

Catfish Rd  
Elyria Rd  
Sewer  
2013

VDOT Rt 779 (Catfish Road) Bridge Replacement in Botetourt  
Approval Plan

APPROVED

COMMONWEALTH OF VIRGINIA

BRADLEY C. CRAIG

Lic. No. 023879

PROFESSIONAL ENGINEER

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2012.08.06 14:32:02 -04'00'  
MATTERN & CRAIG, INC  
Roanoke, Virginia  
(UTILITY ENGINEER)

REVISED	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
	VA.		779	0779-011-247, C-501	8(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SHEET NO.	SANITARY SEWER SUMMARY								
	SANITARY SEWER MANHOLE	20" DI SANITARY SEWER PIPE	21" SANITARY SEWER PIPE	MANHOLE FRAME & COVER WF&C-1	4" SANITARY SEWER FORCE MAIN	4" SANITARY DROP CONNECTION	RECONSTRUCT EXISTING SANITARY MANHOLE	2" AIR RELEASE VALVE & BOX FORCE MAIN	36" JACKED STEEL ENCASE. PIPE
	5	1	2	5	3	5	5	4	7
	LF	LF	LF	EA	LF	LF	LF	EA	LF
8(3)	32.2	209	132	4	303	6.3			140
8(4)					1075			1	
8(5)							4		
TOTAL	33	209	132	4	1378	7	4	1	140

GENERAL NOTES

1. LOCATION, DEPTHS AND SIZES OF EXISTING UTILITIES SHOWN ON THE UTILITY ADJUSTMENT PLANS ARE NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY WITH TEST HOLES THE LOCATION, ELEVATION, TYPE, ROUNDNESS AND SIZE OF ALL EXISTING UNDERGROUND UTILITIES AND POINTS OF CONNECTION PRIOR TO EXCAVATION, ORDERING OF MATERIALS AND INSTALLATION FOR THIS PROJECT.

THE CONTRACTOR SHALL NOTE THAT THE UTILITY PLAN SHEETS ARE FOR WATER AND SEWER RELOCATION/ADJUSTMENT/BETTERMENT WORK ONLY. THE CONTRACTOR SHALL REFER TO THE ROADWAY PLANS FOR ROADWAY AND DRAINAGE DESIGN.
2. THE CONTRACTOR SHALL COORDINATE THE CHANGEOVER OF SANITARY SEWER FACILITIES WITH THE BOTETOURT COUNTY PUBLIC WORKS DEPARTMENT AT LEAST 48 HRS. PRIOR TO PUMP OPERATIONS OR CHANGEOVER. THE CONTRACTOR SHALL NOTIFY: KEVIN SHEARER ,PUBLIC WORKS DEPARTMENT , BOTETOURT COUNTY, PHONE: (540) 473-8316.
3. THE CONTRACTOR SHALL NOT PERFORM ANY GRADING OPERATIONS OVER EXISTING SEWER FACILITIES WITHIN THE PROJECT WHICH WOULD IN ANY WAY JEOPARDIZE SERVICES UNTIL THE PROPOSED SEWER FACILITIES ARE INSTALLED AND PLACED INTO OPERATION AND EXISTING SEWER FACILITIES ARE ABANDONED. ANY DEVIATION MUST BE APPROVED BY THE ENGINEER.
4. THE CONTRACTOR SHALL NOT INSTALL SEWER FORCE MAIN JOINTS BENEATH PROPOSED OR EXISTING UTILITIES OR PROPOSED VDOT STORM DRAINAGE WHEN CROSSING UNDER THESE STRUCTURES. A MINIMUM OF 2 FEET BEYOND THE OUTSIDE OF THE FOREIGN PIPE OR UTILITY SHALL BE REQUIRED WHEN PLACING JOINTS, UNLESS OTHERWISE SHOWN ON THE PLANS.
5. SANITARY FORCE MAIN PIPE SHALL BE LAID WITH BELL ENDS FACING THE DIRECTION OF LAYING. WHERE GRADE IS 10 PERCENT OR GREATER, PIPE SHALL BE LAID UPHILL WITH BELL ENDS UPGRADE.
6. ALL EXISTING AIR RELEASES, SANITARY SEWER MANHOLES AND CLEANOUTS SHALL BE RELOCATED AND/OR ADJUSTED TO FINISH GRADE AS REQUIRED, REGARDLESS IF THEY ARE SHOWN ON THE PLANS.
7. THE CONTRACTOR, WITH HIS ASSOCIATED MATERIALS SUPPLIERS, SHALL PROVIDE CERTIFICATION ACCEPTABLE TO THE ENGINEER, THAT ALL MATERIALS SUPPLIED ON THE PROJECT MEET OR EXCEED THE SPECIFICATIONS.
8. ALL RESTRAINT SYSTEMS INSTALLED UNDER THIS CONTRACT SHALL BE PLACED BEFORE BACKFILLING OF THE TRENCH AND INSPECTED BY THE ENGINEER. TEMPORARY BUTTRESSING FOR TESTING SHALL BE PROVIDED BY THE CONTRACTOR. A MECHANICAL JOINT RESTRAINT SYSTEM SHALL BE USED IN LIEU OF REACTION BLOCKING. THE JOINT RESTRAINTS SHALL BE A STANDARD PRODUCT OF A MANUFACTURER. THE JOINT RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET 8(6).
9. PRESSURE AND LEAKAGE TESTING (SANITARY SEWER GRAVITY & FORCE MAINS AND ACCESSORIES) SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE LATEST EDITION OF VDOT "ROAD AND BRIDGE SPECIFICATIONS". WHERE THE PLANS CONFLICT WITH THE "ROAD AND BRIDGE SPECIFICATIONS" THE MORE STRINGENT OF THE TWO SHALL BE USED.
10. SEWERS WILL BE INSPECTED TO DETERMINE IF ANY DEVIATION FROM LINE AND GRADE HAS OCCURRED. PIPE ALIGNMENT WILL BE CHECKED BY THE MANDREL TEST. IF PIPE SHOWS POOR ALIGNMENT, DISPLACED PIPE, OR ANY DEFECT, INCLUDING A VISIBLE LEAK, DEFECT SHALL BE CORRECTED BEFORE LEAK TESTING OF THE PIPE. ALL SEWER LINES ARE SUBJECT TO INTERNAL INSPECTION AND TESTING BY CLOSED CIRCUIT TV BY THE ENGINEERING/UTILITY DEPARTMENT BASED UPON INSPECTION RESULTS AT THE CONTRACTOR'S EXPENSE. AIR TESTING SHALL BE USED; TEST METHODS AND ACCEPTABILITY CRITERIA SHALL BE IN ACCORDANCE WITH ASTM F1417 AND THE UNI-BELL LOW-PRESSURE AIR TEST. AIR TESTING OF GRAVITY LINES SHALL BE REQUIRED FOR ALL TYPES OF PIPE AND MATERIALS.
11. MANHOLE ACCEPTANCE TEST SHALL BE IN ACCORDANCE WITH ASTM C1244. CONTRACTOR SHALL SCHEDULE ALL ACCEPTANCE TESTS WITH THE PROJECT ENGINEER AND COUNTY INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE. EACH SECTION OF COMPLETED SEWER SHALL BE TESTED FROM MANHOLE TO MANHOLE. NO SEWERS OR SEWER SERVICE CONNECTIONS ARE TO BE EXCLUDED FROM THIS TESTING PROCEDURE.
12. SANITARY SEWER FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH AWWA C600.
13. THE CONTRACTOR SHALL COMPLY WITH "MISS UTILITY" REQUIREMENTS PRIOR TO PERFORMING ANY EXCAVATION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEWAGE OVERFLOWS OR SPILLAGE DURING SANITARY SEWER SYSTEM SHUTDOWN OR CONNECTIONS. ONCE GRAVITY SANITARY SEWER FACILITIES HAVE BEEN SHUTDOWN OR PUMP STATIONS PUMPED DOWN, THE CONTRACTOR SHALL PROVIDE STANDBY SEWAGE PUMPING AND HAULING OR BY-PASS PUMPING TECHNIQUES FOR THE DISPOSAL OF ALL OVERFLOWS WHICH MAY OCCUR IN THE SHUTDOWN OF THE SANITARY SEWER SYSTEM FACILITIES. THE APPROPRIATE TECHNIQUE SHALL HAVE THE CAPACITY TO HANDLE PEAK FLOWS FROM THE SEWER FACILITIES. A BACKUP PUMP SHALL BE KEPT ON SITE AND AVAILABLE FOR USE IF THE PRIMARY PUMP FAILS. THE METHOD FOR MAINTAINING SEWAGE CONVEYANCE SHALL BE APPROVED BY BOTETOURT COUNTY AND THE ENGINEER PRIOR TO SYSTEM SHUTDOWN. STAND BY SEWAGE PUMPING AND HAULING OR BY-PASS PUMPING SHALL BE CONSIDERED INCIDENTAL TO INSTALLATION OF SANITARY SEWER FACILITIES. ALL BY-PASS PUMPING HOSE AND PIPING ALONG AMSTERDAM CREEK SHALL BE KEPT ABOVE THE ORDINARY HIGH WATER (OHW) ELEVATION OF 1250.40. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING DETAILING BY-PASS PUMPING.
15. CONTRACTOR SHALL FURNISH EIGHT (8) COPIES OF ALL SHOP DRAWINGS TO THE ENGINEER PRIOR TO CONSTRUCTION AND/OR INSTALLATION OF BOTETOURT COUNTY FACILITIES AND RELATED ITEMS. ANY ITEMS INSTALLED PRIOR TO APPROVAL OF SHOP DRAWINGS ARE DONE AT THE CONTRACTOR'S RISK AND MAY BE SUBJECT TO REMOVAL AND CORRECT INSTALLATION AT THE CONTRACTOR'S EXPENSE.
16. THE NUMBER AND TYPE OF FITTINGS REQUIRED FOR THE COMPLETION OF SANITARY SEWER FORCE MAIN RELOCATION/ADJUSTMENT WORK ARE NOT GUARANTEED AND, THEREFORE, SHALL BE DETERMINED BY ACTUAL CONDITIONS ENCOUNTERED IN THE FIELD DURING CONSTRUCTION. FITTINGS 12" IN SIZE AND LESS SHALL NOT BE MEASURED FOR SEPARATE PAYMENT. THE COST THEREOF SHALL BE INCLUDED IN THE BID PRICE FOR THE ITEM TO WHICH IT PERTAINS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF NEW GUARDRAILS WITH EXISTING AND PROPOSED CROSSINGS OF UNDERGROUND UTILITIES WITH THE LIMITS OF THE ROADWAY PROJECT.
18. CONTRACTOR SHALL MAINTAIN THREE (3) CLEAN RED-LINED SETS OF UTILITY PLANS TO SERVE AS A SET OF RECORD DRAWINGS FOR THE PROJECT. THE DRAWINGS SHOULD CLEARLY DEPICT CONSTRUCTION CHANGES THAT DIFFER FROM THE UTILITY PLANS, INCLUDING BOTH THE PLAN AND PROFILE VIEWS IN THE PLANS. TWO SETS OF THE RECORD DRAWINGS SHALL BE DELIVERED TO THE BOTETOURT COUNTY PUBLIC WORKS DEPARTMENT UPON COMPLETION OF THE UTILITY PORTION OF THE PROJECT, AND ONE (1) SET SHALL BE DELIVERED TO VDOT
19. THE COST FOR ALL TEMPORARY CONNECTIONS TO THE EXISTING MAIN(S) SHALL BE INCLUDED IN THE UNIT COST FOR THE SANITARY FORCE MAIN. NO SEPARATE PAYMENT SHALL BE MADE FOR THESE ITEMS (INCLUDING LABOR, EQUIPMENT AND MATERIALS FOR TEMPORARY FORCE MAIN, FITTINGS, AND OTHER APPURTENANCES NECESSARY TO MAKE THE TEMPORARY CONNECTION).
20. CONTINUOUS SEWER SERVICE SHALL BE MAINTAINED BY THE CONTRACTOR FOR ALL BOTETOURT COUNTY CUSTOMERS THROUGHOUT CONSTRUCTION. BRIEF OUTAGES WILL BE ALLOWED FOR TRANSFER OF SERVICE FROM OLD TO NEW LINES FOLLOWING A MINIMUM 24 HOUR ADVANCE NOTICE TO THE CUSTOMER.
21. RIM ELEVATIONS OF SANITARY SEWER MANHOLES SHALL BE SET AT FINISHED GRADE, REGARDLESS OF WHETHER THE PROFILE ELEVATIONS MATCH THE FINISHED GRADE, UNLESS STATED OTHERWISE ON THE PLANS.
22. DURING CONSTRICTION STAKEOUT FOR NEW SEWER LINE, CONTRACTOR SHALL VERIFY DRIVEWAY CUTS AND FILLS FROM DRIVEWAY ENTRANCE PROFILES. CONTRACTOR SHALL CONTACT ENGINEER IF FINDINGS DO NOT MATCH SEWER PROFILES SO ADJUSTMENTS CAN BE MADE PRIOR TO CONSTRUCTION OF NEW SEWER LINES.

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