

Date: Wednesday, August 21, 2019

To: SCHLAGEL & ASSOCIATES
Mark Breuer, P.E.
14920 W 107TH ST
LENEXA, KS 66215

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

Application Number: PL2019078

Application Type: Engineering Plan Review

Application Name: Winterset Valley 13th Plat - Street, Storm, MDP, and ESC

The Development Services Department received plans for this project on Aug. 7, 2019. We have completed our review and offer the following comments listed below.

- Resubmit three (3) full size sets of plans (no larger than 24"x36") folded to 8-½"x11", one (1) comment response letter, and one (1) digital copy following the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within five (5) business days of the date received.

Engineering Review - Corrections

1. Please refer to the previous comment letter. We had requested a site-specific design for the scour basin (i.e., structure 500). Although a table was presented, we are still missing the following: 1) width of the scour basin, and 2) side slopes. Although a note is provided in the generic table stating that the width of the scour basin shall be based on receiving swale width, or diameter of the discharge pipe, this determination should be performed by the engineer, not the contractor in the field.
2. Discrepancies continue to exist in the "Final Stormwater Management Plan" dated Aug. 6, 2019 (hereinafter referred to the stormwater report). For instance: 1) Table 3-2 shows the proposed drainage to release point R1 as 195 cfs, contradicting the appendix showing 233 cfs on 18-230 PROP ANALYSIS-1, 2), peak elevation within the detention basin shown on 18-230 PROP ANALYSIS-1 SHOWS 895.44, which is highly suspect when compared with Sheet 18 of the plans, where the discharge at that elevation is approximately 80 cfs, and also contradicts the stated 100 year water surface elevation of 898.1, 3) Sheet 18 of the plans shows the stage/discharge relationship at 207 cfs (roughly coinciding with the outflow shown on 18-230 PROP ANALYSIS-1 OF 209 cfs) of 899 feet elevation rather than 898.1, and 4) the routing setup shown in the appendix for 18-230 PROP ANALYSIS-1 on Page 4 does not match the elevations or dimensions shown on Sheet 18 of the plans. For instance, the top of the outlet structure is called-out at an elevation of 895.5, while the plans show 898.6, and there is no input provided for the 3x48 inch by 12 inch openings, and finally, the 48 inch by 16 inch opening flowline elevation does not match. At this point, we would recommend a thorough QA/QC review be conducted on the report, to ensure there are no additional discrepancies.

3. The appendix within the stormwater report was missing the proposed conditions analysis for the 2 and 10 year events. Only the 100 year and the WQV storms were presented for the proposed conditions.
4. There is no discussion or mention of the 100 year water surface elevation within the body of the report. Only the clogged condition, zero available storage 100 year water surface elevation is discussed. Please discuss within the body of the report, and ensure it matches what is shown elsewhere within the appendix and plans. The discussion should also discuss the nominal (i.e., fully-functioning) 100 year water surface elevation, and the crest of the emergency spillway, and whether the 0.5 foot minimum freeboard is maintained. Finally, page 4-1 of the report under "Summary and Recommendations" states that the detention basin meets the requirements of Section 5600 of the KCAPWA, which should be expanded in terms of the discussion to state that: 1) the release rates were compared to the pre-development peak flow rates, and used to determine the allowable peak flow rate.
5. Where are the calculations for the 100% clogged/zero available storage hydraulic grade line? It did not appear any such calculations were provided, but only stated.
6. Sheet 18: The 48 inch discharge pipe is missing the 100 year hydraulic grade line. Since the 100 year event is the design storm for this particular line, it should be shown on the profile view. However, please see the comment (below) concerning upsizing this pipe. Allowing the 100% clogged/zero available storage 100 year water surface elevation to extend almost 4 feet above the nominal condition is in our opinion, not a good idea.
7. The previous comment letter asked for an engineer's opinion concerning the 100% clogged, zero available storage water surface elevation for the 100 year event. No such opinion was provided. There was a statement on page 3-3 of the stormwater report that says "...with 6 inches of freeboard the proposed and future MBOE shall be set no lower than 902.35." The City of Lee's Summit requires a minimum of 2.0 feet of freeboard between the 100 year hydraulic grade line, and MBOEs, not 6 inches. The bigger question, however, is whether the allowance for a clogged condition, zero available storage water surface elevation to extend almost 4 feet higher than the nominal 100 year water surface elevation. We feel this is too great a magnitude of change when compared with the nominal (i.e., fully-functioning) condition. It may be better to provide a larger detention basin outlet structure (and a larger emergency spillway), along with a larger diameter discharge pipe than the proposed 48 inch HDPE. If the detention basin outlet structure were to clog, it would appear to flood the lots almost to the limits of the future homes. We do not support a 6 inch freeboard between this condition, and any MBOEs on the lots.
8. MBOEs were provided for each lot as requested, but the table appears redundant, along with discrepancies between what is shown on the table, and the call-outs on the plan view (e.g., N/A is provided for several lots, but call-outs are given for each lot on the plan view). It may be better to delete this table entirely since MBOEs are called-out on the plan view for corners of the homes.
9. Prior to formal approval of the plans, a SWPPP, and a USACE permit (if applicable) shall be required.

Traffic Review - Not Required

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,

Original Signed

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cc: Development Engineering Project File