February 28, 2022

Joseph Faudale, P.E.
The Bay Companies
8500 Bell Creek Road
Mechanicsville, VA 23116

RE: Fairways Section 1
3100 Creighton Road
File No. 5564; POD2022-00050

Dear Mr. Faudale:

The Department of Public Utilities has completed a review of the water and sewer plans that are part of the plan of development submitted to the Planning Department on February 4, 2022 and received by DPU on February 10, 2022.

- DPU recommends approval of these plans by the Planning Commission.

Please address the attached comments before submitting the construction plans for signature.

General:

1. 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 or prior to subdivision plat approval. An Information Sheet for the Preparation of Utility Agreements has not been submitted for review. If the Information Sheet is incomplete when submitted, we will send you comments for correction and resubmittal. If the required Information Sheet is complete when submitted, an Agreement will be forwarded to the Owner for signature within 21 days.
2. The Overall Water and Sewer Utility Plan shall be approved prior to the approval of the first section of the Fairways Development.
3. A certificate to construct (CTC) from DEQ will be required for the sanitary sewer in this project since average design flows exceed 40,000 gpd.
4. Revise the hydraulic water model to include the existing 12" waterline from the intersection of Caddie Lane to the tie-in location since the flow test was done at the intersection of Caddie Lane and Creighton Road. Also, revise the Project Summary Report and Engineering Report based on updated water model result.
5. Revise the Project Summary Report (Form F-10) per the following and resubmit:
    - Revise the number of fire hydrants in accordance with the utility comments.
    - Revise pipe quantities to match the plans and utility plan comments.
6. Revise the Engineering Report form as follows:
    - Include offsite sewer flow (i.e., other sections) within the sanitary sewer design calculations.
    - Revise the total design peak flow, GPM for the water system design to use the maximum day demand instead of the peak hour flow.
    - Revise lowest residual pressure in system based on revised hydraulic model.

C-1(Cover Sheet):

7. Revise water and sewer material quantities in accordance with all comments and per the following:
    - Include the number of 4" DI laterals.

C-2 (Existing Conditions and Demolition Plan):

8. DPU records show an existing sewer lateral connected to existing manhole SMH 010032. Abandon this lateral at the manhole per DPU standards D-170 since it will not be used to serve the proposed site. Add a note stating that "sanitary sewer lateral is to be abandoned consistent with DPU Spec. 1.4.01C".
9. If a building demolition permit is desired prior to construction plan approval, then a separate disconnection or abandonment plan must be prepared and approved in advance of the demolition permit showing disconnection location for the sewer service or complete abandonment of service at the sewer main. Disconnection or abandonment of the service would be required prior to approval of the demolition permit. For the disconnection plan, the following would need to be shown on the disconnection plan:
    - Sewer laterals are to be disconnected at the property line or edge of utility easement.
    - Add a note on the plan stating service will be capped for later abandonment.
    - Connections shall be plugged prior to approval of site demolition permit.
10. If a building demolition permit is not desired prior to construction plan approval, then the following would need to be shown on the demolition sheet in addition to the previously listed items for the disconnection plan:
    - For services not to be reused, show abandonment of the service at the main with the note "connections will be abandoned at the main in accordance with DPU Standards 1.4.01C. and 10.3.10."
11. Show on the plans the location of private and/or public water facility that currently serve the site.
12. Provide a note indicating to abandon the well in accordance with VDH Standards if this site is served by well.
13. Show existing sewer pipes and not just flow arrows.

C-3 (Overall Plan):

14. Coordinate this sheet with the Overall Water and Sewer Plan.
15. Show Section numbers and section boundaries for the overall development.

C9-10 &13 (Layout & Utility Plan):

16. Eliminate incorrect Henrico County monument (127) under notes since the correct one (15) is already provided.
17. Show lots 144 and 159 sanitary lateral connections perpendicular to the sewer main instead of the manholes to minimize infiltration.
18. Provide 5' of separation between the flushing hydrant tee and the water service connection for lot 147.
19. Adjust yard lights to be at least 5' from the SIPs and extension of sewer laterals.

20. Reduce waterline within Glenwood Range Way south cul-de-sac by paralleling sewer line and terminating near lot 154 driveway entrance.
21. Reduce waterline within Glenwood Range Lane south cul-de-sac by paralleling sewer line and terminating near lot 145 driveway entrance.
22. Locate the water service connection for lot 160 so that it is not within the vertical waterline adjustment portion.
23. Move fire hydrant near lot 160 driveway to be 10' from driveway.
24. Relocate sewer lateral for lot 142 away from the vertical waterline adjustment to avoid crossing the vertical adjustment portion with no vertical separation and at least 8' from the storm structure.
25. Provide vandal proof/ watertight frame and cover for manholes 356, 363, 107, 123, 124 and 125.
26. Provide 16'-wide utility easements for sewer laterals to lots 116 and 117 and terminate easement at the SIPs.
27. Label DI lateral when connecting to DI sewer main for lot 138.
28. Locate sanitary sewer laterals for lots 137 and 138 further away from the house locations to allow for cleanout location between SIP and building. These laterals should have a minimum 5 feet separation between connections at the main.
29. Show existing water service for 3077 Creighton Road in vicinity of proposed waterline tie in.
30. Revise the title of sheet 13 to include the term "utility plan".
31. Revise the alignment of the proposed 30' utility easement for the replacement of the existing 21" AC sewer main for the sewer pipe downstream of manhole 125 so that sewer tie-in at the future manhole within this 30' easement will have an adequate core hole separation of 6" between the existing 8" sewer and required 21" sewer.
32. Revise the alignment of 30' utility easement for replacement of existing 21" AC sewer main so that future flow entering GIS 045SW009 can extend to future manhole and be at 90-degree with respect to downstream sewer.
33. There appears to be a hydraulic jump issue at manhole 123. Resolve this condition in accordance with DPU Standards section 2.2.04K.
34. Provide 30' utility easement for sewer pipe deeper than 10' between manholes 106 & 107 and 107 & existing manhole SMH009473.
35. Provide GIS ID number for the existing manhole down stream of manhole 125 where sewer tie-in will occur.
36. Reference county water and sewer book (CWB/CSB).
37. Verify that the proposed 8" valve (as part of the tapping sleeve and valve) is not within the edge of the pavement at the waterline tie-in location.
38. Provide exception request for fire hydrant less than 50' from proposed house. Exception request is to be addressed to the DPU Director and must provide justification for the request.
39. Provide an adequate number of fire hydrants to provide 350 feet maximum hose lay to all buildable areas since this development is zoned R-5AC and not single family residential.
    - Provide fire hydrant near lot 138.
    - Provide a fire hydrant at property line of lots 131/130.

C14-18 (Road, Storm and Utility Profiles):

40. For all sanitary sewer profiles, provide separate sewer stationing starting at the most downstream connection and proceeding upgradient with equalities at each junction manhole. Minimize stationing changes by using the longest chain of sewer line runs in the same stationing sequence. Locate sewer stationing away from road stationing to provide clarity.
41. Show invert elevations for laterals entering manholes so that crowns match with the sewer main.
42. Show all sewer laterals deeper than 12 feet on the profile and label with lot numbers.
43. Show existing storm pipes and gas line crossing the proposed waterline within Creighton Road near the tie in location within Glenwood Range Drive profile.
44. Revise the material of the proposed 8" waterline to DIP within Creighton Road from the tie-in location to the vertical waterline adjustment within Glenwood Range Drive profile.
45. Show missing sanitary sewer pipe between manholes 120 and 121 within Ace Lane profile.
46. The following comments pertain to Sanitary Sewer EX1 to 105 profiles:
    - Revise the title of the profile to "Sanitary Sewer EX1 to 106".
    - Sewer main upstream of the existing manhole is too deep. Use a standard drop connection per D-130 at the existing manhole SMH009473 to decrease the depth of this sewer run and to reduce the slope.
    - Revise the material of sewer mains between manholes 106 & 107 and 107 & existing manhole SMH009473 to DI.
    - Review and revise the invert (106) =125.83 at manhole 107.
47. The following comments pertain to Glenwood Range Way profile:
    - Show available separation between the sewer laterals for lots 152-156 &124 and water main with a separate cross section.
    - Resolve the conflict between the lateral for lot 123 and the storm crossing. Provide at least 6" of vertical separation edge to edge and confirm with a separate profile.
    - Provide 5.5' of cover for the sewer main near STA 14+50.
    - Show the top of manhole 34 at finished grade.
    - All manhole numbers are not matching the utility plan sheets. Please review and revise.
48. The following comments pertain to Glenwood Range Lane profile:
    - Coordinate sewer main length between manholes 106 and 105 with the utility plans.
    - Show available separation between the sewer laterals for lots146, 145, 144 and 143 and water main with a separate cross section.
49. The following comments pertain to Sanitary Sewer EX2 to 122 profiles:
    - Revise the material of sewer mains between manholes 122 and existing manhole EX2 to DI.
    - Coordinate sewer main length between manholes EX 2 and 125 with the utility plans.
    - Label manhole EX2 on the utility plan view.

L01-L02 (Conceptual Landscape and lighting Plan:

50. Tree plantings must be located outside of all utility easements or at least 10 feet away from utilities within right of ways. All other proposed landscaping must not obscure visibility or hinder maintenance of above grade or at grade utilities. Any non-tree landscaping within utility easements requires the following statement on the landscaping plan: "The owner is responsible for replacement of any planting (i.e., shrubs, etc.) damaged or removed by DPU, or it's agent, as required for maintenance of county owned water and/or sewer facilities."
51. Adjust residential yard light poles and SIPs/ meter boxes so that private laterals and water services do not conflict with extension to each house.

C-36 (Utility Details):

52. Include DPU detail D-130.

C-43 (RPA Reforestation Plan):

53. This needs to be coordinated with DPU sewer facilities and proposed 30' sewer easement for future replacement trunk sewer.

If you have any questions concerning the above noted comments or the plans, please contact me at 501- 4512 or John Clark at 501- 4501.

Sincerely,

Ireini Botros
Ireini Botros
Utility Engineer

cc: Doug Godsey, Godsey Properties

bc: M. Sossong
R. Claytor
J. Clark
Christina Goggin, Planning

INB/vr