

# FEDERAL STREET INFRASTRUCTURE IMPROVEMENTS

CITY OF LYNCHBURG, VIRGINIA  
CITY PROJECT # 10039-WS

**OWNER:**

CITY OF LYNCHBURG  
DEPARTMENT OF WATER RESOURCES  
LYNCHBURG, VIRGINIA 24501  
(434) 455-4250

PRIMARY CONTACT  
GREG BLAIR - CONSTRUCTION MANAGER  
(434) 455-4141

**NOTES:**

- CONTACT CITY CONSTRUCTION COORDINATOR AND MISS UTILITY 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY.
- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH LATEST CITY OF LYNCHBURG MANUAL OF SPECIFICATIONS AND STANDARD DETAILS.



**UTILITY OWNERSHIP LIST**

**ELECTRIC**

AMERICAN ELECTRIC POWER  
4001 MAYFLOWER DRIVE  
LYNCHBURG, VA 24502

CONTACT, FRED BRYANT  
PHONE: (434)525-3125  
CELL: (434)546-1963  
E-MAIL: FLBRYANT@AEP.COM

**GAS**

COLUMBIA GAS OF VIRGINIA  
1500 RUTHERFORD STREET  
LYNCHBURG, VA 24501

CONTACT, MARVIN E. BOYETTE  
PHONE: (434)238-1302  
FAX: (434)528-4978  
CELL: (434)660-3026

**WATER/SEWER**

CITY OF LYNCHBURG  
DEPARTMENT OF WATER  
RESOURCES  
525 TAYLOR STREET  
LYNCHBURG, VA 24501

CONTACT, HARRY DOSS  
PHONE: (434)455-4271  
FAX: (434)845-7393  
E-MAIL: HARRY.DOSS@LYNCHBURGVA.GOV

**TELEPHONE/FIBER OPTIC**

VERIZON  
553 LEESVILLE ROAD  
LYNCHBURG, VA 24502

CONTACT, LESLIE H. SCHMITT  
PHONE: (434)237-9522  
FAX: (434)239-6022  
E-MAIL: LESLIE.H.SCHMITT@VERIZON.COM

**TELEVISION/FIBER OPTIC**

COMCAST CABLE  
2303 NORTH AUGUSTA STREET  
SUITE D  
STAUNTON, VA 24401

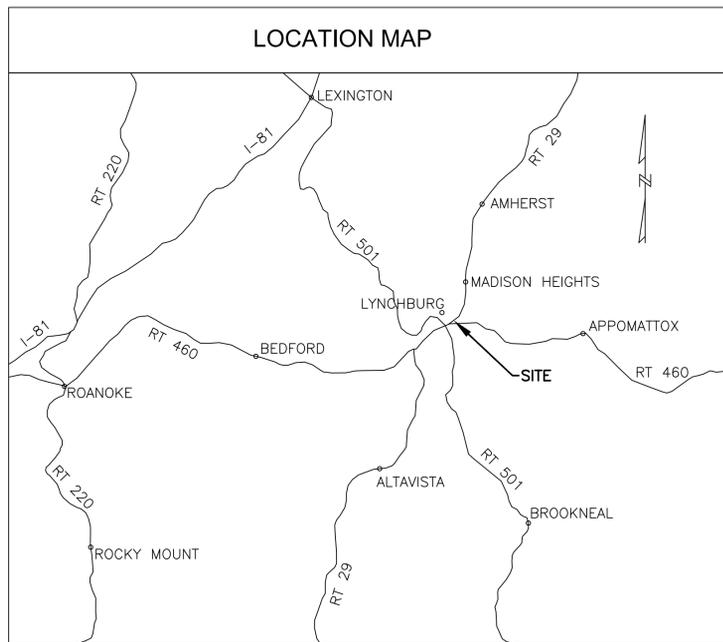
CONTACT, DEAN SCHEIDT  
PHONE: (540)886-6504  
FAX: (540)886-2347  
CELL: (434)981-7376  
E-MAIL: DEAN\_SCHEIDT@CABLE.COMCAST.COM

**FIBER OPTIC**

NTELOS  
424 WEST BROAD STREET  
WAYNESBORO, VA 22980

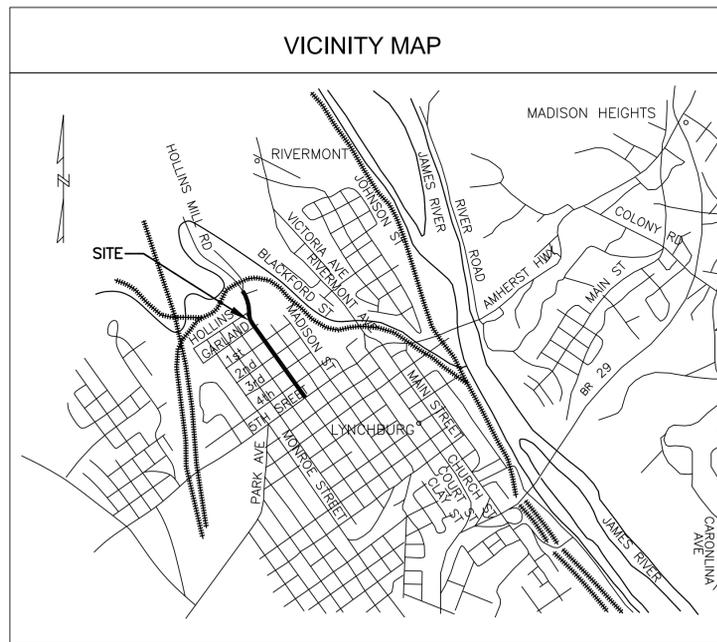
CONTACT, EARL WOODARD  
PHONE: (540)946-1875  
FAX: (540)943-3333

LOCATION MAP



SCALE: NO SCALE

VICINITY MAP



SCALE: 1" = 2000'

**SHEET INDEX**

**SHEET NO.**

- | SHEET NO.    | GENERAL   |
|--------------|---|
| G001         | TITLE SHEET, SHEET INDEX, LOCATION MAP AND VICINITY MAP                                   |
| G002         | GENERAL NOTES   |
| <b>CIVIL</b> |   |
| C100         | WATER MAIN PLAN AND PROFILE - HOLLINS MILL ROAD   |
| C101         | WATER MAIN PLAN AND PROFILE - FEDERAL STREET HOLLINS STREET, AND HOLLINS MILL ROAD        |
| C102         | WATER MAIN PLAN AND PROFILE - FEDERAL STREET  |
| C103         | WATER MAIN PLAN AND PROFILE - FEDERAL STREET  |
| C104         | WATER MAIN PLAN AND PROFILE - FEDERAL STREET  |
| C105         | WATER MAIN PROFILES - CROSS STREETS AND EXISTING STORM DRAIN/SANITARY MANHOLE INFORMATION |
| C501         | WATER DETAILS   |
| C502         | WATER DETAILS   |
| C503         | WATER DETAILS   |
| C504         | SANITARY SEWER DETAILS  |
| CT001        | EROSION AND SEDIMENT CONTROL PLAN   |

"I HEREBY CERTIFY THAT, TO THE BEST OF MY ABILITY, THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST CITY OF LYNCHBURG MANUAL OF SPECIFICATIONS AND STANDARD DETAILS AND CITY CODE."  
Signature: \_\_\_\_\_  
Printed Name and Title: \_\_\_\_\_  
Date: \_\_\_\_\_ Registration Number: \_\_\_\_\_

"I/WE HEREBY CERTIFY THAT ALL SITE CONSTRUCTION, DRAINAGE AND GRADING WILL BE DONE PURSUANT TO THIS PLAN AND THAT THE APPLICABLE STORMWATER MANAGEMENT CONDITIONS AND REQUIREMENTS OF THE CITY OF LYNCHBURG, THE COMMONWEALTH OF VIRGINIA AND THE FEDERAL GOVERNMENT AND ITS AGENCIES ARE HEREBY MADE PART OF THIS PLAN."  
Signature: \_\_\_\_\_  
Printed Name: \_\_\_\_\_  
Title: \_\_\_\_\_ Date: \_\_\_\_\_

EROSION AND SEDIMENT CONTROL PLAN APPROVAL DATE \_\_\_\_\_

APPROVED: CITY ENGINEER DATE \_\_\_\_\_  
APPROVED: UTILITY ENGINEER DATE \_\_\_\_\_

MARK	DATE	MADE BY	CHECKED	DESCRIPTION

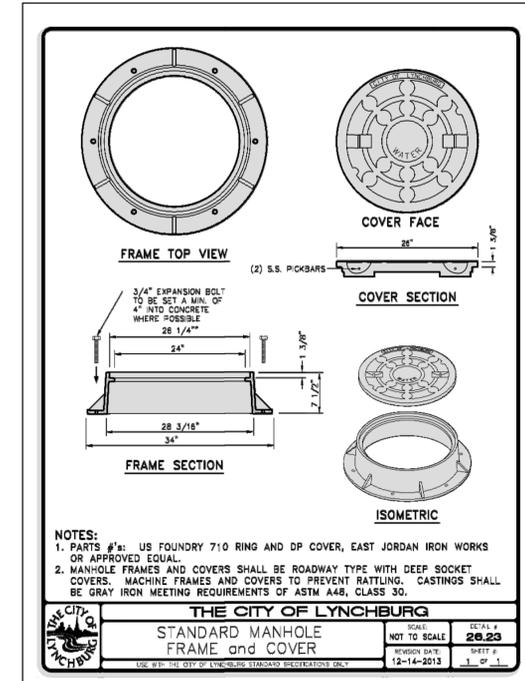
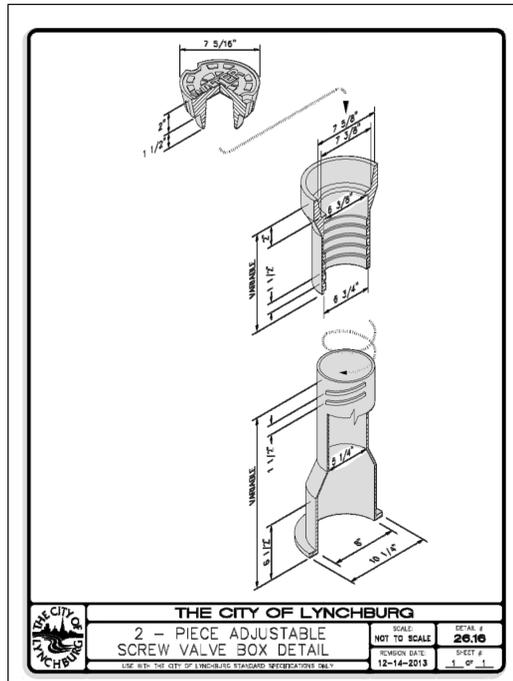
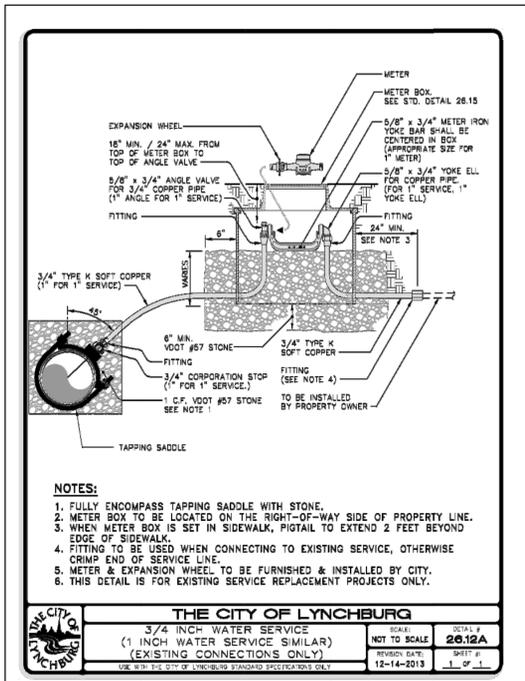
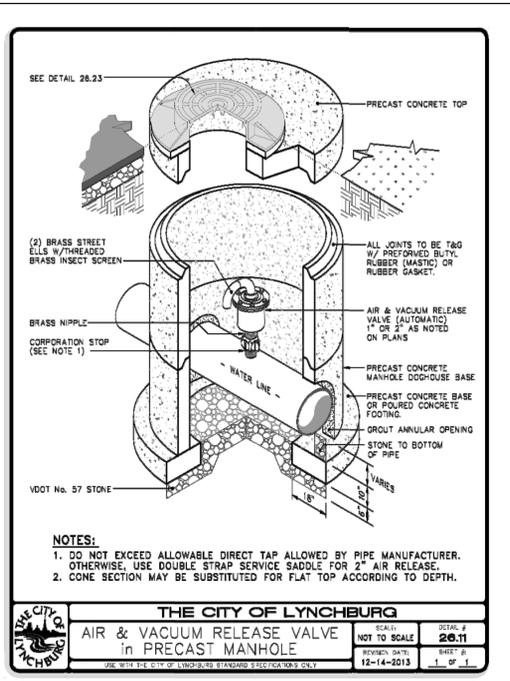
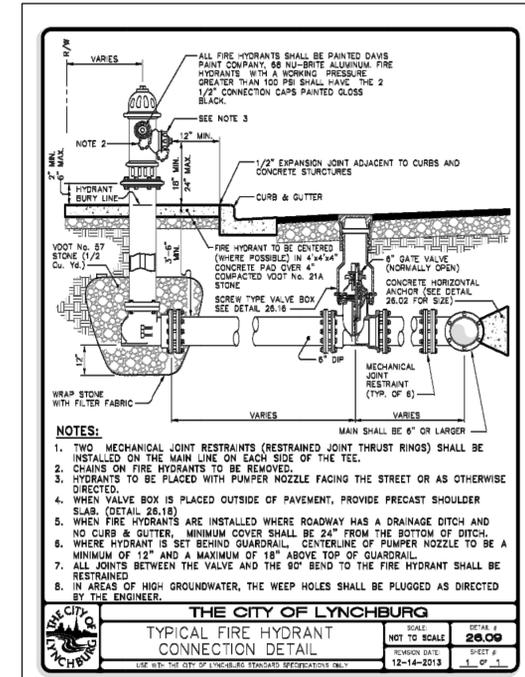
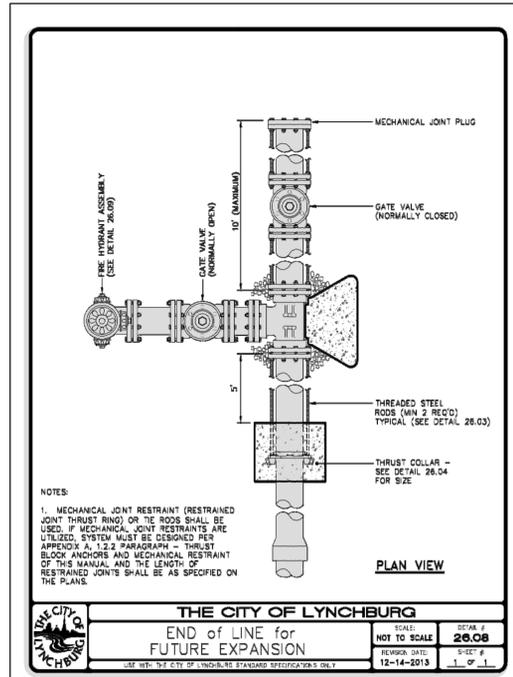
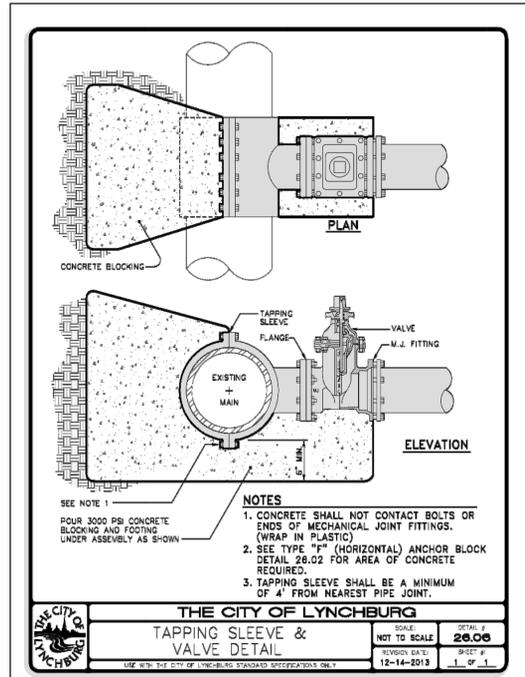
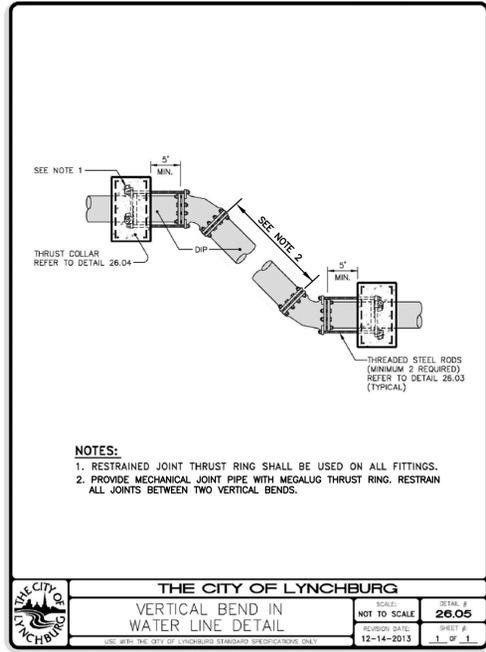
1315 FRANKLIN ROAD  
ROANOKE, VIRGINIA 24016  
(540) 857-3100  
www.aecom.com

FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS  
TITLE SHEET, SHEET INDEX, LOCATION MAP AND  
VICINITY MAP  
CITY OF LYNCHBURG, VIRGINIA

CITY PROJECT:	#10039-WS
PROJECT NO.:	60161639
CAD DWG FILE:	g_n_0001
DESIGNED BY:	CSR/MEW
DRAWN BY:	MEW/DWG
DEPT CHECK:	DMH/TSK
PROJ CHECK:	DMH/TSK
DATE:	OCTOBER 24, 2014
SCALE:	AS SHOWN
<b>G001</b>	
SHEET	1 OF 13

PATH: \\FILENAME.MA\PROJECTS\WATER\0161639\0001\CADD\DWG\G\_001.DWG  
 LAST UPDATE: Monday, October 13, 2014 9:56:50 AM  
 PLOT DATE: Wednesday, October 22, 2014 1:08:36 PM  
 ARCH D - 13-Oct-14

UTILITY WATER DETAILS



- NOTE:
- PROVIDE SERVICE LINE FROM PROPOSED WATER MAIN TO EXISTING METER BOX. DO NOT REPLACE EXISTING BOX OR METER.
  - PROVIDE CLEARANCE PER WATER AND SANITARY SEWER CROSSING DETAIL FOR SERVICE LINES—SEE SHEET C503. CONFORM TO NOTES OF THIS DETAIL.

APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

1315 FRANKLIN ROAD  
 ROUND LAKE, VIRGINIA 24016  
 (540) 857-3100  
 www.aecom.com

**AECOM**

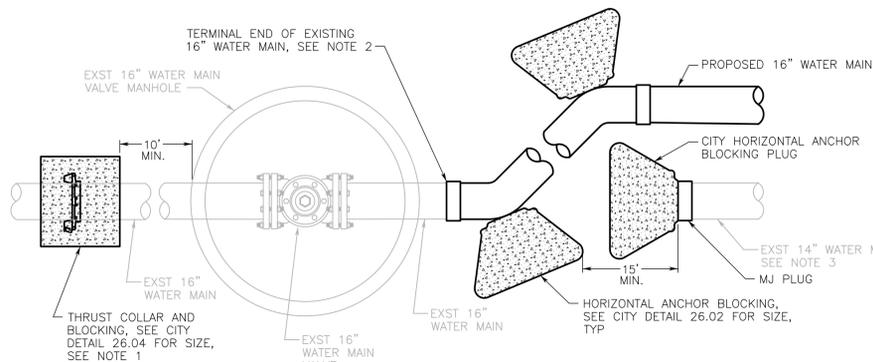
COMMONWEALTH OF VIRGINIA  
 CRAIG S. RIDDLE  
 Lic. No. 41200  
 PROFESSIONAL ENGINEER

FEDERAL STREET  
 INFRASTRUCTURE IMPROVEMENTS  
**WATER DETAILS**  
 CITY OF LYNCHBURG, VIRGINIA

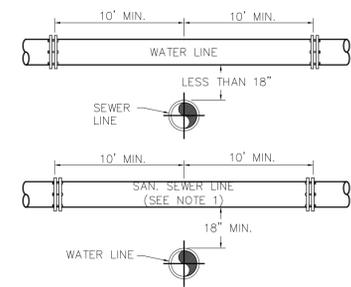
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 PROJECT NO: 60161639  
 CAD DWG FILE: C\_N\_0502  
 DESIGNED BY: CSR/MEW  
 DRAWN BY: MEW/DWG  
 DEPT CHECK: DMH/TSK  
 PROJ CHECK: DMH/TSK  
 DATE: OCTOBER 24, 2014  
 SCALE: AS SHOWN

**C502**  
 SHEET 10 OF 13

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 LAST UPDATE: Friday, October 17, 2014 11:03:36 AM  
 ARCH D - 17-Oct-14

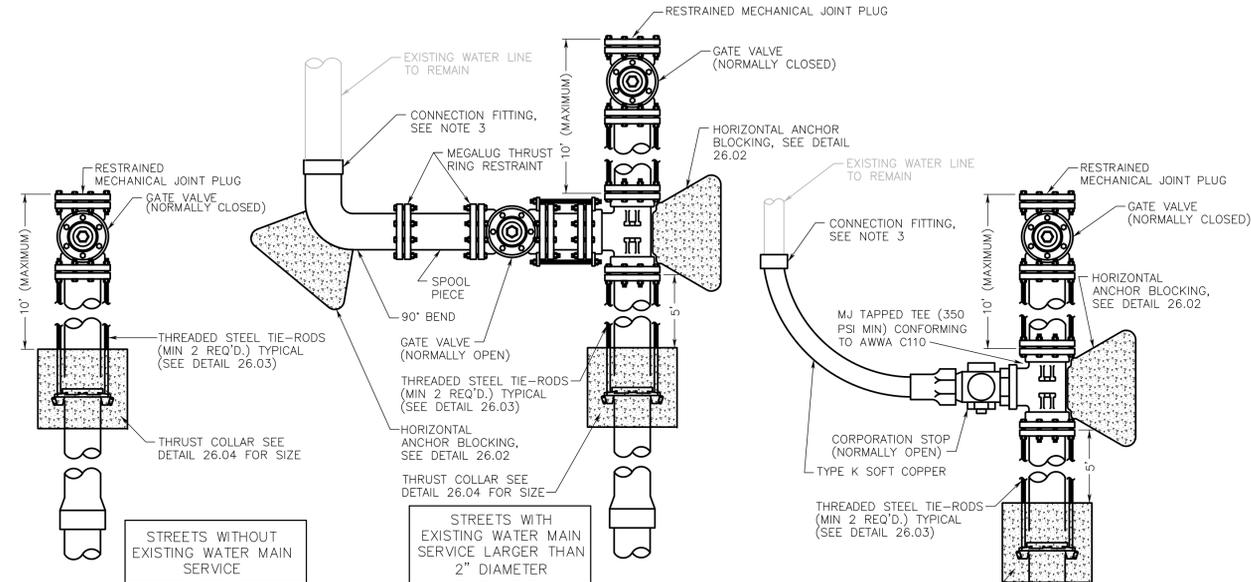


**PROPOSED WATER MAIN CONNECTION TO EXISTING WATER MAIN, HOLLINS MILL ROAD**  
NO SCALE



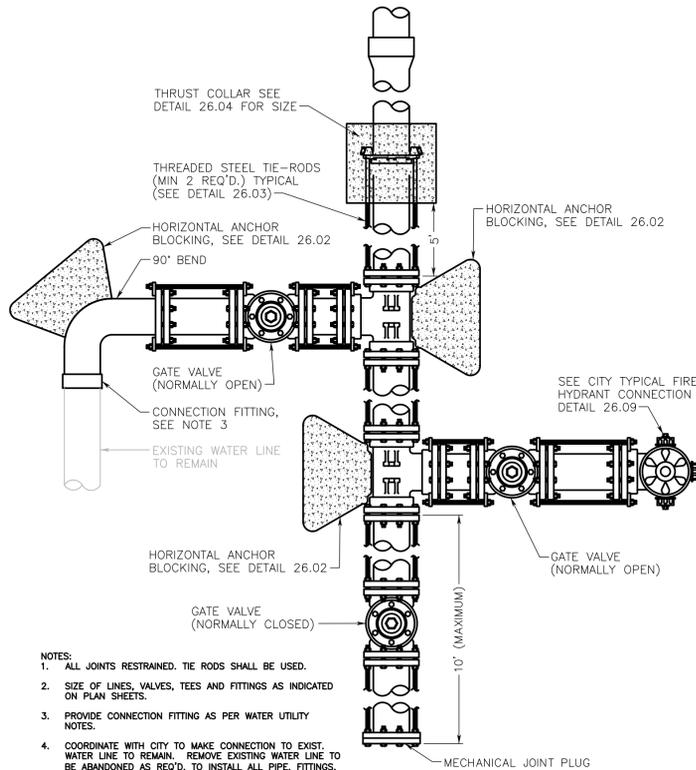
- NOTES:**
- SAN. SEWER LINE ABOVE WATERLINE OR LESS THAN 18" BELOW TO BE CONSTRUCTED OF ANWA WATER LINE MATERIAL & PRESSURE TESTED AT NO ADDITIONAL COST. PROVIDE RESTRAINED JOINT PIPE FOR SAN. SEWER LINE PIPE. AMERICAN PIPE FLEX-RING, US PIPE TR-FLEX, OR APPROVED EQUAL. TEST PRESSURE 30 PSI. INSTALLATION MUST CONFORM TO ALL VIRGINIA DEPARTMENT OF HEALTH AND VA DEQ REQUIREMENTS.
  - JOINTS OF SEWER LINE SHALL BE PLACED EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER LINE JOINTS.
  - BACKFILL BETWEEN PIPES MINIMUM FIVE (5) FEET EITHER SIDE OF CROSSING WITH FULL DEPTH AGGREGATE NO. 57 STONE.
  - MINIMUM HORIZONTAL SEPARATION BETWEEN SEWER LINES AND MANHOLES AND WATER LINES SHALL BE TEN(10) FEET MINIMUM, MEASURED EDGE TO EDGE.
  - DETAIL APPLIES TO ALL WATER LINES, FIRE HYDRANT LINES, AND SERVICE LINES IN PROJECT CORRIDOR.
  - A COVER OF 2.5 FEET MAY BE ACCEPTABLE FOR SERVICE LINES TO MEET THIS CONDITION. CONTRACTOR SHALL COORDINATE WITH CITY FOR APPROVAL. IF THIS APPEARS TO BE NECESSARY, CONTRACTOR SHALL CLEARLY INDICATE PROPOSED LOCATION OF SERVICE LINE AND PROPOSED ROUTING TO CITY FOR CONSIDERATION.

**WATER AND SANITARY SEWER CROSSING DETAIL**  
NO SCALE

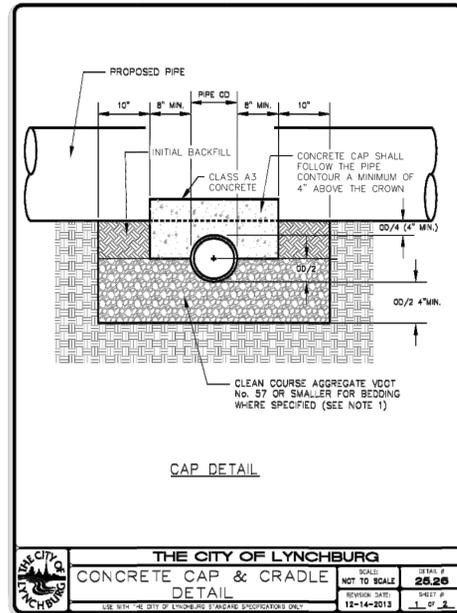


- NOTES:**
- ALL JOINTS RESTRAINED. TIE RODS SHALL BE USED.
  - SIZE OF LINES, VALVES, TEES AND FITTINGS AS INDICATED ON PLAN SHEETS.
  - PROVIDE CONNECTION FITTING AS PER WATER UTILITY NOTES.
  - COORDINATE WITH CITY TO MAKE CONNECTION TO EXIST. WATER LINE TO REMAIN. REMOVE EXISTING WATER LINE TO BE ABANDONED AS REQ'D. TO INSTALL ALL PIPE, FITTINGS, VALVES AND BLOCKING AS INDICATED.

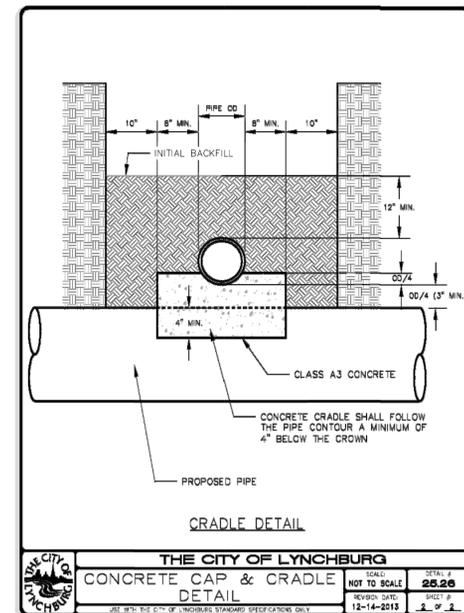
**FUTURE CONNECTION STUB DETAIL**  
NO SCALE



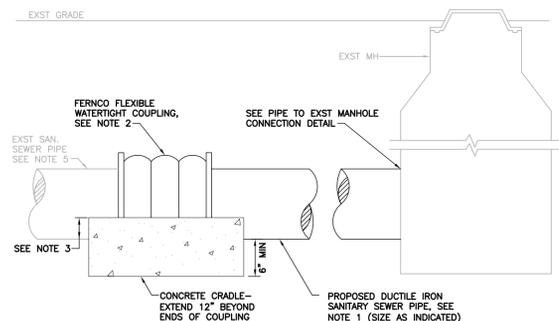
**PROPOSED WATER MAIN CONNECTION TO EXISTING WATER MAIN, GARLAND STREET**  
NO SCALE



**THE CITY OF LYNCHBURG**  
**CONCRETE CAP & CRADLE DETAIL**  
SCALE: NOT TO SCALE SHEET # 25.26  
REVISION DATE: 12-14-2013

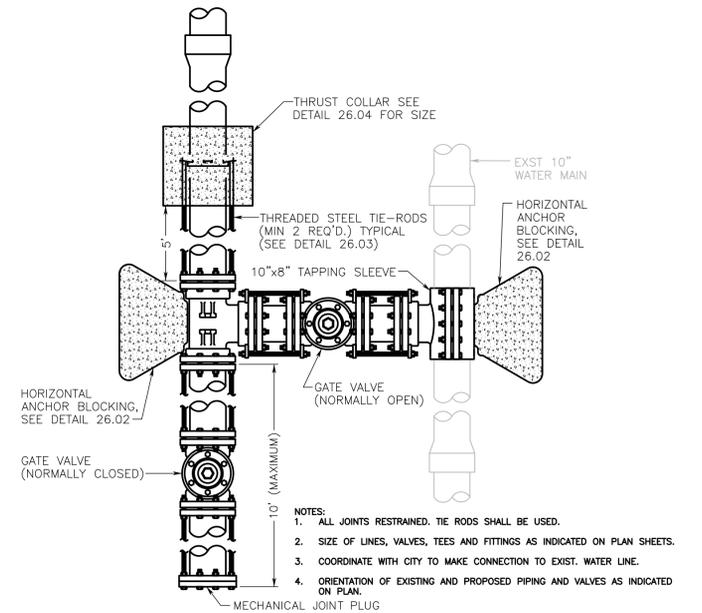


**THE CITY OF LYNCHBURG**  
**CONCRETE CRADLE DETAIL**  
SCALE: NOT TO SCALE SHEET # 25.26  
REVISION DATE: 12-14-2013



- NOTES:**
- MATCH GRADE AND ALIGNMENT OF EXST SANITARY SEWER PIPE TO BE REPLACED WITH PROPOSED SANITARY SEWER PIPE.
  - PROVIDE STAINLESS STEEL HARDWARE.
  - CRADLE TO SPRING LINE OF PIPE.
  - CONCRETE TO BE READY MIX, CLASS A3.
  - CONTRACTOR SHALL CLEANLY CUT EXISTING SANITARY SEWER PIPE AND SHALL ENSURE EXISTING SANITARY SEWER PIPE TO REMAIN IS UNDAMAGED.

**CONNECTION OF PROPOSED SANITARY SEWER TO EXISTING SANITARY SEWER**  
NO SCALE



**PROPOSED WATER MAIN CONNECTION TO EXISTING WATER MAIN, 4TH STREET**  
NO SCALE

APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

NO.	DATE	MADE BY	CHECKED	DESCRIPTION

1315 FRANKLIN ROAD  
ROANOKE, VIRGINIA 24016  
(540) 857-3100  
www.aecom.com

**AECOM**

COMMONWEALTH OF VIRGINIA  
CRAIG S. RIDDLE  
Lic. No. 41200  
PROFESSIONAL ENGINEER

FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS

**WATER DETAILS**

CITY OF LYNCHBURG, VIRGINIA

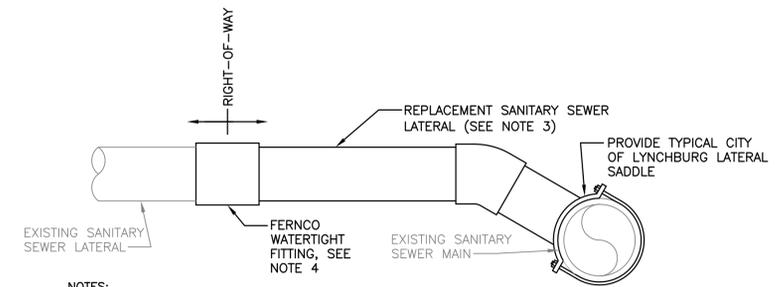
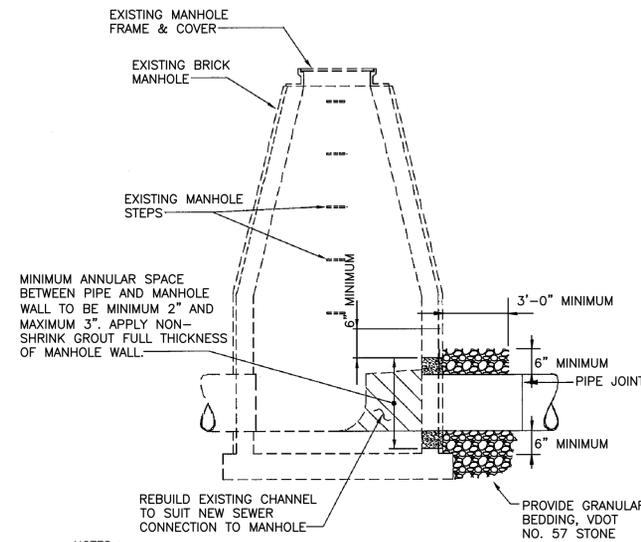
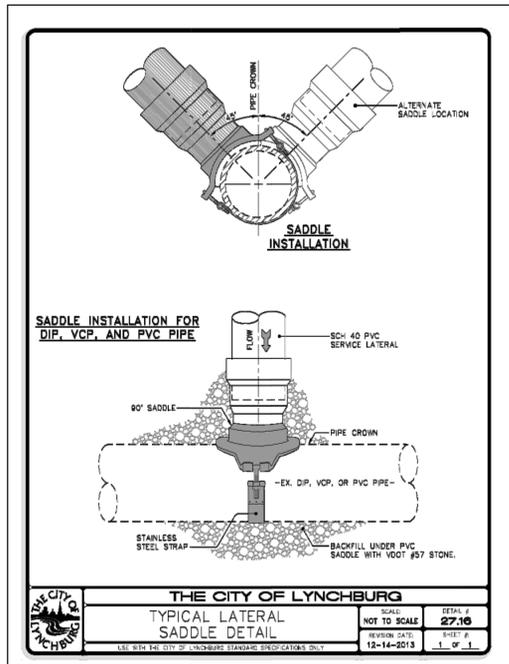
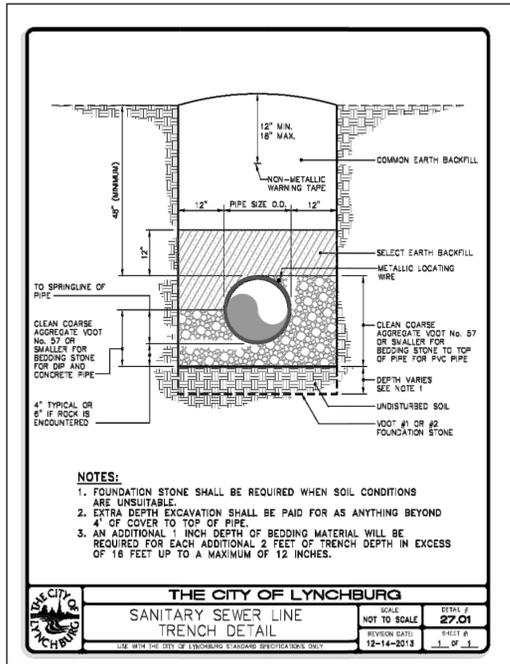
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PROJECT NO: 60161639  
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DRAWN BY: MEW/DWG  
DEPT CHECK: DMH/TSK  
PROJ CHECK: DMH/TSK  
DATE: OCTOBER 24, 2014  
SCALE: N/A

**C503**

SHEET 11 OF 13

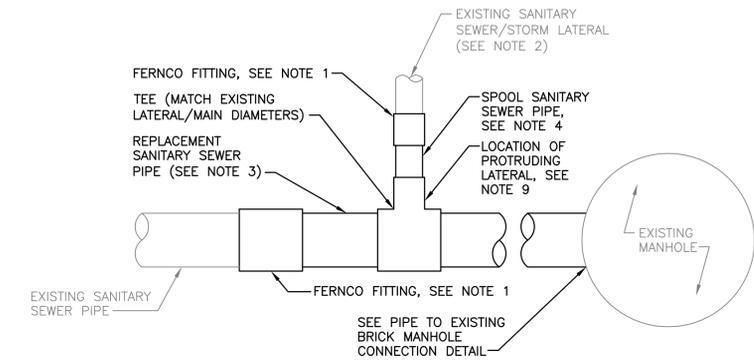
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LAST UPDATE: Wednesday, October 22, 2014 1:07:16 PM  
ARCH D - 22-Oct-14

UTILITY SANITARY SEWER DETAILS



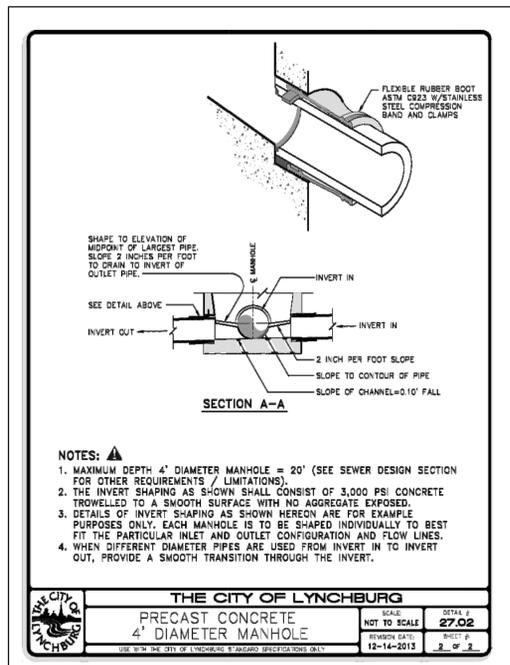
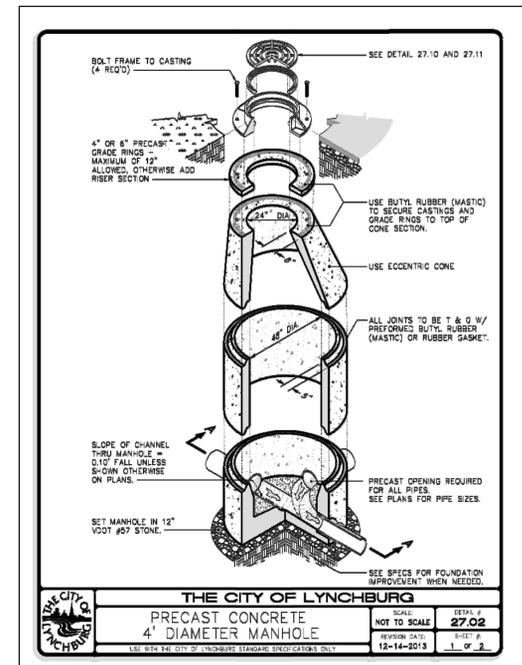
- NOTES:
1. DETAIL APPLIES FOR SAN SEWER LATERALS CROSSED BY PROPOSED WATER LINE.
  2. REMOVE EXISTING SANITARY SEWER LATERAL FROM POINT OF CONNECTION TO EXISTING SANITARY SEWER MAIN TO EDGE OF PAVEMENT. MAINTAIN SANITARY SEWER SERVICE.
  3. REPLACEMENT SANITARY SEWER LATERAL SHALL CONFORM TO WATER AND SANITARY SEWER CROSSING DETAIL. MATCH EXISTING SANITARY SEWER LATERAL GRADE AND ALIGNMENT FOR REPLACEMENT SANITARY SEWER LATERAL.
  4. PROVIDE STAINLESS STEEL HARDWARE FOR FITTING.
  5. BID COST FOR THIS ITEM SHALL BE ALL INCLUSIVE TO RETURN SITE, ROADWAY, AND ALL EXISTING CONDITIONS/INFRASTRUCTURE IMPACTED BY CONSTRUCTION TO PRE-CONSTRUCTION STATUS.

REPLACEMENT SANITARY SEWER LATERAL DETAIL  
NOT TO SCALE



- NOTES:
1. PROVIDE WATERTIGHT FERNCO FITTING WITH STAINLESS STEEL HARDWARE. PROVIDE CONCRETE CRADLE CONFORMING TO CONNECTION OF PROPOSED SANITARY SEWER TO EXISTING SANITARY SEWER DETAIL-SHEET C503.
  2. REMOVE EXIST. SAN. SEWER/STORM LATERAL PROTRUSION BY CUTTING EXIST. LATERAL AT SUFFICIENT OFFSET DISTANCE FROM EXIST. SAN. SEWER MAIN TO PERFORM REPAIR AS INDICATED, AND TO PROVIDE STRUCTURALLY SOUND EXIST. SAN. SEWER/STORM LATERAL TO REMAIN. IF BELL/SPIGOT ENCOUNTERED, CONTRACTOR SHALL REMOVE LATERAL PAST BELL/SPIGOT. CONTRACTOR SHALL CLEANLY CUT (CONTRACTOR SHALL NOT CUT ASBESTOS CEMENT PIPE, AND SHALL NOTIFY CITY IF EXIST. ASBESTOS CEMENT PIPE ENCOUNTERED) AND REMOVE EXIST. SAN. SEWER/STORM LATERAL PIPE. CONTRACTOR SHALL ENSURE EXIST. LATERAL PIPE TO REMAIN IS NOT DAMAGED OR CRACKED PAST CUT LINE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED EXISTING LATERAL PIPE.
  3. CONTRACTOR SHALL CLEANLY CUT (CONTRACTOR SHALL NOT CUT ASBESTOS CEMENT PIPE, AND SHALL NOTIFY CITY IF EXIST. ASBESTOS CEMENT PIPE ENCOUNTERED) AND REMOVE EXIST. SAN. SEWER PIPE FOR LENGTH OF PIPE AS INDICATED TO PERFORM REPAIR, AND TO PROVIDE STRUCTURALLY SOUND EXIST. PIPE TO REMAIN ON END OF REPLACEMENT PIPE. IF BELL/SPIGOT ENCOUNTERED, CONTRACTOR SHALL REMOVE PIPE PAST BELL/SPIGOT. INSTALL REPLACEMENT SAN. SEWER PIPE AS INDICATED. REPLACEMENT SAN. SEWER SHALL MATCH EXIST. INVERT AT EACH END. CONTRACTOR SHALL ENSURE EXIST. PIPE TO REMAIN IS NOT DAMAGED OR CRACKED PAST CUT LINE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED EXIST. PIPE.
  4. SPOOL PIPE LENGTH AS REQ'D. SPOOL PIPE SHALL MATCH INVERT AND ALIGNMENT OF EXIST. SAN. SEWER/STORM LATERAL PIPE REMOVED IN ORDER TO INSTALL REPAIR.
  5. CONTRACTOR SHALL COORDINATE AND PHASE PIPE REPLACEMENT WITH PROTRUDING LATERAL REPAIR WITH OTHER CONSTRUCTION, AND AVOID EXISTING UTILITIES DURING INSTALLATION.
  6. PROVIDE FILL AND BEDDING PER SAN. SEWER LINE TRENCH DETAIL. PROVIDE BYPASS PUMPING PER CITY SPECIFICATIONS DURING REPAIR INSTALLATION.
  7. PROVIDE REPLACEMENT SAN. SEWER PIPE AS SPECIFIED.
  8. BID ITEM COST FOR THIS ITEM PROVIDED BY THE CONTRACTOR SHALL INCLUDE ALL NECESSARY WORK, EQUIPMENT, PERSONNEL, AND TRAFFIC CONTROL AS REQUIRED TO BY-PASS PUMP, EXCAVATE, REPAIR AS INDICATED AND NOTED, BACKFILL, AND REPAVE ROAD SURFACE PER CITY SPECIFICATIONS.
  9. COORDINATE WITH CITY FOR LOCATION OF PROTRUDING LATERALS. ORIENT TEE TO MATCH EXISTING LATERAL CONNECTION LOCATION.

SANITARY SEWER PIPE REPLACEMENT WITH PROTRUDING LATERAL REPAIR DETAIL  
NOT TO SCALE



- NOTES:
1. MAXIMUM DEPTH 4' DIAMETER MANHOLE = 20' (SEE SEWER DESIGN SECTION FOR OTHER REQUIREMENTS / LIMITATIONS).
  2. THE INVERT SHAPING AS SHOWN SHALL CONSIST OF 3,000 PSI CONCRETE TROWELLED TO A SMOOTH SURFACE WITH NO AGGREGATE EXPOSED.
  3. DETAILS OF INVERT SHAPING AS SHOWN HEREON ARE FOR EXAMPLE PURPOSES ONLY. EACH MANHOLE IS TO BE SHAPED INDIVIDUALLY TO BEST FIT THE PARTICULAR INLET AND OUTLET CONFIGURATION AND FLOW LINES.
  4. WHEN DIFFERENT DIAMETER PIPES ARE USED FROM INVERT IN TO INVERT OUT, PROVIDE A SMOOTH TRANSITION THROUGH THE INVERT.

APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

1315 FRENKIN ROAD  
BOUNCE, VIRGINIA 24016  
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**AECOM**

COMMONWEALTH OF VIRGINIA  
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FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS  
SANITARY SEWER DETAILS  
CITY OF LYNCHBURG, VIRGINIA

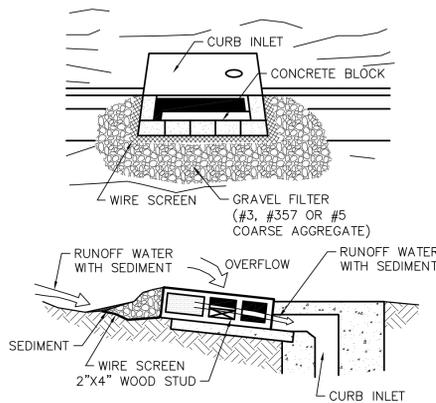
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DESIGNED BY:	CSR/MEW
DRAWN BY:	MEW/DWG
DEPT CHECK:	DMH/TSK
PROJ CHECK:	DMH/TSK
DATE:	OCTOBER 24, 2014
SCALE:	N/A
<b>C504</b>	
SHEET	12 OF 13

PATH: \\F:\PROJECTS\WATER\60161639\0001\CADD\DWG\C\_N\_0504.DWG  
 LAST UPDATE: Thursday, October 23, 2014 9:33:17 AM  
 ARCH D - 23-Oct-14

**EROSION AND SEDIMENT CONTROL NOTES**

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ON ADJACENT PROPERTIES OR STATE WATERS. IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENT TO THE PROJECT SITE, APPROPRIATE MODIFICATIONS WILL BE MADE TO CORRECT ANY PLAN DEFICIENCIES.

- ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE APPROVING AUTHORITY.
- ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENT AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- ES-10: TEMPORARY AND PERMANENT EROSION CONTROL STRUCTURES AND METHODS TO BE IN ACCORDANCE WITH THE VIRGINIA EROSION CONTROL GUIDELINES AND LOCAL ORDINANCES AND TO BE UTILIZED DURING THE CONSTRUCTION PERIOD.
- ES-11: EROSION CONTROL STRUCTURES SHOWN OR AS REQUIRED DURING CONSTRUCTION SHALL BE CONTINUOUSLY MAINTAINED THROUGHOUT THE PERIOD IN WHICH AREAS ARE DENUDED. AREAS SHOWN TO BE SURFACED ARE TO HAVE STONE BASE INSTALLED AT THE EARLIEST POSSIBLE DATE AFTER ESTABLISHING GRADE. NO AREA IS TO REMAIN DENUDED FOR MORE THAN SEVEN CALENDAR DAYS WHEN CONSTRUCTION IS NOT IN PROGRESS.
- ES-12: THE CONTRACTOR SHALL ENSURE VEHICLES LEAVING CONSTRUCTION SITE DO NOT TRACK MUD, SOIL, OR DEBRIS ON ROADWAY. CONTRACTOR SHALL PROMPTLY CLEAN UP ANY TRACKED MUD, SOIL OR DEBRIS IF IT GETS TRANSFERRED TO ROADWAY.
- ES-13: CONTRACTOR SHALL OPEN NO MORE THAN 150 FEET OF TRENCH AT ANY GIVEN TIME, AND SHALL BACKFILL EXCAVATIONS AT THE CONCLUSION OF EACH WORK DAY.



**INLET PROTECTION (IP)**  
(CURB INLET)  
NO SCALE

**EROSION AND SEDIMENT CONTROL NARRATIVE**

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF APPROXIMATELY 2,600 LINEAR FEET OF 16" FINISHED WATER TRANSMISSION MAIN IN THE CITY OF LYNCHBURG VIRGINIA, THE NEW 16" MAIN WILL BE INSTALLED ALONG FEDERAL STREET FROM 5TH STREET TO HOLLINS MILL ROAD. THE PROJECT WILL ALSO INVOLVE THE CONSTRUCTION OF APPROXIMATELY 400 LINEAR FEET OF 8" DIAMETER WATER DISTRIBUTION MAIN. APPROXIMATE DISTURBED AREA WILL BE 0.5 ACRE.

CONSTRUCTION IS PLANNED TO TAKE PLACE IN 2015.

EXISTING SITE CONDITIONS

THE EXISTING SITE IS HILLY URBAN AREA WITH TWO LANE RESIDENTIAL FEEDER TRAFFIC ROADWAY. DRAINAGE FROM THE SITE ENTERS THE JAMES RIVER, AND IS WITHIN THE CHESAPEAKE BAY WATERSHED.

ADJACENT PROPERTY

MULTIPLE BUSINESS AND COMMERCIAL PROPERTIES, AS WELL AS RESIDENTIAL PROPERTIES ARE LOCATED WITHIN THE PROJECT AREA.

OFF-SITE AREAS

IF ENCOUNTERED DURING EXCAVATION, THE CONTRACTOR IS REQUIRED TO WASTE UNSUITABLE MATERIAL, AND TRANSPORT SUITABLE MATERIAL FOR BACKFILLING EXCAVATIONS. THE CONTRACTOR IS REQUIRED TO WASTE OR BORROW FROM A PERMITTED SITE.

SOILS

SOILS IN THE PROJECT AREA ARE CLASSIFIED AS URBAN LAND (UL).

CRITICAL EROSION AREAS

THERE ARE NO NOTED CRITICAL EROSION AREAS WITHIN THE PROJECT AREA.

EROSION AND SEDIMENT CONTROL MEASURES

ALL STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, HEREAFTER REFERRED TO AS "HANDBOOK".

STRUCTURAL PRACTICES:

STORM DRAIN INLET PROTECTION TO BE PROVIDED AS INDICATED.

1. STORM DRAIN INLET PROTECTION - 3.07  
ALL STORM SEWER INLETS SHALL BE PROTECTED DURING CONSTRUCTION; SEDIMENT-LADEN WATER WILL BE FILTERED BEFORE ENTERING THE STORM SEWER INLET.

VEGETATIVE PRACTICES:

TEMPORARY AND PERMANENT SEEDING TO BE PROVIDED AS INDICATED.

1. TEMPORARY SEEDING - 3.31  
ALL DENUDED AREAS, WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME, WILL BE SEEDDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED. SEE THIS SHEET FOR TEMPORARY SEEDING SPECIFICATIONS.
2. PERMANENT SEEDING - 3.32  
SEE THIS SHEET FOR PERMANENT SEEDING SPECIFICATIONS.

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION, AND NOT COVERED BY IMPERVIOUS SURFACE SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISHED GRADING. SEEDING SHALL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32, PERMANENT SEEDING, OF THE HANDBOOK. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER, AND LIME WILL BE APPLIED PRIOR TO MULCHING.

MANAGEMENT STRATEGIES

1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
3. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.
4. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING.
5. THE SEEDDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. BARE AREAS SHALL BE FERTILIZED AND RE-SEEDDED.

SEQUENCE OF CONSTRUCTION

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED AS INDICATED BY THE EROSION AND SEDIMENT CONTROL NOTES ON THIS SHEET.

STORMWATER MANAGEMENT

SINCE THIS PROJECT IS A LINEAR UTILITY INSTALLATION, AND EXISTING PAVEMENT AND GRASSED AREA WILL BE RESTORED TO EXISTING CONDITIONS AFTER INSTALLATION OF THE PROPOSED WATER PIPING, THERE WILL BE NO CHANGE IN STORMWATER RUNOFF CHARACTERISTICS. THEREFORE, NO STORMWATER MANAGEMENT FACILITIES WILL BE REQUIRED FOR THIS PROJECT.

MAINTENANCE

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED DAILY AND AFTER EACH RAINFALL EVENT THAT PRODUCES SHALLOW CONCENTRATED FLOW. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

1. STORM DRAIN INLETS SHALL BE CHECKED REGULARLY, AND SEDIMENT REMOVED AS REQUIRED TO PERMIT THE DRAIN TO FUNCTION PROPERLY.

E & S LEGEND			
SECT.	KEY	LINE	DESCRIPTION
3.07	IP		STORM DRAIN INLET PROTECTION

**TABLE 3.31-B**  
(Revised June 2003)  
**TEMPORARY SEEDING SPECIFICATIONS**  
**QUICK REFERENCE FOR ALL REGIONS**

SEED		
APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 -100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium multi-florum)	60 - 100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

**FERTILIZER & LIME**

- Apply 10-10-10 fertilizer at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

**NOTE:**

- 1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- 2 - Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- 3 - When applying Slowly Available Nitrogen, use rates available in [Erosion & Sediment Control Technical Bulletin # 4, 2003 Nutrient Management for Development Sites](#) at <http://www.dcr.state.va.us/sw/e&s.htm#pubs>

**TABLE 3.32-D**  
(Revised June 2003)  
**PERMANENT SEEDING SPECIFICATIONS FOR PIEDMONT AREA**

SEED <sup>1</sup>		
LAND USE	SPECIES	APPLICATION PER ACRE
Minimum Care Lawn (Commercial or Residential)	Tall Fescue <sup>1</sup>	95-100%
	Perennial Ryegrass	0-5%
	Kentucky Bluegrass <sup>1</sup>	0-5%
		TOTAL: 175-200 lbs.
High-Maintenance Lawn	Tall Fescue <sup>1</sup>	TOTAL: 200-250 lbs.
General Slope (3:1 or less)	Tall Fescue <sup>1</sup>	128 lbs.
	Red Top Grass or Creeping Red Fescue	2 lbs.
	Seasonal Nurse Crop <sup>2</sup>	20 lbs.
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue <sup>1</sup>	108 lbs.
	Red Top Grass or Creeping Red Fescue	2 lbs.
	Seasonal Nurse Crop <sup>2</sup>	20 lbs.
	Crownvetch <sup>3</sup>	20 lbs.
		TOTAL: 150 lbs.

**1** - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VCIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A current turfgrass variety list is available at the local County Extension office or through VCIA at 804-746-4884 or at <http://sudan.cses.vt.edu/html/Turf/turf/publications/publications2.html>

**2** - Use seasonal nurse crop in accordance with seeding dates as stated below:

February 16 <sup>th</sup> - April	Annual Rye
May 1 <sup>st</sup> - August 15 <sup>th</sup>	Foxtail Millet
August 16 <sup>th</sup> - October	Annual Rye
November - February 15 <sup>th</sup>	Winter Rye

**3** - Substitute Sericea lespedeza for Crownvetch east of Farmville, VA (May through September use hulled seed, all other periods, use unhulled Sericea). If Flatpea is used, increase rate to 30 lbs./acre. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30 -40

**FERTILIZER & LIME**

- Apply 10-20-10 fertilizer at a rate of 500 lbs. / acre (or 12 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

**NOTE:**

- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in [Erosion & Sediment Control Technical Bulletin # 4, 2003 Nutrient Management for Development Sites](#) at <http://www.dcr.state.va.us/sw/e&s.htm#pubs>

NOTES:

1. PROVIDE TEMPORARY AND PERMANENT SEEDING FOR ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES INCLUDING LAY DOWN AREAS, AREAS USED TO STORE EXCAVATION MATERIAL DURING TRENCHING, ETC.
2. PROVIDE MINIMUM LAWN CARE SEED.
3. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE WATERING, FERTILIZING, AND MULCHING AS REQUIRED TO INITIATE AND MAINTAIN 95% COVERAGE TURF STAND.
4. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN A 95% COVERAGE TURF STAND A MINIMUM OF ONE (1) YEAR AFTER FINAL COMPLETION.

APPROVED: CITY ENGINEER	DATE
APPROVED: UTILITY ENGINEER	DATE

PATH: \\F:\PROJECTS\WATER\6016\639\0001\CAD\DWG\CT\_001.DWG  
 LAST UPDATE: Friday, September 19, 2014 12:48:10 PM  
 ARCH D - 19-SEP-14

FEDERAL STREET  
 INFRASTRUCTURE IMPROVEMENTS  
 EROSION AND SEDIMENT CONTROL PLAN  
 CITY OF LYNCHBURG, VIRGINIA

1315 FARMVIEW ROAD  
 ROANOKE, VIRGINIA 24016  
 (540) 857-3100  
 www.aecom.com

**AECOM**

COMMONWEALTH OF VIRGINIA  
 CRAIG S. RIDDLE  
 Lic. No. 41200  
 PROFESSIONAL ENGINEER

CITY PROJECT:	#10039-W5
PROJECT NO.:	60161639
CAD DWG FILE:	ct_001
DESIGNED BY:	CSR/MEW
DRAWN BY:	MEW/DWG
DEPT CHECK:	DMH/TSK
PROJ CHECK:	DMH/TSK
DATE:	OCTOBER 24, 2014
SCALE:	N/A

**CT001**  
 SHEET 13 OF 13

**GENERAL NOTES**

**WATER AND SANITARY SEWER UTILITY NOTES**

**MAINTENANCE OF TRAFFIC NOTES**

- THE LOCATION, DEPTHS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM AVAILABLE UTILITY RECORDS AND FIELD UTILITY SURVEYS AND ARE NOT GUARANTEED. MISS UTILITY TICKET NO. FOR IDENTIFICATION OF UTILITIES A023200785 REV 00A TAKEN 8/20/2010 AND A410400321 REV 01B TAKEN 4/14/2014. AECOM ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE DATA PROVIDED BY THE UTILITY OWNERS. THE CONTRACTOR SHALL FIELD VERIFY WITH TEST HOLES THE EXACT LOCATION, ELEVATION, MATERIAL TYPE, ROUNDNESS (AT POINTS OF CONNECTION) AND SIZE OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ORDERING OF MATERIALS, EXCAVATION, AND INSTALLATION FOR THIS PROJECT. ALL COSTS ASSOCIATED WITH THE ADDITIONAL UNDERGROUND UTILITY LOCATING AND VERIFICATION SHALL BE INCIDENTAL AND INCLUDED IN THE UNIT PRICE BID FOR PROPOSED WATER MAINS AND SANITARY SEWER ADJUSTMENTS/RELOCATIONS. ALL INCIDENTALS FOR THE REQUIRED WORK TO INCLUDE BUT NOT LIMITED TO EXCAVATION, SHEETING, SHORING, RESTRAINTS, ADAPTERS, SLEEVES, ABANDONMENT OF EXISTING PIPE, TESTING, BEDDING, BACKFILL, COMPACTION, DEWATERING, ETC.
- CONTACT CITY CONSTRUCTION COORDINATOR AND "MISS UTILITY" (800-552-7001) A MINIMUM OF 48 HOURS PRIOR TO COMMENCING ANY EXCAVATIONS AND PERFORMING SITE INVESTIGATIONS AS MAY BE NEEDED TO LOCATE EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL HAND EXCAVATE WHEN CROSSING EXISTING UTILITIES TO AVOID DAMAGE. WHEN CONSTRUCTING WORK UNDER OR ADJACENT TO EXISTING UTILITIES, PROVIDE ADEQUATE SUPPORT TO PROTECT EXISTING UTILITIES FROM DAMAGE.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT TO UTILITY POLES WHERE NECESSARY.
- IF EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR IMMEDIATE REPAIR TO PRE-CONSTRUCTION CONDITION AT CONTRACTOR EXPENSE.
- THE CONTRACTOR SHALL ENSURE ALL UTILITIES REMAIN IN SERVICE DURING THE ENTIRETY OF CONSTRUCTION, EXCEPT FOR CITY APPROVED OUTAGES.
- THE CONTRACTOR SHALL RESTORE ALL EXISTING SITE CONDITIONS (PAVEMENT, CURBS, SIDEWALKS, DRIVEWAYS, MAILBOXES, ETC.), DAMAGED OR IMPACTED DURING CONSTRUCTION, TO THEIR PRE-CONSTRUCTION CONDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED BY THE STATE OF VIRGINIA, CITY OF LYNCHBURG, OR OTHER GOVERNING AGENCIES, AS NECESSARY, TO COMPLETE THIS PROJECT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH OBTAINING THESE PERMITS.
- THE CONTRACTOR SHALL COORDINATE WITH, AND ARRANGE FOR INSPECTION BY THE CITY OF LYNCHBURG.
- THE CONTRACTOR SHALL COMPLY WITH ALL EROSION AND SEDIMENT CONTROL REGULATORY REQUIREMENTS.
- ALL SLOPES AND DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED. THE MAXIMUM ALLOWABLE SLOPE IS 2:1 (HORIZONTAL:VERTICAL). WHERE REASONABLY OBTAINABLE, LESSER SLOPES OF 3:1 OR BETTER ARE TO BE ACHIEVED.
- LINE LENGTHS AND ASSOCIATED APPURTENANCES ILLUSTRATED HEREIN ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ACTUAL MATERIAL QUANTITIES REQUIRED TO FURNISH A COMPLETE WORKING SYSTEM, IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION STAKEOUT. THE CENTERLINE OF PROPOSED WATER LINE SHALL BE MARKED BY THE CONTRACTOR AT 100 FOOT STATIONS AND BENDS. CONTRACTOR SHALL BID THIS AS A SEPARATE LINE ITEM.
- THE CONTRACTOR SHALL VERIFY THE ACTUAL FIELD CONDITIONS AND DEPTH AT EACH POINT OF CONNECTION TO EXISTING UTILITIES TO ALLOW ADJUSTMENTS IN THE WORK WITHOUT IMPACTING THE WORK PROGRESSION.
- ALL PAVING, DRAINAGE RELATED MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO CURRENT SPECIFICATIONS AND STANDARDS OF VDOT.
- THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING TREES AND SHRUBS AND OTHER LANDSCAPE FEATURES.
- THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND PERFORM ALL WORK NECESSARY TO PROVIDE A COMPLETE WATER AND SANITARY SYSTEM READY FOR USE. WORK SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE STANDARDS AND CONSTRUCTION SPECIFICATIONS OF VDOT, VA DEQ, VDH, THE CITY OF LYNCHBURG, AND THESE CONTRACT DOCUMENTS.
- ANY UNUSUAL SUBSURFACE CONDITIONS ENCOUNTERED DURING THE COURSE OF THE WORK SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY OF LYNCHBURG.
- THE CONTRACTOR SHALL CLEAN UP AND RESTORE DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF WORK WITHIN THE AFFECTED AREA.
- ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFR PART 1926).
- CONNECTIONS TO EXIST. WATER LINES SHALL BE MADE ONLY AFTER THE PROPOSED LINES ARE COMPLETED AND APPROVED BY THE CITY. THE CONTRACTOR SHALL COORDINATE THE ACTIVATION OF PROPOSED WATER LINES WITH THE CITY OF LYNCHBURG FIVE DAYS PRIOR TO ANTICIPATED DATE OF CHANGEOVER. NO VALVES SHALL BE OPERATED BY THE CONTRACTOR AT ANYTIME. A REPRESENTATIVE FROM THE CITY OF LYNCHBURG SHALL BE PRESENT DURING THE OPERATION OF ALL VALVES IN CONNECTION WITH CHANGEOVER OF WATER LINES AND SHALL BE PRESENT DURING TIE INS TO EXISTING WATER LINES. SHUT DOWN TIME FOR WATER LINES SHALL BE LIMITED AS DIRECTED BY THE CITY AND SHALL BE PERFORMED AT TIMES ACCEPTABLE TO THE CITY. THIS MAY REQUIRE WORK AFTER NORMAL WORKING HOURS.
- REMOVAL/ ABANDONMENT OF EXISTING WATERLINES SHALL BE BID SEPARATELY PER ABANDONMENT SERVICE. CONTRACTOR SHALL DEWATER ABANDONED WATER UTILITY, REMOVE A SECTION OF LINE IN VICINITY OF ABANDONMENT LOCATION(S) AND CAP ABANDONED LINE SECTIONS REMAINING IN PLACE WITH RESTRAINED MECHANICAL JOINT PLUG AND CITY OF LYNCHBURG HORIZONTAL ANCHOR PLUG. ALL VALVES ON ABANDONED WATER LINE SHALL BE CLOSED AND VALVE BOXES REMOVED.
- WHERE NOTED, "CITY" SHALL BE SHORTHAND NOTATION FOR CITY OF LYNCHBURG.
- THE CONTRACTOR SHALL PROTECT ALL DISTURBED AREAS FROM WATER DAMAGE. ALL UNSUITABLE MATERIALS THAT ARE THE RESULT OF THE CONTRACTOR'S ACTION SHALL BE REMOVED AND REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
- PROVIDE INLET PROTECTION AS PER DETAIL FOR INLETS RECEIVING DRAINAGE FROM ACTIVE AREAS OF CONSTRUCTION AND EXCAVATION.
- CONTRACTOR SHALL NOTIFY CITY OF LYNCHBURG COMMUNICATIONS AT 434-847-1485 IF ANY WATER MAINS OR SERVICE IS SHUT OFF OR FIRE HYDRANTS ARE TAKEN OUT OF SERVICE. CONTRACTOR SHALL ALSO NOTIFY CITY OF LYNCHBURG COMMUNICATIONS FOR ANY ROAD CLOSURES OR BLOCKAGES. PROVIDE PUBLIC NOTIFICATIONS PER CITY DIRECTION.
- BID SHEET SHOULD INCLUDE PAYMENT OF ALL WORK INDICATED ON THE DRAWINGS, DETAILS, AND NOTES. ANY ITEMS INDICATED WILL BE INCLUSIVE TO BID ITEMS OR CONSIDERED INCIDENTAL.

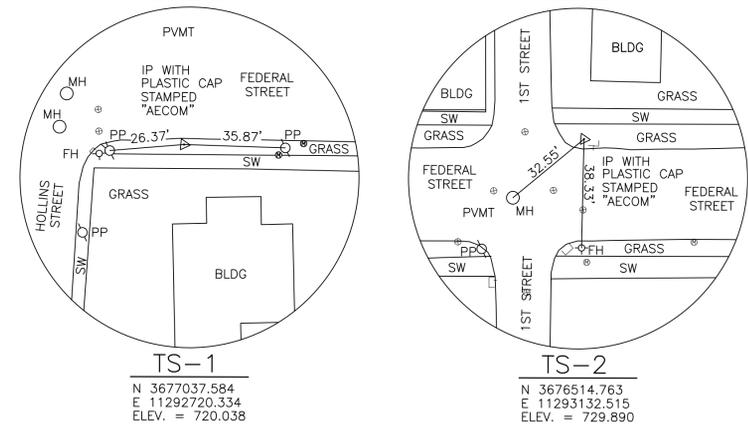
- ALL WATER AND SANITARY SEWER LINE PIPE, FITTINGS, VALVES, AND WORK SHALL CONFORM TO CITY STANDARDS AND SPECIFICATIONS, LATEST EDITION INCLUDING ALL AMENDMENTS. ALL DUCTILE IRON WATER MAIN SHALL BE SPECIAL THICKNESS CLASS 50 PIPE. ALL SANITARY SEWER PIPE SHALL BE SPECIAL THICKNESS CLASS 50 DUCTILE IRON WITH PROTECTO 401 INTERIOR COATING. CONFORM TO VIRGINIA DEPARTMENT OF HEALTH REQUIREMENTS FOR INSTALLATION OF ALL WATER MAINS AND SEWER PIPES. PROVIDE MINIMUM TEN (10) FEET EDGE TO EDGE SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER MAINS/MANHOLES. CONFORM TO WATER AND SANITARY SEWER CROSSING DETAIL-SHEET C503.
- CONTRACTOR SHALL UTILIZE TYPE "F" HORIZONTAL ANCHOR BLOCKING TO RESTRAIN ALL HORIZONTAL BENDS AND FITTINGS PER CITY STANDARD. CONTRACTOR SHALL UTILIZE CITY STANDARD TO RESTRAIN VERTICAL BENDS. THRUST RINGS SHALL BE WEDGE ACTION RESTRAINED JOINT RETAINER GLAND DEVICES MANUFACTURED BY EBBA IRON - MEGALUG, FORD METER BOX COMPANY, INC., GRIFFIN PIPE, OR APPROVED EQUAL. ALL FITTINGS, HYDRANTS, AND VALVES TO BE RESTRAINED WITH MEGALUGS.
- PROVIDE RESTRAINED JOINT PIPE AND/OR RESTRAIN ALL JOINTS OF PROPOSED 8-INCH DIAMETER WATER MAIN AND FITTINGS. RESTRAIN PROPOSED 6-INCH DIAMETER FIRE HYDRANT SERVICE LINES PER CITY STANDARD. RESTRAIN ALL JOINTS OF TEES, CROSSES, AND VALVES.
- CONTRACTOR SHALL USE TEST PRESSURE OF 150 PSI FOR TESTING INSTALLED WATER LINES.
- CONNECTION FITTINGS TO JOIN PROPOSED WATER LINES TO EXISTING WATER LINES SHALL BE PRESSURE RATED RESTRAINED FITTINGS SUITABLE TO JOIN PIPE MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY EXISTING PIPE MATERIALS, SIZE AND CONDITION PRIOR TO ORDERING CONNECTION FITTINGS. CONTRACTOR SHALL ENSURE EXISTING PIPE CONDITION IS ACCEPTABLE (ACCORDING TO CONNECTION FITTING MANUFACTURER REQUIREMENTS AND INDUSTRY STANDARDS). IF EXISTING PIPE CONDITION IS NOT ACCEPTABLE, CONTRACTOR SHALL NOTIFY CITY FOR DIRECTION. CONNECTION FITTING SHALL BE MANUFACTURED BY SMITH-BLAIR, DRESSER, OR APPROVED EQUAL. CONNECTION FITTING SHALL BE SUITABLE FOR BURIED SERVICE WITH CORROSION PROOF HARDWARE. MATCH DESIGN LIFE OF PROPOSED PIPING AND BE PRESSURE RATED FOR INDICATED TEST PRESSURE WITH ADEQUATE SAFETY FACTOR. EXISTING AND PROPOSED PIPES SHALL BE ALIGNED STRAIGHT VERTICALLY AND HORIZONTALLY AT CONNECTION FITTINGS TO PREVENT ANY THRUST FORCES.
- CONTRACTOR SHALL BE RESPONSIBLE TO RENEW ALL SERVICES CONNECTED TO WATER LINES TO BE ABANDONED. CONTRACTOR SHALL PROVIDE NEW SERVICES TO PROPOSED WATER LINE AS INDICATED TO PERFORM RENEWAL. EXISTING METERS WILL BE REUSED FOR RENEWAL. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING, FITTINGS, ANCILLARY ITEMS, AND NECESSARY EQUIPMENT TO INSTALL RENEWED SERVICES. CONTRACTOR SHALL AVOID EXIST. AND PROPOSED SUB-SURFACE UTILITIES AS REQUIRED TO INSTALL RENEWED SERVICES. CONTRACTOR SHALL CONFORM TO REQUIREMENTS OF MAINTENANCE OF TRAFFIC TO PERFORM RENEWAL. TRENCHLESS INSTALLATION OF SERVICES MAY BE REQ'D. TO MEET THIS CONDITION. IF TRENCHLESS EXCAVATION IS UTILIZED, CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING OTHER BURIED UTILITIES DURING ENTIRETY OF BORE, AND SHALL CONFORM TO ALL PERTINENT REGULATIONS. CONTRACTOR SHALL ENSURE SERVICE LINE COVER DEPTH PER CITY REQUIREMENTS.
- LOCATIONS INDICATED ON PLANS FOR EXIST. WATER SERVICE LINES TO BE REPLACED ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATION AND IDENTIFYING ALL EXIST. ACTIVE WATER LINES AND REPLACING IDENTIFIED SERVICE LINES. CONTRACTOR SHALL MATCH EXIST. LINE DIAMETER. CONTRACTOR SHALL PROVIDE ALL PIPING, FITTINGS, ANCILLARY ITEMS, AND NECESSARY EQUIPMENT AS INDICATED AND REQ'D. BY THESE NOTES TO REPLACE THE ACTIVE WATER SERVICE LINES. CONTRACTOR SHALL REPLACE EXISTING WATER SERVICE LINES FROM PROPOSED WATER MAIN TO LOCATION OF EXISTING WATER METER BOXES. CONTRACTOR SHALL REPLACE WATER METER BOXES AND SERVICE FITTINGS, AND SHALL RELOCATE EXISTING METERS.
- CONTRACTOR SHALL REMOVE EXISTING FIRE HYDRANTS TO BE ABANDONED AND ASSOCIATED PIPING TO MINIMUM TWO FEET BELOW GRADE AND SHALL PROVIDE NEW FIRE HYDRANTS AS INDICATED AND REQ'D. TO RETURN FIRE SYSTEM TO EXISTING CONDITION, AND TO CONFORM TO CITY REQUIREMENTS FOR FIRE PROTECTION. CONTRACTOR SHALL ENSURE THAT FIRE PROTECTION SERVICE CONTINUITY IS MAINTAINED AT ALL TIMES IN THE PROJECT CORRIDOR.
- CONTRACTOR SHALL PROVIDE ALL PERSONNEL AND EQUIPMENT REQUIRED TO BYPASS PUMP TO MAINTAIN SANITARY SERVICE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS, CLEAN-UP, AND COORDINATION WITH REGULATORY AGENCIES SHOULD BYPASS PUMPING FAILURE CAUSE A SANITARY DISCHARGE OR DISCONTINUATION OF SERVICE. SANITARY SEWER BYPASS PUMPING COST IS INCIDENTAL TO THE COST OF THE ITEMS FOR THE RELOCATION OF THE EXISTING SANITARY SEWER TO THE PROPOSED LOCATIONS AS PART OF THIS PROJECT. CONFORM TO CITY SPECIFICATION 02770- SEWER FLOW CONTROL FOR PUMP SIZE REQUIRED. BACK-UP PUMPS SHALL BE SUPPLIED. CONTRACTOR SHALL SUBMIT A BYPASS PUMPING PLAN TO THE DEPARTMENT OF WATER RESOURCES FOR APPROVAL.
- CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, AND PERSONNEL AS REQUIRED TO DEWATER TRENCHES AND EXCAVATIONS DURING INSTALLATION OF NEW PIPE AND STRUCTURES.
- CONTRACTOR SHALL OPEN NO MORE TRENCH THAN CAN BE COVERED BY CONCLUSION OF CONSTRUCTION EACH DAY.
- EXISTING WATER LINES ABANDONED SHALL BE CUT AND CAPPED AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDERS FOR EXISTING UTILITIES TO REMAIN AS REQ'D. TO INSTALL PROPOSED UTILITIES.
- CONTRACTOR SHALL AVOID EXISTING AND PROPOSED UTILITIES FOR ALL PROPOSED FIRE AND SERVICE LATERALS AND PROVIDE MIN. REQ'D. COVER PER CITY STANDARD.
- CONTRACTOR SHALL PROVIDE RED LINE RECORD DRAWINGS TO THE CITY AT THE CONCLUSION OF CONSTRUCTION. RED LINE DRAWINGS SHALL CLEARLY SHOW ANY CHANGES/MODIFICATIONS TO THESE PLANS, TO REFLECT THE AS-BUILT CONDITION.

- CONFORM TO ALL APPLICABLE VDOT, CITY OF LYNCHBURG, AND OSHA REQUIREMENTS FOR TRAFFIC CONTROL AND WORK PERFORMED IN ROADWAYS.
- NOTIFY LYNCOM FOR ANY ROAD CLOSURES (434-847-1602).
- MAINTAIN EMERGENCY VEHICLE ACCESS FOR ALL RESIDENCES AND COMMERCIAL PROPERTIES DURING CONSTRUCTION.
- MAINTAIN ACCESS TO PARKING AREA FOR TINBRIDGE MANOR (701 HOLLINS STREET/ 39 HOLLINS MILL ROAD) PROPERTY DURING CONSTRUCTION.
- MAINTAIN THROUGH ACCESS BETWEEN FIFTH STREET AND BEDFORD AVENUE TO THE MAXIMUM EXTENT POSSIBLE DURING CONSTRUCTION.
- BLOCK BY BLOCK DETOURS ACCEPTABLE AS UTILITY WORK PROCEEDS ALONG FEDERAL STREET.
  - TRAFFIC CONTROL PLAN TO INCLUDE STREET MAP OR AERIAL OF PROJECT AREA SHOWING STREET NAMES, LOCATION AND TYPE OF ALL REQUIRED SIGNAGE AND BARRICADES PER THE VIRGINIA WORK AREA PROTECTION MANUAL CURRENT EDITION (VWAPM), DURATION OF WORK, ALL PHASES OF CONSTRUCTION.
- NOTIFY AFFECTED PUBLIC/BUSINESSES MINIMUM TEN (10) DAYS PRIOR TO CLOSURE IF POSSIBLE, METHOD TO BE MUTUALLY AGREED UPON BY APPLICANT AND CITY.
- NOTIFY LYNCOM 847-1602, COMMUNICATIONS & MARKETING 455-3800 AND CITIZENS FIRST 856-2489.
- PROVIDE CERTIFICATE OF INSURANCE NAMING CITY AS ADDITIONALLY INSURED FOR WORKING IN THE RIGHT-OF-WAY TO RISK MANAGEMENT TWO (2) WEEKS PRIOR TO PROPOSED CLOSURE.
- PROVIDE 24/7 CONTACT INFORMATION FOR RESPONSIBLE PARTY.
- SET UP WALK THROUGH WITH CITY TRANSPORTATION ENGINEER ONCE SETUP COMPLETE.
- IF THIS PROCESS IS NOT FOLLOWED, THE TRANSPORTATION ENGINEER OR HIS DESIGNEE MAY REQUIRE THAT THE TRAFFIC CONTROL SET UP BE REMOVED UNTIL ALL CONFLICTS CAN BE RESOLVED.

**ABBREVIATIONS**

DI	DUCTILE IRON / DROP INLET
EXST	EXISTING
ST	STREET
STA	STATION
INV	INVERT
SAN	SANITARY
MJ	MECHANICAL JOINT
MIN	MINIMUM
WL	WATER LINE
PVC	POLYVINYL CHLORIDE
VC	VITRIFIED CLAY
RCP	REINFORCED CONCRETE PIPE
LF	LINEAR FEET
STM	STORM
APPROX	APPROXIMATE
LOC	LOCATION
HORIZ	HORIZONTAL
VERT	VERTICAL
SD	STORM DRAIN
PP	POWER POLE
LP	LIGHT POLE
C/O	CLEAN OUT
MH	MANHOLE
DIA	DIAMETER

**VERTICAL AND HORIZONTAL CONTROL POINT REFERENCE DIAGRAMS**



**SURVEY NOTES**

- UTILITY LOCATION SURVEY PERFORMED BY AECOM IN APRIL 2010 AND MAY 2014.
- HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983 (NAD83) VIRGINIA STATE PLANE GRID NORTH ZONE IN U.S. SURVEY FEET.
- VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- CONTOUR AND PLANIMETRIC INFORMATION TAKEN FROM GIS DATA PROVIDED TO AECOM BY THE CITY OF LYNCHBURG IN MAY 2010.

APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DESCRIPTION	REVISIONS
DATE	MADE BY
MARK	

1315 FRENCH ROAD  
BOANOCHE, VIRGINIA 24016  
(540) 857-3100  
www.aecom.com

**AECOM**

COMMONWEALTH OF VIRGINIA  
CRAIG S. RIDDLE  
Lic. No. 41200  
PROFESSIONAL ENGINEER

FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS

**GENERAL NOTES**

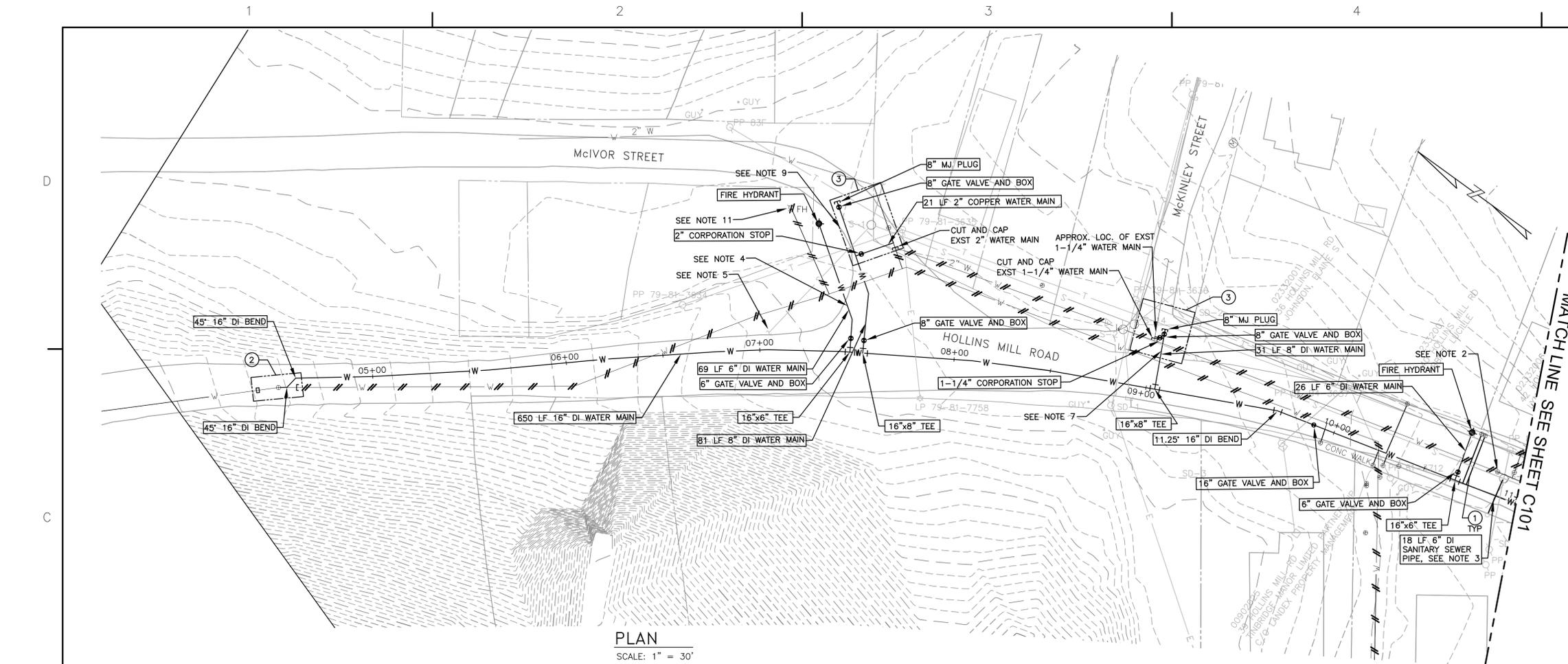
CITY OF LYNCHBURG, VIRGINIA

CITY PROJECT: #10039-WS  
PROJECT NO: 60161639  
CAD DWG FILE: G\_N\_0002  
DESIGNED BY: CSR/MEW  
DRAWN BY: MEW/DWG  
DEPT CHECK: DMH/TSK  
PROJ CHECK: DMH/TSK  
DATE: OCTOBER 24, 2014  
SCALE: AS SHOWN

**G002**

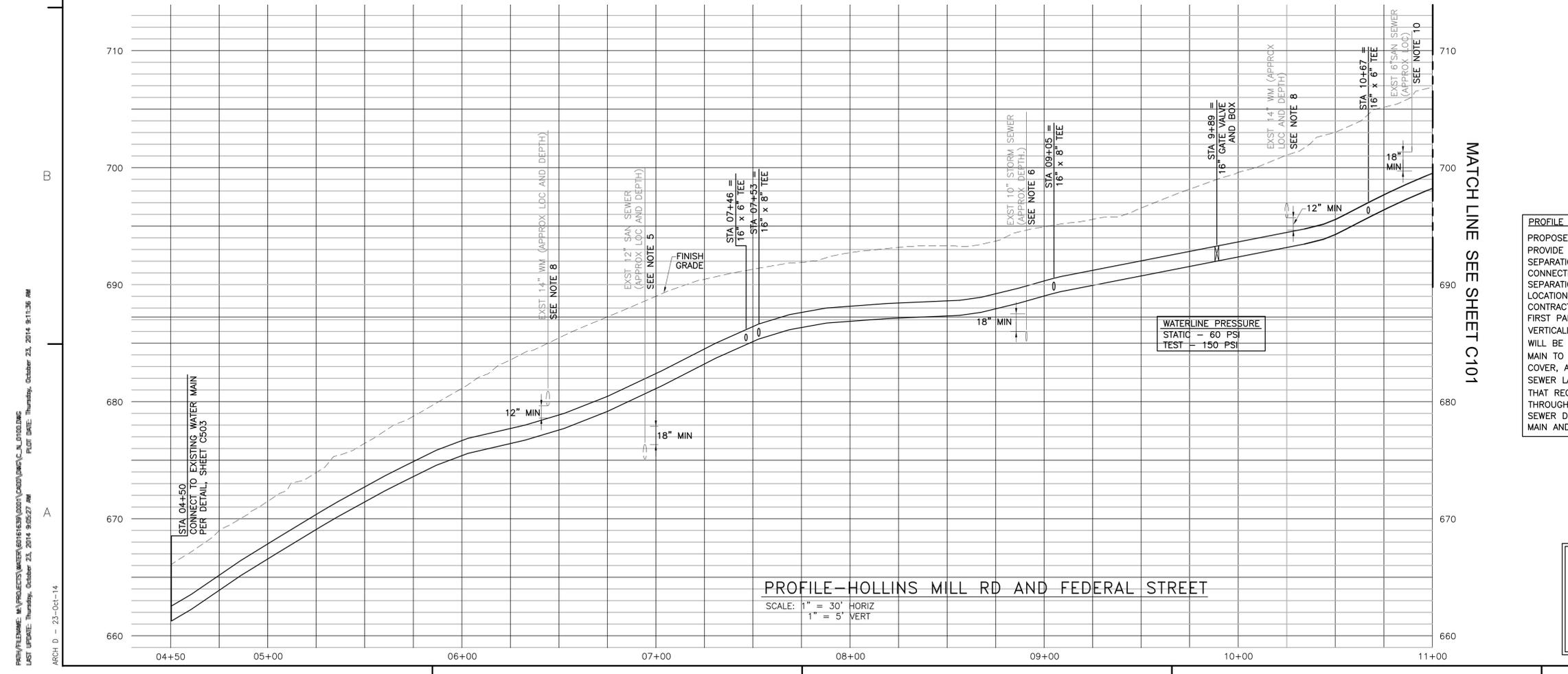
SHEET 2 OF 13

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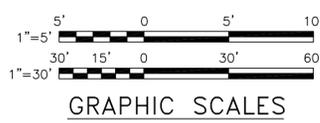


**LEGEND**

- CITY OF LYNCHBURG WATER SERVICE LINE FROM PROPOSED WATER MAIN TO EXISTING METER.
  - SEE DETAIL: PROPOSED WATER MAIN CONNECTION TO EXISTING WATER MAIN HOLLINS MILL ROAD. SHEET C503.
  - SEE FUTURE CONNECTION STUB DETAIL. SHEET C503.
- NOTES:**
- WATER METER BOX LOCATION FOR 40 HOLLINS MILL ROAD WAS NOT IDENTIFIED BY FIELD SURVEY. CONTRACTOR SHALL LOCATE AND PROVIDE NEW SERVICE LINE TO BOX FROM PROPOSED 16-INCH WATER MAIN.
  - TERMINAL VALVE OF ABANDONMENT. CONTRACTOR SHALL COORDINATE WITH CITY TO CLOSE VALVE. CONTRACTOR SHALL ABANDON PER GENERAL NOTE 22.
  - CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH OF EXISTING SANITARY SEWER. PROVIDE SANITARY SEWER PIPE PER WATER AND SEWER CROSSING DETAIL. REPLACE EXISTING SANITARY SEWER PIPE IN-KIND (MATCH SIZE, INVERTS AND SLOPE) WITH PROPOSED SANITARY SEWER PIPE TO LIMITS INDICATED. PROVIDE BY-PASS PUMPING AS REQUIRED TO INSTALL PROPOSED PIPE. CONNECT TO EXISTING SANITARY SEWER TO REMAIN WITH WATER TIGHT FERNCO FITTING WITH STAINLESS STEEL HARDWARE.
  - OFFSET PROPOSED 6-INCH FIRE SERVICE LINE AS REQUIRED TO PROVIDE MINIMUM 12-INCH VERTICAL CLEARANCE WITH EXISTING 14-INCH WATER MAIN, AND VERTICAL CLEARANCE AS REQUIRED BY WATER AND SANITARY SEWER CROSSING DETAIL FOR CROSSING OF EXISTING SANITARY SEWER MAIN.
  - ROUTING/LOCATION OF EXISTING SANITARY SEWER COULD NOT BE IDENTIFIED IN THE FIELD. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH OF EXISTING SANITARY SEWER AND CONFORM TO WATER AND SANITARY SEWER CROSSING DETAIL, SHEET C503.
  - CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH OF EXISTING STORM SEWER. STORM SEWER HAS THE POTENTIAL TO BE CONNECTED TO SANITARY SEWER. THEREFORE, CROSSING SHALL CONFORM TO WATER AND SANITARY SEWER CROSSING DETAIL, SHEET C503.
  - CONFORM TO WATER AND SANITARY SEWER CROSSING DETAIL, SHEET C503.
  - CONTRACTOR SHALL CONFIRM DEPTH OF EXISTING WATER MAIN AND PROVIDE NOTED SEPARATION.
  - REPAIR CURB TO CITY SPECIFICATION. COST TO BE INCIDENTAL TO JOB. NO ADDITIONAL COMPENSATION PROVIDED.
  - TO BE REPLACED PER PLAN.
  - CONTRACTOR SHALL REMOVE EXISTING FIRE HYDRANT, RISER PIPE, AND 90 DEGREE VERTICAL ELBOW, AND CUT AND CAP EXISTING 6-INCH WATER SERVICE MAIN AFTER ABANDONMENT OF EXISTING 14-INCH WATER MAIN. PROVIDE FIRE HYDRANT TO CITY.



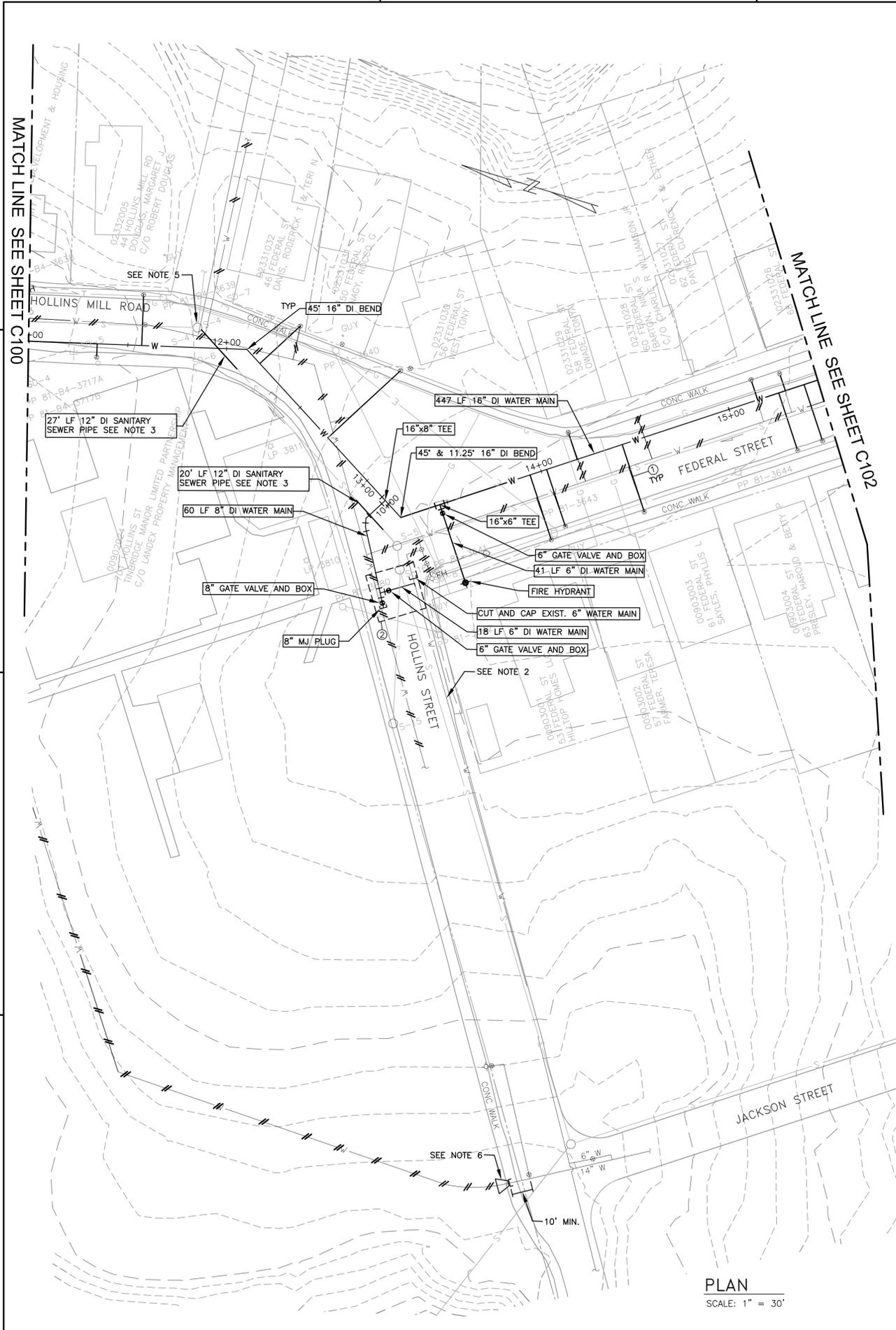
**PROFILE NOTE:**  
PROPOSED WATER MAIN DEPTH INDICATED IS APPROXIMATE BASED ON NEED TO PROVIDE VIRGINIA DEPARTMENT OF HEALTH (VDH) REQUIRED VERTICAL SEPARATION BETWEEN PROPOSED WATER MAIN AND SANITARY SEWER LATERALS CONNECTED TO SANITARY SEWER MAIN IN CORRIDOR, AND TO PROVIDE SEPARATIONS WITH OTHER UTILITIES AS NOTED ON PROFILES. LATERAL LOCATIONS AND DEPTHS WERE NOT IDENTIFIED AS PART OF SURVEY. CONTRACTOR SHALL IDENTIFY PLAN LOCATIONS AND DEPTHS OF LATERALS AS FIRST PART OF CONSTRUCTION. COST TO LOCATE LATERALS IN PLAN AND VERTICALLY SHALL BE INCIDENTAL TO THE JOB (NO ADDITIONAL COMPENSATION WILL BE PROVIDED). CONTRACTOR SHALL INSTALL PROPOSED 16-INCH WATER MAIN TO MEET MINIMUM FOUR (4) FOOT CITY OF LYNCHBURG (CITY) REQUIRED COVER, AND TO PROVIDE VDH REQUIRED VERTICAL SEPARATION FROM SANITARY SEWER LATERALS. THIS WILL REQUIRE ADDITIONAL EXCAVATION (IN EXCESS OF THAT REQUIRED TO ESTABLISH CITY MINIMUM FOUR (4) FEET OF COVER) THROUGHOUT THE PROJECT CORRIDOR. CONFORM TO REPLACEMENT SANITARY SEWER DETAIL ON SHEET C504 FOR CROSSINGS BETWEEN PROPOSED WATER MAIN AND EXISTING SANITARY SEWER LATERALS.



APPROVED: CITY ENGINEER DATE \_\_\_\_\_  
APPROVED: UTILITY ENGINEER DATE \_\_\_\_\_

135 FRANKLIN ROAD ROANOKE, VIRGINIA 24016 (540) 857-3100 www.aecom.com	DESCRIPTION
<b>AECOM</b>	DATE
COMMONWEALTH OF VIRGINIA CRAIG S RIDDLE Lic. No. 41200	MADE BY / CHECKED
FEDERAL STREET INFRASTRUCTURE IMPROVEMENTS WATER MAIN PLAN AND PROFILE HOLLINS MILL ROAD CITY OF LYNCHBURG, VIRGINIA	REVISIONS
CITY PROJECT: #10039-W5 PROJECT NO: 60161639 CAD DWG FILE: C_N_0100 DESIGNED BY: CSR/MEW DRAWN BY: MEW/DWG DEPT CHECK: DMH/TSK PROJ CHECK: DMH/TSK DATE: OCTOBER 24, 2014 SCALE: AS SHOWN	
<b>C100</b>	
SHEET 3 OF 13	

ARCH D - 23-Oct-14  
FILENAME: \\PROJECTS\WATER\60161639\0001\CAD\DWG\C100.dwg  
LAST UPDATE: Thursday, October 23, 2014 9:05:27 AM  
PLOT DATE: Thursday, October 23, 2014 9:11:36 AM



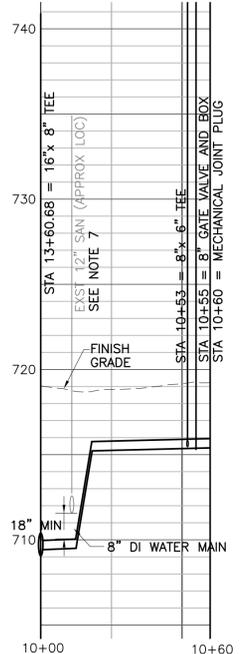
**PLAN**  
SCALE: 1" = 30'

**LEGEND**

- ① CITY OF LYNCHBURG WATER SERVICE LINE FROM PROPOSED WATER MAIN TO EXISTING METER.
- ② SEE FUTURE CONNECTION STUB DETAIL. SHEET C503.

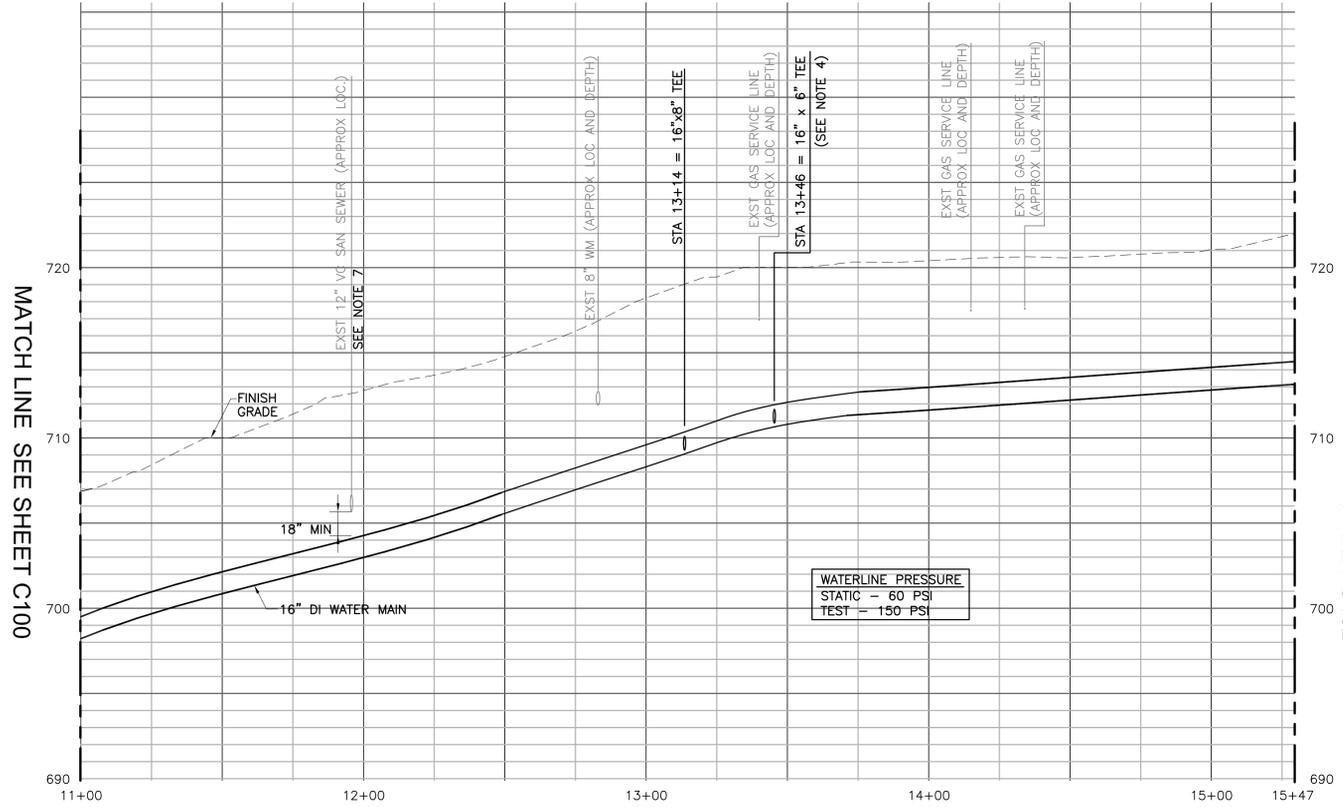
**NOTES:**

1. WATER METER BOX LOCATION FOR 50 FEDERAL STREET WAS NOT IDENTIFIED BY FIELD SURVEY. CONTRACTOR SHALL LOCATE AND PROVIDE NEW SERVICE LINE TO BOX FROM PROPOSED 16-INCH WATER MAIN.
2. CONTRACTOR SHALL INSTALL LINE STOP AT THIS LOCATION TO MAKE CONNECTION TO EXISTING 6-INCH WATER MAIN PER INDICATED FUTURE CONNECTION STUB.
3. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH OF EXISTING SANITARY SEWER. PROVIDE SANITARY SEWER PIPE PER WATER AND SEWER CROSSING DETAIL. REPLACE EXISTING SANITARY SEWER PIPE IN-KIND (MATCH SIZE, INVERTS AND SLOPE) WITH PROPOSED SANITARY SEWER PIPE TO LIMITS INDICATED. PROVIDE BY-PASS PUMPING AS REQUIRED TO INSTALL PROPOSED PIPE. CONNECT TO EXISTING SANITARY SEWER TO REMAIN WITH WATER TIGHT FERNCO FITTING WITH STAINLESS STEEL HARDWARE.
4. PROVIDE VERTICALLY ORIENTED TEE TO RUN FIRE HYDRANT SERVICE LINE AT THREE FEET OF COVER. RESTRAIN ALL JOINTS OF FIRE SERVICE LINE AND TEE PER CITY OF LYNCHBURG STANDARD AND PER UTILITY NOTES. PHASE CONSTRUCTION AS REQUIRED TO MAINTAIN WATER SERVICE FOR CROSSING OF FIRE HYDRANT SERVICE LINE AND EXISTING WATER MAIN.
5. REMOVE DEBRIS FROM BROKEN BENCH/TROUGH. REMOVE DEBRIS BLOCKING THE UPSTREAM INVERT. REHABILITATE MANHOLE TROUGH (INVERT) TO CONFORM TO CITY DETAIL #27.02- PRECAST CONCRETE 4' DIAMETER MANHOLE, LATEST EDITION. MANHOLE TROUGH (INVERT) SHALL BE FULLY WATERTIGHT AFTER REHABILITATION.
6. CUT AND CAP EXISTING 14-INCH WATER MAIN USING RESTRAINED MECHANICAL JOINT PLUG PER CITY STANDARD (USE CITY STANDARD PLUG FOR 16-INCH PIPE). CITY SHALL CLOSE VALVES AND DEPRESSURIZE EXISTING 14-INCH WATER MAIN PRIOR TO PERFORMING WORK. REPAIR SIDEWALK TO CITY SPECIFICATION AND ALL EXISTING INFRASTRUCTURE AFTER COMPLETION OF WORK.
7. TO BE REPLACED PER PLAN.
8. SMALL TRAFFIC ISLAND AT INTERSECTION OF HOLLINS STREET AND FEDERAL STREET WAS NOT SURVEYED. COORDINATE WITH CITY TO ADJUST PROPOSED WATER LINE TO MISS THE LIMITS OF THIS ISLAND.

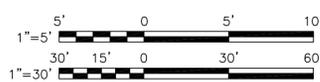


**PROFILE-HOLLINS STREET**  
SCALE: 1" = 30' HORIZ  
1" = 5' VERT

**PROFILE NOTE:**  
PROPOSED WATER MAIN DEPTH INDICATED IS APPROXIMATE BASED ON NEED TO PROVIDE VIRGINIA DEPARTMENT OF HEALTH (VDH) REQUIRED VERTICAL SEPARATION BETWEEN PROPOSED WATER MAIN AND SANITARY SEWER LATERALS CONNECTED TO SANITARY SEWER MAIN IN CORRIDOR, AND TO PROVIDE SEPARATIONS WITH OTHER UTILITIES AS NOTED ON PROFILES. LATERAL LOCATIONS AND DEPTHS WERE NOT IDENTIFIED AS PART OF SURVEY. CONTRACTOR SHALL IDENTIFY PLAN LOCATIONS AND DEPTHS OF LATERALS AS FIRST PART OF CONSTRUCTION. COST TO LOCATE LATERALS IN PLAN AND VERTICALLY SHALL BE INCIDENTAL TO THE JOB (NO ADDITIONAL COMPENSATION WILL BE PROVIDED). CONTRACTOR SHALL INSTALL PROPOSED 16-INCH WATER MAIN TO MEET MINIMUM FOUR (4) FOOT CITY OF LYNCHBURG (CITY) REQUIRED COVER, AND TO PROVIDE VDH REQUIRED VERTICAL SEPARATION FROM SANITARY SEWER LATERALS. THIS WILL REQUIRE ADDITIONAL EXCAVATION (IN EXCESS OF THAT REQUIRED TO ESTABLISH CITY MINIMUM FOUR (4) FEET OF COVER) THROUGHOUT THE PROJECT CORRIDOR. CONFORM TO REPLACEMENT SANITARY SEWER DETAIL ON SHEET C504 FOR CROSSINGS BETWEEN PROPOSED WATER MAIN AND EXISTING SANITARY SEWER LATERALS.



**PROFILE-HOLLINS MILL RD AND FEDERAL STREET**  
SCALE: 1" = 30' HORIZ  
1" = 5' VERT



**GRAPHIC SCALES**

APPROVED: CITY ENGINEER	DATE
APPROVED: UTILITY ENGINEER	DATE

NO.	DATE	DESCRIPTION

**AECOM**  
1315 FRANKLIN ROAD  
ROANOKE, VIRGINIA 24016  
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www.aecom.com

COMMONWEALTH OF VIRGINIA  
CRAIG S. RIDDLE  
Lic. No. 41200  
PROFESSIONAL ENGINEER

FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS

**WATER MAIN PLAN AND PROFILE**  
FEDERAL ST, HOLLINS ST & HOLLINS MILL ROAD

CITY OF LYNCHBURG, VIRGINIA

CITY PROJECT: #10039-WS  
PROJECT NO: 60161639  
CAD DWG FILE: C\_N\_0101  
DESIGNED BY: CSR/MEW  
DRAWN BY: MEW/DWG  
DEPT CHECK: DMH/TSK  
PROJ CHECK: DMH/TSK  
DATE: OCTOBER 24, 2014  
SCALE: AS SHOWN

**C101**

SHEET 4 OF 13

PLOT FILENAME: \\PROJECTS\WORKSPACE\60161639\CADD\DWG\C101.dwg  
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 PLOT DATE: Thursday, October 23, 2014 9:14:20 AM  
 ARCH D - 23-Oct-14

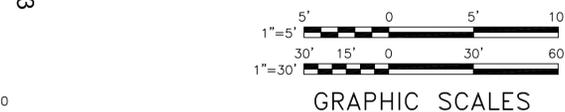
LEGEND

- ① CITY OF LYNCHBURG WATER SERVICE LINE FROM PROPOSED WATER MAIN TO EXISTING METER.
- ② SEE FUTURE CONNECTION STUB DETAIL, SHEET C503.
- ③ CITY OF LYNCHBURG END OF LINE FOR FUTURE CONNECTION.
- ④ SEE DETAIL: PROPOSED WATER MAIN CONNECTION TO EXISTING WATER MAIN GARLAND STREET, SHEET C503.

NOTES:

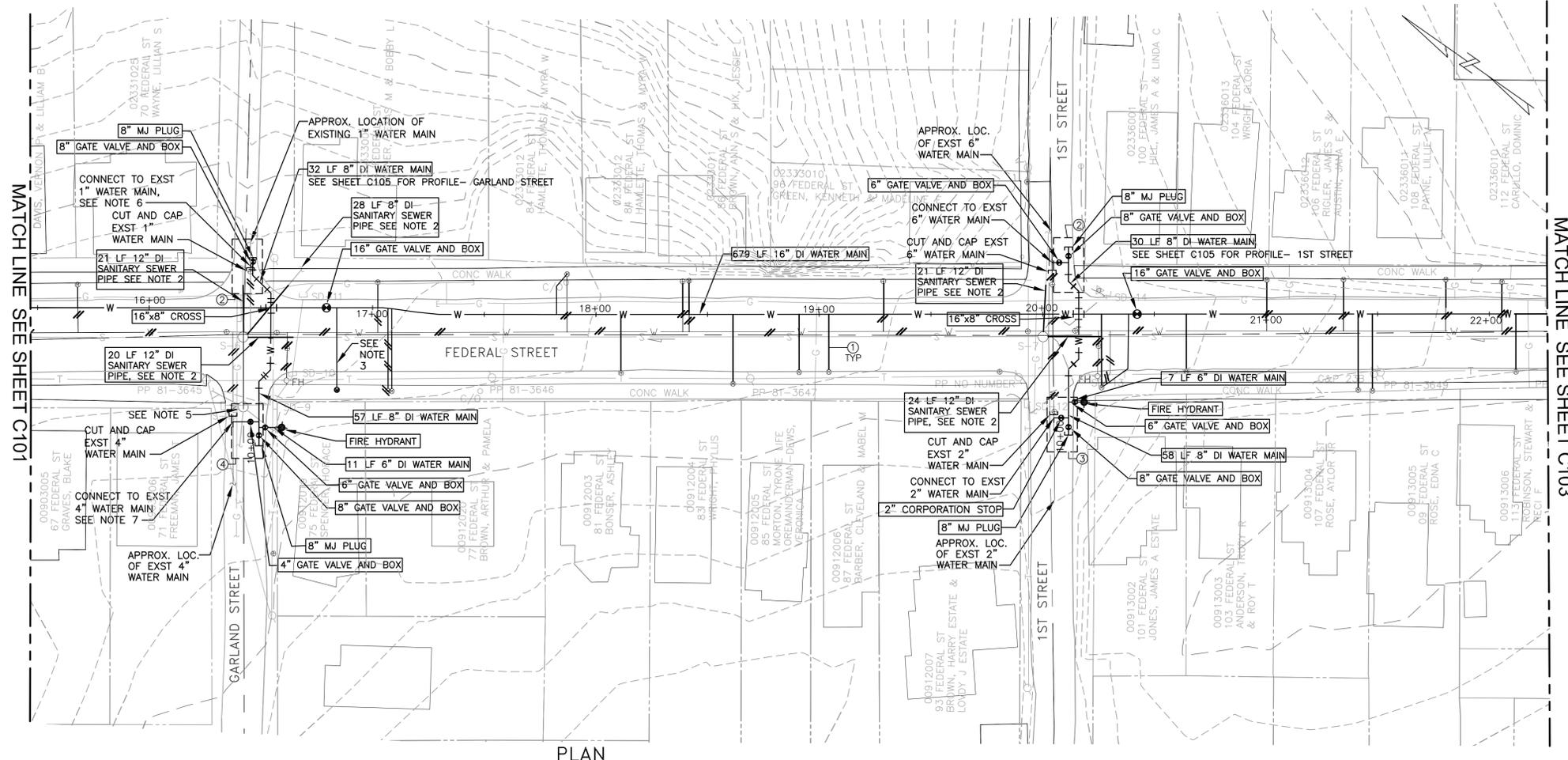
1. CONTRACTOR SHALL FIELD LOCATE EXISTING WATER SERVICE MAINS ON GARLAND AND 1ST STREETS AND CONNECT TO EXISTING MAINS. FOR CONNECTIONS TO EXISTING WATER SERVICE MAINS 4-INCH DIAMETER IN SIZE AND LARGER SEE FUTURE CONNECTION STUB DETAIL. FOR CONNECTIONS TO WATER SERVICE MAINS 2-INCH DIAMETER IN SIZE OR LESS, TAP LINE WITH CORPORATION STOP MATCHING DIAMETER OF EXISTING WATER SERVICE MAIN. PROVIDE APPROPRIATE CONNECTION LINE, FITTINGS, AND HARDWARE AS REQUIRED TO CONNECT EXISTING WATER SERVICE MAIN TO PROPOSED LINE. ALL CONNECTION LINES, FITTINGS, AND HARDWARE SHALL BE RATED FOR TEST PRESSURE.
2. PROVIDE SANITARY SEWER PIPE PER WATER AND SEWER CROSSING DETAIL. REPLACE EXISTING SANITARY SEWER PIPE IN-KIND (MATCH SIZE, INVERTS AND SLOPE) WITH PROPOSED SANITARY SEWER PIPE TO LIMITS INDICATED. CONTRACTOR SHALL LOCATE AND PROVIDE NEW SERVICE LINE TO BOX FROM PROPOSED 16-INCH WATER MAIN. PROVIDE BY-PASS PUMPING AS REQUIRED TO INSTALL PROPOSED PIPE. CONNECT TO EXISTING SANITARY SEWER TO REMAIN WITH WATER TIGHT FERNOCO FITTING WITH STAINLESS STEEL HARDWARE.
3. CONTRACTOR SHALL ABANDON EXISTING SERVICE LINE AND METER BOX FOR 75 FEDERAL STREET AS CURRENTLY LOCATED AT 77 FEDERAL STREET. CONTRACTOR SHALL PROVIDE NEW SERVICE LINE AND METER BOX FOR 75 FEDERAL STREET AS INDICATED. CONNECT TO SERVICE LINE FOR HOUSE WITH SUITABLE FITTINGS.
4. WATER METER BOX LOCATION FOR 71 AND 100 FEDERAL STREET WAS NOT IDENTIFIED BY FIELD SURVEY. CONTRACTOR SHALL LOCATE AND PROVIDE NEW SERVICE LINE TO BOX FROM PROPOSED 16-INCH WATER MAIN.
5. REHABILITATE EXISTING MANHOLE WITH WATERPROOF SEALER.
  - A. REMOVE EXISTING MANHOLE STEPS PRIOR TO APPLICATION OF WATERPROOFING.
  - B. PROVIDE ONE 1-INCH THICK COAT OF QUADEX QM-15 RESTORE OR APPROVED EQUAL TO ALL EXISTING MANHOLES INDICATED TO BE REHABILITATED BY WATERPROOFING. FOLLOW MANUFACTURER'S RECOMMENDATION ON PREPARATION AND APPLICATION OF QM-15 RESTORE. PIPE TO MANHOLE CONNECTIONS SHALL BE REHABILITATED WITH WATER STOPPING CEMENT, WET-PLUG OR APPROVED EQUAL PRIOR TO MANHOLE REHABILITATION, OR WHEN MAKING NEW CONNECTIONS TO EXISTING BRICK OR BLOCK MANHOLES.
6. PROVIDE 1-INCH CORP. STOP FOR CONNECTION FROM PROP. 8-INCH STUB TO EXST 1-INCH WATER MAIN.
7. ABANDON 4-INCH WATER MAIN ON GARLAND STREET NORTHEAST OF CONNECTION POINT AND TO ITS CONNECTION WITH THE WATER MAIN ON FEDERAL STREET.
8. TO BE REPLACED PER PLAN.

**PROFILE NOTE:**  
 PROPOSED WATER MAIN DEPTH INDICATED IS APPROXIMATE BASED ON NEED TO PROVIDE VIRGINIA DEPARTMENT OF HEALTH (VDH) REQUIRED VERTICAL SEPARATION BETWEEN PROPOSED WATER MAIN AND SANITARY SEWER LATERALS CONNECTED TO SANITARY SEWER MAIN IN CORRIDOR, AND TO PROVIDE SEPARATIONS WITH OTHER UTILITIES AS NOTED ON PROFILES. LATERAL LOCATIONS AND DEPTHS WERE NOT IDENTIFIED AS PART OF SURVEY. CONTRACTOR SHALL IDENTIFY PLAN LOCATIONS AND DEPTHS OF LATERALS AS FIRST PART OF CONSTRUCTION. COST TO LOCATE LATERALS IN PLAN AND VERTICALLY SHALL BE INCIDENTAL TO THE JOB (NO ADDITIONAL COMPENSATION WILL BE PROVIDED). CONTRACTOR SHALL INSTALL PROPOSED 16-INCH WATER MAIN TO MEET MINIMUM FOUR (4) FOOT CITY OF LYNCHBURG (CITY) REQUIRED COVER, AND TO PROVIDE VDH REQUIRED VERTICAL SEPARATION FROM SANITARY SEWER LATERALS. THIS WILL REQUIRE ADDITIONAL EXCAVATION (IN EXCESS OF THAT REQUIRED TO ESTABLISH CITY MINIMUM FOUR (4) FEET OF COVER) THROUGHOUT THE PROJECT CORRIDOR. CONFORM TO REPLACEMENT SANITARY SEWER DETAIL ON SHEET C504 FOR CROSSINGS BETWEEN PROPOSED WATER MAIN AND EXISTING SANITARY SEWER LATERALS.

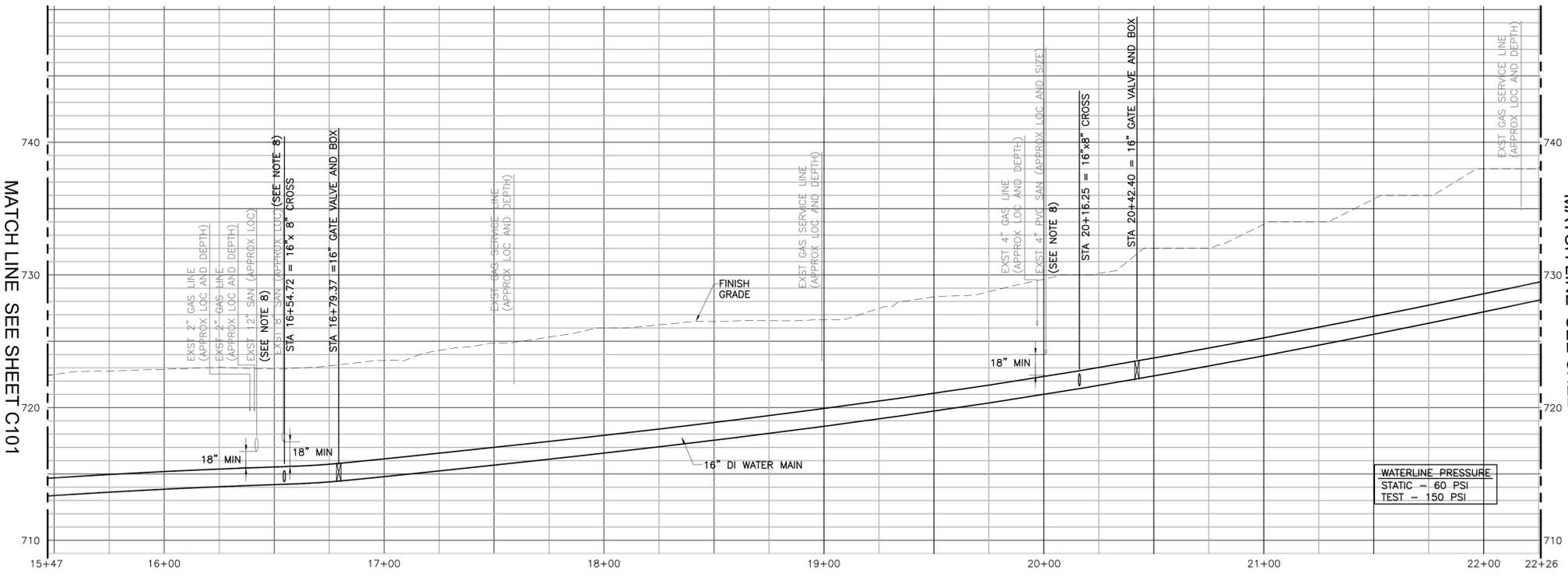


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APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_



PLAN  
 SCALE: 1" = 30'



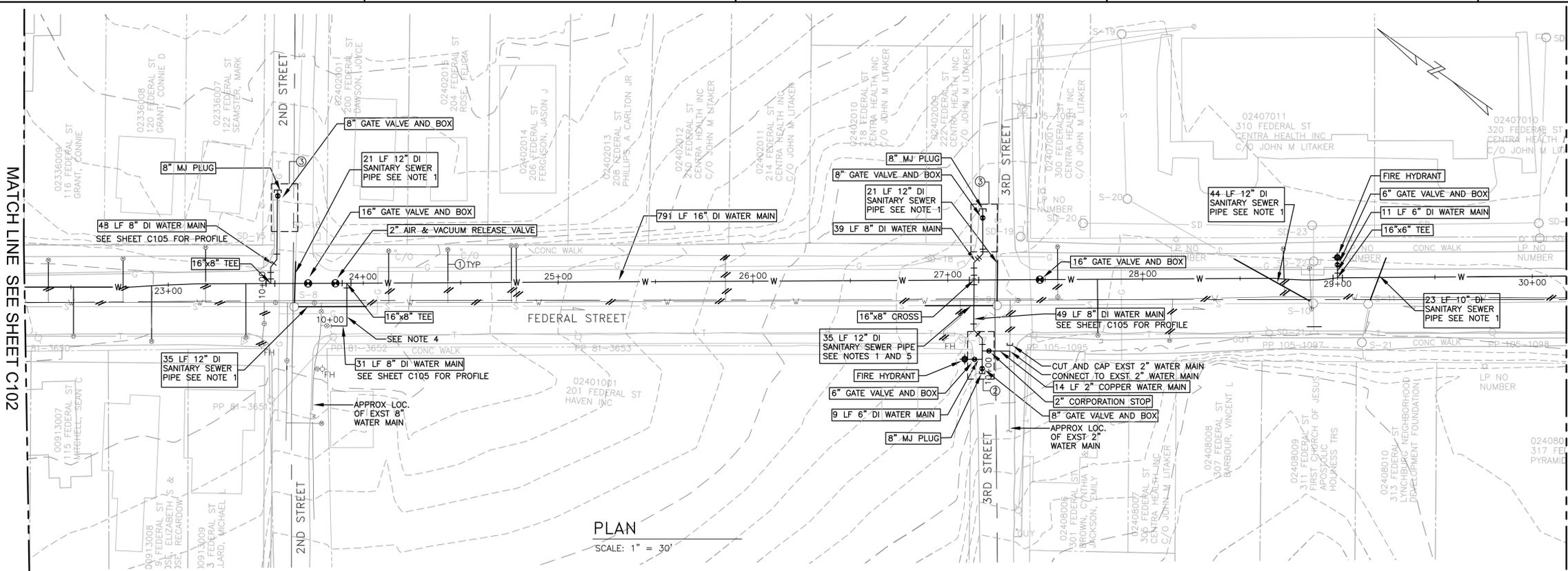
PROFILE  
 SCALE: 1" = 30' HORIZ  
 1" = 5' VERT

PROJECT: #10039-WIS  
 PROJECT NO: 60161639  
 CAD DWG FILE: C:\N\0102  
 DESIGNED BY: CSR/MEW  
 DRAWN BY: MEW/DWG  
 DEPT CHECK: DMH/TSK  
 PROJ CHECK: DMH/TSK  
 DATE: OCTOBER 24, 2014  
 SCALE: AS SHOWN  
 SHEET 5 OF 13

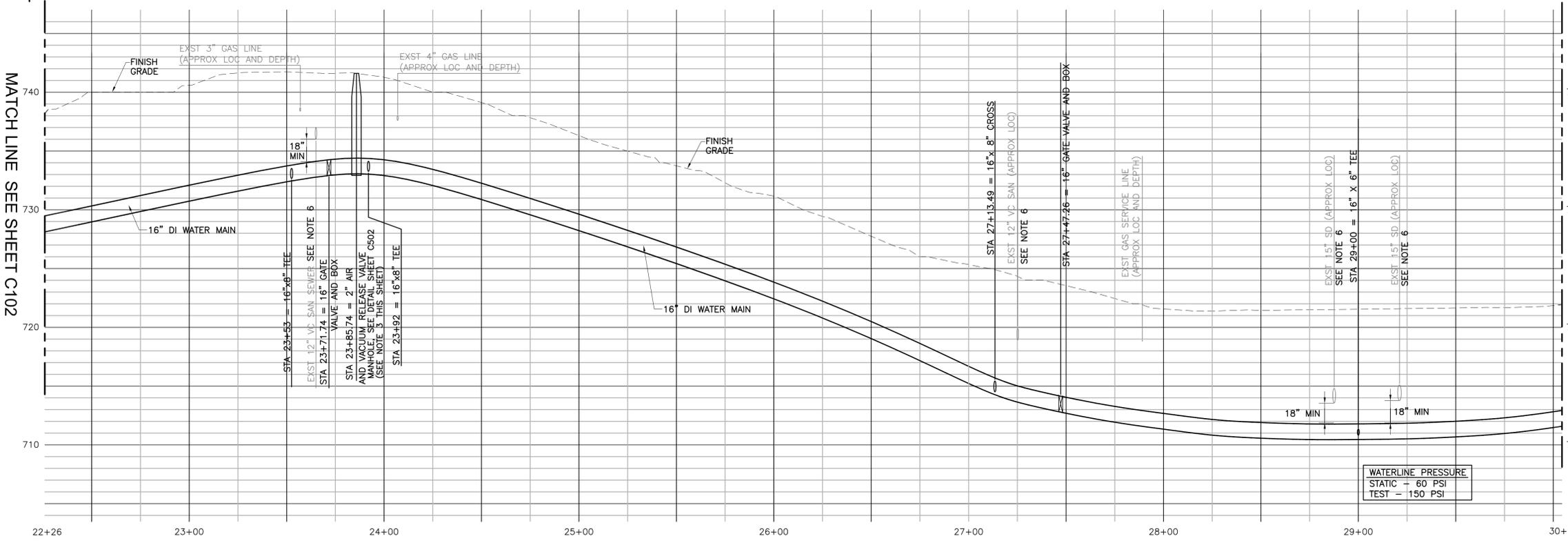
FEDERAL STREET  
 INFRASTRUCTURE IMPROVEMENTS  
 WATER MAIN PLAN AND PROFILE  
 FEDERAL STREET  
 CITY OF LYNCHBURG, VIRGINIA

REVISIONS  
 MARK  
 DATE  
 MADE BY  
 CHECKED

NO.	DESCRIPTION	DATE	BY	CHECKED



PLAN  
SCALE: 1" = 30'



PROFILE  
SCALE: 1" = 30' HORIZ  
1" = 5' VERT

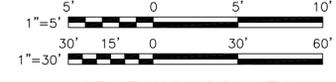
**PROFILE NOTE:**  
PROPOSED WATER MAIN DEPTH INDICATED IS APPROXIMATE BASED ON NEED TO PROVIDE VIRGINIA DEPARTMENT OF HEALTH (VDH) REQUIRED VERTICAL SEPARATION BETWEEN PROPOSED WATER MAIN AND SANITARY SEWER LATERALS CONNECTED TO SANITARY SEWER MAIN IN CORRIDOR, AND TO PROVIDE SEPARATIONS WITH OTHER UTILITIES AS NOTED ON PROFILES. LATERAL LOCATIONS AND DEPTHS WERE NOT IDENTIFIED AS PART OF SURVEY. CONTRACTOR SHALL IDENTIFY PLAN LOCATIONS AND DEPTHS OF LATERALS AS FIRST PART OF CONSTRUCTION. COST TO LOCATE LATERALS IN PLAN AND VERTICALLY SHALL BE INCIDENTAL TO THE JOB (NO ADDITIONAL COMPENSATION WILL BE PROVIDED). CONTRACTOR SHALL INSTALL PROPOSED 16-INCH WATER MAIN TO MEET MINIMUM FOUR (4) FOOT CITY OF LYNCHBURG (CITY) REQUIRED COVER, AND TO PROVIDE VDH REQUIRED VERTICAL SEPARATION FROM SANITARY SEWER LATERALS. THIS WILL REQUIRE ADDITIONAL EXCAVATION (IN EXCESS OF THAT REQUIRED TO ESTABLISH CITY MINIMUM FOUR (4) FEET OF COVER) THROUGHOUT THE PROJECT CORRIDOR. CONFORM TO REPLACEMENT SANITARY SEWER DETAIL ON SHEET C504 FOR CROSSINGS BETWEEN PROPOSED WATER MAIN AND EXISTING SANITARY SEWER LATERALS.

**LEGEND**

- ① CITY OF LYNCHBURG WATER SERVICE LINE FROM PROPOSED WATER MAIN TO EXISTING METER.
- ② CITY OF LYNCHBURG END OF LINE FOR FUTURE CONNECTION.
- ③ SEE FUTURE CONNECTION STUB DETAIL. SHEET C503.

**NOTES:**

1. PROVIDE SANITARY SEWER PIPE PER WATER AND SEWER CROSSING DETAIL. REPLACE EXISTING SANITARY SEWER PIPE IN-KIND (MATCH SIZE, INVERTS AND SLOPE) WITH PROPOSED SANITARY SEWER PIPE TO LIMITS INDICATED. PROVIDE BY-PASS PUMPING AS REQUIRED TO INSTALL PROPOSED PIPE. CONNECT TO EXISTING SANITARY SEWER TO REMAIN WITH WATER TIGHT FERROCEMENT FITTING WITH STAINLESS STEEL HARDWARE.
2. CONTRACTOR SHALL FIELD LOCATE EXISTING WATER SERVICE MAINS ON 2ND AND 3RD STREETS AND CONNECT TO EXISTING MAINS. SEE NOTE 4 FOR WEST SIDE OF 2ND STREET. FOR CONNECTIONS TO EXISTING WATER SERVICE MAINS 4-INCH DIAMETER IN SIZE AND LARGER SEE FUTURE CONNECTION STUB DETAIL. FOR CONNECTIONS TO WATER SERVICE MAINS 2-INCH DIAMETER IN SIZE OR LESS, TAP LINE WITH CORPORATION STOP MATCHING DIAMETER OF EXISTING WATER SERVICE MAIN. PROVIDE APPROPRIATE CONNECTION LINE, FITTINGS, AND HARDWARE AS REQUIRED TO CONNECT EXISTING WATER SERVICE MAIN TO PROPOSED LINE. ALL CONNECTION LINES, FITTINGS, AND HARDWARE SHALL BE RATED FOR TEST PRESSURE.
3. PROVIDE TRAFFIC RATED MANHOLE STRUCTURE TOP AND COVER FOR AIR AND VACUUM RELEASE VALVE MANHOLE.
4. RESTRAIN ALL PIPE AND FITTINGS FOR CONNECTION OF PROPOSED 16-INCH WATER MAIN TO EXISTING 8-INCH STUB OF EXISTING 8-INCH WATER MAIN ON 2ND STREET. PROVIDE NECESSARY FITTINGS, ETC. TO MAKE CONNECTION TO EXISTING 8-INCH STUB FROM EXISTING 8-INCH MAIN ON 2ND STREET. UPON TRANSFER OF SERVICE, CLOSE EXISTING CONNECTION VALVE TO EXISTING WATER MAIN ON FEDERAL STREET AND REMOVE VALVE BOX.
5. SEE SANITARY SEWER PIPE REPLACEMENT WITH PROTRUDING LATERAL REPAIR DETAIL-SHEET C504.
6. TO BE REPLACED PER PLAN.



APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

115 FRANKLIN ROAD  
ROANOKE, VIRGINIA 24016  
(540) 857-3100  
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**AECOM**

COMMONWEALTH OF VIRGINIA  
CRAIG S. RIDDLE  
Lic. No. 41200  
PROFESSIONAL ENGINEER

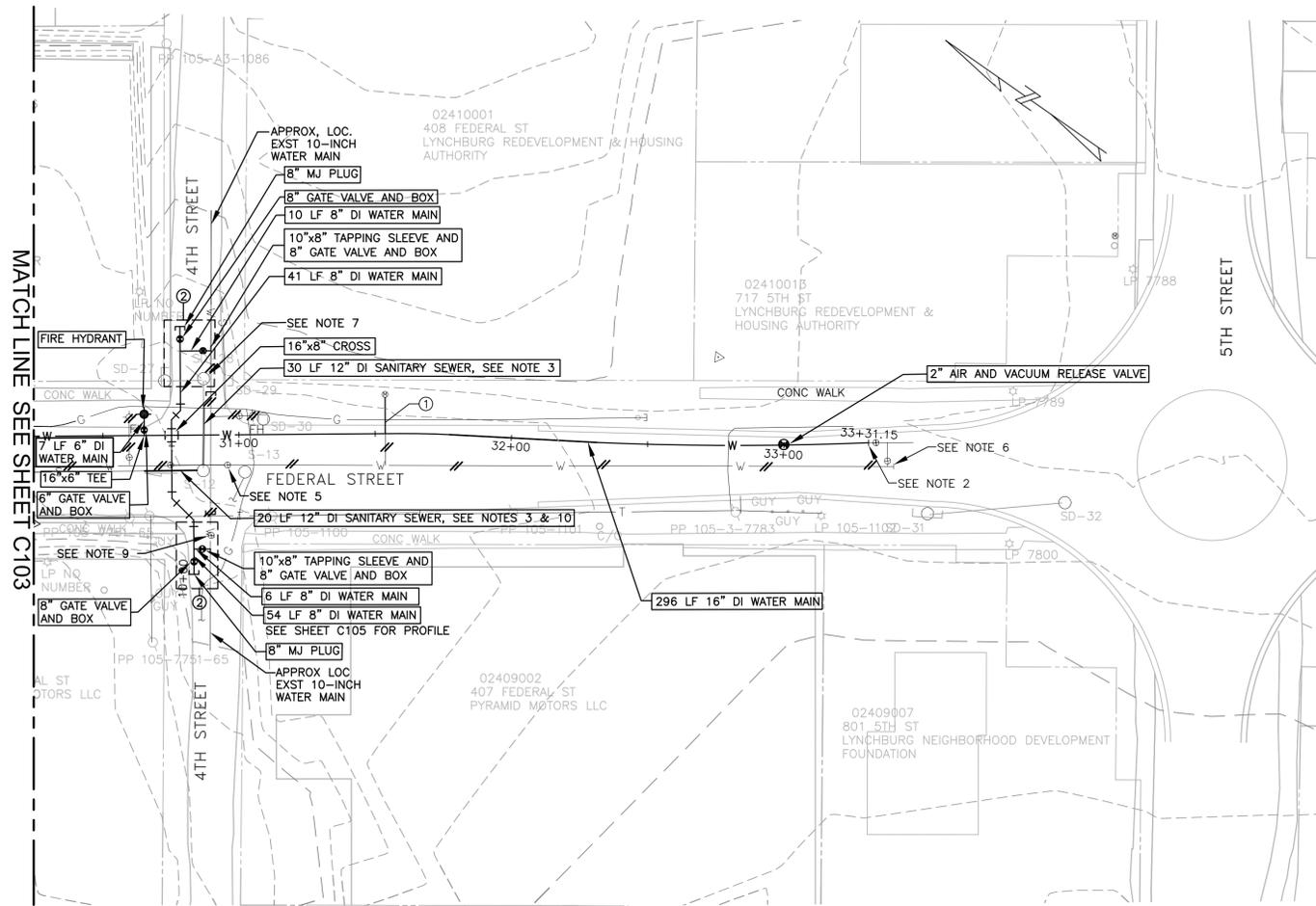
FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS  
**WATER MAIN PLAN AND PROFILE**  
FEDERAL STREET  
CITY OF LYNCHBURG, VIRGINIA

CITY PROJECT: #10039-WIS  
PROJECT NO: 60161639  
CAD DWG FILE: C\_N\_0103  
DESIGNED BY: CSR/MEW  
DRAWN BY: MEW/DWG  
DEPT CHECK: DMH/TSK  
PROJ CHECK: DMH/TSK  
DATE: OCTOBER 24, 2014  
SCALE: AS SHOWN

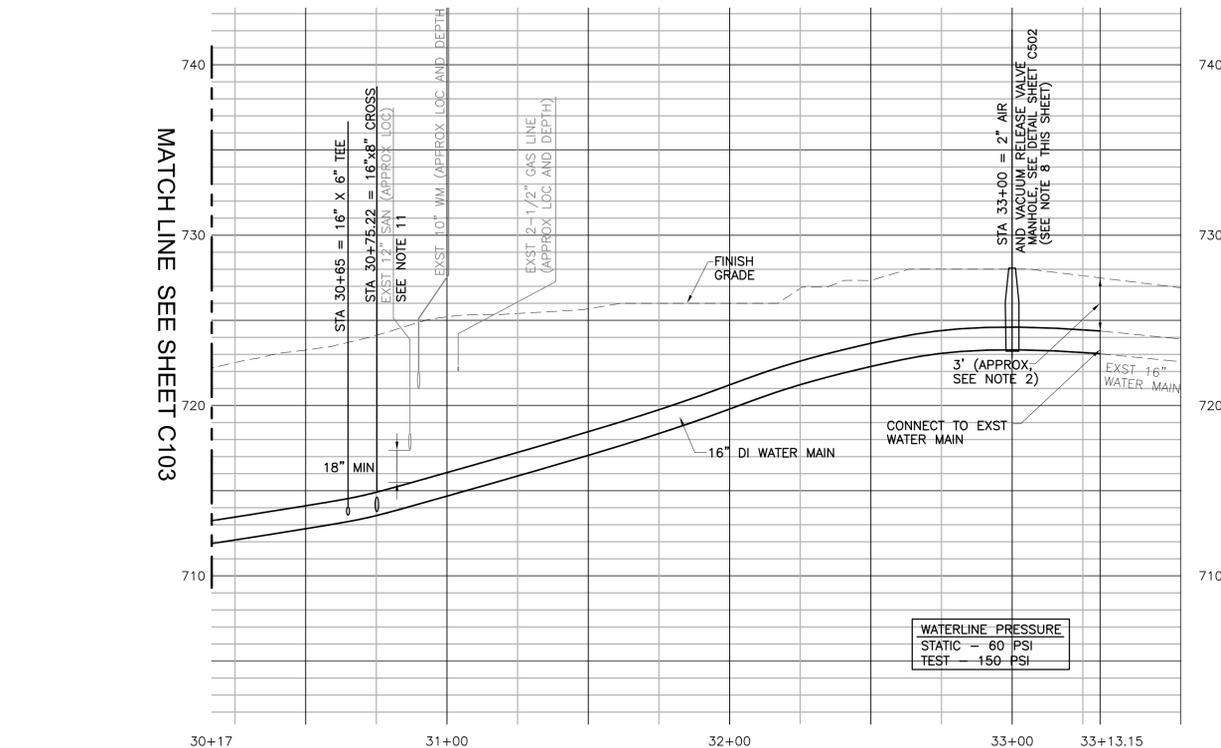
**C103**

SHEET 6 OF 13

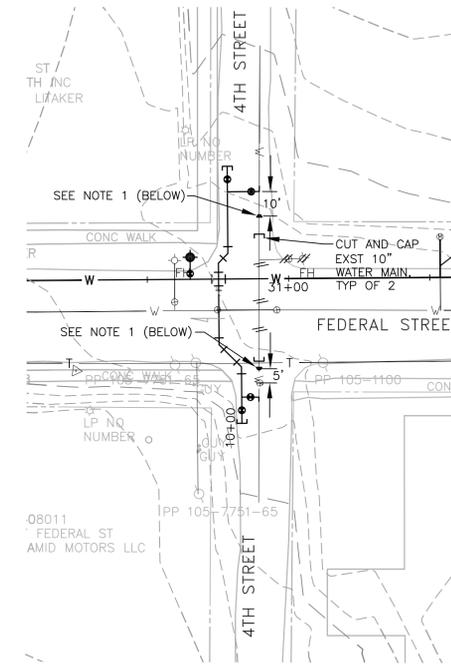
PROJECT: WATER MAINS REPLACEMENT AND INFRASTRUCTURE IMPROVEMENTS  
LAST UPDATE: Wednesday, October 22, 2014 8:17:59 PM  
ARCH D - 22-Oct-14



**PLAN**  
SCALE: 1" = 30'



**PROFILE**  
SCALE: 1" = 30' HORIZ  
1" = 5' VERT



**10-INCH WATER MAIN  
ABANDONMENT DETAIL 4TH STREET**  
SCALE: 1" = 30'

**NOTES:**

- PROVIDE CITY THRUST COLLAR AND BLOCKING (26.04) WITH EBBA IRON SERIES 1100SB WEDGE ACTION THRUST RING (OR APPROVED EQUAL).
- PHASE ABANDONMENT OF 10-INCH WATER MAIN WITHIN FEDERAL STREET TO ENSURE CONTINUITY OF SERVICE. INSTALL THRUST COLLAR AND BLOCKING PRIOR TO ABANDONMENT. FOR PORTIONS OF 10-INCH WATER MAIN TO BE ABANDONED (BETWEEN INDICATED THRUST COLLARS) THAT MUST BE REMOVED TO FACILITATE CONSTRUCTION, CONFORM TO GENERAL NOTE 22- SHEET G002.

**PROFILE NOTE:**

PROPOSED WATER MAIN DEPTH INDICATED IS APPROXIMATE BASED ON NEED TO PROVIDE VIRGINIA DEPARTMENT OF HEALTH (VDH) REQUIRED VERTICAL SEPARATION BETWEEN PROPOSED WATER MAIN AND SANITARY SEWER LATERALS CONNECTED TO SANITARY SEWER MAIN IN CORRIDOR, AND TO PROVIDE SEPARATIONS WITH OTHER UTILITIES AS NOTED ON PROFILES. LATERAL LOCATIONS AND DEPTHS WERE NOT IDENTIFIED AS PART OF SURVEY. CONTRACTOR SHALL IDENTIFY PLAN LOCATIONS AND DEPTHS OF LATERALS AS FIRST PART OF CONSTRUCTION. COST TO LOCATE LATERALS IN PLAN AND VERTICALLY SHALL BE INCIDENTAL TO THE JOB (NO ADDITIONAL COMPENSATION WILL BE PROVIDED). CONTRACTOR SHALL INSTALL PROPOSED 16-INCH WATER MAIN TO MEET MINIMUM FOUR (4) FOOT CITY OF LYNCHBURG (CITY) REQUIRED COVER, AND TO PROVIDE VDH REQUIRED VERTICAL SEPARATION FROM SANITARY SEWER LATERALS. THIS WILL REQUIRE ADDITIONAL EXCAVATION (IN EXCESS OF THAT REQUIRED TO ESTABLISH CITY MINIMUM FOUR (4) FEET OF COVER) THROUGHOUT THE PROJECT CORRIDOR. CONFORM TO REPLACEMENT SANITARY SEWER DETAIL ON SHEET C504 FOR CROSSINGS BETWEEN PROPOSED WATER MAIN AND EXISTING SANITARY SEWER LATERALS.

**LEGEND**

- CITY OF LYNCHBURG WATER SERVICE LINE FROM PROPOSED WATER MAIN TO EXISTING METER.
- SEE DETAIL: PROPOSED WATER MAIN CONNECTION TO EXISTING WATER MAIN 4TH STREET, SEE DETAIL SHEET C503.

**NOTES:**

- CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING 10-INCH WATER MAIN ON 4TH STREET AND CONNECT AS INDICATED.
- CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF EXISTING 16-INCH WATER MAIN STUB THAT PROPOSED MAIN WILL CONNECT TO. PROVIDE APPROPRIATE RESTRAINED CONNECTION FITTING TO CONNECT TO EXISTING STUB. ALIGN PROPOSED WATER LINE STRAIGHT WITH EXISTING STUB TO PREVENT ANY THRUSTING FORCES. CONNECTION FITTING SHALL BE RATED FOR TEST PRESSURE.
- PROVIDE SANITARY SEWER PIPE PER WATER AND SEWER CROSSING DETAIL. REPLACE EXISTING SANITARY SEWER PIPE IN-KIND (MATCH SIZE, INVERTS AND SLOPE) WITH PROPOSED SANITARY SEWER PIPE TO LIMITS INDICATED. PROVIDE BY-PASS PUMPING AS REQUIRED TO INSTALL PROPOSED PIPE. CONNECT TO EXISTING MANHOLES PER DETAIL.
- WATER METER BOX LOCATION FOR 407 FEDERAL STREET WAS NOT IDENTIFIED BY FIELD SURVEY. CONTRACTOR SHALL LOCATE AND PROVIDE NEW SERVICE LINE TO BOX FROM PROPOSED 16-INCH WATER MAIN.
- TERMINAL VALVE OF WATER MAIN ABANDONMENT. CONTRACTOR SHALL COORDINATE WITH CITY TO CLOSE VALVE. CONTRACTOR SHALL ABANDON PER GENERAL NOTE 22.
- CONTRACTOR SHALL COORDINATE WITH CITY TO CLOSE VALVE DURING ABANDONMENT OF EXISTING MAIN ALONG FEDERAL STREET.
- REHABILITATE EXISTING MANHOLE WITH WATERPROOF SEALER.
  - REMOVE EXISTING MANHOLE STEPS PRIOR TO APPLICATION OF WATERPROOFING.
  - PROVIDE ONE 1-INCH THICK COAT OF QUADEX QM-1S RESTORE OR APPROVED EQUAL TO ALL EXISTING MANHOLES INDICATED TO BE REHABILITATED BY WATERPROOFING. FOLLOW MANUFACTURER'S RECOMMENDATION ON PREPARATION AND APPLICATION OF QM-1S RESTORE. PIPE TO MANHOLE CONNECTIONS SHALL BE REHABILITATED WITH WATER STOPPING CEMENT, WET-PLUG OR APPROVED EQUAL PRIOR TO MANHOLE REHABILITATION, OR WHEN MAKING NEW CONNECTIONS TO EXISTING BRICK OR BLOCK MANHOLES.
- PROVIDE TRAFFIC RATED MANHOLE STRUCTURE TOP AND COVER FOR AIR AND VACUUM RELEASE VALVE MANHOLE.
- CONTRACTOR SHALL COORDINATE WITH CITY TO CLOSE INDICATED VALVE AND OTHER VALVES AS REQUIRED (AS IDENTIFIED BY CITY) TO ISOLATE PORTION OF 10-INCH WATER MAIN TO BE ABANDONED AS INDICATED. CONTRACTOR SHALL ABANDON EXISTING VALVES PER CITY DIRECTION AND AS IDENTIFIED BY THE CITY PER GENERAL NOTE 22- SHEET G002. THERE IS A POSSIBILITY THAT VALVE OR VALVES REQUIRED FOR ISOLATION WILL BE INOPERABLE. IF THIS IS THE CASE, THEN PROVIDE A 10-INCH INSERTABLE GATE VALVE FOR ISOLATION. CONTRACTOR SHALL PROVIDE A SEPARATE LINE ITEM FOR 10-INCH INSERTABLE GATE VALVE TO COVER THIS CONTINGENCY. INSERTABLE GATE VALVE SHALL BE EZ VALVE AS SUPPLIED BY HD SUPPLY- WATERWORKS (2820 MARY LINDA AVENUE ROANOKE, VA 540-342-8000/ 800-552-6161) OR APPROVED EQUAL.
- SEE SANITARY SEWER PIPE REPLACEMENT WITH PROTRUDING LATERAL REPAIR DETAIL-SHEET C504.
- TO BE REPLACED PER PLAN.



**GRAPHIC SCALES**

APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

REVISIONS	DESCRIPTION	DATE	MADE BY	CHECKED

1315 FRANKLIN ROAD  
ROANOKE, VIRGINIA 24016  
(540) 857-3100  
www.aecom.com

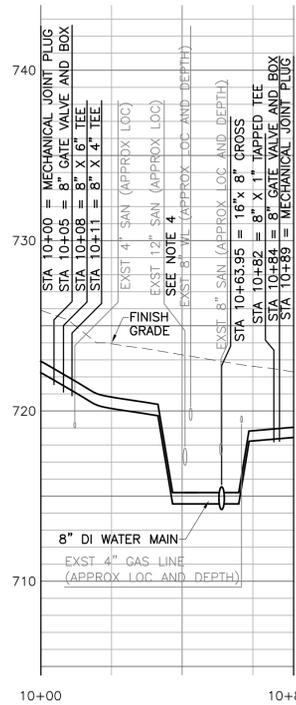
**AECOM**

COMMONWEALTH OF VIRGINIA  
CRAIG S RIDDLE  
Lic. No. 41200  
PROFESSIONAL ENGINEER

FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS  
**WATER MAIN PLAN AND PROFILE**  
FEDERAL STREET  
CITY OF LYNCHBURG, VIRGINIA

CITY PROJECT: #10039-W5  
PROJECT NO: 60161639  
CAD DWG FILE: C\_N\_0104  
DESIGNED BY: CSR/MEW  
DRAWN BY: MEW/DWG  
DEPT CHECK: DMH/TSK  
PROJ CHECK: DMH/TSK  
DATE: OCTOBER 24, 2014  
SCALE: AS SHOWN

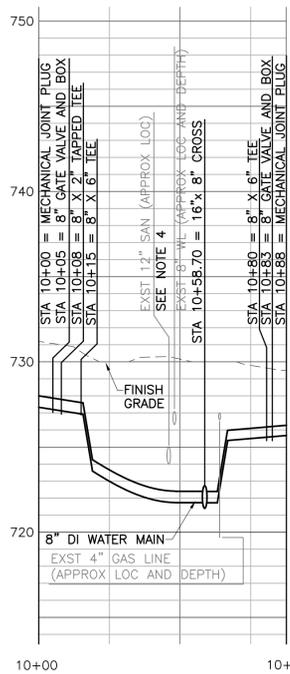
**C104**  
SHEET 7 OF 13



PROFILE- GARLAND STREET

SCALE: 1" = 30' HORIZ  
1" = 5' VERT

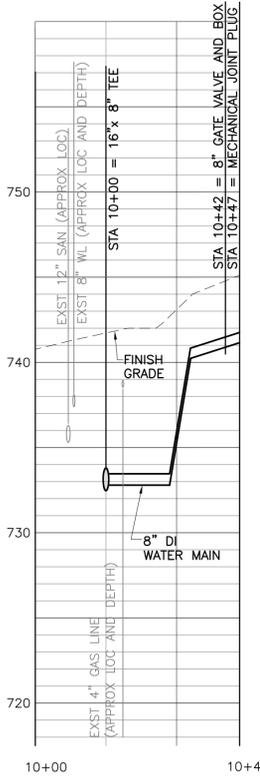
SEE SHEET C102 FOR PLAN VIEW



PROFILE- 1ST STREET

SCALE: 1" = 30' HORIZ  
1" = 5' VERT

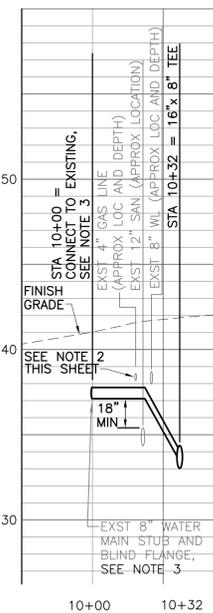
SEE SHEET C102 FOR PLAN VIEW



PROFILE- 2ND STREET-EAST

SCALE: 1" = 30' HORIZ  
1" = 5' VERT

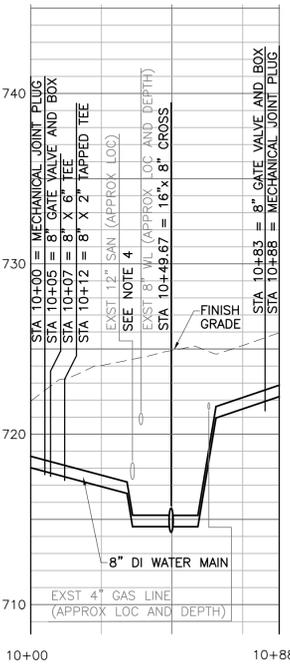
SEE SHEET C103 FOR PLAN VIEW



PROFILE- 2ND STREET-WEST

SCALE: 1" = 30' HORIZ  
1" = 5' VERT

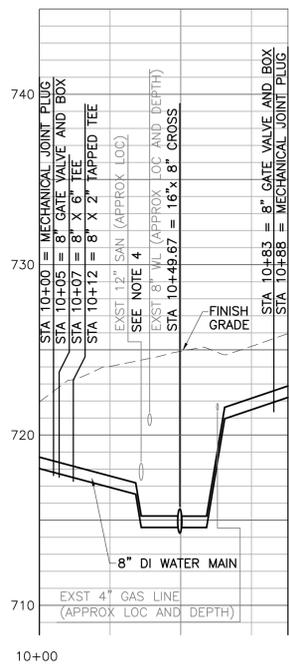
SEE SHEET C103 FOR PLAN VIEW



PROFILE- 3RD STREET

SCALE: 1" = 30' HORIZ  
1" = 5' VERT

SEE SHEET C103 FOR PLAN VIEW



PROFILE- 4TH STREET

SCALE: 1" = 30' HORIZ  
1" = 5' VERT

SEE SHEET C104 FOR PLAN VIEW

EXIST. SANITARY MANHOLE INFORMATION

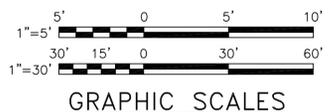
S-1 S MH TOP 693.83 12" INV 681.64 8" INV 681.43 12" INV 681.36 GIS ID 5662.04.055	S-6 S MH TOP 723.36 8" INV 717.15 12" INV 716.72 12" INV 716.64 12" INV 716.61 12" INV 716.59 GIS ID 5662.04.058	S-10 S MH TOP 720.97 10" INV (SD) 715.75 12" INV 713.98 10" INV (SD) 713.94 10" INV (SD) 713.56 12" INV 713.28 GIS ID 5661.02.093	S-14 S MH TOP 694.77 10" INV (SD) 690.97 10" INV (SD) 690.90 10" INV (SD) 690.88 10" INV 685.94 10" INV 685.83 GIS ID 5662.04.063	S-19 S MH TOP 723.12 8" INV 716.75 8" INV 716.74 NO GIS ID	S-2 S MH TOP 694.53 10" INV (SD) 690.27 12" INV 687.39 12" INV 687.15 GIS ID 5662.04.054	S-7 S MH TOP 729.45 4" INV 723.72 12" INV 723.57 12" INV 723.55 12" INV 723.52 GIS ID 5662.04.090	S-11 S MH TOP 721.05 10" INV 713.53 12" INV 712.66 12" INV 712.50 12" INV 712.46 NO GIS ID	S-15 S MH TOP 719.18 ABANDONED STRUCTURE NO GIS ID	S-20 S MH TOP 721.79 8" INV 715.15 8" INV 715.13 NO GIS ID	S-3 S MH TOP 705.91 6" INV (SD) 700.63 12" INV 700.52 12" INV 700.48 GIS ID 5662.04.053	S-8 S MH TOP 741.69 12" INV 735.64 12" INV 735.62 12" INV 735.62 12" INV 735.60 GIS ID 5662.04.089	S-12 S MH TOP 724.11 12" INV 717.21 12" INV (SD) 717.17 12" INV 716.97 GIS ID 5661.02.094	S-16 S MH TOP 719.87 12" INV 712.49 12" INV 712.04 GIS ID 5662.04.060	S-21 S MH TOP 723.12 12" INV 711.55 12" INV 710.88 NO GIS ID	S-4 S MH TOP 712.23 12" INV 705.25 12" INV 705.05 12" INV 705.02 GIS ID 5662.04.052	S-9 S MH TOP 723.65 12" INV 718.77 12" INV 716.81 12" INV 716.62 GIS ID 5661.02.092	S-13 S MH TOP 724.63 8" INV 716.49 8" INV 716.49 GIS ID 5662.04.050	S-17 S MH TOP 724.15 10" INV 719.31 4" INV 718.89 12" INV 718.75 12" INV 718.30 GIS ID 5662.04.047	S-18 S MH TOP 749.91 8" INV (SD) 746.48 10" INV 745.72 10" INV 745.55 GIS ID 5662.04.078
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EXIST. STORM DRAIN MANHOLE INFORMATION

SD-1 SD CI TOP 693.51 NO INVERT	SD-10 SD CI TOP 723.10 10" INV 720.63 10" INV 718.72	SD-18 SD CI TOP 724.11 NO INVERT	SD-26 SD MH TOP 722.78 8" INV 719.31 24" INV 717.57	SD-2 SD CI TOP 695.42 NO INVERT	SD-11 SD CI TOP 723.03 4" INV 721.66 10" INV BURIED	SD-19 SD CI TOP 724.09 NO INVERT	SD-27 SD CI TOP 725.19 10" INV 717.99	SD-3 10" INV 692.25	SD-20 SD CI TOP 721.58 24" INV 716.17	SD-28 SD MH TOP 725.34 6" INV 721.90 8" INV 721.01 10" INV 719.47 12" INV 718.99	SD-4 SD CI TOP 707.64 6" INV 706.38 10" INV 703.18	SD-12 SD CI TOP 729.25 INV BOTTOM 724.15	SD-21 SD CI TOP 720.22 10" INV 716.08	SD-29 SD CI TOP 720.59 15" INV 716.86	SD-5 SD CI TOP 707.64 6" INV 706.38 10" INV 703.18	SD-13 SD CI TOP 729.60 NO INVERT	SD-22 SD CI TOP 720.59 15" INV 716.86	SD-6 4" INV 712.63	SD-14 SD CI TOP 729.82 10" INV 725.68	SD-30 SD CI TOP 724.27 NO INVERT	SD-7 SD CI TOP 712.31 NO INVERT	SD-15 SD CI TOP 742.39 6" INV 740.66	SD-23 SD MH TOP 722.90 48" INV 717.00 48" INV 716.89 15" INV 716.81	SD-31 SD CI TOP 725.94 18" INV 720.87	SD-8 SD CI TOP 718.85 NO INVERT	SD-16 SD CI TOP 742.35 NO INVERT	SD-24 SD CI TOP 722.88 24" INV 716.93	SD-32 SD MH TOP 726.38 NO INVERT	SD-9 SD CI TOP 724.13 NO INVERT	SD-17 SD CI TOP 723.91 NO INVERT	SD-25 SD MH TOP 722.58 48" INV 717.11 24" INV 716.97 48" INV 716.96
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WATERLINE PRESSURE  
STATIC - 60 PSI  
TEST - 150 PSI

- NOTES:
- ELEVATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS OF EXISTING WATER LINES THAT PROPOSED STUBS ARE CONNECTING TO. PROPOSED STUBS SHALL BE ALIGNED LEVEL WITH EXISTING WATER LINES FOR CONNECTION.
  - PERFORM TEST PITS AS AN INITIAL WORK ACTIVITY. IF TEST PIT CONFIRMS CONFLICT WITH EXISTING GAS MAIN, COORDINATE WITH GAS UTILITY PROVIDER TO HAVE EXISTING GAS MAIN RELOCATED.
  - MAKE CONNECTION AS INDICATED ON SHEET C103.
  - TO BE REPLACED PER PLAN.



APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

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COMMONWEALTH OF VIRGINIA  
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PROFESSIONAL ENGINEER

FEDERAL STREET  
INFRASTRUCTURE IMPROVEMENTS  
WATER MAIN PROFILES, CROSS STREETS  
AND EXISTING STORM DRAIN/SANITARY  
MANHOLE INFORMATION  
CITY OF LYNCHBURG, VIRGINIA

MARK	DATE	MADE BY	CHECKED	DESCRIPTION

CITY PROJECT: #10039-WIS  
PROJECT NO: 60161639  
CAD DWG FILE: C\_N\_0105  
DESIGNED BY: CSR/MEW  
DRAWN BY: MEW/DWG  
DEPT CHECK: DMH/TSK  
PROJ CHECK: DMH/TSK  
DATE: OCTOBER 24, 2014  
SCALE: AS SHOWN

**C105**  
SHEET 8 OF 13

PATH/FILENAME: \\A\PROJECTS\WATER\60161639\0001\CAD\DWG\C\_N\_0105.DWG  
LAST UPDATE: Friday, September 18, 2014 12:35:59 PM  
PLOT DATE: Wednesday, October 22, 2014 11:19:44 PM  
ARCH D - 19-SEP-14

UTILITY WATER DETAILS

**PATCH DESIGN FOR ASPHALT STREETS**

TYPE	STREET/INDUSTRIAL AND COLLECTION	RESIDENTIAL
①	AS PER CITY ENGINEER 2" SM-12.50	2" SM-12.5A
②	AS PER CITY ENGINEER 6" BM25	4" BM25
PATCH DEPTH	AS PER CITY ENGINEER 6" VDOT NO.21A	6" VDOT NO.21A

**NOTES:**  
 1. PAVEMENT SHALL BE AS SHOWN UNLESS OTHERWISE SPECIFIED.  
 2. STREET OVERLAY IS NOT INCLUDED IN MEASUREMENT AND PAYMENT FOR TRENCH PATCH-TYPE J.

THE CITY OF LYNCHBURG  
 TRENCH PATCH W/OVERLAY ASPHALT STREETS - TYPE J  
 SCALE: NOT TO SCALE  
 SHEET # 25.18 A  
 REVISION DATE: 12-14-2013  
 SHEET # 1 OF 1

**NOTES:**  
 1. BEDDING SHALL BE REQUIRED FOR WATER LINES 16" IN DIAMETER AND LARGER OR IF ROCK IS ENCOUNTERED.  
 2. EXTRA DEPTH EXCAVATION SHALL BE PAID FOR AS ANYTHING BEYOND 4" OF COVER TO TOP OF PIPE.  
 3. ANY EXCAVATION BEYOND TRENCH LIMITS SHOWN ON DETAIL SHALL BE AT THE CONTRACTOR'S EXPENSE.

THE CITY OF LYNCHBURG  
 WATER LINE TRENCH DETAIL  
 SCALE: NOT TO SCALE  
 SHEET # 26.01  
 REVISION DATE: 12-14-2013  
 SHEET # 1 OF 1

FOR ALL BENDS  
 FOR TEE AND PLUG FITTINGS  
 WIDEN TRENCH TO ACCOMMODATE ANCHOR IF REQUIRED

THE CITY OF LYNCHBURG  
 TYPE "F" HORIZONTAL ANCHOR BLOCKING  
 SCALE: NOT TO SCALE  
 SHEET # 26.02  
 REVISION DATE: 12-14-2013  
 SHEET # 1 OF 3

TYPE "F" HORIZONTAL ANCHOR BLOCK DATUM				
TYPE FITTING	PIPE SIZE INCHES	DIMENSIONS (F.L.)	VOL. CONC. CU. YARDS	
TEST PRESSURE = 150 P.S.I. & BELOW				
11 1/4"	8	1.5	2	0.18
22 1/2"	8	1.5	2	0.18
40"	8	2.0	2.5	0.36
80"	8	2.5	3.0	0.45
PLUG	8	2	2.5	0.30
TEST PRESSURE = 151 P.S.I. TO 200 P.S.I.				
11 1/4"	8	1.68	2.16	0.23
22 1/2"	8	2.16	2.72	0.31
40"	8	2.88	3.60	0.41
80"	8	3.60	4.50	0.51
PLUG	8	3.16	3.91	0.50
TEST PRESSURE = 151 P.S.I. TO 200 P.S.I.				
11 1/4"	12	2	2.5	0.33
22 1/2"	12	2.5	3.02	0.44
40"	12	3.0	3.75	0.53
80"	12	3.5	4.37	0.62
PLUG	12	4.2	4.75	0.69
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.				
11 1/4"	8	1.5	2	0.18
22 1/2"	8	1.5	2	0.18
40"	8	2.0	2.5	0.36
80"	8	2.5	3.0	0.45
PLUG	8	2	2.5	0.34
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.				
11 1/4"	8	1.68	2.16	0.23
22 1/2"	8	2.16	2.72	0.31
40"	8	2.88	3.60	0.41
80"	8	3.60	4.50	0.51
PLUG	8	3.16	3.91	0.50
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.				
11 1/4"	12	2	2.5	0.33
22 1/2"	12	2.5	3.02	0.44
40"	12	3.0	3.75	0.53
80"	12	3.5	4.37	0.62
PLUG	12	4.2	4.75	0.69

THE CITY OF LYNCHBURG  
 TYPE "F" HORIZONTAL ANCHOR BLOCKING  
 SCALE: NOT TO SCALE  
 SHEET # 26.02  
 REVISION DATE: 12-14-2013  
 SHEET # 2 OF 3

NOTE:  
 A. PROVIDE COLLECTOR DESIGN.

TYPE "F" HORIZONTAL ANCHOR BLOCK DATUM				
TYPE FITTING	PIPE SIZE INCHES	DIMENSIONS (F.L.)	VOL. CONC. CU. YARDS	
TEST PRESSURE = 150 P.S.I. & BELOW				
11 1/4"	8	1.5	2	0.18
22 1/2"	8	1.5	2	0.18
40"	8	2.0	2.5	0.36
80"	8	2.5	3.0	0.45
PLUG	8	2.0	2.5	0.30
TEST PRESSURE = 151 P.S.I. TO 200 P.S.I.				
11 1/4"	8	1.68	2.16	0.23
22 1/2"	8	2.16	2.72	0.31
40"	8	2.88	3.60	0.41
80"	8	3.60	4.50	0.51
PLUG	8	3.16	3.91	0.50
TEST PRESSURE = 151 P.S.I. TO 200 P.S.I.				
11 1/4"	12	2	2.5	0.33
22 1/2"	12	2.5	3.02	0.44
40"	12	3.0	3.75	0.53
80"	12	3.5	4.37	0.62
PLUG	12	4.2	4.75	0.69
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.				
11 1/4"	8	1.5	2	0.18
22 1/2"	8	1.5	2	0.18
40"	8	2.0	2.5	0.36
80"	8	2.5	3.0	0.45
PLUG	8	2.0	2.5	0.34
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.				
11 1/4"	8	1.68	2.16	0.23
22 1/2"	8	2.16	2.72	0.31
40"	8	2.88	3.60	0.41
80"	8	3.60	4.50	0.51
PLUG	8	3.16	3.91	0.50
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.				
11 1/4"	12	2	2.5	0.33
22 1/2"	12	2.5	3.02	0.44
40"	12	3.0	3.75	0.53
80"	12	3.5	4.37	0.62
PLUG	12	4.2	4.75	0.69

THE CITY OF LYNCHBURG  
 TYPE "F" HORIZONTAL ANCHOR BLOCKING  
 SCALE: NOT TO SCALE  
 SHEET # 26.02  
 REVISION DATE: 12-14-2013  
 SHEET # 3 OF 3

TIE ROD ANCHORS DATUM			
PIPE SIZE (INCHES)	ROD DIAMETER (INCHES)	NUMBER OF ANCHORS REQUIRED	
TEST PRESSURE = 150 P.S.I. & BELOW			
6	3/4	2	
8	3/4	2	
10	3/4	2	
12	3/4	4	
16	3/4	4	
20	3/4	8	
24	1	8	
30	1	10	
TEST PRESSURE = 151 P.S.I. TO 200 PSI			
6	3/4	2	
8	3/4	2	
10	3/4	4	
12	3/4	4	
16	3/4	8	
20	3/4	12	
24	1	14	
30	1	14	
TEST PRESSURE = 201 P.S.I. TO 250 P.S.I.			
6	3/4	4	
8	3/4	4	
10	3/4	4	
12	3/4	4	
16	3/4	8	
20	3/4	12	
24	1	14	
30	1	20	

TIE RODS SHALL BE A307 CADMIUM COATED TIE RODS.

THE CITY OF LYNCHBURG  
 TIE ROD ANCHORS DATUM CHART  
 SCALE: NOT TO SCALE  
 SHEET # 26.03  
 REVISION DATE: 12-14-2013  
 SHEET # 1 OF 1

**NOTES:**  
 1. CONCRETE SHALL BE 3000 P.S.I.  
 2. REINFORCING BARS SHALL BE DEFORMED, AND TIED TOGETHER.  
 3. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK(S) INSTALLATION SHALL BE THE MINIMUM WIDTH.  
 4. BACKFILL AND COMPACT IN 6" LAYERS.  
 5. PLACE THRUST COLLAR ON ONE FLANGE JOINT OF PIPE.  
 6. LAST JOINT OF PIPE WITH THRUST COLLAR TO BE MECHANICAL JOINT PIPE.  
 7. PLACE RESTRAINED JOINT THRUST RING 4" FROM PLUG END OF PIPE.

THE CITY OF LYNCHBURG  
 THRUST COLLAR & BLOCKING DETAIL  
 SCALE: NOT TO SCALE  
 SHEET # 26.04  
 REVISION DATE: 12-14-2013  
 SHEET # 1 OF 2

NOTE:  
 A. DIMENSION SHALL BE 24" MINIMUM FOR PIPE GREATER THAN 12" DIAMETER.

THE CITY OF LYNCHBURG  
 THRUST RING  
 SCALE: NOT TO SCALE  
 SHEET # 26.04  
 REVISION DATE: 12-14-2013  
 SHEET # 2 OF 2

APPROVED: CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED: UTILITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

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**AECOM**

COMMONWEALTH OF VIRGINIA  
 PROFESSIONAL ENGINEER  
 CRAIG S. RIDDLE  
 Lic. No. 41200

FEDERAL STREET  
 INFRASTRUCTURE IMPROVEMENTS  
 WATER DETAILS  
 CITY OF LYNCHBURG, VIRGINIA

CITY PROJECT: #10039-W5  
 PROJECT NO: 60161639  
 CAD DWG FILE: C:\N\_0501  
 DESIGNED BY: CSR/MEW  
 DRAWN BY: MEW/DWG  
 DEPT CHECK: DMH/TSK  
 PROJ CHECK: DMH/TSK  
 DATE: OCTOBER 24, 2014  
 SCALE: N/A

C501  
 SHEET 9 OF 13

PATH:\FILENAME: MA PROJECTS\WATER\60161639\0001\CADD\DWG\C. N. 0501.DWG  
 LAST UPDATE: Friday, September 18, 2014 12:39:13 PM  
 ARCH D - 19-SEP-14