

Engineering has reviewed the plans for the Circle K on Market Street project submitted July 18, 2018 and have the following comments:

Stormwater Management Permit Application Form

1. IV. Project Information; #14: Percent impervious area appears to be incorrect. Even though the SCM does not provide treatment for the offsite impervious within the offsite drainage area, it should still be included in the percent impervious area.
2. IV. Project Information; #15: Complete this item as there is offsite impervious draining to the SCM.
3. *Previous Comment: VIII. Applicant's Certification: Please submit the original page 7. The City requires original signatures. I did not receive page 7 with the original applicant signature.*

Stormwater Report

4. Methodology :
 - a. Note only: As stated previously, this project qualifies as a redevelopment project. Therefore, the site must provide treatment for the first flush, the 1.5" storage volume only. Water quantity (pre/post) is not required. The first paragraph in the Methodology section of the Stormwater Report alludes to a pre/post requirement, which is not accurate.
 - b. The analysis must use a type III 24 hour storm distribution. Please revise.
5. Pre-Developed Conditions/Post-Developed Conditions: No pre/post requirement due to redevelopment qualification.
6. Post-Developed Conditions: The curve numbers and times of concentration for Basins 5, 6 and Pond do not match the routing analysis.
7. Post Developed Drainage Area Map Pond: Basin 6 DA does not match the DA found in the routing analysis or the table on page 6.
8. Water Quality Volume Calculations:
 - a. Pre-Developed Conditions calculations are not necessary.
 - b. Post-Developed Conditions: Please use the Simple Method Equation ($R_v=0.05+0.9I_A$) provided in the Stormwater Calculations (Section B) of the NCDEQ Stormwater Design Manual and recalculate the required storage volume for the 1.5" design storm.
 - c. Two different drainage areas are shown in the post-developed conditions calculations.
9. Provide the drawdown time of the required storage volume per the MDCs.
10. Pre-Development Routing Analysis is not required.
11. Post Developed Wilmington: Use Type III 24-hr.
12. What tailwater condition was used for the 10-year and 50-year storm analyses?
13. Per the technical standards, please provide the 10-year storm event where the basin has stopped infiltrating (5. Overflow; page 5-59).
14. Please provide a fully executed Supplement and Operation and Maintenance Agreement for the Infiltration Basin.

Site Development Plans

15. C-3.0: Based on the grading plan, there is more runoff leaving the site through the Market Street entrance than is indicated on the Post-Developed Pond Drainage Area Map. Again, all on-site newly constructed impervious surfaces must be collected and treated unless there are physical site constraints. Can more of the Market Street entrance be collected and conveyed to the infiltration basin?
16. C-3.0: If the emergency spillway is activated during the larger storm events, where will the flow be directed once past the emergency spillway? The grading plan provides no indication of where that water will go.

17. Provide infiltration basin cross-section details to the plan set to better illustrate the design. Show the relationship of the seasonal high water table elevation to the bottom of the basin. Are in-situ soils being used or will the bottom be lined with any sand?
18. Compaction of the soils at the bottom of the infiltration basin must be avoided during construction. How is this addressed in the site development plans?

Please submit one complete set of plans, the stormwater report, application, supplement, O&M Agreement and any other supporting documentation to Engineering for additional review. Please call or email if there are any questions. Thank you.