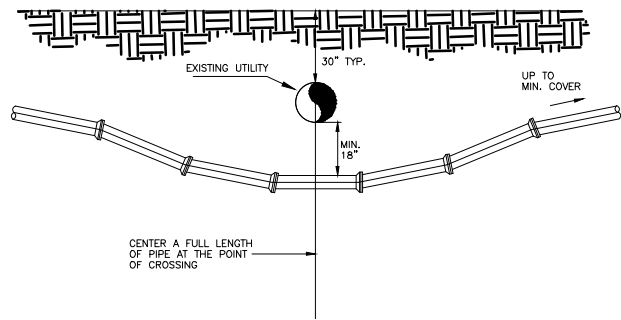
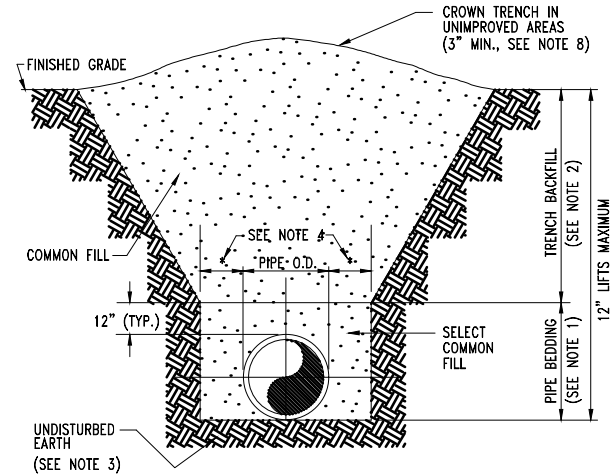


UTILITY CROSSING - FITTING TYPE



1. THE DEFLECTION TYPE CROSSING SHALL BE USED WHENEVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER SHALL THE FITTING TYPE CROSSING BE ALLOWED.
2. CONSTRUCT CROSSING USING 75% OF MANUFACTURERS MAXIMUM JOINT DEFLECTION (MAXIMUM).

UTILITY CROSSING - DEFLECTION

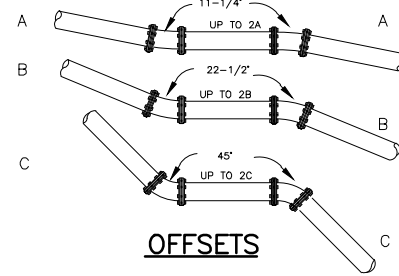


- NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE "A" BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE COUNTY.
 4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
 5. TRENCHES MUST BE FREE OF WATER AT ALL TIMES DURING CONSTRUCTION.
 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF FLOW.
 7. REFER TO THE MANUAL FOR SHEETING AND BRACING EXCAVATIONS.
 8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN MUNICIPAL RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

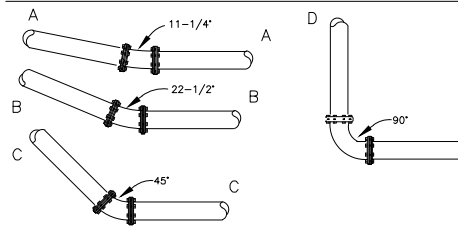
TYPE B BEDDING AND TRENCHING DETAIL

RESTRAINED PIPE

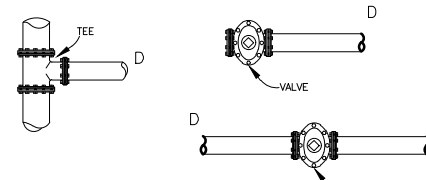
SIZE	DISTANCE IN FEET		
	A & B	C	D
4"	18	18	54
6"	18	18	72
8"	18	36	90
10"	18	36	108
12"	18	36	126
14"	18	54	144
16"	18	54	162
18"	18	54	180
20"	18	72	198
24"	18	72	216



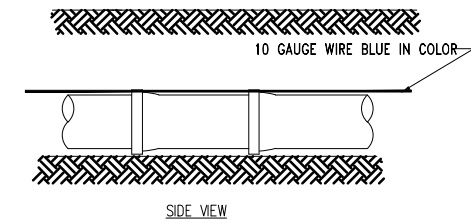
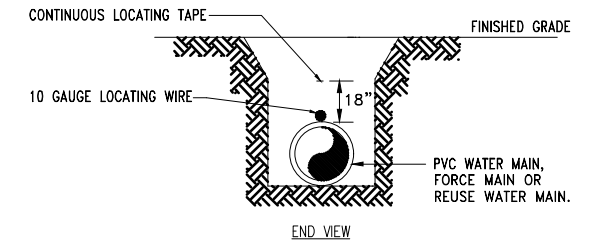
OFFSETS



DEFLECTIONS

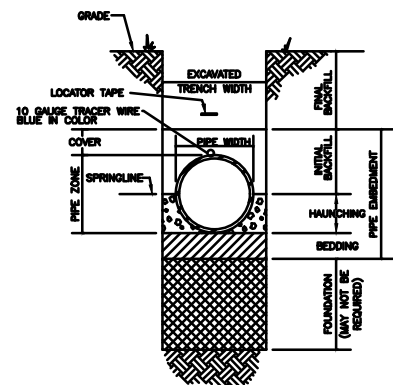


DEAD ENDS RESTRAINED PIPE

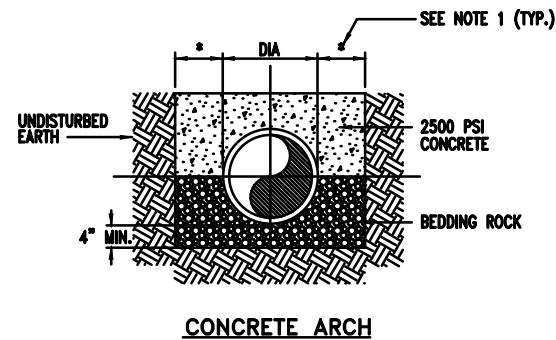


- NOTES:
1. ALL PRESSURE PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY AGAINST THE PIPE. 10 GAUGE WIRE MUST BE BLUE IN COLOR.
 2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
 3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY AGAINST THE PIPE.

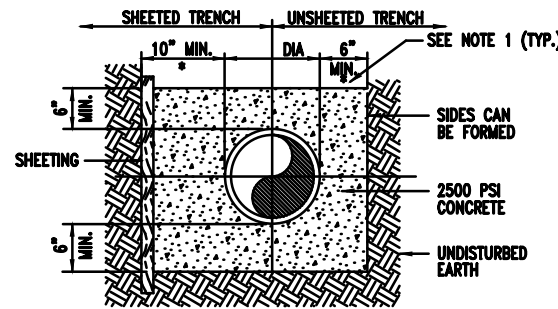
PVC PIPE LOCATING WIRE DETAIL



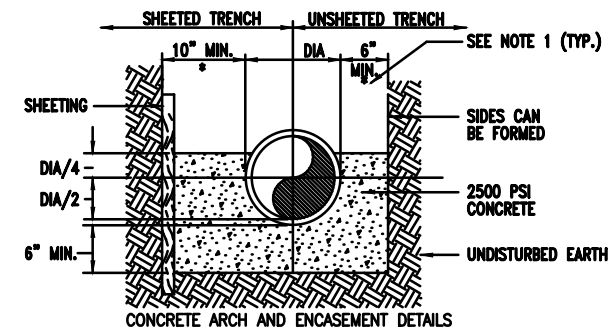
TRENCH CROSS-SECTION TERMINOLOGY



CONCRETE ARCH



FULL ENCASEMENT



CRADLE OR HALF ENCASEMENT

- NOTES:
1. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIA. 24" AND OVER.
 2. USE OF CONCRETE ARCH HALF ENCASEMENT OR FULL ENCASEMENT TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE COUNTY.
 3. REFER TO THE MANUAL FOR SHEETING AND BRACING EXCAVATIONS.

ISSUE CODE
MODIFIED: MJC 02-05-20

CITY OF LAKE WALES

ISSUE CODE	A PRELIMINARY	B DESIGN
C BIDS	D CONSTRUCTION	E APPROVAL
DESIGN:	SCALE: N.T.S.	
CHK'D BY:	DATE:	
DRAWN BY:	ENGR. APPR.	
DRAWING TITLE		
UNDERGROUND WORK DETAILS		
JOB NO.		
AREA	REV.	
CITY-OF-LAKE-WALES		