LEE'S SUMMIT
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION

Date: Monday, March 27, 2017

To:
OLSSON ASSOCIATES
Melissa DeGonia, P.E.
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Fax #: (913) 381-1174

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

Application Number:	PL2017049
Application Type:	Engineering Plan Review
Application Name:	Arborwalk North 1st Plat Street, Stormwater, Master Drainage Plan, and Erosion and Sediment Control Plans

The Development Services Department received plans for this project on March 06, 2017. We have completed our review and offer the following comments:

Engineering Review

1. Sheet C103: Please clean-up the various strikeovers on this sheet.

2. Sheet C103: Please provide a north arrow.

3. Sheet C103: ES 15-2 appears to be labeled wrong. Should this be DB 15-2?

4. It appears the off-site improvements to Hook Road were presented as a "concept plan" rather than final construction documents. Complete plans will be necessary either contained within this plan set, or separate from this plan set.

5. Please define "P.O.S."

6. Sheet C103: Please show the ADA-accessible ramps north of Arborwood Dr., and Arbor Tree Dr.

7. Sheet C107: Please show the ADA-accessible ramps north of Arborwood Dr. and Arbor Tree Dr.

8. General Comment Concerning ADA-Accessible Ramps: A specific detail(s) is needed for each

ADA-accessible ramp that is either constructed with this project, or constructed as part of the bulding permit process. Please refer to Section 5300 of the City of Lee's Summit Design and Construction Manual for specific details. The City has adopted the draft PROWAG standards which do not follow the KCAPWA standard drawings. If possible, please avoid "wings" in the design of these ramps, and ensure that 1.5% cross-slope is called out for construction of the ramps. Please provide the minimum design information requested in Sectio 5300 of the Design and Construction Manual.

9. Sheet C111: Please correct the strikeover errors on this sheet.

10. Sheet C112: Please correct the strikeover errors on this sheet.

11. General Comment Concerning ADA-Accessible Ramps: Please label each ADA-accessible ramp, and provide a reference to the detail sheet showing the design of the ramp. As discussed previously, please avoid the use of wings to the extent possible.

12. Sheet C114: Please correct the strikeovers on this sheet.

13. Sheet C114; As discussed in the previous comment, the Hook Road improvements, appar to be a concept plan. These plans will need to be upgraded to construction plans showing exact dimensions, pavement details, grading details, etc. These plans can either be a part of this plan set, or submitted as a separate plan set.

14. Sheet C114 through C116: Please label all ADA-accessible ramps, with corresponding reference notes calling-out the detail and sheet number.

15. Sheet C115: ADA-accessible ramps appear to be missing on detail 1, 2, 3, and 4. Only one (1) ADA-accessible "receiver" ramp is required for each of these details.

16. Sheet C116: ADA-accessible ramps appear to be missing on detail 2, 3, 5, and 6. Only one (1) ADA-accessible "receiver" ramp is required on each of these details.

17. Sheet C118: The stormwater report appears to show the 10 year water surface elevation within the northern detention basin as 1023.79. The 10 year hydraulic grade line within the pipe at ES 3-1, however, is shown as significantly lower than this elevation. What assumptions were made when performing the calculations? It would appear the 10 year and 100 year hydraulic grade lines within the basin were not taken into account.

18. Sheet C118: The same comment (above) would pertain to Storm Line 5. The stormwater report indicates the 10 year hydraulic grade line is 1003.70, but the 10 year hydraulic grade line at ES 5-2 is significantly lower.

19. Sheet C119: FI 6-3 and FI 6-5 show field inlets with what appears to be a lack of any local sump. How will stormwater be directed to these field inlets?

20. Sheet C120: The note in the plan view for FI 6-3 appears to be labeled incorrectly. A curb inlet is called-out.

21. Sheet C121: Field inlets 9-4 and 9-5 appear to be lacking a local sump. How will stormwater be directed to these field inlets?

22. Sheet C121: Please correct the two (2) strikovers on this sheet.

23. Sheet C122: FI 10-2 appears to be lacking a local sump. How will stormwater be directed to this field inlet?

24. Sheet C123: ES 14-1 shows what appears to be a hydraulic grade line significantly lower than the 10 year water surface elevation within the detention basin. The stormwater report appears to show this elevation as 1023.79.

25. Sheet C123: Please correct the two (2) strikover errors on this sheet.

26. Sheet C124: Please show the 100 year hydraulic grade line within storm line 15.

27. Sheet C124: It appears the detail for DB 5-2 and 5-3 are labeled incorrectly. Are these DB 15-2 and 15-3? Finally, a label and leader point to DB 5-3, and it appears this should be DB 15-3.

28. Sheet C124: It is unclear how the southwest basin will drain in 40 hours. A standpipe appears to project 3 feet into the air, with no provision for slow drawdown.

29. Sheet C124: Please provide additional views of the "concrete box inlet protection" either by additional section views, plan views, isometric views, etc. It is difficult to determine what is being constructed.

30. Sheet C124: If using the standpipe option, an anti-vortex plate and cage should be installed at the top of the pipe to eliminate a vortex developing during storm events.

31. Sheet C124: An easement is shown for the southwest detention basin outlet structure and outflow. This should be eliminated since this is a private structure and pipe. This should also be updated on the Final Plat.

32. Sheet C124: Please correct the strikeover error on the note on the lower right (i.e., DB 15-2 label).

33. Sheet C125: No details were provided for DB 16-2.

34. Sheet C125: Please show the 100 year hydraulic grade line for Storm Line 16, and please label the profile view as "Storm Line 16".

35. Sheets C127 and C128: Please refer to the comments concerning the 10 and 100 year water surface elevations within the two (2) detention basins. The calculations do not appear to be valid based on the elevations within the two (2) detention basins.

36. Sheet C129: Please label all swales with the word "swale" or "emergency overflow swale".

37. Sheet C129: Contour lines are not clear in the region of Lot 81, 82, 76, and 77. Is this a sump? If so, where is the emergency overflow swale?

38. Sheet C129: Please call out the 100 year water surface elevations within the detention basins.

39. Sheet C129: It would appear an additional field inlet is warranted at the northeast corner of Lot 91. This appears to be a significant drainage area along the rear of these lots, without any stormwater management other than sheetflow.

40. Sheet C129: Please correct the first note as "Minimum Building Opening Elevation" rather than "Minimum Basement Opening Elevation."

41. Sheet C129: Please correct the various strikeover errors on this sheet.

42. Sheet C130 and C131: Please provide a specific design for the sediment traps and sediment basins. How will stormwater be directed during storm events? As shown, it would appear there is no provision for directing "clean" stormwater around the basin/traps, but rather, the basin/traps will fill up without any provision for routing the stormwater (i.e., there are no outlets?).

43. Sheet C135: The trenching detail for stormwater pipe only reflects installation practices for pipe outside of the right of way and paved areas. Please revise the standard detail for areas within right of way and beneath pavement.

44. Sheet C135: Please remove the trenching detail for CMP since it will not be used on this project.

45. Sheet C135: The underdrain detail shows geogrid within the pavement design. It was our understanding

this would be flyash stabilized subgrade.

46. Sheet C124: Rip rap is shown at the end of Line 15. However, the west edge of the rip rap ends abruptly at the property line. Is there a way to move the end of pipe back sllightly to construct a more "standard" rip rap area in terms of plan view?

47. Sheet C124: The 10 and 100 year WSE listed on the left side of the sheet do not appear to match what is shown in the stormwater report.

Traffic Review

1. Verify adequate intersection sight distance is available for Arbor Tree Dr. at Arbor Valley Ter, particularly in the southwest direction where a crest of 12K curvature is designed. It appears the crest may be blocking visibility of the departure lane from the side street.

2. Provide pavement marking plan for the improvements along Hook Road.

3. Provide signing plans depicting all signs and locations.

4. Include City standard details for pavement markings.

5. Roadway improvements along Hook Road are missing plan details (e.g. station, offset, dimensions, etc.).

6. The right-turn lanes along Hook Road should be 150' in lenght plus 150' taper. One turn lane appears too long, the other too short and the taper for both is less than 150' as shown.

7. The left-turn lanes along Hook Road should be 200' in length plus 150' taper with reverse curves. Both appear too short.

8. The through lane transition for the widening of Hook Road shall meet or exceed a transition distance based on the lane transition formula considering the offset and speed limit. The transition should not occur through the intersection. Recommend no transition between the proposed intersections due to the close proximity; rather maintain a three lane section in this area.

Electronic Plans for Resubmittal

Begining 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, 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