

April 23, 2021

Jonathan Jackson
Bowman Consulting Group
3951 Westerre Parkway, Suite 150
Henrico, VA 23233

**RE: Settler's Ridge, Section C
Burning Tree Rd. & Settlers Ridge Blvd.
FILE NO: 4588; POD2021-00060**

Dear Mr. Jackson:

We have reviewed the construction plans submitted to the Planning Department on April 7, 2021.

Please address the following comments and **resubmit revised construction plans** for review. Water and Sewer Agreements that must be executed by the Owner and the County for water and sewer improvements **have not** been executed.

Sheet 1 (Cover Sheet):

1. P.E. Seal with original signature and date is required on the Cover Sheet. A facsimile of seal with signature and date is acceptable on all other sheets.

Sheet 23-25 (Utility Plan):

2. Show the existing valves at the corrected location. There is one existing 6" valve on the fire hydrant lead at the existing fire hydrant on Burning Tree Road and one existing 16" valve on the 16" water main.
3. Show the existing water service along Burning Tree Road to make sure that it is not in the same location of the proposed tapping sleeve and valve.
4. Label the size of tapping sleeve valve as 16"x8" TS&V.
5. Revise the irrigation callout to include: Peak Demand, corporation stop, copper pipe, and the size of the backflow prevention device. Update where necessary.
6. No part of the meter, fire hydrant or SIP should be in the sidewalk. Plans currently shown most of them are partially in the sidewalk.
7. Provide a strip of utility easement for meter and SIP since they are outside of the 44' common area and utility easement.
8. Avoid crossing any part of the driveway or driveway apron with the water and sewer services.
9. Relocate the SIP and sewer lateral for lot 107 further into the yard to avoid conflict with the storm sewer.

10. Relocate the sewer lateral for lot 102 further away from the storm sewer inlet.
11. Relocate the fire hydrant at the intersection of Red Hill Club Lane and Indian River Run to the PT at station 14+85.
12. Provide a distance from the proposed water line to the face of curb or back of curb on each roadway on each utility plan sheet. You might have to provide two distance on New Settlement Court.
13. Provide 5' separation between the water service connections.
14. Provide 5' separation between the tap location of the sewer lateral for lot 28 and 103 & also lot 6 and lot 101.
15. Provide at least 8' edge to edge outside diameter from sanitary sewer manhole G1 to the storm sewer pipe.
16. Clearly show the existing valve near the tie-in location on New Settlement Drive.
17. Use the same symbol to show existing valve throughout the plans.
18. Provide length, size, and material for the proposed sewer from the existing manhole to manhole G in the plan view.
19. Relocate the water service for lot 79 out of the driveway.
20. Relocate the irrigation meter near lot 61 closer to the road.
21. Avoid tapping the sewer lateral at same location on opposite side for lot 62 and lot 76.
22. Provide 5' separation from the bend to the water service for lot 65.
23. Avoid multiple utilities crossing at one point. The sewer lateral to lot 66 is crossing both the water line and the storm sewer at one point.
24. Provide GIS rim elevation, invert in and invert out for the existing manhole shown on the plan. Show the surveyed elevations in the same order as well for comparison.
25. Provide internal angle in degree, minute and second at each manhole. Some manhole required more than one internal angle.
26. Clarify whether the top of the existing manhole need to be adjusted to grade or not. Provide a table to address the raising or lowering of existing manholes to finished grade if necessary. This table should include: (Adjustment detail was included D-165).
 - a. Existing top elevation.
 - b. Proposed top elevation.
 - c. Amount of modification required, i.e. vertical feet of raising or lowering.
 - d. Proposed method of adjusting each manhole.
27. Provide benchmarks every 500 feet to be consistent with DPU Spec. 5.5 L.
28. Resolve the overlapping texts on the plans.
29. Show the existing easement and DB & PG for the existing sewer near manhole EX-1.
30. Revise pipe material for sewer from the existing manhole to manhole A to be DI.
31. Is all common area also considered as utility easement?

Sheet 30-32 (Road Profiles) & Sheet 36-38 (Drainage Profiles):

32. Show all water and sanitary sewer crossings in the profile. Label the clearance between the pipe at the crossing.
33. Is it possible for some of sewer lateral to go above the 24" storm pipe?
34. Proposed sanitary sewer and sewer lateral must be DI instead of PVC when there is less than 12" of clearance between the storm pipe and the sanitary sewer pipe.

35. Proposed water line deflecting under the storm using the vertical water line adjustment D-485 should have a clearance of 1.5' instead of 0.7' or more than 2'.
36. Label the storm structure 10 and 10 A.
37. Many of the water line crossings were not shown in the drainage profiles.

Sheet 39-42 (Utility Profiles):

38. Update the profile to match with the comments in plan view.
39. Show GIS rim elevation, invert in, invert out at existing manhole. Show surveyed elevations too in the same order at the existing manhole. Proposed invert in at existing manhole should be 0.10' higher than the invert out.
40. There are many clearance labels in the profile that are not shown at the correct location.
41. Provide a separate profile for the water line and sanitary sewer in New Settlement Circle instead of combining it in the New Settlement Drive profile.
42. Label the amount of clearance between pipes at crossing.
43. Show the sewer lateral crossing the water line near manhole C1.
44. Label the bend near station 33+00 in New Settlement Drive profile as 22.5 degree instead of 45 degree.
45. Show the equivalent station at manhole A in New Settlement Drive profile.
46. Label the 16"x8" tapping sleeve and valve.
47. Label to install fire hydrant per detail D-495 instead of D-405.
48. Use minimum slope of 0.4% for the proposed sewer between manhole G4 and G3.
49. Show the manhole station at manhole G3.
50. Show elevation on both sides of the profile sheet.
51. The waterline profile in Red Hill Club Lane is too deep. Keep the proposed waterline at 3.5' of cover.
52. Show the proposed invert in at existing manhole EX-1.

Sheet 50&51 (Utility Details):

53. Update the quantities list to match with the plan and the comments.

General:

54. Agreements have not been executed at this time. Agreements must be executed prior to the authorization to begin utility construction or approval of building permits. An Information Sheet for the Preparation of Utility Agreements has been submitted and is being reviewed. If the Information Sheet is incomplete, we will send you comments for correction and resubmittal. If the Information Sheet is complete, an Agreement will be forwarded to the Owner for signature.
55. Submit a water system flow availability request (Form F-7).
56. Submit a completed Local Review (Form F-10) and Engineer Report (Form-1) for this project.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4601 or Carmel Duvern  at 501-7314.

REVISED CONSTRUCTION PLANS REQUIRED

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Dao", with a long horizontal flourish extending to the right.

Bob Dao
Utilities Engineer

cc: Chris Simons, SR Land Company, LLC

bc: Ralph Claytor
Jen Cobb, DPW
Carmel Duvern ; Megan Gallagher
Aimee Crady, Planning

CED/tt