

May 6, 2014

David Ellington, P.E.
Kimley-Horn and Associates, Inc.
1700 Willow Lawn Dr., Suite 200
Richmond, VA 23230

**RE: GreenGate Infrastructure Plan
12121 W. Broad Street
File #: 5159; POD. #: 2014-00091**

Dear Mr. Ellington:

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 April 30, 2014.

DPU recommends approval of these plans by the Planning Commission.

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

Cover Sheet:

1. Provide the original signature and date on the engineer's seal.
2. Change the title on the cover sheet from "GreenGate Infrastructure Plan" to "GreenGate Entrance Rd Plan".
3. Several sheets referenced in the Sheet List Table are not included in the construction plans. If the sheets will not be included in the construction plans, then remove the sheet titles from the Sheet List Table.

CU-101:

4. To allow brick pavers to be installed over the proposed water and sewer mains and within utility easements, a Hold Harmless Agreement with the County is required. This Agreement states the Owner will be responsible for replacement of brick pavers if the pavers will need to be removed to allow the County to repair or replace the water and sewer mains within the ROW and/or utility easements.
5. Reference the CSB/CWB sheets in the bottom right corner of the plan sheet.
6. Provide a demolition plan to address any needed modification to the existing water system including abandonment or relocation of existing meters and hydrants.
7. Are there any existing wells and septic tanks/drainfields onsite? If so, indicate clearly on the plan the existing well and septic tanks/drainfields will be abandoned in accordance VDH requirements.
8. Provide a note to ensure valves will be flushed to grade, all existing utilities will be protected and maintain minimum cover at all times during construction.
9. Provided a note on the plan that all utilities are to be abandoned in accordance with DPU Spec. 1.1.04C and 9.3.10.

10. Provide the CSB station, rim, and invert information for all existing manholes shown on the plan. See the utility sheet as well.
11. Show the location of the existing fire hydrants in West Broad Street.
12. Several existing fire hydrants conflict with the proposed construction and road entrance. The existing fire hydrant will need to be shown to be abandoned on the demolition sheet.
13. Will a back tap be necessary for the water main connection in West Broad Street? The valve that is part of the tapping sleeve & valve assembly may conflict with the existing fiber optic line.
14. Show the location of waterline adjustments in the water main by providing a bubble or circle around the adjustment area on the utility plan. Be sure to reference the sheet location of the waterline adjustment detail in the waterline adjustment callouts.
15. Label the distance from the proposed water main to either the proposed face of curb or back of curb on the utility plan.
16. The proposed 8" water main south of MH-17 will need to connect to the existing 24" water main in West Broad Street for adequate fire flow and pressure to the site.
17. The 12" water main stub at the end of the water main in the ROW needs to be mechanically restrained. Clearly indicate the proposed 12" and 8" stubs will be mechanically restrained.
18. Ensure the proposed valves will not be installed within the curb & gutter by providing a note on the plan.
19. Any relocation of fire hydrants on W. Broad Street will need to be shown and installed with this project.
20. DPU suggest extending the water main past the storm sewer culvert-1 to avoid any future construction issues with the water main and storm sewer.
21. Why are two valves proposed on the 8" stub south of MH-17?
22. Change the water easement and sewer easement callouts to utility easements.
23. Provide the following core drill note on the plans, *"Connections to existing manholes without stubs or bricked-up openings shall be the equal of either Kor-N-Seal w/stainless steel expander ring or Press-Seal w/nylon expander sleeve installed by core drilling manhole and in strict accordance with manufacturer's specifications."*
24. Provide benchmarks every 500' within the proposed sanitary sewer area in accordance with DPU Standards.
25. Due to accessibility to the proposed sewer main, change the material type of the proposed sewer main from MH-EX to MH-18 from "PVC" to DI".
26. Portion of MH-18 is within the pavement and grass area. Either place the manhole frame in the pavement or place it in the grass area.
27. The sewer main cannot terminate with a plug upstream of MH-17. Extend the sewer main to the next manhole location.
28. Provide a note indicating that a 10' separation will be maintained between the water and sewer mains on the plan.
29. Show the utility easement around the existing 20" sewer main and provide the deed book and page book number of the existing easements.
30. Provide a profile for the proposed sanitary sewer main and the 12" water main.
31. Be advised, a rock bore may be required for the proposed sewer main connection.

Sheet CR-101:

32. The proposed storm sewer structures conflicts with the existing water main located in W. Broad Street.
33. Clearly show the existing water main in W. Broad Street by darkening the location of the water main.

REVISED CONSTRUCTION PLANS REQUIRED

34. Indicate the new distance from the existing water main to the proposed face or back of curb on the road plan.
35. The rip-rap cannot be installed directly over the existing sewer main. Relocate the rip-rap 10' from the existing sewer main.
36. Per DPU Overall plan, a future sewer pipe will be installed parallel to the existing sewer pipe. Ensure there is adequate separation to install the future sanitary sewer main between the existing 20" sanitary sewer main and the head wall as well as proposed spreader locations.

Sheet CR-102:

37. The existing fire hydrant located east of STR- R4 conflicts with the road widening. Show the fire hydrant to be relocated on the utility plan and roadway improvement sheet.
38. The existing 24" water main appears to conflict with the STR-R1. What is the horizontal separation between the storm structure and water main? The structure should be located 10' from the water main

General

39. Update Material Quantities in accordance with DPU comments.
40. Provide an Overall Utility plan for the project. The Overall Utility Plan will need to be approved prior to approval of this plan.
41. A DEQ permit will be required for this project since this project will be serving more than 400 people.
42. Provide a Local Review Form, Review Checklist and Sanitary Sewer Analysis as necessary.
43. Be advised, additional easement will be required along the existing sanitary sewer pipe for the installation of the future parallel sewer. The easement must be recorded with this GreenGate Phase-1 project.
44. An Information Sheet for Preparation of Agreements for Sewer Service is required but has not yet been submitted. Water and Sewer Agreements must be executed by the Owner and the County prior to approval of building permits or prior to the utility pre-construction meeting. DPU will authorize utility construction to proceed after the pre-con meeting.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4508 or Alvin Christian at 501-4500.

Sincerely,



Alice Thompson
Utilities Engineer

cc: Mark Kukoski, ME Nuckols LLC
bc: R. Claytor
J. Woodburn, DPW
A. Seal
A. Christian
K. Wilhite, Planning
C. Goggin, Planning
ANT/mab

REVISED CONSTRUCTION PLANS REQUIRED