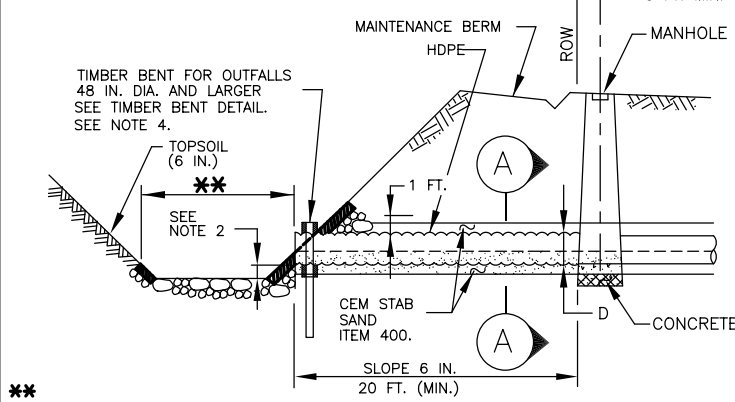
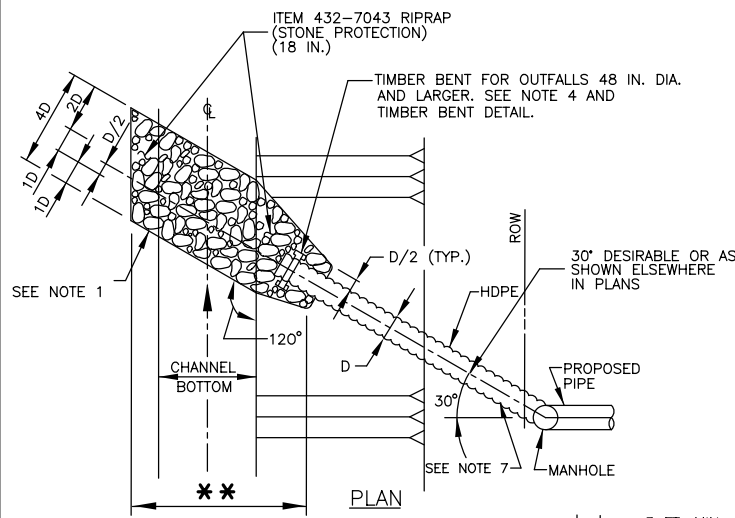


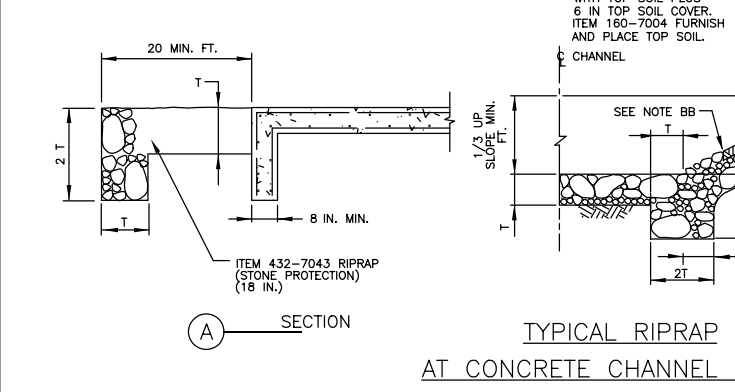
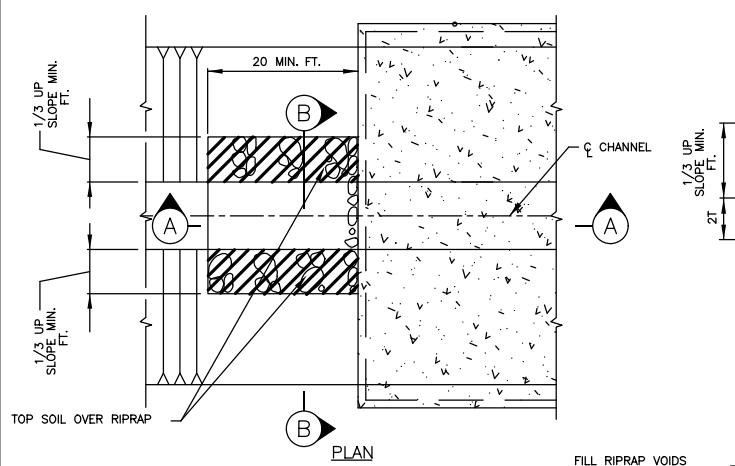
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DATE: FILE:

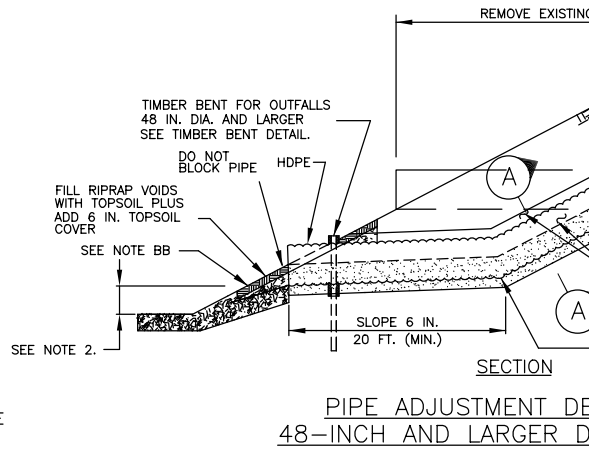
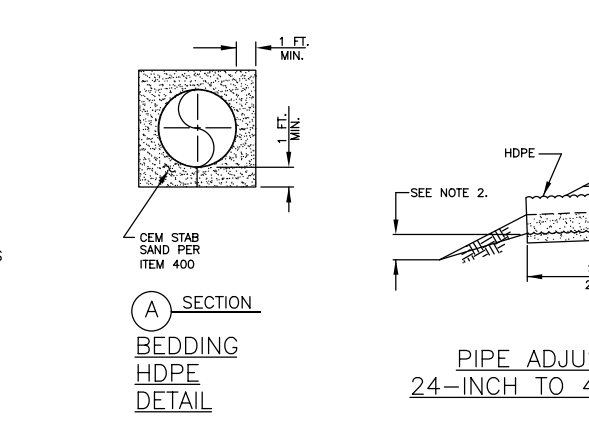


**** SIX TIMES HDPE DIA OR TOP OF PIPE ELEV ON OPPOSITE BANK, WHICHEVER IS SMALLER.**

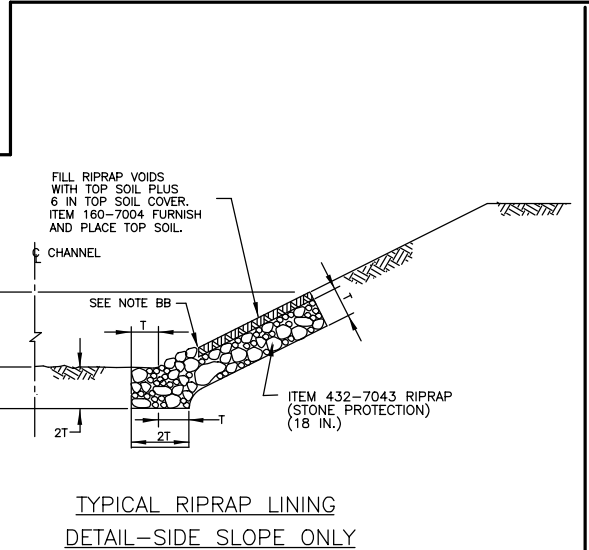
TYPICAL STORM SEWER OUTFALL STRUCTURE LAYOUT



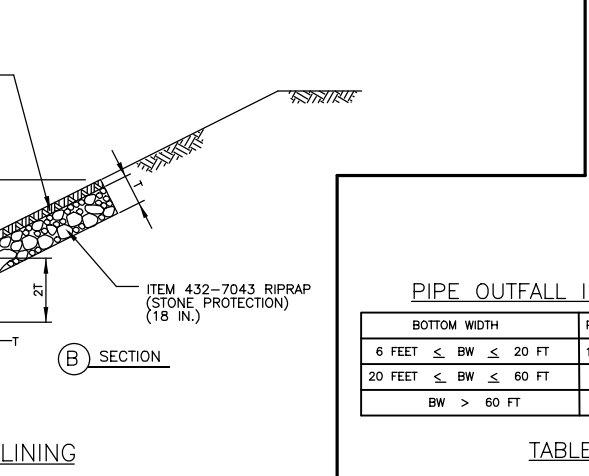
TYPICAL RIPRAP AT CONCRETE CHANNEL LINING



PIPE ADJUSTMENT DETAIL 48-INCH AND LARGER DIAMETER



TYPICAL RIPRAP LINING DETAIL - SIDE SLOPE ONLY



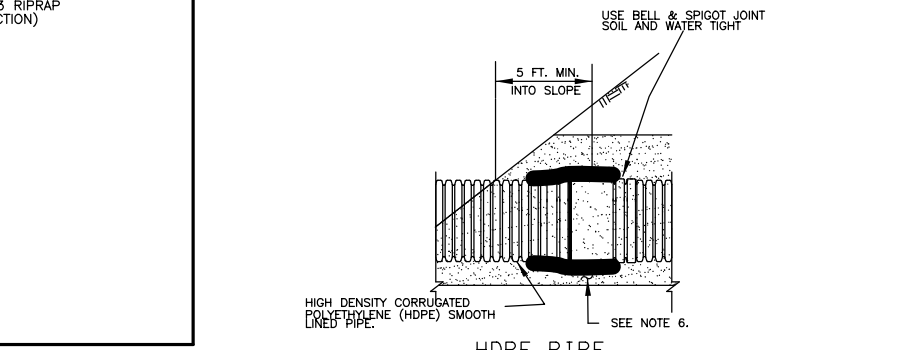
HDPE PIPE COUPLER DETAIL

PIPE OUTFALL IN CHANNELS

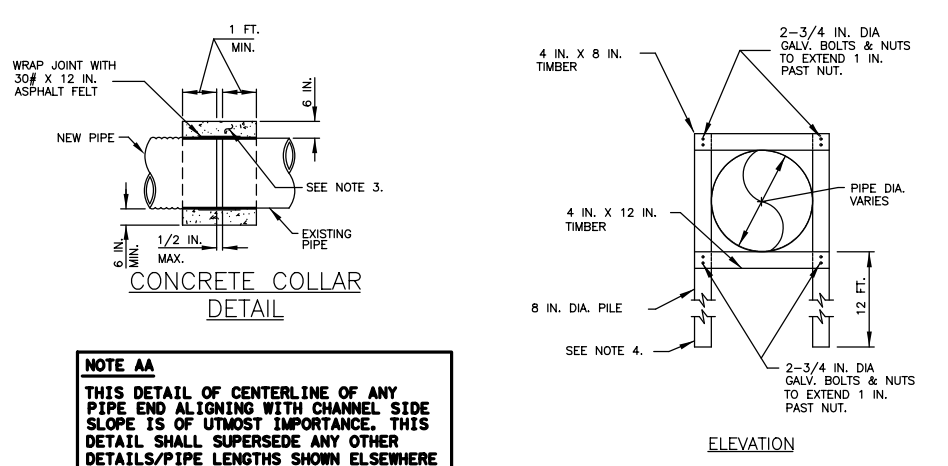
BOTTOM WIDTH	PIPE OUTLET INVERT (FLOW LINE)
6 FEET ≤ BW ≤ 20 FT	1 FOOT ABOVE CHANNEL FLOWLINE.
20 FEET ≤ BW ≤ 60 FT	AT TOE OF SLOPE
BW > 60 FT	AT TOE OF SLOPE

TABLE 1

- STORM SEWER OUTFALL NOTES**
- INSTALL OUTFALLS 48 INCHES OR LARGER, AND STORM SEWER OUTFALLS OF ANY DIAMETER, WITH RIPRAP EROSION DIMENSIONED AS SHOWN IN "TYPICAL STORM SEWER OUTFALL STRUCTURE LAYOUT."
 - IN ANY HCFCD'S DETENTION BASIN(S), SET FLOWLINE OF OUTFALL AT TOE OF SLOPE. IN CHANNEL, USE ELEVATION INDICATED IN TABLE 1 OR 1 FOOT ABOVE NORMAL WATER LEVEL, WHICHEVER IS HIGHER.
 - PROVIDE AND PLACE STRUCTURAL CONCRETE CLASS "C" WITH #4 BARS (GRADE 40) 12 INCH ON CENTER EACH WAY FOR - COLLARS ONLY.
 - PROVIDE TIMBER BENT PER ITEM 490, "TIMBER STRUCTURES," NO DIRECT PAY.
 - PROVIDE AND PLACE CEMENT STABILIZED BACKFILL AND STRUCTURAL EXCAVATION IN ACCORDANCE WITH ITEM 400, "EXCAVATION AND BACKFILL FOR STRUCTURES."
 - PROVIDE AND PLACE CEMENT STABILIZED BACKFILL AND STRUCTURAL EXCAVATION IN ACCORDANCE WITH ITEM 400, "EXCAVATION AND BACKFILL FOR STRUCTURES."
 - FOR STORM SEWER AND INTERCEPTOR OUTFALL PIPES WITHIN HCFCD ROW, USE TYPE S HDPE IN ACCORDANCE WITH ITEM 468.

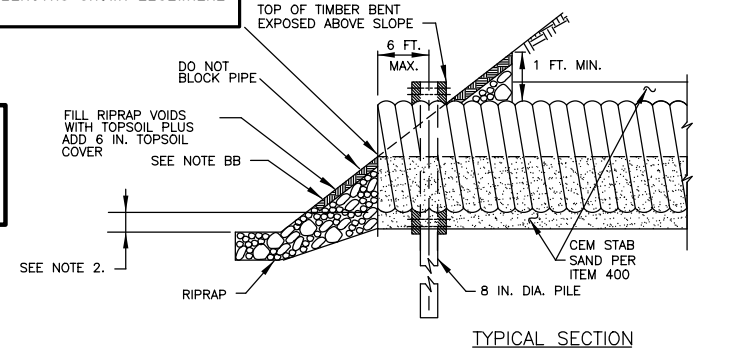


PIPE ADJUSTMENT DETAIL 24-INCH TO 42-INCH DIAMETER



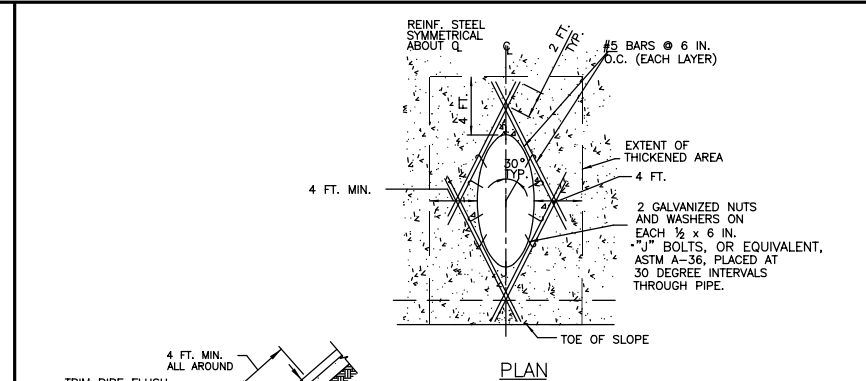
NOTE AA
THIS DETAIL OF CENTERLINE OF ANY PIPE END ALIGNING WITH CHANNEL SIDE SLOPE IS OF UTMOST IMPORTANCE. THIS DETAIL SHALL SUPERSEDE ANY OTHER DETAILS/PIPE LENGTHS SHOWN ELSEWHERE IN PLANS.

NOTE BB
TOPSOIL EXTENDS DOWN ONLY TO OHWE (IF APPLICABLE) OR TO NORMAL WATER ELEVATION, WHICHEVER IS HIGHER.



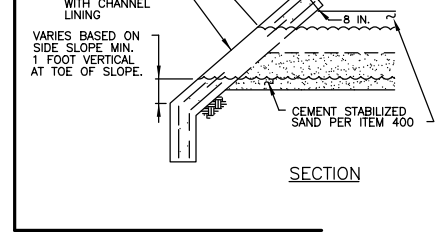
TIMBER BENT DETAIL

REQUIRED ONLY FOR 48-INCH HDPE AND LARGER OUTFALLS



PIPE OUTFALL NOTES FOR EXISTING CHANNEL LINING

- WHEN PLACING THROUGH EXISTING CHANNEL LINING, SAW-CUT 1 INCH AND REMOVE 4 FEET ALL AROUND.
- EXPOSE A MIN. OF 18 INCHES OF STEEL.



PIPE OUTFALL DETAILS (FOR OUTFALLS 24-42 INCH DIA.)

HCFCD STORM SEWER OUTFALL DETAILS

HCFCD-SSOD-25 (HOU)

FILE: HCFCD-SSOD-25 (HOU).dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
©TXDOT February 2025	CONT	SECT	JOB	HIGHWAY
02-25: 2024 Spec Updates	DIST	COUNTY	SHEET NO.	

A THESE ARE GENERAL DETAILS AND NOTES. IF THERE ARE ANY DISCREPANCIES BETWEEN THIS STANDARD AND THE DETAILED SEALED DRAINAGE PLANS, THE SEALED PLANS WILL OVERRIDE. THE ONLY EXCEPTION IS NOTE AA ABOVE.

B DESIGNER TO CONSULT WITH DISTRICT ENVIRONMENTAL SECTION TO DETERMINE IF OUTFALL IS OR IS NOT JURISDICTIONAL. IF JURISDICTIONAL, REQUEST ORDINARY HIGH WATER ELEVATION AND CORP OF ENGINEER'S PERMIT FROM ENVIRONMENTAL SECTION FOR ANY WORK BELOW ORDINARY HIGH WATER ELEVATION.