
PUBLIC WORKS ENGINEERING DIVISION

Date: Thursday, February 22, 2018

To:

PHOENIX ENGINEERING & SURVEYING LLC

Brian Glenn, P.E.

Email: BRIAN@PHOENIX-LLC.COM

Fax #: (660) 429-1801

From: Gene Williams, P.E.

Senior Staff Engineer

Application Number: PL2017194

Application Type: Engineering Plan Review

Application Name: Whispering Woods 1st Plat - On-Site Sanitary

The Development Services Department received plans for this project on Feb. 15, 2018. We have completed our review and offer the following comments:

Engineering Review

1. The sanitary sewer alignment does not follow the approved Preliminary Development Plan dated Feb. 5, 2017. Although the exact location may be changed to an extent, the alignment shown in the vicinity of Lots 1 through 12 are significantly different. The sanitary sewer is shown in a parallel arrangement with the existing 24" sanitary sewer, rather than along the roadway. The sanitary sewer is also shown in the rear yards, which is a violation of the Design and Construction Manual.
2. The revision sheets contain several design changes that were not reflected in the original comment letter or the "response to comments" letter. Unless major alignment changes are revised, we have been requiring that all revisions include appropriate notation (e.g., revision clouds or other appropriate methods) showing the revision, the date of the revision, and other notes indicating what was revised. The problem that we have in reviewing these re-submittals is that revisions are made in accordance with the comments, but other, non-documented changes are made without our knowledge. This has lead to a number of issues, including plans that do not meet the standards set forth in the Design and Construction Manual.
3. Several locations of future sanitary sewer extension (i.e., manholes where the sanitary sewer will be extended in the future) now show stub-offs. These were not shown on the previous submittal, nor were any revision clouds provided. Stub-offs are not allowed for future extensions of public sanitary sewer. Any future extension must be core-drilled. This is a requirement of the Design and Construction Manual.
4. Sheet 5 of 10: Grading is different than the previous submittal, with no indication of the revision either by way of "revision cloud" or other means. In addition, it appears the depth of cover is slightly over the limit

of fifteen (15) feet immediately downstream of MH A-4.

5. All Plan and Profile Sheets: We are recommending a large note be placed on all plan and profile sheets stating that "FUTURE SANITARY EXTENSIONS TO BE CORE-DRILLED - NO STUB-OFFS ALLOWED". The intent is to eliminate any misunderstanding on the part of the contractor when ordering manholes. In any case, if manholes are delivered to the site with the future extension holes already cast, they will be rejected by the City.
6. Sheet 5 of 10: MH A-1 F/L IN on the profile does not appear to match what is shown on the plan view. In addition, The F/L IN and F/L OUT shown on the plan view does not appear to make sense. However, please refer to comment #1 of this letter. It appears a complete re-design is warranted to ensure the plans conform to the approved Preliminary Development Plan, and the Design and Construction Manual.
7. Sheet 6 of 10: Temporary stub-offs are shown in the plan view on MH D-3 and MH B-4. As previously discussed, these features were not shown on the previous submittal, and were not documented using revision clouds or other means. However, temporary stub-offs are not allowed. All future extensions of sanitary sewers must be performed by core drilling into the existing manhole, and connecting the pipe to the existing manhole.
8. Sheet 6 of 10: It appears there is a drop greater than allowed by the Design and Construction Manual at MH B-1. It appears a drop manhole is warranted for such a large drop.
9. Sheet 6 of 10: MH B-1 is called-out as an existing manhole, and the 24" sanitary sewer line to the northeast of this manhole is called-out as existing. This does not appear to be correct. Aren't these proposed features?
10. Sheet 7 of 10: A temporary stub-off is shown in the profile view for Line E, at MH E-3. As previously discussed, this feature was not shown on the previous submittal, nor was it documented in terms of revision clouds. Finally, temporary stub-offs for future sanitary sewer extensions are not allowed. All future sanitary sewer extensions must be core-drilled into the manhole. The City will reject any manhole brought to the site which has pre-cast holes for future extensions.
11. A trenching and backfill detail was not provided. Please be aware the MDNR will not approve plans that are missing this detail.
12. A frame detail was not provided. The lid detail was satisfactory, but the frame detail was missing. The MDNR will reject plans without these details.
13. Regarding the realignment issue discussed in comment #1, any waiver request would need to be approved by the City, and appropriate notes placed on the plans stating that a waiver has been granted. Any waiver request would need to be accompanied by a diagram showing the original alignment, the proposed alignment, the reasoning behind the revised alignment, and grading plans showing the rear-yard

sanitary sewers are accessible to two-wheel drive vehicles. Appropriate clearing and grading activities would be required, with cross-slopes and running slopes adequate for access to two-wheel drive vehicles. At this time, the City cannot support such a waiver because it appears there are better alternatives than the proposed alignment. Ideally, the original alignment shown in the Preliminary Development Plan would be satisfactory, but the storm crossing feature on SW River Run Dr. may present a challenge. Other alignments, however, appear to exist which would not require a waiver to the City's Design and Construction Manual, and we would recommend this be explored.

In order to calculate the Engineering Plan Review and Inspection Fee, a sealed Engineer's Opinion of Probable Construction Costs shall accompany your final submittal copies. The itemized estimate (material and installation) shall be sufficiently broken down and shall include the following items, as applicable.

- Public infrastructure, both onsite and offsite.
- Private street construction, including parking lots and driveways.
- Sidewalks located within the right-of-way.
- ADA accessible ramps.
- Sanitary sewer manholes and piping between manholes, including private mains.
- Connection of the building sanitary sewer stub to the public main.
- Waterlines larger than 2 inches in diameter, valves, hydrants, and backflow preventer with vault, if outside the building.
- Stormwater piping greater than 6 inches in diameter, structures, and detention / retention facilities - public or private.
- Water quality features installed to meet the 40-hour extended duration detention requirements.
- Grading for detention / retention ponds.
- Grading to establish proper site drainage.
- Utility infrastructure adjustments to finished grade (i.e. manhole lids, water valves, etc.).
- Erosion and sediment control devices required for construction.
- Re-vegetation and other post-construction erosion and sediment control activities.

Electronic Plans for Resubmittal

Development engineering plan resubmittals shall include an electronic copy of the documents as well as the required number of paper copies.

Electronic copies shall be provided on CD in the following formats

- Plats – All plats shall be provided in Tagged Image Format File (TIFF) Group 4 compression.
- Engineered Civil Plans – All engineered civil plans shall be provided in Tagged Image Format File (TIFF) Group 4 compression. All sheets shall be individually saved and titled with the sheet title.
- Architectural and other plan drawings – Architectural and other plan drawings, such as site electrical and landscaping, shall be provided in Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).
- It is requested that each plan sheet be a maximum of 2MB.

Please contact me if you have any questions or comments.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer
(816) 969-1223
Gene.Williams@cityofls.net

cc: Development Engineering Project File