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Memorandum

To: Stacey Nerger, Associate Planner

Date: May 15, 2019

From: Tyler Sandt, Development Review Engineer
Michael Grabczyk, P.E. Project Engineer

Cc: Alex Mestdagh, P.E. Engineering Services Manager
Jacob James, P.E. Stormwater Manager

Subject: Jackalope F1 AMD1 L1 Site Plan and Replat – Engineering 1st Review

The Engineering Department has reviewed the documents submitted for the Jackalope Filing 1 Amendment 1 Lot 1 Site Plan and Replat. The submittal consisted of the following documents:

<u>Document</u>	<u>Date Received</u>
Site Plan Set	April 17, 2019
Drainage Report	April 17, 2019
Construction Plans	April 17, 2019
Replat	March 29, 2019
Cost Estimate	April 16, 2019
PWSD Plans	April 17, 2019
Traffic Study	April 16, 2019

The site is located at the southeast corner of Parker Road and Cockriel Drive. Based on our review we have the following comments:

Traffic and Roadway Review Comments

The following comments concern traffic, access, roadway design, and construction standard issues for the subject property. They are based upon our review of the submittal documents in accordance with the criteria presented in the Town of Parker’s Roadway Design and Construction Criteria Manual (RDCCM), as revised, July 2015. Additional regulatory and planning documents may have been utilized in the review, and are referenced in the comments where appropriate.

May 15, 2019

Road and Storm Plans

1. Please revise the sidewalk on Cockriel to be detached.
2. On future submittals, provide more detail on the “Entrance Directional Sign”.
3. Remove the stop bar from the access.
4. Add the following notes to the Town plans as well as the PWSD plans:

“Installation of the sidewalk on Cockriel or traffic control placed on Cockriel Drive will require a Town right-of-way permit.”

“Installation of the sidewalk on Parker Road or traffic control placed on Parker Road will require a CDOT right-of-way permit.”

Site Plan

5. Remove or relocate any trees proposed within 7-feet of the storm sewer.

Public Improvements Cost Estimate

6. Please only show the public sidewalk in the cost estimate, this is the only item that needs to be secured.
7. Add the soft costs outlined in the “Standard Cost Estimate Template” in Appendix B of the RDCCM.

Replat

8. Dedicate 25-foot drainage easements over all proposed storm sewer with the exception of the private roof or landscape drains.
9. Please show the detention pond in a Tract and add the following note to the plat with the appropriate plat designation:

“A blanket drainage easement is hereby dedicated to the Town of Parker over and across Tract X for the purpose of accessing, maintaining, and repairing stormwater management improvements including, but not limited to, inlets, pipes, culverts, channels, ditches, hydraulic structures, riprap, detention basins, forebays, micropools, and water quality

May 15, 2019

facilities in the event that the property owner fails to satisfactorily maintain or repair said facilities.”

10. Show the full sight triangle at the site’s access and add the following note to the plat:

“Within the sight triangles, as shown, limited landscaping shall be allowed but no solid structures or trees will be permitted. Solid structures shall include, but not be limited to, fences, mailboxes, and utility boxes. Landscaping within the sight triangles will be limited to shrubs and plantings that at maturity will be no taller than two feet. Landscaping within the sight triangle shall be maintained by the property owner or appropriate association.”

11. Add the following notes to the plat:

“ACCESS EASMENT ARE HEREBY GRANTED OVER ALL PRIVATE ENTRANCES AND INTERNAL ROADWAYS WITHIN THE DEVELOPMENT FOR THE BENEFIT OF ALL CURRENT AND FUTURE OWNERS OF THESE PROPERTIES FOR INGRESS, EGRESS AND TRAFFIC CIRCULATION. SHOULD PROPERTIES BE FURTHER SUBDIVIDED INTO ADDITIONAL LOTS, ALL SUCH LOTS SHALL HAVE THE RIGHT TO USE ALL SUCH ENTRANCES AND ROADWAYS FOR PUBLIC ACCESS PURPOSES.”

“NO CERTIFICATES OF OCCUPANCY, TEMPORARY OR OTHERWISE WILL BE ISSUED UNTIL ALL PUBLIC IMPROVEMENTS AND NECESSARY ONSITE IMPROVEMENTS ARE COMPLETED AND ACCEPTED IN WRITING BY THE TOWN.”

“NO CERTIFICATES OF OCCUPANCY, TEMPORARY OR OTHERWISE SHALL BE ISSUED UNTIL THE LANDSCAPING IS INSTALLED AND APPROVED BY THE TOWN OR AS OTHERWISE ALLOWED IN THE LAND DEVELOPMENT CODE.”

“PRIVATE ACCESS DRIVES/ROADWAYS MUST BE CONSTRUCTED PRIOR TO THE ISSUANCE OF TEMPORARY CERTIFICATE OF OCCUPANCY AND/OR CERTIFICATE OF OCCUPANCY FOR ANY DEVELOPMENT OCCURRING ON PROPERTY SHOWN HEREIN.”

“PROPERTIES IN THIS PLAT ARE SUBJECT TO A PERPTUAL, NON-EXCLUSIVE CROSS PARKING EASEMENT FOR THE SHARED USE OF ALL PARKING SPACES SITUATED WITH THE PROPERTIES SHOWN HEREIN. THE OWNER OF EACH LOT SHALL KEEP AND MAINTAIN THE PARKING SPACES CONTAINED WITHIN THERE RESPECTIVE LOT IN A COMMERCIALY REASONABLE CONDITION AND STATE OF REPAIR.”

May 15, 2019

Stormwater Review Comments

The following comments concern drainage, erosion and sediment control, and non-point source pollution control issues for the subject property. They are based upon our review of the submittal documents against the criteria presented in the Town of Parker's, *Storm Drainage and Environmental Criteria Manual (SDECM)*, as revised, February, 2014. Additional regulatory and planning documents were utilized in the review, and are referenced in the comments where appropriate.

Road and Storm Construction Plans

12. Storm Drainage Infrastructure Notes on sheet CV-1 appear to be out of date. Include current notes provided in the SDECM on the Town's website (<http://parkeronline.org/577/Storm-Drainage-and-Environmental-Criteri>)
13. Provide and identify the HGLs for minor and major storm events on the storm profiles.
14. Unless it is not feasible, match the soffit elevations when changing pipe size at structures. (reference UDFCD Vol. 1 Ch. 4.2)
15. RCP less than 18" in diameter is not allowed per the Town's SDECM Chapter 6.3.3.3. This requirement will not apply to the 6" private building connection.
16. Provide a detail of the perimeter trickle channels within the plan set. Also include supporting calculations within the drainage report showing sufficient capacity to intercept the overland flows.
17. The proposed pond design does not meet the minimum extended detention basin (EDB) requirements of the Town. Elements such as sediment forebays, emergency spillway, and maintenance access are missing. Please reference the Town's SDECM Chapter 7.3 for design criteria of EDB's within the Town. Provide sufficient details for all pond structures meeting the minimum requirements outlined in Figures 7.1-7.9 of the SDECM.
18. Combine the outfalls of storm pipes 4 and 5 to reduce the number of sediment forebays.
19. Revise the outlet structure detail to conform with the requirements outlined in Figures 7.1-7.9 of the SDECM.

Drainage Report

20. The final approved drainage report shall be signed and stamped.

May 15, 2019

21. Correct the site location map (Exhibit E), which shows the site as being north of Cockriel Dr.
22. The EDP proposed with this development is a permanent BMP. Please include discussion of this PBMP under Section 5 of the report.
23. It appears off-site flows enter the property from the east. Please address this in the drainage maps and reports.
24. The proposed drainage map must include both existing and proposed contours.
25. A portion of on-site landscape area exits the site undetained. Please delineate this area on the proposed drainage map and include within the rational calculations.
26. The provided C-value tables in Appendix E are unclear. It appears that two C-values are calculated for the existing condition; one being labeled as proposed with the existing site imperviousness and another labeled existing with no imperviousness. An additional table of the same format is provided for the proposed basins, but it also includes existing conditions (which appears inaccurate to the existing site imperviousness). Please condense and/or clarify these tables within the report.
27. The provided hydraulic analysis for the storm sewer system is not acceptable per the Town criteria (reference SDECM 6.3.3.4).
28. A watershed area of 7.92 was entered into the UDFCD pond worksheet. Approximately 1-acre of off-site undetained flow will exit the site. Please account for the undetained flow within the outlet structure design. The 100-year peak flows exiting the site from the combined detained and undetained areas must be equal to or less than 90% of the existing 100-year peak runoff.
29. A developed to undeveloped peak flow ratio of 3.4 for the minor storm event is not acceptable. Please adjust the outlet structure to allow for developed flows to more closely match the undeveloped flows.
30. On future submittals, include inlet calculations. The Town recommends the Urban Drainage Inlet Workbook.

Grading and Erosion Control Plans

May 15, 2019

31. Please split the CBMP plan (ER-1.0) into an “initial” CBMP plan sheet and “interim/final” CBMP plan sheet. The initial CBMP plan shall include the existing site conditions, existing contours, proposed contours, and initial CBMPs (but no proposed improvements). The interim/final CBMP plan should show the proposed site development and ultimate site stabilization.
32. Omit all existing and proposed utilities from the CBMP Drawings, except those relating to stormwater.
33. Provide arrows to indicate the direction of flow.
34. Show the ratio of all slopes that are 4:1 or greater.
35. Add a note on all land adjacent to the project stating that no work shall occur in these areas.
36. Add the following note to the initial and final CBMP plan sheets:

“TO REDUCE THE POTENTIAL FOR CLOGGING OF DEBRIS GRATES, NO STRAW MULCH SHALL BE USED WITHIN THE EXCESS URBAN RUNOFF VOLUME OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKET SHALL BE INSTALLED FOR A WIDTH OF AT LEAST 6-FEET ON BOTH SIDES OF THE CONCRETE LOW FLOW CHANNELS OR UP TO A DEPTH OF 1-FOOT IN SOIL RIPRAP OR BENCHED LOW FLOW CHANNELS. ADDITIONALLY, HYDRAULICALLY-APPLIED WOOD FIBER MULCH, STABILIZED FIBER MATRIX, BONDED FIBER MATRIX, OR FLEXIBLE GROWTH MEDIUM SHALL BE USED IN ALL OTHER AREAS WITHIN THE EXCESS URBAN RUNOFF VOLUME OF THE DETENTION BASIN. THE BLANKET AND HYDRAULICALLY-APPLIED MULCH SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS FOR EROSION CONTROL BLANKETS AS REQUIRED BY THE TOWN’S CBMP PROGRAM, AND WHERE APPLICABLE, THE PRODUCT MANUFACTURER.”

37. Include perimeter controls for the entire LOC. Perimeter control may be silt fence (SF), construction fence (CF), or sediment control logs (SCL). This may negate the need for Note 6.
38. Add a note stating that lot protection (LP) is required on commercial lots when landscaping is not possible.
39. Add SCL at the back of curb along the perimeter of all proposed landscape islands and other areas where grades direct flow from landscape areas onto sidewalk or curb and gutter.

May 15, 2019

40. The proposed vehicle tracking control (VTC) does not meet the minimum size requirements per the Town's detail. Please revise the CBMP plan(s) to accurately show the size of the VTC.
41. Match the SMC hatch in the legend to the hatch used on the plan.
42. Correct the Temporary Irrigation (TI) label in the legend. It is currently called out as Temporary Sediment Basin (TSB).
43. Remove note 17 on sheet ER-1.0 or revise to only provide reference to the Town's seeding requirements (reference CBMP detail for seeding mulching and crimping).
44. Note 21 is blank, please remove.

The submittal is not in general conformance with the Town of Parker's *Roadway Design and Construction Criteria Manual* and *Storm Drainage and Environmental Criteria Manual*. The submittal must be revised and re-submitted for review.

Link to Engineering Standards and Criteria:

<http://www.parkeronline.org/210/Standards-and-Criteria>

An attempt has been made to identify all of the items that do not meet the Town of Parker's design criteria; however, it remains the developer's responsibility to ensure that all criteria are met.

If you have any questions regarding the comments please do not hesitate to contact the Engineering Department at (303) 840-9546.