LEE'S SUMMIT
MISSOURI

DEVELOPMENT SERVICES

Date: Wednesday, March 30, 2022

To: ANDERSON ENGINEERING INC
Garrett Cates, P.E.
941 W 141ST TERRACE SUITE A
KANASAS CITY, MO 64145

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

Application Number:	PL2022092
Application Type:	Engineering Plan Review
Application Name:	COBEY CREEK 2ND PLAT - Street, Stormwater, Master Drainage Plan, and Erosion and Sediment Control/Mass Grading

The Development Services Department received plans for this project on March 14, 2022. We have completed our review 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. Stormwater report was missing from the submittal. No review was performed on Sheet C503 concerning the detention basin construction elevations, storage volume, discharge rates, etc.. Please submit a stormwater report for this phase of the project. Please note we will require a pond setup table or other printout from the software showing the sizing and elevations of various orifices and weirs used in the outle structure.

2. Is the intent to include the erosion and sediment control plan within this plan set? If so, no land disturbance can be permitted until the street, stormwater and Master Drainage Plan have been submitted. You may wish to consider leaving the mass grading, erosion and sediment control plan out of these plans, as most developers are interested in mass grading and erosion and sediment control prior to approval of the street and stormwater plans. Please review and revise as you feel appropriate.

3. Sheet C503: In order to facilitate a smooth approval process of the as-built condition of the detention basin, the following items shall be required on this sheet: 1) 2, 10, and 100 year storage. By providing this information on the construction plans, it will be a simple matter at the back end to provide the as-built information by crossing-out and showing the as-built condition. Please revise as appropriate.

4. Is 4 feet of depth sufficient for the permanent pool? Please be aware that fish cannot survive in this configuration, and it is likely that mosquitoes could become an issue.

5. KCAPWA requires a minimum of 4.0 feet for a permanent pool depth, plus an allowance for 5 years of siltation. It does not appear any allowance was made for siltation. Please review and revise as appropriate.

6. All ADA-accessible Ramp Detail Sheets: At all stop-controlled intersections, please show the minimum 5 foot wide ADA-accessible route across the intersection, including the maximum 1.5% slope across the entire route. Please review and update as appropriate.

7. Please show on the plans where sidewalk and ADA-accessible ramps will be constructed. All ADA-ramps shall be constructed during construction of the improvements shown on these plans, and all sidewalk along unplatted tracts or common area tracts shall also be constructed during construction of the improvements shown on the plans. Please indicate by notes on the plans, preferably on the general layout sheet and the individual plan and profile sheets. All other sidewalk should be noted as "to be constructed by homebuilder" or equivalent language.

8. Regarding sidewalk notes (above comment), it may be easiest to provide notes in the legend, along with corresponding notes on the plan view. The intent should be to clearly show the contractor and inspector the limits of construction of sidewalk and ADA-accessible ramps. Please review and update as appropriate.

9. Sheet C410: The detail on the lower right hand side of the sheet shows a straight-in ADA ramp with detectable warning more than 5.0 feet from back of curb. The detectable warning should be skewed at this location so that no more then 5.0 feet between the detectable warning and the back of curb exists. Please revise.

10. General Note on Master Drainage Plan: All sheets comprising the Master Drainage Plan shall be titled as such. There are sheets related to the Master Drainage Plan that are titled as "Minimum Building Opening", and this is ok but should be prefaced as "Master Drainage Plan". The City also has adopted "Minimum Building Opening Elevation (MBOE)" as the official nomenclature, and this should also be reflected on the sheets comprising the Master Drainage Plan. The reason behind this requirement is that the Master Drainage Plan is used by Development Services permit technicians during plot plan reviews, and it can become confusing on the nomenclature if this is not followed. Please review and revise as appropriate.

11. The MBOEs for the lots do not necessarily need to be specified for each lot. The City has encountered issues with this requirement in the past, and has now adopted a less stringent requirement for setting MBOEs for lots. In general, the following design philosophy is recognized as acceptable: 1) MBOEs are only required along detention basin tracts or emergency overflow swales where the underground system cannot manage the 100 year event without surcharging (i.e., defined as the HGL being less than 6 inches from the throat of the inlet during the 100 year event assuming pressure flow), 2) where overflow swales

are required, the HGL within the overflow swale is generally-calculated as the excess above and beyond what the inlet cannot manage using the criteria specified above in item 1 (i.e., calculation of flow within the overflow swale need not consider a fully-clogged condition, but rather, the incremental flow above and beyond what the underground system cannot manage without surcharging), and 3) any other situation where the design engineer feels that an MBOE is required to protect property from flooding. A minimum freeboard of 2.0 feet is required from he 100 year HGL to the lowest opening in the structure. Please review, analyze, and revise as deemed appropriate.

12. Regarding the above comment, if the design engineer feels MBOEs are prudent for each lot, that is also acceptable. It is not required, however, and I wanted to make you aware of this design philosophy so that individual homebuilders have options during construction, and individual plot plans are then subsequently reviewed on the basis of "good lot grading practice" (i.e., minimum slope away from building, minimum slope in any direction within the lot, etc.).

13. Master Drainage Plan: The City is requiring all lots to specify walkout, daylight, or standard basement types for each lot. Please review and revise as appropriate.

14. Please specify "wet detention" or equivalent language on all sheets where the new detention basin is to be constructed.

15. All Storm Sheets: Recommend all storm lines be sized for the 100 year event (i.e., pressure flow with the HGL no less than 6 inches from the throat of the inlet). If not, emergency overflow swales shall be designated for each scenario, along with detailing of each swale by sections at appropriate intervals. It would appear the system may already be functioning in this fashion, but unclear unless I review the individual calculation sheets. Recommend showing the HGL for the 100 year event on the profile view. If the 100 year HGL is out of tolerance specified above, recommend upsizing the pipe to manage the 100 year event during pressure flow. Please analyze, review, and revise as appropriate.

Traffic Review - No Comments

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 developmrnt 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 mulit-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 Mar. 30, 2022

Gene Williams, P.E.
Senior Staff Engineer
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Gene.Williams@cityofls.net

cc: Development Engineering Project File