

Date: Wednesday, April 24, 2024

To: OLSSON ASSOCIATES - Terry Parsons, P.E.
1301 BURLINGTON, SUITE 100
NORTH KANSAS CITY, MO 64116

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

Application Number: PL2021226

Application Type: Engineering Plan Review

Application Name: East Trails Middle School - Cape Drive Extension

The Development Services Department has completed its review of the preliminary plans dated Apr. 17, 2024, hydraulic analysis dated Apr. 17, 2024 and cost estimate sealed on May 2021 for the escrow agreement and offer the following comments listed below.

- See comments below to determine the required revisions and resubmit to the Development Services Department public portal located at devservices.cityofls.net. Digital documents shall follow the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within ten (10) business days of the date received.

Engineering Review - Corrections

1. Drainage Easement(s) dedicated to the City should be obtained at this time, not at the time of construction. Please provide these easements on forms provided by the City, along with a graphical representation of the easements. A review copy shall be submitted to the City prior to execution and recording.
2. The cost estimate should be broken-down in terms of the following: 1) street, 2) stormwater, 3) water line, 4) sanitary sewer, and 5) erosion and sediment control. As presented, it is presented in terms of street and sanitary sewer. In addition, the cost estimate is almost 3 years out of date. Please revise the cost estimate and update the cost estimate to account for inflation since 2021 (the date the cost estimate was signed and sealed).
3. Water main is shown with insufficient clearance between storm lines and the box culvert. A minimum 18 inches is required in the vertical direction, and 10 feet in the horizontal direction. Please review and revise as appropriate.
4. Water main is shown too close to the pavement. The water main should be placed south of the sidewalk and fire hydrants shall be placed in the greenspace between the sidewalk and the pavement. Please revise. There may be an allowance at the double box culvert if needed, but this preliminary plan should at

least address the issue of the water main being too close to the pavement. Please revise as appropriate.

5. Based on the results of your analysis, the City recommends the box culvert be upgraded to the double 10 by 5 rather than the double 9 by 5 box culvert. The only rationale given was cost, and given the double box culvert is marginally more costly than the double 9 by 5 option, please upgrade to the double 10 by 5 option. Please revise the report and preliminary plan as appropriate.

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/ electronically signed Apr. 24, 2024

Gene Williams, P.E.
Senior Staff Engineer
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cc: Development Engineering Project File