

DEVELOPMENT SERVICES

Date: Tuesday, December 03, 2024

To: MATT SCHLICHT
50 SE 30TH ST
LEES SUMMIT, MO 64082

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

Application Number: PRSUBD20245294

Application Type: Public Infrastructure

Application Name: Oldham Village - Mass Grading and Eroison control

The Development Services Department received record drawing documents for this project and 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 five (10) business days of the date received.

Engineer Review - Grading

Reviewed By: Gene Williams, P.E.

Corrections

1. Dam height is measured from top of dam to the lowest point of the receiving creek bed. Since this is higher than 10.0 feet, the dam is subject to TR-60 design requirements. Since the dam is subject to TR-60 requirements with additional freeboard from the 100 year clogged HGL to the top of dam, additional studies, width of the flat spot on the dam, slopes of the dam, and other design criteria listed in TR-60 are required unless the dam height is less than 10 feet. Correction required.
2. Stormwater study should be revised to include the TR-60 design requirements. Correction required.
3. Sheet C.300: Normal drafting practice is to specifically detail the number of pipes in the profile view as well as the plan view? Profile view only shows one (1) pipe. A note should be provided showing three (3) pipes. Correction required.
4. Sheet C.300: Outlet pipes should be RCP rather than HDPE due to the size. Correction required.
5. Sheet C.201: The grading behind (i.e., east property line) 1111 SW Mission Pl. has reverted back to what we commented upon during the Preliminary Development Plan as being not ideal. You changed the grading plan during that process, but it has now reverted back to what was originally shown as not ideal. You are showing the creation of a small swale that directs stormwater towards this lot. It appears this was done because you ran out of space for the detention basin? Correction required if applicable.
6. We need more than a note on the plans about the installation of skimmer in the detention basin. Complete details as normally required on all other previous projects shall be provided. Correction required.

7. Plunge pool or other high discharge method of energy dissipation is warranted for the detention basin storage. Simple rip rap for three (3) RCP pipes is not going to be an acceptable method of energy dissipation. Complete design with details is required. Correction required.
8. Details missing on retaining walls. Complete design information required, including plan and profile views. Correction required.
9. Dam design is incomplete. It shall include plan and profile views, materials and compaction specifications, drain to empty the reservoir within 72 hours, and all other information required under TR-60. Correction required.
10. Sheet C.201: Need additional contours along the southwest portion of the detention basin where contours are unlabeled to evaluate design. Correction required.
11. Sheet C.201: Emergency spillway is shown over the primary outlet works. This does not appear to meet any design standards for dams, including TR-60. Correction required.
12. All storm lines shall be private, and labeled on the profile view with the word "PRIVATE". Correction required.
13. Sheet C.300: Elevation of proposed ground in relation to the outlet structure on the profile view appears incorrect based on your elevations shown. Correction required.
14. Outlet control structure details did not show materials of construction, thickness, reinforcing steel, etc. There were notes, but it should be shown on the drawing. Correction required.
15. You may need a better solution to drain the pond for the water quality event. The small orifice does not contain any detail. Simple notes with a phone number are not sufficient. If this method is desired, provide more detail in the form of material submittals within the plans. Correction required.
17. See Design and Construction Manual for permanent retention basins with a permanent pool. I am not convinced the method you are showing will suffice for such a large retention basin. Evaluation and correction may be required.
18. Where are the steps for the outlet structures? Correction required.
19. Where are the details for the "manway" on the outlet structures? Correction required.
20. Have you received any documentation from the USACE about jurisdictional waters? We will need to see this prior to formal approval. Informational comment.
21. All three (3) details need to be provided for each outlet structure. The note stating that "only one shall incorporate the orifice" is confusing to those in the field. Show all three (3) outlet structures to ensure there is no confusion in the field. Correction required.
22. Did you subtract the storage from the permanent pool from the total storage? If not, that needs to happen. Correction may be required if you did not subtract the permanent pool storage.
23. Rename the plans to Retention Basin, Mass Grading, and Erosion and Sediment Control Plans, or equivalent language. Ensure "Retention Basin" is included in the title.
24. Final review of cost estimate to be completed at a later date, after review of final plans. Informational comment.
25. Curbside calculations showed approximately 850,000 cubic feet of storage for 6 feet of depth to the 100 year design HGL. This does not appear to match what is shown on the plans (i.e., 1,300,000 cubic feet). Evaluate and correct if 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,

Gene Williams, P.E.
Senior Staff Engineer
(816) 969-1223
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cc: Development Engineering Project File