



November 10th, 2023

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

**RE: THE VILLAGE AT DISCOVERY PARK – PUBLIC SANITARY
PL2023145**

This letter provides responses to comments as provided and dated below. Thank you for your time, all approvals are acknowledged without comment below. Please note the following formatting conventions:

- General statements, descriptions, and quotes from previous communication of changes not in direct response to a comment shall be unformatted.
- *Comments as provided or described as well as possible shall be italicized.*
- **Responses to comments shall be bold.**

Thanks,

A handwritten signature in black ink, appearing to read "David Eickman", written over a horizontal line.

David Eickman

Engineering Review - Corrections

1. As requested in the previous applicant letter, further engineering work was recommended to lessen the depth issues related to the sanitary sewer. Although this was addressed on the connection point to the south of Colbern Rd., it appears no other effort was expended in lessening the impact. I found the following locations where this impact can be lessened by using a different pipe slope, adjusting flowline elevations, or a combination of both. The following are examples: 1) the segment between manhole Z2 and Z1 could be decreased significantly, 2) the segment between the existing manhole being replaced at 16-008 and manhole Z2 could be decreased slightly, recommend no less than 0.40% (0.33% is the minimum required by the Design and Construction Manual), 3) manhole A1 to existing manhole 16-010 (to be replaced) is shown with excessive slope for no apparent reason, and appears slope can be lessened significantly with an outside drop manhole, 4) manhole C1 is deep for no apparent reason. Please revise.
1) Per discussion with the city staff on 11/09, pipe run between SAN Z2 and SAN Z1 flattened to 3.67% and pipe run between SAN Z1 and EX MH 16-006 steepened to 13.94%, which leads to 16.94 fps flow. Five concrete restraints @ 15' spacing were added to the steep main; See Sheets C653 and C666;

- 2) Per discussion with the city staff on 11/09, pipe run between NEW MH16-008 and SAN Z2 flattened to 0.40%. See Sheets C653 and C654;
- 3) Per discussion with the city staff on 11/09, pipe run between SAN A1 and NEW MH 16-010 flattened to 1.10% and an outside drop added at structure NEW MH 16-010. See Sheet C656;
- 4) Per discussion with the city staff on 11/09, no changes needed on SAN C1
2. Sheet 660: Flowline in at Z3 has zero fall across the invert. Minimum fall across inverts at this angle is 0.20 feet. Please revise.
Per discussion with the city staff on 11/09, no changes needed on Z3. Note added that no doghouse manholes are allowed on Sheet C655
3. Sheet 656: It does not appear sufficient fall was provided across the invert at manhole 16-010. Minimum slope for this angle of entry and exit is 0.50 feet. Please revise.
Per discussion with the city staff on 11/09, no changes needed on Z3. Note added that no doghouse manholes are allowed on Sheet C655.
4. Please revise the Design Criteria Modification Request (i.e., the waiver) as appropriate after making revisions. Please ensure the waiver request is submitted as one (1) pdf document which includes 1) the form, 2) the summary sheet, and 3) the exhibit.
Design Criteria Modification Request revised and uploaded as single pdf document.
5. Sheet 652: Please label each manhole on the general overview sheet. Many manhole labels were missing for existing manholes to be removed and replaced, and makes the interpretation in the field difficult for the contractor and the inspector.
All manholes called out on Sheet C652.
6. Stub Locations: There are numerous references to marking the end of the line for future location. Tracer wire and box will be required as per the City of Lee's Summit standard detail. Recommend the plan view of the sanitary stubs be revised to reference the standard detail for tracer wire and other design requirements for a wye connection (i.e., SAN-1).
Note referencing LS Standard Detail SAN-1 added on all stubs on Sheets C656-C659.