

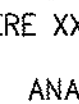
CIVIL LEGEND					
DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED
5' OR 10' CONTOUR LINE			PERMANENT EASEMENT		
1' OR 2' CONTOUR LINE					
RIGHT-OF-WAY			HYDRANT		
SILT FENCE			WATER METER		
STORM SEWER			BLOW-OFF VALVE ASSEMBLY		
LIMITS OF DISTURBANCE			AIR RELEASE VALVE		
WATERLINE			DRAINAGE FLOW DIRECTION		
GATE VALVE			ELECTRIC BOX		
SANITARY SEWER			GUY POLE		
SANITARY SEWER MANHOLE			ELECTRIC MARKER		
DITCH			ELECTRICAL MANHOLE		
EDGE OF RIVER			ELECTRIC TRANSFORMER		
PROPERTY LINES			GROUND LIGHT		
PROPERTY CORNER			LIGHT POLE		
IRON PIN/MONUMENT			FIBER OPTIC PEDESTAL		
UTILITY POLE			FIBER OPTIC HANDHOLE		
OVERHEAD ELECTRIC			GAS VENT		
UNDERGROUND ELECTRIC			GAS VALVE		
UNDERGROUND FIBER			GAS METER		
UNDERGROUND COMMUNICATIONS			WOOD POST		
FENCE			METAL SIGN POST		
GRAVEL ROAD			NOTE: SOME FEATURES IN THE LEGEND MAY NOT HAVE BEEN USED		
ASPHALT PAVEMENT REPAIR					
CONCRETE					
RIPRAP					
DETAIL CALLOUT	X X-X DETAIL IDENTIFICATION NO. SHEET NO. WHERE DETAIL IS SHOWN		EQUIPMENT AIRWASH BLOWER CENTRIFUGAL PUMP WELL PUMP		
DETAIL IDENTIFICATION NO.	X VIEW TITLE NOT TO SCALE				
0 SCALE 2X Scale in feet					
NOTE: SOME FEATURES IN THE LEGEND MAY NOT HAVE BEEN USED					

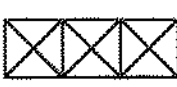
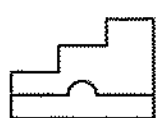
SYMBOL LEGEND		
ABBR	SYMBOL	DESCRIPTION
GV		GATE VALVE
BFLY		BUTTERFLY VALVE
CV		CHECK VALVE
BV		BALL VALVE
PV		PLUG VALVE
3WAY		THREE WAY VALVE
PRV		PRESSURE RELIEF VALVE
ARV		AIR/VACUUM RELIEF VALVE
-		PRESSURE REGULATING VALVE
BPV		BACK PRESSURE VALVE
MV		MUD VALVE
BFP		BACK FLOW PREVENTER ASSEMBLY
PG		PRESSURE GAUGE ASSEMBLY
PE		PRESSURE ELEMENT / SWITCH
-		CONCENTRIC REDUCER
-		OMNI METER
-		VENTURI FLOW METER
-		ULTRASONIC LEVEL INDICATOR
-		FLOAT SWITCH
-		MOTOR
-		DIRECTION OF FLOW
-		HANDWHEEL ACTUATOR
-		SOLENOID ACTUATOR
-		MOTORIZED ACTUATOR
-		PNEUMATIC ACTUATOR
-		EMERGENCY EYE WASH/SHOWER
-		QUICK CONNECT
-		Y-STRAINER
-		BLIND FLANGE

ABBR	SYMBOL	DESCRIPTION
-		SOLENOID VALVE
-		DRAIN
-		BLOWOFF ASSEMBLY
-		AIRWASH BLOWER
-		CENTRIFUGAL PUMP
-		WELL PUMP
-		STATIC MIXER

PIPING SERVICE LEGEND		
EXISTING	SERVICE DESCRIPTIONS	PROPOSED
AIP	COMPRESSED AIR	AIR
BWD	BACKWASH DRAIN	BWD
BWS	BACKWASH SUPPLY	BWS
CA	COMPRESSED AIR	CA
CLS	CHLORINE SOLUTION	CLS
DRN	DRAIN	DR
FE	FILTER EFFLUENT	FE
FW	FINISHED WATER	FW
FTW	FILTER TO WASTE	FTW
F	FLOURIDE	F
INH	CORROSION INHIBITOR	INH
LPA	LOW PRESSURE PROCESS AIR	LPA
SAS	SODA ASH SLURRY	SAS
MS	MANGANESE SULFATE	MS
MNO4	PERMANGANATE	MNO4
NAOH	CAUSTIC	NAOH
OF	OVER FLOW	OF
PW	POTABLE WATER	PW
RW	RAW WATER	RW
SMP	SAMPLE	SMP
SS	SANITARY SEWER	SS
ST	STORM WATER	ST
R	RESIDUALS	R
W	POTABLE WATER	W
CDR	CHEMICAL DRAIN	CDR

FUNCTION SYMBOLS (REFERENCE ANSI/ISA)			
	FIELD INSTRUMENTS	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS			

	<u>FUNCTION SYMBOLS IDENTIFICATION</u>
	WHERE XXX = THE FOLLOWING AND #### = INSTRUMENT/DEVICE
AE	ANALYSIS ELEMENT
AI	ANALYTICAL INSTRUMENT
AIT	ANALYTICAL INDICATING TRANSMITTER
B	BLOWER
CV	CONTROL VALVE (OPEN/CLOSE)
ES	EMERGENCY SHOWER (WITH FLOW SWITCH)
FCV	FLOW CONTROL VALVE (MODULATING)
FE	FLOW ELEMENT
FIT	FLOW INDICATING TRANSMITTER
FQIC	FLOW QUANTITY INDICATING CONTROLLER
FS	FLOW SWITCH
HS	HAND SWITCH/DISCONNECT
JIC	POWER INDICATING CONTROLLER/MOTOR STARTER
JS	POWER SWITCH, AUX CONTACT ON MOTOR STARTER
LE	LEVEL ELEMENT
LIT	LEVEL INDICATING TRANSMITTER
LS	LEVEL SWITCH (HIGH, HIGH HIGH, LOW, LOW LOW, ALARM)
M	MECHANICAL/EQUIPMENT
MS	MOISTURE SWITCH
MX	MIXER
P	PUMP
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PE	PRESSURE ELEMENT
PI	PRESSURE GAUGE/INDICATOR
PIT	PRESSURE INDICATING TRANSMITTER
SIC	SPEED INDICATING CONTROLLER/VARIABLE FREQUENCY DRIVE
SV	SOLENOID VALVE
TS	TEMPERATURE SWITCH
V	VALVE
VS	VIBRATION SWITCH
WE	WEIGHT/FORCE ELEMENT
WIT	SCALE/WEIGHT/FORCE INDICATING TRANSMITTER

EQUIPMENT	
	AIRWASH BLOWER
	CENTRIFUGAL PUMP
	WELL PUMP
	STATIC MIXER
	CHEMICAL FEED PUMP

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

Drawing Copyright © 2022 1341 Research Center Drive, Suite 2100 Blacksburg, VA 26060-5548 540.552.5548 • www.chacompanies.com					
WESTERN VIRGINIA WATER AUTHORITY WESTERN VIRGINIA WATER AUTHORITY					
ERIC T. ANDERSON Lic. No. 040615 12/16/2022 PROFESSIONAL ENGINEER					
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED. THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A BRIEF DESCRIPTION OF THE ALTERATION.					
SOUTHLAKE WATER SYSTEM CONTRACT 1: WATER TREATMENT PLANT CONTRACT 2: WATER MAIN					
No.	Submittal / Revision	App'd By			Date
0	BID ISSUE	ETA	CDR	12/15/22	
LEGENDS AND ABBREVIATIONS					
Designed By: CDR		Drawn By: CDR		Checked By: ETA	
Issue Date: 12/15/22		Project No.: 073612		Scale: N/A	
Drawing No.:					
G-004					