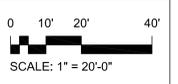


**SHEET KEYED NOTES**

- 1 TIE-IN NEW 3" WATER SERVICE LINE TO NEW BUILDING TO EXISTING 6" WATER MAIN.
- 2 NEW 6" SANITARY SEWER LINE. INV. ELEVATION AT BLDG. ENTRANCE 1086.20'
- 3 NEW 3" WATER LINE. INV. ELEVATION AT BLDG. ENTRANCE 1086.70'.
- 4 CAP EXISTING 5" NG LINE.
- 5 INSTALL NEW 3" WATER METER VALVE AND BOX.
- 6 ROUTE NEW 3" LOW PRESSURE STEAM LINE AND 1" CONDENSATE LINE TO NEW BLDG. 2 MECHANICAL ROOM. REFER TO PL102 FOR CONTINUATION.
- 7 ROUTE NEW 6" CHS/R LINE TO NEW BLDG. 2 MECHANICAL ROOM. REFER TO MH401 FOR CONTINUATION.
- 8 JACK AND BORE UNDERNEATH BUILDING. ROUTE CHILLED WATER SUPPLY AND RETURN LINES BELOW THE CRAWLSPACE UNDERNEATH THE BUILDING.
- 9 TIE-IN NEW 6" CHILLED WATER SUPPLY/RETURN LINE TO EXISTING 12" CHS/R.
- 10 APPROXIMATE LOCATION OF NEW 600 KVA GENERATOR. INSTALLED UNDER A DIFFERENT PROJECT.
- 11 REPLACE EXISTING FIRE HYDRANT WITH NEW (IF NON-FUNCTIONAL) FIRE HYDRANT. VDOT STANDARD DRAWING FH-1.

**LEGEND**

	EXISTING WATER
	EXISTING SANITARY SEWER
	EXISTING NATURAL GAS
	EXISTING ELECTRICAL DUCT
	EXISTING STORMWATER PIPE
	EXISTING TELEPHONE
	EXISTING ELECTRICAL CONDUIT
	EXISTING STEAM LINE
	EXISTING CHILLED WATER SUPPLY/RETURN
	NEW WATER
	NEW SANITARY SEWER
	NEW STEAM
	NEW TELEPHONE CONDUIT
	NEW ELECTRICAL CONDUIT
	NEW STORM WATER PIPE
	NEW NATURAL GAS
	NEW CHILLED WATER SUPPLY/RETURN
	EXIST. CONC. SIDEWALK
	EXIST. STRUCTURE/BLDG.
	NEW ASPHALT AREA
	NEW STRUCTURE/BLDG.
	NEW CONC. SIDEWALK
EL.	ELEVATION
EX.	EXISTING
SD	STORM DRAIN
FH	FIRE HYDRANT
MH	MAN HOLE
SAN	SANITARY SEWER
(8)	NEW WORK KEYED NOTE
	POINT OF CONNECTION



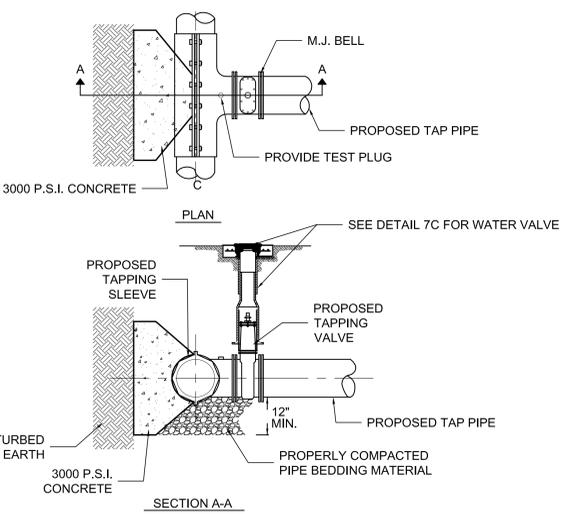
**6F SITE UTILITY PLAN**  
1"=20'-0"

NOTE: REFER TO ELECTRICAL SITE DRAWINGS FOR ELECTRICAL AND TELECOMM NEW WORK.

**CONSTRUCTION DOCUMENTS FULLY SPRINKLERED**

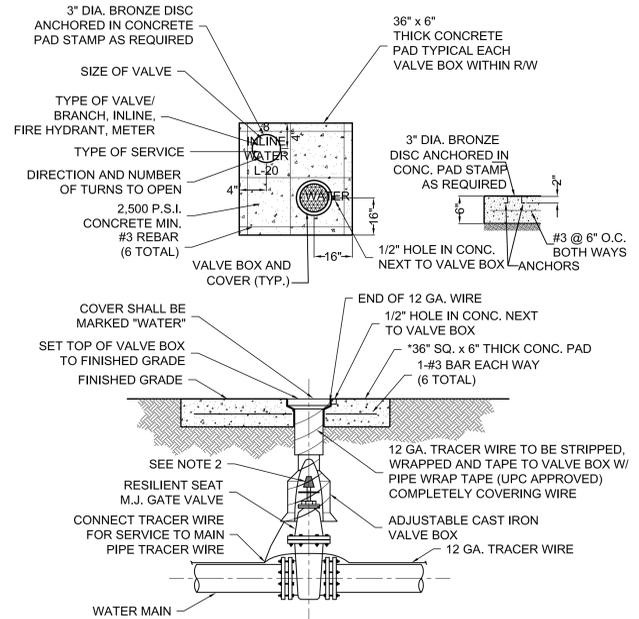


three inches = one foot  
 one and one half inches = one foot  
 one inch = one foot  
 three quarters inch = one foot  
 one half inch = one foot  
 three eighths inch = one foot  
 one quarter inch = one foot  
 one eighth inch = one foot  
 1/16 inch = one foot  
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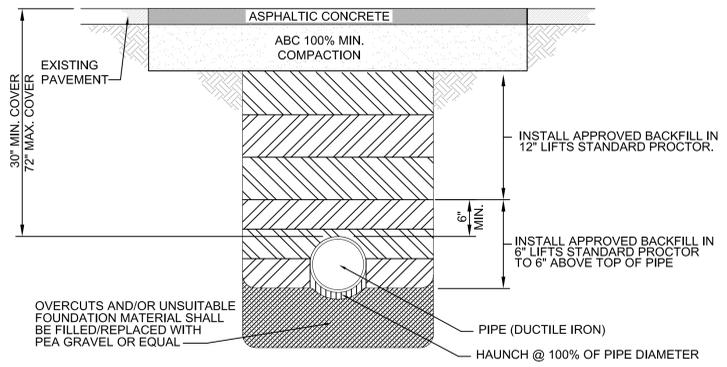
- NOTES:
- NO TAPPING CUTS SHALL BE MADE BEFORE:
    - A TEST OF 180 P.S.I. FOR 60 MINUTES IS PERFORMED.
    - ALL FITTINGS TO BE WRAPPED WITH 20 MIL VISQUEEN AT THRUST BLOCK
  - ALL TAPS MUST BE PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS LARGER) FROM A JOINT OR FITTING.
  - CONTRACTOR TO SUPPLY A DRY HOLE, PROPERLY CONFIGURED, FOR TAPPING CREW TO WORK AND A BACK-HOE TO LOWER MACHINE INTO HOLE. TAPPING ASSEMBLY MUST BE BOLTED ON & PRESSURE TESTED BY THE CONTRACTOR & WITNESSED BY THE COR PRIOR TO TAP.

**9C TAPPING SLEEVE & VALVE DETAIL**  
NTS

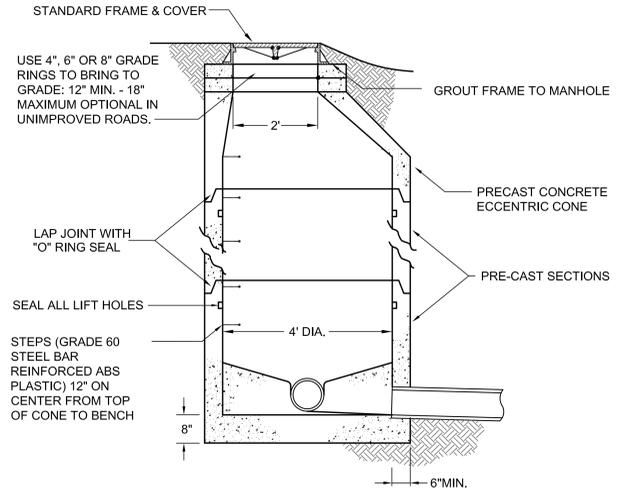


- NOTES:
- PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
  - THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

**6C GATE VALVE DETAIL**  
NTS

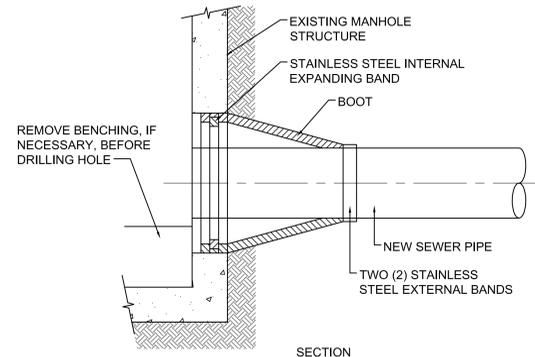


**4C TYPICAL WATER MAIN TRENCH DETAIL**  
NTS



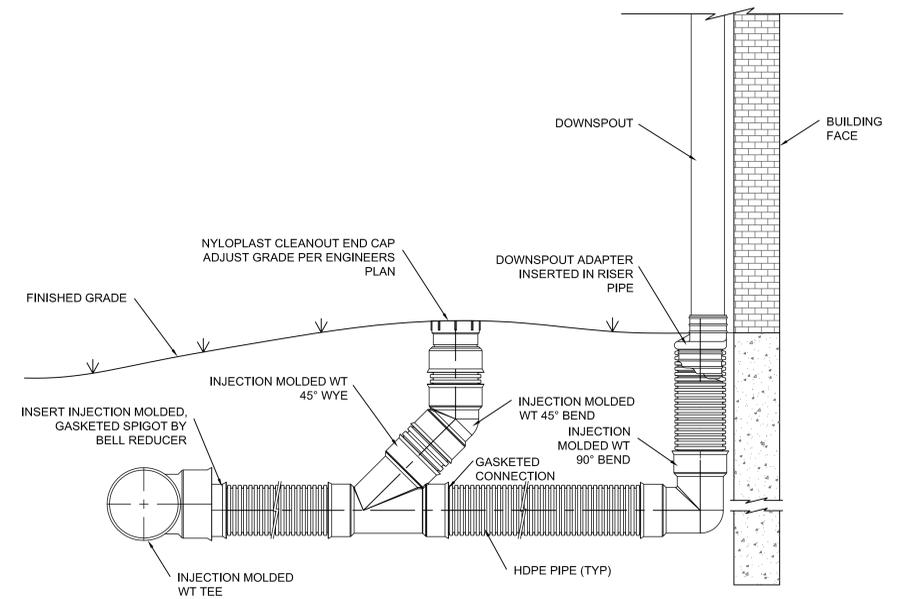
- NOTES:
- ALL SANITARY SEWER MANHOLES FOR THIS PROJECT SHALL BE 4' INSIDE DIAMETER.
  - MANHOLE SHALL CONFORM TO A.S.T.M. C 478 SPECIFICATIONS.
  - DIAMETER OF OPENING FOR PIPE SHALL BE 1" LARGER DIAMETER THAN BELL OF THE PIPE BEING USED.
  - JOINTING COMPOUND SHALL BE RAM NECK, TYPE 1, ROPE FORM PLASTIC GASKET OR EQUAL.
  - ALL PATCHING TO BE DONE WITH HYDRAULIC CEMENT. NO MORTAR REPAIRS PERMITTED.
  - CONCRETE TO BE 2500 P.S.I. REINFORCING STEEL TO BE A.S.T.M. A 615 GRADE 60.
  - SEAL WITH A-LOK, KORE-N-SEAL OR LOCK-JOINT PER SPECIFICATIONS.
  - CAST IN PLACE MANHOLE MAY BE ALLOWED IN PRE-APPROVED LOCATIONS.
  - ALL NEW LINE TIE-INS SHALL BE CORE-DRILLED WITH RUBBER BOOT ADDED.
  - BITUMASTIC COATING SHALL BE FACTORY APPLIED.
  - FRAME AND COVER SHALL BE VULCAN 1337-2 (ASTM SPEC. A-48, CLASS 30 CAST IRON) OR APPROVED EQUAL. REFER TO SPECIFICATIONS.
  - ALL MANHOLE TOPS SHALL BE ADJUSTED TO WITHIN 0.1' OF FINISH GRADE.

**2C SANITARY SEWER MANHOLE DETAIL**  
NTS



**6F SS CONNECTION TO EXIST. MH DETAIL**  
NTS

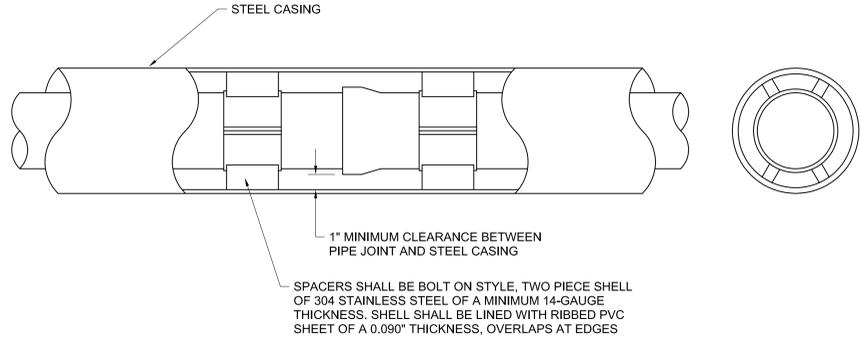
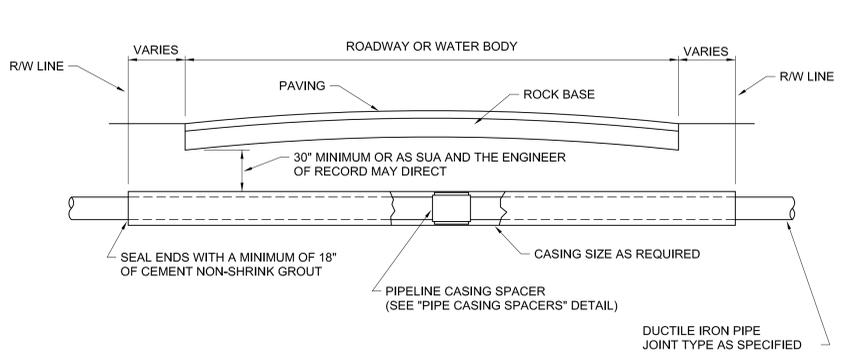
- NOTES:
- CORE-DRILL OPENING IN MANHOLE WALL OF DIAMETER TO FIT THE REQUIRED BOOT SIZE.
  - KOR-N SEAL FLEXIBLE RUBBER BOOT (MANUFACTURED BY TRELLEBORG PIPE SEALS, MILFORD OR AS APPROVED BY THE ENGINEERING DEPARTMENT) SHALL BE USED FOR WATERTIGHT CONNECTION.
  - CUT, SHAPE AND SLOPE NEW INVERT CHANNEL IN THE EXISTING CONCRETE BENCH FOR SMOOTH FLOW FROM NEW SANITARY SEWER CONNECTION.
  - CLEAN EXISTING MANHOLE OF ANY DIRT, CONCRETE OR DEBRIS WHICH MAY ACCUMULATE DURING THE CONSTRUCTION PROCESS.



**3F DOWNSPOUT COLLECTOR DETAIL**  
NTS

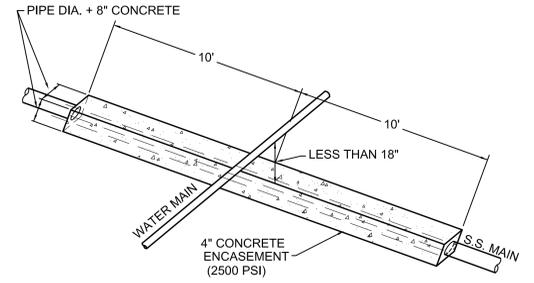
**CONSTRUCTION DOCUMENTS FULLY SPRINKLERED**

<p>Corporate Office: 766 Middle St. Fairhope, AL 36532 Phone: 251.990.5778 Fax: 251.990.3716</p>	Approved: Patient Safety Nurse	Approved: Energy Engineer	Approved: Safety Manager	Approved: Service Chief	Drawing Title <b>CIVIL UTILITY DETAILS</b>	Project Title <b>RELOCATE AND EXPAND RENAL DIALYSIS</b>	Date 2018.02.16	
	Approved: Chief of Police	Approved: Infection Control Officer	Approved: Chief of Staff	Approved: Chief of Facility Management Svc.			Building Number 2	Checked SC
	Approved: Chief of Mental Health Service	Approved: GEMS Coordinator	Approved: Associate Director	Approved: Medical Center Director	Location SALEM VA MEDICAL CENTER	Drawing No. <b>CU501</b>		Sheet 21 of 120
	Revisions: _____ Date _____							Veterans Affairs



SANITARY SEWER LINES (GRAVITY OR PRESSURE) SHALL HAVE 18" OR GREATER VERTICAL CLEARANCE BELOW ANY POTABLE WATER LINE WHEN CROSSING. A MINIMUM OF 6" VERTICAL CLEARANCE IS REQUIRED FOR OTHER UTILITIES. HORIZONTAL CLEARANCE BETWEEN SANITARY SEWER LINE THAT IS PARALLEL TO AND LESS THAN 18" BELOW A POTABLE WATER LINE SHALL BE 10" OR GREATER. A MINIMUM OF 30" IS REQUIRED FOR OTHER UTILITIES.

IF THIS IS NOT POSSIBLE OR PRACTICAL, SEE BELOW:



FOR CROSSING: ENCASE AS ABOVE SO THAT THE ENDS OF ENCASEMENT ARE AT LEAST 12' FROM ANY WATER LINE JOINT. WATER LINE JOINT MUST NOT BE CLOSER THAN 5' TO THE POINT OF CROSSING, OR IT MUST ALSO BE ENCASED.

ALTERNATE 1: USE EQUALLY (OR HIGHER) RATED PRESSURE PIPE FOR SEWER WITH NO JOINTS CLOSER THAN 12' APART AND 6" VERTICAL.

ALTERNATE 2: PLACE SEWER LINE INTO STEEL CASING AND CENTER 20' PIECE WITH 4" VERTICAL CLEARANCE AND SEAL ENDS.

FOR PARALLEL: AND 6' TO 10' APART USE ALTERNATE 2, BUT IF MORE THAN 40' IN LENGTH, ALTERNATE 1 MUST BE USED AND JOINTS ARE TO BE STAGGERED. IF LINES MUST BE 3' TO 6' APART, ALTERNATE 1 MUST BE USED WITH A HIGHER RATED PRESSURE PIPE FOR SEWER (I.E., WATER LINE IS DR25 THEN USE DR18 OR 21 FOR SEWER).

NOMINAL PIPE SIZE	STEEL CASING	THICKNESS SCHEDULE
4"	12"	.375
6"	16"	.375
8"	18"	.375
10"	20"	.375
12"	24"	.375
14"	24"	.375
16"	30"	.375
18"	30"	.375
20"	36"	.375
24"	42"	.500
30"	48"	.500
36"	54"	.500
42"	60"	.500
48"	72"	.500

(PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

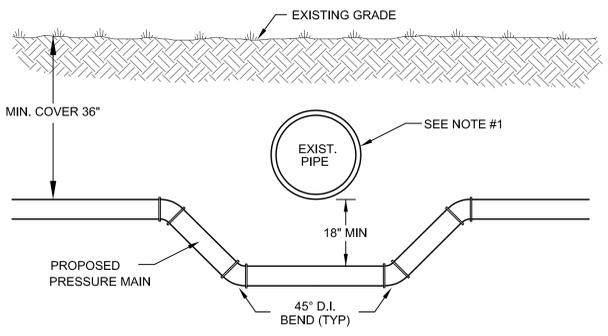
NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

- CARRIER PIPE FOR 4" THROUGH 24" DIAMETER PIPE WITHIN CASING SHALL BE MECHANICAL JOINT WITH MEGALUG OR APPROVED EQUAL RESTRAINT GLAND.
- RESTRAINED MECHANICAL JOINTS SHALL BE USED FOR PIPE 30" DIAMETER AND ABOVE AND SHALL HAVE FACTORY WELDED RETAINING RINGS. AMERICAN RESTRAINED JOINT PIPE OR APPROVED EQUAL MAY BE USED.
- FOR PIPE DIAMETERS 4" THROUGH 12" INSTALL STAINLESS STEEL PIPE CASING SPACERS 5' OR LESS FROM EACH END OF PIPE BUT NOT MORE THAN 10' APART (2 PER PIPE). FOR PIPE DIAMETERS 14" AND LARGER INSTALL STAINLESS STEEL PIPE CASING SPACERS 5' OR LESS FROM EACH END OF PIPE AND ONE CENTERED ON PIPE (3 PER PIPE)(CASCADE MFG. CO. OR APPROVED EQUAL).
- PIPE CASING SPACERS SHALL BE CENTER POSITIONED.
- ALTERNATE METHODS OF PIPE SUPPORT WITHIN THE CASING MUST BE APPROVED BY SUA PRIOR TO INSTALLATION.

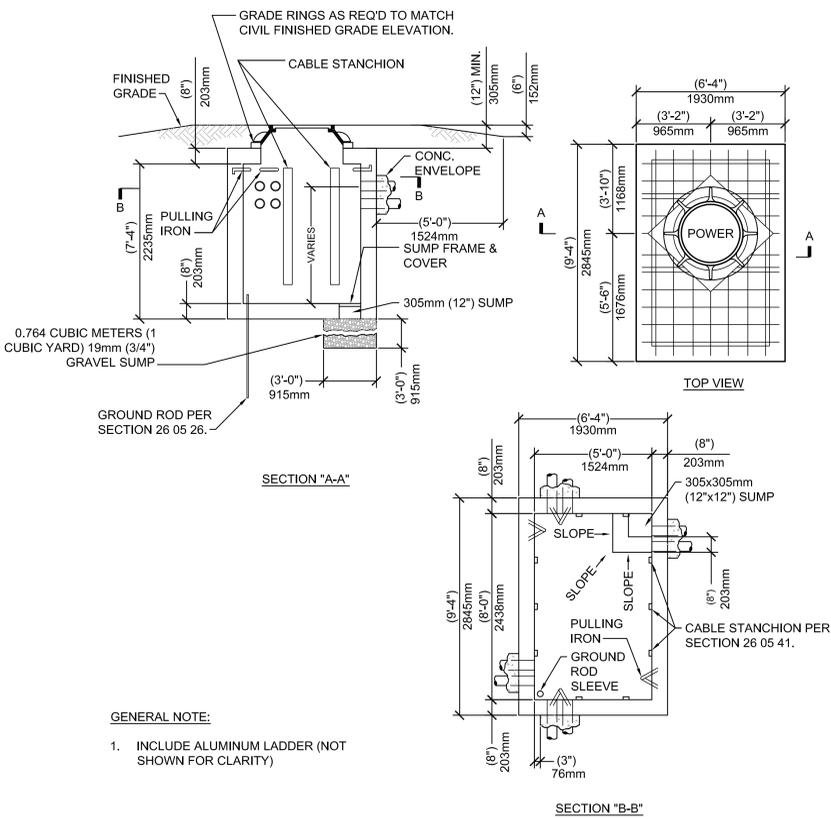
**6C PIPE CASING SPACERS**  
NTS

**8D CASING INSTALLTION**  
NTS

- NOTES:
- IF EXISTING PIPE IS WATER OR SEWER MAIN, REFER TO ENCASEMENT DETAIL FOR ADDITIONAL SPECIFICATIONS.
  - ALL FITTINGS ARE TO BE C.I. RETAINING JOINT TYPE.



**8F CONFLICT DETAIL**  
NTS



- GENERAL NOTE:
- INCLUDE ALUMINUM LADDER (NOT SHOWN FOR CLARITY)

**5F POWER MANHOLE DETAILS**  
NTS

**3C SEWER-WATER SEPARATION & CLEARANCES DETAIL**  
NTS

Scale indicators on the left margin: three inches = one foot, one and one half inches = one foot, one inch = one foot, three quarters inch = one foot, one half inch = one foot, three eighths inch = one foot, one quarter inch = one foot, one eighth inch = one foot.

Scale indicators on the right margin: three inches = one foot, one and one half inches = one foot, one inch = one foot, three quarters inch = one foot, one half inch = one foot, three eighths inch = one foot, one quarter inch = one foot, one eighth inch = one foot.

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Revisions:	Date	Approved: Chief of Mental Health Service	Approved: GEMS Coordinator	Approved: Associate Director	Approved: Medical Center Director	Location SALEM VA MEDICAL CENTER	Project No. 658-315	Drawing No. <b>CU502</b>
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