



## **Standard PAC Comments – Residential – Engineering & Stormwater Reviews**

Comments from Robert Roux, PE

Revised: 2/22/2023

- 1) Site plan review must be applied for and submitted through eTrakit (<https://greeretrakit.cityofgreer.org/etrakit/>) as a **Site Development Project – Residential** subtype. All plan submittals must be done through eTrakit. Contact me if you need assistance. I do not need hard copies of plans or SWPPP.
- 2) Site Development Project (SDP) plan review fee can be paid for online through eTrakit, or payment at City Hall. Paying online will add a 2.89% credit card processing fee.
- 3) The Site Development review process involves reviews from City Building, Fire, Planning, Zoning, Engineering, and Stormwater Departments. Upon submission, review comments will be returned to the site engineer within 1 month. The Site Development Review process is iterative and may take several rounds of reviews.
- 4) Once the Site Development Project is approved, the Notice of Intent and plan review approval will be forwarded to DHEC. Then we will direct you to have the contractor apply for the City Grading Permit.
- 5) A completed City of Greer Stormwater Plan Review Checklist must be provided with your SDP submittal.
- 6) Pet waste stations are required for all residential projects.
- 7) Provide peak hour trip calculation. If greater than 50 peak hour trips, a Traffic Impact Study (TIS) is required. Coordinate with Planning department on scope of the study.
- 8) Provide sight distance length and triangle per SCDOT ARMS Manual Chapter See figure 7-23 for sight triangles and Table 7-12 for Intersection Sight Distances. Ensure eye height profiles are provided
- 9) Potential roadway improvements required on the adjacent roadways (outside of the TIS improvements). Coordinate with the City Engineer before/during site plan submittal.
- 10) Stormwater As-built survey is required for the storm drain system. Refer to Standard GIS PAC comment for the formatting and submission requirements. Add notes specifying this to the Sequence of Construction.
- 11) All retaining walls must be permitted regardless of height. The wall permit must be issued before a City of Greer Grading Permit can be issued. Retaining walls that are 4 feet in height or greater require engineered plans and must be reviewed/approved by the City Building Official. Refer to the [Retaining Wall Checklist](#) on the City of Greer website.

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- 12) A City of Greer demolition permit must be received prior to demolition of structures. The demo permit must be issued prior to the issuing the grading permit.
- 13) This site requires a DHEC/NPDES permit, stormwater bond or letter of credit, stormwater maintenance agreement(s), and City of Greer Grading Permit prior to initiating land disturbing activities.
- 14) Stormwater Surety Bond – Please make sure the owner is aware of the City of Greer’s Stormwater bond requirements. This information can be found on the City’s Stormwater webpage.
- 15) Provide a Stormwater Bond Estimate; make sure it stamped with PE stamp and COA stamp. The bond estimate must include construction entrance, silt fence, check dams, temporary diversions, detention/sediment basin, pond fence, skimmers, baffles, seeding/permanent stabilization, and Engineer Closeout and Certifications. (All items associated with maintaining sediment and erosion controls.) Also, add a 20% Contingency on the overall cost.
- 16) All engineering plans, calculations, certifications, and bond estimates submitted for review must be stamped with both the engineer’s seal and the Certificate of Authorization.
- 17) Per city ordinance detention of the 2-, 10- and 25-year events is required. Safe discharge of the 100-year storm event is also required.
- 18) Use appropriate rainfall depths rainfalls from the SCDHEC BMP manual.
- 19) Stormwater quality treatment is required. The first inch of runoff must be addressed.
- 20) Storm Drain Design – To account for the tailwater effect of the proposed detention pond/system, you must force the HGL of the pipes outfalling into the pond to be at the 10-yr stage elevation of the pond.
- 21) Any pond areas should be considered impervious in the CN calculations with a CN of 98.
- 22) Hydrology calculations – Peaking/Shape Factor - The Peaking Factor must have different values for the pre- and post-development hydrographs. The Peaking Factor reflects the ability of the watershed to retain and delay the flow of the watershed. This ability is typically greater (lesser peaking factor) during pre-development (e.g. value of 300) and greater for post-developed (e.g. value of 400). See Table 2 here for values:  
[https://www.nohrsc.noaa.gov/technology/gis/uhg\\_manual.html](https://www.nohrsc.noaa.gov/technology/gis/uhg_manual.html)
- 23) Provide slope and swale matting calculations showing the selected matting product is adequate – for example, see North American Green design software:  
<https://nagreen.com/ECMDS>
- 24) Per city stormwater ordinance Section 90-368 (c) (1) – Individual lot drainage swales designed to carry stormwater between individual residential lots shall be placed on a 10 ft. drainage easement, (five feet on each side of the lot line). All other easements shall be according to city ordinance.
- 25) The site is subject to the 2021 Construction General Permit and its requirements.
- 26) The only allowable non-stormwater discharges are those listed in the CGP and SMS4 permit.

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- 27) Construction General Permit buffer requirements apply to all streams, wetlands, or other surface waters. The buffer for a TMDL watershed is 45-ft. A surface water protection plan and maintenance notes are required on the plan sheets when buffer widths are reduced.
- 28) If wetlands/ WOS are within 100 ft. of disturbance, please provide a wetland delineation plan sheet and provide a status of the wetland delineation verification from ACOE.
- 29) The preferred hydrology/hydraulic software is Hydraflow.
- 30) Sediment trapping efficiency calculations are required. Per state law and City Ordinance you must achieve 80% trapping efficiency. You may need to achieve a greater trapping efficiency in order to meet the quantitative and qualitative assessment requirement. SedCad is the preferred method of calculating trapping efficiency.
- 31) Plan scale and contour intervals must be readable for review without magnification.
- 32) If the site contains existing wells or septic tanks, they will need to be closed per DHEC requirements.
- 33) Make the first plan sheet the title page. It should include the site data table and the Owner's Certification Statement depicted below:

Total Site Area	_____ Acres or Ft2
Disturbed Area	_____ Acres or Ft2
Developed Impervious Area (by parcel number)	_____ Acres or Ft2
Receiving Stream	
Ultimate Receiving Stream	
Import/ Export Estimate	
Proposed Retaining Wall(s)	"Yes" or "No"

*"I \_\_\_\_\_ certify that the land disturbing activity will be accomplished to the plan approved by the City of Greer and SC DHEC."*

*"I \_\_\_\_\_ acknowledge as the property owner and person ultimately responsible for the land disturbing activity at this site, the right of the City of Greer or SC DHEC to conduct on-site inspections."*

- 34) Use the City of Greer Standard Notes which include grassing specifications. All notes must be provided on the plan sheets. Contact the Stormwater Department for standard notes.
- 35) Use SCDHEC BMP manual details when available. Details should include the DHEC title block.
- 36) A pre-submittal meeting with the Stormwater Manager is required prior to plan submission. Contact the Stormwater Department to schedule the pre-submittal meeting.
- 37) After the pre-submittal meeting, the SWPPP and plans can be submitted via eTrakit.

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38) The plan review process will not be initiated until the pre-submittal meeting is conducted, the plan review invoice is paid, and a complete submittal is provided.

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