

MEMORANDUM

TO: Mark Noble, Senior Planner

FROM: Kirby Templin, Water Resources Engineer, PE

SUBJECT: Canterbury Park 7th Addition – Stormwater Review Comments - 2

DATE: March 29, 2018

This memo summarizes the stormwater review comments for Canterbury Park 7th Addition.

The following documents were submitted for review:

- Prelim SWMR – Canterbury Park Development, Dated February 27, 2018
- 20629.01 Plan and Profile, Dated March 1, 2018
- 20629.01 PUD-SITE, Dated February 1, 2018

General

1. Provide a comment response memo.
2. Submit a geotechnical report.
3. Existing conditions needs to be included in the analysis. Include an existing conditions drainage map with labels. Include all subwatersheds that contribute to the drainage system/analysis, which includes any/all run-on areas.
4. Add labels to the proposed conditions drainage map that correspond to naming convention in SWMP and model.
5. Include all watersheds in the model analysis and drainage maps that contribute to proposed stormwater infrastructure, and to discharge points that are affected by the proposed project. This includes any/all run-on watersheds to the site that need to be accounted for in the design. There also appears to be two ponds near one of the roundabouts, these should be included in the analysis and their contributing drainage areas sub-delineated on the watershed map. Include summary/purpose of these ponds in the SWMP.
6. There are proposed streets (Shenandoah Drive, Vierling Drive, Proposed Street) currently falling within the future development watershed areas A and B that appear to be a part of the street construction phase. It appears the runoff from these streets is proposed to be routed to existing Canterbury Park stormwater management system.
 - a. The streets need to be sub-delineated, modeled, and stormwater treatment needs to be provided as part of the proposed plan.
 - b. The public stormwater runoff from the streets cannot be routed to the private Canterbury stormwater management system.
7. If feasible, separate the existing 42" outlet pipe from the proposed stormwater management system so that it is not routed through the proposed regional pond.
8. Summarize the actual proposed impervious areas for the street and Phase 1 areas in the SWMP instead of generalized landuse assumptions.

9. Provide a rate control summary for all discharge points (including “westerly” and others as needed). The summary should include existing, proposed, and “allowed” rates for the 2-, 10-, and 100-year events at all ultimate discharge points.
10. Provide a runoff volume summary for all discharge points for the 2-, 10-, and 100-year events.
11. Provide a summary of contributing drainage areas to all ultimate discharge points for existing and proposed conditions.
12. Include a summary in the SWMP on the MIDS Pond level 3 design criteria and comment for each criterion why the proposed pond meets the criteria.
13. Label the proposed basins with a basin ID, the NWL, and the HWL on the plans.
14. Add a section to the SWMP that clearly details all the design assumptions for any future development areas that are included in the design and sizing of proposed BMPs or stormwater infrastructure. List the assumptions for future development including area, percent impervious, CN and soil group, and where stormwater treatment is accounted for (Pond A, etc). Add any additional design criteria/assumptions that were used for stormwater design as needed.
15. Clearly label EOF paths and elevations on both sets of plans.
16. Include a detail for the pond EOF, call out the detail on the plans.

Modeling

17. Change the advanced calculation setting to calculate separate Pervious/Impervious runoff.
18. Use Atlas14 precipitation data with the MSE3 rainfall distribution. (2-year = 2.9-inches, 10-year = 4.25-inches, 100-year = 7.4-inches, 10-day snowmelt = 7.2-inches)
19. Provide an existing conditions model.
20. Use the actual proposed impervious areas for the street and Phase 1 areas instead of generalized landuse/CN assumptions. For future phases/outlots, you can use an assumed percent impervious however those areas will need to demonstrate that the proposed development does not exceed the assumed impervious areas.
21. Include HydroCAD reports for the 2-, 10-, 100-year, and 100-year 10-Day Snowmelt Condition. Include the model report for the pond dead storage runoff volume from the 2.5-inch event.
22. Switch hydrographs to 2D in the HydroCAD report.

Storm Sewer

23. Provide storm sewer sizing calculations.