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:

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? Yes No N/A
2. Are seal and signature for the certifying Engineer & Surveyor shown on as-built drawings? Yes No N/A
3. Does each as-built drawing contain survey benchmarks or other reference points? Yes No N/A
4. Does each as-built drawing contain a north arrow and bar scale? Yes No N/A
5. Does each as-built drawing contain the Engineer’s & Surveyor’s Certification Statements? Are the statements filled out? Yes No N/A
6. Are slopes greater than 2:1 certified by an engineer? Yes No N/A

As-Built Drawings - Storm Drainage Structures:

1. Are all drainage pipes and structures located correctly on the drawings? Yes No N/A
2. Is each drainage pipe labeled with slope, length, size or diameter, material, inverts? Yes No N/A
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
4. Is pump system data included? (location, pump make and model, capacity, switch design, inlet and discharge sizes, maximum & minimum water surface, and head-flow curves) Yes No N/A

As-Built Drawings - Water Quality Structures:

1. Is the structure located correctly on plan view, with labeled facility & access easements? Yes No N/A
2. Are the manufacturer's identification number, make, model, and size shown on plans? Yes No N/A
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? [Yes] [No] [N/A]
2. Are locations and invert elevations for all pipe/ditch outfalls into detention basin shown? [Yes] [No] [N/A]
3. Are detention basin and access easements shown and labeled? Are all conflicts avoided? [Yes] [No] [N/A]
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? [Yes] [No] [N/A]
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? [Yes] [No] [N/A]
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? [Yes] [No] [N/A]
7. Does the model compare pre developed peak flows to as-built peak flows? [Yes] [No] [N/A]
8. Are First Flush calculations included? Is First Flush volume and 24-72 hour draw down time provided? [Yes] [No] [N/A]
9. Does detention basin adequately attenuate the 1, 2, 5, 10, 25, and 100-year storm events? [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? [Yes] [No] [N/A]
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) [Yes] [No] [N/A]
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 and K values provided? [Yes] [No] [N/A]
4. Is the typical street cross-section shown with widths and all pavement depths? [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? [Yes] [No] [N/A]
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? [Yes] [No] [N/A]
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? [Yes] [No] [N/A]
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]