

MEMORANDUM

TO: Stacey Nerger, Senior Planner

DATE: June 18, 2021

FROM: Rick Moore, P.E., Manhard Consulting

SUBJECT: Compark Village South Filing No. 1 – Site Plan Amendment

In response to the Town’s May 18, 2021 review comments we offer the following:

Roadway and Storm Plans

1. Please discuss the title of the plan set with Town Staff. If a plat is not necessary for this work, Filing No. 3 will not be the appropriate title.

Response: The title of the plan set has been revised to Compark Village South Filing No. 1 – Belford Ave Site Plan Amendment.

2. It is critical that the proposed Belford Avenue alignment and profile are coordinated with the adjacent Chambers Highpoint design. The Town would prefer that this plan set show a portion of the Highpoint profile as “By others” (and vice versa) to ensure there is no confusion. Please coordinate this with the Highpoint team – the Town can help arrange a meeting if necessary.

Response: The current Chambers Highpoint design has been added to the Belford Avenue – Plan & Profile sheet, Sheet 7 of 33.

3. Staff recommends removing the proposed Type R inlet in the “Residential Storm Lateral” line and instead just plugging the RCP and adding a locator or marker.

Response: The inlet has been removed and a plug has been shown and labeled on the plan along with a marker. See Sheet 12 of 33.

4. Replace the diagonal curb ramps at the Belford Avenue/Future Street intersection with direction ramps across Future Street (Town Detail 18). Staff assumes there will not be an opposing intersection across Belford, and pedestrian crossings of Belford will not be promoted at this intersection.

Response: The curb ramps have been revised to directional ramps. See Sheet 9 of 33.

5. Include delineators outside of the temporary shoulder of Belford Avenue to help display the roadway edge during adverse weather conditions.

Response: Delineators have been added on Sheet 18 of 33.

6. Please note that the Town has recently updated its Roadway Standard Details. Please download the updated versions from www.parkeronline.org and use those in this plan set.

Response: The Roadway Standard Details have been updated to the current versions.

7. Storm Drainage Infrastructure Notes on sheet 2 appear to be out of date.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-EnvironmentalCriteria>)

Response: The notes have been updated to the current version.

8. Sheet 10 & Sheet 12: Per SDECM section 6.3.3.4 The minor storm's HGL must be located below the crown of the pipe and the major storm's HGL must be a minimum of 12-inches below finished grade.

Response: The stormwater model has been updated to correspond to the design shown on the design drawings. The resulting minor HGL's are all below the pipe crowns and the major HGL's are at least 12-inches below finished grade.

9. Sheet 12: All proposed storm sewer infrastructure other than the bridge itself needs to be included in the Road and Storm Sewer plan set. This includes the storm sewer infrastructure proposed for the bridge.

Response: The inlet (by others) in the western bridge approach slab has been added to Sheets 10 and 12 of 33.

10. Sheet 12: INL – C appears to tie out to another proposed inlet within the bridge. Please consider using one larger inlet rather than two smaller inlets to accommodate the drainage needs in this area.

Response: The bridge engineer indicated an inlet is required in the approach slab to limit the amount of runoff that crosses the approach slab joint so the inlet layout was not revised.

11. Sheet 12: HGL's not provided for the Lateral E profile.

Response: HGL's have been added to the pipe profiles for the pipes from the bridge approach slab to the Belford Ave drainage system.

12. Sheet 16: Detention Basin Outfall profile missing HGLs

Response: HGLs have been added to the Detention Basin Outfall.

13. Provide temporary swales along the proposed roadway widening area to convey stormwater to the proposed inlets during the interim condition. Please include all swale sizing calculations within the drainage report.

Response: The unpaved portion of Belford Ave will be prepared to subgrade elevations which will act as a swale to the interim modified inlets.

14. Forebay maintenance ramps must be a minimum of 10 – feet wide.

Response: The forebay maintenance ramps have been revised to 10' wide, see Sheet 14 of 33.

15. Sheet 16: Provide a call out referencing the low tailwater basin detail provided in the plans on sheet 33. Please also use the "low tailwater basin" nomenclature in lieu of "riprap bank protection" to avoid potential confusion in the field.

Response: The low tailwater basin has been labeled, as well as, reference to Sheet 33 for the detail.

16. Provide additional details for the retaining wall design and ensure the design meets all the standards provided in SDECM section 7.3.13. It was specifically noted that the terrace width and slope does not appear to meet these criteria.

Response: The proposed retaining wall locations have been revised to comply with SDECM section 7.3.13 including the minimum terrace width and slope between the walls.

17. Per the Town's maintenance road detail, Figure 7.4 of the Town's SDECM, maintenance access side slopes must be 4:1 or flatter. Detail currently calls out 3:1 to existing grade.

Response: The detention basin maintenance road detail on Sheet 13 of 33 has been revised to reflect a maximum slope of 4:1 to meet existing grades.

18. The "Emergency Overflow Water Surface" should reflect the water surface above the spillway crest if the 100-year flow rate was passed through the spillway, not the 100-year water surface reached due to ponding.

Response: The Emergency Overflow Water Surface reflects the water surface above the spillway crest if the 100-year undetained flow rate is passed through the spillway.

19. The outlet structure details do not appear to include a well screen for the orifice plate. Please note the well screen should be on the outside of the outlet box and the orifice plate should be on the inside of the outlet box per SDECM Figure 7.9.

Response: A well screen has been added to the detention basin outlet structure details, see Sheet 15 of 33.

20. With the low point in Belford appearing to be located within or near the bridge approach slab, the stormwater ponding that will occur in this area should be minimized to prevent issues with the structure. It be appropriate to add another flanking inlet to decrease ponding limits in the major storm. Please discuss the proposed conditions and mitigation with Town Staff.

Response: The stormwater model has been updated to correspond to the design shown on the design drawings. The updated HGL's reflect the revised water levels in the system and no ponding is shown.

Streetscaping Plans

21. Please confirm that the roadway linework is scaled correctly – the roadway elements do not appear to scale to expected dimensions. This is necessary to confirm that the necessary sight distances are being preserved – the required ISD is 500 feet for this roadway.

Response: Roadway linework is scaled properly on the streetscape plans. Drawing scale was updated to increase legibility of proposed landscaping.

22. Show and label all utilities. Ensure that no trees are located within eight feet of any storm sewer infrastructure crossing the tree lawn.

Response: Utilities are labeled and proposed trees are located a minimum of 8' away from any storm sewer infrastructure.

Drainage Report

23. Provide the drainage report for the bridge infrastructure and Happy Canyon Creek improvements as stated in the Compark Village South F3 Drainage Report.

Response: The CLOMR for Happy Canyon Creek at Belford Avenue has been added to Appendix E of the Final Drainage Report

24. Please revise the title and engineer's statement to reflect that this is the "Final" drainage report to match Town nomenclature.

Response: The report title and engineer's statement have been revised to reflect the report in the "Final" drainage report to match Town nomenclature.

25. Provide discussion on whether the Town of Parker Stream Preservation Standards apply and if so, how they are being met.

Response: A paragraph addressing the Town of Parker Stream Preservation requirements has been added to the drainage report in the Drainage Design Criteria section.

26. Provide the values used for the rainfall intensities within the Hydrologic Criteria section of the report.

Response: The values utilized for the rainfall intensities have been added to the Hydrologic Criteria section of the report.

27. Reference the Mile High Flood District Detention worksheet used for design in the Hydrologic Criteria section. Also, provide additional details regarding the detention release requirements in this section (i.e. 90 percent of 100 year historic flows).

Response: The version of the MHFD Detention worksheet has been added to the Hydrologic Criteria section. A note defining the 100 yr release rate of the detention basin being restricted to 90% of the historic rates has been added to the Hydrologic Criteria section.

28. Discuss the method used for sizing storm sewer pipes in the Hydraulic Criteria section.

Response: The Town's criteria for sizing storm sewer pipes has been added to the Hydraulic Criteria sections, as well as, the method used to calculate the HGL's for the proposed storm sewer pipes.

29. Please provide a Variance from Criteria section per the SDECM Drainage Report checklist. If no variances are requested, please simply state this within said section.

Response: A Variance from Criteria section has been added to section V. Drainage Facility Design.

30. Provide discussion on wetland areas, jurisdictional status, impacts to threatened and endangered species, presence of Habitat Protection and Stream Restoration areas, and compliance with all other state and federal environmental permit regulations that may apply to the site in the Environmental Protection Criteria General section of the report.

Response: Reference to the CLOMR was added to the Environmental Protection Criteria General section to address potential impacts to wetland areas and threatened and endangered species and the permits that were obtained.

31. Please delineate approximate boundaries of the Site on the FIRM. The label “Site” was provided, but the extents of the site are unclear.

Response: The approximate site boundary has been added to the FIRM map.

32. State requirements for time to drain from the detention facility are not being met. Per Colorado Statute 37-92-602(8) rainfall events equal to or less than the 5-year storm must release or infiltrate 97 percent of all flows within 72 hours and rainfall events greater than the 5-year storm must release or infiltrate 99 percent of all flows within 120 hours.

Response: The detention basin design has been revised to meet the state required drain times.

33. Several other aspects of the detention worksheet do not appear to meet the typical design intent. Please coordinate with Town staff to provide clarity on some of the design choices made

Response: The detention worksheet has been revised to reflect the modifications made to the detention basin design in response to the Town review comments.

34. Please verify that Happy Canyon Creek is still applicable for a Nationwide Permit with the recent regulatory changes to what is defined as a Water of the US. If not, please coordinate with the State on what permitting will be required in this case.

Response: The wetlands consultant confirmed Happy Canyon Creek is still applicable for a Nationwide Permit for the proposed improvements.

35. Please note the Floodplain Development Permit will be reviewed as part of the Grading Permit Application.

Response: Noted

Culvert and Wingwalls Plans

36. Please confirm that recoverable slopes (4:1 or flatter) are provided between the edge of Belford Avenue and the proposed fence on the end of the culvert crossing.

Response: The proposed Belford Avenue grading associated with the proposed bridge and trail improvements have been coordinated with the Town staff.

37. Further discussion is warranted regarding the aesthetics/finish on the culverts and associated wingwalls. Where form liner is used, the Town would prefer to match a standard currently being specified on Town projects (uploaded to eTrakit for reference). Other areas of exposed concrete should be coated with Davis Color No. 641 (Sequoia Sand) to match other Town structures.

Response: Finishes for the wingwalls and retaining wall associated with the GAT crossing were approved late 2020 by the Town. MHFD is also utilizing the same finishes for a box culvert they are installing in the GAT at the end of First Avenue. This structure has already been installed with the form liner and colors previously approved by the Town. Finishes and colors associated with the proposed bridge structure are shown on the submitted bridge plans.

38. The Town would prefer the culvert railing color be specified as “Parker Brown”, equivalent to TNEMEC Endura Shield Color F073D3884A. All railing steel shall be galvanized, and powder coated per CDOT standard specification.

Finishes and colors associated with the proposed bridge structure are shown on the submitted bridge plans.