

## CHAPTER 8

# DRAFTING STANDARDS

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### 1. GENERAL

- 2 A. All drawings shall be done in AutoCAD (DWG) format, latest version. Manual drawings  
3 are not acceptable.
- 4 B. The standard symbols, pen weights, and sizes used in drafting Charlotte Water sewer  
5 and water plans are given on the following pages.
- 6 C. A legend of symbols is required with each set of construction plans or record drawings  
7 and where additional symbols are required, they shall be clearly defined and included in  
8 the legend. Symbols shall be annotated to scale appropriately to the base file.
- 9 D. The standard scale for Charlotte Water construction drawings is 1" = 40' in plan view and  
10 1" = 4' in profile view. Expanded detail drawings should be used whenever needed to  
11 clearly convey details. Alternate scales may be used upon Charlotte Water's approval  
12 however, water plan view scales shall not exceed 1" = 100'. Charlotte Water retains the  
13 right to require a smaller scale for denser developments to maintain readability.
- 14 E. Standard sheet size shall be 24" x 36" (ARCH D) for construction plans and 8.5" x 14"  
15 (Legal) for easement and encroachment maps.
- 16 F. All sheets must contain the standard Charlotte Water title block format.
- 17 G. Both plan and profile views shall be shown on the same sheet. Profiles shall be located  
18 directly above the corresponding plan view. Elevations must be shown at the left side of  
19 the profile section. Station numbering should increase from left to right and should be  
20 approximately above the corresponding plan view stationing. Sewer line drawings should  
21 run from left to right upstream.
- 22 H. Structures and appurtenances (vaults, manholes, hydrants, valves, piers, fittings, etc.)  
23 should be labeled in plan and profile views with station number and standard detail  
24 reference if applicable.
  - 25 I. Parallel storm pipe and structures shall be shown in plan and profile.
  - 26 J. Profiles in road right of ways shall include the pipe centerline profile and the edge of  
27 pavement profile.
  - 28 K. Distance from edge of pavement to water main pipes shall be labeled.
  - 29 L. Erosion control devices shall be shown on plan views and properly labeled. Drainage  
30 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**

<u>LEGEND</u>		SYMBOLS	PEN (CLT WTR CTB FILE)	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 4" 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

DESCRIPTION	SYMBOLS	PEN	OR	SIZE (INCH)	
				(CLT WTR CTB FILE)	
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 4" 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.