

City Comment Response #2

Project: Lakewood Business Center on I-470 Preliminary Plat

Owner: Ward Development

Powell CWM Project Number: 21-1883

Application Number: PL202153

Date: 10/18/2021

The responses below are in regard to the **Preliminary Plat Applicant's Letter** received on (August 31th 2021). The necessary drawings have been updated.

Preliminary Plat Review

Plan Reviewer: Gene Williams, P.E.

Item Review: Engineering Review

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Phone number: (816) 969-1223

1. The sanitary sewer study was incomplete. The analysis shall include flows from existing pump station upstream of the site, as well as watershed downstream of the site. This analysis shall be extended to include the line(s) all the way to the west lake at Lakewood, just prior to entering the 30 inch line beneath the lake. Measured flow data is provided separately below for the pump station, as well as future build-out conditions for the future pump station(s).

Response: **See revised sewer report with additional analysis included.**

2. Existing conditions: 14 million gallons per day (MGD) from the Tudor lift station upstream of the project. Anticipated flows within 10 years are 14 MGD from Tudor pump station, and 1.65 MGD from the Property Reserve, Inc. pump station #2 for a grand total of 15.65 MGD. Anticipated flows within 20 years are 14 MGD from the Tudor pump station, 1.65 from the Property Reserve, Inc. pump station #2, and 4.08 MGD from the Property Reserve, Inc. pump station #3.

Response: **See revised sewer report with additional analysis included.**

3. Sanitary sewer analysis shall provide an analysis of the existing condition, the conditions within 10 years, and the conditions within 20 years. Each scenario shall be evaluated separately within the report.

Response: **See revised sewer report with additional analysis included.**

4. As-builts may be utilized, or GIS records to perform the analysis described above.

Response: **Acknowledged.**

5. The sanitary sewer analysis shall include all pumped flows contributing to the lines associated with this site, along with all drainage areas associated with the lines upstream and downstream of this site. It shall end at manhole #10-174 near the west lake at Lakewood.

Response: **See revised sewer report with additional analysis included.**

6. Sanitary sewer analysis shall include diagrams of the drainage areas being analyzed, diagrams of the downstream and upstream contributors to flow, sanitary sewer lines being analyzed, profile views of the sanitary sewer lines downstream of the site, tables showing calculated flows, k values, rainfall intensity, chart values, drainage area, time of concentration, and any other information necessary to support the conclusions and recommendations contained within the report.

Response: **See revised sewer report with additional analysis included.**

7. Sanitary analysis discusses infiltration and inflow under Section 2.0 Methodology. The fourth sentence states the I&I is 0.381 cfs/acre using Figure 6501-3. Shouldn't this be 0.381 cfs? The chart presents I&I in cfs/acre, and our calculations and unit analysis yield 0.38 cfs rather than 0.38 cfs/acre.

Response: **Typo acknowledged. Section 1 Methodology utilized for revised report.**

8. Recommend the sanitary sewer analysis include the maximum peak base flow for the site within the conclusions and recommendations. As shown in the methodology section of the report, this value is 291,000 gallons per day. This figure shall be useful to a potential buyer to determine future allowances for industrial use.

Response: **Maximum site peak base flow allowed and proposed are provided.**

9. Plan sheets were uploaded "one sheet at a time". For future submittals, please submit the Preliminary Plat as a single pdf multi-page document.

Response: **Acknowledged**

10. Sheet 1 of 4 "Preliminary Plat" sheet is illegible. It appears the document was folded to a point where a portion was not included, scanned, and uploaded, and portions of the document are missing near the fold.

Response: **Acknowledged.**

11. Sheet 1 of 4 "Preliminary Plat" sheet is missing the ADA ramp across MacGuire at the location of the missing (i.e., folded) area on the sheet.

Response: **Acknowledged. ADA ramp shown.**

12. Storm drainage plan does not appear to include the 48 inch line entering the site from the southwest. In addition, it appears an open channel is planned between Lots 4/3 and 2/5. This open channel is also shown in an access easement and general utility easement. Why was this designed as an open channel? It would appear an enclosed underground system would be better suited for this area. Why was the 48 inch pipe not shown? Why was a 30 inch pipe selected for the preliminary design between Lots 6 and 7? We realize this is a preliminary plan, but it does not appear realistic. Please re-evaluate and provide a more realistic design.

Response: **Storm system revised to include 48" offsite storm pipe.**

13. A wider easement is required for the 108 inch pipe contained within the northeast portion of the site. The 15 foot easement is not sufficient. The width of the easement should be increased by a minimum of 10 feet on the west side of the easement to accommodate the large pipe diameter.

Response: **Easement increased to 25'.**

14. A 42 inch pipe is shown along the west side of Lot 1. Why was this size selected? It would appear this pipe size is too small based on the upstream conditions. Please see previous comments concerning the lack of a realistic design to manage stormwater for the site. We realize this is a preliminary plan, but a realistic plan should be provided.

Response: **Storm system revised to include 48" offsite storm pipe.**

15. A 36 inch storm line is shown exiting Lot 2 to the northeast beneath the street. Why was this size specified? Please see previous comments concerning upstream conditions, and providing a realistic preliminary stormwater design.

Response: **Storm system revised to include 48" offsite storm pipe.**

16. Sanitary sewer manholes should be located at the centerline of roads. Please revise.

Response: **Revised as requested.**

17. Utility sheet shows a 10 inch sanitary sewer from the site entering an existing 8 inch sanitary sewer. Our records indicate the existing downstream sanitary sewer at the west end of Maguire is a 10 inch rather than an 8 inch line. Was your evaluation based on a field survey? Was it based on as-built Record Drawings? If so, our Record Drawings indicate this line is a 10 inch.

Response: **Existing sanitary sewer field verified as 10" and revised.**

18. Utility sheet shows a 10 inch sanitary sewer entering the existing manhole at an angle not allowed by the Design and Construction Manual. It shall be no more than a 90 degree deflection angle. It currently shows 110+/-degree deflection angle.

Response: **Sanitary sewer revised.**

19. Water main along Maguire shall be looped to the existing water main on the west end of Maguire. Please revise.

Response: **Water extended to east to tie into existing water main.**

20. Off-site grading activities appear to be shown on Lot 27, Lakewood Business Center on I-470 Plat K. This shall require the acquisition of suitable agreements with the adjacent property owner.

Response: **Acknowledged.**

Sincerely,



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