
PUBLIC WORKS ENGINEERING DIVISION

Date: Friday, May 19, 2017

To:

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

Application Number: PL2017088

Application Type: Engineering Plan Review

Application Name: The Grove at Lee's Summit LLC - Phase 1A - Street, Storm, Erosion and Sediment Control

The Development Services Department received plans for this project on April 21, 2017. We have completed our review and offer the following comments:

Engineering Review

1. Sheet C1.0: Please add a note stating "...all construction shall follow the City of Lee's Summit Design and Construction Manual as adopted by Ordinance 5813. Where discrepancies exist between these plans and the Design and Construction Manual, the Design and Construction Manual shall prevail."
2. Sheet C2.0: The alignment plan appears to be missing the sidewalk along the northeast side of the new development. Please show the location of the existing sidewalk in this area.
3. Sheet C2.0: The Detention Basin should be labeled as "Retention Basin", and a note should be provided referencing the plan set where details are contained.
4. Sheet C3.0: Concrete sidewalk is shown with a design cross-slope of 1.75%. As per Section 5304.8 of the Design and Construction Manual, Table LS-5, the design slope must be 1.5%.
5. Sheet C3.0: Please show the dimension for the area one (1) foot beyond the back of curb. The extension is shown, but the dimension is missing.
6. Sheet C3.0: The sidewalk section view is missing the 4" minimum thickness leveling course.
7. Sheet C3.0: Type B curb and gutter is called-out. This should be specified as CG-1.

8. Sheet C3.0: Please label the aggregate base course as 6" MoDOT Type 5.
9. Please be aware that all landscaping, decorative paver stones, permeable pavers, and irrigation systems must be included in a license agreement with the City and the owner. The City shall not maintain these features.
10. General Comment: Pavement underdrain detail was not shown in the detail section. Please insert the City standard detail contained on our website. Please ensure the plan view shows the location of the curb inlets where these underdrains will be connected.
11. Sheet C3.1: It appears an underdrain is required near station 5+00 and station 1+00.
12. All Sheets with Commercial Entrances: Please show these features as being constructed with 8" KCM MB 4K mix.
13. Sheet C3.1: It appears additional sidewalk should be shown (existing) at the intersection of SE Bailey Rd. and SE Decker St., extended to the east.
14. General Comment: All ADA-accessible ramps and ADA-accessible ways must have a specific detail associated with them. Please show the locations of these features, and provide a call-out on the plan view with a specific reference to the sheet number and detail number.
15. General Comment Concerning the ADA-Accessible Ramps and ADA-Accessible Ways: The specific details of these features must include, at a minimum, the design details specified in Section 5304.8 of the Design and Construction Manual. Elevation call-outs, although required, are not sufficient. Other design details specified in this section are required, including slope call-outs which comply with the criteria listed in Table LS-5, and section views specified in 5304.8.
17. Sheet C3.2: It appears underdrains are required near station 2+50 and 6+10.
18. Sheet C3.3: A storm line is shown with the note, "install under separate cover". Please revise the language to state "install as per separate Mass Grading and Stormwater Plans", or equivalent language.
19. Sheet C3.3: It appears an underdrain is required near the RCB.
20. Sheet C3.3: The profile view shows an RCB. Please provide a note, "to be installed as per the Mass Grading and Stormwater Plans", or equivalent language.

21. Sheet C3.3: The tie-in to 16th St. should be noted a bit clearer. Perhaps with a note stating "see 16th St. Improvements Plans", or equivalent language?
22. Sheet C4.1: There are several notes concerning the installation of pavement underdrains. It is not clear where these features are draining. Please show where these underdrains are connected. Typically, these underdrains are connected between curb inlets. There may be other methods, but they should be clearly shown on the plans.
23. Roundabout Details: Ensure that the ADA-accessible ramps, and ADA-accessible ways are detailed in accordance with Section 5304.8 of the Design and Construction Manual. There is not enough information on the roundabout design to ensure these features are designed to the minimum standard.
24. Sheet C8.1: Please show (graphically) the hydraulic grade line for the design storm.
25. Sheet 8.1: What does the note "refer to Public Road Plan Set for Structures 100-107" mean? We do not have such plans in our possession with this title. In addition, it appears some of these structures are shown within this particular plan set.
26. Sheet C8.5: The pipe embedment detail does not appear to follow the City of Lee's Summit standard. Please revise.
27. Detail Sheets: It appeared the details were missing for manhole frame and lids, showing the standard City of Lee's Summit lettering for "Storm".
28. Sheet C10.2: The trench and fill technique for placement of silt fence is not allowed. All silt fence must be machine-laid using the slit method.
29. Sheet C11.1: The curb and gutter details should reference CG-1 and CG-2, not type A, Type B, or Type C.
30. Sheet C11.2: Joint Seal detail does not appear to be used on this project? If not, then please remove it.
31. Sheet L1.3: A planting schedule is provided for the detention basin, but no locations for the plantings are shown. Please show where the plantings will be located within the retention basin.
32. All Sheets: Please re-name "detention basin" to "retention basin".
33. Sheet L2.1: Irrigation details were provided, but it did not appear a plan view was included showing where these features were located. Again, any landscaping features, irrigation systems, etc. within the right of way will require the execution of a license agreement between the City and the owner. The City

shall not maintain these features.

34. An itemized and sealed Engineer's Estimate of Probable Construction Costs should accompany your final submittal drawings.

Traffic Review

1. Align the centerline of proposed Summit Street with existing Summit Street at 16th Street. This may require a compound horizontal curve.
2. Submit exhibits (separate from the engineering plans) depicting the required vehicle turning movements at the roundabout and speed profiles per the Design and Construction Manual design criteria for roundabout design to support the roundabout design (lane widths, diameter, entry angles, splitter islands, etc.).
3. The median island (triangle) shown at the right-in/right-out may be removed since the median along Decker Street provides the access control.
4. Note that all symbols, stop lines, yield lines, crosswalk markings, diagonals shall be preformed thermoplastic per Design and Construction Manual. All longitudinal lines shall be high-build paint.
5. The curb design is unclear between the edge of pavement and truck apron around the roundabout.
6. The splitter island material leading to the crosswalk is unclear. This should not be asphalt.
7. A more detailed review of the signing and marking for the roundabout will be completed upon resubmittal that addresses other comments, but no significant concerns were identified in this regard.

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

Beginning Monday, May 23, 2016, 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 will not be required for initial application submittals at this time as the plans are subject to change.

Electronic copies shall be provided on CD in the following formats

- Plats – All plats shall be provided in Tagged Image Format File (TIFF) Group 4 compression.
- Engineered Civil Plans – All engineered civil plans shall be provided in Tagged Image Format File (TIFF) Group 4 compression. All sheets shall be individually saved and titled with the sheet title.
- Architectural and other plan drawings – Architectural and other plan drawings, such as site electrical and landscaping, shall be provided in Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).
- It is requested that each plan sheet be a maximum of 2MB.

Please contact Staff with any questions or concerns you may have.

If you have any questions or comments, please contact me, Gene Williams either at (816) 969-1812 or e-mail to Gene.Williams@cityofls.net.

Sincerely,

Original Signed

Gene Williams, P.E.
Senior Staff Engineer

cc: Development Engineering Project File