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Memorandum

To: Julia Duncan, Associate Planner

Date: October 21, 2021

From: Tyler Sandt, Development Review Engineer
Michael Walton, Project Engineer

Cc: Alex Mestdagh, P.E. Engineering Services Manager
Michael Grabczyk, P.E. Stormwater Project Manager

Subject: Douglas 234 Filing 6 Lot 1 Gas Station and Convenience Store– Engineering 2nd Review

The Engineering Department has reviewed the documents submitted for the Douglas 234 Filing 6 Lot 1 Gas Station and Convenience Store. The submittal consisted of the following documents:

<u>Document</u>	<u>Date Received</u>
Construction Plans	September, 2021
Site Plan	September, 2021
PWSD Plans	September, 2021

The site is located at the northeast corner of Chambers Road and Hess Road. 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.

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General Comments

1. As stated on the previous review, no approvals will be granted on this project until the Douglas 234 replat is recorded.

Site Plan

2. It appears a tree on Sliceroo proposed with the master development is now in a sight triangle as a result of the proposed access location. The landscape plan for this site will need to show that tree being removed. If possible, coordinate with the master developer to ensure that tree is not ordered/installed.

Traffic Letter

3. Per previous review, provide a site-specific traffic conformance letter. This letter should also include a queuing analysis for the car wash. The comment response mentioned a Rick letter but nothing was uploaded and the overall master study is not sufficient to address this comment.

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.

Civil Construction Plans (Gas Station)

4. Provide and identify minor and major storm hydraulic grade lines on the storm sewer profile.
5. Provide a plan sheet with the full landscape drain system and proposed inverts called out at every structure/cleanout.

Civil Construction Plans (Car Wash)

6. Provide a typical section for the swale proposed south of the car wash.

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7. Provide inverts and details for the proposed trench drains on either end of the car wash. Please also provide labeling to identify these on the plans.

Drainage Report (Gas Station)

8. Provide hydraulic grade line calculations in the appendix.
9. Please verify basin delineations. Based on the provided flow arrows and grading, a portion of Basin D including the landscaped area and a portion of the northern entrance appear to discharge offsite to RED-1 rather than to design point D. Also, a portion of Basin OS-2 appears to flow back to design point D rather than discharge offsite. Please also note that the basin delineations are not shown to the full extent of proposed disturbance along the western extents of the site.
10. Please consider extending the proposed landscape drain system to incorporate additional landscaped areas currently proposed to discharge offsite. Ideally if you could capture the landscaped areas north of the parking lot and then route the system behind the proposed convenience store and under the walk to discharge to the proposed swale along the southern boundary. Please also consider whether the berm shown in OS-1 could be inverted into a swale to connect with the proposed swale along the southern boundary so these flows could potentially be captured and conveyed on site as well. Please also consider whether a sump and landscape drain or additional inlet structure could address capturing the area south of the eastern entrance. Please note that these systems should avoid capturing tributary areas with paved surfaces to avoid additional easement requirements.

Drainage Report (Car Wash)

11. Provide hydraulic grade line calculations in the appendix.
12. Please verify basin delineations. Based on the provided flow arrows and grading, a portion of Basin D including the landscaped area and a portion of the northern entrance appear to discharge offsite to RED-1 rather than to design point D. Also, a portion of Basin OS-2 appears to flow back to design point D rather than discharge offsite. Please also note that the basin delineations are not shown to the full extent of proposed disturbance along the western extents of the site.
13. Please consider extending the proposed landscape drain system to incorporate additional landscaped areas currently proposed to discharge offsite. Ideally if you could capture the

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landscaped areas north of the parking lot and then route the system behind the proposed convenience store and under the walk to discharge to the proposed swale along the southern boundary. Please also consider whether the berm shown in OS-1 could be inverted into a swale to connect with the proposed swale along the southern boundary so these flows could potentially be captured and conveyed on site as well. Please also consider whether a sump and

Grading and Erosion Control Plans (Gas Station)

GENERAL COMMENTS

14. Include within the plan set all of the town's 31 CBMP Notes & Details. Specifically, Surface Roughening (SR) and second sheet of Detention Pond Protection (DP) as missing.
15. Provide unique blocks for every inlet protection type used. This helps avoid confusion in the field regarding which control measure is being specified.
16. Please verify the proposed extents for the Limits of Construction (LOC). A small area along the north west boundary appears to propose sidewalk modifications which fall outside of the LOC.

INITIAL CBMP PLANS

17. Provide and identify Inlet Protection for Area Inlet Not in Pavement (IPAN) for the southernmost existing inlet as well. This appears to have been removed in response to a comment requesting the two lots CBMP plans be split, but please note this control measure is considered necessary for both lots' development.

INTERIM/FINAL CBMP PLANS

18. Provide and identify Masonry Work Protection (MWP) for the site.
19. Provide and identify Seeding Mulching and Crimping (SMC) in all proposed landscaped areas. Provide a hatch for this control measure so the extents are clear.

Grading and Erosion Control Plans (Car Wash)

GENERAL COMMENTS

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20. Label and identify the ratio of all slopes that are 4:1 or greater. Erosion control blanket noted on several slopes which appear steeper than 4:1 but where no slope label is provided.
21. Provide Erosion Control Blanket (ECB) labels on the plans where ECB hatch is shown.
22. Northern Curb Socks (CS) label and blocks, Limit of Construction (LOC) labels, and Vehicle Tracking Control (VTC) should be removed from this set. The assumption being Lot 1 is completed simultaneously or prior to Lot 2.
23. Show the existing storm line.
24. Include within the plan set all of the town's 31 CBMP Notes & Details. Specifically, Surface Roughening (SR) and second sheet of Detention Pond Protection (DP) as missing.
25. Provide unique blocks for every inlet protection type used. This helps avoid confusion in the field regarding which control measure is being specified.
26. Please verify Limits of Construction (LOC) extents. Sediment control log is shown beyond the extents of the LOC on the south east corner of the site. If this area is to be disturbed and requires SCL it should fall within the LOC.

INITIAL CBMP PLANS

27. Provide inlet protection for the Type R inlet proposed in the Convenience Store plan set on the initial CBMP plan.

INTERIM/FINAL CBMP PLANS

28. Provide and identify sediment control logs (SCL) along all paved areas adjacent landscape/pervious areas. Specifically noted the small island adjacent to the car wash entrance as missing SCL.
29. Provide and identify Masonry Work Protection (MWP) for the site.
30. Provide and identify Seeding Mulching and Crimping (SMC) in all proposed landscaped areas. Provide a hatch for this control measure so the extents are clear.

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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.