

October 06, 2020

Mike Weisenborn, Project Manager, Development Center  
City of Lee's Summit: Development Services  
220 SE Green St.  
Lee's Summit, MO 64063

Re: Lee's Summit R-7 School District  
DLR Group Project No. 13-20102-00  
**Commercial Preliminary Development Plan**  
**Lee's Summit Middle School #4 – Bailey Road**

Dear Mr. Weisenborn:

Thank you for assisting with the review of the Lee's Summit R-7 Middle School #4 final development plan. Review comments were sent to the design team on September 14th, 2020, followed by additional Fire Department comments on September 17<sup>th</sup>, 2020. The responses outlined below are associated with the resubmittal of FDP drawings uploaded by DLR Group on September 30<sup>th</sup>, 2020 and summarize how we have addressed the items brought to our attention.

**Fire Review:**

1. IFC 503.1.1 - Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility. Exception: The fire code official is authorized to increase the dimension of 150 feet (45 720 mm) where: 1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3. 2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.

**Action required:** Extend the fire lane to the Athletic Building and widen the gate to meet the 150 foot requirement.

*Response:* The drive for the concession stand has been widened to the extents on the west of the building. That brings the widened road to within 150' of the east wall.

2. IFC 503.3 - Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING—FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

**Action required:** Indicate the areas to be marked. Marking shall be by signage, or a combination of signage and painted curbs.

*Response: Signage locations have been added to C1002*

3. IFC 506.1 - Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type listed in accordance with UL 1037, and shall contain keys to gain necessary access as required by the fire code official. 506.1.1 Locks. An approved lock shall be installed on gates or similar barriers when required by the fire code official.

Action required: Knox boxes and padlocks are required for access to the buildings and fire lanes.

*Response: Locations of the knox boxes will be provided on the landscaping plans consistent with locations indicated on permit site code plan.*

#### Planning Review:

1. Some of the Planning comments contained in this letter may have been overlooked due to the number of sheets contained in the submittal. If that is the case, please respond to the comment by indicating where to find the information on the submittal.

*Response: Understood*

2. SIDEWALKS. Label the sidewalk width along Bailey Rd. The sidewalk shall be a minimum 5' in width.

*Response: Sidewalk widths have been labeled Sheets C1003 and C1004*

3. FLOODPLAIN NOTE. Include a note on the plans indicating the location of the site relative to the 100 year floodplain. Cite the FIRM panel number and date used to make this determination.

*Response: A note indicating the property does not lie within in the 100-year floodplain has been added to the plan including FIRM panel number, Sheet C1001*

4. RIGHT-OF-WAY. Label the ROW widths for 13th St and Cape Dr.

*Response: Right of way widths have been labeled on Sheets C1003, C1004 and C1011.*

5. OIL AND GAS WELLS. Add a note on the plans regarding the presence or absence of any active, inactive or capped oil and gas wells on the property. Cite the source of information used to make this determination. The Missouri Dept of Natural Resources maintains a database of well information for the state.

*Response: The MDNR web site has been used. Not wells were found on the property. A note indicating there are no wells has been added to Sheet C1001.*

6. NEW PARKING AREA. This FDP added a new parking area west of the sports utility/concessions building.
  - Dimension the parking space widths. The spaces shall be a minimum 9' wide.
  - The drive connecting the parking area from the outer road shall have a minimum pavement width of 24', excluding curb and gutter.
  - What is the pavement design for this parking area? The legend shows it as being the same concrete type used on the internal sidewalk system as opposed to a different concrete design specific for a parking lot.

*Response: This area was added has a portion of the design process. It is supposed to be service parking for the concession stand/Dimensions have been added to Sheet C1003/Parking stall depth and drive lane widths have been revised accordingly, Sheets C1005 and C1007/All of the pavement within the Ball Fields including the drive are heavy duty concrete. This has been clarified on the plans*

7. **DRIVE AISLE WIDTHS.** The noses of the landscape islands flanking all of the entrances/exists of each of the parking lot aisles west of the main building need to be pulled back so the driveable pavement width is a minimum 24', excluding curb and gutter.

*Response: Parking stall depth and drive lane widths have been revised accordingly, Sheets C1005 and C1007.*

8. **ADA.**

- Label and identify the accessible routes from the ADA parking spaces to the building on the site plan. Label the slopes of said accessible route.
- Revise the ADA parking sign detail on Sheet C1050. The sign shall be mounted a minimum height of 5' above finished, measured to the bottom of the sign.

*Response: ADA routes have been added to Sheet C1002/The detail has been revised on Sheet C1050*

9. **SIGNAGE.** FYI - sign permit approval is required for all proposed signage under separate application.

*Response: Acknowledged.*

**Engineering Review:**

1. Comments on the stream buffer waiver were provided under separate cover (i.e., email dated Sep. 9, 2020). At this time, the waiver request should be resubmitted in accordance with the comments provided in the Sep. 9, 2020 email.

*Response: Understood. The waiver application is being revised.*

2. The "Final Stormwater Study" dated Aug. 28, 2020 (hereinafter referred to as "the stormwater study") is geared towards a preliminary stormwater study. There is no detailed discussion within the text of the outlet structures and orifices/weirs, nor the emergency spillway system. The appendix does not appear to show any detailed pond setup. In short, the study needs to be updated to a final report, not a preliminary report. It must include a discussion of the sizing of the orifice/weir combinations within the basins, the type of riser structure, the emergency spillway, along with calculations of the 100% clogged, zero available storage event.

*Response: The wrong file for the Stormwater Report was submitted on 8/28. The correct version was uploaded on the portal on September 2nd with the revised stream assessment waiver.*

3. The stormwater study appears to contain many missing elements that are reserved for the next submittal as evidenced by the terms "Error! Bookmark not defined". There is also an erroneous reference to a 1 year design storm. For this reason, no further review is being performed on this incomplete stormwater study.

*Response: Understood. This report has been revised.*

4. The private sanitary sewer system was missing a profile view. This private system is large enough and long enough that a profile view is warranted.

*Response: A profile for has been added for the private sanitary main on Sheet C1028C*

5. Hydraulic grade lines for the design storm event should be shown on the profile view of all storm lines greater than 6 inches in diameter.

*Response: HGL's have been added to the stormwater profiles, Sheets C1029 thru C1046*

6. Detention basin outlet structures were missing from the plan set. It is impossible to review the detention basin design without these details.

*Response: The outlet structures have detailed on Sheet C1057 and C1058.*

7. General Layout Sheet: Please label all detention basins. We are showing three (3) total, while the report discusses four (4) total. Is there an additional basin that is now shown?

*Response: There were 4 detention basins shown in the PDP. Though the design process the small detention basin south of the track was no longer needed. There are only 3 detention basins in the FDP, Sheet C1002.*

8. Grading Detail Sheets: Please call out the bottom slope within the detention basins. It must be at least 2.0%.

*Response: Minimum slope at the bottom of each basin in now noted on Sheets C1014, C1018 and C1021*

9. Detention basin footprint on Sheet C1014: Is it really the intention to have square corners for the basins? Wouldn't it be better to have rounded corners?

*Response: The grading has been revised, Sheet C1014.*

10. The Utility Plan shown in the approved Preliminary Development Plan does not match what is shown int terms of water service for the development. Please review the approved Preliminary Development Plan. You are showing a single domestic water service connection to a line on Bailey Rd. which was not shown on the approved Preliminary Development Plan. This is a 16 inch water main, and cannot be connected for a single domestic service.

*Response: The connection to the north was being made to reduce the amount of pipe needed to supply the concession stand building.*

11. The public road extensions of 13th St. and Cape Dr. should be separate public engineering plans.

*Response: Understood.*

12. The southwest detention basin is shown discharging onto rip rap, and then descending down a steep slope. This is going to lead to severe erosion issues. Finally, no grading is shown to direct stormwater to the creek. It is recommended that this design be re-evaluated. It does not appear there was much thought given to this issue.

*Response: The connection to the north was being made to reduce the amount of pipe needed to supply the concession stand building.*

13. Separate public water line plans are required along Cape Dr. These may be combined with the street plans discussed in the previous comment above.

*Response: Understood. The public portion of the main will be moved to the public plans and noted on the FDP note on plans.*

14. It was our understanding that all domestic water service would be served from the water line extension along Cape Dr. This was shown in the approved Preliminary Development Plan.

*Response: The connection to the north was being made to reduce the amount of pipe needed to supply the concession stand building.*

15. Notes are provided concerning water meter sizing. This must be provided on the plans prior to approval.

*Response: The meter sizing for the main building has been sized on Sheet C1028. Meter sizing for the concession stand and irrigation have been added to C1027.*

16. The note under domestic water on Sheet C1027 note "d" is not correct. It should read that a minimum of 10 feet of copper line be installed from the meter to the building, in addition to the copper line required from the main to the meter.

*Response: The note has been revised, Sheet C1027.*

17. Sheet 1027: The domestic water service line should be a separate connection.

*Response: It is assumed that the water line before the backflow preventors are public mains. That is where our domestic service lines are being connected.*

18. Sheet C1027: The backflow vault should be located closer than shown. It should be located outside of any easement or right of way, generally 6 feet from either.

*Response: The backflow preventor has been relocated and is noted on Sheet C1027.*

19. Sheet C1027: Provide a note which references the separate public water main extension plans. They can and should be shown on the FDP, but perhaps greyed-out with notes indicating that these are to be built under separate plans.

*Response: The public portion of the water main have been screened back and noted on Sheet C1027 as being done on the public plans.*

20. Sheet C1027: The gate valve is called-out on the notes for the backflow vault, but must also be shown on the plan view. Finally, an additional valve is required on the public side across the street on the south side of Cape Dr.

*Response: The gate valves are now shown and noted on Sheets C1028A and C1028B and will be constructed as a part of the public plans.*

21. Sheet C1027: The public fire hydrant should be located on the south side of Cape Dr. It may be installed as an inline temporary hydrant, since it will be extended in the future. The private fire line and the private domestic service lines must be connected prior to the fire hydrant on the south side of Cape Dr.

*Response: This will be completed on the public plans.*

22. Plan and profile views of the private fire line are required. The plans must show the placement of the bends (including the magnitude of the bend), tees, thrust blocks, etc. Pipe cannot be allowed to bend under any circumstances, so the location of these bends must be shown where curvature



would introduce stresses in the line. Please be aware this is only required for the fire line, not the domestic water service where a plan view and call-outs are sufficient.

*Response: The gate valves are now shown and noted on Sheets C1028A and C1028B and will be constructed as a part of the public plans.*

23. All Utility Sheets: Why is the proposed private sanitary sewer line greyed-out as if it were an existing feature? Please use standard drafting practice and show a bold line, along with a profile view of the lines.

*Response: Proposed sanitary sewer service line has been highlighted on Utility Plans, Sheets C1027 and C1028. Sanitary sewer service line profiles provided on Sheet C1028A and C1028C.*

24. Sheet C1026: A gate valve is required on both sides of Bailey Rd. when installing the backflow vault. One should be placed on the north side of Bailey, and the other should be placed just prior to the backflow vault. A note is not sufficient. It should be shown on the plan view.

*Response: Show gate valves on plans and profiles.*

25. Sheet C1026: Why is an existing sanitary sewer line shown along the south side of Bailey Rd.? Is this a drafting error?

*Response: Correct. This was construction line accidentally left on the drawing. It has been removed.*

26. All Utility Sheets: How will the backflow vaults be drained? The standard drawing requires the design engineer to provide a method to drain the backflow vault, either by daylighting, or construction of an infiltration trench below the sump. It must be shown in plan view, a note is not sufficient. A very small pipe is all that is required to drain these backflow vaults, so it will not be necessary to provide a profile view unless the engineer deems this a necessity.

*Response: Backflow prevention drains keynotes have been added to Sheets C1027 and C1028.*

27. It is difficult to determine whether the discharge points for the two (2) northern detention basins are appropriate. It appears at least one of the basins is discharging into the main channel of the stream, with a bed of rip rap. Is this appropriate? Please re-evaluate this design and please consult the Design and Construction Manual concerning discharges into streams, and best practices.

*Response: The north outfall has been revised to outfall farther south downstream and above the flowline of the stream. The central outfall has been raised also.*

28. Rip rap calculations were not provided for any of the rip rap locations. There is a chart in the standard details, but this is not a design. It references "as shown on the plans", but the only thing shown on the plan view is a vague outline of the rip rap. Please use standard notation on the plan view so everyone knows what is being installed at that particular location, including width, length, depth, type of rip rap, In addition, no details were provided. The purpose of the calculations would be to verify the design, and the notes on the plans will enable the contractor and inspector to be able to order appropriate materials, and place the rip rap according to plan. As of now, there is no plan other than a placeholder on the plan set.

*Response: Riprap sizing was performed per US DOT C251-50 minimums. The table has been provided on Sheet C1050.*

29. Sheet C1050: The detail for the pavement design for light duty asphaltic concrete pavement does not quite meet the Unified Development Ordinance. A minimum of 4" base course is required, with

1.5 inch surface course. In addition, the typical section views refer to a geotechnical report. Please be aware that if the geotechnical report recommends a different pavement section than shown on these plans, that must be evaluated separately. We have no such report in our possession.

*Response: The section has been revised per Geotech recommendations.*

30. The standard details need to show pavement within the private drives and parking lots having the prepared subgrade extend a minimum of one (1) foot beyond the back of curb.

*Response: A detail has been added to Sheet C1050.*

31. CG-1 curb should be used, and should be called-out on the plans. The standard details provide all of the curb and gutter section views, with no specific design for this particular project.

*Response: The legends have been revised to reference CG-1 Plan curb throughout the plan set, Sheets C1002 thru C1025*

32. Road abandonment plans for 15th St. can be combined with the public water main, and public street plans described elsewhere in this comment letter.

*Response: Notes have been added on Sheet C1002 indicating the 15th Street abandonment will be provided on public plans.*

33. General Layout Sheet: Please note the location of the public street extension on 13th St., the public street extension on Cape Dr., the public street abandonment on 15th St., the public water main extension on Cape Dr. and the public sanitary sewer extension to the south (which also includes the public extension to the east to serve the future development to the east). Additional notes should be provided that these improvements are covered under separate engineering plans, and in the case of the future extension of sanitary sewer to the east, a note stating that an easement is being granted to serve this future development to the east.

*Response: Notes have been added on Sheet C1002 indicating the 15th Street abandonment will be provided with the public plans.*

34. The hydraulic grade line for the 100 year event (nominal) must be shown within the detention basins both in numerical and graphic format. A minimum of 20 feet is required from this elevation to the property line or any building. Finally, the 100% clogged, zero available storage 100 year water surface elevation must be shown in the same format, and a discussion should be initiated between the Engineering Group on whether the nominal or clogged condition be considered for the 20 foot setback requirement (i.e., there may be a situation where it makes sense to use the most stringent, or vice versa).

*Response: The hydraulic grade lines have been added to the profiles, Sheets C1029 thru C1046.*

35. Plan and Profile Views of Stormwater: There are numerous instances where pipe is being laid in locations where fill is being brought in. It is now standard practice to show in graphic format (i.e., hatched pattern, or equivalent) with sufficient notes that the contractor shall fill to a point 18 inches above the proposed top of pipe, and then excavate a trench for placement of the pipe. In other words, the City will not allow placement of the pipe on the ground and backfilling around it. This should be specifically shown in graphic and notation format on the profile view.

*Response: A legend has been added to all pipe profiles indicating this method of installation Sheets C1029-C1046.*

36. The same comment above applies to all pipes, whether sanitary sewer, water line, or stormwater lines. Since no profile view was provided for the sanitary sewer line, it is unclear whether these notes will be required.

*Response: A legend has been added to all pipe profiles indicating this method of installation, Sheets C1028A, C1028B, C1028C and C1029-C1046.*

37. Very little is known about the detention basin outlet structures. However, it appears that Nyloplast inlets are being proposed. The City does not support the use of these types of inlets for detention basin outlet structures. We would recommend a concrete structure with appropriate anti-clogging measures installed.

*Response: No nyloplast is being used in the outlet structures. The notes have been revised.*

38. General Layout Sheet: Please label all detention basins.

*Response: Detention Basins have been labeled Sheet C1002*

39. Please determine the best placement of the future public sanitary sewer extension to the east, to serve the future development to the east. This location should be able to serve the eastern development in a low point.

*Response: This is being coordinated with our Northland Office and will be updated soon.*

40. All three (3) commercial entrances must be constructed of KCMMB 8 inch thick concrete from the right of way line, to the sawcut in the public pavement. Notes must be provided on the plan views for each.

*Response: The detail for the commercial entrance was provided in the original submittal. City standard detail Gen-1 was provided on Sheet C1053. They will be constructed with the public plans.*

41. A note must be provided on the general layout sheet which states that all detention basins must be constructed prior to any other improvements. This note should be bold, and clearly-visible to the contractor.

*Response: A note has been added to Sheet C1001 in the General Note.*

42. It is our understanding that all ADA-accessible ramps will be detailed with the public improvement plans.

*Response: Correct. They will be shown on the public plans.*

43. An erosion and sediment control plan was missing.

*Response: The erosion and sediments control plans were submitted the mass grading plans.*

#### Traffic Review:

1. The limits of public improvement plan for 13th Street should end at the beginning (or west) curb return PC so that the intersection is part of the school driveway/roadway (a continuous private drive/road).

*Response: The limits of the public improvements have been revised.*

#### Building Codes Review:



1. 2018 IPC 708.1.3 Building drain and building sewer junction. The junction of the building drain and the building sewer shall be served by a cleanout that is located at the junction or within 10 feet of the developed length of piping upstream of the junction. For the requirements of this section, the removal of a water closet shall not be required to provide cleanout access.

Action required: Cleanouts required near locations where sewers leave buildings. May be field verified.

*Response: This item is being coordinated with the MEP.*

2. Inadequate information to complete review.

Provide the following:

- Size of water meter to serve school building.

*Response: Water meter sizing has been detailed on Sheet C1027.*

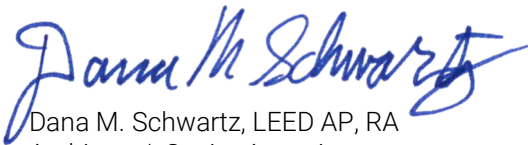
3. A-series & E-series drawings not included in this review.

*Response: Acknowledged.*

We appreciate the responsiveness and direction your office has provided our project team. Please let us know if you require any additional information to go with the provided responses.

Sincerely,

DLR Group



Dana M. Schwartz, LEED AP, RA  
Architect | Senior Associate

cc: Hector Soto, City of Lee's Summit  
Kyle Gorrell, Lee's Summit R-7 Schools  
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