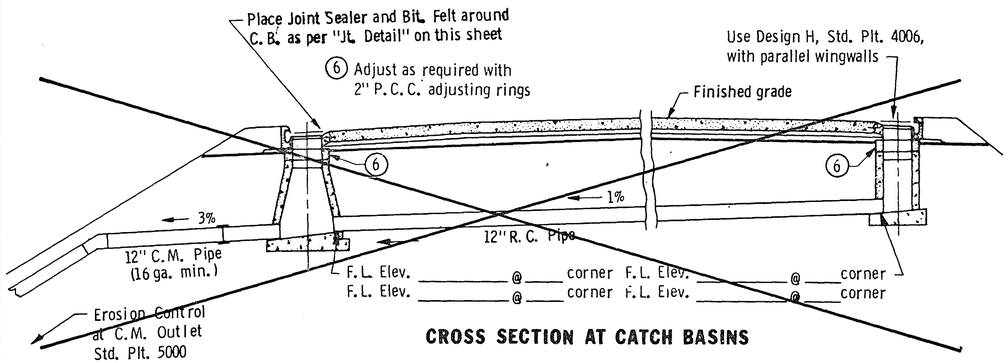


SECTION A-A

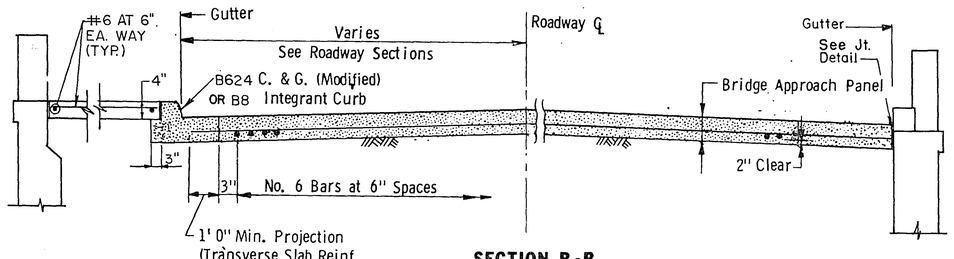
DETAIL C
AT RDWY.



DETAIL D

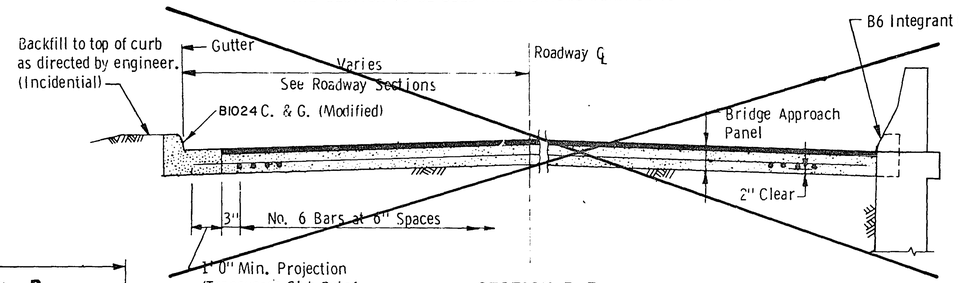


CROSS SECTION AT CATCH BASINS



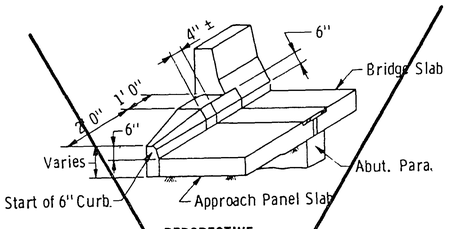
SECTION B-B
(SEE ROADWAY PLAN FOR CROSS SLOPE TRANSITION)

THIS SECTION TO BE USED WHEN BRIDGE SURFACE IS CONCRETE

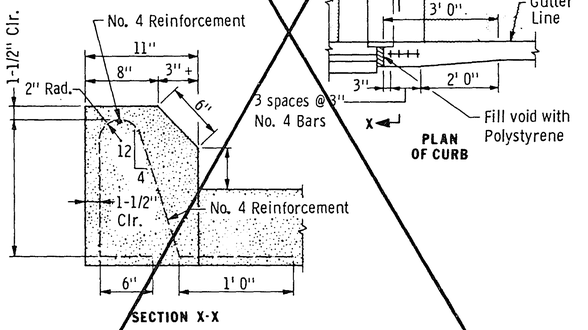


SECTION B-B
(See Roadway Cross Section)

THIS SECTION TO BE USED WHEN BRIDGE SURFACE IS BITUMINOUS



PERSPECTIVE



CURB TRANSITION DETAILS
FOR USE WHEN BRIDGE EXPANSION JOINT IS BETWEEN END OF APPROACH PANEL AND BRIDGE SLAB

The summary of quantities for approach panel is as-shown below. Any additional minor items and slight changes of quantities required shall be furnished by the contractor with no additional compensation except as noted.

ITEM	*MANUAL REFERENCE
Sodding at Pipe Culverts	Std. Plts. 9102
Riprap at CMP Outlets	Std. Plts. 3134
Metal Apron for CM Pipe	Std. Plts. 3123
Curb and Gutter	Std. Plt. 7100
Catch Basin Details	Std. Plt. 4002
Catch Basin Details	Std. Plt. 4006
Precast Concrete Base	Std. Plt. 4011
Catch Basin Frame	Std. Plt. 4129
Catch Basin Curb Box	Std. Plt. 4160
Catch Basin Grate	Std. Plt. 4151
Catch Basin Installation	Std. Plt. 7111
Metal Pipe Flume	Std. Plt. 5000
Longitudinal Joints	Std. Plt. 1140
Integrant Curbs	Std. Plt. 7000
Contraction Joint	Std. Plt. 1120
Conc. Short Cone & Adj. Ring	Std. Plt. 4010

*Specification Ref. Std. Plts. 0001 & 0002
Reinforcement shall be lapped as per Spec. 2472.3D

(3) SUMMARY OF QUANTITIES FOR BRIDGE APPROACH PANELS	
(4) Concrete Mix No. 3X42	93 Cu. Yd.
(5) Catch Basins	NOT Req'd.
Metal Apron	NOT Req'd.
Reinforcement Bars	8100 Lbs.
~~12" C.M. Pipe Drain~~	~~Lin. Ft.~~
Curb, Design B624	40 Lin. Ft.
~~12" R.C. Pipe Drain~~	~~Lin. Ft.~~
~~Sod~~	~~Sq. Yd.~~
~~Random Riprap Class "A"~~	~~Cu. Yd.~~

NOTE:
SIDEWALK & REINFORCEMENT IN SIDEWALK FOR LENGTH OF APPROACH PANEL SHALL BE INCLUDED IN PRICE BID FOR APPROACH PANEL.

(3) Quantities listed are for approach panels at both ends of bridge

Payment will be included in the single lump sum price for "Item 301.601 Bridge Approach Panels."

(4) The Volume of concrete shown is based on an average slab depth of 12" plus the volume of Sdwk., keys and sills as dimensioned. (Concrete for Curb Design B824 is not included in this quantity.)

(5) Includes all concrete work and all castings and appurtenances necessary to construct the catch basins as shown and noted.

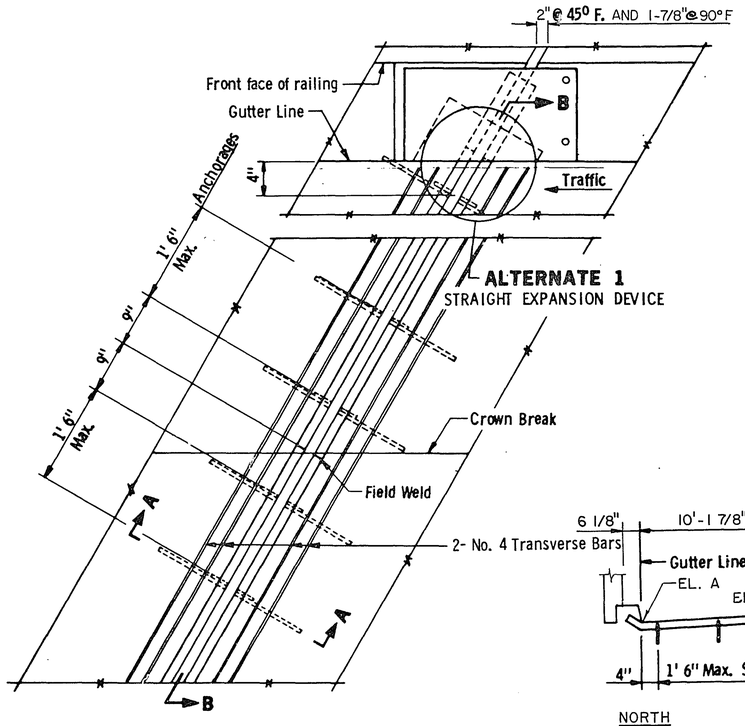
(7) Permissible L2KT longitudinal joint. See Standard Plan Sheet 5-297.221.

28-128
MODIFIED
Fig. 5-397.308

SP 62-623-36 Revised JULY 22, 1982

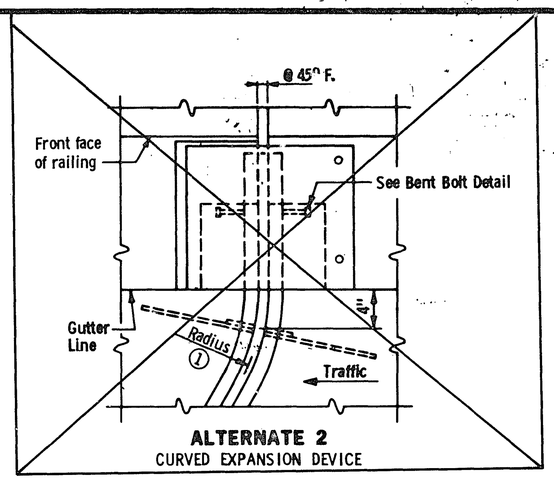
TITLE:	DES: MN/DOT MW	DR: MN/DOT MW	APPROVED: 5-14-93	Bridge No.
BRIDGE APPROACH PANEL ALL SKEWS (BITUMINOUS PAVEMENT)	CHK: MLH	CHK: MLH	Sheet No. 15 of 20 Sheets	62563

NORTHSTAR # 117

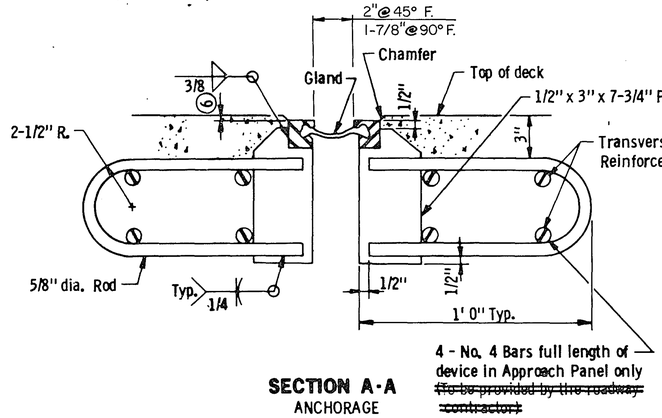


ALTERNATE 1
STRAIGHT EXPANSION DEVICE

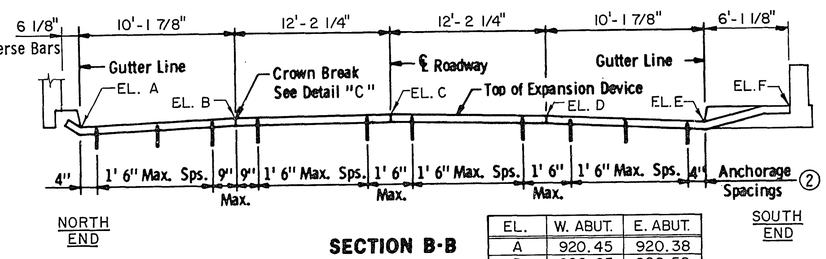
PLAN VIEW AT EXPANSION DEVICE



ALTERNATE 2
CURVED EXPANSION DEVICE

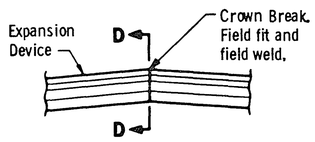


SECTION A-A
ANCHORAGE

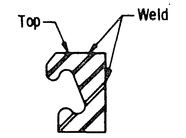


SECTION B-B

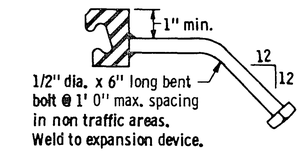
EL.	W. ABUT.	E. ABUT.
A	920.45	920.38
B	920.65	920.59
C	920.82	920.78
D	920.64	920.60
E	920.43	920.41
F	921.10	921.08



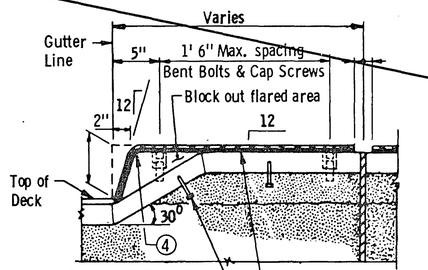
DETAIL C



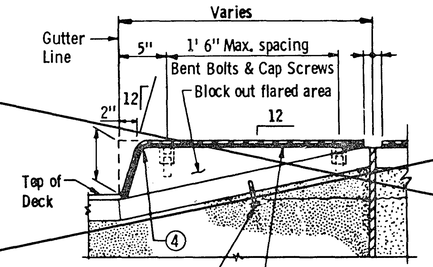
SECTION D-D



BENT BOLT DETAIL

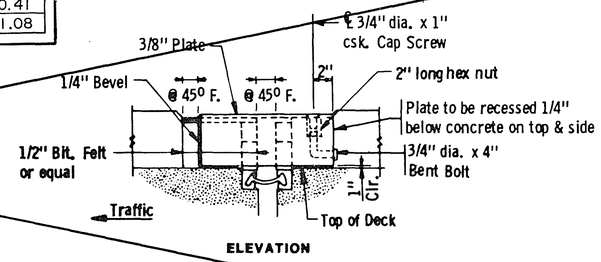


SECTION
ALTERNATE X

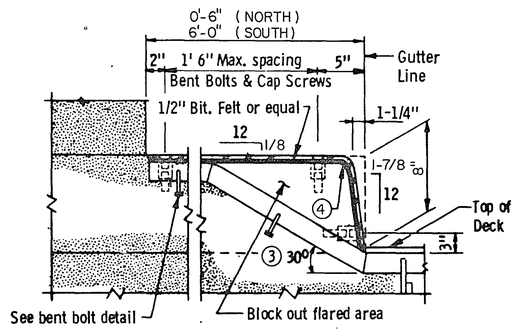


SECTION
ALTERNATE Y

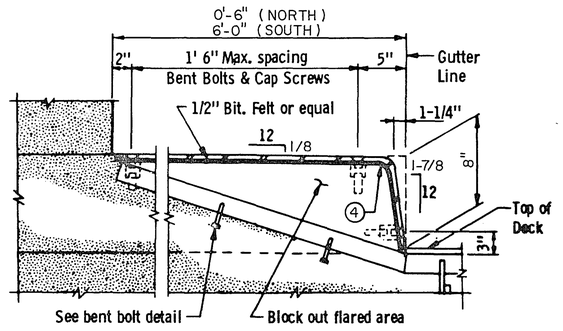
RAISED MEDIAN DETAILS



ELEVATION

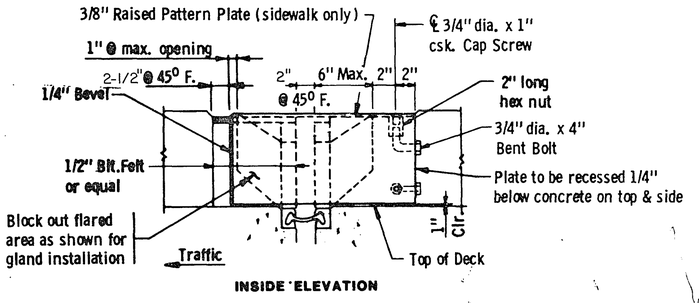


SECTION
ALTERNATE X



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 breaks in transverse profile and as otherwise required. Joints shall be close fit and welded. Repair after welding as per Spec. 2471.3L.

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 incudes the gland as shown on this sheet.~~

~~(1) Varies 18" to 24"~~

~~(2) Dimension along centerline of joint.~~

~~(3) For roadway skews 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.

28-128

MODIFIED
FIG. 5-397.630

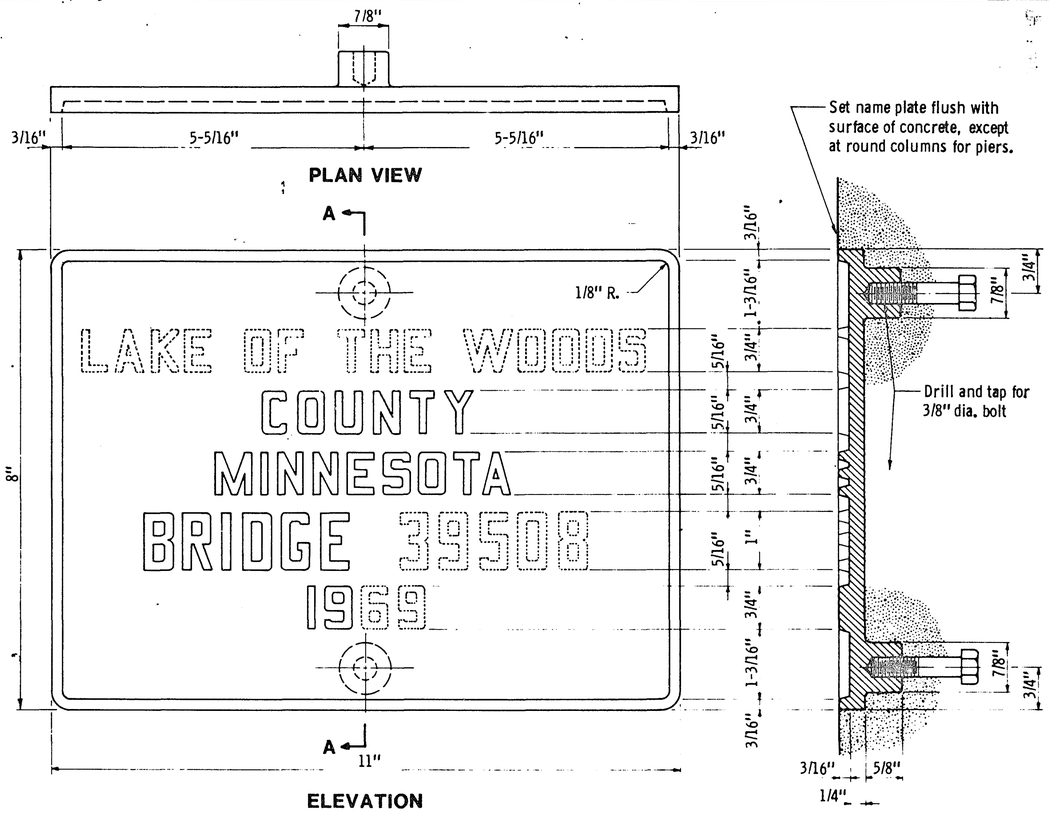
SP 62-623-36

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

TITLE: **WATERPROOF EXPANSION DEVICE WITH SIDEWALK OR RAISED MEDIAN**

DES: MN/DOT - MW	DR: MN/DOT - MW	APPROVED: 5-14-93	Bridge No.
CHK: MLH	CHK: MLH		62563
Sheet No. 16 of 20 Sheets			

17M



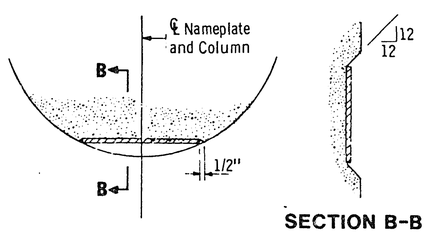
ELEVATION

SECTION A-A

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

COUNTY RAMSEY
BRIDGE 62563
YEAR 1993

LETTERS & NUMBERS FOR NAMEPLATES



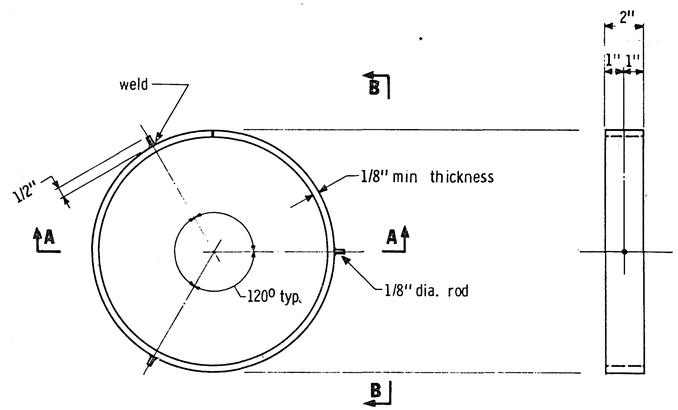
NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

SECTION B-B

NOTES:

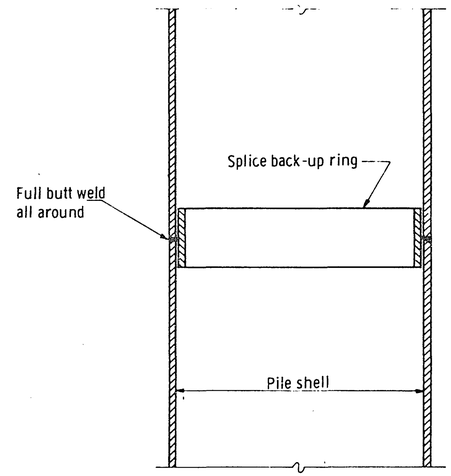
No shop drawing required.
Material shall comply with Spec. 3327
Letters and numbers shall conform to those shown.
Draft on letters and numbers shall not be more than 3" in 12".
Horizontal spacing of letters and numbers shall produce a balanced layout in proportion to spacing shown.
Top surface of letters, numbers and frames shall be burnished.
Furnish 2 steel bolts 3/8" dia. x 3" long with each plate.
All dimensions for 3/4" high letters and numbers shall be in direct proportion to those shown for the 1" high letters and numbers.

APPROVED: _____ OFFICE OF BRIDGES AND STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION BRIDGE NAMEPLATE COUNTY BRIDGES	REVISION	DETAIL NO. B103



PLAN VIEW SPLICE
(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, if they have been exposed to the atmosphere for more than 2 hours.

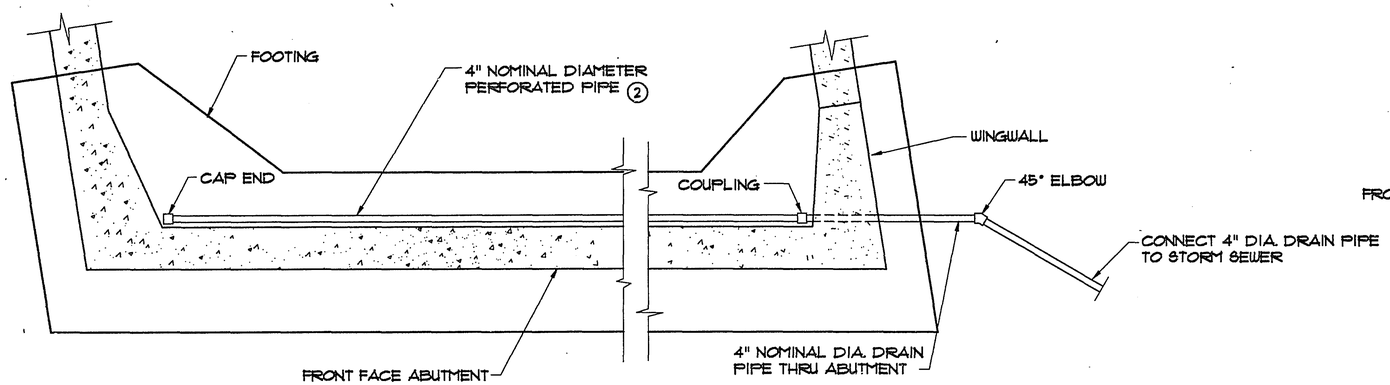
Electrodes which have become wet, soiled or damaged shall not be used.

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.

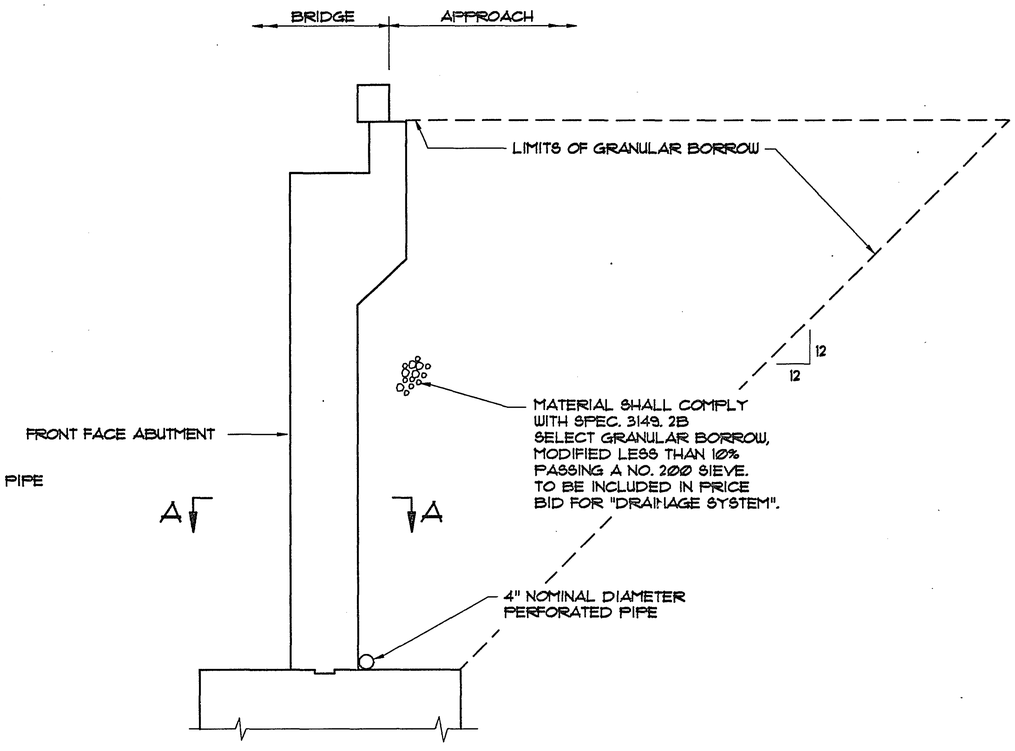
APPROVED OFFICE OF BRIDGES AND STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION PILE SPLICE CAST-IN-PLACE CONCRETE PILES	28128	DETAIL NO. B201

SP 62-623-36

TITLE: DETAILS	DES: MN/DOT	DR: MN/DOT MW	APPROVED: 5-14-93	Bridge No. 62563
	CHK:	CHK: MLH		
	Sheet No. 17 of 20 Sheets			



SECTION A-A



SECTION THRU ABUTMENT

NOTES:

(1) ALL PIPE SHALL BE AS PER SPEC. 3245.

(2) WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733, TYPE I. ATTACH TO PIPE AS PER SPEC. 2502.

SUMMARY OF QUANTITIES DRAINAGE SYSTEM

ITEM	UNIT	W. ABUT.	E. ABUT.	TOTAL
(2) 4" I.D. PERFORATED DRAIN PIPE	LIN. FT.	46'	46'	92'
4" I.D. DRAIN PIPE	LIN. FT.	24'	24'	48'
4" I.D. PIPE CAPS	EACH	1	1	2
4" I.D. 45° ELBOW	EACH	1	1	2
4" I.D. COUPLERS	EACH	1	1	2
GRANULAR BORROW (C.V.)	C.Y.	405	405	810

NOTE:

THE SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM IS AS SHOWN ABOVE.

ANY ADDITIONAL MINOR ITEMS & SLIGHT CHANGES OF QUANTITIES REQ'D. SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION. PAYMENT WILL BE INCLUDED IN A SINGLE LUMP SUM PRICE FOR ITEM 0502. 603 DRAINAGE SYSTEM, TYPE B910.

28-128

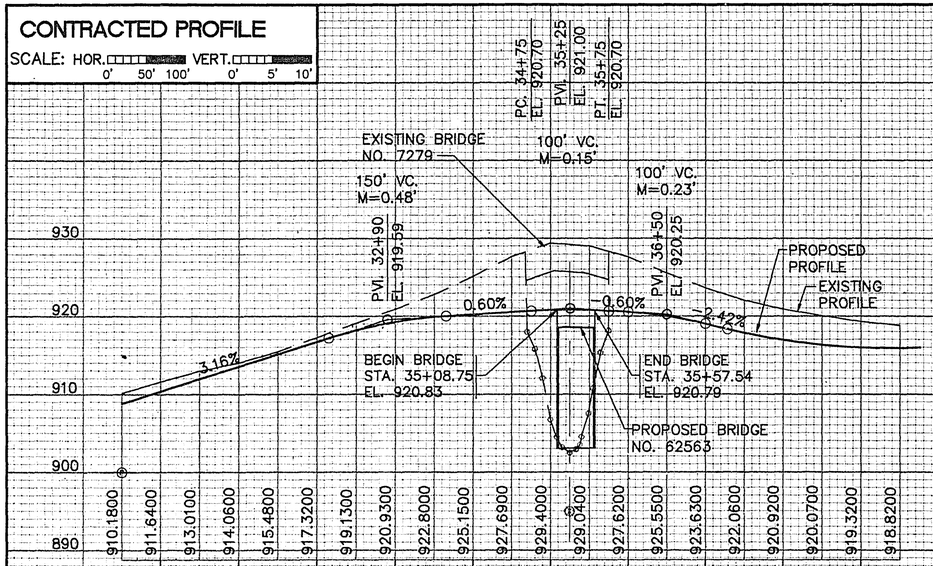
APPROVED: AUGUST 4, 1992 OFFICE OF BRIDGES AND STRUCTURES	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION DRAINAGE SYSTEM FOR HIGH ABUTMENTS	REVISION	DETAIL NO. MOD. B910

S.P. 62-623-36

DETAILS	DES: MN/DOT MW	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
	CHK: MLH	CHK: MLH		
	Sheet No. 18 of 20 Sheets			

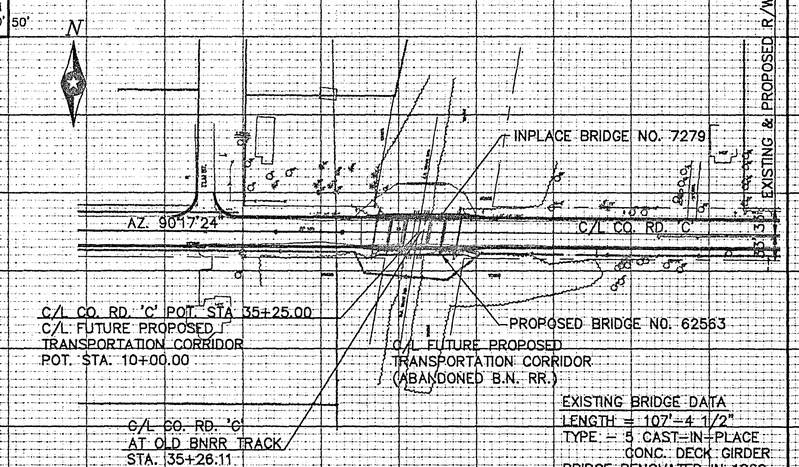
CONTRACTED PROFILE

SCALE: HOR. 0' 50' 100' VERT. 0' 5' 10'



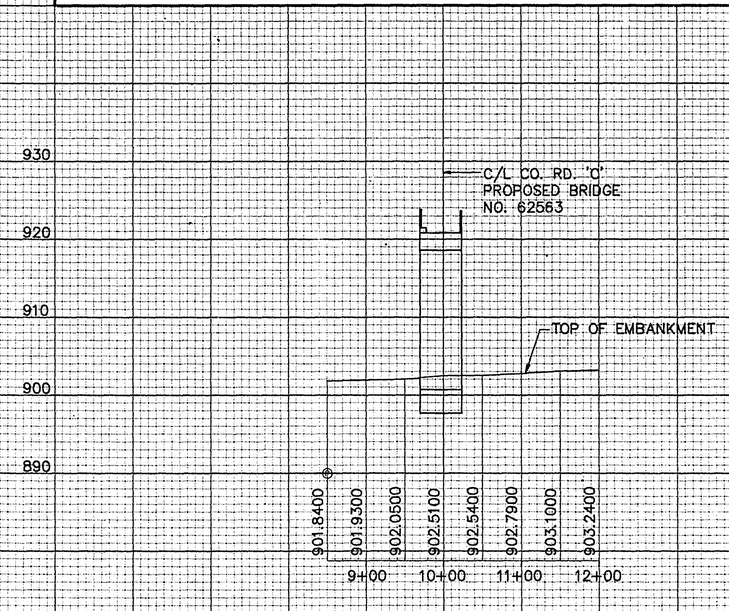
PLAT

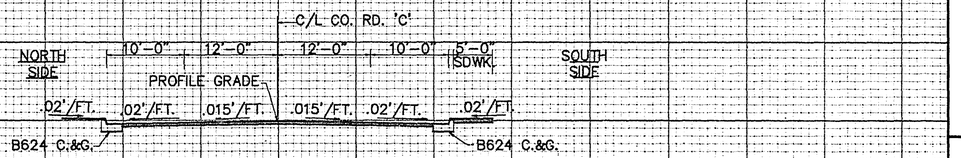
SCALE: 0' 100' 50'



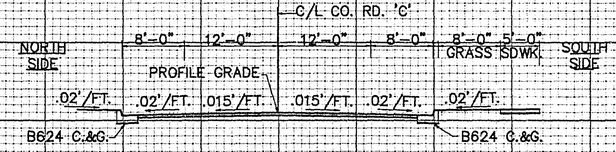
TYPICAL SECTIONS AND PERTINENT DATA

SCALES AS SHOWN

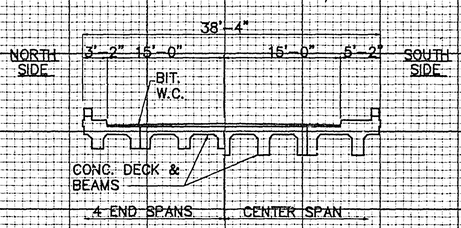




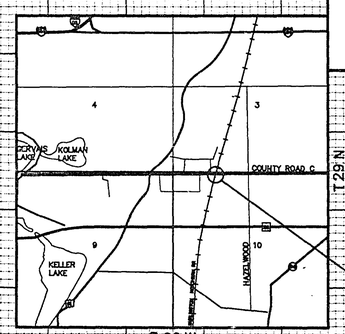
TYPICAL SECTION CO. RD. 'C' TO END OF WINGWALLS



TYPICAL SECTION CO. RD. 'C' PAST END OF WINGWALLS



SECTION AT CO. RD. 'C' (EXISTING)



INDEX MAP

Federal 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 _____

Stream or ditch designation _____

Drainage area _____

Max. flood on record _____ Design flood(____yr. freq.) _____ C.F.S.

Max. observed highwater elev. _____ Design highwater elev. _____

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

Low superstructure at or above elevation _____

Flowline elevation _____ Skew angle _____

Waterway area req'd. below elevation _____ = _____ SQ. FT. at RT. 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 Department of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE _____

BORINGS TAKEN BY GEOTECHNICAL ENGINEERING CORPORATION DECEMBER 1989. SEE BRIDGE SURVEY PLAN & PROFLIE SHEET.

Bridge survey sheets made from: SHORT-ELLIOTT-HENDRICKSON, INC. SURVEY DATA

Bench mark elevation 889.59 (M.S.L. 1929 Adj.)

Location: TOP NE. BOLT ON TRAFFIC SIGNAL NE. COR. T.H. 61 AND CO. RD. C

28-128

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT _____ ON CO. RD. 'C'

PROPOSED BRIDGE LOCATED 0.55 MILES EAST OF T.H. 61

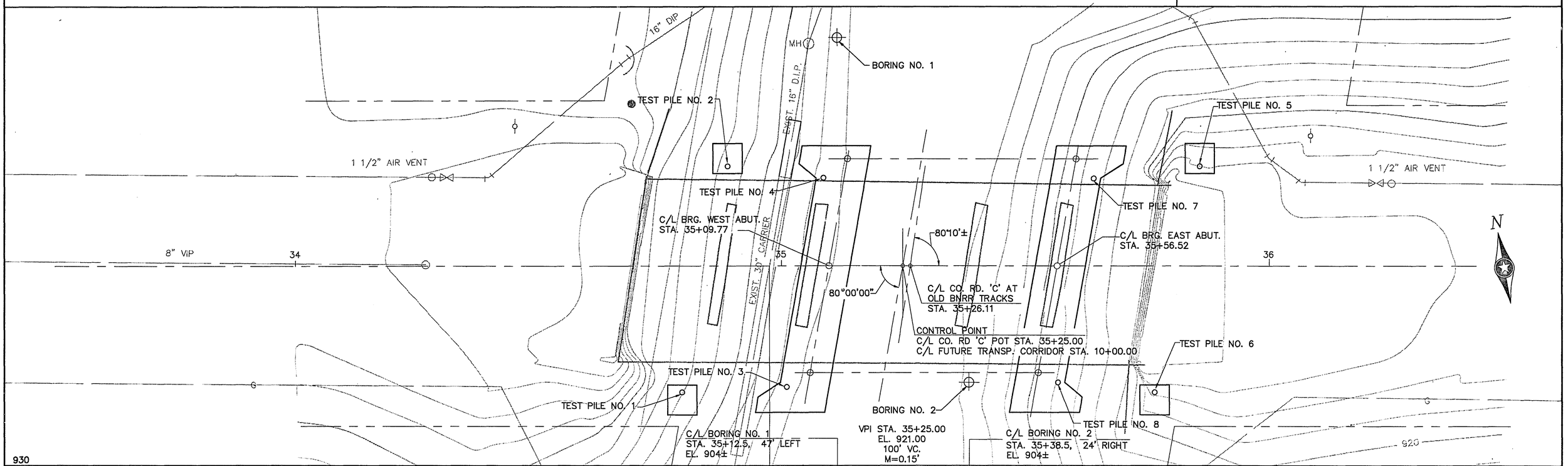
SEC. 10 TWP. 29 N R 22 W

CITY MAPLEWOOD COUNTY RAMSEY

5-14-93 BRIDGE NO. 62563

Area No. Job No. State Proj. No. S.P. 62-623-36

01061BS1



LOG OF BORING NO. 1

IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.
NO SAMPLES TO 5' (FROZEN TO ABOUT 2')					
		27	M	SS	14
POORLY GRADED SAND, FINE TO MEDIUM	COARSE ALLUVIUM	19	M	SS	14
GRAINED, BROWN, MOIST TO ABOUT 13'-THEN WET, (SP)		12	W	SS	12
		12	W	SS	12
		22	W	SS	10
		30	W	SS	12
SILTY SAND, MOSTLY FINE GRAINED, BROWN, SOME LENSES OF SAND AND CLAYEY SAND, (SM)	TILL	27	W	SS	9
		27	W	SS	12
		19	W	SS	10
POORLY GRADED SAND W/ SILT & GRAVEL, FINE TO MEDIUM GRAINED, BROWN, COBBLES AND/OR BOULDERS AT ABOUT 50' TO 51', (SP-SM)	COARSE ALLUVIUM	65/9"	W	SS	8
		43	W	SS	5
POORLY GRADED SAND W/ GRAVEL, COARSE GRAINED, BROWN, WET,(SP)		18*	W	SS	12
END OF BORING		18*			12

* N-VALUES INFLUENCED BY CAVING BELOW 58-1/2'. SOIL PROBABLY FIRMER THAN N-VALUES INDICATE.

LOG OF BORING NO. 2

IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	L.L. / P.L.	qc
NO SAMPLES TO 5' (FROZEN TO ABOUT 2')							
		8	M	SS	10		
POORLY GRADED SAND, FINE TO MEDIUM	COARSE ALLUVIUM	10	M	SS	14		SA
GRAINED, BROWN, MOIST TO ABOUT 13'-THEN WET, (SP)		8	W	SS	15		
		16	W	SS	9		
		19	W	SS	10		
		20	W	SS	15		
SILTY SAND, MOSTLY FINE GRAINED, BROWN, SOME LENSES OF SAND AND CLAYEY SAND, (SM)	TILL	32	W	SS	8	17 / 12	SA
		32	W	SS	10		
		21	W	SS	9		
		24/9"	W	SS	14		
		34	W	SS	5		
POORLY GRADED SAND, MOSTLY COARSE GRAINED, BROWN, WET,(SP)	COURSE ALLUVIUM	13	W	SS	7		
END OF BORING							

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

28-128

BRIDGE SURVEY PLAN AND PROFILE	DES: MW	DR: MW	APPROVED: 5-14-93	Bridge No. 62563
	CHK: MLH	CHK: MLH		
State Project No. S.P.62-623-36	Sheet No. 20 of 20 Sheets			

01061BS2

ESTIMATED QUANTITIES FOR ENTIRE PROJECT							
ITEM NO.	DESCRIPTION	UNIT	ABUTS.	PIERS	SUPER.	GEN'L.	TOTAL
2401.501	CONCRETE, MIX NO. 1C9	CU. YD.	10	—	—	—	10
2401.501	CONCRETE, MIX NO. 1A6	CU. YD.	20	—	—	—	20
2401.501	CONCRETE, MIX NO. 3Y60	CU. YD.	—	—	42	—	42
2401.501	CONCRETE, MIX NO. 3Y6	CU. YD.	59	41	109	—	209
2401.541	REINFORCEMENT BARS	LB.	5,366	—	18,387	—	23,753
2401.542	STEEL FABRIC	LB.	—	1,600	—	—	1,600
2402.521	STRUCTURAL STEEL	LB.	—	38,450	—	—	38,450
2402.577	STANDARD NAME PLATES	EACH	—	—	—	1	1
2402.583	ORNAMENTAL METAL RAILING	LIN. FT.	—	—	215	—	215
2433.501	LUMP SUM REMOVAL	LUMP SUM	—	—	—	1	1
2433.516	ANCHORAGE - IN PLACE	EACH	24	128	54	—	206
2451.501	CLASS DE EXCAVATION	CU. YD.	200	—	—	—	200
2481.501	THREE-PLY JOINT WATERPROOFING	LIN. FT.	50	—	—	—	50

NOTES:

1. The provisions of Par. 1404 (M.H.D. Specifications) shall not apply to Item 2401.501, Concrete, Mix No. 1C9 or to Item 2451.501, Class DE Excavation.
2. ¼" Bituminous Felt for new beam seats on abutments and on piers, conforming to M.H.D. 3701; 1" Preformed Expansion Joint Filler over Pier 4, conforming to M.H.D. 3702; and ¼" Preformed Expansion Joint Filler over Piers 2, 3 and 5, and between new concrete and inside faces of existing fascia beams, conforming to M.H.D. 3702; shall all be included for payment with Item 2401.501, Concrete, Mix No. 3Y6.
3. Cork for expansion joints in parapets, conforming to M.H.D. 3702, shall be included for payment with Item 2401.501, Concrete, Mix No. 3Y60.
4. ⅛" Sheet Lead for seats under "I" sections on top of piers, conforming to M.H.D. 3333, shall be measured by weight and included for payment with Item 2402.521, Structural Steel.
5. The approximate amounts of materials described in Notes 2, 3, and 4 above, are tabulated on Sh. 3, for information only.
6. The Standard Name Plate of Item 2402.577 is to be furnished and installed by the contractor.
7. For the scope of Item 2433.501, Lump Sum Removal, see the Special Provisions.
8. For materials to be included for payment with Item 2402.583, Ornamental Metal Railing, see Sh. 5.

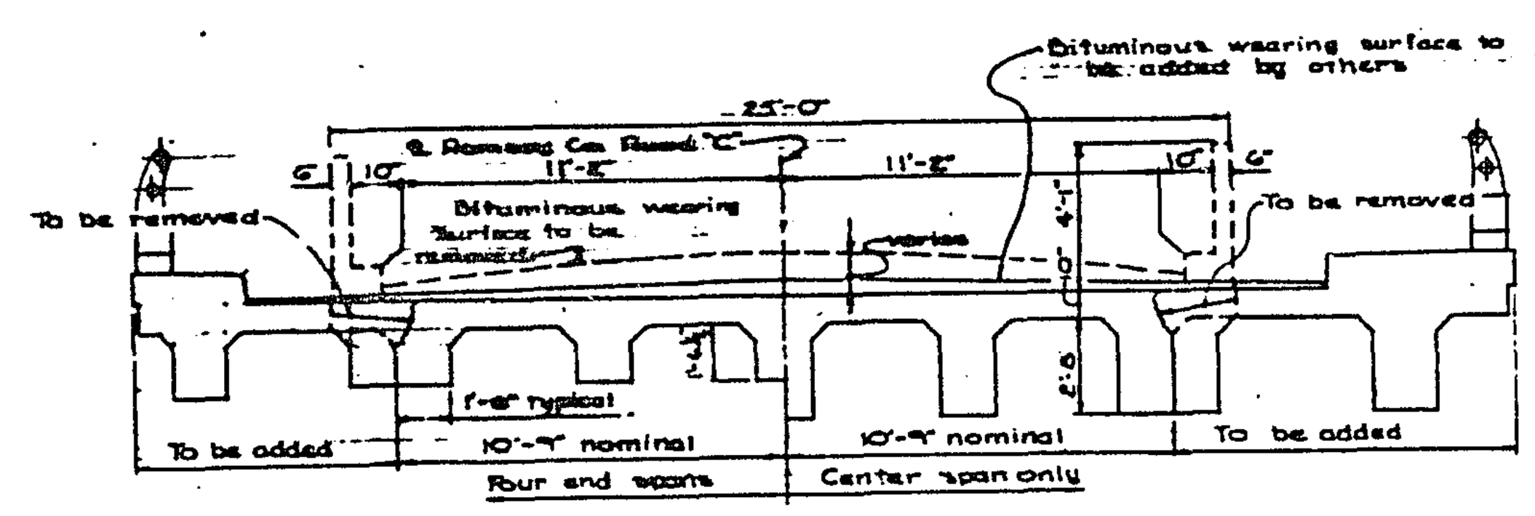
GENERAL NOTES

SCOPE OF PROJECT:
1. Extension of all four wings of existing abutments.
2. Addition of encased structural steel cap beams on all four piers.
3. Removal of existing bituminous wearing surface, curbs, parapets.
4. Addition of new reinforced concrete beams, slabs, curb, sidewalk, parapets, railings.

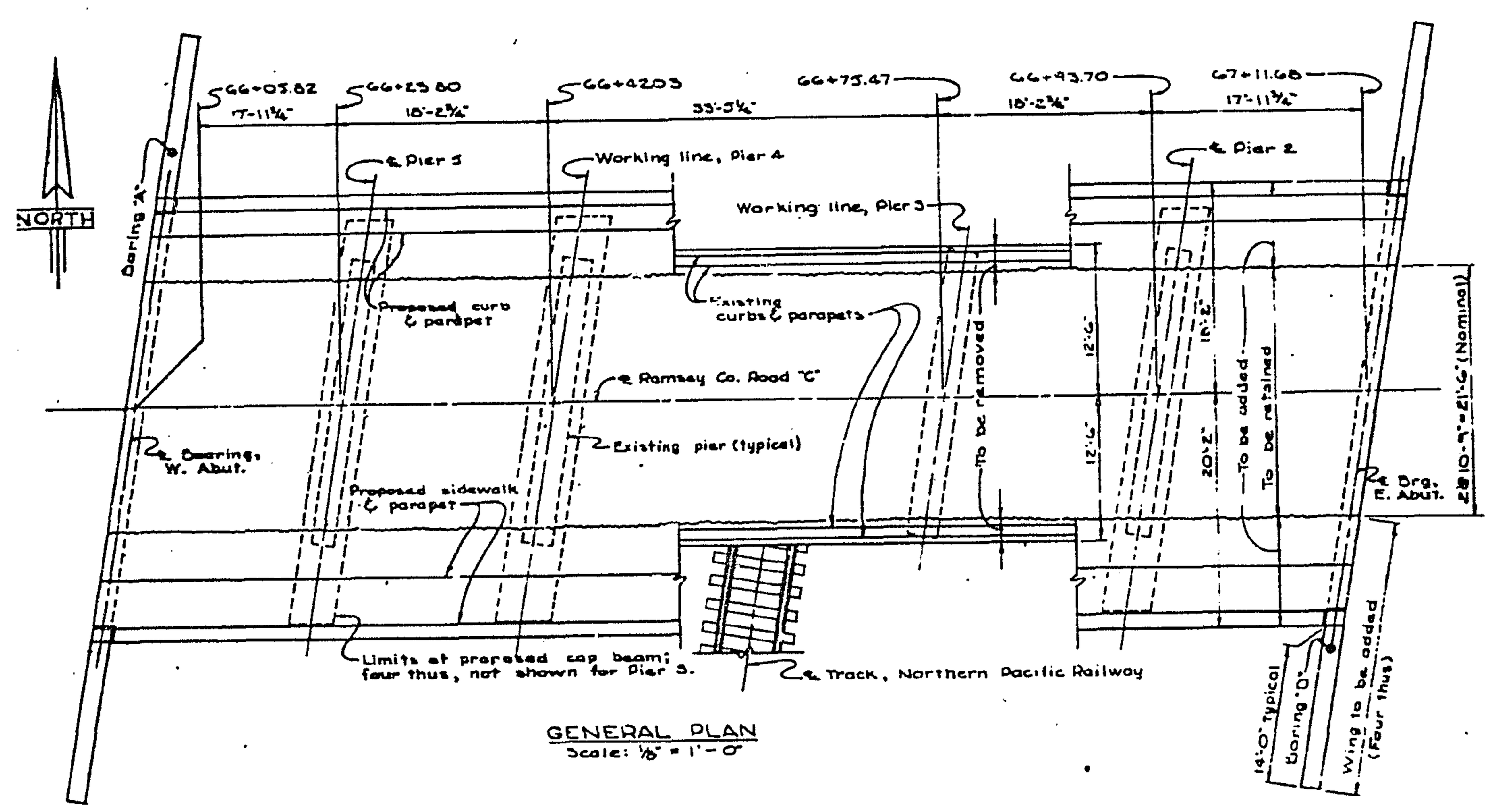
DESIGN SPECIFICATIONS: "Standard Specifications for Highway Bridges," American Association of State Highway Officials, 1957.

DESIGN DATA:
1. Live load H20-S16-44.
2. Unit stresses
   - a. Structural concrete
     - Ultimate, f'c = 4500 psi (n=8)
     - Compression, fc = 1720 psi
     - Bearing, fb = 525 psi
   - b. Structural steel
     - Bending, fs = 18,000 psi
     - Shear, fv = 11,000 psi
   - c. Reinforcing steel
     - Tension, fs = 20,000 psi
   - d. Rivet steel
     - Bearing, fb = 27,000 psi
     - Shear, fv = 13,500 psi
   - e. Welded wire fabric (not used for computed stresses)

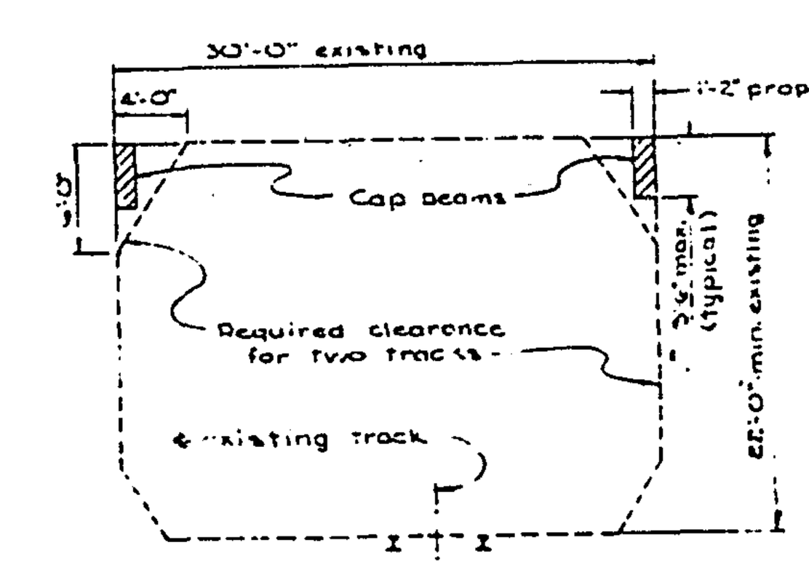
CONSTRUCTION SPECIFICATIONS: "Specifications for Highway Construction," Minnesota Department of Highways, dated May 1, 1959, and submitted for approval by the Division Engineer of the Bureau of Public Roads on March 26, 1959; supplemented by the Special Provisions.



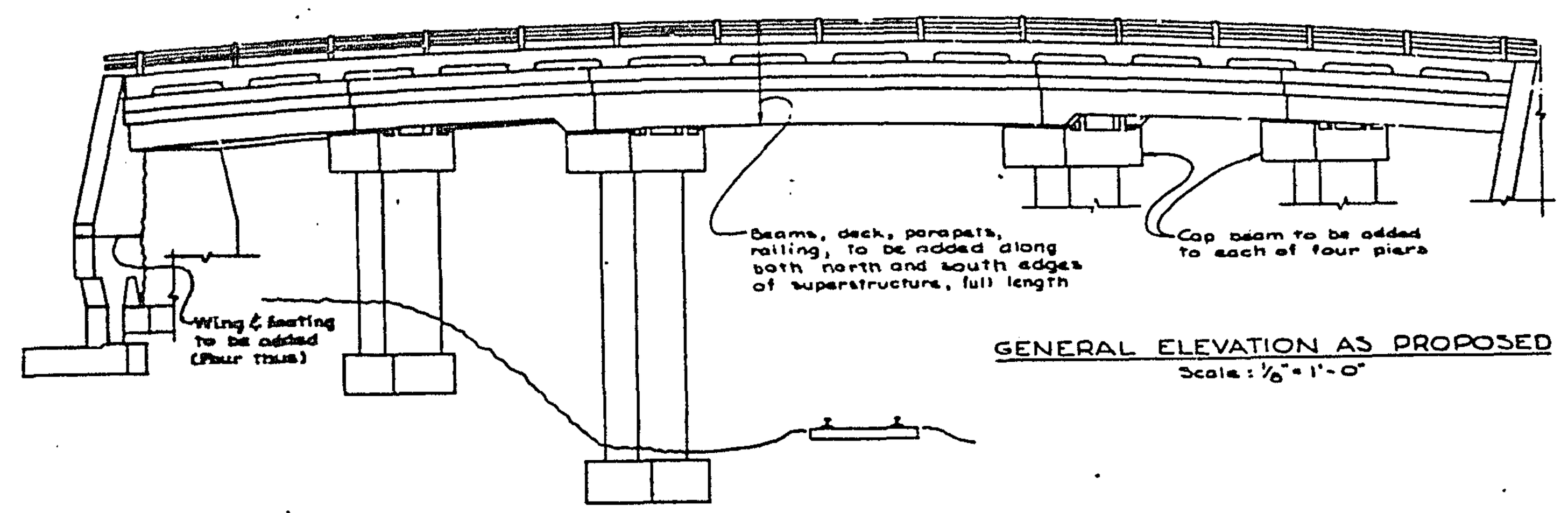
TYPICAL SECTION
Scale: ¼" = 1'-0"



GENERAL PLAN
Scale: ⅛" = 1'-0"



CLEARANCE AS PROPOSED
Scale: ⅛" = 1'-0"



GENERAL ELEVATION AS PROPOSED
Scale: ⅛" = 1'-0"

DESIGNED BY
TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES, INC.
ENGINEERS AND ARCHITECTS
ST. PAUL MINNESOTA

COUNTY ROAD "C"
RAMSEY COUNTY, MINNESOTA

BRIDGE NO. 7279
C.S.A.H. 23
OVER N.P. RY. TRACKS NEAR C.S.A.H. 65
WIDENING FROM ... TO ... ROADWAY
SEC. ... TWP. 29N R 22W
MAPLEWOOD TWP. RAMSEY CO.

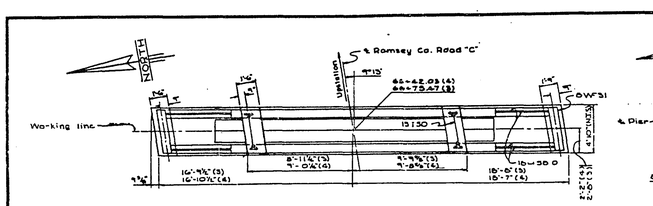
GENERAL NOTES, GENERAL PLAN, ESTIMATED QUANTITIES

MICROFILMED RAMSEY CO. B.J.
APPROVED 7-28-60
B.C. [signature]
BRIDGE ENGINEER

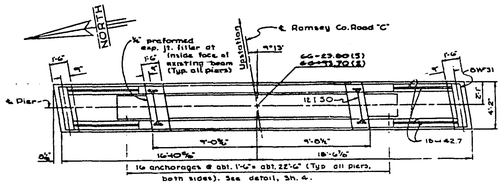
S.A.P. No. 62-623-01 (C.S.A.H. 23) SHEET NO. 2 OF 7 SHEETS 7279
6852

28-128

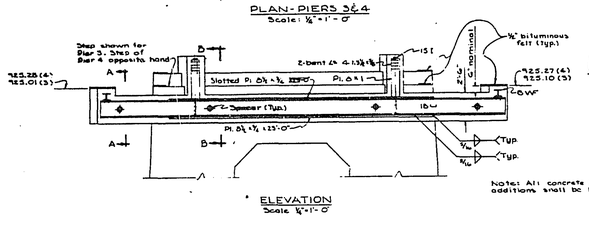
EXISTING BRIDGE (FOR CONTRACTOR INFORMATION)	DES: — CHK: —	DR: — CHK: —	APPROVED: 5-14-93	Bridge No. 62563
	Sheet No. 20A of 20 Sheets			



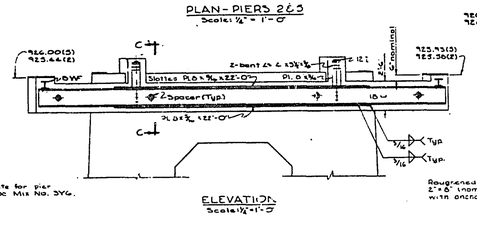
PLAN-PIERS 3&4
Scale: ½"=1'-0"



PLAN-PIERS 2&3
Scale: ½"=1'-0"

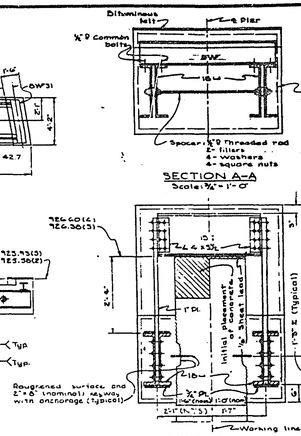


ELEVATION
Scale ½"=1'-0"



ELEVATION
Scale: ½"=1'-0"

Notes: All concrete for pier additions shall be Mix No. 3Y6.

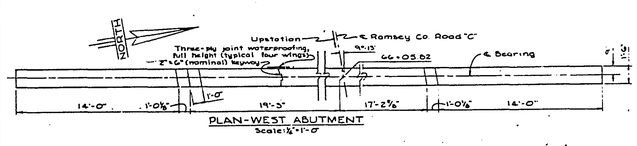


SECTION A-A
Scale: ¾"=1'-0"

Rivet diameter ¾". For field connections ⅞"ø H.S. bolts may be substituted wherever desired, for the shop rivets shown.

SECTION B-B
Scale: ¾"=1'-0"

SECTION C-C
Scale: ¾"=1'-0"

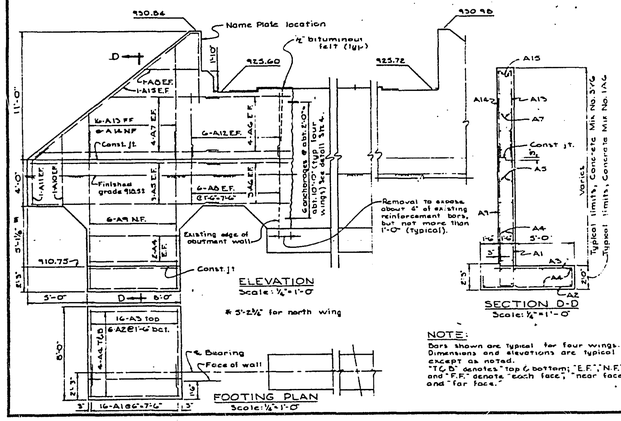


PLAN-WEST ABUTMENT
Scale: ½"=1'-0"

PLAN-EAST ABUTMENT
Scale: ½"=1'-0"

INCIDENTAL MATERIALS

1. ½" Bituminous Felt, abt. 120 sq. ft.
2. 1" Preformed Exp. Jt. Filler, abt. 40 sq. ft.
3. ½" Preformed Exp. Jt. Filler, abt. 183 sq. ft.
4. ¾" Cork (parapets), abt. 6 l.f.ft.; 1"Cork (parapets), abt. 2 sq.ft.
5. ⅛" Sheet Lead, abt. 70 lb. (See Notes, Sh. 2.)



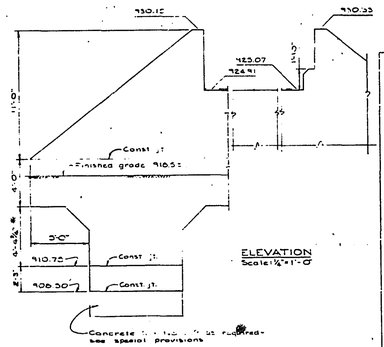
ELEVATION
Scale: ½"=1'-0"

* 5'-2⅝" for north wing

SECTION D-D
Scale: ½"=1'-0"

FOOTING PLAN
Scale: ½"=1'-0"

NOTE:
Bars shown are typical for four wings. Dimensions and elevations are typical except as noted.
"T.&B." denotes "top & bottom"; "E.F."; "N.F."; and "F.F." denote "each face"; "near face"; and "far face."



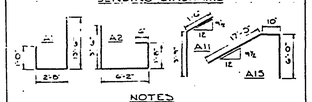
ELEVATION
Scale: ½"=1'-0"

* 4'-7" for south wing

BILL OF REINFORCEMENT BARS (ABUTMENTS)

MARK	SIZE	LENGTH	SHAPE	NUMBER	WEIGHT
A 1	7	6'-10"	Bent	64	3202
A 2	4	11'-7"	Bent	24	184
A 3	6	6'-0"	Str.	64	625
A 4	4	7'-8"		48	246
A 5	4	16'-6"		24	265
A 6	4	7'-3"		36	271
A 7	4	Note 1		Note E	267
A 8	4	5'-0"		36	217
A 9	4	10'-0"		24	160
A10	4	6'-0"	Str.	8	32
A11	4	5'-3"	Bent	8	28
A12	4	3'-0"	Str.	48	176
A13	5	Note 1	Str.	Note E	453
A14	6	Note 1	Str.	Note E	109
A15	6	23'-9"	Bent	8	127

BENDING DIAGRAMS



NOTES
1. Lengths: A7, varies 5'-6" to 10'-6", increment 2'-0"
A13, varies 4'-0" to 9'-7½", increment 4½"
A14, varies 4'-0" to 9'-7½", increment 1'-1½"
2. Numbers: A7, 8 series of 4
A13, 4 series of 16
A14, 4 series of 6

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ENGINEERS AND ARCHITECTS
ST. PAUL MINNESOTA

COUNTY ROAD "C"
RAMSEY COUNTY, MINNESOTA

BRIDGE NO. 7279
WIDENING FROM 22'-2" TO 30'-0" ROADWAY

SUBSTRUCTURE

APPROVED 7-20-60

SHEET NO. 3 OF 7 SHEETS | 7279
6852

S.A.P. No. 62-623-01

28-128

EXISTING BRIDGE (FOR CONTRACTOR INFORMATION)	DES: —— DR: —— CHK: —— CHK: —— APPROVED: 5-14-93	Bridge No. 62563
	Sheet No. 20B of 20 Sheets	