

October 23, 2023

Stig Owens, PE
Sekiv Solutions
14207 Pond Chase Place
Midlothian, VA 23113

RE: Meadow Springs Run Subdivision
LOCATION: Chartwood Drive and Meadow Rd
POD NO. 2023-00259

Dear Mr. Owens:

The Department of Public Utilities (DPU) has reviewed the subdivision construction plans submitted to the Planning Department on October 2, 2023.

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 or prior to subdivision plat approval. 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. Since average sewer flows exceed 40,000 gpd when offsite acreage is factored into the total design flow, utility plans shall be submitted to DEQ for acceptance and a certificate to construct (CTC) obtained from DEQ prior to DPU approval. This should be done after the alignment and design is finalized in accordance with our comments.
3. The exception request to allow the proposed 8" sewer to be tied in at the invert of the existing 18" gravity sewer instead of matching crowns at manhole EX10 is denied. The request for a reduction in invert drops to all manholes to 0.05 feet can be reviewed based on an acceptable connection and alignment for the sewer.
4. We have just received your email on a revised design proposal for the sanitary sewer. We will review and respond to you very soon regarding this proposal.
5. We did not receive an updated Project Summary Report for the water system design to address previous comments. Please revise the Project Summary Report in accordance with all subsequent plan review comments and per the following:
 - Provide minimum pressures within hydraulic evaluation table.
 - Revise peak hour demand to be 2.7 times the average demand and the maximum day demand to be 1.75 times the average demand.
6. We did not receive an updated Engineering Report. Please revise the Engineering Report in accordance with all subsequent plan review comments and per the following:
 - Revise average sewer flow to match the design basis and number of lots.
 - Include offsite sewer flow from adjacent parcels within the sewer shed based on latest land use projections.
 - Provide peak flow and peak factor based on chart relationship shown on form F-2.
 - Provide downstream manhole number (GIS ID).

- Revise average and peak hour demands for water to match what is proposed.
- Update fire flow and resultant lowest pressure per model.

C-109 thru C-111(Utility Plan)

7. Provide the following easements and design changes based on the sewer shed analysis:
 - Provide a 20-foot sewer utility easement from the nearest corner of the property with GPIN 834-718-0549 to an additional manhole on the main between manholes 16 and 17 in accordance with sewer shed needs.
 - Provide a 20-foot sewer utility easement between lots 31 and 30 and adjust location of manhole 24 to line up with the easement centerline.
8. Provide light stippling (30%) instead of the dark cross hatching for visual clarity of waterline extension within Chartwood Drive and Meadow Road.
9. Provide benchmarks consistent with DPU Spec. 5.5 L.
10. Revise water and sewer material quantities in accordance with all comments and per the following:
 - Label all DI water mains as zinc coated.
 - Label cleanouts as SIPs.
 - Provide number of vandalproof/watertight manholes.
11. In addition to 12" DI water main, also specify zinc coated DIP for all 6" and 8" water main where DIP is called for in order to address any potential for corrosive soil conditions.
12. Provide a minimum of three (3) GIS northing/easting points on sheet C-109.
13. Reference county water and sewer book sheets in lower right corner for all utility plan sheets.
14. Provide county monumentation used for site survey and specify on the plan.
15. Provide utility easements (20 feet minimum) for future sanitary sewer extension to adjacent properties per the sewer shed map study.
16. Show abandoned 12" CI sewer pipe in this area which is different from the 12" RCP that is referenced and is shown in a different location per GIS information. Add the same requirement for pipe removal within the utility easement that was shown for the 12" RCP.
17. Provide a detail of a traffic rated SIP for if a lateral falls within the driveway. See enclosed example for traffic rated SIP. Also add a note that the lateral shall be replaced with DIP pipe material if within the driveway.
18. Fire hydrants shall be provided in accordance with DPU Standards for this subdivision as follows:
 - Relocate hydrant near lot 16 to the south side of the intersection with Kingfisher Court near lot 21. The hydrant at lot 28/29 boundary can be omitted.
19. Specify the sanitary lateral pipe material as PVC except, where shown on the plans. DIP laterals will be required where connected to DIP sewer mains or where location within a driveway that requires a traffic rated SIP. This also may be extended to laterals that have very minimal separation under storm sewers or less than 3.5 feet of cover within the road.
20. Revise core hole separation note for all laterals connecting to manholes to specify 38.2 degrees between laterals since 6" laterals are proposed.
21. Provide 3 feet spacing between water service connections on opposite side of the water main. See lots 1 and 44, lots 5 and 8, and lots 14 and 38.
22. Provide 5 feet spacing between the lateral for lot 44 and the water service for lot 2.
23. Locate water service connection for lot 32 to be at least 5 feet from the waterline bend.
24. Provide either 6" or 4" water main after the last hydrant at each of the cul-de-sacs and revise all fittings accordingly.

25. Provide joint restraint for dead end of waterline near lot 6 since there is a lateral crossing behind the plugged end of this line.
26. Show all sanitary laterals connecting directly to the sewer main at a perpendicular angle where possible. Some laterals are shown unnecessarily at a skewed angle.
27. Show laterals for lots 21 and 33 to be 10 feet from the adjacent property boundary.
28. Locate sewer lateral for lot 16 to be connected to the main and 10 feet from the adjacent property boundary.

C-201(Road Profiles)

29. For all sanitary sewer profiles, provide separate sewer stationing starting at the most downstream connection and proceeding upgradient with equalities at each junction manhole. Minimize stationing changes by using the longest chain of sewerline runs in the same stationing sequence. Locate sewer stationing away from road stationing to provide clarity.
30. Provide 0.10-foot invert elevation drop across all manholes for sewer main. Sanitary laterals are to be shown matching crowns with outgoing sewer main pipe.
31. Provide profiles for any sanitary laterals where there is 1.5 feet or less of separation from storm sewers or water mains. Laterals should have at least 1 foot of separation where crossing under storm sewers and water main and at least 6" where crossing above the same.
32. Show a vertical waterline adjustment for water main where a significant deflection would be otherwise required.
33. Provide 1.5-foot separation from the bottom of storm sewer to the top of water main at all locations.
34. Provide DIP for sewer main where there is less than 5.5 feet of cover over the main. This shall cover the entire run of pipe between manholes.
35. Lower slope on sewer upstream of manhole 14 so that future sewer could be extended with adequate available sewer grade to serve offsite properties while not being very excessive in depth.
36. Revise the following for the Hawk Ridge Road profile:
 - Coordinate locations for two sanitary laterals shown near station 3+80 with the plan view as these should be further apart. Also, there appears to be a direct conflict between the lateral for lot 8 and the water main.
 - Provide a vertical waterline adjustment under storm structure 16 and keep water service connections outside of this adjustment.
37. Revise the following for the Kingfisher Court profile:
 - Show manhole 27 and downstream sewer.
 - Provide a vertical waterline adjustment under storm structure 24 and keep water service connections outside of this adjustment.
38. Revise the following for the Meadow Rise Lane profile:
 - Coordinate between plan and profile for showing the water service connections near the fire hydrant at station 11+75.
 - Provide a vertical waterline adjustment under storm structure 18 and keep water service connections outside of this adjustment.

C-202(Storm Sewer Profiles)

39. Adjust storm sewer profiles for utility crossings in accordance with all comments (e.g., 1.5 feet separation between waterline and bottom of storm pipe).
40. Where separation of storm sewer over the sanitary sewer is 6" or less, provide pier supports under the storm sewer and equidistant from the sewer pipe for at least 5 feet edge to edge of either side.

C-203 thru C-204(Utility Profiles)

41. Adjust existing 20" force main downward near point of tie-in so that there is at least 1 foot separation from bottom of proposed sewer main to top of the force main. The adjusted force main must be rotated outward from its current location so that the existing force main can be kept in operation until tie-in of the new pipe can be made during a low flow period.
42. Revise invert out manhole number references at manhole EX10 to reflect the new manhole numbers shown.
43. Relocate manhole vent at manhole 9 to manhole 8 to help minimize public accessibility and exposure.

C-511(Utility Details and Water Model)

44. Provide a lighter background for the water system calculations as these are too dark to be legible when scanned or reproduced.
45. Replace the topographic sewer map with the version sent by email just recently which shows existing and proposed sewer as well as sewer flows. Show parcel owner information and provide necessary easement corridors on the sewer-shed map at the previously indicated locations under the plan view comments.

L-101 thru L-102(Landscape)

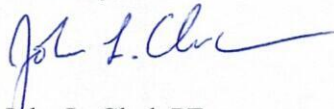
46. Locate trees to not be immediately at or near the end of the lateral stub where the lateral would continue to the house as these will cause future maintenance issues for homeowners.

LI-101(Lighting)

47. Show all sanitary laterals and water meter services on the lighting plan. All light poles shall be located outside of all utility easements or at least 10 feet away from utilities within right of ways.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4501

Sincerely,

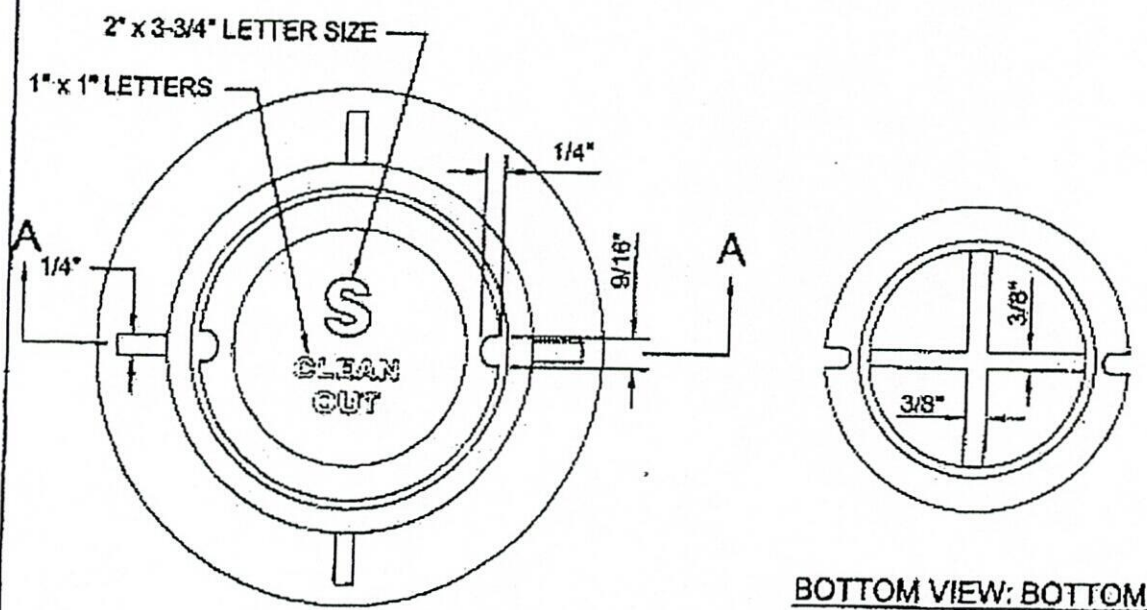


John L. Clark PE
Utilities Engineer

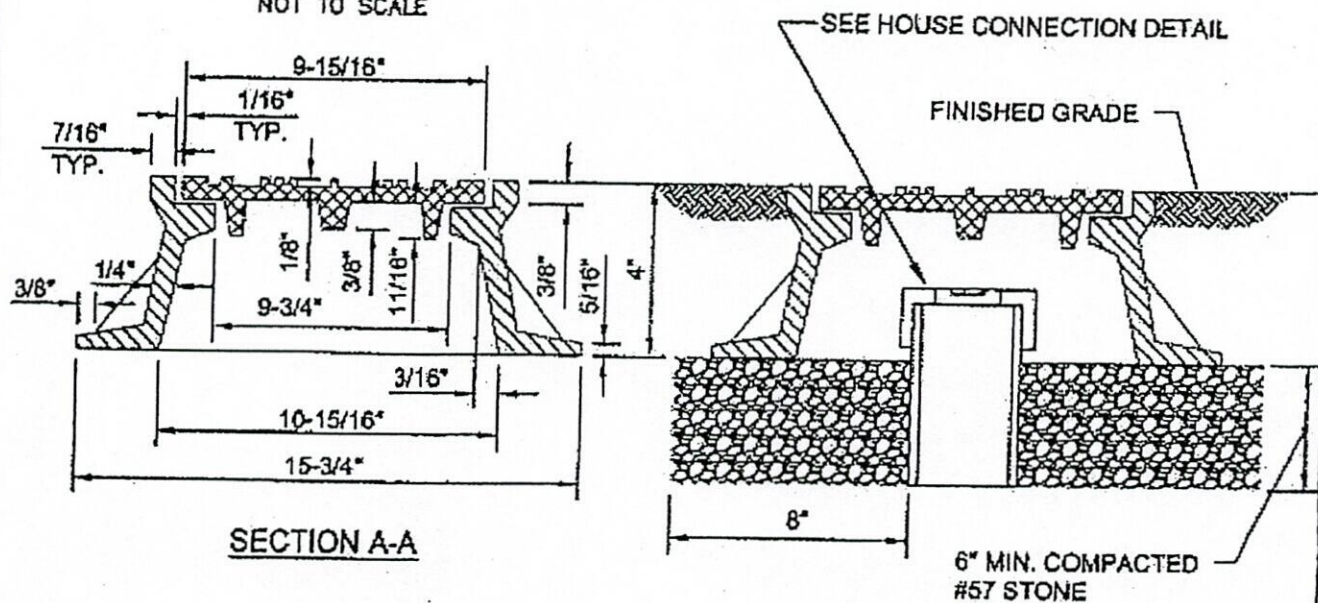
cc: Kevin Jones, Meadow Developments LLC

bc: Marchelle Sossong
Daniel Ivy
Christina Goggin, Planning

JLC/vr



PLAN
NOT TO SCALE



NOTES:

1. SITE INSPECTION PORT FRAME & COVER TO BE SUPPLIED BY CAPITAL FOUNDRY OF VIRGINIA, INC. OR APPROVED EQUAL.
2. ALL GRAY IRON CASTINGS SHALL CONFORM TO LATEST EDITION OF ASTM A-48, CLASS 30 AND SHALL BE OF UNIFORM QUALITY.
3. ALL CASTING DIMENSIONS SHALL HAVE A TOLERANCE OF 1/8"±.
4. ALL CASTINGS SHALL BE CLEANED BY SHOT BLASTING AND HAND CHIPPING UTILIZING STANDARD INDUSTRY PRACTICES PRIOR TO SHOP APPLICATION OF ASPHALTIC COATING, BY DIPPING.