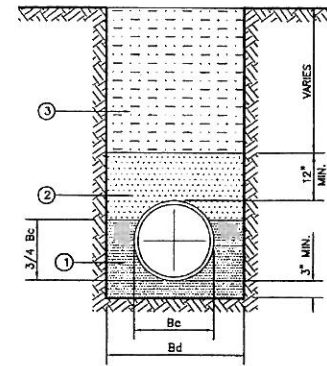


USE FOR PROJECT "B" FROM STATION 42+74 TO 68+00



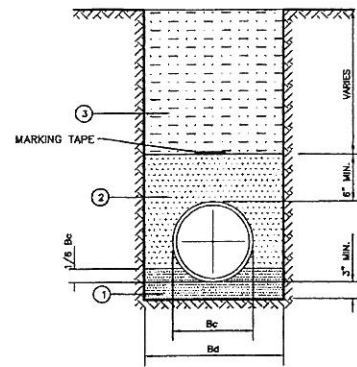
- FINE GRADATION CRUSHED STONE - TOP LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES.
- SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 4" IN. COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 95% STANDARD PROCTOR DENSITY.

SIZE OF PIPE IN INCHES NOMINAL DIAMETER	EXTERNAL DIAMETER IN INCHES (Bc)	TRENCH WIDTH IN INCHES (Bd)	TRENCH WIDTH IN FEET (Bd)	PIPE MATERIAL
24	30	46	3.83	RCCP
24	25.8	42	3.5	D.I. OR PVC

1 CLASS "B-2" EMBEDMENT
NO SCALE

USE FOR PROJECT "A"

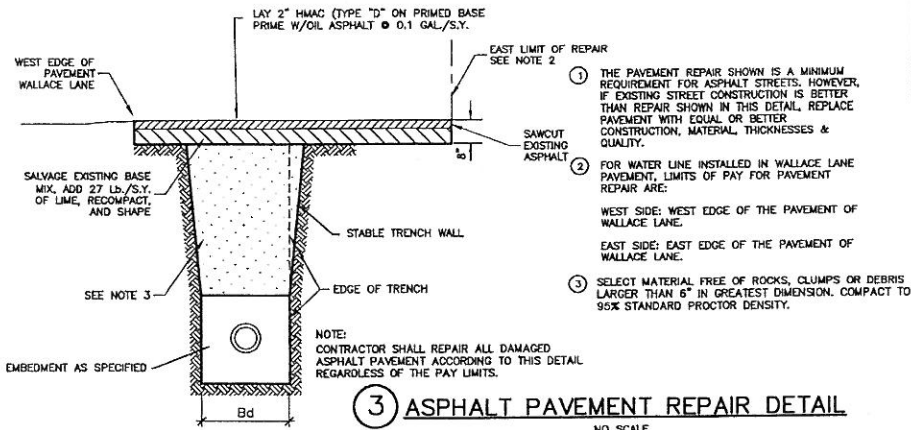
USE FOR PROJECT "B" FROM STATION 0+00 TO 42+74
USE FOR PROJECT "B" FROM STATION 68+00 TO END



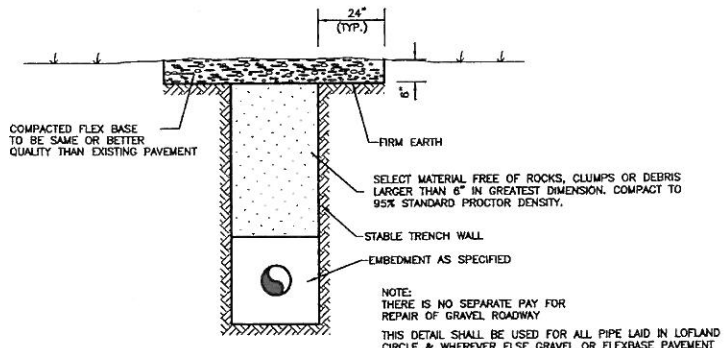
- STANDARD GRADATION CRUSHED STONE - TOP LAYER IS TO BE PLACED TO GRADE TO PROVIDE UNIFORM SUPPORT OF PIPE BARREL. EXCAVATE BELL HOLES.
- SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 4" IN. COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- SELECT MATERIAL FREE OF ROCKS, CLUMPS OR DEBRIS LARGER THAN 6" IN GREATEST DIMENSION. COMPACT TO 95% STANDARD PROCTOR DENSITY.

SIZE OF PIPE IN INCHES NOMINAL DIAMETER	EXTERNAL DIAMETER IN INCHES (Bc)	TRENCH WIDTH IN INCHES (Bd)	TRENCH WIDTH IN FEET (Bd)	PIPE MATERIAL
24	30	46	3.83	RCCP
24	25.8	42	3.5	D.I. OR PVC

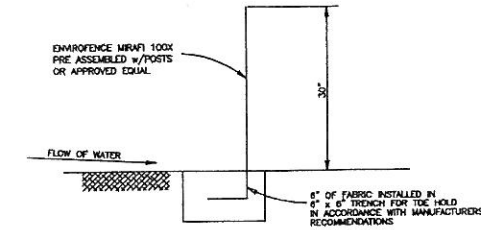
2 CLASS "C" EMBEDMENT
NO SCALE



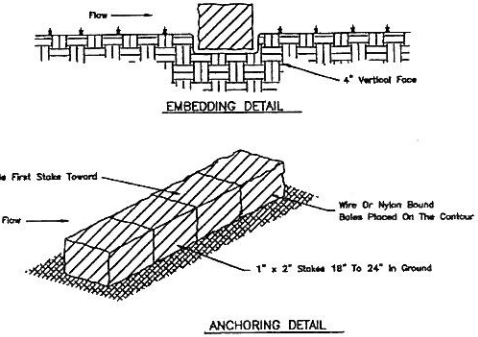
3 ASPHALT PAVEMENT REPAIR DETAIL
NO SCALE



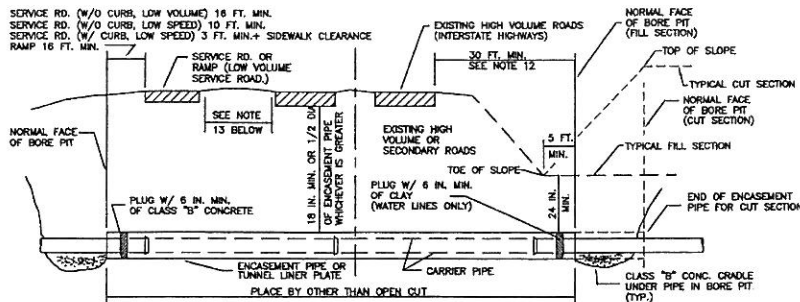
4 GRAVEL PAVEMENT REPAIR DETAIL
NO SCALE



5 SILTATION FENCE EROSION CONTROL DEVICE

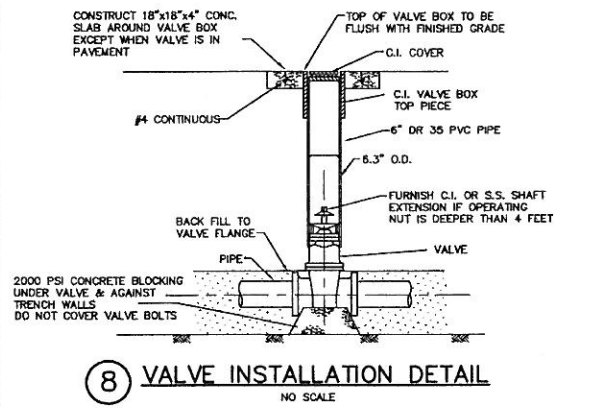


6 HAY BALE EROSION CONTROL DEVICE

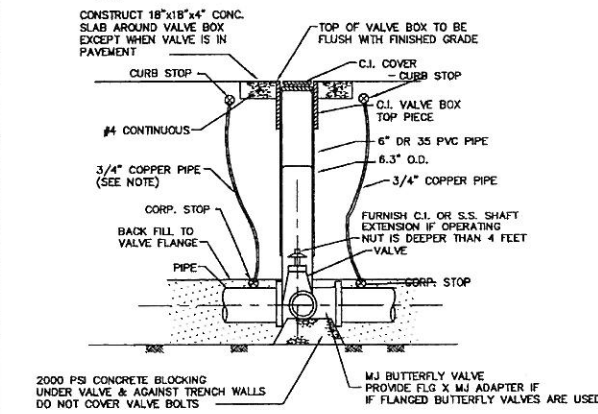


7 HIGHWAY CROSSING FOR WATER MAINS AND SEWER MAINS
ENCASMENT PIPE SPECIFICATIONS

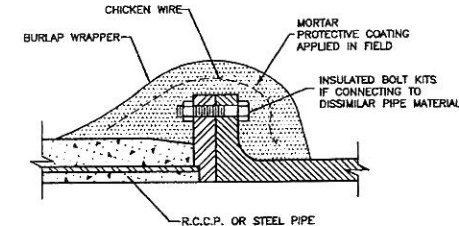
- NOTES:
- ENCASMENT PIPE: NEW, SMOOTH STEEL PIPE, 1/4" MIN. WALL THK., BITUMINOUS COATING, 35,000 PSI MIN. YIELD STRENGTH.
 - TUNNEL LINER PLATE: 12 GA. GALVANIZED, 2-FLANGE OR 4-FLANGE CIRCULAR LINER PLATE w/ BITUMINOUS COATING.
 - CARRIER PIPE SHALL BE MADE-UP OUTSIDE THE ENCASMENT PIPE & PUSHED THROUGH THE BORE. INSTALL RADI OR SMITH-BLAIR CASING SPACERS ACCORDING TO MFR. RECOMMENDATIONS. MAINTAIN 1" MAX. CLEARANCE BETWEEN CASING SPACERS & ENCASMENT PIPE.
 - WET BORES SHALL NOT BE USED.
 - ALL VOIDS BETWEEN THE BORE WALL & ENCASMENT PIPE (CARRIER PIPE IF NO ENCASMENT IS USED) SHALL BE FILLED w/ GROUT PER ASTM C-478.
 - IN TUNNEL SECTIONS, VOIDS BETWEEN EARTH OR ROCK, & ENCASMENT PIPE OR TUNNEL LINER PLATE SHALL BE FILLED w/ 1:7 GROUT INCLUDING 5 TO 40% AIR ENTRAINMENT BY PRESSURE INJECTION. INSTALL GALVANIZED STEEL HOLD DOWN JACKS. DESIGN & SPACING TO BE APPROVED BY CARRIER PIPE MFR.
 - METAL BEAM GUARD FENCE OR OTHER APPROVED PROTECTIVE DEVICES SHALL BE INSTALLED FOR THE PROTECTION OF THE TRAVELING PUBLIC.
 - REVEGETATE THE PROJECT AREA ACCORDING TO TxDOT SPEC 164.
 - PLACE WATER OR SEWER LINE MARKERS @ RIGHT-OF-WAY LINE. USE CARBONITE FLEXIBLE ROAD MARKERS w/ VINYL LETTERING: "WATER LINE CROSSING".
 - MEET ALL TxDOT UTILITY PERMIT REQUIREMENTS & DIRECTIONS OF THE TxDOT DISTRICT ENGINEER.
 - HIGH SPEED HIGHWAYS = 40 MPH SPEED LIMIT OR GREATER; HIGH VOLUME HIGHWAYS = 750 VEHICLES/DAY OR GREATER.
 - WHERE CIRCUMSTANCES NECESSITATE THE EXCAVATION OF A BORE PIT OR TRENCH CLOSER TO THE EDGE OF PAVEMENT THAN SET FORTH ON THIS SHEET, GUARD FENCE OR OTHER APPROVED PROTECTIVE DEVICES WILL BE INSTALLED FOR THE PROTECTION OF THE TRAVELING PUBLIC.
 - IF SEPARATION IS WIDER THAN REQUIRED SAFETY DISTANCES AND IF SIDE SLOPES WILL ALLOW, INSPECTION OF BORE PITS MAY BE ALLOWED (WITH TxDOT APPROVAL) WITH ACCESS TO PITS BY MEANS OTHER THAN MAIN TRAFFIC LANES.
 - CONCRETE TO BE CLASS "B" PER N.C.T.C.O.G. SPEC. 7.4.5



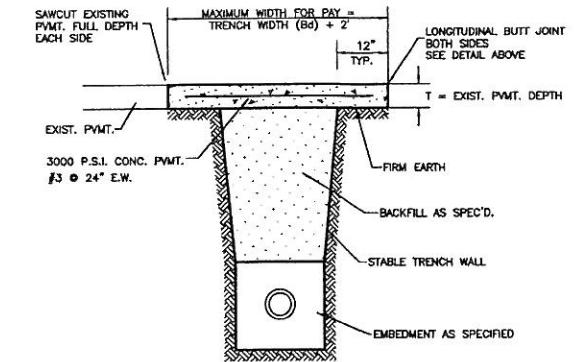
8 VALVE INSTALLATION DETAIL
NO SCALE



9 BUTTERFLY VALVE INSTALLATION DETAIL
NO SCALE



10 FLANGE CONNECTIONS
NO SCALE



11 CONCRETE DRIVEWAY REPAIR DETAIL
NO SCALE

RECORD DRAWING
(ALL REVISIONS ARE BASED UPON CITY AND CONTRACTOR NOTES AND COMMENTS)

NO.	DATE	REVISION	BY	A.C.
1	2-27-04	ADDENDUM NO. 1		

FREEMAN-MILLICAN, Inc.
ENGINEERS - ARCHITECTS - PLANNERS
9500 FOREST LN. DALLAS, TX 75243-0656

CITY OF HEATH
24" WATER TRANSMISSION LINE - PROJECT "A"

DETAILS



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DAMIN LULO, P.E. NO. 90370 ON 11/23/04

SCALE:
IF SHEET IS IN 11"x17" FORMAT, DRAWINGS ARE AT 1/2" OF NOTED SCALE.
PROJECT NO.: 02150
DATE: NOV 2004
DESIGNED: DL
DRAWN: FMI
CHECKED: JTM

SHEET
D1
TOTAL SHEETS: 27