

# SILVA CELL SCM DESIGN CHECKLIST

**Stormwater Management Division  
c/o Development Services Department**

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Raleigh, NC 27601  
Telephone (919) 996-3773

**I. PROJECT INFORMATION**

Project Name: \_\_\_\_\_ Phase: \_\_\_\_\_  
 Project Address: \_\_\_\_\_ Disturbed Area (sf): \_\_\_\_\_  
 PIN: \_\_\_\_\_ Case #: \_\_\_\_\_ Submittal Date: \_\_\_\_\_  
 Previous Permit numbers (if applicable): \_\_\_\_\_  
 Zoning District: \_\_\_\_\_  
 Legal Name of Owner: \_\_\_\_\_  
 Owner Contact: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Owner Address: \_\_\_\_\_  
 Design Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Design Contact Email: \_\_\_\_\_  
 The regulatory drainage basin in which the site is located: \_\_\_\_\_  
 The water supply watershed in which the site is located: \_\_\_\_\_

Function of Facility [check all that apply]:	
<input type="checkbox"/>	Nutrient (Total Nitrogen) Reduction
<input type="checkbox"/>	Green Stormwater Infrastructure
<input type="checkbox"/>	TSS Reduction
<input type="checkbox"/>	Peak Flow Rate Attenuation
<input type="checkbox"/>	<input type="checkbox"/> 1-Year event
<input type="checkbox"/>	<input type="checkbox"/> 10-Year event
<input type="checkbox"/>	<input type="checkbox"/> 100-Year event
<input type="checkbox"/>	<input type="checkbox"/> Other [ _____ ]
<input type="checkbox"/>	<input type="checkbox"/> Other [ _____ ]

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- II. **SUBMITTAL REQUIREMENTS** - See COR Stormwater Management Design Manual Chapter 5 for additional guidance. This completed checklist shall be submitted to the City of Raleigh with any proposed Silva Cell. All files shall also be submitted electronically via CD or flash drive.

Routed flows and water surface elevations (WSE) at SCM [as applicable]:			
Storm Event	Inflow	Outflow	WSE
1-Year			
10-Year			
100-Year			
____-Year			
Peak flow rates at immediate point of analysis to which the SCM drains:			
Condition	1-year	10-year	____-year
Pre-development			
Post-development			

General Design Criteria	
<input type="checkbox"/>	<b>Sizing:</b> The design volume of the SCM accounts for the runoff at full build-out from all surfaces draining to it (calculations provided in Stormwater Development Analysis).
<input type="checkbox"/>	Design Storm Volume: _____ cf
<input type="checkbox"/>	<b>Excess Flows:</b> SCM includes an overflow/bypass device for inflow volumes in excess of treatment volume or, if applicable, peak attenuation volume (calculations provided in Stormwater Development Analysis).
<input type="checkbox"/>	Description of Overflow/Bypass: _____
<input type="checkbox"/>	<b>Dewatering:</b> SCM has a method to draw down any standing water to facilitate maintenance and inspection.
<input type="checkbox"/>	<b>Clean Out After Construction:</b> SCM impacted by sedimentation and erosion control during the construction phase shall be cleaned out and converted to its approved design state.
<input type="checkbox"/>	<b>Maintenance Access:</b> SCM has been provided with adequate access per City standards.
<input type="checkbox"/>	<b>Easements (except for SCMs located on single family residential lots):</b> Includes maintenance access, entire SCM footprint, and an additional 10 ft or more around the SCM.
<input type="checkbox"/>	<b>Single Family Residential Lots:</b> Plats for residential lots that contain an SCM shall include the location of SCM, typical detail of SCM, and note that the SCM on the property is required to meet stormwater regulations and that the property owner may be subject to enforcement actions if the SCM is removed, relocated, or altered without prior approval.

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<input type="checkbox"/>	<b>Operation and Maintenance (O&amp;M) Agreement.</b>
<input type="checkbox"/>	<b>Operation and Maintenance (O&amp;M) Plan.</b>
<input type="checkbox"/>	<i>Operation and Maintenance (O&amp;M) Manual Submittal Checklist.</i>

Specific Silva Cell Design Criteria	
<input type="checkbox"/>	<b>Drainage Area:</b> The contributing drainage area has a built upon area (BUA) fraction of 75% of greater.
<input type="checkbox"/>	BUA Fraction: _____ %
<input type="checkbox"/>	<b>Seasonal High Water Table:</b> The separation between the SHWT and lowest point of the Silva Cell System is at least 24 inches (unless exempt per hydrogeologic evaluation).
<input type="checkbox"/>	<b>Pre-treatment:</b> An inlet protection pre-treatment mechanism has been provided (i.e. catch basin insert, Trashguard, etc.).
<input type="checkbox"/>	<b>Design Volume Storage:</b> The maximum total depth of storage on top of the filter media surface is 18 inches.
<input type="checkbox"/>	Depth of Storage: _____ in
<input type="checkbox"/>	<b>Surface Area:</b> The required surface area has been determined based on dividing the design volume by the effective storage depth.
<input type="checkbox"/>	Surface Area: _____ sf
<input type="checkbox"/>	<b>Flow Distribution:</b> Influent will be evenly distributed over the surface of the media.
<input type="checkbox"/>	<b>Filter Media:</b> The filter media meets all required specifications of the NCDEQ Minimum Design Criteria, including a minimum depth of 25 inches, appropriate homogeneous soil mix, adequate P-Index, and no mechanical compaction.
<input type="checkbox"/>	Media Depth: _____ in
<input type="checkbox"/>	<b>Media Monitoring:</b> The filter media will be maintained such that it has a drawdown of at least 1 inch per hour at the planting surface.
<input type="checkbox"/>	At least 2 inspection ports/monitoring wells has been provided.
<input type="checkbox"/>	<b>Tree Selection:</b> The tree selection is appropriate for the urban location and changing moisture conditions.
<input type="checkbox"/>	<b>Underdrains:</b> An underdrain system with internal water storage (IWS) has been provided, with the top of the IWS at least 18 inches below the subgrade surface.
<input type="checkbox"/>	IWS Depth: _____ in
<input type="checkbox"/>	<b>Clean-out Pipes:</b> At least one capped clean-out pipe has been provided at the low point of each underdrain and distribution line.
<input type="checkbox"/>	<b>Pavement Aggregates:</b> Aggregates above Silva Cell decks will be double washed and free of fine particles and debris at time of installation.
<input type="checkbox"/>	<b>Bypass:</b> An overflow/bypass inlet has been provided downslope of Silva Cell inlets.

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<input type="checkbox"/>	<b>Maintenance:</b> The system has been specified to have maintenance performed per the Silva Cell Operation and Maintenance Manual.
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The SCM Plan Submittal shall also include the following elements:	
<input type="checkbox"/>	A plan view of the SCM, with grading and appropriate critical spot shots, has been provided.
<input type="checkbox"/>	A profile (showing all relevant component elevations and WSEs) through the riser, dam, and outlet structure/outfall has been provided.
<input type="checkbox"/>	Details of other required SCM elements have been provided.
<input type="checkbox"/>	All supporting design calculations (including all applicable site design calculations and drainage area exhibits) have been provided.

### III. PROFESSIONAL CERTIFICATION

Name: \_\_\_\_\_

Contact Email: \_\_\_\_\_

Contact Phone Number: \_\_\_\_\_

Professional Seal:

