July 27, 2023

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

RE: Sauer Industrial Center Phase 3 Building A
Monahan Rd
POD2023-00255

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 July 10, 2023.

DPU recommends approval of these plans by the **Director of Planning.**

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 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. A Local Review Form (Project Summary Report) is required for this project.
3. Landscaping and lighting cannot be approved until final utility layout is approved.
4. Review the following comments on the Water and Sewer Design Calculations:
    a. Update the Water and Sewer Design Calculations per the Fire Flow Estimate Form and Hydraulic Calculations.
    b. The design basis appears to be off by 40gpd. Review the calculation and revise where necessary.

Cover Sheet:

5. Change the title on the cover sheet from "Sauer Industrial Center Phase 2 Building A" to "Sauer Industrial Center Phase 3 Building A."
6. Provide original signature and date on the engineer's seal.

D-6 (Notes and Details):

7. Review the below comments on the Fire Flow Estimate Form:

a. The Class of Construction Coefficient (F) for a Construction Class 1 is 1.5 instead of .8.
b. The maximum valve of C_i is 8000gpm for Construction Classes 1 and 2.
c. The Occupancy Factor for a Warehouse is 1.15 for a C-4 Type of Occupancy.
d. Update all subsequent calculations as necessary.

8. Review the below comments on the Hydraulic Water Model:
   a. Since the Required Fire Flow is 4000gpm, the hydraulic model should pull 1000gpm from the four (4) worst case fire hydrants.
   b. The domestic demand should be included in the hydraulic model.

UTIL (Overall Utility Plan):

9. A temp pump station is shown to serve one of the future buildings. Gravity sewer is located in S Laburnum Ave. Approximately 3,000 feet of 16" gravity sewer will need to be extended to serve the future building. Update the Overall Utility Plan to show gravity sewer to serve the future building. Be sure to update the utility plan and profile accordingly.
10. The size of the existing water line under construction in Olga Sauer Blvd is a 16" pipe instead of 12" as referenced on the plan sheet.
11. Change the name of the road from "Ulga Sauer Blvd" to "Olga Sauer Blvd."

UTIL-2:

12. Will an open cut or bore method be used for the connections to the existing water main in Seven Hills Blvd? If it will be an open cut installation, why is a steel encasement pipe being installed?
13. Specify the distance between the water line and face or back of curb.
14. Reference the tee size near STA 7+25.
15. Only two valves are required at a tee. Remove the valve located on the north side of the 12" x 12" tee in Miller Rd.
16. Flip flop the valve and reducer at the tee connection near STA 7+25.
17. Reference the detail number for the 2" domestic backflow preventer.
18. Remove all bends from the domestic service line. If the domestic line needs to deflect, a bend should be placed after the water meter.
19. The domestic service line is shown connecting to the private fire service line. Provide a separate tap to the water main to install the water meter/service line.
20. The dedicated fire hydrant cannot be installed on the private fire service line. Make a connection to the public water for the fire hydrant installation.
21. Change the material of the fire service line form "PVC" to "DI."
22. Provide a north arrow on the plan.

UTIL-3:

23. Provide benchmarks within 500' of the sanitary sewer area.
24. Provide internal angles at each manhole and manhole connection.
25. Change the material of the pipe between MH-1 and MH-2 from "PVC" to "DI."
26. The length of the sewer main between MH-1 and MH-2 should be no more than 350' in an inaccessible location. Update the sanitary sewer profile accordingly.

27. Are there any existing wells and septic tanks/drainfields onsite? If so, show the location of the existing wells and septic tanks/drainfields onsite and provide a note indicating the existing wells and septic tanks/drainfields will be abandoned in accordance with VDH requirements.
28. Provide a note indicate the existing stubs will be mechanically restrained.
29. Is there a reason why the 12" water line cannot be installed in Miller Rd?
30. Install a valve prior to the 12" plug on the water line stub at STA 1+0.
31. Profile all water line stubs.
32. Use two (2) 45° bends in lieu of the 90° bends.

PROF-3 (Profiles):

33. Several tees and valves need to be flip flopped on the water line profile to coordinate with the utility plan.
34. A water line adjustment is missing near STA 5+00 on the west side of bldg. profile.
35. The water line appurtenances referenced on the water line profile near STA 7+20 does not match the utility plan.
36. The utility plan shows an adjustment at the end of the 12" water main in Miller Rd but the profile does not show the adjustment.
37. All appurtenances must be referenced. Review the water line profile of North Side of BLDG.
38. The water line stationing on the East Side profile does not match the utility plan.

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,

ANT

Alice Thompson
Utilities Engineer

cc: Marshall French, Sauer Properties, Inc

bc: Ralph Claytor
Daniel Ivy
Marchelle Sossong
Spencer Norman, Planning

ANT/vr