



THIS FIGURE IS ONLY MEANT TO DEFINE THE MINIMUM INFORMATION REQUIRED BY THE CITY OF CHARLOTTE TO BE INCLUDED IN A DETAIL FOR THIS TYPE OF TECHNIQUE. THIS FIGURE IS NOT MEANT TO REPRESENT A STANDARD DESIGN METHOD FOR THIS TYPE OF TECHNIQUE AND SHALL NOT BE USED AS SUCH.

**NOT TO SCALE**



CHARLOTTE-MECKLENBURG  
STORM WATER SERVICES  
GENERIC DETAIL REQUIREMENTS

# LOG SILL

DRAFT - NOT TO BE USED FOR CONSTRUCTION

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**NOTES:**

1. A LOG SILL MAY BE USED ALONE OR IN COMBINATION WITH A CONSTRUCTED RIFFLE.
2. THE USE OF LOGS IN THE STREAM BED SHALL BE LIMITED TO PERENNIAL WATERBODIES ONLY.
3. AN ELEVATION CONTROL POINT SHALL BE DESIGNATED AT THE CENTER OF THE SILL TO ESTABLISH PART OF THE PROFILE. POOL ELEVATION CONTROL POINTS OR EXCAVATION TO A SPECIFIED MAXIMUM POOL DEPTH SHALL BE DESIGNATED TO ESTABLISH THE REMAINING PROFILE. SURVEY OF CONTROL POINTS SHALL BE REQUIRED TO ESTABLISH ACCURATE INSTALLATION WITHIN THE TOLERANCE SPECIFIED BY THE DESIGNER.
4. NO PART OF THE SILL SHALL BE PLACED ABOVE THE ELEVATION OF THE STREAM BED.
5. IF PLANS DESIGNATE THE USE OF MULTIPLE LOG SILLS A TABLE OF ALL STATION LOCATIONS AND CONTROL POINT ELEVATIONS SHALL BE PROVIDED IN THIS DETAIL OR PROVIDED ELSEWHERE IN THE PLANS AND REFERENCED HEREIN.
6. TYPICAL RIFFLE AND POOL CROSS SECTIONS SHALL BE PROVIDED ELSEWHERE IN THE PLANS TO ESTABLISH THE DIMENSIONS OF THE CHANNEL GRADING INTO WHICH THE LOG SILLS ARE TO BE INSTALLED.
7. LOGS SHALL BE OF A LENGTH AND DIAMETER SPECIFIED BY THE DESIGNER AND BE RELATIVELY STRAIGHT HARDWOOD, RECENTLY HARVESTED. THE LENGTH OF THE SILL EMBEDDED INTO EACH BANK SHALL EQUAL OR EXCEED THE WIDTH OF THE CHANNEL.
8. A SINGLE LOG MAY BE USED IN LIEU OF A HEADER/FOOTER LOG COMBINATION.
9. FILTER FABRIC OF A TYPE AND SIZE SPECIFIED BY THE DESIGNER SHALL BE USED TO SEAL THE GAPS BETWEEN THE LOG(S) AND THE STREAM BED, UNDER THE COARSE BACKFILL MATERIAL. THE FABRIC SHALL BE NAILED TO THE ENTIRE LENGTH HEADER LOG USING A GALVANIZED NAIL WITH A PLASTIC CAP. THE SIZE AND GAGE OF NAIL AND NAIL SPACING SHALL BE SPECIFIED BY THE DESIGNER. THERE SHALL BE NO FILTER FABRIC VISIBLE IN THE FINISHED WORK; EDGES SHALL BE FOLDED, TUCKED, OR TRIMMED AS NEEDED.
10. COARSE BACKFILL OF THE LOG SILL SHALL BE OF A TYPE, SIZE, AND GRADATION AS SPECIFIED BY THE DESIGNER. COARSE BACKFILL SHALL BE PLACED TO A THICKNESS EQUAL TO THE DEPTH OF THE HEADER (AND ANY FOOTER) LOGS AND SHALL EXTEND UPSTREAM FROM THE SILL A DISTANCE SPECIFIED BY THE DESIGNER.
11. THE LOG SILL IS GENERALLY CONSTRUCTED AS FOLLOWS:
  - A. OVER-EXCAVATE STREAM BED TO A DEPTH EQUAL TO THE TOTAL THICKNESS OF THE HEADER (AND FOOTER IF SPECIFIED) LOGS.
  - B. PLACE FOOTER LOGS, IF SPECIFIED. A LAYER OF BEDDING MATERIAL UNDER THE FOOTER LOG MAY BE SPECIFIED BY THE DESIGNER.
  - C. INSTALL HEADER LOG ON TOP OF THE FOOTER LOG. HEADER LOG MAY BE SET FORWARD OR BACK FROM FOOTER LOG AS AN OPTION.
  - D. NAIL FILTER FABRIC TO THE HEADER LOG.
  - E. PLACE COARSE BACKFILL BEHIND LOG(S) ENSURING THAT ANY VOIDS BETWEEN THE LOGS ARE FILLED.
  - F. TRIM ANY EXPOSED FILTER FABRIC AROUND THE SILL INSTALLATION.
12. STREAM BANK STABILIZATION, IF SPECIFIED, SHALL BE ADDED TO THIS DETAIL OR DETAILED SEPARATELY AND REFERENCED HEREIN.

DIMENSIONS (VALUES TO BE PROVIDED BY DESIGNER)			
VARIABLE	VALUES	TYPICAL UNIT	DESCRIPTION
X1		FT. (NAVD)	SILL CONTROL POINT ELEVATION
X2		FT. (NAVD)	POOL CONTROL POINT ELEVATION
X3		FT.	STREAM BED WIDTH
X4		FT.	CHANNEL WIDTH
X5		FT.	LENGTH OF SILL EMBEDDED IN BANK
X6		FT.	LENGTH OF COARSE BACKFILL
X7		IN.	LOG DIAMETER
X8		IN. OR FT.	APPROXIMATE BASE FLOW DEPTH

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