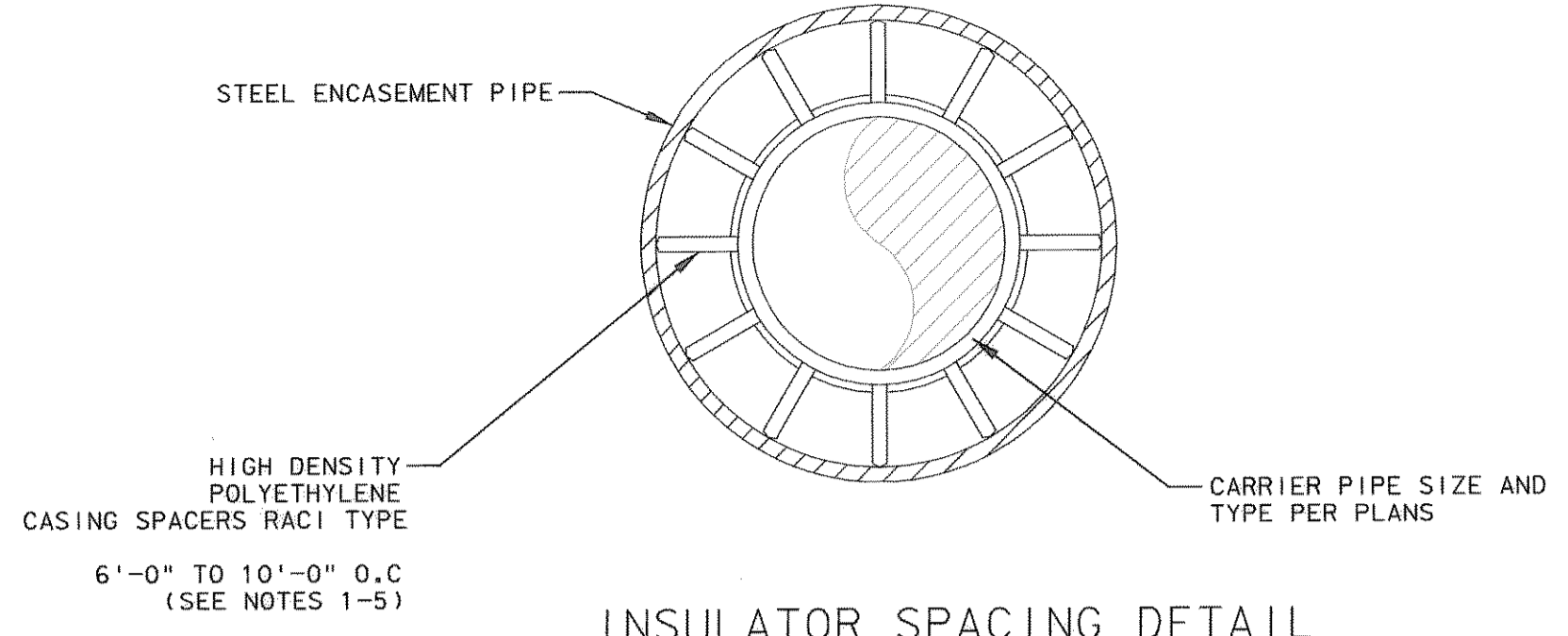
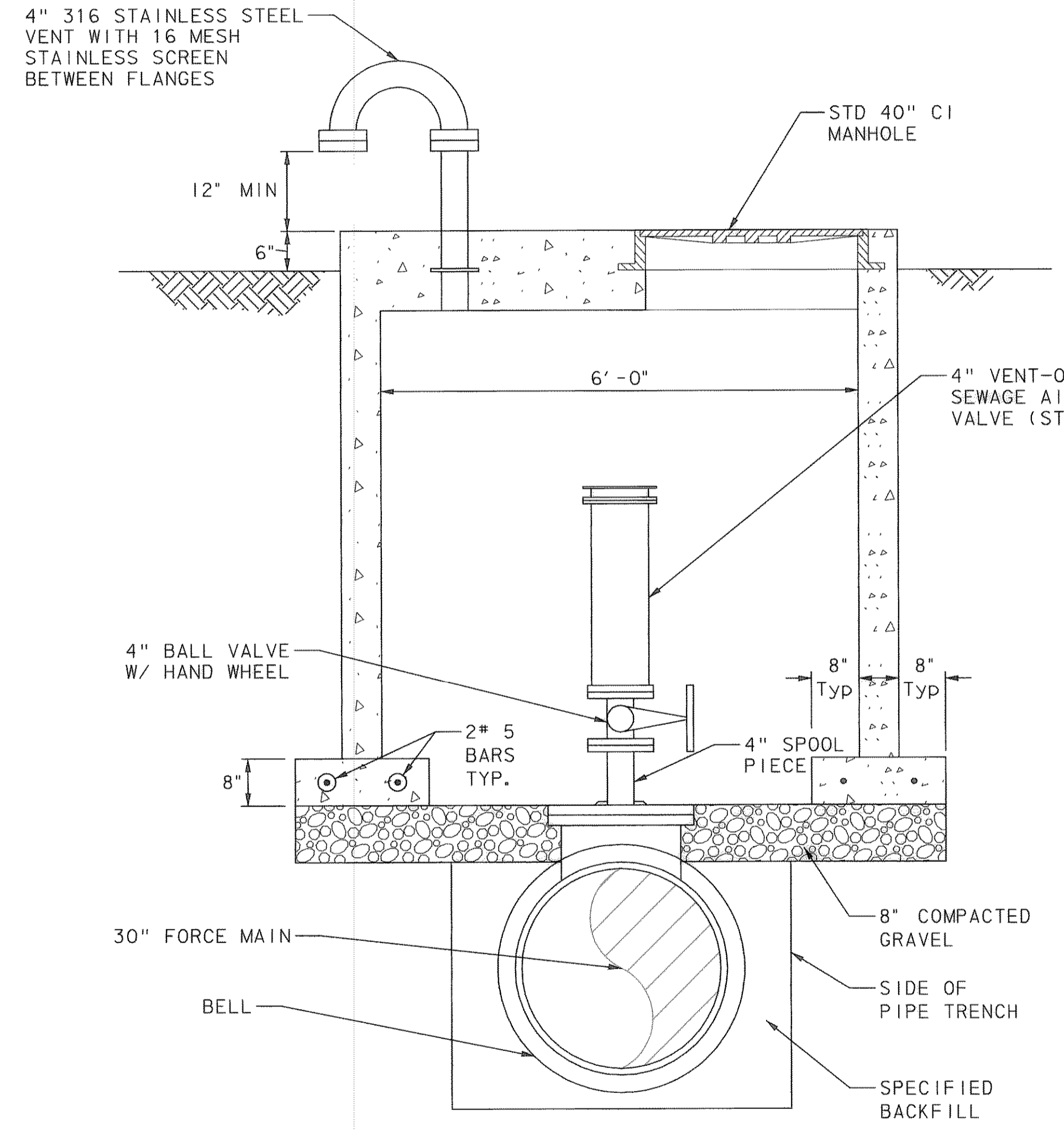


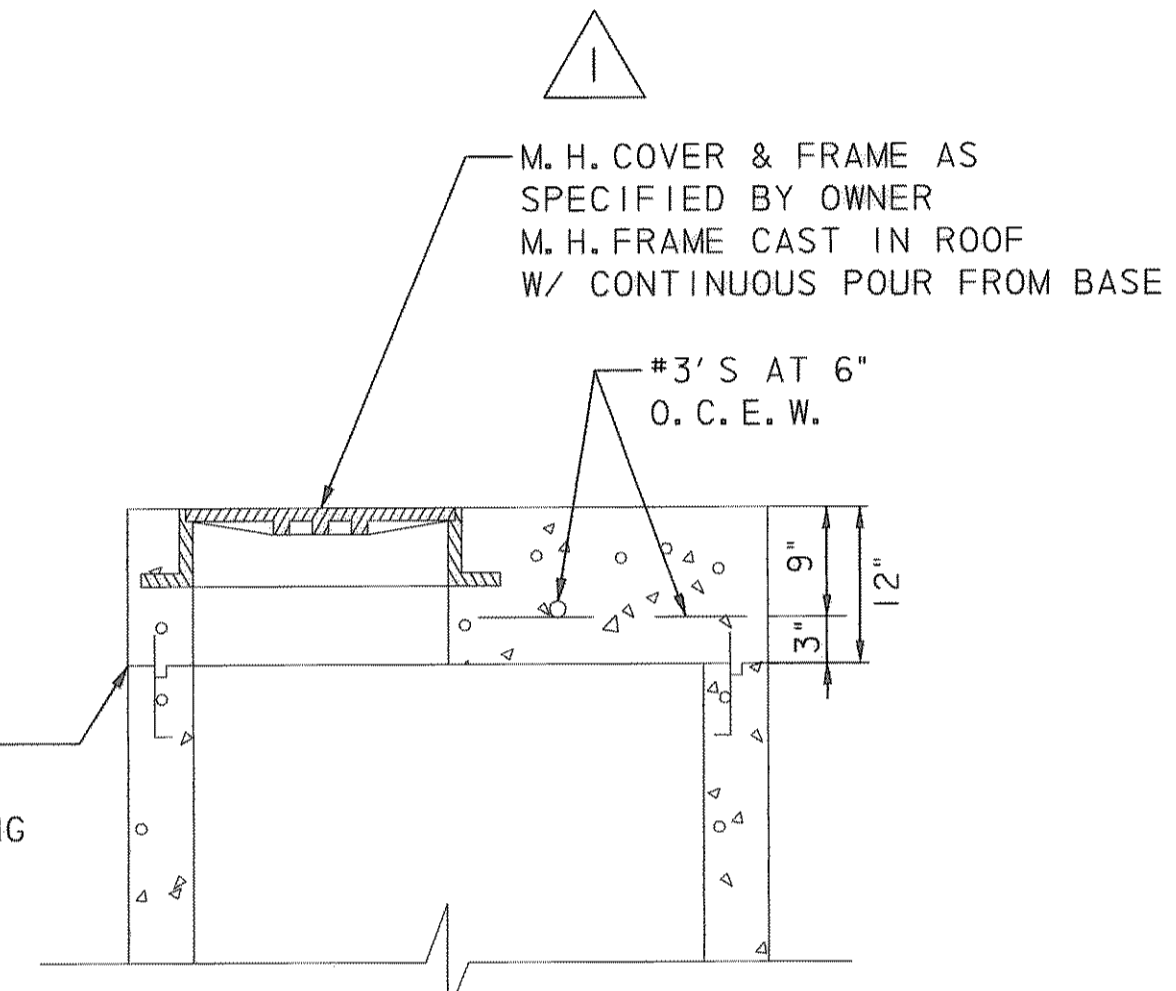
PIPE INSULATOR DETAIL
NOT TO SCALE



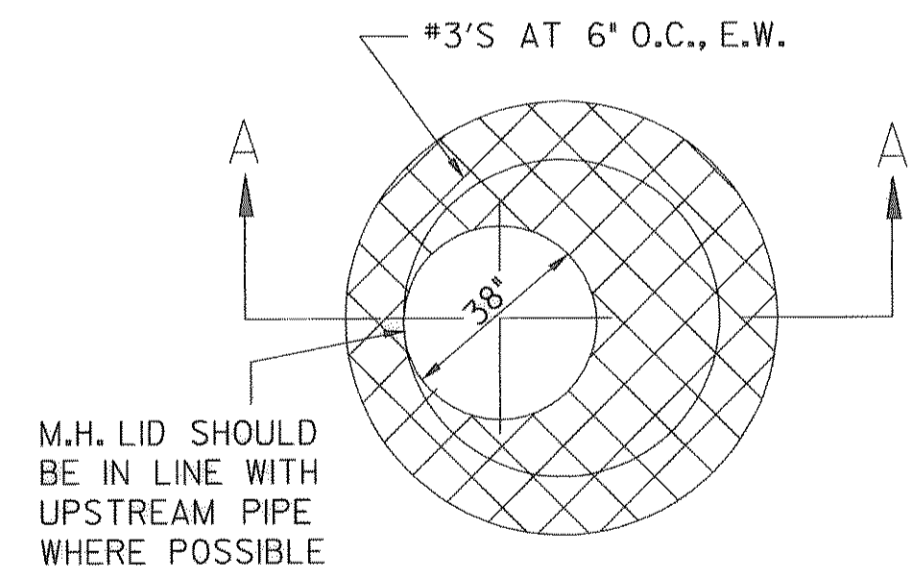
INSULATOR SPACING DETAIL
NOT TO SCALE



COMBINATION AIR & VACUUM RELEASE VALVE
NOT TO SCALE



SECTION A-A
NOT TO SCALE



ROOF STEEL LAYOUT
NOT TO SCALE

CARRIER PIPE NOMINAL DIAMETER	STEEL CASING PIPE		MAX SPAN BETWEEN SPACERS *
	NOMINAL MIN. DIAMETER	MIN. WALL THICKNESS	
30"	42"	0.375	4' TO 8'

* SEE NOTE 2

CASING SPACER NOTES:

1. THE CASING SPACERS SHALL BE OF A PROJECTION TYPE THAT HAS A MINIMUM NUMBER OF PROJECTIONS AROUND THE CIRCUMFERENCE TOTALING THE NUMBER OF DIAMETER INCHES.
2. CASING SPACERS SHALL HAVE A MAXIMUM SPACING SPAN AS SHOWN IN THE TABLE ABOVE. THE SPAN BETWEEN SPACERS SHOULD RESULT IN CONSERVATIVE LONG TERM SAFETY FACTOR PROVIDED TOTAL LOAD PER SPACER DOES NOT EXCEED THE MAXIMUM LOAD FOR PIPE FULL OF LIQUID PER SPACER LISTED IN THE LITERATURE PER CLASS SPACER USED.
3. SPACERS SHALL HAVE A MINIMUM HEIGHT THAT CLEARS THE PIPE BELL OR AS OTHERWISE INDICATED ON PLANS.
4. CASING SPACERS SHALL USE DOUBLE BACKED TAPE PROVIDED WITH THE SPACERS, TO FASTEN TIGHTLY ONTO THE CARRIER PIPE, SO THAT THE SPACERS DO NOT MOVE DURING INSTALLATION.
5. SPACERS SHALL BE RACI HIGH DENSITY POLYETHYLENE OR CITY APPROVED EQUAL.
6. ALL CARRIER PIPE INSTALLED BY BORING SHALL BE SUPPORTED BY QUARTER POINT CRADLE OF 2000 PSI CONCRETE ACROSS THE BORING PIT AND TO THE FIRST JOINT IN THE DITCH SECTION. ALL VOIDS WILL BE GROUTED WITH A 1:7 MINIMUM PROPORTIONED MIX WITH FIVE PERCENT (5%) TO FORTY PERCENT (40%) AIR ENTRAINMENT, AND WILL BE CONSIDERED A PART OF THE UNIT PRICE OF THE BORING OPERATION.

RECORD DRAWING
This drawing is a compilation of the original sealed engineering drawing and modifications by addenda, change orders and information furnished by the contractor. Information shown that was provided by the contractor and others not associated with the design engineer cannot be verified for accuracy or completeness. Original sealed drawing is on file at the office of AECOM USA Group, Inc. TBPE REG. NO. F-3082

**ORIGINAL DRAWING
SEALED & SIGNED BY**
T.H. Gaertner, P.E.
TX NO. 37124

REVISIONS		THG	7/29/08
NO.	REVISION	BY	DATE
205 BYPASS PHASE 4			
30" FORCE MAIN MISCELLANEOUS DETAILS			
TCB AECOM		<small>TCB INC. WWW.TCB.AECOM.COM 17300 DALLAS PARKWAY, SUITE 1010 DALLAS, TEXAS 75248</small>	
Unit	PW-DAL-FW	Scale: Horz: 1:40 Vert: 1:10	Date: 11/11/2009
Designed	JLT/SDB	Checked: NRB	Project No. 60023784
Drawn	TCB	Approved: NRB	Sheet 50 of 146

DETAIL NOTES:

1. REFER TO THE CITY OF ROCKWALL SPECIAL PROVISIONS FOR REVISIONS MADE TO NORTH CENTRAL TEXAS STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, THIRD EDITION, FOR THE FOLLOWING DRAWINGS:
EMBEDMENT- STANDARD DRAWING NO. 3030
2. REFER TO NORTH CENTRAL TEXAS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION DRAWINGS, THIRD EDITION, FOR THE FOLLOWING DETAILS:
THRUST BLOCKS - STANDARD DRAWING NO. 4100 A-C, 4020, 4030 AND 4040.
COMBINATION SEWAGE AIR & VACUUM RELIEF VALVE - STANDARD DRAWING NO. 4100 A & B

11/11/2009 5:23:57 PM
 P:\4328\60004163-205Bypass\CADD\Sheets\Phase 4-120-00 to 141+00\Record Drawing 10-T-09\050Detail1.s - rev 7-28.dgn