

Date: Friday, March 26, 2021

To: Matt Schlicht, P.E., Engineering Solutions

From: Gene Williams, P.E.
Senior Staff Engineer

Application Number: PL2021079

Application Type: Engineering Plan Review

Application Name: WOODLAND OAKS - OFFSITE SANITARY SEWER (located in Woodland Shores subdivision, to the south of Woodland Oaks)

The Development Services Department has completed its review of the above-referenced plans, and offers the following comments:

- Revised plans will be reviewed within ten (10) business days of the date received.

Engineering Review

1. HDR's review recommended the upsizing of segments 26-192 to 26-174 and 26-174 to 26-173. The plans from ES did not include the upsizing of segment 26-174 to 26-173.
2. Existing manhole numbers should be shown.
3. Sheet C.402: Sta. 2+14.60 should be 2+09.74?
4. Specifications don't seem to be aligned with the intent. Sheet C.402 called out PVC replacement pipe. Specification seems geared towards HDPE with little to no mention of PVC. PVC has to be restrained to be used for pipe bursting. This needs to be clarified in the specifications. Also, PVC can't be used with pneumatic bursting head.
5. References are made to VCP jacking pipe and fittings and FRP and Polymer concrete jacking pipe and fittings. These paragraphs don't seem necessary unless there is something that I am missing
6. There are questions concerning the final flowline elevation of the pipe once pipe bursting is complete. It appears at least two of the manholes may have no drop across the inverts in the present condition. After pipe bursting, it is our understanding the pipe will match the existing flowline elevation, and the pipe bursting will cause the pipe to move in the upward direction rather than downward. Please confirm,

because if this is not the case, there may be issues.

7. Please change the title of the plans to "Woodland Oaks Off-Site Sanitary Sewer Improvements". If desired, you may choose to note that the improvements are located within the Woodland Shores subdivision, but the title needs to reflect Woodland Oaks.

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

All Planning application and 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 in the following formats

- Plats – All plats shall be provided in multi-page Portable Document Format (PDF).
- Engineered Civil Plans – All engineered civil plans shall be provided in multi-page Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).

Please contact me if you have any questions or comments.

Sincerely,

/s/ Gene Williams electronically signed Mar. 26, 2021

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

cc: Development Engineering Project File