

November 19, 2014

Anne Tignor, P.E.
Youngblood, Tyler & Associates
P. O. Box 517
Mechanicsville, VA 23111

**RE: Short Pump Manor at Bacova Section 2
4660 Pouncey Tract Road
File No. 5074; POD 2014-00234**

Dear Ms. Tignor:

We have reviewed the construction plan submitted to the Planning Department on November 7, 2014.

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 been executed.

Most of the comments are based on changes made to adjacent projects.

Sheet 5 of 17:

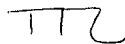
1. It appears that the sanitary lateral for Lot 4F is located in the drive way based on the typical layout.
2. Increase the line weight of the sanitary laterals.
3. Provide DB & PG for the existing easement shown on the plan.
4. Show the existing irrigation meter near Lots 1C and 1F that were installed with Section 1 revision to approved plans.
5. Provide an easement around the lateral for Lot 9F.
6. MH-9 information shown on the approved Short Pump Manor section 1 plans do not match MH-9 information shown on these plans. Review and revise accordingly.
7. MH-E23 invert information on these plans does not match MH-E1 invert information on the Liesfeld Farm Drive section 2 plans. This is the same manhole with different manhole numbers. Review all information from the existing utilities on the approved plans versus these plans.
8. Be advised that the length of the sanitary do not have to be shown on the plan view. If the length must be shown on the plan view, it must match the length on the profile. Review the length on the plan versus profile between MH-2A & MH-2, MH-2 & MH-3, MH-1 & MH-E23, MH-5 & MH-7, MH-2A & MH-3, MH-3 & MH-8 and MH-9A to MH-E9.
9. MH-10A on the plan view is MH-9A on the profile. Revise where necessary.
10. The lateral for Lot 1F should connect to the proposed sanitary main at 90 degree instead of connecting to the existing manhole.
11. Include information for the flushing hydrant on Manor Grove Lane profile as shown on the plan view.
12. Be advised that the 8" GV east of the 8" x 8" tee at the intersection of Manor Crossing Place and Manor Crossing Drive can be eliminate since there is another 8" GV just west of the 8" x 8" tee at the intersection of Manor Glen Way and Manor Crossing Drive.
13. Provide restrain joint at the end of the water main to be extended in the future.

General:

14. Co-ordinate the information on these plans with the information on other plans so they match. Review Bacova Overall, Short Pump Manor Section 1, Liesfeld Farm Drive Section 2 and Liesfeld Farm Drive Section 3 versus these plans, Short Pump Manor Section 2.
15. Update water and sewer quantities if applicable.
16. Include values for the Peaking Factor and Peak Flow on the Water and Sewer Design calculations. The Peak Flow for the sanitary sewer is calculated by $3.51Q_{ave}^{(0.8121)}$ with Q_{ave} in MGD and the Peaking Factor is calculated by dividing the Peak Flow by the Average Design Flow. Review, revise and resubmit form.
17. The 12 lots included in the calculation for Short Pump Manor Section 1 Water and Sewer Design and Local Review form should not be included in the Water and Sewer Design calculations and Local Review form for Section 2. Update and resubmit forms.
18. Include "DPU #2014-04 and Liesfeld Farm Drive Section 2 DPU #2014-006" at the end of note 15.
19. Provide the following details and notes from the 2014 DPU Standards and details:
 - Watertight/vandal proof manhole frame and cover detail (D-160).
 - Standard manhole frame and cover detail (D-150)
 - Standard manhole detail (D-100)
 - Electronic marker Placement details D-740 and D-750.
 - 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 of the 2014 DPU Design and Construction Standards."
20. Agreements for this project have been executed at this time.

If you have any questions concerning the above noted comments or the plans, please contact me at 501-4512, or Alvin Christian, Jr., P.E., at 501-4500.

Sincerely,



Tanneh Togba-Lee
Utilities Engineer

cc: Robert J. Babcock, Bacova Development Company, LLC
bc: R. Claytor
A. Seal
A. Christian
A. Crady, Planning

TTL/mab

REVISED CONSTRUCTION PLANS REQUIRED