

January 13, 2015

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

**RE: Stuart's Crossing Phase 1  
1091 Virginia Center Parkway  
File No. 5094; POD No. 2014-00369**

Dear Mr. Rich:

We have reviewed the construction plans submitted to the Planning Department on December 31, 2014 and received by DPU on January 2, 2015.

Please address the following comments and resubmit revised construction plans for review. 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. 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 been submitted and is being reviewed. If the Information Sheet is incomplete, we will send you comments for correction and resubmittal. If the Information Sheet is complete, an Agreement will be forwarded to the Owner for signature within 21 days.
2. The DPU Monitoring and Compliance Division is currently reviewing the NOI form information. Any comments requiring further action will be forwarded to you upon receipt by our office.

**Sheet 3 (Notes and Details)**

3. Include water meter detail D-534 on the notes and details sheet.
4. Revise water and sewer quantities in accordance with all comments.

**Sheets 24-26 (Layout, Waterline, & Sanitary Sewer Plan)**

5. Label all existing manholes with GIS manhole identification number on the plan view (e.g., 495NW518).
6. Revise the sewer design to direct flow from manhole 94057 to proposed manhole 2(see attached) and abandon in place all sewer downstream of manhole 94057 to manhole 98448. Consequently, it will no longer be necessary to replace the sewer run from manholes 115665 to 98448 with ductile iron pipe. In addition, landscaping areas will no longer be encumbered by utility mains and easements in this area.

7. The slopes and deflection angle for sewer from monitoring manhole 8 to manholes 2A and 2 are creating a hydraulic jump with supercritical flow conditions that do not allow sewer flows to remain within the channel in manhole 2A. Reference section 2.2.04 K for additional description and design options. In short, this situation can be alleviated by adjusting the location of manhole 2A so that a deflection angle of 73 degrees or less occurs.
8. Provide a backflow preventer on each of the two (2) domestic meters since buildings can potentially serve different uses (retail, restaurant).
9. As previously commented, provide an exception request letter to the Director of Public Utilities for any hydrants that are less than 50 feet from proposed buildings where this separation distance is not possible or where the Fire Division has requested a location that doesn't meet this setback distance.
10. Given the change in site layout for building A, relocate hydrant on western side of building A to the east end of the traffic island so as to not be directly on top of the existing sanitary sewer main. This will also allow the water main to be shortened.
11. Water valves can be omitted at the end of lines that will not be extended in the future. Therefore, valves at the end of waterline stubs in front of buildings A and B can be deleted.
12. Provide a second valve on the north line side of the 8 x 8 tee that is south of manhole 3 and delete the valve at the northern end of the 8" waterline stub.
13. Locate valve box north of 12 x 12 tee at least 3 feet from storm pipe 58.
14. Revise water meter service for building B so that the service line has a straight alignment from the main to the meter and is at least 5 feet from the hydrant lead. Adjust private portion of service line to be on the south side of the DPU owned water service with a separation of 5 feet where going to the building.
15. Provide benchmarks every 500 feet for sanitary sewer in accordance with DPU Standards.
16. Provide bearing for proposed sewer within Drive "B" in front of the Marriot Hotel.
17. Provide the nearest county monumentation used as Datum for this project.
18. Delete the flushing hydrant at the end of the 12" waterline stub off of Battlefield Road since no water services are proposed.
19. Provide at least 8 feet utility easement to either side of the hydrant leads.

**Sheet 47 (Waterline Calculations)**

20. Revise phase 1 and phase 2 hydraulic calculations to match latest design. In addition only 1000 gpm fire flow is needed at the last hydrant with the remaining ISO fire flow coming from an adjacent hydrant.

**Sheet 56A (Overall Sanitary Sewer and Waterline Master Plan)**

21. As previously commented, revise the overall water and sewer master plan sheet for the ultimate build out of the shopping center to show that the waterline will be fully looped around the future shopping center wing with an 8" waterline. As currently shown, the loop is not fully closed around the north side of this wing. This will require relocating storm outfall piping to allow for this looped waterline.

**REVISED CONSTRUCTION PLANS REQUIRED**

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4501, or Hyung (John) Yi at 501-4511.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Clark'.

John Clark, P.E.  
Utilities Engineer

cc: Shane Parr, Sauer Properties, Inc.  
bc: R. Claytor  
J. Woodburn, DPW  
Amy Seal, J. Yi  
G. Garrison, Planning  
JLC/mab

**REVISED CONSTRUCTION PLANS REQUIRED**