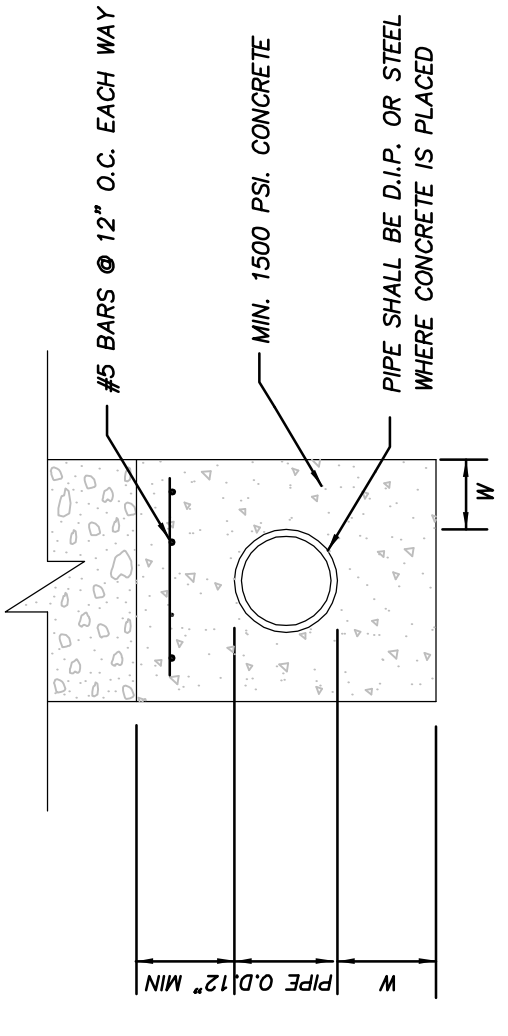


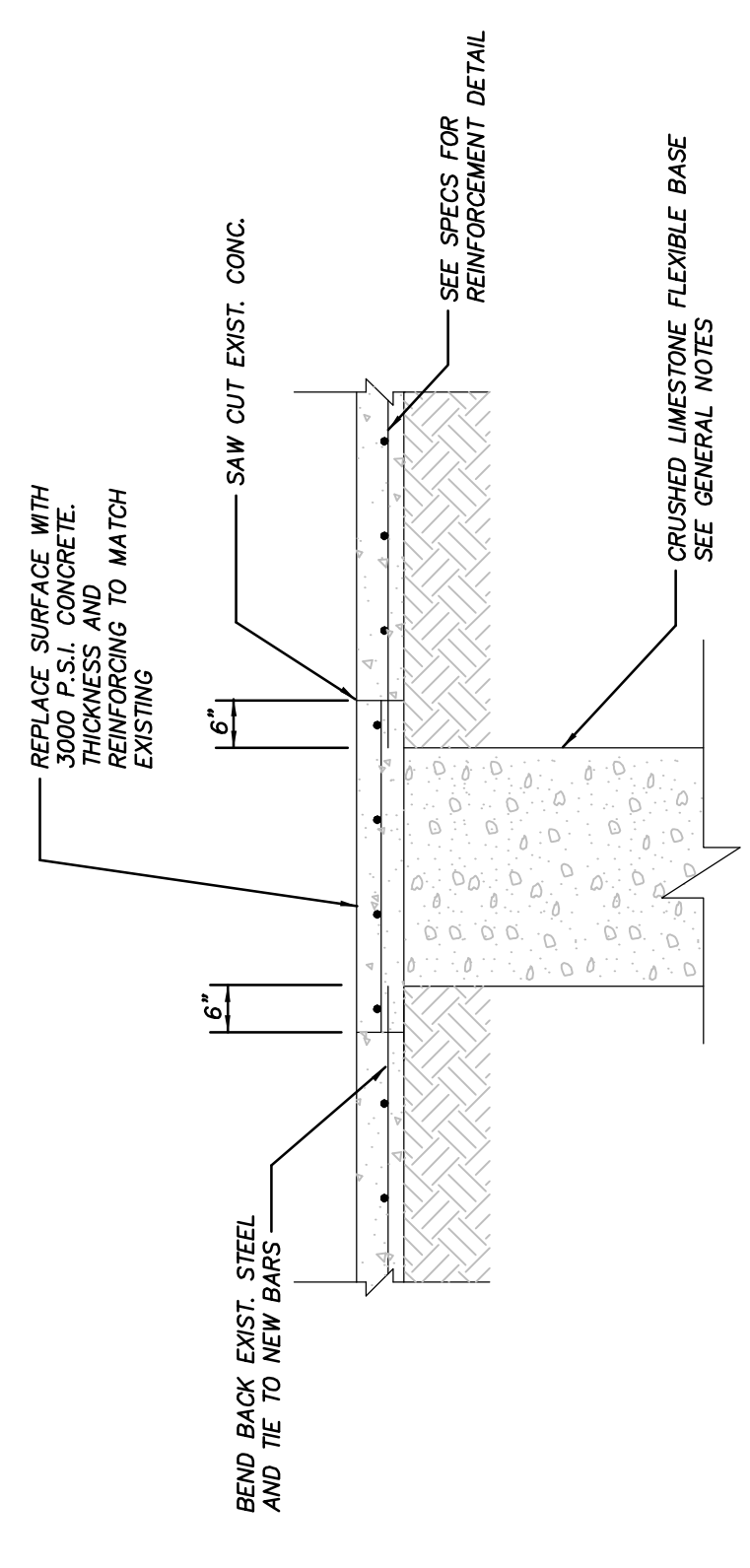
PIPE SIZE	W	H
18" & SMALLER	5"	4"
24"-27"	6"	5"
30"-33"	9"	6"
36"-39"	9"	9"
42"-48"	12"	10"



NOTE:
CARRIER PIPE SHALL BE SUPPORTED ON CONCRETE BLOCKS OF EQUAL STRENGTH TO THAT OF THE CONCRETE PRIOR TO PLACEMENT OF CONCRETE.

CONCRETE ENCASEMENT W/ STEEL REINFORCEMENT

NTS



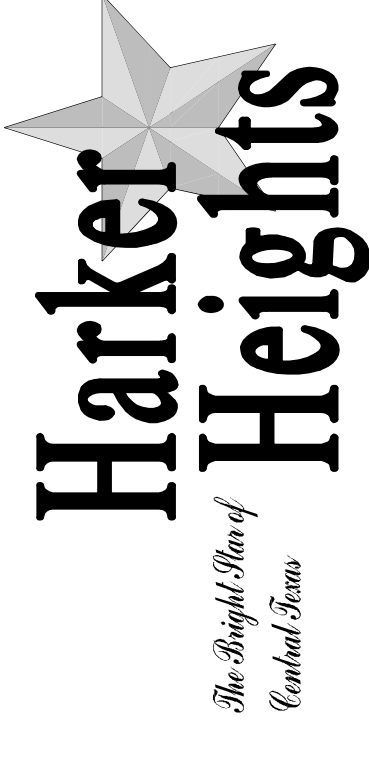
NOTES:
1. ANY CONCRETE PAVING SHALL BE SAW CUT 6" WIDER THAN UNDISTURBED SIDES OF SIDES OF EXCAVATION.
2. FOR PIPE EMBEDMENT SEE UTILITY SHEETS.

CONCRETE PAVEMENT REPLACEMENT CLASS "C" SURFACE REPLACEMENT

NTS

GENERAL NOTES:

- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES BEFORE EXCAVATION BEGINS. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO UTILITIES.
- THE CONTRACTOR SHALL CONTACT ALL LOCAL UTILITIES AND TEXAS ONE CALL SYSTEM BEFORE COMMENCING ANY EXCAVATION OR DIGGING OPERATIONS.
- BRACE UTILITY POLES AS REQUIRED TO MAINTAIN STABILITY OF THE POLES DURING CONSTRUCTION.
- BLOCK ALL BENDS, TEES, WYES, PLUGS, AND ALL HORIZONTAL OR VERTICAL POINTS OF INTERSECTION GREATER THAN 5' USING SHORT-BODIED FITTINGS PER STANDARD WATER DETAILS.
- CONCRETE SHALL NOT BE IN CONTACT WITH BOLTS OR NUTS.
- ALL FITTINGS SHALL BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.
- ALL MATERIALS SHALL BE DOMESTIC / USA.
- CRUSHED LIMESTONE BASE MATERIAL SHALL BE TxDOT ITEM 248, TYPE A, GRADE 2 AND SHALL BE COMPACTED TO A MINIMUM OF 95% A.S.T.M. D1557, METHOD D @ + OR - 2% OPTIMAL MOISTURE AND LIFTS NOT TO EXCEED 6 INCHES.
- ALL INFRASTRUCTURE SHALL MEET MINIMUM CURRENT EFFECTIVE TxDOT STANDARDS.

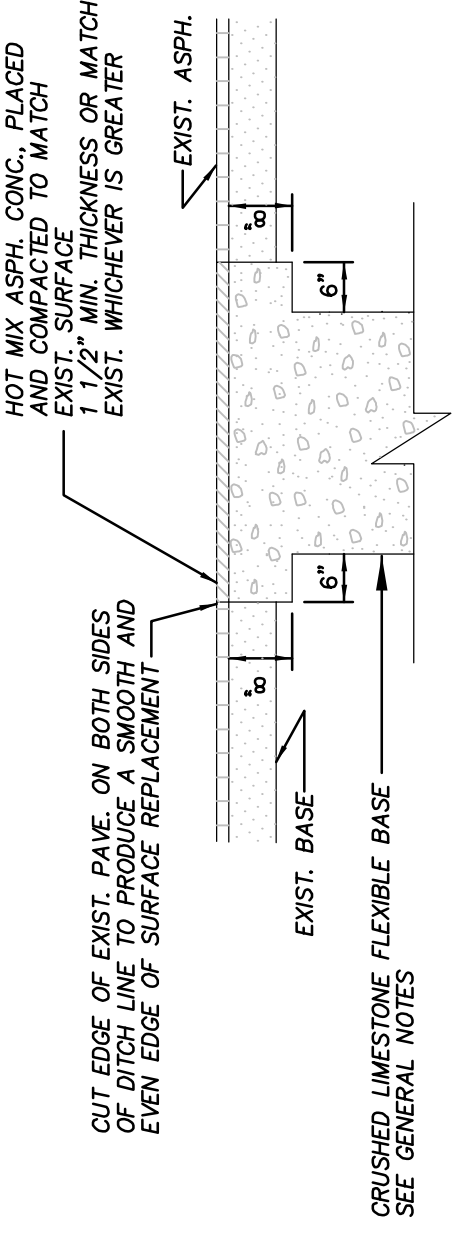


DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION DETAILS

ENGINEER:	SCALE:	DATE:	SHEET #
	N.T.S.	3/14/11	
	DRAWN BY:	CHECKED BY:	

OF



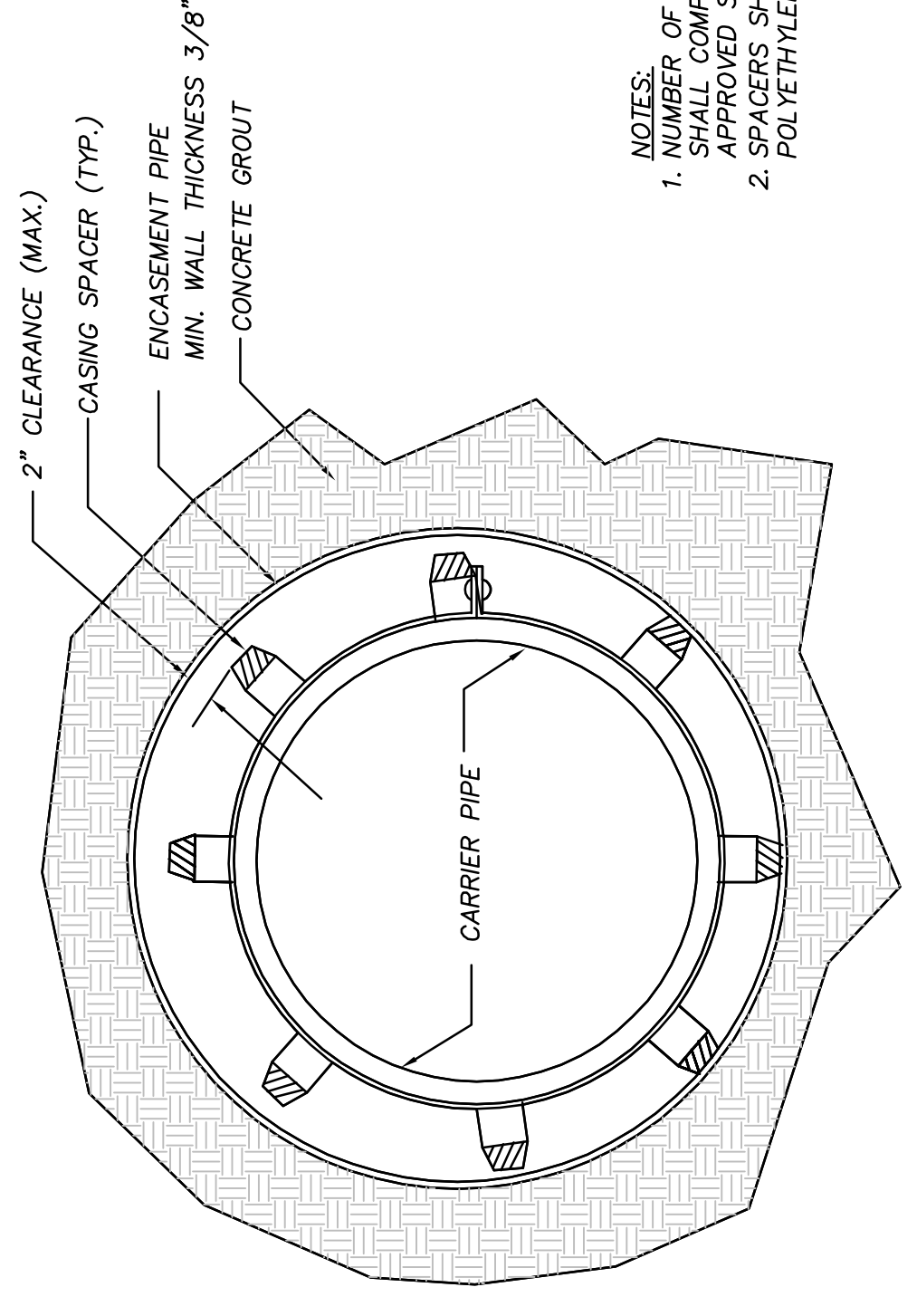
NOTES:

- THE EXISTING PAVING SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
- IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT TRADING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALT.
- ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED WITH IN KIND MATERIAL OF EQUAL THICKNESS OR MINIMUM ROAD BASE THICKNESS OF 10", WHICHEVER IS GREATER.
- ALL DAMAGED AREAS OF PAVEMENT RESULTING FROM CONTRACTOR'S OPERATIONS OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 8" OF ROAD BASE OR THICKNESS AS EXISTING, WHICHEVER IS GREATER.
- SURFACE PAVEMENT SHALL BE OF THE SAME KIND AND THICKNESS AS EXISTING, OR MINIMUM 1 1/2", WHICHEVER IS GREATER.
- FOR PIPE EMBEDMENT SEE UTILITY SHEETS

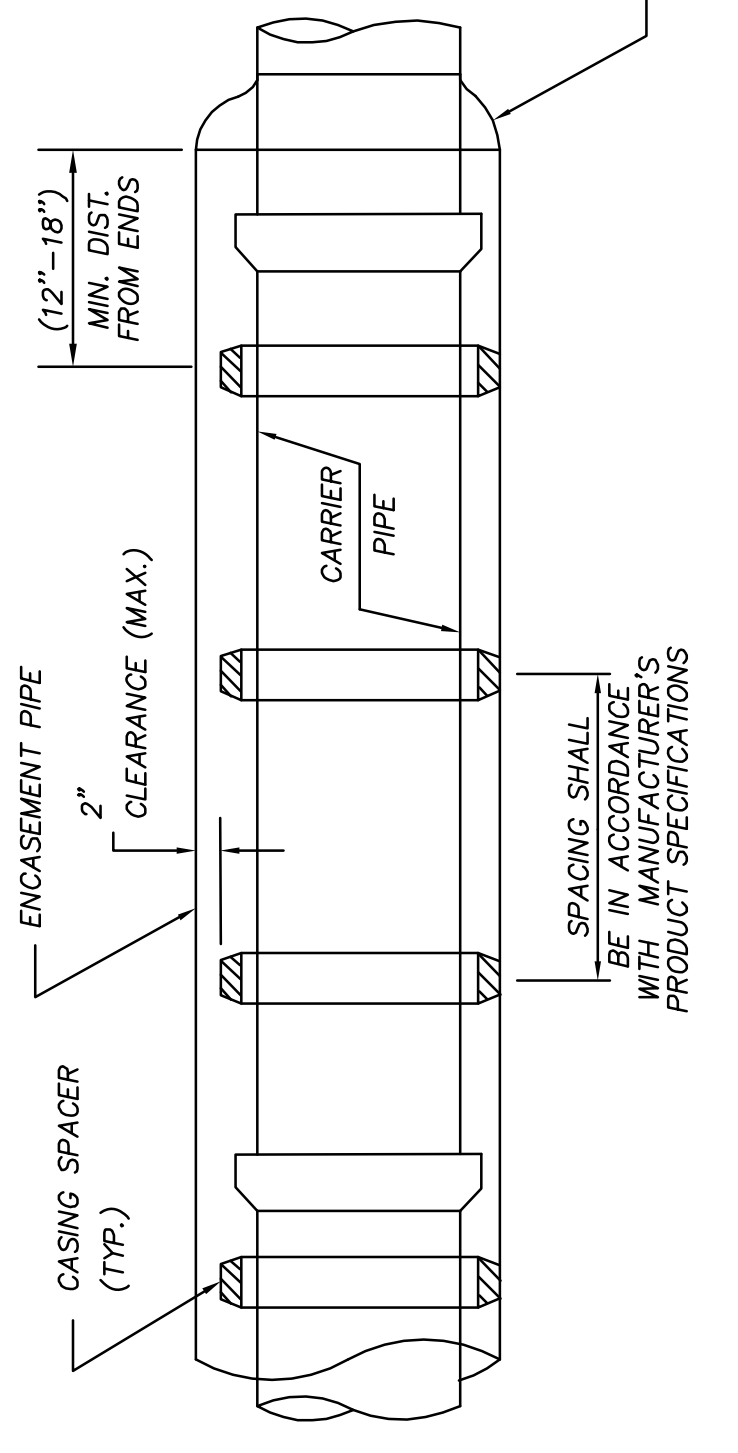
ASPHALT ON FLEX BASE

CLASS "B" SURFACE REPLACEMENT

NTS

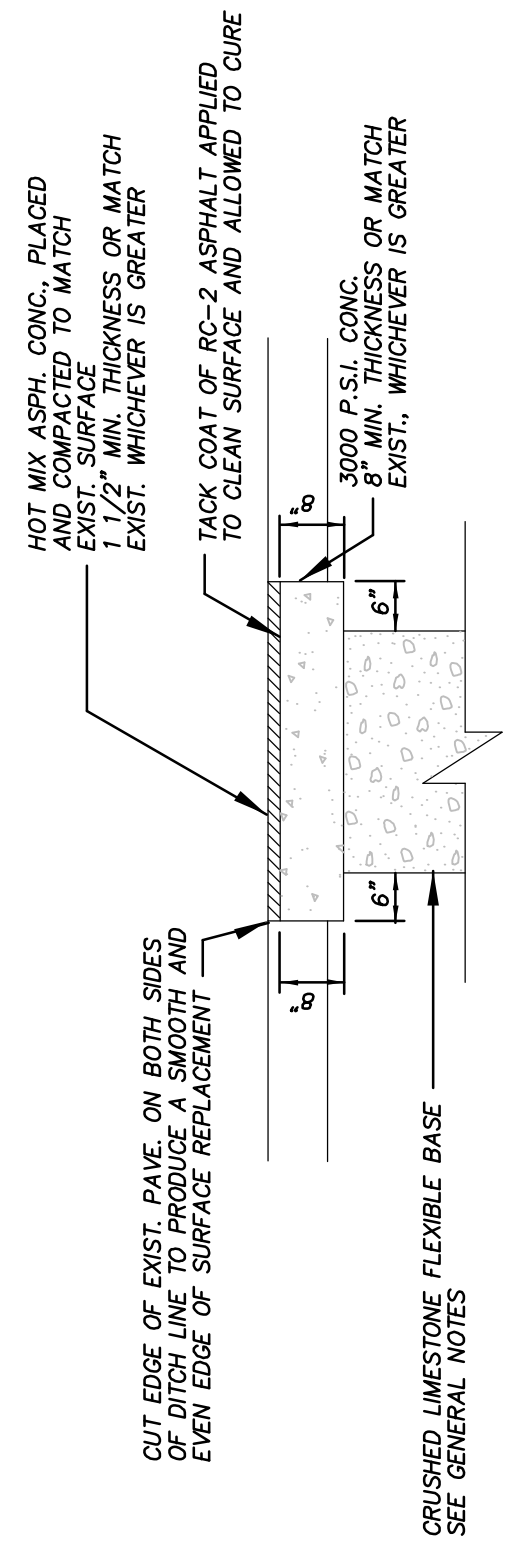


- NOTES:
1. NUMBER OF RUNNERS AND CONFIGURATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
2. SPACERS SHALL BE RACI HIGH DENSITY POLYETHYLENE OR ENGINEER APPROVED OTHER.



BORE & ENCASEMENT DETAIL

NTS



NOTES:

- FOR PIPE EMBEDMENT SEE UTILITY SHEETS.

ASPHALT ON CONCRETE

CLASS "A" SURFACE REPLACEMENT

NTS

RAILROAD CROSSING BORE DETAIL

(NO SCALE)

CARRIER SIZE	MINIMUM ENCASEMENT STEEL PIPE
4" D.I.P.	12"
6" D.I.P.	16"
8" D.I.P.	18"
10" D.I.P.	24"
12" D.I.P.	24"
14" D.I.P.	30"
16" D.I.P.	30"
20" D.I.P.	36"
24" D.I.P.	36"

THIS INFORMATION TO BE VERIFIED WITH RAILROADS REQUIREMENTS

HIGHWAY CROSSING BORE DETAIL

(NO SCALE)

CARRIER SIZE	MINIMUM ENCASEMENT STEEL PIPE
4" D.I.P.	12"
6" D.I.P.	16"
8" D.I.P.	16"
10" D.I.P.	18"
12" D.I.P.	24"
14" D.I.P.	24"
16" D.I.P.	30"
18" D.I.P.	30"
20" D.I.P.	36"
24" D.I.P.	36"

NOTES:

- TOLERANCES IN GRADE OF ENCASEMENT PIPE SHALL NOT EXCEED +/- 0.0025 FT/FT.
- ALL BORES SHALL BE PRESSURE GROUTED BETWEEN THE ENCASEMENT PIPE AND THE BORE.
- GROUT SHALL BE A MINIMUM 6 SACK MIX.
- SMOOTH STEEL PIPE WITH WELDED JOINTS, 1/4" MINIMUM WALL THICKNESS, 3/8" MINIMUM WALL THICKNESS WHEN CROSSING TxDOT FACILITIES.
- ALL BORES SHALL BE DRY BORES, UNLESS APPROVED BY CITY OF HARKER HEIGHTS.
- SPACERS SHALL BE HIGH DENSITY POLYETHYLENE OR APPROVED EQUAL, INSTALL AS PER MANUFACTURERS SPECIFICATIONS.