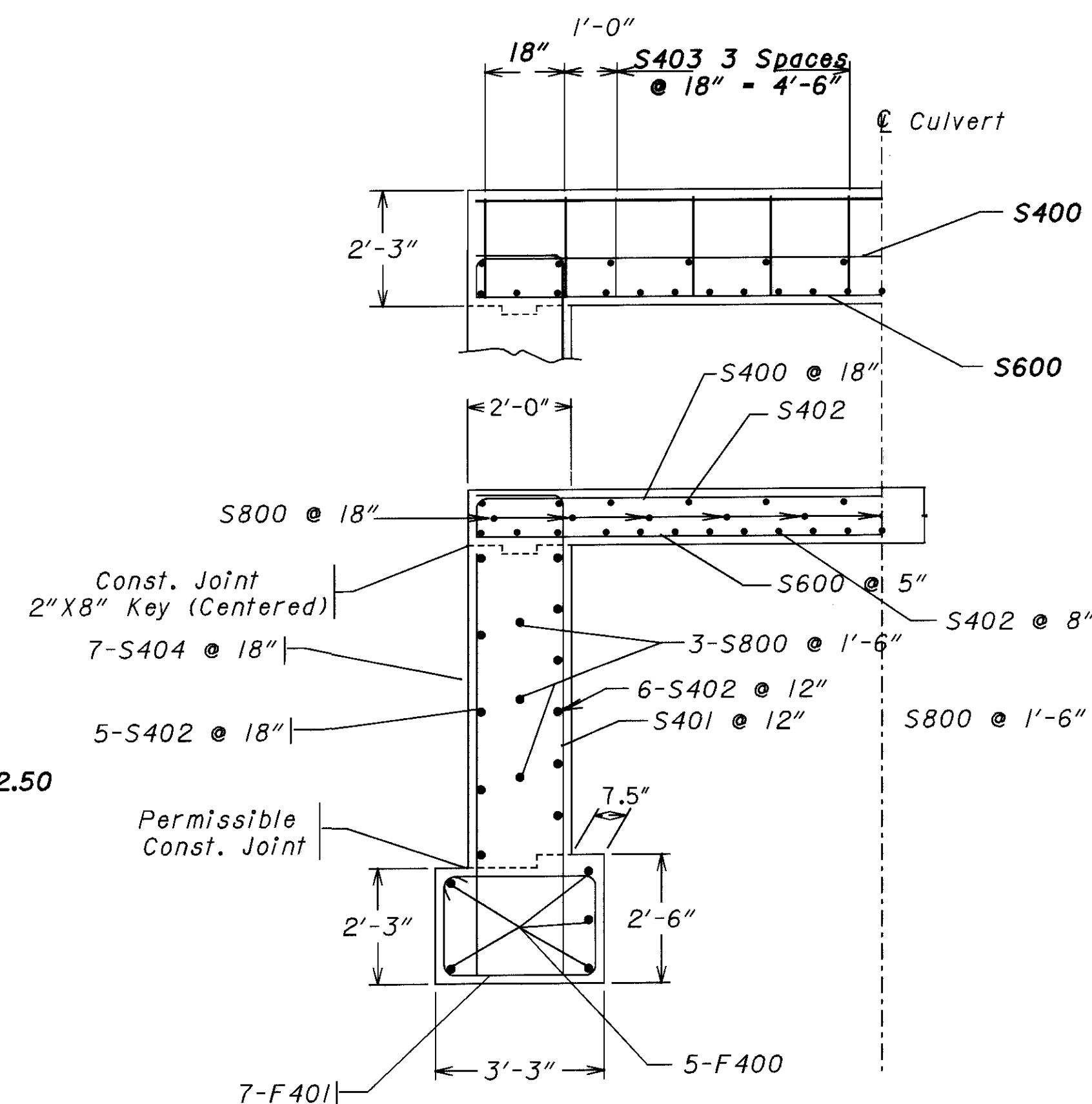
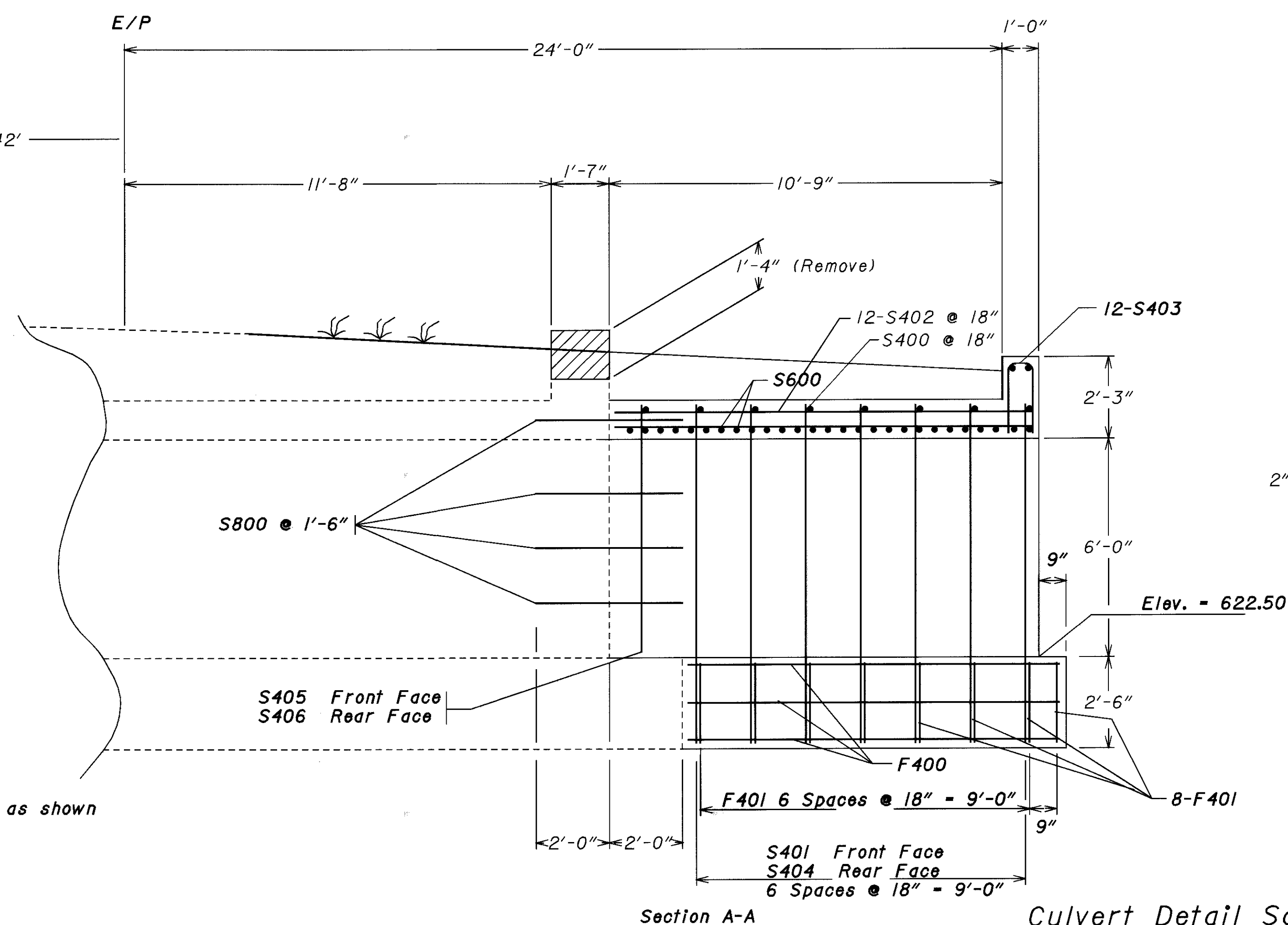
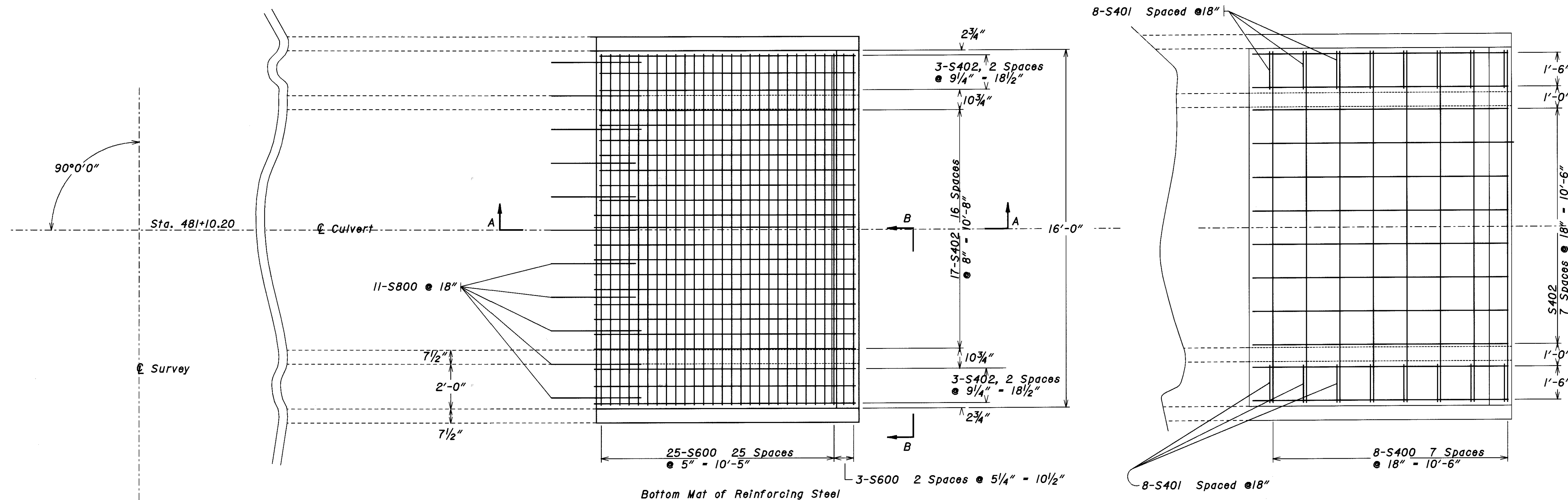


SANDUSKY COUNTY
WASHINGTON TOWNSHIP

CULVERT EXTENSIONS AT NINEMILE CREEK (SAN-20-0911) AND MUDDY CREEK TRIBUTARY (SAN-20-0970), WILL INCLUDE SAFETY GRADING AND DITCH RELOCATION. THE PROJECT ALSO INCLUDES REPLACING THE BRIDGE OVER MUDDY CREEK (SAN-20-1035), AND ADJUSTING THE VERTICAL CURVE AT THE BRIDGE.



1:/projects/sandusky/020224.00/San-20-0911/dgn/sd001r-st.dgn



Note: For S600 cover = 3" Clear (min.)
For S800 the rebar should be centered as shown
otherwise cover = 2" clear (min.)

Culvert Detail San-20-9.11

STRUCTURE DETAIL
BRIDGE NO. SAN-20-9.11

SAN-20-9.11

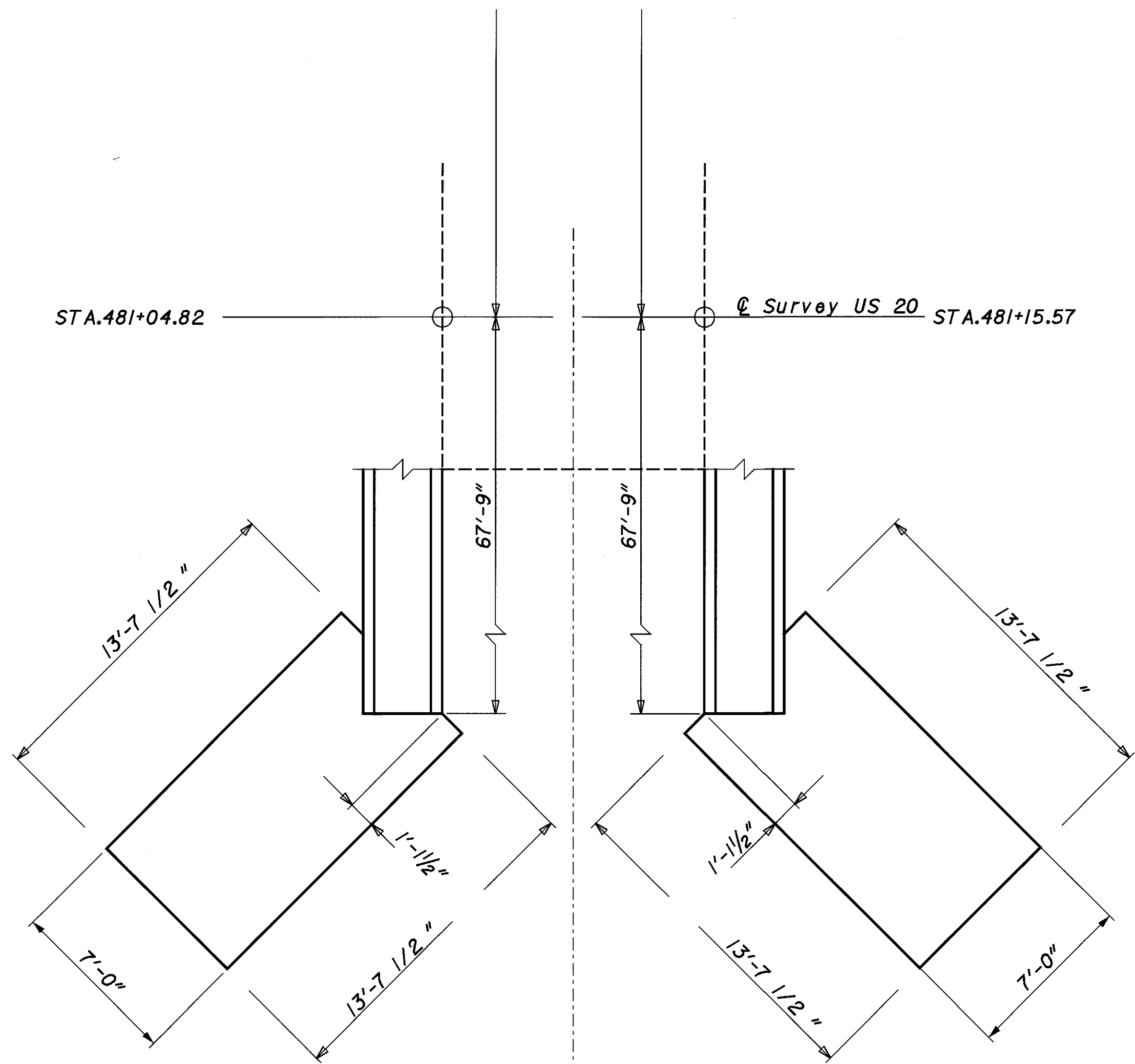
1/6

40
67

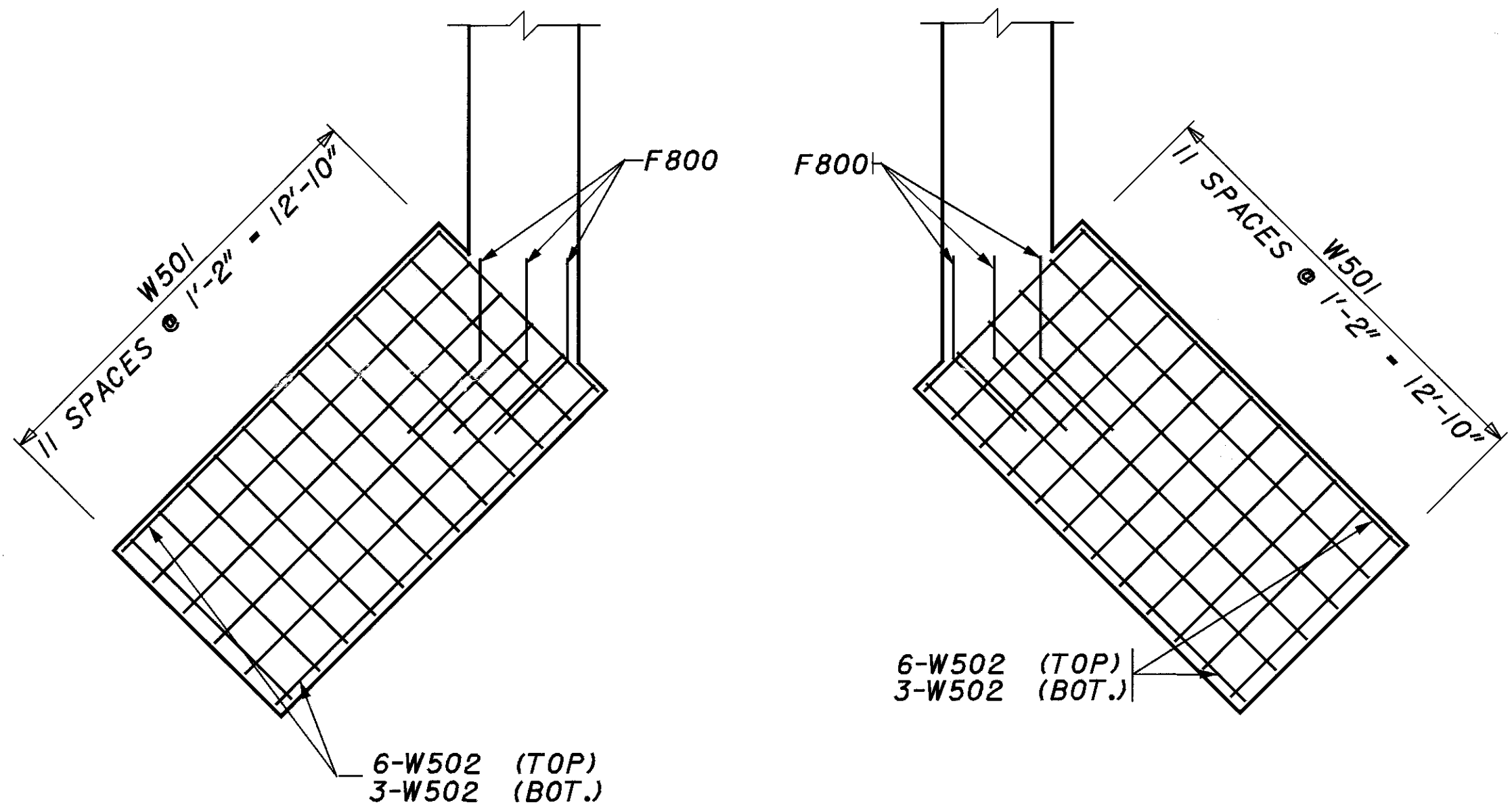
DESIGNED
FCM
CHECKED
JTB

DRAWN
FCM
REVISED

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FOOTING LAYOUT



FOOTING REINFORCING PLAN

DRAWN	FCM
DESIGNED	FCM
CHECKED	JTB
REVISED	

STRUCTURE DETAIL
BRIDGE NO. SAN-20-9.11

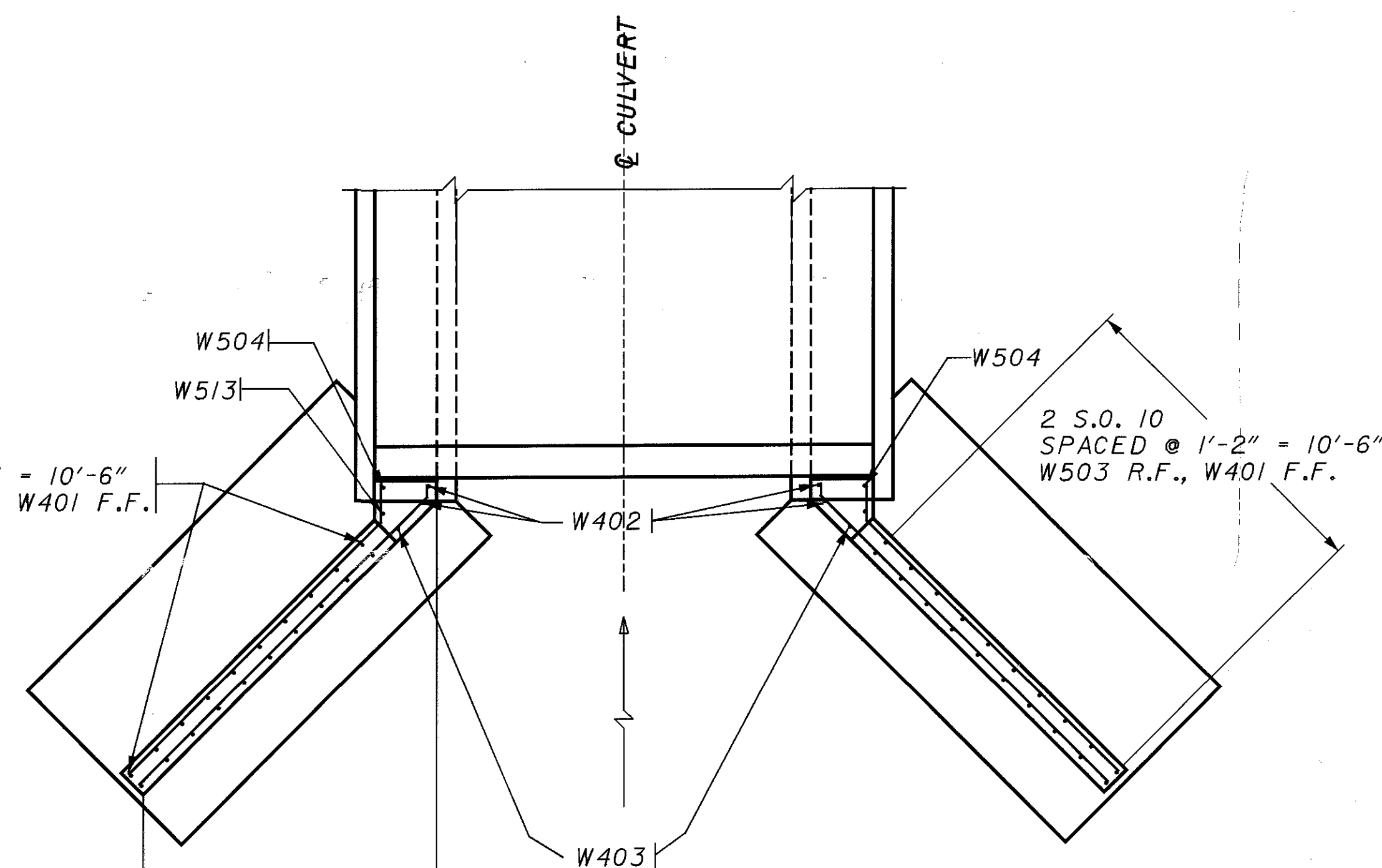
SAN-20-9.11

2 / 6

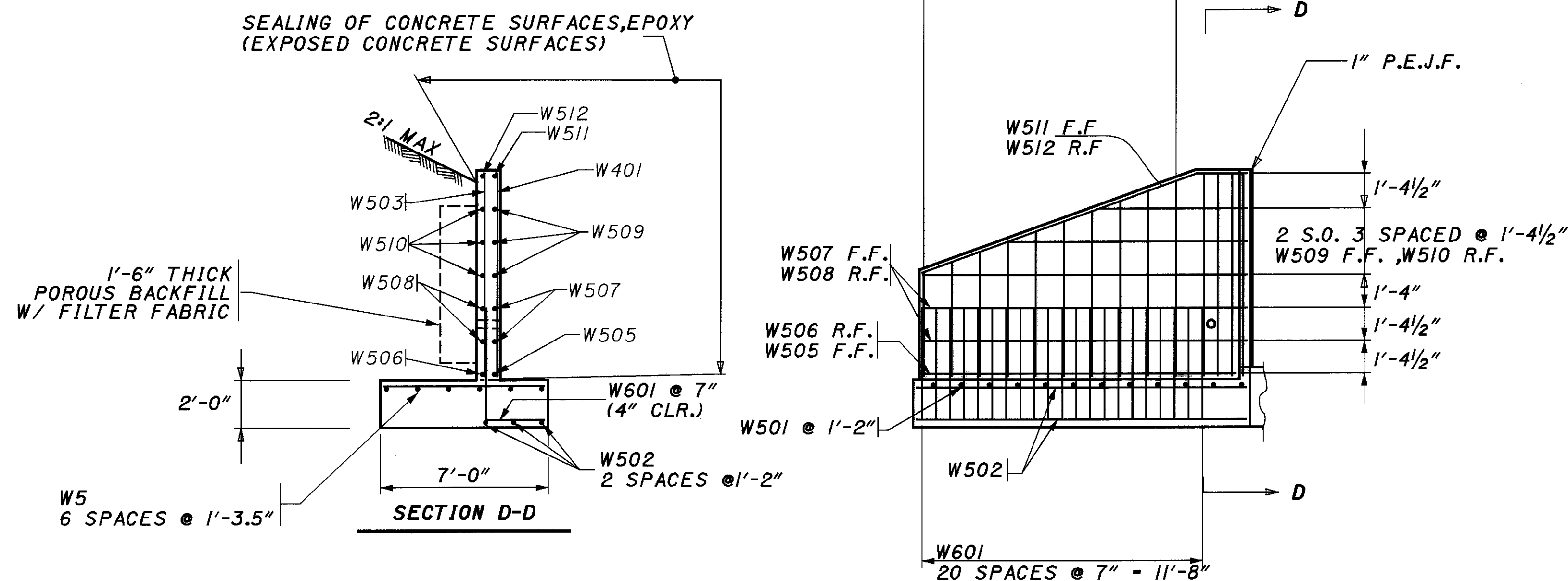
41
67

LEGEND

F.F. - FRONT FACE
R.F. - REAR FACE
B.F. - BOTH FACES



CULVERT & WINGWALL LAYOUT



WINGWALL 1 ELEVATION

WINGWALL 2 ELEVATION (Reverse Hand)

NOTES:

ITEM 518, POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE.

1" PREFORMED EXPANSION JOINT FILLER SHALL BE EXTENDED FROM TOP OF FOOTING TO TOP OF WALL.

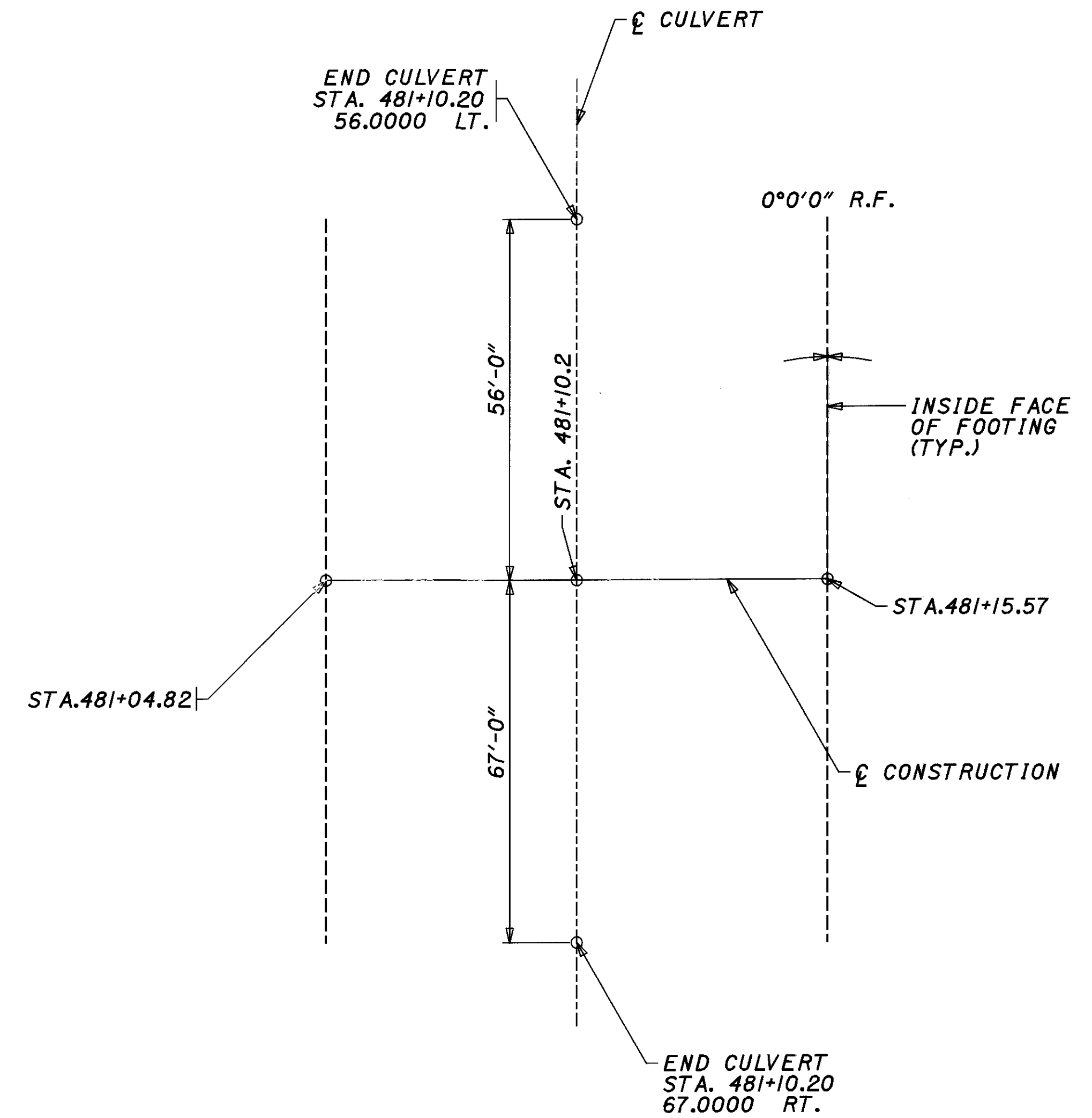
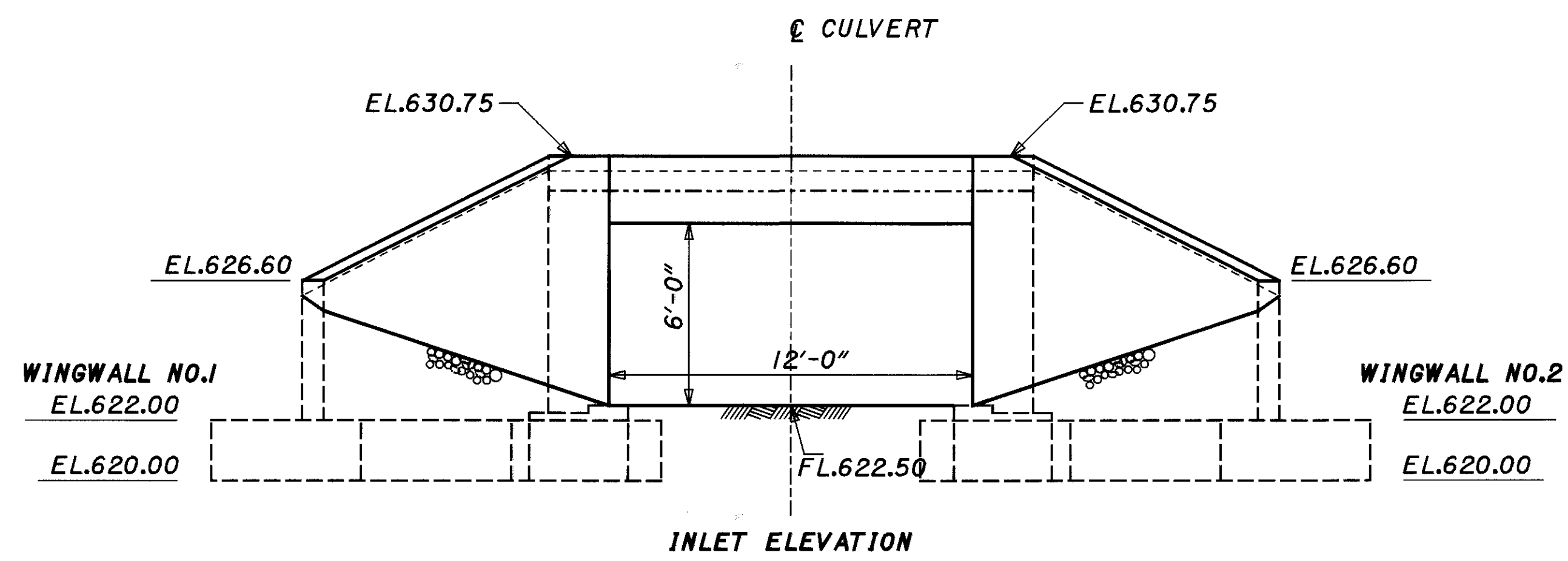
DESIGNED
FCM
CHECKED
JTB

STRUCTURE DETAIL
BRIDGE NO. SAN-20-9.11

SAN-20-9.11

3/6

42
67

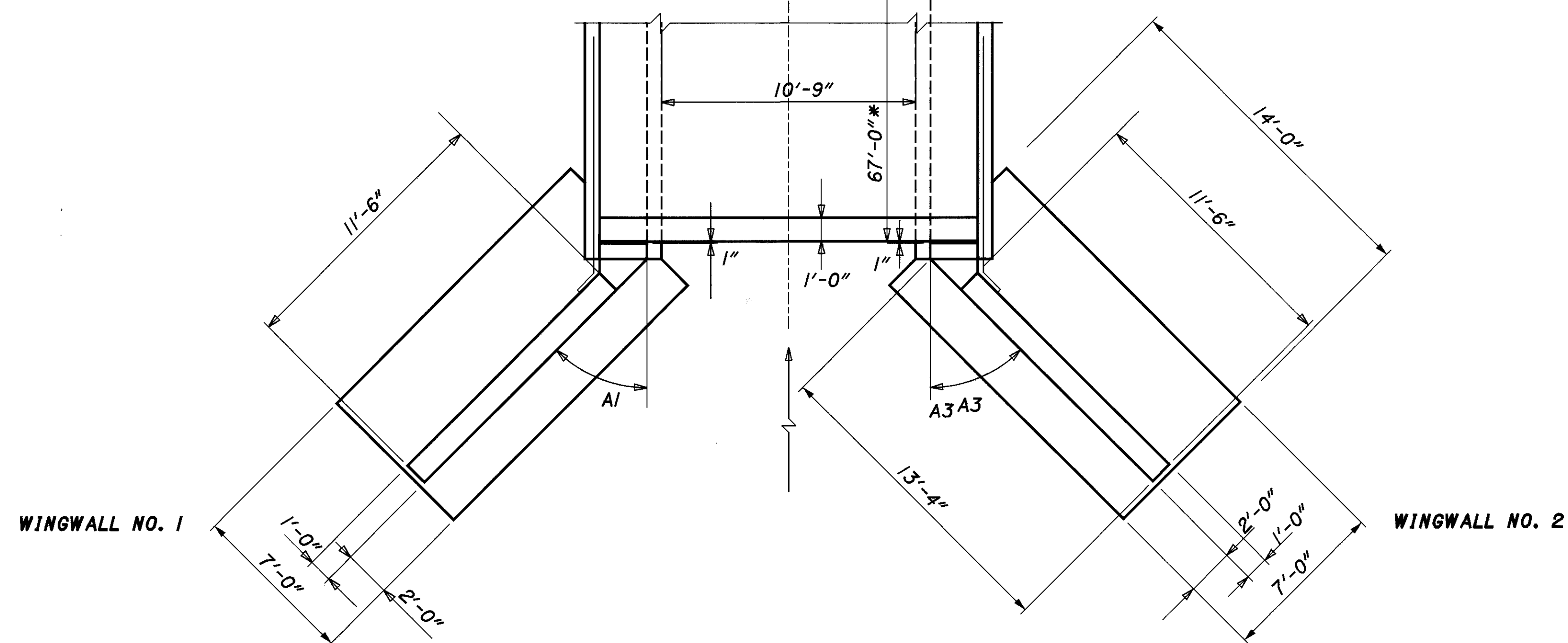


TYPE 2 WATERPROOFING
OVERLAP 1' ONTO WINGWALL (TYP.)

Q CONSTRUCTION

Q CULVERT

SEE SHEET 7/8 FOR
CULVERT FOOTING DIMENSIONS



SEE TABLE, THIS SHEET FOR VALUES OF A1,A2,A3,A4

WINGWALL ANGLES	
A1	45°0'0"
A2	45°0'0"

DRAWN
FCM
DESIGNED
FCM
CHECKED
JTB

STRUCTURE DETAIL
BRIDGE NO. SAN-20-9.11

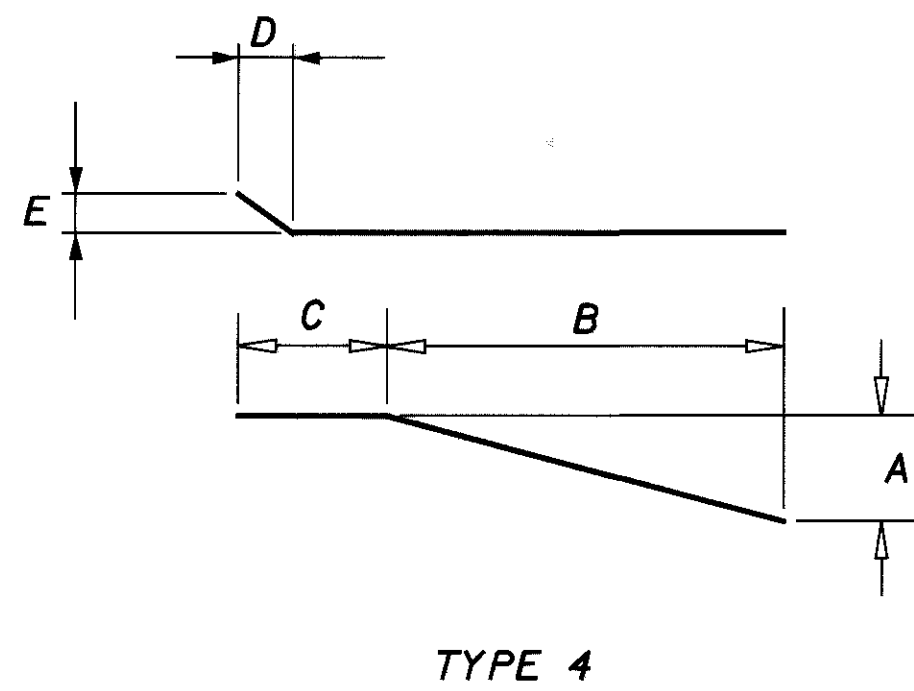
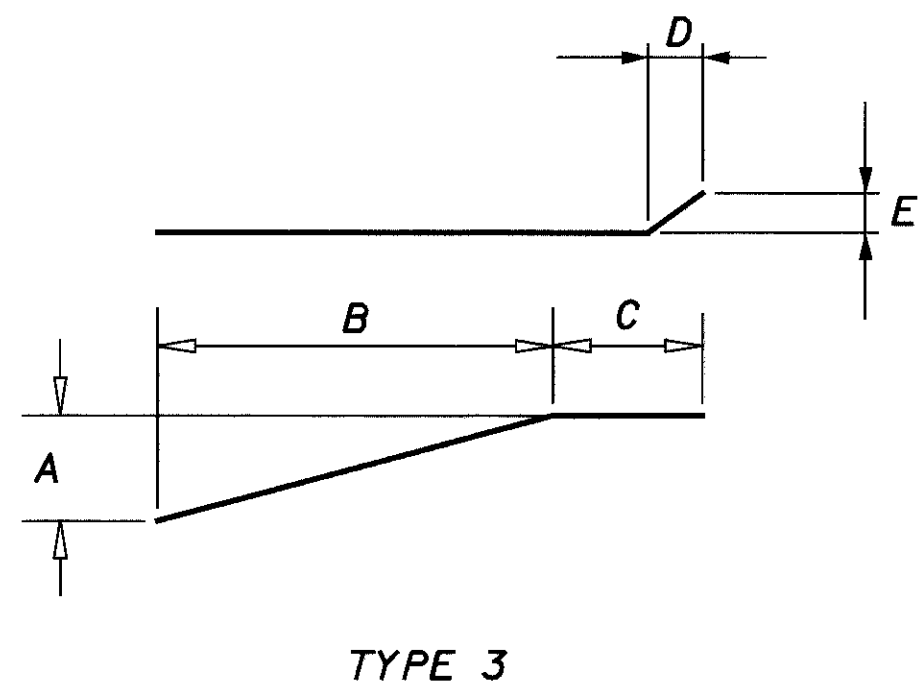
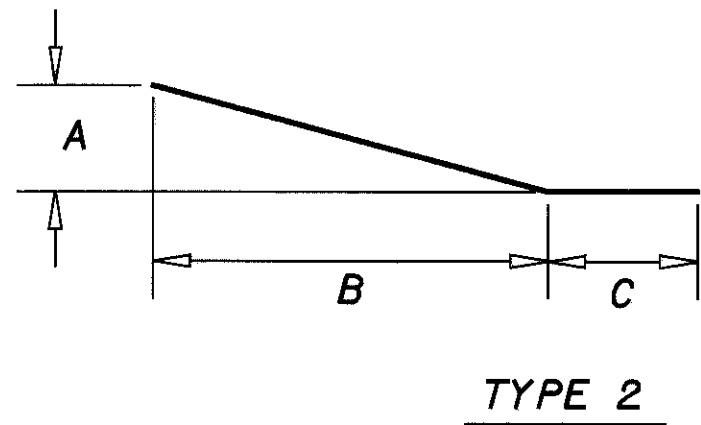
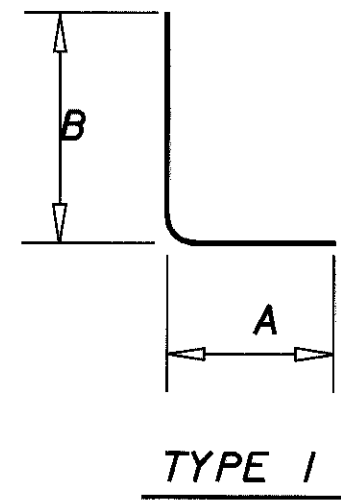
SAN-20-9.11

4 / 6

43
67

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, W601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORCING STEEL TO BE EXOXY COATED.



S.O. - SERIES OF
BENDING DIAGRAM

EPOXY COATED REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E			INCR
WINGWALL 1												
W401	1	4' 3"										
	S.O.	T0		STR								5"
	10	8'										
W402	2	8' 0"		STR								
W403	1	8' 5"		STR								
W501	12	6' 8"		STR								
W502	9	13' 3 1/2"		STR								
W503	1	4' 3"										
	S.O.	T0		STR								5"
	10	8' 0"										
W504	1	8' 0"		STR								
W505	1	12' 8"		STR								
W506	1	11' 11"	2		9' 8"	9' 8"	6"					
W507	2	13' 4"	2		11' 1"	11' 1"	4"					
W508	2	12' 5"	2		9' 8"	9' 8"	1' 2"					
	1	13' 4"			11' 1"	11' 1"	4"					
W509	S.O.	T0	2									2'-2"
	3	6' 9 1/2"			4' 1/2"	5' 1/2"	4"					
	1	12' 5"			9' 8"	9' 8"	1' 2"					
W510	S.O.	T0	2									2'-7 1/2"
	3	4' 6"			2' 4 1/2"	2' 4 1/2"	1' 2"					
W511	1		3		4' 1/2"	11' 3"	2' 1"	3 1/2"	3 1/2"			
W512	1		3		4' 1/2"	11' 3"	1' 1/2"	10"	10"			
W513	1	8' 5"										
W601	21	7' 1"	1		4' 8"	2' 6"						
F800	3	4'-0"	2		1'-5"	1'-5"	2'-0"					
WINGWALL 2												
W401	1	4' 3"										
	S.O.	T0		STR								5"
	10	8'										
W402	2	8' 0"		STR								
W403	1	8' 5"		STR								
W501	12	6' 8"		STR								
W502	9	13' 3 1/2"		STR								
W503	1	4' 3"										
	S.O.	T0		STR								5"
	10	8' 0"										
W504	1	8' 0"		STR								
W505	1	12' 8"		STR								
W506	1	11' 11"	2		9' 8"	9' 8"	6"					
W507	2	13' 4"	2		11' 1"	11' 1"	4"					
W508	2	12' 5"	2		9' 8"	9' 8"	1' 2"					
	1	13' 4"			11' 1"	11' 1"	4"					
W509	S.O.	T0	2									2'-2"
	3	6' 9 1/2"			4' 1/2"	5' 1/2"	4"					
	1	12' 5"			9' 8"	9' 8"	1' 2"					
W510	S.O.	T0	2									2'-7 1/2"
	3	4' 6"			2' 4 1/2"	2' 4 1/2"	1' 2"					
W511	1		4		4' 1/2"	11' 3"	2' 1"	3 1/2"	3 1/2"			
W512	1		4		4' 1/2"	11' 3"	1' 1/2"	10"	10"			
W513	1	8' 5"										
W601	21	7' 1"	1		4' 8"	2' 6"						
F800	3	4'-0"			1'-5"	1'-5"	2'-0"					

GENERAL NOTES

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE INTERIM SPECIFICATIONS THROUGH 1999 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20-44 AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES:

CAST-IN-PLACE STRUCTURES
CONCRETE CLASS C - f'_c = 4,000 psi SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616, OR A617
 F_y = 60,000 psi.

FOUNDATION BEARING PRESSURE:

WINGWALL AND CULVERT FOOTINGS, AS DESIGNED PRODUCE A MAXIMUM BEARING PRESSURE OF 3 TONS PER SQUARE FEET. THE ALLOWABLE MAXIMUM BEARING PRESSURE IS 7 TONS PER SQUARE FEET.

UTILITY LINES:

ALL EXPENSES INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

[illegible]