

April 30, 2021

**City of Lee's Summit, Missouri**

Attn: Gene Williams  
220 SE Green Street  
Lee's Summit, MO 64063

Re: PL2021114 – LSR7 Middle School #4 – Off-site Sanitary Sewer Main Extension No. 1 - Segment #1

To whom it may concern:

The following are responses to your comments made April 16, 2021 on the project referenced above.

*The Development Services Department received plans for this project on March 30, 2021. We have completed our review and offer the following comments listed below.*

**Engineering Review – Corrections**

1. *Staff Off-site easements (from the Whistance property to the south) in a form acceptable to the City shall be obtained prior to approval of plans. They should be twice the depth of the sewer, rounded to the next 5 feet. Please submit a review copy prior to execution and recording. A document number should be provided to the City following recording for verification.*

**RESPONSE:** Acknowledged

2. *Manhole A8 shall be a outside drop manhole due to the excessive drop greater than 2 feet at this point. Please provide notation, along with the standard detail for the outside drop manhole (i.e., SAN-4). Do you have an outside drop MH detail?*

**RESPONSE:** A8 has been revised to an outside drop manhole. The detail has been added to the Sheet 7 Standard Detail.

3. *Recommend increasing the drop across manholes to allow for construction tolerance (i.e., additional 0.1 feet?). As shown, the minimum drop is shown.*

**RESPONSE:** The drop through the structures have been revised to a 0.3 foot minimum.

4. *Manhole A5 is too close to the stream bank. Please move the manhole to achieve a minimum distance of 15 feet from the top of bank to the outside of the manhole.*

**RESPONSE:** Manhole A-5 has been relocated.

5. *What is the calculated 100 water surface elevation of the stream? A conservative approach to determining these elevations in relation to the flowline of the stream should be calculated along key points, assuming full build-out upstream, and upstream detention basins being fully clogged and zero available storage (i.e., assume no detention). Tops of manholes shall extend a minimum 1'-0" above the calculated 100-year floodwater elevation, provided that such extension shall not exceed 4 feet above final finish grade. Where these requirements result in a manhole with a rim at or below the 100-year floodwater elevation, the manhole shall be equipped with watertight ring and bolt-down cover assembly with neoprene gaskets.*

**RESPONSE:** The 100 year peak flow rate has been calculated based on full build out as noted. The flow was then modeled on various cross sections near the manholes to develop a 100 WSE. The WSE elevation was then added to the sanitary profiles. Three manholes (A2, A3, A4) were modified needed to be raised to obtain the 1' of freeboard above the stream.

6. *Label the existing tie-in point as City manhole #47-019.*

**RESPONSE:** The label has been revised.

7. *It is very difficult to determine what is shown at the connection point. It appears two (2) new manholes are being installed, and it is unclear why. Second MH is for deflection requirements?*

**RESPONSE:** The label for Manhole A-1 (#47-109) was incorrect. This manhole will remain and be cored for the connection for the new main. Manhole A-2 is being constructed to achieve the proper deflection requirements.

8. *The private forcemain was not located on the plans. What is the plan for managing the private forcemain? This forcemain serves the school district, and will need to be considered during the design. The location of the line should also be shown, rather than assumed based on the easement.*

**RESPONSE:** Additional survey information has been supplied to the location of the force main. It wyes into the public main south of the Manhole #47-019. This information has been updated on the plans.

9. *Portions of the sanitary sewer improvements are shown in red, and would appear to be separate from these plans. Please provide sufficient notation that these lines are not part of the project, to be installed by others (or equivalent language).*

**RESPONSE:** The lines have been removed from the plans.

10. *Recommend coordination with David Rinne at Schlagel and Associates concerning the connection point for Bailey Farms. You are showing a manhole in the southeast corner of the school project, which will likely become a drop manhole. Will this drop manhole be able to service the Bailey Farm project? A large diameter sewer line will be connected*

*presumably at this location, and the manhole size may not work with a standard drawing for a drop manhole.*

**RESPONSE:** Acknowledged. The diameter of the manhole has been revised to a 5' to allow flexibility in future design. The design will has been provided to the designers of the Bailey Farm Project.

11. *Concerning the coordination comment above, a plan and profile view of the intended route to serve the Bailey Farm site is required. A cost estimate shall be required for this portion, even if not built until the Bailey Farm project proceeds (see next comment).*

**RESPONSE:** A profile has been added for a future connection to the development to the east.

12. *Public sanitary sewer shall be extended to the plat boundary (i.e., to the east to serve Bailey Farms). An off-site easement may suffice after coordination with David Rinne at Schlagel and Associates for this extension. The City would consider an easement be dedicated to the plat boundary in lieu of construction of said improvements, but construction costs would need to be provided by the school district. Coordination between David Rinne would also be required to minimize any future disruption of the sanitary sewer line, and to minimize any re-design at the connection point.*

**RESPONSE:** Acknowledged. The plat will show an easement extending to the east property to provide a point of connection on the east property boundary. Construction costs for the future main will be included in the escrow provide by the school district.

13. *Trenching and backfill detail shall include 12 inches of aggregate on top of pipe rather than 6 inches shown. This standard changed in the Design and Construction Manual in 2020.*

**RESPONSE:** Revised

14. *Design flow calculations were not shown. Typically this is provided in the form of a table. It should include the ultimate condition including the Bailey Farm property.*

**RESPONSE:** Design flow calculations were provided in the Sanitary Sewer Capacity Study developed by Olsson in December 2020 and approved by the City. The pipe sizes shown in the design match the study.

### **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.*

**RESPONSE:** Acknowledged

Thank you,

Terry Parsons  
Olsson