
EXHIBIT P3

EAST WHITELAND TOWNSHIP – ACT 537 PLAN DOCUMENTS
(SPECIAL STUDY 2013)

**East Whiteland Township/
Charlestown Township (Southside)
Act 537 Special Study**

August 2013

Engineer's Project No. 10310.02

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EXECUTIVE SUMMARY

This Act 537 Special Study (Special Study) was prepared for East Whiteland Township (Township) at the request of the Pennsylvania Department of Environmental Protection (PA DEP) in accordance with Act 537 entitled the Pennsylvania Sewage Facilities Act, Title 25, Chapter 71 of the Pennsylvania Code and the Pennsylvania Department of Environmental Protection Act 537 Plan Content and Environmental Assessment Checklist. This Special Study addresses the requirements necessary to upgrade components of the Township's conveyance system in order to continue to accommodate approximately 113,234 gallons per day of existing Charlestown Township flow, approximately 296,330 gallons per day of additional flow from Charlestown Township, and existing and future East Whiteland Township flows. The facilities are located in the located in the north-central portion of the Township.

The Plan is comprised of the following components addressed in the Plan of Study:

- I. Previous Wastewater Planning
- II. Physical and Demographic Analysis
- III. Existing Sewage Facilities in the Planning Area
- IV. Future Growth and Development
- V. Alternatives to provide for new or improved wastewater disposal facilities
- VI. Evaluation of Alternatives
- VII. Institutional Evaluation
- VIII. Selected Wastewater Treatment and Institutional Alternative

The primary focus of the Plan is to evaluate alternatives to provide for upgraded Township conveyance system facilities to meet the future sanitary sewer needs of the north central portion of the Township as well the south-central portion of Charlestown Township. The means of collection and conveying the projected wastewater flow were examined.

To meet the wastewater conveyance needs of the planning area, it is proposed that the Township implement the selected alternatives in three separate phases.

Phase I: This phase of the improvements has been set up to include the sanitary sewer improvements from Valley Creek north to Sidley Road approximately 220' north of the intersection of Sidley Road and Lapp Road. Construction of the Phase 1 improvements will eliminate the structural issues related to the pipe leakage into Valley Creek as detailed in Section A.III of the Corrective Action/Connection Management Plan. Construction of the Phase 1 improvements will also increase the capacity of the system to allow for the increased capacity for the improvements of the Phase 2 - Sidley Road Improvements.

Phase II: This phase of the improvements has been set up to include the sanitary sewer improvements from the end of Phase 1 in Sidley Road north in Sidley Road to the intersection with Lee Boulevard. Construction of the Phase 2 improvements will include the upgrading of sewer lines which will eliminate capacity issues related to the undersized pipe in Sidley Road as detailed in Corrective Action/Connection Management Plan. Construction of the Phase 2 improvements will also increase the capacity of the system to allow for the increased flow projected from Southside.

Phase III: Upgrade the Lee Boulevard Pump Station to meet the 5 to 10 year needs through the replacement of the existing pumps with new pumps. In addition, replace the existing constant speed controls with variable frequency drive controls.

Phase IV: This phase is dependent on future development in the planning area associated with Liberty Properties located in the Great Valley Industrial Park. At this time this future development is planned in accordance with the projections found in Tables 1 through 4 found in Section IV. Phase II upgrades to the gravity sewer in Sidley Road will be sized to accommodate the potential for future growth. A planning module will need to be prepared by Liberty Properties at the time of their development and this module will be more-able to detail collection and conveyance system upgrades necessary to meet the needs specific to the proposed development.

Currently the Mill Lane Pump Station, located at the base of the planning area, is being upgraded. This pump station has a peak permitted capacity of 2.07 MGD. The upgraded station will have two pumps operating and one standby pump. The capacity of this arrangement is 4.32 MGD. The station will also have space for the addition of a fourth pump. By adding the fourth pump, the station will be able to operate with 3 pumps active and one standby pump. The capacity of the station with this arrangement is 5.04 MGD. Both of these conditions are designed with the existing 14 inch force main in place. If the force main is upgraded to 20 inch, the 2 pump operating arrangement has a capacity of nearly 6.192 MGD. If 3 pumps would be operating with a fourth pump as standby, the station would have a capacity in excess of 7.20 MGD. This station should be online by the end of August. The station will undergo a 30-day test period. After the 30-day test period, if no problems are encountered, the old station will be decommissioned. Construction costs for the station (based on contractor's bid) total nearly \$2,950,000. Engineering costs total nearly \$478,320. Cost sharing for the project will be further established and discussed as the intermunicipal agreement amendment is finalized.

The engineer's opinions of probable construction cost (planning level costs) for the alternatives established within the primary phases are:

Total Costs -

Phase I: \$717,000

Phase II: \$1,357,000

Phase III: \$111,000

Cost Sharing Estimates:

Phase I: East Whiteland Township - \$397,972
Valley Forge Sewer Authority - \$319,028

Phase II: East Whiteland Township - \$579,186
Valley Forge Sewer Authority - \$777,814

Phase III: East Whiteland Township - \$6,600
Valley Forge Sewer Authority - \$104,400

These alternatives will be paid for and financed through bond funding mechanisms and sharing of costs between the municipalities via the amended intermunicipal agreement structure. The amended agreement will have an exhibit attached to it that will reflect the final cost sharing structure as agreed by all parties. A draft of this agreement amendment is found in Appendix R of this Special Study.

The following is a schedule for implementing the proposed alternative:

Description		Months from DEP Approval of Plan
1.	Phase I – Regulatory Approvals	0
2.	Phase I – Complete Cost Sharing/Financing Considerations	0
3.	Phase I – Construct Improvements	0
4.	Phase I – Complete Construction of Phase I Improvements	0
5.	Phase II – Submit Part II Water Quality Management Permit Application for Sidley Road Gravity Main Construction	Concurrent with Special Study Submission.

6.	Finalize Intermunicipal Agreement amendment between VFSA and EWT	Concurrent with DEP * Review of the Special Study.
7.	Phase II – Receive Part II Water Quality Management Permit	Concurrent with Special Study Approval from DEP.
8.	Phase II – Begin construction of Improvements; Sidley Road Gravity Main	3
9.	Phase II – Complete Construction; Sidley Road Gravity Main	9
10.	Televise and Repair Gravity Sewer through the AEGON property	20
10.	Phase III – Initiate Lee Blvd. Pump Station Upgrade Design	72
11.	Phase III – Submit Part II WQM Permit Application	78
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13.	Phase III – Initiate Construction of Lee Blvd. PS Upgrades	82
14.	Phase III – Complete Construction of Lee Blvd. PS Upgrades	88
15.	Phase IV – Wilburdale PS Modifications	Dependent Upon GVCC Development

* It is anticipated that the Intermunicipal Agreement Amendment will be finalized and executed within the next one to two months. Letters of commitment from the Valley Forge Sewer Authority and East Whiteland Township are found in Appendix J.

I. PREVIOUS WASTEWATER PLANNING

A. Identify and Discuss Existing Wastewater Planning

1. *Previous Act 537 Planning*

An Act 537 Sewage Facilities Plan, dated May 2, 1995, was prepared for East Whiteland Township. This was a 'township-wide' plan. The primary purpose of the Plan was to consider the extension of the existing public collection and conveyance system to most of the Township as need was determined.

An Act 537 Plan amendment "Special Study" was prepared. It was last revised in September 2011. The purpose of this study was to focus on the wastewater needs to address the replacement and upgrade of the Mill Lane Pump Station. This Special Study was approved by PA DEP in 2011/2012.

2. *Planning Not Done in Accordance with an Approved Implementation Schedule*

There has been no planning by the Township that has not been completed in accordance with an approved implementation schedule.

3. *Additional Planning*

At this time, there is no additional Planning that is anticipated by the Township above and beyond the planning associated with this Act 537 Special Study.

4. *Planning Via Planning Modules or Addenda.*

One revision was made to the Township-wide 537 Plan. This was the Special Study for the Mill Lane Pump Station that was last revised in September 2011.

B. Identification of Municipal and County Planning Documents

1. Identify Land Use Plans and Zoning Maps

The Chester County Comprehensive Plan entitled "Landscapes" establishes guidelines for the following land use categories.

- Growth Management
- National Resource Protection and Open Space
- Agricultural and Farmland Protection

The categories are used to provide the municipalities with "planning strategies to assist them in implementing their growth boundaries."

The Township has four municipal planning documents that govern Land Use and Zoning.

- The East Whiteland Township Comprehensive Plan
- The East Whiteland Township Zoning Ordinance.

A zoning map showing the designated zoning districts is found in Appendix A.

2. Identify Zoning Regulations That Establish Lot Sizes

The Zoning Ordinance adopted by the Township establishes the criteria for lot sizes for the following zoning districts in the planning area.

Zoning District		Minimum Lot Area
R1	Low Density Residential District	40,000 Sq. Feet
O/BP	Office/Business Park	80,000 Sq. Feet

II. PHYSICAL AND DEMOGRAPHIC ANALYSIS

A. Identify Planning Area, Municipal Boundaries, and Service Area Boundaries Through Mapping

This Act 537 Special Study is being prepared to address the sewage facilities needs of existing and proposed development in the north-central portion of the Township. Refer to the Plan in Appendix B that shows the boundary for the planning area addressed in this Special Study.

The plan in Appendix B also represents a municipal plan/map showing the municipal boundaries of the entire Township. The area to be served by proposed sanitary sewer facilities falls within the planning area of this Special Study.

B. Identify the Physical Characteristics of the Planning Area

East Whiteland Township is located in Chester County, due east of Exton, PA. The topography of the planning area varies from a low elevation of 300 ft. near Sidley Road and Rt. 202 to an elevation of 360 ft. near the intersection of Sidley Road and Flat Road. A topographical map of the area is presented in Appendix D.

In addition, the wetlands per the National Wetlands Inventory Map are detailed on the map found in Appendix E.

C. Soils Analysis

This Plan will not consider the possibility of subsurface disposal of wastewater nor the issues concerning individual or community on-lot disposal systems. Therefore, this section is not applicable to this Special Study.

D. Geological Features of the Planning Area

As with Section C. above, this Plan will not consider the possibility of subsurface disposal of wastewater nor the issues concerning individual or community on-lot disposal systems. Therefore, this section is not applicable to this Special Study.

E. Topography

As referenced in Section II.B. of this Plan, the topography of the planning area varies from a low elevation of 300 ft. near Sidley Road at Rt. 202 to an elevation of 360 ft. near the intersection of Sidley Road and Flat Road. A topographical map of the area is presented in Appendix D.

F. Potable Water Supply Information

Since this is strictly a special study to address collection/conveyance issues within the planning area, potable water supply information is not applicable to this Special Study.

G. Wetlands

There are a number of wetland areas within the planning area as identified on the map found in Appendix E. The source for the wetlands information is the National Wetlands Inventory Mapping provided by the US Fish and Wildlife Service. The wetlands are found generally northeast of Mill Lane, just north of Route 202.

III. EXISTING FACILITIES IN THE PLANNING AREA

A. Identify and Describe Municipal Sewage Systems in the Planning Area

1. *Location, Size, and Ownership of Facilities*

Currently, there are collection and conveyance facilities in the planning area. The sanitary sewer mains that currently make up the collection and conveyance system range in size from 8 inches to 12 inches.

There are two wastewater pump stations in the planning area. The Lee Boulevard Pump Station is located along Lee Boulevard just south of the East Whiteland/Charlestown Township border. This pump station has a capacity of 0.828 MGD. Wastewater is pumped through an existing 8-inch force main to the gravity sewer main located in Sidley Road.

The other station is the Wilburdale Pump Station which is located near the intersection of Wilburdale Road and Flat Road. The Wilburdale station has a capacity of 1.15 MGD. Wastewater is pumped through an existing 6-inch force main to the gravity sewer located in Flat Road just east of Sidley Road.

2. *Narrative and Schematic Diagram of the Basic Treatment Process*

Since the focus of this Special Study is to address the needs associated with the collection and conveyance system in the planning area, a narrative and schematic diagram of the basic treatment process is not applicable.

3. *Description of Problems with the Existing Facilities*

Currently there is a wastewater surcharging concern that has persisted when both the Lee Boulevard Pump Station force main and the Wilburdale Pump Station force main discharge to the Sidley Road gravity sewer simultaneously.

In addition to the surcharging concern of the Sidley Road interceptor, wastewater from the interceptor under Route 202 was leaking into an unknown 8-inch drainage pipe.

The existing sanitary sewer main through the Aegon property shows signs of inflow and infiltration. A 46-day flow-monitoring program was conducted to determine the extent of the I/I.

Upon review of the flow monitoring data obtained during the flow monitoring program, the data showed an average daily infiltration of 50,080 gpd

In addition, inclusion of future flows in a desktop analysis shows that there will be several sanitary sewer segments that will be overloaded. Due to the location of structures on the property, direct sewer main replacement will be very difficult.

4. *On-Going Upgrades or Expansion of Facilities*

Currently the Mill Lane Pump Station, located at the base of the planning area, is being upgraded. This pump station has a peak permitted capacity of 2.07 MGD. The upgraded station will have two pumps operating and one standby pump. The capacity of this arrangement is 4.32 MGD. The station will also have space for the addition of a fourth pump. By adding the fourth pump, the station will be able to operate with 3 pumps active and one standby pump. The capacity of the station with this arrangement is 5.04 MGD. Both of these conditions are designed with the existing 14 inch force main in place. If the force main is upgraded to 20 inch, the 2 pump operating arrangement has a capacity of nearly 6.192 MGD. If 3 pumps would be operating with a fourth pump as standby, the station would have a capacity in excess of 7.20 MGD. The station should be online by the end of August. The station will undergo a 30-day test period. After the 30-day test period, if no problems are encountered,

the old station will be decommissioned. The station design will have the capacity to pump the projected flows from Charlestown Township and East Whiteland Township. Ultimate projected flows are 2,521, 433 gpd ADF. This includes existing flow plus projected flows for both Charlestown Township and East Whiteland Township. Applying a peaking factor of 2.78, established in the original basis of design report in concert with DEP guidance, the projected peak flow is 7.01 MGD. The ultimate pump station capacity is 7.2 MGD. Consequently the pump station will have the capability of meeting capacity needs of the planning area.

5. *Operations and Maintenance Requirements and the Status of Past and Present Compliance*

The Township is the facility permittee and the owner. They perform routine maintenance on the collection and conveyance system to keep the facilities operating satisfactorily.

B. Individual and Community On-Lot Disposal Systems

Since this Special Study is to address public sewers upgrades to the planning area, identification of individual on-lot disposal will not be addressed.

C. Wastewater Sludge and Septage Generation

Identification of wastewater sludge and septage generation is not considered applicable to this Special Study.

IV. FUTURE GROWTH AND LAND DEVELOPMENT

A. Description of Future Growth and Development

1. *Areas with Existing Development and Plotted Subdivisions*

The Plans included in Appendix C show the location of proposed and existing residential development within the planning area. Existing subdivisions are described as follows (based on the streets within the subdivisions):

- James Thomas/Aston
- Flintshire/Ashlawn/Atterbury
- Almy/Thayer
- Feters Mill/Forge/Oak Glen

2. *Land Use Designations*

Land use in East Whiteland Township is governed by the Township's Zoning Ordinance. Land use is given the following designations per the zoning ordinance.

- | | |
|-----|---------------------------------|
| R-1 | Low Density Residential |
| R-2 | Low Density Residential |
| R-3 | Low Density Residential |
| RM | Medium Density Residential |
| RMH | Medium-High Density Residential |
| CMX | Commercial Mixed-Use |
| VMX | Village Mixed-Use |

FC	Frontage Commercial
ROC	Regionally Oriented Commercial
ROC/R	Regionally Oriented Commercial/Res
PO	Professional Office
O/BP	Office/Business Park
O/BPS	Office/Business Park Services
I	Industrial
INS	Institutional
NS	Neighborhood Schools
C	Cemetery
OS	Open Space

In the planning area, the zoning designations include:

- R-1 Low Density Residential
- O/BP Office Business Park
- OS Open Space

3. *Future Growth Areas and Projections*

For the planning area identified for this Special Study, there are areas that have existing development and areas that are planned for growth. The planned growth is detailed in Table 1 found at the end of Section IV.

4. Subdivision Regulations as they Pertain to Planned Developments

East Whiteland Township has established guidelines for development, use, and protection of land. The guidelines are established in the Township's Zoning Ordinance.

The Zoning Ordinance regulates:

- Building height, area, and location on the lot;
- Flood plains and uses within the flood plains;
- Where certain land uses make occur in the Township ;
- Quality, location, or size of signs;
- Minimum lot areas for various uses. Table 1

5. Required Sewage Planning

Sections V and VI of this Special Study will examine the technical alternatives necessary to meet the sewage facilities needs of the planning area. Projected wastewater flows for the planning area are classified by origin.

Table 1

Existing Flow Needs Summary

Source/Property	EDUs	Population***	Avg. Daily Flows (gpd)**
East Whiteland Township/Lee Blvd. Area	122	381	33,665
Charlestown Township/Lee Blvd. Area	277	756	78,544
East Whiteland Township/Aston – Hayes Road Area	52	163	14,300
Charlestown Township/Aston – Hayes Road Area (Charlestown Oaks)	135	369	38,354
East Whiteland Township/Ashlawn Road	16	50	4,400
East Whiteland Township/Atterbury Drive	62	194	17,050
East Whiteland Township/Alma-Thayer-Sidley	97	303	26,675
East Whiteland Township/Industrial - Moores	68	213	18,700
East Whiteland/Fetters-McCoy-Oak Glen	69	216	18,975
East Whiteland/Great Valley Industrial (to Wilburdale PS)	-----	-----	240,660
TOTAL			491,323
** 275 gpd/EDU *** 3.13 People Per Household (East Whiteland); ***2.73 Persons Per Household (Charlestown)			

The means for serving the future needs of the planning area will be in the form of upgrades to the conveyance system extending from the Lee Boulevard Pump Station to a point just upstream from the Mill Lane Pump Station.

Table 2

Flow Projection Summary (Near Term Future Wastewater Needs; 0 to 5 y ears)

Source/Property	EDUs	Population	Avg. Daily Flows (gpd)
Charlestown Township/Spring Oak (to Lee Blvd. PS)	185	505	50,875
East Whiteland Township/Glasgow Tract (to Wilburdale PS)	23	72	6,325
Charlestown Township/Holy Ascension Church (to Lee Blvd. PS)	6.6	-----	1,815
Charlestown Township/Devault Foods (to Lee Blvd. PS)	135	-----	37,000
Charlestown Township/Tyler Griffin (to Lee Blvd. PS)	78	213	21,450
Charlestown Township/Charlestown School (to Lee Blvd. PS)	6.7	-----	1,845
Charlestown Township/Warner Lane (to Lee Blvd. PS)			4,650
Charlestown Township/The Office Restaurant (to Lee Blvd. PS)	13	-----	3,600
TOTAL			127,560

Table 3

Flow Projection Summary (Long Term Future Wastewater Needs; 5 to 10 years)

Source/Property	EDUs	Population	Avg. Daily Flows (gpd)
East Whiteland Township/Liberty Properties (to Wilburdale PS)	229	-----	62,975
Charlestown Township/Volpi (to Sidley Rd.)	85	232	23,500
Source/Property	EDUs	Population	Avg. Daily Flows (gpd)
Charlestown Township/Cellucci (to Lee Blvd. PS)	16	44	4,450
Charlestown Township/Laurabrooke (to Lee Blvd. PS)	17	46	4,740
Charlestown Township/"Late Spring" (to Lee Blvd. PS)	8	22	2,130
Charlestown Township/Adjacent to Laurabrook (to Lee Blvd. PS)	38	104	10,560
Charlestown Township/Fillippo Tract (to Lee Blvd. PS)	72	196	19,800
Charlestown Township/Across from Spring Oak Park (to Lee Blvd. PS)	9	25	2,475
Charlestown Township/Yellow Springs Road (to Lee Blvd. PS)	10	27	2,750
Charlestown Township/Rt. 29 and Charlestown Rd. (to Lee Blvd. PS)	50	136	13,750
Charlestown Township/Northside of School (to Lee Blvd. PS)	7	19	1,925
Charlestown Township/Farm Residence (to Lee Blvd. PS)	1	3	275
Charlestown Township/Commons at Great Valley (to Lee Blvd. PS)	40	-----	11,000
TOTAL			160,330

Table 4

Flow Projection Summary (Long Term Future Wastewater Needs; 10 to 25 years)

Source/Property	EDUs	Population	Avg. Daily Flows (gpd)
Charlestown Township/Remaining Tracts in I/O Zone (to Lee Blvd. PS)	137	-----	37,650
Charlestown Township/Remaining Tracts in B-1/FR/LI-B/RC Zones (to Lee Blvd. PS)	146	-----	40,090
TOTAL			77,740

Summarizing Pump Station Needs:

Lee Boulevard Pump Station:

0 to 5 years – 233, 444 gpd (includes existing ADF)

(Peak Flow to PS 2.17* x ADF = 0.507 MGD)

5 to 10 years – 307,299 gpd

(Peak Flow to PS 2.17 x ADF = 0.667 MGD)

10 to 25 years – 385,039 gpd

(Peak flow to PS 2.17 x ADF = 0.835 MGD)

Existing Pump Station Capacity – 0.619 MGD

Upgrade to Station = 0.956 MGD

Upgrade during 5 to 10 year time. Will meet ultimate flow needs

*Peaking Factor based on Table 6 of 2012 Chapter 94 Report

Wilburdale Pump Station:

0 to 5 years – 246,985 gpd (includes existing ADF)

(Peak Flow to PS 1.45* x ADF = 0.358 MGD)

5 to 10 years – 309,960 gpd

(Peak Flow to PS 1.45 x ADF = 0.449 MGD)

10 to 25 years – 309,960 gpd

(Peak Flow to PS 1.45 x ADF = 0.449 MGD)

Existing Pump Station Capacity = 0.576 MGD

Able to meet current and projected needs; but this will depend on future development or use in the Great Valley Corporate Center.

* Peaking Factor based on Table 6 of the 2012 Chapter 94 Report.

Flat Road Pump Station:

The Flat Road Pump Station is a small public submersible pump station that serves two or three properties immediately adjacent to it in the Great Valley Corporate Center. It has an existing capacity of 396,000 gpd. Currently (per the 2012 Chapter 94 Report) the peak flow is 72,000 gpd. It is adequately sized for existing flows. Sizing for future flows will depend on the extent to which the corporate campus develops. This development will need to be addressed via planning modules. These modules shall address the needs to upgrade this pump station.

V. ALTERNATIVES TO PROVIDE NEW OR IMPROVED WASTEWATER DISPOSAL FACILITIES

A. Identify Alternatives

1. *Regional Wastewater Treatment Concepts*

Wastewater from East Whiteland Township is conveyed to the Valley Forge Sewer Authority's Wastewater Treatment Plant

2. *Extension of Existing Municipal Sewage Facilities to Areas in Need*

Currently, there are public collection and conveyance facilities that serve the north-central portion of East Whiteland Township and the southern portion of Charlestown Township. As discussed in Part A.1. of this section, wastewater collected in these facilities is conveyed to the Valley Forge Sewer Authority for treatment. Currently there is no plan to extend these facilities beyond the current reach. Refer to the plan found in Appendix B that shows the existing collection and conveyance system.

3. *Continued Use of Existing Community Treatment Facilities*

Currently, there are no community systems in the planning area. This is not applicable to this Special Study.

4. *New Community Sewage Systems and Treatment*

Since this Plan is examining the public sewer needs and the impact on existing conveyance system components, the implementation of new community sewage systems is not applicable to this Special Study.

5. *Repair and Replacement of Existing Collection and Conveyance System Components*

As stated in Part A.2. of this section, there are wastewater collection and conveyance facilities that serve the southern portion of Charlestown Township and the north-central portion of East Whiteland Township. The planning area is served by gravity sewers and pump stations that collect and convey the wastewater to the Mill Lane Pump Station. One of the pump stations in the planning area is the Lee Boulevard Pump Station. It receives flow from the northeastern portion of the planning area along with flows from Charlestown Township. This pump station's force main discharges to the existing gravity sewer main at Sidley Road. The Wilburdale Pump Station, located in the eastern portion of the planning area, receives flow from the Great Valley Industrial Park and pumps wastewater through a force main to the gravity sewer main located in Flat Road.

Operationally, the gravity sewer main in Sidley Road takes all flow from the above referenced pump stations along with flow from the adjacent subdivisions. Refer to the plan sheet in Appendix F.

There are areas of concern that need to be addressed to meet existing and future wastewater needs.

- The southern reach of the Sidley Road gravity main (under Route 202) has a leak that needs to be repaired.
- The primary portion of the Sidley Road gravity main is at capacity and the discharges from the Lee Boulevard force main and Wilburdale force main need to be accommodated.
- The sanitary sewer main that extends through the Aegon property has shown signs of I/I and requires repair.

A Corrective Action Plan/Connection Management Plan has been prepared to address these concerns. This document has been reviewed by the PA DEP and has been approved. A copy of this document is found in Appendix Q.

Potential alternatives to achieve these goals:

- Replace the existing gravity sewer with new gravity sewer from MH 67-1AA to MH ML8.
- Replace the existing gravity sewer main in Sidley Road to accommodate existing and future flows.
- Upgrade the Lee Boulevard Pump Station to meet future wastewater needs.
- Televising the gravity main through the Aegon property and, based on findings, grout and seal leaking portions of the main.

Upon reviewing these options, a Phased approach to the above referenced alternatives has been considered. Refer to the Plan and Table in Appendix F showing those phases and the Executive Summary for specific details.

It should be noted that a portion of the interceptor/trunk sewer, downstream from the Mill Lane Pump Station, and the 14 inch force main will require future upgrades. Upgrades to these portions of the infrastructure will require future planning in that they are dependent not only on impact/needs from the special study area but impacts/needs associated with other portions of the Township outside of the immediate Special Study planning area. The future planning effort will be triggered through the monitoring of average daily flows at the Mill Lane Pump Station. Knowing the flow contributions from adjacent drainage areas (via metered flow) along with flow contributions from the Mill Lane Pump Station, a base flow can be established. With the assumption that most significant growth in the Township will occur in the drainage area tributary to the Mill Lane Pump Station, the monitoring of average daily flows at the Mill

Lane station appears to be a reasonable approach. At this time, the Township has developed approximate “flow threshold values”, that, when observed at the station will trigger the need for planning to upgrade the trunk sewer and force main. This planning will take into account all drainage areas tributary to the pump station and trunk sewer.

Phase I: This phase of the improvements has been set up to include the sanitary sewer improvements from Valley Creek north to Sidley Road approximately 220’ north of the intersection of Sidley Road and Lapp Road. Construction of the Phase 1 improvements will eliminate the structural issues related to the pipe leakage into Valley Creek as detailed in Section A.III of the Corrective Action/Connection Management Plan. Construction of the Phase 1 improvements will also increase the capacity of the system to allow for the increased capacity for the improvements of the Phase 2 - Sidley Road Improvements.

Phase II: This phase of the improvements has been set up to include the sanitary sewer improvements from the end of Phase 1 in Sidley Road north in Sidley Road to the intersection with Lee Boulevard. Construction of the Phase 2 improvements will include the upgrading of sewer lines which will eliminate capacity issues related to the undersized pipe in Sidley Road as detailed in Corrective Action/Connection Management Plan. Construction of the Phase 2 improvements will also increase the capacity of the system to allow for the increased flow projected from Charlestown Township’s southside. Through implementing this phase, the majority of wastewater flow can be redirected away from the sanitary sewer main through the Aegon property. This will allow East Whiteland Township to more easily televise and repair this main.

Phase III: Upgrade the Lee Boulevard Pump Station to meet the 5 to 10 year needs through the replacement of the existing pumps with new pumps. In addition, replace the existing constant speed controls with variable frequency drive controls.

The Corrective Action Plan/Connection Management Plan provides further detail concerning these phases.

Phase IV: This phase is dependent on future development in the planning area associated with Liberty Properties located in the Great Valley Industrial Park. At this time this future development is planned in accordance with the projections found in Tables 1 through 4 found in Section IV. Phase II upgrades to the gravity sewer in Sidley Road will be sized to accommodate the potential for future growth. A planning module will need to be prepared by Liberty Properties at the time of their development and this module will be more-able to detail collection and conveyance system upgrades necessary to meet the needs specific to the proposed development.

Alternatives to direct projected wastewater flow to other areas or in other directions were examined previously, outside the scope of this Special Study, and it was determined that these alternatives would not be cost effective. In addition, topography in the area of southern Charlestown Township, adjacent to or near the East Whiteland Township border, is conducive to utilizing a network of gravity sewers to convey flow to the existing collection and conveyance infrastructure in East Whiteland Township. As a result, the alternative methods for collection and conveyance of future flows, as shown above, and the associated phasing appear to be the most reasonable means for providing public sewer service to the planning area. In addition, an intermunicipal agreement is already in place (see description in Section VII). An amendment to the agreement is in the process of being drafted that will facilitate the conveyance of future flows through the respective municipalities,

through the Valley Creek Trunk Sewer, and to the Valley Forge Sewer Authority's WWTP (See Appendix R).

6. *Alternative Methods of Collection and Conveyance to Serve Areas in Need*

Given that this Special Study addresses the needs associated the upgrade of existing facilities to serve future flows, alternative methods of collection and conveyance to serve areas in need is not applicable to this Special Study.

B. *Use of Individual Disposal Systems*

The use of individual on-lot disposal systems will not be considered for this Special Study.

C. *Small Flow Sewage Treatment Facilities*

Assessment of alternatives based on the use of small flow sewage treatment facilities, land treatment alternatives, or package treatment facilities to serve individual homes or clusters of homes is not applicable to this Special Study.

D. *Community Land Disposal*

Assessment of alternatives based on the use of community land disposal is not applicable to this Special Study.

E. *Retaining Tank*

The use of retaining tanks will not be evaluated as part of this Special Study.

F. *Septage Management*

A discussion of the need for and implementation of a sewage management program will not be addressed as part of this Special Study.

G. Non-Structural Comprehensive Planning Alternatives

It is not anticipated that there will be any modifications to the Township Comprehensive Plan. Non-structural comprehensive planning alternatives shall not be addressed as part of this Special Study.

H. No Action Alternative

1. *Water Quality and Public Health*

If wastewater collection and conveyance system upgrades are not implemented, water quality and public health would be impacted. Upgrades planned under Phase I address the need to upgrade and repair the existing gravity sewer main located under Route 202 and will eliminate the leaking wastewater to the Valley Creek. This portion of the existing sewer main has been compromised and is leaking to the Valley Creek. Repairs and upgrades are necessary to eliminate this condition.

2. *Growth Potential*

The potential for growth in the planning area would be impacted by a no-action alternative. Proposed development would not go forward if wastewater conveyance system upgrades were not completed.

3. *Community and Economic Conditions*

With no-action to provide means for upgraded conveyance of wastewater, development may not go forward. Consequently, future connections would be limited, thus restricting growth that would supplement the Township tax base.

4. *Recreational Opportunities*

A no-action alternative for this Special Study would not have an impact on recreational opportunities.

5. *Drinking Water Sources*

If the proposed conveyance system upgrade, as identified under Phase I, is not constructed, there may be indirect impacts on drinking water sources.

6. *Other Environmental Issues*

If the proposed conveyance system upgrades are not implemented under Phase I, there may be impact on the wildlife of the Valley Creek.

VI. EVALUATION OF ALTERNATIVES

A. Consistency Determination

1. *Clean Stream Law*

The construction of an upgraded sanitary sewer conveyance and treatment system for the Planning area does not conflict with the Clean Stream Law. Flow generated by the planning area will ultimately be treated at Valley Forge Sewer Authority's wastewater treatment plant or the community wastewater treatment plant located at the Swinehart property and disposed of in accordance with requirements and limits set forth by PADEP.

2. *Chapter 94 Report*

The East Whiteland Township 2011 Chapter 94 Report indicates that the review of the planning module for the proposed Spring Oak development (located in Charlestown Township) revealed some existing and future hydraulic restrictions within the East Whiteland trunk sewer. These hydraulic restrictions and associated issues are consistent with the purpose behind this development of this Act 537 Special Study.

Currently the Mill Lane Pump Station, located at the base of the planning area, is being upgraded. This pump station has a peak permitted capacity of 2.07 MGD. The upgraded station will have two pumps operating and one standby pump. The capacity of this arrangement is 4.32 MGD. The station will also have space for the addition of a fourth pump. By adding the fourth pump, the station will be able to operate with 3 pumps active and one standby pump. The capacity of the station with this arrangement is 5.04 MGD. Both of these conditions are designed with the existing 14 inch force main in place. If the force main is upgraded to 20 inch, the 2 pump operating arrangement has a capacity of nearly 6.192 MGD. If 3 pumps would be operating with a fourth pump as standby, the station would have a capacity in excess of 7.20 MGD.

3. *Clean Water Act (Title II)*

This Act and the Federal Water Quality Act establish specific planning requirements for wastewater facilities planning. These requirements only apply to municipalities intending to apply for financial assistance from the Federal Government for the construction of sewage facilities. Since the funding of the construction of the alternatives would be through financial contributions by municipal users, and potentially State agencies, this analysis is not applicable.

4. *Comprehensive Plans*

The Chester County Planning Commission (CCPC) Comprehensive Plan, entitled "Landscapes2," was adopted in July of 2009. The alternatives to upgrade public sanitary sewer service to accommodate proposed development in the planning area is consistent with the implementation strategy, policies and goals of the current Landscapes2 as shown in the Utilities and Infrastructure section of the plan.

East Whiteland Township adopted a Comprehensive Plan in 2001 that identifies Township policies on future preservation and development.

In September 2002, Chester County adopted a water resources management plan, titled '**Watersheds**'. This is an element of the County's Comprehensive Plan. In Part 4 of the Plan (Goals and Objectives – Achieving the Vision), Goal 7 describes the need to integrate utility and municipal planning to meet future water supply and wastewater needs. It further discusses the need to delineate municipal planned public water/wastewater service areas and evaluate infrastructure alternatives. This Special Study is consistent with the objectives set forth in Watersheds.

5. *Antidegradation Requirements Contained in Chapters 93, 95 and 102 of the Clean Water Act*

Implementation of any of the alternatives for this Special Study will not impact the antidegradation requirements contained in Chapters 93, 95, 102 of the Clean Water Act.

6. *State Water Plans*

There are no anticipated conflicts with the State Water Plan for this submission.

7. *Pennsylvania's Prime Agricultural Land Policy*

East Whiteland Township is committed to protecting prime agricultural land within the Township's boundaries.

For the planning area in this Special Study, the Township's Zoning Ordinance and Comprehensive Plan give the land area a residential, office/business park, and professional office designation. The development of this land is consistent with its land use designation.

It should be noted that the Chester County Planning Commission's agricultural conservation easement plan indicates that there are no agricultural conservation easements in East Whiteland Township. This plan was developed by the Chester County Department of Open Space Preservation utilizing information from the County Agricultural Preservation Board and the Chester County Bureau of Land Records.

8. *County Stormwater Management Plan*

PA Act 167 Stormwater Management Plans (SWMP) have been completed and approved for portions of Chester County. The Valley Creek Watershed (East) is one of those plans that have been approved. PA DEP approved it February 2011. This SWMP is incorporated via reference into the County-wide Act 167 SWMP that is nearing the point of formal resolution of adoption. From a

consistency perspective, it appears that the concept to provide sewer service to potential development is consistent with the SWMP. This special study planning area falls within the Valley Creek Watershed and the prescribed system improvements not only accommodate future flows but provide for minimizing inflow and infiltration of stormwater into the sanitary sewer system.

9. *Wetlands Protection*

As referenced in Section II.G. of this Plan, There are a number of wetland areas within the planning area as identified on the map found in Appendix E. The source for the wetlands information is the National Wetlands Inventory Mapping provided by the US Fish and Wildlife Service. The wetlands are found generally northeast of Mill Lane, just north of Route 202. It is anticipated that development within the planning area or collection/conveyance routing will not negatively impact these wetlands.

10. *Protection of Threatened, Rare, and Endangered Plant and Animal species (PNDI)*

A Pennsylvania National Diversity Inventory (PNDI) search was completed for each area within the various phases. See Appendix H. For Phase I, a conflict was identified with the U.S. Fish and Wildlife Service. This conflict was resolved. Please refer to the June 6, 2012 correspondence with the Fish and Wildlife Service found in Appendix H. For Phase IIA and IIB, an avoidance measure was requested by the US Fish and Wildlife Service and a Conservation Measure was requested by DCNR. These conflicts have been resolved as well.

11. *Historic and Archaeological Resource Protection*

The Pennsylvania Historic and Museum Commission (PHMC) have been contacted to determine if there are any potential conflicts within the proposed Phases. PHMC reviews for the proposed sewerage facilities have been completed. The results of the PHMC's review for the proposed sewerage

facilities can be found in Appendix I. It has been determined that the projects will have no impact on historic resources.

B. Resolution of Inconsistencies

Upon review of the constraints discussed in items 1 through 11, there are no apparent inconsistencies with applicable planning requirements.

C. Alternative Evaluation with Respect to Applicable Water Quality Standards and Effluent Limitations

The planned alternatives to provide a sanitary sewer collection and conveyance system for this proposed development will not impact water quality standards or effluent limitation. Wastewater will be discharged to either the existing public collection and conveyance system or the proposed community collection, conveyance, and treatment system. Ultimately, wastewater will be treated at the Valley Forge Sewer Authority's WWTP.

D. Preliminary Cost Opinions

Preliminary cost opinions were developed for the primary alternatives discussed in Section V. These cost opinions reflect the following:

1. Immediate Needs Alternative

Construct Phase I (refer to detail in Section V) to serve immediate and near term wastewater needs. Wastewater through Phase I would be conveyed to the Mill Lane Pump Station and ultimately to the Valley Forge Sewer Authority's WWTP.

Planning Level - Construction Cost Opinion Total	\$717,000
Cost Sharing: East Whiteland Township -	\$397,972
Valley Forge Sewer Authority -	\$319,028

Near Term Alternative

Construct Phase II (refer to detail in Section V) to serve 0 to 5 year wastewater needs. Wastewater through Phases I and II would be conveyed to the Mill Lane Pump Station and ultimately to the Valley Forge Sewer Authority's WWTP.

Planning Level - Construction Cost Opinion	(II)	\$1,357,000
Cost Sharing - East Whiteland Township -		\$579,186
Valley Forge Sewer Authority -		\$777,814

Long Term Alternative

Construct Phase III (refer to detail in Section V) to serve 5 to 10 year wastewater needs. Wastewater through Phase III would be conveyed to the Mill Lane Pump Station and ultimately to the Valley Forge Sewer Authority's WWTP.

Planning Level - Construction Cost Opinion	\$111,000
Cost Sharing - East Whiteland Township -	\$6,600
Valley Forge Sewer Authority -	\$104,400

E. Analysis of Available Funding Methods

This section of the Plan addresses methods available to finance the proposed alternative. Three financing alternatives exist for this particular project.

1. Municipal Bond Issue

a. General

There are several types of bonds; some are taxable and some are tax-exempt. However, the general classification of municipal bonds usually

refers to tax-exempt bonds. There are three types of municipal bonds generally used in financing public works.

- *General Obligation Bonds* are tax-free bonds that are secured by the pledge of the full faith, credit, and taxing power of the issuing agency. This means that this type of bond is backed by all of the taxes on real estates and personal property within the jurisdiction of the issuing agency. It involves minimum risk to the investor and therefore requires a lower rate of interest than other types of bonds.
- ▶ *Dedicated Tax Bonds* are payable only from the proceeds from a special tax and are not guaranteed by the full faith, credit and taxing power of the issuing agency. Examples of special dedicated taxes are the special assessments against property which is adjacent to and the principal beneficiary of the improvement, and gasoline taxes used to finance highway construction.
- ▶ *Revenue Bonds* are payable from revenues derived from the use of the improvement such as tolls, sewer bills, or rents paid by the users of the improvement and do not otherwise represent an obligation of the issuing agency. Revenue bonds are not ordinarily subject to statutory or constitutional debt limitations. They are often issued by commissions, authorities, and other public agencies created for the specific purpose of financing, constructing, and operating essential public projects.

Typically, municipal bonds are sold to an investment-banking firm, which then resells the bonds to individual investors. The advantage of municipal bonds to the investor is their tax-free status. A bond discount (a percentage of the total bond issue) serves as the investment banker's

commission. Before bonds are sold, they must be rated on the basis of risk to the investor by a rating agency such as Standard and Poor's or Moody's. The higher the rating, the lower the risk to the investor and, consequently, the lower the interest rate paid on the bond.

The legal instrument, which sets the rules that must be observed by the issuing agency, is the Trust Indenture. The Trust Indenture is prepared by the Bond Counsel and must be printed along with the bonds. Due to specific requirements as to the denominations of the bonds and methods and materials for printing, printing costs can be substantial. A Trustee is required to administer the bond issue and insure the terms of the Trust Indenture are observed. This results in an Annual Trustee Fee. Investment bankers indicate that it does not pay to extend the term beyond 25 years because the interest rate increases dramatically.

b. Advantages of Municipal Bond Issue Funding

- ▶ This program affords long-term fixed rate financing.
- ▶ Tax-exempt municipal bonds are in high demand.
- ▶ There is local investment opportunity.
- ▶ Municipal credit is established.
- ▶ It retains flexibility for future borrowing.

c. Disadvantages of Municipal Bond Issue Funding

- ▶ A cover may be required.
- ▶ A Debt Service Reserve Fund is generally required.
- ▶ There are trustee fees and costs of preparing a Trust Indenture.

2. Bank Loan

Another financing option for the implementation of this project is the bank loan. There are four basic categories of bank loans. These are:

- ▶ Real Estate Loans (Mortgage)
- ▶ Participation and Interbank Loans
- ▶ Installment Loans (Personal)
- ▶ Commercial and Industrial Loans

Of the four types, a commercial and industrial loan would be the most applicable to this project.

Commercial and industrial loans may be made on a demand or time basis. A demand basis loan allows the bank to call for repayment at any time, or the borrower can repay when convenient. A time basis loan provides for a specific loan maturity date.

Most commercial and industrial loans are unsecured. The credit is extended on the basis of an analysis of all available information pertaining to the customer and the bank's confidence in that customer's ability and willingness to repay.

For this planned project, it appears that it would be prudent to seek a time basis loan. An interest rate offering would be established, and an amortization schedule set. Interest rates may range from 5% to 10%.

Advantages of the Bank Loan Financing

- ▶ Ability to shop around for a loan structure that best fits the customer's needs.
- ▶ Flexibility in establishing repayment schedules.

- ▶ Working with and through a local financial institution.
- ▶ Municipal credit is established.
- ▶ Ability to obtain fixed rate financing.

Disadvantages of Bank Loan Financing

- ▶ Interest rates are charged for loan repayment.
- ▶ Processing fees may be required.
- ▶ Processing and issuances fees may be expensive.

3. *Direct Funding by Developers*

A third financing option for the implementation of this project is direct funding by those who are developing the property in the planning area. This would involve capital expenditures by the developer from his own capital funds.

Advantages of Direct Funding by Developer

- ▶ Avoid any third party involvement. Payment for services can be made directly to the manufacture or contractor by the Developer.
- ▶ There are no interest rate charges.
- ▶ Bank processing and issuance fees are avoided.
- ▶ Removes the financial burden from the Township.

Disadvantages of Direct Funding

- ▶ There are no disadvantages to this method of financing.

4. *Funding Through Contributions from Intermunicipal Partners*

Via the amended intermunicipal agreement, funding for proposed upgrades to the conveyance system will be shared between East Whiteland Township and

the Valley Forge Sewer Authority. It should be noted that an updated/amended intermunicipal agreement is currently being prepared and negotiated. This agreement will have an exhibit that will show the finalized cost sharing structure. A draft of this agreement is found in Appendix R.

F. Immediate or Phased Implementation

It is planned to implement the collection and conveyance system improvements in phases. These include:

Phase I: This phase of the improvements has been set up to include the sanitary sewer improvements from Valley Creek north to Sidley Road approximately 220' north of the intersection of Sidley Road and Lapp Road. Construction of the Phase 1 improvements will eliminate the structural issues related to the pipe leakage into Valley Creek as detailed in Section A.III of the Corrective Action/Connection Management Plan. Construction of the Phase 1 improvements will also increase the capacity of the system to allow for the increased capacity for the improvements of the Phase 2 - Sidley Road Improvements.

Phase II: This phase of the improvements has been set up to include the sanitary sewer improvements from the end of Phase 1 in Sidley Road north in Sidley Road to the intersection with Lee Boulevard. Construction of the Phase 2 improvements will include the upgrading of sewer lines which will eliminate capacity issues related to the undersized pipe in Sidley Road as detailed in Corrective Action/Connection Management Plan. Construction of the Phase 2 improvements will also increase the capacity of the system to allow for the increased flow projected from Charlestown Township's southside. Through implementing this phase, the majority of wastewater flow can be redirected away from the sanitary sewer main through the Aegon property. This will allow East Whiteland Township to more easily televise and repair this main.

Phase III: Upgrade the Lee Boulevard Pump Station to meet the 5 to 10 year needs through the replacement of the existing pumps with new pumps. In addition, replace the existing constant speed controls with variable frequency drive controls.

Phase IV: This phase is dependent on future development in the planning area associated with Liberty Properties located in the Great Valley Industrial Park. At this time this future development is planned in accordance with the projections found in Tables 1 through 4 found in Section IV. Phase II upgrades to the gravity sewer in Sidley Road will be sized to accommodate the potential for future growth. A planning module will need to be prepared by Liberty Properties at the time of their development and this module will be more-able to detail collection and conveyance system upgrades necessary to meet the needs specific to the proposed development.

G. Ability of the Township to Implement the Alternative

The Township is well established and has the ability to implement the technical alternatives presented in this Plan.

VII. INSTITUTIONAL EVALUATION

A. Analysis of the Township, Past Actions, and Present Performance

1. *Financial and Debt Status*

The Township is a well-established entity that will be able to oversee the implementation of the proposed technical alternative. Financially, through the funding mechanisms identified above and the shared costs established through the intermunicipal agreement structure between East Whiteland Township and the Valley Forge Sewer Authority, the construction of the necessary collection and conveyance facilities can be accomplished. Ultimately, the Township will take dedication of these facilities and will be required to operate and maintain them. The funds for facility O&M may originate from the Township's Sewer Fund.

2. *Available Staff and Administrative Resources*

The Township is governed by a three-member Board of Supervisors elected at-large, who each serve six-year terms that include executive and legislative responsibilities. Others associated with the Township are:

- ▶ Township Manager
- ▶ Director of Public Works
- ▶ Solicitor
- ▶ Consulting Engineer

The Township has the necessary staff and administrative resources already in place. No further evaluation of staffing and resources is necessary at this time.

3. *Existing Legal Authority*

As provided for under Pennsylvania Law, the Township has the necessary legal authority to oversee the implementation of the technical alternatives presented in this Special Study.

B. *Institutional Alternatives Necessary to Implement the Technical Alternative*

1. *Need for a New Authority*

East Whiteland Township does not have an Authority in place at this time. It is not deemed necessary that a new Authority be established to meet the needs of the alternatives identified in this Special Study. The Township and public works personnel are capable of implementing the identified alternatives.

2. *Function of the Authority*

This is not applicable given that there is no sewer authority in place at this time.

3. *Cost of Administration*

This is not applicable given that there is no sewer authority in place at this time.

C. *Administrative and Legal Activities to be Completed and Adopted to Ensure the Implementation of the Technical Alternative*

1. *Legal Authorities of Incorporation*

No new wastewater Authorities of Incorporation are necessary and there will be no changes to the Township's structure to implement this project.

2. *Required Ordinances, Standards, Regulations, and Intermunicipal Agreements*

In 1971, an Intermunicipal Agreement was signed by East Whiteland Township, the former East Whiteland Municipal Authority, Malvern Municipal Authority, Malvern Borough, and the Valley Forge Sewer Authority for conveyance of

wastewater through the Valley Creek Trunk Sewer to the Valley Forge Sewer Authority's WWTP for treatment and disposal. In December 1979, an amendment was issued to the existing 1971 intermunicipal agreement between East Whiteland Municipal Authority, East Whiteland Township, Malvern Municipal Authority, Borough of Malvern, and the Valley Forge Sewer Authority. This amendment facilitates the transmission of wastewater from an area in Charlestown Township adjacent to East Whiteland Township through the East Whiteland Township Trunk Line and the Valley Creek Trunk Line. Both agreements can be found in Appendix K of this Special Study.

This intermunicipal agreement is currently undergoing an amendment to reflect the latest flow and cost sharing conditions. This effort to amend the agreement is taking place in accordance with the timing set forth in the implementation schedule found in the Executive Summary. The draft agreement is found in Appendix R.

3. *Provisions of Rights-of-Way, Easements, and Land Transfers*

The wastewater collection and conveyance system that will serve potential development will extend along Township or State Roads and easements. Modifications to the proposed pump stations will not require the acquisition of rights-of-way and easements at their respective locations.

4. *Other Sewage Facilities Plan Adoptions*

It is not anticipated that other sewage facilities plans will need to be adopted as part of this planning process.

5. *Legal Documents*

It is anticipated that legal documentation, in the form of an amended intermunicipal agreement will need to be completed as part of the implementation of the Special Study. Refer to the draft found in Appendix R.

6. *Dates and Timeframes of 1 Through 5 Above*

The dates and timeframes for the items in this section are found in the implementation schedule in the Executive Summary of this Plan.

D. *Selected Institutional Alternative*

No changes are needed to the existing municipal structure. An amendment to the existing intermunicipal agreement is currently being drafted and will be implemented per the implementation schedule found in the Executive Summary.

VIII. SELECTED WASTEWATER TREATMENT AND INSTITUTIONAL ALTERNATIVE

A. Identify the Chosen Technical Alternative

The selected alternative which best meets the wastewater treatment needs of the proposed development in the planning area is:

Phase I: This phase of the improvements has been set up to include the sanitary sewer improvements from Valley Creek north to Sidley Road approximately 220' north of the intersection of Sidley Road and Lapp Road. Construction of the Phase 1 improvements will eliminate the structural issues related to the pipe leakage into Valley Creek as detailed in Section A.III of the Corrective Action/Connection Management Plan. Construction of the Phase 1 improvements will also increase the capacity of the system to allow for the increased capacity for the improvements of the Phase 2 - Sidley Road Improvements.

Phase II: This phase of the improvements has been set up to include the sanitary sewer improvements from the end of Phase 1 in Sidley Road north in Sidley Road to the intersection with Lee Boulevard. Construction of the Phase 2 improvements will include the upgrading of sewer lines which will eliminate capacity issues related to the undersized pipe in Sidley Road as detailed in Corrective Action/Connection Management Plan. Construction of the Phase 2 improvements will also increase the capacity of the system to allow for the increased flow projected from Southside.

Phase III: Upgrade the Lee Boulevard Pump Station to meet the 5 to 10 year needs through the replacement of the existing pumps with new pumps. In addition, replace the existing constant speed controls with variable frequency drive controls.

Phase IV: This phase is dependent on future development in the planning area associated with Liberty Properties located in the Great Valley Industrial Park. At this time this future development is planned in accordance with the projections found in Tables 1 through 4 found in Section IV. Phase II upgrades to the gravity sewer in Sidley Road will be sized to accommodate the potential for future growth. A planning module will need to be prepared by Liberty Properties at the time of their development and this module will be more-able to detail collection and conveyance system upgrades necessary to meet the needs specific to the proposed development.

The phasing of alternative is recommended based on the following:

1. *Existing Wastewater Disposal Needs*

Within the planning area, wastewater disposal needs are met through the use of a network of gravity sewer mains, pump stations, and force mains. These facilities can continue to meet the existing disposal needs of the planning area.

2. *Future Wastewater Treatment Needs*

Future wastewater disposal needs, identified in Section IV of this Plan show existing, near term, and long-term wastewater needs for East Whiteland Township and Charlestown Township. Under the Phase I Alternative, existing wastewater needs can be met. Under Phase II and III alternatives for 0 to 5 and 5 to 10 year wastewater needs can be met. Implementation of the Phase IV Alternative will be strictly dependent on the timing of development in the Great Valley Industrial Park.

3. *Operations and Maintenance Considerations*

The proposed wastewater facilities will be owned and operated by East Whiteland Township upon completion. Operations and maintenance of the

new facilities will be the responsibility of the Township which currently operates and maintains existing wastewater facilities within the Township.

4. *Cost Effectiveness*

In accordance with the cost opinions for the alternatives presented in Section VI of this study, the phasing of the Alternatives is the most cost effective approach. This will allow for both East Whiteland Township and the Valley Forge Sewer Authority (Charlestown Township) to take a measured approach to upgrades to the existing conveyance system to meet the future needs.

5. *Available Management and Administrative Systems*

The Township has the management and administrative staff in place to implement the selected alternative. The intermunicipal agreements are in place to facilitate the sharing of costs associated with the upgrades to existing infrastructure. A copy of the agreement can be found in Appendix K of this Special Study.

6. *Available Financing Methods*

Of the financing methods discussed in Section VI, each method can provide the necessary funding for the selected alternative. Refer to Section VIII.B. for the selected capital financing plan.

7. *Environmental Soundness*

Environmentally, the Valley Forge Sewer Authority's WWTP can adequately treat the average and peak flows within the permitted concentration limits.

B. *Selected Capital Financing Plan*

The selected technical alternative will be paid for and financed through bond funding mechanisms and sharing of costs between the municipalities via the current intermunicipal agreement structure. East Whiteland Township and the Valley Forge Sewer Authority (Charlestown Township) have been in communication regarding cost-sharing matters. The planning-level cost sharing structure is shown in Section VI.

APPENDICES

APPENDIX A

Zoning Map

EAST WHITELAND TOWNSHIP

Zoning Map

Adopted February 21, 2007



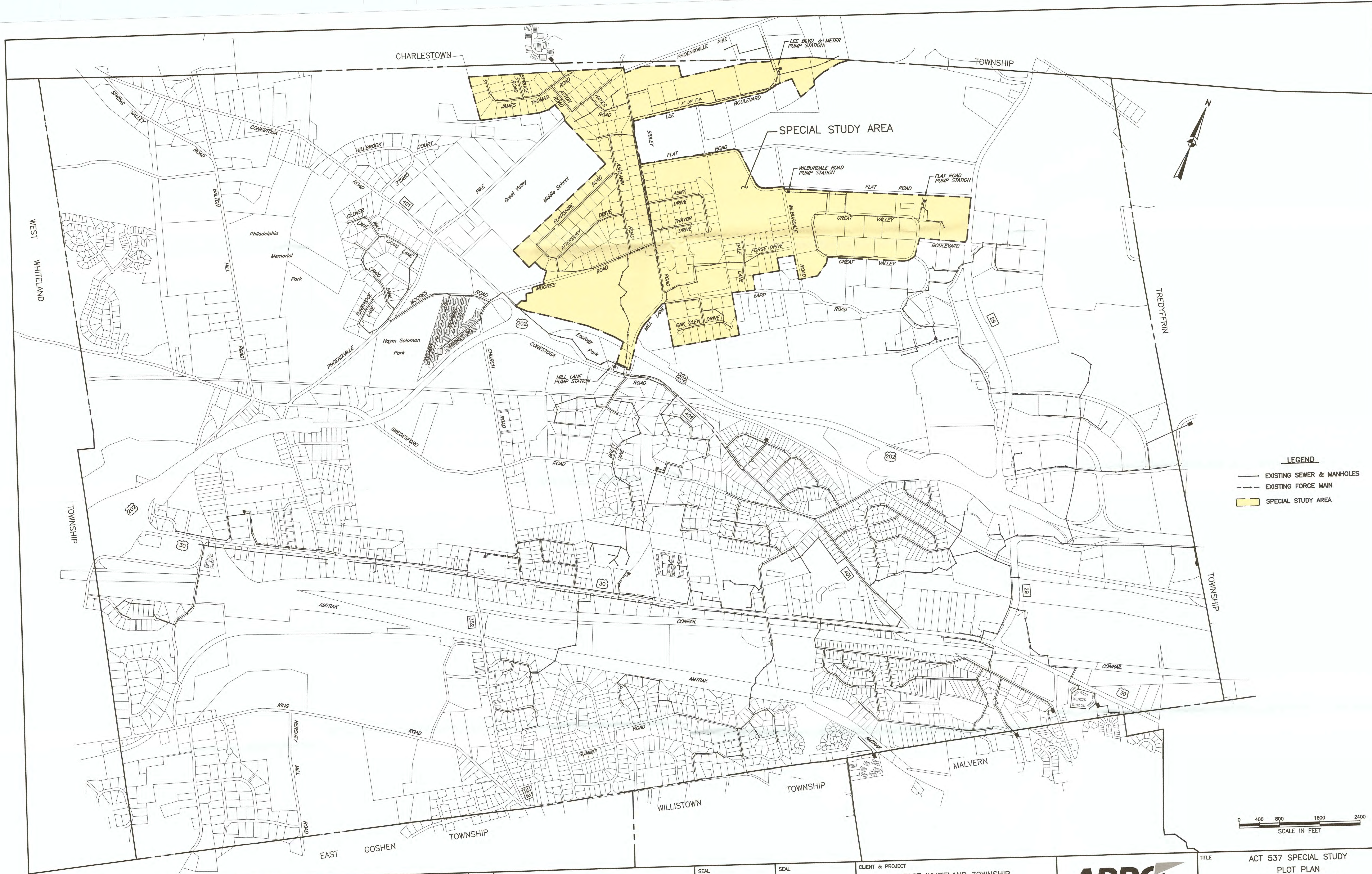
ZONING DISTRICTS	
R-1	Low Density Residential
R-2	Low Density Residential
R-3	Low Density Residential
RM	Medium Density Residential
RMH	Medium-High Density Residential
CMX	Community Mixed-Use
VMX	Village Mixed-Use
FC	Frontage Commercial
ROC	Regionally-Oriented Commercial
ROC/R	Regionally-Oriented Comm/Res
PO	Professional Office
O/BP	Office/Business Park
O/BPS	Office/Business Park Services
I	Industrial
INS	Institutional
NS	Neighborhood Schools
C	Cemetery
OS	Open Space
Corporate Gateway Overlay	



0 1,200 2,400 Feet

APPENDIX B

Planning Area



- LEGEND**
- EXISTING SEWER & MANHOLES
 - - - EXISTING FORCE MAIN
 - SPECIAL STUDY AREA

0 400 800 1600 2400
SCALE IN FEET

NO		REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.	W.L. BOHNER, P.E. RELEASED BY DESIGN W.L. BOHNER, P.E. DRAWN BLATT DATE 6/14/12	CHECKED CHECKED SURVEY DATE FIELD BOOK
A												

SEAL

SEAL

CLIENT & PROJECT
EAST WHITELAND TOWNSHIP
209 CONESTOGA RD.
FRAZER, PA 19355

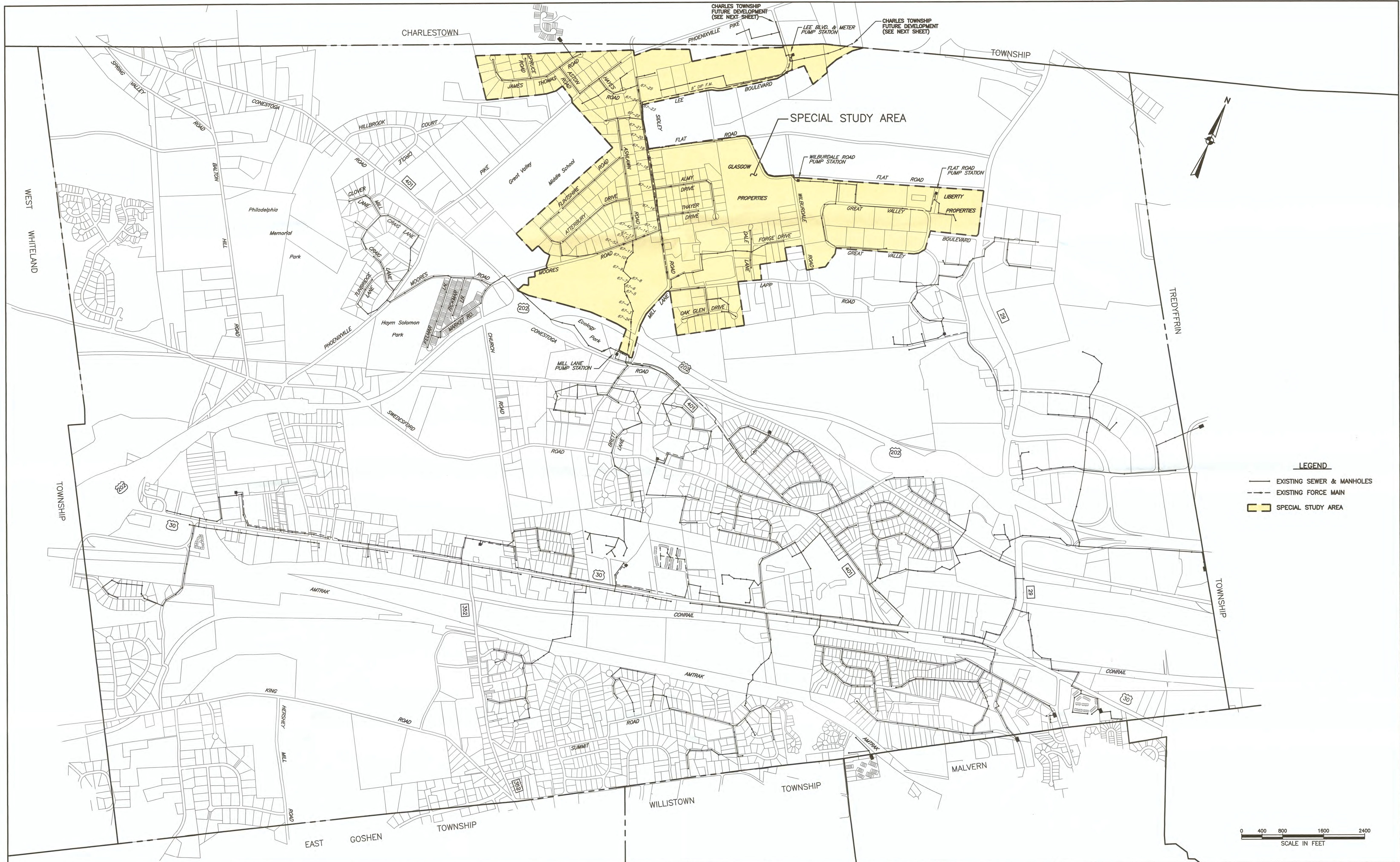
SEWER SYSTEM
EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

ARRC
ENGINEERING & ENVIRONMENTAL CONSULTANTS
Suite 100, 649 North Lewis Road
Limerick, Pennsylvania 19468
Tel 610.495.0303

TITLE ACT 537 SPECIAL STUDY PLOT PLAN SPECIAL STUDY AREA		DWG. NO. C1
SCALE AS NOTED		
PROJECT NO. 10310.02	SHEET NO. 1 OF 3	REV. A

APPENDIX C

Future Development



- LEGEND**
- EXISTING SEWER & MANHOLES
 - - - EXISTING FORCE MAIN
 - SPECIAL STUDY AREA

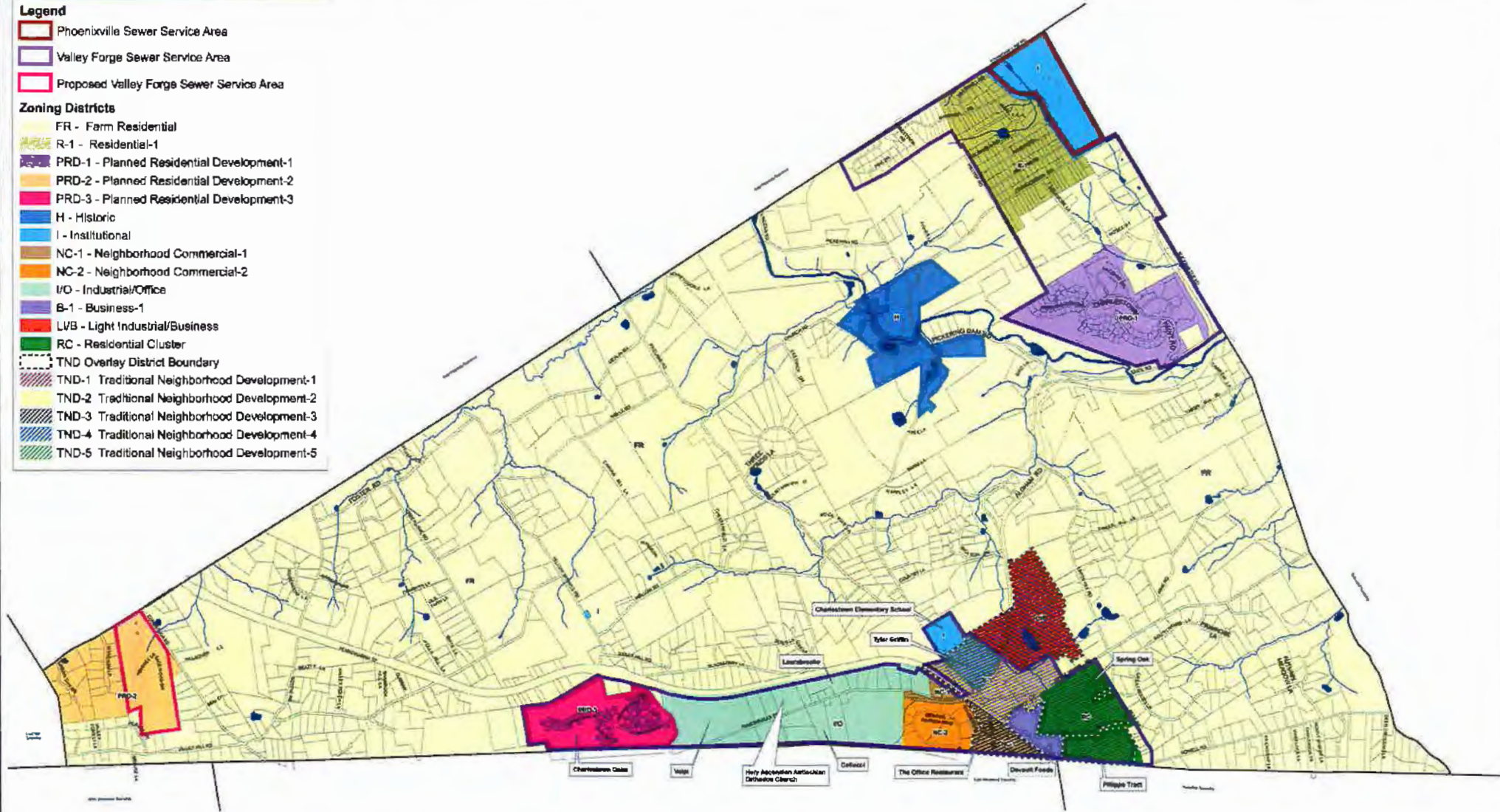
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Legend

- Phoenixville Sewer Service Area
- Valley Forge Sewer Service Area
- Proposed Valley Forge Sewer Service Area

Zoning Districts

- FR - Farm Residential
- R-1 - Residential-1
- PRD-1 - Planned Residential Development-1
- PRD-2 - Planned Residential Development-2
- PRD-3 - Planned Residential Development-3
- H - Historic
- I - Institutional
- NC-1 - Neighborhood Commercial-1
- NC-2 - Neighborhood Commercial-2
- I/O - Industrial/Office
- B-1 - Business-1
- LVB - Light Industrial/Business
- RC - Residential Cluster
- TND Overlay District Boundary
- TND-1 Traditional Neighborhood Development-1
- TND-2 Traditional Neighborhood Development-2
- TND-3 Traditional Neighborhood Development-3
- TND-4 Traditional Neighborhood Development-4
- TND-5 Traditional Neighborhood Development-5



Zoning Map & Sewer Service Areas

CHARLESTOWN TOWNSHIP
Chester County, Pennsylvania

Revised: October 8, 2012
Date: August 15, 2008; September 15, 2010



Data Sources:

Base Features: Chester County
GIS Department, February 2005

Prepared By:
Thomas Comitta Associates, Inc.
Town Planners & Landscape Architects
18 West Chestnut Street
West Chester, Pennsylvania 19380

APPENDIX D

Topography

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MALVERN QUADRANGLE
PENNSYLVANIA-CHESTER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



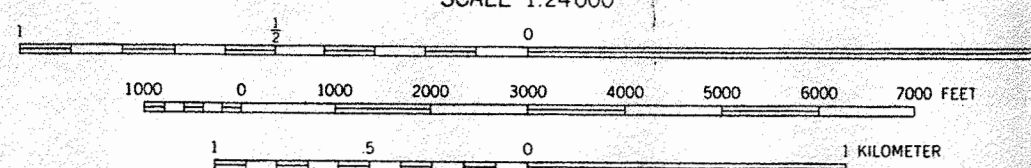
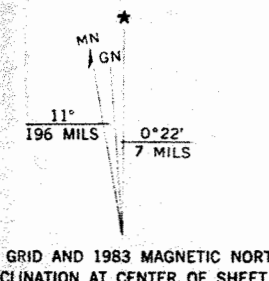
Maped, edited, and published by the Geological Survey
Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial
photographs taken 1951. Field checked 1955
Polyconic projection. 10,000-foot grid ticks based on
Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 18, shown in blue
1927 North American Datum
To place on the predicted North American Datum 1983
move the projection lines 6 meters south and
30 meters west as shown by dashed corner ticks

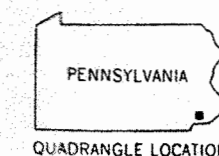
There may be private inholdings within the boundaries of
the National or State reservations shown on this map

Revisions shown in purple and woodland compiled from aerial
photographs taken 1981 and other sources. This information
not field checked. Map edited 1983
Purple tint indicates extensions of urban areas

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



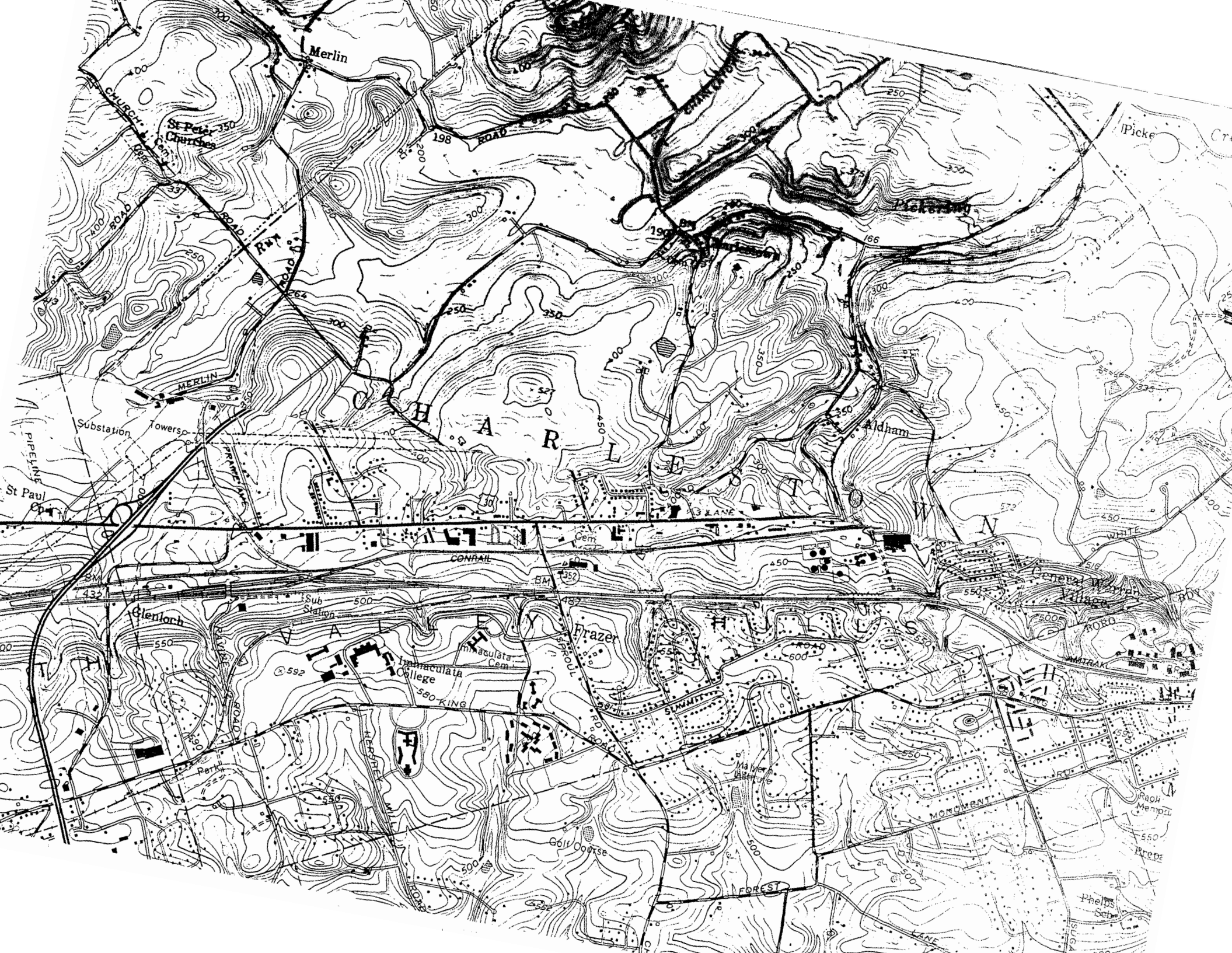
ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
Interstate Route U.S. Route State Route



YOAS SERVICES, INC.
508 W. 4th St.
Williamsport, PA 17701
1-800-222-2548

MALVERN, PA.
40075-A5-TF-024
1955

PHOTOREVISED 1983
DMA 5864 II SE-SERIES V831



APPENDIX E

Wetlands Map

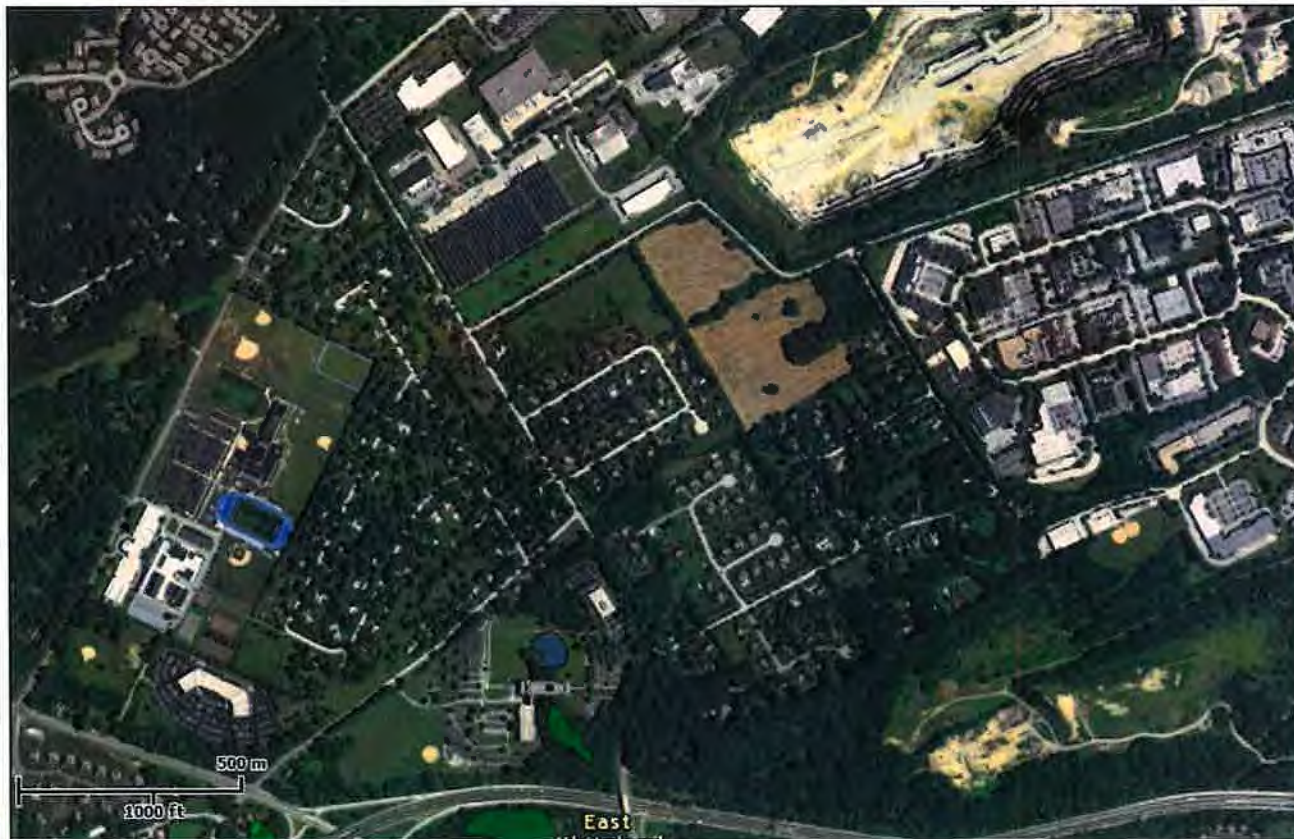


U.S. Fish and Wildlife Service

National Wetlands Inventory

Sidley Road/Lee Blvd.

May 9, 2012



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

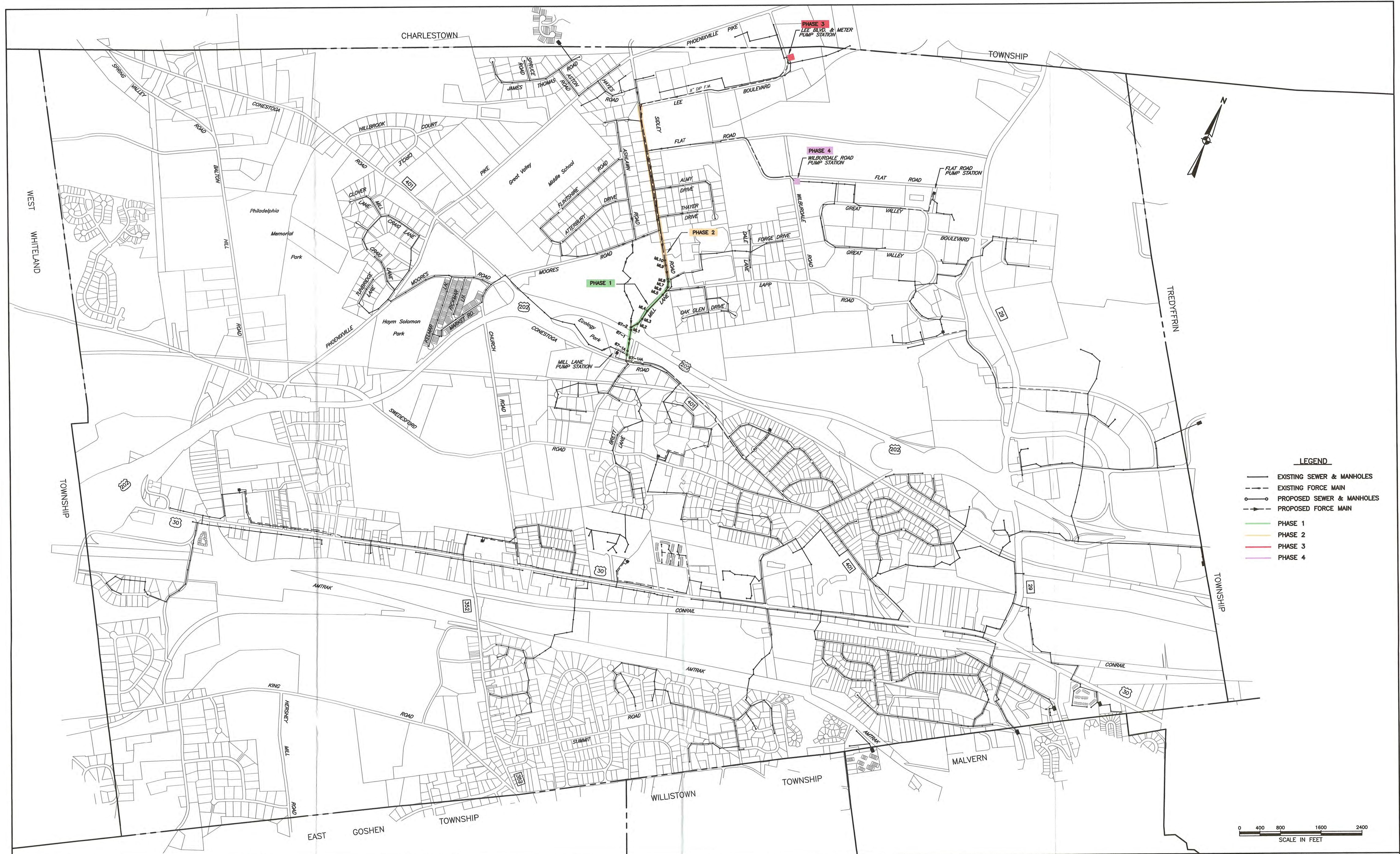
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Act 537 Special Study

APPENDIX F

Collection/Conveyance System; Upgrades (Phasing Plan)

[illegible]

East Whiteland Township
Planned Phase I and Phase II Improvements

Phase	Location	Location Description	Description	Length (ft.)	Pipe Size (in.)	Comments
I	Mill Lane	MHs ML-8 to 67-1AA	Install New Sanitary Sewer Main to convey flows to the Mill Lane Pump Station.	1761	18	This will facilitate diverting a large portion of wastewater from the Sidley Road area to around the existing sanitary sewer in the Aegon property.
II	Sidley Road	MHs SL-10 to SL7 (15 inch) MHs SL-7 to ML-8 (18 inch)	Install new sanitary sewer main that will receive the majority of the proposed flow from the planning area and Charlestown Township	912 2559	15 18	This will provide additional capacity for the planned future flows and will remove flow from the existing Sidley Road sewer main that is currently hydraulically overloaded in some locations.

APPENDIX G

Flow Projection Summary Table (Charlestown Township)

Flow Needs

Charlestown Township (southside)

(Source: Sept. 11, 2008 Letter to Valley Forge Sewer Authority; Refined Per Information from Township March 2013 and PA DEP Comments Aug. 2013)

Existing/Projected	Zone	Description	Flows go to.....	Current	0 to 5 Years	5 to 10 Years	10 to 15 Years	15 to 20 Years	20 to 25 Years	Flow (gpd)
Existing	-----	Charlestown Oaks	Sidley Road	38,354.0						38,354.0
Existing	-----	Charlestown Twp.	Lee Blvd.	78,544.0						78,544.0
Projected	I/O	Volpi	Sidley Road			23,500.0				23,500.0
Projected		Cellucci	Lee Blvd.			4,450.0				4,450.0
Projected		Laurabrooke	Lee Blvd.			4,740.0				4,740.0
Projected		"Late Spring"	Lee Blvd.			2,130.0				2,130.0
Projected		Adjacent to Laurabrooke	Lee Blvd.			10,560.0				10,560.0
Projected		Holy Ascension Church	Lee Blvd.		1,815.0					1,815.0
Projected		Remainder	Lee Blvd.				12,550.0			12,550.0
Projected		Remainder	Lee Blvd.					12,550.0		12,550.0
Projected		Remainder	Lee Blvd.						12,550.0	12,550.0
Projected	B-1/FR/LI-B/RC	Devault Foods	Lee Blvd.		37,000.0					37,000.0
Projected		Spring Oak Business Park	Lee Blvd.		50,875.0					50,875.0
Projected		Tyler Griffin	Lee Blvd.		21,450.0					21,450.0
Projected		Charlestown School	Lee Blvd.		1,845.0					1,845.0
Projected		Fillippo Tract	Lee Blvd.			19,800.0				19,800.0
Projected		Across From Spring Oak Park	Lee Blvd.			2,475.0				2,475.0
Projected		Yellow Springs Road	Lee Blvd.			2,750.0				2,750.0
Projected		Rt. 29 and Charlestown Rd.	Lee Blvd.			13,750.0				13,750.0
Projected		Northside of School	Lee Blvd.			1,925.0				1,925.0
Projected		Farm Residence	Lee Blvd.			275.0				275.0
Projected		Remainder	Lee Blvd.				13,363.0			13,363.0
Projected		Remainder	Lee Blvd.					13,363.0		13,363.0
Projected		Remainder	Lee Blvd.						13,364.0	13,364.0
Projected	NC-1 and NC-2	Warner Lane	Lee Blvd.		4,650.0					4,650.0
		The Office Restaurant	Lee Blvd.		3,600.0					3,600.0
		Commons at Great Valley	Lee Blvd.			11,000.0				11,000.0
TOTALS				116,898.0	121,235.0	97,355.0	25,913.0	25,913.0	25,914.0	413,228.0
Cumulative Totals				116,898.0	238,133.0	335,488.0	361,401.0	387,314.0	413,228.0	
Lee Blvd Cumulative Totals				78,544.0	199,779.0	273,634.0	299,547.0	325,460.0	351,374.0	

APPENDIX H

PNDI Response

1. PROJECT INFORMATION

Project Name: **Mill Lane Sewer Replacement**

Date of review: **4/18/2012 4:38:47 PM**

Project Category: **Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Sewer line maintenance-repair, replacement of existing line**

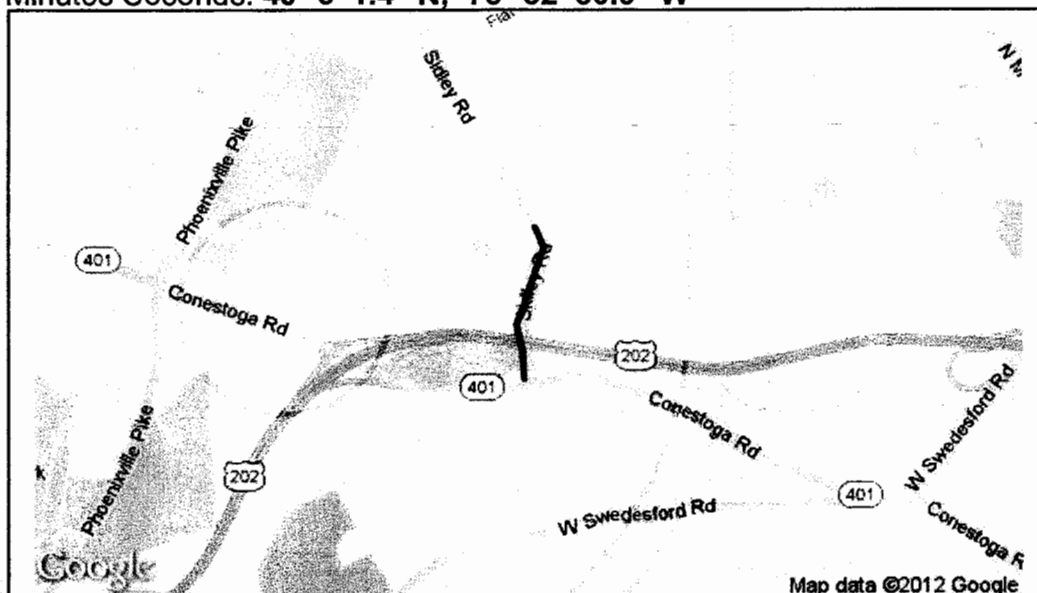
Project Length: **1945.2 feet**

County: **Chester Township/Municipality: East Whiteland**

Quadrangle Name: **MALVERN ~ ZIP Code: 19355**

Decimal Degrees: **40.050383 N, -75.547485 W**

Degrees Minutes Seconds: **40° 3' 1.4" N, -75° 32' 50.9" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	Avoidance Measure	See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: Will this project or any project-related activities require any in-stream work, or a permanent or temporary crossing of a waterway (stream, river, creek, tributary)?

Your answer is: **1. Yes**

Q2: Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: **3. Someone qualified to identify and delineate wetlands has investigated the site, and determined that NO wetlands are located in or within 300 feet of the project area. (A written report from the wetland specialist, and detailed project maps should document this.)**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern

species and resources.

U.S. Fish and Wildlife Service

RESPONSE: Avoidance Measure: Avoid in-stream impacts by spanning the waterway or going under it (e.g., via horizontal boring or directional drilling). If in-stream impacts cannot be avoided, carry out instream work – including installation of permanent structures (e.g., pipelines, livestock crossings, riprap), or installation, use, and removal of temporary structures (e.g., temporary road crossings) – between October 1 and March 31.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:

_____(Signature)

SPECIAL NOTE: If you agree to implement the above Avoidance Measure, no further coordination with this agency regarding threatened and endangered species and/or special concern species and resources is required. If you are not able to comply with the Avoidance Measures, you are required to coordinate with this agency - please send project information to this agency for review (see "What to Send" section).

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of Minimum Materials to be submitted:

- ____ **SIGNED** copy of this Project Environmental Review Receipt
- ____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
- ____ Project location information (name of USGS Quadrangle, Township/Municipality, and County)
- ____ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

- ____ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
- ____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
- ____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the

PNDI Project Environmental Review Receipt

Project Search ID: 20120418350428

appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA.
16801-4851
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: KEVIN McAGHON
Company/Business Name: ARNO CONSULTING, INC.
Address: 649 NORTH LEWIS ROAD, SUITE 100
City, State, Zip: LIMEAICK, PA. 19468
Phone: (610) 495-2115 Fax: (610) 495-5855
Email: KEVIN.MCAGHON@THEARNOGROUP.COM

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Kevin McAgon
applicant/project proponent signature

8-10-12
date



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

June 6, 2012

Kevin McAghon
ARRO
649 North Lewis Road
Suite 100
Limerick, PA 19468

RECEIVED
JUN 11 2012

ARRO
10310.02

RE: USFWS Project #2012-0746
PNDI Review #20120418350428

Dear Mr. McAghon:

This responds to your letter of April 20, 2012, which provided the Fish and Wildlife Service with information regarding the proposed Mill Lane sewer replacement project located in East Whiteland Township, Chester County, Pennsylvania. The proposed project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

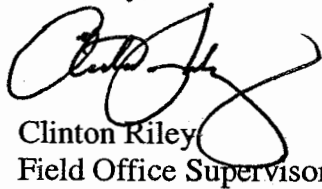
To evaluate the potential effects of this project on the bog turtle, a wetland investigation was conducted by your office on February 1, 2012. According to the information submitted, wetlands do not exist in the project area. Therefore, we conclude that implementation of the proposed project will not affect the bog turtle. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. Also, if the wetland investigation did not include all areas that will be directly or indirectly affected by the proposed project and project-associated features, the scope of the wetland investigation should be expanded to include these areas. If any wetlands are located, submit the results of the expanded wetland investigation to this office for review.

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Bonnie Dershem of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Clinton Riley", with a large, stylized flourish extending from the end of the signature.

Clinton Riley
Field Office Supervisor

1. PROJECT INFORMATION

Project Name: **Sidley Road Sewer Replacement**

Date of review: **8/10/2012 8:32:55 AM**

Project Category: **Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Sewer line (new - construction in new location)**

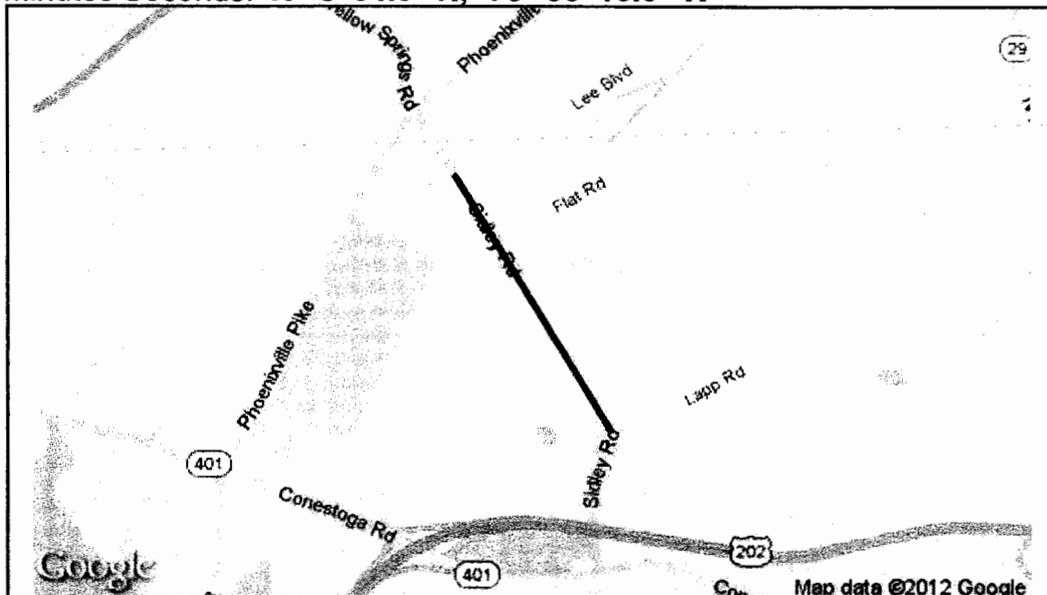
Project Length: **3592.9 feet**

County: **Chester Township/Municipality: East Whiteland**

Quadrangle Name: **MALVERN ~ ZIP Code: 19355**

Decimal Degrees: **40.059614 N, -75.555167 W**

Degrees Minutes Seconds: **40° 3' 34.6" N, -75° 33' 18.6" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	Conservation Measure	No Further Review Required, See Agency Comments
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	Avoidance Measure	See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: "Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur."

Your answer is: **"1. The entire project and associated discharge, plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, or crop agriculture field."**

Q2: "Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"

Your answer is: **1. Yes**

Q3: Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. "Project" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur.

Your answer is: **1. The entire project will occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, or railroad bed.**

Q4: Will this project or any project-related activities require any in-stream work, or a permanent or temporary crossing of a waterway (stream, river, creek, tributary)?

Your answer is: **2. No**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species

listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: Conservation Measure: Please avoid the introduction of invasive species in order to protect the integrity of nearby plant species of special concern. Voluntary cleaning of equipment/vehicles, using clean fill and mulch, and avoiding planting invasive species (<http://www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm>) will help to conserve sensitive plant habitats.

Conservation Measure: Please avoid the introduction of invasive species in order to protect the integrity of nearby plant species of special concern. Voluntary cleaning of equipment/vehicles, using clean fill and mulch, and avoiding planting invasive species (<http://www.dcnr.state.pa.us/forestry/invasivetutorial/index.htm>) will help to conserve sensitive plant habitats.

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name: *Dichanthelium lucidum*

Common Name: Shining Panic-grass

Current Status: Special Concern Species*

Proposed Status: Endangered

Scientific Name: *Viburnum nudum*

Common Name: Possum-haw

Current Status: Endangered

Proposed Status: Endangered

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: Avoidance Measure: Do not conduct this project/activity within 50 feet of any streams, rivers, creeks, or tributaries. This includes both perennial and intermittent waterways.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:

_____(Signature)

SPECIAL NOTE: If you agree to implement the above Avoidance Measure, no further coordination with this agency regarding threatened and endangered species and/or special concern species and resources is required. If you are not able to comply with the Avoidance Measures, you are required to coordinate with this agency - please send project information to this agency for review (see "What to Send" section).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of *Minimum* Materials to be submitted:

- ☐ **SIGNED** copy of this Project Environmental Review Receipt
- ☐ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
- ☐ Project location information (name of USGS Quadrangle, Township/Municipality, and County)
- ☐ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

- ☐ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
- ☐ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
- ☐ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA.
16801-4851
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: KEVIN McAGHER
Company/Business Name: ARNO CONSTRUCTION, INC.
Address: 699 NORTH LEWIS ROAD, SUITE 100
City, State, Zip: LIMBURG, PA. 19468
Phone: (610) 495-2115 Fax: (610) 495-5855
Email: KEVIN.McAGHER@ARNOCONSTRUCTION.COM

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Kevin McAgher
applicant/project proponent signature

8/10/12
date



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

September 14, 2012

Kevin McAghon
ARRO
649 North Lewis Road
Suite 100
Limerick, PA 19468

SEP 17 2012

ARRO

10310-02

UFE UPDATED EM
LETTER
DATED
9.18.12

RE: USFWS Project #2012-1219

Dear Mr. McAghon:

This responds to your letter of August 16, 2012, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Sidley Road Sewer Replacement project located in East Whiteland Township, Chester County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Given the proximity of the project to known bog turtle occurrences in the watershed, wetlands and streams are likely to be used as a dispersal/travel corridor. Accordingly, we recommend that project construction take place between October 1 and March 31, when bog turtles are closer to their hibernation areas, to avoid harming any turtles moving through the area. If this time-of-year restriction cannot be implemented, we further recommend you conduct a bog turtle survey in accordance with the following conditions, which only apply if project construction is proposed to occur between April 1 and September 30, during which time bog turtles are active:

1. Prior to performing any construction work in wetlands, streams, or uplands within 300 feet of the potential bog turtle habitat, all areas of expected disturbance must be surveyed by a qualified surveyor for the presence of bog turtles immediately prior to construction commencement.
2. Prior to the survey, herbaceous vegetation should be cut to a height of 4 to 6 inches using a hand-held trimmer/weed-cutter, and then carefully raked away from the area to be searched. A qualified bog turtle surveyor should be present when this vegetation clearing occurs.
3. Immediately following the survey, silt-fencing should be placed between the wetland and the proposed construction zone while the bog turtle surveyor is present to ensure

that the fencing is properly installed in the correct location. The silt-fencing should be removed immediately following construction.

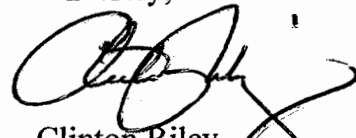
4. If any bog turtles are located during these searches, the Service and Pennsylvania Fish and Boat Commission should be contacted immediately, and construction should not proceed until further consultation occurs. Survey results should be submitted to the Service and PFBC.

With the implementation of either the time-of-year restriction or pre-construction survey, this project is not likely to adversely affect the bog turtle, or any other federally listed or proposed species. If you are unable to implement the time-of-year restriction or pre-construction survey, or project plans change, further consultation with the Service will be required, pursuant to the Endangered Species Act.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Pamela Shellenberger of my staff at 814-234-4090.

Sincerely,



Clinton Riley
Field Office Supervisor

McAghon, Kevin

From: Pamela_Shellenberger@fws.gov
Sent: Tuesday, September 18, 2012 11:47 AM
To: McAghon, Kevin
Subject: Fw: Sidley Road Sewer Replacement; USFWS #2012-1185

Kevin,

Correction, the USFWS # is 2012-1219.

Thanks,

Pamela Shellenberger
U.S. Fish and Wildlife Service
315 South Allen Street
State College, PA 16803
814-234-4090 x241
814-234-0748 (f)
<http://fws.gov/northeast/pafo/index.html>

----- Forwarded by Pamela Shellenberger/R5/FWS/DOI on 09/18/2012 11:46 AM -----

**Pamela
Shellenberger/R5/FWS/DOI**

09/18/2012 08:53 AM

To: KEVIN.MCAGHON@THEARROGROUP.CC

Subject: Sidley Road Sewer Replacement; USFWS #2012-1185

Kevin,

This email is regarding the above-mentioned project and our phone conversation of September 18, 2012. After further discussions with you and further review of the project information, which determined that the project is located within the roadway and no streams will be impacted, we have determined that the effects of the project on the bog turtle are insignificant or discountable. This email supersedes our letter of September 14, 2012. Please accept this email as our official response.

Thank you,

Pamela Shellenberger
U.S. Fish and Wildlife Service
315 South Allen Street
State College, PA 16803
814-234-4090 x241
814-234-0748 (f)
<http://fws.gov/northeast/pafo/index.html>

9/27/2012

September 18, 2012

CERTIFIED MAIL #7008 0150 0000 7716 9421
RETURN RECEIPT REQUESTED

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

Pennsylvania Department of Conservation and Natural Resources
Bureau of Forestry
Ecological Services Section
400 Market Street
P.O. Box 8552
Harrisburg, PA 17105-8552

RE: East Whiteland Township (Chester County);
Act 537 Planning – Special Study; Lee Blvd. Force Main;
PA DCNR Review
ARRO # 10310.02

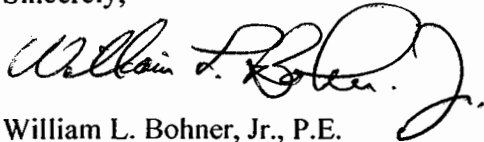
Dear PA Department of Conservation and Natural Resources:

On behalf of East Whiteland Township, we are assisting with the preparation of an Act 537 Sewage Facilities Special Study to update the Township's Act 537 Plan. This Special Study is to reflect the improvements necessary to meet the future wastewater needs of the north-central portion of East Whiteland Township and the bordering southern portion of Charlestown Township. One phase of the improvements may require the replacement of the sanitary sewer force main from the Lee Boulevard Pump Station, extending along Lee Boulevard to a point of connection at the intersection with Sidelly Road.

Enclosed, for your review, is the Cultural Resource Notification form and the Malvern 7.5 Minute Quadrangle identifying the location of the proposed project. Photos are also enclosed identifying the specific location associated with the proposed forcemain replacement. The total area to be disturbed for the purposes of installing the proposed force main replacement is approximately 0.3 acres. No structures are planned to be disturbed as a result of implementing the planned alternatives. The proposed force main is primarily in the street with a small portion traversing an open field area just south of the pump station.

Please review this documentation and provide us with any comments or concerns that you may have at your earliest convenience. If you have any questions, please do not hesitate to call me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.
Project Engineer

WLB:car

Attachments

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$ 1.30
Certified Fee	2.75
Return Receipt Fee (Endorsement Required)	2.50
Restricted Delivery Fee (Endorsement Required)	
Total	6.60

9-18-12

Postmark
Here

WJ

7008 0150 0000 7716 9421

Sent
 Street or PO
 City, S
 Pennsylvania DCNR
 Bureau of Forestry
 Ecological Services Section
 400 Market Street, P.O. Box 8552
 Harrisburg, PA 17105-8552

PS Form 3811, February 2004 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Pennsylvania DCNR
 Bureau of Forestry
 Ecological Services Section
 400 Market Street, P.O. Box 8552
 Harrisburg, PA 17105-8552

2. Article Number
 (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X *[Signature]* ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

SEP 21 2012

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

7008 0150 0000 7716 9421

1. PROJECT INFORMATION

Project Name: **Lee Blvd PS Force Main to Sidely Road (Replacement)**

Date of review: **9/13/2012 11:04:01 AM**

Project Category: **Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Sewage module/Act 537 plan**

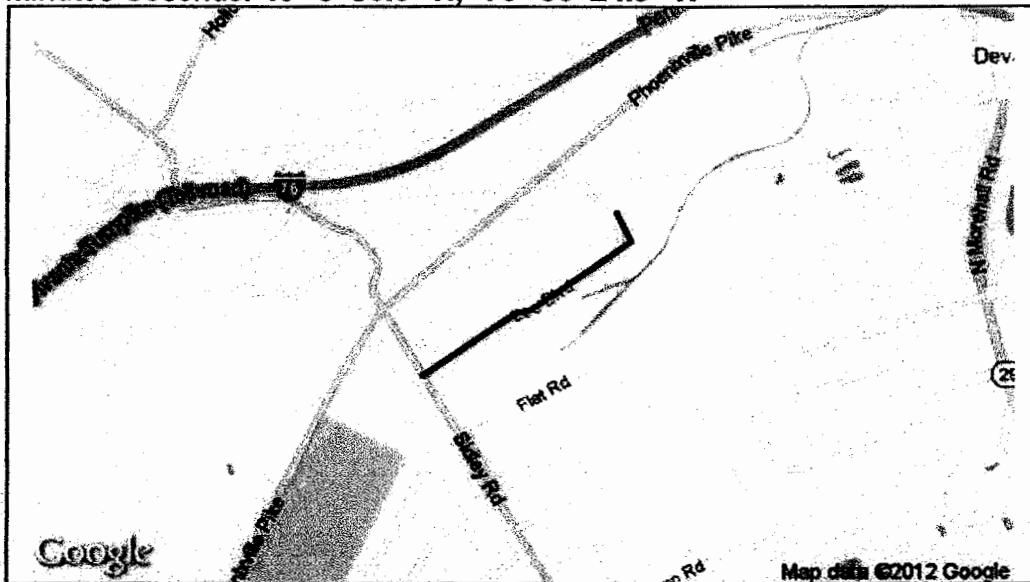
Project Length: **3462.5 feet**

County: **Chester Township/Municipality: East Whiteland**

Quadrangle Name: **MALVERN ~ ZIP Code: 19355**

Decimal Degrees: **40.064935 N, -75.556926 W**

Degrees Minutes Seconds: **40° 3' 53.8" N, -75° 33' 24.9" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name: *Dichanthelium lucidum*

Common Name: Shining Panic-grass

Current Status: Special Concern Species*

Proposed Status: Endangered

Scientific Name: *Viburnum nudum*

Common Name: Possum-haw

Current Status: Endangered

Proposed Status: Endangered

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.* is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of Minimum Materials to be submitted:

____ SIGNED copy of this Project Environmental Review Receipt

____ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

____ Project location information (name of USGS Quadrangle, Township/Municipality, and County)

____ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

____ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

____ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the

appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA.
16801-4851
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

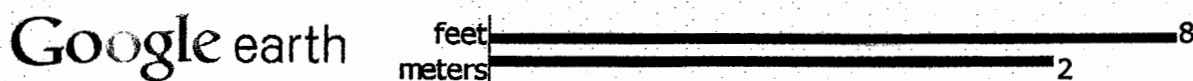
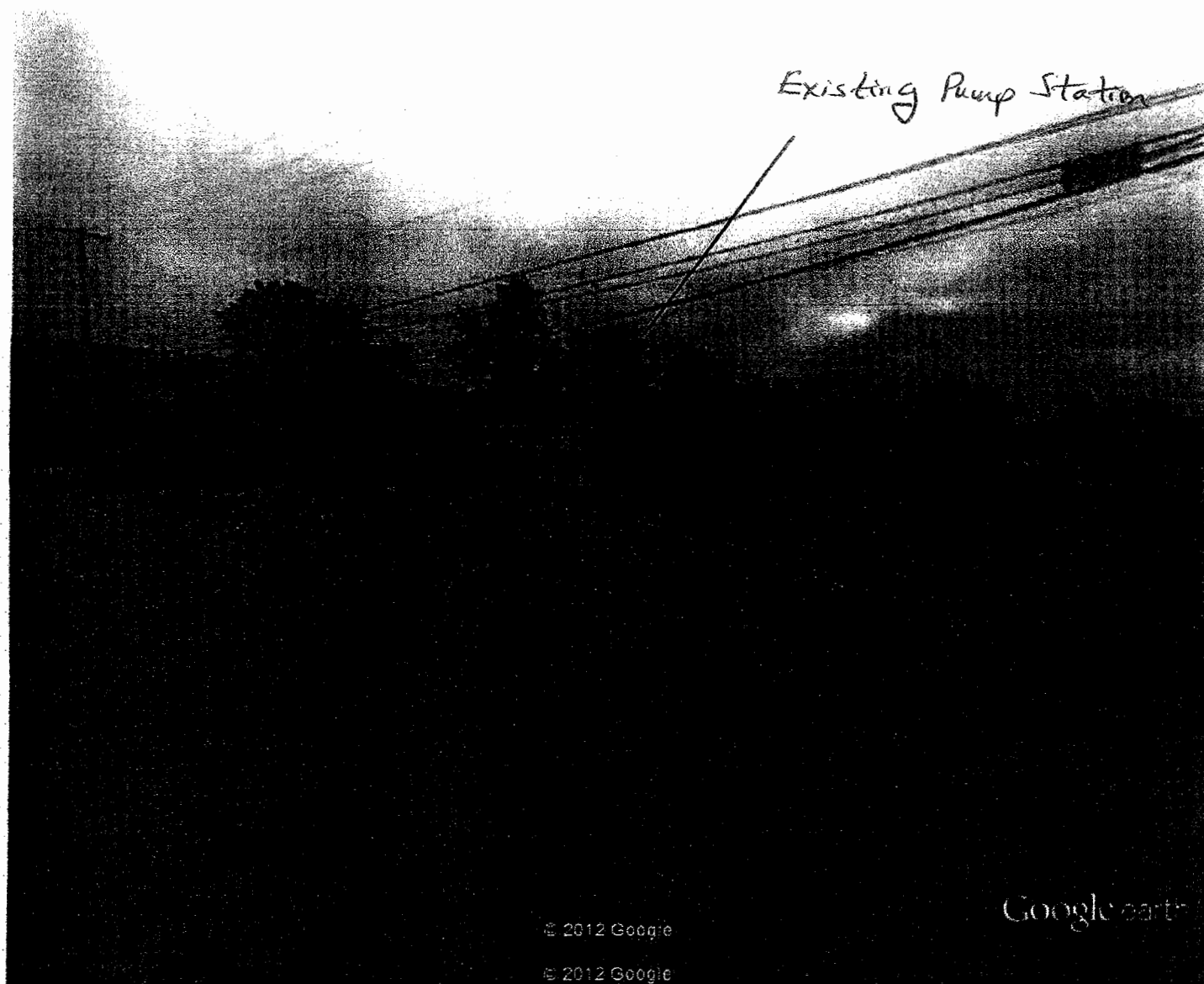
7. PROJECT CONTACT INFORMATION

Name: William L. Bohner, Jr.
Company/Business Name: ARZO Consulting, Inc.
Address: 649 N. Lewis Road, Suite 100
City, State, Zip: Limerick PA 19468
Phone: (610) 495-2102 Fax: (610) 495-5855
Email: bill.bohner@thearrogroupp.com

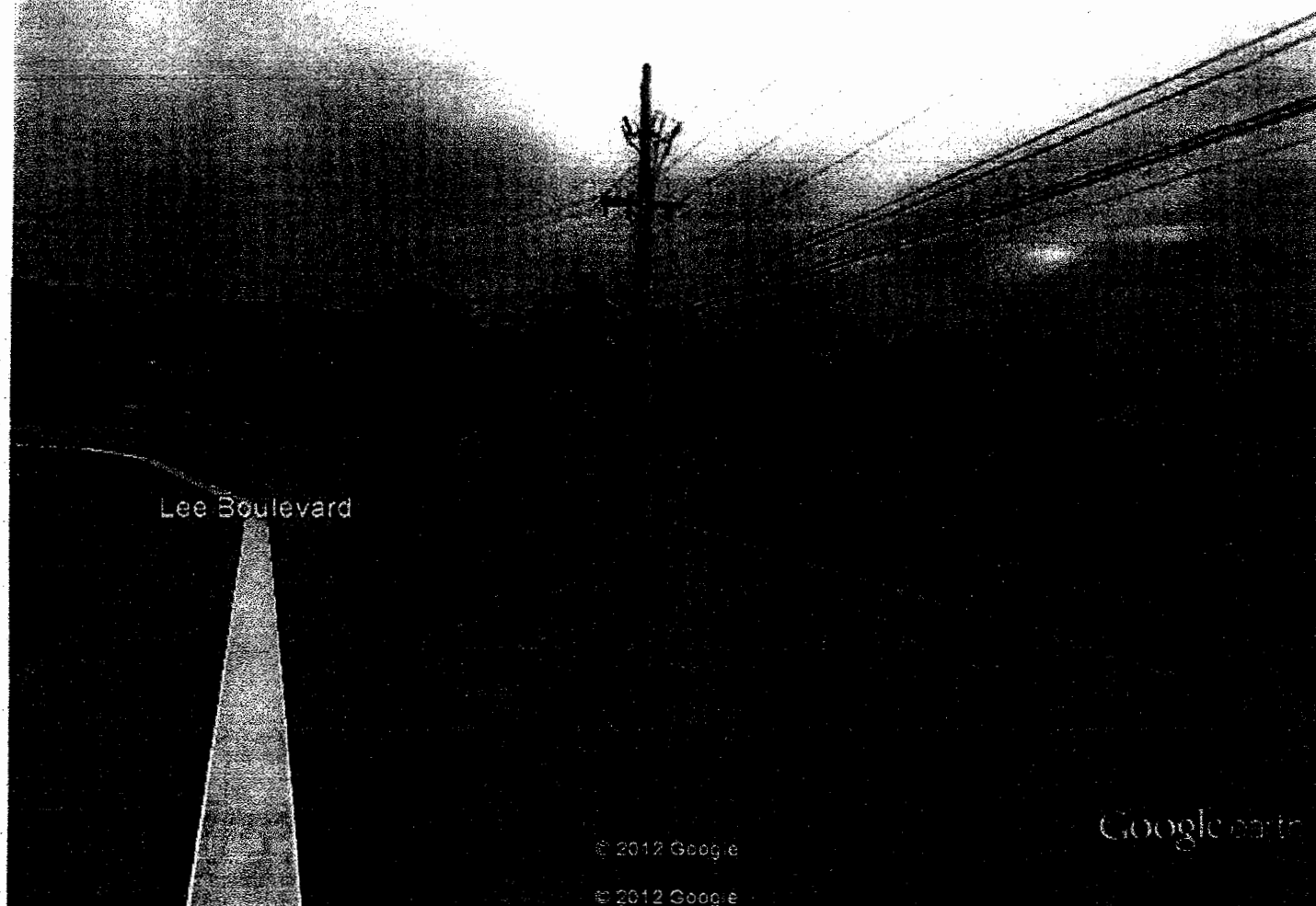
8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

William L. Bohner, Jr. 9/13/12
applicant/project proponent signature date

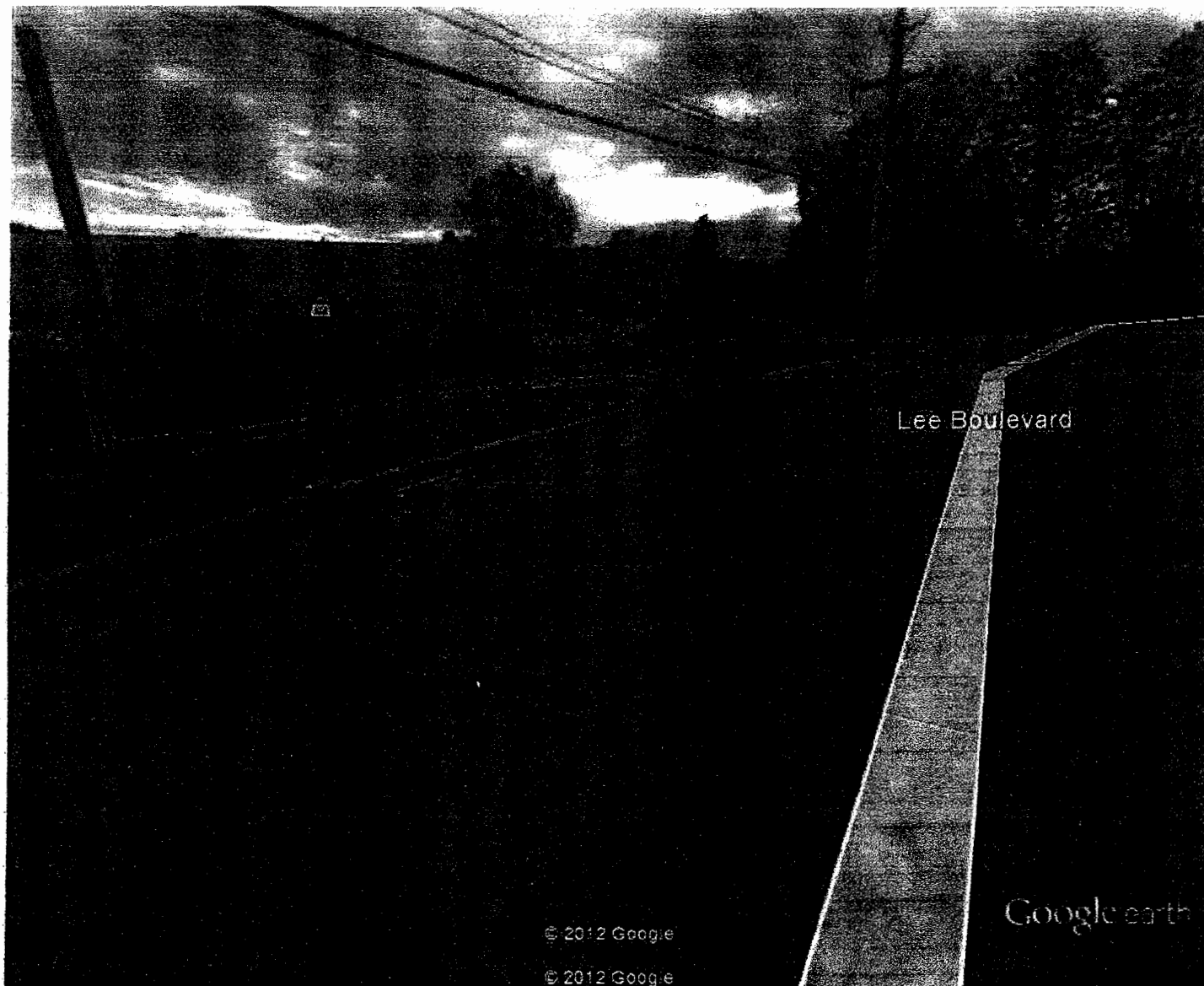


Red line and arrow show the approximate location of the force main. It continues on page 2 and page 3. On page 3, the force main proceeds into the street (Lee Blvd.) and continues in Lee Blvd. to the intersection with Sidley Rd. This would be the limit of the proposed work. See page 4 for an aerial view.



Google earth





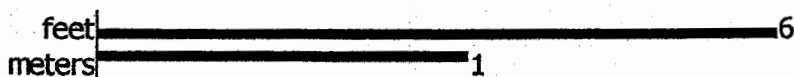
Lee Boulevard

Google earth

© 2012 Google

© 2012 Google

Google earth





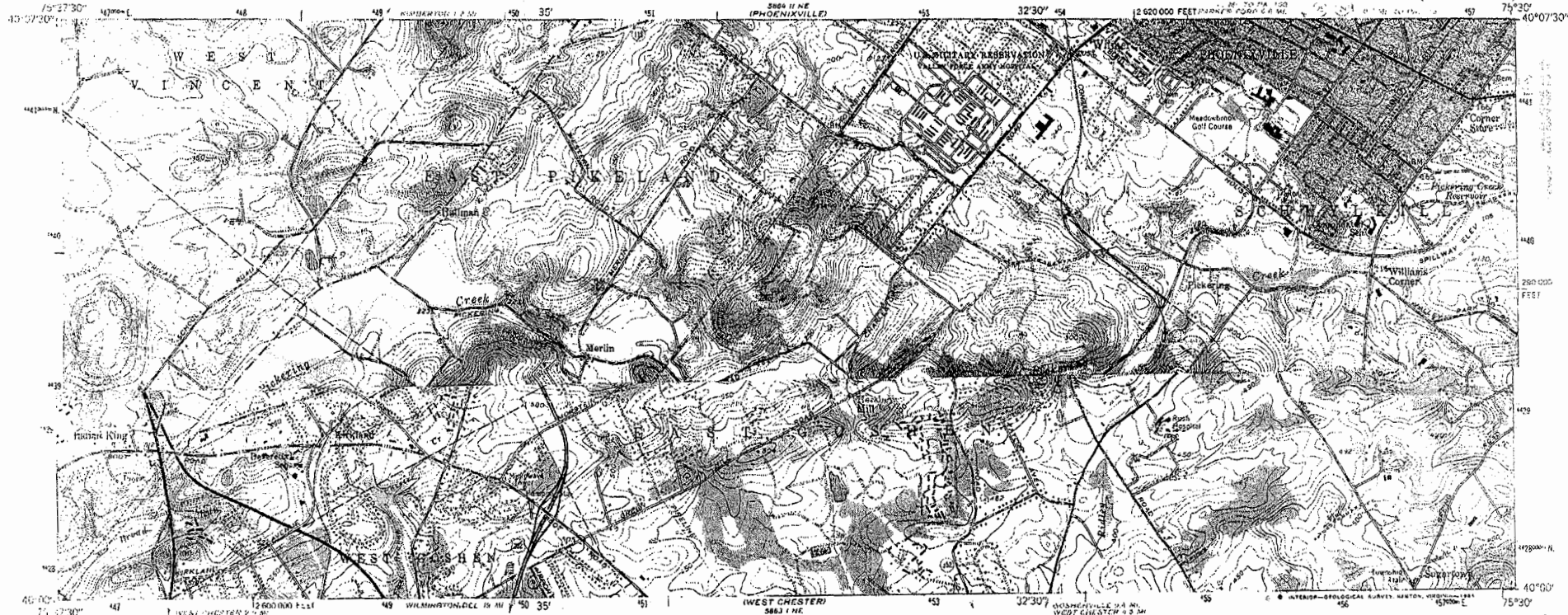
Google earth



Existing
Pump Station

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MALVERN QUADRANGLE
PENNSYLVANIA-CHESTER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

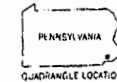
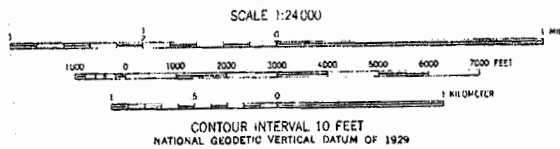
Topography by photogrammetric methods from aerial photographs taken 1951. Field checked 1955

Polyconic projection. 10,000-foot grid ticks based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 18, shown in blue
1927 North American Datum
to place on the predicted North American Datum 1983
move the projection lines 6 meters south and
30 meters west as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown
There may be private inholdings within the boundaries of the National or State reservations shown on this map

UTM GRID AND 1983 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

Revisions shown in purple and woodland compiled from aerial photographs taken 1981 and other sources. This information not field checked. Map edited 1983
Purple tint indicates extensions of urban areas



ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
Interstate Route	U.S. Route
	State Route

MALVERN, PA.
40075-A5-TF-024
1955
PHOTOREVISED 1983
DMA 5864 II SE-SERIES V431

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



pennsylvania

DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

September 27, 2012

PNDI Number: 20120913372241

William L. Bohner, Jr.
ARRO Consulting, Inc.
649 N. Lewis Road, Suite 100
Limerick, PA 19468
Email: bill.bohner@thearrogroup.com (Hard copy not to follow)

Re: Lee Blvd PS Force Main to Sidely Road (Replacement)
East Whiteland Township, Chester County, PA

Dear Mr. Bohner,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **20120913372241** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

Conservation Measure—Voluntary Action

The following plant species of concern is known to occur in the area but is not expected to be present within the project disturbance area and therefore, it is not a target for a survey; However, habitat exists in the area: A conservation measure is suggested to be mindful of the potential presence of the following species that may utilize open dry or moist fields:

- *Andropogon gyrans* (Elliott's beardgrass)—habitat is dry or moist fields, or open woods-

This response represents the most up-to-date review of the PNDI data files and is valid for **two years** only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at www.naturalheritage.state.pa.us for guidance. As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review. Should you have any questions or concerns, please don't hesitate to contact me at 717.705.2819 or c-frsechle@pa.gov.

conserve

sustain

enjoy

P.O. Box 8552, Harrisburg, PA 17015-8552 717-787-3444 (fax) 717-772-0271



pennsylvania

DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

Sincerely,

Frederick C. Sechler, Jr, Ecological Information Specialist
Pennsylvania Natural Heritage Program
Bureau of Forestry, Ecological Services Section

Rebecca H. Bowen, Section Chief
Pennsylvania Natural Heritage Program
Bureau of Forestry, Ecological Services Section

conserve

sustain

enjoy

P.O. Box 8552, Harrisburg, PA 17015-8552 717-787-3444 (fax) 717-772-0271

APPENDIX I

PHMC Response

May 2, 2012

CERTIFIED MAIL #7008 0150 0000 7716 9322
RETURN RECEIPT REQUESTED

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
400 North Street
Second Floor
Harrisburg, PA 17120-0093

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

RE: East Whiteland Township;
Phase 1 Mill Lane and Phase 2 Sidley Road Sewer Main Replacements
PHMC Review
ARRO # 10310.02

Dear Historical and Museum Commission:

On behalf of East Whiteland Township, we are preparing a design to replace the existing sanitary sewers in and along Mill Lane and Sidley Road.

Enclosed, for your review, is the Cultural Resource Notification form and a portion of the USGS Malvern, PA 7.5 Minute Quadrangle identifying the location of the project. The enclosed Plot Plan sheet C1 shows the extent of the phases. The enclosed sheets PP1 and PP2 show the extent of the Phase 1 improvements, which are located outside the existing roadways. All other portions of Phase 1 and Phase 2 are located within existing cartways. The projected Phase 1 and Phase 2 total area to be disturbed for the purposes of replacing the sewer lines is approximately 1.4 acres.

Please review this documentation and provide us with any comments or concerns that you may have at your earliest convenience. If you have any questions or comments regarding this matter please contact me at 610-495-2115.

Sincerely,



Kevin McAgdon, P.E.
Project Engineer

KMcA: car

Enclosures

c: William H. Steele, w/enclosures



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

RECEIVED
JUN 18 2012

June 4, 2012

ARRO
10310-02

Kevin McAghon, P.E.
ARRO Engineering & Environmental Consultants
649 North Lewis Road, Suite 100
Limerick, PA 19468

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: File No. ER 2012-1657-029-A
DEP Act 537 Sewage Facilities Planning:
Mill Lane & Sidley Road Sewer
Replacement Projects, East Whiteland
Twp., Chester Co.

Dear Mr. McAghon:

Thank you for submitting information concerning the above referenced project. The Bureau for Historic Preservation (the State Historic Preservation Office) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Archaeology

There is a high probability that archaeological resources are located in this project area. In our opinion, the activity described in your proposal should have no effect on such resources. Should the scope of the project be amended to include additional ground disturbing activity this office should be contacted immediately and a Phase I Archaeological Survey may be necessary to locate all potentially significant archaeological resources.

Historic Structures

In our opinion no historic buildings, structures, districts, or objects will be affected by this project.

Page 2
June 4, 2012
Kevin McAghon, P.E.

If you need further information in this matter please consult Mark Shaffer at (717) 783-9900.

Sincerely,



Douglas C. McLearen, Chief
Division of Archaeology &
Protection

cc: DEP, Southeast Regional Office

DCM/tmw



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

RECEIVED
JUN 18 2012

June 4, 2012

ARRO

Kevin McAghon, P.E.
ARRO Engineering & Environmental Consultants
649 North Lewis Road, Suite 100
Limerick, PA 19468

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: File No. ER 2012-1657-029-A
DEP Act 537 Sewage Facilities Planning:
Mill Lane & Sidley Road Sewer
Replacement Projects, East Whiteland
Twp., Chester Co.

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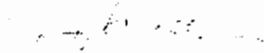
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Page 2
June 4, 2012
Kevin McAghon, P.E.

If you need further information in this matter please consult Mark Shaffer at (717) 783-9900.

Sincerely,


Douglas C. McLearn, Chief
Division of Archaeology &
Protection

cc: DEP, Southeast Regional Office

DCM/tmw

September 18, 2012

CERTIFIED MAIL#7008 0150 0000 7716 8929
RETURN RECEIPT REQUESTED

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
400 North Street
Second Floor
Harrisburg, PA 17120-0093

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

RE: East Whiteland Township (Chester County);
Act 537 Planning – Special Study; Lee Blvd. Force Main;
PHMC Review
ARRO # 10310.02

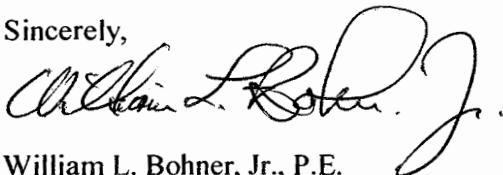
Dear Historical and Museum Commission:

On behalf of East Whiteland Township, we are assisting with the preparation of an Act 537 Sewage Facilities Special Study to update the Township's Act 537 Plan. This Special Study is to reflect the improvements necessary to meet the future wastewater needs of the north-central portion of East Whiteland Township and the bordering southern portion of Charlestown Township. One phase of the improvements may require the replacement of the sanitary sewer force main from the Lee Boulevard Pump Station, extending along Lee Boulevard to a point of connection at the intersection with Sidely Road.

Enclosed, for your review, is the Cultural Resource Notification form and the Malvern 7.5 Minute Quadrangle identifying the location of the proposed project. Photos are also enclosed identifying the specific location associated with the proposed forcemain replacement. The total area to be disturbed for the purposes of installing the proposed force main replacement is approximately 0.3 acres. No structures are planned to be disturbed as a result of implementing the planned alternatives. The proposed force main is primarily in the street with a small portion traversing an open field area just south of the pump station.

Please review this documentation and provide us with any comments or concerns that you may have at your earliest convenience. If you have any questions, please do not hesitate to call me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.
Project Engineer

WLB:car

Attachments

7008 0150 0000 7716 8929

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only: No Insurance Coverage Provided)

For more information visit our website at www.usps.com

OFFICIAL USE

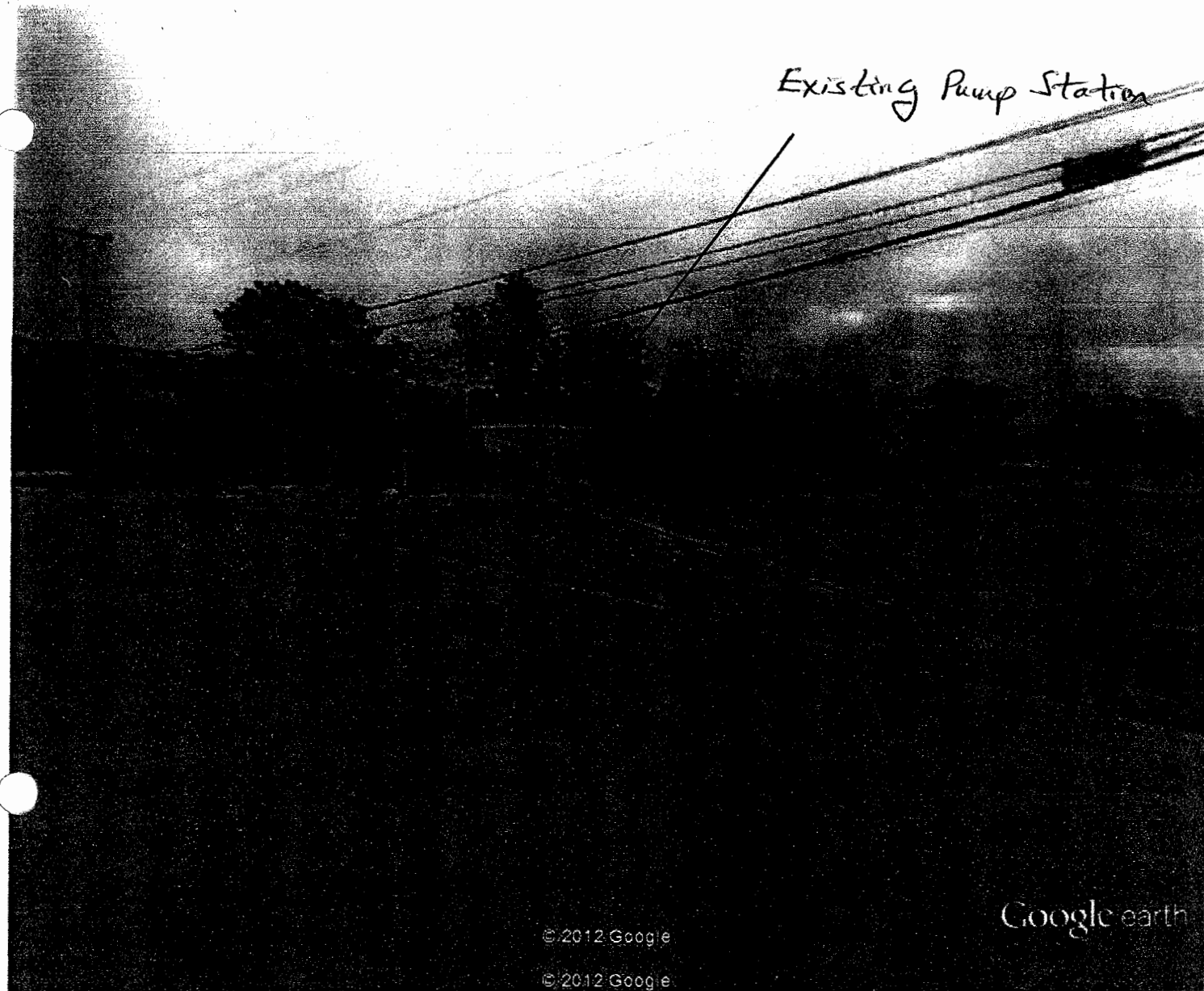
Postage	\$ 1.50
Certified Fee	2.00
Return Receipt Fee (Endorsement Required)	2.50
Restricted Delivery Fee (Endorsement Required)	
Total	6.50

W15
 Postmark Here
 9-18-12

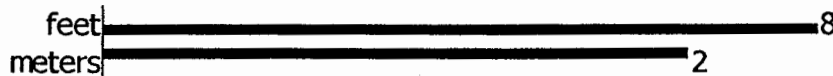
Sent To
 PA Historical and
 Museum Commission
 Bureau of Historic Preservation
 Street, or PO Box 400 North Street, 2nd Floor
 City, State Harrisburg, PA 17120-0093

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
- Complete items 1, 2, and 3. Also, complete item 4 if Restricted Delivery is desired. - Print your name and address on the reverse so that we can return the card to you. - Attach this card to the back of the mailpiece, or on the front if space permits.	A. Signature X <i>[Signature]</i> ☐ Agent ☐ Addressee B. Received by (Printed Name) _____ C. Date of Delivery <u>SEP 20 2012</u> D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No
1. Article Addressed to: PA Historical and Museum Commission Bureau of Historic Preservation 400 North Street, 2nd floor Harrisburg, PA 17102-0093	3. Service Type ☒ Certified Mail ☐ Express Mail ☐ Registered ☐ Return Receipt for Merchandise ☐ Insured Mail ☐ C.O.D.
2. Article Number (Transfer from service label)	4. Restricted Delivery? (Extra Fee) ☐ Yes

7008 0150 0000 7716 8929



Google earth



Red line and arrow show the approximate location of the force-main. It continues on page 2 and page 3. On page 3, the force main proceeds into the street (Lee Blvd.) and continues in Lee Blvd. to the intersection with Sidley Rd. This would be the limit of the proposed work. See page 4 for an aerial view.

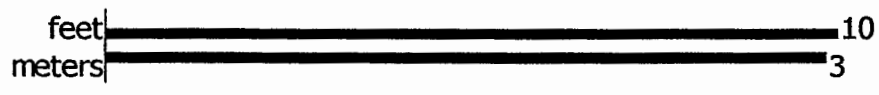


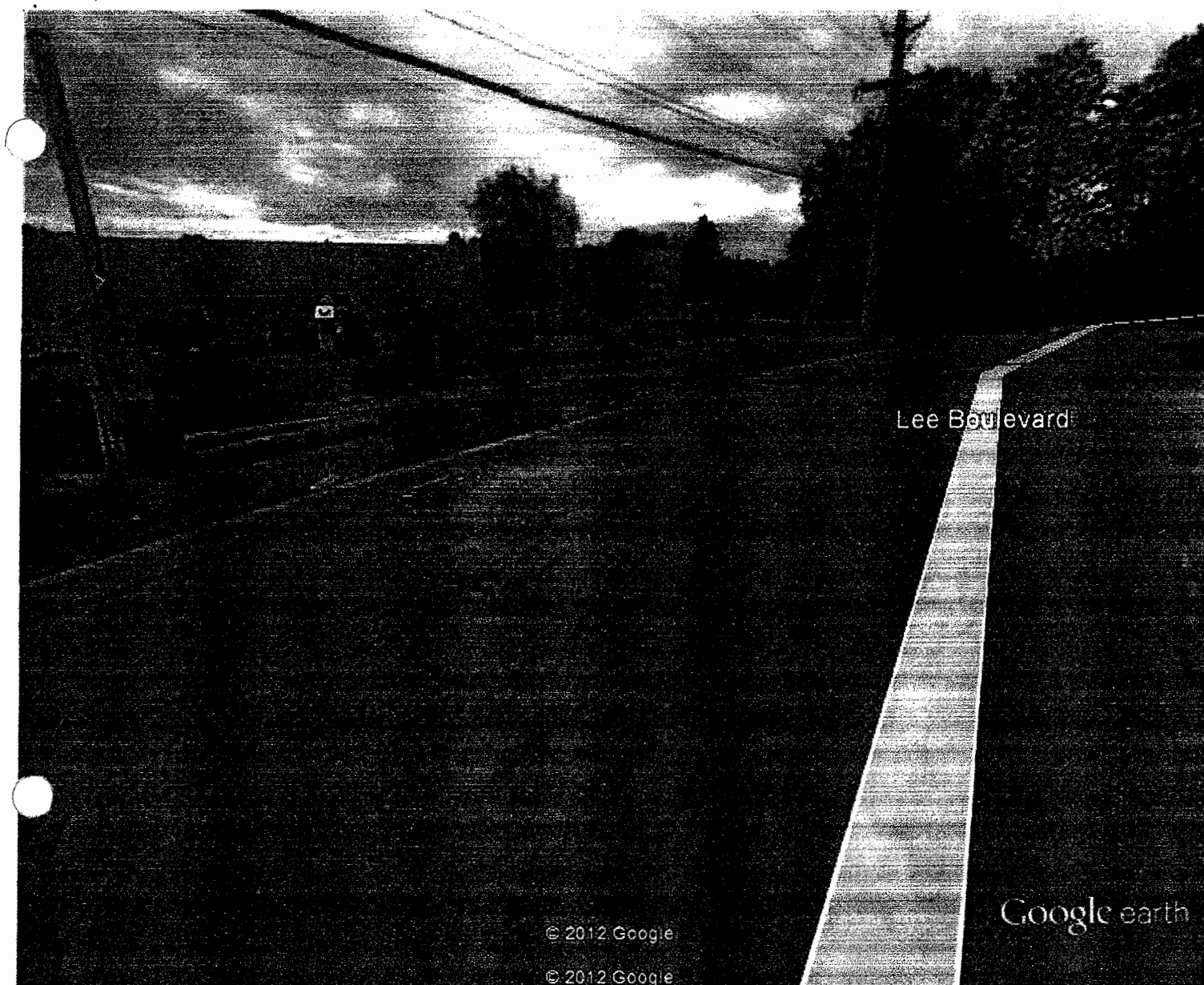
Lee Boulevard

© 2012 Google
© 2012 Google

Google earth

Google earth





Google earth





Google earth



Existing
Pump Station

CULTURAL RESOURCE NOTICE



Read the instructions before completing this form.

SECTION A. APPLICANT IDENTIFIER

Applicant Name East Whiteland TownshipStreet Address 209 Conestoga RoadCity Frazer State PA Zip 19355Telephone Number 610.648.0600Project Title Act 537 Special Study; East Whiteland Township

SECTION B. LOCATION OF PROJECT

Municipality East Whiteland Township County Name Chester DEP County Code 15

SECTION C. PERMITS OR APPROVALS

Name of Specific DEP Permit or Approval Requested: Act 537 Approval

Anticipated federal permits:

- ☐ Surface Mining
 ☐ 404 Water Quality Permit
☐ Army Corps of Engineers
 ☐ Federal Energy Regulatory Commission
☐ 401 Water Quality Certification
 ☒ Other: None

SECTION D. GOVERNMENT FUNDING SOURCES

- ☐ State: (Name) _____
 ☒ Local: (Name) Township Funding
☐ Federal: (Name) _____
 ☒ Other: (Name) Bond Funding

SECTION E. RESPONSIBLE DEP REGIONAL, CENTRAL, DISTRICT MINING or OIL & GAS MGMT OFFICE

DEP Regional Office Responsible for Review of Permit Application ☐ Central Office (Harrisburg)

- ☒ Southeast Regional Office (Norristown)
 ☐ Northeast Regional Office (Wilkes-Barre)
☐ Southcentral Regional Office (Harrisburg)
 ☐ Northcentral Regional Office (Williamsport)
☐ Southwest Regional Office (Pittsburgh)
 ☐ Northwest Regional Office (Meadville)
☐ District Mining Office: _____
 ☐ Oil & Gas Office: _____

SECTION F. RESPONSIBLE COUNTY CONSERVATION DISTRICT, if applicable.

County Conservation District Telephone Number, if known

Chester County Conservation District 610.925.4920

SECTION G. CONSULTANT

Consultant, if applicable ARRO Consulting, Inc. (c/o William L. Bohner, Jr. PE)Street Address 649 N. Lewis Road, Suite 100City Limerick State PA Zip 19468Telephone Number 610.495.2102

SECTION H. PROJECT BOUNDARIES AND DESCRIPTION**REQUIRED**

Indicate the total acres in the property under review. Of this acreage, indicate the total acres of earth disturbance for the proposed activity.

Attach a 7.5' U.S.G.S. Map indicating the defined boundary of the proposed activity.

Attach photographs of any building over 50 years old. Indicate what is to be done to all buildings in the project area.

Attach a narrative description of the proposed activity.

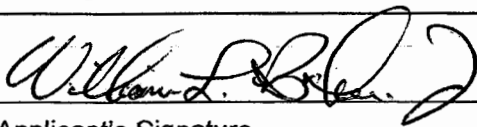
Attach the return receipt of delivery of this notice to the Pennsylvania Historical and Museum Commission.

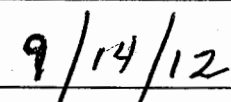
REQUESTED

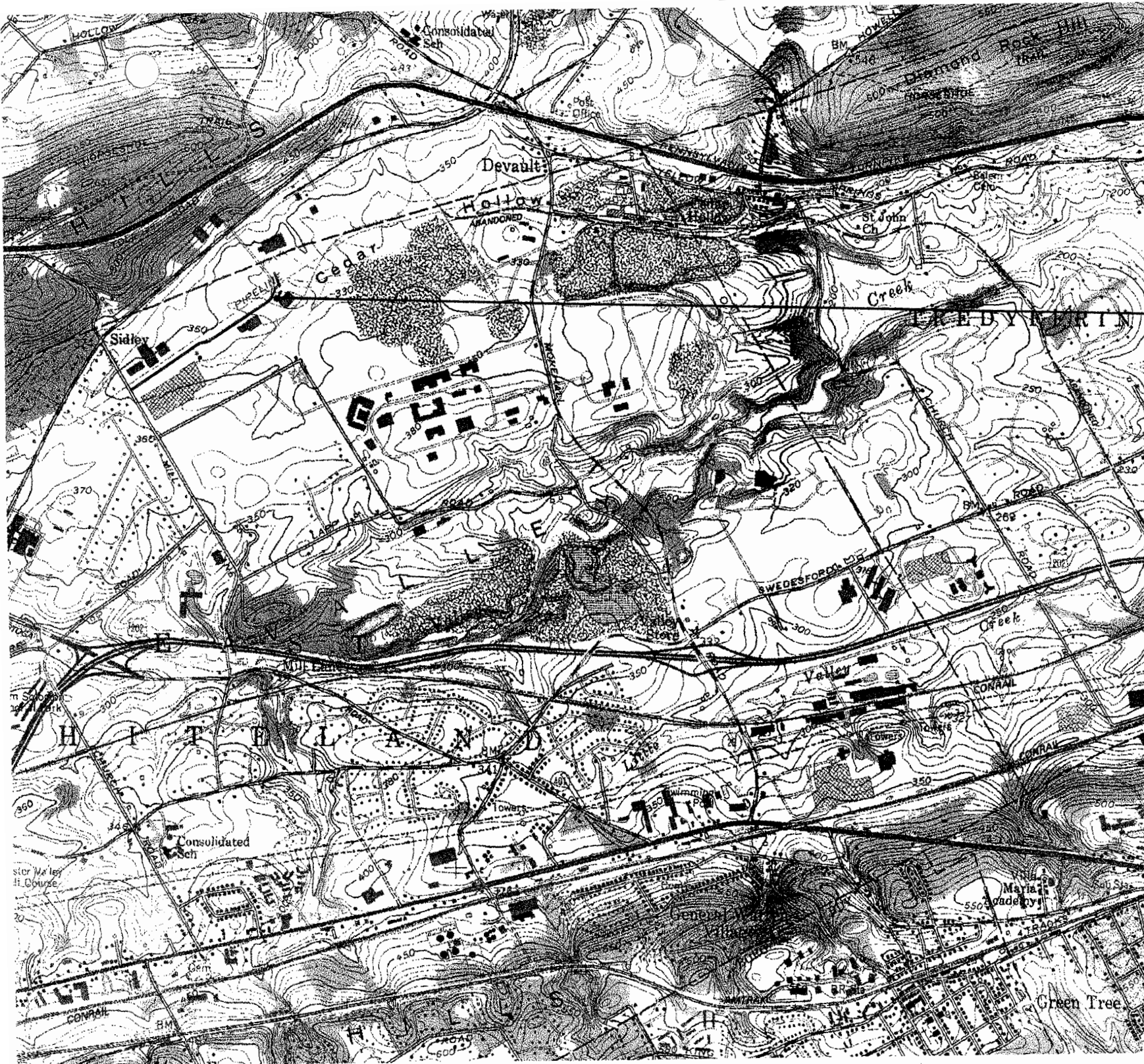
Attach photographs of any building over 40 years old.

Attach site map, if available.

SECTION I. SIGNATURE BLOCK


Applicant's Signature


Date of Submission of Notice to PHMC



Project Area

4435
(VALLEY FORGE)
5964 III SW

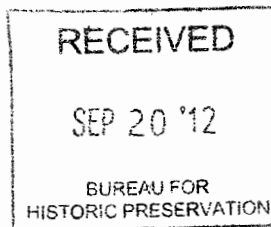
4434
MORRISTOWN 9 41

4433
VALLEY 21 41

2'30"

4432

September 18, 2012



CERTIFIED MAIL#7008 0150 0000 7716 8929
RETURN RECEIPT REQUESTED

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
400 North Street
Second Floor
Harrisburg, PA 17120-0093

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

RE: East Whiteland Township (Chester County);
Act 537 Planning – Special Study; Lee Blvd. Force Main;
PHMC Review
ARRO # 10310.02



Dear Historical and Museum Commission:

On behalf of East Whiteland Township, we are assisting with the preparation of an Act 537 Sewage Facilities Special Study to update the Township's Act 537 Plan. This Special Study is to reflect the improvements necessary to meet the future wastewater needs of the north-central portion of East Whiteland Township and the bordering southern portion of Charlestown Township. One phase of the improvements may require the replacement of the sanitary sewer force main from the Lee Boulevard Pump Station, extending along Lee Boulevard to a point of connection at the intersection with Sidely Road.

Enclosed, for your review, is the Cultural Resource Notification form and the Malvern 7.5 Minute Quadrangle identifying the location of the proposed project. Photos are also enclosed identifying the specific location associated with the proposed forcemain replacement. The total area to be disturbed for the purposes of installing the proposed force main replacement is approximately 0.3 acres. No structures are planned to be disturbed as a result of implementing the planned alternatives. The proposed force main is primarily in the street with a small portion traversing an open field area just south of the pump station.

Please review this documentation and provide us with any comments or concerns that you may have at your earliest convenience. If you have any questions, please do not hesitate to call me at 610-495-2102.

Sincerely,

William L. Bohner, Jr., P.E.
Project Engineer

WLB:car

ER No. <u>12-2614-02-A</u>	
The project will have NO EFFECT on historic properties	
Date <u>9/21/12</u>	Reviewer <u>Mark Sheller</u>

Attachments

H:\East Whiteland\10310.02 Ph 2 Act 537 Spec Study\PHMC\tr.doc

Corporate Headquarters • 108 West Airport Road • Lititz, PA 17543

T 717.569.7021 • F 717.560.0577 • www.thearrogroup.com

OUT IN FRONT

APPENDIX J

Intermunicipal Agreements

The Township of
EAST WHITELAND

BOARD OF SUPERVISORS: BILL HOLMES • VIRGINIA McMICHAEL • JOHN MOTT

TERRY H. WOODMAN, TOWNSHIP MANAGER • KENNETH N. BATTIN, DIRECTOR OF CODES & LIFE SAFETY • GENE DOOLEY, CHIEF OF POLICE
GEORGE LOKKEN, FINANCE DIRECTOR • G. ERIC REED, CODES ENFORCEMENT OFFICER • WILLIAM H. STEELE, PUBLIC WORKS DIRECTOR
August 27, 2013

Kelly Boettlin
Sewage Planning Specialist 2
PA Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

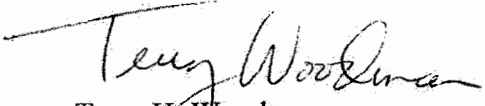
Re: East Whiteland Township Act 537 Special Study

Dear Ms. Boettlin:

This letter is to memorialize East Whiteland Township's commitment to finalizing the intermunicipal agreement amendment between the Township and the Valley Forge Sewer Authority.

We are aware that this amendment is part of the Special Study process and will endeavor to provide you with an executed amended Agreement in a timely manner.

Very truly yours,



Terry H. Woodman
Township Manager



Environmental Protection by
Caring Professionals

Valley Forge Sewer Authority

333 Pawling Road
Phoenixville, Pennsylvania 19460

610-935-1553
Fax 610-983-9684

MUNICIPALITIES

Charlestown

Easttown

East Pikeland

East Whiteland

Malvern

Schuylkill

Tredyffrin

Willistown

Kelly Boettlin

Sewage Planning Specialist 2

PA Department of Environmental Protection

Southeast Regional Office

2 East Main Street

Norristown, PA 19401

August 28, 2013

Re: East Whiteland Township Act 537 Special Study

Dear Ms. Boettlin:

This letter is to memorialize the Valley Forge Sewer Authority's (VFSA) commitment to finalizing the inter-municipal agreement amendment between East Whiteland the VFSA. We are aware that this amendment is part of the Special Study process and will endeavor to provide you with an amended Agreement in a timely manner, once the details are worked out and the amendment is executed. We and East Whiteland have both reviewed draft agreement amendments and are in basic agreement as to the major terms, namely that after completion of the Mill Lane and upstream sewer projects in East Whiteland, VFSA's reserve capacity in the East Whiteland system will be 432,302 gallons per day. This capacity is consistent with the Municipal Needs Assessment that supports the VFSA's Regional Act 537 Plan. In accordance with the inter-municipal agreements, these projects will be funded by each municipality according to their respective reserve capacities.

Very truly yours,

Martin Goldberg, Operations Manager
Valley Forge Sewer Authority
333 Pawling Road
Phoenixville, PA 19460
(610) 935-1553 ext. 226

Rev.
2/10/71

*copy for Dr. Weindahl
to keep*

EAST WHITELAND TRUNK LINE AGREEMENT

THIS AGREEMENT, dated as of the first day of February, 1971, by and between EAST WHITELAND MUNICIPAL AUTHORITY (East Whiteland Authority), a municipal authority organized by the Township of East Whiteland and operating under the provisions of the Municipality Authorities Act of 1945, the Act of May 2, 1945, P.L. 382, its supplements and amendments, and the TOWNSHIP OF EAST WHITELAND (East Whiteland Township), a second class township, parties of the first part, and MALVERN MUNICIPAL AUTHORITY (Malvern Authority) and the BOROUGH OF MALVERN (Malvern), parties of the second part, and VALLEY FORGE SEWER AUTHORITY, party of the third part, all of said parties being municipal authorities or political subdivisions within the County of Chester, Commonwealth of Pennsylvania.

W I T N E S S E T H :

WHEREAS, the parties hereto have constructed or provided for or are about to construct or provide for sanitary sewer collection systems; and

WHEREAS, the parties desire to dispose of sewage described hereinafter by a treatment plant (hereinafter called the "Valley Forge Treatment Plant") to be located on the Schuylkill River in Schuylkill Township, Chester County, Pennsylvania, which treatment plant is to be constructed and operated by Valley Forge Sewer Authority (a municipality authority formed by Schuylkill, East Pikeland and Charlestown Townships); and

WHEREAS, a substantial portion of the sewage emanating from within the municipalities which is to be disposed of by the aforesaid treatment plant is to be discharged into and conveyed to the aforesaid treatment plant by interceptors or trunk sewers to be constructed by Tredyffrin Township Municipal Authority (Tredyffrin Authority), which interceptors or trunk sewers, including pumping stations and appurtenances are hereinafter called, collectively, the "Valley Creek Trunk Sewer", are to be leased by Tredyffrin Authority to the Township of Tredyffrin, which will operate said Valley Creek Trunk Sewer; and

WHEREAS, all of the sewage emanating from Malvern, which is to be disposed of by the Valley Forge Treatment Plant must pass through East Whiteland to reach the Valley Creek Trunk Sewer; and

WHEREAS, East Whiteland Authority has agreed to construct an interceptor or trunk sewer which will be called the East Whiteland Trunk Line, and Malvern Authority and Malvern have indicated they will utilize said Trunk Line and share in the cost of its construction and operation for the mutual benefit of the parties.

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS HEREIN CONTAINED, the parties hereto, intending to be legally bound hereby, covenant and agree as follows:

ARTICLE I

CONSTRUCTION OF EAST WHITELAND TRUNK LINE

1.01 Engineering Services.

Each party hereby approves the contract dated June 20, 1966, between East Whiteland Authority and Roy F. Weston, Inc. (hereinafter called the "Consulting Engineers"), for engineering

services in respect of the construction of sewerage facilities to serve the East Whiteland Township and interceptors or trunk sewers, and appurtenances, to be located as set forth on the attached Exhibit "A" - the East Whiteland Trunk Line. A copy of said contract having been delivered to each party, the municipalities and municipality authority set forth in Exhibit "B" (hereinafter referred in this Article I as the "municipalities") agree to share the cost of such engineering design in accordance with the percentages applicable to each section or reach of said trunk line set forth in Exhibit "B" attached hereto. The parties hereto likewise agree to share the cost of surveys and test borings incident to the aforesaid design in accordance with said percentages. When payments for such engineering design, surveys and test borings fall due from time to time, each such municipality upon receipt of a copy of an invoice from the Consulting Engineers, shall promptly pay or cause to be paid to East Whiteland Authority for delivery to the Consulting Engineers (or, upon request of East Whiteland Authority, directly to the Consulting Engineers) that percentage of such invoice as is set forth in said Exhibit. Nothing herein contained shall be construed so as to make any party hereto (other than East Whiteland Authority) a party to said contract between East Whiteland Authority and the Consulting Engineers. If any payment required of a party hereto under this Section 1.01 is not made within thirty (30) days of the receipt of the aforesaid copy of invoice, interest shall accrue at the rate of six per cent (6%) per annum from such date.

1.02 Design Capacity; Construction of East Whiteland Trunk Line.

For each such municipality listed in Exhibit B, said East Whiteland Trunk Line shall provide the design capacity (reserved capacity) for each section or reach of the respective interceptor or trunk sewers as set forth after the name of each such municipality in said Exhibit. East Whiteland Authority, in accordance with said contract with the Consulting Engineers shall cause plans and specifications for the East Whiteland Trunk Line to be completed with all reasonable dispatch. East Whiteland Authority, upon receipt of capital contributions as provided in Article II hereof shall award construction contracts and cause the East Whiteland Trunk Line to be constructed with reasonable dispatch, all in accordance with said plans and specifications and sound engineering principles.

1.03 Review and Inspection.

Throughout the term of this Agreement, East Whiteland Authority shall cause the Consulting Engineers to make available at reasonable times and places any information concerning the design, construction and operation of the East Whiteland Trunk Line reasonably requested by Malvern Authority or Malvern. Members of the governing body of Malvern and the consulting engineers, employees and representatives of Malvern shall have the right at all reasonable times during construction and thereafter to inspect the construction and operation of the East Whiteland Trunk Line and all records of East Whiteland Authority and East Whiteland Township in respect thereof. East Whiteland Authority and East Whiteland Township, at reasonable times, shall receive and consider the opinions, comments and suggestions of Malvern or Malvern Authority and of the

consulting engineer of Malvern and Malvern Authority.

1.04 Date of completion of East Whiteland Trunk Line.

East Whiteland Authority shall make every reasonable effort to cause the East Whiteland Trunk Line to be completed with reasonable dispatch.

ARTICLE II

CAPITAL CONTRIBUTIONS

2.01 Percentages.

Subject to limitations hereinafter provided, each of the municipalities and municipality authorities listed in Exhibit B attached hereto (hereinafter referred to in this Article II as the "municipalities") shall bear the percentage of the total project cost of constructing the several sections or reaches of the respective interceptor or trunk sewers of the East Whiteland Trunk Line as set forth after its name in said Exhibit B, which lists the reserved capacity requirements of each party in each such section or reach of sewer, and are referred to hereinafter as "said percentages". The total estimated project cost of constructing the East Whiteland Trunk Line and of each section or reach thereof to be constructed as part of said Trunk Line is set forth in Exhibit B. The total project cost of constructing the East Whiteland Trunk Line shall include construction contract payments, land costs, engineering, surveying, boring and construction representation fees and expenses (other than those paid for under Section 1.01 hereof), legal fees incident to the construction (including preparation and review of

documents needed before construction can commence), a reasonable contingency fund and all other charges, costs and expenses incident to such construction and which are properly chargeable thereto under sound accounting practice but excluding (i) financing costs and (ii) all costs and expenses properly chargeable to East Whiteland Authority for construction of the balance of its own sewage collection system under sound accounting practice. Allocation of costs and expenses between the cost of constructing the East Whiteland Trunk Line and the cost of constructing of the balance of said collection system of East Whiteland Authority shall be subject to adjustment upon audit as provided for hereinafter.

2.02 Payment of Capital Contributions.

No capital contribution in respect of construction shall be due hereunder unless prior to the date of payment plans and specifications for the East Whiteland Trunk Line and revisions thereof, if any, have been approved by the municipalities. Disapprovals may be based only on sound engineering reasons. Within sixty (60) days of the date on which construction bids are received by East Whiteland Authority (or, in the event of increased costs requiring approval pursuant to Section 2.03 hereof, within sixty (60) days of approval pursuant thereto) time being of the essence of this Agreement, each of said municipalities listed in Exhibit B shall pay to East Whiteland Authority the total of (1) the share of the estimated total project cost of constructing the East Whiteland Trunk Line set forth in dollars after its name in Exhibit B, (2) said percentage of the amount by which the total project cost as stated by the Consulting Engineers after

the receipt of construction bids exceeds the estimates set forth in Exhibit B, up to an increase of 15% of said estimates, and (3) such amount as may be due pursuant to the next succeeding Section hereof.

2.03 Change in Project Cost.

In the event, after the receipt of construction bids, the total project cost (before deducting any federal or state grants) of constructing the East Whiteland Trunk Line is increased by more than 15% of the estimate set forth in Exhibit B, and such a revision is approved by Malvern Authority, each municipality listed in Exhibit B shall pay said percentage of said increase to East Whiteland Authority by the time set forth in the preceding section. In the event, after receipt of construction bids, the total project cost of constructing the East Whiteland Trunk Line is less than the estimate set forth in Exhibit B, the total payment to be made by each such municipality under Sections 2.01 and 2.02 hereof shall be proportionately reduced and refunds of payments made under Section 1.01 shall be made proportionately.

2.04 Grants.

Each party authorizes and directs East Whiteland Authority on behalf of each such municipality or municipality authority from time to time to apply for and accept all available grants in aid towards any East Whiteland Trunk Line construction costs and any East Whiteland Trunk Line operating costs of any nature to be used in accordance with this Agreement. All Federal and State grants received by any such municipality properly

allocable to and to be applied to the project cost of constructing the East Whiteland Trunk Line shall be paid to East Whiteland Authority and the total payment to be made by each municipality under Sections 2.01 and 2.02 hereof shall be reduced proportionately by such grant or grants.

All Federal and State grants received by East Whiteland Authority which are properly allocable to the project cost of constructing the East Whiteland Trunk Line shall be applied by East Whiteland Authority to the payment of such project cost or in reimbursement of expenditures so made and the total payment to be made by each municipality under Sections 1.01, 2.01 and 2.02 hereof shall be reduced accordingly. If any such Federal or State grants shall have been awarded to East Whiteland Authority and an agreement with the appropriate Federal or State agency executed on or before the date capital contributions are to be made under Section 2.02, then such total payment to be made by each municipality shall be reduced appropriately. If any such Federal or State grant is awarded or the agreement with the appropriate Federal or State agency executed by East Whiteland Authority after the aforesaid payments have been made by the municipalities under Section 2.02, such grants shall be applied in the computation of any surplus or deficiency of capital contribution pursuant to Section 2.08 hereof.

Federal and State grants which are allocable to the project cost of constructing the East Whiteland Trunk Line and other portions of the sewer system constructed by East Whiteland Authority and used as collector sewers to serve East Whiteland Township shall be apportioned by the Consulting Engineers between the project cost of constructing the East Whiteland Trunk Line and such other portions of said sewer system and the portion of such grants thus determined to be allocable to the project cost

of constructing the East Whiteland Trunk Line shall be applied to the payment of the project cost of the East Whiteland Trunk Line or in reimbursement of expenditures so made.

All Federal and State contributions or grants in aid received by any of said municipalities properly allocable to and to be applied towards any cost of operation, maintenance, repair, replacement, or other expenses relating to the East Whiteland Trunk Line shall be paid over to East Whiteland Township and shall be deducted in determining actual annual operating expenses of the East Whiteland Trunk Line in accordance with Section 4.07 hereof.

2.05 Construction Fund.

East Whiteland Authority shall deposit all amounts delivered by all parties to it pursuant to this Article, together with East Whiteland Authority's share and all amounts received in payment of Federal and State grants allocable to the project cost of constructing the East Whiteland Trunk Line, in a special East Whiteland Trunk Line Construction Fund (hereinafter called "Construction Fund"). Such Construction Fund moneys shall be held and invested by a Trustee selected by East Whiteland Authority and to the extent not insured by the Federal Deposit Insurance Corporation or other Federal agency, or invested as hereinafter provided shall be continuously secured by the pledge of direct obligations of the United States of America or the Commonwealth of Pennsylvania having an aggregate market value (exclusive of accrued interest) at all times at least equal to the amount of such moneys. Such moneys may be wholly or partially invested by said Trustee only in direct obligations of the United States of America and certificates of deposit which

shall mature or shall be subject to redemption at the option of the holder not later than one year from the date of such investment. Any securities so purchased shall be a part of the Construction Fund. The interest and income received from time to time upon investments and any profit realized or loss sustained from the sale of such securities shall be added or charged to the Construction Fund and such interest, income, profit or loss shall be considered in the computation of any surplus or deficiency as provided in Section 2.08. Moneys paid to the East Whiteland Authority pursuant to this Agreement shall at all times be segregated in books of account from moneys received by East Whiteland Authority for any other purpose.

2.06 Construction Fund Requisitions.

East Whiteland Authority agrees that payments from the East Whiteland Trunk Line Construction Fund shall be made only upon requisitions, copies of which shall be available to any of said municipalities, duly executed by authorized representatives of East Whiteland Authority stating: (a) the amount requested; (b) the obligation for or the account for which the requisition is made, showing separately the total obligation, the amount already paid, if any, and the balance remaining to be paid; (c) the person to whom the payment shall be made and his address; (d) that the item for which requisition has been made has not been paid and (e) with respect to such item there are no vendors', mechanics' or other liens or secured transactions which will not be discharged by such payment.

In case of payments under construction contracts, such requisitions shall also contain a certificate of the Consulting

Engineers certifying approval of the requisition and further certifying that such obligation has been properly incurred and is then due and unpaid and that insofar as such obligation was incurred for work, materials, supplies or equipment, such work was actually performed or such materials, supplies or equipment were actually installed in or about the construction of the East Whiteland Trunk Line, or delivered at the site of the work for that purpose, or delivered for fabrication at the place approved by the Consulting Engineers; and that all work done and materials, supplies or equipment for which such obligation was incurred are, in the Consulting Engineers' opinion, in accordance with the plans and specifications.

2.07 Change Orders.

East Whiteland Authority agrees to notify each of said municipalities of all changes or alterations in the East Whiteland Trunk Line plans and specifications. No change order concerning said plans and specifications in excess of \$25,000. shall be approved by East Whiteland Authority unless it has previously been approved by Malvern Authority; provided, however, that if written notification of disapproval is not received by the East Whiteland Authority within ten (10) days of the date requested for approval of any change order is delivered to an officer of Malvern Authority, such change order shall be deemed to have been approved by such municipality. East Whiteland Authority further agrees that, without the prior approval of Malvern Authority, no change or alteration will be made in any of the plans and specifications of the Consulting Engineers, in respect to the

East Whiteland Trunk Line, which will cause the cost of construction to exceed the amount available in the East Whiteland Trunk Line Construction Fund.

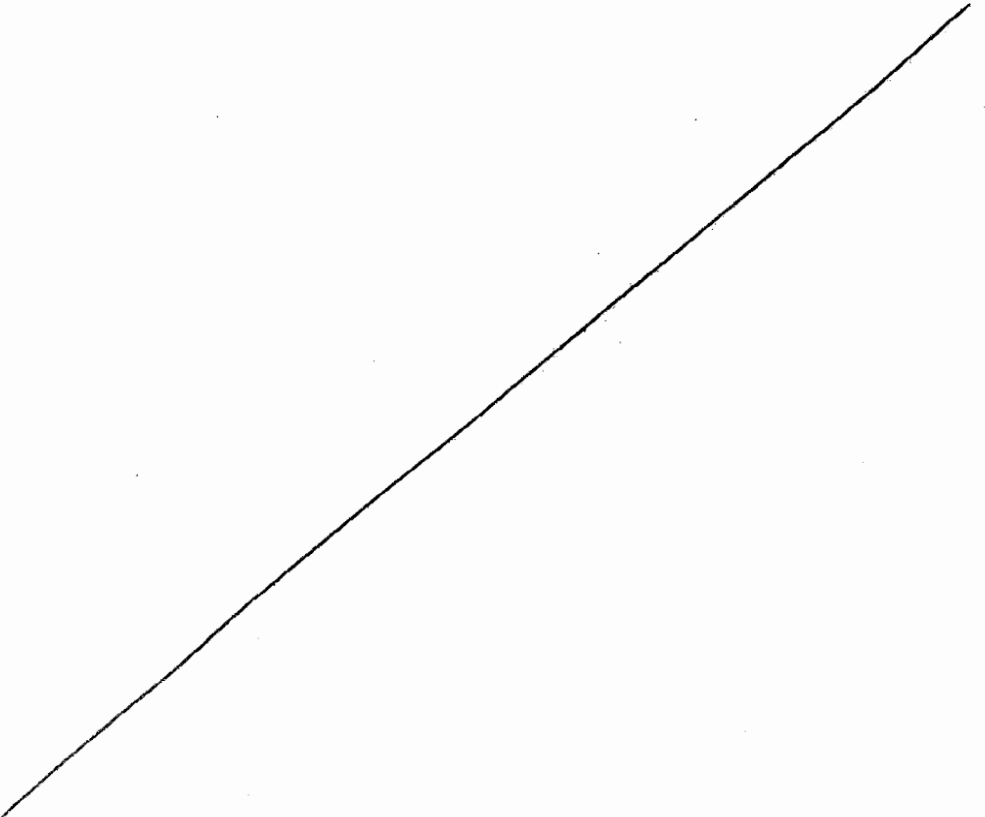
2.08 Distribution of Construction Fund.

Upon completion of the construction of the East Whiteland Trunk Line, East Whiteland Authority shall deliver to each party a certificate of the Consulting Engineers stating (a) the fact of such completion and (b) in reasonably itemized form, the actual project cost of constructing the East Whiteland Trunk Line (i) after deducting therefrom the unexpended contingency fund, if any, and the amount of any applicable Federal or State grants paid into Construction Fund and not previously used to reduce payments in accordance with Section 2.04 and (ii) after making appropriate adjustments in respect of net income, gain or loss from investments. If any municipality's share of the actual cost of constructing the East Whiteland Trunk Line after adjustments (i) and (ii) is less than the total amount deposited by it as required by this Agreement, the excess of such deposits shall forthwith be refunded to such municipality if no municipality, within sixty (60) days of receipt of said certificate, has requested a readjustment or audit and, in the event of such a request, shall be refunded promptly after the matter is resolved. A deficiency, if any, incurred in accordance with this Agreement shall be charged to and paid by each such municipality in said percentages and shall be due within thirty (30) days of notice to pay, and if not then paid, shall be subject to interest at the rate of six per cent (6%) per annum until paid. Prior to

completion of the East Whiteland Trunk Line, East Whiteland Authority may make one or more interim distributions on the basis of information then available, which distributions shall be subject to adjustment at the time of final distribution.

2.09 Audit of Project Cost.

The said certificate of the Consulting Engineers as to the actual project cost of constructing the East Whiteland Trunk Line and the records from which it is compiled shall be audited by a certified public accountant selected by East Whiteland Authority and the expense of such audit shall constitute part of the project cost.



ARTICLE I I I

DELIVERY AND ACCEPTANCE OF SEWAGE

3.01 Delivery.

Malvern Authority, at its own expense, shall during the term of this Agreement cause all sewage emanating from The Borough of Malvern to be discharged into East Whiteland Trunk Line. Except as permitted pursuant to Article VII hereof, Malvern Authority shall not exceed the capacity reserved by it.

3.02 Acceptance.

Malvern shall commence delivering its sewage to the East Whiteland Trunk Line as soon as practicable after (a) the East Whiteland Trunk Line is sufficiently complete to provide service (as certified by the Consulting Engineers engaged by East Whiteland Authority) and (b) the Valley Creek Trunk Sewer is sufficiently complete to provide service (as certified by the Consulting Engineers engaged by Treddyffrin Authority) and (c) the treatment plant to be constructed by Valley Forge Sewer Authority to receive and treat the aforesaid sewage is sufficiently complete to provide service (as certified by the consulting engineers engaged by Valley Forge Sewer Authority in respect of the design and construction of said treatment plant). East Whiteland Authority, as soon as practicable after the East Whiteland Trunk Line and the Valley Creek Trunk Sewer and the aforesaid treatment plant are sufficiently complete to provide service as so certified, shall permit connections at the locations that East Whiteland Authority may agree to, which agreement may not be unreasonably withheld and shall accept sewage for conveyance to the aforesaid treatment plant subject to the terms and conditions herein set forth.

ARTICLE IV

OPERATING EXPENSES OF THE EAST WHITELAND TRUNK LINE

4.01 Proportion.

The Borough of Malvern and the Township of East Whiteland (which Borough and Township in this Article IV are referred to as "said municipalities") shall share the operating expenses of the East Whiteland Trunk Line (as defined in Section 4.06) as follows: The proportion that the volume of sewage (determined as hereinafter provided and by other agreement of the parties) emanating from each such municipality and discharged into the several sections or reaches of the interceptor or trunk sewer, constituting the East Whiteland Trunk Line bears to the total volume of sewage discharged by both of said municipalities into such sections or reaches shall be used in calculating the amount that each such municipality shall pay for sewage conveyance services. Operating expenses of the East Whiteland Trunk Line for the first two years of operation shall be paid as set forth in Section 4.13 hereof.

4.02 Estimates of Volume of Sewage.

In order to provide East Whiteland Township with working capital for payment of operating expenses of the East Whiteland Trunk Line, at least one hundred twenty (120) days prior to the end of the first two years of operation of the East Whiteland Trunk Line each said municipality shall supply or cause to be supplied to East Whiteland Authority an estimate of the volume of sewage to be discharged from its sewage collection system into the East Whiteland Trunk Line during the next succeeding calendar Year (or portion of a calendar year remaining after the end of the first two years of operation).

4.03 Estimated East Whiteland Trunk Line Operating Expenses.

Within sixty (60) days after receipt of the estimates provided under the preceding section, East Whiteland Township shall prepare, subject to the

approval of its consulting engineers, and furnish to Malvern, a budget setting forth (a) the estimated annual operating expenses of the several sections or reaches (including at least ten percent (10%) for contingencies) and (b) the share of each said municipality of such operating expenses (the share of each said municipality being an amount which is in the same ratio to the total of such expenses as the estimated volume of sewage from such municipality discharged in the several sections or reaches of the East Whiteland Trunk Line is to the total estimated volume of sewage from both of the said municipalities so discharged or served). If at any time it appears on the basis of past or current meter readings that the estimate of Malvern is substantially inaccurate, East Whiteland Township may revise said estimate based on such past or current meter readings and Malvern shall promptly make payments in accordance with the revised estimate.

In the event of an unusual contingency, an upward revision of the budget may be made by East Whiteland Township with the approval of Malvern, which approval shall not be unreasonably withheld; provided, however, that the budget may be exceeded without such prior approval in an emergency directly affecting the operation of the East Whiteland Trunk Line and certified by the consulting engineers engaged by East Whiteland Authority or East Whiteland Township to require immediate action. Each such municipality shall make payments in accordance with the revised budget within sixty (60) days of receipt of notice thereof. In the event a municipality is not able legally to obtain funds with which to pay all of its share of the budget increase, any unpaid amount shall be paid by it in the following year together with interest at the rate of six percent (6%) per annum until paid.

4.04 Payments on account of Estimated Operating Expenses.

On or before each January 1, April 1, July 1 and October 1 during the term of this Agreement, Malvern shall pay to East Whiteland Township (out of legally available current revenues and from sewer rentals) one quarter (1/4) of its share of the estimated annual operating expenses of the East Whiteland Trunk Line as determined in accordance with the preceding section (prorated if the two-year period referred to in Section 4.01 ends during rather than at the start of a quarter). Amounts not paid when due shall be subject to interest in the amount of six percent (6%) per annum of the amount due. Said interest shall be due from time to time upon the receipt of invoices from East Whiteland Township. In the event of a default in payment under this Section, East Whiteland Township may borrow all or part of the amount of such payment due hereunder and may use such interest to pay, or reimburse itself for paying, interest on such borrowed funds. Interest not so used shall be treated as a deduction under Section 4.07 hereof in determining actual annual operating expenses of the East Whiteland Trunk Line.

East Whiteland Township shall deposit all moneys delivered by all parties to it pursuant to this Article, together with the East Whiteland Township's share and all amounts received in payment of Federal and State contributions or grants in aid to be applied towards any cost of operation, maintenance, repair, replacement or other expenses relating to the East Whiteland Trunk Line, in a special East Whiteland Trunk Line Operating Fund (hereinafter called "Operating Fund"). Such Operating Fund moneys shall be invested by East Whiteland Township and to the extent not insured by the Federal Deposit Insurance Corporation or other Federal Agencies, or invested as hereinafter provided shall be continuously secured by the pledge of direct obligations of the United States of America or the Commonwealth of Pennsylvania having an aggregate market value (exclusive of accrued interest) at all times at least equal to the amount of such moneys.

Such moneys may be wholly or partially invested by said Township subject to the same limitations set forth in Section 2.05. Any securities so purchased shall be a part of the Operating Fund. The interest and income received from time to time upon investments and any profit realized or loss sustained from the sale of such securities shall be added to or charged to the Operating Fund and such interest, income, profit or loss shall be considered in determining the actual annual operating expenses of the East Whiteland Trunk Line pursuant to Section 4.06 hereof.

4.05 Annual Statement.

Within one-hundred twenty (120) days of the close of each calendar year, East Whiteland Township shall cause to be prepared and submitted to each of said municipalities a detailed statement, certified by a certified public accountant engaged by East Whiteland Township, showing the actual annual operating expenses of the East Whiteland Trunk Line (as defined in the next succeeding Section) and the apportionment of the cost among the said municipalities on the basis of Section 4.01.

4.06 Actual Annual Operating Expenses of the East Whiteland Trunk Line.

"Actual annual operating expenses of the East Whiteland Trunk Line" shall mean the sum of the costs referred to in subsections (a) through (f) hereof minus the deductions referred to in Section 4.07 hereof:

(a) All the actual reasonable expenses and costs of the adequate proper operation, maintenance and repair of the East Whiteland Trunk Line as the same may be constituted from time to time, determined in accordance with sound accounting practices and shall include, without limiting the generality of the foregoing, salaries and wages of operating, supervisory and administrative personnel directly charged to the operation, maintenance and repair of the East Whiteland Trunk Line (but in the event such personnel are also engaged in other activities of a municipality, shall include only that proportion of such salaries

and wages as is properly allocable to such operation, maintenance and repair on the basis of time spent or services performed); pensions, social security or unemployment taxes; chemicals; power; taxes (if any); insurance; administrative expenses; materials and supplies; maintenance; and repairs, improvements and betterments (including ordinary or routine repairs and replacements but not extraordinary replacements or additions of a capital nature which latter shall be treated in the manner provided for expansion in Section 7.02, except to the extent that Article VIII shall apply);

(b) The fees and expenses of the Consulting Engineers employed by East Whiteland Township concerning the operation, maintenance and repair of the East Whiteland Trunk Line and in preparing reports and determinations required by this Agreement;

(c) The fees and expenses of the certified public accountant engaged by East Whiteland Township to prepare the annual statement;

(d) Interest paid by East Whiteland Township pursuant to Section 4.04 hereof;

(e) The cost of that portion of the bond of the Treasurer and other officers or employees of East Whiteland Township attributable to his or their duties in connection with East Whiteland Trunk Line, under sound accounting practices; and

(f) Reasonable expenses of East Whiteland Township in providing service pursuant to this Agreement and attributable to the East Whiteland Trunk Line under sound accounting practices.

4.07 Deductions.

Any Federal or State contributions or grants in aid received by any party which is to be applied towards any cost of operation, maintenance, repair, replacement or other expenses relating to the East Whiteland Trunk Line shall be

paid to East Whiteland Township and shall be deducted in determining actual annual operating expenses of the East Whiteland Trunk Line. Interest properly allocable thereto pursuant to Section 4.04 and interest earned by East Whiteland Township on funds deposited in the Operating Expense Fund pursuant to Section 4.03 or Section 4.13 shall be deducted in determining such actual operating expenses.

4.08 Refunds of Additional Payments.

If any such municipality's share of the actual annual operating expenses of the East Whiteland Trunk Line is less than (or more than) the total amount paid by it under this Article in such calendar year, the excess shall forthwith be refunded to such municipality (or the deficiency shall forthwith be paid by it) if no municipality within sixty (60) days of receipt of an annual statement has requested arbitration in accordance with Article IX and in the event of such a request, any excess (or deficiency) shall be refunded (or paid) within thirty (30) days after the matter is resolved. Amounts not paid when due shall be subject to interest at the rate of six percent (6%) per annum of the amount due and shall be subject to the provisions concerning interest of Section 4.04 hereof.

4.09 Use of Funds.

East Whiteland Township agrees that payments made by the said municipalities to East Whiteland Township on account of its share of operating expenses of the East Whiteland Trunk Line shall be applied only for the payment of actual operating expenses as defined in Section 4.06, subject to Section 4.07, and that such payments shall not be applied toward the payment of any other obligations of East Whiteland Township.

4.10 Books of Account.

In order that expenses of East Whiteland Township which are not properly allocable to the construction or operation of the East Whiteland Trunk Line shall

not be charged thereto, East Whiteland Township shall keep separate books of account for the operation of its collection system and for the East Whiteland Trunk Line or such books of account and other records which would readily permit such allocation. Said books and records shall be available for inspection by the municipalities at all times.

4.11 Sewer Rentals.

To insure the availability of current revenues adequate to meet its obligations under this Agreement, each said municipality shall impose and collect annual sewer rentals in an aggregate amount sufficient, together with other legally available funds, to equal (a) all sums payable by it to East Whiteland Township during the then current calendar year under this Agreement and (b) all sums payable by it to any other person, firm, corporation, municipality or municipality authority during the then current calendar year for or in respect to sewer purposes.

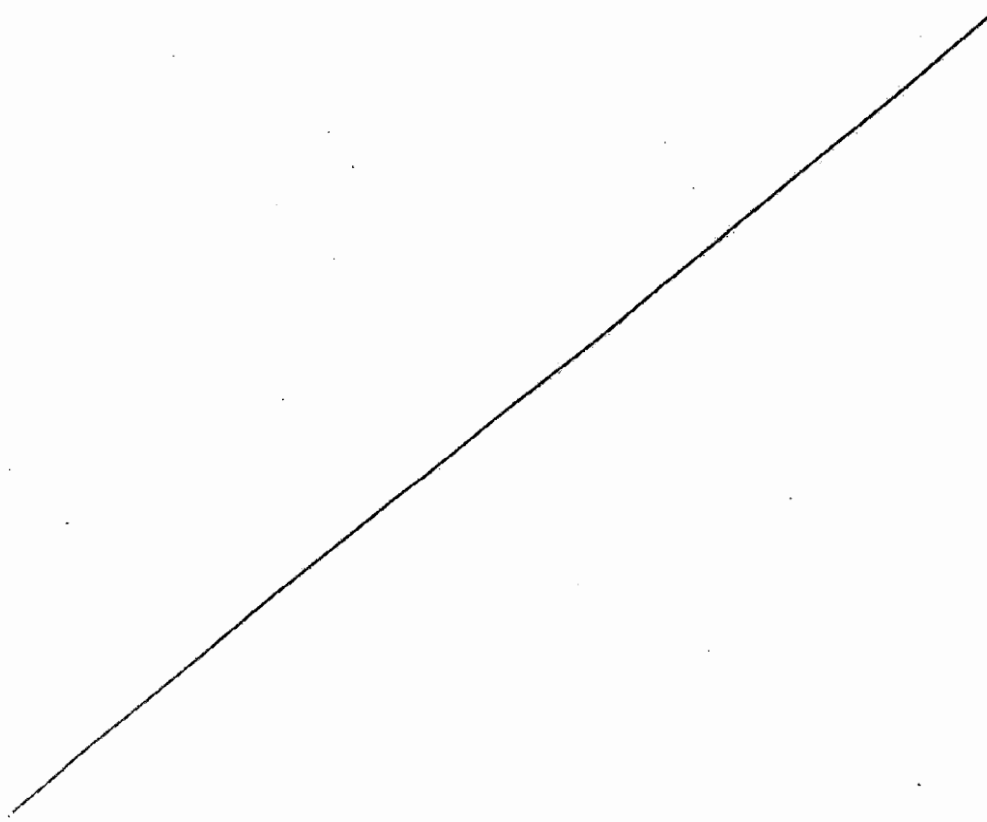
4.12 Commencement of Discharge into East Whiteland Trunk Line.

Each party shall make every reasonable effort to be ready to begin to discharge sewage into the East Whiteland Trunk Line by the time it and the Valley Creek Trunk Sewer are ready to receive sewage, and the aforesaid Valley Forge Treatment Plant is ready to treat and dispose of sewage.

4.13. Operating Expenses for the First Two Years.

Each such municipality set forth in Exhibit B shall pay to East Whiteland Township its share of the estimated operating expenses of the East Whiteland Trunk Line for the first two years of operation set forth after its name in Exhibit B (on the basis of reserved capacity) within thirty (30) days of receipt of the Certificates of the Consulting Engineers engaged by East Whiteland Authority, Tredyffrin Authority and Valley Forge Sewer Authority provided in Section 3.02. Said operating expense moneys for the first two years of operation shall be deposited in an Operating Expense Fund in the name of East Whiteland

Township separate and apart from any other fund of such Township. Investment of such moneys by East Whiteland Township shall be made subject to the same limitations set forth in Section 2.05 hereof. Within one hundred twenty (120) days of the close of said first two years of operation, East Whiteland Township shall cause a certified public accountant to prepare and submit to each participating municipality a detailed statement showing the actual annual operating expenses of the East Whiteland Trunk Line (as defined in Sections 4.06 and 4.07 hereof) and the apportionment of the cost among the said municipalities on the basis of reserved capacities as set forth in Exhibit B hereof. If at the end of the second year of operation the amount deposited hereunder by any municipality differs from the amount due, refunds or additional payments shall be made pursuant to Section 4.08 hereof. _____



ARTICLE V
QUALITY OF SEWAGE

5.01 General.

The sewage discharged directly or indirectly into the East Whiteland Trunk Line by any municipality or municipality authority shall be within the maximum limits presented below or pretreated to within the limits of Section 5.04.

5.02 Acceptability Standards.

After consultation with Valley Forge Sewer Authority, East Whiteland Township shall from time to time establish acceptability standards for sewage and industrial waste entering the collection system of any municipality or municipality authority and discharging directly or indirectly into the East Whiteland Trunk Line for the purpose of prohibiting materials or characteristics which would be deleterious to the East Whiteland Trunk Line, Valley Creek Trunk Sewer or to the Valley Forge Treatment Plant or the treatment process, which standards shall be reasonable and similar to standards imposed with regard to similar facilities and shall not be higher or more restrictive than those imposed by Valley Forge Sewer Authority. No municipality or municipality authority shall permit discharge directly or indirectly into the East Whiteland Trunk Line of any sewage or waste so certified to be deleterious, but such certification shall not preclude the municipality or municipality authority from contesting the reasonableness of such determination.

Subject to the foregoing, all municipalities and municipality authorities agree to enact or adopt or cause to be enacted or adopted uniform ordinances, resolutions, rules or regulations to prohibit users of the respective collection systems serving such municipalities and municipality authorities from discharging substances failing to meet such acceptability standards and to require all pre-treatment of sewage or other waste necessary to require the same to conform to the

acceptability standards and agree to take all necessary steps in the design and construction of the collection systems and in the subsequent maintenance and operation thereof (including the exercise of appropriate inspection of and control over building connections) to prevent infiltration of storm water and other improper substances into the collection systems.

5.03 Sampling Manholes.

For the purpose of determining the characteristics of sewage or wastes, each municipality or municipality authority shall install or cause to be installed a sampling manhole at the point of discharge at the property of any user which the consulting engineer of such municipality or municipality authority considers capable of discharging sewage or wastes not meeting any of such acceptability standards.

5.04 Industrial Wastes.

In order to control admission of industrial wastes, no party to this Agreement shall permit any industrial user to connect to or discharge into its collection system any waters or wastes other than sanitary waste without the prior review and approval of the consulting engineers and the consulting engineers of Valley Forge Sewer Authority. The consulting engineers' review (until such time as the following acceptability standards are amended in accordance with Section 5.02 hereof) shall be based on, but not limited to, the following standards:

Waste Characteristics to be Considered

Characteristics of the industrial waste shall not be in general in excess of those listed below:

- (1) The 5-day 20 deg. centigrade B.O.D. (bio-chemical oxygen demand) shall not exceed 250 ppm.
- (2) The suspended solids content shall not exceed 300 ppm.
- (3) The total solids content shall not exceed 1,100 ppm.

- (4) The PH shall not be less than 6.0 nor shall it exceed 9.0.
- (5) The temperature shall not exceed 150° F.
- (6) The color shall not be such as to require special treatment to render the effluent acceptable for discharge into the Schuylkill River.
- (7) The waste shall not contain greases and oils, inflammable material, non-biodegradable materials or any oxygen scavengers, sufficient in quantity to be injurious to the treatment plant or interfere with any treatment process or to constitute a hazard to human or animal life.
- (8) The waste shall not contain any solid or viscous material capable of causing obstruction to the flow in the sewers, or at the Valley Forge Treatment Plant or any material capable of causing interference with the proper operation of the East Whiteland Trunk Line, The Valley Creek Trunk Sewer or the Valley Forge Treatment Plant.

Where required, in the opinion of the consulting engineers, the user shall provide at his expense such preliminary treatment or handling as may be necessary to modify the objectionable characteristics or control the quantities and rates of discharge of such water or wastes as necessary.

Plans, specifications, and any other pertinent information relating to proposed preliminary treatment or handling facilities shall be submitted for review to Valley Forge Sewer Authority and no construction of such facilities shall be commenced until a permit for the connection is obtained in writing from Valley Forge Sewer Authority. A copy of each such permit shall be furnished to East Whiteland Township.

In order to insure quality compliance and to reduce the possibility of accidental discharges of wastes not conforming, each municipality and municipality authority shall sample, test or otherwise examine industrial wastes as often as reasonably necessary to insure quality compliance.

5.05 Combined Sewage and Industrial Wastes.

In order to control the sewage entering, Valley Forge Sewer Authority will sample the discharge from each municipality or municipality authority period-

ically to insure that no characteristic is evident which would be deleterious to the East Whiteland Trunk Line, the Valley Creek Trunk Sewer or the Valley Forge Treatment Plant or the treatment process.

The characteristic of each combined sewage and industrial waste discharge shall not be in excess of those listed under Section 5.04 except that the temperature of the combined discharge shall not exceed 100° F. Each municipality or municipality authority shall provide facilities to prevent the occurrence of septic conditions in the East Whiteland Trunk Line.

Should Valley Forge Sewer Authority find either the BOD or suspended solids characteristics exceeded as determined in the tests on the periodically obtained samples, the potentially offending municipality or municipality authority shall be notified of the findings and requested to examine the conditions. If at the end of a quarter Valley Forge Sewer Authority determines that the discharge from the municipality or municipality authority is in excess of the characteristics as determined by average test results by periodic sampling, the suspected offender shall be given written notice that its discharge is in excess and that a comprehensive sampling and testing program will be undertaken by Valley Forge Sewer Authority to verify the non-compliance and to notify that steps should be taken to rectify the problem.

If, at the end of the quarterly comprehensive test program the problem has not been rectified, a penalty charge as provided in Section 5.06 will be added to that quarter's billing and until the situation is shown to be corrected.

Should Valley Forge Sewer Authority find any of the additional characteristics to be in excess or to find the presence of any other untested deleterious material in the course of periodic sampling and testing the potential offending municipality or municipality authority shall be given notice to take immediate steps to rectify the problem.

2/10/71

ARTICLE VI

DETERMINATION OF QUANTITY OF SEWAGE DISCHARGED
INTO THE EAST WHITELAND TRUNK LINE

6.01 Meters or Measuring Devices.

In order to measure in gallons the quantity of sewage emanating from the Borough of Malvern and the Township of East Whiteland, which is discharged into the various sections or reaches of the interceptor or trunk sewers of the East Whiteland Trunk Line, each of said municipalities shall each, at its expense, construct or cause to be constructed, where feasible, a sewage meter or sewage flow measuring device at each point necessary to determine the volume of sewage emanating from the Borough of Malvern and the Township of East Whiteland, discharged into the East Whiteland Trunk Line. The above sewage meters and related equipment such as recorders and charts shall be as mutually agreed upon by the Consulting Engineers and the consulting engineers of Valley Forge Sewer Authority and of said municipalities. All metering stations shall provide facilities for sampling the sewage.

6.02 Calibration and Readings.

All meters or measuring devices constructed or installed by Valley Forge Sewer Authority, the Borough of Malvern and the Township of East Whiteland, shall be calibrated by Valley Forge Sewer Authority at least once each year and, if requested by East Whiteland Township, shall be checked at other times as a cost of operating the Valley Forge Treatment Plant. All readings of each such municipality or municipality authority's meter or measuring device shall be performed by a representative of said municipality, of Valley Forge Sewer Authority and of East Whiteland Township. Meters or measuring devices shall be read or examined on the date each municipality or municipality authority first connects and on the first day of each quarter of each year during the term of this Agreement

to determine the quantity of sewage emanating from each municipality or area served by a municipality authority for the previous quarterly period or portion thereof. Copies of meter readings or measuring device examinations shall forthwith be delivered to each municipality and to Valley Forge Sewer Authority and to East Whiteland Township.

6.03 Maintenance and Operation.

All meters and measuring devices used for the purpose of determining flows into the Valley Creek Trunk Sewer and used for billing purposes will be routinely serviced and inspected by Valley Forge Sewer Authority as a part of the treatment plant operating expense. Valley Forge Sewer Authority shall undertake to have an inoperative or inaccurate meter or measuring device repaired as soon as practicable with the cost of such repair being charged back to the owner. Valley Forge Sewer Authority shall not be obligated to provide service to any devices other than the primary metering element, recorders, transmitters and other instruments. Each municipality or municipality authority shall, at its own expense, be responsible for all other maintenance and operation of its sewage metering facilities.

6.04 Missing or Inaccurate Flow Records; Use of Equivalent Dwelling Units as Measurement of Flow.

In the case of missing flow records due to faulty meter registration or otherwise, an estimate of flows shall be made by the Consulting Engineers for the purpose of determining volume of sewage discharges. This estimate will be based on a valuation of past flow records as applied to the then existing conditions and as reviewed and approved by the Consulting Engineer of the respective municipality or municipality authority.

In the absence of meter readings during the early period of low flows, when the sewage recording meters may not register the flow, or where meters

cannot practically be installed, flow quantities shall be determined on the basis of the average number of Equivalent Dwelling Units (upon the basis of a discharge rate of 275 gallons per Equivalent Dwelling Unit per day). The number of Equivalent Dwelling Units shall be determined at the beginning and end of each calendar quarter during the term of this Agreement based upon a certification by a responsible officer of the municipality or municipality authority as to the number of such Equivalent Dwelling Units so connected by the municipality or municipality authority at the beginning and end of each quarter and shall be averaged on the basis of the number of units so connected at the beginning and end of each such quarter. Where the initial connection of the collection system of any municipality or municipality authority is made to the East Whiteland Trunk Line after the first day of a calendar quarter, the quantity of sewage so discharged shall be based on the number of Equivalent Dwelling Units so connected at the end of such quarter prorated on the basis of the number of days in such calendar quarter that any sewage is so discharged from such municipality or municipality authority. For the purpose of determining the number of Equivalent Dwelling Units represented by schools, churches or municipal buildings, commercial or industrial establishments, etc., the factors set forth in Exhibit C shall be applied. The officials and representatives of East Whiteland Township may inspect the records of any connecting municipality or municipality authority for the purpose of determining the accuracy of the number of Equivalent Dwelling Units certified by such municipality or municipality authority.

6.05 Proportion of Flows.

The quantity of sewage discharged into the several sections or reaches of the East Whiteland Trunk Line shall be determined, with respect to each such municipality or municipality authority in the ratio that the quantity of sewage emanating from each such municipality or municipality authority (determined as

above) shall bear to the total quantity of sewage discharged into such sections or reaches of the East Whiteland Trunk Line from all municipalities and any municipality authority.

Valley Forge Sewer Authority shall undertake to prepare a complete distribution of the total volume of sewage received and metered at the sewage treatment plant during each calendar quarter and during each calendar year, with respect to each such municipality or municipality authority which discharges sewage that is treated in the Valley Forge Sewer Authority sewage treatment plant, such distribution to include all metered and unmetered sewage flows of each municipality or municipality authority.

ARTICLE VII

RENTING UNUSED CAPACITY; EXTRAORDINARY REPAIRS, RENEWALS OR REPLACEMENTS OF INTERCEPTOR OR TRUNK SEWERS; ENLARGEMENTS OR ADDITIONAL INTER- CEPTOR OR TRUNK SEWERS.

7.01 Renting Unused Capacity.

Each municipality discharging from its sewage collection system into the East Whiteland Trunk Line during a calendar year a volume of sewage less than its reserved capacity, as set forth in Exhibit B shall be deemed to have been placed its unused capacity in a rental pool. Any municipality (each of which is herein called "lessee municipality") discharging sewage into the East Whiteland Trunk Line in any calendar year in excess of its reserved capacity, as set forth in Exhibit B, shall rent from the pool for the entire calendar year capacity equal to the volume by which it exceeds its reserved capacity (with the total volume discharged by it being reduced to gallons per day by dividing the total gallons discharged by it in such calendar year by 365). The annual rental fee to be paid by the lessee municipality shall be the representative annual "debt service" (calculated at equal annual payments to amortize the debt, including seven per cent (7%) interest per annum for a 25-year term) for the amount obtained by multiplying the fraction of the rated capacity of the East Whiteland Trunk Line or of any section or reach thereof rented for the current calendar year by the total of capital contributions made by all parties hereto toward the cost of providing the East Whiteland Trunk Line or such section or reach thereof as then being used. The capacity thus rented by the lessee municipality shall be rented annually by it until the next expansion of the East Whiteland Trunk Line, at which time the lessee municipality

shall surrender the capacity rented by it and shall, at its expense, replace the capacity rented by it (in each such section or reach or pumping station) so that each lessor municipality will receive back its reserved capacity placed in the pool. In no event, shall any contribution of capacity to the rental pool be construed to decrease the reserved capacity in the East Whiteland Trunk Line or any section or reach thereof of any lessor municipality.

The rental fees shall be distributed to the contributors to the rental pool in proportion to their contributions (the contribution as to each being the difference between its actual flow during the current calendar year [reduced to gallons per day] and its reserved capacity) the rental fee owed by each lessee municipality, together with the proposed distribution thereof to the lessor municipalities, shall be shown as separate items in the annual statement furnished pursuant to Section 4.05 hereof. Rental fees owed shall be paid by each municipality to East Whiteland Township within sixty (60) days of receipt of said annual statement unless arbitration has then been requested, and in such event shall be paid within thirty (30) days of the date the matter is resolved pursuant to the procedure set forth in Section 9.01. Distribution of the rental fees shall be made by East Whiteland Township promptly thereafter as provided herein.

Although rental payments shall be paid and distributed hereunder on the basis of actual flows, the total estimates of sewage to be discharged into the East Whiteland Trunk Line in a calendar year pursuant to Section 4.02 hereof, shall be used to avoid exceeding the rated capacity of the East Whiteland Trunk Line or any section or reach thereof. In the event that the total of said estimates, pursuant to Section 4.02, exceeds 90% of the rated capacity of any

section or reach of the East Whiteland Trunk Line (with the remaining 10% being used as a safeguard against underestimation), the Consulting Engineers of East Whiteland Township shall allocate the capacity in the pool (as estimated) among the municipalities estimating discharge in excess of their reserved capacities in proportion to their flows during the preceding calendar year; provided, however, that any municipality may continue to rent the number of gallons of capacity previously rented by it. No municipality shall permit any new connection to be made to its collection system or permit increased flow from any existing connection (due to construction and connection to the system of additional facilities) if so permitting might cause its volume of sewage discharged into the East Whiteland Trunk Line at peak flows during such calendar year to exceed the total of its reserved capacity and the capacity in the pool allocated to it by the Consulting Engineers of East Whiteland Township for such year.

7.02 Extraordinary Repairs, Renewals or Replacements of Interceptor or Trunk Sewers and Pumping Stations; Enlargements or Additional Interceptor or Trunk Sewers.

If, during the term of this Agreement, any interceptor or trunk sewer (or any section or reach thereof) of the East Whiteland Trunk Line used in whole or in part for the conveyance of sewage emanating from any of the municipalities (in addition to sewage emanating from East Whiteland Township) to the Valley Forge Treatment Plant shall require extraordinary repairs, renewals or replacements, each municipality and municipality authority named in Exhibit B agrees to pay or to cause to pay to the East Whiteland Authority (but only from legally available current revenues, sewer rentals available and funds which can be legally borrowed) its proportionate share of the project cost of such repairs, renewals or replacements.

The necessity for and the extent of such extraordinary repairs, renewals or replacements of any such section or reach of an interceptor or trunk sewer (with a breakdown by municipality or municipality authority) shall be determined by the Consulting Engineers engaged by East Whiteland Authority subject to the approval of the municipalities affected (which approval may be withheld only for sound engineering reasons), after consultation with the consulting engineers of each of the said municipalities and municipality authorities affected and written notice of such determination together with the Consulting Engineers' estimate of the cost thereof (with a breakdown by municipality or municipality authority) shall be given to each such municipality and municipality authority affected.

Each such municipality and municipality authority affected shall pay or cause to be paid to East Whiteland Authority the proportion of the project cost of such repairs, renewals or replacements in the proportion that the reserved capacity of such municipality or municipality authority in such section or reach of interceptor or trunk sewer shall bear to the total of the reserved capacities of all such municipality or municipality authority in such sections or reaches.

At such times as (a) eighty per cent (80%) of the rated capacity of the East Whiteland Trunk Line or any section or reach thereof is used or (b) estimates of volume under Section 4.02 exceed ninety per cent (90%) of said rated capacity or (c) in the event (i) enlargement of any interceptor or trunk sewer (or any section or reach thereof) or the construction of an additional interceptor or trunk sewer within East Whiteland Township or partly within and partly without East Whiteland Township or (iii) the enlargement of

any pumping station or the construction of an additional pumping station within East Whiteland Township is required to meet the requirements or standards prescribed by the Sanitary Water Board of the Pennsylvania Department of Health or any other governmental authority having jurisdiction. East Whiteland Authority shall construct such enlargement or additional sewer or pumping station; and each municipality and municipality authority named in Exhibit B agrees to pay East Whiteland Authority (but only from legally available current revenues, sewer rentals available and funds which can be legally borrowed) its proper proportionate share of the project cost of enlargement or additional sewer or pumping station. The necessity for the extent of such enlargement or additional sewer or pumping station (with a breakdown by municipality or municipality authority) shall be determined by the Consulting Engineers engaged by East Whiteland Authority subject to the approval of such municipalities or municipality authorities (which approval may be withheld only for sound engineering reasons), after consultation with the Consulting Engineers of each municipality or municipality authority and written notice of such determination together with the Consulting Engineers' estimate of the cost thereof (with a breakdown by municipality and municipality authority) shall be given to each municipality and municipality authority affected.

Each such municipality or municipality authority affected shall pay or cause to be paid to East Whiteland Authority the proportion of the project cost of such enlargement of or additional interceptor or trunk sewer or enlargement of or additional pumping station on the basis of the proposed increases in design capacities to be reserved for each municipality or municipality authority in such

enlarged or additional reach or section of interceptor or trunk sewer or in such enlargement of or additional pumping station. The reserved capacities shall be as set forth in Exhibit B subject to any changes in such reserved capacities as may be requested by any municipality or municipality authority. Adjustment shall be made so that each lessee municipality or municipality authority pursuant to Section 7.01 hereof bears the expense of replacing the capacity rented by it and each lessor municipality receives back its reserved capacity placed in the pool.

The project cost of the aforesaid extraordinary repairs, renewals or replacements, enlargements or additions shall be determined as hereinabove provided with respect to the construction of the several sections or reaches of the respective interceptor or trunk sewers and the pumping stations of the East Whiteland Trunk Line set forth in Article II hereof and shall be paid and accounted for in the same manner as that provided in Article II hereof. Each party authorizes and directs East Whiteland Authority on behalf of each municipality and municipality authority from time to time to apply for and accept any one or more grants in aid towards the aforesaid extraordinary repairs, renewals or replacements, enlargements or additions.

7.03 Construction Fund.

Moneys paid pursuant to Section 7.02 of this Article shall be deposited, held and disbursed pursuant to the Construction Fund provisions set forth in Article II hereof.

ARTICLE VIII

INSURANCE AND DAMAGE OR DESTRUCTION

8.01 Insurance on East Whiteland Trunk Line.

East Whiteland Authority agrees that during the construction of East Whiteland Trunk Line it will at all times cause to be kept in force builder's risk insurance (or equivalent coverage) upon any work done or materials furnished under construction contracts (except foundations and any other structures not customarily covered by such insurance) said policies to be written in completed value form for 100% of the insurable value of the contracts. East Whiteland Township agrees that upon completion of such construction it will at all times as an East Whiteland Trunk Line operating expense cause the East Whiteland Trunk Line to be insured against loss or damage by fire or other casualty in such amount and against such risks as are usually carried with respect to like properties, provided that the amount of such insurance shall be sufficient to prevent the insured from becoming a co-insurer thereunder by reason of any co-insurance clause in the policies. All such insurance policies shall (a) be written by responsible insurance companies authorized and qualified to do business in Pennsylvania, (b) be non-assessable and (c) name as the insureds East Whiteland Authority, East Whiteland Township and the Trustee of the Trust Indenture executed by East Whiteland Authority to secure its bonds issued to provide for the construction in whole or in part of the East Whiteland Trunk Line and, in addition, during any period of repair or construction the contractors engaged in such repair or construction, and to the extent procurable shall not be cancellable for at least fifteen (15) days prior written notice to such named insureds. All payments made under such policies on account of loss shall be paid to the aforesaid Trustee. East Whiteland Township agrees to furnish to each municipality before commencing operation of the East Whiteland Trunk Line

and before the start of each year during the term of this Agreement a certificate of the Consulting Engineers stating the amount and kind of such insurance in effect for the ensuing year and that the same is, in the opinion of the Consulting Engineers, in compliance with the requirements of this section.

8.02 Repair or Reconstruction with Insurance Proceeds.

In the event any damage to the facilities covered by such insurance, East White Authority, upon receipt of the necessary funds as provided for herein, shall promptly repair or replace the damaged property unless the Consulting Engineers certify that it would not be practical and advantageous to do so. It is agreed that in the absence of such a certification the proceeds of all insurance coverage to the extent necessary shall be applied to such repair or reconstruction.

8.03 Repair or Replacement not covered by Insurance Proceeds.

In the event that it shall become necessary, in order to convey sewage to the Valley Forge Treatment Plant in accordance with the purport and intent of this Agreement, to make an extraordinary repair or replacement of any section or reach of any interceptor or trunk sewer or of any pumping station constituting a part of the East Whiteland Trunk Line because of damage or destruction by casualty or otherwise, and there are insufficient funds available from insurance proceeds to pay the costs and expenses thereof, East Whiteland Authority and Malvern Authority shall forthwith pay over to East Whiteland Authority (but only from legally available current revenues, sewer rentals and borrowed funds) for deposit in a special construction fund such amount as is required for the purpose, in the same proportions and in the

the same manner as that hereinabove provided under Section 7.02.

8.04 Providing Conveyance Capacity by a means other than
Repair or Reconstruction of the East Whiteland Trunk Line.

In the event that proceeds of insurance resulting from damage to the East Whiteland Trunk Line are not applied to the repair or the replacement of the damaged property because the same is determined to be impractical and not advantageous (pursuant to Section 8.02 hereof) such proceeds shall be applied towards the provision of conveyance capacity pursuant to Section 7.02 hereof. In such event credit for funds so applied shall be given to the municipalities in the same proportions as capital contributions towards the project cost of the East Whiteland Trunk Line were made by each.

ARTICLE IX

ARBITRATION

9.01 Arbitration as the Charges provided in Articles II and IV.

In the event any disagreement shall arise concerning the charges provided in Articles II and IV and the parties cannot otherwise promptly resolve the same, such disagreement shall be submitted within ten (10) days of the time any party requests arbitration to a certified public accountant appointed by method agreed upon by the parties. In the event of failure to agree upon such an arbitrator within ten (10) days, an arbitrator shall be appointed by the Senior Judge of the Court of Common Pleas of Chester County available at the time when the Authority or any of the parties request appointment of an arbitrator. The decision of the accountant or arbitrator so chosen shall be binding and rendered within twenty (20) days. Any request for arbitration shall be made within sixty (60) days after receiving a certificate under Section 2.08 or a statement under Section 2.10,

Section 4.05 or Section 4.13, and if no such request is made the certificate or statement shall be considered correct and not subject to future questions. The fee of such certified public accountant or arbitrator shall be an operating expense of the East Whiteland Trunk Line.

9.02 Arbitration by Board of Arbitrators.

In the event any disagreement shall arise as to the interpretation of any provisions hereof or the rights and obligations of the parties hereunder (other than disagreements provided for in Section 9.01) and the parties cannot otherwise promptly resolve the same, such disagreement shall be submitted within ten (10) days of the time any party request arbitration to a Board of Arbitrators whose decision shall be binding and shall be rendered within twenty (20) days. Such Board shall consist of the Consulting Engineers appointed by East Whiteland Authority, a firm of consulting engineers selected by the other parties to this Agreement and a third professional engineer licensed in Pennsylvania selected by the Consulting Engineers appointed by East Whiteland Authority and by said other parties; provided, however, that East Whiteland Authority and the other parties to this Agreement may agree to select arbitrators other than engineers or may agree to submit the matter to a single arbitrator. In the event of failure of said engineers to agree upon a third engineer or arbitrator, the same shall be appointed in the manner set forth in Section 9.01 hereof. The fees of all arbitrators shall be an operating expense of the East Whiteland Trunk Line.

ARTICLE X

MISCELLANEOUS PROVISIONS

10.01 Operation of East Whiteland Trunk Line.

East Whiteland Township agrees that it will, for and during the term of this Agreement by use of funds provided hereunder, operate and maintain the East Whiteland Trunk Line and that it will keep the same in good order and repair, save where prevented from doing so by act of God or riot, rebellion, sabotage, act of the public enemy or public calamity in which event East Whiteland Township may suspend operation of the East Whiteland Trunk Line until the cause of such suspension shall no longer exist and for such reasonable time thereafter as may be required to effect a resumption of operations. Neither East Whiteland Authority nor East Whiteland Township shall at any time or under any circumstances be liable to any party for damages in case of failure or inadequacies of the East Whiteland Trunk Line or the Valley Creek Trunk Sewer, or the Valley Forge Treatment Plant to receive, convey, treat or dispose of sewage.

10.02 Operation of Collection Systems.

Each party agrees that during such time as it operates a sewage collection system it will continuously operate and keep and maintain its collection system at all time in first-class repair, order and efficient operating condition and will meet the standards prescribed by the Sanitary Water Board of the Pennsylvania Department of Health or any other governmental authority having jurisdiction. Each party agrees to pay the cost of any damage to the East Whiteland Trunk Line or fine imposed upon East Whiteland Authority or East Whiteland Township resulting from discharge of improper sewage from such party's collection system in violation of this Agreement or

from improper operation or maintenance of such party's collection system. Each party agrees to indemnify and save harmless all of the other parties against all costs, losses or damage on account of any injury to persons or property occurring in the performance of this Agreement due to the negligence of such party or its servants, agents or employees.

10.03 Leases.

In the event that any municipality authority shall at any time lease its collection system to a municipality, any right or obligation of such authority under this Agreement may be exercised and shall be performed, as the case may be, by the municipality instead of the municipality authority to the extent that it may legally do so. When, by reason of the termination of any collection system lease, or for any other reason, any municipality authority shall be in possession of its collection system, then without any further act or agreement such municipality authority shall succeed to and become vested with all of the rights, powers, duties and obligations under this Agreement granted to or imposed upon the municipalities which created such authority.

10.04 Public Utility Law.

In the event that the Commonwealth of Pennsylvania should subsequently lawfully confer jurisdiction of the subject matter of this Agreement upon the Pennsylvania Public Utility Commission in whole or in part, the parties shall, if requested so to do, proceed forthwith to obtain all necessary power, right and authority from the said Public Utility Commission or such other proper agency of such Commonwealth in order to carry out the terms, provisions and intent hereof.

10.05 Permits.

In the event that it may be necessary for the proper performance of this Agreement on the part of the East Whiteland Authority or East Whiteland Township to apply to any governmental or other agency for any permit or license to do or perform any act or thing contemplated hereby, and if such application must be made by a municipality rather than by the East Whiteland Authority or East Whiteland Township, the municipality affected agrees that it will execute the required application upon request by the East Whiteland Authority or East Whiteland Township, it being understood that in executing such application the municipality shall not assume any obligations both those for which it would have been responsible had East Whiteland Authority or East Whiteland Township made the said application.

10.06 No Joint Liability.

With the exception of a municipality and a municipality authority organized by such municipality, no party shall be held to be jointly liable in the event of failure of any party to perform and discharge its obligations under this Agreement, it being the intent hereof that this shall constitute the separate agreement of each of the parties named herein and default by any party in the discharge of any obligation resting upon it hereunder, shall not relieve any party from full performance of and compliance with the terms hereof.

10.07 Connections.

Prior to the completion of construction of the Valley Forge Treatment Plant, the Valley Creek Trunk Sewer and the East Whiteland Trunk Line, the Borough and each Township which is a party

hereunder will (to the extent it has not done so prior thereto) take all action which may be legal and necessary to compel all properties located within its territorial limits and then capable or thereafter becoming capable of being served by the municipality's collection system to be connected therewith.

10.08 Records.

Each party agrees to make available at all reasonable times to the parties to this Agreement and their employees, agents and representatives, access to all records relating to matters covered in this Agreement and access to the physical facilities of each party in order to assure compliance with the terms and conditions of this Agreement. A copy of all ordinances, resolutions, rules and regulations adopted by each party from time to time, pursuant to this Agreement, shall be furnished to East Whiteland Authority within thirty (30) days after enactment.

10.09 Severability.

Should any one or more of the provisions of this Agreement for any reason be held illegal or invalid, such illegality or invalidity shall not affect any other provision of this Agreement; and this Agreement shall, in such circumstances, be construed and enforced as if such illegal or invalid provision had not been contained herein.

10.10 Term.

This Agreement shall become effective upon its execution and delivery by all the parties hereto and shall remain in effect for forty years and thereafter shall be terminated only by mutual agreement of all parties.

10.11 Definitions.

The following terms and phrases shall have the meanings hereinafter set forth whenever such terms and phrases are used herein:

(a) "Consulting Engineers" means Roy F. Weston, Inc., and in the event said firm ceases to serve as the Consulting Engineers for East Whiteland Authority, an engineering firm or professional engineer having a favorable reputé for skill and experience in the construction and operation of sewage treatment plants, registered in Pennsylvania and chosen by East Whiteland Authority.

(b) "Equivalent Dwelling Unit" shall mean any room, group of rooms, house trailer or other enclosure occupied or intended for occupancy as separate living quarters by a family or other group of persons living together or by persons living alone.

(c) "Industrial Uses" means any improved property used, in whole or in part, for manufacturing, processing, cleaning, laundering or assembling any product, commodity or article or from which any process waste, as distinct from sanitary sewage, is discharged.

(d) "Industrial Wastes" means any and all wastes discharged from an industrial establishment or by an industrial user, other than sanitary sewage.

(e) "Sewage", "Wastewater", "Sanitary Sewage" and "Sanitary Waste" means normal water-carried household and toilet wastes from any improved property and is limited to sewage permitted by Article V hereof and industrial wastes to the

extent permitted by Article V.

(f) "Improved Property" means any property upon which there is erected a structure intended for continuous or periodic habitation, occupancy or use by human being or animals and from which structure sanitary sewage and/or industrial wastes shall be or may be discharged.

(g) "pH" means the logarithm of the reciprocal of the concentration of hydrogen ions, expressed in grams per liter of solution, indicating the degree of acidity or alkalinity of a substance.

(h) "B.O.D." means biochemical oxygen demand.

10.13 Execution.

This Agreement may be executed in any number of counterparts each of which may be deemed an original.

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed and attested by its proper officers, pursuant to the proper action of its governing body, as of the day and year first above written.

EAST WHITE LAND MUNICIPAL AUTHORITY

(Authority Seal)

Attest:

By: _____
Secretary

By: _____
Chairman

TOWNSHIP OF EAST WHITELAND

(Township Seal)

Attest:

BY:

Chairman, Board of Supervisors

By:

Secretary

MALVERN MUNICIPAL AUTHORITY

(Authority Seal)

Attest:

By: _____
Secretary

BY: _____
Chairman

BOROUGH OF MALVERN

(Borough Seal)

Attest:

By: _____
Secretary

BY: _____
President of Borough Council

VALLEY FORGE SEWER AUTHORITY

(Authority Seal)

Attest:

By: _____
Secretary

BY: _____
Chairman

FACTORS FOR DETERMINATION OF
EQUIVALENT DWELLING UNITS

<u>Classification</u>	<u>Number of E.D.U.</u>
A. Each private dwelling or living unit	1
B. Each fire house or municipal building	1
C. Each church	1
D. Each public or private day school Elementary, junior or senior high school Based on the daily average number of pupils enrolled on days when the school was in session during the quarter immediately preceding the date for determination of the number of connections, divided by the factor of 20. Teachers and employees shall be classified as pupils. Average enrollment shall be redetermined annually.	
E. Each retail gas station without car washing facilities	2
F. Each retail gas station with car washing facilities	3
G. Each commercial establishment, hospital, convalescent home, or institution The quantity of water used shall be evidenced by meter readings of water meters installed by water suppliers for the purpose of measuring water purchased from said water supplier and such other meters or measuring devices as may be installed. The quantity of water used during the quarter immediately pre- ceding the date for determination of the number of connections divided by 24,750 gal- lons shall represent the number of Equivalent Dwelling Units determined in respect of such establishment. Where no meter has been installed by the supplier or no other meter or measuring device has been installed, the number of Equivalent Dwelling Units shall be estimated.	
H. Each motel, hotel, or rooming house Each unit or room shall be evaluated as one-half an Equivalent Dwelling Unit. Where a restaurant or bar room is conducted in conjunction with any motel or hotel, a separate determination for such restaurant or bar room shall be made in accordance with paragraph "G" above.	
I. Industrial Establishments The quantity of water used shall be evidenced by meter readings of water meters installed by water suppliers for the purpose of measuring	

water purchased from said water supplier and such other meters or measuring devices as may be installed. The quantity of water used during the quarter immediately preceding the date for determination of the number of connections divided by 24,750 gallons shall represent the number of Equivalent Dwelling Units determined in respect of such establishment.

Where no meter has been installed by the supplier or no other meter or measuring device has been installed, the number of Equivalent Dwelling Units shall be estimated.

- J. Multiple Use. In case of a combination of one or more dwelling or living units with a similar unit or units or with one or more commercial establishments in the same or connected building with each thereof having the use of the Valley Creek Trunk Sewer (directly or indirectly) through one sewer connection, then each such private dwelling or living unit and each such commercial establishment shall be evaluated on the basis of the applicable factors for each use thereof as if such use were conducted in a separate structure and as if each such use had a direct and separate connection to the Valley Creek Trunk Sewer

SUPPLEMENT TO EXHIBIT B

EAST WHITELAND TRUNK LINE

ALTERNATIVES TO EXHIBIT B FOR VARYING P.L. 660 GRANTS

	<u>ALTERNATIVES</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Federal Grant	30%	30%	30%	40%
State Grant	0	17	30	30
Federal Grant for Regional	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>
TOTAL	33%	50%	63%	74%
Estimated Project Cost (1)	\$601,960	\$601,960	\$601,960	\$601,960
Eligible Cost	587,960	587,960	587,960	587,960
Grants	194,027	293,980	370,415	435,090
Estimated Project Cost to be Distributed	407,933	307,980	231,545	166,870

		<u>ALTERNATIVES</u>			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>Distribution</u>	<u>% of Total Project Cost</u>				
East Whiteland Municipal Authority	59.45	\$283,309	\$213,892	\$160,808	\$115,891
Malvern Municipal Authority	<u>30.55</u>	<u>\$124,624</u>	<u>\$ 94,088</u>	<u>\$ 70,737</u>	<u>\$ 50,979</u>
TOTALS	100.00	\$407,933	\$307,980	\$231,545	\$166,870

(1) See Sheet 1 of Exhibit B for Breakdown

EXHIBIT B
EAST WHITELAND TRUNK LINE

ENGINEERING COST DISTRIBUTION
FOR DESIGN SERVICES

Engineering Design Fees \$25,600

<u>Name of Party</u>	<u>Total Estimated Construction Cost</u>	<u>% Share of Construction Cost</u>	<u>Engineers Cost</u>
East Whiteland Municipal Authority	\$328,557	69.45	\$17,779
Malvern Municipal Authority	<u>\$144,503</u>	<u>30.55</u>	<u>\$ 7,821</u>
TOTALS	\$473,060	100.00	\$25,600

EXHIBIT B

EAST WHITELAND TRUNK LINE

FIRST TWO YEAR OPERATING AND ADMINISTRATIVE EXPENSES

I. Estimated First Two Year Operating Expenses

Salaries and Wages	\$ 3,000
Maintenance and Repairs	1,000
Miscellaneous	<u>400</u>
Total I	\$ 4,400

II. Estimated First Two Year Administrative Expenses

Salaries and Wages	\$ 3,000
Office Supplies	200
Insurance and Bonds	1,000
Engineering	1,000
Legal	1,000
Auditing	2,000
Miscellaneous	<u>1,000</u>
Total II	\$ <u>9,200</u>
Total I and II	\$13,600

EXHIBIT B

EAST WHITELAND TRUNK LINE

DISTRIBUTION OF FIRST TWO YEAR OPERATING AND
ADMINISTRATIVE EXPENSES

ALTERNATIVES

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Total Expenses from Sheet 3	\$13,600	\$13,600	\$13,600	\$13,600
Construction Cost Eligible for State Subsidy (1)	\$24,727	\$24,727	\$24,727	\$24,727
Project Cost Eligible for Subsidy	\$32,200	\$32,200	\$32,200	\$32,200
State - Federal Grant on Eligible Project Cost	\$10,626	\$16,100	\$20,286	\$23,828
Net Eligible Cost for State Subsidy	\$21,574	\$16,100	\$11,914	\$ 8,372
State Subsidy (2)	\$ 431	\$ 322	\$ 238	\$ 167
Net First Two Year Operating and Administrative Expenses	\$21,143	\$15,778	\$11,676	\$ 8,205

ALTERNATIVES

<u>Distribution</u>	<u>% of Total Project Cost</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
East Whiteland Municipal Authority	69.45	\$14,684	\$10,958	\$ 8,109	\$ 5,698
Malvern Municipal Authority	<u>30.55</u>	<u>\$ 6,459</u>	<u>\$ 4,820</u>	<u>\$ 3,567</u>	<u>\$ 2,507</u>
TOTAL	100.00	\$21,143	\$15,778	\$11,676	\$ 8,205

(1) From MH 21-6 to MH 21-4

(2) State subsidy assumed to be received during second year of operation

EXHIBIT B - EAST WHITELAND TRUNK LINE

SHEET 1 of 4

SECTION OF SEWER FROM MH TO MH	TOTAL ESTIMATED COST	EAST WHITELAND TOWNSHIP			MALVERN BOROUGH		
		DESIGN CAPACITY - MGD	ESTIMATED SHARE %	ESTIMATED COST	DESIGN CAPACITY - MGD	ESTIMATED SHARE %	ESTIMATED COST
<u>WARREN AVENUE</u>							
Twp line to MH 17-11	\$ 21,390	0	0	\$ 0	2.14	100.0	\$ 21,390
MH 17-11 to MH 17-4	4,028	1.1	47.6	1,917	2.14	52.4	2,111
<u>LINCOLN HIGHWAY</u>							
Twp line to MH 18A-1	5,077	0	0	0	0.28	100.0	5,077
<u>ROW and LANCASTER PIKE</u>							
Twp line to MH 18A-1	24,824	0	0	0	0.08	100.0	24,824
MH 18A-1 to MH 17-1	15,495	0	0	0	0.36	100.0	15,495
MH 17-1 to MH 17-4	21,612	1.0	100.0	21,612	0.36	0.0	0
MH 17-4 to MH 12-4	45,310	1.0	47.6	21,568	2.50	52.4	23,742
MH 12-4 to MH 12-5	15,865	1.0	47.6	7,552	2.50	52.4	8,313
<u>MOREHALL ROAD</u>							
MH 12-5 to MH 19-4	47,495	1.0	47.6	22,608	2.50	52.4	24,887
MH 19-4 to MH 20-2	42,805	10.5	100.0	42,805	2.50	0.0	0
<u>MATTHEWS ROAD and ROW</u>							
MH 20-2 to MH 20-8	69,644	10.5	100.0	69,644	2.50	0.0	0
MH 20-8 to MH 21-3	123,271	10.5	88.3	108,848	2.50	11.7	14,423
MH 21-3 to MH 21-6	36,244	10.5	88.3	32,003	2.50	11.7	4,241
TOTAL CONSTRUCTION COST	473,060			328,557			144,503
ENGINEERING, SURVEYING AND INSPECTION	62,000			43,059			18,941

(6)

AMENDMENT TO EAST WHITELAND TRUNK LINE AGREEMENT

This Amendment, dated as of the 12th day of December, 1979, to the East Whiteland Trunk Line Agreement dated as of February 1, 1971, as amended by Composite Amendment No. 1, dated as of December 1, 1974 (hereinafter referred to as "the Agreement"), is entered into between EAST WHITELAND MUNICIPAL AUTHORITY (East Whiteland Authority), the TOWNSHIP OF EAST WHITELAND (East Whiteland Township), parties of the first part, and the BOROUGH OF MALVERN (Malvern), and MALVERN MUNICIPAL AUTHORITY (Malvern Authority), parties of the second part, and VALLEY FORGE SEWER AUTHORITY, party of the third part.

WHEREAS, subsequent to the execution of the Agreement, Valley Forge Sewer Authority decided to seek the opportunity to transmit sewage from an area of Charlestown Township adjacent to East Whiteland Township through the East Whiteland Trunk Line (and the Valley Creek Trunk Line) to the Valley Forge Treatment Plant; and

WHEREAS, East Whiteland Authority and East Whiteland Township, at the request of Valley Forge Sewer Authority are willing to reserve for the Valley Forge Sewer Authority, the reserved capacity provided herein of the East Whiteland Trunk Line and the Mill Lane pumping station; and

NOW, THEREFORE, the parties hereto, intending to be legally bound hereby, agree as follows:

1. Valley Forge Sewer Authority shall have no rights or liabilities with respect to Section 1.01 of the Agreement.

2. Within thirty (30) days of the date of this Amendment, Valley Forge Sewer Authority shall pay to East Whiteland Authority the sum of one hundred fifteen thousand nine hundred seventy-five

dollars (\$115,975). Of that sum, \$114,189 shall be allocated to Valley Forge Sewer Authority's capital contribution pursuant to Sections 2.01 and 2.02 of the Agreement and \$1,786 to operating expenses for the first two (2) years pursuant to Section 4.13 of the Agreement. The calculation of the above figure takes into consideration all currently applicable grants. Exhibit B of the Agreement is hereby amended in part as set forth in Exhibit A attached hereto. All references in the Agreement to Exhibit B thereof shall be deemed to refer to Exhibit B as amended by Exhibit A attached hereto.

3. Valley Forge Sewer Authority hereby is granted rights, and assumes liabilities as if it were one of the parties referred to in the Agreement as a "Municipality" which rights and liabilities are defined in the Agreement.

4. Valley Forge Sewer Authority, at its own expense or at the expense of its users, may, during the term of the Agreement, cause sewage emanating from Charlestown Township to be discharged into sewer lines of East Whiteland Township which have been acquired from Great Valley Wastewater Company ("the Great Valley Line"). The East Whiteland Trunk Line shall thus be extended to the boundary of Charlestown Township.

5. Valley Forge Sewer Authority shall commence delivering sewage to the Great Valley Line as soon as practicable after the execution of this Agreement. East Whiteland Authority, as soon as practicable thereafter, shall permit connection at the locations that East Whiteland Authority may agree to, which agreement may not be unreasonably withheld, and shall accept sewage for conveyance to the treatment plant subject to the terms and conditions herein set forth. Valley Forge Sewer Authority may make subsequent connections at locations agreed to by East

Whiteland Authority, which shall not unreasonably withhold its agreement. Except as permitted pursuant to Article VII of the Agreement, Valley Forge Sewer Authority shall not exceed its reserved capacity as set forth in Exhibit B, as amended by this Agreement.

6. Section 4.01 of the Agreement is hereby amended to read as follows:

"The Borough of Malvern, the township of East Whiteland and Valley Forge Sewer Authority (all of which are referred to in this article IV and elsewhere in this agreement as 'said municipalities') shall share the operating expenses of the East Whiteland Trunk Line and its extension to Charlestown Township, as defined in Section 4.06, as follows: the proportion that the volume of sewage (determined as hereinafter provided and by other agreement of the parties) emanating from each such municipality and discharged into the several sections or reaches of the interceptor or trunk sewer, constituting the East Whiteland Trunk Line and its extension to Charlestown Township bears to the total volume of sewage discharged by said municipalities into such sections or reaches shall be used in calculating the amount that each such municipality shall pay for sewage conveyance services. Operating expenses of the East Whiteland Trunk Line for the first two years of operation shall be paid as set forth in Section 4.13 hereof."

All references in Article 4 of the Agreement to East Whiteland Trunk Line shall be deemed also to refer to the Great Valley Line.

7. Any sewage discharged by Valley Forge Sewer Authority into the East Whiteland Trunk Line or Great Valley Line shall conform to the standards for quality of sewage set forth in Article V of the Agreement.

3. Pursuant to an Agreement entitled "Valley Creek Trunk Sewer Agreement" dated November 1, 1970, as amended, East Whiteland Authority has made payments to Tredyffrin Township for operating expenses of the Valley Creek Trunk Line during its first two years of operation, and will, during subsequent years, continue to be obligated to make payments on account of operating expenses. Valley Forge Sewer Authority agrees hereby to, within thirty days from the execution of this Agreement, reimburse East Whiteland Authority for 7.89% of the amount paid on account of operating expenses during the first two years by East Whiteland Authority to Tredyffrin Township. Valley Forge Sewer Authority further agrees to reimburse East Whiteland Authority for Valley Forge Sewer Authority's share of any payments East Whiteland must make to Tredyffrin Township pursuant to Article 4 of the Valley Creek Trunk Sewer Agreement for operating costs during years subsequent to the first two years of operation and for payments for capital contributions paid subsequent to the date hereof. Valley Forge Sewer Authority's share of the said operating costs and additional capital contributions will be its pro-rata share, based on the proportion that the volume of sewage emanating from Charlestown Township into the East Whiteland Trunk Line and Great Valley Line bears to the total sewage emanating from East Whiteland Township into the Valley Creek Trunk Sewer Line. The payments by Valley Forge Sewer Authority shall not exceed those that would be made if said Authority had made its payments directly to the Tredyffrin Township Municipal Authority.

9. At such time as East Whiteland Authority must pay funds to the Tredyffrin Township Municipal Authority resulting from an enlargement of an interceptor or trunk sewer (or any section or reach thereof) or the construction of an additional interceptor

or trunk sewer or the enlargement of a pumping station or the construction of an additional pumping station pursuant to the Valley Creek Trunk Sewer Agreement, then Valley Forge Sewer Authority shall reimburse East Whiteland Township for its pro-rata share of said funds calculated on the basis of its pro-rata share of reserved capacity, as such reserved capacity shall be determined by Valley Forge Sewer Authority, in such section or reach of interceptor or trunk sewer. In the alternative, Valley Forge Sewer Authority may reserve capacity pursuant to Section 7.02 of the Valley Creek Trunk Sewer Agreement.

10. Valley Forge Sewer Authority hereby agrees that all sewage from Charlestown Township shall be deemed to be sewage of Valley Forge Sewer Authority for purpose of an Agreement dated as of November 1, 1970, as amended, known as "the Valley Forge Sewage Treatment Plan Agreement".

11. Valley Forge Sewer Authority shall, at its expense, construct or cause to be constructed a sewage meter or sewage flow measuring device to determine the volume of sewage emanating from Charlestown Township to East Whiteland Township.

12. All references in Sections 4.03, 7.03 and 8.03 of the Agreement to "Malvern" shall be deemed to refer to Malvern and Valley Forge Sewer Authority. Valley Forge Sewer Authority shall make payments pursuant to Section 4.04 of the Agreement at the same time as Malvern is required to make payments. All other sections of the Agreement refer to parties or municipalities defined in Section 4.01, as amended by Paragraph 6 of this Agreement, unless otherwise stated herein.

13. Pursuant to Paragraph 7.01 of the Valley Creek Trunk Sewer Agreement, Valley Forge Sewer Authority hereby is granted the right to rent a capacity of up to 300,000 gallons per day average flow (750,000 gallons per day peak flow) in the Valley

Creek Trunk Sewer from East Whiteland Authority, with all rental fees therefore being paid to East Whiteland Authority, as provided therein.

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed and attested by its proper officers pursuant to the proper action of its governing body as of the day and year first above written.

BY: *Joseph Weinstein*
Valley Forge Sewer Authority
Charles E. Ott

BY: *Stephen J. Chinn*
East Whiteland Municipal
Authority

ATTEST: *J. Donald Reiman* ATTEST: _____
TOWNSHIP SECRETARY

EAST WHITELAND TOWNSHIP
BOARD OF SUPERVISORS
209 CONESTOGA ROAD

FRAZER PA. 19355

BY: *John J. Bennett*
Township of East Whiteland
John J. Bennett

ATTEST: _____

✓ BY: *James J. Sedlacek*
Borough of Malvern

ATTEST: *Richard M. Spinio*

BY: *William J. Malvern*
Malvern Municipal Authority

ATTEST: *Robert L. Wright*

EXHIBIT "A"

Exhibit "B" of the East Whiteland Trunk Line

Agreement is amended in part to provide that if any expansion, repair, enlargement or construction to the Great Valley Line shall be required, Valley Forge Sewer Authority shall pay its pro rata share of such expansion, enlargement or construction on the basis of its reserved capacity in the expanded or repaired Great Valley Line to the total reserved capacity therein. Notwithstanding the foregoing, 300,000 gallons per day of capacity shall be reserved in the Great Valley Line for Valley Forge Sewer Authority.

EXHIBIT "B"

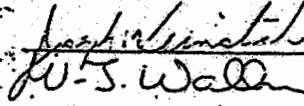
THIS AGREEMENT made this 27th day of December 1978,
by and between EAST WHITELAND MUNICIPAL AUTHORITY and VALLEY
FORGE SEWER AUTHORITY

W I T N E S S E T H:

Valley Forge Sewer Authority and East Whiteland
Municipal Authority have agreed to share cost for the Sidley
Road Trunk Line repairs as indicated in Schedule A presented
by East Whiteland Municipal Authority (Schedule A attached
hereto). Items Nos. 1, 3, 4, and 6 of the Schedule A, which
are line replacements, will be deferred until additional flows
coming from Charlestown Township make ^{replacements} repairs necessary as
determined by East Whiteland Municipal Authority's consulting
engineers. Item No. 14 of Schedule A will be adjusted on the
basis of proposed additional repairs to be required in lieu
of replacement of earlier mentioned lines.

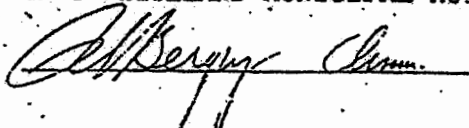
NOW THEREFORE, the parties hereto, agree that the
mutual promises herein contained and previous arrangements
will allow the parties to finalize the agreement to provide
sewer service to the southern portion of Charlestown Township
through the East Whiteland Trunk Line.

VALLEY FORGE SEWER AUTHORITY


W-S. Wall

EAST WHITELAND MUNICIPAL AUTHORITY


Donald E. Coleman


J. Berony

SCHEDULE A
EAST WHITELAND/CHARLESTON SHARED COSTS

		<u>East Whiteland Twp.</u>			<u>East Charleston Twp.</u>			
	Hanhole Runs	Total Est. Repair Cost	Capacity MGD	% Share	Share of Cost Est.	Capacity MGD	% Share	Total Capacity
①	67-25 to 23	\$12,000	0.38	29	0	0.75	71	0.8
②	24 to 23		0.38	29	0	0.75	71	
③	23 to 19	7,000	0.25	25	1,500	0.75 (1)	75	1.0
		3,000 (2)			250			
④	19 to 15	30,000	0.16	44	0	0.75	56	1.3
		3,000 (2)			1,500			
⑤	15 to 13	1,300	0.635	46	650	0.75	54	1.3
⑥	13 to 12	4,000	0.75	50		0.75	50	1.5
⑦	12 to 6	600	0.75	50	300	0.75	50	1.5
⑧	6 to 2	300	0.80	52	150	0.75	48	1.5
⑨	2 to 59-4		0.85	53		0.75	47	1.6
⑩	59-4 to Pump Sta.		0.95	56		0.75	44	1.7
		\$61,200			\$5,900			\$57,100
⑪	Surveying	1,804		50	902			902
⑫	TV & Cleaning	4,344		50	2,172			2,172
⑬	TV Engr./Insp.	3,060		50	1,533			1,533
⑭	Line Replacement	12,000 (3)		0	0			12,000
	Engr./Insp./Legal							
	TOTAL	\$82,210			\$10,507			\$73,707

1. To be pastored until 100% flow lines from Charleston

2. To be pastored until 100% flow lines from Charleston

3. To be pastored until 100% flow lines from Charleston

4. To be pastored until 100% flow lines from Charleston

5. To be pastored until 100% flow lines from Charleston

6. To be pastored until 100% flow lines from Charleston

7. To be pastored until 100% flow lines from Charleston

8. To be pastored until 100% flow lines from Charleston

9. To be pastored until 100% flow lines from Charleston

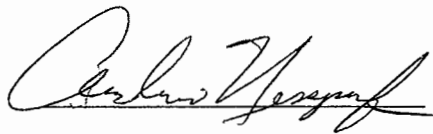
10. To be pastored until 100% flow lines from Charleston

THIS AGREEMENT made this 27th day of December 1978,
by and between EAST WHITELAND MUNICIPAL AUTHORITY and VALLEY
FORGE SEWER AUTHORITY

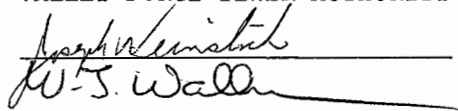
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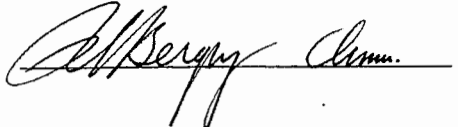
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through the East Whiteland Trunk Line.



VALLEY FORGE SEWER AUTHORITY



EAST WHITELAND MUNICIPAL AUTHORITY



SCHEDULE A

EAST WHITELAND/CHARLESTON SHARED COSTS

East Whiteland Twp.					Peak Flow	Charlestown Twp.		Peak Flow
Manhole Runs	Total Est. Repair Cost	Capacity MGD	% Share	Share of Cost Est.	Capacity MGD	% Share	Share of Cost Est.	Total Capacity M
①* 67-25 to 23	\$12,000	.038	29	0	0.75	71	\$ 12,000	0.8
② 24 to 23		.038	29	0	0.75	71		
③* 23 to 19	7,000	0.25	25	1,500	0.75 (1)	75	7,000	1.0
	3,000(2)			750			1,500 2,250	
④* 19 to 15	30,000	0.6	44	0	0.75	56	30,000	1.35
	3,000(2)			1,500			1,500	
⑤ 15 to 13	1,300	0.635	46	650	0.75	54	650	1.39
⑥* 13 to 12	4,000	0.75	50		0.75	50-100	4,000	1.5
⑦ 12 to 6	600	0.75	50	300	0.75	50	300	1.5
⑧ 6 to 2	300	0.80	52	150	0.75	48	150	1.55
⑨ 2 to 59-4		0.85	53		0.75	47		1.6
⑩ 59-4 to Pump Sta.		0.95	56		0.75	44		1.7
	\$61,200			4,100 \$5,900			\$57,100	
⑪ Surveying	1,804		50	902			902	
⑫ TV & Cleaning	4,344		50	2,172			2,172	
⑬ TV Engr/Insp.	3,060		50	1,533			1,533	
⑭** Line Replacement	12,000 (3)		0	0			12,000	
Engr./Insp./Legal								
TOTAL	\$82,210			\$10,507			\$73,707	

* TO BE POSTPONED UNTIL ADDITIONAL FLOW TIMES FROM CHARLESTON
 ** TO BE ADJUSTED ON BASIS OF POSTPONED WORK

(1) Assume 750,000 MGD Includes Ferguson & Warehouses

(2) Estimated cost for line repairs assume benefit equal to each township

\$77,807

APPENDIX K

Municipal Comments and Responses

October 10, 2012

VIA UPS GROUND

East Whiteland Township Planning Commission
East Whiteland Township
209 Conestoga Road
Frazer, PA 19355

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

RE: East Whiteland Township Act 537 Plan Special
Study for Planning Commission Review.
ARRO #10310.02 ✓

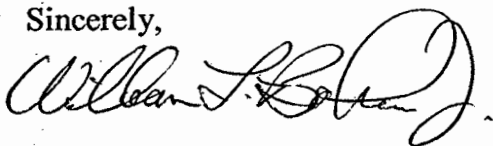
Dear Planning Commission Members:

On behalf of East Whiteland Township (Township), we are submitting a copy of the enclosed draft Act 537 Plan/Special Study for Planning Commission review. The primary focus of the Special Study is to evaluate alternatives to provide for upgraded Township conveyance system facilities to meet the future sanitary sewer needs of the north central portion of the Township as well the south-central portion of Charlestown Township.

Please review this Special Study and offer any comments or concerns that the Planning Commission may have. In addition, please share this document with Terry Woodman and Bill Steele so that they may review it and offer comments as well.

Thank you for your assistance with the review of this Plan. If you have any questions, please contact me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.

WLB:car

Enclosure

c: Terry Woodman, Township Manager – East Whiteland Township (w/o enclosure)
William Steele, Director of Public Works – East Whiteland Township (w/o enclosure)
Brady Flaharty, P.E. – ARRO (w/o enclosure)
Kevin McAgon, P.E. – ARRO (w/o enclosure)

October 10, 2012

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

VIA UPS GROUND

Charlestown Township Planning Commission
Charlestown Township
4030 Whitehorse Road
Malvern, PA 19355

RE: East Whiteland Township Act 537 Plan Special
Study for Planning Commission Review.
ARRO #10310.02 ✓

Dear Planning Commission Members:

On behalf of East Whiteland Township (Township), we are submitting a copy of the enclosed draft Act 537 Plan/Special Study for Planning Commission review. The primary focus of the Special Study is to evaluate alternatives to provide for upgraded Township conveyance system facilities to meet the future sanitary sewer needs of the north central portion of the Township as well the south-central portion of Charlestown Township.

Please review this Special Study and offer any comments or concerns that the Planning Commission may have. Thank you for your assistance with the review of this Plan. If you have any questions, please contact me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.

WLB:car

Enclosure

- c: Terry Woodman, Township Manager – East Whiteland Township (w/o enclosure)
William Steele, Director of Public Works – East Whiteland Township (w/o enclosure)
Brady Flaharty, P.E. – ARRO (w/o enclosure)
Kevin McAgthon, P.E. – ARRO (w/o enclosure)

The Township of
EAST WHITELAND

BOARD OF SUPERVISORS: BILL HOLMES • VIRGINIA MCMICHAEL • JOHN MOTT

TERRY H. WOODMAN, TOWNSHIP MANAGER • KENNETH N. BATTIN, DIRECTOR OF CODES & LIFE SAFETY • GENE DOOLEY, CHIEF OF POLICE
GEORGE LORREN, FINANCE DIRECTOR • G. ERIC REED, CODES ENFORCEMENT OFFICER • WILLIAM H. STEELE, PUBLIC WORKS DIRECTOR

February 6, 2013

FEB - 8 2013

ARRO

William L. Bohner, Jr., P.E.
The ARRO Group
649 North Lewis Road, Suite 100
Limerick, PA 19468

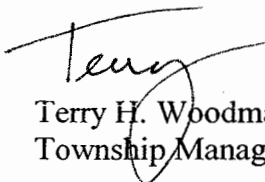
Re: Act 537 Special Study (Sidley Road drainage area)

Dear Bill:

Be aware that the East Whiteland Township Planning Commission at their meeting on November 28, 2012, did review the referenced Study and following their examination, offered no comments or criticisms of the proposed project.

Let me know if you need any additional information about the presentation of this Act 537 Special Study.

Sincerely,


Terry H. Woodman
Township Manager

FEB - 5 2013

ARRO

January 30, 2013

Mr. William L. Bonner, Jr., P.E.
THE ARRO GROUP
950 West Valley Road, Suite 3104
Wayne, PA 19087

Re: **East Whiteland Township Act 537 Plan
Special Study for Planning Commission Review
ARRO # 10310.02**

Dear Mr. Bonner:

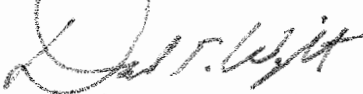
At the November 13, 2012 Charlestown Township Planning Commission meeting I described the East Whiteland Township Act 537 Plan Special Study in general. I also described, in more detail, the anticipated flows from the southside of Charlestown Township to the East Whiteland Study Area.

There was discussion about some of the descriptions of certain areas shown on Tables 1 through 3 and a requested clarification on the flows that would be generated if development was done under the new TND overlay zoning district.

After the meeting we reviewed the flows that could be generated by areas developed using the TND overlay and have determined that there should be no increase to flows presented in Tables 1 through 3.

No other questions or concerns were raised by the Planning Commission.

Very truly yours,



Daniel T. Wright, P.E.
Township Engineer
Charlestown Township

DTW:cpw

cc: Linda M. Csete, Charlestown Township Manager
Surender S. Kohli, P.E.
Terry H. Woodman, East Whiteland Township Manager

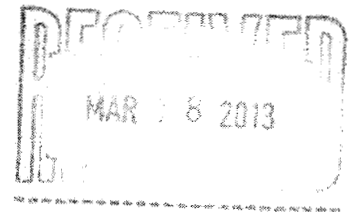


Board of Supervisors

*Frank A. Piliero, Chair - Michael J. Rodgers, Vice Chair
Kevin R. Kuhn - Charles A. Philips - Hugh D. Willig*

March 13, 2013

Martin F. Goldberg
Operations Manager
Valley Forge Sewer Authority
333 Pawling Road
Phoenixville, PA 19460



Re: Official Update of Charlestown South Side Sewerage Flow Projections

Dear Mr. Goldberg,

In accordance with the requirement of the Pennsylvania Department of Environmental Protection (PADEP) that all of the Valley Forge Sewer Authority's (VFSA) customers provide Municipal Needs Assessment Updates in order to complete its Regional Act 537 Plan, Charlestown Township provided the VFSA with its Needs Analysis prepared by Surender Kohli, P.E. and approved by its Board of Supervisors back in September of 2008.

The 2008 Needs Analysis indicates a projected total average flow from the south side of Charlestown Township at 417,060 gpd. This, along with the other community flow projects, was part of the basis for the PADEP-approved Act 437 Plan for the VFSA treatment plant.

Charlestown Township is hereby updating the 2008 Needs Analysis. This is included as Appendix A, which has been compiled by Charlestown's consulting engineer and approved by the Charlestown Township Board of Supervisors at their meeting on March 4, 2013.

Very truly yours,

Linda M. Csete
Township Manager

Cc: Board of Supervisors
Dan Wright, P.E.

Appendix A

[illegible]

APPENDIX L

County Comments and Responses

October 10, 2012

VIA UPS GROUND

Mr. Ronald T. Bailey
Executive Director
Chester County Planning Commission
Government Services Center
Suite 270
601 Westtown Road
P.O. Box 2747
West Chester, PA 19380-0990

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

RE: East Whiteland Township Act 537 Plan Special
Study for Planning Commission Review.
ARRO #10310.02 ✓

Dear Mr. Bailey:

On behalf of East Whiteland Township (Township), we are submitting a copy of the enclosed draft Act 537 Plan/Special Study for Planning Commission review. The primary focus of the Special Study is to evaluate alternatives to provide for upgraded Township conveyance system facilities to meet the future sanitary sewer needs of the north central portion of the Township as well the south-central portion of Charlestown Township.

Please review this Special Study and offer any comments or concerns that the Planning Commission may have. Thank you for your assistance with the review of this Plan. If you have any questions, please contact me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.

WLB:car

Enclosure

c: Terry Woodman, Township Manager – East Whiteland Township (w/o enclosure)
William Steele, Director of Public Works – East Whiteland Township (w/o enclosure)
Brady Flaharty, P.E. – ARRO (w/o enclosure)
Kevin McAghon, P.E. – ARRO (w/o enclosure)



THE COUNTY OF CHESTER

COMMISSIONERS

Terence Farrell
Kathi Cozzone
Ryan A. Costello

Ronald T. Bailey, AICP
Executive Director

PLANNING COMMISSION

Government Services Center, Suite 270
601 Westtown Road
P.O. Box 2747
West Chester, Pa 19380-0990
(610)344-6285 Fax: (610) 344-6515



December 11, 2012

DEC 12 2012

Virginia McMichael, Chairperson
Board of Supervisors
East Whiteland Township
209 Conestoga Road
Frazer, PA 19355

Re: East Whiteland Township Official Sewage Facilities Plan Special Study

Dear Ms. McMichael:

The Chester County Planning Commission (CCPC) has reviewed the Draft 537 Plan Special Study dated October 2012 as required by Section 71.53(a)(2) of the Pennsylvania Sewage Facilities Act (Act 537). The Plan was prepared by ARRO. The Plan was received on October 11, 2012.

This Plan was prepared to assess the needs for wastewater collection and treatment, evaluate alternatives to meet future demands, and to identify and implement improvements in the north-central portion of the Township. The CCPC recommends the Plan be adopted after addressing comments in this letter.

The following comments are offered based on review of the document:

A. Consistency with the County Comprehensive Plan – *Landscapes2*:

1. The Study Area for East Whiteland Township, generally located immediately south of Charlestown Township, in the north-central portion of the Township, is primarily defined as the Suburban Landscape, with portions of the Township located in the Natural Features Overlay. The Act 537 Plan is consistent with the policies of *Landscapes2*, as they relate to the Suburban Landscape, including *Landscapes2* Policy UI 2.5 which states: "Maintain, upgrade, or expand existing public sewer and water facilities to support redevelopment and new development in designated growth areas, where consistent with local land use planning, while discouraging the extension of those facilities in the rural, agricultural and natural landscapes." The Plan indicates that East Whiteland Township is planning to upgrade components of the Township's conveyance system in order to continue to accommodate flow from Charlestown Township and existing and future East Whiteland Township flows. The Plan, as proposed is consistent with the goals and policies of *Landscapes2*.

Page: 2

December 11, 2012

Re: East Whiteland Township Official Sewage Facilities Plan Special Study

2. *Watersheds*, the water resources element of the County comprehensive plan, identifies Objective 7.2 of Goal 7, "concentrate planned utility service areas to support designated growth areas," to be achieved through key strategies such as the extension of wastewater facilities in Suburban Landscapes. As such, East Whiteland Township, through its Act 537 Plan Update, intends to upgrade components of their public sewer system to accommodate existing and future planned growth. Therefore the goals for wastewater in East Whiteland Township are consistent with those of *Watersheds*.

B. Selection of Alternative:

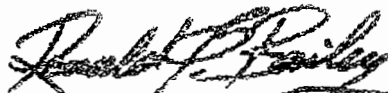
1. The selected alternative for East Whiteland Township is to address the requirements necessary to upgrade components to the municipal conveyance system to accommodate existing and future flows from both Charlestown Township and East Whiteland Township. The proposed alternative is supported by *Landscapes2* Sewer and Water Policy UI 2.2, "Support infrastructure expansion and improvements that are consistent with *Landscapes2* and adopted regional and local plans that support projected future demands, avoid capacity shortfalls, protect natural resources, and provide safe and reliable utility services." As proposed, this alternative is consistent with the goals and policies of *Landscapes2*.

C. General Comments

1. Page 10. On-going Upgrades or Expansion of Facilities. This Plan is consistent with the ongoing upgrades to the Mill Lane Pump Station which is also in this planning area.
2. Page 25. Consistency Determination. East Whiteland Township should include consistency information regarding *Watersheds*, the Chester County comprehensive plan's water resources element.
3. Page 27. County Stormwater Management Plan. Dependent upon the timing of this plan's adoption and construction of expanded/upgraded facilities, the Township may want to consider including information from the forthcoming Chester County Act 167 Stormwater Management Plan.

Thank you for the opportunity to offer comments on this plan. We trust that these comments will be of assistance to you as you prepare the final document for submission to PA DEP. The CCPC recommends approval of the Plan after all comments have been addressed. If you have any questions, please contact Carrie Conwell at 610-344-6285.

Sincerely,



Ronald T. Bailey, AICP
Executive Director

RTB/CC/yg

cc: Elizabeth Mahoney, PaDEP
Ralph DeFazio, Chester County Health Department
Terry Woodman, Manager, East Whiteland Township
William Bohner, Jr., PE, ARRO

The Township of
EAST WHITELAND

BOARD OF SUPERVISORS: BILL HOLMES • VIRGINIA MCMICHAEL • JOHN MOTT

TERRY H. WOODMAN, TOWNSHIP MANAGER • KENNETH N. BATTIN, DIRECTOR OF CODES & LIFE SAFETY • GENE DOOLEY, CHIEF OF POLICE
GEORGE LOKKEN, FINANCE DIRECTOR • G. ERIC REED, CODES ENFORCEMENT OFFICER • WILLIAM H. STEELE, PUBLIC WORKS DIRECTOR

February 7, 2013

FEB 11 2013

ARRO

Mr. Ronald T. Bailey
Executive Director
Chester County Planning Commission
Government Services Center
Suite 270
601 Westtown Road
P.O. Box 2747
West Chester, PA 19380-0990

RE: East Whiteland Township Act 537 Plan Special
Study for Planning Commission Review; Response to Comments.

Dear Mr. Bailey:

We would like to take this opportunity to respond to the Planning Commission's general comments offered in the Commission's December 11, 2012 review letter of the above referenced Special Study.

General Comment C.1.

Page 10. On-going upgrades or Expansion of Facilities. This Plan is consistent with the ongoing upgrades to the Mill Lane Pump Station which is also in the planning area.

Response:

Acknowledged

General Comment C.2.

Page 25. Consistency Determination. East Whiteland Township should include consistency information regarding Watersheds, the Chester County comprehensive plan's water resources element.

Response:

The 'Consistency Determination' section of the Special Study has been revised to include this information concerning Watersheds.

Mr. Ronald T. Bailey
February 7, 2013
Page 2

General Comment C.3.

Page 27. County Stormwater Management Plan. Dependent upon the timing of this plan's adoption and construction of expanded/upgraded facilities, the Township may want to consider including information from the forthcoming Chester County Act 167 Stormwater Management Plan.

Response:

Acknowledged. A general discussion has been added to the Special Study's text.

Thank you for providing us with your comments and input. If you should have any additional questions or comments, please contact Bill Bohner at ARRO. His phone number is 610-495-2102.

Sincerely,

A handwritten signature in black ink that reads "Terry H. Woodman". The signature is fluid and cursive, with the first name "Terry" and last name "Woodman" clearly legible.

Terry H. Woodman
Township Manager

cc: William L. Bohner, Jr., P.E. - ARRO

February 6, 2013

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

Margaret C. Rivello
County Health Director
Chester County Health Department
Government Services Center
Suite 290
601 Westtown Road
West Chester, PA 19380-0990

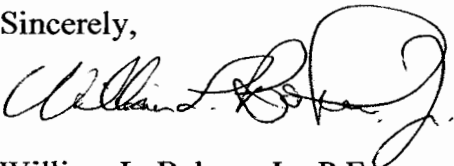
RE: East Whiteland Township Act 537 Plan Special
Study for Health Department Review.
ARRO# 10310.02

Dear Ms. Rivello:

On behalf of East Whiteland Township (Township), we are submitting a copy of the enclosed draft Act 537 Plan/Special Study for Planning Commission review. The primary focus of the Special Study is to evaluate alternatives to provide for upgraded Township conveyance system facilities to meet the future sanitary sewer needs of the north central portion of the Township as well the south-central portion of Charlestown Township.

Please review this Special Study and offer any comments or concerns that the Planning Commission may have. Thank you for your assistance with the review of this Plan. If you have any questions, please contact me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.

WLB:car

Enclosure

c: Terry Woodman, Township Manager – East Whiteland Township
William Steele, Director of Public Works – East Whiteland Township
Brady Flaharty, P.E. – ARRO
Kevin McAghon, P.E. – ARRO



THE COUNTY OF CHESTER



COMMISSIONERS

Ryan A. Costello
Kathi Cozzone
Terence Farrell

MARGARET C. RIVELLO, M.B.A.
County Health Director

CHESTER COUNTY HEALTH DEPARTMENT
Chester County Government Services Center
601 Westtown Road, Suite 290
West Chester, PA 19380-0990
610-344-6225 FAX: 610-344-6727
www.chesco.org/health

March 18, 2013

Board of Supervisors
East Whiteland Township
209 Conestoga Rd.
Frazer, PA 19355-1699



ARRO

RE: East Whiteland Township
Act 537 Plan – Special Study

Dear Supervisors:

The Chester County Health Department received a draft copy of the Act 537 Plan – Special Study, dated October, 2012, on February 6, 2013. The Plan was prepared by Arro Engineering and Environmental Consultants. This Plan was reviewed in accordance with the requirements of Title 25, Environmental Protection, Chapter 71, Administration of Sewage Facilities Planning Program, § 71.31.(b). This draft Plan proposes the upgrading of sewage facilities collection system components and pumping stations. We offer the following comments:

The stated purpose of the plan is to provide upgrades to existing collection mains in order to provide additional capacity to accommodate fill-in development in the area of the municipality that is already serviced by public sewerage facilities. Based on the existing and future development projections provided for the study area these upgrades appear to be appropriate and will serve the needs of the municipality for potentially the next 25 years, depending on the rate of future development.

Replacing the gravity interceptor line upstream from the Mill Lane Pumping Station will also correct the currently leaking 12" line. We agree that this will be environmentally beneficial and potentially protect water supplies.

The phasing approach as proposed makes very good sense, especially since any of the Phase II or Phase 3 components can be put off if development does not take place at the rate anticipated.

It is the opinion of the Chester County Health Department that this draft Act 537 Plan – Special Study appropriately addresses the future needs of the study area and may be approved once it has been reviewed by all of the agencies with jurisdiction in the area.

East Whiteland Township
Draft Act 537 Plan -- Special Study
March 18, 2013

Additionally, once this plan has been reviewed and approved by PA DEP, please submit to us a copy of that approved version of the plan. It can be submitted in electronic format.

Thank you for the opportunity to review and comment on this draft Act 537 Plan – Special Study.

Sincerely,



Ralph E. DeFazio
Environmental Health Supervisor
Chester County Health Department

CC: PA DEP
William Bohner, Jr., P.E.
CCPC
file

APPENDIX M

Proof of Publication

Proof of Publication of Notice in the Daily Local News

Under Newspaper Advertising Act No. 587, Approved May 16, 1929

State of Pennsylvania
County of Chester

{ss:

{No.

Term, 2013

Patricia Sigda, Legal Representative of the Daily Local News Company, a corporation, of the County and State aforesaid, being duly affirmed, deposes and says that the Daily Local News, a newspaper of general circulation, published at 250 N. Bradford, Ave., West Chester, PA, County and State aforesaid, was established November 19, 1872, and Incorporated December 11, 1911, since which date the Daily Local News has been regularly issued in said county, and that the printed notice or publication attached hereto is exactly the same as

PUBLIC NOTICE

in the regular editions and issues of the said Daily Local News on the following dates viz:

An Act 537 Plan Special Study has been prepared for East Whiteland Township, Chester County, Pennsylvania. The Special Study addresses the planning requirements necessary to provide for public sanitary conveyance improvements to existing portions of the Township's system. These improvements would provide the capacity for planned development in the north-central portion of East Whiteland Township and the south-central portion of Charles-town Township.

Wastewater from the planning area identified in this document would be conveyed via upgraded wastewater conveyance system infrastructure located along Sidley Road to the Mill Lane Pump Station located at the southern end of the planning area along Conestoga Road in East Whiteland Township. The Mill Lane pump station discharges through a force main and gravity sewer through East Whiteland Township and Tredyffrin Township to the Valley Forge Sewer Authority's Wastewater Treatment Plant.

To meet the wastewater conveyance needs of the planning area, it is proposed that the Township implement the selected alternatives in three primary phases.

For Phase I, it is proposed that the existing 12" gravity interceptor on Mill Lane, from the intersection of Sidley Road and Lapp Road to a point just upstream from the Mill Lane Pump Station, be replaced with 1820 +/- feet of new 18" pipe. The improved sewer line will provide capacity for the existing and projected future flows. An additional benefit is that the Phase I improvements will eliminate the leak in the existing gravity sewer under Route 202. PA DEP has already approved Phase I for construction due to the environmental concerns.

For Phase II, the intent is to make sanitary sewer improvements from the end of Phase I in Sidley Road north to the intersection Sidley Road and Lee Boulevard. Construction of the Phase II improvements will include the upgrading of the gravity sewer main which will eliminate capacity issues related to the undersized pipe in Sidley Road.

March 12 A.D. 2013
s that he/she is the proper person duly authorized by the Daily Local News Company, a s of said Daily Local News, a newspaper of general circulation, to verify the foregoing 1, and that affiant is not interested in the subject matter of the aforesaid notice or at all allegations in the foregoing statements as to time, place and character of publication

CE OR PUBLICATION

For Phase III, the intent is to upgrade the Lee Boulevard Pump Station through the replacement of the existing pumps with new pumps to meet the 5 to 10 year needs. In addition, replacement of the existing constant speed controls with variable frequency drive controls is planned.

The engineer's opinions of probable construction cost for these alternatives and the respective phases are:

Phase I: \$723,000
Phase II: \$1,279,000
Phase III: \$111,000

These alternatives will be paid for and financed through bond funding mechanisms and the sharing of costs between the municipalities via the current intermunicipal agreement structure. Costs shall be recouped through established tapping fee and user rate structures.

In accordance with Chapter 71.3(c) of the Pennsylvania Code, the Township is providing a 30-day public comment period. The plan is available, for review, at the Township's offices, 209 Conestoga Road, Frazer, PA 19355 from 9:00 AM to 3:30 PM, Monday through Friday. Comments may be addressed to Ms. Terry Woodman, Township Manager, and are due no later than thirty (30) days from the date of this advertisement.

Patricia Sigda

affirmed to and subscribed before me this 12

day of March 2013

Notary Public
STATE OF PENNSYLVANIA

Notarial Seal

Beverly A. Wolfe, Notary Public
West Bradford Twp., Chester County
My Commission Expires June 4th, 2013

Member, Pennsylvania Association of Notaries
William L. Bonner, Jr., P.E.

ARRO Consulting, Inc.

649 N. Lewis Road, Suite 100

Limerick, PA 19468

To DAILY LOCAL NEWS COMPANY, Dr.

For publishing the notice or publication attached
hereto on the above stated dates\$

Probating same\$

Total\$

Publisher's Receipt for Advertising Costs

is Company, a corporation, publishers of the Daily Local News, a newspaper of general wledges receipt of the aforesaid notice and publication costs and certifies that the same has been duly paid.

Corporation, Publishers of the DAILY LOCAL NEWS, a newspaper of General Circulation.

APPENDIX N

Public Comments and Responses



MEMORANDUM

Date: March 26, 2013
To: Martin Goldberg
From: Larry Lutter

Subject: East Whiteland Township/Charlestown Township (Southside)
Act 537 Special Study Dated February 2013

On behalf of the VFSA, I have reviewed the referenced study advertised by EWT for public comment and offer the following:

1. Executive Summary:

- a. Is the construction cost estimate for Phase 2 provided in the Study updated based on depth to rock information recently obtained?
- b. The East Whiteland Township (EWT) and the Valley Forge Sewer Authority (VFSA) cost sharing of each phase of the project is not listed or mentioned as to where that information is found in the document. What are the municipalities' shares of costs for Phase I, II, and III considering the updated 3/13/13 flow projections from Charlestown Township (CT) of 432,302 gpd?
- c. We assume VFSA does not have any cost share in the pending Phase IV. Is this correct?
- d. The future sewer service being discussed in this Special Study is directly related to the sewer service being provided by the Mill Lane Pump Station project. The same municipal entities are involved with the need for capacity and cost sharing. To assist the involved municipalities and the PADEP review and understanding of the complete picture, there should be some discussion in this Study related to the Mill Lane Pump Station project. Discussion of how it addresses the need for capacity, its current status, its time table and its cost and cost sharing would be very helpful. Including the Mill Lane Pump Station Special Study as an appendix to this Study would also help support any discussion added to this Study related to that project.
- e. Are there any other future projects associated with CT's Southside flow that are not discussed in this Special Study or in the Mill Lane Pump Station Basis of Design Report? If there are any other projects, what are they and what is the timing and estimated cost and cost sharing of these projects?

2. III. Existing Facilities in the Planning Area

- a. Paragraph 3.A.3: This section of the Study does not mention or describe problems with the existing sewer segment installed on the Aegon property. The BH dynamic model indicated sufficient capacity in this section of sewer for the future CT and EWT flows. Recent flow

metering results indicate possible excessive infiltration. This section of the report should include a discussion on the condition of the sewer through Aegon to support the selective alternative of routing most of the flow around this section of sewer.

- b. Regarding the flow metering results from January 14, 2013 to February 28, 2013:
 - 1) What is the estimated average daily flow from the office building connected to the sewer system between manholes 67-12 and 67-2?
 - 2) What does the flow metering results show the typical diurnal flow curve to be? Is there a significant reduction in flow during the nighttime hours and for how long?
 - 3) What is the inflow estimate for rain events during the flow metering period?

3. IV. Future Growth and Land Development

- a. Tables 2, 3, and 4 along with the summaries for pump station and interceptors should be updated using the CT flow projections dated 3/13/13.

4. V. Alternatives to Provide New or Improved Wastewater Disposal Facilities

- a. Paragraph 5: The list of areas of concern should include a discussion on the condition of the existing sewer through the Aegon property.
- b. What if any planned improvements are being considered for the sewer through the Aegon property and what is the estimated cost and timing for the work? If any work is planned it should be described in this Study.

5. IV. Evaluation of Alternatives

- a. Paragraph A.2: This paragraph notes a "portion of Charlestown Township's projected flows (by specific reference) are included" in the Mill Lane Pump Station May 2011 Basis of Design report. The discussion goes on to state "other EDUs" are to be shared by EWT and CT. Does the Mill Lane Pump Station design include provisions for all of CT's future flow projection of 432,302 gpd?
- b. Paragraph E: Analysis of Available Funding Methods does not mention funding that would come from other involved municipalities under the terms of the Intermunicipal Agreement such as the VFSA.

6. VII. Institutional Evaluation

- a. Paragraph A.1 does not mention shared funding from the VFSA and as written appears to indicate that EWT will provide all funding.

- b. Paragraph C.2 does not indicate the need to further amend the existing Intermunicipal Agreement between EWT and the VFSA. Also, this section does not include any discussion about the need to have VFSA's and CT's approval of the Study. An agreement amendment and other municipal approval are necessary.
 - c. Paragraph C.5 indicates that no further legal documentation is necessary to implement the selective alternative. Refer to comment to Paragraph C.2 above regarding the need for an agreement amendment.
- 7. VIII. Selected Wastewater Treatment and Institutional Alternative
 - a. Paragraph A.4: The Study notes the upgrade of the conveyance system in CT as a Township responsibility when it will be a VFSA responsibility.
 - b. Paragraph B: The Study notes the discussion for cost sharing is between EWT and CT. The Study should note this cost sharing discussion to be between EWT and the VFSA. The Study should include a cost sharing table for each phase of work. The cost used should be total project cost including engineering, construction and other associated project costs so all parties know the total magnitude of their financial responsibility.
- 8. Appendix G, Flow Projection Summary Table (Charlestown Township): The table should be updated using the 3/13/13 information provided by the CT.
- 9. Appendix K, Municipal Comments and Responses: VFSA's comments and the associated responses should be added to this document before it is submitted to PADEP.
- 10. Appendix O, Adoption Resolution: VFSA's and CT's adoptions of the Study should be added before the Study is submitted to PADEP.
- 11. Appendix Q, Corrective Action Plan (CAP)/Connection Management Plan (CMP):
 - a. CAP Page 1 paragraph 2 Last 2 sentences should read: "Data on Charlestown Southside flows were provided by Charlestown Township. It is noted that VFSA is responsible for the sewer system in Charlestown Township."
 - b. CAP 4th Paragraph page 1 under A.I: There should be a clarification that CT's sewage needs were originally provided in the Regional Act 537 Plan December 2008 Municipal Needs Assessment. The information provided in 2011 would have been an update of the original information. The CAP should also mention the recent March 2013 update of the CT flow projections.
 - c. CAP Section VI Corrective Actions:

- 1) The first sentence of paragraph 2 notes the corrective actions are due "largely" to the additional flow from CT. Would not the cause of the corrective actions be a joint responsibility due to the additional flow from CT but also due to additional flow for EWT and the discharge from the Wilburdale Pump Station which causes surcharging in the Sidley Road sewers when discharging simultaneously with Lee Boulevard Pump Station?
 - 2) Please clarify that the VFSA will share in the cost of the selected and approved work and not CT as CT is a member of the VFSA and will not pay separately for the work from Township funds.
- d. CAP Section VII Milestones, page 8 Item C notes the cost share to be resolved by March 2013 with CT. The final cost sharing is to be resolved with the VFSA. The final cost share has not yet been provided for review and acceptance by EWT and VFSA.
 - e. The Exhibits for the CAP/CMP are not included in the copy of the Special Study BH received.



June 7, 2013

Martin Goldberg, P.E.
Valley Forge Sewer Authority
333 Pawling Road
Phoenixville, PA 19460

Limerick Office
640 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

Re: East Whiteland Township/Charlestown Township (Southside)
Act 537 Special Study Dated February 2013;
Response to VFSA Comments
ARRO #10310.02 ✓

Dear Mr. Goldberg:

We have reviewed the comments provided by your consultant, Buchart-Horn, as part of the public-comment and review of the above referenced Special Study. On behalf of East Whiteland Township, we offer the following responses to those comments:

Executive Summary:

Comment 1.a.: Is the construction cost estimate for Phase 2 provided in the Study updated based on depth to rock information recently obtained?

Response: The construction cost opinion for Phase 2 has been updated to reflect the 'depth to rock' information recently obtained.

Comment 1.b.: The East Whiteland Township (EWT) and the Valley Forge Sewer Authority (VFSA) cost sharing of each phase of the project is not listed or mentioned as to where that information is found in the document. What are the municipalities' shares of costs for Phase I, II, and III considering the updated 3/13/13 flow projections from Charlestown Township (CT) of 432,302 gpd?

Response: The Executive Summary and Section VI of the Special Study have been adjusted to reflect the cost sharing associated with Phases I, II, and III.

Comment 1.c.: We assume VFSA does not have any cost share in the pending Phase IV. Is this correct?

Response: Yes. That is correct.

Comment 1.d.: The future sewer service being discussed in this Special Study is directly related to the sewer service being provided by the Mill Lane Pump Station project. The same municipal entities are involved with the need for capacity and cost sharing. To assist the involved municipalities and the PADEP review and understanding of the complete picture, there should be some discussion in this Study related to the Mill Lane Pump Station project. Discussion of how it addresses the need for capacity, its current status, its time table and its cost and cost sharing would be very helpful. Including the Mill Lane Pump Station Special Study as an appendix to this Study would also help support any discussion added to this Study related to that project.

Response: A discussion has been added to the Plan text relative to the Mill Lane Pump Station and the capacity of the station. The station is currently under construction with the potential to be

F:\East Whiteland Township\Act 537 Special Study\Public Comments\Public Comment-Response letter(Rev 6-7-13).docx

operational by late 2013 or early 2014. Construction costs for the station (based on the low bid for the project) total nearly \$2,950,000. Engineering costs total nearly 478,320. Cost sharing for this project will be further established and discussed as the intermunicipal agreement amendment is finalized.

Comment 1.e.: Are there any other future projects associated with CT's Southside flow that are not discussed in this Special Study or in the Mill Lane Pump Station Basis of Design Report? If there are any other projects, what are they and what is the timing and estimated cost and cost sharing of these projects?

Response: A portion of the interceptor/trunk sewer downstream from the Mill Lane PS force main discharge and the 14" Mill Lane PS force main will require future upgrades. Upgrades to these portions of the infrastructure will require future planning in that they are dependent not only on impacts/needs from the special study area but impacts/needs associated with other portions of the Township outside of the immediate Special Study planning area.

Existing Facilities in the Planning Area

Comment 2.a.: Paragraph 3.A.3: This section of the Study does not mention or describe problems with the existing sewer segment installed on the Aegon property. The BH dynamic model indicated sufficient capacity in this section of sewer for the future CT and EWT flows. Recent flow metering results indicate possible excessive infiltration. This section of the report should include a discussion on the condition of the sewer through Aegon to support the selective alternative of routing most of the flow around this section of sewer.

Response: A discussion has been added to the text that provides further information concerning problems with the existing sewer segments on the Aegon property.

Comment 2.b.: Regarding the flow metering results from January 14, 2013 to February 28, 2013:

- 1) What is the estimated average daily flow from the office building connected to the sewer system between manholes 67-12 and 67-2?

Response: The estimated average daily flow from this office building is based on EDUs and is calculated to be 5,225 gpd.

Comment 2.b.:

- 2) What does the flow metering results show the typical diurnal flow curve to be? Is there a significant reduction in flow during the nighttime hours and for how long?

Response: The flow metering results show a flow pattern per the attached graph. Flow does decrease at night, but not by a significant amount.

Comment 2.b.:

- 3) What is the inflow estimate for rain events during the flow metering period?

Response: The inflow/infiltration estimate is 50,080 gpd (average daily estimate).

Future Growth and Land Development

Comment 3.a.: Tables 2, 3, and 4 along with the summaries for pump station and interceptors should be updated using the CT flow projections dated 3/13/13.

Response: These tables have been updated accordingly.

Alternatives to Provide New or Improved Wastewater Disposal Facilities

Comment 4.a.: Paragraph 5: The list of areas of concern should include a discussion on the condition of the existing sewer through the Aegon property.

Response: This discussion has been included.

Comment 4.b.: What if any planned improvements are being considered for the sewer though the Aegon property and what is the estimated cost and timing for the work? If any work is planned is should be described in this Study.

Response: This description has been added to the Study. The estimated costs and timing for this work is an unknown at this time. The extent of improvements will be more fully known after the sanitary sewer line is televised. The televising of the sewer main has been made a part of the Special Study's implementation schedule and will need to occur after the completion of Phase II.

Evaluation of Alternatives

Comment 5.a.: Paragraph A.2: This paragraph notes a "portion of Charlestown Township's projected flows (by specific reference) are included" in the Mill Lane Pump Station May 2011 Basis of Design report. The discussion goes on to state "other EDUs" are to be shared by EWT and CT. Does the Mill Lane Pump Station design include provisions for all of CT's future flow projection of 432,302 gpd?

Response: This paragraph has been revised to more fully explain the capacity of the Mill Lane Pump Station based on the proposed pump and piping modifications.

Comment 5.b.: Paragraph E: Analysis of Available Funding Methods does not mention funding that would come from other involved municipalities under the terms of the Intermunicipal Agreement such as the VFSA.

Response: Paragraph E. has been revised to reflect funding that would come from other involved municipal entities.

Institutional Evaluation

Comment 6.a.: Paragraph A.1 does not mention shared funding from the VFSA and as written appears to indicate that EWT will provide all funding.

Response: This paragraph has been modified to reflect shared funding among all parties.

Comment 6.b.: Paragraph C.2 does not indicate the need to further amend the existing Intermunicipal Agreement between EWT and the VFSA. Also, this section does not include any discussion about the need to have VFSA's and CT's approval of the Study. An agreement amendment and other municipal approval are necessary.

Response: Paragraph C.2. has been modified to include a discussion regarding an amendment to the existing Intermunicipal Agreement between EWT and VFSA.

Comment 6.c.: Paragraph C.5 indicates that no further legal documentation is necessary to implement the selective alternative. Refer to comment to Paragraph C.2 above regarding the need for an agreement amendment.

Response: Paragraph C.5. has been modified to indicate that an amendment to the respective intermunicipal agreement is in process.

Selected Wastewater Treatment and Institutional Alternative

Comment 7.a.: Paragraph A.4: The Study notes the upgrade of the conveyance system in CT as a Township responsibility when it will be a VFSA responsibility.

Response: Paragraph A.4. has been revised to reflect that upgrades to the Charlestown Township conveyance system will be the responsibility of VFSA.

Comment 7.b.: Paragraph B: The Study notes the discussion for cost sharing is between EWT and CT. The Study should note this cost sharing discussion to be between EWT and the VFSA. The Study should include a cost sharing table for each phase of work. The cost used should be total project cost including engineering, construction and other associated project costs so all parties know the total magnitude of their financial responsibility.

Response: The text of the Plan has been revised to note cost sharing is between East Whiteland Township and the VFSA. A cost sharing table has been provided.

Comment 8.: Appendix G, Flow Projection Summary Table (Charlestown Township): The table should be updated using the 3/13/13 information provided by the CT.

Response: The table in Appendix G has been updated accordingly.

Comment 9.: Appendix K, Municipal Comments and Responses: VFSA's comments and the associated responses should be added to this document before it is submitted to PADEP.

Response: VFSA's comments and these responses have been added to Appendix K accordingly.

Comment 10.: Appendix O, Adoption Resolution: VFSA's and CT's adoptions of the Study should be added before the Study is submitted to PADEP.

Response: Discussion with PA DEP indicated that the Plan is a municipal document that requires municipal resolutions only. As a result, a resolution of adoption from East Whiteland Township is included in Appendix O. Resolution of adoption from Charlestown is not necessary given the verification of their support of the projected flows per the formal letter from their Board of Supervisors found in Appendix K. As a follow up to this, given that a formal amendment to the Intermunicipal Agreement is being prepared (draft found in Appendix R), VFSA and East Whiteland will provide formal agreement upon signing of this amended document. As a requirement of this Special Study, the finalizing of the intermunicipal agreement amendment is included in the implementation schedule found in the Executive Summary.

It should be noted that the formal cost sharing structure will be finalized as an exhibit to this amended agreement. The cost sharing structure and project costs reflected in the plan are planning level amounts.

Comment 11: Appendix Q, Corrective Action Plan (CAP)/Connection Management Plan (CMP):

- a. **Comment:** CAP Page 1 paragraph 2 Last 2 sentences should read: "Data on Charlestown Southside flows were provided by Charlestown Township. It is noted that VFSA is responsible for the sewer system in Charlestown Township."

Response: PA DEP has approved the CAP in its current form. DEP is requiring semi-annual updates to this document. Adjustments will be made at this time.

- b. **Comment:** CAP 4th Paragraph page 1 under A.I: There should be a clarification that CT's sewage needs were originally provided in the Regional Act 537 Plan December 2008 Municipal Needs Assessment. The information provided in 2011 would have been an update of the original information. The CAP should also mention the recent March 2013 update of the CT flow projections.

Response: PA DEP has approved the CAP in its current form. DEP is requiring semi-annual updates to this document. Adjustments will be made at this time.

- c. **Comment:** CAP Section VI Corrective Actions:

- 1) The first sentence of paragraph 2 notes the corrective actions are due "largely" to the additional flow from CT. Would not the cause of the corrective actions be a joint responsibility due to the additional flow from CT but also due to additional flow for EWT and the discharge from the Wilburdale Pump Station which causes surcharging in the Sidley Road sewers when discharging simultaneously with Lee Boulevard Pump Station?
- 2) Please clarify that the VFSA will share in the cost of the selected and approved work and not CT as CT is a member of the VFSA and will not pay separately for the work from Township funds.

Response: PA DEP has approved the CAP in its current form. DEP is requiring semi-annual updates to this document. Adjustments will be made at this time.

- d. **Comment:** CAP Section VII Milestones, page 8 Item C notes the cost share to be resolved by March 2013 with CT. The final cost sharing is to be resolved with the VFSA. The final cost share has not yet been provided for review and acceptance by EWT and VFSA.

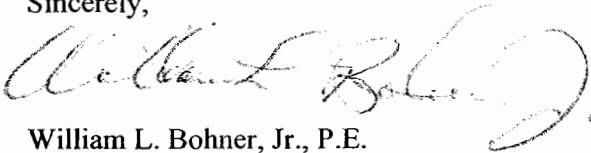
Response: PA DEP has approved the CAP in its current form. DEP is requiring semi-annual updates to this document. Adjustments will be made at this time.

- e. **Comment:** The Exhibits for the CAP/CMP are not included in the copy of the Special Study BH received.

Response: It was not the intent to provide those as part of the Special Study submission. They were provided to PA DEP with their submission for review. These documents have been approved as part of the CAP/CMP.

Thank you for your attention to this Special Study and for providing your comments. As discussed above, these comments and responses will become a part of the Special Study (Appendix K) for PA DEP's review and consideration.

Sincerely,

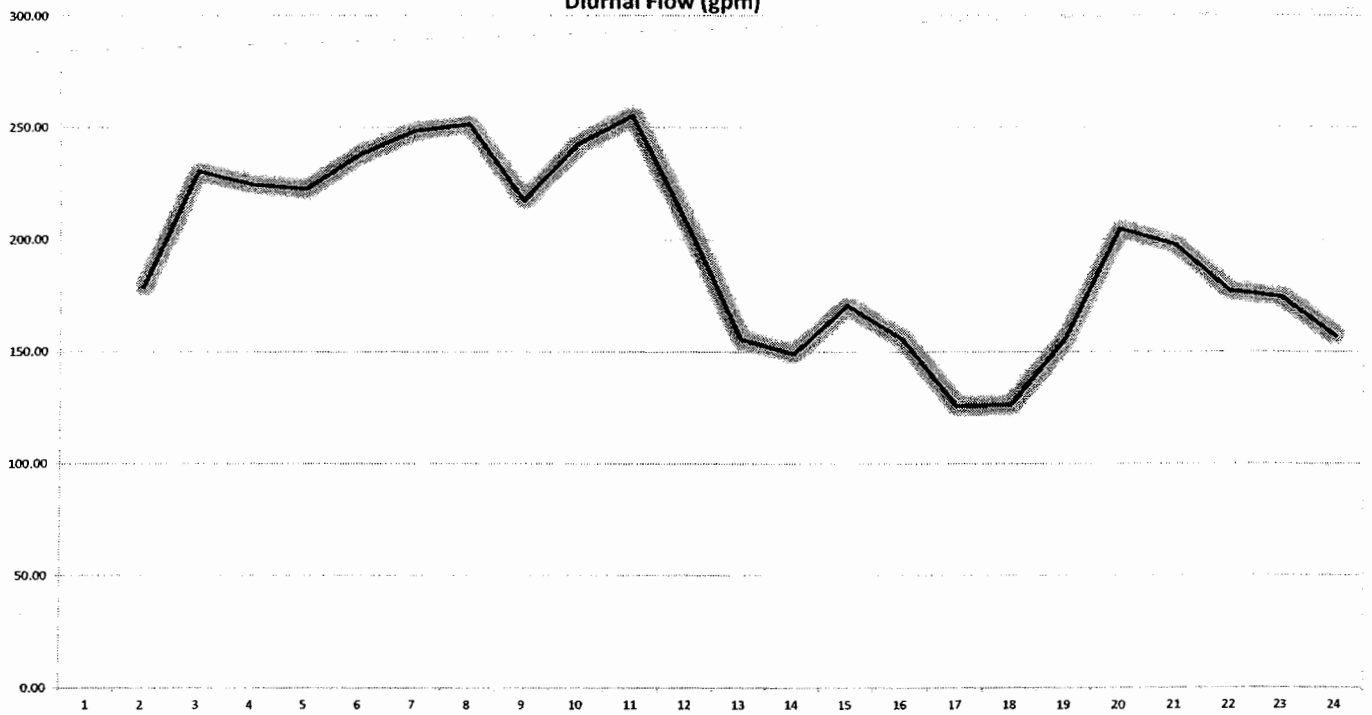


William L. Bohner, Jr., P.E.
Project Engineer

WLB:car

- c: Terry Woodman, Township Manager – East Whiteland Township
Kevin McAghon, P.E. – ARRO

Diurnal Flow (gpm)



APPENDIX O

Adopted Resolution

EAST WHITELAND TOWNSHIP

RESOLUTION NO. 11-2013

RESOLUTION FOR PLAN REVISION

WHEREAS, A RESOLUTION OF THE BOARD OF SUPERVISORS OF EAST WHITELAND TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA (hereinafter "the Township").

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537 known as the "Pennsylvania Sewage Facilities Act", as Amended, and the Rules and Regulations of the Pennsylvania Department of Environmental Protection (PADEP) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, require the Township to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said Plan whenever it is necessary to meet the sewage disposal needs of the Township's service area.

NOW, THEREFORE, BE IT RESOLVED, that East Whiteland Township Board of Supervisors hereby adopts and submits to the Pennsylvania Department of Environmental Protection for its approval, as a revision to the "Official Plan" of the Township, this Act 537 Special Study.

East Whiteland Township hereby approves and adopts the Act 537 Special Study which establishes the planning requirements necessary to provide public sanitary sewer infrastructure improvements located in the north central part of the Township resulting from wastewater needs within the Township as well as wastewater needs originating in south central Charlestown Township. Selected alternatives for infrastructure improvements include upgrades to the gravity sewer system in Sidley Road and improvements to the Lee Boulevard Pump Station. The Township is committed to implementing the recommendations of this Special Study in accordance with the Study's implementation schedule.

The Township finds that the Act 537 Special Study described above conforms to applicable zoning, subdivision, other municipal ordinances and plans, and to a comprehensive program of pollution control and water quality management.

ADOPTED this 12th day of June, 2013.

BOARD OF SUPERVISORS
EAST WHITELAND TOWNSHIP


Virginia McMichael, Chairman


John A. Mott


William Holmes

Attest:


Township Secretary

APPENDIX P

Approved Plan of Study and Task Activity Report



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

June 11, 2012

Ms. Terry H. Woodman, Manager
East Whiteland Township
209 Conestoga Road
Frazer, PA 19355

Re: Act 537 - Plan of Study
Sidley Road Trunk Sewer Special Study
East Whiteland Township
Chester County

Dear Ms. Woodman:

We have completed our review of your municipality's proposed plan of study (POS), as prepared by Mr. William L. Bohner, Jr., P.E., of ARRO Engineering and Environmental Consultants dated May 15, 2012, and a proposed Task Activity Report (TAR) dated May 2, 2012.

The proposed Special Study will provide planning for the upgrades to the East Whiteland Township (Township) wastewater conveyance system at and near Lee Boulevard and Sidley Road in order to accommodate flows coming from the service area of the Sidley Road Trunk Sewer. The service area includes flows from an existing development, a new development, new and existing sanitary connections from neighboring Charlestown Township, and from communities or subdivisions currently using on-site sewage disposal systems or privately-owned treatment facilities.

An analysis of the hydraulic capacity of the Township's recently upgraded Mill Lane Pump Station must be included in the Special Study to ensure that the pump station can accommodate the flows from the upgraded upstream conveyance system that will include the existing and projected flows from Charlestown Township.

Approval of this proposed POS is hereby granted. The estimated cost of the plan is \$18,900. Please be advised, the approval of this scope of work is not a guarantee of eligibility of planning costs for reimbursement by the Commonwealth pursuant to Section 6(a) of Act 537 and 25 Pa. Code Chapter 71 of the Department of Environmental Protection's (Department) regulations.

This POS approval does not constitute a final action by the Department. When a completed plan is submitted to us, we will act upon it consistent with Pa. Code Title 25, Chapter 71.

The completed Special Study is scheduled to be submitted to the Department in November 2012.

Please consider the following comments as your municipality prepares its Act 537 Official Plan Update:

Your municipality's Act 537 Official Plan Update is to be formatted as suggested in "A Guide for Preparing Act 537 Update Revisions," including the necessary items listed in the "Act 537 Plan Content and Environmental Assessment Checklist." All necessary items must be included, and a copy of the completed checklist must be included with your Act 537 Plan. This form is available on our website at:

http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/Forms/Act537/Forms_537Plan.htm

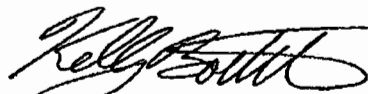
Also, please be advised that the Department will not pay grants under the act for planning costs incurred prior to the date of this POS approval or for information that has been completed previously under local, state, or federal funding programs. In addition, approval of this POS/TAR does not guarantee that all tasks listed will be eligible for reimbursement.

Please note that any new land developments associated with this plan will not be eligible for exemptions from sewage facilities planning under Chapter 71, Section 71.51(b)(2) until after the receiving facilities have been constructed. Applicants proposing projects that will coordinate new development construction with the construction of municipal conveyance or treatment facilities must submit Sewage Facilities Planning Modules for adoption by the municipality and approval by the Department.

This plan may affect municipalities other than East Whiteland Township. We urge you to coordinate with these municipalities early in the planning process in order to facilitate the review of your plan.

If you have any questions, please contact me at 484.250.5184.

Sincerely,



Kelly Boettlin
Sewage Planning Specialist 2
Clean Water

cc: Chester County Planning Commission
Chester County Health Department
Mr. Bohner - ARRO Engineering and Environmental Consultants
Ms. Csete - Charlestown Township
Ms. Vollero - RCSOB, 11th Floor, Sewage Facilities
Planning Section
Re 30 (joh12clw)163-2

May 15, 2012

Certified Mail #7008 0150 0000 7716 8899
Return Receipt Requested

Limerick Office
649 North Lewis Road
Suite 100
Limerick, PA 19468
T 610.495.0303
F 610.495.5855

Ms. Elizabeth Mahoney
Water Management Program
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401-4915

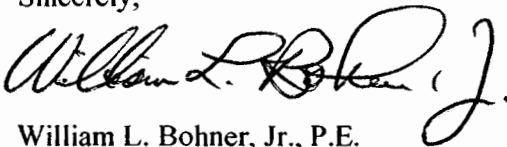
RE: East Whiteland Township; Chester County;
Act 537 Special Study – Plan of Study and Task Activity Report
ARRO #10310.02 ✓

Dear Ms. Mahoney:

On behalf of East Whiteland Township (Township), ARRO has prepared a Plan of Study (POS) and Task Activity Report (TAR) for the preparation of an Act 537 Sewage Facilities Plan (Special Study). This Special Study is to address the planning requirements necessary to address planned upgrades for the East Whiteland Township wastewater conveyance system at and near Lee Boulevard and Sidley Road.

Please give your consideration for approval of this POS and TAR. If you have any questions about these documents, please contact me at 610-495-2102.

Sincerely,



William L. Bohner, Jr., P.E.
Project Engineer

WLB:car

Enclosure

- c: Terry Woodman, Township Manager – East Whiteland Township (w/enclosure)
Brady L. Flaharty, P.E. – ARRO (w/o enclosure)
Kevin McAghon, P.E. – ARRO (w/o enclosure)

**EAST WHITELAND TOWNSHIP
SIDLEY ROAD TRUNK SEWER ACT 537 SPECIAL STUDY**

In accordance with Title 25, Chapter 71, Administration of the Sewage Facilities Planning Program, of the Pennsylvania Code, a Plan of Study has been developed, for the preparation of a revision to the East Whiteland Township (Township) Act 537 Sewage Facilities Plan (Plan). This is being prepared to establish the planning elements that are necessary to meet the requirements of the Pennsylvania Department of Environmental Protection (PADEP) as they relate to the preparation of an Act 537 Plan Special Study (Special Study). This Special Study is to address the planning requirements necessary to address planned upgrades for the East Whiteland Township wastewater conveyance system at and near Lee Boulevard. This portion of the Township, as delineated on the location plan, will be the planning area for this Special Study. The Special Study shall become an amendment to the current Township-wide Act 537 Plan. Based on the PADEP Act 537 Plan Content and Environmental Assessment Checklist, the following addresses the planning requirements necessary to complete the study:

Executive Summary

1. Prepare a table of contents for the document.
2. Prepare a plan summary (Executive Summary).
 - A. Identify the planning area to be served by the future collection and conveyance system.
 - B. Identify the alternative chosen alternative.
 - C. Include the cost opinion for implementing the proposed alternative.
 - D. Identify the municipal commitments necessary to implement the plan.
 - E. Provide a schedule for implementing the proposed project.
3. Include original signed and sealed Resolutions of Adoption.
4. Include comments provided by the Township Planning Commission, Chester County Planning Commission, and Chester County Health Department.
5. Include Proof of Public Notice.
6. Include a copy of all written comments received and written responses to each comment.
7. Prepare a project implementation schedule.

8. If any planning inconsistencies are identified, documentation will be provided discussing the resolution of the inconsistencies. If none are identified, a statement will be made to that effect.

General Plan

I. Previous Wastewater Planning

- A. Identify and discuss existing wastewater planning.
 - 1. Discuss previous Act 537 planning.
 - 2. Discuss planning that has not been done in accordance with an approved implementation schedule.
 - 3. Discuss additional planning, if any, that is anticipated or planned by East Whiteland Township.
 - 4. Discuss planning that has been done via official plan revision such as planning modules or addenda.
- B. Identification of Municipal and County planning documents.
 - 1. Identify land use plans and zoning maps as they pertain to East Whiteland Township.
 - 2. Identify the zoning regulations.

II. Physical and Demographic Analysis

- A. Identify the planning area, municipal boundaries and service area boundaries utilizing existing mapping.
- B. Identify physical characteristics of the planning area. Existing mapping will form the basis for this identification supplemented by USGS and National Wetlands Inventory maps, as required.
- C. Discussion of soils characteristics is not applicable to this Special Study.
- D. Discussion of geological features in the service area is not applicable to this Special Study.
- E. Discuss topographic features in the service area.
- F. Identification of potable water supply is not applicable to this Special Study.

- G. Identify wetlands in the area utilizing National Wetlands Inventory Mapping and existing Act 537 mapping.

III. Existing Sewage Facilities in the Planning Area

- A. Identify and describe municipal sewerage systems in the planning area.
1. Discuss location, size and ownership of existing collection and conveyance facilities. A map will be provided to show the location of the collection and conveyance facilities within East Whiteland Township that could potentially serve the planning area.
 2. Providing a narrative and schematic diagram of the basic treatment process is not applicable to this Special Study.
 3. Providing a description of the problems, if any, with the existing treatment plant is not applicable to this Special Study. However, a description of problems, if any, associated with the existing conveyance system will be discussed.
 4. Providing details, if any, relative to ongoing upgrading or expansion of the treatment facilities is not applicable to this Special Study. However, a description of ongoing upgrades or expansion, if any, of the conveyance system will be discussed.
 5. Provide a description of operation and maintenance requirements and the status of past and present compliance with these requirements.
- B. 1,2,3,4. Since this Special Study is to address public sewers upgrades to the planning area, identification of individual on-lot disposal will not be addressed.
- C. 1,2,3. Identification of wastewater sludge and septage generation is not considered applicable to this Special Study.

IV. Future Growth and Development

- A. Describe future growth and development through mapping, text and analysis for the planning area as defined by this Special Study. Note: No planning will be done for Charlestown Township (CT) to establish projected flows. Documentation will be provided in the Appendix of the Special Study that will verify the flow needs for CT.
1. Discuss areas with existing development or plotted subdivisions.

2. Discuss land use designations including residential, commercial and industrial areas.
3. Discuss future growth areas, population and EDU projections for these areas.
4. Briefly discuss zoning and subdivision regulations as they pertain to planned development.
5. Discuss the sewage planning required to provide adequate wastewater conveyance for planned development.

V. Alternatives to Provide New or Improved Wastewater Disposal Facilities

A. Identify the alternative to provide for improved sewage facilities

1. Identification of regional wastewater treatment concepts as an alternative shall make mention that wastewater is conveyed to the Valley Forge Sewer Authority's Wastewater Treatment Plant.
2. The potential for extension of existing municipal sewage facilities to areas in need. This will examine the extension of conveyance facilities to accommodate planned future development, if any.
3. A discussion addressing the potential for continued use of existing on-site or on-lot systems is not applicable to this Special Study.
4. Analysis of a new community sewage system is not applicable to this Special Study.
5. Analysis of alternatives as they relate to repair, replacement, and upgrade of existing conveyance system components will be discussed.
6. Discussion as it relates to the use of alternate methods of collection/conveyance to serve needs areas is not applicable to this Special Study.

B. The use of individual sewage disposal systems is not applicable to this Special Study.

C. Assessment of alternatives based on the use of small flow sewage treatment facilities, land treatment alternatives or package treatment facilities to serve individual homes or clusters of homes is not applicable to this Special Study.

- D. Analysis based on the use of community land disposal is not applicable to this Special Study.
- E. Addressing the use of retaining tank alternatives is not applicable to this Special Study.
- F. A discussion of the need for and implementation of a sewage management program will not be addressed as part of this Special Study and is not considered applicable to this Special Study.
- G. Non-structural comprehensive planning alternatives are not applicable to this Special Study.
- H. Provide a no-action alternative which includes impacts on:
 - 1. Water Quality and Public Health.
 - 2. Growth Potential.
 - 3. Community and economic conditions.
 - 4. Recreational opportunities.
 - 5. Drinking water sources.
 - 6. Other environmental concerns.

VI. The Evaluation of Alternatives

- A. Evaluate the alternatives, identified in Section V, for consistency with respect to the following:
 - 1. Plans developed under the Clean Streams Law.
 - 2. Plans developed under the Municipal Wasteload Management Plan (Chapter 94).
 - 3. Plans developed under Title II of the Clean Water Act.
 - 4. Comprehensive plans developed under the Pennsylvania Municipalities Planning Code.
 - 5. Anti-degradation requirements as contained in PA Code, Title 25, Chapters 93, 95 and 102 and the Clean Water Act.
 - 6. State water plans developed under the Water Resources Planning Act.

7. Pennsylvania Prime Agricultural Land Policy.
 8. The County Stormwater Management Plan.
 9. Wetlands Protection.
 10. Protection of rare, endangered or threatened plant and animal species as identified by the PNDI.
 11. Historical and Archeological Resource Protection (PHMC).
- B. Provide for the resolution of any inconsistencies with items 1 through 11 above, if necessary.
 - C. Evaluate the alternatives with respect to applicable water quality standards and effluent limitations.
 - D. Provide cost opinions for construction, financing and engineering fees for the alternatives identified in Section V.
 - E. Provide an analysis of funding methods available to finance the proposed alternatives including financial contributions from private entities.
 - F. Analyze the need for immediate or phased implementation.
 - G. Analyze the ability of the Township to implement the alternative.

VII. Institutional Evaluation

- A. Provide a brief discussion of the Township, their past actions and present performance including:
 1. Financial and debt status
 2. Available staff and administrative resources
 3. Provide an analysis of the Township's legal authority to implement wastewater planning recommendations, implement system-wide operation and maintenance activities, set user fees, take purchasing actions, take actions against ordinance violators, negotiate agreements with other parties and raise capital for construction, operation and maintenance of facilities.
- B. Describe the various institutional alternatives necessary to implement the technical alternatives, including:

1. There is no need for a new Authority. No analysis will be completed for this.
 2. Function of the Township.
 2. Cost of administration, implementability, and capability of the Township to provide for future needs.
- C. Describe necessary administrative and legal activities, if any, to be completed and adopted to ensure the implementation of the alternatives, including:
1. Legal authorities of incorporation.
 2. Required ordinances, standards, regulations and inter-municipal agreements.
 3. Provisions of rights-of-way, easements, and land transfers.
 4. Other sewage facilities plan adoptions.
 5. Legal documents, if any.
 6. Dates or timeframes of 1-5 above on the implementation schedule.

VIII. Selected Wastewater Treatment and Institutional Alternative

- A. Identify the alternative that is the most feasible from a technical, financial, and institutional standpoint. Justify the choice based on:
1. Existing wastewater disposal needs.
 2. Future wastewater disposal needs.
 3. Operations and maintenance considerations.
 4. Cost effectiveness.
 5. Availability management and administrative systems.
 6. Available finance methods.
 7. Environmental soundness.
- B. Describe the capital financing plan chosen to implement the selected alternative.

Municipality

East Whiteland Township

Date of Report

May-12

Date completed Plan will be submitted to DEP

Estimated Cost of Plan

\$18,900

Task Activity	Project Manager						Expenses	Subtotal \$
	Hr/Rate	\$144.00	Hr/Rate	\$0.00	Hr/Rate	\$0.00	\$	
Plan Section and/or Task	Hrs.	Cost (\$)	Hrs.	Cost (\$)	Hrs.	Cost (\$)		
Plan of Study;TAR	2	\$288		\$0		\$0	\$14	\$1,150
Section I (Prev. Planning)	0	\$0		\$0		\$0	\$0	\$300
Section II (Phys. Demographic Analysis)	0	\$0		\$0		\$0	\$0	\$300
Plan Section III (Existing Facilities)	0	\$0		\$0		\$0	\$50	\$2,114
Plan Section IV (Future Growth)	0	\$0		\$0		\$0	\$0	\$1,200
Plan Section V (Conveyance Alternatives)	0	\$0		\$0		\$0	\$50	\$3,442
Plan Section VI (Alternative Evaluation)	2	\$288		\$0		\$0	\$0	\$3,216
Plan Section VII (Institutional Evaluation)	0	\$0		\$0		\$0	\$0	\$352
Plan Section VIII (Selection of Alternative)	0	\$0		\$0		\$0	\$0	\$352
Executive Summary	2	\$288		\$0		\$0	\$0	\$588
Submit Document to Township for Review	0	\$0		\$0		\$0	\$100	\$204
Incorporate Township Comments; Respond	0	\$0		\$0		\$0	\$10	\$754
Submit Document to County for Review	0	\$0		\$0		\$0	\$100	\$204
Incorporate County Comments; Respond	0	\$0		\$0		\$0	\$10	\$362
Advertise for Public Comment	0	\$0		\$0		\$0	\$500	\$748
Submit Document for Public Comment	0	\$0		\$0		\$0	\$100	\$204
Incorporate Public Comments; Respond	0	\$0		\$0		\$0	\$20	\$620
Draft Resolutions of Adoption	2	\$288		\$0		\$0	\$20	\$484
Submit Document to PA DEP for Review	0	\$0		\$0		\$0	\$300	\$508
Revise Per DEP Comments; Respond	2	\$288		\$0		\$0	\$10	\$1,394
Submit Final to DEP.	0	\$0		\$0		\$0	\$300	\$404
Totals	10	\$1,440		\$0	0	\$0	\$1,584	\$18,900

William L. Bohner Jr., P.E.
 Name of Person Completing Report

Terry L. Woodman
 Terry Woodman - Township Manager

APPENDIX Q

Corrective Action Plan/Connection Management Plan

EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PA

CORRECTIVE ACTION PLAN (CAP)
and
CONNECTION MANAGEMENT PLAN (CMP)

For
MILL LANE and SIDLEY ROAD
GRAVITY SEWER COLLECTION
and
CONVEYANCE SYSTEMS

February 13, 2013
Revised November 14, 2013

Prepared by:



ARRO Consulting, Inc.
649 N. Lewis Road, Suite 100
Limerick, PA 19468

**CORRECTIVE ACTION PLAN (CAP)
and
CONNECTION MANAGEMENT PLAN (CMP)
for
MILL LANE and SIDLEY ROAD GRAVITY SEWER COLLECTION and CONVEYANCE
SYSTEMS
TABLE OF CONTENTS**

A. CORRECTIVE ACTION PLAN (CAP)

- I. INTRODUCTION
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 - 1. East Whiteland Township Plan
 - 2. Charlestown Township Plan
 - 3. East Whiteland Township Sanitary Sewer System Plan
 - 4. DEP approval letter for ACT 537 Special Study
- Exhibit B Exhibit B has been eliminated
- Exhibit C Existing Overload Documentation
 - 1. Existing System Capacities
 - 2. Existing Features Plan – Sidley Road
- Exhibit D Charlestown Township Southside Service Area
 - 1. Projected flows from Southside Service Area
 - 2. System Capacities with Projected Southside Flows and Existing Piping
- Exhibit E Corrective Actions
 - 1. Phase 1 - Mill Lane Improvements Plans
 - 2. Phase 2 - Sidley Road Improvements Plans
 - 3. System Capacities with Corrective Actions
- Exhibit F Amendment to East Whiteland Trunk Line Agreement
 - 1. Dccember 12, 1979 Agreement
 - 2. October 29, 2013 revised draft Agreement
 - 3. Valley Forge Sewer Authority commitment letter

MILL LANE and SIDLEY ROAD COLLECTION and CONVEYANCE SYSTEMS

A. CORRECTIVE ACTION PLAN (CAP)

I. INTRODUCTION

East Whiteland Township (Township) currently owns, operates, and maintains the Mill Lane and Sidley Road gravity sewer systems. The gravity sewer systems were originally installed in the early 1960's by a private developer. The gravity lines were originally owned and operated as part of the Great Valley Wastewater Company until the late 1970's at which time the infrastructure of the entire Great Valley Wastewater Company was dedicated to the Township. The Township has owned, operated, and maintained the gravity sewer lines since the late 1970's.

The Mill Lane and Sidley Road gravity sewer systems provide service for not only Township residential and commercial properties, but also adjacent residential and commercial properties in Charlestown Township (Charlestown). The Charlestown properties that drain to the Mill Lane and Sidley Road gravity sewer systems are generally known as Charlestown Southside (Southside). Data on Southside flows was provided by Charlestown Township. It is noted that Valley Forge Sewer Authority (VFSA) is responsible for the sanitary sewer system in Charlestown Township.

The Sidley Road system eventually drains into the Mill Lane system. The Mill Lane system drains into the Mill Lane Pump Station where the effluent is pumped to the Valley Forge Sewer Authority Wastewater Treatment Plant for treatment.

The Charlestown sewage needs were originally provided for in the Regional Act 537 Plan December 2008 Needs Assessment. In late 2011 Charlestown provided the Township with an update of the original sewage needs. The update consisted of a list of Southside properties and projected flows. In order to accommodate the projected Southside flows improvements are needed for the Mill Lane and Sidley Road gravity sewer systems. The Charlestown 2011 update was further updated in March 2013

with a latest revision of November 14, 2013. This report has been prepared based upon the Charlestown March 2013, revised to November 14, 2013 information.

In late 2011, it also became apparent certain structural deficiencies existed in the Mill Lane gravity sewer based upon the observation that sewage was leaking into Valley Creek an Exceptional Value Stream. The structural deficiencies have been eliminated due the construction of the Mill Lane Phase 1 improvements.

At a May 1, 2012 meeting at the Pennsylvania Department of Environmental Protection (DEP) in Norristown, PA, DEP indicated that due to the various sewage facilities planning issues that are raised by the construction of an improved Mill Lane and Sidley Road project, an ACT 537 Special Study should be prepared. The Special Study is to study not only the Mill Lane and Sidley Road drainage area in East Whiteland Township, but also the Southside area that drains to Mill Lane and Sidley Road. ARRO has completed the Special Study which was approved by DEP on September 17, 2013. The Township and Southside areas analyzed as part of the ACT 537 Special Study are included in Exhibit A. A copy of the DEP Special Study approval is also included in Exhibit A.

II. SANITARY SEWER COLLECTION and CONVEYANCE SYSTEM

Excluding the current proposed improvements, the Mill Lane and Sidley Road collection and conveyance system is comprised of 17 manholes and 4,090 linear feet of eight (8), ten (10), and twelve (12) inch gravity sewer. An overview of the Township sanitary sewer system is included as part of Exhibit A. Although the Mill Lane and Sidley Road systems are gravity sewers, three pump stations add flow to the Sidley Road system which in turn adds flow to the Mill Lane system. The Lee Boulevard Pump Station accepts not only Township commercial (9 lots) but also Southside residential/commercial flows and adds this flow to the Sidley Road system at Lee Boulevard. The Flat Road Pump Station accepts Township commercial flow (5 lots) and discharges this flow to the Wilburdale Pump Station. The Wilburdale Pump Station accepts Township commercial flow (16 lots) and adds this flow to the Sidley Road system at Flat Road. There are 185 Township residential homes connected to the Mill Lane and Sidley Road collection systems. The only expected Township residential growth expected to drain to the collection systems is the 23 lots identified as the Glasgow Tract. Additional Township

commercial flow is expected within the Great Valley Corporate Center (GVCC). A total of two-hundred twenty-nine (229) additional EDUs have been identified as being needed to address future growth in the GVCC. Twenty-nine (29) of the EDUs are assigned to 260 Great Valley Parkway for the J & J Sparta site. The remaining two-hundred (200) EDUs are assigned as an overall total to be used where needed in the GVCC based upon the actual future re-development of the sites. The Glasgow tract and the Great Valley Corporate Center (Great Valley Parkway area) are shown on the Township study area plan in Exhibit A. An additional 62 Township residential lots are connected to the Moores Road gravity sewer system which ultimately drains overland to the Mill Lane gravity sewer system.

III. EXISTING STRUCTURAL ISSUES

Prior to the construction of the current improvements, the portion of the Mill Lane system between Valley Creek north to the north side of State Route 202 (SR 0202) was a twelve (12) inch diameter asbestos cement pipe installed in the early 1960's. In late 2011 it was determined based upon physical evidence that sanitary sewage was leaking into a Tributary of Valley Creek just south of Rt 202 through an unknown drainage pipe. The drainage pipe was not indicated on any known design plans. Based upon Township investigation by means of televising the twelve (12) inch sanitary line, it appears that the joints in the existing twelve (12) inch pipe were defective and were the cause of the leakage. The existing structural issue was eliminated by the construction of the Mill Lane Phase 1 improvements which were fully operational as of November 4, 2013.

IV. EXISTING OVERLOAD

ARRO analyzed the Mill Lane and Sidley Road drainage systems for existing and future capacity. The existing capacity analysis indicates that three (3) ten (10) inch diameter segments of the Sidley Road system and one (1) eight (8) inch diameter segment of the Moore Road system are currently over capacity. Specifically, more flow is directed to the segments than the segment can handle hydraulically without exceeding the full flow pipe condition. In addition, a series of manholes (MHs) in Sidley Road that accept the Wilburdale and Lee Boulevard Pump Station flow surcharge during the pump discharge cycle. It is noted that the MH surcharge elevations currently do not exceed the MH rim elevations. Consequently no effluent is discharged from the MHs at street level. No DEP

Sanitary Sewer Overflow (SSO) reports have needed to be filed for the Sidley Road system. A copy of the existing system capacities spreadsheet is included as part of Exhibit C. A copy of the Sidley Road Existing Features Plans which shows the location of the existing overcapacity gravity lines and the MHs that surcharge during times of the Wilburdale and Lee Boulevard pump station discharge is included as part of Exhibit C.

V. PROJECTED OVERLOAD

The service area for Southside is included as part of Exhibit A. It is noted that an area west of Conestoga Road is listed as a Proposed Valley Forge Sewer Service Area. This area is considered a part of Southside and will drain to the Township. However, the flow will not drain through the Mill Lane and Sidley Road systems and therefore these flows are not included in the Mill Lane and Sidley Road calculations. A copy of the projected Southside flows is included as part of Exhibit D.

When the projected Southside flows are added to the existing system, additional pipe segments in the existing system are over capacity. The number of ten (10) inch diameter segments which are over capacity increases from three (3) at existing flow to ten (10) at the projected flows. In addition three (3) twelve (12) inch diameter lines downstream from Moores Road are also over capacity at the projected flows. An analysis of the existing Sidley Road and Mill Lane system with the projected Southside flows is included as part of Exhibit D.

VI. CORRECTIVE ACTIONS

The Township has prepared this Corrective Action Plan (CAP) to demonstrate its commitment towards resolving the hydraulic and conveyance issues in the Mill Lane and Sidley Road gravity sewer collection systems. The CAP consists of replacement construction measures that should effectively eliminate the structural and capacity issues in the identified collection systems.

Corrective actions are required due not only to the inadequacy of the existing system to adequately convey existing East Whiteland and Charlestown flows but also the inadequacy to adequately convey the future flows projected in East Whiteland and Charlestown. Consequently, a dialogue has been

established with VFSA, as representative for Charlestown, to communicate comments and ideas on the proposed design and cost of the overall construction process. It is noted that VFSA will share in the cost of all the work related to the analysis and design of the Mill Lane and Sidley Road systems in proportion to the amount of flow directly attributed to Charlestown. VFSA is representing Charlestown in the financial discussions with the Township.

The Township has started some of the corrective actions already and will continue the following actions and measures to the collection and conveyance systems:

A. Design and Construction of Phase 1 Improvements

Phase 1 - Mill Lane Improvements This phase of the improvements has been set up to include the sanitary sewer improvements from Valley Creek north to Sidley Road approximately 220' north of the intersection of Sidley Road and Lapp Road. Construction of the Phase 1 improvements will eliminate the structural issues related to the pipe leakage into Valley Creek as detailed in Section A.III of this report. Construction of the Phase 1 improvements will also increase the capacity of the system to allow for the increased capacity for the improvements of the Phase 2 - Sidley Road Improvements.

The Phase 1 design plans and specifications have been completed. Permits have been obtained from Penn DOT, PA DEP, and the Chester County Conservation District for the project. The Phase 1 construction bids were received on July 1, 2013 and construction started on September 9, 2013. The new piping system was operational on November 4, 2013. Final punch list type work still needs to be completed for the project. Final completion is expected to be completed by December 26, 2013. A copy of the Mill Lane Sewer Main Replacement Phase 1- Issued for Construction - design plans showing the plan and profile of the proposed piping system is included as part of Exhibit E.

B. Design and Construction of Phase 2 Improvements

Phase 2 – Sidley Road Improvements – This phase of the improvements has been set up to include the sanitary sewer improvements from the end of Phase 1 in Sidley Road north in Sidley Road to the intersection with Lee Boulevard. Construction of the Phase 2 improvements will

include the upgrading of sewer lines which will eliminate capacity issues related to the undersized pipe in Sidley Road as detailed in Sections IV and V of this report. Construction of the Phase 2 improvements will also increase the capacity of the system to allow for the increased flow projected from Southside.

The Phase 2 design plans are 100% complete. Phase 2 construction bids were received on November 4, 2013. The construction bid is expected to be awarded at the November 13, 2013 East Whiteland Township Board of Supervisors meeting. Phase 2 construction is expected to start by December 2013 and be substantially complete by March 2014, weather permitting. A copy of the Sidley Road Sewer Main Replacement Phase 2 - Issued for Bids - design plans showing the plan and profile of the proposed piping system along Sidley Road is included as part of Exhibit E.

It is noted that the eight (8) inch diameter existing over capacity segment in Moores Road will operate at an acceptable level when the Sidley Road gravity sewer is re-routed to drain south on Sidley Road toward Lapp Road and away from Moores Road. A capacity analysis of the entire improved Mill Lane and Sidley Road system is included as part of Exhibit E.

C. Design and Construction of Phase 3 Improvements

Phase 3 – Improvements to the Lee Boulevard Pump Station – The need for this phase of improvements will be based upon the timing of the connection schedules of the various Southside projects. Currently, the Lee Boulevard Pump Station (Pump Station) pumps have a hydraulic peak design capacity of 430 gallons per minute (gpm) which equates to 619,200 gallons per day (gpd). At the 619,200 gpd, using a 3.7 pump station peaking factor to evaluate the total allowable average daily flow, equates to an average daily flow of 167,350 gpd. The 2012 annual average daily flow through the Pump Station is 80,573 gpd which leaves (167,350 gpd – 80,573 gpd) 86,777 gpd remaining capacity before an upgrade to the pump station is needed.

According to current knowledge, Pickering Crossing (Charlestown) and Spring Oak (Charlestown) are actively seeking connection to the public sewer as soon as possible. The Office Restaurant (Charlestown) has also submitted a planning module to East Whiteland for

review. These three projects will not be able to connect to the East Whiteland sewer system until the Mill Lane Sewer Main Replacement Phase 1 and Sidley Road Sewer main replacement Phase 2 have been constructed and are operational. These three projects combined have been allocated a total of 273.1 EDUs which equates to an average daily flow of 75,103 gpd which is 86.6% of the remaining in the Pump Station and can be accommodated with the current pumps. It is noted that Pickering Crossing and Spring Oak are relatively larger type developments which may take a few years for full build out. Any additional Charlestown projects will require an upgrade to the Pump Station prior to connection to and discharge from the Pump Station.

It is noted that additional Charlestown projects listed on the CMP will require planning module approval from East Whiteland. As part of the planning module approval, East Whiteland is prepared to note the limitations at the Lee Boulevard Pump Station and delay approval of the modules until upgrades have been constructed at the pump station. It is further noted that the Volpi development does not drain to the Pump Station. Consequently the Volpi flows would not be subject to any restrictions at the pump station.

The design of the Pump Station upgrades is expected to be started in 2014. Construction of the improvements is expected to be completed in 2015 at the earliest. The specific timing of the actual construction of the upgrades will ultimately be determined by the actual construction schedule of the Charlestown Southside projects.

It is noted that Charlestown has a current 300,000 gpd average daily flow allocation in the Township sanitary sewer system. Discussions are in progress to grant Charlestown an increase of 132,302 gpd which will create a total allocation of 432,302 gpd. Additional discussion on the Charlestown allocation is included in the Connection Management Plan (CMP) section of this report.

VII. MILESTONES

The following is a list of the actions, with milestone dates, that the Township will undertake to resolve the structural and hydraulic issues with the Mill Lane and Sidley Road gravity sewer systems:

A. Prepare Design Plans for Phase I Mill Lane Sewer Replacement Project

Start: January 2012

Complete: May 2013

B. Prepare East Whiteland Township/Charlestown Township (Southside) ACT 537 Special Study

Start: August 2012

May/June – submit to DEP

Complete: September 2013 – approval by DEP

C. Resolve Cost Sharing with Valley Forge Sewer Authority

Start: August 2012

Complete: January 2014

D. Construct Phase 1 Mill Lane Sewer Replacement Project

Start: September 2013

Complete: December 2013

E. Prepare Design Plans for Phase 2 Sidley Road Sewer Replacement Project

Start: June 2012

Complete: September 2013

F. Prepare Water Quality Management General Permit – 02 (WQG-02)

Start: April 2013

May/June – submit to DEP

Complete: September 2013 – approval by DEP

G. Construct Phase 2 Sidley Road Sewer Replacement Project

Start: December 2013

Complete: March 2014

H. Design Phase 3 Lee Boulevard Pump Station Improvements Project

Start: March 2014

Complete: October 2014

I. Prepare Water Quality Management General Permit – 02 (WQG -02)

Start April 2014

September 2014 – submit to DEP

Complete December 2014 – approval by DEP

J. Construct Phase 3 Lee Boulevard Pump Station Improvements Project

Start: March 2015

Complete: September 2015

VIII.

MILL LANE and SIDLEY ROAD CORRECTIVE ACTION PLAN SUMMARY SHEET

Date: February 13, 2013

Revised November 14, 2013

Sheet 1 of 2

MUNICIPALITY:	East Whiteland Township
STRUCTURAL CONDITION:	Mill Lane Sanitary Sewer Leakage
OVERLOAD CONDITION:	Sidley Road Sanitary Sewer Over-capacity
REPORTING PERIOD:	FROM: February 1, 2013 TO: November 8, 2013
PROPOSED PLAN:	Improve the Mill Lane and Sidley Road gravity sewer collection and conveyance systems to eliminate the structural and over-capacity issues.

Task No.	Task Description	Actual Start Date	Anticipated Completion Date	Actual Completion Date	Anticipated Flow Reduction	Actual Metered Flow Reduction	Task Percent Complete	Comments
1	Prepare Design Plans for Phase 1 – Mill Lane Sewer Replacement	January 2012	April 2013	May 2013	N.A.	N.A.	100	
2	Prepare East Whiteland Township/Charlestown Township (Southside) ACT 537 Special Study	August 2012	September 2013	September 19, 2013 DEP Approval	N.A.	N.A.	100	
3	Resolve Cost Sharing with Charlestown Township	August 2012	January 2014		N.A.	N.A.	75	

MILL LANE and SIDLEY ROAD CORRECTIVE ACTION PLAN SUMMARY SHEET

Date: February 13, 2013

Sheet 2 of 2

Revised November 14, 2013

Task No.	Task Description	Actual Start Date	Anticipated Completion Date	Actual Completion Date	Anticipated Flow Reduction	Actual Metered Flow Reduction	Task Percent Complete	Comments
4	Construct Phase 1 – Mill Lane Sewer Replacement	September 2013	December 2013		N.A.	N.A.	90	
5	Prepare Design Plans for Phase 2 – Sidley Road Sewer Replacement Project	June 2012	July 2013	September 2013	N.A.	N.A.	100	
6	Prepare Water Quality Management General Permit – 02 (WQG-02)	April 2013	September 2013	September 2013 – DEP Approval	N.A.	N.A.	100	
7	Construct Phase 2 – Sidley Road Sewer Replacement Project	December 2013	March 2014		N.A.	N.A.	0	
8	Design Phase 3 – Lee Boulevard Pump Station Improvements Project	March 2014	October 2014		N.A.	N.A.	0	
9	Prepare Water Quality Management General permit -02 (WQG-02)	April 2014	December 2019 – approval by DEP		N.A.	N.A.	0	
10	Construct Phase 3 – Lee Boulevard Pump Station Improvements Project	March 2015	September 2015		N.A.	N.A.	0	

MILL LANE and SIDLEY ROAD COLLECTION and CONVEYANCE SYSTEMS

A. CONNECTION MANAGEMENT PLAN (CMP)

I. INTRODUCTION

As noted in the Corrective Action Plan (CAP) portion of the report, various existing system limitations are planned to be corrected by means of a series of improvements to the Mill Lane and Sidley Road gravity collection and conveyance systems.

Charlestown Township (Charlestown) has presented a schedule of flows from Charlestown Southside (Southside) which will drain to the Sidley Road and Mill Lane collection and conveyance lines. The timing of sewer connections will be determined by not only the progress of the corrective actions outlined in the CAP but also the individual progress of the identified Southside building projects.

An additional factor that will determine the timing of connections will be the status of the Amendment to East Whiteland Trunk Line Agreement (Agreement). The Agreement currently allows for 300,000 gallons per day from Southside. A copy of the Agreement is included in Exhibit F. In order to provide capacity for the entire list of identified Southside projects, additional capacity will need to be purchased by Charlestown. Discussions are underway with Valley Forge Sewer Authority (VFSA) to purchase the additional capacity for Charlestown. A copy of the revised draft Agreement is included in Exhibit F. A copy of the VFSA commitment letter is also included in Exhibit F.

II. CONNECTION MANAGEMENT

Connection management is based primarily upon a time table provided by Charlestown and included as part of Exhibit D. The flows and schedule in Exhibit D have been expanded to create a Connection Management Plan (CMP) which includes DEP Code Numbers, Date of Approval by DEP, Construction Status, and Connection Status. The CMP Schedule is included in Section B.III. The CMP does not include the existing Southside flows.

The 300,000 gallons per day allowed for Southside includes flows that do not drain to the Mill Lane and Sidley Road system. A tabulation of the 2012 existing Southside flows is as follows:

Charlestown Meadows – 19,074 gpd (does not drain to Mill Lane/Sidley Road)
Charlestown Oaks – 38,354 gpd (drains to Sidley Road/Mill Lane)
Lee Boulevard Pump Station – 77,668 gpd (drains to Sidley Road/Mill Lane)
Total 2012 Southside flow – 135,096 gpd

The remaining capacity, utilizing the existing 300,000 gpd allocation = 300,000 – 135,096 = 164,904 gpd which equates to 599.7 EDUs at 275 gallons/EDU. As noted in the CMP 599.7 EDUs are allocated to the Southside flow which will cover partial completion of projects projected to be constructed in years 2019 to 2023. An additional flow allocation is being discussed with Valley Forge Sewer Authority which will allow Charlestown to construct the remaining projects listed on the CMP. A copy of the current revised draft Agreement is included in Exhibit F.

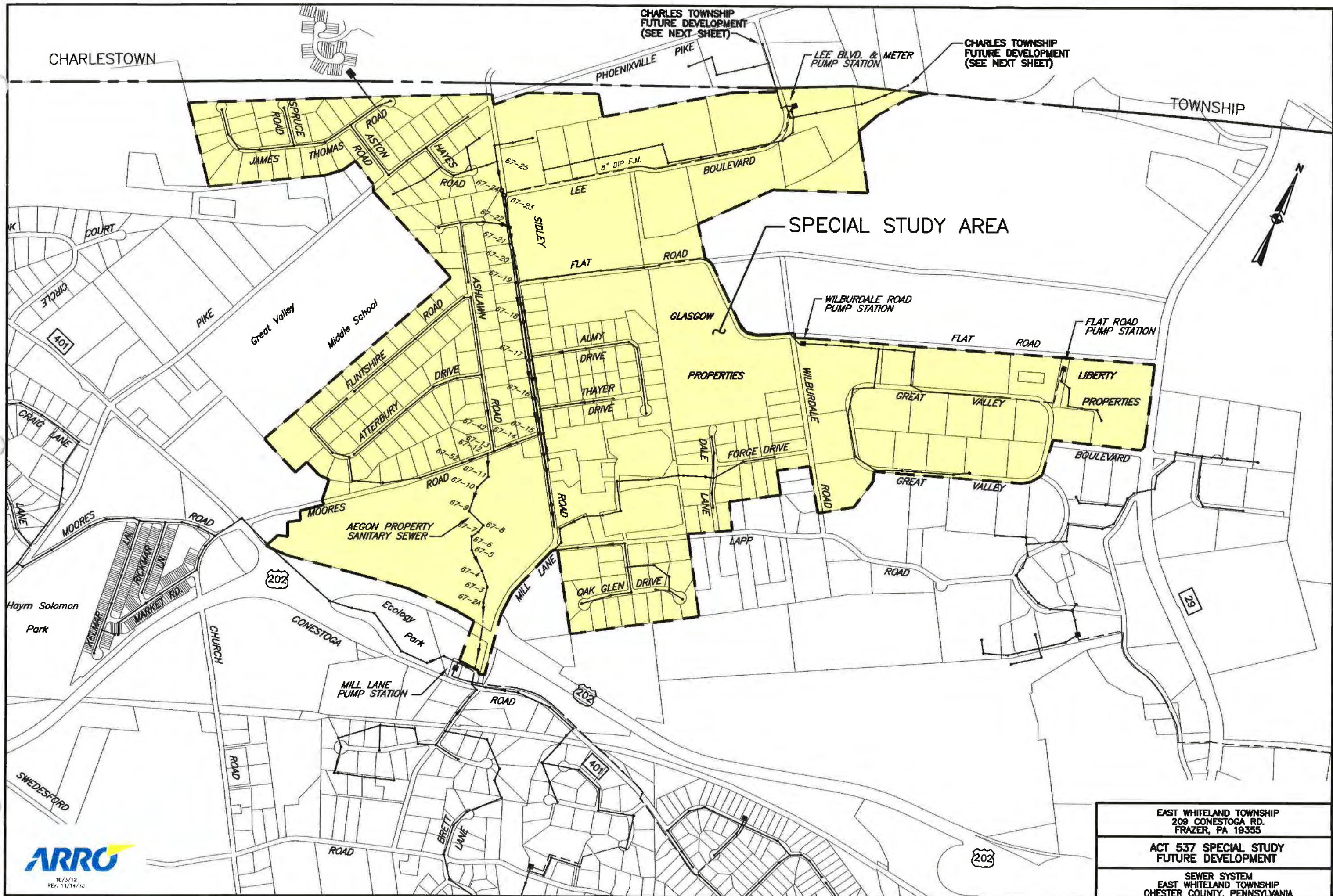
B.III.

CONNECTION MANAGEMENT PLAN (CMP)												
Name of Collection System	Mill Lane and Sidley Road Collection & Conveyance Systems, East Whiteland Township, Chester County, PA											
Date	2/13/2013, revised 11-14-13											
	Sewage Facilities Planning Status			Construction Status		Connection Status		Projected Connection Schedule				
Municipality/Project Name	DEP Code No.	Flow Approved	Date Approved by DEP	Construction Status Y/N	Building Permits Issued	EDUs *	EDUs *	2014 to 2018	2019 to 2023	2024 to 2028	2029 to 2033	2034 to 2038
		(gpd)				Needed	Allocated	(0 to 5 years)	(6 to 10 years)	(11 to 15 years)	(16 to 20 years)	(21 to 25 years)
East Whiteland Township												
1. Glasgow Tract	1-15925-285-3J	6,325	5/3/2007	N	0	23	23			23		
2. J & J Lot - 280 GVP - GVCC	1-15925-334-3J	8,355				29	29	29				
3. Additional GVCC						200	200		50	50	50	50
	totals	14,680				252	252	29	50	73	50	50
Charlestown Township												
1. Pickering Crossing*	1-15913-200-3J	21,450	11/18/2012	Y	0	78	78	78				
2. Holy Ascension Church	n.a.	1,815	n.a.	N	0	6.6	6.6	6.6				
3. Devault Foods	n.a.	37,000	n.a.	N	0	134.6	134.6	134.6				
5. Spring Oak Business Park	1-15913-197-3J	50,875	n.a.	N	0	185	185	185				
4. Charlestown School	n.a.	1,845	n.a.	N	0	6.7	6.7	6.7				
5. Warner Lane	n.a.	4,650	n.a.	N	0	16.9	16.9	16.9				
6. Volpi	n.a.	275	n.a.	N	0	1	1		1			
7. Cellucci	n.a.	4,450	n.a.	N	0	16.2	16.2		16.2			
8. Laurabrooke	n.a.	4,740	n.a.	N	0	17.2	17.2		17.2			
9. "Late Spring"	n.a.	2,130	n.a.	N	0	7.8	7.8		7.8			
10. Adjacent to Laurabrooke	n.a.	10,560	n.a.	N	0	38.4	38.4		38.4			
11. Filippo Tract	n.a.	19,800	n.a.	N	0	72	72		72			
12. Across Spring Oak Park	n.a.	2,475	n.a.	N	0	9	9		9			
13. Yellow Springs Road	n.a.	2,750	n.a.	N	0	10	10		10			
14. Rt 29 & Charlestown Rd.	n.a.	13,750	n.a.	N	0	50	0.3		50			
15. Northside of School	n.a.	1,825	n.a.	N	0	7	0		7			
16. Farm Residence	n.a.	275	n.a.	N	0	1	0		1			
17. The Office Restaurant	1-15913-205-3J	3,600	n.a.	N	0	13.1	0		13.1			
18. Commons at Great Valley	n.a.	11,000	n.a.	N	0	40	0		40			
19. Remainder I/O District	n.a.	12,550	n.a.	N	0	45.6	0			45.6		
20. Remainder B-1, District	n.a.	13,655	n.a.	N	0	49.7	0			49.7		
21. Remainder I/O District	n.a.	12,550	n.a.	N	0	45.6	0				45.6	
22. Remainder B-1, District	n.a.	13,655	n.a.	N	0	49.7	0				49.7	
23. Remainder I/O District	n.a.	12,550	n.a.	N	0	45.6	0					45.6
24. Remainder B-1 District	n.a.	13,655	n.a.	N	0	49.7	0					49.7
25. Credit for Volpi	n.a.	23,225	n.a.	N	0	84.5	0		84.5			
	totals 1-25	297,206				1080.9	599.7	427.8	367.2	95.3	95.3	95.3
* aka Tyler Griffith												
** Charlestown allocation based upon 300,000 gpd per current Agreement						*EDU = 275 gpd						
Total EDUs EWT & Charlestown Twp.								456.8	417.2	168.3	145.3	145.3

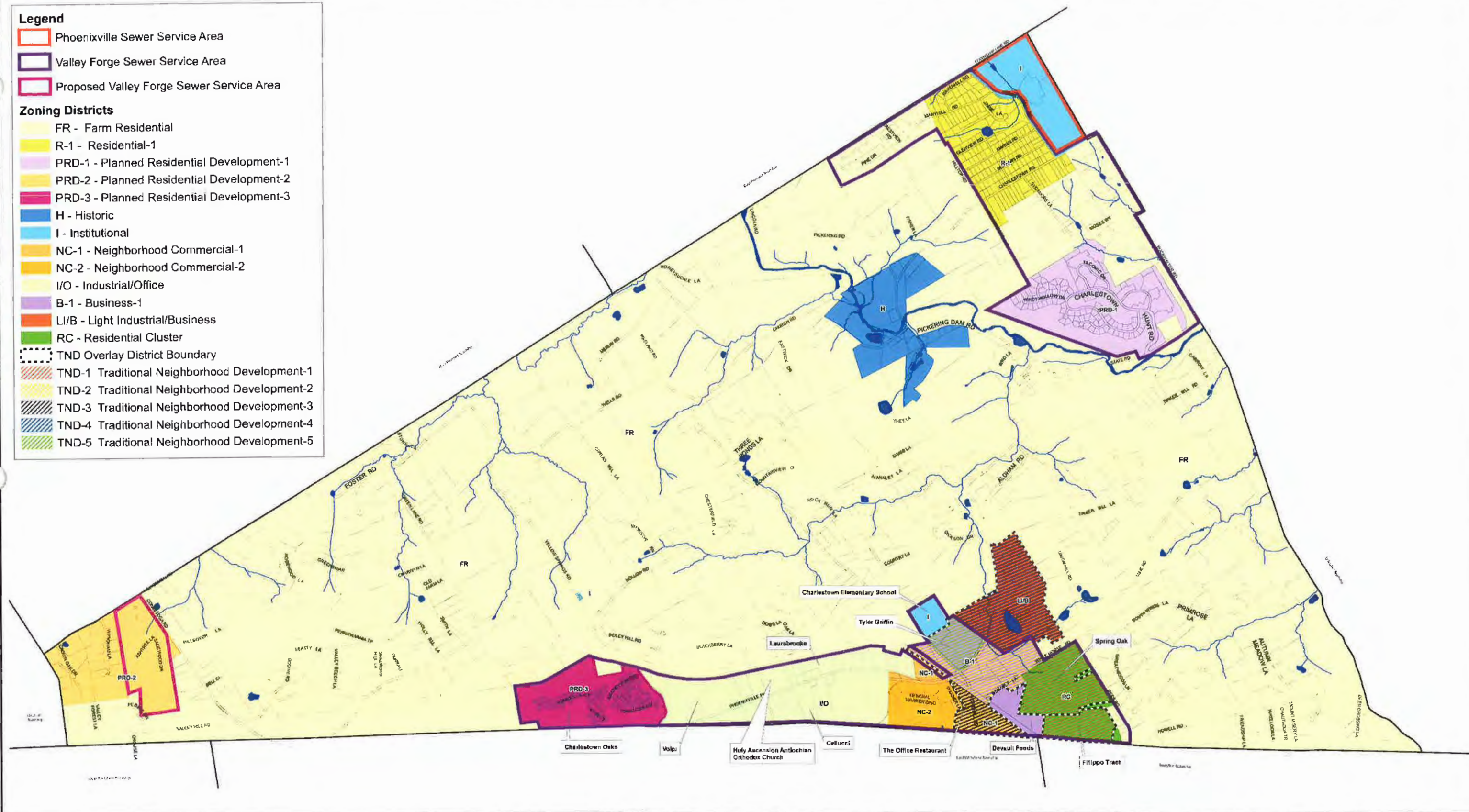
Exhibit A

Act 537 Special Study Area

1. East Whiteland Township Plan
2. Charlestown Township Plan
3. East Whiteland Township Sanitary Sewer System Plan
4. DEP approval letter for ACT 537 Special Study



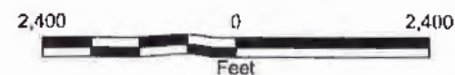
- Legend**
- Phoenixville Sewer Service Area
 - Valley Forge Sewer Service Area
 - Proposed Valley Forge Sewer Service Area
- Zoning Districts**
- FR - Farm Residential
 - R-1 - Residential-1
 - PRD-1 - Planned Residential Development-1
 - PRD-2 - Planned Residential Development-2
 - PRD-3 - Planned Residential Development-3
 - H - Historic
 - I - Institutional
 - NC-1 - Neighborhood Commercial-1
 - NC-2 - Neighborhood Commercial-2
 - I/O - Industrial/Office
 - B-1 - Business-1
 - LI/B - Light Industrial/Business
 - RC - Residential Cluster
 - TND Overlay District Boundary
 - TND-1 Traditional Neighborhood Development-1
 - TND-2 Traditional Neighborhood Development-2
 - TND-3 Traditional Neighborhood Development-3
 - TND-4 Traditional Neighborhood Development-4
 - TND-5 Traditional Neighborhood Development-5



Zoning Map & Sewer Service Areas

CHARLESTOWN TOWNSHIP
Chester County, Pennsylvania

Revised: October 8, 2012
Date: August 15, 2008; September 15, 2010



Data Sources:

Base Features: Chester County
GIS Department, February 2005

Prepared By:
Thomas Comitta Associates, Inc.
Town Planners & Landscape Architects
18 West Chestnut Street
West Chester, Pennsylvania 19380

Exhibit B

Exhibit B Has Been Eliminated

Exhibit C

Existing Overload Documentation

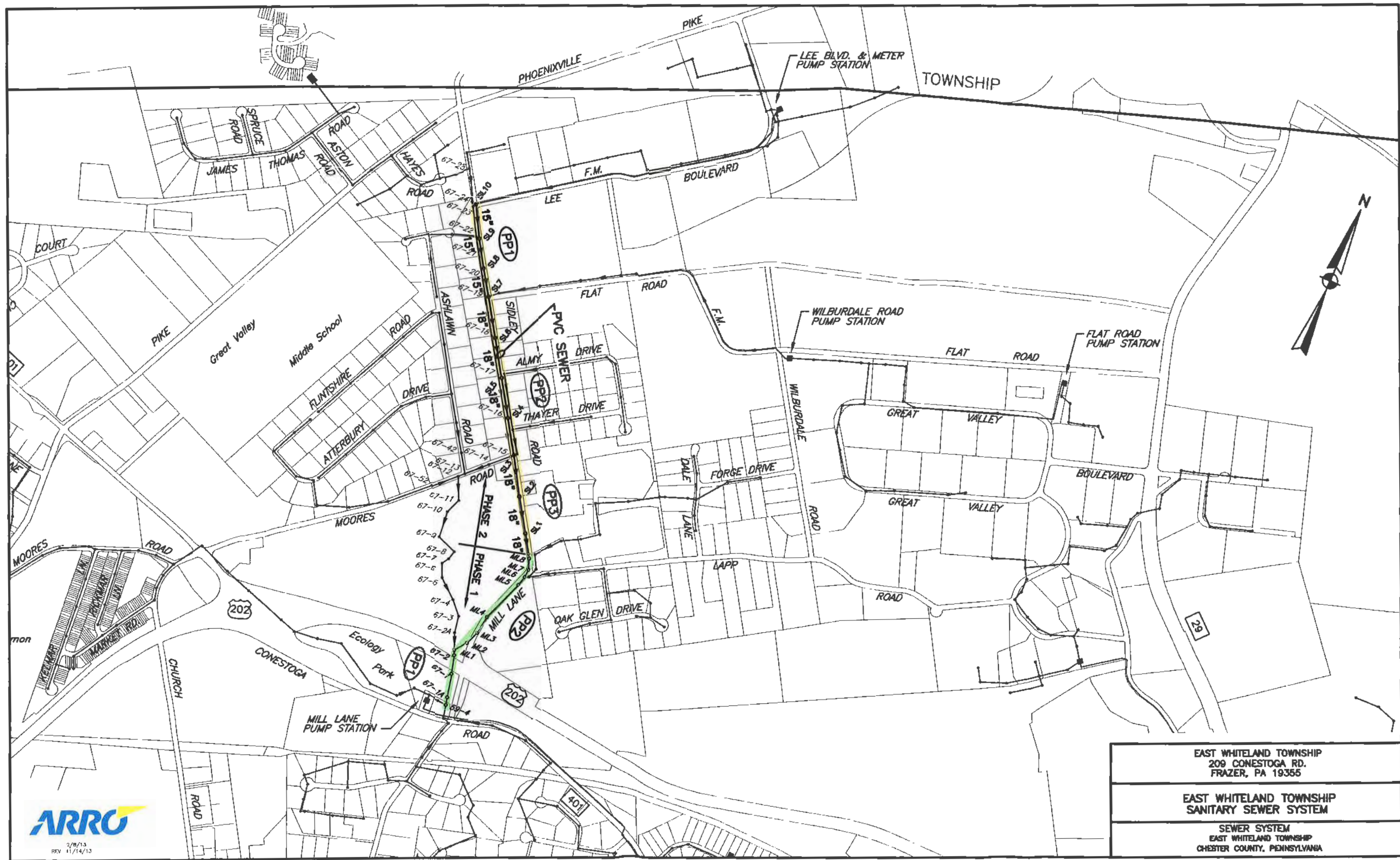
1. Existing System Capacities
2. Existing Features Plan – Sidley Road

East Whiteland
Gravity Sewer Hydraulic Capacity Analysis - Existing Capacity Evaluation without Charlestown Future Flows
ARRO #10310.02
12/14/2011, rev 12-17-12, rev 6-21-13, rev 11-14-13

Up-Stream MH	Down-Stream MH	Diam (in.)	Slope	Length (ft)	n	A(sq)	R	Q(cfs)	Full Pipe Capacity			Proposed Capacity*		Remaining Capacity		Percentage Used (%)	Note
									V(fps)	Q(gpm)	Q(gpd)	Q(gpd)	Q(gpd)				
	To Lee Blvd PS from Lee Blvd PS	10	0.0035	1450	0.013	0.55	0.208	1.30	2.38	583	839,598	837,911 282,006 241,719	557,591	33.6	from - 2012 Wilburdale PS - 239,403 gpd existing - Do Not Add 23 EDUs Glasgow tract to - 2012 Lee Blvd PS - 80,573** gpd existing - Do Not Add 296,931*** future Charlestown flow from - Lee Blvd PS flow		
67-25	67-24	8	0.0028	392.5	0.013	0.35	0.167	0.85	1.88	294	422,962	162,373	260,389	38.4	add - 2012 Charlestown Oaks 38,354 gpd + 97 EDUs - Do Not Add 275 gpd future (Volpi)		
67-24	67-23	8	0.0209	19	0.013	0.35	0.167	1.75	5.02	766	1,132,386	162,373	969,513	14.4			
67-23	67-22	10	0.0030	212.5	0.013	0.55	0.208	1.19	2.19	535	770,810	404,292	366,519	52.5	add - flow from Lee Blvd PS		
67-22	67-21	10	0.0039	207	0.013	0.55	0.208	1.36	2.50	612	881,719	415,282	466,428	47.1			
67-21	67-20	10	0.0068	237.5	0.013	0.55	0.208	1.81	3.32	812	1,169,423	415,292	754,131	36.5	add - 16 EDUs		
67-20	67-19	10	0.0045	236.5	0.013	0.55	0.208	1.47	2.71	652	953,070	415,292	537,779	43.8			
67-19	67-18	10	0.0048	369	0.013	0.55	0.208	1.52	2.79	684	964,258	1,263,858	-279,600	128.4	add - flow from Wilburdale PS flow - Do Not Add 23 EDUs (Glasgow tract) add 15.5 EDUs add - 2 EDUs (west side of Sidley Road)		
67-18	67-17	10	0.0039	395.5	0.013	0.55	0.208	1.37	2.51	613	882,660	1,263,233	-382,373	143.3			
67-17	67-16	10	0.0050	400	0.013	0.55	0.208	1.55	2.85	696	1,002,506	1,263,233	-262,728	126.2	add - 4 EDUs (west side of Sidley Road) add - 48 EDUs (east side of Sidley Road)+ 3 EDUs west side of Sidley Road		
67-16	67-15	10	0.0148	392.5	0.013	0.55	0.208	2.67	4.89	1,197	1,723,594	1,267,983	455,601	73.6			
67-15	67-14	10	0.0230	244	0.013	0.55	0.208	3.33	6.11	1,495	2,153,224	1,301,671	851,553	60.5	add - 42 EDUs - MOST RESTRICTIVE COLLECTION LINE		
67-14	67-13	10	0.0169	235	0.013	0.55	0.208	2.85	5.23	1,281	1,844,384	1,301,671	542,713	70.6			
67-13	67-12	8	0.0105	60	0.013	0.35	0.167	1.24	3.55	557	802,056	1,330,546	-528,490	165.9	add - 20 EDUs		
67-12	67-11	12	0.0526	227.8	0.013	0.79	0.250	8.19	10.43	3,676	5,232,726	1,344,296	3,948,430	25.4			
67-11	67-10	12	0.0308	174.5	0.013	0.79	0.250	6.27	7.98	2,813	4,050,064	1,344,296	2,705,768	33.2	add - 68 EDUs - from business park - MOST RESTRICTIVE CONVEYANCE LINE		
67-10	67-9	12	0.0104	378.4	0.013	0.79	0.250	3.64	4.64	1,534	2,353,440	1,344,296	1,009,145	57.1			
67-9	67-8	12	0.0438	173.7	0.013	0.79	0.250	7.47	9.52	3,354	4,829,738	1,344,296	3,485,443	27.8	add - 89 EDUs - from Lapp Road		
67-8	67-7	12	0.0200	77.7	0.013	0.79	0.250	5.05	6.43	2,266	3,263,635	1,344,296	1,919,339	41.2			
67-7	67-6	12	0.0300	55.4	0.013	0.79	0.250	6.16	7.88	2,776	3,997,120	1,344,296	2,652,824	33.6			
67-6	67-5	12	0.0084	129.3	0.013	0.79	0.250	3.27	4.17	1,469	2,115,077	1,391,046	724,031	65.8			
67-5	67-4	12	0.0193	195.6	0.013	0.79	0.250	4.96	6.32	2,226	3,206,012	1,391,046	1,814,967	43.4			
67-4	67-3	12	0.0159	189.6	0.013	0.79	0.250	4.50	5.74	2,021	2,906,947	1,391,046	1,515,901	47.8			
67-3	67-2A	12	0.0197	180	0.013	0.79	0.250	5.01	6.38	2,249	3,239,065	1,391,046	1,848,019	42.9			
67-2A	67-2	12	0.0239	198.6	0.013	0.79	0.250	5.52	7.03	2,478	3,567,677	1,438,483	2,129,194	40.3			
67-2	67-1	12	0.0069	339.2	0.013	0.79	0.250	3.37	4.29	1,512	2,177,116	1,436,483	738,633	56.1			
67-1	67-1B	12	0.0270	209	0.013	0.79	0.250	5.87	7.47	2,633	3,791,299	1,438,483	2,352,815	37.9			

*** 432,302 - (38,354 + 19,074 + 77,668 + 275 [volpi]) = 296,931
 **2012 flows - 77,668^a gpd (Charlestown) 2,905 gpd (East Whiteland) = 80,573 gpd total
^a2012 metered flow
 2012 charlestown flows
 - charlestown oaks - 38,354
 - charlestown meadows - 19,074
 - lee boulevard - 77,668

* Peaking factors from the draft "Sewage Pumping Station Guidance" by PA DEP Southeast Regional Office



2/8/13
REV 11/14/13

EAST WHITELAND TOWNSHIP 209 CONESTOGA RD. FRAZER, PA 19355
EAST WHITELAND TOWNSHIP SANITARY SEWER SYSTEM
SEWER SYSTEM EAST WHITELAND TOWNSHIP CHESTER COUNTY, PENNSYLVANIA



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

SEP 17 2013

Ms. Terry Woodman, Manager
East Whiteland Township
209 Conestoga Road
Frazer, PA 19355-1699

Re: Act 537 Special Study
Sidley Road Area Sewage Conveyance System Upgrades
Status: ISSUED
APS ID 38912, AUTH ID 986960
East Whiteland Township
Chester County

Dear Ms. Woodman:

We have completed our review of your municipality's proposed Official Sewage Facilities Plan Special Study for the Sidley Road area sewage conveyance system upgrades in East Whiteland Township (Township), Chester County. The Special Study, titled East Whiteland Township/Charlestown Township (Southside) Act 537 Special Study (Special Study), was prepared by ARRO Engineering & Environmental Consultants, and is dated June 2013. This Special Study was submitted to the Department of Environmental Protection (DEP), and a review was conducted in accordance with the provisions set forth by Section 5 of the Pennsylvania Sewage Facilities Act and Chapter 71, the Administration of Sewage Facilities Program. Additional information was received by DEP on August 30, 2013.

Approval of the Special Study is hereby granted. This approval provides for the following:

1. The upgrade of portions of the existing sewage conveyance system to provide for the existing and future sanitary sewer needs of the north-central portion of the Township and the south-central portion of Charlestown Township. The implementation of these upgrades will occur in four phases.
 - a. **Phase I** – will include the installation of a new 18-inch sanitary sewer main along Mill Lane from Manhole 67-1AA to Manhole ML-8 upstream of the Mill Lane Pump Station. (MLPS). The construction of these sanitary sewer sections has been allowed to proceed in order to mitigate the existing pipe leakage located under Route 202.

SEP 17 2013

- b. **Phase II** – will include the installation of a new 18-inch sanitary sewer main along Sidley Road from Manhole ML-8 to Manhole SL-7 and the installation of a new 15-inch sanitary sewer main along Sidley Road from Manhole SL-7 to Manhole SL-10. The construction of these sanitary sewer sections shall be completed consistent with the implementation schedule found on pages 4 and 5 of the Special Study.
 - c. **Phase III** – The expansion of the Lee Boulevard Pumping Station (LBPS) to accommodate total average annual flows of 385,039 gallons of sewage per day (gpd), which accounts for the existing flows to the pump station and the projected flows through the year 2038 for the service area tributary to the pump station. The permitting and construction of the LBPS shall be completed consistent with the implementation schedule found on pages 4 and 5 of the Special Study.
 - d. **Phase IV** – commitment for additional sewage facilities planning for the planning area associated with Liberty Properties located in the Great Valley Industrial Park. This future planning effort will include planning for the expansion of the Wilburdale Pump Station. The timing of this future planning effort is dependent on the development of the Great Valley Industrial Park.
2. A commitment for additional sewage facilities planning for upgrades to portions of the interceptor/trunk sewer, downstream from the MLPS, and the existing 14-inch force main. The future planning effort will be triggered through the monitoring of average daily flows at the MLPS. This flow trigger will be approximately 989,126 gpd.

East Whiteland Township and Valley Forge Sewer Authority (VFSA) have committed to update and amend the existing intermunicipal agreement, known as the East Whiteland Trunkline Agreement, to allow for an increase in VFSA's annual average reserve capacity for Charlestown Township from 300,000 gpd to 432,302 gpd.

Please note that any new land developments associated with this plan will not be eligible for exemptions from sewage facilities planning under Chapter 71, Section 71.51(b)(2), until after the receiving facilities have been constructed. Applicants proposing projects that will coordinate new development construction with the construction of municipal conveyance or treatment facilities must submit Sewage Facilities Planning Modules for adoption by the municipality and approval by DEP.

The Clean Streams Law permit application for Phases I and II improvements is currently under review by DEP. East Whiteland Township must secure Clean Streams Law permits from DEP for the construction and operation of the remaining project phases.

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Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

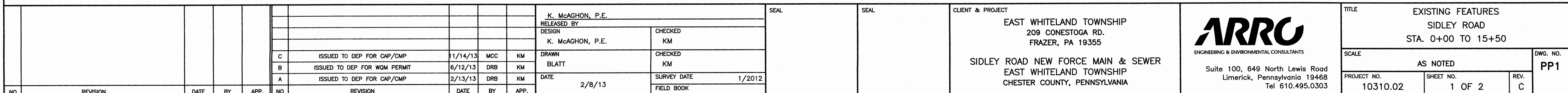
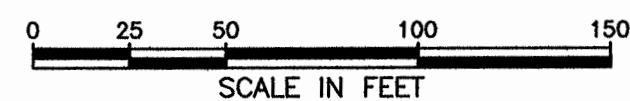
If you have any questions, please contact Ms. Kelly Boettlin of this office at 484.250.5184.

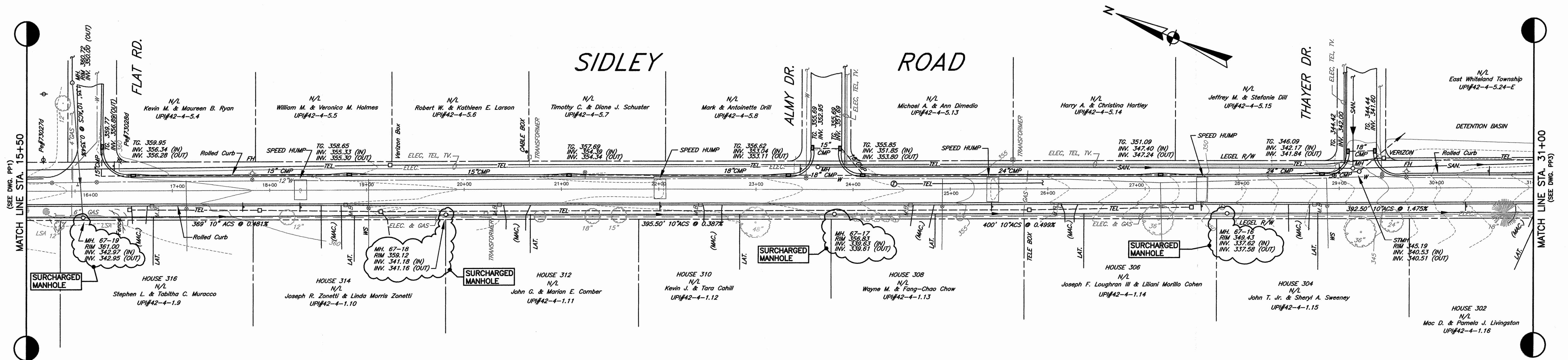
Sincerely,



Jennifer Fields, P.E.
Regional Manager
Clean Water

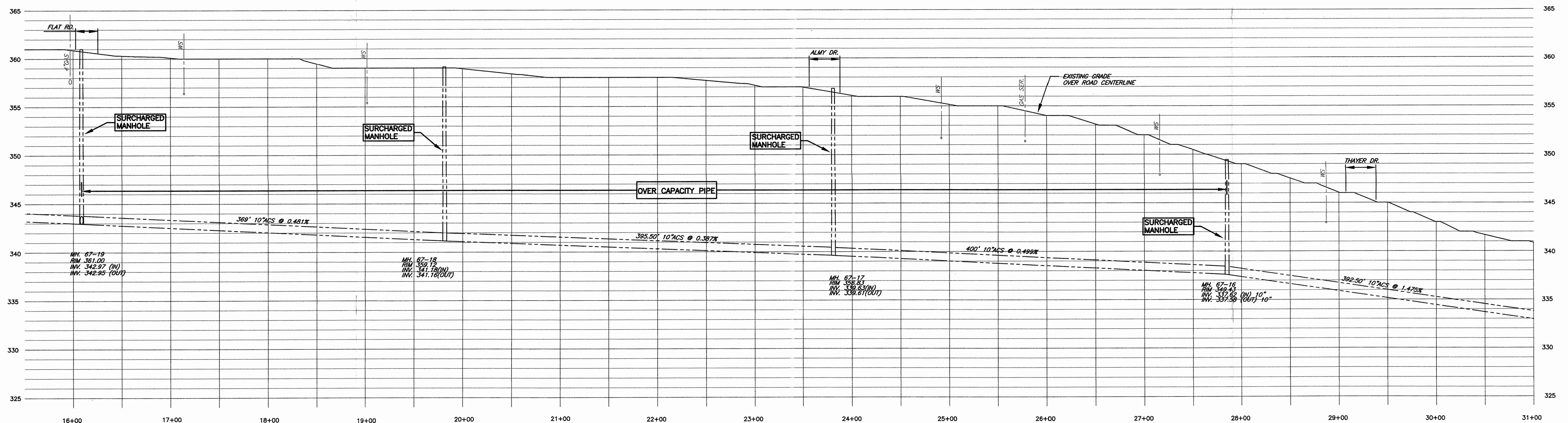
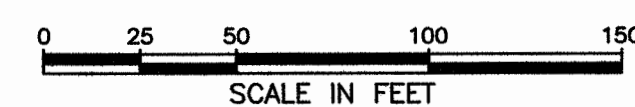
cc: Chester County Planning Commission
Chester County Health Department
Mr. Steele – East Whiteland Township
Ms. Csete, Manager – Charlestown Township
Valley Forge Sewer Authority
Mr. Bohner – ARRO Engineering & Environmental Consultants
Planning Section
Re 30 (GJS13CLW)255-11





PLAN

SCALE: 1"=50'



PROFILE

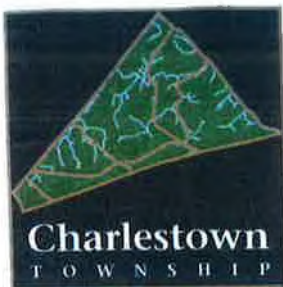
SCALE: 1"=50' HORIZ.
1"=5' VERT.

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Exhibit D

Charlestown Township Southside Service Area

1. Projected Flows from Southside Service Area
2. System Capacities with Projected Southside Flows and Existing Piping



Board of Supervisors

*Frank A. Piliero, Chair - Michael J. Rodgers, Vice Chair
Kevin R. Kuhn - Charles A. Philips - Hugh D. Willig*

March 13, 2013

Martin F. Goldberg
Operations Manager
Valley Forge Sewer Authority
333 Pawling Road
Phoenixville, PA 19460



Re: Official Update of Charlestown South Side Sewerage Flow Projections

Dear Mr. Goldberg,

In accordance with the requirement of the Pennsylvania Department of Environmental Protection (PADEP) that all of the Valley Forge Sewer Authority's (VFSA) customers provide Municipal Needs Assessment Updates in order to complete its Regional Act 537 Plan, Charlestown Township provided the VFSA with its Needs Analysis prepared by Surender Kohli, P.E. and approved by its Board of Supervisors back in September of 2008.

The 2008 Needs Analysis indicates a projected total average flow from the south side of Charlestown Township at 417,060 gpd. This, along with the other community flow projects, was part of the basis for the PADEP-approved Act 437 Plan for the VFSA treatment plant.

Charlestown Township is hereby updating the 2008 Needs Analysis. This is included as Appendix A, which has been compiled by Charlestown's consulting engineer and approved by the Charlestown Township Board of Supervisors at their meeting on March 4, 2013.

Very truly yours,

Linda M. Csete
Township Manager

Cc: Board of Supervisors
Dan Wright, P.E.

Appendix A

Charlestown Township Projects Which Drain to East Whiteland Township

Revised: 11/14/13

[illegible]

East Whiteland
Gravity Sewer Hydraulic Capacity Analysis - Existing Capacity Evaluation with Charlestown Future Flows
ARRO #10310.02

12/14/2011, rev 12-17-12, rev 6-13-13, rev 11-14-13

sheet 2 of 4

		Full Pipe Capacity										Proposed Capacity	Remaining Capacity	Percentage Used	Notes
Up-Stream MH	Down-Stream MH	Diam (in.)	Slope	Length (ft)	n	A(sq)	R	Q(cfs)	V(fps)	Q(gpm)	Q(gpd)	Q(gpd)	Q (gpd)	(%)	
	To Lee Blvd PS from Lee Blvd PS To Wilburdale PS from Wilburdale PS	10	0.0035	1450 +/-	0.013	0.55	0.208	1.30	2.38	583	839,596	992,160	-152,564	118.2	to - Lee Blvd PS - 80,573* gpd existing + 296,931** future Charlestown+70.4 EDUs from EWT to Lee Blvd PS from - Lee Blvd PS flow (PK factor = 3.05) - with future Charlestown to - Wilburdale PS - 350,000(2008 flow) + 252 EDUs (glasgow-23, J&J -29, other GVCC-200) from - Wilburdale PS (PK factor=3.0)
67-25	67-24	8	0.0029	392.5	0.013	0.35	0.167	0.85	1.88	294	422,962	173,573	249,389	41.0	add - 2012 Charlestown Oaks + 275 gpd future [volpi] + 112 EDUs
67-24	67-23	8	0.0209	19	0.013	0.35	0.167	1.75	5.02	796	1,132,386	173,573	958,813	15.3	
67-23	67-22	10	0.0030	212.5	0.013	0.55	0.208	1.19	2.19	535	770,910	1,384,008	-613,197	179.6	add - flow from Lee Blvd PS
67-22	67-21	10	0.0039	207	0.013	0.55	0.208	1.36	2.50	612	881,719	1,399,133	-517,414	158.7	add - 16 EDUs + 6 EDUs (R & F building east side) = 22 EDUs total
67-21	67-20	10	0.0088	287.5	0.013	0.55	0.208	1.81	3.32	812	1,169,423	1,399,133	-229,710	119.6	
67-20	67-19	10	0.0045	238.5	0.013	0.55	0.208	1.47	2.71	662	953,070	1,399,133	-446,063	148.8	
67-19	67-18	10	0.0048	369	0.013	0.55	0.208	1.52	2.79	684	984,258	2,667,869	-1,683,611	271.0	add - flow from Wilburdale PS flow + 2 EDUs (west side of Sidley Road) + 13.5 EDUs for 7 Lee Blvd
67-18	67-17	10	0.0039	395.5	0.013	0.55	0.208	1.37	2.51	613	882,860	2,669,064	-1,786,204	302.3	add - 2 EDUs (west side of Sidley Road)
67-17	67-16	10	0.0050	400	0.013	0.55	0.208	1.55	2.85	696	1,002,506	2,670,439	-1,667,933	266.4	add - 2 EDUs (west side of Sidley Road)
67-16	67-15	10	0.0148	392.5	0.013	0.55	0.208	2.67	4.89	1,197	1,723,564	2,671,814	-948,250	155.0	add - 2 EDUs (west side of Sidley Road)
67-15	67-14	10	0.0230	244	0.013	0.55	0.208	3.33	6.11	1,495	2,153,224	2,706,189	-552,965	125.7	add - 49 EDUs (east side of Sidley Road)+1 EDU west side of Sidley Road
67-14	67-13	10	0.0169	235	0.013	0.55	0.208	2.85	5.23	1,291	1,844,384	2,706,189	-861,805	146.7	
67-13	67-12	8	0.0105	60	0.013	0.35	0.167	1.24	3.58	557	802,056	2,735,064	-1,933,008	341.0	add - 42 EDUs
67-12	67-11	12	0.0526	227.8	0.013	0.79	0.250	8.19	10.43	3,676	5,292,726	2,748,814	2,543,912	51.9	add - 20 EDUs
67-11	67-10	12	0.0308	174.5	0.013	0.79	0.250	6.27	7.98	2,813	4,050,064	2,748,814	1,301,250	87.9	
67-10	67-9	12	0.0104	376.4	0.013	0.79	0.250	3.84	4.64	1,634	2,353,440	2,748,814	-395,373	116.8	
67-9	67-8	12	0.0438	173.7	0.013	0.79	0.250	7.47	9.52	3,354	4,829,738	2,748,814	2,080,924	56.9	
67-8	67-7	12	0.0200	77.7	0.013	0.79	0.250	5.05	6.43	2,268	3,263,635	2,748,814	514,821	84.2	
67-7	67-6	12	0.0300	55.4	0.013	0.79	0.250	6.18	7.88	2,776	3,997,120	2,748,814	1,248,306	88.8	
67-6	67-5	12	0.0084	129.3	0.013	0.79	0.250	3.27	4.17	1,469	2,115,077	2,795,564	-680,487	132.2	add - 68 EDUs - from business park
67-5	67-4	12	0.0193	195.6	0.013	0.79	0.250	4.96	6.32	2,226	3,206,012	2,795,564	410,449	87.2	
67-4	67-3	12	0.0150	169.8	0.013	0.79	0.250	4.50	5.74	2,021	2,909,947	2,795,564	114,383	96.1	
67-3	67-2A	12	0.0197	180	0.013	0.79	0.250	5.01	6.38	2,249	3,239,065	2,795,564	443,501	85.3	
67-2A	67-2	12	0.0239	196.6	0.013	0.79	0.250	5.52	7.03	2,478	3,567,677	2,843,001	724,676	79.7	add - 69 EDUs - from Lapp Road
67-2	67-1	12	0.0089	339.2	0.013	0.79	0.250	3.37	4.29	1,512	2,177,116	2,843,001	-665,885	130.6	
67-1	59-4	12	0.0270	209	0.013	0.79	0.250	5.87	7.47	2,633	3,791,299	2,843,001	948,297	75.0	

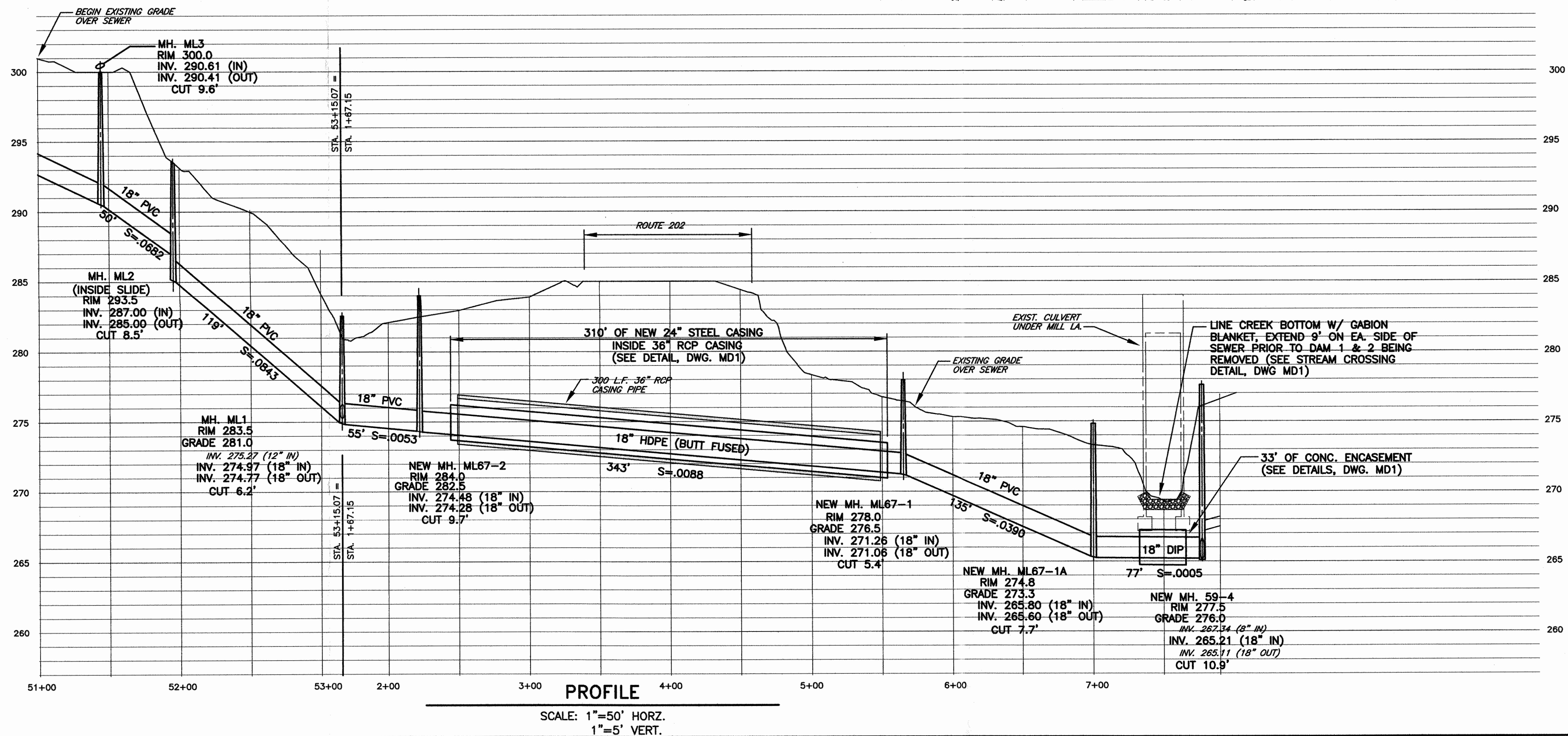
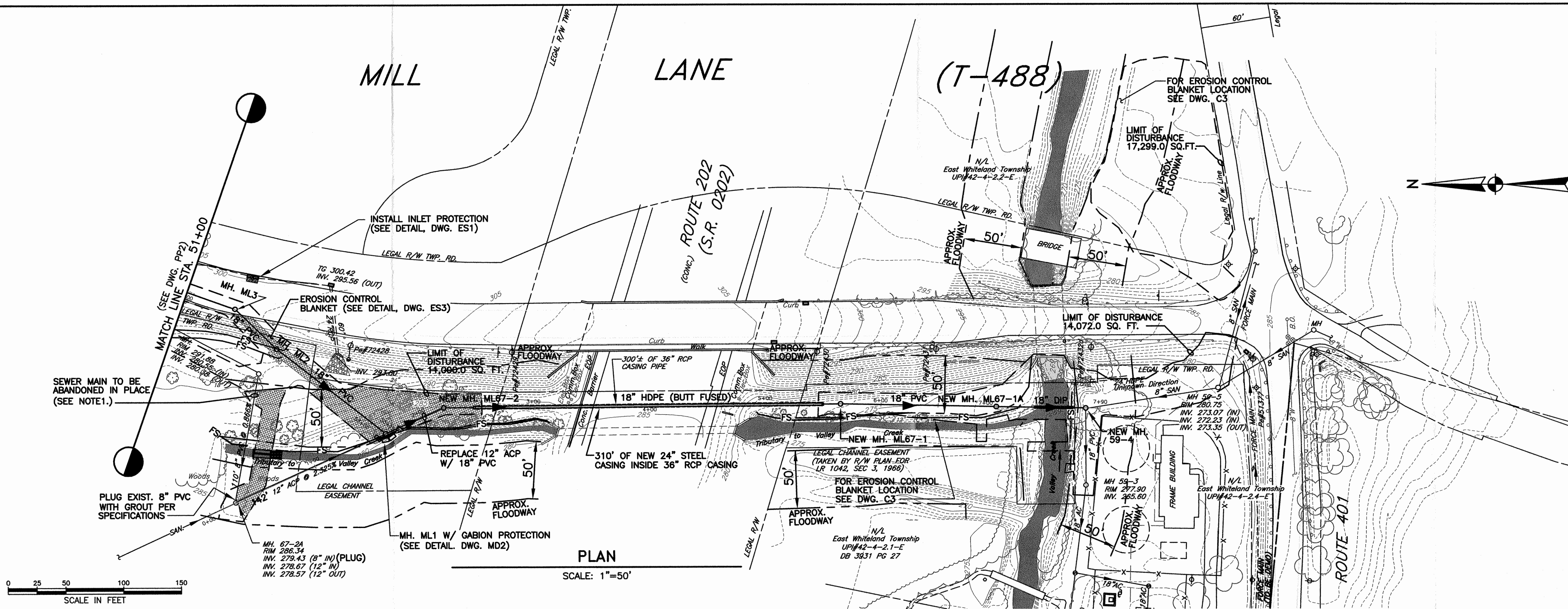
* Notes 1. Pump station peaking factors from the draft "Sewage Pumping Station Guidance" by PA DEP Southeast Regional Office
2. Residential/commercial flow peak factor = 2.5 per DEP Domestic Wastewater Facilities Manual (362-0300-001)

**2012 flows - 77,668^ gpd-Charlestown, 2,905 gpd-East Whiteland = 80,573 gpd total
^ metered flow
2012 charlestown
- charlestown oaks - 38,354
- charlestown meadows - 19,074
- lee boulevard - 77,668
*** 432,302 -(38,354 + 19,074 + 77,668 + 275 [volpi]) = 296,931

Exhibit E

Corrective Actions

1. Phase 1 – Mill Lane Improvements Plans
2. Phase 2 – Sidley Road Improvements Plans
3. System Capacities with Corrective Actions



- NOTES:
1. REMOVE MANHOLE FRAMES & COVERS, DEMO MANHOLE TOP DOWN TO 3 FEET BELOW GRADE & FILL WITH 2A STONE.
 2. SEE DWG. D1 & C3 FOR BYPASS PUMPING LAYOUT.
 3. MANHOLES ML1, ML 67-2, ML 67-1, ML 67-1A, & 59-4 SHALL BE EQUIPPED W/ WATERTIGHT COVERS & EXTEND 18" ABOVE FINISHED GRADE.
 4. FOR INSIDE SLIDE MANHOLE SEE DETAIL, DWG. MD1.
 5. ALL MANHOLES SHOWN ON PP1 SHALL BE 5'-0" IN DIAMETER.
 6. FULL & HALF LANE MILL & OVERLAY LIMITS TO BE DETERMINED IN THE FIELD.

- E&S NOTES:
1. THIS PROJECT IS IN AN EXCEPTIONAL VALUE WATERSHED, EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH. BECAUSE THIS PROJECT IS IN AN EXCEPTIONAL VALUE WATERSHED, UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST IMMEDIATELY BE STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
 2. FOR PROPER STABILIZATION METHODS & DETAILS SEE DWGS. ES1, ES2, & ES3.
 3. ALL FILTER SOCKS THIS SHEET SHALL BE 24" DIAMETER.
 4. DISTURBED AREAS TO BE RE-VEGETATED WITHIN 50' OF SURFACE. WATERS SHALL BE STABILIZED WITH EROSION CONTROL BLANKET (ECB).
 5. SEE LEGEND ON DWG. ES1.

2	ISSUED FOR CONSTRUCTION	8/16/13	MCC	KM	G	ISSUED TO CLIENT	5/21/13	DRB	KM	K. McAGHON, P.E.	RELEASED BY	DESIGN	CHECKED	KM
					F	ISSUED TO DEP FOR CAP/CMP	2/13/13	DRB	KM					
1	ISSUED TO DEP FOR WQM PERMIT	6/12/13	DRB	KM	E	RE-ISSUED TO CCCC	7/18/12	DRB	KM	K. McAGHON, P.E.	DRAWN	CHECKED	KM	DATE
					D	RE-ISSUED TO PADOT	6/29/12	DRB	KM					
0	ISSUED FOR BID	5/29/13	DRB	KM	C	ISSUED TO DEP & CCCC	6/14/12	DRB	KM	BLATT	DATE	SURVEY DATE	1/2012	FIELD BOOK
					B	ISSUED TO PADOT	6/1/12	DRB	KM					
NO	REVISION	DATE	BY	APP.	A	ISSUED TO U.S. FISH & WILDLIFE SERVICE	4/20/12	DRB	KM	2/10/12				
					NO	REVISION	DATE	BY	APP.					

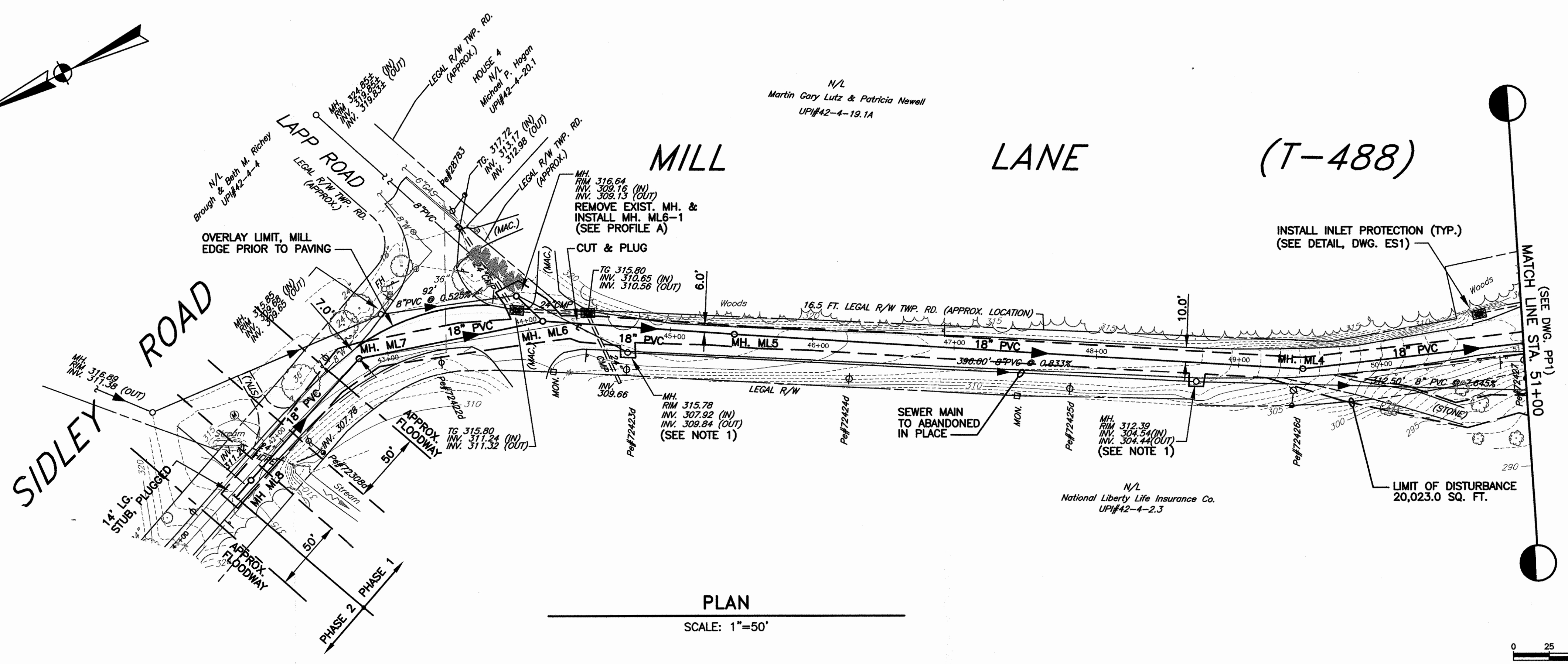
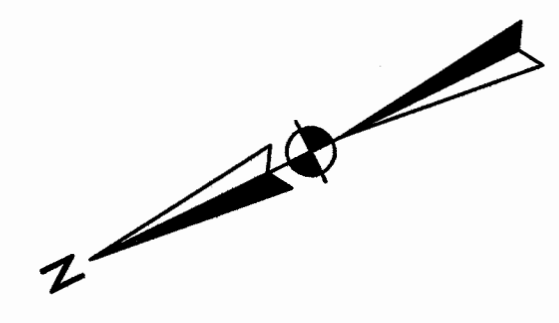
SEAL	SEAL
SEAL	SEAL

CLIENT & PROJECT
EAST WHITELAND TOWNSHIP
209 CONESTOGA RD.
FRAZER, PA 19355

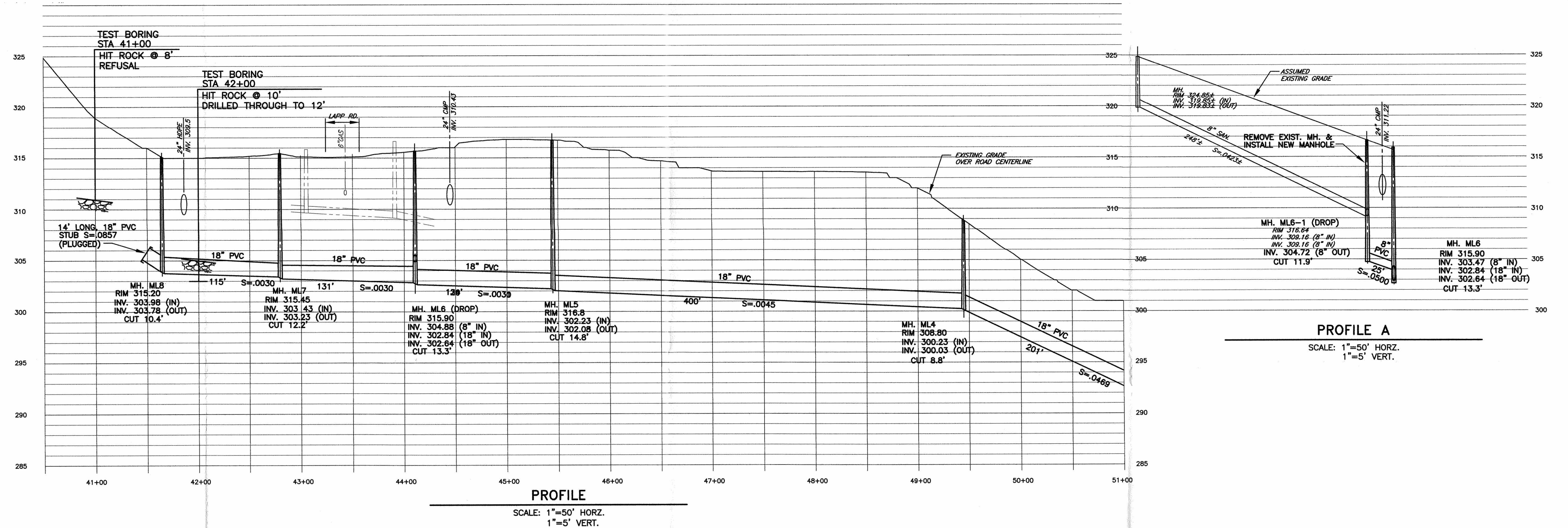
MILL LANE SEWER MAIN REPLACEMENT
EAST WHITELAND TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

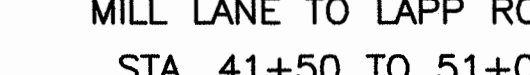
ARRO
Suite 100, 649 North Lewis Road
Limerick, Pennsylvania 19468
Tel 610.495.0303

TITLE MILL LANE TO LAPP ROAD STA. 51+00 TO 7+90 & SOIL EROSION CONTROLS		DWG. NO. PP1
SCALE AS NOTED		
PROJECT NO. 103100.02	SHEET NO. 10 OF 13	REV. 1

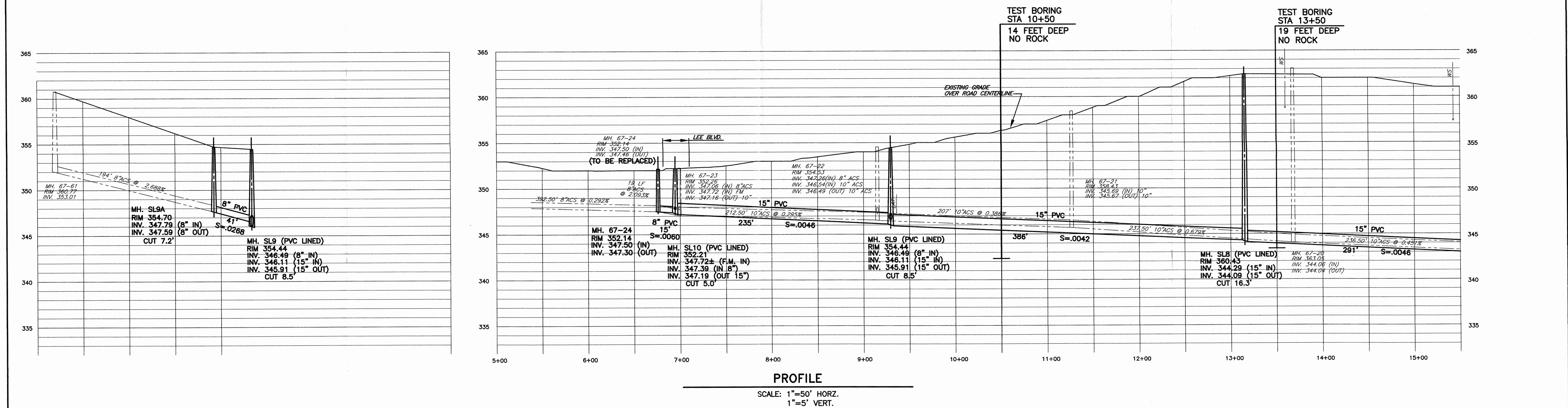
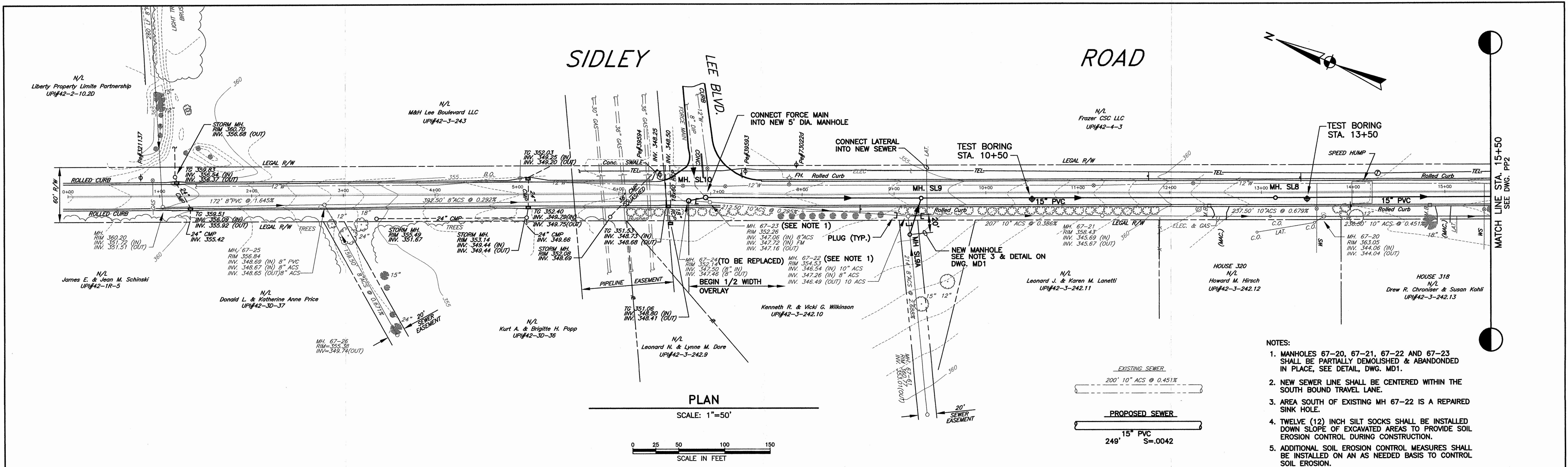


- NOTES:
1. REMOVE MANHOLE FRAMES & COVERS, DEMO MANHOLE TOP DOWN TO 3 FEET BELOW GRADE & FILL WITH 2A STONE. REGRADE TO MATCH SURROUNDING AREA.
 2. MANHOLES ML4, ML5, & ML6 SHALL BE 5' IN DIAMETER.
 3. FULL & HALF LANE MILL & OVERLAY LIMITS TO BE DETERMINED IN THE FIELD.

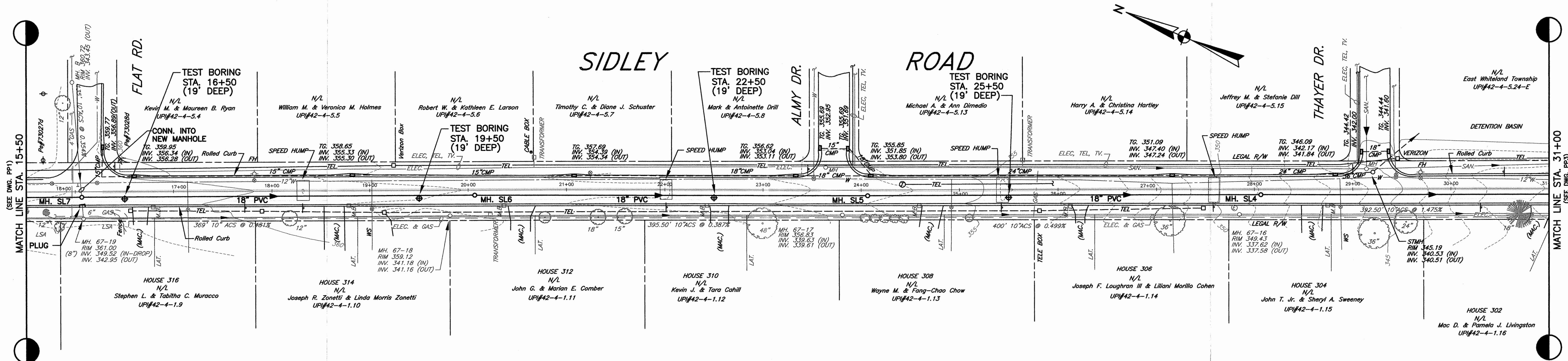


					1	ISSUED TO DEP FOR WQM PERMIT	6/12/13	DRB	KM	K. McAGHON, P.E.		SEAL	SEAL	CLIENT & PROJECT EAST WHITELAND TOWNSHIP 209 CONESTOGA RD. FRAZER, PA 19355		Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303	TITLE MILL LANE TO LAPP ROAD STA. 41+50 TO 51+00 & SOIL EROSION CONTROLS			DWG. NO. PP2
				0	ISSUED FOR BID	5/29/13	DRB	KM	RELEASED BY		SCALE AS NOTED						PROJECT NO. 10310.02	SHEET NO. 11 OF 13	REV. 2	
				E	ISSUED TO CLIENT	5/21/13	DRB	KM	DESIGN	CHECKED										
				D	ISSUED TO DEP FOR CAP/CMP	2/13/13	DRB	KM	K. McAGHON, P.E.	KM										
4	ISSUED FOR CONSTRUCTION	8/16/13	MCC	KM	C	RE-ISSUED TO CCOD	7/18/12	DRB	KM	DRAWN	CHECKED	MILL LANE SEWER MAIN REPLACEMENT EAST WHITELAND TOWNSHIP CHESTER COUNTY, PENNSYLVANIA								
3	REVISED MILL LANE RIGHT-OF-WAY	7/19/13	MCC	KM	B	ISSUED TO DEP & CCOD	6/14/12	DRB	KM	BLATT	KM									
2	REVISED PER ADDENDUM 1	6/14/13	DRB	KM	A	ISSUED TO U.S. FISH & WILDLIFE SERVICE	4/20/12	DRB	KM	DATE	2/10/12	SURVEY DATE	1/2012							
NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.			FIELD BOOK								

Dwg. Name: PHASE 1 1031002_ MILL_SR_PP1_PP2.DWG Plotted: 11/12/2013 9:53 AM

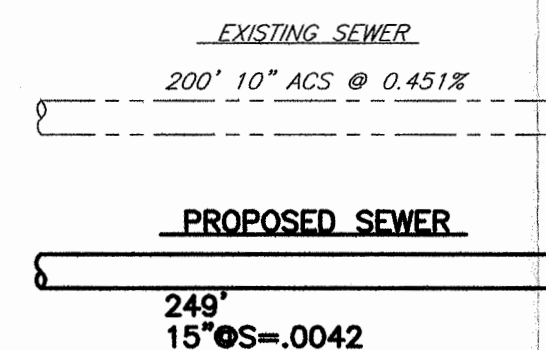


NO		REVISION	DATE	BY	APP.	NO		REVISION	DATE	BY	APP.	2/10/12		SEAL		SEAL		CLIENT & PROJECT		TITLE		SCALE		PROJECT NO.		SHEET NO.		REV.		DWG. NO.	
1		ISSUED FOR CONSTRUCTION				E		ISSUED TO DEP FOR CAP/CMP	11/14/13	MCC	KM	K.M. McAGHON, P.E.		RELEASED BY		DESIGN		EAST WHITELAND TOWNSHIP		SIDLEY ROAD SEWER MAIN REPLACEMENT		AS NOTED		10310.02		8 OF 11		E		PP1	
O		ISSUED FOR BID	9/26/13	MCC	KM	D		ISSUED TO DEP FOR WQM PERMIT	6/12/13	DRB	KM	K.M. McAGHON, P.E.		CHECKED		K.M.		209 CONESTOGA RD.		FRAZER, PA 19355		Suite 100, 649 North Lewis Road		Limerick, Pennsylvania 19468		Tel 610.495.0303					
C		ISSUED TO CLIENT	5/21/13	DRB	KM	B		ISSUED TO VALLEY FORGE SEWER AUTHORITY	12/14/12	DRB	KM	DATE		1/2012		FIELD BOOK		SIDLEY ROAD SEWER MAIN REPLACEMENT		EAST WHITELAND TOWNSHIP		AS NOTED		10310.02		8 OF 11		E		PP1	
A		ISSUED TO VALLEY FORGE SEWER AUTHORITY	12/14/12	DRB	KM	B		ISSUED TO DEP FOR CAP/CMP	2/13/13	DRB	KM	DATE		1/2012		FIELD BOOK		SIDLEY ROAD SEWER MAIN REPLACEMENT		EAST WHITELAND TOWNSHIP		AS NOTED		10310.02		8 OF 11		E		PP1	



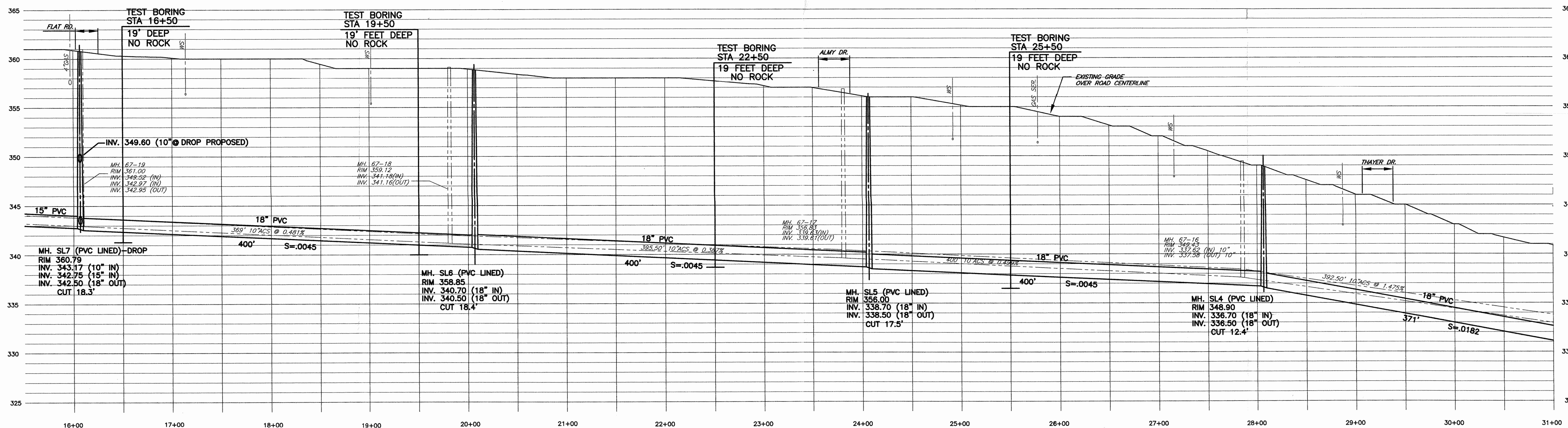
PLAN

SCALE: 1"=50'



NOTES:

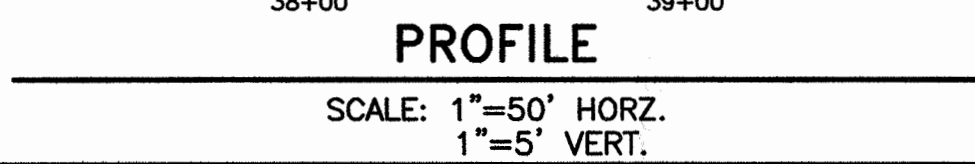
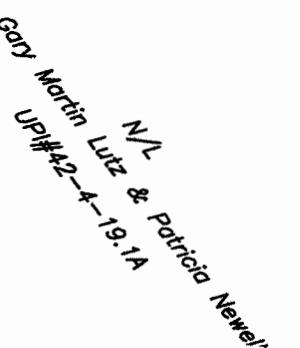
1. NEW SEWER LINE SHALL BE CENTERED WITHIN THE SOUTH BOUND TRAVEL LANE.
2. MANHOLES 67-16, 67-17, 67-18 AND 67-19 SHALL BE PARTIALLY DEMOLISHED & ABANDONED IN PLACE. SEE DETAIL, DWG. MD1.
3. TWELVE (12) INCH SILT SOCKS SHALL BE INSTALLED DOWN SLOPE OF EXCAVATED AREAS TO PROVIDE SOIL EROSION CONTROL DURING CONSTRUCTION.
4. ADDITIONAL SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED ON AN AS NEEDED BASIS TO CONTROL SOIL EROSION.



PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.	1	ISSUED FOR CONSTRUCTION		K.M. McAGHON, P.E.	SEAL	SEAL	CLIENT & PROJECT	TITLE	SCALE	PROJECT NO.	SHEET NO.	REV.	DWG. NO.
										2	ISSUED TO DEP FOR CAP/CMP	11/14/13	MCC	KM		EAST WHITELAND TOWNSHIP 209 CONESTOGA RD. FRAZER, PA 19355	SIDLEY ROAD STA. 15+50 TO 31+00	AS NOTED	10310.02	9 OF 11	E	PP2
										3	ISSUED FOR BID	9/26/13	MCC	KM								
										4	ISSUED TO DEP FOR WQM PERMIT	6/12/13	DRB	KM		SIDLEY ROAD SEWER MAIN REPLACEMENT EAST WHITELAND TOWNSHIP CHESTER COUNTY, PENNSYLVANIA	Suite 100, 649 North Lewis Road Limerick, Pennsylvania 19468 Tel 610.495.0303	AS NOTED	10310.02	9 OF 11	E	PP2
										5	ISSUED TO CLIENT	5/21/13	DRB	KM								
										6	ISSUED TO VALLEY FORGE SEWER AUTHORITY	12/14/12	DRB	KM		DATE	2/10/12	SURVEY DATE	1/2012	FIELD BOOK		
										7												



Dwg. Name: PHASE 2 1031002PP1_PP3_SIDLEY_SR.DWG Plotted: 11/12/2013 11:35 AM

East Whiteland

Gravity Sewer Hydraulic Capacity Analysis -Sidley Road 15" & 18" Upgradewith GVCC & Charlestown Future Flows

ARRO #10310.02

12/14/2011, rev 12-17-12, rev 6-13-13, rev 11-14-13

sheet 2 of 4

Full Pipe Capacity													Proposed Capacity*	Remaining Capacity	Percentage Used	Notes
Up-Stream MH	Down-Stream MH	Diam (in.)	Slope	Length (ft)	n	A(sf)	R	Q(cfs)	V(fps)	Q(gpm)	Q(gpd)	Q(gpd)	Q(gpd)	Q(gpd)	(%)	
	To Lee Blvd PS	10	0.0035	1450 +/-	0.013	0.55	0.208	1.30	2.38	583	839,596	249,833	583,764	249,833	29.8	to - Lee Blvd P - existing conditions - 80,573** gpd existing + 70.4 EDUs from EWT to Lee Blvd PS
	To Lee Blvd PS	10	0.0035	1450 +/-	0.013	0.55	0.208	1.30	2.38	583	839,596	992,160	-152,564	992,160	118.2	to - Lee Blvd PS - 80,573** gpd existing + 298,931*** future Charlestown+70.4 EDUs from EWT to Lee Blvd PS
	from Lee Blvd PS											1,210,435				from - Lee Blvd PS flow (PK factor = 3.05) - with future Charlestown
	To Wilburdale PS											1,048,250				to - Wilburdale PS - 350,000(2008 flow) + 252 EDUs (glasgow-23, J&J -29, other GVCC-200)
	from Wilburdale PS											1,257,900				from - Wilburdale PS (PK factor=3.0)
67-25	67-24	8	0.0029	392.5	0.013	0.35	0.167	0.65	1.88	294	422,962	173,573	249,389	249,389	41.0	add - 2012 Charlestown Oaks(38,354)+ 275 gpd future(Volpi) - 112 EDUs (includes 15 EDUs future-Micron Tech)
67-24	SL-10	8	0.0209	19	0.013	0.35	0.167	1.75	5.02	786	1,132,386	173,573	958,813	958,813	15.3	
SL-10	SL-9	15	0.0046	235	0.013	1.23	0.313	4.39	3.58	1,971	2,837,068	1,384,008	1,453,060	1,453,060	48.8	add - flow from Lee Blvd PS
SL-9	SL-8	15	0.0042	366	0.013	1.23	0.313	4.20	3.42	1,883	2,711,677	1,399,133	1,312,544	1,312,544	51.8	add - 16 EDUs (west side) + 6 EDUs (R & F building east side) = 22 EDUs total
SL-8	SL-7	15	0.0046	291	0.013	1.23	0.313	4.39	3.58	1,971	2,837,068	1,399,133	1,436,735	1,436,735	49.3	
SL-7	SL-6	18	0.0045	400	0.013	1.77	0.375	7.06	4.00	3,170	4,564,251	2,667,689	1,896,562	1,896,562	58.4	add - flow from Wilburdale PS flow + 2 EDUs (west side of Sidley Road) + 13.5 EDUs for 7 Lee Blvd
SL-6	SL-5	18	0.0045	400	0.013	1.77	0.375	7.06	4.00	3,170	4,564,251	2,669,064	1,895,187	1,895,187	58.5	add - 2 EDUs (west side of Sidley Road)
SL-5	SL-4	18	0.0045	400	0.013	1.77	0.375	7.06	4.00	3,170	4,564,251	2,670,439	1,893,812	1,893,812	58.5	add - 2 EDUs (west side of Sidley Road)
SL-4	SL-3	18	0.0178	371	0.013	1.77	0.375	13.97	7.91	6,268	9,026,504	2,671,814	6,354,690	6,354,690	29.6	add - 2 EDUs (west side of Sidley Road)
SL-3	SL-2	18	0.0030	371	0.013	1.77	0.375	5.77	3.26	2,588	3,726,695	2,705,501	1,021,194	1,021,194	72.6	add - 49 EDUs (east side of Sidley Road)
SL-2	SL-1	18	0.0030	368	0.013	1.77	0.375	5.77	3.26	2,588	3,726,695	2,705,501	1,021,194	1,021,194	72.6	
SL-1	ML-8	18	0.0857	249	0.013	1.77	0.375	30.82	17.45	13,832	19,918,363	2,705,501	17,212,862	17,212,862	13.6	
phase 2 - totals 67-24 to ML-6				3490												
ML-8	ML-7	18	0.0030	115	0.013	1.77	0.375	5.77	3.26	2,588	3,726,695	2,705,501	1,021,194	1,021,194	72.6	
ML-7	ML-6	18	0.0030	131	0.013	1.77	0.375	5.77	3.26	2,588	3,726,695	2,705,501	1,021,194	1,021,194	72.6	
ML-6	ML-5	18	0.0030	120	0.013	1.77	0.375	5.77	3.26	2,588	3,726,695	2,752,939	973,756	973,756	73.9	add - 68 EDUs from Lepp Road
ML-5	ML-4	18	0.0030	400	0.013	1.77	0.375	5.77	3.26	2,588	3,726,695	2,752,939	973,756	973,756	73.9	
ML-4	ML-3	18	0.0449	200	0.013	1.77	0.375	22.31	12.63	10,012	14,417,382	2,752,939	11,664,443	11,664,443	19.1	
ML-3	ML-2	18	0.0682	66	0.013	1.77	0.375	27.49	15.57	12,339	17,768,691	2,752,939	15,015,752	15,015,752	15.5	
ML-2	ML-1	18	0.0843	119	0.013	1.77	0.375	30.57	17.31	13,719	19,755,000	2,752,939	17,002,061	17,002,061	13.9	
phase 1 - totals ML-6 to ML-1				1151												
67-15	67-14	10	0.0230	244	0.013	0.55	0.208	3.93	6.11	1,495	2,153,224	688	1,843,697	1,843,697	0.0	add - 1 EDU west side of Sidley Road
67-14	67-13	10	0.0169	235	0.013	0.55	0.208	2.85	5.23	1,281	1,844,384	688	1,843,697	1,843,697	0.0	
67-13	67-12	8	0.0105	60	0.013	0.35	0.167	1.24	3.56	567	802,056	29,563	772,493	772,493	3.7	add - 42 EDUs
67-12	67-11	12	0.0526	227.8	0.013	0.79	0.250	8.19	10.43	3,676	5,292,726	43,313	5,249,414	5,249,414	0.8	add - 20 EDUs
67-11	67-10	12	0.0306	174.5	0.013	0.79	0.250	6.27	7.98	2,813	4,050,064	43,313	4,006,752	4,006,752	1.1	
67-10	67-9	12	0.0104	376.4	0.013	0.79	0.250	3.64	4.64	1,634	2,353,440	43,313	2,310,128	2,310,128	1.8	
67-9	67-8	12	0.0438	173.7	0.013	0.79	0.250	7.47	9.52	3,354	4,829,738	43,313	4,786,426	4,786,426	0.9	
67-8	67-7	12	0.0200	77.7	0.013	0.79	0.250	5.05	6.43	2,266	3,263,635	43,313	3,220,322	3,220,322	1.3	
67-7	67-6	12	0.0300	55.4	0.013	0.79	0.250	6.18	7.88	2,776	3,997,120	43,313	3,953,807	3,953,807	1.1	
67-6	67-5	12	0.0084	129.3	0.013	0.79	0.250	3.27	4.17	1,469	2,115,077	90,063	2,025,015	2,025,015	4.3	add - 68 EDUs - from business park
67-5	67-4	12	0.0193	195.6	0.013	0.79	0.250	4.96	6.32	2,226	3,206,012	90,063	3,115,950	3,115,950	2.8	
67-4	67-3	12	0.0159	168.8	0.013	0.79	0.250	4.50	5.74	2,021	2,909,947	90,063	2,819,885	2,819,885	3.1	
67-3	67-2A	12	0.0187	180	0.013	0.79	0.250	5.01	6.38	2,249	3,239,065	90,063	3,149,003	3,149,003	2.8	
67-2A	ML1	12	0.0233	142	0.013	0.79	0.250	5.44	6.94	2,444	3,518,828	90,063	3,428,765	3,428,765	2.6	total flow through business park
Moore's Road & Aegon property totals				2441												
ML1	67-2	18	0.0053	55	0.013	1.77	0.375	7.66	4.34	3,440	4,953,375	2,843,001	2,110,373	2,110,373	57.4	add - flow through business park + 68 EDUs + 15" flow from Sidley/Moore's Roads
67-2	67-1	15.83	0.0068	343	0.013	1.54	0.351	8.26	5.35	3,705	5,335,423	2,843,001	2,492,422	2,492,422	53.3	
67-1	67-1A	18	0.0390	135	0.013	1.77	0.375	20.79	11.77	9,331	13,436,790	2,843,001	10,593,789	10,593,789	21.2	**2012 flows - 77,668^ gpd-Charlestown, 2,905 gpd-East Whiteland, total = 80,573
67-1A	59-4	18	0.0050	77	0.013	1.77	0.375	7.44	4.21	3,341	4,811,143	2,843,001	1,968,141	1,968,141	59.1	^ metered flow
phase 1 - totals ML-1 to 59-4				670												

*Notes 1. Pump station peaking factors from the draft "Sewage Pumping Station Guidance" by PA DEP Southeast Regional Office

2 Residential/commercial flow peak factor = 2.5, per DEP Domestic Wastewater Facilities Manual (362-0300-001)

2012 charlestown flows
 - charlestown oaks - 38,354
 - charlestown meadows - 19,074
 - charlestown Lee Blvd - 77,668
 ***432,302 - (38,354 + 19,074 + 77,668 + 275 [volpi]) = 296,931

Exhibit F

*Amendment to East Whiteland
Trunk Line Agreement*

1. December 12, 1979 Agreement
2. October 29, 2013 revised draft Agreement
3. Valley Forge Sewer Authority commitment letter

6

AMENDMENT TO EAST WHITELAND TRUNK LINE AGREEMENT

This Amendment, dated as of the 12th day of December, 1979, to the East Whiteland Trunk Line Agreement dated as of February 1, 1971, as amended by Composite Amendment No. 1, dated as of December 1, 1974 (hereinafter referred to as "the Agreement"), is entered into between EAST WHITELAND MUNICIPAL AUTHORITY (East Whiteland Authority), the TOWNSHIP OF EAST WHITELAND (East Whiteland Township), parties of the first part, and the BOROUGH OF MALVERN (Malvern), and MALVERN MUNICIPAL AUTHORITY (Malvern Authority), parties of the second part, and VALLEY FORGE SEWER AUTHORITY, party of the third part.

WHEREAS, subsequent to the execution of the Agreement, Valley Forge Sewer Authority decided to seek the opportunity to transmit sewage from an area of Charlestown Township adjacent to East Whiteland Township through the East Whiteland Trunk Line (and the Valley Creek Trunk Line) to the Valley Forge Treatment Plant; and

WHEREAS, East Whiteland Authority and East Whiteland Township, at the request of Valley Forge Sewer Authority are willing to reserve for the Valley Forge Sewer Authority, the reserved capacity provided herein of the East Whiteland Trunk Line and the Mill Lane pumping station; and

NOW, THEREFORE, the parties hereto, intending to be legally bound hereby, agree as follows:

1. Valley Forge Sewer Authority shall have no rights or liabilities with respect to Section 1.01 of the Agreement.
2. Within thirty (30) days of the date of this Amendment, Valley Forge Sewer Authority shall pay to East Whiteland Authority the sum of one hundred fifteen thousand nine hundred seventy-five

dollars (\$115,975). Of that sum, \$114,189 shall be allocated to Valley Forge Sewer Authority's capital contribution pursuant to Sections 2.01 and 2.02 of the Agreement and \$1,786 to operating expenses for the first two (2) years pursuant to Section 4.13 of the Agreement. The calculation of the above figure takes into consideration all currently applicable grants. Exhibit B of the Agreement is hereby amended in part as set forth in Exhibit A attached hereto. All references in the Agreement to Exhibit B thereof shall be deemed to refer to Exhibit B as amended by Exhibit A attached hereto.

3. Valley Forge Sewer Authority hereby is granted rights, and assumes liabilities as if it were one of the parties referred to in the Agreement as a "Municipality" which rights and liabilities are defined in the Agreement.

4. Valley Forge Sewer Authority, at its own expense or at the expense of its users, may, during the term of the Agreement, cause sewage emanating from Charlestown Township to be discharged into sewer lines of East Whiteland Township which have been acquired from Great Valley Wastewater Company ("the Great Valley Line"). The East Whiteland Trunk Line shall thus be extended to the boundary of Charlestown Township.

5. Valley Forge Sewer Authority shall commence delivering sewage to the Great Valley Line as soon as practicable after the execution of this Agreement. East Whiteland Authority, as soon as practicable thereafter, shall permit connection at the locations that East Whiteland Authority may agree to, which agreement may not be unreasonably withheld, and shall accept sewage for conveyance to the treatment plant subject to the terms and conditions herein set forth. Valley Forge Sewer Authority may make subsequent connections at locations agreed to by East

Whiteland Authority, which shall not unreasonably withhold its agreement. Except as permitted pursuant to Article VII of the Agreement, Valley Forge Sewer Authority shall not exceed its reserved capacity as set forth in Exhibit B, as amended by this Agreement.

6. Section 4.01 of the Agreement is hereby amended to read as follows:

"The Borough of Malvern, the township of East Whiteland and Valley Forge Sewer Authority (all of which are referred to in this article IV and elsewhere in this agreement as 'said municipalities') shall share the operating expenses of the East Whiteland Trunk Line and its extension to Charlestown Township, as defined in Section 4.06, as follows: the proportion that the volume of sewage (determined as hereinafter provided and by other agreement of the parties) emanating from each such municipality and discharged into the several sections or reaches of the interceptor or trunk sewer, constituting the East Whiteland Trunk Line and its extension to Charlestown Township bears to the total volume of sewage discharged by said municipalities into such sections or reaches shall be used in calculating the amount that each such municipality shall pay for sewage conveyance services. Operating expenses of the East Whiteland Trunk Line for the first two years of operation shall be paid as set forth in Section 4.13 hereof."

All references in Article 4 of the Agreement to East Whiteland Trunk Line shall be deemed also to refer to the Great Valley Line.

7. Any sewage discharged by Valley Forge Sewer Authority into the East Whiteland Trunk Line or Great Valley Line shall conform to the standards for quality of sewage set forth in Article V of the Agreement.

3. Pursuant to an Agreement entitled "Valley Creek Trunk Sewer Agreement" dated November 1, 1970, as amended, East Whiteland Authority has made payments to Tredyffrin Township for operating expenses of the Valley Creek Trunk Line during its first two years of operation, and will, during subsequent years, continue to be obligated to make payments on account of operating expenses. Valley Forge Sewer Authority agrees hereby to, within thirty days from the execution of this Agreement, reimburse East Whiteland Authority for 7.89% of the amount paid on account of operating expenses during the first two years by East Whiteland Authority to Tredyffrin Township. Valley Forge Sewer Authority further agrees to reimburse East Whiteland Authority for Valley Forge Sewer Authority's share of any payments East Whiteland must make to Tredyffrin Township pursuant to Article 4 of the Valley Creek Trunk Sewer Agreement for operating costs during years subsequent to the first two years of operation and for payments for capital contributions paid subsequent to the date hereof. Valley Forge Sewer Authority's share of the said operating costs and additional capital contributions will be its pro-rata share, based on the proportion that the volume of sewage emanating from Charleatown Township into the East Whiteland Trunk Line and Great Valley Line bears to the total sewage emanating from East Whiteland Township into the Valley Creek Trunk Sewer Line. The payments by Valley Forge Sewer Authority shall not exceed those that would be made if said Authority had made its payments directly to the Tredyffrin Township Municipal Authority.

9. At such time as East Whiteland Authority must pay funds to the Tredyffrin Township Municipal Authority resulting from an enlargement of an interceptor or trunk sewer (or any section or reach thereof) or the construction of an additional interceptor

or trunk sewer or the enlargement of a pumping station or the construction of an additional pumping station pursuant to the Valley Creek Trunk Sewer Agreement, then Valley Forge Sewer Authority shall reimburse East Whiteland Township for its pro-rata share of said funds calculated on the basis of its pro-rata share of reserved capacity, as such reserved capacity shall be determined by Valley Forge Sewer Authority, in such section or reach of interceptor or trunk sewer. In the alternative, Valley Forge Sewer Authority may reserve capacity pursuant to Section 7.02 of the Valley Creek Trunk Sewer Agreement.

10. Valley Forge Sewer Authority hereby agrees that all sewage from Charlestown Township shall be deemed to be sewage of Valley Forge Sewer Authority for purpose of an Agreement dated as of November 1, 1970, as amended, known as "the Valley Forge Sewage Treatment Plan Agreement".

11. Valley Forge Sewer Authority shall, at its expense, construct or cause to be constructed a sewage meter or sewage flow measuring device to determine the volume of sewage emanating from Charlestown Township to East Whiteland Township.

12. All references in Sections 4.03, 7.03 and 8.03 of the Agreement to "Malvern" shall be deemed to refer to Malvern and Valley Forge Sewer Authority. Valley Forge Sewer Authority shall make payments pursuant to Section 4.04 of the Agreement at the same time as Malvern is required to make payments. All other sections of the Agreement refer to parties or municipalities defined in Section 4.01, as amended by Paragraph 6 of this Agreement, unless otherwise stated herein.

13. Pursuant to Paragraph 7.01 of the Valley Creek Trunk Sewer Agreement, Valley Forge Sewer Authority hereby is granted the right to rent a capacity of up to 300,000 gallons per day average flow (750,000 gallons per day peak flow) in the Valley

Creek Trunk Sewer from East Whiteland Authority, with all rental fees therefore being paid to East Whiteland Authority, as provided therein.

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed and attested by its proper officers pursuant to the proper action of its governing body as of the day and year first above written.

BY: *Joseph Weintraub*
Valley Forge Sewer Authority
Charles E. Ott

BY: *Robert J. Chinn*
East Whiteland Municipal Authority

ATTEST: *Donald Raimann* ATTEST: _____
TOWNSHIP SECRETARY

EAST WHITELAND TOWNSHIP
BOARD OF SUPERVISORS
209 CONESTOGA ROAD

FRAZER PA. 19355

BY: *Robert J. Chinn*
Township of East Whiteland
Robert J. Chinn

ATTEST: _____

✓ BY: *James J. Kellach*
Borough of Malvern

ATTEST: *Richard M. Spino*

BY: *William J. Kellach*
Malvern Municipal Authority

ATTEST: *Robert L. Wright*

EXHIBIT "A"

Exhibit "B" of the East Whiteland Trunk Line

Agreement is amended in part to provide that if any expansion, repair, enlargement or construction to the Great Valley Line shall be required, Valley Forge Sewer Authority shall pay its pro rata share of such expansion, enlargement or construction on the basis of its reserved capacity in the expanded or repaired Great Valley Line to the total reserved capacity therein. Notwithstanding the foregoing, 300,000 gallons per day of capacity shall be reserved in the Great Valley Line for Valley Forge Sewer Authority.

EXHIBIT "B"

THIS AGREEMENT made this 27th day of December 1978,
by and between EAST WHITELAND MUNICIPAL AUTHORITY and VALLEY
FORGE SEWER AUTHORITY

W I T N E S S E T H:

Valley Forge Sewer Authority and East Whiteland
Municipal Authority have agreed to share cost for the Sidley
Road Trunk Line repairs as indicated in Schedule A presented
by East Whiteland Municipal Authority (Schedule A attached
hereto). Items Nos. 1, 3, 4, and 6 of the Schedule A, which
are line replacements, will be deferred until additional flows
coming from Charlestown Township make ^{replacements} ~~repairs~~ necessary as
determined by East Whiteland Municipal Authority's consulting
engineers. Item No. 14 of Schedule A will be adjusted on the
basis of proposed additional repairs to be required in lieu
of replacement of earlier mentioned lines.

NOW THEREFORE, the parties hereto, agree that the
mutual promises herein contained and previous arrangements
will allow the parties to finalize the agreement to provide
sewer service to the southern portion of Charlestown Township
through the East Whiteland Trunk Line.

VALLEY FORGE SEWER AUTHORITY

Joseph L. Walle
J. L. Walle

EAST WHITELAND MUNICIPAL AUTHORITY

Ronald E. Coleman
Ronald E. Coleman

SCHEDULE A

EAST WHITELAND/CHARLESTON SHARED COSTS

Manhole Runs	Total Est. Repair Cost	<u>East Whitleand Twp.</u>			<u>Lead Flow</u>	<u>Charlestown Twp.</u>			<u>Lead Flow</u>
		Capacity MGD	% Share	Share of Cost Est.		Capacity MGD	% Share	Share of Cost Est.	Total Capacity
① 67-25 to 23	\$12,000	.038	29	0		0.75	71	\$ 12,000	0.8
② 24 to 23		.038	29	0		0.75	71		
③ 23 to 19	7,000	0.25	25	1500		0.75 (1)	75	7,000	1.0
	3,000(2)			750				1500 2,250	
④ 19 to 15	30,000	0.6	44	0		0.75	56	30,000	1.35
	3,000(2)			1,500				1,500	
⑤ 15 to 13	1,300	0.635	46	650		0.75	54	650	1.39
⑥ 13 to 12	4,000	0.75	50			0.75	50-100	4,000	1.5
⑦ 12 to 6	600	0.75	50	300		0.75	50	300	1.5
⑧ 6 to 2	300	0.80	52	150		0.75	48	150	1.55
⑨ 2 to 59-4		0.85	53			0.75	47		1.6
⑩ 59-4 to Pump Sta.		0.95	56			0.75	44		1.7
				4100					
	\$61,200			\$5,900				\$57,100	
⑪ Surveying	1,804		50	902				902	
⑫ TV & Cleaning	4,344		50	2,172				2,172	
⑬ TV Engr/Insp.	3,060		50	1,533				1,533	
⑭** Line Replacement	12,000 (3)		0	0				12,000	
Engr./Insp./Legal									
TOTAL	\$82,210			\$10,507				\$73,707	
				8707				77,807	

* TO BE POSTPONED UNTIL ADDITIONAL FLOW CAMES FROM CHARLESTON

** TO BE ADJUSTED ON BASIS OF POSTPONED WORK

(1) Assume 750,000 MGD includes Ferguson & Warehouses

(2) Estimated cost for line repairs, assume benefit equal to each township

AMENDMENT TO EAST WHITELAND TRUNK LINE AGREEMENT

This Amendment to East Whiteland Trunk Line Agreement is made this ____ day of _____, 2013, between EAST WHITELAND TOWNSHIP ("East Whiteland"), a township of the second class, EAST WHITELAND MUNICIPAL AUTHORITY ("East Whiteland Authority"), a municipal authority organized by East Whiteland and VALLEY FORGE SEWER AUTHORITY, a municipal authority organized by Charlestown, East Pikeland and Schuylkill Townships.

BACKGROUND

A. On December 27, 1978, East Whiteland Authority and Valley Forge Sewer Authority entered into a cost sharing agreement for the Sidley Road Trunk Line repairs as indicated on Schedule A attached thereto to provide sewer service to the southern portion of Charlestown Township through the East Whiteland Trunk Line (and the Valley Creek Trunk Line) to the Valley Forge Sewage Treatment Plant.

B. On December 12, 1979, the parties hereto among others entered in an Amendment to the East Whiteland Trunk Line Agreement dated as of February 1, 1971, as amended by Composite Amendment No. 1, dated as of December 1, 1974, to reserve for the Valley Forge Sewer Authority 300,000 gallons per day of reserved capacity in the East Whiteland Trunk Line (as extended to the boundary to Charlestown Township via the "Great Valley Line") and the Mill Lane Pumping Station, to transmit sewage from Charlestown Township through the East Whiteland Trunk Line (and the Valley Creek Trunk Line) to the Valley Forge Sewage Treatment Plant.

C. The purpose of this Agreement Amendment is to establish a new and increased reserve capacity for the Valley Forge Sewer Authority within and through the East Whiteland sewer system. This Agreement Amendment shall also serve to establish the cost sharing between East Whiteland and the Valley Forge Sewer Authority.

D. This Agreement Amendment hereby declares that Valley Forge Sewer Authority shall have a reserved capacity within and through the East Whiteland system as apportioned below.

E. This Agreement Amendment also amends Article VI Section 6.01 of the East Whiteland Trunk Line Agreement to include the use of Tele-metering devices for transmitting flow signals from certain VFSA Sewage Discharge points into the East Whiteland system.

F. For purposes of this Agreement, the various portions of the East Whiteland Township sewer system are defined as follows:

1. East Whiteland Trunk Line (A) - The Trunk Line (A) shall include the gravity line through the Mill Lane Pump Station, the Mill Lane Pump Station force main, and gravity lines from the force main through the point at which the force main turns to gravity and then south and east to the point at which the East Whiteland gravity sewer leaves East Whiteland and then enters the Tredyffrin System.
2. East Whiteland Trunk Line (B) - The Trunk Line (B) shall include the gravity line from Charlestown Township along Conestoga Road through the Hillbrook Pump Station, the Hillbrook Pump Station force main, and gravity lines from the force main to the discharge point at the Mill Lane Pump Station.
3. Great Valley Line – The Great Valley Line shall include the existing gravity line to the Mill Lane Pump Station from the East Whiteland/Charlestown Township line to the terminal manhole at the east end of the James Thomas Road cul-de-sac thence along and/or through James Thomas Road, Aston Road, Phoenixville Pike, Hayes Road, Sidley Road, Moores Road, across the Aegon property, under Rt 202 to the Mill Lane Pump Station. The portion of sewer line along Sidley Road is also known as the Sidley Road Trunk Line.
4. Lee Boulevard Force Main – The Lee Boulevard Force Main shall include the force main from the Lee Boulevard Pump Station to the force main discharge point in Sidley Road.
5. Mill Lane Trunk Line – The Mill Lane Trunk Line shall include the gravity line as detailed on design plans prepared by ARRO Consulting, Inc. entitled Mill Lane Sewer Main Replacement, Phase 1. The Mill Lane Trunk Line shall extend from Manhole ML8 in

Sidley Road approximately two-hundred (200) feet north of the intersection of Sidley Road and Lapp Road, thence south in and/or along Sidley Road, Mill Lane, under Rt 202 to an existing portion of the Great Valley Line which drains to the Mill Lane Pump Station.

6. New Sidley Road Trunk Line – The New Sidley Road Trunk Line shall include the gravity line as detailed on design plans prepared by ARRO Consulting, Inc. entitled Sidley Road Sewer Main Replacement, Phase 2. The New Sidley Road Trunk Line shall extend south in Sidley Road from the intersection of Sidley Road and Lee Boulevard to Manhole MI.8 in Sidley Road which is the terminal end of the Mill Lane Sewer Main Replacement, Phase 1.

7. Mill Lane Pump Station – The pump station shall include the existing/new facility located north west of the intersection of Route 401 and Mill Lane.

8. Lee Boulevard Pump Station – The pump station shall include the existing facility located adjacent to Lee Boulevard.

9. Hillbrook Pump Station – The pump station shall include the existing facility located on Conestoga Road adjacent to Hillbrook Circle.

10. In summary, the various systems described in Sections F1 through F9 include all the pipelines through which Valley Forge Sewer Authority wastewaters drain in East Whiteland Township.

G. The various portions of the sanitary sewer system noted in Section F of this Agreement are outlined in Schedule C.

H. East Whiteland and East Whiteland Authority, at the request of Valley Forge Sewer Authority, are willing to reserve additional capacity for Valley Forge Sewer Authority, for a total reserved capacity of 432,302 gallons per day as provided herein.

NOW, THEREFORE, the parties hereto intending to be legally bound hereby agree as follows:

1. Sidley Road Trunk Line Cost Sharing Agreement. The December 27, 1978 Agreement between East Whiteland Authority and Valley Forge Sewer Authority establishing the cost sharing agreement for the Sidley Road Trunk Line is amended by eliminating Schedule A attached thereto and substituting therefor Schedule B attached hereto and incorporated herein. It is noted that construction costs noted in Schedule B are estimates.

The final cost sharing shall be based upon actual construction contract prices, subject to the prior review and approval of the Valley Forge Sewer Authority.

2. Reserved Capacity. Following the 2013 replacement and enlargement of the Mill Lane Pump Station and the construction of the Mill Lane and New Sidley Road Trunk Lines (as described in Section C of this Agreement and in the East Whiteland Special Study of 2013 prepared by ARRO Consulting, Inc.), reserved capacity for Valley Forge Sewer Authority in the East Whiteland Trunk Line shall be as follows:

a. The reserved capacity for the Valley Forge Sewer Authority in the East Whiteland Trunk Line (A) shall be 432,302 gallons per day

b. The reserved capacity for the Valley Forge Sewer Authority in the New Sidley Road Trunk Line and Mill Lane Trunk Line shall be 412,302 gallons per day.

c. The reserved capacity for the Valley Forge Sewer Authority in the Lee Boulevard Pump Station and Lee Boulevard Force Main shall be 350,448 gallons per day.

d. The reserved capacity for the Valley Forge Sewer Authority in the Mill Lane Pump Station shall be 432,302 gallons per day.

e. The reserved capacity for the Valley Forge Sewer Authority in the East Whiteland Trunk Line (B) shall be 20,000 gallons per day.

3. Flow Meters or Measuring Devices. The Valley Forge Sewer Authority shall be responsible for all costs to include, but not be limited to, the costs of the installation and maintenance of the equipment and the monthly costs for transmission of flow data to East Whiteland Township via cell phone technology from the Lee Boulevard Pump Station, the Charlestown Meadows Pump Station, and the Charlestown Oaks metering station to the Remote Terminal Unit (RTU) located in the new Mill Lane Pump Station.

If there are future locations requiring flow monitoring of Valley Forge Sewer Authority flows into the East Whiteland System, the Valley Forge Sewer Authority will be responsible for all costs to include, but not be limited to, the costs of installation and maintenance of equipment and the monthly charges for transmission of required flow data to East Whiteland system. The cell phone technology shall be updated by the Valley Forge Sewer Authority. -

4. Future Capital Projects. Following completion of the Mill Lane Pump Station, the Mill Lane Trunk Line, and the New Sidley Road Trunk Line replacement and enlargement projects, if any additional expansion, enlargement, repair or construction of any portions of any of the sewer system entities defined in Section F of this Agreement shall be required, Valley Forge Sewer Authority shall pay its pro rata share of such expansion, enlargement, repair or construction on the basis of its reserved capacity as detailed in Section 2 Reserved Capacity of this Agreement.

5. Effective Date. This Amendment shall be effective upon the approval by the governing body of the last party to approve.

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be duly executed as of the day and year first above written.

EAST WHITELAND TOWNSHIP

ATTEST: _____ By: _____
 _____, Secretary _____, Chairman

**EAST WHITELAND MUNICIPAL
AUTHORITY**

ATTEST: _____ By: _____
 _____, Secretary _____, Chairman

VALLEY FORGE SEWER
AUTHORITY

Solicitor Draft 04-15-13
Revised 10-08-13 VFSA
Revised 10-29-13-EWT

ATTEST: _____ BY: _____
 _____, Secretary _____, Chairman

Schedule B

[Cost Sharing between East Whiteland and Valley Forge Sewer Authority to be provided by ARRO with review by Bucharth Horn Engineers and agreement by East Whiteland and Valley Forge Sewer Authority.]

Solicitor Draft 04-15-13
Revised 10-08-13 VFSA
Revised 10-29-13-EWT

Schedule C

**[Plan depiction of shared sewer lines to be provided by ARRO with review by Bucharth
Horn Engineers and agreement by East Whiteland and Valley Forge Sewer Authority.]**



Environmental Protection by
Caring Professionals

Valley Forge Sewer Authority

333 Pawling Road
Phoenixville, Pennsylvania 19460
610-935-1553
Fax 610-983-9684

MUNICIPALITIES

Charlestown	
Easttown	
East Pikeland	Kelly Boettlin
East Whiteland	Sewage Planning Specialist 2
Malvern	PA Department of Environmental Protection
Schuylkill	Southeast Regional Office
Tredyffrin	2 East Main Street
Willistown	Norristown, PA 19401

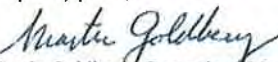
August 28, 2013

Re: East Whiteland Township Act 537 Special Study

Dear Ms. Boettlin:

This letter is to memorialize the Valley Forge Sewer Authority's (VFSA) commitment to finalizing the inter-municipal agreement amendment between East Whiteland the VFSA. We are aware that this amendment is part of the Special Study process and will endeavor to provide you with an amended Agreement in a timely manner, once the details are worked out and the amendment is executed. We and East Whiteland have both reviewed draft agreement amendments and are in basic agreement as to the major terms, namely that after completion of the Mill Lane and upstream sewer projects in East Whiteland, VFSA's reserve capacity in the East Whiteland system will be 432,302 gallons per day. This capacity is consistent with the Municipal Needs Assessment that supports the VFSA's Regional Act 537 Plan. In accordance with the inter-municipal agreements, these projects will be funded by each municipality according their respective reserve capacities.

Very truly yours,


Martin Goldberg, Operations Manager
Valley Forge Sewer Authority
333 Pawling Road
Phoenixville, PA 19460
(610) 935-1553 ext. 226

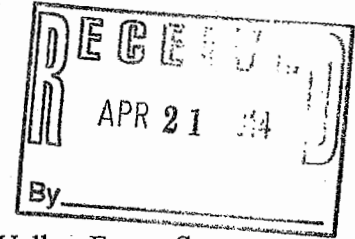
APPENDIX R

Draft Intermunicipal Agreement Amendment

AMENDMENT TO EAST WHITELAND TRUNK LINE AGREEMENT

This Amendment to East Whiteland Trunk Line Agreement is made this 18 day of April, 2014, between EAST WHITELAND TOWNSHIP ("East Whiteland"), a township of the second class, EAST WHITELAND MUNICIPAL AUTHORITY ("East Whiteland Authority"), a municipal authority organized by East Whiteland and VALLEY FORGE SEWER AUTHORITY, a municipal authority organized by Charlestown, East Pikeland and Schuylkill Townships.

BACKGROUND



A. On December 27, 1978, East Whiteland Authority and Valley Forge Sewer Authority entered into a cost sharing agreement for the Sidley Road Trunk Line repairs as indicated on Schedule A attached thereto to provide sewer service to the southern portion of Charlestown Township through the East Whiteland Trunk Line (and the Valley Creek Trunk Line) to the Valley Forge Sewage Treatment Plant.

B. On December 12, 1979, the parties hereto among others entered in an Amendment to the East Whiteland Trunk Line Agreement dated as of February 1, 1971, as amended by Composite Amendment No. 1, dated as of December 1, 1974, to reserve for the Valley Forge Sewer Authority 300,000 gallons per day of reserved capacity in the East Whiteland Trunk Line (as extended to the boundary to Charlestown Township via the "Great Valley Line") and the Mill Lane Pumping Station, to transmit sewage from Charlestown Township through the East Whiteland Trunk Line (and the Valley Creek Trunk Line) to the Valley Forge Sewage Treatment Plant.

C. The purpose of this Agreement Amendment is to establish a new and increased reserve capacity for the Valley Forge Sewer Authority within and through the East Whiteland sewer system. This Agreement Amendment shall also serve to establish the cost sharing between East Whiteland and the Valley Forge Sewer Authority.

D. This Agreement Amendment hereby declares that Valley Forge Sewer Authority shall have a reserved capacity within and through the East Whiteland system as apportioned below.

E. This Agreement Amendment also amends Article VI Section 6.01 of the East Whiteland Trunk Line Agreement to include the use of Tele-metering devices for transmitting flow signals from certain VFSA Sewage Discharge points into the East Whiteland system.

F. For purposes of this Agreement, the various portions of the East Whiteland Township sewer system are defined as follows:

1. East Whiteland Trunk Line (A) - The Trunk Line (A) shall include the gravity line through the Mill Lane Pump Station, the Mill Lane Pump Station force main, and gravity lines from the force main through the point at which the force main turns to gravity and then south and east to the point at which the East Whiteland gravity sewer leaves East Whiteland and then enters the Tredyffrin System.

2. East Whiteland Trunk Line (B) - The Trunk Line (B) shall include the gravity line from Charlestown Township along Conestoga Road through the Hillbrook Pump Station, the Hillbrook Pump Station force main, and gravity lines from the force main to the discharge point at the Mill Lane Pump Station.

3. Great Valley Line – The Great Valley Line shall include the existing gravity line to the Mill Lane Pump Station from the East Whiteland/Charlestown Township line to the terminal manhole at the east end of the James Thomas Road cul-de-sac thence along and/or through James Thomas Road, Aston Road, Phoenixville Pike, Hayes Road, Sidley Road, Moores Road, across the Aegon property, under Rt 202 to the Mill Lane Pump Station. The portion of sewer line along Sidley Road is also known as the Sidley Road Trunk Line. The portion of Great Valley Line in Sidley Road from manhole 67-24 at Lee Boulevard to manhole 67-13 in Moores Road will be abandoned and replaced with the New Sidley Road Trunk Line described in Section F.6.

4. Lee Boulevard Force Main – The Lee Boulevard Force Main shall include the force main from the Lee Boulevard Pump Station to the force main discharge point in Sidley Road.

5. Mill Lane Trunk Line – The Mill Lane Trunk Line shall include the gravity line as detailed on design plans prepared by ARRO Consulting, Inc. entitled Mill Lane Sewer Main Replacement, Phase 1. The Mill Lane Trunk Line shall extend from Manhole ML8 in Sidley Road approximately two-hundred (200) feet north of the intersection of Sidley Road and Lapp Road, thence south in and/or along Sidley Road, Mill Lane, under Rt 202 to an existing portion of the Great Valley Line which drains to the Mill Lane Pump Station.

6. New Sidley Road Trunk Line – The New Sidley Road Trunk Line shall include the gravity line as detailed on design plans prepared by ARRO Consulting, Inc. entitled Sidley Road Sewer Main Replacement, Phase 2. The New Sidley Road Trunk Line shall extend south in Sidley Road from the intersection of Sidley Road and Lee Boulevard to Manhole ML8 in Sidley Road which is the terminal end of the Mill Lane Sewer Main Replacement, Phase 1.

7. Mill Lane Pump Station – The pump station shall include the existing/new facility located north west of the intersection of Route 401 and Mill Lane.

8. Lee Boulevard Pump Station – The pump station shall include the existing facility located adjacent to Lee Boulevard.

9. Hillbrook Pump Station – The pump station shall include the existing facility located on Conestoga Road adjacent to Hillbrook Circle.

10. In summary, the various systems described in Sections F1 through F9 include all the pipelines through which Valley Forge Sewer Authority wastewaters drain in East Whiteland Township.

G. The various portions of the sanitary sewer system noted in Section F of this Agreement are outlined in Schedule C.

H. East Whiteland and East Whiteland Authority, at the request of Valley Forge Sewer Authority, are willing to reserve additional capacity for Valley Forge Sewer Authority, for a total reserved capacity of 432,302 gallons per day Annual Average Daily Flow as provided herein.

NOW, THEREFORE, the parties hereto intending to be legally bound hereby agree as follows:

1. Sidley Road Trunk Line Cost Sharing Agreement. The December 27, 1978 Agreement between East Whiteland Authority and Valley Forge Sewer Authority establishing the cost sharing agreement for the Sidney Road Trunk Line is amended by eliminating Schedule A attached thereto and substituting therefore Schedule B attached hereto and incorporated herein. It is noted that some of the construction costs noted in Schedule B are estimates. The final cost sharing shall be based upon actual construction contract prices, subject to the prior review and approval of the Valley Forge Sewer Authority.

2. Reserved Capacity. Following the 2013 replacement and enlargement of the Mill Lane Pump Station and the construction of the Mill Lane and New Sidney Road Trunk Lines (as described in Section C of this Agreement and in the East Whiteland Special Study of 2013 prepared by ARRO Consulting, Inc.), reserved capacity for Valley Forge Sewer Authority and East Whiteland Township based on capacity needs analysis to the year 2035 in the East Whiteland Trunk Line the Annual Average Daily Flow shall be as follows:

a. The reserved capacity for the Valley Forge Sewer Authority in the East Whiteland Trunk Line (A) shall be 432,302 gallons per day. The reserve capacity for East Whiteland Township and Malvern Borough in the East Whiteland Trunk Line (A) shall be 3,882,698 gallons per day. The amount of reserve capacity for each of these municipalities is defined by separate agreement between East Whiteland Township and Malvern Borough. Since the East Whiteland Township and Malvern Borough flow enters at several locations along this trunk line the weighted average of each party's flow shall be used to calculate cost sharing for any project that may occur in the future on this trunk line. Weighted average is defined as the average of each party's percent of flow in each pipe section weighted by the length of each pipe section compared to the total length of pipe sections included in a future project.

b. The reserved capacity for the Valley Forge Sewer Authority in the New Sidney Road Trunk Line and Mill Lane Trunk Line shall be 412,302 gallons per day. The reserve capacity for East Whiteland Township in the New Sidney Road

Trunk Line and Mill Lane Trunk Line shall be 552,803 gallons per day. Since the East Whiteland Township flow enters at several locations along these two sewer line segments the weighted average for cost sharing of each shall be 57.37 % VFSA and 42.63 % EWT in New Sidley Road Trunk Line and 44.63 % VFSA and 55.37 % EWT in Mill Lane Trunk Line up to manhole MH 59.4. The cost sharing for any improvements from manhole MH 59.4 to the Mill Lane Pump Station shall be based upon the weighted average concept outlined in Section 2.a.

c. The reserved capacity for the Valley Forge Sewer Authority in the Lee Boulevard Pump Station and Lee Boulevard Force Main shall be 373,673 gallons per day. The reserve capacity for East Whiteland Township in the Lee Boulevard Pump Station and Lee Boulevard Force Main shall be 22,265 gallons per day.

d. The reserved capacity for the Valley Forge Sewer Authority in the Mill Lane Pump Station and the Mill Lane Pump Station Forcemain shall be 432,302 gallons per day. The reserve capacity for East Whiteland Township in the Mill Lane Pump Station and the Mill Lane Pump Station Forcemain shall be 1,872,503 gallons per day.

e. The reserved capacity for the Valley Forge Sewer Authority in the East Whiteland Trunk Line (B) shall be 20,000 gallons per day. The reserve capacity for East Whiteland Township in the East Whiteland Trunk Line (B) is undefined at this time due to various development possibilities and connections points to the Mill Lane Pump Station, Great Valley Line, and Trunk Line B. Since the East Whiteland Township flow enters at several locations along this trunk line the weighted average of each party's flow shall be used to calculate cost sharing for any project that may occur in the future on this trunk line.

3. Flow Meters or Measuring Devices. The Valley Forge Sewer Authority shall be responsible for all costs of the installation and maintenance of the equipment and the monthly costs for transmission of flow data to East Whiteland Township via cell phone technology from the Lee Boulevard Pump Station, the Charlestown Meadows Pump Station, and the

Charlestown Oaks metering station to the Remote Terminal Unit (RTU) located in the new Mill Lane Pump Station.

If there are future locations requiring flow monitoring of Valley Forge Sewer Authority flows into the East Whiteland System, the Valley Forge Sewer Authority will be responsible for all costs of installation and maintenance of equipment and the monthly charges for transmission of required flow data to East Whiteland system. The cell phone technology shall be updated by the Valley Forge Sewer Authority as required.

4. Rehabilitation of Manholes 67-13 (at intersection of Moores Road and Ashlawn Road) to ML-1 of the Great Valley Trunk Line. Within six (6) months following substantial completion of replacement of the New Sidley Road Trunk Line replacement, East Whiteland Township shall engage an engineer to conduct an evaluation of those portions of the Great Valley Trunk Sewer Line that will no longer carry flows from the Valley Forge Sewer Authority, (identified as Manholes 67-13 on design drawings prepared by Roy F. Weston, Inc. to Manhole ML-1 on drawings prepared by ARRO Consulting, Inc. entitled Mill Lane Sewer Main Replacement Phase 1) but will remain in service for East Whiteland Township. Cost of the evaluation shall be shared in accordance with Schedule B, attached to this Agreement Amendment. Included in the evaluation shall be a television inspection of all sections of the sewer line. Based on the results of the inspection(s) of the sewer line, a conceptual report shall be prepared by the engineer that includes concept level descriptions of all practical alternatives to repair (line, slipline, grout or spot repairs) the sections of the gravity sewer line that require repair according to the opinion of the engineer. In addition, the report shall include conceptual level total project cost estimates (plus or minus 25%) for the alternatives presented in the report. The study shall include the engineers' recommended alternative(s) for each section of sewer line that requires repair. The conclusions of the study shall be subject to the approval of the Valley Forge Sewer Authority (which approval may be withheld only for sound engineering reasons), after consultation with the consulting engineers of the Valley Forge Sewer Authority. If there shall be disagreement regarding selected alternatives, and the parties cannot otherwise promptly resolve said disagreement, the disagreement shall be submitted for arbitration in accordance with ARTICLE IX of the East Whiteland Trunk Line Agreement of 1971.

The implementation of the selected Alternative(s) shall be completed by East Whiteland Township within six (6) years of the engagement of the engineer to perform the study. Costs to implement the selected alternative(s) shall be shared in accordance with Schedule B, attached to this Agreement Amendment.

Following six years after completion of the study, the Valley Forge Sewer Authority's obligation to share in any cost associated with repair, upgrade, enlargement or replacement of any portion of the Great Valley Sewer Trunk Line shall cease to exist.

5. Future Capital Projects. Following completion of the Mill Lane Pump Station, the Mill Lane Trunk Line, and the New Sidley Road Trunk Line replacement and enlargement projects, if any additional expansion, enlargement, repair or construction of any portions of any of the sewer system entities defined in Section F of this Agreement – with the exception of the rehabilitation of the Great Valley Line from manhole 67-13 to manhole ML-1 shall be required, Valley Forge Sewer Authority shall pay its pro rata share of such expansion, enlargement, repair or construction on the basis of its reserved capacity as detailed in Section H.2 Reserved Capacity of this Agreement Amendment, and subject to all provisions of the East Whiteland Trunk Line Agreement.

6. Effective Date. This Amendment shall be effective upon the approval by the governing body of the last party to approve.

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be duly executed as of the day and year first above written.

EAST WHITELAND TOWNSHIP

ATTEST: Maureen A. Perri
Secretary

By: William Holmes
Chairman

EAST WHITELAND MUNICIPAL
AUTHORITY

ATTEST: Terrell H. Woodman
Secretary

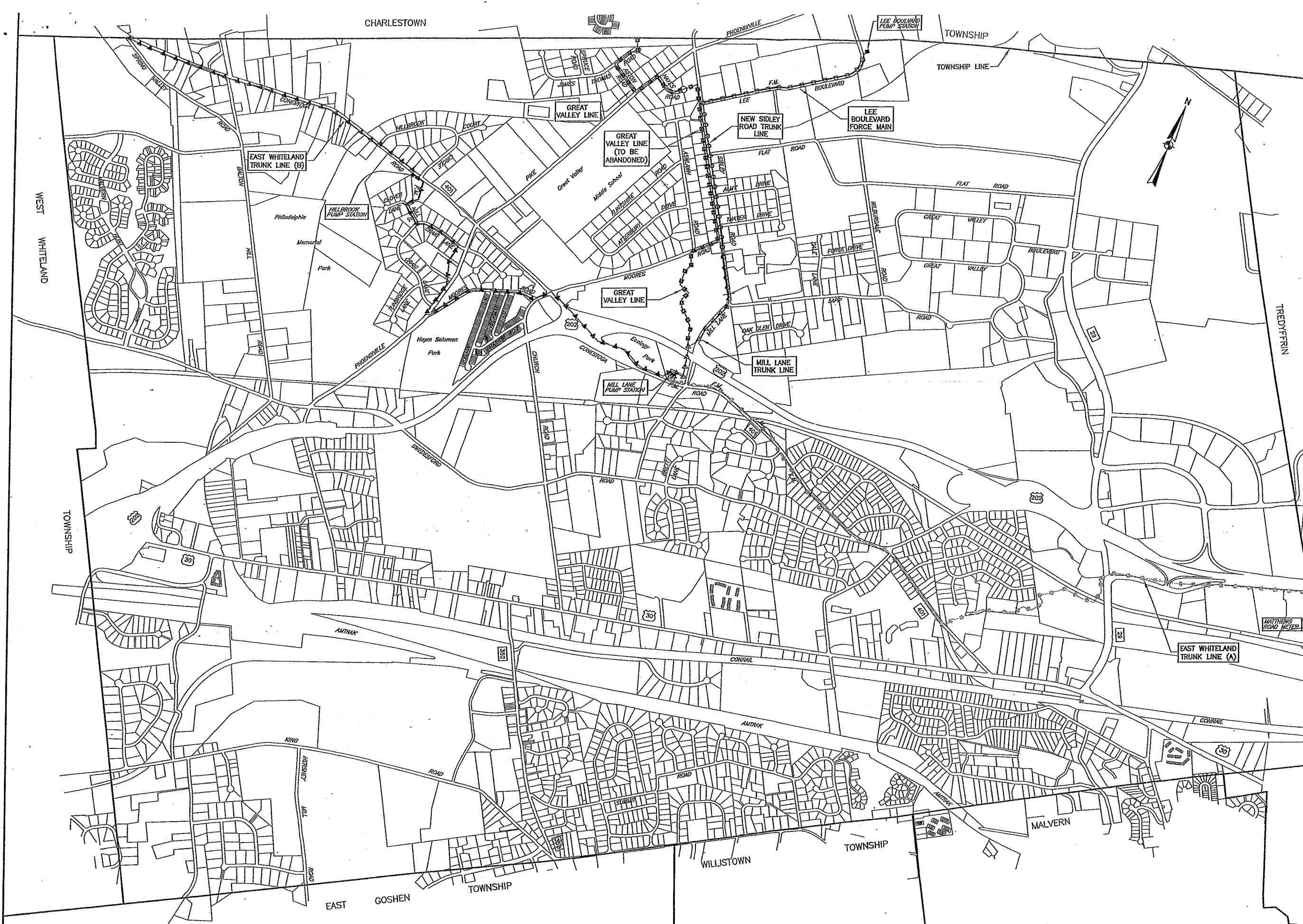
By: [Signature]
Chairman

VALLEY FORGE SEWER
AUTHORITY

ATTEST: [Signature]
Secretary

BY: Michael J. Sadgro
Chairman

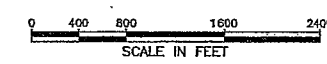
Schedule A intentionally left blank in keeping with paragraph 1.
on page 4 of this Agreement.



EAST WHITELAND TOWNSHIP
By: William J. Johns Chairman
ATTEST: Sharon A. Davis Secretary
DATE: 3/10/2014

EAST WHITELAND MUNICIPAL AUTHORITY
By: John J. Smith Chairman
ATTEST: Sharon A. Davis Secretary
DATE: 3/11/2014

VALLEY FORGE SEWER AUTHORITY
By: Michael J. Soderstrom Chairman
ATTEST: Sharon A. Davis Secretary
DATE: 4-18-14



- LEGEND**
- EAST WHITELAND TRUNK LINE "A"
 - ▲— EAST WHITELAND TRUNK LINE "B"
 - GREAT VALLEY LINE
 - GREAT VALLEY LINE TO BE ABANDONED
 - LEE BOULEVARD FORCE MAIN
 - NEW SIDLEY ROAD TRUNK LINE
 - ▲— MILL LANE TRUNK LINE
 - F.M. FORCE MAIN
 - G. GRAVITY LINE

Schedule C Exhibit for Amendment to
East Whiteland Trunk Line Agreement

K. McAGHON, P.E. DESIGN K. McAGHON, P.E. DRAWN		SEAL	SEAL	CLIENT & PROJECT EAST WHITELAND TOWNSHIP 209 CONESTOGA RD. FRAZER, PA 19355 SCHEDULE C EXHIBIT	ARRO	TITLE EAST WHITELAND TOWNSHIP SANITARY SEWERS - SHARED USE & RESPONSIBILITY WITH VALLEY FORGE SEWER AUTHORITY
CHECKED K.M. CHECKED				SCALE		DWG. NO.