610-356-9550
FAX 610-356-5032

# Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

April 19, 2011

Board of Supervisors
East Fallowfield Township
2264 Strasburg Road
East Fallowfield, Pa. 19320-4437

RECEIVED
APR 22 2011
BY: Denise Miller

Attn: Jill Bukata, Manager

Re: Ridgecrest Subdivision
Sanitary Sewer Plan Review

Dear Board of Supervisors:

Please be advised that our office has reviewed a submission for the above noted project in regards to the proposed sanitary sewer design. While it is acknowledged that the proposed subdivision and land development plans are generally the same as those previously presented to the Township several years ago, it is recognized that the proposed lots along the roads are configured differently and one group of lots in the northeast corner of the site have been removed altogether. Accordingly, the following review comments only pertain to the design of the sanitary sewers to support the lots, as shown. The following materials were provided for review:

- A set of plans entitled, "Plan of Subdivision for Ridgecrest Subdivision". The plans are noted to be "Preliminary/Final Plans". The plans were prepared by E. B. Walsh & Associates, Inc. The plan set contains a total of 21 sheets, with various dates*. A reduced set of plans was also provided.

  * The cover sheet contains a date of 8-25-10, while the remaining sheets contain an original plan date of 1-29-03, with a latest revision date of 6-13-05. It appears the plan dates need to be updated on all plan sheets to correspond with the revision. All plans reflect the same "plot date" of 3/25/11.

The following comments are presented for the Board's consideration in processing the applicant's subdivision plan submission:

1. Overall design – It is noted that the overall design of the proposed sewer system for this project has been modified significantly since the plans were last reviewed in 2005. The major changes are:

   - The previous design proposed a gravity connection to the proposed sewers in the adjoining Harkins Farm subdivision to the south. The Harkins Farm project would be serviced by a pump station.

- The new design proposes an off-site gravity line to the existing sewer line in Goosetown Road, west of Caln Road South. This would have been the discharge point of the force main from the Harkins Farm pump station.
- The previous design proposed a small pump station at the end of Wakefield Drive, which was to serve the homes on Wakefield Drive, as well as the 16 homes on the cul-de-sac road that has been eliminated in the northeast corner of the site.
- The new design proposes to utilize individual grinder pumps to a low pressure force main to serve the 10 homes on Wakefield Drive.

2. Proposed Gravity Outfall line – The proposed design appears to be reasonable. It is requested that the engineer expands the overall topographic features plan (sheet 4) to include the offsite area to the point of connection. The encompassing drainage area should also be depicted. This would allow the Township to determine whether the proposed sewer line is capable of serving other properties in the area. At a minimum, laterals will need to be provided to all existing properties contiguous to the line.

3. Proposed "Low Pressure Force Main" – The following issues must be addressed:

   - It appears a gravity line can be constructed from Covewood Way through the Open Space (using the Trail location) to service the homes on Wakefield Drive. It is requested the applicant's engineer evaluates this concept.
   - The use of individual grinder pumps and common low pressure force main system for the 10 homes is a policy matter to be resolved by the Board of Supervisors. The long term operation and maintenance costs of the system, to both the homeowners and the Township are of concern.
   - Since the lines will possibly be turned over to PAWC, they should weigh in on the operation & maintenance aspects of this proposal.

4. Service to Lots 71 & 72 – Even though these lots are noted to be "restricted Open space, they contain structures that may need sewer service. The following concerns are noted:

   - Lot 71 - The plan depicts an easement between lots 5 & 6 to accommodate a sewer line to serve the existing dwelling on lot 71. The plan indicates a lateral stub. At a minimum, the lateral needs to be shown through the lots and Open Space to the property line for lot 71. It will be need to be installed as part of the initial sewer construction, to prevent disruption to developed lots in the future.

   - Lot 72 – No sewer service is indicated. It appears service may be located in the area of the access area between lots 58 & 59. The placement of a lateral stub to the street ROW may be adequate for this lot.

5. Means of Access – The offsite sewer line through the Poe properties will need to be enhanced to provide a means of access for vehicles and equipment to provide for maintenance of the lines. It appears a blanket easement should be sufficient for the lines through the Open Spaces.

6. Plan Information – It is requested the following information be added to the plans:
   - Sectional plan views need to be added to the profile sheets
   - Plan information needs to extend beyond the match lines for continuity
   - Indicate which lots will not have gravity sewer service to the basements
   - Show all storm sewer crossings and provide concrete encasement where there is less than 18" separation
   - A 10' horizontal separation must be maintained between sewer and water lines.
   - The profiles for the storm sewer lines in and around the Vinebury Lane, Wakefield Drive and Covewood Road intersections appears to be incomplete on sheets 11 & 13
   - If the FM remains, it should be should in the profile for Wakefield Drive
   - The sewer pipe should be shown at the bottom of all intersecting manholes.
   - The plans do not contain standard sewer construction notes. The PVC pipe should be specified to be SDR35, except for the section from MH's 3 to 5 where the line will be over 15' deep. That section will need to be SDR 26.
   - It is requested the plan view sheets be enhanced to contain the rim and invert elevations for the manholes and the size and type of pipe for each line section. It is requested this information be provided for the storm inlets and lines, as well.
   - The site boundaries in the location map are not representative of the site.

7. West Chester Road – In 2005 the applicant agreed to construct a sleeve under Caln Road to facilitate the future construction of a gravity sewer line to serve the existing dwellings along West Chester Road. These plans do not indicate the installation of the sleeve.

Please do not hesitate to contact our office should you have any questions.

Very truly yours,

James W. MacCombie, P.E.

Copy: Chris Della Penna, Twp. Engineer
Adam Brower, P.E., E. B. Walsh
T.R .Moser Builders
PAWC