



SCHREITER ENGINEERING ASSOCIATES, Inc.

**7 Raleigh Drive
Downingtown, PA 19335-1103**

September 22, 2005

Daniel A. DeLong, Township Manager
Upper Milford Township
PO Box 210
Old Zionsville, PA 18068-0210

Subject: Upper Milford Township
Act 537 Plan Revision
Response to Haigh Comments
SEA Project 050-001

Dear Dan:

As requested, we have reviewed your memo dated September 2, 2005 regarding the need to provide responses to certain questions contained in correspondence received from Mr. Bruce Haigh of Whittemore and Haigh Engineering, Inc.

We wish to provide the following responses:

Haigh Letter of August 26, 2005

Question No. 5

As outlined in Section 2.1.3 of the approved Scope of Work, the Needs Analysis was an Update of previous work completed in 1996 and 2000. The Scope clearly defined the methods that were to be used for conducting the Needs Analysis. It was our understanding that this analysis was only to update previous information. This documentation would provide better documentation for future funding from sources such as PennVest. Based on conversations with PennVest representatives, the information contained in the 2005 Act 537 Plan is sufficient to meet their requirements for project funding.

The approved Scope of Work requires the following methodology be used:



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This survey will be used to identify suspected and potential malfunctions in these areas. This inspection will only include visual observations of surface conditions. These conditions may include presence of lush green grass, marshy areas in the yard at drainfields, evidence of system surfacing, and subsequent runoff. This inspection will be used to identify potential surface failures. This data will be added to the overall needs block database.

As outlined in PADEP's letter dated October 16, 2001, the Needs Analysis was to be based on the **guidelines** set forth in "Sewage Disposal Needs Identification Guidance, March 1996". Accordingly, our Scope of Work was prepared to meet these requirements. By letter dated October 16, 2001, the Scope of Work for the Needs Analysis updated was approved by PADEP. During the course of the Study, PADEP updated their **guidance** materials regarding Needs Analyses.

The Needs Study, as approved by PADEP in their letter dated March 27, 2002, was to be conducted during the spring and fall of 2002. However, there was a severe drought in the area that was present throughout 2001 and into 2002 severely limiting the validity of the results. Groundwater tables were extremely low and the ability to discover any on-site failures through surface observation as required in the approved Scope of work was limited. As a result, the work was delayed until 2003 when water table levels in the area began to rise. As a result, the initial Needs Study was completed in the spring 2003.

Under the methodology used in this Needs Study, we were able to look at various risk factors associated with use of on-site systems, not just specific factors shown in the Haigh letter. The final conclusions were based on looking at all of the factors, not specific factors for each area. Using this methodology, several areas of the Township were studied for potential sewer service. The results using all of the risk factors resulted in only the Vera Cruz area and Moyer Subdivision areas have a significant high risk to require sewer service. The other areas could remain using on-site systems until a need would develop in the future.

Based on PADEP's comments contained in their letter of October 29, 2004, this data analysis was further refined by the Township's SEO and presented in Appendix M of the 2005 document.

In all cases, the conclusions of the 2005 Act 537 Plan concurred with previous recommendations containing in past 537 Plan documents and Planning Studies prepared by the Lehigh Planning Commission. These studies were conducted as early as the 1970's. Since that time, each study has recommended providing sanitary sewer service to the Village of Vera Cruz Area.



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Question No. 6

This issue was discussed with PADEP during preparation of the Scope of work. It was determined that well sampling would not provide any significant data that would further define a need in this area. We were instructed to use data generated by the 1996 O'Dell study and incorporate that data into our Plan. Therefore, no well survey was included as part of the approved Scope of Work.

Question No. 7

As a result of the needs survey, several confirmed system failures were noted. Since these failures are surface failures, any runoff from the area of the failing on-site system was most likely to be discharged to a surface water body at some point. Elimination of this failure and subsequent runoff from the failures area would improve water quality.

The Scope of Work did not include any sampling of area streams or water bodies.

Question No. 9

As outlined in PADEP's letter dated October 16, 2001, the Needs Analysis was to be based on the **guidelines** set forth in "Sewage Disposal Needs Identification Guidance, March 1996". The document cited was dated April 1, 2002 and was not referenced in the approved Scope of Work.

Question No. 10

As part of the Needs Analysis, existing density was used as one of the "risk" factors. The density analysis was based on USEPA **guidance** contained in "*Construction Grants 1982 (CG-82), Interim Final*" (USEPA, July 1982). This guidance was based on the 1981 Amendments to the Clean water Act.

Based on this guidance, construction of gravity collection sewers and centralized treatment systems is cost effective for densities of less than one house per ½ acre. Areas with densities of over one house per 2 acres are not cost effective for central collection sewer systems. Those areas between 0.5 and 2.0 homes per acre must be further analyzed.

Based on a review of the "Designated Project Area", only those areas with high density will be serviced. If a sewer line connecting the high-density areas were located in these



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areas in the vicinity of houses situated on lots with a lower density, they would be serviced based on their proximity to the proposed sewer line. In certain cases, existing homes within the Proposed Sewer Service area were eliminated for service under the initial sewer project due to the high cost to provide service along with a lack of existing need at this time.

Question No. 11

The Lehigh Valley Planning Commission provided the overall population projections. The Township, Schor DePalma, or SEA did not generate the projections. The population growth was then distributed throughout the entire Township based on factors such as available land, existing or proposed sewer service, and historical trends.

Within the Village of Vera Cruz, future growth was severely limited due to available land. Several of the larger tracts are included in the Agricultural Preservation Program and are not available for development. As a result, growth was very limited. A majority of the projected growth was assigned to areas with existing sewer service in other parts of the Township.

Furthermore, the Act 537 Plan defines the limits of future sewer service to those areas within the Proposed Sewer Service Areas (PSA's). Any requests for sewer service outside of these PSA's will require an amendment to the Township's Act 537 Plan. In addition, any costs related to extending sewer service within the PSA's as a result of new development would be borne by the Developer. Costs of extending sewers to the outer areas of the PSA's would severely limit the practicality of sewerage these areas for new service.

Question No. 18

This alternative was evaluated as part of Alternative #7. As stated on pages 3-63 and 3-64 of the 2005 Act 537 Plan, further consideration will be given to "low-pressure" sewer systems during the design phase of the project.



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Haigh Letter of August 25, 2005

Comment No. 5

As outlined in PADEP's letter dated October 16, 2001, the Needs Analysis was to be based on the **guidelines** set forth in "Sewage Disposal Needs Identification Guidance, March 1996". The analysis was completed to meet the needs outlined in this guidance document. The analysis was also based on recently completed and PADEP approved studies for areas in the vicinity of Upper Milford Township.

As pointed out by Mr. Haigh in this comment, current PADEP guidance would require either Best Technical Guidance (BTG) or holding tanks in the higher density areas. It is our understanding that neither of these options is considered adequate long-term solutions for meeting an area's wastewater needs. Therefore, central collection sewers would be the only alternative to provide long-term solutions to meet the existing needs of the high-density areas.

Comment No. 6

The purpose of the meeting and site visit with PADEP staff was to review the results of the Needs Analysis with Township staff and familiarize the PADEP staff with the existing conditions of the on-site systems and their associated operational problems as documented in the Needs Analysis.

We have addressed the use of community systems in our letter dated August 29, 2005.

Comment No. 8

As pointed out in Mr. Haigh's comment Number 5, current PADEP guidance would require either Best Technical Guidance (BTG) or holding tanks in the higher density areas. It is our understanding that neither of these options is considered adequate long-term solutions for meeting an area's wastewater needs.



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Haigh Letter of August 29, 2005

Comment No. 2

The capital cost for a conventional treatment plant was based on costs provided by another engineering firm for a recently constructed WWTP of similar size. It was assumed that this cost included not only the treatment plant, but also all associated facilities at the plant including sludge handling facilities, control building, and other miscellaneous facilities.

Conclusion Comment

The 2005 Act 537 Plan already addresses the issue regarding use of low-pressure systems. These systems will be further evaluated during design of the system to determine if any cost savings are available without impacting the long-term reliability of the entire collection system.

The Township will address the requirement for connection during the design phase of the project. It must be noted that the Township will be required to comply with connection requirements contained in the Pennsylvania Township Code.

It must be further noted that none of the comments provided have demonstrated that a Need is not present in the designated project Area as presented in the 2005 Act 537 Plan. At best, these comments indicated that holding tanks and/or system repairs using BTG guidance would be a possible solution. In both cases, it is our understanding that PADEP does not consider either answer a reliable long-term solution to meet the needs of the Designated Project Area. It is still our Professional Engineering Opinion that the Selected Alternative as presented in the 2005 Act 537 Plan is the most reliable method to meet the long-term needs of Upper Milford Township.

If you should have any further questions concerning this matter, please feel free to contact us.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Karl E. Schreffer Jr.', is written over the typed name and title.

Karl E. Schreffer Jr., PE, DEE
President

Cc: R. Benner, Shoor DePalma
J. Boldaz, Shoor DePalma