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May 27, 2021

Michael Leamons
City of Glen Rose
201 NE Vernon
Glen Rose, Texas 76043

RE: Engineering Review of Squaw Valley Meadows

Dear Mr. Leamons:

Attached is the response and comments to the engineering review of Squaw Valley Meadows subdivision. I have two sections that include responses to your email comments dated May 18, 2021.

Responses to email dated May 18, 2021:

1. Mr. Gosdin is currently working with Somervell County official's willingness to accept additional run-off from the subdivision. Documentation will be submitted to the city.
2. The drainage channel has been revised to contain run-off generated by a 100-year storm event. The 5-foot buffer required on the edge of the channel has been decreased to provided additional channel capacity. The city will need to grant a variance for this revision.
3. The depth of water at the low water crossing was calculated at 10-inches full depth.
4. A typical section is shown on Sheet 20. A calculation was performed, and the flattest street is on 700 feet of Mimosa Lane at 0.37% and will carry approximately 313.5 cfs. The 100-year storm event for this location is approximately 40.2 cfs.
5. Yes, the existing parallel drainage channel along Bull Adams will carry the 100-year storm event on the western portion of Bull Adams. The existing channel will carry 217 cfs. The run-off contributing to the channel is 167 cfs.
6. No, ribbon curb was not proposed in this project.
7. Appropriate signage for low water crossings and depth gauges were added to the proposed subdivision plans.

Responses to Chris Italy, P.E. Squaw Valley Meadows Plan Submittal – Engineering Review Comments:

1. The plat has been checked and revised to reflect the channel widths.

2. The survey plat has been revised.
3. It was in agreeance that the existing road would remain the same with only upgrades installing a low water crossing at the golf course.
4. A note was added to the typical pavement section referencing geotechnical testing.
5. A designated drainage channel will carry the majority of the run-off. The city will have to provide a variance to allow low water crossings.
6. A typical section is shown on Sheet 20. A calculation was performed on a street section of 700-feet with 0.37% slope on Mimosa Lane. This street right of way will carry a 100-year storm event with 313.5 cfs. The contributing runoff is 40.2 cfs for the 100-year storm event.
7. The e-b-d values were obtained for values for Somerville County within a TxDOT hydraulic spreadsheet for Rational Method. The time of concentration was assumed as a worst-case scenario for all drainage areas except DA1. DA1 time of concentration was calculated using WIN-TR-55 software. Note: 10 minutes is considered the minimum standard for time of concentration, 10 and 15 minutes was used as a “conservative” time of concentration.
8. The profile has been revised.
9.
 - a. The typical section for the drainage channel has been revised. The water surface elevation varies in the channel. All water is contained in the channel for 100-year storm event.
 - b. The channel is not at full capacity and therefore the water remains within the channel for a 100-year storm event. The top elevation of the channel has been shown on the channel profile. The maximum water level will not exceed the top elevation of the channel.
 - c. Yes, the drainage easement will contain the 100-year storm event. No, the 100-year storm event will not impact the adjacent property. The 100-year storm event will remain the channel.
 - d. Drainage channel typical sections have been revised. See Sheet 19.
 - e. Drainage channel 1 section 2 has been revised for a constant width of 32-feet.
 - f. The easement has been revised and dimensioned to 50-feet wide.
 - g. The drainage profile has been revised.
 - h. The time of concentration for individual drainage areas are within “minutes” of each other. Due to this insignificant amount of difference in time of concentrations the sub areas and producing peak run-off are at approximately the same interval. The method used is a more “conservative” method.
 - i. The chart has been revised.
 - j. The width has been revised to 40-feet.
10. The developer and Somervell County officials are coordinating drainage improvements to the downstream drainage paths.
11. The developer and Somervell County officials are coordinating drainage improvements to the downstream drainage paths.
12. The only street with two low water crossings is Honeysuckle Way. The most eastern crossing of Honeysuckle Way will have a depth of approximately 10-inches of water during a 100-year storm event. Please note a 30-inch culvert under FM 200 regulates

the flow from DA 1. However, when determining the water depth this was not accounted for due to conservancy.

13. Signage has been added to the plans for low water crossings.
14. Culvert design and sizing has been provided for Whippoorwill and CR 303. The culvert on Bunny Run Court and CR 303 was proposed as two 18-inch culverts. The contributing drainage area is approximately 96 acres. There is not enough area at the location to install an appropriately sized drainage structure for a 100-year storm event. There is enough room for two 18-inch culverts.
15. Low ware crossings were added to the street profiles.
16. Sidewalks have been adjusted and thick lines shows encroaching, but it is not.
17. The crossing has been revised.
18. Pavement section details have been revised.
19. The connection has been revised.
20. SCWD is currently reviewing the revisions.
21. The water line has been dimensioned to reflect 4-foot maximum off the property line.
22. The calculated slope has been added to the profile.
23. The sewer depth has been increased in 48-inches of cover.
24. The road crossing will be open cut for new subdivision prior to road construction. The services have been revised.
25. The manhole has been revised to an elevation of 600.72.
26. Proposed grade has been added. Increased cover over top of pipe has been added.
27. Mimosa Lane does not have a cul-de-sac.
28. Proposed grade has been added.
29. Proposed grade has been added.
30. The elevations have been revised. The manhole was placed based on ACAD file supplied. Adjustments may be necessary in the field to match up the two projects.
31. The line has been revised for additional cover. However, 48-inches is not possible in this section.
32. The sewer depth is deeper than the drainage channels.
33. The manhole is located behind the sidewalks.
34. The NCTOG Standards were traced and used.

If you should have any questions or comments, please let us know.

Thank you.

A handwritten signature in blue ink, appearing to read "Corey Frentress".

Corey Frentress, P.E.