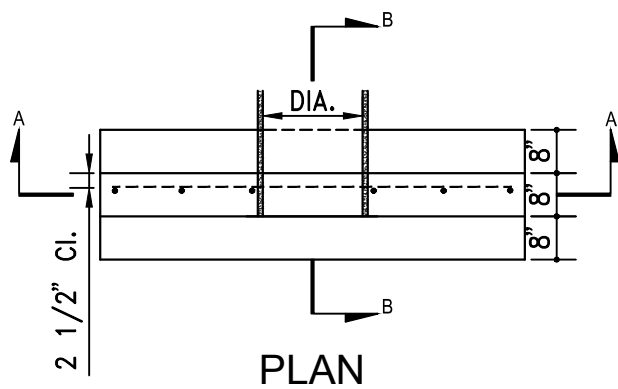
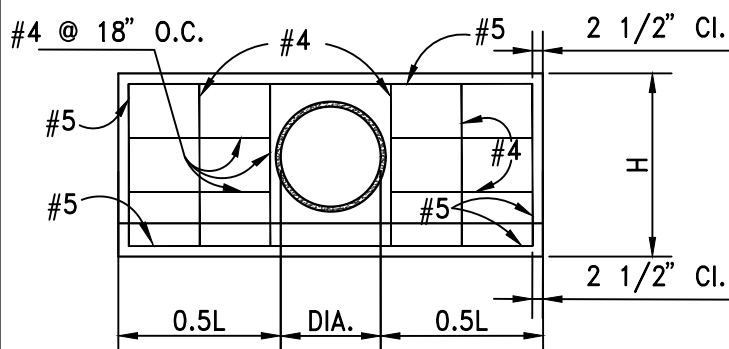
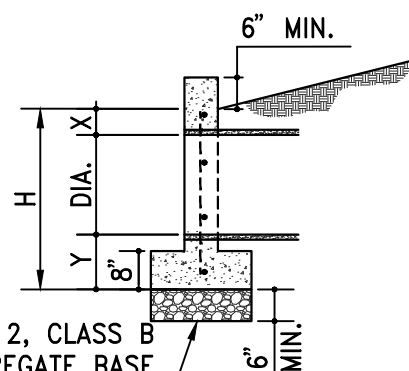




PIPE DIA.	X	Y	L	H
12"	0'-10"	1'-2"	4'-0"	3'-0"
15"	0'-10 1/4"	1'-2 1/4"	5'-0"	3'-3 1/2"
18"	0'-10 1/2"	1'-2 1/2"	5'-9"	3'-7"
21"	0'-10 3/4"	1'-2 3/4"	6'-6"	3'-10 1/2"
24"	0'-11"	1'-3"	7'-3"	4'-2"
27"	0'-11"	1'-3"	8'-0"	4'-5"
30"	0'-11 1/2"	1'-3 1/2"	9'-0"	4'-9"
33"	0'-11 3/4"	1'-3 3/4"	4'-0"	5'-1 1/2"
36"	1'-0"	1'-4"	10'-6"	5'-4"



SECTION A-A



6" MIN. TYPE 2, CLASS B
AGGREGATE BASE
COMPACTED TO A MINIMUM
95% RELATIVE COMPACTION

SECTION B-B

NOTES:

1. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH MAX. WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% $\pm$ 1.5%, SLUMP AT 1 TO 4 INCHES. MIX DESIGN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 337 OF STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC), AS ADOPTED BY CITY COUNCIL. CEMENT SHALL BE TYPE II. ALL CEMENT CONCRETE SHALL HAVE A COARSE AGGREGATE GRADATION CONFORMING TO SIZE No. 67. POLYPROPYLENE OR CELLULOSE FIBERS SHALL BE ADDED TO THE P.C.C. AT 1.5 LBS. PER CUBIC YARD. ALL MATERIALS SHALL CONFORM TO SSPWC, AS ADOPTED BY CITY COUNCIL.
2. REINFORCING STEEL SHALL BE DEFORMED BARS WITH MAXIMUM SPACING OF 18" SET 2 1/2" CLEAR OF SURFACE OF CONCRETE EXCEPT AS NOTED. BAR ENDS SHALL BE KEPT 1 1/2" CLEAR OF SURFACE OF CONCRETE. REINFORCING BARS MAY BE CUT AND BENT IN FIELD.
3. FOOTINGS SHOWN ARE OF MINIMUM DEPTH AND SHALL BE EXTENDED IF SOIL IS UNSUITABLE OR LIABLE TO SCOUR.
4. CULVERT PIPES TO BE SET ON A SKEW SHALL BE MITERED WHEN HEADWALLS ARE CONSTRUCTED.
5. DIMENSIONS X, Y, L, AND H TO REMAIN CONSTANT REGARDLESS OF MINOR VARIATIONS IN WALL THICKNESS DUE TO CLASS OF PIPE USED.
6. SKEWED HEADWALLS, HEADWALLS FOR DOUBLE PIPES OR FOR PIPES GREATER THAN 36" SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND SUBMITTED TO THE CITY FOR APPROVAL. NDOT STANDARD DETAILS MAY BE SUBMITTED FOR APPROVAL BY THE CITY ENGINEER.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION

DRAWING No.



CULVERT HEADWALL

S-213

APPROVED BY: JE DATE: 1/2020