



Development Certification Checklist

Date: _____ Property Owner: _____
 Certifying Engineer: _____ Certifying Surveyor (as-built): _____
 Project Name: _____
 Address: _____

The Development Certification process is necessary in order for a construction bond or performance bond to be released, as described in the City of Knoxville Stormwater Ordinance (Chapter 22.5 of the City Code) in Section 22.5-27(k). Also see Section 13.5 of the Land Development Manual for a list of construction bond release requirements.

Certification Requirements:	Date
A. Submit as-built drawings which meet the minimum requirements of this checklist.	
B. Submit complete detention calculations (signed & stamped by professional engineer) showing that the as-built conditions meet the minimum design criteria in the City of Knoxville Stormwater and Street Ordinance. Include all inputs and methods.	
C. Submit roadway material inspection reports by a qualified geotechnical firm (if not inspected directly by Knoxville Engineering Department).	
D. Conduct the final site inspection using the Site Inspection Checklist in Appendix A.	
E. Ensure that all roadway, drainage, detention basin, and water quality structure easements are properly delineated on a recorded plat. Check to see if CPMSF (maintenance agreement) is recorded at Knox County Register of Deeds and also denoted on the recorded plat.	
F. Submit retaining wall inspections/certifications for walls that affect right-of-way, dwelling structures, and/or stormwater facilities.	

As-Built Drawings – General Information:

1. Does title block have same project name, address, and contact persons as original plans?
2. Are seal and signature for the certifying Engineer & Surveyor shown on as-built drawings?
3. Does each as-built drawing contain survey benchmarks or other reference points?
4. Does each as-built drawing contain a north arrow and bar scale?
5. Does each as-built drawing contain the Engineer's & Surveyor's Certification Statements? Are the statements filled out?
6. Are slopes greater than 2:1 certified by an engineer?
7. Has a Notice of Termination (NOT) been submitted for projects that received a Notice of Coverage?

Yes	No	N/A

As-Built Drawings - Storm Drainage Structures:

1. Are all drainage pipes and structures located correctly on the drawings?
2. Is each drainage pipe labeled with slope, length, size or diameter, material, inverts?
3. Is each drainage structure labeled with top and invert elevations, size, material, detail #, and coordinates based on a known control system?

Yes	No	N/A

As-Built Drawings - Water Quality Structures:

1. Is the structure located correctly on plan view, with labeled facility & access easements?
2. Are the manufacturer's identification number, make, model, and size shown on plans?
3. Are specification sheets, operation instructions, and maintenance guidelines provided?

Yes	No	N/A

As-Built Drawings - Detention Basins:

1. Do all plan views correctly show detention basin at a readable scale, with 1-foot contours?
2. Are locations and invert elevations for all pipe/ditch outfalls into detention basin shown?
3. Are detention basin and access easements shown and labeled? Are all conflicts avoided?
4. Does the plan include accurate details of outlet structures, including all orifices and weirs, such as size, diameter, invert elevation, means of anchoring, underdrain systems, etc?
5. Does the model show pre developed and post developed soil types, CN, Tc, drainage areas, etc...? Is a map included showing the pre developed and post developed drainage areas?
6. Does the model use the reduced as-built volume per the ordinance? Is the as-built volume and reduced volume shown in a table?
7. Does the model compare pre developed peak flows to as-built peak flows?
8. Are First Flush calculations included? Is First Flush volume and 24-72 hour draw down time provided?
8. Does detention basin adequately attenuate the 1, 2, 5, 10, 25, and 100-year storm events?
9. Has minimum freeboard of 1 foot been provided between 100-year storm and top of berm?

Yes	No	N/A

As-Built Drawings - Public Streets and Joint Permanent Easements:

1. Are street right-of-way, easement boundaries, and street centerlines shown and labeled?
2. Are all structures within the public right-of-way or public easement shown and labeled? (such as: pavement, curb, gutter, inlet, catch basin, manhole, pipe, streetlight, retaining wall, pole, sidewalk, large tree, utility structure, structural sign, or ornamental structure)
3. Is a street profile provided (to scale) with the as-built elevations at 50' increments, or as necessary, to ensure a smooth profile? Are street grades, horizontal curvature, and K values provided?
4. Is the typical street cross-section shown with widths and all pavement depths?
5. Is all striping installed per plan?
6. Are all Pedestrian Crossings (buttons, ramps, etc.) ADA compliant?

Yes	No	N/A

As-Built Drawings – Retaining Walls:

1. Are walls located on the as-built drawings with top and bottom wall elevations shown?
2. Has a certification/inspection letter, geotechnical reports, calculations, and drawing been provided for as-built walls that affect right-of-way, dwelling structures, and/or stormwater facilities?
3. Do the as-built calculations show a factor of safety of 3.0 for field tested bearing capacity, 2.0 for overturning, and 1.5 for sliding?
4. Do the as-built drawings for the wall show a typical detail, profile view, footing size/type, material used to construct wall, steel layout, geo-grid type, geo-grid embedment depth, backfill material, drain locations, dimensions of wall, etc...?

Yes	No	N/A

As-Built Drawings – Parking & Access:

1. Are all new parking areas shown with dimensions and space counts?

Yes	No	N/A

As-Built Drawings – FEMA/Floodplains:

1. Are all FEMA boundaries shown (floodway, 100-yr & 500-yr floodplains, no-fill, etc.)?
2. Was an Elevation Certification required and has it been provided?
3. Is an as-built No-Rise required? LOMR required?

Yes	No	N/A

As-Built Drawings – 3rd Party Inspections

1. Have all necessary 3rd Party Inspections been provided?
 - Storm Installations
 - Roadways/Road Patch
 - Underground Detention (vaults, pavers, etc.)
 - Sidewalks
 - Retaining Walls

Yes	No	N/A