

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
5' OR 10' CONTOUR LINE		
1' OR 2' CONTOUR LINE		
RIGHT-OF-WAY		
SILT FENCE		
STORM SEWER		
SANITARY SEWER		
SEWER LATERAL		
SANITARY SEWER MANHOLE		
SEWER CLEANOUT		
WATER		
SEWER AND APPURTENANCE DEMOLITION		
WATER SERVICE LINE		
WATER METER		
UNDERGROUND GAS		
UNDERGROUND TELEPHONE		
UNDERGROUND FIBER OPTIC		
UNDERGROUND COMMUNICATIONS		
OVERHEAD ELECTRIC		
UTILITY POLE		
LIGHT POLE		
SIGN - SINGLE FACED		OR
SIGN - DOUBLE FACED		OR
GRAVEL		
PERMANENT UTILITY EASEMENT		
TEMPORARY CONSTRUCTION EASEMENT		
TREES, SHRUBS, BUSHES		
DETAIL CALLOUT		DETAIL IDENTIFICATION NO. SHEET NO. WHERE DETAIL IS SHOWN
DETAIL IDENTIFICATION NO.		<u>DETAIL TITLE</u>

NOTE: SOME FEATURES IN THE LEGEND MAY NOT HAVE BEEN USED

GENERAL NOTES

1. THE "OWNER" IS THE WESTERN VIRGINIA WATER AUTHORITY (AUTHORITY). THE TERMS "OWNER" AND "AUTHORITY" ARE USED INTERCHANGEABLY IN THE CONTRACT DOCUMENTS.
 2. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S ENGINEERING COORDINATOR, BRIAN WHITENACK, AT 540-400-4079 OR DAVID BARNHART, CONSTRUCTION MANAGER AT 540-283-2970 OR DAVID.BARNHART@WESTERNVAWATER.ORG AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION.
 3. A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED AT LEAST ONE (1) WEEK PRIOR TO ANY CONSTRUCTION.
 4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY AND FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY CODES, LAWS, REGULATIONS AND ORDINANCES INCLUDING, BUT NOT LIMITED TO, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
 5. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS PRIOR TO COMMENCING WORK AND SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
 6. SEWER LATERALS ARE SHOWN IN LOCATIONS BASED ON CCTV SURVEY, ALL LATERALS MAY NOT BE SHOWN. CONTRACTOR SHALL VERIFY ACTIVE LATERALS LOCATIONS WITH AUTHORITY ASSISTANCE. CONTRACTOR SHALL LOCATE EXISTING ACTIVE LATERAL AND REPLACE LATERAL AND CLEANOUT TO PROPERTY LINE OR EASEMENT LINE AS APPLICABLE, AND CONNECT TO EXISTING PRIVATE LATERAL. LATERALS SHALL BE INSTALLED WITH A MINIMUM COVER OF 3' AND A MINIMUM SLOPE OF 0.50%. LATERALS SHALL BE EQUAL TO OR GREATER THAN THE PIPE DIAMETER AT THE PROPERTY LINE OR EASEMENT.
 7. ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THEIR EXACT LOCATION. CONTRACTOR SHALL LOCATE ALL UTILITIES AND DETERMINE ALL INVERTS PRIOR TO CONSTRUCTION TO ALLOW FOR ADJUSTMENTS DUE TO CONFLICTS WITH OTHER UTILITIES. THE CONTRACTOR SHALL COMPLY WITH THE VIRGINIA STATE WATER WORKS REGULATIONS, SECTION 12VAC5-590-1150, AND THE VIRGINIA STATE SEWAGE COLLECTION AND TREATMENT (SCAT) REGULATIONS WHERE LINES CROSS.
 8. THE CONTRACTOR SHALL HAVE A VALID MISS UTILITY TICKET PRIOR TO EXCAVATION. CONTACT MISS UTILITY AT 1-800-552-7001.
 9. PRIOR TO CONSTRUCTION, ALL APPLICABLE PERMITS FROM THE GOVERNING JURISDICTIONS AND/OR AGENCIES MUST BE OBTAINED AND A COPY KEPT ON THE PROJECT SITE. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES OF SUCH, PRIOR TO COMMENCING WORK.
 10. CONTRACTOR SHALL OBTAIN REQUIRED PERMITS FROM ROANOKE COUNTY AND/OR VDOT.
 11. CONTRACTOR SHALL PROVIDE ANY SHORING REQUIRED TO PROTECT EXISTING FACILITIES DURING EXCAVATION FOR INSTALLATION OF PROPOSED STRUCTURES AND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING DESIGN. DESIGN SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA. ALL ANTICIPATED COSTS FOR SHORING AND DESIGN SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID PRICE.
 12. CONTRACTOR SHALL NOTIFY VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) AT LEAST TWO WEEKS IN ADVANCE OF REQUIRING TRAFFIC CONTROL. CONTRACTOR SHALL CONTACT THE CITY FOR A LANE CLOSURE PERMIT. TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE MOST RECENT MUTCD MANUAL AND THE VDOT WORK AREA PROTECTION MANUAL UNLESS OTHERWISE SPECIFIED BY VDOT.
 13. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS (STANDARDS) AVAILABLE AT WWW.WESTERNVAWATER.ORG OR BY CONTACTING THE AUTHORITY AT 540-853-5700. THE PROJECT SHALL ALSO COMPLY WITH THE GOVERNING JURISDICTION'S STANDARDS AND OTHER AGENCY STANDARDS (E.G., VDOT, DEQ, DCR, VDH, ETC.) WHERE APPLICABLE. CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S DESIGNATED CERTIFIED VIRGINIA RESPONSIBLE LAND DISTURBER CERTIFICATE TO THE OWNER PRIOR TO CONSTRUCTION.
 14. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING ALL VEHICLES AND EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN, MUD-FREE AND DUST-FREE CONDITION AT ALL TIMES.
 15. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN ACCORDANCE WITH THE VIRGINIA LITTER CONTROL ACT. PRIOR TO COMMENCING WORK, THE CONTRACTOR'S CERTIFIED RESPONSIBLE LAND DISTURBER SHALL OBTAIN AN EROSION AND SEDIMENT CONTROL PERMIT FOR THE PROJECT FROM THE LOCAL GOVERNING JURISDICTION AND STORMWATER MANAGEMENT PERMIT FROM DCR (IF REQUIRED). ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND SHALL BE INSTALLED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROVIDE ACCESS TO ALL PROPERTIES DURING CONSTRUCTION AND SHALL MAINTAIN SAFE ACCESSIBILITY TO FIRE HYDRANTS AT ALL TIMES.
 16. THE CONTRACTOR SHALL NOT EXCAVATE MORE TRENCH LENGTH THAN CAN BE RESTORED WITHIN THE SAME WORK DAY. ALL TRENCHES SHALL BE BACKFILLED OR PLATED AT THE END OF EACH WORK DAY OR WHEN THE CONTRACTOR IS NOT ON SITE.
 17. CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION; INCLUDING ACCESS AND SITE ROADWAYS, DITCHES, DRAINAGE STRUCTURES AND OTHER EXISTING FEATURES TO THEIR ORIGINAL CONDITION OR TO A CONDITION SATISFACTORY TO THE ENGINEER.
 18. ALL REQUIRED TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.
 19. CONSTRUCTION CREWS MUST ALLOW FOR SOLID WASTE MANAGEMENT TO SERVICE TRASH, RECYCLING, BULK, AND BRUSH COLLECTION FOR THE ENTIRE PROJECT AREA.
 20. SEWER PIPE MATERIAL SHALL BE PER THE STANDARDS UNLESS OTHERWISE INDICATED ON THE PLANS.
 21. PROFILES SHOW SEWER LENGTH FROM THE INSIDE WALL OF MANHOLE TO INSIDE WALL OF MANHOLE ROUNDED UP TO THE NEAREST WHOLE LENGTH. PAYMENT SHALL BE MADE FOR LENGTH FROM INSIDE WALL OF MANHOLE TO INSIDE INSIDE WALL OF MANHOLE.
 22. SEWER SLOPES ARE CALCULATED BASED ON SEWER LENGTH FROM MANHOLE CENTER TO MANHOLE CENTER. MANHOLE PENETRATION INVERTS AND SEWER SLOPES SHALL BE COORDINATED IN THE FIELD.
 23. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STAKING AND LAYOUT OF ALL PROPOSED STRUCTURES AND IMPROVEMENTS.
 24. IF PORTIONS OF THE SANITARY SEWER TO BE REPLACED PASS UNDER EXISTING DRAINAGE SWALES, CONTRACTOR IS ENCOURAGED TO PERFORM THESE TASKS ONLY DURING DRY WEATHER TO AVOID COMPROMISING AND OBSTRUCTING EXISTING DRAINAGE PATTERNS DURING A RAINFALL EVENT.
 25. ALL DISTURBED AREAS SHALL BE RETURNED TO LIKE OR BETTER CONDITION WHETHER THEY ARE GRASSED, LANDSCAPED, GRAVELED OR OTHER. ANY DISTURBED PLANTINGS SHALL BE REPLACED WITH LIKE SPECIES. REFER EROSION AND SEDIMENT CONTROL NOTES INCLUDED HEREIN.
 26. ALL PAVING STANDARDS SHALL BE IN ACCORDANCE WITH VDOT STANDARDS AS APPLICABLE.
 27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING ALL MANHOLES AFTER PAVING. MANHOLE RIMS SHALL BE INSTALLED TO GRADE AND FLUSH WITH THE FINAL PAVEMENT.
 28. ANY FENCING DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY REPLACED OR SUPPLEMENTED BY TEMPORARY FENCING TO MAINTAIN A SECURE SITE THROUGHOUT CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, FENCING SHALL BE RESTORED TO ORIGINAL CONDITIONS.
 29. A MINIMUM OF 18" SEPARATION MUST BE MAINTAINED BETWEEN UTILITIES AT ALL PIPE CROSSINGS.
 30. COORDINATE WITH THE OWNER'S CONSTRUCTION INSPECTOR TO MARK ALL TREES THAT NEED TO BE REMOVED FOR THE WORK PRIOR TO ANY CLEARING ACTIVITY. UNMARKED TREES SHALL REMAIN UNDAMAGED. ALL CUT TREES SHALL BE CHIPPED/SHREDED AND REMOVED FROM THE SITE.
 31. THE CONTRACTOR SHALL PERFORM ALL MANHOLE CONNECTIONS. THE CORING AND BOOT INSTALLATION SHALL BE INSPECTED AND APPROVED BY AN AUTHORITY CONSTRUCTION INSPECTOR PRIOR TO ACTIVATING SEWER SERVICE. THE CONTRACTOR SHALL CONTACT THE AUTHORITY'S CONSTRUCTION INSPECTOR RESPONSIBLE FOR THE PROJECT AT LEAST ONE (1) DAY PRIOR TO INITIATING THE MANHOLE CONNECTION.
 32. THE CONTRACTOR SHALL SUPPLY THE AUTHORITY WITH CORRECT AS-BUILT PLANS/RECORD DRAWINGS BEFORE SUBSTANTIAL COMPLETION WILL BE GRANTED.
 33. HORIZONTAL DATUM IS VIRGINIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD 83. VERTICAL DATUM IS NAVD 88.
 34. FIELD CHANGES SHALL BE APPROVED BY THE AUTHORITY'S ENGINEERING DIVISION AND ENGINEER PRIOR TO SUCH CONSTRUCTION.
 35. ALL WORK SHALL BE CONTAINED WITHIN THE EXISTING RIGHT OF WAY AND/OR PROPOSED OR EXISTING EASEMENTS.
 36. ALL EXCAVATION, INCLUDING ROCK, SHALL BE UNCLASSIFIED, EXCEPT WHEN OTHERWISE SPECIFIED IN THE BID FORM.
 37. ALTHOUGH SUCH WORK MAY NOT BE SPECIFICALLY SHOWN, THE CONTRACTOR SHALL FURNISH AND INSTALL ANY SUPPLEMENTAL OR MISCELLANEOUS ITEMS, APPURTENANCES AND DEVICES INCIDENTAL TO OR NECESSARY FOR A SOUND AND COMPLETELY OPERATIONAL INSTALLATION.
 38. EXISTING PIPING THAT IS NOT TO BE REUSED CAN BE ABANDONED IN PLACE. ABANDONED PIPES THAT HAVE CONVEYED SEWAGE SHALL BE ABANDONED IN ACCORDANCE WITH THE VIRGINIA SCAT REGULATIONS.
 39. THE PLANS AND SPECIFICATIONS SHALL GOVERN FOR THIS PROJECT; HOWEVER, IF THESE DOCUMENTS DO NOT COVER A PARTICULAR ITEM OR PORTION OF THE WORK, THE STANDARDS, LATEST EDITION, SHALL GOVERN.
 40. THE CONTRACTOR SHALL FIELD VERIFY SIZE, LOCATION, AND INVERT OF ALL SUBMAINS, AND MAINS ENTERING MANHOLES AND PROVIDE THIS INFORMATION AS PART OF THE SHOP DRAWINGS SUBMITTAL.
 41. ACCESS TO PRIVATE, PUBLIC, AND COMMERCIAL BUSINESSES AFFECTED BY THE UTILITY CONSTRUCTION SHALL BE MAINTAINED AT ALL TIMES DURING THEIR RESPECTIVE NORMAL BUSINESS HOURS.
 42. MINIMUM BYPASS PUMPING CAPACITY: 2000 GPM. SUBMIT A BYPASS PUMPING PLAN TO THE OWNER FOR APPROVAL, PRIOR TO SETTING UP ANY BYPASS PUMPING SYSTEM.
 43. TREE CLEARING SHALL NOT BE PERMITTED DURING THE PERIOD STARTING APRIL 1 AND ENDING NOVEMBER 15 OF ANY YEAR.
 44. REFER TO THE STANDARD MANHOLE DETAIL FOR EXTERIOR COATING.

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	CFM	CUBIC FEET PER MINUTE	FT	FOOT OR FEET	MISC	MISCELLANEOUS	RAD	RADIAL	TAN	TANGENT
ABS	PLASTIC PIPE	CI	CURB INLET	GAL	GALLON	MON	MONUMENT	RCCP	REINFORCED CONCRETE CULVERT PIPE	TC	TOP OF CURB
AC	ASBESTOS CEMENT	CL	CAST IRON PIPE	GPM	GALLONS PER MINUTE	N	NORTH	RCP	REINFORCED CONCRETE PIPE	TE	TEMPORARY CONSTRUCTION EASEMENT
ACCM	ASPHALT COATED CORRUGATED METAL	CL	CLASS OR CENTERLINE	GRD	GROUND OR GRADE	NAVAIDS	NAVIGATIONAL AIDS	RD	ROOF DRAIN	TEL	TELEPHONE
AFF	ABOVE FINISHED FLOOR	CMP	CORRUGATED METAL PIPE	GV	GATE VALVE	NIC	NOT IN CONTRACT	REINF	REINFORCING	TEMP	TEMPORARY
ALT	ALTERNATE	CO	CLEANOUT	HB	HORIZONTAL BEND	NOTAM	NOTICE TO AIRMEN	REQD	REQUIRED	TF	TOP OF FRAME
ASZ	AIRPORT SAFETY ZONE	CONC	CONCRETE	HDPE	HIGH DENSITY POLYETHYLENE PIPE	O/S	OFFSET	ROW	RIGHT-OF-WAY	TRANS	TRANSFORMER OR TRANSVERSE
APPROX	APPROXIMATE	CR	COUNTRY ROAD	HORIZ	HORIZONTAL	OFA	OBJECT FREE AREA	ROW W/A	RIGHT-OF-WAY WITH ACCESS	TSA	TAXIWAY SAFETY AREA
ASPH	ASPHALT	CSP	CORRUGATED STEEL PIPE	HP	HIGH POINT OR HORSE POWER	OFZ	OBSTACLE FREE ZONE	ROW WO/A	RIGHT-OF-WAY WITHOUT ACCESS	TV	TELEVISION
ATCT	AIR TRAFFIC CONTROL TOWER	CTR	CENTER	HPS	HIGH PRESSURE SODIUM	OAR	OWNER'S AUTHORIZED REPRESENTATIVE	RPM	REVOLUTIONS PER MINUTE	TWY, T/W	TAXIWAY
AWG	AMERICAN WIRE GAUGE	CULV	CULVERT	HR	HAND RAIL OR HOUR	PL	PROPERTY LINE	RR	RAILROAD	TYP	TYPICAL
BL	BASELINE	CV	CHECK VALVE	HT	HEIGHT	PC	POINT OF CURVATURE	RSA	RUNWAY SAFETY AREA	UD, U/D	UNDERDRAIN
BB	BOTTOM OF BANK OR BERM	CY	CUBIC YARD	HW	HEADWALL	PE	PERMANENT UTILITY EASEMENT	RT	RIGHT	U(ND)G	UNDERGROUND
BC	BOTTOM OF CURB	D	DRAIN	HYD	HYDRANT	PERF	PERFORATED	RW	RETAINING WALL	UTIL	UTILITY
BFE	BASEMENT FLOOR ELEVATION	DI	DROP INLET	IN	INCH(ES)	PERP	PERPENDICULAR	RWY, R/W	RUNWAY	VC	VERTICAL CURVE
BLDG	BUILDING	DIA	DIAMETER	IP(F)	IRON PIPE (FOUND)	PP	POWER POLE, POWER PANEL	S	SOUTH	VCP	VITRIFIED CLAY PIPE
BM	BENCHMARK	DIP	DUCTILE IRON PIPE	JB	JUNCTION BOX	PPM	PARTS PER MILLION	SCH	SCHEDULE	VERT	VERTICAL
BOT	BOTTOM	DWG	DRAWING	LAT	LATITUDE	PRC	POINT OF REVERSE CURVATURE	SF	SQUARE FOOT OR SQUARE FEET	VOL	VOLUME
BRL	BUILDING RESTRICTION LINE	E	EAST	LB	POUND	PSF	POUNDS PER SQUARE FOOT	SH	STATE HIGHWAY	W	WEST
BSMT	BASEMENT	EA	EACH	LF	LINEAR FOOT OR LINEAR FEET	PSI	POUNDS PER SQUARE INCH	SHT	SHEET	W/	WITH
BVC	BEGINNING OF VERTICAL CURVE	EJ	EXPANSION JOINT	LONG	LONGITUDE	PT	POINT OR POINT OF TANGENCY	SMH	SANITARY MANHOLE	WF	WOOD FRAME
BW	BOTTOM OF WALL	ELEC	ELECTRIC	LP	LAMP POST, LIGHT POLE, LIGHT PANEL OR LOW POINT	PVC	POINT OF VERTICAL CURVATURE OR POLYVINYL CHLORIDE	SPECS	SPECIFICATIONS	W/O	WITHOUT
C	CHORD	ELEV	ELEVATION	LT	LEFT	PVI	POINT OF VERTICAL INTERSECTION	SS	SANITARY SEWER	WW	WING WALL
CAP	CORRUGATED ALUMINUM PIPE	EQP	EDGE OF PAVEMENT	MFR	MANUFACTURER	PVT	POINT OF VERTICAL TANGENCY	STA	STATION OR STATIONARY		
CB	CATCH BASIN	FD	FLOOR DRAIN	MH	MANHOLE	PWR	POWER	STMH	STORM MANHOLE	WWF	WELDED WIRE FABRIC OR WOVEN WIRE FABRIC
CF	CUBIC FOOT OR CUBIC FEET	FDN	FOUNDATION	MIN	MINIMUM	R	RADIUS	STY	STORY		
		FFE	FINISHED FLOOR ELEVATION					SY	SQUARE YARD		