

STORMWATER CONVEYANCE AS-BUILT SUBMITTAL CHECKLIST

The as-built drawing submittal set must be approved prior to acceptance of the improvements and/or issuance of a certificate of occupancy. This stormwater as-built submittal does not take the place of any other submittals required by Development Services. Acceptance of the as-built data does not constitute the City's acceptance for maintenance purposes.

In general, the submittal set shall consist of the following items:

- Stormwater Conveyance As-Built Submittal Checklist – A completed copy of this checklist in .pdf format including the sealed statement provided by a qualified North Carolina (NC) licensed design professional which certifies that the as-built stormwater infrastructure (both public and private) complies with the approved plans and meets all Unified Development Ordinance (UDO) requirements. The certification is contained in the checklist.
- As-Built Drawings – A certified set of as-built drawings, signed and sealed by a North Carolina PE or RLA, in (.PDF format) for stormwater infrastructure only.
- As-Built Survey Submittals
 - As-Built Survey – A certified post construction as-built survey, signed and sealed by an NCPLS, in (.PDF) format for stormwater infrastructure only.
 - Survey File – Survey File – An electronic drawing files of the NCPLS certified post-construction as-built survey in (.SHP), (.DWG), (.DGN), or file geodatabase format for stormwater infrastructure only.
 - Survey Point File – A comma-delimited point file of the NCPLS certified post construction as-built survey in (.TXT) or (.xls) format for stormwater infrastructure only.
 - All recorded public and private drainage easements properly labeled and provided as polygons in (.SHP), (.DWG), (.DGN) or file geodatabase format. This can be included in the Survey File or as a separate file.
 - Recorded plat(s) files in .PDF format

Stormwater conveyance as-built submittals shall be submitted electronically through a secure file sharing platform through a means that can be submitted to and received by asbuiltsubmittal@raleighnc.gov. The link should be available for 30 days.

PROJECT INFORMATION

Please fill out the following project information:

Project Information	
Project Name:	
Project Address:	
Plan/Permit #:	

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Items to be included in As-Built Submittal	
<input type="checkbox"/>	A certified set of as-built drawings with each sheet signed and sealed by a North Carolina PE or RLA, in (.PDF format).
<input type="checkbox"/>	<p>A coversheet for the as-built drawings (.PDF format) including, at a minimum, the following information:</p> <ul style="list-style-type: none"> • Project name • Name of firm which prepared the data • Drawings labeled as Final As-built including the date • Permit number(s) • COR plan identification number (if applicable)
<input type="checkbox"/>	Stormwater conveyance labeled with their respective North Carolina State Plane grid X and Y coordinates (and also in US Survey feet)
<input type="checkbox"/>	All units are in US survey feet.
<input type="checkbox"/>	<p>Horizontal datum of as-builts provided is in NAD 83, and the appropriate realization of NAD 83 has been specified</p> <p>Note: The NC CORS Base Station Network is referenced to the NAD 83[2011] datum; vertical datum must be NAVD88, geoid 03 or later and indicated in survey text file</p>
<input type="checkbox"/>	<p>As-Built drawings provided include:</p> <ul style="list-style-type: none"> • As-built date • Revision dates • Project name • Page numbering • North arrow • Scale of drawing • Scale bar • Vicinity map • Permit number • Engineer-in-charge • All recorded public and private drainage easements properly identified and dimensioned • Pipe size (dimensions in height and width in inches) • Pipe material (noted in NASSCO PACP coded format) • Pipe length • Pipe slope • Upstream and downstream pipe depths from control point (in survey feet) • Manhole and inlet size noting the largest dimension (dimensions for length and width in survey feet) • SCM risers, SCM control structures, SCM flow splitters • Connections to existing infrastructure • Reference City or State design standard drawing • Infrastructure Facility IDs provided by the City for each asset • Top/Rim and invert elevations noting the control point on structure • Manhole, junction box, and inlet depth (in survey feet) • Manhole, junction box, and inlet material

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	<ul style="list-style-type: none"> • Abandoned or removed features • Stormwater Control Measures (SCM) facilities • Location of all open conveyance (channel/swale/ditch) with the following labeled: channel material/lining type, length, bottom width, side slopes, and channel slope (measurements in survey feet) • Glossary of abbreviations • Strike-through updates of all items shown on the approved construction drawing plan sheets/details.
<input type="checkbox"/>	At least two manholes or inlets (one upstream and one downstream) of the project area LOD have been defined and labeled (including inverts and top elevations). Labeled as existing infrastructure.
<input type="checkbox"/>	All current Wake County parcel information and properly labeled
<input type="checkbox"/>	All streets are defined and labeled
<input type="checkbox"/>	The closest geodetic monument to the project has been identified and labeled
<input type="checkbox"/>	Ground surface elevations, while not shown on the as-built plan, have been included in the survey text file
<input type="checkbox"/>	A certified post construction as-built survey, signed and sealed by an NCPLS, in (.PDF) format is provided
<input type="checkbox"/>	<p>An electronic file of the NCPLS certified post-construction as-built survey is provided with the following information:</p> <ol style="list-style-type: none"> 1. Project name 2. Name of firm which prepared the data 3. As-built date 4. Permit number(s) 5. COR plan identification number (if applicable) <p>Note: (.SHP), (.DWG), (.DGN), and file geodatabase are acceptable formats</p>
<input type="checkbox"/>	Provided CADD files are saved in "model space" on NC State Plane grid

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<input type="checkbox"/>	<p>Comma-delimited text file (.csv format) or Microsoft Excel file (.xls format) provided of survey information with the following columns:</p> <ol style="list-style-type: none"> 1. Feature Type (Inlet, Manhole, Pipe outlet, etc.) 2. X, Y, Z (rim or top) 3. Size 4. Description (see example) and Pipe Upstream (US) X, Y, Z (invert) 5. Pipe Downstream (DS) X,Y, Z (invert) 6. Diameter or Size (pipe dimensions are to be noted in inches) 7. Material (In NASSCO PACP coded format) 8. Facility ID provided by COR GIS 																																																																																																							
<input type="checkbox"/>	Data file denoting the coordinates and description for each stormwater feature in project limits																																																																																																							
<input type="checkbox"/>	<p>A comma-delimited point file of the NCPLS certified post construction as-built survey in (.TXT) or (.xls) format is provided and formatted as the examples show below:</p> <p>A data file (.csv, .xlsx) denoting the coordinates and description for each stormwater utility feature provided and formatted as per below examples:</p> <p>STRUCTURES</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #003366; color: white;"> <th>Feature ID from approved construction drawing</th> <th>Facility ID from COR GIS</th> <th>X</th> <th>Y</th> <th>Z</th> <th>Depth</th> <th>Size</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CB-1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3x2</td> <td>NCDOT 840.01</td> </tr> <tr> <td>DI-2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2x2</td> <td>Non-standard grate inlet</td> </tr> <tr> <td>BES-1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>18"</td> <td>Bare-end Section Pipe inlet</td> </tr> <tr> <td>MH-1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4'</td> <td>NCDOT 840.52</td> </tr> <tr> <td>FES-1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>36"</td> <td>Flared End Section Pipe outlet</td> </tr> </tbody> </table> <p>PIPES</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #003366; color: white;"> <th>Pipe ID From approved construction drawing</th> <th>Facility ID from COR GIS</th> <th>Material</th> <th>Diameter (or Height)</th> <th>Width</th> <th>US X</th> <th>US Y</th> <th>US Z</th> <th>DS X</th> <th>DS Y</th> <th>DS Z</th> </tr> </thead> <tbody> <tr> <td>Pipe-1</td> <td></td> <td>RCP</td> <td>15"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pipe-2</td> <td></td> <td>RCP</td> <td>18"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pipe-3</td> <td></td> <td>RCP</td> <td>48"</td> <td>36"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pipe-4</td> <td></td> <td>RCP</td> <td>36"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Feature ID from approved construction drawing	Facility ID from COR GIS	X	Y	Z	Depth	Size	Description	CB-1						3x2	NCDOT 840.01	DI-2						2x2	Non-standard grate inlet	BES-1						18"	Bare-end Section Pipe inlet	MH-1						4'	NCDOT 840.52	FES-1						36"	Flared End Section Pipe outlet	Pipe ID From approved construction drawing	Facility ID from COR GIS	Material	Diameter (or Height)	Width	US X	US Y	US Z	DS X	DS Y	DS Z	Pipe-1		RCP	15"								Pipe-2		RCP	18"								Pipe-3		RCP	48"	36"							Pipe-4		RCP	36"							
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CHANNELS/SWALES/DITCHES											
Reach ID	Facility ID from COR GIS	Material or Lining Type	Top Width	Bottom Width	Depth	US X	US Y	US Z	DS X	DS Y	DS Z
Reach-1		Grass	6-feet	3-feet	2-feet						
Reach-2		Riprap	8-feet	4-feet	3-feet						
Reach-3		Concrete	10-feet	5-feet	3-feet						
Reach-4		Forested	12-feet	6-feet	3.5-feet						
<input type="checkbox"/>	All recorded public and private drainage easements properly labeled and provided as polygons in (.SHP), (.DGN), (.DWG) or file geodatabase format. This can be included in the Survey File or as a separate file.										
<input type="checkbox"/>	Recorded plat(s) files in .PDF format are provided										
<input type="checkbox"/>	A sealed statement provided by a North Carolina (NC) licensed design professional which certifies that the as-built stormwater infrastructure (both public and private) complies with the approved plans and meets all Unified Development Ordinance (UDO) requirements.										

FOR REVIEW ONLY

PROFESSIONAL CERTIFICATION

I, _____ as a duly registered _____ in the State of North Carolina attest that on _____, 20____ all stormwater conveyance systems are constructed and installed in conformance with the ordinances, rules, regulations, drainage design standards of the City of Raleigh, and the approved construction plans. All information provided is correct to the best of my knowledge. It is a violation of UDO 9.2.5(F) to falsify this certification. A civil penalty for falsifying this certification shall be assessed by the City of Raleigh in the amount of \$3000.00.

Professional Seal:



FOR REVIEW ONLY