
PUBLIC WORKS ENGINEERING DIVISION

Date: Monday, May 01, 2017

To:

OLSSON ASSOCIATES

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From: Gene Williams, P.E.

Senior Staff Engineer

Application Number: PL2017049

Application Type: Engineering Plan Review

Application Name: Arborwalk North 1st Plat Street, Stormwater, Master Drainage Plan and
Erosion and Sediment Control

The Development Services Department received plans for this project on Apr. 20, 2017. We have completed our review and offer the following comments:

Engineering Review

1. ADA-Ramp Details: It appears Section 5300 of the Design and Construction Manual was not consulted in the design of the ADA-accessible ramps. In most cases, a 2.0% cross-slope was designed as evidenced by a spot-check of the proposed elevations, and running slopes were based on 1:12 slope while the City requires a design standard of 7.5%. Please see Table LS-5 of Section 5300 for specific "Design Slopes" shown on the table. The City requires a design cross-slope of 1.5%, and a running slope of no more than 7.5%.
2. There were several instances where the tactile warning strip was greater than 5 feet from the curb line. The maximum distance between any point on the tactile warning strip is 5 feet.
3. There appears to be a misconception of what is required at the ramp. While it is acceptable to construct the ramp prior to the "landing" (i.e., a turning space?), typically this is not the case. In typical situations, the ramp extends to the curb line, with appropriate turning spaces provided if there are turns to the left or right. These turning spaces must be designed with no more than a 1.5% slope in all directions.
4. Sheet C119: The detail at Arboridge Dr. and Arbor Valley Dr. does not appear to show an appropriate turning space. A 4 foot minimum turning space is required, unless a curb is present behind the turning space, in which case a 5 foot minimum clear distance is required for the turning space. It appears only 3 feet is shown.

5. Sheet C119: It is not clear what is being proposed for the "receiver ramps" on the north side of Arbor Valley Terr. From the elevations shown, it appears there is no ramp at these locations. It appears the sidewalk adjacent to the ADA-accessible ramps are lower than the curb and gutter, which is generally not allowed. If the ramps are constructed in this way, drainage will be directed to the ADA-accessible ramp, which is not a desirable situation.
6. Sheet C119: Tactile warning strips were not shown on the ADA-accessible "receiver ramps" discussed above.
7. ASheet C119 and C120: Notes at the bottom of the sheet are not correct. Ramp running slope should be designed for a maximum of 7.5%. A turning space is required at all directional changes. "Landings" are not necessary.
8. Please be aware that the design details specified in Section 5304.8 will be required going forward. In other words, for purposes of this review they are not required but in the future, will be required.
9. Master Drainage Plan: The note concerning the installation of side yard swales for the lots 87 through 94 is a good start, but please show this graphically on the Master Drainage Plan. Perhaps an asterick and note with a drainage arrow?
10. Master Drainage Plan: The scale appears to be in error. Is this a 50 scale?
11. Sheet C129: DB 15-2 appears to have been mislabeled on the detail inset. Is this DB 16-2?
12. It did not appear the ADA-accessible ramps near Hook Rd. were detailed. Please provide details for the construction of these ramps.
13. Sheet C112: It appears there are incorrect references to the ADA-accessible ramp details. Sheet C120 is called-out, but it appears that in most cases, it is actually Sheet C119?
14. All Sheets Containing Sidewalk and ADA-accessible Ramps: Since the plans call for installation of sidewalk and ADA-accessible ramps during construction of the subdivision, these features will be required as part of the subdivision construction. If this is not the case, then sufficient notes must be provided stating that these features will be installed "by others" or equivalent language. Please be aware that even though the City does not necessarily require the installation of these features during sudvision construction, all areas adjacent to common area tracts must be constructed with the subdivision. In addition, the City has no issue with construction of all of these features with the subdivision if the developer desires.

Traffic Review

1. Sight distance appears to remain an issue for these plans. Please see comment #1 of the previous applicant letter dated Mar. 27, 2017. In addition, the plans do not appear to be constructable based on

the information and details provided on the plans.

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

Beginning Monday, May 23, 2016, 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 will not be required for initial application submittals at this time as the plans are subject to change.

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 Staff with any questions or concerns you may have.

If you have any questions or comments, please contact me, Gene Williams either at (816) 969-1812 or e-mail to Gene.Williams@cityofls.net.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer

cc: Development Engineering Project File