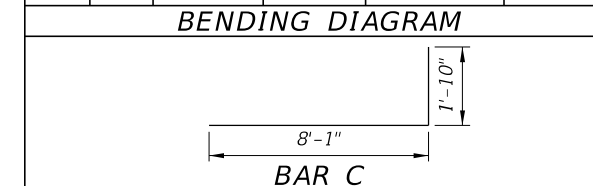
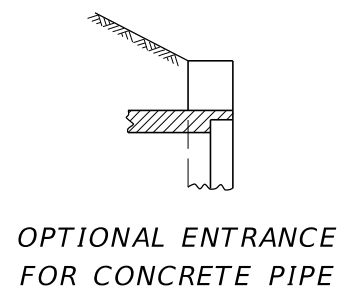
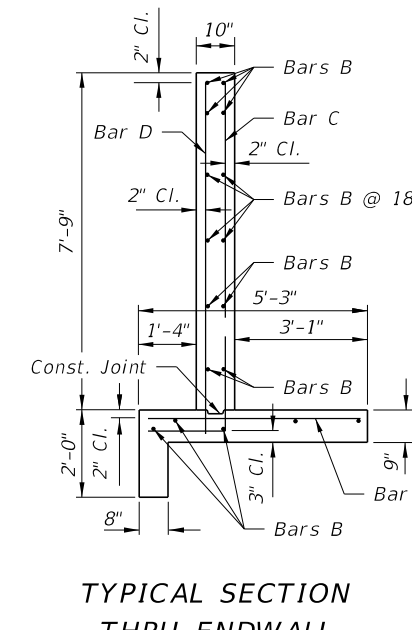
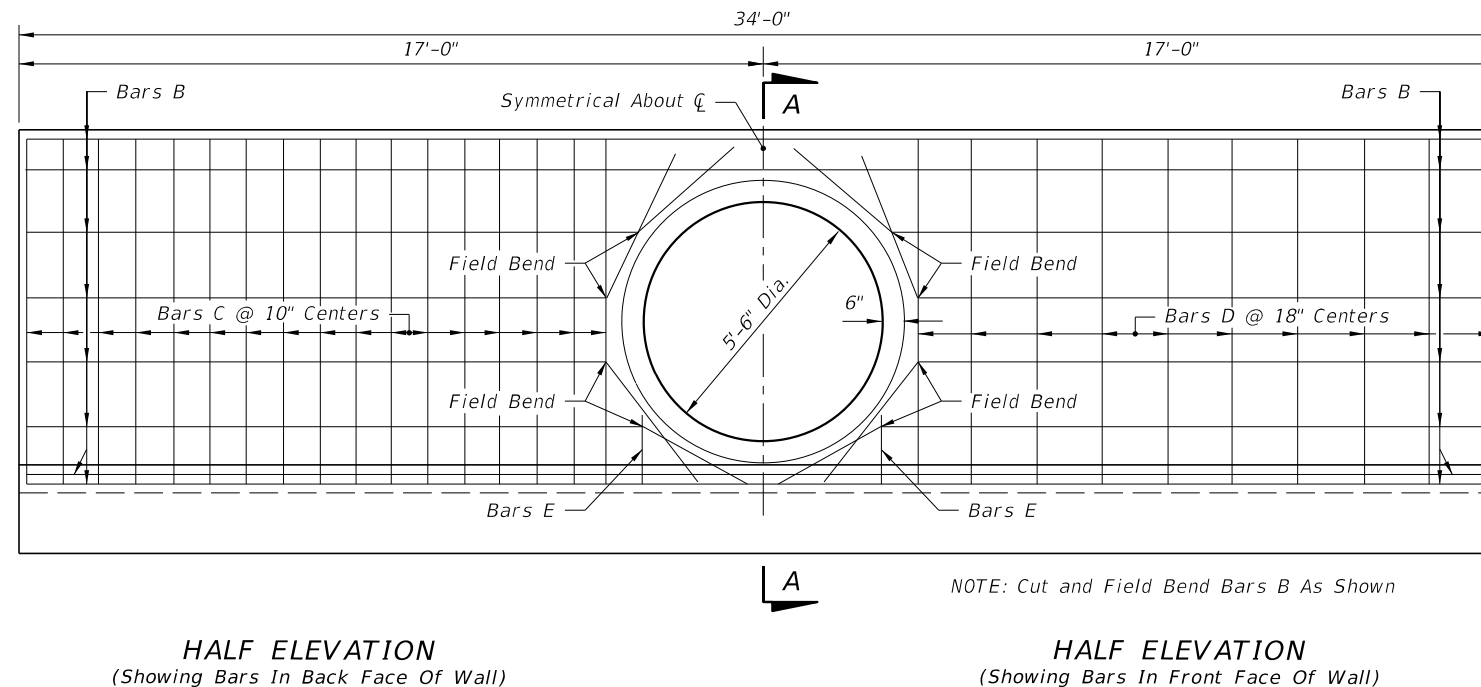
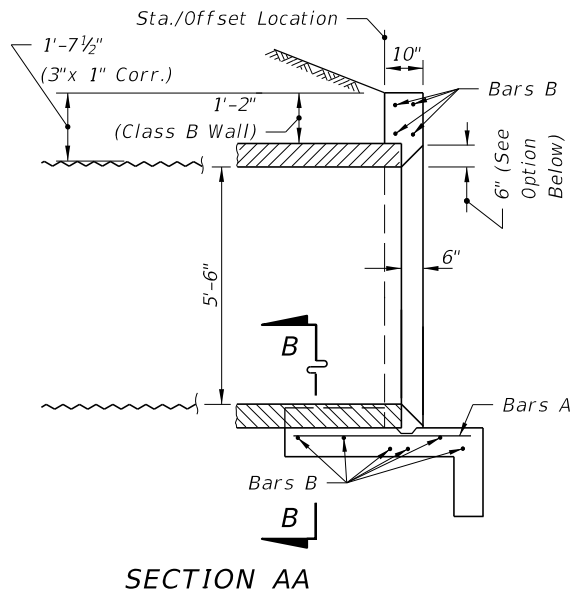


BILL OF REINFORCING STEEL					
MARK	SIZE	NO. REQD.	LENGTH	LOCATION	BENDING
A	5	63	4'-11"	Footing	Straight
B	4	17	33'-8"	Footing & Wall	Straight
C	5	34	9'-11"	Wall	Bend
D	4	20	8'-1"	Wall	Straight
E	4	4	1'-8"	Wall	Straight

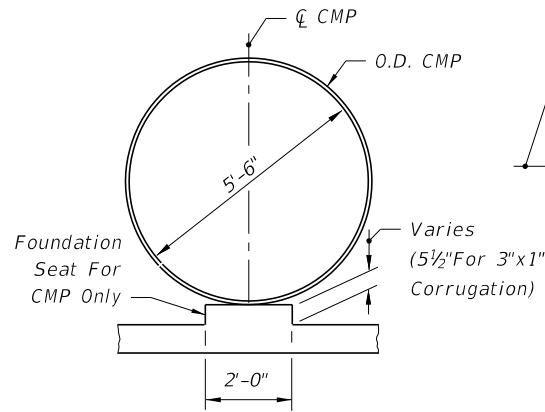


ESTIMATED QUANTITIES				
ITEM	UNIT	RCP	CMP	
Class II Concrete	Cu. Yd.	13.2	13.3	
Reinforcing Steel	Lb.	1170	1170	

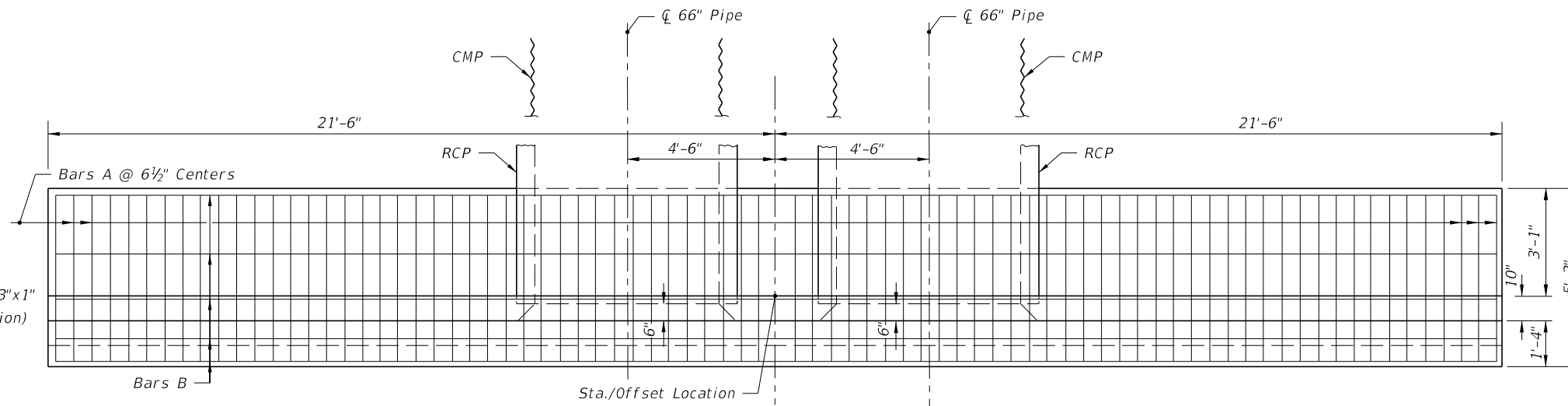


- GENERAL NOTES**
1. Straight concrete endwalls are intended for use outside the clear zone.
 2. Endwalls may be cast-in-place or precast construction. Cast-in-place endwalls shall conform to the details on this Index. Precast construction which adheres to this Index, including any additional reinforcement required for handling which shall be determined by the Contractor or supplier, does not require additional approvals. Deviations from this Index, for precast units, shall require the approval of the State Drainage Engineer prior to construction. For precast construction, see Index 425-001 for opening and grouting details.
 3. Reinforcing steel shall be either Grade 40 or 60.
 4. Concrete shall be Class II except ASTM C478 (4000 psi) concrete may be substituted for precast items manufactured in plants meeting the requirements of Section 449 of the Specifications.
 5. Chamfer: All exposed edges and corners to be chamfered 3/4" unless otherwise shown.
 6. That portion of corrugated Metal pipe in direct contact with the concrete slab and extending 12" beyond shall have a continuous bituminous coating of 0.004" minimum thickness applied prior to placing of the concrete.
 7. Sodding shall be in accordance with Index 524-001 and paid for under the contract unit price for Performance Turf, SY.
 8. Basis of payment for either cast-in-place or precast construction shall be the estimated quantities tabulated on the Index. Concrete and reinforcing steel shall be paid for under the contract unit prices for Class II Concrete (Endwalls), CY and Reinforcing Steel (Roadway), LB.

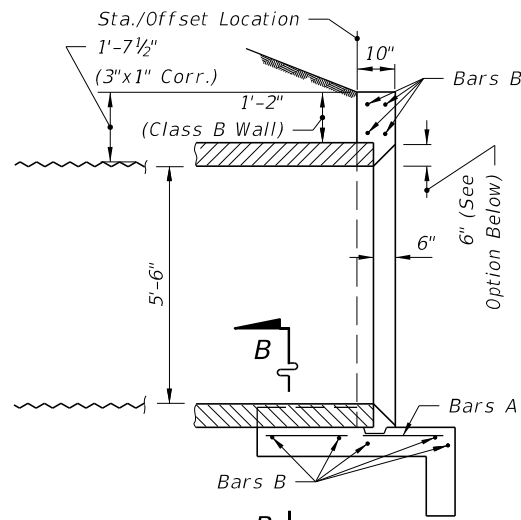
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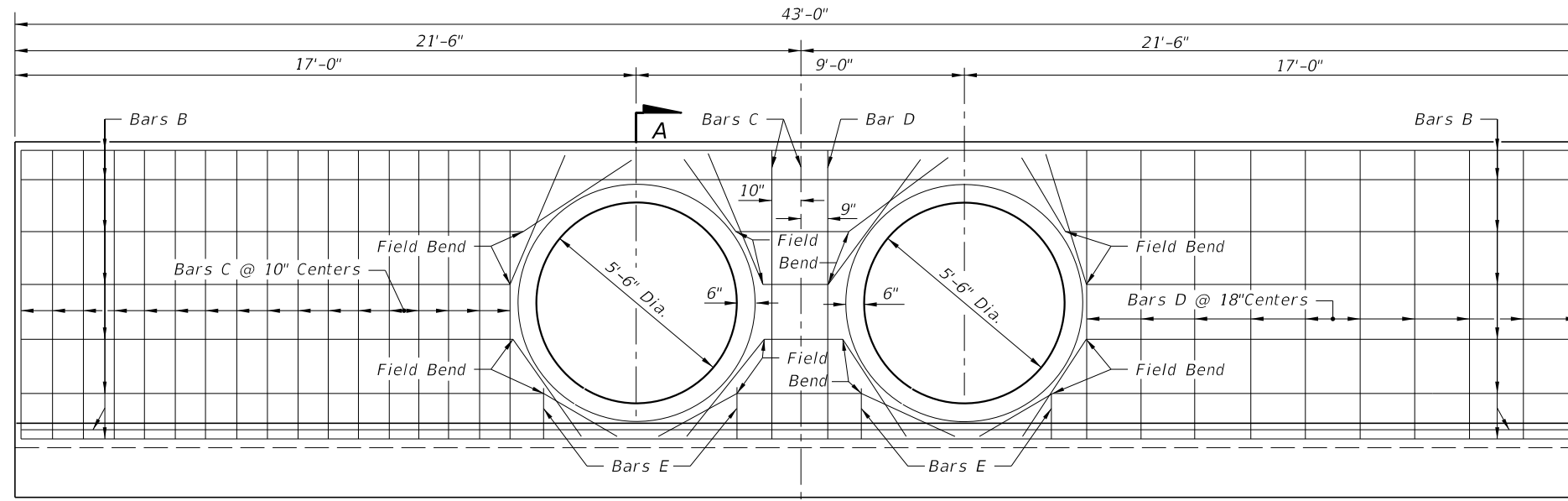
SECTION BB



PLAN
(Showing Bars In Footing)

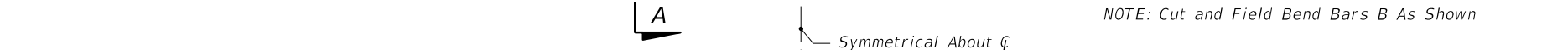


SECTION AA

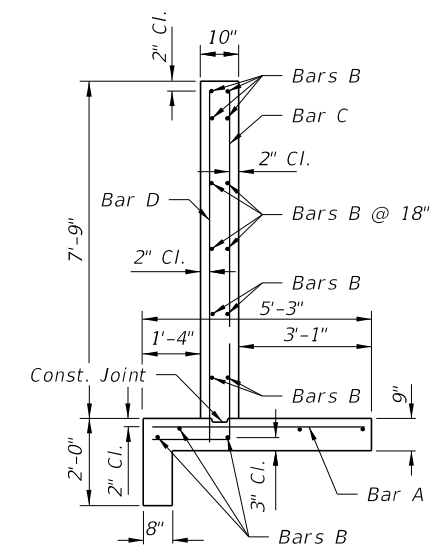


HALF ELEVATION
(Showing Bars In Back Face Of Wall)

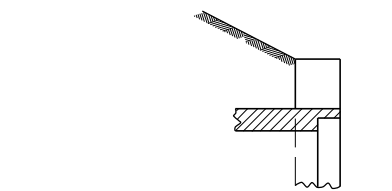
NOTE: Cut and Field Bend Bars B As Shown



HALF ELEVATION
(Showing Bars In Front Face Of Wall)



TYPICAL SECTION
THRU ENDWALL



OPTIONAL ENTRANCE
FOR CONCRETE PIPE

BILL OF REINFORCING STEEL						BENDING DIAGRAMS		ESTIMATED QUANTITIES			
MARK	SIZE	NO. REQD.	LENGTH	LOCATION	BENDING			ITEM	UNIT	RCP	CMP
A	5	80	4'-11"	Footing	Straight			Class II Concrete	Cu. Yd.	16.0	16.2
B	4	17	42'-8"	Footing & Wall	Straight			Reinforcing Steel	Lb.	1,406	1,406
C	5	37	9'-11"	Wall	Bend						
D	4	22	8'-1"	Wall	Straight						
E	4	8	1'-8"	Wall	Straight						
						<p>Note: All bar dimensions are out to out</p>		<p>NOTE: See Sheet 1 of 2 for General Notes.</p>			

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LAST REVISION 11/01/17	DESCRIPTION:
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FY 2018-19
STANDARD PLANS

STRAIGHT CONCRETE ENDWALLS
SINGLE AND DOUBLE 66" PIPE

INDEX
430-032

SHEET
2 of 2