



DEPARTMENT OF PUBLIC UTILITIES
804.501.4517

COMMONWEALTH OF VIRGINIA
COUNTY OF HENRICO

October 26, 2023

Amelia Wehunt, PE
Timmons Group
1001 Boulders Parkway, Suite 300
Richmond, VA 23225

**RE: Lewis Ginter Botanical Gardens
1800 Lakeside Ave
POD NO. 2023-00430**

Dear Ms. Wehunt:

We have reviewed the construction plans submitted to the Planning Department on September 21, 2023. Water and Sewer Agreements that must be executed by the Owner and the County for water and sewer improvements have not been executed.

General:

1. A green card is required as an agreement for this project.
2. Update the utility quantities list per comments. Include private sanitary sewer in the quantity list.
3. Remove the gray background in the vicinity map.
4. The legend on sheet C0.11 does not match with other sheets, especially the valve symbol.

Existing Conditions Plan C1.01-C1.04:

5. Provide the DB&PG of the utility easement for the public water and sanitary sewer on site.
6. Show the existing utilities as accurately as possible. Field verified all the existing utilities. GIS information is not guaranteed to be 100% accurate.
7. Verify the location of the fire hydrant in the bottom left of sheet C1.02. Is it supposed to be north of the water line or south of the water line?
8. Show the fire hydrant valve on the right side of sheet C1.02.
9. Clarify why there are so many valves near the fire hydrant at the northwest corner of sheet C1.03.
10. Are the valves and fire hydrant at the bottom right of sheet C1.03 shown correctly? Where is the fire hydrant valve? DPU does not have any record of this fire hydrant and valve.
11. Label the size and pipe material of the existing utilities in Locbury Lane and Margaret Avenue. Show all the valves and fire hydrants in Locbury Lane and Margaret Avenue. Label the abandoned water line in Locbury Lane and Margaret Avenue.
12. Show the existing gas line and their appurtenances on Locbury Lane, Prospect Avenue, Lakeside Avenue, and on site.
13. Verify the location of the existing manhole with invert 175.70. What is the rim elevation of that manhole? Why is it the same elevation of the manhole east of it (monitoring manhole)? What is the rim elevation of the existing monitoring manhole?
14. Show the abandoned sewer located east of the conservation building.
15. Clarify why there are so many valves in the area near the fire hydrant at the southwest corner of sheet C1.04. Some of the valves are not even on the water line.

16. Label the size and pipe material of the existing utilities in Locbury Lane and Prospect Avenue. Show all the valves and fire hydrants in Locbury Lane and Margaret Avenue. Label the abandoned water line in Locbury Lane and Margaret Avenue.
17. Label the size and pipe material of the existing utilities in Club Road. Show all the valves and fire hydrants in Club Road. Label the abandoned water line in Club Road.
18. Verify the sanitary sewer north of manhole 202SE004. Our record only shown one 10" sanitary sewer going northeast of the manhole.
19. Label the size and material of the public sanitary sewer on site and in Lakeside Avenue. Show the existing easement and provide DB&PG for the easement around the public sewer on site.
20. Show the missing manhole at the bend in Lakeside Avenue.
21. Label the abandoned sanitary sewer on site.
22. Show the backflow preventer on the existing domestic water service line near the meter. Provide a proposed backflow preventer if there is not an existing one there already.
23. Show the location of the FDC for each building that has a sprinkler system.
24. Label the abandoned water line north of the water service line near the meter.
25. Review the location of the existing fire line. It should not be on top of the sanitary sewer line.
26. Verify location of fire hydrant near the pump house. Show the fire hydrant valve at all fire hydrants.
27. Provide GIS elevations at the existing manhole 202NE023.
28. Update the owner's name and DB&PG for parcel 779-751-6803 on page C1.03.

Demolition Plan C2.01-C2.04:

29. See previous comments on existing utilities.
30. Clarify reason for removing the 20 feet of water line near the fire hydrant on sheet C2.02.
31. Label to cap the waterline at the existing tee when remove the fire hydrant and valve.
32. Review the location of the existing fire hydrant. If the fire hydrant is on the south side of the water line, then you can reuse the valve.
33. Remove the tree (20) that is too close to the existing sanitary sewer. No tree was supposed to be planted inside the easement.
34. Label to cut and plug the sanitary sewer instead of cap the sewer.

Storm Drainage Profiles & Schedules C5.10:

35. Label what is the 6" DI crossing in storm profile B1-B4. Is it the existing fire line or water line or sanitary sewer?
36. Label the size of all the crossings and whether it is an existing or proposed pipe. Is it a 6" or 8" sanitary sewer crossing? Is it an existing pipe or proposed pipe?
37. Storm profile shown a 2" water pipe crossing storm pipe C3, but nothing shown in the plan view. Is there any proposed or existing 2" water line there?
38. Show the elevation of the 4" water pipe crossing storm pipe C5.
39. Label the 8" waterline crossing storm pipe C1 to be existing water line instead of proposed. Reference to lower the waterline per detail D-485 to obtain 1.5 feet separation between the pipes instead of using concrete encasement.
40. Label to lower the existing waterline crossing storm pipe A3 per detail D-485.

Utility Plan C7.01-C7.04

41. See previous comments on existing utilities.
42. Profile the existing water and sanitary sewer lines to show how much cut or fill are you proposing over the existing utilities.
43. Label specifically which valve and manhole must be adjusted to grade.
44. Provide a table to address the raising and lowering of existing manholes to finished grade. This table should include:
 1. a. Existing top elevation.
 2. b. Proposed top elevation.
 3. c. Amount of modification required, i.e., vertical feet of raising or lowering.

4. d. Proposed method of adjusting each manhole.
45. Provide bearing for the proposed sanitary sewer.
46. Many of the text and label are on top of each other and not readable. Rearrange the text and label so that everything is readable.
47. Relocate proposed sanitary sewer manhole S3 to be 10 feet from the existing water main.
48. Label the size of the tapping sleeve and valve. Relocate it westward so it is not in the same location as the existing tee to the old fire hydrant.
49. Show the location of waterline adjustments in the water main by providing a bubble or circle around the adjustment area on the utility plan. Label to lower the water line per detail D-485.
50. Relocate the proposed sanitary sewer from manhole S4 to S6 to cross the storm pipe C5 at least 10 feet away from where the 4" waterline crossing the storm pipe C5. The three crossings are too close to each other.
51. Is it just wooden stairs where the proposed 4" water line going through or is it a concrete stair? Is it going to be easy for the owner to replace it in the future if they need to do repairs to the waterline?
52. Clarify what is that structure where the 2" water service and the 6" sanitary sewer lateral crossing before entering the building near the clean-out CO1. Is that more stairs or something else?
53. Show the existing UGP crossing the sewer lateral between CO2 and CO1 as shown in the profile.
54. Remove the trees and shrubs that are too close or on top of the waterline or sanitary sewer line. For example: the tree (7), (8), and (9) are too close to the existing fire hydrant lead on sheet C7.04.
55. Label the reducer to be 4"x2" reducer instead of 2" reducer plug.
56. Review the location of the proposed fire hydrant with the Fire Department.
57. Show the MFF elevation of the proposed building on the utility plan.
58. Revise the callout "Gas serve & meter by DPU" to specify City of Richmond DPU. Henrico DPU does not install the gas service or gas meter.
59. There is no need to remove the reducer. Label to remove the existing 8" detector check and replace it with an 8" reduced pressure detector check assembly per detail D-430.
60. Add the following note: "Electronic markers (ball type) shall be installed on all water mains and sewer gravity mains in accordance with specification 2.2.05N and 4.2.02E of the 2014 DPU Design and Construction Standards."

Utility Profiles C7.10-C7.12:

61. Update the profile with comments on utility plans.
62. Label the size of all the crossings and whether it is an existing or proposed pipe.
63. Reference the type of manhole covers that will be used (vandalproof, standard). Label to install per detail number of the manhole type.
64. Use drop connection only in situation where you have a deep manhole and shallow connection coming in from a different direction. It is unnecessary to use drop manhole for this project. Adjust the grade and the manhole depth and connect to the bottom of the manhole.
65. Label invert in at manhole S4 to be 163.9.
66. Label the invert in at manhole S4 to be from (S5-S4) instead of (S8-S4).
67. Proposed sanitary sewer elevations are normally below the minimum finish floor elevation. Review the sewer elevations from manhole S5 to CO1 to be sure that the sewer can serve the proposed building. Clarify why the sewer elevation is at 175 and the finish floor elevation is 171.
68. Revise the elevation of the 4" water line crossing between manhole S4 and S5 and also S6 and S4 to be 3.5' below the proposed grade.
69. Update the sanitary sewer schedule and pipe table. Relocate the table to sheet C7.02.
70. Label the 22.5° bend at the beginning of the 4" waterline profile.
71. Label the diameter of the storm crossing pipe in all profiles.
72. Delete the 4"x4" tee at station 1+63 in the 4" water line profile.
73. The proposed water line should go above the storm pipe at station 2+31 in the 4' water line profile.
74. Label the 45° bend at the end of the 4" waterline profile.

75. Label 8"x6" tapping sleeve and valve instead of 8"x6" tee with 6" gate valve at the beginning of the proposed hydrant profile to be consistent with the plan view.
76. Delete the north 2" water line profile as this is no longer part of this project.

Utility Notes & Details C7.20-C7.21:

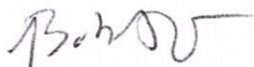
77. Provide an engineering signature on the fire flow estimate form.
78. Separate out the proposed fixture count for the proposed building from the existing one in the Meter Sizing Form so the inspector can verify. Provide a chart showing the existing fixture count for each existing building.

Landscaping and Lighting Plan:

79. Darken the utilities on the landscaping plans.
80. Tree plantings and light poles need to be 10' from water lines and sewer lines.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4601 or Nolan Ekers 501-4992.

Sincerely,



Bob Dao
Utilities Engineer

cc: Kristen Hughes, Lewis Ginter Botanical Garden

