LEE'S SUMMIT
MISSOURI

DEVELOPMENT SERVICES

Date: Tuesday, May 04, 2021

To: OLSSON ASSOCIATES
7301 W 133RD ST #200
OVERLAND PARK, KS 66213

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

Application Number:	PL2021129
Application Type:	Engineering Plan Review
Application Name:	LSR7 Middle School #4 - Off-Site Traffic Improvements, Traffic Signal, and Greenway Trail

The Development Services Department received plans for this project on April 15, 2021. We have completed our review and offer the following comments listed below.

- See comments below to determine the required revisions and resubmit to the Development Services Department public portal located at **devservices.cityofls.net**. Digital documents shall follow the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within ten (10) business days of the date received.

Engineering Review

1. Cape Dr. street and stormwater improvements should be a separate plan set, along with the water line extension to the plat boundary. As shown, there appears to have been very little coordination between Olsson and Schlagel and Associates on the road and culvert alignment for the future extension into the residential subdivision to the east. Right of way does not match Schlagel's proposed plans for the road alignment. As shown, additional easement would be required from the property owner to the south for the embankment, and will introduce a jog into the roadway which is not desired by the City. Per ongoing discussions with city staff, future improvements to Cape Drive will be completed as a separate set of plans. Improvements to Cape Drive as they relate to the current school improvements will be included with the current plan set.

2. Wings are shown on ADA-accessible ramps which are not desired by the City. Where grading will not allow 3:1 slope, straight back curb and gutter shall be provided. Preference shall be given to grading rather than the construction of straight back curb. Wings have been removed from the ADA ramps.

3. Sheet 3: No reference features (i.e., street names, etc.) were shown, and it is impossible to review this sheet without knowing where it is. Street names were added for better reference.

4. Sheet 11 is blank. Quantities are now reflected on this sheet.

5. Sheet 17 Typical Section Views of Pavement: 12 inches of MoDOT Type 5 is required when using geogrid. A 12" aggregate has been added.

6. Sheet 18: Minimum of 10 inches MoDOT Type 5 is required over geogrid on 13th St. Also, Cape Dr. is a collector street and subject to higher standards for base, surface course, and subgrade. Please see previous comment, however, on Cape Dr. Separate plans should be provided for this portion of the project. A 10" aggregate has been added to the 13th St section. A 12" aggregate has been added to Cape Drive.

7. Sheet 18: Minimum 12 inches MoDOT Type 5 is required over geogrid for Century Dr. A 12" aggregate has been added.

8. Please review asphaltic concrete types contained within the Design and Construction Manual. Call-outs are out of date. New standards should be specified for the base and surface course. In general, Type 5 or 6 for surface courses, and Type 5 for base courses. Asphalt type have been updated to reflect the Design and Construction Manual.

9. HDPE is called-out for at least one of the storm line extensions on Bailey Rd., which is a collector street. Collector streets must either use RCP or CPP. RCP pipe has been called out for Bailey storm improvements.

10. Sheet 20: Why is the 10 foot wide multi-use sidewalk shown to the back of curb to the west of Century Dr.? Why is there no taper at the west end of the project? As shown, it abuts the street and begins in an abrupt fasion with no taper to the west of Century Dr. The 10' wide sidewalk has been placed with a 4' green buffer between the sidewalk and curb like the rest of the corridor. This 10' sidewalk ends at the beginning of the right turn lane transition in generally the same location that it currently begins.

11. Multi-use sidewalk should be a minimum 6 inches thickness. Multi-use sidewalk has been revised to 6" thickness.

12. 15th St. and Dalton modifications do not appear to allow a vehicle to backup into the service drive and exit without performing a three-point turn. There are also questions about why the roadway is being narrowed to the extent shown. A ribbon curb appears to be shown along Dalton, but not called-out. The bigger question, however, is whether this road stub can be shortened a bit, and left as-is with sufficient grading at the end to eliminate ponding that is occurring now. The 15th St roadway and right-of-way to the east of Dalton are being removed and vacated. A driveway will be constructed and located in this location along the south side of the existing 15th St centerline as the land in that location will be deeded back to the property owner. A turnaround has been added for better maneuverability of drivers exiting the garage/drive. The vacated land to the east will be regraded for improved movement of drainage.

13. Please re-title the plans to Lee's Summit R7 Middle School on Bailey Rd. - Off-Site Traffic Improvements,

Traffic Signal at Hamblen Rd. and Bailey Rd., and Greenway Trail Improvements Plans have been retitled as suggested.

14. Cover sheet shows improvements being provided on Ranson Rd. Please review and update as appropriate. Cover sheet improvements have been revised to only show those improvements within this current plan set.

15. Collars are shown for directional change rather than conversion of curb inlet to junction box on Bailey Rd. and other locations. Is there a better way to achieve the same objective and retain the structural integrity of a box junction? This shall require a waiver to the Design and Construction Manual. The collars shown for the dual pipes near the sag east of the school have been replaced with a junction box.

16. Turning spaces cannot have more than 1.5% design slope in any direction, including the diagonal. As shown, there are exceedances in the design slope across the diagonal direction, some greater than 2.0%. Turning spaces have been adjusted to maintain a maximum of 1.5% slope.

17. Are additional curb inlets and pipe required along Bailey Rd. to the north of the school? Some of this stormwater runoff would appear to enter the new school entrance? It would appear approximately 1,200 feet of widened road and greenway trail will drain along the gutter, and additional pipe and inlets may be warranted. Maximum distance between curb inlets is 400 feet as specified in the Design and Construction Manual. An additional curb inlet was placed along the west side of the Middle School Drive East to pick up any additional flows from these improvements. This inlet is then piped to the bottom of the hill to the existing storm sewer.

18. Drainage at Dalton Dr. and 15th St. is currently substandard. What is the plan for dealing with the water that is currently dammed-up to the east? As noted above in comment 12, the removed roadway area will be regraded for improved movement of drainage per the note added to Sheet 16.

Traffic Review - Corrections

1. Add sidewalk between the proposed driveway and existing sidewalk along the south side of Dalton Dr. to connect the created gap. This may require a new ramp on the east side of Dalton Street for the road crossing. If so, a ramp detail is needed. A sidewalk ramp has been added to the south side of the new driveway along Dalton that will allow for movement of pedestrians from the east side of Dalton to the existing ramp along the west side of Dalton.

2. Traffic Signal Controller shall be noted as M60 ATC Upgrade. The ATC Upgrade appears to address M60 experienced issues/failures with the TranSuite ATMS interface. A controller compatible with M60 ATC Upgrade is specifically noted on the “Controller and Equipment” table on Sheet 63.

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. An Engineer’s Opinion of Probable Construction Cost is included.

- 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

All Planning application and developmrnt engineering plan resubmittals shall include an electronic copy of the documents as well as the required number of paper copies.

Electronic copies shall be provided in the following formats

- Plats – All plats shall be provided in multi-page Portable Document Format (PDF).
- Engineered Civil Plans – All engineered civil plans shall be provided in mulit-page Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).

Please contact me if you have any questions or comments.

Sincerely,

/s/ electronically signed May 4, 2021 Gene Williams

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cc: Development Engineering Project File