

WATER AND SEWER CONSTRUCTION DETAILS

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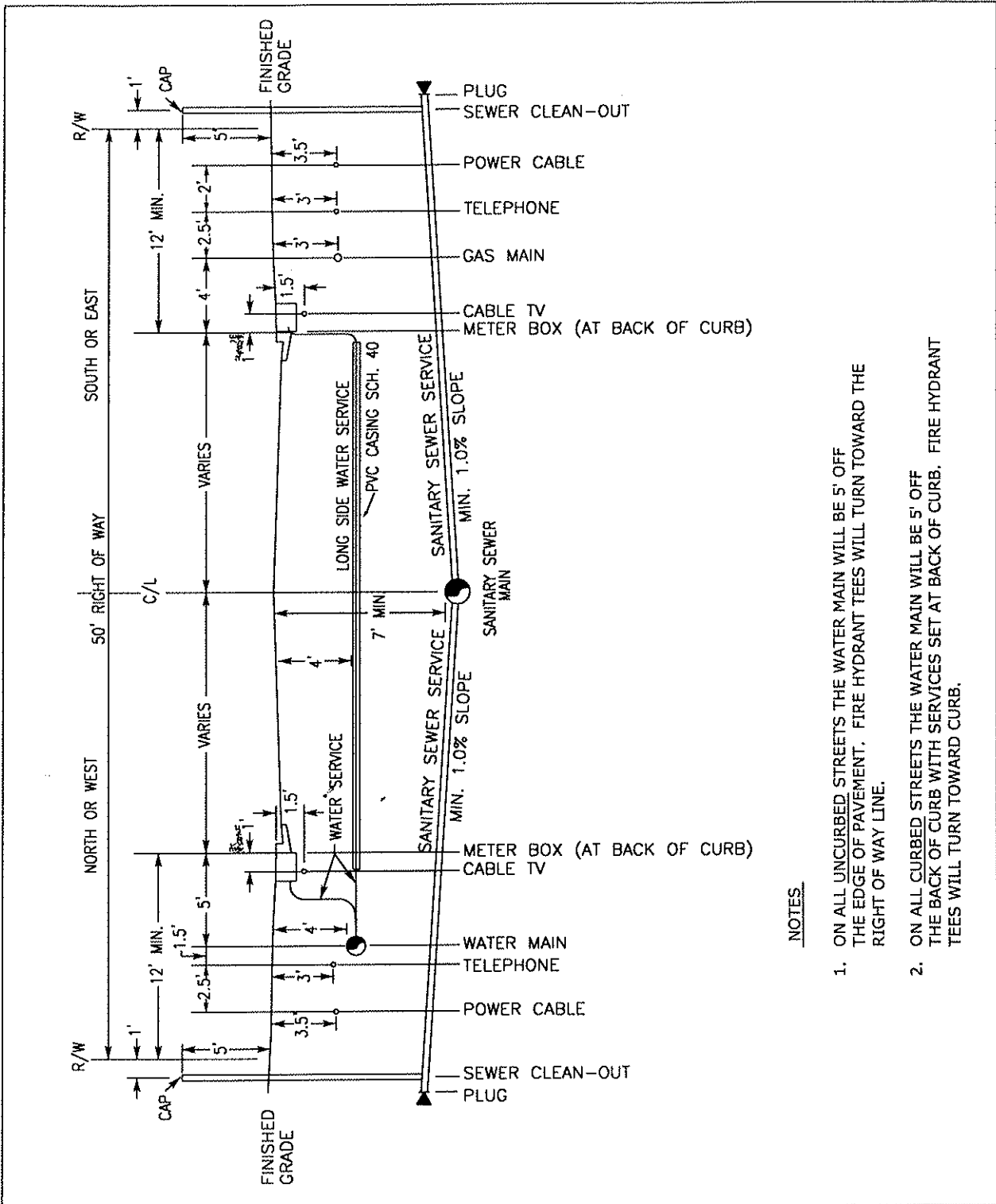
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WATER AND SEWER CONSTRUCTION DETAILS

LIST OF DETAILS (Page 2 of 2)

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Detail No. 61.0:	Traffic Rated Clean Out Box
Detail No. 62.0:	Grease / Solids / Oil Interceptor
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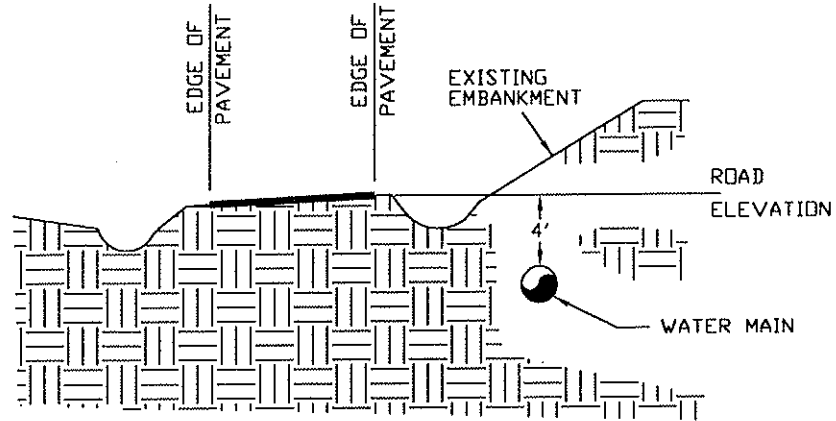
NOTES

1. ON ALL UNCURBED STREETS THE WATER MAIN WILL BE 5' OFF THE EDGE OF PAVEMENT. FIRE HYDRANT TEES WILL TURN TOWARD THE RIGHT OF WAY LINE.
2. ON ALL CURBED STREETS THE WATER MAIN WILL BE 5' OFF THE BACK OF CURB WITH SERVICES SET AT BACK OF CURB. FIRE HYDRANT TEES WILL TURN TOWARD CURB.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

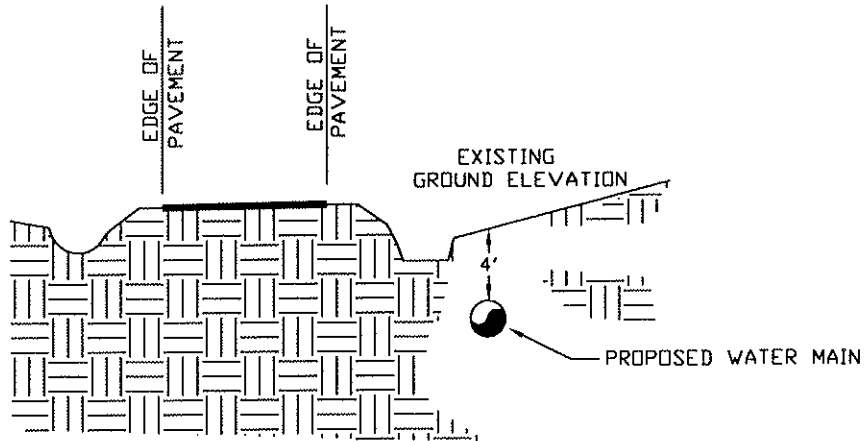
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	UNDERGROUND UTILITIES LOCATIONS	1.0
DRAWN BY:			

WHERE GROUND ELEVATION
IS ABOVE ROAD ELEVATION



NOTE: UNLESS OTHERWISE INDICATED ON PLANS, PIPE TO BE INSTALLED WITH A MINIMUM OF 4 FEET OF SOIL COVER AND BE 4 FEET BELOW THE ROADWAY . PIPE SHALL BE LAYED IN THE BACK 5' OF THE RIGHT OF WAY.

WHERE GROUND ELEVATION
IS BELOW ROAD ELEVATION

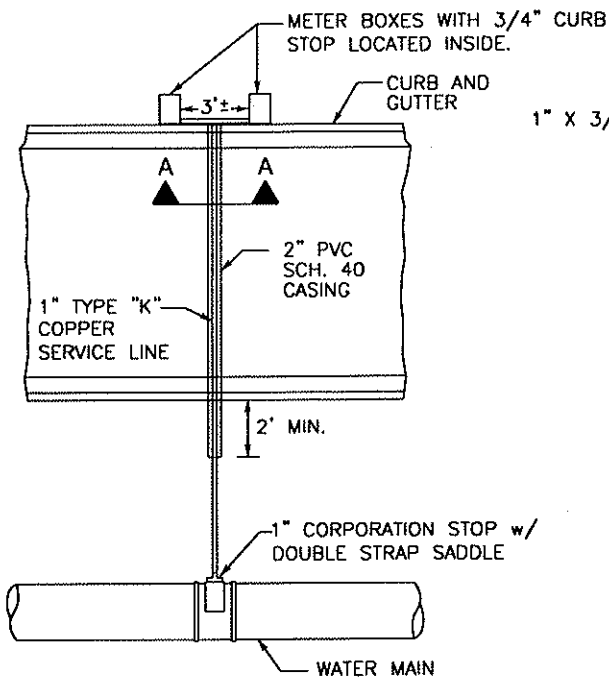


NOTE: UNLESS OTHERWISE INDICATED ON PLANS, PIPE TO BE INSTALLED WITH A MINIMUM OF 4 FEET OF SOIL COVER AND BE 4 FEET BELOW THE ROADWAY . PIPE SHALL BE LAYED IN THE BACK 5' OF THE RIGHT OF WAY.

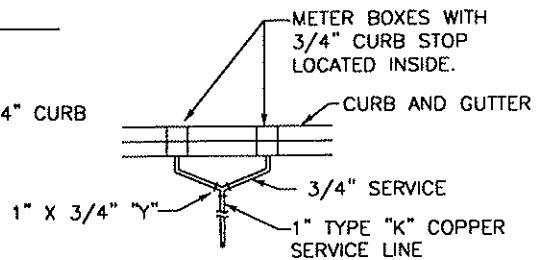
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PIPE DEPTH AT EDGE OF PAVEMENT	2.0
DRAWN BY:			

P/L
 PRIVATE PROPERTY
 PUBLIC RIGHT OF WAY R/W



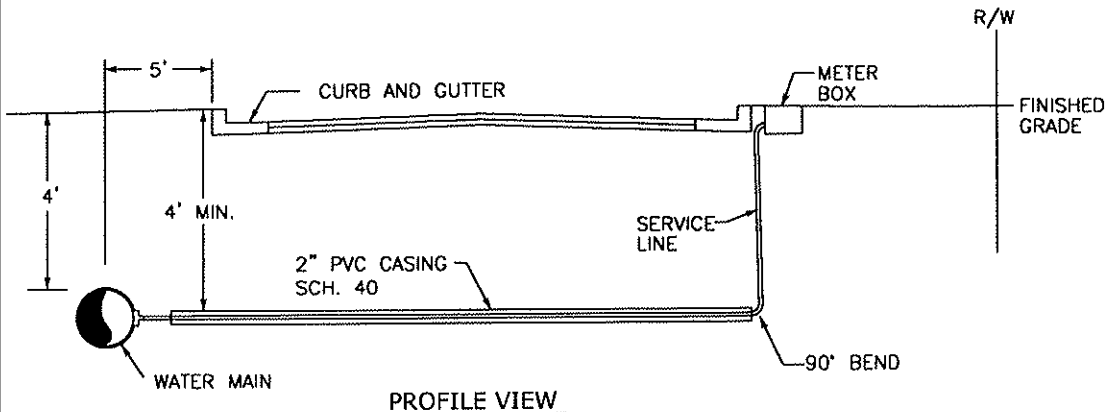
PLAN VIEW



SECTION A-A

NOTES:

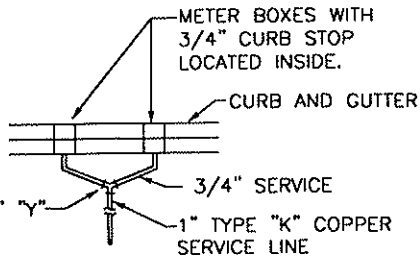
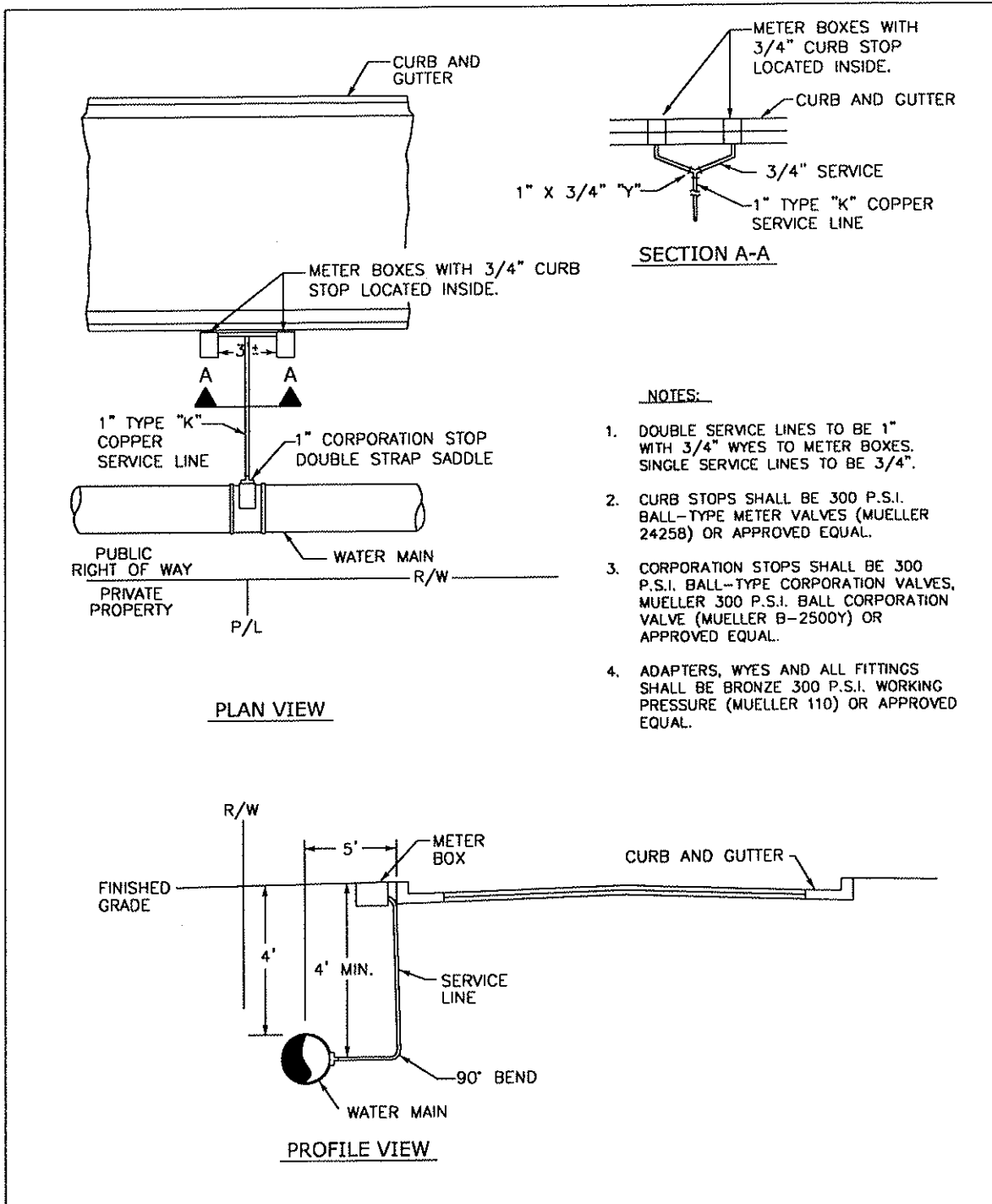
1. DOUBLE SERVICE LINES TO BE 1" WITH 3/4" WYES TO METER BOXES. SINGLE SERVICE LINES TO BE 3/4".
2. CURB STOPS SHALL BE 300 P.S.I. BALL-TYPE METER VALVES (MUELLER 2425B) OR APPROVED EQUAL.
3. CORPORATION STOPS SHALL BE 300 P.S.I. BALL-TYPE CORPORATION VALVES, MUELLER 300 P.S.I. BALL CORPORATION VALVE (MUELLER B-2500B) OR APPROVED EQUAL.
4. ADAPTERS, WYES AND ALL FITTINGS SHALL BE BRONZE 300 P.S.I. WORKING PRESSURE (MUELLER 110) OR APPROVED EQUAL.



PROFILE VIEW

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	LONG SIDE SERVICE	3.0
DRAWN BY:			



SECTION A-A

NOTES:

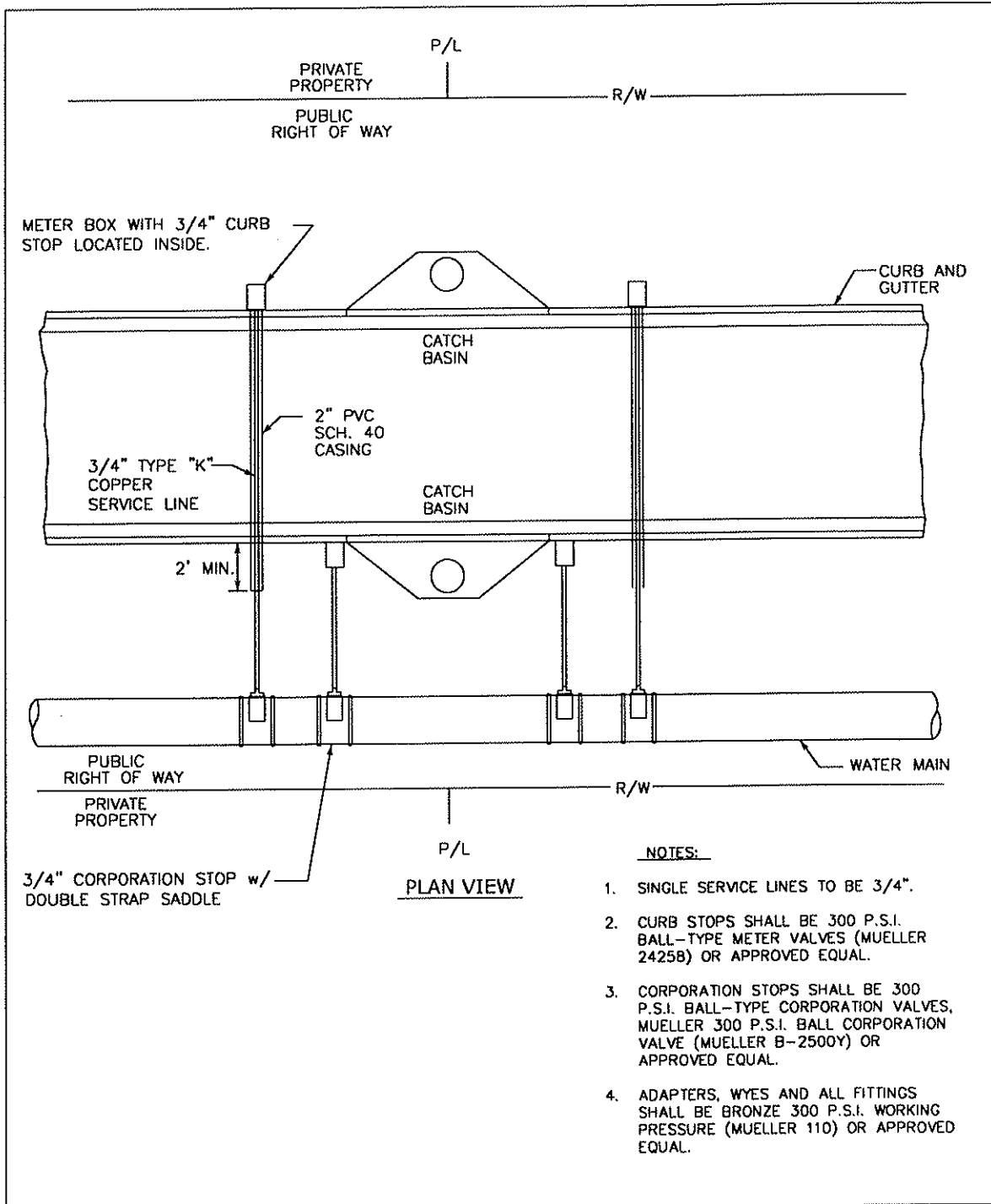
1. DOUBLE SERVICE LINES TO BE 1" WITH 3/4" WYES TO METER BOXES. SINGLE SERVICE LINES TO BE 3/4".
2. CURB STOPS SHALL BE 300 P.S.I. BALL-TYPE METER VALVES (MUELLER 24258) OR APPROVED EQUAL.
3. CORPORATION STOPS SHALL BE 300 P.S.I. BALL-TYPE CORPORATION VALVES, MUELLER 300 P.S.I. BALL CORPORATION VALVE (MUELLER B-2500Y) OR APPROVED EQUAL.
4. ADAPTERS, WYES AND ALL FITTINGS SHALL BE BRONZE 300 P.S.I. WORKING PRESSURE (MUELLER 110) OR APPROVED EQUAL.

PLAN VIEW

PROFILE VIEW

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	SHORT SIDE SERVICE	4.0
DRAWN BY:			

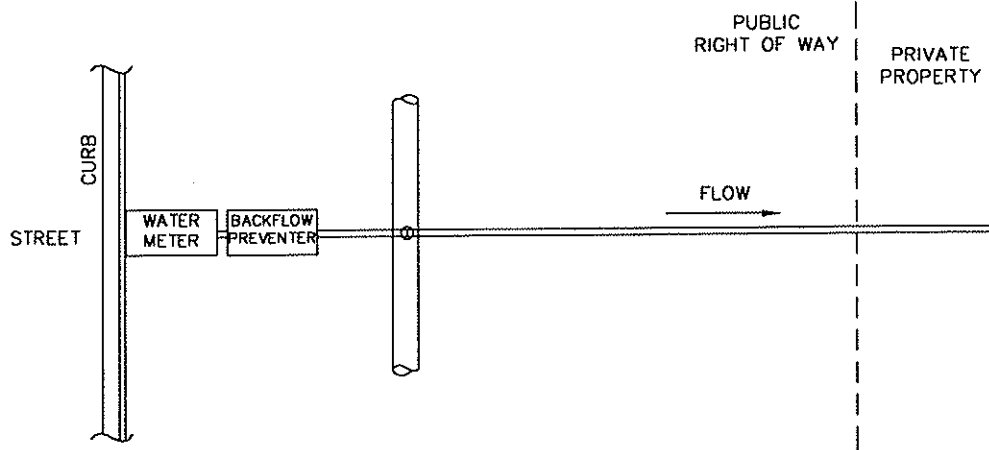


NOTES:

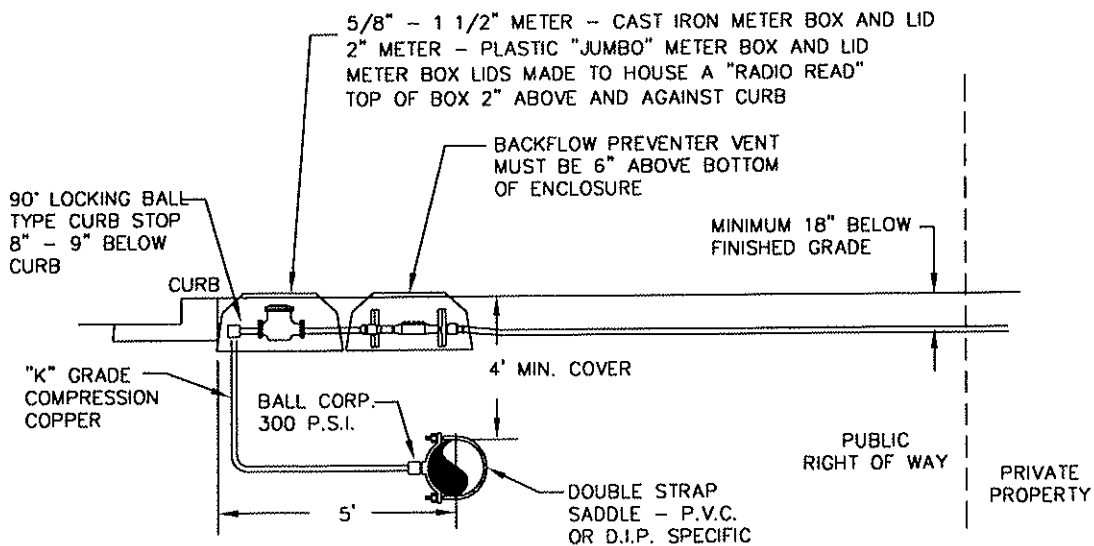
1. SINGLE SERVICE LINES TO BE 3/4".
2. CURB STOPS SHALL BE 300 P.S.I. BALL-TYPE METER VALVES (MUELLER 2425B) OR APPROVED EQUAL.
3. CORPORATION STOPS SHALL BE 300 P.S.I. BALL-TYPE CORPORATION VALVES, MUELLER 300 P.S.I. BALL CORPORATION VALVE (MUELLER B-2500Y) OR APPROVED EQUAL.
4. ADAPTERS, WYES AND ALL FITTINGS SHALL BE BRONZE 300 P.S.I. WORKING PRESSURE (MUELLER 110) OR APPROVED EQUAL.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	WATER METER LOCATIONS AT CATCH BASINS	5.0
DRAWN BY:			



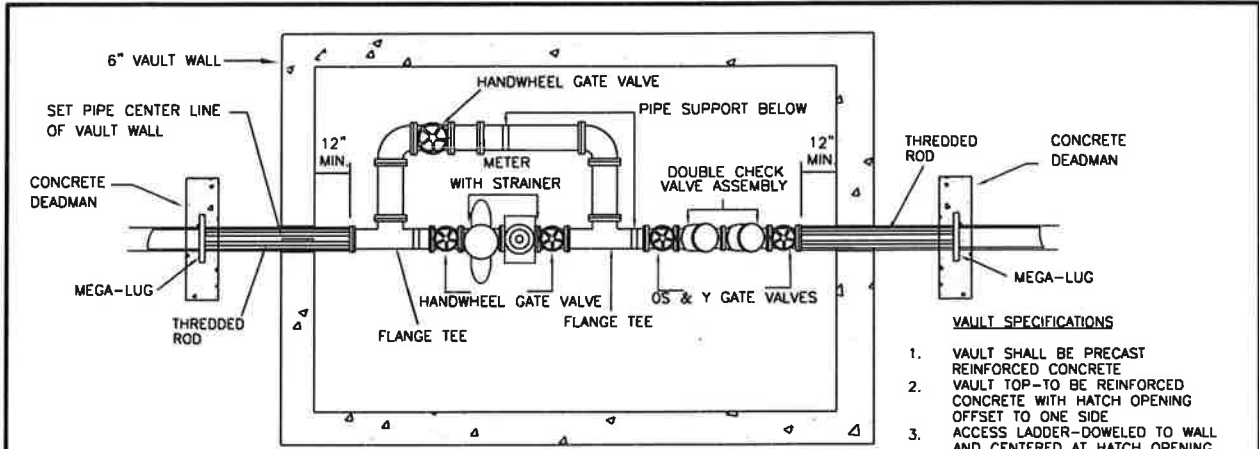
PLAN VIEW



SIDE VIEW

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	WATER METER BOX 2" AND SMALLER	6.0
DRAWN BY:			



PLAN VIEW

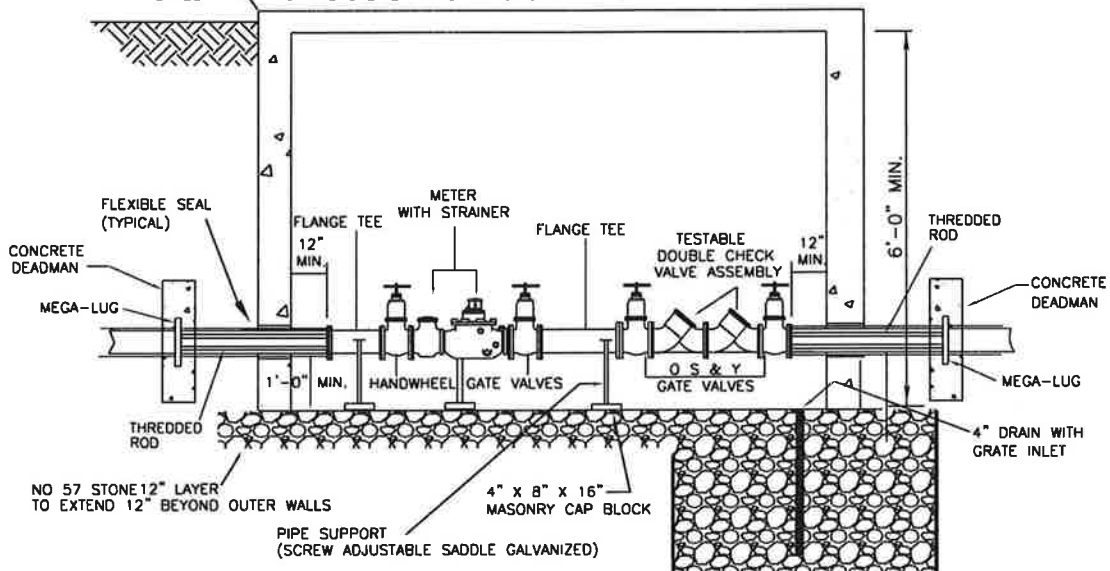
VAULT SIZING REQUIREMENTS

1. VAULTS SHALL BE ADEQUATELY SIZED TO CONTAIN ALL PIPING, VALVES, BYPASS, FITTINGS, METER AND STRAINER ASSOCIATED W/ THE METER INSTALLATION.
2. A MINIMUM DISTANCE OF 12" SHALL BE MAINTAINED BETWEEN ANY PIPING AND 1) THE VAULT FLOOR AND 2) THE WALL RUNNING PARALLEL TO THE PIPING.
3. RECOMMENDED VAULT SIZES:
 3" - 10'-6" x 6'-0"
 4" - 12'-0" x 6'-0"
 6" AND GREATER - AS APPROVED BY FCDWS

VAULT SPECIFICATIONS

1. VAULT SHALL BE PRECAST REINFORCED CONCRETE
2. VAULT TOP-TO BE REINFORCED CONCRETE WITH HATCH OPENING OFFSET TO ONE SIDE
3. ACCESS LADDER-DOWELED TO WALL AND CENTERED AT HATCH OPENING
4. PIPE PENETRATIONS (ANNULUS BETWEEN CONCRETE AND OUTSIDE OF PIPE) SHALL BE SEALED WITH EXPANDING FOAM OR BRICKED AND GROUTED.
5. BFP DEVICE TO BE SUPPORTED AT ONE (1) POINT WITH PIPE STANDS.
6. THRUST BLOCKING (AS REQUIRED) VAULT TO BE INSTALLED ON OWNERS PRIVATE PROPERTY, PROVIDING A 15 x 30 FOOT EASEMENT.
7. ALL MATERIALS TO BE FURNISHED AND INSTALLED BY THE CUSTOMER/OWNER.
8. VAULTS SHALL BE 2 PIECE.

TOP OF VAULT LID SHALL SET NO MORE THAN 3 INCHES ABOVE FINISHED GRADE



SECTION VIEW

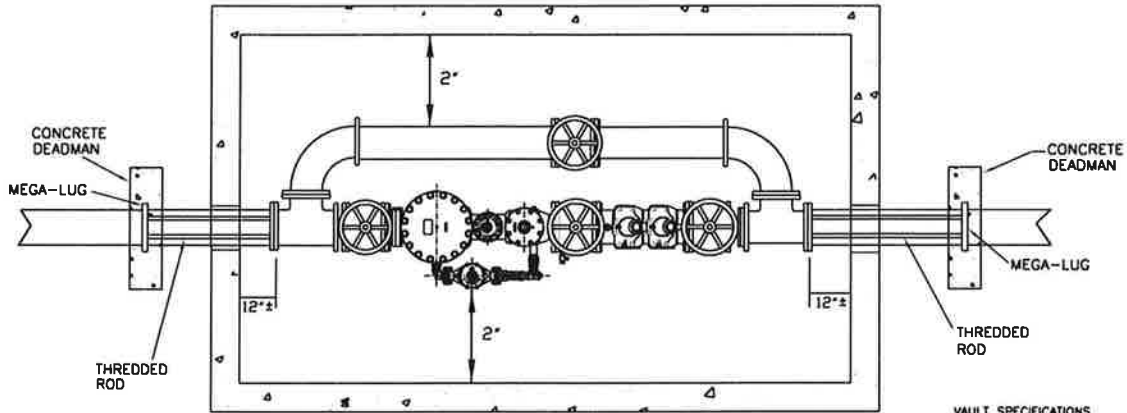
VAULT HATCH REQUIREMENTS

1. RATED TO WITHSTAND A MINIMUM H-10 LIVE LOAD.
2. A MANUAL LOCKING ARM TO PREVENT HATCH LIDS FROM CLOSING.
3. CAPABLE OF BEING SECURED USING A KEYED LOCK, OR BY A T-HANDLE LATCH.
4. 3" - 6" WATER SERVICE: 36" x 36" HATCH
 GREATER THAN 6" WATER SERVICE: PER FCDWS

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER			
DATE:	May 18, 2011	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	WATER METER BOX 3" AND LARGER	7.1
DRAWN BY:			

VAULT HATCH REQUIREMENTS

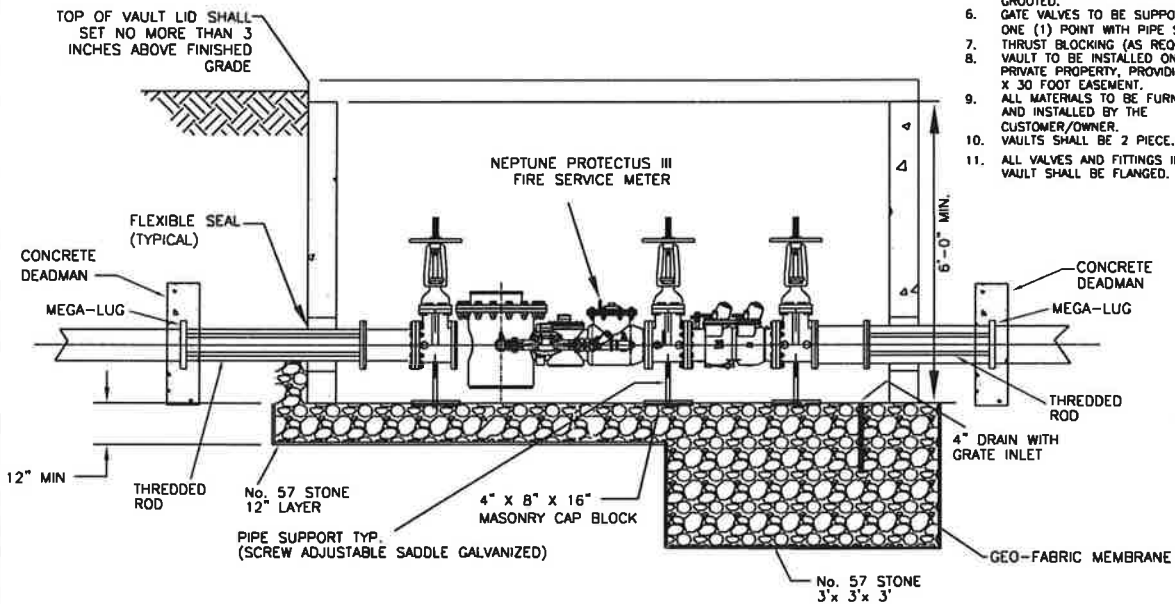
1. RATED TO WITHSTAND A MINIMUM H-10 LIVE LOAD.
2. A MANUAL LOCKING ARM TO PREVENT HATCH LIDS FROM CLOSING.
3. CAPABLE OF BEING SECURED USING A KEYED LOCK, OR BY A T-HANDLE LATCH.



PLAN VIEW

VAULT SPECIFICATIONS

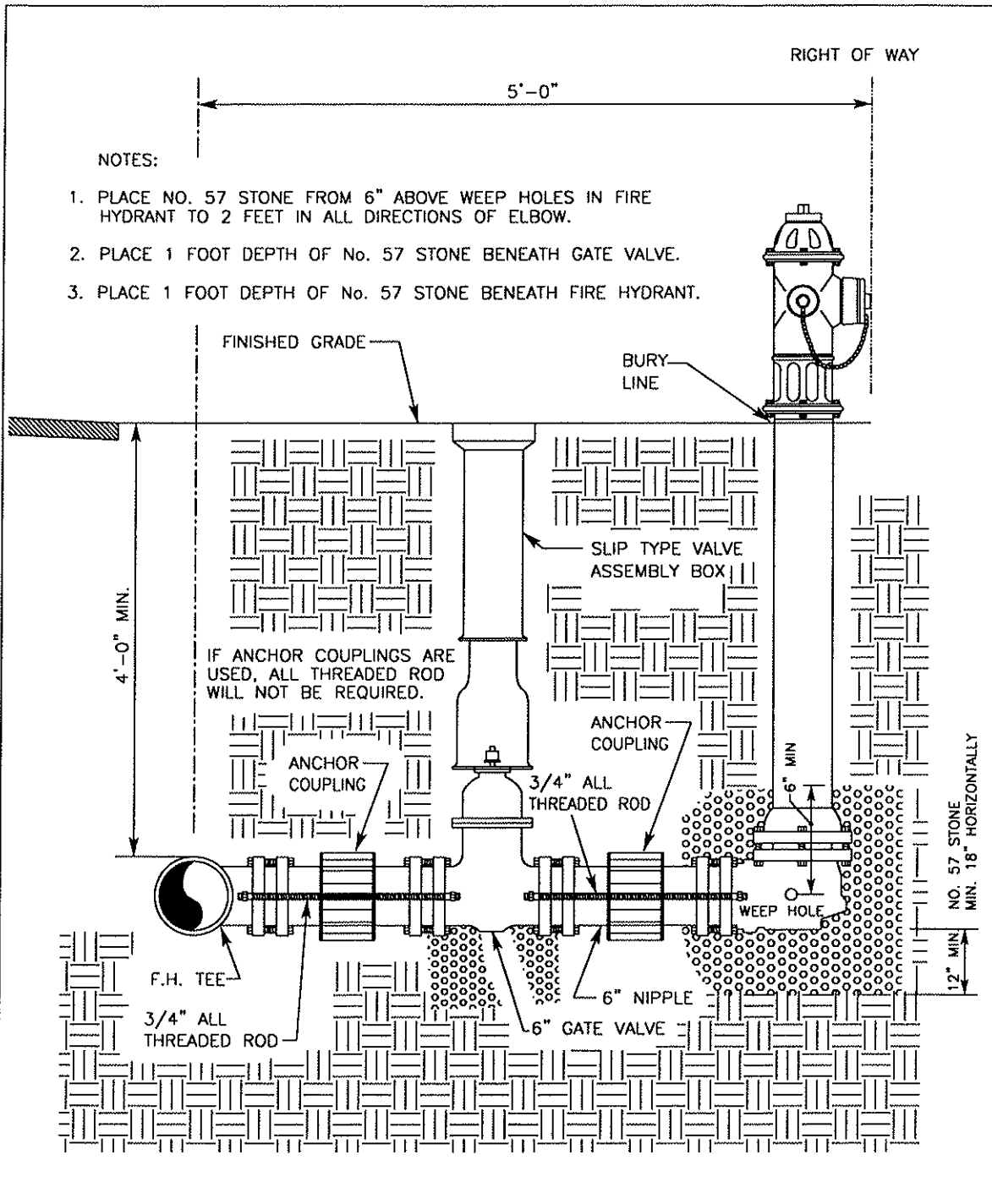
1. VAULT SHALL BE PRECAST REINFORCED CONCRETE
2. VAULT TOP-TO BE REINFORCED CONCRETE WITH HATCH OPENING OFFSET TO ONE SIDE
3. ACCESS LADDER-DOWELED TO WALL AND CENTERED AT HATCH OPENING
4. HATCH COVER-(ALUMINUM)-BLCO MODEL NO. J-4AL OR EQUAL
5. PIPE PENETRATIONS (ANNULUS BETWEEN CONCRETE AND OUTSIDE OF PIPE) SHALL BE SEALED WITH EXPANDING FOAM OR BRICKED AND GROUTED.
6. GATE VALVES TO BE SUPPORTED AT ONE (1) POINT WITH PIPE STANDS.
7. THRUST BLOCKING (AS REQUIRED)
8. VAULT TO BE INSTALLED ON OWNERS PRIVATE PROPERTY, PROVIDING A 15 X 30 FOOT EASEMENT.
9. ALL MATERIALS TO BE FURNISHED AND INSTALLED BY THE CUSTOMER/OWNER.
10. VAULTS SHALL BE 2 PIECE.
11. ALL VALVES AND FITTINGS INSIDE VAULT SHALL BE FLANGED.



SECTION VIEW

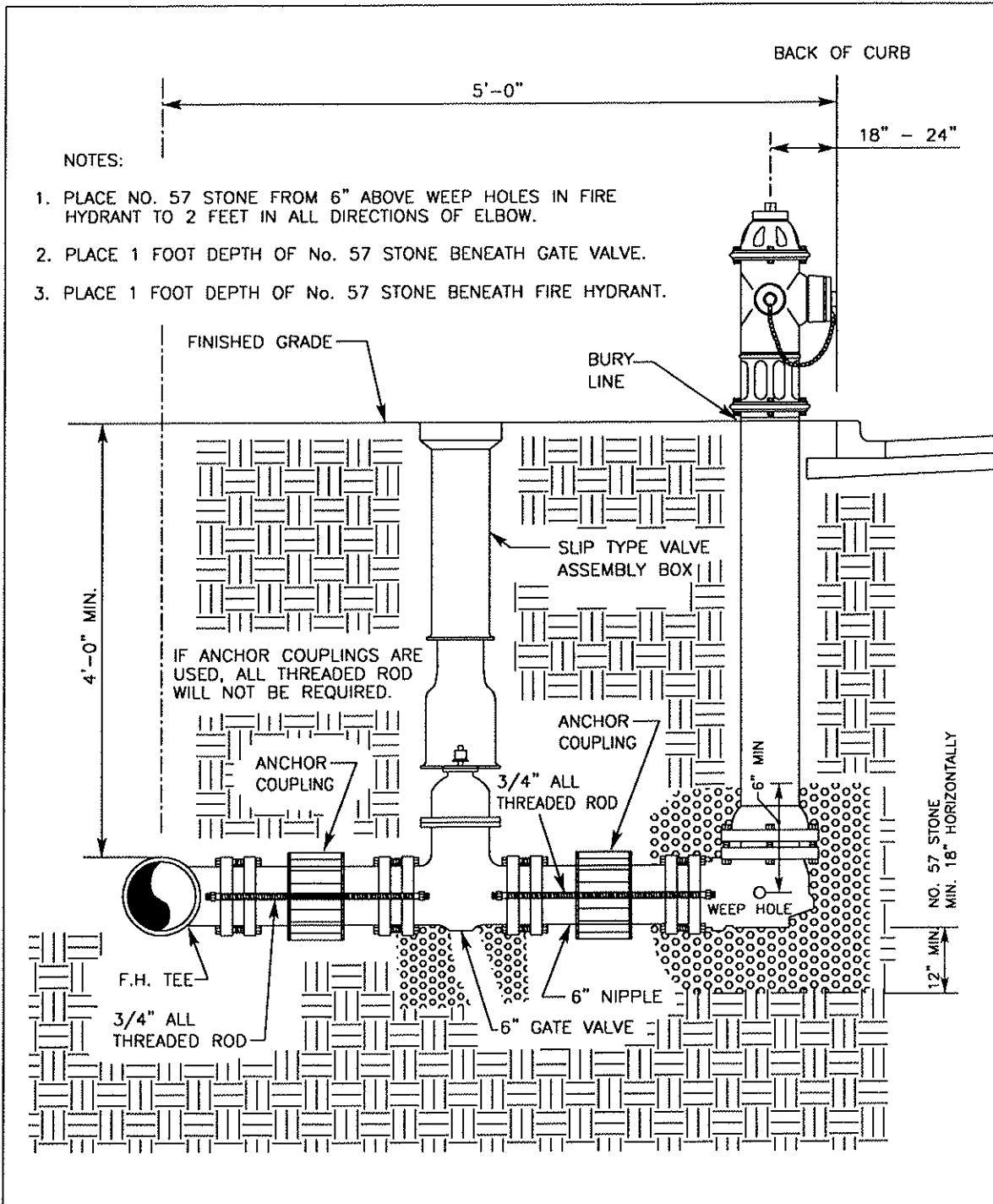
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	May 18, 2011	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	FIRE METER AND VAULT	8.1
DRAWN BY:	AH		



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	FIRE HYDRANT (UNCURBED STREET)	9.0
DRAWN BY:			

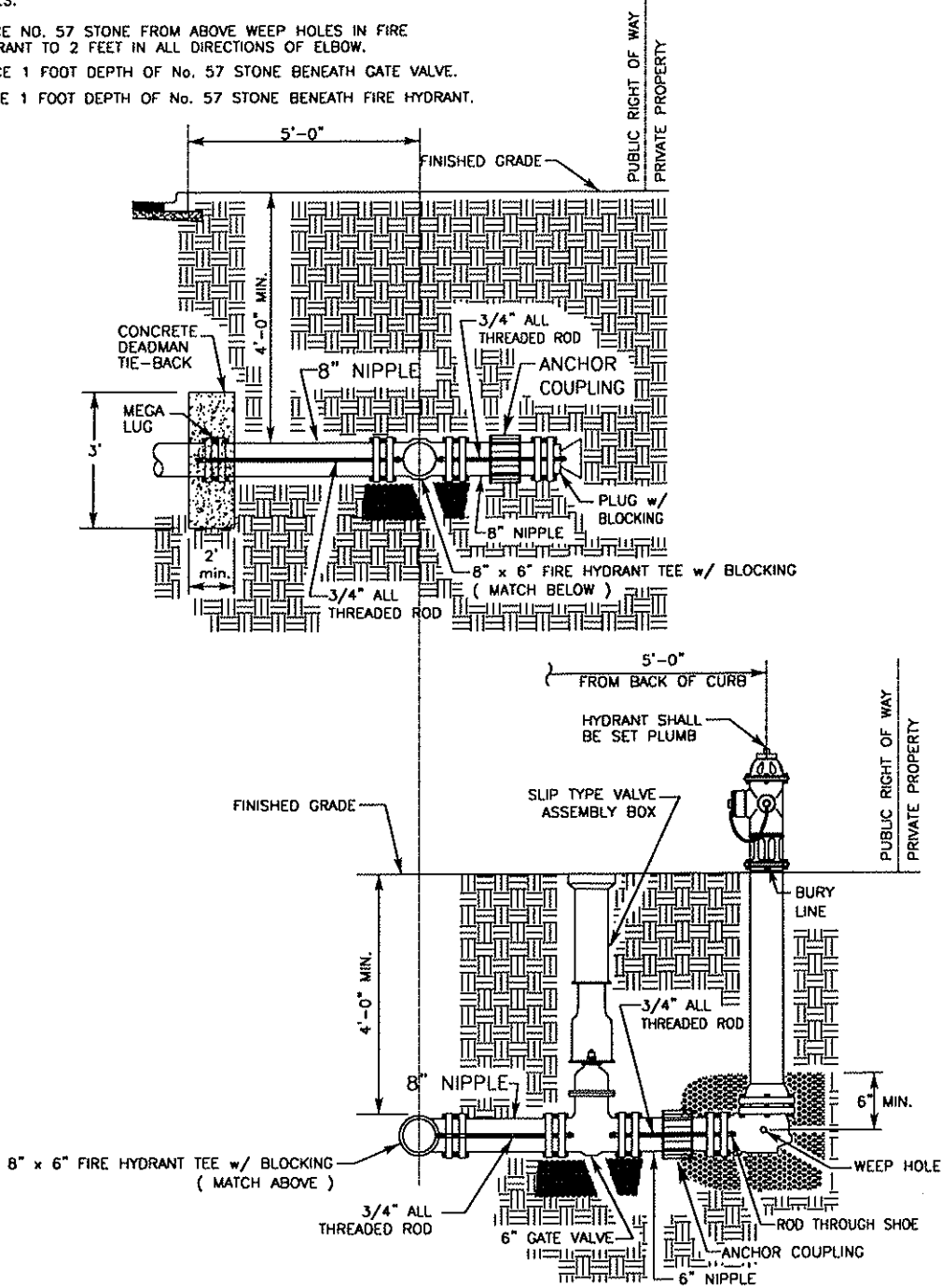


FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	FIRE HYDRANT (CURBED STREET)	10.0
DRAWN BY:			

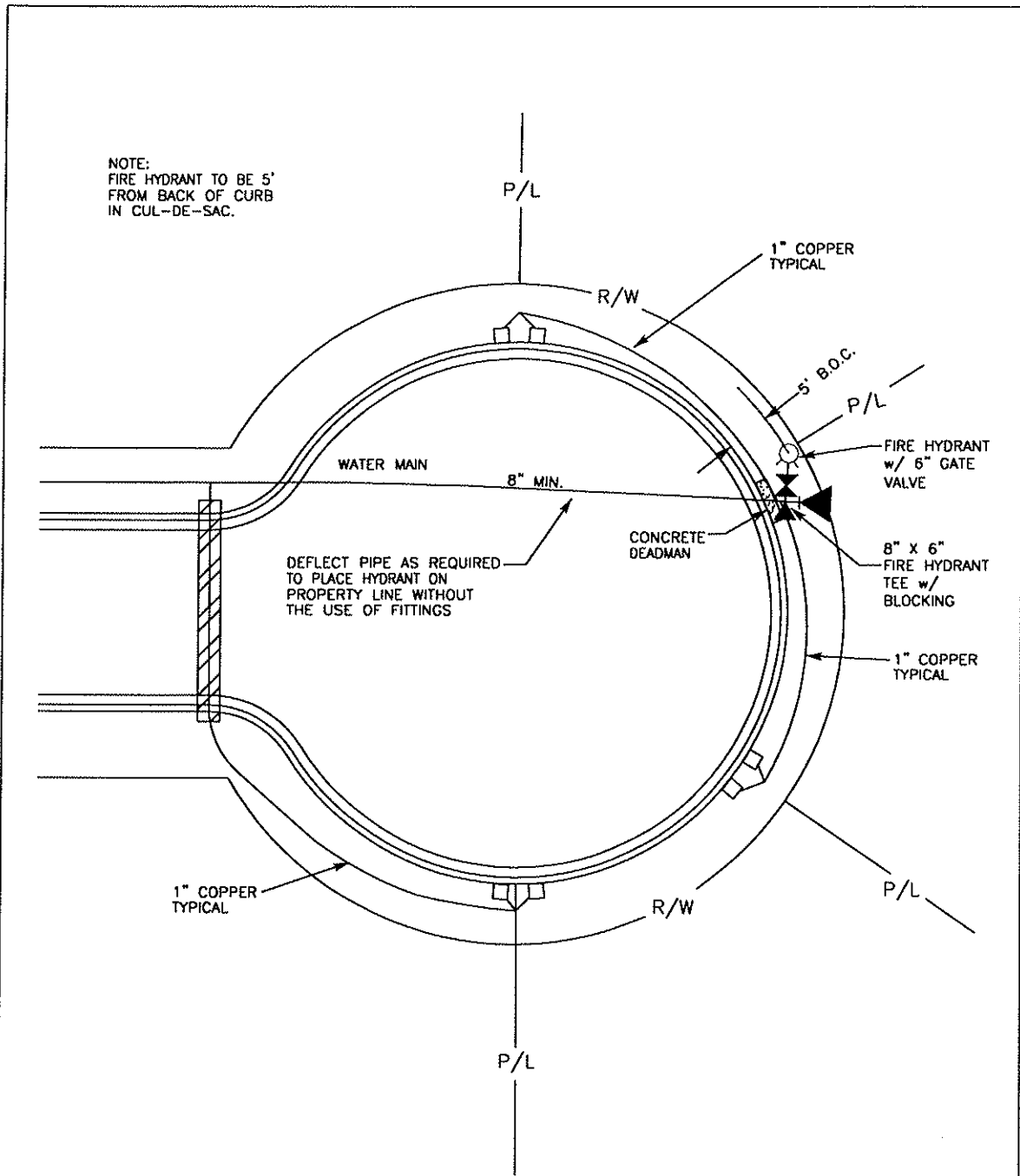
NOTES:

1. PLACE NO. 57 STONE FROM ABOVE WEEP HOLES IN FIRE HYDRANT TO 2 FEET IN ALL DIRECTIONS OF ELBOW.
2. PLACE 1 FOOT DEPTH OF No. 57 STONE BENEATH GATE VALVE.
3. PLACE 1 FOOT DEPTH OF No. 57 STONE BENEATH FIRE HYDRANT.



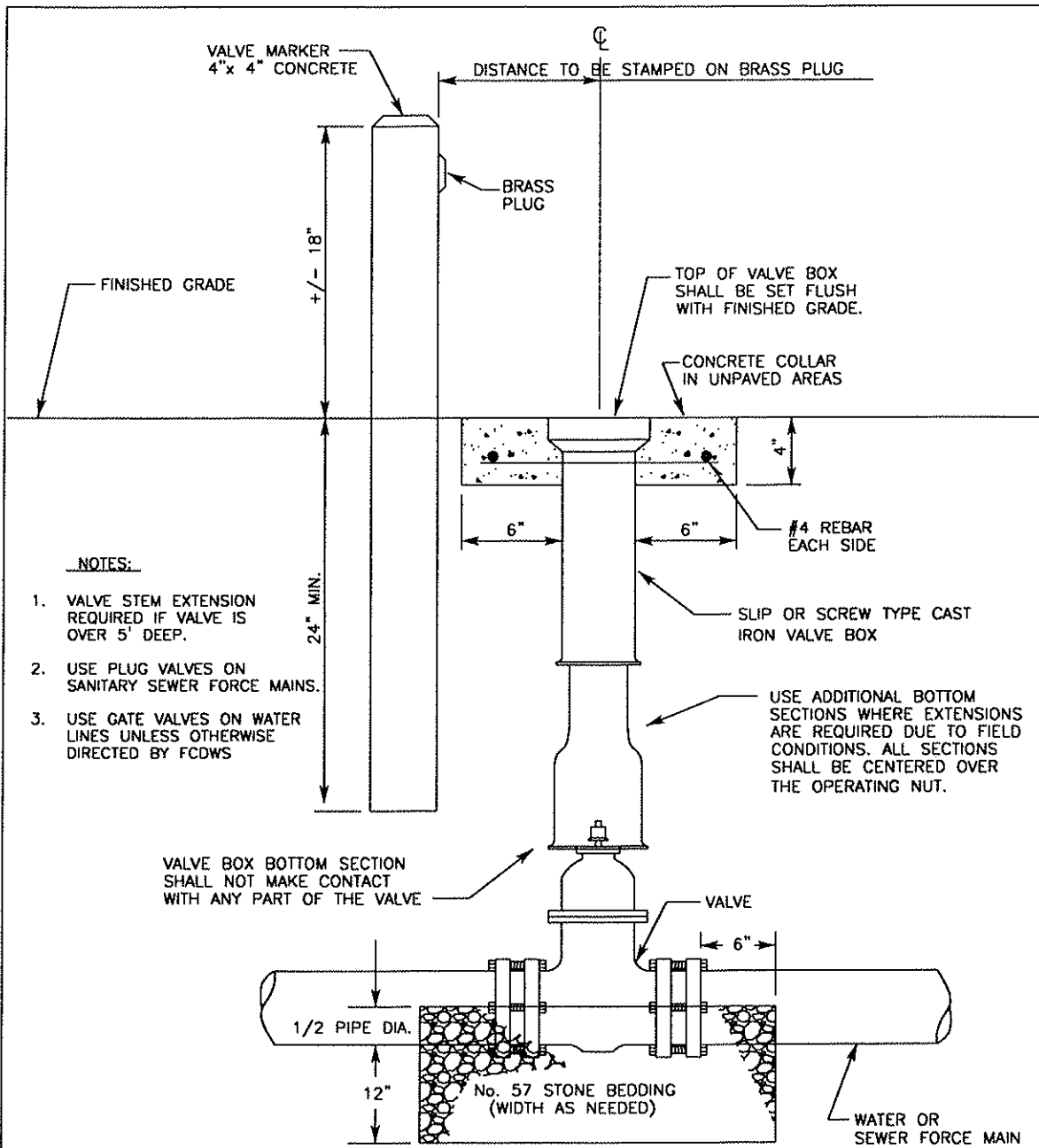
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	FIRE HYDRANT (CULDESAC)	11.0
DRAWN BY:			



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	FIRE HYDRANT IN CULDESAC	12.0'
DRAWN BY:			



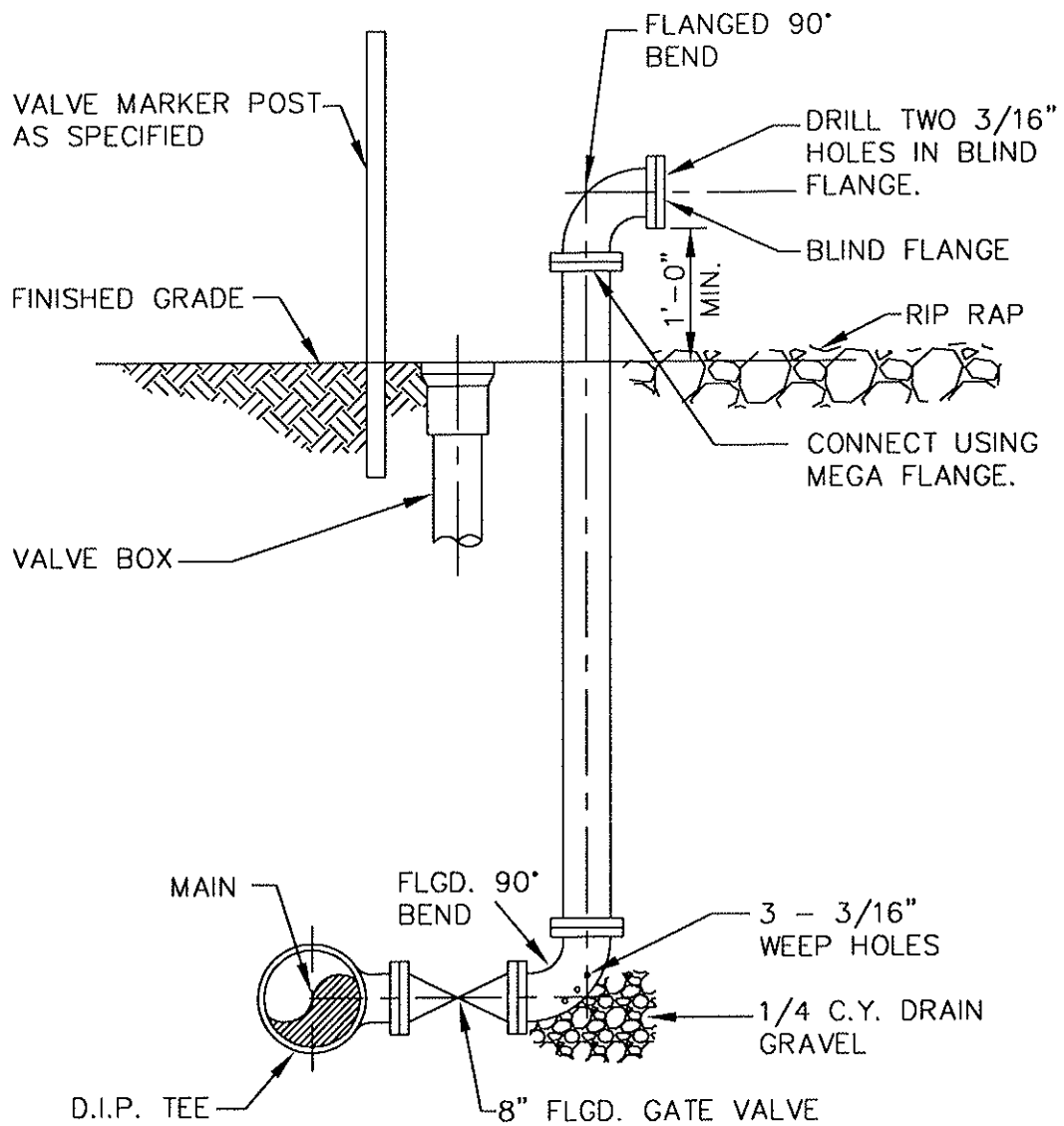
NOTES:

1. VALVE STEM EXTENSION REQUIRED IF VALVE IS OVER 5' DEEP.
2. USE PLUG VALVES ON SANITARY SEWER FORCE MAINS.
3. USE GATE VALVES ON WATER LINES UNLESS OTHERWISE DIRECTED BY FCDWS

- NOTE: 1. VALVE BOX SHALL NOT BE SET IN A DEPRESSED AREA.
2. SEE SPECIFICATIONS FOR MARKING VALVES.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	VALVE BOX	13.0
DRAWN BY:			



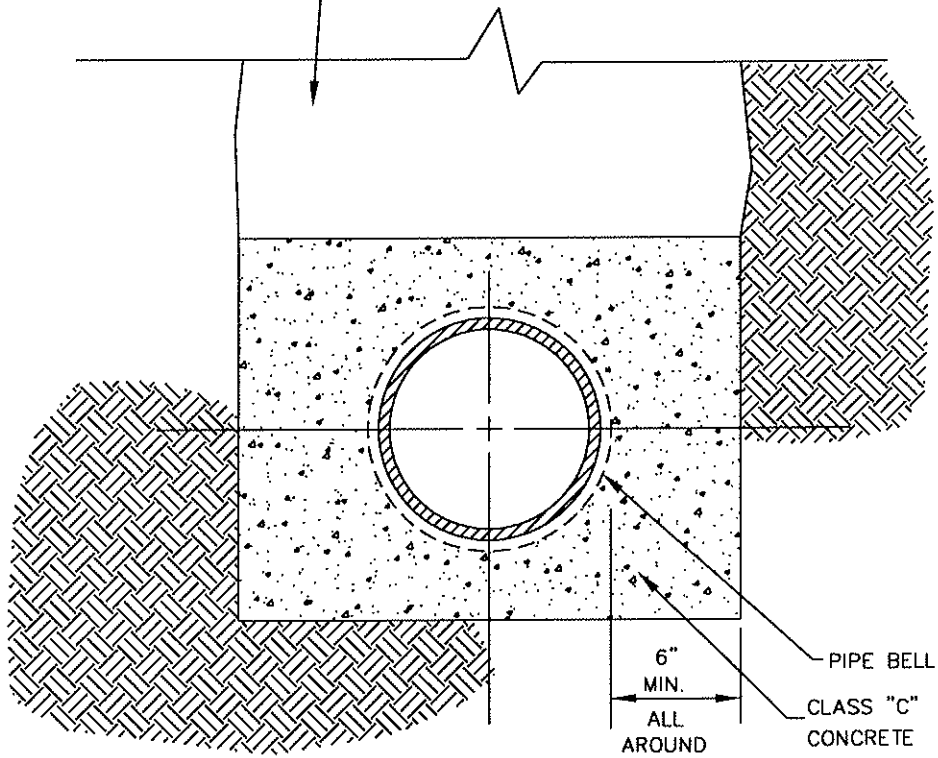
NOTE:

1. INSTALL GATE VALVE PER FORSYTH COUNTY VALVE DETAIL 13.0
2. ALL PIPING SHALL BE RESTRAINED JOINT

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	BLOW-OFF ASSEMBLY	14.0
DRAWN BY:			

BACKFILL REQUIREMENTS:
 GENERAL - 85% OPTIMAL MOISTURE CONTENT
 BELOW PAVED SURFACES - 98% OPTIMAL MOISTURE CONTENT

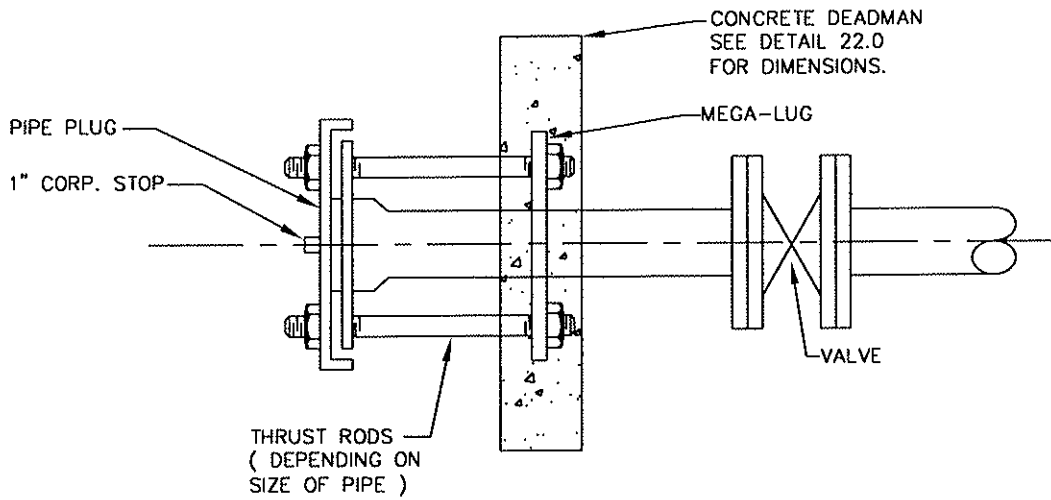


NOTES:

1. CONCRETE ENCASEMENT SHALL BE USED ON SANITARY SEWER FORCE MAIN PIPING WHERE INSTALLATION CANNOT MAINTAIN MINIMUM TEN (10) FEET SEPARATION FROM POTABLE WATER LINES.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

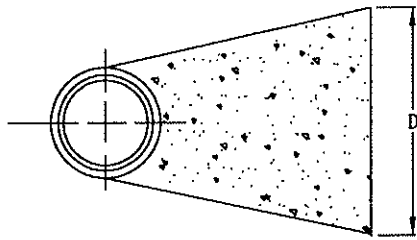
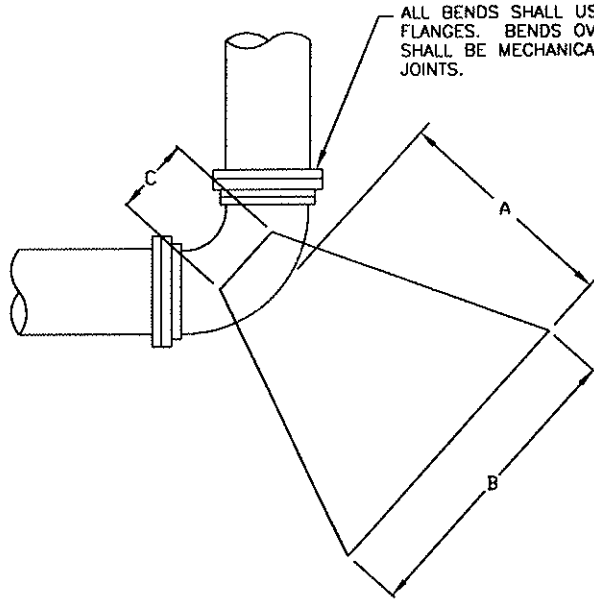
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	CONCRETE ENCASEMENT	15.0
DRAWN BY:			



PIPE SIZE	ROD SIZE	NUMBER OF RODS
6"	3/4"	2
8"	3/4"	3
10"	3/4"	4
12"	3/4"	4
14"	3/4"	4
16"	3/4"	6
20"	3/4"	6
24"	3/4"	8
30"	1"	8
36"	1"	10

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	DEADMAN FOR PLUG	16.0
DRAWN BY:			



SECTION

MINIMUM DIMENSIONS FOR CONCRETE BLOCKING

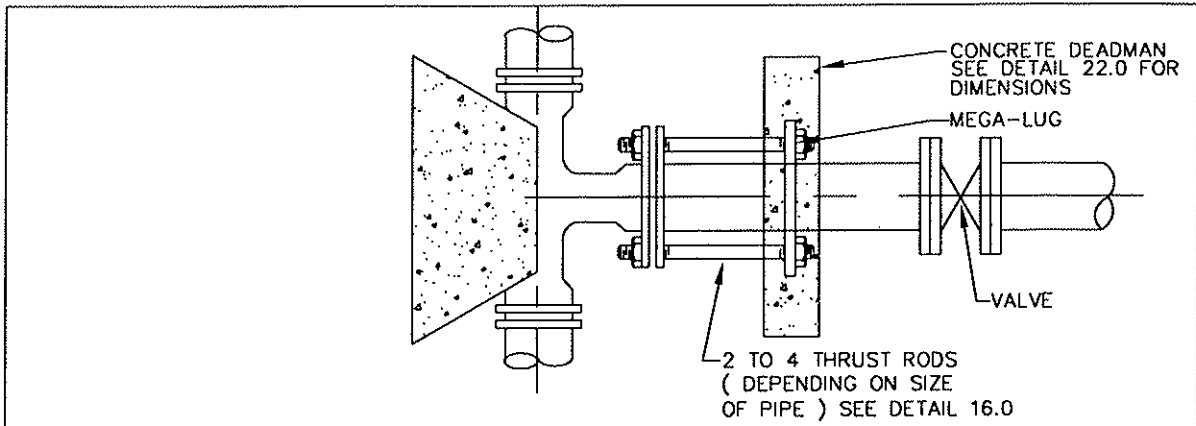
BEND	PIPE SIZE	A	B	C	D
11 1/4'	6"	1.0'	1.0'	7"	1.0'
	8"	1.0'	1.25'	7"	1.0'
	12"	1.0'	2.0'	11"	2.0'
	16"	2.0'	3.0'	15"	2.0'
	20"	2.0'	3.0'	19"	3.0'
	24"	3.0'	4.0'	22"	3.0'
22 1/2'	6"	1.0'	1.5'	7"	1.0'
	8"	1.0'	2.0'	7"	2.0'
	12"	2.0'	3.0'	11"	2.0'
	16"	2.0'	4.0'	15"	3.0'
	20"	3.0'	5.0'	19"	3.0'
	24"	4.0'	6.0'	22"	4.0'
45'	6"	1.5'	2.0'	7"	1.5'
	8"	2.0'	3.0'	7"	2.0'
	12"	2.0'	4.0'	11"	3.0'
	16"	3.0'	5.0'	15"	4.0'
	20"	4.0'	6.0'	19"	5.0'
	24"	5.0'	8.0'	22"	6.0'
90'	6"	1.5'	2.5'	7"	2.0'
	8"	2.0'	3.0'	7"	3.0'
	12"	4.0'	6.0'	11"	4.0'
	16"	4.0'	7.0'	15"	5.0'
	20"	8.0'	8.0'	19"	7.0'
	24"	6.0'	10.0'	22"	8.0'
TEES AND PLUGS	6"	1.5'	2.0'	7"	2.0'
	8"	2.0'	3.0'	7"	2.0'
	12"	2.0'	4.0'	11"	4.0'
	16"	3.0'	5.0'	15"	5.0'
	20"	4.0'	7.0'	19"	6.0'
	24"	5.0'	8.0'	22"	7.0'
36"	7.0'	10.0'	33"	11.0'	

NOTES:

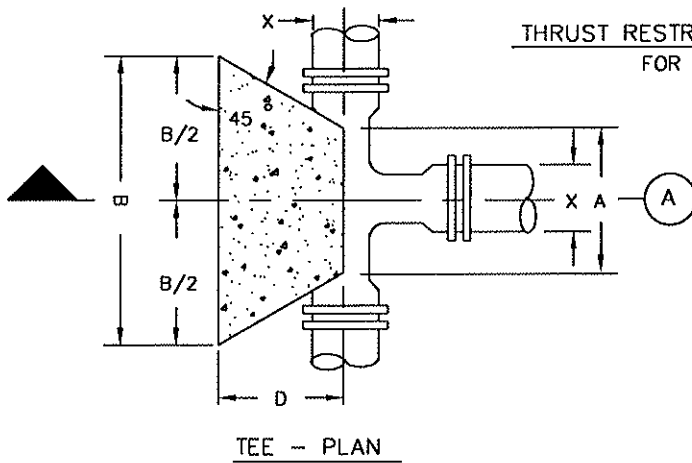
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
2. THRUST BLOCK SHALL BE POURED AGAINST UNDISTURBED SOIL.
3. BOLTS/NUTS SHALL BE PROTECTED FROM CONCRETE COVERAGE.
4. DIMENSIONS ARE BASED ON 150 P.S.I. LINE PRESSURE, 3000 P.S.I. CONCRETE AND 2000 P.S.F. SOIL BEARING PRESSURE.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

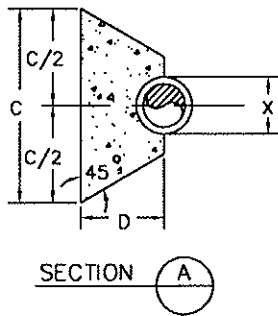
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	THRUST BLOCK DIMENSIONS	17.0
DRAWN BY:			



**THRUST RESTRICTING DEAD MAN FOR TEE
FOR USE IN FILL AREAS.**



TEE - PLAN



SECTION A

Line Pressure = 150 PSI
Soil Pressure = 2000 PSF

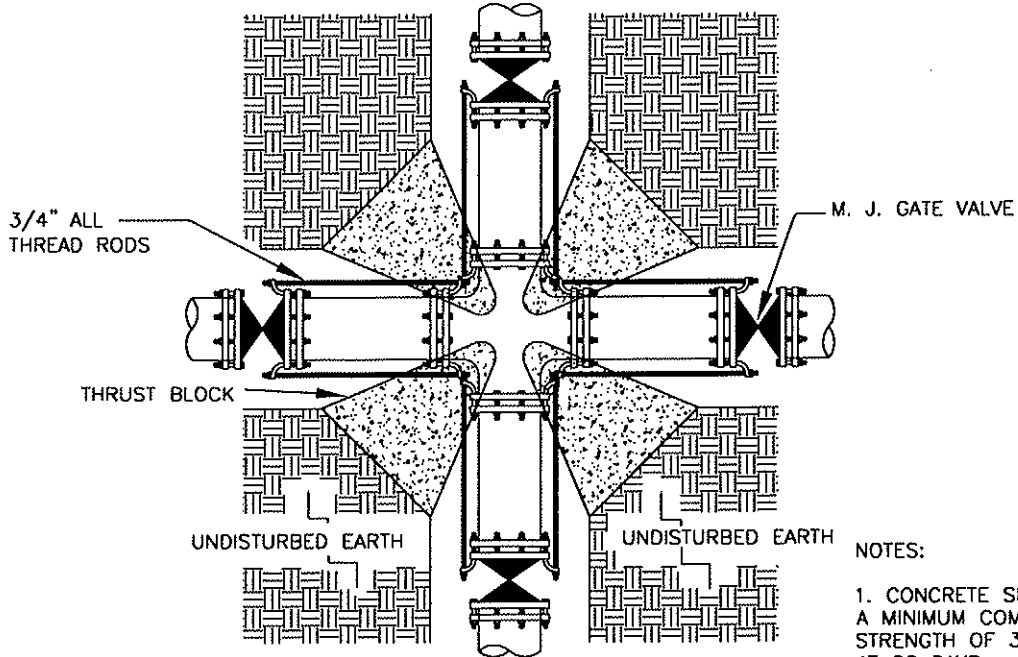
Pipe Size X	A	B	C	D
24"	2'-6"	6'-0"	6'-0"	3'-6"
20"	2'-4"	5'-0"	5'-0"	3'-0"
18"	1'-2"	4'-6"	4'-6"	2'-9"
16"	1'-6"	4'-0"	4'-0"	2'-6"
14"	1'-6"	3'-6"	3'-6"	2'-3"
12"	1'-3"	3'-0"	3'-0"	2'-0"
10"	1'-3"	2'-6"	2'-6"	1'-6"
8"	1'-0"	2'-0"	2'-0"	1'-6"
6"	0'-11"	1'-6"	1'-6"	1'-3"
4"	0'-10"	1'-0"	1'-0"	1'-0"

- NOTES :
1. BLOCKING SHALL BE CLASS "C" CONCRETE ; "SACKCRETE" WILL NOT BE ALLOWED.
 2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
 3. THRUST BLOCK SHALL BE POURED AGAINST UNDISTURBED SOIL.
 4. BOLTS/NUTS SHALL BE PROTECTED FROM CONCRETE COVERAGE.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	THRUST BLOCK - TEE	18.0
DRAWN BY:			

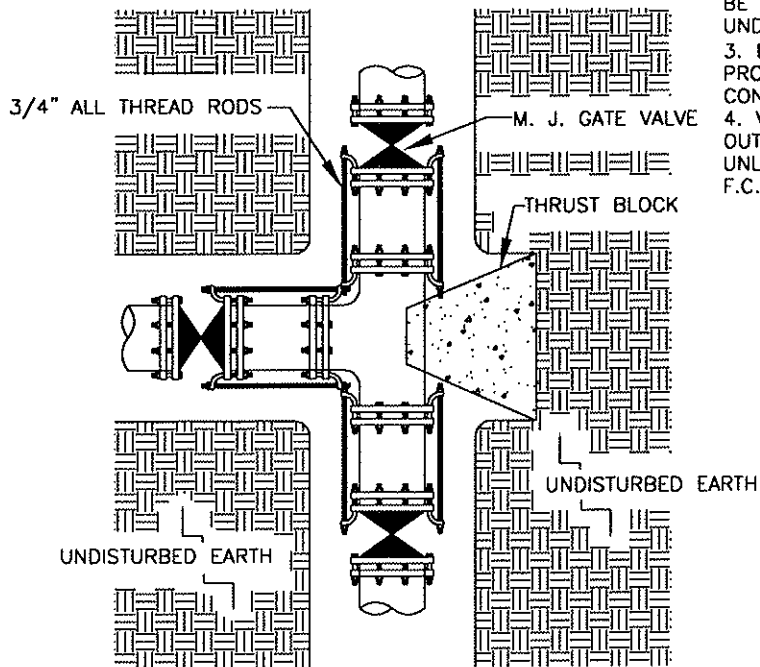
CROSS INSTALLATION



NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
2. THRUST BLOCK SHALL BE POURED AGAINST UNDISTURBED SOIL.
3. BOLTS/NUTS SHALL BE PROTECTED FROM CONCRETE COVERAGE.
4. VALVES TO BE LOCATED OUTSIDE OF PAVEMENT UNLESS APPROVED BY F.C.W.S.

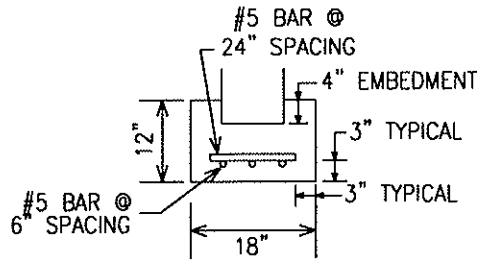
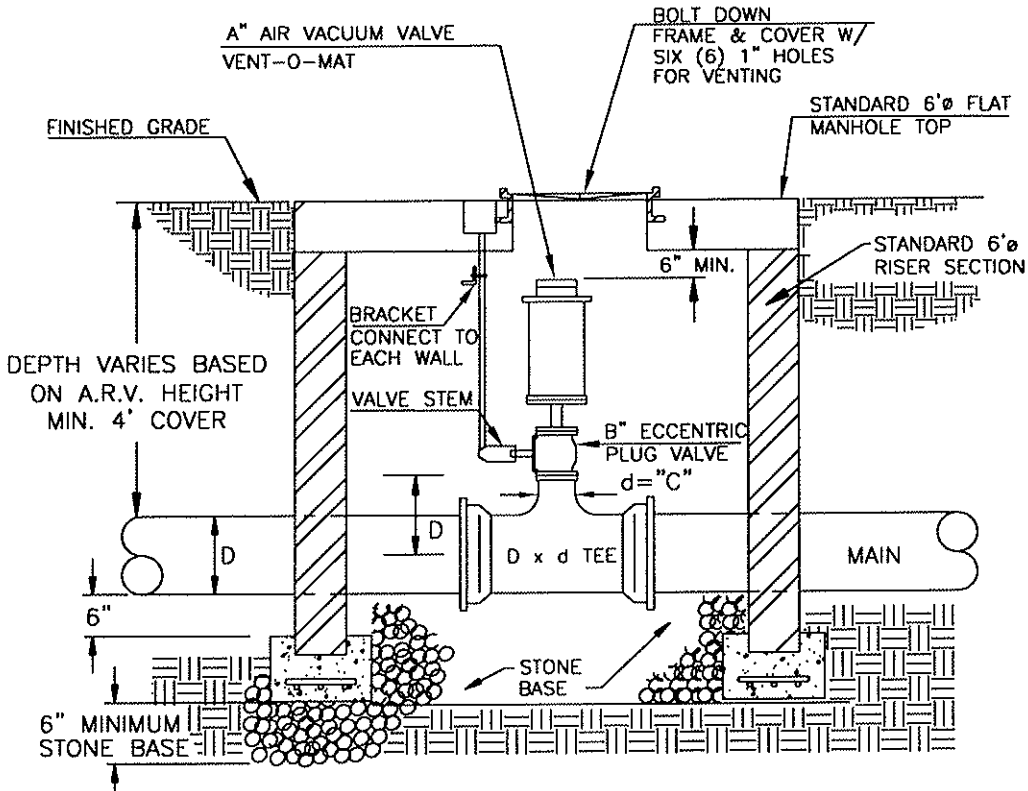
TEE INSTALLATION



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	THRUST RESTRAINT AT FITTING	19.0
DRAWN BY:			

"A" - TO BE SIZED PER ARV MANUFACTURERS SPECIFICATIONS.
 "B" - TO BE SIZED PER ARV MANUFACTURERS SPECIFICATIONS.
 "C" - TO BE SIZED TO MATCH PLUG VALVE FITTING.
 "D" - MAIN SIZE

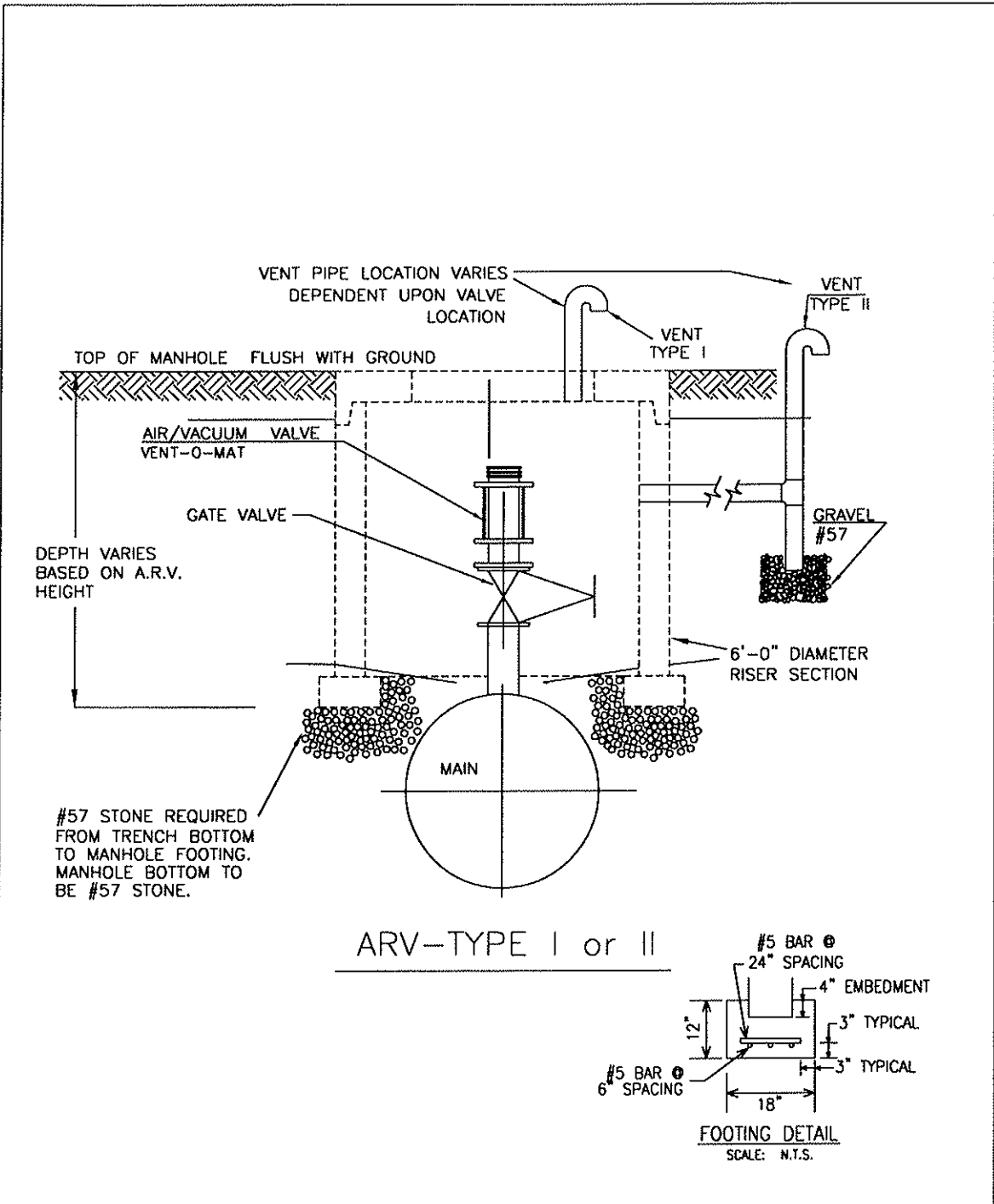


FOOTING DETAIL
 SCALE: N.T.S.

- NOTES:
1. PIPE SHOULD BE BURIED TO A DEPTH THAT WILL ACCOMMODATE THE MINIMUM REQUIREMENTS OF THIS STANDARD AND THOSE OF THE SPECIFIED ARV.
 2. ORIFICE AREA OF A.R.V. SHALL NOT EXCEED TOTAL AREA PROVIDED BY VENT HOLES IN MANHOLE LID.

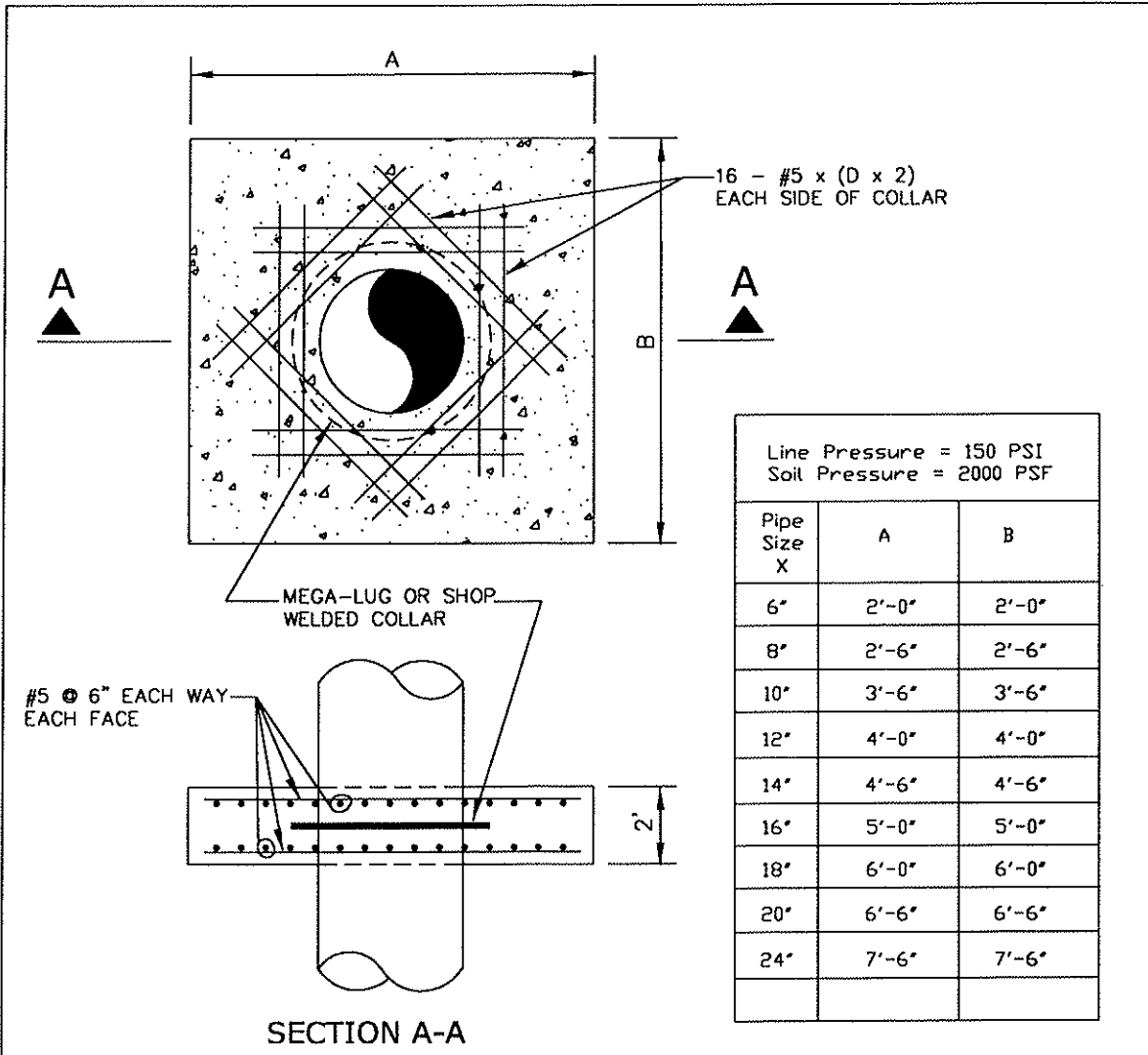
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	AIR/VACUUM RELEASE VALVE FOR 2" AND SMALLER	20.0
DRAWN BY:			



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	AIR / VACUUM RELEASE VALVE	21.0
DRAWN BY:		3" AND LARGER	



Line Pressure = 150 PSI
Soil Pressure = 2000 PSF

Pipe Size X	A	B
6"	2'-0"	2'-0"
8"	2'-6"	2'-6"
10"	3'-6"	3'-6"
12"	4'-0"	4'-0"
14"	4'-6"	4'-6"
16"	5'-0"	5'-0"
18"	6'-0"	6'-0"
20"	6'-6"	6'-6"
24"	7'-6"	7'-6"

NOTES :

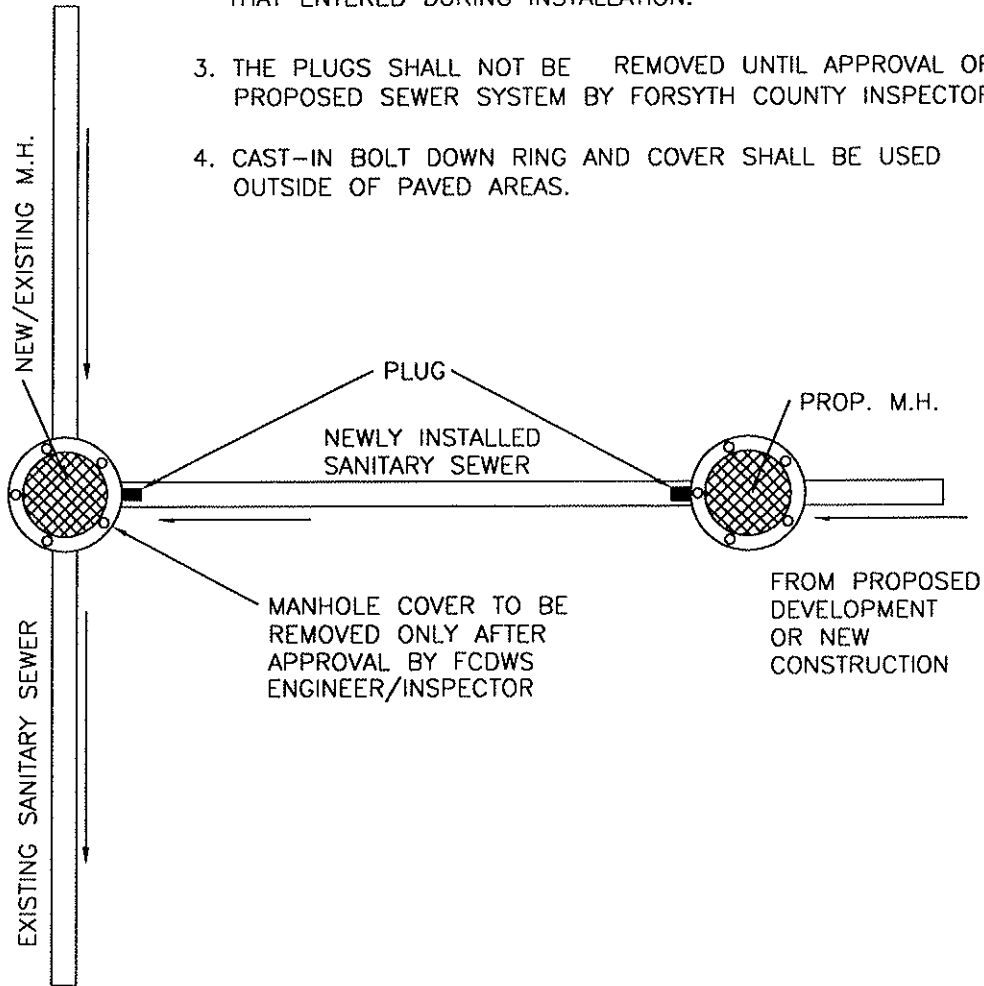
1. DEADMAN SHALL BE CLASS "C" CONCRETE ; "SACKCRETE" WILL NOT BE ALLOWED.
2. THE UTILITY LINE MUST BE LOWERED IN ORDER TO HAVE FIVE FEET (5') OF COVER AT THE BEND, TEE, REDUCER OR PLUG AT ALL LOCATIONS WHERE THESE FITTINGS MAY BE UTILIZED.
3. FOR SOIL CONDITIONS LESS THAN 2000 P.S.F. BEARING PRESSURE OR PIPE PRESSURE OVER 150 P.S.I. SPECIAL THRUST BLOCKS / RESTRAINT MUST BE COMPUTED AND APPROVED.
4. CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL. DISTURBED SOIL TO BE COMPACTED TO 95% OPTIMUM MOISTURE CONTENT.
5. MAINTAIN 2" CLEARANCE BETWEEN PIPE WALL AND REBAR.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	CONCRETE DEADMAN	22.0
DRAWN BY:			

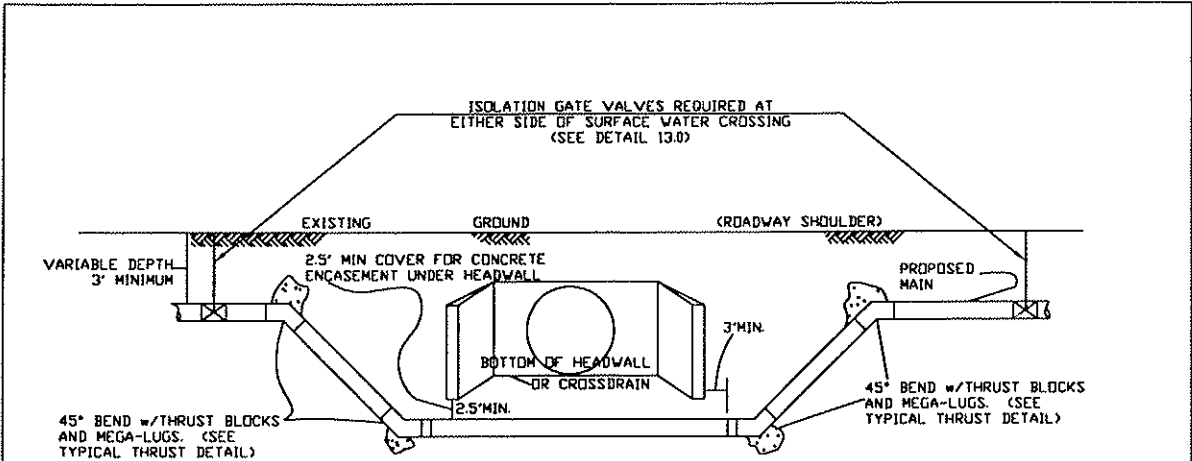
NOTE

1. FIRST SECTION OF SEWER LINE SHALL BE ISOLATED FROM THE REST OF THE PROPOSED SYSTEM.
2. THE FIRST MANHOLE OF THE PROPOSED SYSTEM SHALL BE USED TO PUMP OUT ANY INFLOW/INFILTRATION, MUD, ETC., THAT ENTERED DURING INSTALLATION.
3. THE PLUGS SHALL NOT BE REMOVED UNTIL APPROVAL OF PROPOSED SEWER SYSTEM BY FORSYTH COUNTY INSPECTORS.
4. CAST-IN BOLT DOWN RING AND COVER SHALL BE USED OUTSIDE OF PAVED AREAS.

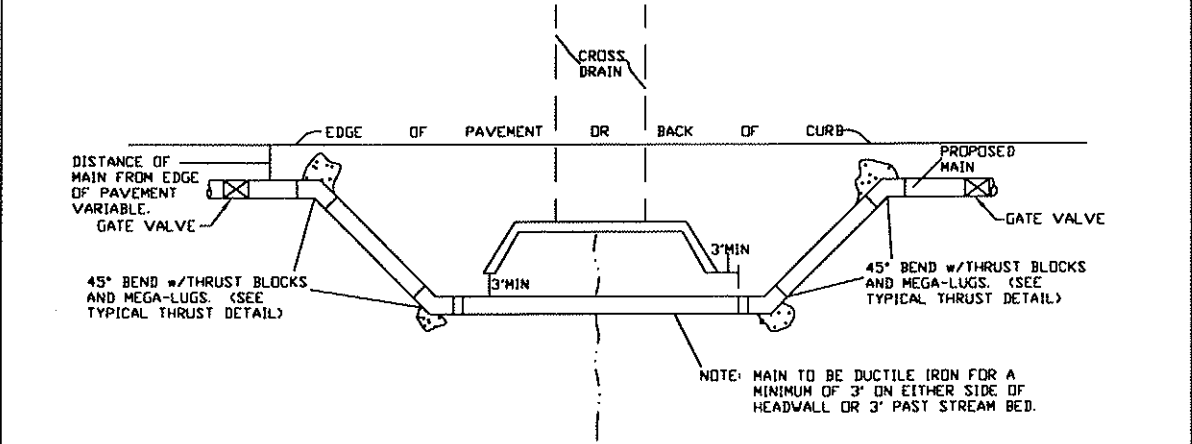


FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PLUG LOCATION	23.0
DRAWN BY:			

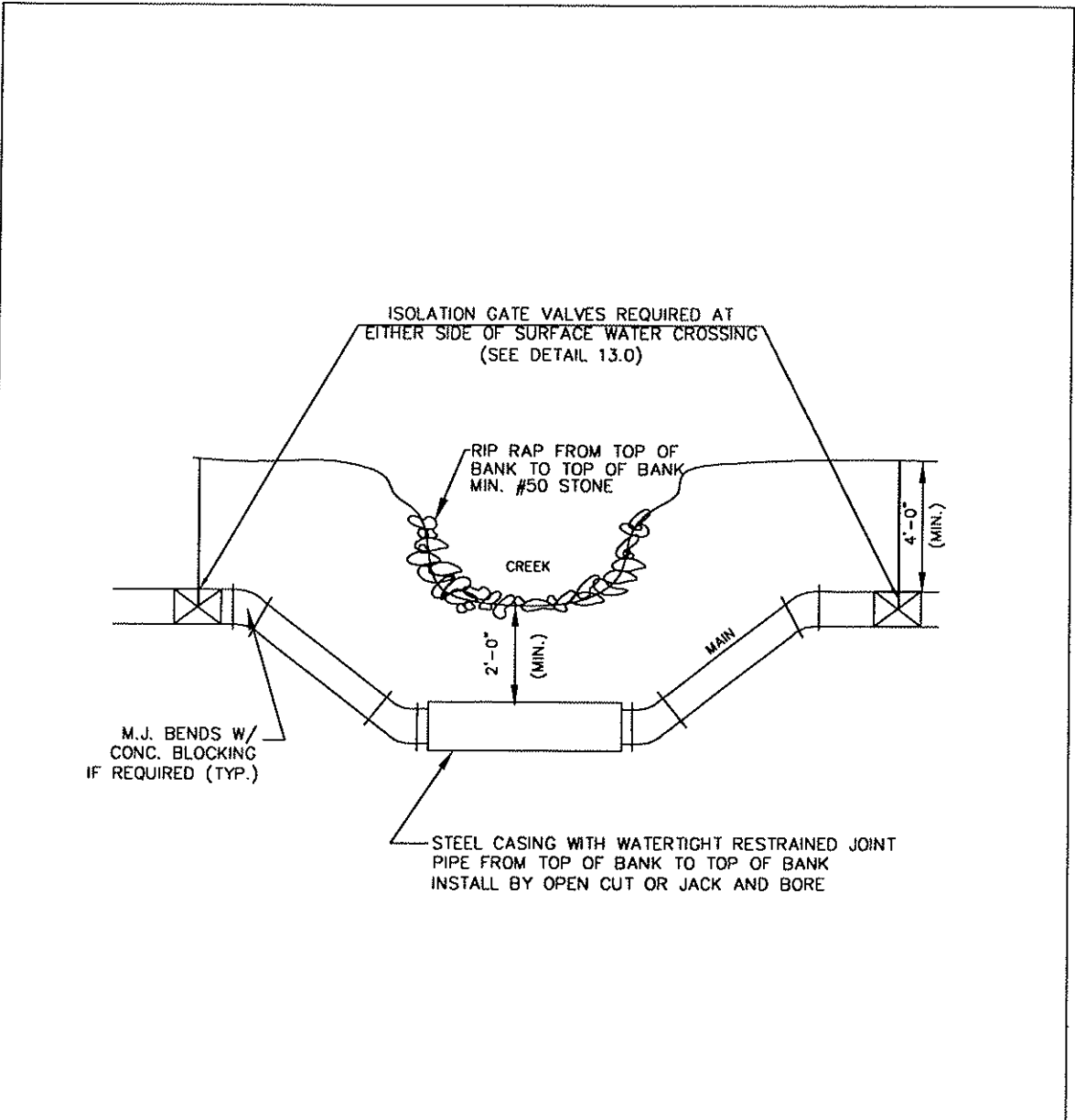


ELEVATION VIEW



PLAN VIEW

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER			
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	DEFLECTION OF PRESSURE MAINS AROUND HEADWALLS AND CROSS-DRAINS	24.0
DRAWN BY:			



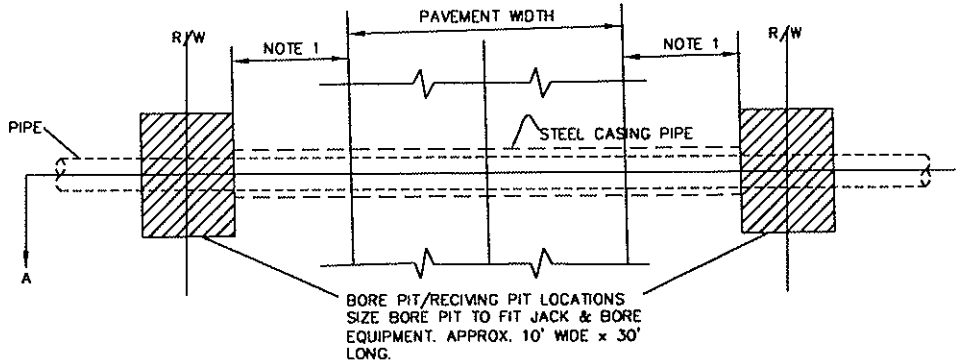
NOTES:

1. IF STATE WATERS ARE JACK AND BORED, BORE PITS MUST BE OUTSIDE OF THE STATE BUFFERS.
2. RIP RAP WILL NOT BE NECESSARY IF CASING IS INSTALLED THROUGH JACK AND BORE.

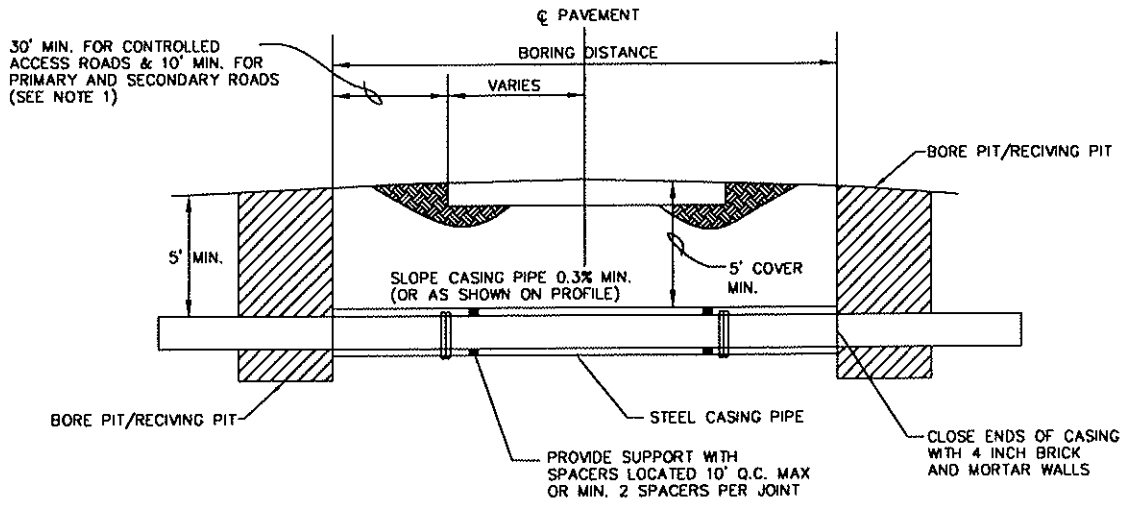
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER			
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PRESSURE MAIN CREEK CROSSING	25.0
DRAWN BY:			

NOTES:

1. THE NEAR EDGE OF THE PIT CAN BE NO CLOSER TO THE EDGE OF THE TRAVELED WAY THAN THE DEPTH BELOW THE SURFACE OF THE TRAVEL WAY UNLESS BULKHEADED.
2. CASING PIPE UP TO 20" SHALL HAVE A THICKNESS OF .375"
3. CASING PIPE OVER 20" SHALL HAVE A THICKNESS OF .5"
4. CASING PIPE UNDER RAILROAD MUST MEET RAILROAD REQUIREMENTS
5. ALL PIPE WITHIN CASING TO BE RESTRAINED JOINT.



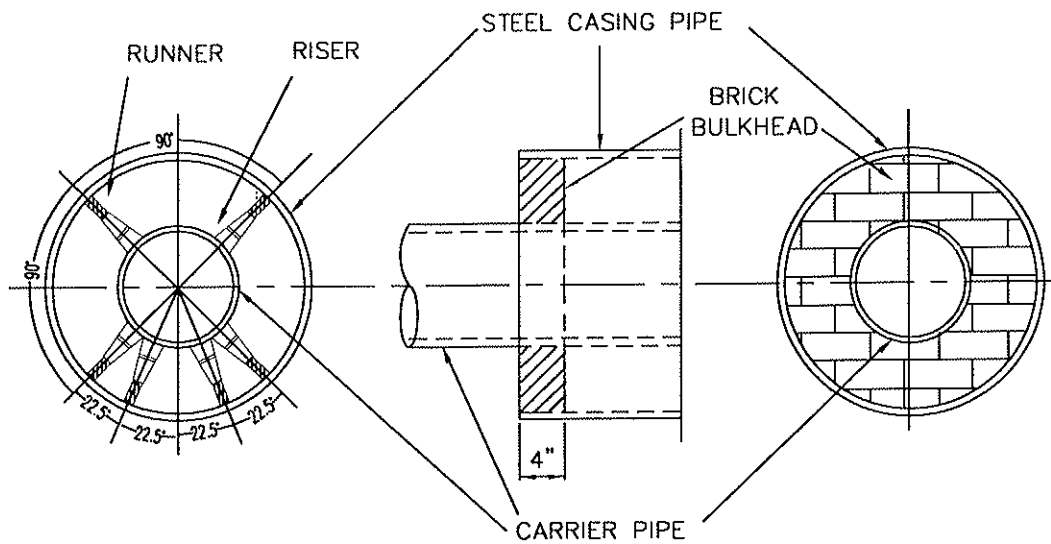
PLAN



SECTION A-A

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	CASING PIPE JACK AND BORE	26.0
DRAWN BY:			



TYPICAL LAYOUT STEEL CASING SPACER DETAIL

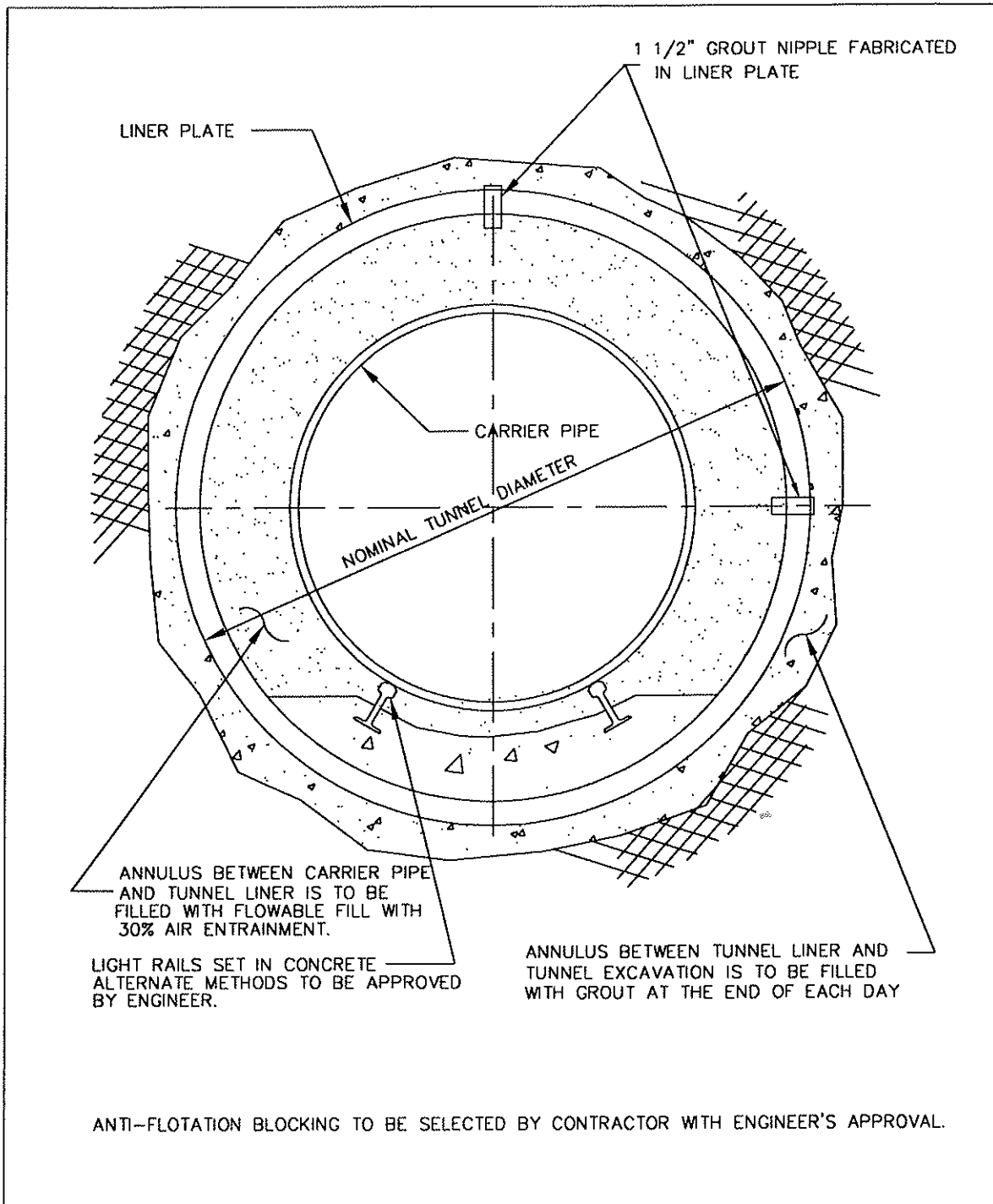
BULKHEAD DETAIL

NOTES:

1. SPACER SHELL MUST BE A MINIMUM 14 GA. T 304 STAINLESS STEEL ALL SURFACES ARE FULLY CHEMICALLY PASSIVATED.
2. CASING PIPE UP TO 20" SHALL HAVE A THICKNESS OF .375 INCH
3. CASING PIPE OVER 20" SHALL HAVE A THICKNESS OF .5 INCH
4. SPACER LINER MUST BE PVC - .90 THICK, 85-90 DUROMETER (ASTM D1706-61T) (ASTM - B117) (ASTM - D149-61)
5. RUNNERS MUST BE ULTRA HIGH MOLECULAR WEIGHT POLYMER. WITH HIGH RESISTANCE TO ABRASION AND SLIDE WEAR, LOW DEFLECTION UNDER CMPRESSION AND DIELECTRIC INSULATION.
6. SPACER FASTENERS MUST BE 5/16" T304 STAINLESS STEEL
7. SPACER RISERS MINIMUM 10 GA. T 304 STAINLESS STEEL, MUST BE REINFORCED IF OVER 6".

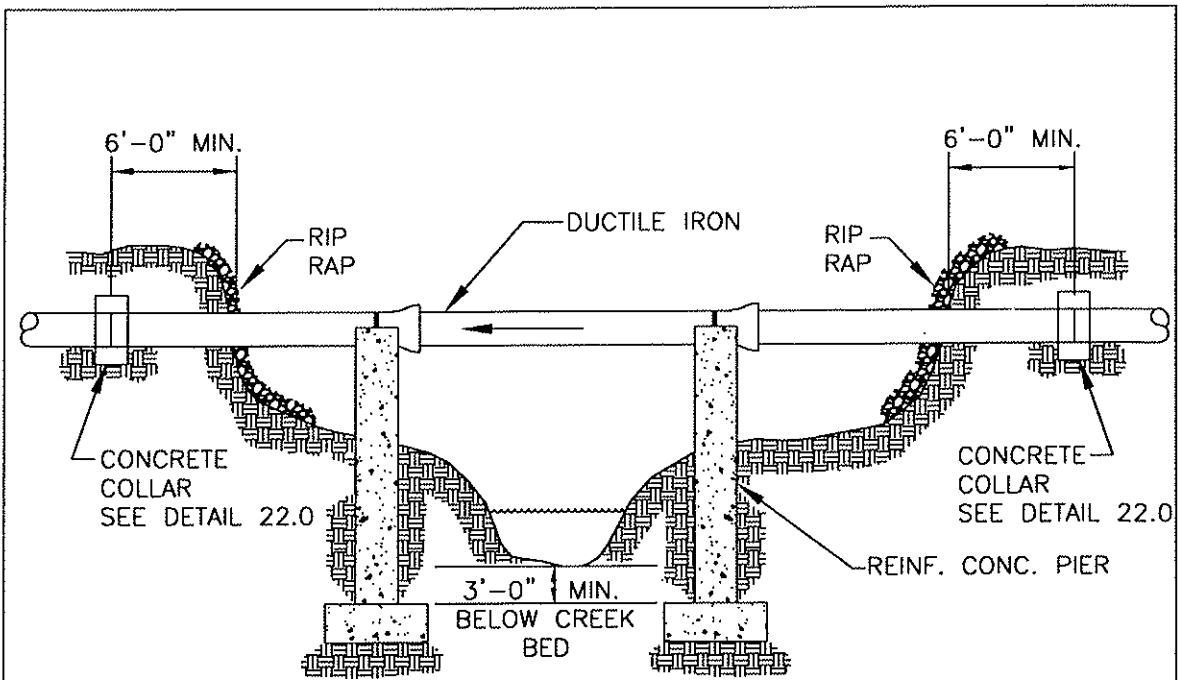
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	AUGERED JACKED CASING	27.0
DRAWN BY:			



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	TUNNEL LINER	28.0
DRAWN BY:			

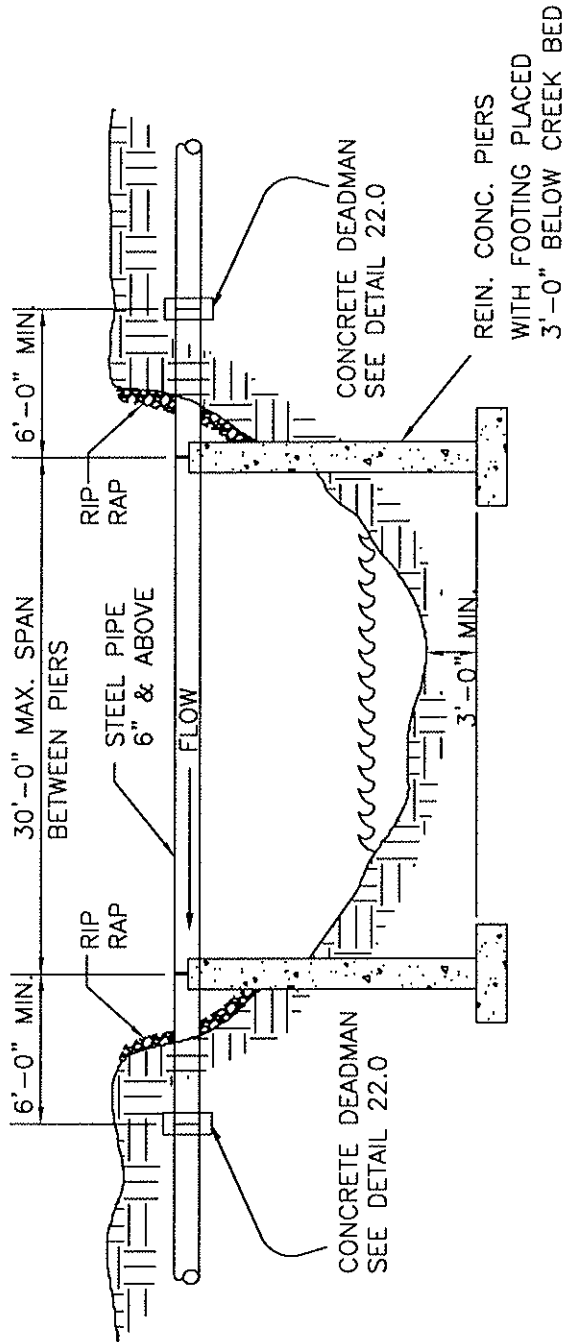


NOTE:

1. WHENEVER POSSIBLE NO PIERS SHALL BE PLACED WITHIN NORMAL FLOW OF CREEK. FOOTINGS SHALL BE PLACED 3 FEET MINIMUM BELOW CREEK BED.
2. REINFORCED CONCRETE PIERS SHALL BE PLACED BEHIND BELL OF EACH JOINT OF DUCTILE IRON PIPE.
3. ALL AERIAL CROSSINGS MUST BE APPROVED BY FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER.
4. IF PIER PLACEMENT FOR DUCTILE IRON PIPE CAN NOT MEET THE ABOVE STIPULATIONS, STEEL PIPE SHALL BE USED.
5. A STRUCTURAL DESIGN SHALL BE SUBMITTED WITH CONSIDERATIONS FOR SOILS AND SITE CONDITIONS.
6. DISTURBED AREA SHALL BE RIP-RAPPED AS REQUIRED.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PIER PLACEMENT FOR DUCTILE IRON AERIAL LINES	29.0
DRAWN BY:			

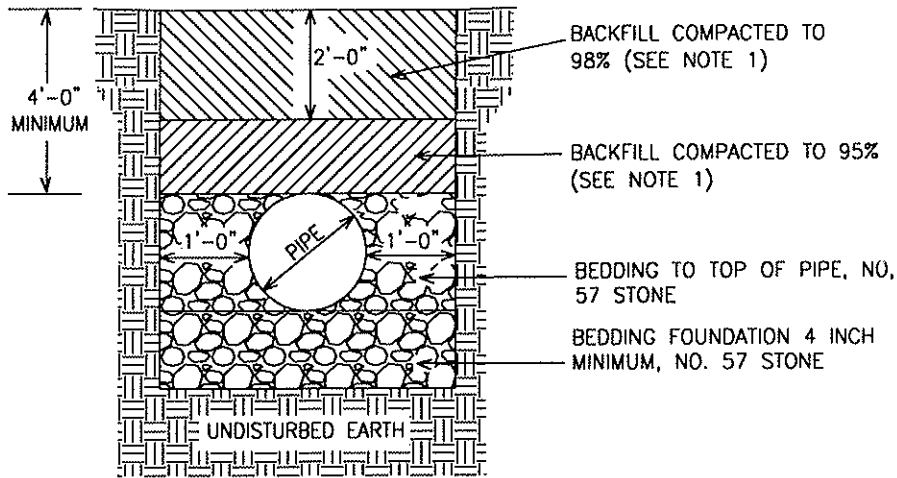


NOTE:

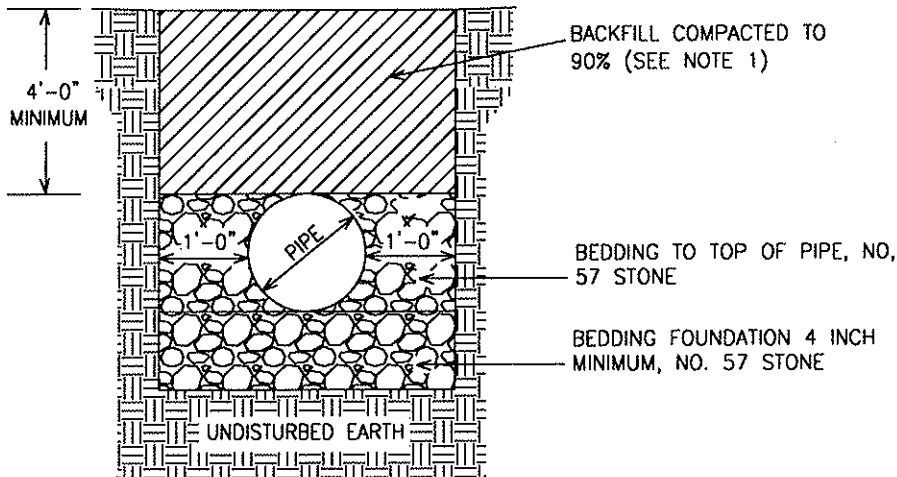
1. WHENEVER POSSIBLE NO PIERS SHALL BE PLACED IN NORMAL FLOW OF CREEK. FOOTINGS SHALL BE PLACED 3 FEET MINIMUM BELOW CREEK BED.
2. ALL AERIAL CROSSINGS MUST BE APPROVED BY FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER.
3. A STRUCTURAL DESIGN SHALL BE SUBMITTED WITH CONSIDERATIONS FOR SOILS AND SITE CONDITIONS.
4. PIPE MANUFACTURER MUST PROVIDE SHOP DRAWING TO DEMONSTRATE WALL THICKNESS WILL SPAN PIER SPACING WITHOUT DEFLECTION.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PIER PLACEMENT FOR STEEL AERIAL LINES	30.0
DRAWN BY:			



BEDDING BELOW PAVED SURFACES
(ROADS, SIDEWALKS, PARKING LOTS, ETC.)

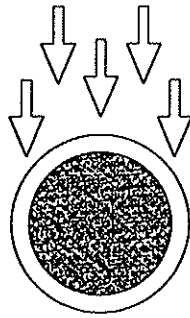


GENERAL BACKFILL

- NOTES:
1. COMPACTION % BASED UPON THE MAXIMUM DRY DENSITY AS DETERMINED BY A STANDARD PROCTOR ANALYSIS +/- 3% OF THE OPTIMUM MOISTURE CONTENT
 2. UNSUITABLE SOILS ENCOUNTERED IN BOTTOM OF EXCAVATED TRENCH SHALL BE EXCAVATED & REPLACED WITH NO. 57 STONE.
 3. ONLY SUITABLE SOIL SHALL BE USED AS BACKFILL.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	P.V.C. SEWER PIPE BEDDING	31.0
DRAWN BY:			



P.V.C. DEPTH

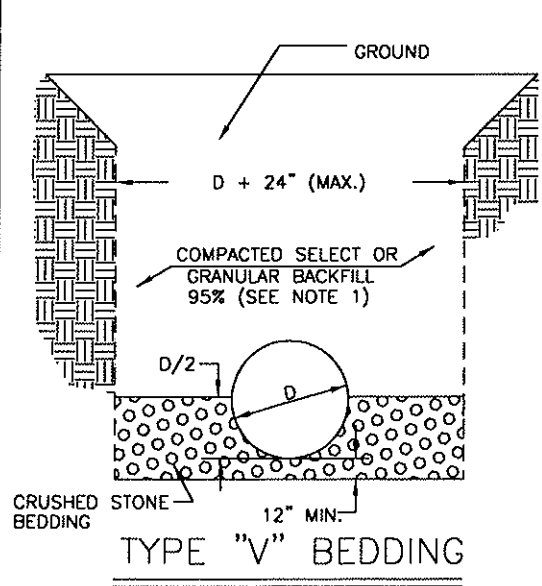
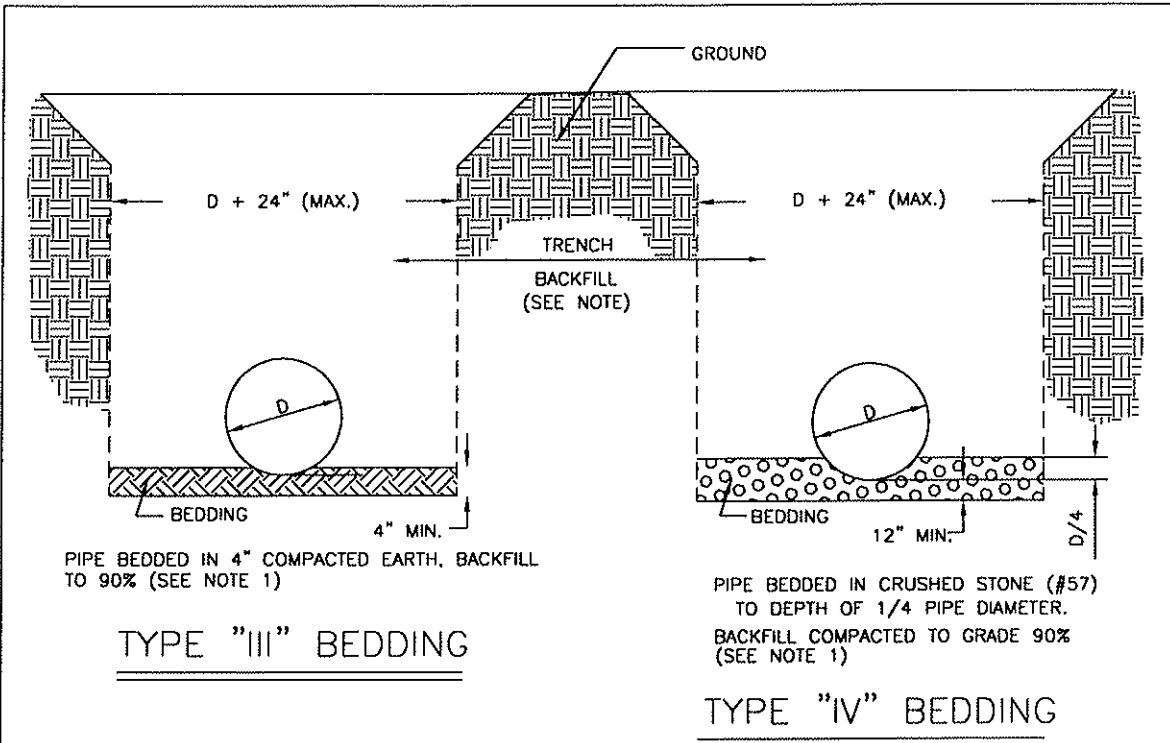
PIPE SIZE P.V.C.	TRENCH WIDTH	MAXIMUM DEPTH OF COVER
8"	26"	16'
10"	UP TO 28"	16'
	28" - 36"	14'
	OVER 36"	10'
12"	UP TO 30"	14'
	30" - 36"	12'
	OVER 36"	10'
15"	UP TO 36"	12'
	OVER 36"	10'

FORSYTH COUNTY REQUIREMENTS

FOR ACTUAL TRENCH DEPTHS AND WIDTHS EXCEEDING ABOVE SPECIFIED OR AS DETERMINED IN THE FIELD BY F.C.D.W.S. INSPECTOR, DUCTILE IRON PIPE WILL BE REQUIRED.

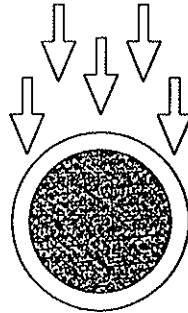
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	MAXIMUM TRENCH DEPTHS - P.V.C.	32.0
DRAWN BY:			



- NOTES:**
1. COMPACTION % BASED UPON THE MAXIMUM DRY DENSITY AS DETERMINED BY A STANDARD PROCTOR ANALYSIS +/- 3% OF THE OPTIMUM MOISTURE CONTENT
 2. TRENCH SHALL PROVIDE UNIFORM AND CONTINUOUS SUPPORT BETWEEN BELL HOLES.
 3. COMPACTION BACKFILLS SHALL BE BUILT UP IN LAYERS AND EACH LAYER SHALL BE THOROUGHLY COMPACTED BEFORE BEGINNING ANOTHER LAYER. PUDDLING IS NOT ALLOWED. NO FROZEN OR WET MATERIALS MAY BE PLACED IN TRENCHES.
 4. COMPACTION TESTS MAY BE REQUIRED IN EXISTING OR PROPOSED STREETS, SIDEWALKS, DRIVES AND OTHER EXISTING OR PROPOSED PAVED AREAS AT VARYING DEPTHS AND AT INTERVALS AS DETERMINED BY FORSYTH COUNTY WITH A MINIMUM OF ONE TEST ON EACH JOB, OF ONE REQUIRED TEST FOR EACH 400' OR LESS OF WATER MAIN CONSTRUCTION OR WHEN CONDITIONS IN THE OPINION OF FORSYTH COUNTY WARRANT THE NEED FOR ADDITIONAL TEST.
 5. NO LARGE ROCKS PERMITTED IN THE BACKFILL FROM BOTTOM OF TRENCH TO 2' (FEET) ABOVE PIPE.
 6. FOR EXCAVATION IN POOR SOIL OR ROCK, REMOVE UNSUITABLE MATERIAL TO WIDTH AND DEPTH AS DIRECTED BEFORE PIPE IS LAID. THE SUBGRADE SHALL BE BACKFILLED WITH AN APPROVED MATERIAL TAMPED TO 95%.
 7. IN EXCAVATING ROCK, MINIMUM OF 6" SELECT MATERIAL UNDER BOTTOM OF PIPE.
 8. 95% COMPACTION REQUIRED WITHIN THE COUNTY RIGHT OF WAY.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER			
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	BEDDING FOR DUCTILE IRON PIPE	33.0
DRAWN BY:			



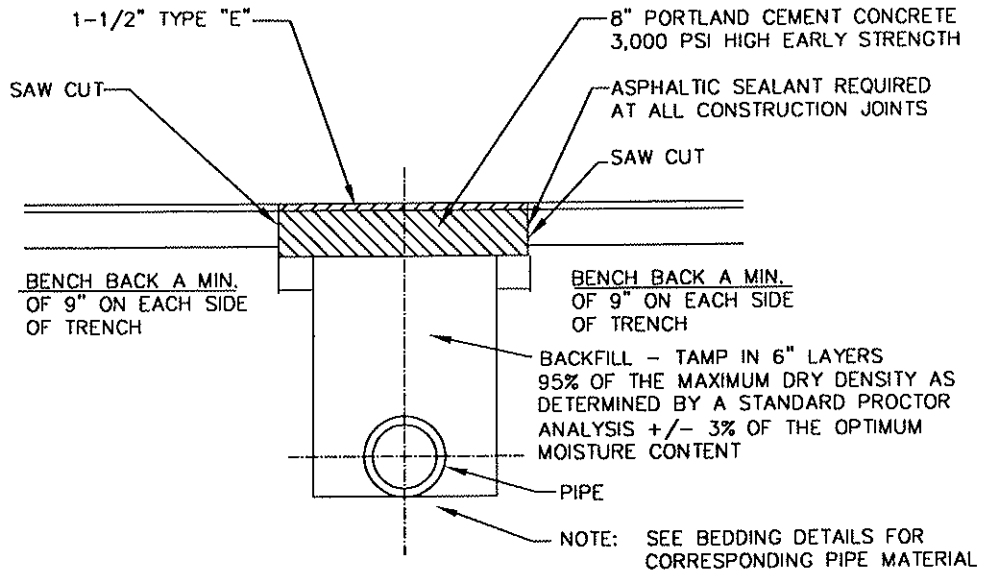
DUCTILE IRON PIPE DEPTH

SIZE INCHES	PRESSURE CLASS P.S.I.	LAYING CONDITIONS MAXIMUM DEPTH OF COVER IN FEET		
		TYPE III	TYPE IV	TYPE V
6	350	37	47	65
8	350	25	34	50
10	350	19	28	45
12	350	19	28	44
14	250	15	23	36
	300	17	26	42
	350	19	27	44
16	250	15	24	34
	300	17	26	39
	350	20	28	44
18	250	14	22	31
	300	17	26	36
	350	19	28	41
20	250	14	22	30
	300	17	26	35
	350	19	28	38
24	200	12	17	25
	250	15	20	29
	300	17	24	32
	350	19	28	37

AWWA M41 TABLE 4 - 6

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	MAXIMUM TRENCH DEPTHS, D.I.P.	34.0
DRAWN BY:			

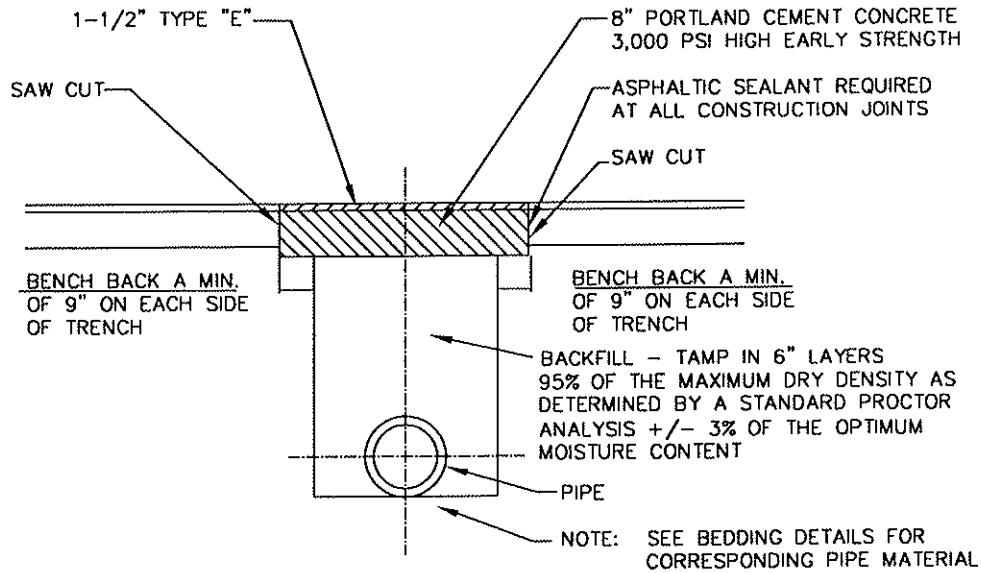


NOTES:

1. EXISTING PAVEMENT SHALL BE REPLACED IN ACCORDANCE TO THE STANDARDS REQUIRED BY FORSYTH COUNTY ENGINEERING AND/OR THE GEORGIA DEPARTMENT OF TRANSPORTATION.
2. ALL LATERAL STREET CUTS MUST BE COVERED WITH STEEL PLATES OF SUFFICIENT THICKNESS TO SPAN THE CUT WITHOUT NOTICEABLE DEFLECTION. PLATES TO REMAIN IN PLACE UNTIL THE CONCRETE BASE HAS GAINED SUFFICIENT STRENGTH TO WITHSTAND TRAFFIC LOADS (24 HOUR MINIMUM).
3. ON LONGITUDINAL CUTS EXCEEDING 150 FT. IN LENGTH, THE CONCRETE IN THE TRENCH WILL BE BROUGHT FLUSH WITH THE EXISTING PAVEMENT AND THE ENTIRE WIDTH OF ROADWAY RESURFACED WITH A MINIMUM OF 1-1/2" OF TYPE "E" ASPHALT TOPPING OR SURFACE COURSE.
4. CONTRACTOR'S TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE AUTHORITY HAVING JURISDICTION BEFORE WORK BEGINS.
5. FINAL APPROVAL OF CONTRACTOR'S PAVEMENT CUT REPAIRS RESIDES WITH THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL MEET ALL REQUIREMENTS OF SAID AUTHORITY.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S..	BACKFILLING UTILITY CUTS & REPLACING PAVEMENT	35.0
DRAWN BY:			

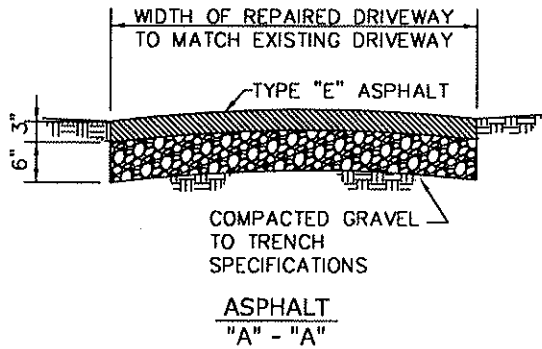
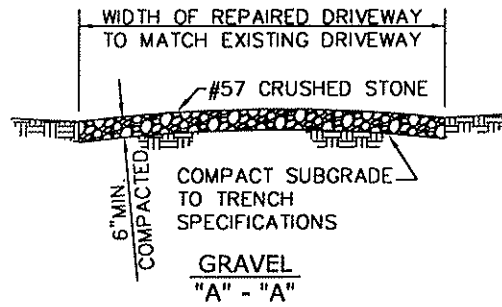
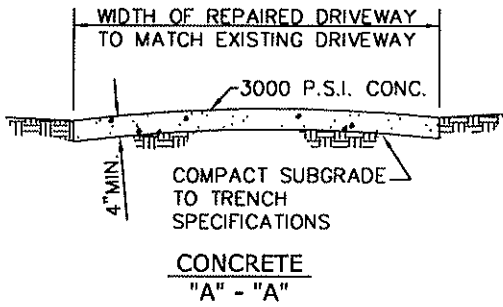
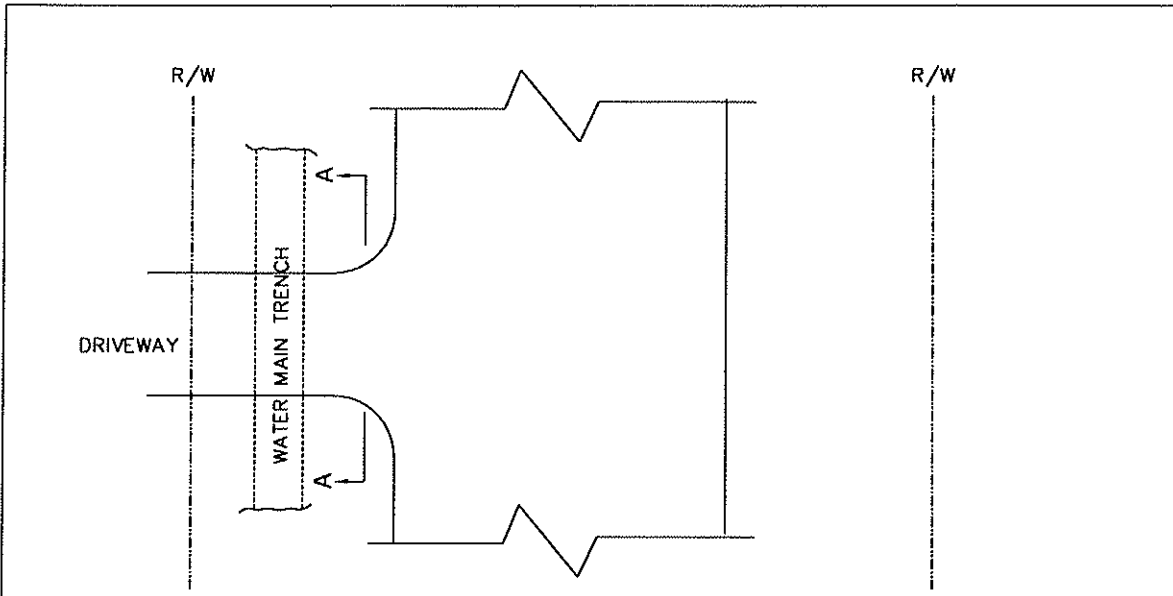


NOTES:

1. EXISTING PAVEMENT SHALL BE REPLACED IN ACCORDANCE TO THE STANDARDS REQUIRED BY FORSYTH COUNTY ENGINEERING AND/OR THE GEORGIA DEPARTMENT OF TRANSPORTATION.
2. ALL LATERAL STREET CUTS MUST BE COVERED WITH STEEL PLATES OF SUFFICIENT THICKNESS TO SPAN THE CUT WITHOUT NOTICEABLE DEFLECTION. PLATES TO REMAIN IN PLACE UNTIL THE CONCRETE BASE HAS GAINED SUFFICIENT STRENGTH TO WITHSTAND TRAFFIC LOADS (24 HOUR MINIMUM).
3. ON LONGITUDINAL CUTS EXCEEDING 150 FT. IN LENGTH, THE CONCRETE IN THE TRENCH WILL BE BROUGHT FLUSH WITH THE EXISTING PAVEMENT AND THE ENTIRE WIDTH OF ROADWAY RESURFACED WITH A MINIMUM OF 1-1/2" OF TYPE "E" ASPHALT TOPPING OR SURFACE COURSE.
4. CONTRACTOR'S TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE AUTHORITY HAVING JURISDICTION BEFORE WORK BEGINS.
5. FINAL APPROVAL OF CONTRACTOR'S PAVEMENT CUT REPAIRS RESIDES WITH THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL MEET ALL REQUIREMENTS OF SAID AUTHORITY.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

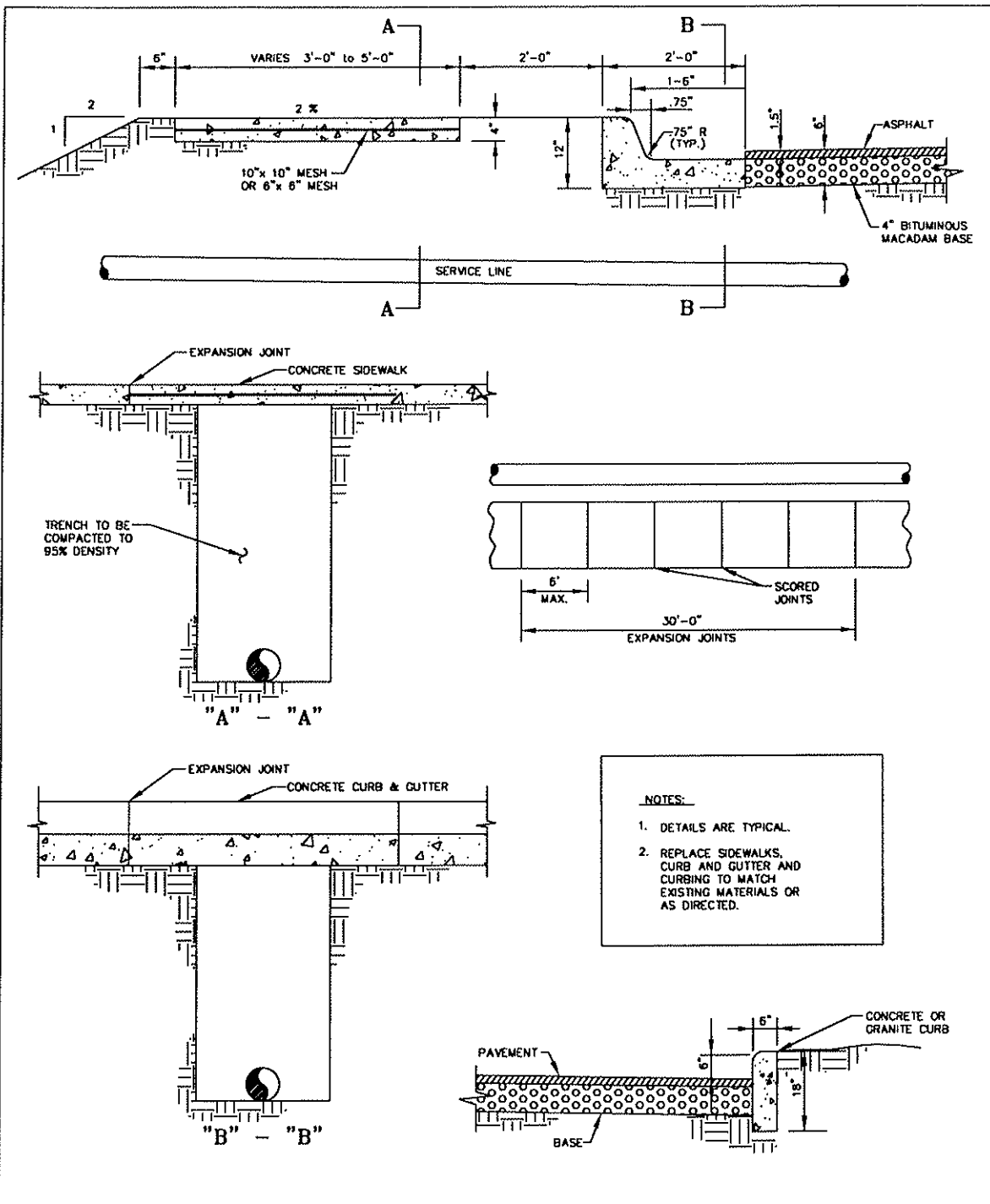
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	BACKFILLING UTILITY CUTS & REPLACING PAVEMENT	35.0
DRAWN BY:			



- NOTES:
1. PAVED DRIVES – FINISH SURFACE OF REPAIRED AREA TO MATCH EXISTING SURFACE. EDGES OF CUT TO BE SAWN VERTICAL. EXPANSION MATERIAL TO BE USED AS DIRECTED.
 2. GRAVEL DRIVES – FINISHED GRADE TO BE FLUSH WITH EDGE OF DRIVE – TYPICAL ALL DRIVES.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	DRIVEWAY CUT REPAIRS	36.0
DRAWN BY:			

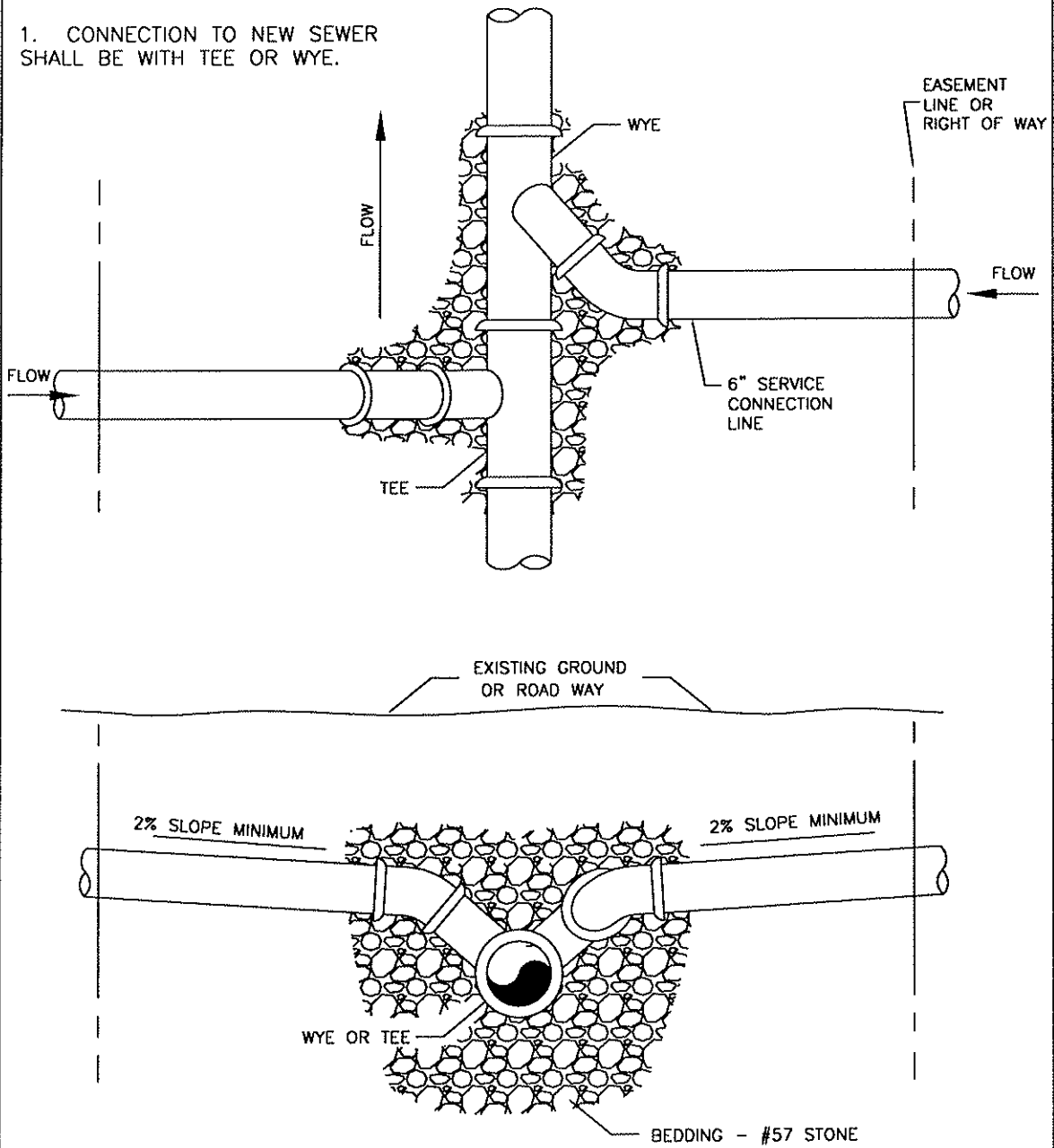


FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	SIDEWALK, CURB & GUTTER REPAIRS	37.0
DRAWN BY:			

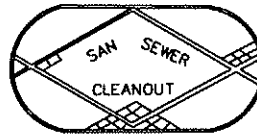
NOTE:

1. CONNECTION TO NEW SEWER SHALL BE WITH TEE OR WYE.



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

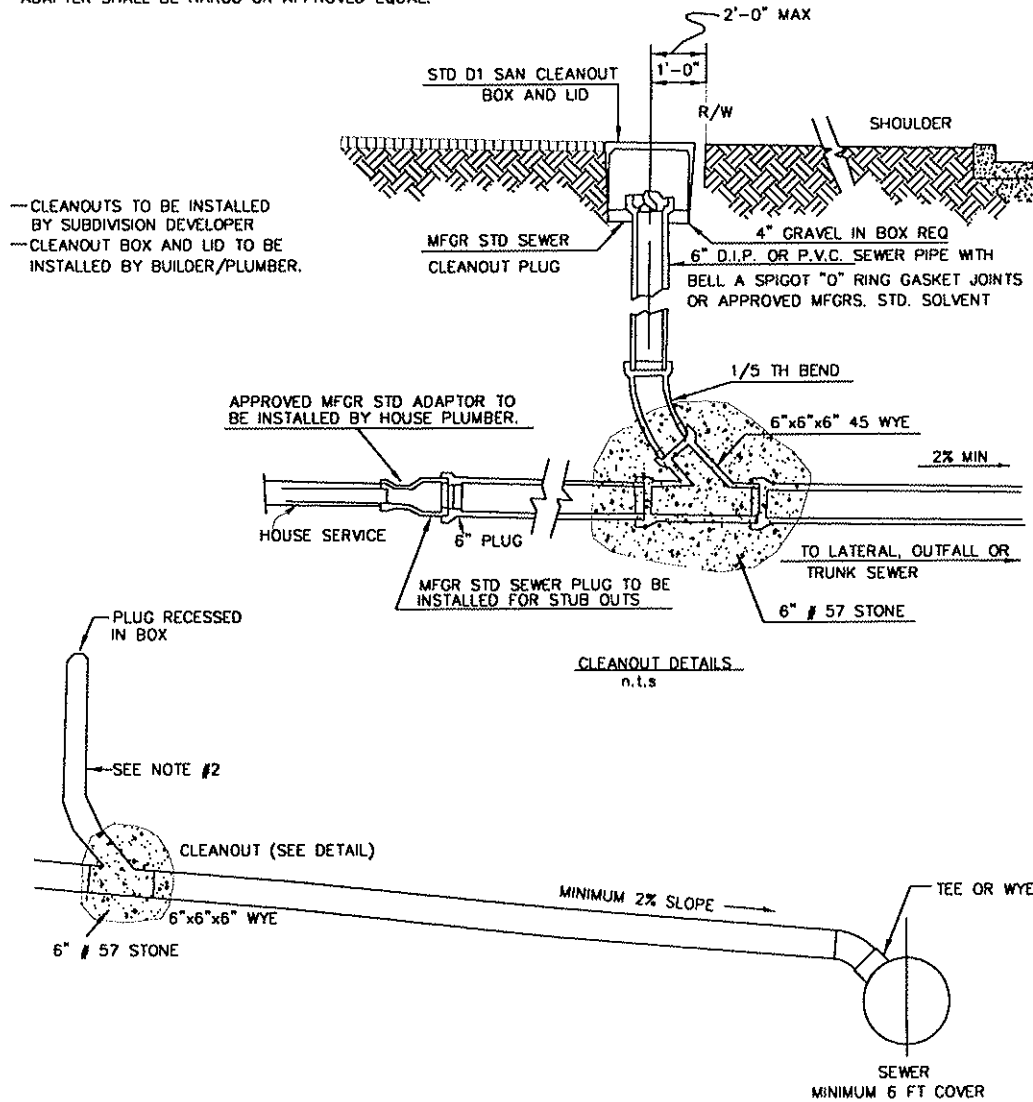
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	LATERAL CONNECTION	38.0
DRAWN BY:			



SANITARY SEWER CLEANOUT BOX LID

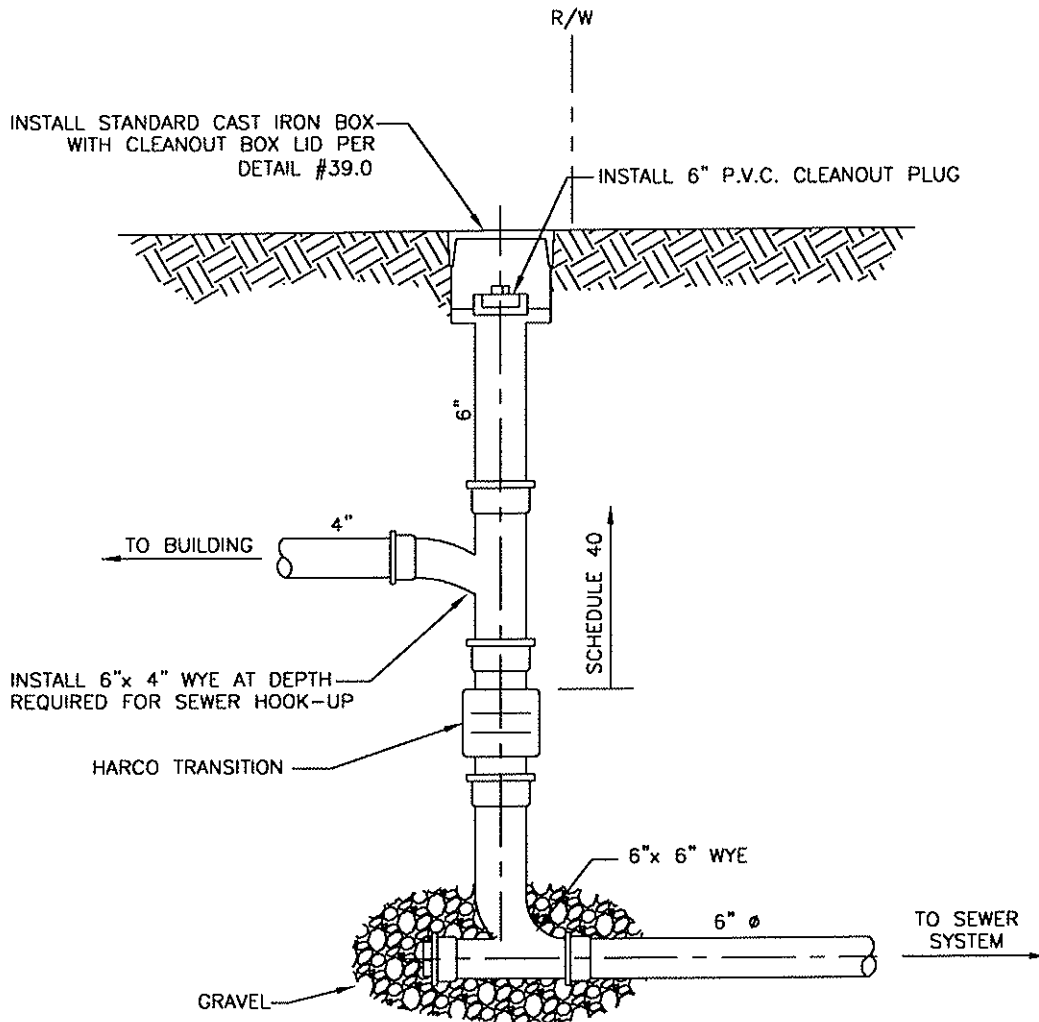
NOTES:

1. CAST IRON SHALL CONFORM TO A.S.T.M. SPEC. A 48 LATEST REV. FOR CLASS 20 GREY IRON CASTINGS
2. IF THE RISER IS GREATER THAN 6'-0" THE JOINT WILL BE ENCASED IN 6" OF 1:3:5 CONCETE.
3. D.I.P TO PVC TRANSITION ADAPTER MAY BE USED AT CURB. ADAPTER SHALL BE HARCO OR APPROVED EQUAL.



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

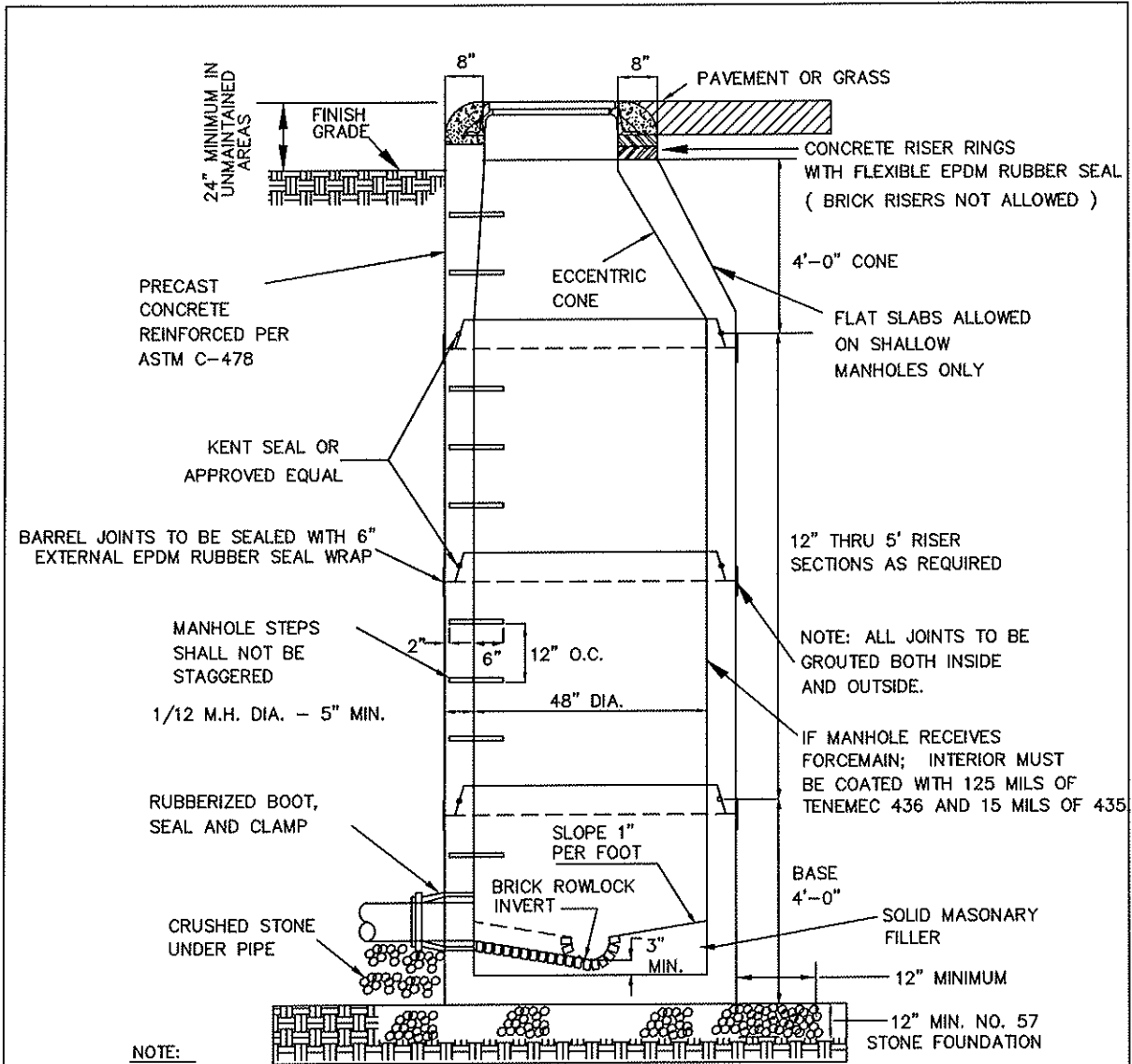
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	SEWER LATERAL INSTALLATION	39.0
DRAWN BY:			



NOTE: THIS CLEANOUT DETAIL TO BE USED FOR 10' OR DEEPER CONDITIONS AND ONLY AFTER APPROVAL BY FORSYTH COUNTY DEPT. OF WATER & SEWER.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	CLEANOUT	40.0
DRAWN BY:			

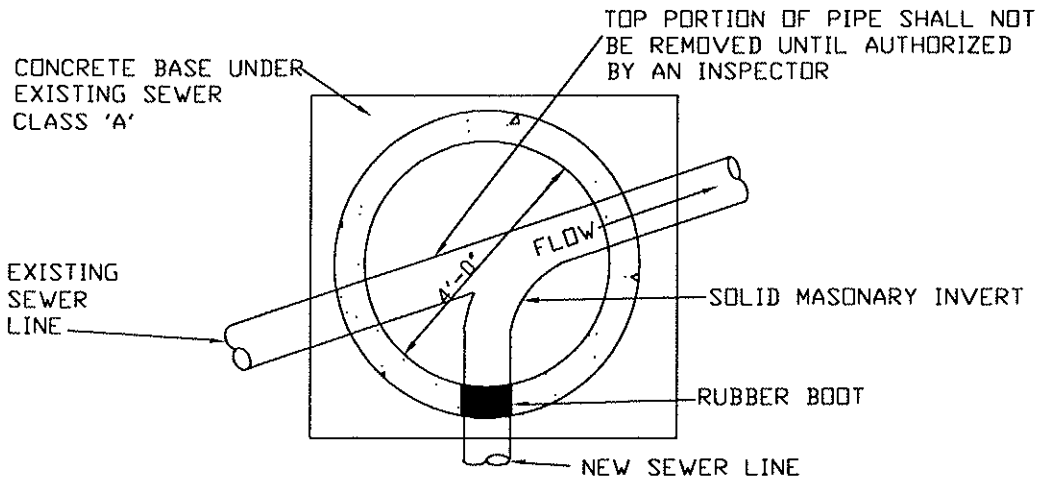


NOTE:

1. TABLES ARE TO BE GENTLY SLOPED AND TROWELED SMOOTH FROM M.H. WALL TO INVERT WALL AND CONSTRUCTED OF SOLID MASONRY.
2. BASES LARGER THAN 48" (INCH) MUST USE TRANSITION SLAB AND 48" (INCH) RISER SECTIONS
3. CONES WITH BOLT DOWN CAST IN PLACE FRAMES ARE REQUIRED ON OUTFALL SEWERS IN UNMAINTAINED AREAS (SEE DETAIL 47.0)
4. TRAFFIC FRAME AND COVER SHALL BE USED IN PAVED AREAS. (SEE DETAIL 46.0)
5. WHEN APPLICABLE MANHOLES SHALL BE MEASURED FOR PAYMENT FROM INVERT TO TOP OF COVER.
6. NO MANHOLE RISER SECTION SHALL BE MORE THAN 0.5" (ONE HALF INCH) OUT OF ROUND.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

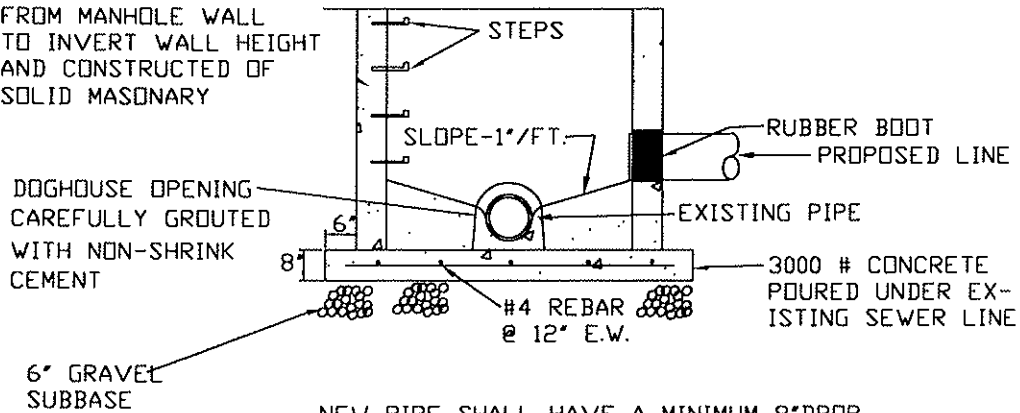
DATE:	June 8, 2011	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PRECAST MANHOLE	41.0
DRAWN BY:			



PROVIDE PRECAST MANHOLE RISER COMPLETE WITH UP-SIDE DOWN U-SHAPED OPENING TO SUIT EXISTING LINES

NOTE:
TABLES ARE TO BE GENTLY SLOPED AND TROWELED SMOOTH FROM MANHOLE WALL TO INVERT WALL HEIGHT AND CONSTRUCTED OF SOLID MASONRY

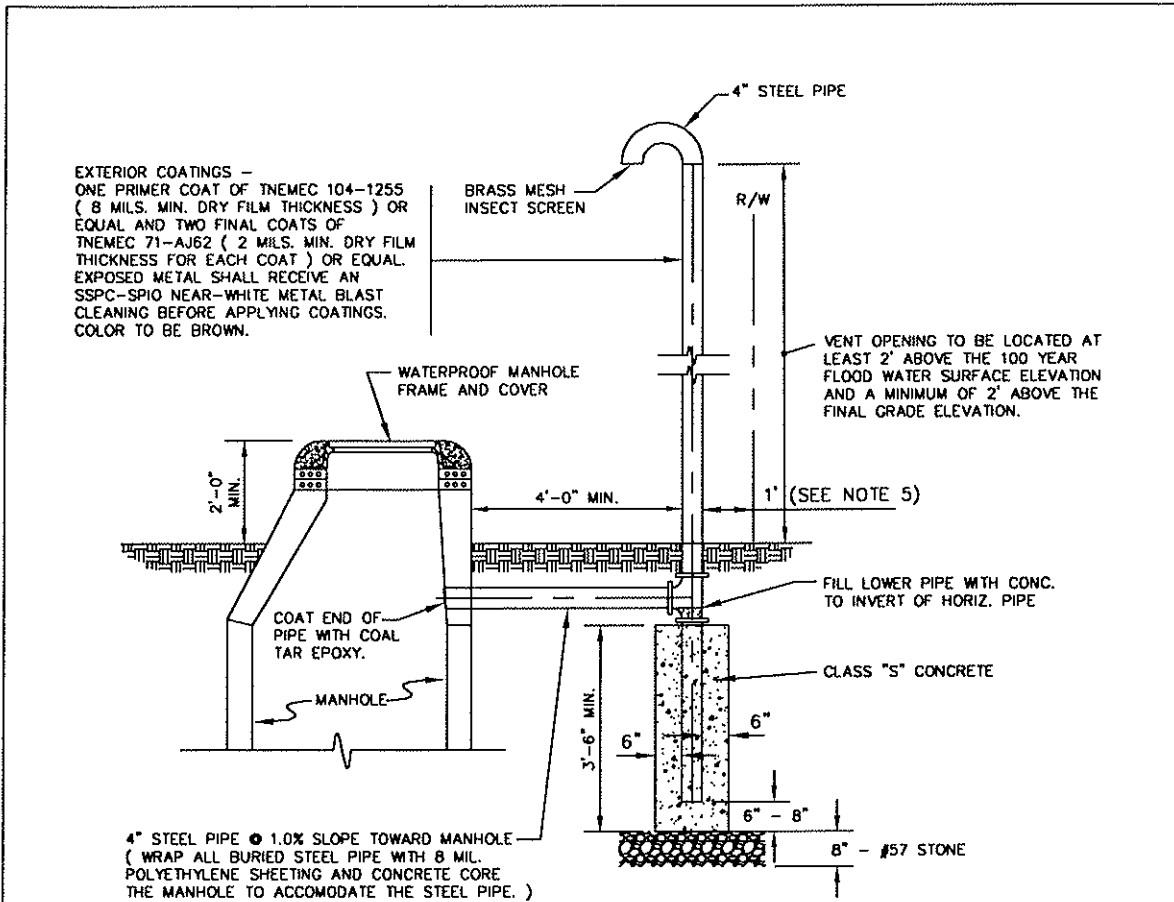
CORED AND BOOTED OPENING TO SUIT PROPOSED PIPELINES.



NEW PIPE SHALL HAVE A MINIMUM 8" DROP INTO MANHOLE WHENEVER POSSIBLE

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	MANHOLE ON EXISTING LINE (DOGHOUSE)	42.0
DRAWN BY:			

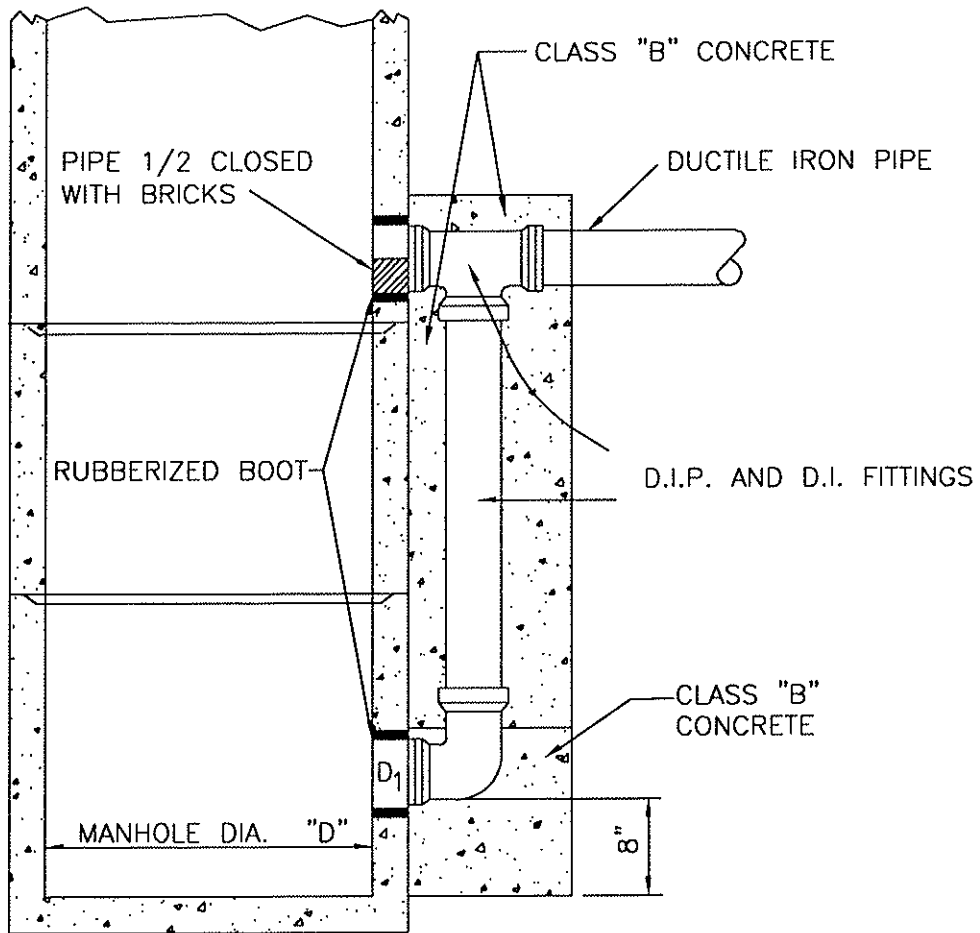


NOTES:

1. WATERPROOF MANHOLE COVERS MUST BE USED AT ALL MANHOLES THAT ARE LOCATED IN A 100 YEAR FLOOD PLAIN AREA.
2. WHERE DIRECTED BY FCDWS MANHOLE VENTS MAY BE REQUIRED AT EVERY OTHER MANHOLE IF THE MANHOLE SPACING IS EQUAL TO OR LESS THAN 400 FEET.
3. WHERE DIRECTED BY FCDWS MANHOLE VENTS MAY BE REQUIRED AT EVERY MANHOLE IF THE MANHOLE SPACING IS GREATER THAN 400 FEET.
4. ALL STEEL PIPE SHALL HAVE A 40 ML. COAL TAR EPOXY INTERIOR LINING.
5. IF THE SEWER LINE IS LOCATED IN A ROAD RIGHT OF WAY, THE VENT PIPE SHALL BE LOCATED WITHIN SAID RIGHT OF WAY AND ONE (1) FOOT FROM THE ROAD RIGHT OF WAY LINE. POST BARRICADES SHALL ALSO BE LOCATED ON EITHER SIDE OF THE VENT PIPE. THE POST BARRICADES SHALL MEET GA. D.O.T. / FORSYTH COUNTY SPECIFICATIONS.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	MANHOLE VENT ASSEMBLY	43.0
DRAWN BY:			

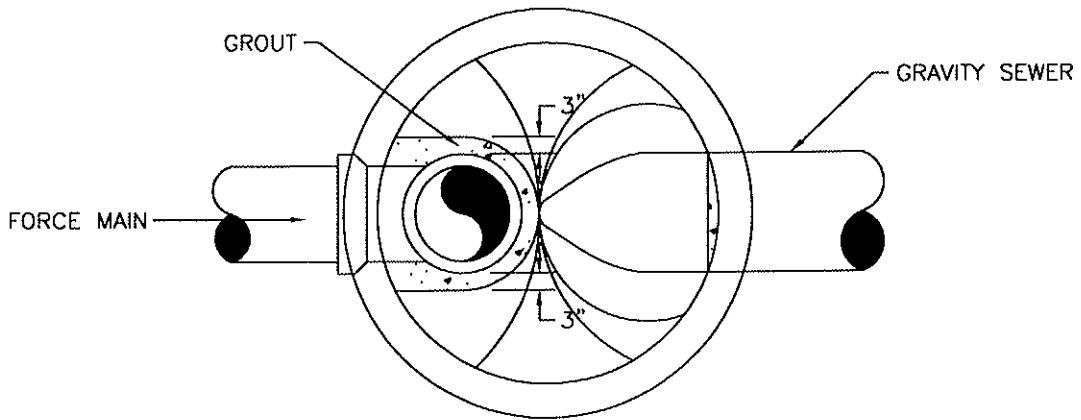


NOTE

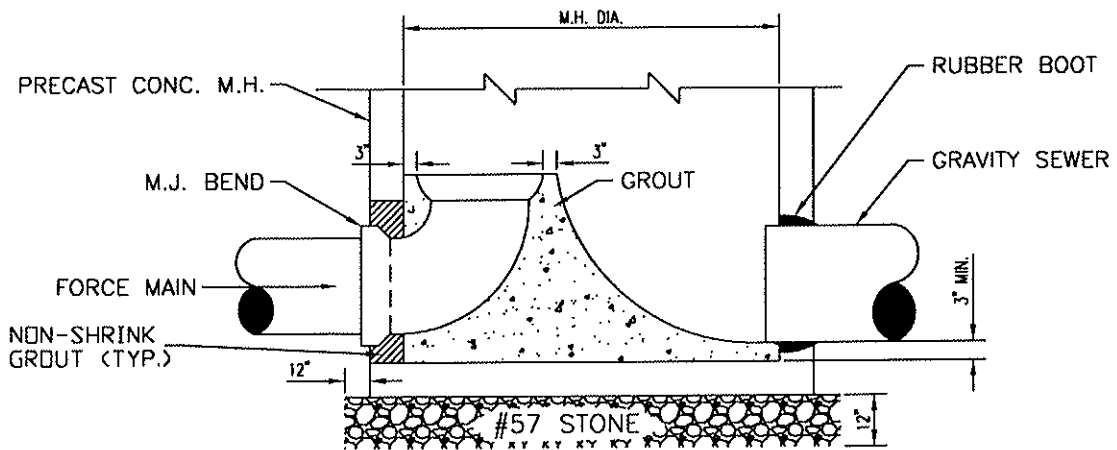
1. MANHOLE SHALL BE INSTALLED LIKE STANDARD PRECAST MANHOLE, EXCEPT FOR DROP.
2. MAXIMUM ALLOWABLE INSIDE DROP MANHOLES SHALL BE 2' (FEET), INCLUDING 6" LATERAL PIPES.
3. MAXIMUM ALLOWABLE DROP FOR LOWER INLET ON OUTSIDE DROP MANHOLES SHALL BE 8" (INCHES).
4. FITTINGS SHALL BE WRAPPED IN 8 MIL. POLYETHYLENE WRAP.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	OUTSIDE DROP	44.0
DRAWN BY:			



PLAN



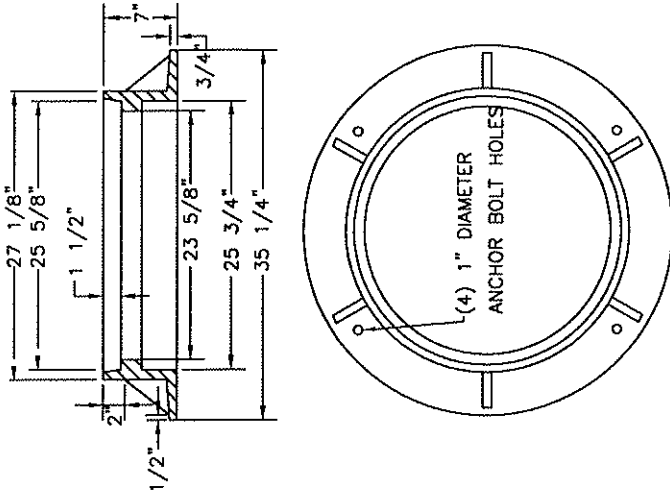
SECTION

INTERIOR LINING REQUIREMENTS

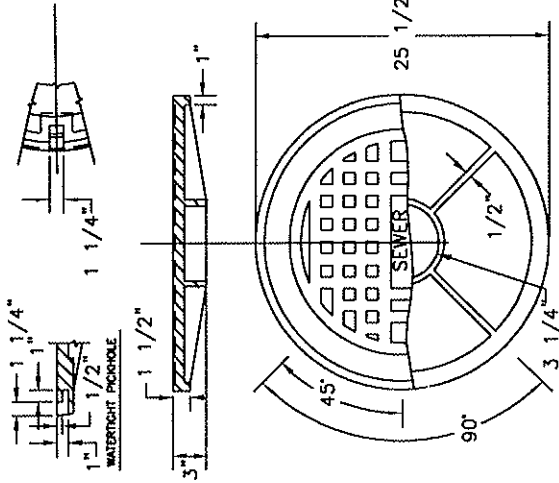
RECEIVING MANHOLE SHALL BE LINED WITH 125 MILS OF TNEMEC 436 AND 15 MILS OF 435 OR APPROVED EQUAL.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	FORCEMAIN CONNECTION	45.0
DRAWN BY:			



(2) TYPE TWO NON-PENETRATING PICKHOLES



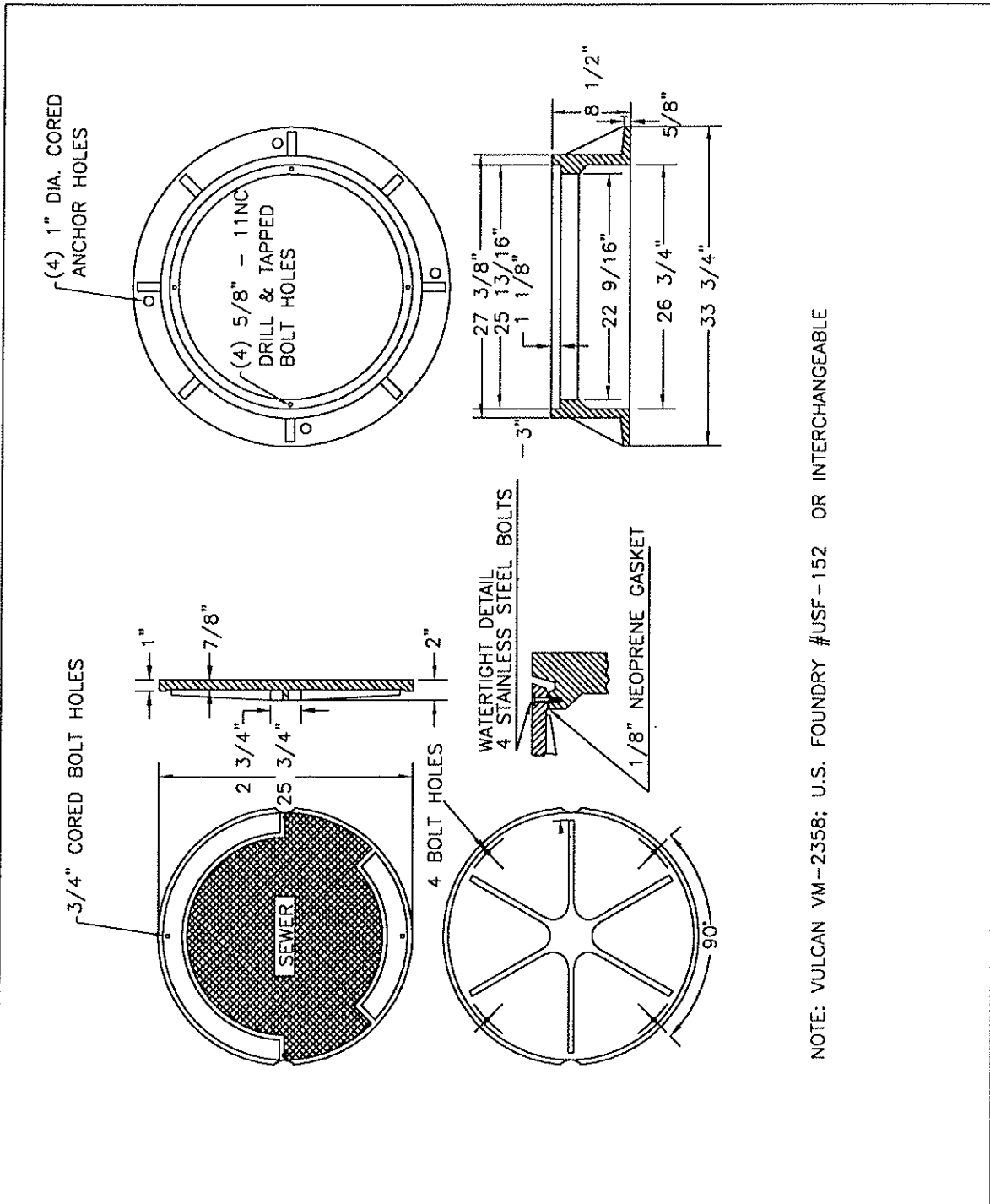
NOTES: 1. VULCAN V-1357; U.S. FOUNDRY #USF-229 OR INTERCHANGEABLE

2. FRAME & COVER TO BE BOLT DOWN TYPE

3. CONCRETE RINGS TO BE USED FOR ELEVATION ADJUSTMENT IN ROAD AREA. BRICK RISERS ARE NOT ALLOWED.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

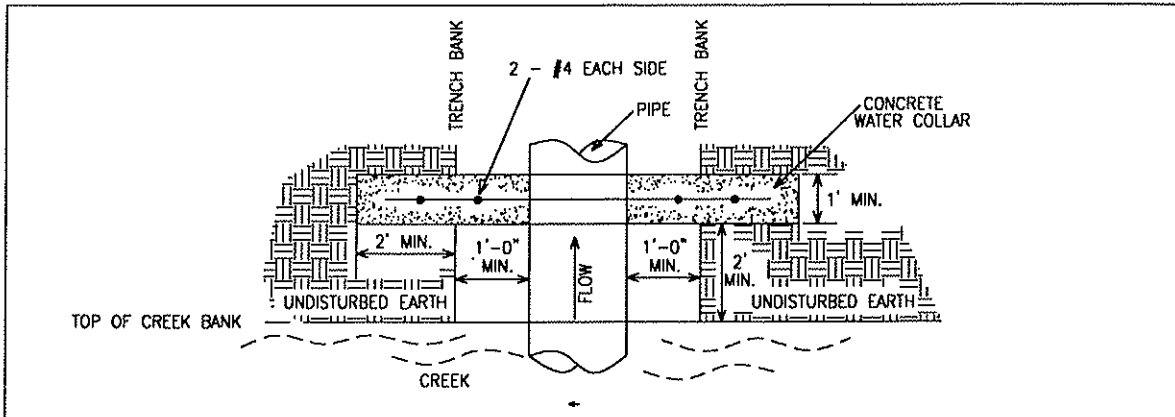
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	TRAFFIC FRAME AND COVER	46.0
DRAWN BY:			



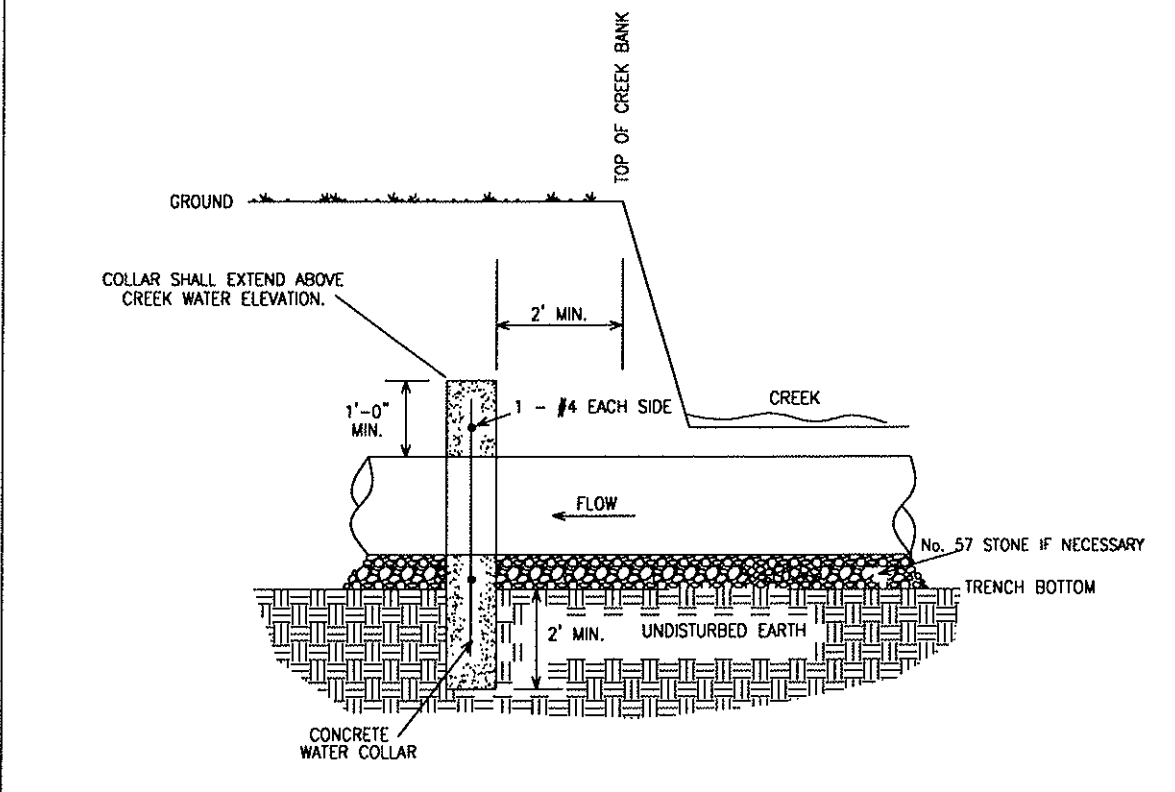
NOTE: VULCAN VM-2358; U.S. FOUNDRY #USF-152 OR INTERCHANGEABLE

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	CAST IN BOLT DOWN FRAME AND COVER	47.0
DRAWN BY:			

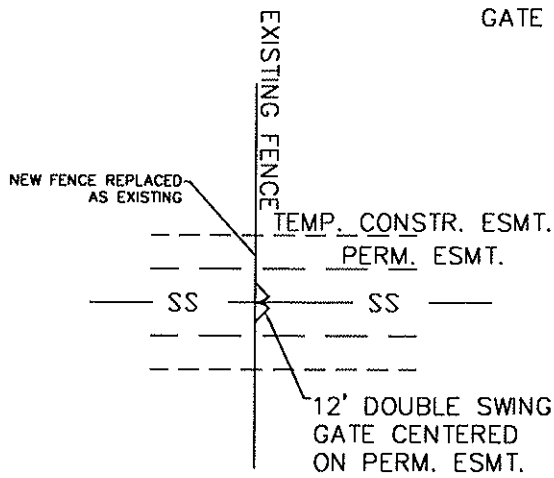
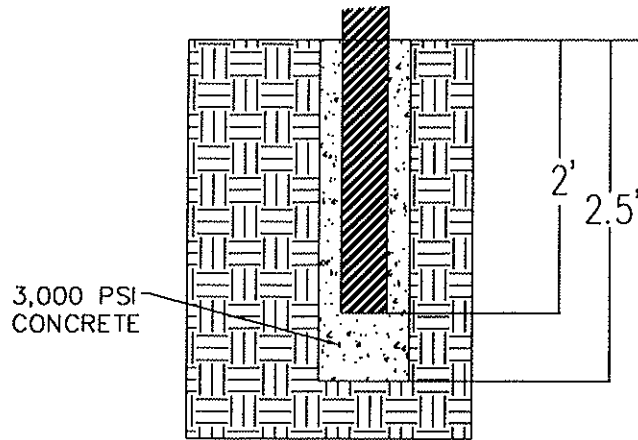


PLAN VIEW

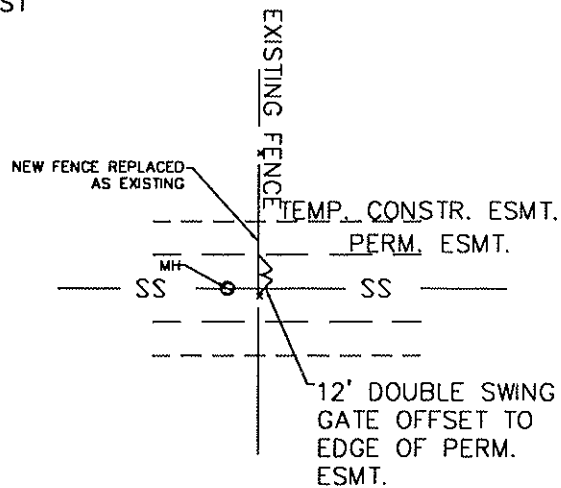


SIDE VIEW

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER			
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	CONCRETE WATER COLLAR	48.0
DRAWN BY:			



TYPICAL 12' GATE INSTALLATION

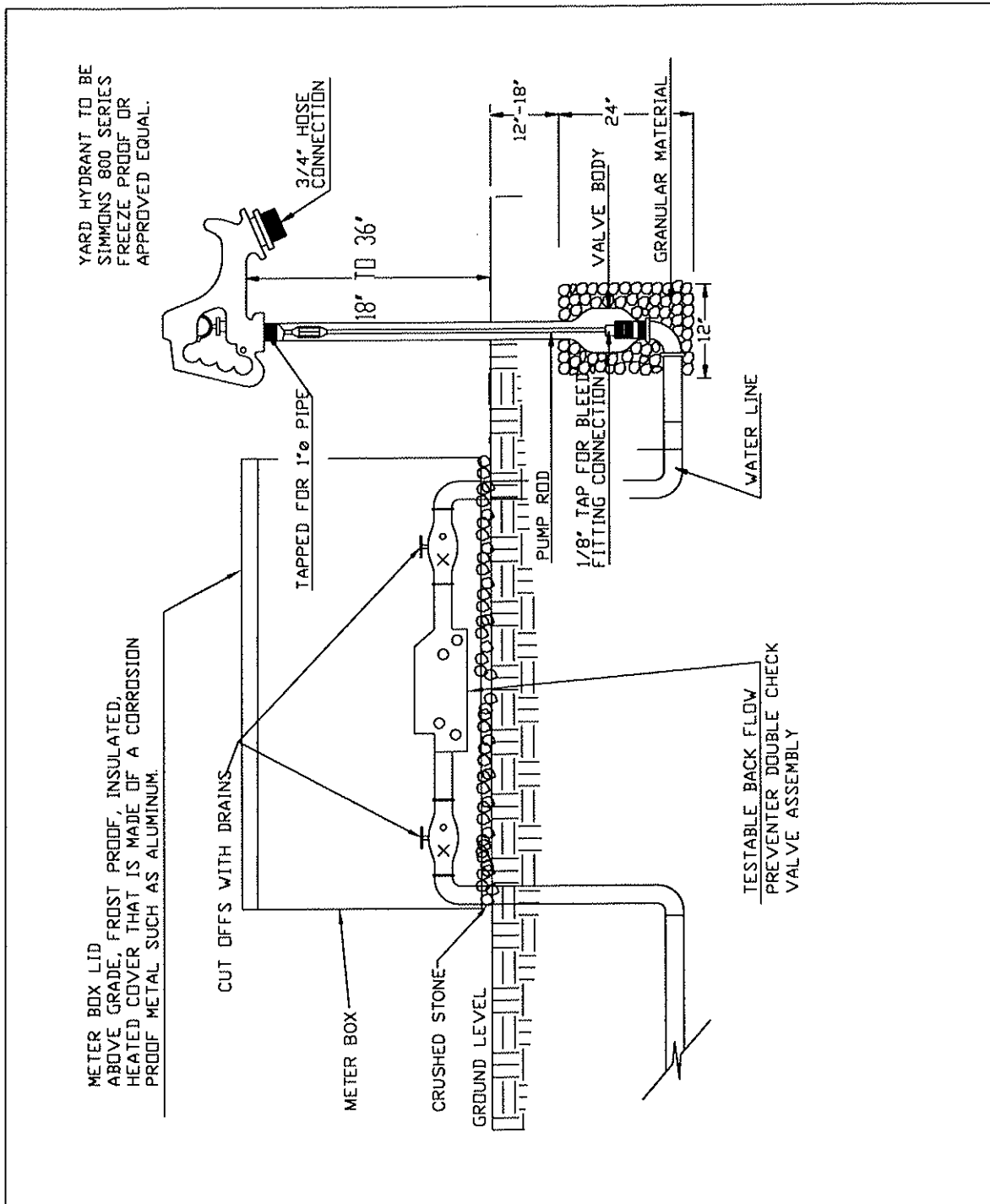


12' GATE WITHIN 10' OF MANHOLE

1. FENCE AND GATE TO BE REPLACED AS NEW TO MATCH MATERIAL, DESIGN, AND APPEARANCE OF EXISTING FENCE.
2. LOCK AND KEY TO BE PROVIDED BY FORSYTH COUNTY.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	12' DOUBLE SWING GATE ON EXISTING FENCE.	49.0
DRAWN BY:			

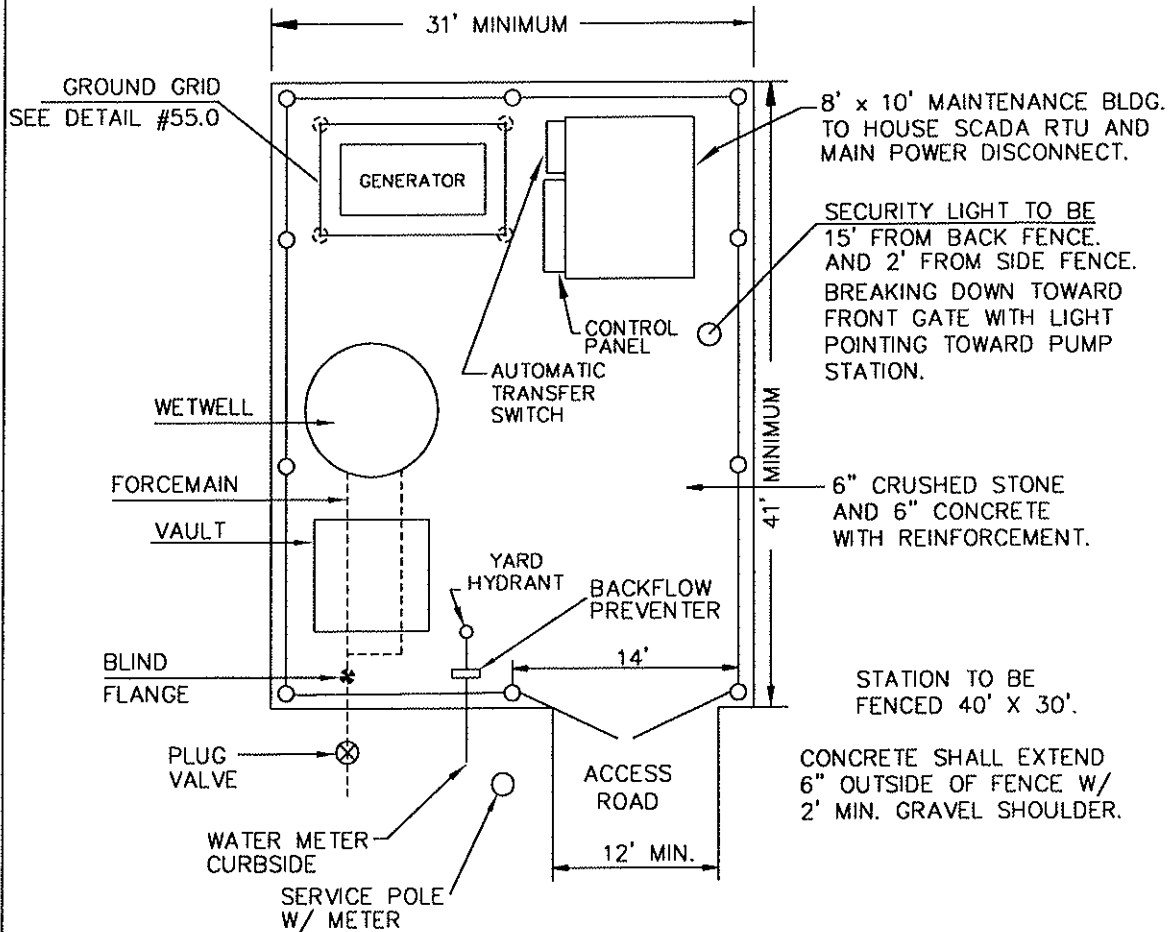


FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	HOSE BIBB & BACKFLOW PREVENTER FOR PUMP STATIONS	50.0
DRAWN BY:			

NOTE: COMPACTION CERTIFICATION LETTER REQUIRED FOR BACKFILL AROUND WET WELL AND ALL FILL SLOPES, 95% COMPACTION REQUIRED.

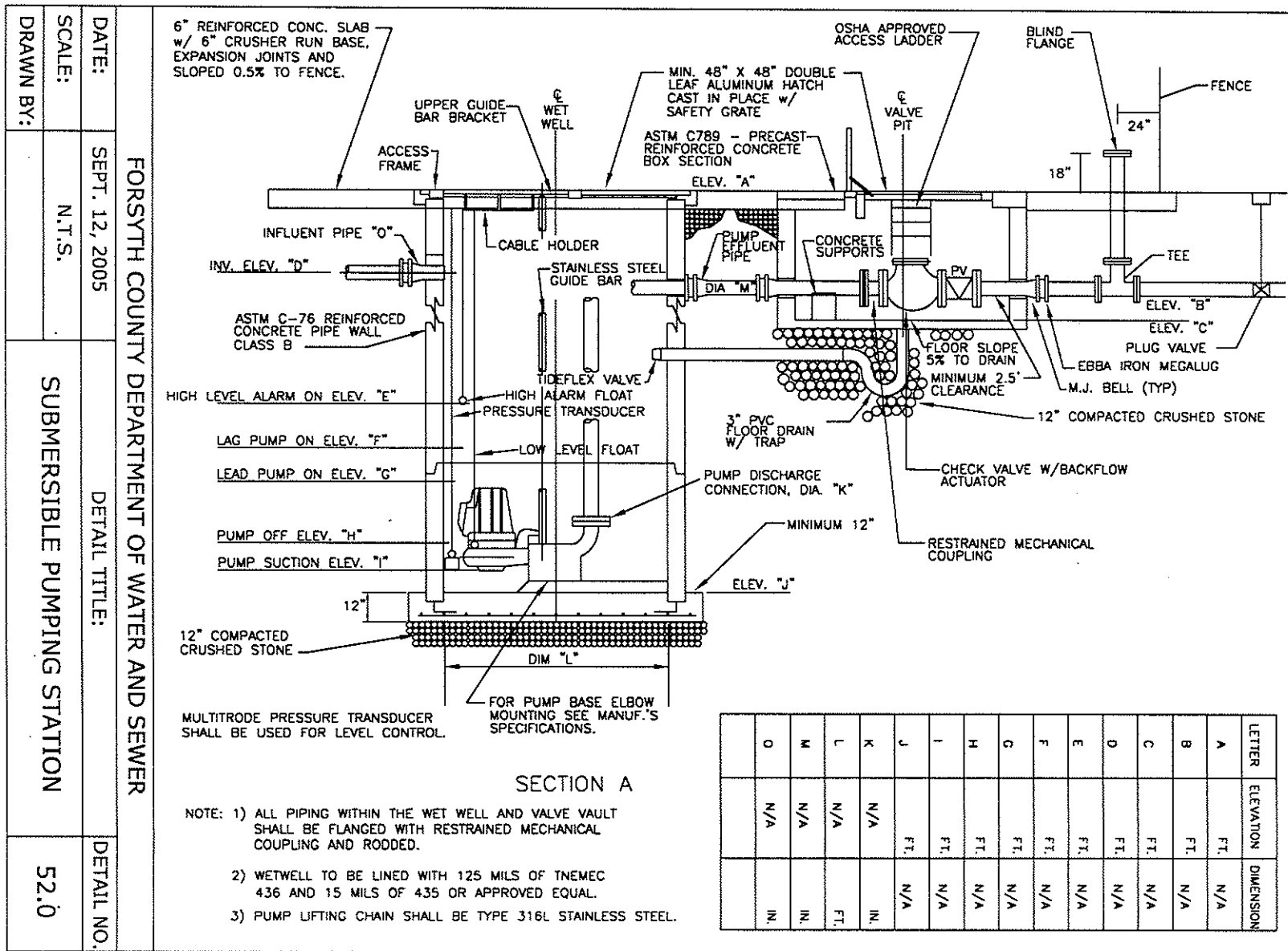
NOTE: FLOOR OF CHECK VALVE VAULT TO BE SLOPED TO DRAIN.



NOTE: THIS IS A GENERAL SCHEMATIC LAYOUT. LOCATIONS AND DIMENSIONS MAY VARY ACCORDING TO EQUIPMENT SIZE AND SITE REQUIREMENTS. ACTUAL SITE LAYOUT MUST BE INCLUDED ON DRAWINGS FOR COUNTY SUBMITTAL

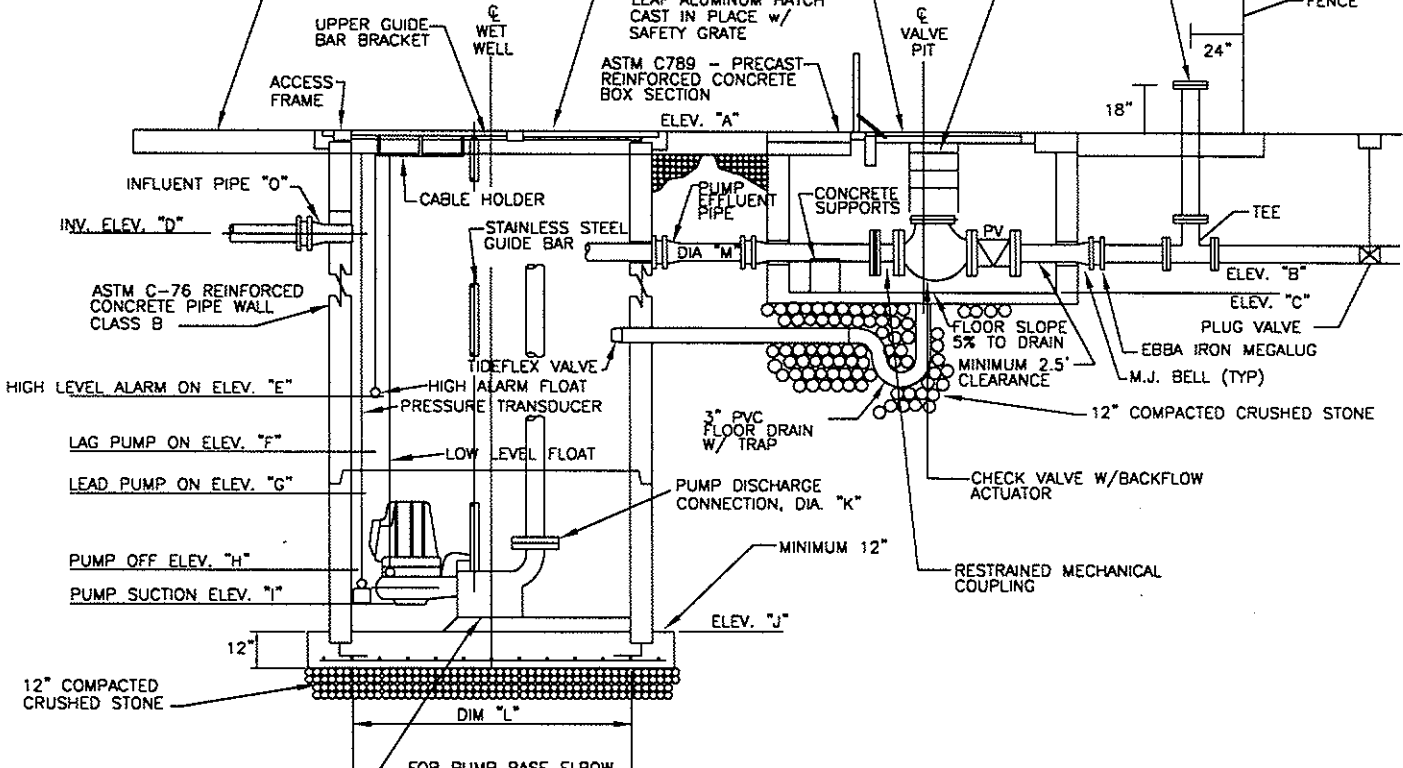
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	SITE LAYOUT SUBMERSIBLE PUMP STATION	51.0
DRAWN BY:			



DATE: SEPT. 12, 2005
 SCALE: N.T.S.
 DRAWN BY:
 FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER
 DETAIL TITLE: SUBMERSIBLE PUMPING STATION
 DETAIL NO. 52.0

6" REINFORCED CONC. SLAB
 w/ 6" CRUSHER RUN BASE,
 EXPANSION JOINTS AND
 SLOPED 0.5% TO FENCE.

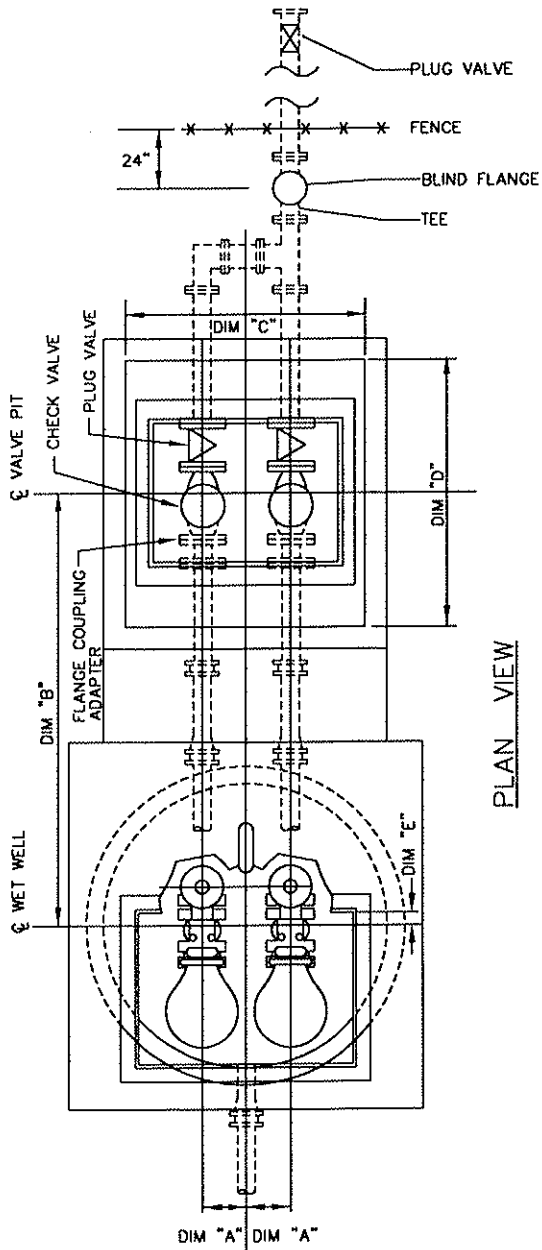


SECTION A

- NOTE: 1) ALL PIPING WITHIN THE WET WELL AND VALVE VAULT SHALL BE FLANGED WITH RESTRAINED MECHANICAL COUPLING AND RODDED.
- 2) WETWELL TO BE LINED WITH 125 MILS OF TNEEC 436 AND 15 MILS OF 435 OR APPROVED EQUAL.
- 3) PUMP LIFTING CHAIN SHALL BE TYPE 316L STAINLESS STEEL.

LETTER	ELEVATION	DIMENSION
O	N/A	IN.
M	N/A	IN.
L	N/A	FT.
K	N/A	IN.
J	FT.	N/A
I	FT.	N/A
H	FT.	N/A
G	FT.	N/A
F	FT.	N/A
E	FT.	N/A
D	FT.	N/A
C	FT.	N/A
B	FT.	N/A
A	FT.	N/A

LETTER	DIMENSION
A	FT.
B	FT.
C	FT.
D	FT.
E	FT.



PLAN VIEW

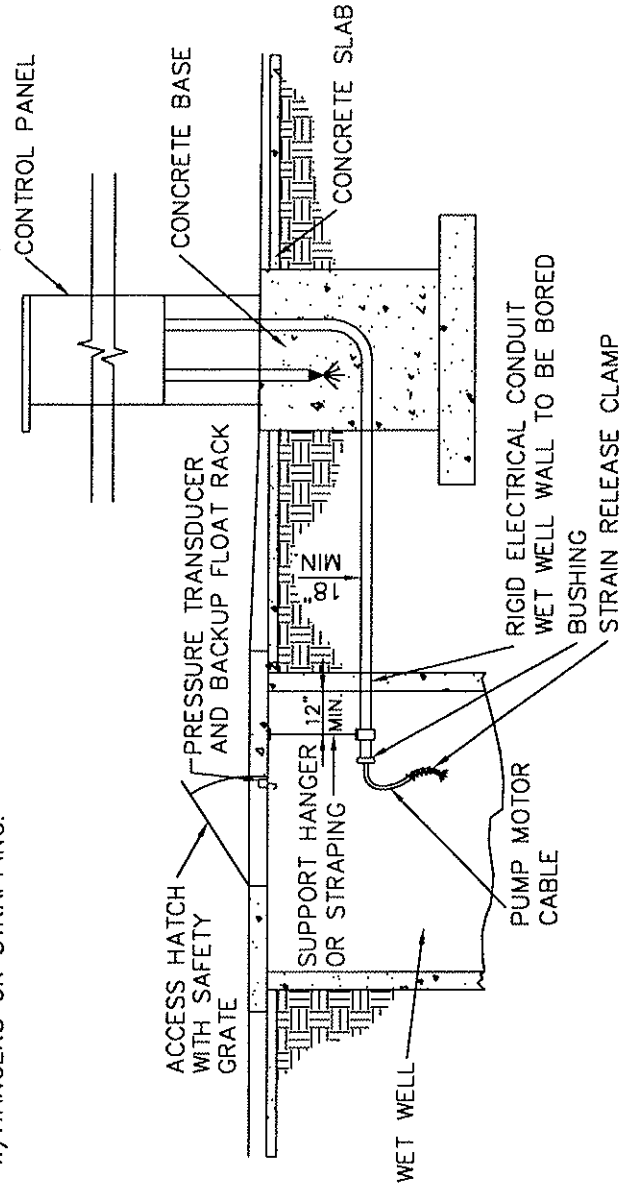
NOTE: THIS IS A GENERAL SCHEMATIC LAYOUT, LOCATIONS AND DIMENSIONS MAY VARY ACCORDING TO EQUIPMENT SIZE AND REQUIREMENTS.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	SUBMERSIBLE PUMPING STATION	53.0
DRAWN BY:			

NOTE

1. RIGID CONDUITS SHALL BE STUBBED INTO WALL OF WET WELL 18" MIN. BELOW GROUND LEVEL TO PROVIDE ACCESS TO CABLES & CONTROL WIRING TO CONTROL PANEL.
2. THE HOLE IN THE WET WELL WALL FOR THE CONDUIT STUBS SHALL BE SIZED & BORED FOR THE CONDUIT TO FIT. HOLE SHALL BE GROUTED.
3. WHEN CONDUIT STUB IS 12" OR OVER IN LENGTH, THE STUB SHALL BE SUPPORTED BY HANGERS OR STRAPING.
4. THE STUBS INSIDE THE WET WELL SHALL NOT PROTRUDE OR INTERFERE WITH CLEARANCE OF ACCESS HATCH'S OPENING, NOR HINDER REMOVAL OF THE PUMPS.
5. THE CABLES SHALL HAVE A STRAIN RELEASE CLAMP MOUNTED TO THE CONDUIT STUB BY A BUSHING OR SHALL BE FIXED TO WET WELL STRUCTURE W/HANGERS OR STRAPING.

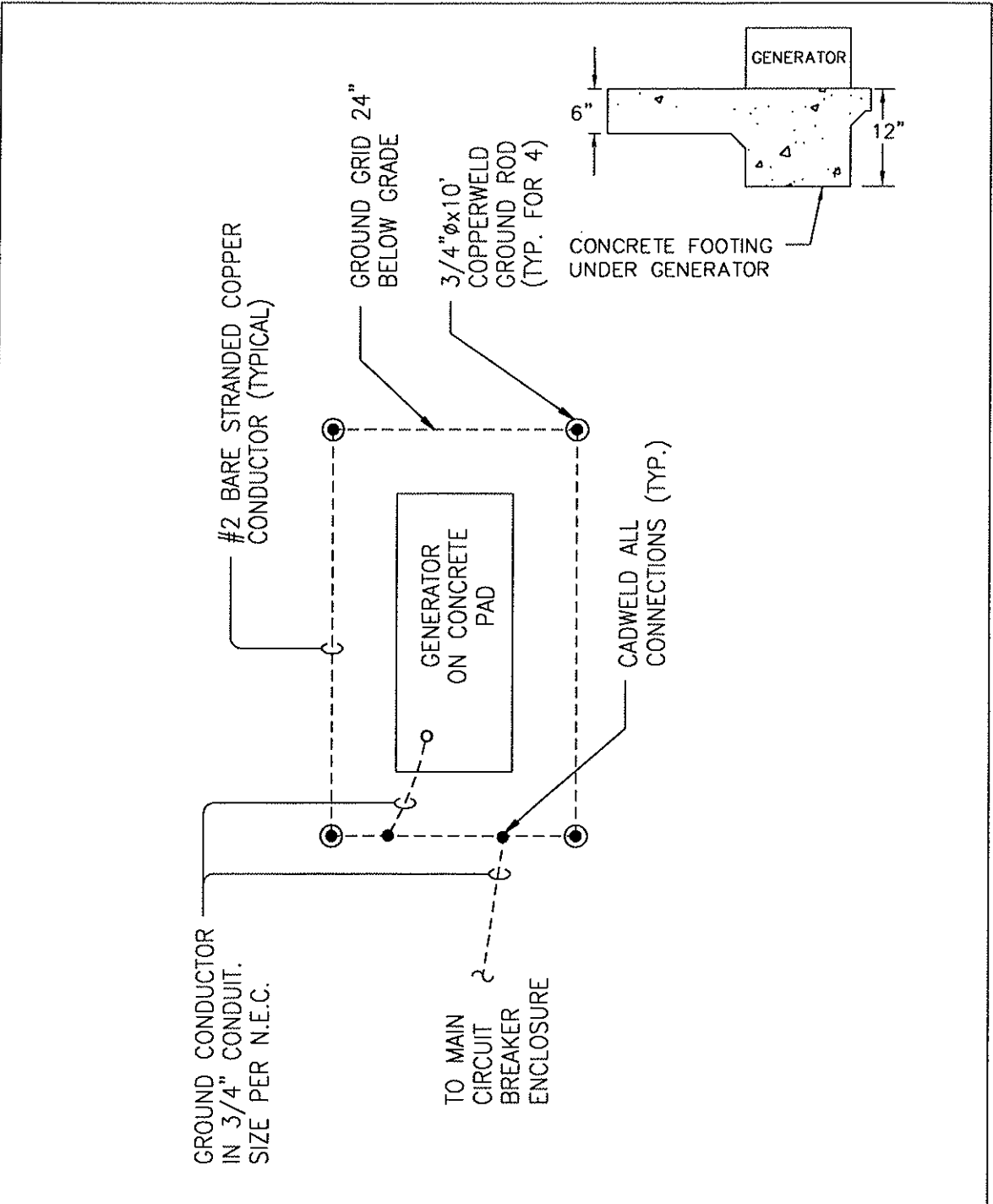


NOTE:

IF FLOAT SWITCHES ARE TO BE USED, THEY SHALL BE INSTALLED THE SAME WAY AS PUMP CABLES ARE INSTALLED.

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

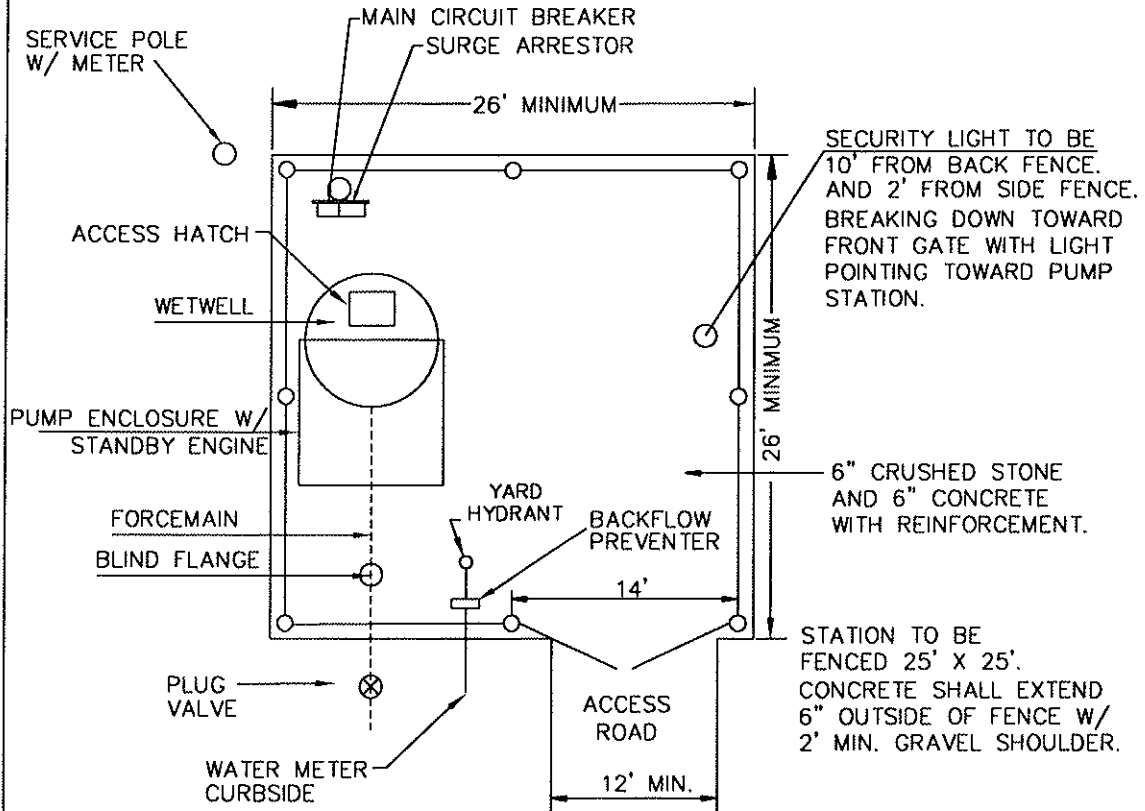
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	SUBMERSIBLE PUMP CABLE	54.0
DRAWN BY:			



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	PUMP STATION GROUNDING	55.0
DRAWN BY:			

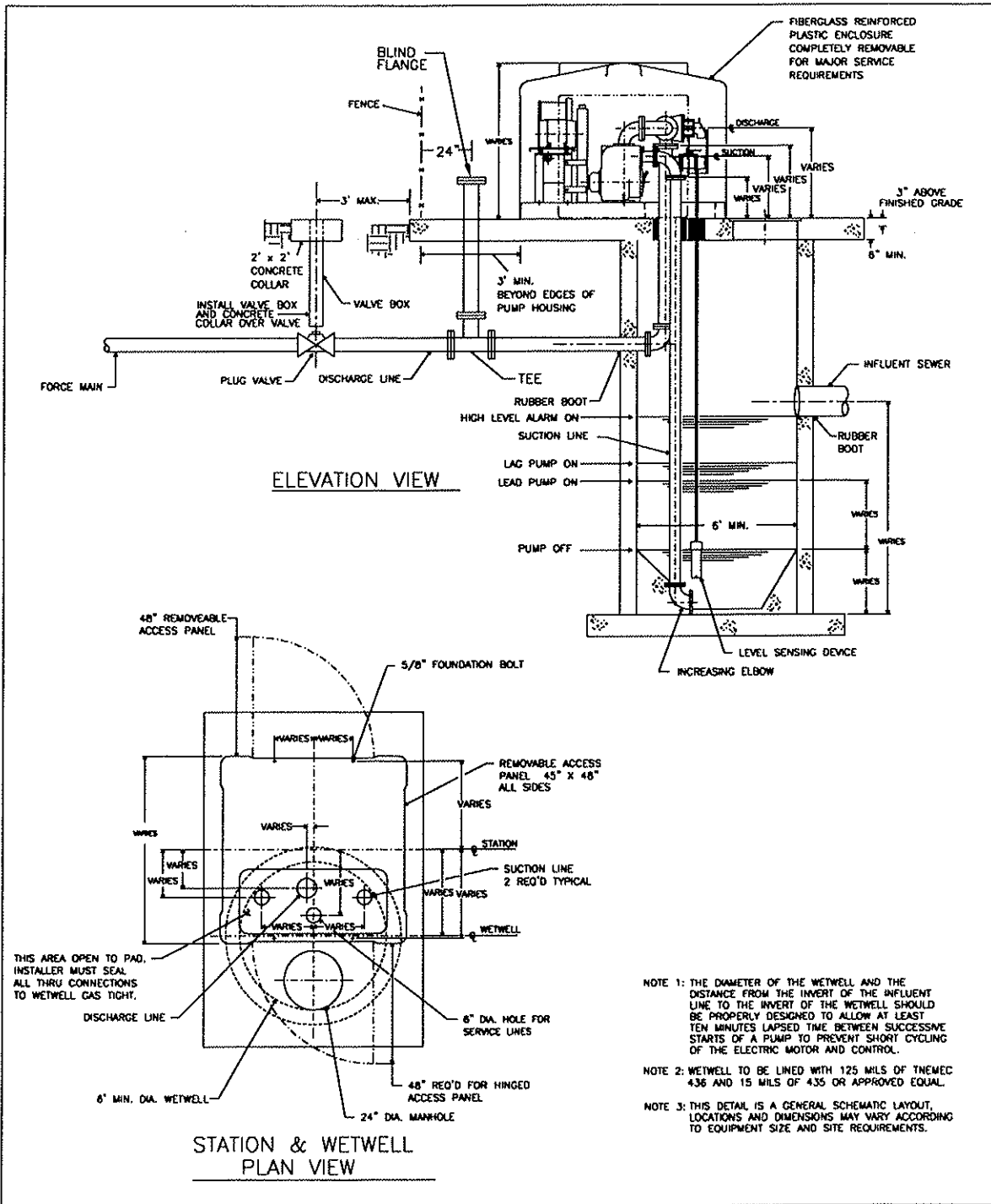
NOTE: COMPACTION CERTIFICATION LETTER REQUIRED FOR BACKFILL AROUND WET WELL AND ALL FILL SLOPES, 95% COMPACTION REQUIRED. ALL ENCLOSURES SHALL BE NEMA 4X



NOTE: THIS IS A GENERAL SCHEMATIC LAYOUT. LOCATIONS AND DIMENSIONS MAY VARY ACCORDING TO EQUIPMENT SIZE AND SITE REQUIREMENTS. ACTUAL SITE LAYOUT MUST BE INCLUDED ON DRAWINGS FOR COUNTY SUBMITTAL

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

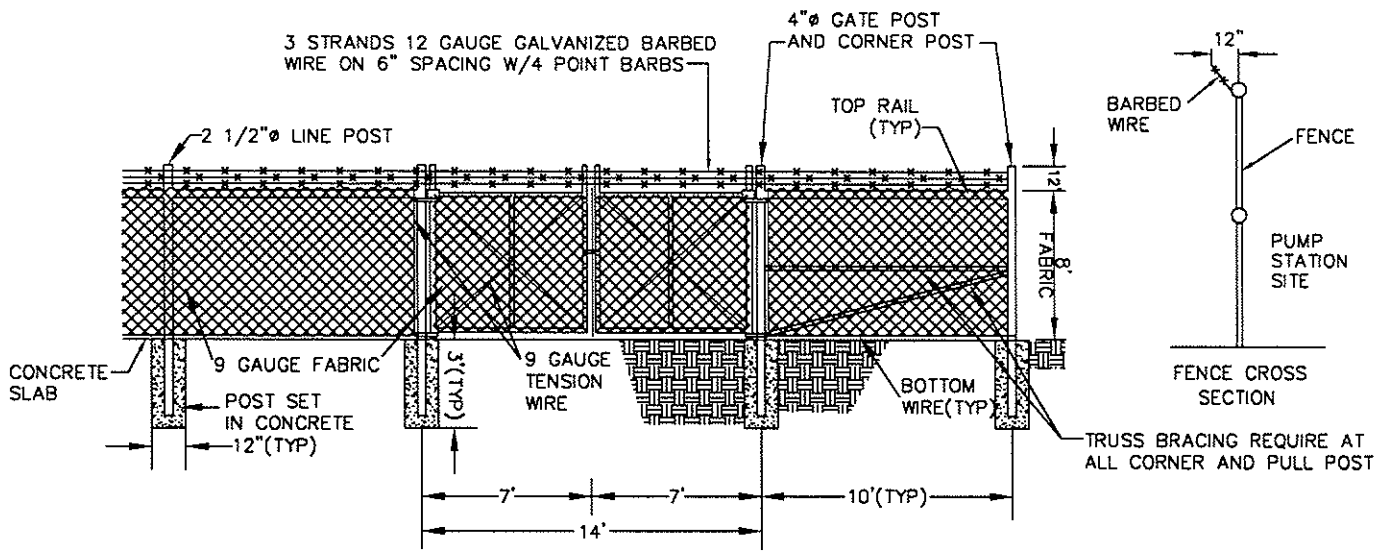
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	SITE LAYOUT ABOVE GROUND LIFT STATION	56.0
DRAWN BY:			



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	ABOVE-GROUND LIFT STATION WETWELL	57.0
DRAWN BY:			

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER	
DATE:	SEPT. 12, 2005
SCALE:	N.T.S.
DRAWN BY:	
DETAIL TITLE:	
FENCE / GATES FOR PUMP STATION SITES	
DETAIL NO.	
58.0	



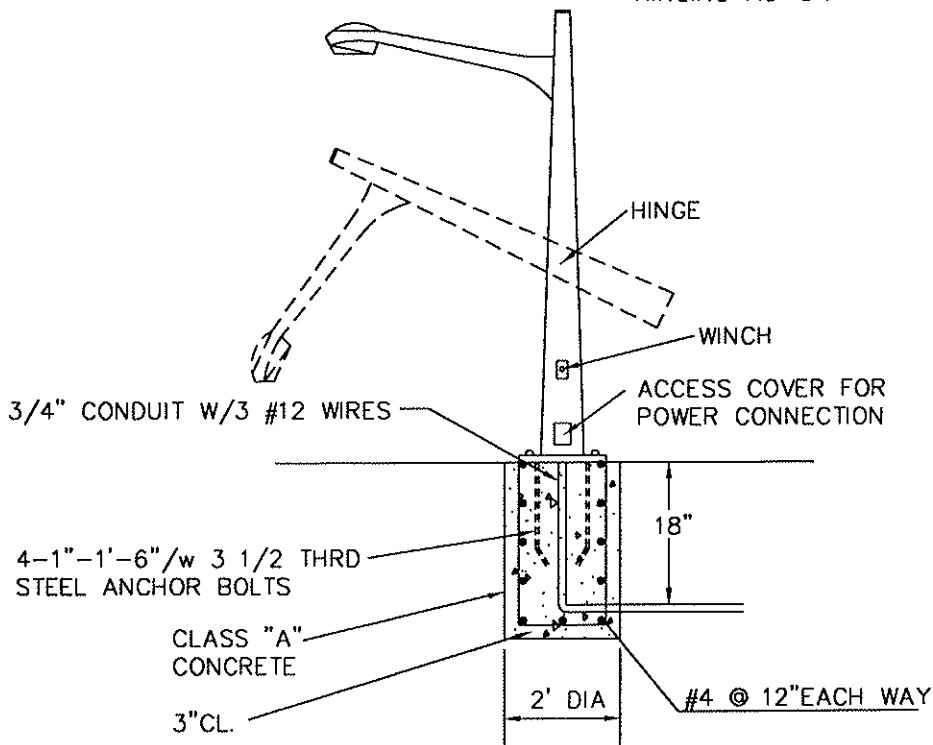
NOTE: PVC FENCE SLATS REQUIRED. SLATS SHALL BE ARCHITECTURAL BROWN.

NOTE

EXTERIOR HINGED LIGHT POLE WITH 150 WATT HIGH PRESSURE SODIUM LUMINAIRE, 120 VOLT BALLAST, PHOTOELECTRIC CONTROL, WITH HEAT AND IMPACT RESISTANT LENS. POLE IS TO BE ARCHITECTURAL BROWN AND IS TO BE SUPPLIED WITH LOWERING WINCH.

- LUMINAIRE → GE PART # M2RR-15S1A2L-MN4
- BRACKET → GE PART # RBSU2H6PP
- POLE → GE PART # ASHTS202T-5.3-11PP

LIGHT TO BE LOCATED TO ALLOW FOR UNOBSTRUCTED HINGING ACTION WITHIN FENCE

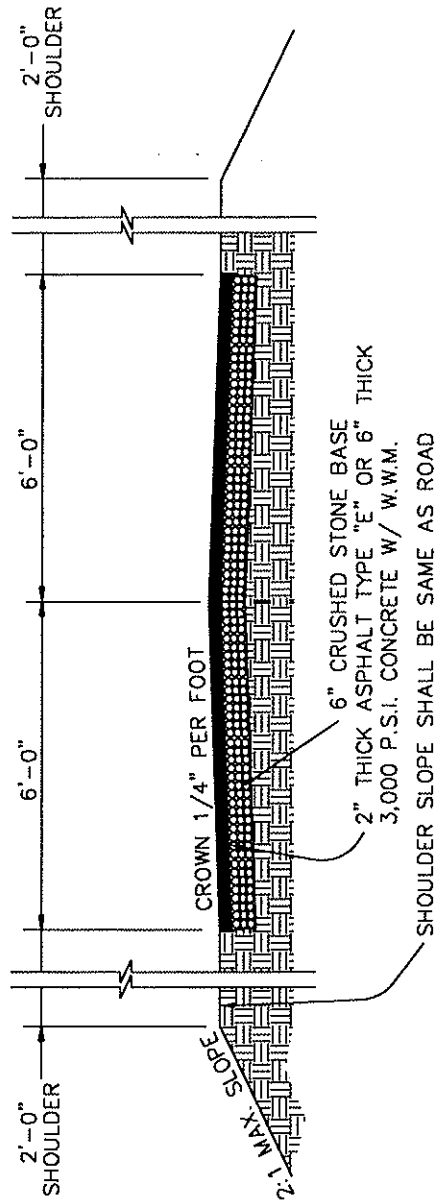


NOTE
BREAK DOWN POLE TO BE LOCATED INSIDE FENCE

SODIUM VAPOR SECURITY LIGHT ON 20' BREAK DOWN POLE

FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

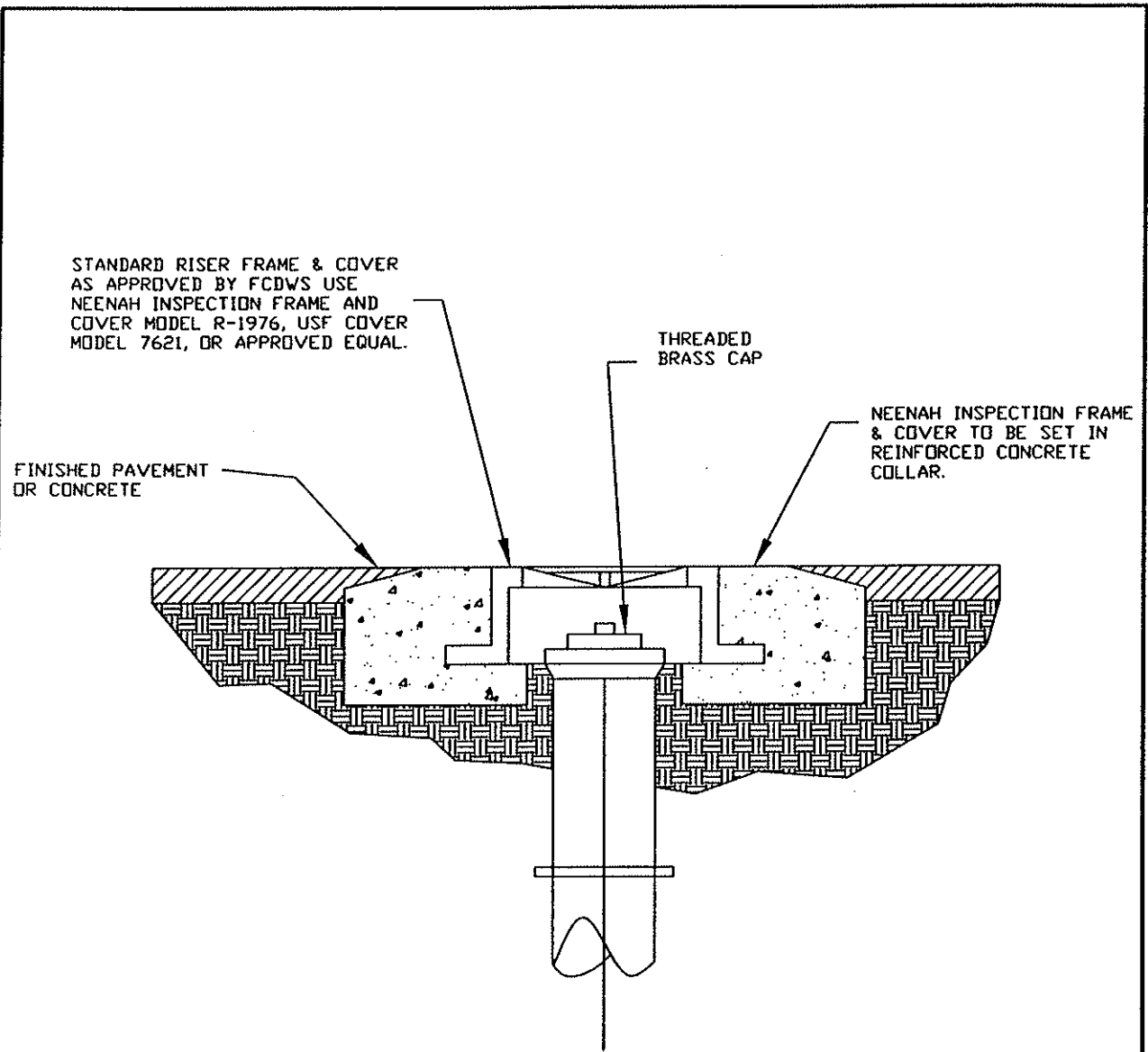
DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	YARD LIGHT	59.0
DRAWN BY:			



NOTES
 ENGINEER SHALL SUBMIT COPY OF PLAN AND PROFILE OF ACCESS ROAD FROM PUMP STATION SITE TO EXISTING ROAD OR STREET. SLOPE OF ACCESS ROAD SHALL COMPLY WITH COUNTY REGULATIONS.

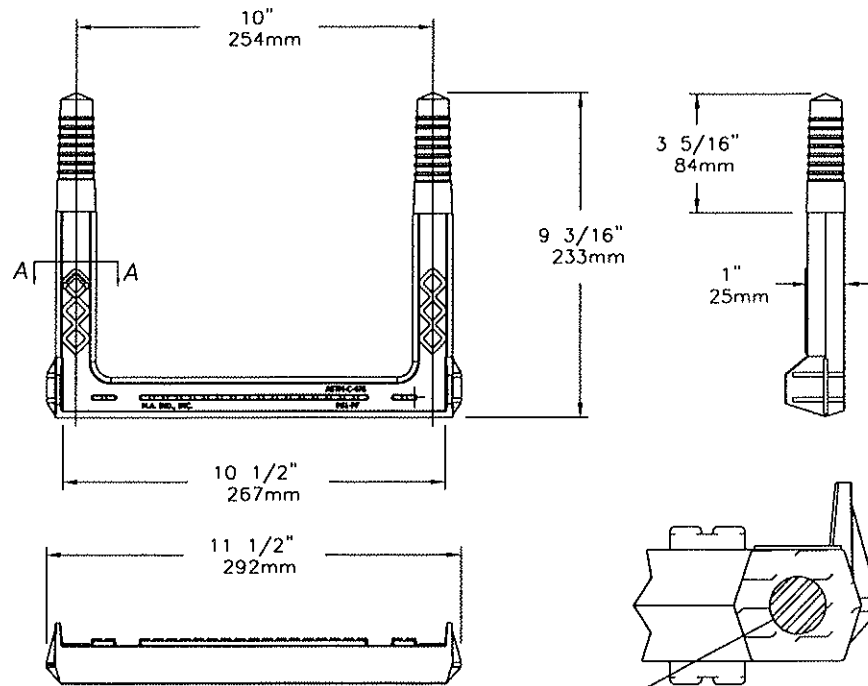
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	SEPT. 12, 2005	DETAIL TITLE:	DETAIL NO.
SCALE:	N.T.S.	ACCESS ROAD	60.0
DRAWN BY:			



Note: The inspection frame and cover is to be used in all paved and concrete applications.

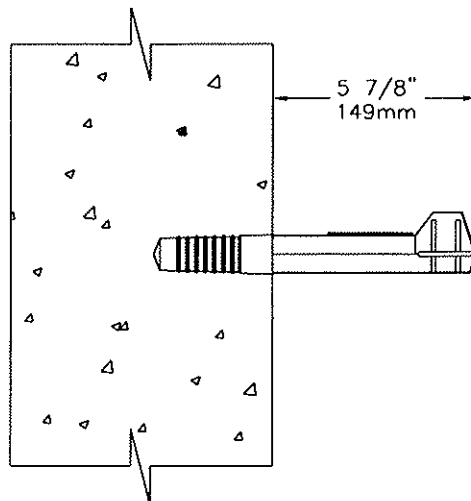
FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER			
DATE:	March 18, 2010	DETAIL TITLE:	DETAIL No:
SCALE:	N.T.S.	Traffic Rated Cleanout Box	61.0
DRAWN BY:	AH_service cleanout		



Copolymer Polypropylene Plastic
 $\frac{13}{16}$ " GRADE 60 STEEL REINFORCEMENT

SECTION-A

MEETS: ASTM C-478
 ASTM D-4101
 ASTM A-615
 AASHTO M-199



FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER

DATE:	AUG. 9, 2010	DETAIL TITLE:	DETAIL No.
SCALE:	N.T.S.	MANHOLE STEP DETAIL	63.0
DRAWN BY:			