

## CHAPTER 8 DRAFTING STANDARDS

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### 1. GENERAL

- A. All drawings shall be done in AutoCAD (DWG) format, latest version. Manual drawings are not acceptable.
- B. The standard symbols, pen weights, and sizes used in drafting Charlotte Water sewer and water plans are given on the following pages.
- C. A legend of symbols is required with each set of construction plans or record drawings and where additional symbols are required, they shall be clearly defined and included in the legend. Symbols shall be annotated to scale appropriately to the base file.
- D. The standard scale for Charlotte Water construction drawings is 1" = 40' in plan view and 1" = 4' in profile view. Expanded detail drawings should be used whenever needed to clearly convey details. Alternate scales may be used upon Charlotte Water's approval however, water plan view scales shall not exceed 1" = 100'. Charlotte Water retains the right to require a smaller scale for denser developments to maintain readability.
- E. Standard sheet size shall be 24" x 36" (ARCH D) for construction plans and 8.5" x 14" (Legal) for easement and encroachment maps.
- F. All sheets must contain the standard Charlotte Water title block format.
- G. Both plan and profile views shall be shown on the same sheet. Profiles shall be located directly above the corresponding plan view. Elevations must be shown at the left side of the profile section. Station numbering should increase from left to right and should be approximately above the corresponding plan view stationing. Sewer line drawings should run from left to right upstream.
- H. Structures and appurtenances (vaults, manholes, hydrants, valves, piers, fittings, etc.) should be labeled in plan and profile views with station number and standard detail reference if applicable.
- I. Parallel storm pipe and structures shall be shown in plan and profile.
- J. Profiles in road right of ways shall include the pipe centerline profile and the edge of pavement profile.
- K. Distance from edge of pavement to water main pipes shall be labeled.
- L. Erosion control devices shall be shown on plan views and properly labeled. Drainage ditches shall be shown with direction of storm runoff.

- 1 M. All underground obstructions shall be shown in both plan and profile, if applicable. The  
2 profile view shall label vertical clearances.  
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- 4 N. Pipe sizes shall be shown on the plan view and properly scaled on the profile view with  
5 both inside and outside diameters shown.  
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- 7 O. Sewer lines shall be labeled with bearings and distances in the upstream direction when  
8 in easements.  
9
- 10 P. Water lines shall be stationed from valves or tees for each branch. Station 0+00 shall be  
11 the closest existing valve when connecting to a pipe stubout. Station 0+00 shall be the  
12 new valve when cutting in a tee and valve.  
13
- 14 Q. Subdivision sewer plans and water distribution plans shall both include sewer lateral and  
15 water service locations on each plan to illustrate how each lot will be served. Field  
16 adjustments of sewer laterals or water service locations during construction shall be  
17 coordinated with Charlotte Water and reflected on record drawings.  
18
- 19 R. The Charlotte Water AutoCAD symbols, pen weights, plot style, and title block are  
20 available for download from the website.

**FIGURE 8.1: STANDARD SYMBOLS AND LINE WEIGHTS**

<b>LEGEND</b>				
	SYMBOLS	PEN <small>(CLT WTR CTB FILE)</small>	OR	SIZE(INCH)
ASPHALT (PROFILE)		3 & 4	OR	0.0157 & 0.0079
BOTTOM OF BANK (TOE)		167	OR	0.0035
BRIDGE		8	OR	0.0098
BUILDING		118	OR	0.0035
CHECK DAM STD. 6.83		167	OR	0.0035
CONCRETE (PROFILE)		3 & 4	OR	0.0157 & 0.0098
CREEK, DITCH OR BRANCH		167	OR	0.0035
CURB & GUTTER		7	OR	0.0098
EDGE OF ROADWAY		7	OR	0.0098
EXISTING FIRE HYDRANT		150	OR	0.0079
EXIST. WATER OR SAN. SEWER EASEMENT		1	OR	0.0079
EXISTING IRON PIN		7	OR	0.0098
EXISTING WATER VALVE		150	OR	0.0079
EXISTING WATER MAIN		150	OR	0.0079
EXISTING $\varnothing$ SANITARY SEWER		100	OR	0.0079
EXIST. SAN. SEWER MANHOLE STRUCTURE		100	OR	0.0079
EXISTING GAS MAIN		2	OR	0.0157
EXISTING GAS SERVICE		2	OR	0.0157
FENCE (LABEL TYPE)		18	OR	0.0035
GAS VALVE		2	OR	0.0157
GRAVEL (PROFILE)		3 & 120	OR	0.0157 & 0.0035
GROUND PROFILE		3	OR	0.0157
GUARD RAIL		11	OR	0.0039
MARSH, POND, WETLAND OR LAKE		167	OR	0.0035
OVERHEAD ELECTRIC		1	OR	0.0079
PIERS		7	OR	0.0098
POWER POLE/GUY WIRE		1	OR	0.0079
PROPERTY LINE		7	OR	0.0098

## LEGEND

	SYMBOLS	PEN (CLT WTR CTB FILE)	OR	SIZE(INCH)
PROPOSED AIR RELEASE		7	OR	0.0098
PROPOSED FIRE HYDRANT		2	OR	0.0157
PROPOSED WATER MAIN (MARKED EVERY 100')		3 & 2	OR	0.0157 & 0.0157
PROP. WATER OR SAN. SEWER EASEMENT		1	OR	0.0079
PROP. WATER OR SAN. SEWER TAP		2	OR	0.0157
PROP. WATER VALVE		7	OR	0.0098
PROPOSED $\varnothing$ SANITARY SEWER		6 & 2	OR	0.0315 & 0.0157
PROP. SAN. SEWER MANHOLE STRUCTURE		2	OR	0.0157
RIPRAP		253	OR	0.0079
ROAD/STREET R/W		2	OR	0.0157
SEDIMENT FENCE (SILT FENCE) STD. 6.62		2	OR	0.0157
SIDEWALK		7 & 1	OR	0.0098 & 0.0079
STREET SIGN (LABEL TYPE)		11	OR	0.0039
STORM DRAIN/CATCH BASIN, YARD AND DROP INLET		17	OR	0.0035
TEMPORARY CONSTRUCTION EASEMENT		1	OR	0.0079
TEMPORARY SEDIMENT TRAP STD. 6.60		2	OR	0.0157
TEMPORARY DIVERSION STD. 6.20		155	OR	0.0236
TEMPORARY STREAM CROSSING STD. 6.70		2	OR	0.0157
TOP OF BANK (TOB)		167	OR	0.0035
TOWER LINE		1	OR	0.0079
TREE & BUSH		117	OR	0.0035
UNDERGROUND CABLE		111	OR	0.0039
UNDERGROUND ELECTRIC		1	OR	0.0079
UNDERGROUND TELEPHONE		111	OR	0.0039
RAILROAD		11	OR	0.0039
WATER METER		150	OR	0.0079

NOTE: LINE WEIGHTS ARE NOT DELINEATED HERE. THEY ARE CONTROLLED THROUGH CLTWater PLOTSTYLE.