

November 21, 2016

Mr. Patrick Mulready
Town of Parker
20120 E Mainstreet
Parker CO 80138

Re: Trails at Crowfoot Filing 1 (Hess Ranch) Project #SUB16-051
Preliminary Plan 1st Referral
PWSD Project #2016-086

Dear Mr. Mulready:

Thank you for forwarding the referral request for the above mentioned project. After a review of the documents submitted, the Parker Water & Sanitation District has the following comments:

- Submit completed PWSD Plan Requirements Checklist with the next submittal to ensure all plan requirements have been met. Checklist is available online at www.pwsd.org
- Please notify PWSD if this project will be broken up into smaller filings.
- Submit an executed Standard Improvement Agreement with all required exhibits.
- A wet stamped and signed Engineers Estimate with a 20% contingency must be submitted for verification and District approval. The approved document will be an Exhibit for the Standard Improvement Agreement and Letter of Credit.
- A copy of the signed/recorded Final Plat must be provided to the District prior to construction plan approval.
- Please submit a Master Utility Report
- Please provide and call out all wellsite's that will be dedicated to PWSD.
- All easements must be called out and shown on the plans as well as the Plat. The District requires single utility easements to be 30-foot exclusive PWSD easements and multiple utilities to be 50-foot non-exclusive PWSD easements (with 10-foot separation between any utility). ALL easements must be done by separate document (on the District's standard Easement Agreement) regardless if they are done by Plat.
 - There are multiple areas in this project that appear to have a 30' or less easement and have multiple utility's proposed to be in them, please revise to follow the above PWSD regulation
 - Call out proposed easements on both the plan and profile and overall utility plan sheets.
 - All proposed PWSD water mains, sanitary sewer mains and fire hydrants must be in ROW or a PWSD easement.

- Please add a materials list to the cover sheet that includes all proposed PWSD material in it.
- List all fittings on overall utility and plan and profile sheets with numbers (man holes, blow offs, gate valves, butterfly valves, fire hydrants, air release valves, etc. i.e. TC-GV1 or TC-MH1).
- The maximum distance between valves is 600-feet. Please ensure gate valves are placed 600 feet or less on all proposed water mains.
- No more than one fire hydrant and/or 15 lots may be out of service with the closing of two or more valves.
 - There are multiple areas where more than one fire hydrant will be put out of service with the closing of valves (See Redline Utility Plan). Please revise plans to put no more than one fire hydrant out of service.
- There must be 10-foot horizontal separation between all proposed water, sanitary sewer and storm mains and manholes (except for 90-degree crossings).
 - There are multiple areas throughout this project that have less than 10 feet of separation between proposed sanitary sewer mains and the storm lines, please revise.
- The center-line of the water and sewer mains must be at least 5-feet from the lip of pan.
 - There are multiple area where the water and sanitary sewer mains are less then 5ft to the curb and gutter or lip and pan, please revise.
- Please plan and profile the water main.
- Please create a water and sanitary sewer service table that shows stationing information for each lots water and sanitary sewer service line. Or PWSD allows each service line stub to have stationing numbering called out.
- All proposed water main lowering's are required to have low point blow off valves called out on the plans per PWSD standards. Please call out all necessary blow off valves in the plan and profile sheets.
- The high points in the proposed water mains will require air-vac valves to be called out and installed to PWSD standards. Please see PWSD water specification section 4.2.6.
- On sheet 11 an 8" gate valve may need to be added to the existing mains proposed tie in location
- Please note on sheet 11 proposed sanitary sewer tie in location does exist, however PWSD sanitary sewer main is not connect and does not cross Stroh Road(See attached PWSD Image of existing SS main).
- PWSD does not permit split flow manholes in the district due to maintenance related issues. Please redesign and add manholes to eliminate the split flow ones.
- Manholes over 20-feet in depth will require an intermediate platform.
 - Add and callout intermediate plat forms to TC-SSMH-5, TC-SSMH-242, TC-SSMH-OS-62, and TC-SSMH-OS-63.
- Please remove water detail sheets SS12, 13, W46, W47, W48, W71, and W72.
- Show and call out irrigations taps and sizes on Water and Sanitary Sewer construction plans.
- All utility crossings must be called out in the plan and profile sheets.

- Show and callout in the profile the requirement of a minimum of 18" clearance between utilities at all crossings.
- Show and callout in the profile the requirement of a minimum of 4 ½" of coverage/bury depth over all proposed PWSD water and sanitary sewer main infrastructure.
- Submit landscape/irrigation plans for verification and calculation of tap size(s) (include completed PWSD landscape worksheet-one worksheet per tap). PWSD Landscape/Irrigation worksheet is available online, at www.pwsd.org/developer.html. The approved worksheet must be shown on the approved landscaped plans.
- Provide a physical address for all proposed irrigation taps on the Landscape/Irrigation Worksheet in the space provided.
- ET based Smart Irrigation Controllers with rain sensors are required on all projects. Choose a controller from the Districts approved ET Controller list and specify the manufacturer and model number on the irrigation worksheet.
www.pwsd.org/pdf/Conservation/AvailableSmartIrrigationControlTechnologies.pdf

Please let us know if you have any question on the above comments. We look forward to the final submittal on this project.

Sincerely,
Parker Water & Sanitation District


Drayton Sanderson
Engineering Technician

