



DEPARTMENT OF PUBLIC UTILITIES  
804.501.4517

COMMONWEALTH OF VIRGINIA  
**COUNTY OF HENRICO**

April 27, 2021

Monte Lewis, P.E.  
E. D. Lewis & Associates  
2116 Spencer Road  
Richmond, VA 23230

**RE:** Highland Park  
4000 Mechanicsville Turnpike  
**FILE NO: 4871; POD2021-00149**

Dear Mr. Lewis:

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 5, 2021.

DPU recommends approval of these plans by the Planning Commission.

Please address the following 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. 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 complete when submitted, an Agreement will be forwarded to the Owner for signature within 21 days.
2. A DEQ Construction Permit is required where design capacity of the sewer main exceeds an average flow equivalent to 400 people.
3. The following comment has been provided by DPU Monitoring and Compliance:
  - a. *NOI indicates proposed non-domestic discharge will be from the installed pool but no value is given. Is this discharge due to regular cleanings or backwashes? What type of volume is being proposed to discharge pool water?*
  - b. *Review and resubmit the NOI for review to address the above comment.*
4. Provide the following forms for review with the next submittal:
  - a. Engineering Report
  - b. Information Sheet for Legal Agreement
  - c. Local Review Form

**Sheet CALC-3 (Calculations):**

5. There are duplicate Domestic Meter Sizing Forms on sheets "CALC-3" and "D-8". Be advised, this sheet "Calc-3" is not included in the Sheet Index on the cover sheet.

**Cover Sheet:**

6. Provide original signature and date on the engineer's seal.
7. D-3 (County-Standard Construction Notes) is listed in the Sheet Index but missing from the construction plans.
8. There are two sheets titled as "CALC-3" in the construction plans. Retitle one of the sheets to avoid having duplicate sheet numbers.

**Sheet D-6 (Notes and Details):**

9. Since the apartment buildings are fully sprinkled and the clubhouse has no structures within 40 feet, there are no exposure factors. All "X1+P1" should be "0" and the total exposure and communication will stay "1" as the multiply factor.
10. Include the Material Quantities in the next submittal.
11. Provide signatures on the Fire Flow Estimate Forms.

**Sheet D-8 (Notes and Details):**

12. The water meters on the Meter Sizing Forms for Buildings 1, 2, 3, 4, 5, 6, and 7 are larger than needed. Per Henrico DPU Standards and AWWA Manual 22, a 1 1/2" water meter is required for a Combined Fixture Value Total of 401 to 5500 fixture count and a Maximum Demand up to 130 GPM.
13. A dual 2" water meter can be used for a Maximum Demand of 150 GPM for Building-9. Make necessary changes or state the reason for larger water meters on the Meter Sizing Form.
14. Provide signatures on the Domestic Meter Sizing Forms.

**Sheet UTIL-1 (Utility Plan):**

15. Reference the appropriate CSB/CWB sheets on the utility plan.
16. Provide 4 northing and easting points on the plan.
17. Provide a demolition plan for the proposed project. The demolition should include the following:
  - a. Provide a note stating that "All existing utilities to be abandoned shall be done in accordance with Standards 1.4.01C and 10.3.10."
  - b. Delete one of double lines on the existing water main to be abandoned. See all utility sheets.
  - c. Show where the 6" pipe will be cut and capped at the main.
  - d. The existing fire hydrant to be abandoned in Mechanicsville Turnpike must be abandoned at the main in accordance with DPU Standards.
  - e. Note all existing utilities will maintain minimum cover during construction and existing valves will be flushed to the proposed grade.
18. Show the location of all existing valves that will be utilized for the installation of the proposed water main. See all utility sheets.
19. Provide stationing information for the water main.
20. Label the material for the existing water mains. See all utility sheets.
21. Show the location of all waterline adjustments where the water main will adjust under the storm sewer. See all utility sheets.
22. Label the size and material of the domestic water and fire service lines. See all utility sheets.
23. Relocate the siamese connections out of the utility easements where possible.
24. Shift the private fire lines for the siamese connection a minimum of 8' from the proposed water mains/lines.
25. Label the distance from the water main to the face or back of curb.
26. Label and show the location of the tapped blind cap on the domestic service line per detail D-530. Be advised, up to 25' of 2" copper pipe may be used for 2" water meter. See all utility sheets.

27. Reference the sheet locations of the backflow preventer details in the backflow preventer callout.
28. Be sure to provide a minimum of two (2) water valves at every main line tee. See all utility sheets.
29. Relocate the boundary valves in the pavement and out of the sidewalk. See all utility sheets.
30. Provide a minimum of 5' of separation between the proposed tees for the domestic water and fire service lines. See all utility sheets.
31. Several fire hydrants are in the sidewalks. DPU suggests placing the fire hydrant in grass areas where possible.
32. Provide a detail for the fire hydrants to be installed in the sidewalk. The detail should show fiber board for the concrete around the fire hydrant.
33. Several meters are shown in the sidewalk. Relocate the meters out of the proposed sidewalks. See all utility sheets.
34. Lighten the line weight for the existing water mains shown on the plan to differentiate between the existing and proposed water pipe. Review the existing water main within Mechanicsville Turnpike. See all utility sheets.
35. Reference the 8" x 8" tee and (2) GV at the intersection of Road B and the road between Future Outparcels 1 and 2.
36. Provide a valve between the 12" x 8" reducer and 12" x 8" tee at the intersection of Road B and C.
37. Remove the 8" 90° bend at the end of the water line near STA 1+00 in Road B. Replace the 90° bend with an 8" x 8" tee and place an 8" plug at the end of the water line.
38. Provide a note indicating the existing water main stubs will be mechanically restrained.
39. Provide benchmarks within 500' of the proposed sanitary sewer.
40. Several manholes are shown in the proposed sidewalk. Review the manholes for Future Outparcels 1 and 2 and extend the sewer main to relocate the manholes in the (future) pavement.
41. Are the runs of sewer between MH-10 & MH-12 and MH-9 & MH-11 private? If so, label the sewer as "private" on the plan and profile. If not, provide a utility easement around the manholes.
42. Several planter boxes are within the proposed utility easements. Relocate the planter boxes out of the utility easement.
43. Show the location of the proposed gas lines.

**Sheet UTIL-2 (Utility Plan):**

44. The scale is incorrect on this sheet. Review and revise all utility sheets, as necessary.
45. Provide a valve prior to the 8" plug at the end of the water main in Road E for future water main extension in Ravenwood Rd.
46. DPU suggests extending the 8" water line in Road E to the property line to avoid excavation of existing pavement when the water line is extended in the future.
47. Shift the boundary valve to serve Building-9 within the utility easement.
48. Provide a callout for the 4" water meter connection to serve Building -9.
49. Provide a valve on the domestic serve line prior to the 4" water meter to serve Building-9. Review the service line for Building-5 as well.
50. Reference the 12" valve in Road B south of Building-5.
51. Flip flop the valve and reducer at the end of the water main in Road E. The valve needs to be installed before the reducer.
52. Several fire hydrants are within 50' of the building. Request an exception to DPU Standards to allow the hydrants to be installed within 50' of the building. Once the exception has been granted, note the exception on the cover sheet under "Exceptions Granted."

53. Several buildings do not appear to meet the 350' hose lay requirements. Additional hydrants will be required to meet hose lay.
54. Label the material of the 4" domestic service line to the 4" water meter.
55. Label all sanitary sewer pipe sizes and materials. See all utility sheets.
56. Show the valve on the existing fire hydrant lead in Mechanicsville Turnpike.
57. Has the location of the existing fire hydrant/meter box in Mechanicsville Turnpike been field verified? The existing utilities shown do not match DPU records.
58. Will the existing meter box be utilized with this project? If not, then it must be abandoned at the main in accordance with DPU Standards.
59. Provide a 10' separation between the water and sewer mains in the road between Buildings 4 and 5.
60. MH-4 is in the proposed sidewalk. Be sure to coordinate this plan with the Henrico Plaza Offsite Sanitary Sewer plans.
61. Change the solid line to dash line style for the sewer main across Mechanicsville Turnpike since it will not be installed with this plan. Reference the sewer main as to be installed by others.
62. The storm detention center (STR-138) is too close to the proposed sanitary sewer. Relocate the detention center out of the utility easement.
63. Reference the slopes of the proposed sewer laterals.
64. Label the sewer main from Building-9 to MH-7 as "Private."
65. If possible, run a sanitary sewer pipe from MH-8 to MH-14. This will eliminate the need to install an additional manhole and allow the sewer to be private.
66. The monitoring manhole (MMH-7) cannot be installed on the public sewer main. The monitoring manhole must only capture the flow from Building 9.
67. Reference the "Henrico Plaza Offsite Sanitary Sewer Phase 2, by ED Lewis & Associates, DWG File No. \_\_\_\_ - \_\_\_\_" for information concerning existing utilities.

**Sheet UTIL-3 (Utility Plan):**

68. The leader line for the connection to the existing 8" water line is pointing in the wrong area. Also, has the pipe sized been field verified?
69. It's hard to differentiate between what is proposed and existing on the plan sheet. The line weight for the existing lines should be lighter than the proposed line weight.
70. Is a tee being cut in at the waterline connection or an 8" 22 1/2° bend?
71. Valves are shown in the gutter pan. Provide note indicating the valves will not be installed in the gutter pan.
72. Provide a fire hydrant at the end of the water main in Road C for adequate flushing of the line.
73. How will the bathrooms near the playground be served by water and sewer? If the bathrooms will be served by plumbing lines, show the location of the lines on the plan.
74. Relocate the sewer laterals for the Clubhouse in the cross-hatched parking space between the handicap spaces so the lateral is accessible for maintenance. Review the location of the proposed laterals serving the remaining buildings.
75. The match line shown on this sheet does not coordinate with the match-line on Sheet UTIL-4. There is a missing area on the plan sheet that does not show on any other sheets. See UTIL-4 as well.
76. Provide a backflow preventer for the Clubhouse and properly label it on the plan.

**Sheet UTIL-4 (Utility Plan):**

77. What is the proposed building west of Building 6? Sewer service is shown for the building but no water service.

78. Provide a utility easement around the boundary valve and water meter for Building-7.
79. Change the solid line style to dash line style for the future water and sewer mains/utilities. Also, lighten the line weight of the utilities and reference the utilities as "Future".
80. Why is a 12" x 6" tee being used to connect the 2" water meter to the water main for Building-7?

**Sheet UTIL-5 (Utility Plan):**

81. Provide a sequence of construction for the proposed water main connection and installation in Neale St. Be sure to specify the location of the valves that will be used to shut off the water main, when notices will be mailed out to adjacent properties due to disruption, the Fire Marshal will be available for fire protection, and the line will be tested and inspected prior to turning the valves back on.
82. Specify the location of the valve that will be used to connect to the existing 12" water main in Neal St.
83. Tie the existing water lines at the intersection of Neal St and Mechanicsville Turnpike to the proposed 12" water main.
84. Has VDOT approved an open cut in Mechanicsville Turnpike for the installation of the water main?
85. Provide a note to see plans titled, "Ample Self Storage-Rt-360, Dwg File No. 2020-018, by The Bay Companies" for information concerning existing utilities.

**Sheet UTIL-6 (Overall Utility Plan):**

86. The Overall Utility plan should incorporate the whole site.
87. Show and label the different sections on the plan sheet.
88. Show a borderline around the area of each utility plan sheet to identify the sheet location of the areas on the utility plan sheet.
89. Sanitary sewer must be installed to serve the Glen Lea shopping center. Show how the Glen Lea Shopping Center will be served by sewer and be sure to provide an easement to the property line for access to sewer.

**Sheet PROF-6:**

90. Be sure to coordinate the sanitary sewer profiles with the utility plan sheets. See all profile sheets.
91. Remove the 12"x4" tee near STA 8+50. This is no 12" x 4" tee before the 12" x 8" tee east of Building-5.
92. The sanitary sewer crossing at STA 9+80 should be labeled as "6'" on the profile.

**Sheet PROF-7:**

93. Label the two 45° bends at the beginning of water main on the "Between Out Parcel 1 and 2" Profile.

**Sheet PROF-8:**

94. Relocate the 1.5" service line at STA 1+55 to the correct location on "Road D" profile.

**Sheet PROF-9:**

95. A water line adjustment does not appear to be needed between STA 4+60 and STA 5+20. Label the vertical clearance between the two utilities. See STR-83 and STR-12 as well.

**Sheet CALC-7:**

- 96. All fire hydrants need to be able to pull 1,000 GPM at a minimum of 20 psi. Evaluate the water pressure at the fire hydrants and provide the data on this sheet.
- 97. The Water Calculation and Layout has changed from the previous review. We are currently reviewing the changes and comments will be forwarded once review is completed.

**Sheet CALC-8:**

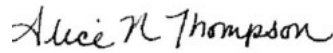
- 98. DPU is reviewing the revised Sanitary Sewer Layout and Calculations. Comments will be forwarded to the engineer once completed.

**Sheet Landscape and Lighting Plan:**

- 99. This will be evaluated when all utility alignments are finalized. All trees and lighting structure must be out of utility easements and/or at least 10' away.
- 100. Show the latest water and sanitary sewer pipes when finalized.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4508 or John Yi at 501-4511.

Sincerely,



Alice Thompson  
Utilities Engineer

cc: Henrico Plaza, LLC  
GBR Henrico LLC/Plaza 360