

March 1, 2019

Chris Thompson, P.E.  
The Site Design Company  
268 High St  
Petersburg, VA 23803

**RE:** Comfort Inn & Suites - Richmond Airport  
**LOCATION:** 580 Trampton Road  
**FILE NO.** 3128 **POD NO.** 2019-00071

Dear Mr. Thompson:

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 13, 2019

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 is complete when submitted, an Agreement will be forwarded to the Owner for signature within 21 days.
2. Review the following comments pertaining to the Water and Sewer Design Calculations:
  - a. The Peak Flow provided is incorrect. Use the following equation to calculate Peak Flow:  $Q_{peak} = 3.51 * (Q_{avg}^{0.8121})$
  - b. The Peaking Factor is incorrect. Use the updated Peak Flow to calculate the Peaking Factor.
  - c. Revise the Design Peak Flow and Total Design Peak Flow.
  - d. Provide the lowest residual pressure in system at total design peak flow.

**Cover Sheet:**

3. Provide a north arrow for the vicinity map.
4. Remove the shading from the vicinity map, reduce the scale, and label the roads adjacent to the site so that the location of the project is clear.
5. An original signature and date is required on the engineer's seal.

**C2.0:**

6. Provide both the surveyed and CSB/GIS rim, invert, and elevation information at the tie in manhole. Verify the survey elevations since they are almost a foot off from the GIS elevations. (see all plan sheets).
7. Label the size and material of all the existing utilities including the gas main.
8. Show the existing water valves in their actual locations. They should be on one of the three sides of the tee, not the middle of the intersection.

**C4.0:**

9. Review the following comments pertaining to the material quantities list:
  - a. This project calls for a dual 1.5" meter, but the material quantity list only calls for one 1.5" meter. Revise accordingly.
  - b. Dedicated fire hydrants are not different from the typical fire hydrant assemblies. All fire hydrant assemblies can be condensed on the material quantities list.
  - c. Per detail D-485, vertical waterline adjustments are to be DI. Be sure to provide the required length for 8" DI pipe.
  - d. List the 8" 45° bends that will be installed in the vertical waterline adjustments.
  - e. Revise the size of the backflow preventer to match what is shown on the plan.
  - f. Revise the material quantities per the comments below.
10. Show the limit of pavement cut and replacement in Trampton Road.
11. Specify the size of the tapping sleeve and valve in Trampton Road.
12. The proposed tapping sleeve and valve is too close to the existing 12"x8" tee. Provide a couple feet separation between them.
13. Remove the curb and gutter shown within the limits of the site entrance.
14. Provide distance from water main to face or back of curb.
15. Provide a 20' easement around the proposed fire hydrant near STA 1+75.
16. Relocate the 6" valves on the all fire hydrant leads closer to the tee connection.
17. Extend the 8" water main on the northern and eastern sides of the building and install the fire hydrants using an 8"x6" plugged tee at the end of the main. The fire hydrants are unacceptable as currently shown.
18. No bends are allowed in fire hydrant leads, revise accordingly.
19. Per detail D-495, all fire hydrant leads are required to be ductile iron.
20. Proposed fire hydrant on the eastern side of the building and the FDC appear to be too close to the building. Coordinate with Fire Department for a more ideal location.
21. The proposed fire hydrant on the eastern side of the building is 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."
22. The water main should end with a plugged tee rather than a bend.
23. Show the limits of the vertical waterline adjustments on the plan sheet.
24. The water services, fire line, and fire hydrant lead should not be installed within the parking area.
25. Remove the bends prior to the water meter and fire services. If a bend is required in the water service line, it should be installed after the meter.
26. DPU suggests installing an exclusion meter rather than an irrigation meter. If an exclusion meter is used, be sure to update the backflow preventer detail from D-410 to D-

415. If the owner insists on keeping the irrigation meter, replace the ¾" corporation stop with a 1" corporation stop.
27. Per detail D-540, the domestic water service line should tie into the main with an 8"x4" tee and 4" valve rather than a 2" corporation stop. Show the 4" DI pipe and the 4" plug tapped with the 2" copper pipe leading to the meter. Be sure to provide the length of the copper service prior to the meter.
  28. A domestic backflow preventer is required for buildings 4 stories or higher. Provide a backflow preventer on the domestic water service line per detail D-400 if installed outside or D-405 if inside the building.
  29. Provide an isolation valve on the fire line at the tee prior to the boundary valve.
  30. RPZ backflow preventers are required on all fire systems. Revise the fire system backflow preventer from a double check detector to an RPZ and update the detail from D-420 to D-430 (also see Sheet C4.2).
  31. The FDC must be located after the backflow preventer per detail D-430.
  32. DPU suggests relocating the dedicated fire hydrant. The location of the dumpster between the dedicated fire hydrant and Siamese connection may impede the Fire Department's ability to fight a fire.
  33. No structures should be installed within the utility easement. The roof overhang at the front of the building and the dumpster enclosure both encroach the easement. Revise accordingly.
  34. Show the existing Microtel Inn building at 6000 Audubon Drive. Verify whether there will be any exposure factor between this building and the proposed building. Revise the Fire Flow Estimate Form (F-9) if applicable.
  35. Provide the following core drill note on the utility plan: "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."
  36. Provide the invert, size, slope, and material of the lateral tying in to the existing manhole.
  37. 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."

**C4.1:**

38. Per AWWA M31 the effective area for a building is the total square-foot area of the largest floor plus 50% of the square-foot area of all other floors (for construction classes 1-4). Revise the effective area accordingly and update all the calculations in the fire flow estimate form based on the corrected total floor area. Verify whether there will any exposure between the proposed building and the existing Microtel Inn building.
39. Replace the irrigate backflow preventer detail D-410 with detail D-415 if an exclusion meter is installed.

**C4.2:**

40. Provide detail D-485 for vertical waterline adjustments.
41. Replace the backflow preventer detail D-420 with detail D-430 for the fire system.
42. Add detail D-400 or D-405 for the domestic backflow preventer.

**C6.0:**

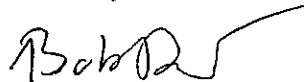
- 43. Provide labels showing that the required 3.5' minimum cover over the water main is met.
- 44. Specify the size of the tapping sleeve and valve in Trampton Road.
- 45. Show the existing 4" gas main, the 18" storm sewer, and the proposed 6" HDPE storm sewer crossing on the water line profile.
- 46. Update all profiles based on the utility plan comments above.
- 47. Profile the 6" HDPE pipe and show the fire line, water service, and sanitary sewer service crossings to ensure that no conflicts occur.
- 48. Show the two proposed water crossings and the existing sanitary sewer crossing in the storm sewer profile.

**L1.0:**

- 49. No plantings are allowed within the utility easement. Revise accordingly.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4601 or Mikala Weston at 501-7543.

Sincerely,



Bob Dao  
Utilities Engineer

cc: Mr. Amir Patel, Monument Hospitality II, LLC

bc: Ralph Claytor  
Carmel Duverne  
Megan Gallagher  
Spencer Norman, Planning

BQD/tt