

Act 537 Plan Update

The Borough of Hulmeville
Bucks County, PA

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Act 537 Plan Update for Hulmeville Borough

Plan Summary

This Plan Update has been developed in response to requests from the Pennsylvania Department of Environmental Protection and is corollary to the Plan developed and submitted by the Bucks County Water & Sewer Authority. The Hulmeville Municipal Authority, often referred to as the Water & Sewer Authority, in conjunction with the Borough of Hulmeville, owns and operates the sanitary sewer conveyance system within the Borough. There is no treatment or pumping facilities owned or operated by the Borough or its designated Authority.

Proposed Areas of Service

The proposed areas of service within this plan of study are within the boundaries of the Borough itself. All sanitary sewer main lines, connections to the Neshaminy Interceptor which is owned and operated by the Bucks County Water & Sewer Authority, as well as privately owned laterals and connections will be the subject of this Plan. Particular emphasis will be placed on efforts to reduce the amount of inflow and infiltration into the sanitary sewer lines that feed into the Neshaminy Interceptor. The stated purpose of this effort is to reduce the surge that results from the inflow and infiltration into the sanitary sewer system during periods of exceptionally wet weather and storm related events.

The boundaries and general layout of the Hulmeville Borough sanitary sewer system are shown in the map titled *2013 Infiltration / Inflow Rehabilitation Work* in Appendix A.

Alternatives Chosen To Serve Areas of Need

To reduce the amount of inflow and infiltration into the sanitary sewer lines that feed the Neshaminy Interceptor, Hulmeville Borough will develop and implement a comprehensive program consisting of several measures and alternatives. This program will contain the following components:

- An education and information dissemination program designed to alert the public to the problem of inflow and infiltration. This component will also identify the programs that the Borough will implement to reduce/eliminate the problems and associated costs.
- Measures to be adopted by the Borough in order to reduce the excess hydraulic flow into the Neshaminy Interceptor.
- Evaluation of various alternative measures, each contributing to the reduction of infiltration & inflow within the Borough.
- Development of an implementation schedule.

- Development of costs associated with each alternative.
- Identification of funding sources in support of the various alternative measures.
- Development and adoption of fees and penalties in support of the various alternative measures.
- Details of each of these items can be found in the General Plan Content section of this document.

Municipal Adoption

The necessary municipal resolution(s) of adoption, containing alternatives chosen and a commitment to implement the Plan according to the implementation schedule, will be provided upon completion of the necessary prerequisites.

Planning Commission / County Health Department Comments

In compliance with Title 25, §71.31.b, upon completion of this Plan of Study and the draft of the Act 537 Plan Update, Hulmeville Borough will submit the documents to the Bucks County Planning Commission, the Hulmeville Borough Planning Commission, and other local and regional planning agencies deemed appropriate for the purpose of plan review.

Publication

In compliance with Title 25, §71.31.c, Hulmeville Borough will provide the required Proof of Public Notice, including the establishment of a 30 day public comment period.

Comments and Responses

In compliance with Title 25, §71.31.c, Hulmeville Borough will provide copies of all written comments received along with responses to each comment related to the proposed plan.

Implementation Schedule

Hulmeville Borough will provide a complete project implementation schedule for the Plan. The schedule will include specific milestone dates for the initiation and completion of each component of the Plan as well as any other milestone dates that are essential to successful implementation of the Plan.

Consistency Documentation

In compliance with Title 25, §71.31.c, Hulmeville Borough will provide documentation that any identified inconsistencies have been resolved to each parties' satisfaction.

General Plan Content

Section 1. Previous Wastewater Planning

The Hulmeville Borough Municipal Authority was made a body corporate and politic on May 15, 1961. Bonds in the amount of \$310,000, for the purpose of constructing a sanitary sewer conveyance system were secured on September 1, 1966. Also, on September 1, 1966, the Borough of Hulmeville entered into a lease agreement with the Hulmeville Municipal Authority, providing among other things that the Authority leases to the Borough all of the facilities constructed or acquired by the Authority. The Authority is responsible for all planning, funding, and scheduling of maintenance and improvements to the sanitary sewer system. Hulmeville Borough entered into an agreement with the Bucks County Water and Sewer Authority on February 23, 1965 for the transportation and treatment of sewage. Hulmeville Borough's Sanitary Sewer system was constructed in 1968, prior to implementation of Act 537.

Section 2. Physical and Demographic Analysis

Identification of Planning Areas and Service Area Boundaries.

Please refer to the section titled Proposed Areas of Service in the Plan Summary.

Physical Characteristics: Creeks, Streams, Drainage Basins.

Hulmeville Borough's primary physical characteristic is that it is bordered to the west by the Neshaminy Creek. There are a series of tributary streams throughout the borough that feed into the Neshaminy Creek. Please refer to the map titled *Wetlands* in Appendix A for additional details.

Soils

Hulmeville Borough has only one property with an on-site sewage disposal system. All other areas of the borough are served by the public sanitary sewer disposal system. For this reason, a soils map is superfluous, and is not provided.

Geologic Features

Hulmeville Borough, with the exception of one property, is entirely serviced by a public water delivery system, virtually eliminating the potential for nitrate-nitrogen pollution of drinking water sources. The drinking water, for the single property serviced by a private well, is tested annually by the Borough.

Topography

Hulmeville Borough has only one property with an on-site sewage disposal system. Please refer to the map titled *Digital Elevation Model* in Appendix A.

Potable Water Supplies

With the exception of one property serviced by a private well, public drinking water is supplied through an agreement with the Bucks County Water and Sewer Authority. Please refer to the map titled *Water Distribution System* in Appendix A.

Wetlands

Hulmeville Borough's sewage disposal system does not currently impact any wetlands. No future impact to wetlands is anticipated. Please refer to the map titled *Wetlands* in Appendix A.

Section 3. Existing Sewage Facilities in the Planning Area

Treatment Facilities

Hulmeville Borough does not own or operate any sewage treatment facilities. The borough's sewage conveyance system is integrated with the Neshaminy Interceptor which is owned and operated by the Bucks County Water and Sewer Authority. Please refer to the map titled *2013 Infiltration / Inflow Rehabilitation Work* to view the layout of the sewer system.

Identification of Problems with Existing Facilities

Collection and Conveyance

Hulmeville Borough implemented a video inspection and cleaning of the Borough owned sanitary sewer mains during the month of October, 2013. Only minor maintenance items were identified during that inspection. Repairs to those items, including the sealing of some manhole covers, were affected immediately following the inspection. Some additional maintenance items, including the repair of a sewer main on Pennsylvania Avenue and the installation of a grease interceptor for a restaurant at 11 Beaver Street are either in progress or in the planning stage. The complete report of the sanitary sewer conveyance system inspection and cleaning is available upon request.

While the Borough's sanitary sewer main lines have been routinely inspected and subject to ongoing maintenance and repair, the condition of the privately owned individual laterals remains largely unknown. Since the system was installed in 1968, it is likely that there are some laterals that are in need of repair, and could be contributing to increased levels of inflow and infiltration.

Existing and Projected Hydraulic Overload

The Bucks County Water and Sewer Authority's Totem Road Pumping Station in Bensalem Township has at times, exceeded capacity. Additionally, portions of the mains of the Neshaminy Interceptor have been shown to have registered deficient capacity, constituting a projected hydraulic overload. The Pennsylvania Department of Environmental Protection has determined that over a period spanning the previous five years, peak flows recorded at the Totem Road facility have ranged from 55 to 58 million gallons per day, above the permitted maximum design capacity for the station of 50.8 mgd and the "ultimate capacity" of 51.84 mgd.

Section 4. Future Growth and Land Development

A. Summary of Municipal Planning Documents Adopted Pursuant to the Pennsylvania Municipalities Planning Code Act 247

In compliance with Title 25, §71.21.a.3.iv has included in this plan update, the map titled *Hulmeville Borough Zoning Ordinance Map* in Appendix A.

In compliance with Title 25, inance Map.iv has included in this plan update, the map titled Planning Code Act 247 mains of the Neshaminy Interceptor have been related to floodplain and stormwater management, and areas subject to special protection are cited:

Hulmeville Borough does not have zoning or subdivision regulations that limit lot sizes due to on-site sewage disposal methods.

Limitations and plans related to floodplains are specified in Ordinance 265, adopted February 2, 2015, which updated Section 703, Floodplain Regulations, of the Borough to floodplain and s. Section 703.5, Technical Provisions, specifies what can and cannot be done within the flood hazard areas and Section 703.5.C.(3) deals specifically with Water and Sanitary Facilities and Systems.

Limitations and plans related to stormwater management are specified in Ordinance 252, Hulmeville Borough Neshaminy Creek Watershed Act 167 Stormwater Management Ordinance, adopted May 2, 2011. This Ordinance promotes and encourages infiltration and groundwater recharge. Section 801, Prohibited Discharges, specifically prohibits sewage, process wastewater and wash water from entering the waters of the Commonwealth.

Limitations and plans related to areas subject to special protection are specified within Section 701, Natural Resource Protection Standards, of the Boroughment Ordinance, ado

1. Areas with Existing Development or Plotted Subdivisions

Hulmeville Borough has 5 approved plotted subdivisions. These plotted subdivisions are listed in Hulmeville Borough's Connection Management Plan. Minimal impact to the sanitary sewer system is anticipated.

2. Land Use Designations

Hulmeville Borough does not anticipate any significant zoning changes in either the near or long term. For details about current zoning, please refer to the map titled *Hulmeville Borough Zoning Ordinance Map* in Appendix A.

3. Future Growth Areas

Hulmeville Borough does not anticipate a significant increase in the number of EDU's in the service area during the next 5 year period from 2015 through 2019.

Due to the potential sale and development of one specific plot of land, Hulmeville Borough could experience an increase of approximately 85 EDU's and 220 persons during

the years from 2020 through 2025. Hulmeville Borough will provide additional details and the potential impact on sewage facilities in the Plan Update.

4. Zoning & Subdivision Regulations Pertaining To Land & Water Resources:

The relevant Zoning Sections related to development, use, and protection of land and water resources are specified in the following table:

| Zoning Section | Description |
|-------------------------------|---|
| 402.3 | Procedure for Minor Subdivision- Preliminary Plans |
| 403.2 | Procedure for Major Subdivisions & Land Development Preliminary Plans |
| 404.2 | Procedure for Major Subdivisions & Land Development Final Plans |
| 406.6.A.(7), (8), (9) | General Standards for Flood Areas |
| 406.6.D.(2) | Car Wash Regulations – Recycle Water |
| 514.4 | Easements for Water Courses |
| 611 | Public Water Supply |
| 612 | Private Water Supply |
| 613 | Public Sanitary Sewers |
| 614 | Private Sewage Disposal Systems |
| 615 | Onlot Sewer and Water Locations |
| 616 | Capped Sewers |
| 701 | Stormwater Performance Guarantee |
| 704.C2 | Stormwater Management Easements |
| 718.3 | Material Deposits on Lots in Borough |
| 1102.1.B.(7), (9), (10), (11) | Requirements for Water, Sanitary Sewer, Stormwater and Flood Plain |
| 1102.4 | Zoning Officer required to make sure Stormwater requirements are met |

Section 5. Current and Projected Flow Analysis

1. Metering of the hydraulic flow by BCWSA from Hulmeville Borough into the Neshaminy Interceptor for the 5 year period 2009 through 2013 has recorded the following:

| Current Flow Analysis | | |
|--------------------------|---------------------------------|-----------------------------------|
| Average Daily Flow (mgd) | Metered Peak Instant Flow (mgd) | Allowed Peak Flow (2 X ADF) (mgd) |
| 0.07 | 0.45 | 0.15 |

2. Hulmeville Borough projects an additional 90 Equivalent Dwelling Units being erected within the Borough during the 10 year period from 2016 through 2025. Considering this additional contribution to the already existing flow, the Borough's Projected Flow Analysis is as follows:

| Projected Flow Analysis | | |
|--------------------------|-----------------------------------|--|
| Average Daily Flow (mgd) | Additional Future Peak Flow (mgd) | Allowed Peak Flow with INI Removed (2 X ADF) (mgd) |
| 0.09 | 0.05 | 0.19 |

3. In order to achieve the flow rate reduction identified above, the Borough will consider several alternative measures, as described in Section 6.

Section 6. Alternatives for Providing Improved Wastewater Disposal Facilities

A. Conventional Collection, Conveyance, Treatment and Discharge Alternatives.

1. Alternative Measure: Supplemental Hydraulic Flow Metering

Description & Goal: This alternative seeks to identify the areas of the borough that are contributing to the hydraulic overload that occurs during periods of extremely wet weather. Through the placement of additional meters throughout the borough, two essential questions can be answered:

- Are there areas of the borough that disproportionately contribute to the hydraulic overload during periods of extremely wet weather?
- Where are the specific areas of the borough that make disproportionately large contributions to the hydraulic flow into the Neshaminy Interceptor?

All subsequent alternative measures delineated in this plan are dependent upon the answer to these two questions. Hulmeville Borough reserves the right to adjust the implementation of all subsequent alternative measures delineated in this plan, based on the evaluation of the data provided by this measure. The overall goal of this plan is to make an effective contribution to reducing the overload on the Neshaminy Interceptor. In order to make an effective contribution and wisely expend both effort and funds toward that end, the borough must have a definitive knowledge of the nature and extent of the problem within the borough.

2. Alternative Measure: In Home Sump-Pump Inspection Program

Description & Goal: This alternative seeks to eliminate the infiltration and inflow originating from residences and commercial buildings that have sump-pump and rain gutter hookups that discharge excess water into the sanitary sewer system. This program will be voluntary in nature. Residents cannot be legally compelled to allow an inspection on their property. The Hulmeville Municipal Authority will attempt to convince all residents of the importance of this program as an effective way to reduce infiltration and inflow within the borough.

Education and Information. The implementation of this program will begin with an educational component that informs residences of the impending inspections and the reason that they are needed. Additionally, there will at least one town-hall style public meeting in which the program will be explained and the residents given an opportunity to ask questions, and express concerns.

Evaluation of Areas of Need. Data from the implementation of the Alternative Measure that provides for supplemental hydraulic flow metering, shall be evaluated to determine the areas of the borough that require attention.

Execution of the Program Inspections. Residents will be notified of the inspection of their property at least one week in advance of any inspection. Three attempts will be made to carry out the inspection. Inspections will consist of verification that any sump-pump present on the property is hooked-up in compliance with Hulmeville Borough Ordinance 104 §18-205 (9/8/1966). Ordinance 104 §18-205 Prohibited Substances reads in part:

No property owner shall discharge, or permit to be discharged, into the sewer system any roof drainage, surface water, waste from hydrants, or ground water from underground drainage fields.

Inspections will also verify that rain gutters are not being used to discharge rain water directly into the sanitary sewer system. Any violation will be noted by the inspector, and

the Municipal Authority will follow-up with official written notification that the illegal hookup must be corrected or a financial penalty will be imposed.

Correction of Violations. Violations must be corrected within 3 months of official notification of violation. A follow-up inspection can be requested by the violator at any time.

At the conclusion of the 3 month correction period, a sewer service charge will be imposed on the violator's sewer bill.

Service Charge. A service charge may be imposed on each violator and included on the violator's quarterly sewer bill. If at any time, the violator provides documentation that the violation has been corrected, the service charge will be removed from their sewer bill.

Certification of Violation Correction. A resident found to be in violation, may request that a borough representative reinspect their property to verify that the violation has been corrected. The resident found to be in violation may also provide written verification in the form of a letter signed by a master plumber licensed in the Commonwealth of Pennsylvania, attesting to the fact that the violation has been cleared.

Opt-Out. A resident may opt-out of the program at any time by providing written verification in the form of a letter signed by a master plumber licensed in the Commonwealth of Pennsylvania, attesting to the fact there are no illegal sump-pump connections or downspouts discharging rain water into the sanitary sewer system on their property.

Institutional Resources. Permanent staff is not expected to be significantly impacted. Staffing for this alternative measure is likely to be subcontracted. Additionally, some clerical support will be required to track inspection progress as well as service charges and billing options.

3. Alternative Measure: Sewer Lateral Inspection Program

Description & Goal. This alternative seeks to eliminate the inflow & infiltration originating from damaged sewer laterals. Most sewer laterals in the borough are in excess of 40 years of age. While the borough regularly inspects the sewer main lines, maintenance of the laterals is the responsibility of the individual homeowner. This program will be voluntary in nature. Residents cannot be legally compelled to allow an inspection on their property. The Hulmeville Municipal Authority will attempt to convince all residents of the importance of this program as an effective way to reduce infiltration and inflow within the borough.

The implementation details will be determined following evaluation of the results from Section 6.1.A. Alternative Measure: Supplemental Hydraulic Flow Metering.

Education and Information. The implementation of this program will begin with an educational component that informs residences of the impending inspections and the reason that they are required. Additionally, there will at least one town-hall style public

meeting in which the program will be explained and the residents given an opportunity to ask questions, and express concerns. Particular emphasis will be given to providing information about the BCWSA insurance program that could help minimize the cost to the homeowner should their sewer lateral be found in disrepair during the inspection process. Information about this program must be disseminated well in advance of the commencement of the inspection program itself.

Execution of the Program

Correction of Violations.

Service Charge. A service charge may be imposed on each violator and included on the violator's quarterly sewer bill. If at any time, the violator provides documentation that the violation has been corrected, the service charge will be removed from their sewer bill.

Certification of Violation Correction. A resident found to be in violation, may, at their own expense, provide for the correction of the violation. The resident may then provide documentation that the violation discovered in the inspection, has been remediated.

Opt-Out. A resident may opt-out of the program at any time by providing written verification in the form of a letter signed by a master plumber licensed in the Commonwealth of Pennsylvania, attesting to the fact that the sewer lateral for their property is not in a state of disrepair. To that end, the resident must provide an electronic video that provides verification that the sewer lateral is in good repair.

Institutional Resources. Permanent staff is not expected to be significantly impacted. Staffing for this alternative measure is likely to be subcontracted. Additionally, some clerical support will be required to track inspection progress as well as service charges and billing options.

Cost. It is estimated that this alternative will cost the Hulmeville Municipal Authority and the Borough of Hulmeville approximately \$155 - \$185 per EDU. There are currently 389 sewer customers within the borough. The cost of this alternative measure will be between \$60,000 and \$72,000.

Funding Source(s). This alternative will be funded through the Hulmeville Municipal Authority's Sewer Fund Operating Account. The cost of administering this measure may be offset by the imposition of either a sewer rate increase or a surcharge.

4. Alternative Measure: Capping/Covering/Raising of Sewer Lateral Vents & Selective Manhole Inserts

Description & Goal. This alternative involves following up on previous work performed along Water Street after heavy flood events. Some of the properties have low-lying open grate vents which may be subject to flooded conditions. These may need to be raised or supplied with a solid cap to prevent extraneous flows from entering the collection system.

The manhole inserts are expected to reduce the stormwater flow into the collection system during and after heavy precipitation events. A field survey of the manhole frames and covers will be done to determine which frames and covers need the manhole inserts.

Education and Information.

Execution of the Program. The implementation details will be determined following evaluation of the results from Section 6.1.A. Alternative Measure: Supplemental Hydraulic Flow Metering.

Institutional Resources. Permanent staff is not expected to be significantly impacted. Staffing for this alternative measure is likely to be subcontracted. Additionally, some clerical support will be required to track progress.

Cost. The costs for the capping/covering/raising of sewer lateral vents will vary from \$25 to cap the vents to \$300 to raise the vents. It is expected that perhaps 25 to 30 homes may require this repair. At an average cost of \$150 for each lateral, this would run from \$3,750 to \$4,500 and would be a one-time cost. Installing new caps could be done by Authority personnel but raising some laterals could require a contractor to perform the work.

The manhole inserts material cost is approximately \$50 each. It is expected that 20 inserts would be purchased and installed initially for a total of \$1,000 plus installation costs of \$25 each or another \$500 for the Authority staff to install.

Funding Source(s). This alternative will be funded through the Hulmeville Municipal Authority's Sewer Fund Operating Account. The cost of administering this measure may be offset by the imposition of either a sewer rate increase or a surcharge.

B. Individual Sewage Disposal Systems.

- This alternative is not applicable to Hulmeville Borough.

C. Small Flow Sewage Treatment Facilities to Serve Individual Clusters of Homes.

- This alternative is not currently applicable to Hulmeville Borough.

D. Community Land Disposal Alternatives.

- This alternative is not applicable to Hulmeville Borough.

E. Sewage Management Programs to Assure Future Operation of Existing Facilities.

- Hulmeville Borough will continue its existing maintenance program for the existing conveyance system.
- Hulmeville Borough will augment the existing maintenance program with some form of inspection program to minimize the negative impact of the following:
 - o Sewer laterals in need of repair.
 - o Illegal sump pump connections.

F. Non-structural Planning Alternatives.

- Hulmeville Borough will consider additional municipal ordinances and measures deemed necessary to further the reduction of infiltration and inflow into the sanitary sewer system.

G. Discussion of Short & Long Term Impact of Sewage Disposal.

- Hulmeville Borough will continue to participate and cooperate with both the Bucks County Water & Sewer Authority and the Pennsylvania Department of Environmental Protection to further efforts to minimize environmental concerns related to the existing sewage collection system within the borough.

Section 7. Evaluation of Alternatives

A. Conventional Collection, Conveyance, Treatment and Discharge Alternatives.

1. Alternative Measure: Supplemental Hydraulic Flow Metering

a. Consistency Analysis

| Consistency Analysis Summary for Supplemental Hydraulic Flow Metering Alternative | | | |
|---|-------------|----|---|
| Evaluation Category | Consistency | | Comments |
| | Yes | No | |
| Clean Streams Law or Section 208 of Clean Water Act | X | | This alternative is consistent with the objectives and requirements of the Clean Streams Law. |
| Chapter 94. Municipal Waste Load Management Plans | X | | This alternative is consistent with the effort to address the load capacity issues associated with the Neshaminy Interceptor. |
| Title II. - Clean Water Act | X | | This alternative is consistent with the goals of the Clean Water Act. |
| Borough Comprehensive Plan | X | | This alternative is consistent with the Municipal Comprehensive Plan identified in Section 4. |
| Anti-degradation Requirements of PA Chapters 93, 95, 102 | X | | This alternative will not adversely affect water quality. |
| State Water Plan | X | | This alternative is consistent with the State Water Plan. |
| PA prime Agricultural Land Policy | X | | This alternative will have no impact on prime agricultural land. |
| County Storm Water Management Plan | X | | This alternative is consistent with the County Storm Water Management Plan. |
| Chapter 105 - Wetland Protection | X | | This alternative will not impact wetlands within the area of study. |
| Protection of Rare, Endangered or Threatened Plant and Animal Species | X | | This alternative will have no impact on rare, threatened or endangered species within the area of study. |
| Historical and Archaeological Resource Protection | X | | This alternative will have no impact on historical or archaeological resources within the area of study. |

b. Resolution of Inconsistencies

- There are no inconsistencies in this alternative.

c. Evaluation of this Alternative with regard to:

- **Applicable Water Quality Standards:** No negative impact expected.
- **Effluent Limitations:** No negative impact expected.

d. Cost Estimates for this Alternative:

It is estimated that this alternative will cost the Hulmeville Municipal Authority and the Borough of Hulmeville approximately \$15,000 in initial capital costs to purchase and install 6 portable meters and \$5,000 per year to download meter readings on a monthly basis, analyze data, maintain the meters, field laptop computer, etc.

e. Funding Source(s) for this Alternative:

This alternative will be funded through the Hulmeville Municipal Authority’s Sewer Fund Operating Account. The cost of administering this measure may be offset by the imposition of either a sewer rate increase or a surcharge.

f. Phased Implementation for this Alternative

| Implementation Phases: Supplemental Hydraulic Flow Metering | |
|---|---|
| Phase | Description |
| 1 | Bid package preparation. Establishment of program requirements for Subcontractor-Vendors. |
| 2 | Subcontractor-Vendor bid evaluation. |
| | Subcontractor-Vendor selection and notification. |
| 3 | Identification, selection and prioritization of areas of greatest potential hydraulic contribution. |
| 4 | Establishment of metering duration for individual areas. |
| 5 | Placement and monitoring of meters. |
| 6 | Evaluation of hydraulic flow results. Determination of next steps for remediation, if necessary. |
| 7 | Post-Program evaluation of results. |

g. Administrative Organizations and Legal Authority

- The Hulmeville Municipal Authority, in conjunction with the Hulmeville Borough Council will be the organizations responsible for development and implementation of this alternative measure.

2. Alternative Measure: In Home Sump-Pump Inspection Program

a. Consistency Analysis

| Consistency Analysis Summary for In Home Sump-Pump Inspection Alternative | | | |
|---|-------------|----|---|
| Evaluation Category | Consistency | | Comments |
| | Yes | No | |
| Clean Streams Law or Section 208 of Clean Water Act | X | | This alternative is consistent with the objectives and requirements of the Clean Streams Law. |
| Chapter 94. Municipal Waste Load Management Plans | X | | This alternative is consistent with the effort to address the load capacity issues associated with the Neshaminy Interceptor. |
| Title II. - Clean Water Act | X | | This alternative is consistent with the goals of the Clean Water Act. |
| Borough Comprehensive Plan | X | | This alternative is consistent with the Municipal Comprehensive Plan identified in Section 4. |
| Anti-degradation Requirements of PA Chapters 93, 95, 102 | X | | This alternative will not adversely affect water quality. |
| State Water Plan | X | | This alternative is consistent with the State Water Plan. |
| PA prime Agricultural Land Policy | X | | This alternative will have no impact on prime agricultural land. |
| County Storm Water Management Plan | X | | This alternative is consistent with the County Storm Water Management Plan. |
| Chapter 105 - Wetland Protection | X | | This alternative will not impact wetlands within the area of study. |
| Protection of Rare, Endangered or Threatened Plant and Animal Species | X | | This alternative will have no impact on rare, threatened or endangered species within the area of study. |
| Historical and Archaeological Resource Protection | X | | This alternative will have no impact on historical or archaeological resources within the area of study. |

b. Resolution of Inconsistencies

- There are no inconsistencies in this alternative.

c. Evaluation of this Alternative with regard to:

- **Applicable Water Quality Standards:** No negative impact expected.
- **Effluent Limitations:** No negative impact expected.

d. Cost Estimates for this Alternative:

It is estimated that this alternative will cost the Hulmeville Municipal Authority and the Borough of Hulmeville approximately \$80 - \$100 per EDU. There are currently 389 sewer customers within the borough. The cost of this alternative measure will be, at approximately between \$31,000 and \$40,000.

e. Funding Source(s) for this Alternative:

This alternative will be funded through the Hulmeville Municipal Authority’s Sewer Fund Operating Account. The cost of administering this measure may be offset by the imposition of either a sewer rate increase or a surcharge.

f. Phased Implementation for this Alternative

| Implementation Phases: In Home Sump-Pump Inspection Program | |
|---|---|
| Phase | Description |
| 1 | Bid package preparation. Establishment of program requirements for Subcontractor-Vendors. |
| 2 | Subcontractor-Vendor bid evaluation. |
| | Subcontractor-Vendor selection and notification. |
| 3 | Education & Information. Public notification of intent to implement the alternative measure. This phase includes public notification using written notification as well as Public Information Town Hall meetings. |
| 4 | Contact residents to schedule inspection at least one week prior to starting the inspection. |
| 5 | Remediation verification for residents found to be in violation. |
| 6 | Post-Program evaluation of results. |

g. Administrative Organizations and Legal Authority

- The Hulmeville Municipal Authority, in conjunction with the Hulmeville Borough Council will be the organizations responsible for development and implementation of this alternative measure.

3. Alternative Measure: Sewer Lateral Inspection Program

a. Consistency Analysis

| Consistency Analysis Summary for Sewer Lateral Inspection Alternative | | | |
|---|-------------|----|---|
| Evaluation Category | Consistency | | Comments |
| | Yes | No | |
| Clean Streams Law or Section 208 of Clean Water Act | X | | This alternative is consistent with the objectives and requirements of the Clean Streams Law. |
| Chapter 94. Municipal Waste Load Management Plans | X | | This alternative is consistent with the effort to address the load capacity issues associated with the Neshaminy Interceptor. |
| Title II. - Clean Water Act | X | | This alternative is consistent with the goals of the Clean Water Act. |
| Borough Comprehensive Plan | X | | This alternative is consistent with the Municipal Comprehensive Plan identified in Section 4. |
| Anti-degradation Requirements of PA Chapters 93, 95, 102 | X | | This alternative will not adversely affect water quality. |
| State Water Plan | X | | This alternative is consistent with the State Water Plan. |
| PA prime Agricultural Land Policy | X | | This alternative will have no impact on prime agricultural land. |
| County Storm Water Management Plan | X | | This alternative is consistent with the County Storm Water Management Plan. |
| Chapter 105 - Wetland Protection | X | | This alternative will not impact wetlands within the area of study. |
| Protection of Rare, Endangered or Threatened Plant and Animal Species | X | | This alternative will have no impact on rare, threatened or endangered species within the area of study. |
| Historical and Archaeological Resource Protection | X | | This alternative will have no impact on historical or archaeological resources within the area of study. |

b. Resolution of Inconsistencies

- There are no inconsistencies in this alternative.

c. Evaluation of this Alternative with regard to:

- **Applicable Water Quality Standards:** No negative impact expected.
- **Effluent Limitations:** No negative impact expected.

d. Cost Estimates for this Alternative:

It is estimated that this alternative will cost the Hulmeville Municipal Authority and the Borough of Hulmeville approximately \$155 - \$185 per EDU. There are currently 389 sewer customers within the borough. The cost of this alternative measure will be between \$60,000 and \$72,000.

e. Funding Source(s) for this Alternative:

This alternative will be funded through the Hulmeville Municipal Authority’s Sewer Fund Operating Account. The cost of administering this measure may be offset by the imposition of either a sewer rate increase or a surcharge.

f. Phased Implementation for this Alternative

| Implementation Phases: Sewer Lateral Inspection Program | |
|---|---|
| Phase | Description |
| 1 | Bid package preparation. Establishment of program requirements for Subcontractor-Vendors. |
| 2 | Subcontractor-Vendor bid evaluation. |
| | Subcontractor-Vendor selection and notification. |
| 3 | Education & Information. Public notification of intent to implement the alternative measure. This phase includes public notification using written notification as well as Public Information Town Hall meetings. |
| 4 | Contact residents to schedule inspection at least one week prior to starting the inspection. |
| 5 | Remediation verification for residents found to be in violation. |
| 6 | Post-Program evaluation of results. |

g. Administrative Organizations and Legal Authority

- The Hulmeville Municipal Authority, in conjunction with the Hulmeville Borough Council will be the organizations responsible for development and implementation of this alternative measure.

4. Alternative Measure: Capping/Covering/Raising of Sewer Lateral Vents and Selective Manhole Inserts

a. Consistency Analysis

| Consistency Analysis Summary for Capping/Covering/Raising of Sewer Lateral Vents and Selective Manhole Inserts Alternative | | | |
|--|-------------|----|---|
| Evaluation Category | Consistency | | Comments |
| | Yes | No | |
| Clean Streams Law or Section 208 of Clean Water Act | X | | This alternative is consistent with the objectives and requirements of the Clean Streams Law. |
| Chapter 94. Municipal Waste Load Management Plans | X | | This alternative is consistent with the effort to address the load capacity issues associated with the Neshaminy Interceptor. |
| Title II. - Clean Water Act | X | | This alternative is consistent with the goals of the Clean Water Act. |
| Borough Comprehensive Plan | X | | This alternative is consistent with the Municipal Comprehensive Plan identified in Section 4. |
| Anti-degradation Requirements of PA Chapters 93, 95, 102 | X | | This alternative will not adversely affect water quality. |
| State Water Plan | X | | This alternative is consistent with the State Water Plan. |
| PA prime Agricultural Land Policy | X | | This alternative will have no impact on prime agricultural land. |
| County Storm Water Management Plan | X | | This alternative is consistent with the County Storm Water Management Plan. |
| Chapter 105 - Wetland Protection | X | | This alternative will not impact wetlands within the area of study. |
| Protection of Rare, Endangered or Threatened Plant and Animal Species | X | | This alternative will have no impact on rare, threatened or endangered species within the area of study. |
| Historical and Archaeological Resource Protection | X | | This alternative will have no impact on historical or archaeological resources within the area of study. |

b. Resolution of Inconsistencies

- There are no inconsistencies in this alternative.

c. Evaluation of this Alternative with regard to:

- **Applicable Water Quality Standards:** No negative impact expected.
- **Effluent Limitations:** No negative impact expected.

d. Cost:

The costs for the capping/covering/raising of sewer lateral vents will vary from \$25 to cap the vents to \$300 to raise the vents. It is expected that perhaps 25 to 30 homes may require this repair. At an average cost of \$150 for each lateral, this would run from \$3,750 to \$4,500 and would be a one-time cost. Installing new caps could be done by Authority personnel but raising some laterals could require a contractor to perform the work.

The manhole inserts material cost is approximately \$50 each. It is expected that 20 inserts would be purchased and installed for a total of \$1,000 plus installation costs of \$25 each or another \$500 for the Authority staff to install.

e. Funding Source(s) for this Alternative:

This alternative will be funded through the Hulmeville Municipal Authority's Sewer Fund Operating Account. The cost of administering this measure may be offset by the imposition of either a sewer rate increase or a surcharge.

f. Phased Implementation for this Alternative

| Implementation Phases: Consistency Analysis Summary for Capping/Covering/Raising of Sewer Lateral Vents and Selective Manhole Inserts Alternative | |
|---|--|
| Phase | Description |
| 1 | Review all laterals and manholes to determine the need for repairing laterals or installing manhole inserts. |
| 2 | Order identified materials. |
| 3 | Obtain quotes for repairing vents. |
| 4 | Contact property owners to notify them of anticipated repairs. |
| 5 | Authorize contractor to make repairs of lateral vents. |
| 6 | Inspect the completed repairs. |
| 7 | Evaluate the effect of the repairs on the peak flows readings. |

g. Administrative Organizations and Legal Authority

- The Hulmeville Municipal Authority, in conjunction with the Hulmeville Borough Council will be the organizations responsible for development and implementation of this alternative measure.

Section 8. Institutional Evaluation

A. The Hulmeville Municipal Authority along with the Hulmeville Borough Council is the municipal agent responsible for the implementation of the alternatives identified in this plan of study. The Hulmeville Municipal Authority presently carries no debt. The Hulmeville Municipal Authority, as of May 31, 2014 has approximately \$93,844.52 in a working Sewer Fund as well as approximately \$350,687.79 in its Sewer Account PLGIT fund.

B. The Hulmeville Municipal Authority is comprised of a five member Board. The Authority employs a

Certified Water Operator serving as the Water and Sewer Manager. The Authority also employs a

Billing Clerk and a Water Meter Reader.

C. The Hulmeville Municipal Authority has successfully served the residents of Hulmeville Borough since

its inception in 1961.

Section 9. Implementation Schedules

All implementation dates after Alternative 6.A.1. are tentative and may be adjusted or revised pending evaluation of the results of Alternative Measure 6.A.1.: Supplemental Hydraulic Flow Metering.

A. Conventional Collection, Conveyance, Treatment and Discharge Alternatives.

1. Alternative Measure: Supplemental Hydraulic Flow Monitoring

| Implementation Schedule: Supplemental Hydraulic Flow Monitoring | | |
|---|-----------------------------------|--|
| Activity | Start Date | Completion Date |
| Establishment of program requirements. | December 1, 2015 | February 28, 2016 |
| Evaluate and select areas of the borough to be monitored | March 1, 2016 | March 31, 2016 |
| Placement of meters in selected areas. | April 1, 2016 | April 15, 2016 |
| Collection of additional hydraulic flow data for selected areas complete. | April 16, 2016 | August 31, 2016 – November 30, 2016 |
| Evaluation of data and establishment of next steps. | December 1, 2016 | October 31, 2017 |
| Process repeats as needed. | | |
| Evaluation of Results. | Upon completion of previous steps | No more than 30 days after completion of previous steps. |

2. Alternative Measure: In Home Sump-Pump Inspection Program

| Implementation Schedule: In Home Sump-Pump Inspection Program | | |
|--|--------------|-----------------|
| Activity | Start Date | Completion Date |
| Bid package preparation and establishment of program requirements. | January 2017 | March 2017 |
| Subcontractor-Vendor Bid Evaluation. | March 2017 | April 2017 |
| Subcontractor-Vendor selection and notification. | April 2017 | May 2017 |
| Education & Information. | January 2017 | May 2017 |
| Inspection initiation. | May 2017 | December 2017 |
| Remediation of Violations. | June 2017 | March 2018 |
| Evaluation of Results. | April 2018 | April 2019 |

3. Alternative Measure: Sewer Lateral Inspection Program

| Implementation Schedule: Sewer Lateral Inspection Program | | |
|--|---------------|-----------------|
| Activity | Start Date | Completion Date |
| Bid package preparation and establishment of program requirements. | November 2016 | February 2017 |
| Subcontractor-Vendor Bid Evaluation. | March 2017 | April 2017 |
| Subcontractor-Vendor selection and notification. | April 2017 | May 2017 |
| Education & Information. | May 2017 | June 2017 |
| Inspection initiation. | June 2017 | October 2017 |
| Remediation of Violations. | July 2017 | April 2018 |
| Evaluation of Results. | May 2018 | May 2019 |

4. Alternative Measure: Capping/Covering/Raising of Sewer Lateral Vents & Selective Manhole Inserts

| Implementation Schedule: Capping/Covering/Raising of Sewer Lateral Vents and Selective Manhole Inserts | | |
|--|--------------|-----------------|
| Activity | Start Date | Completion Date |
| Bid package preparation and establishment of program requirements. | January 2017 | March 2017 |
| Subcontractor-Vendor Bid Evaluation. | April 2017 | May 2017 |
| Subcontractor-Vendor selection and notification. | May 2017 | June 2017 |
| Education & Information. | April 2017 | August 2017 |
| Inspection initiation. | June 2017 | September 2017 |
| Remediation of Violations. | July 2017 | December 2017 |
| Evaluation of Results. | January 2018 | January 2019 |

Section 10. No Action Alternative

Without the project, the flows into the Neshaminy Interceptor will continue to have spikes due to heavy precipitation events which may require the Bucks County Water and

Sewer Authority to have to incur additional capital costs to increase the size of the interceptor line or install a parallel line. Also, penalties may be imposed by the City of Philadelphia should flows at the Totem Road Pump Station increase beyond BCWSA's purchased capacity. These costs will likely be passed on to the various municipalities' tributary to the Neshaminy Interceptor. The cost of the selected phased approach to reduction of infiltration and inflow in the Hulmeville sewage collection system is likely to cost less than capital contributions and penalties imposed by BCWSA.

Section 11. Environmental Report

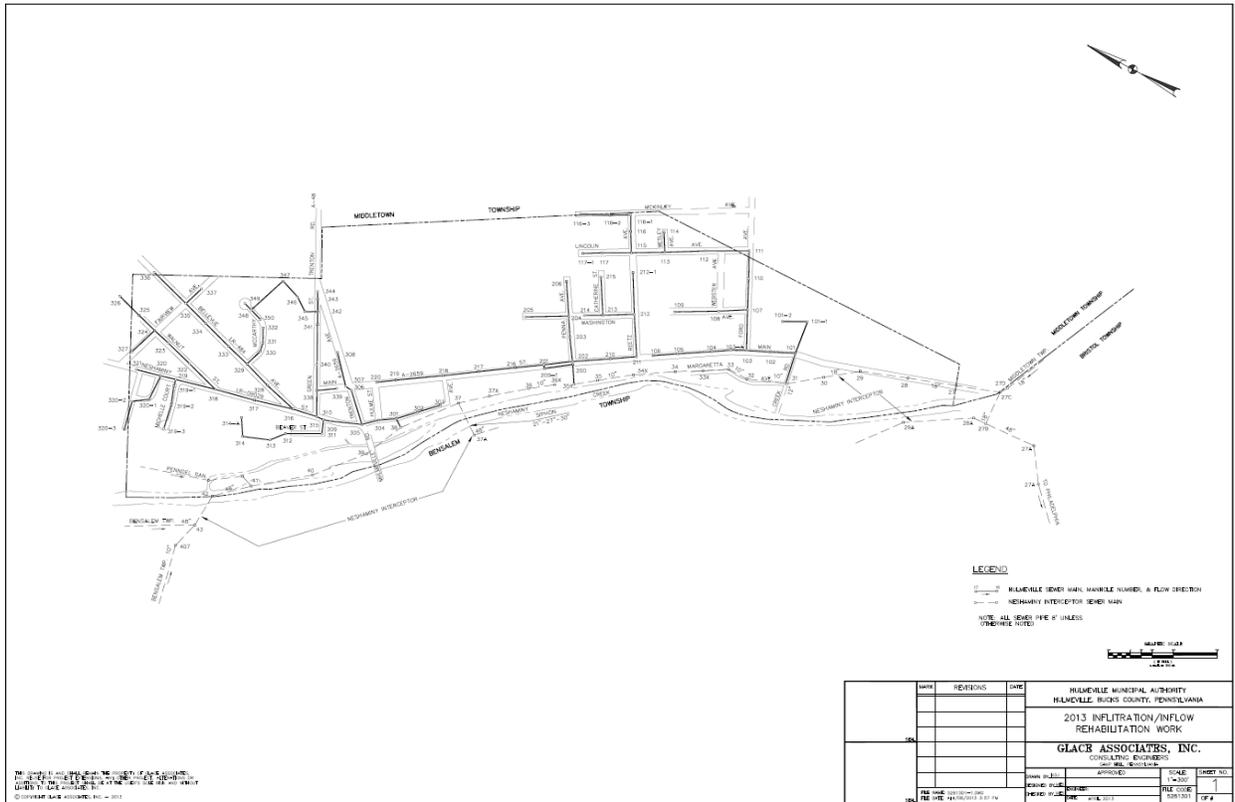
An Environmental Report (ER) will be included in the overall Act 537 Plan Revision for Bucks County Water and Sewer Authority. Hulmeville Borough and Hulmeville Municipal Authority do not currently plan to request funding through Pennvest, which requires additional environmental review than provided herein.

Section 12. Questions and Inquiries

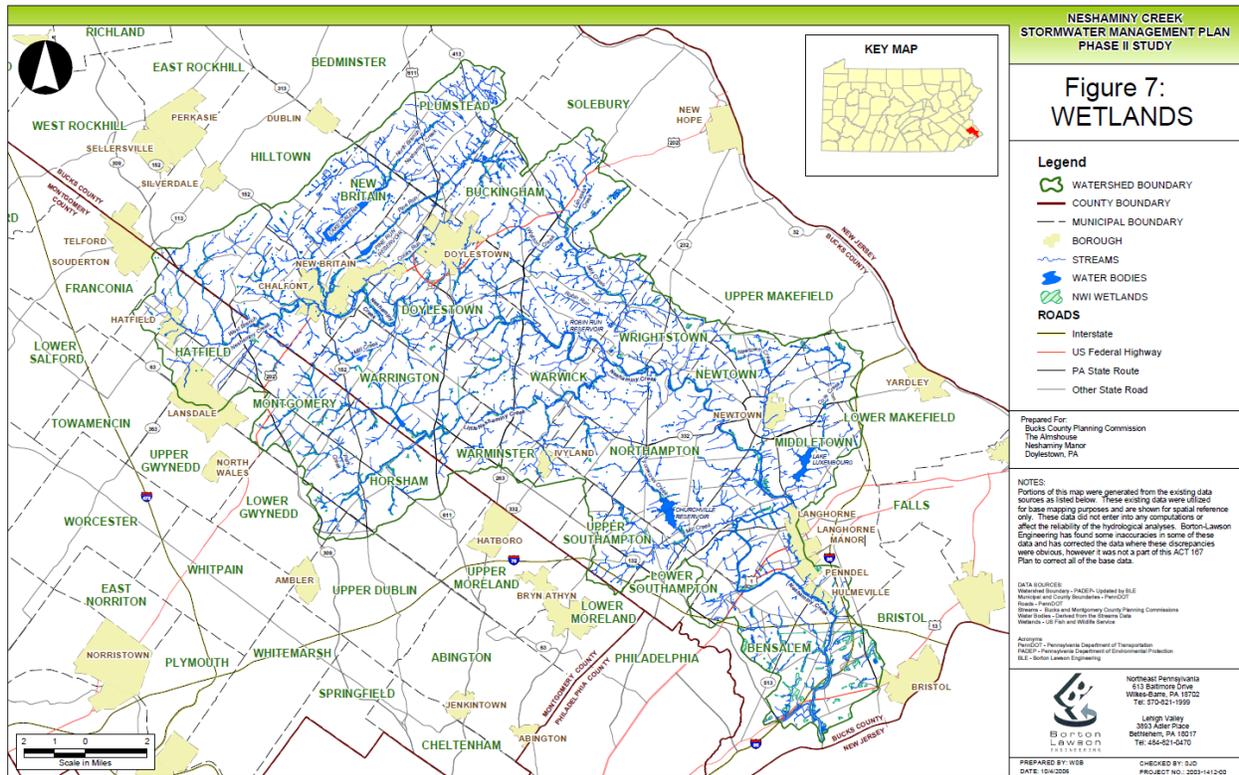
Hulmeville Municipal Authority
321 Main Street
Hulmeville, PA. 19047
Telephone: 215-757-6531

APPENDIX A. MAPS

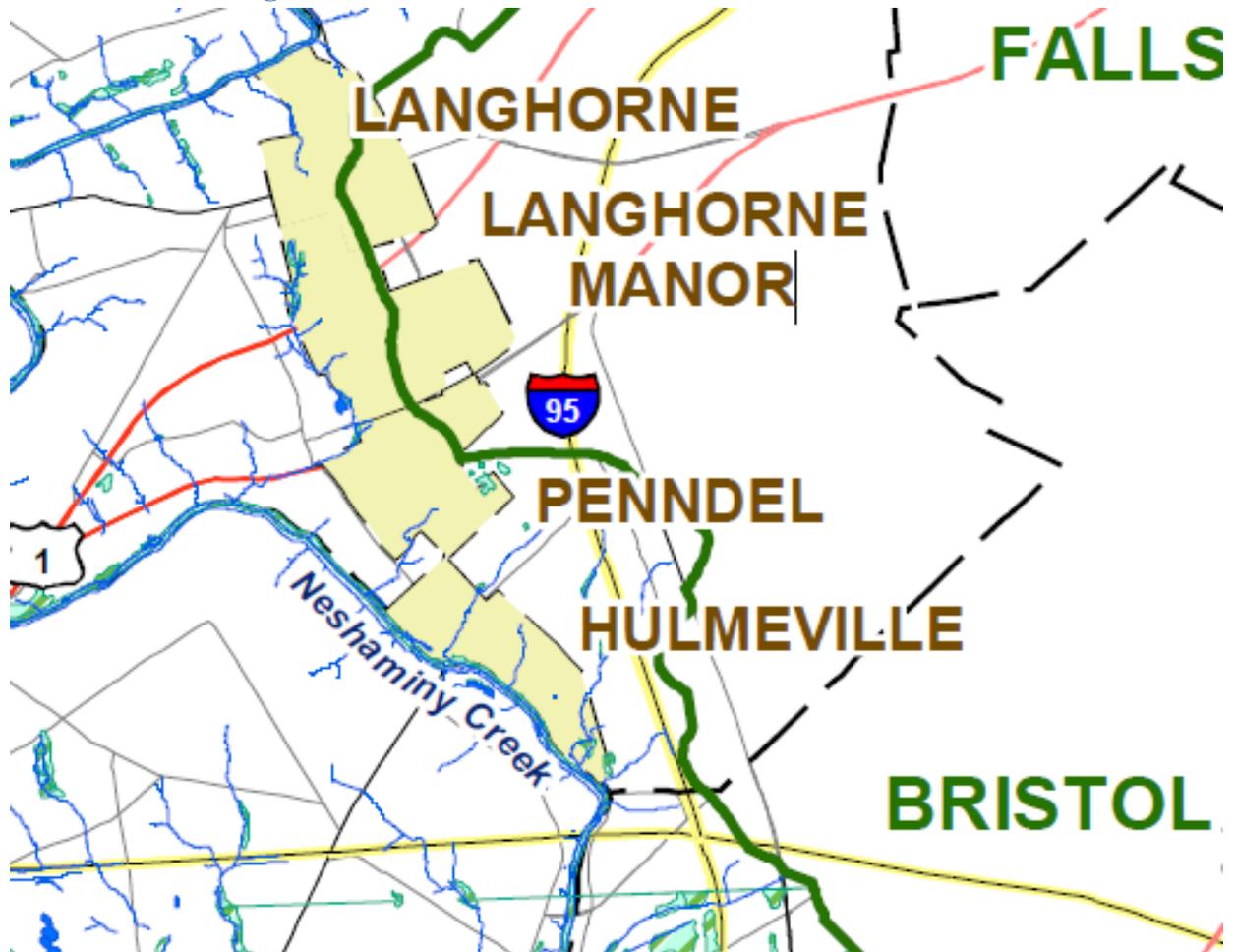
2013 Inflow /Infiltration Rehabilitation Work



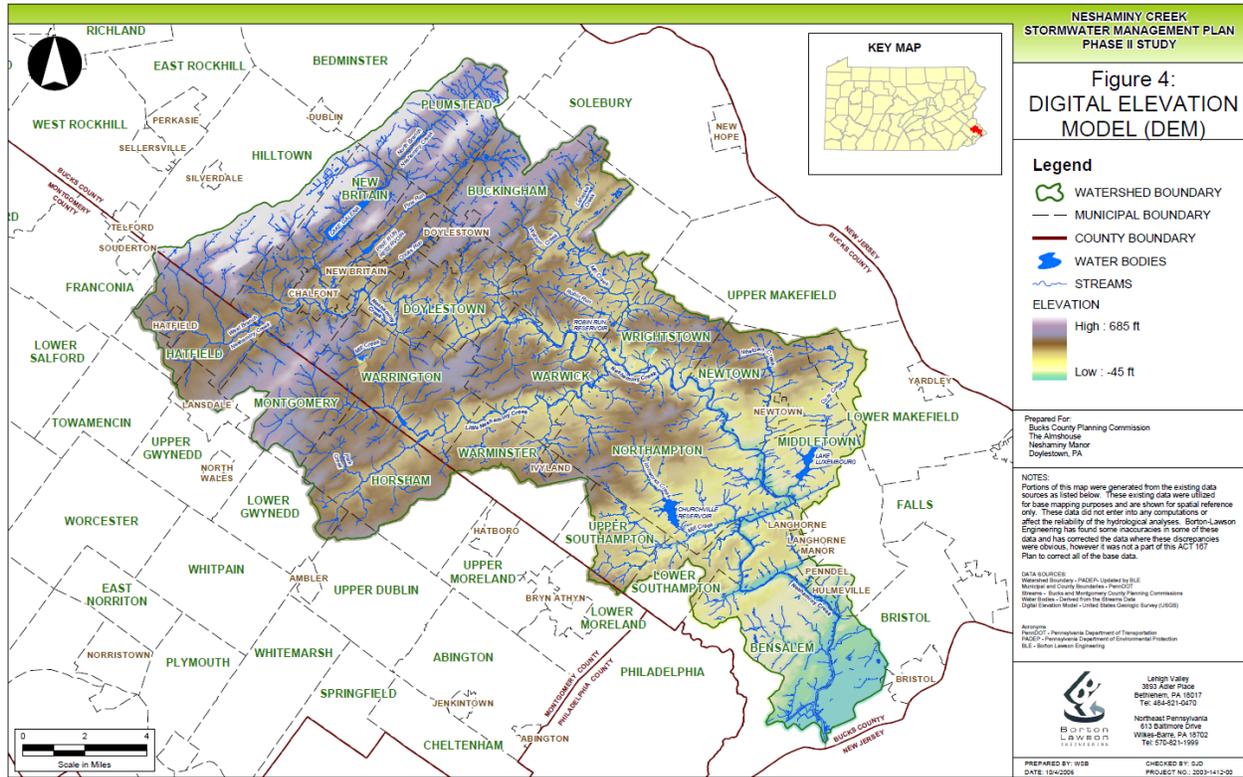
Wetlands



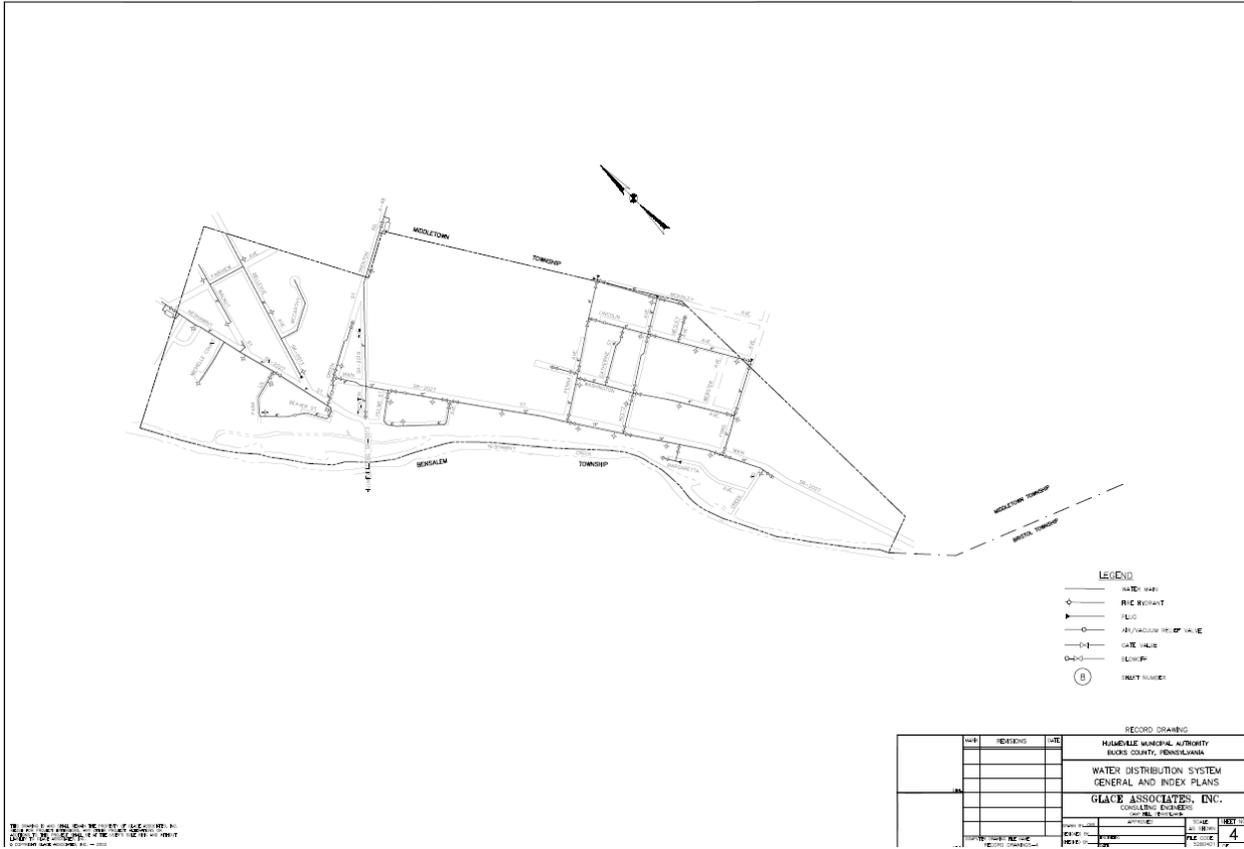
Wetlands – Enlarged



Digital Elevation Model



Water Distribution System



Hulmeville Borough Zoning Ordinance Map

