

The Borough of Newtown
Bucks County, PA

Act 537 Plan Special Study

February 2020

Introduction

The Borough of Newtown adopted an Act 537 Plan Revision in 2013. The chosen alternative in the Act 537 Plan Revision provides for the continued use and expansion of the Bucks County Water and Sewer Authority (BCWSA) Conveyance System. Since the adoption of the plan by the Borough in 2013 and the approval of the plan by the PA DEP in May 2014, a new Supplemental Agreement has been signed between the Newtown, Bucks County, Joint Municipal Authority (NBCJMA) and the BCWSA. A copy of the Supplemental Agreement is attached as Appendix A. This Act 537 Plan Special Study will amend the 2012 Plan Revision to incorporate the new agreement executed September 17, 2019, includes the NBCJMA I/I Program Update and incorporates the latest information from the BCWSA required by the PADEP.

Previous Wastewater Planning

No additional local or regional planning has occurred since 2013. Please refer to the December 2012 Act 537 Plan Revision, approved by PA DEP May 2014 for previous wastewater planning.

Physical and Demographic Analysis

No changes have occurred since 2013. Please refer to the December 2012 Act 537 Plan Revision, approved by PA DEP May 2014 for physical and demographic analysis.

Existing Sewage Facilities

No changes have occurred since 2013. Please refer to the December 2012 Act 537 Plan Revision, approved by PA DEP May 2014 for existing sewage facilities.

Future Growth and Land Development

No changes have occurred since 2013. Please refer to the December 2012 Act 537 Plan Revision, approved by PA DEP May 2014 for future growth and land development. A copy of the Neshaminy Interceptor connection management plan is attached as Appendix B.

Identify alternatives to provide new or improved wastewater disposal facilities

The alternatives have been identified in the Neshaminy Interceptor Evaluation for Municipal Planning in Lower Bucks County dated March 2015, revised September 2015 and last revised January 2016. A copy has been included as Appendix C.

Evaluation of Alternatives

The alternative evaluation is presented in the Neshaminy Interceptor Evaluation for Municipal Planning in Lower Bucks County dated March 2015, revised September 2015 and last revised January 2016. A copy has been included as Appendix C. The three alternatives that were evaluated are as follows:

1. Removal and replacement of the existing sewer with larger diameter pipe.
2. Installing a relief sewer alongside the existing interceptor.
3. Lining the existing interceptor.

The recommended alternative is the lining of the 30”, 33”, 36” and 42” portions of the Interceptor, plus lining the first 3,000 feet of 48” Interceptor plus construction of a relief sewer along the 54” portion of the Interceptor at an estimate cost of \$18,173,000 (2016 dollars) .

Included as part of any alternative is the NBCJMA I/I Remediation Plan Update. A copy is attached as Appendix D.

Institutional Evaluation

No changes have occurred since 2013. Please refer to the December 2012 Act 537 Plan Revision, approved by PA DEP May 2014 for existing sewage facilities.

Implementation Schedule and Justification for Selected Technical and Institutional Alternatives

The implementation schedule provided by the BCWSA is based on the PA DEP Plan Approval for the Neshaminy Interceptor Improvements is as follows:

54 Inch Interceptor Relief Sewer(**)

Design, Easements and Permits.....within 8 months

Bid, Award and Construction Completion.....within 18 months

30-inch, 33-inch, 36-inch, 42-inch and 48-inch Interceptor Lining (**)

Design, Easements and Permits.....within 12 months

Bid, Award and Construction Completion.....within 24 months

** Interceptor Manhole Inspections will be conducted during Interceptor Improvements. Manhole Defects identified during inspections will be scheduled for repair within 12 months of discovery.

Neshaminy Interceptor Improvements Financing

Improvements are being financed with Year 2015A Sewer Revenue Bond funds. The debt service for this Bond issue is included in the wholesale sewer rate as per the BCWSA.

Neshaminy Interceptor Improvements-Easement

As per the BCWSA, the construction of the 54-inch Interceptor relief sewer will require acquisition of additional easements adjacent to the existing sanitary sewer easement. Easements will be obtained from one or more private property owners and Bensalem Township, as required.

The installation of CIPP lining is expected to be conducted from existing right-of-ways and existing Interceptor easements. Temporary construction easements will be obtained, if needed.

Neshaminy Interceptor Improvements – PNDI and BHP

As per the BCWSA, it is anticipated the 54-inch Interceptor relief sewer will be installed utilizing directional drilling. Excavation areas will be identified in submittals to PNDI and BHP for their determinations.

No excavation is anticipated for installation of liners. If excavation is anticipated during the preparation of bid documents, those location will be identified in submittals to PNDI and BHP for their determinations.

APPENDIX A

SUPPLEMENTAL AGREEMENT
NESHAMINY INTERCEPTOR

THIS AGREEMENT, made and concluded this 17th day of September, 2019, by and between the **BUCKS COUNTY WATER AND SEWER AUTHORITY**, an authority organized and existing pursuant to the laws of the Commonwealth of Pennsylvania, maintaining a principal place of business in Warrington, Pennsylvania (hereinafter referred to as "BCWSA"), and **NEWTOWN, BUCKS COUNTY, JOINT MUNICIPAL AUTHORITY**, an authority organized and existing pursuant to the laws of the Commonwealth of Pennsylvania, maintaining a principal place of business in Newtown, Pennsylvania (hereinafter referred to as "Authority").

WHEREAS, BCWSA owns and operates the sanitary sewer collection facilities known as the Neshaminy Interceptor;

WHEREAS, BCWSA and the Authority have an existing Interceptor Agreement dated September 9, 1975;

WHEREAS, the improvements associated with the Neshaminy Interceptor include sanitary sewer pipes, pump stations, metering pits, manholes, and other facilities;

WHEREAS, the Neshaminy Interceptor conveys sanitary sewer flow (also referred to herein as "wastewater flow") from various municipalities and other entities located in portions of Bucks County to an interceptor owned and maintained by the City of Philadelphia, which said interceptor then conveys the effluent from the Neshaminy Interceptor to a sewer treatment plant owned and maintained by the City of Philadelphia;

WHEREAS, the City of Philadelphia treats the effluent discharged into the Neshaminy Interceptor pursuant to an Agreement between BCWSA and the City of Philadelphia (hereinafter

referred to as “City of Philadelphia Agreement”) which imposes limitations on BCWSA related to flows including peak wet weather flows. A copy of that Agreement is attached hereto, incorporated herein, and marked as Exhibit “A”;

WHEREAS, inflow and infiltration (hereinafter referred to as “I & I”) removal efforts undertaken as a whole by the contributing municipalities, authorities, and other users of the Neshaminy Interceptor have not been sufficient to reduce wet weather peak flows to acceptable levels consistent with the City of Philadelphia Agreement;

WHEREAS, the Pennsylvania Department of Environmental Protection (“DEP”) has determined and notified BCWSA that the municipalities, authorities, and other entities that contribute flow to the Neshaminy Interceptor need to increase their collective and singular efforts to reduce inflow and infiltration into the sewer effluent that is discharged in the Neshaminy Interceptor so as to reduce wet weather peak flows treated at the facilities owned and maintained by the City of Philadelphia;

WHEREAS, completing the tasks required by DEP, such as Act 537 Sewer Facilities Planning (“Act 537”) and as set forth in this Supplemental Agreement in compliance with the time limitations noted herein and pursuant to the BCWSA’s Connection Management Plan (“CMP”) and approved Corrective Action Plan (“CAP”), is essential to the economic vitality of all of the municipalities, authorities, and other entities served by the Neshaminy Interceptor, and is indicative of good environmental stewardship on the part of all of the participants in the Neshaminy Interceptor;

WHEREAS, DEP believes and avers that the Totem Road Pump Station, which conveys sewer flows from the Neshaminy Interceptor to the City of Philadelphia, may be hydraulically overloaded in the future and may exceed its permitted capacity;

WHEREAS, BCWSA had previously considered the construction of a surge tank to manage peak flows, but DEP was unwilling to approve the construction of a surge tank;

WHEREAS, DEP and BCWSA have entered into a Settlement Agreement where, in the resolution of the dispute, DEP requires that BCWSA enter into new supplemental agreements with its customers, which said agreements must impose upon such customers certain obligations as set forth in the CMP. An executed copy of the Settlement Agreement is attached hereto, incorporated herein, and marked as Exhibit "B";

WHEREAS, it has been recommended to BCWSA by its engineers, and approved by DEP, that certain improvements be made to the Neshaminy Interceptor by BCWSA so that BCWSA is able to convey additional wet weather flows in order to avoid surcharging within portions of the Neshaminy Interceptor;

WHEREAS, DEP has directed BCWSA to prepare a CMP for the years 2014 through 2018 which shall deal with inflow and infiltration abatement efforts in the Neshaminy Interceptor, collectively and/or singularly, and the release of capacity for member municipalities and authorities in order to facilitate new sewer connections;

WHEREAS, the most recent CMP that has been accepted by DEP, is incorporated by reference as though were fully set forth and is attached as Exhibit "C"; and

WHEREAS, this Supplemental Agreement is intended to set forth the terms and conditions upon which BCWSA will construct the Neshaminy Interceptor upgrades, the allocations of collective costs related to same, and the flow limitation obligations imposed upon the member municipalities and authorities as it relates to the CMP.

NOW, THEREFORE, intending to be legally bound and for other good and valuable consideration, the parties hereto agree as follows:

1. **Construction of Interceptor Upgrades.**

A. It is anticipated by the parties hereto that based upon the completion of the initial Act 537 Planning, as well as engineering studies conducted by BCWSA, and as required by the Settlement Agreement between DEP and BCWSA, certain portions of the Neshaminy Interceptor will be upgraded by BCWSA to facilitate sanitary sewer flows, which upgrades shall include, but not be limited to lining and the installation of relief sewers along a portion of the Neshaminy Interceptor. The initial improvements proposed to be constructed by BCWSA, as noted herein, shall be hereinafter referred to as the "Phase I" improvements. The parties acknowledge and agree that the Authority has submitted to BCWSA its Sanitary Sewer Needs Assessment, which assisted BCWSA in analyzing the capacity of the Neshaminy Interceptor. BCWSA has completed its alternative analysis for customer needs, and Phase I Interceptor upgrades shall consist of lining portions of the Neshaminy Interceptor and constructing relief sewer lines, all of which said costs shall be funded collectively through user fees. Inasmuch as the Authority has completed the requirement to provide its Sanitary Sewer Needs Assessment, sewer capacity for 2015 has previously been made available to the Authority.

B. Upon completion of the Act 537 Planning, as required by the Settlement Agreement between DEP and BCWSA, and after completion of an analysis of the DEP approved 537 Plans, submitted by the municipalities that contribute sanitary sewer flow to the Neshaminy Interceptor, the parties hereto acknowledge and agree that BCWSA and DEP intend to engage in further planning discussions for the purpose of determining what additional modifications or changes to the Neshaminy Interceptor may be required, in the future, by the Act 537 planning and by and through individual municipal efforts undertaken to remove inflow and infiltration in each of the municipal systems. To the extent that any additional non-maintenance improvements

are required to be made to the Neshaminy Interceptor, either by way of additional lining or the construction of relief sewers (“Improvements”), those future Improvements shall be hereinafter referred to as “Phase II” Improvements. The parties hereto agree to cooperate and meet to discuss any Phase II Improvements or upgrades or any modifications or changes dictated by the Authority’s current and/or future Act 537 data or planning submitted to DEP. All Phase II and subsequent Improvements to the Neshaminy Interceptor, or in the event any changes are made to the methods to determine peaking factors, calculating flow limits, or apportioning penalties and fines under this Supplemental Agreement, shall be subject to a discussion in good faith between both parties causing a further amendment to this Supplemental Agreement, as needed.

2. **Act 537 Sewer Facilities Planning.** The Borough and Township prepared and submitted for DEP approval an Act 537 Plan of Study outlining the steps to complete an update to their Act 537 Plans. As such, the municipalities did receive connections for 2015. In addition, the Borough and Township, by and through the Authority, have submitted their projection of capacity needs for the next five years. The Authority shall continue to advise both BCWSA and DEP of its sewer capacity needs as such information concerning future sewer connections is made available to the municipalities and Authority. Along with efforts made by the Authority to supply information related to sewer capacity needs and planning, the Authority shall take immediate steps to meet all requirements associated with implementation of the Borough and Township’s Act 537 Plans and shall report progress regarding same to DEP and BCWSA to demonstrate its quantitative efforts to comply with peak flows pursuant to BCWSA’s obligations in the City of Philadelphia Agreement. As such, this Supplemental Agreement shall not limit the municipality’s or authority’s rights and obligations under Act 537 to address changed circumstances in the municipality’s sewer requirements. To that extent, this

Supplemental Agreement shall not be considered a final document and shall be revised or amended as needed consistent with changed circumstances, including but not limited to, Act 537 sewer planning requirements and the quantitative efforts demonstrated by and through actions taken in furtherance of and compliance with the Act 537 Plan, as approved by DEP.

Further, upon compliance with the Authority obligations under this Supplemental Agreement, the Authority and any other Neshaminy Interceptor customer will project capacity needs within the 5-year projection of their Chapter 94 report. If, as a result of those projections, BCWSA predicts a capacity shortfall, BCWSA will commence with engineering studies and planning to evaluate providing additional capacity in the Neshaminy Interceptor and/or WWTP facilities to provide such capacity. Should BCWSA be unable to provide the requested capacity, the Authority may amend its Act 537 Plan to allow for alternative options of sewage conveyance and treatment. Alternative options may be solely undertaken provided that the then current flow, which the Authority is obligated under agreement to convey through the Neshaminy Interceptor, shall continue without interruption.

3. **Peak Flows.** The Authority agrees that it will maintain flow limits consistent with the Agreement between BCWSA and the Philadelphia Water Department, a copy of which is attached hereto, incorporated herein, and marked as Exhibit "A," on a prorated basis, which said flow limits shall include average annual, maximum daily, and instantaneous peak flows, which said flows shall be maintained by the Authority at the limits identified in the attached Exhibit "D." Neither this Supplemental Agreement nor the parties' original Neshaminy Interceptor Participation Agreement shall prevent the Authority from amending its Act 537 Plan to explore alternative options for collection and treatment of its flows, to the extent permitted by DEP, subject to approval of any other regulatory agencies having jurisdiction thereto, and

pursuant to laws and regulations regarding same; however, nothing in the preceding sentence shall relieve the Authority of its obligation to pay for any outstanding bonds, which it is or may be responsible as it relates to improvements to the Neshaminy Interceptor or related facilities. The Authority will not be responsible for any further debt related to any acquisitions that have been undertaken by BCWSA or to support its retail system.

For the purpose of determining compliance with the peak flow (PWD), as noted in Exhibit "D," the peak hourly flow will be used. In furtherance of the standard DEP design requirements for Interceptors, the Authority shall also maintain flow limits in accordance with the chart attached hereto as Exhibit "E" and incorporated herein by reference. Compliance with the flow limits required by the DEP design requirements for Interceptors shall be a condition precedent to receiving additional connections, as noted hereafter in this Supplemental Agreement. For the purpose of determining compliance with the peak instantaneous flow limits (DEP), as noted in Exhibit "E," the peak hourly flow will be used. Irrespective of the flow limits imposed in Exhibit "E," the Authority will still be obligated to implement a DEP approved Inflow and Infiltration Abatement Plan that will allow it to come into compliance with the flow limits in Exhibit "D" on the schedule set forth in the DEP approved CAP/CMP/I & I Abatement Plan, as may be amended in the future, such that the contractual obligations to the City of Philadelphia are met.

Should the Authority not meet its flow limits with respect to the obligations to the City of Philadelphia, there shall be no consequences, financial or otherwise, to the Authority for not meeting its flow limitations unless exceedances by the Authority cause a fine, penalty, or assessment to be levied upon BCWSA by the City of Philadelphia. If the Authority is not meeting its flow limitations, as defined by this Supplemental Agreement, and the failure to meet

the flow limitations causes or contributes to a capacity exceedance in the Neshaminy Interceptor system or causes or contributes to an exceedance of the City of Philadelphia Agreement flow limitations, the consequence to the Authority shall be that no additional connections will be permitted until the flow exceedance has been addressed, in addition to any penalties that may be appropriate under this Supplemental Agreement.

Should any fines, penalties, or assessments be levied by the City of Philadelphia, then the provisions of paragraph 6 of the Agreement shall determine the proportionate share to be paid by each Customer, as noted in Paragraph 6 of this Agreement.

The parties acknowledge that the Authority has submitted and substantially updated the projection of capacity needs for the next five (5) years. It is understood and agreed that the approval and execution of this Supplemental Agreement is a condition precedent to receiving any connections for 2016 to be utilized by the Authority.

Subsequent to 2018, the allowances for average annual, maximum daily, and peak hourly flows generated by the Authority will be based upon average flow, maximum daily, and peak hourly flow limits, which shall be adjusted annually based on DEP's Chapter 94 reporting methodology, which is based on a five (5) year rolling average. Any of the aforementioned flows generated by the Authority will be increased by the number of EDUs of additional capacity added to the Neshaminy Interceptor as a result of new connections made to the sanitary sewer system in the Authority.

In order to be allocated the additional connections, it shall be a condition precedent that the Authority shall notify, in writing, BCWSA of the location of the connections, the number of connections, the EDUs related thereto, and the timing of any new connections subsequent to 2018. The execution of this Supplemental Agreement and/or the approval of an Act 537 Plan

does not constitute an automatic guaranty of capacity. Capacity will be made available to all contributors to the Neshaminy Interceptor on a first-come/first-serve basis.

Every application for an additional connection or connections related to a new project shall require either a full planning module or a planning exemption that includes the appropriate certifications of capacity from the authority, municipality, BCWSA, and the City of Philadelphia. The applicant must provide documentation that the planning module or planning exemption request has been approved by DEP. Alternatively, the applicant may provide documentation that DEP has waived planning for the project. As mentioned previously, provided that the Authority is in compliance with the Authority's I & I abatement program, additional capacity in the Neshaminy Interceptor shall not be unreasonably withheld, provided that the Authority has not caused or contributed to a capacity exceedance in the Neshaminy Interceptor system or caused or contributed to an exceedance of the City of Philadelphia Agreement flow limitations. There shall be a further condition precedent with respect to the allocation of any additional capacity to which shall be that the Authority is in compliance with its DEP approved I & I abatement program, which shall be determined by DEP.

BCWSA will, however, monitor compliance with the I & I abatement program in connection with reviewing and monitoring flow limitations. Notwithstanding compliance with the aforementioned, no additional capacity will be allocated unless the Neshaminy Interceptor is capable of appropriately conveying the additional capacity to the City of Philadelphia for ultimate treatment.

Flow surcharges will be based upon the flow limitations noted on Exhibit "D."

4. **Future Capacity.** No capacity in 2018 and beyond shall be made available to the Authority unless the Authority is meeting its current inflow and infiltration goals as set forth in a

DEP approved Inflow and Infiltration Abatement Plan provided that the Authority has not caused or contributed to a capacity exceedance in the Neshaminy Interceptor system or caused or contributed to an exceedance of the City of Philadelphia Agreement flow limitations. It is understood and agreed that the obligations of the Authority, pursuant to the schedule in the DEP approved CAP/CMP/I & I Abatement Plan, as may be amended in the future, shall reach the point where its maximum daily flow is not to exceed 1.4 times its 5-year average annual flow limit based on DEP methodology and a peak flow of 2.5 times their 5 year average annual flow limit based on DEP methodology as noted in Exhibit "E." Notwithstanding the capacity limitations related to the CMP, the Authority will still be required to implement a DEP approved Inflow and Infiltration Abatement Plan that will allow it to comply with flow limits, as set forth above, which are based on BCWSA's obligations with the City of Philadelphia Agreement.

5. **Corrective Action Plan/Connection Management Plan.** The terms and conditions of the CMP between BCWSA and DEP, as well as any CAP, are incorporated by reference as though more fully set forth at length.

6. **Fines and Assessment of Costs.** Should the City of Philadelphia, the United States Environmental Protection Agency, the Pennsylvania Department of Environmental Protection, or any other governmental agency impose upon the BCWSA any fines or claims for additional cost due to the conveyance of peak flows in excess of the limitations imposed pursuant to the City of Philadelphia Agreement, the Authority shall be responsible for its proportionate share of said costs if, and only if, the Authority has exceeded its capacity as set forth in this Supplemental Agreement. The share of penalty allocated to the Authority will be based on the proportionate share of the total flows in the Neshaminy Interceptor attributable to the Authority's proportionate use. The determination of the Authority's proportionate share shall

be based upon meter readings, which said meters measure the flow from all of the participants in the Neshaminy Interceptor, and said meters for all of the participants are of similar capability to measure wastewater flow entering the Neshaminy Interceptor. Said meters are owned and maintained by BCWSA. The meters measuring flows from the Authority were transferred to BCWSA by Agreement dated January 2, 2018.

If fines or penalties or other claims for additional costs are imposed upon the BCWSA, the method of determining the proportionate share to be paid by the Authority shall be based upon meter readings as described in the paragraph above or upon EDU estimates of wastewater flow where accurate meter measurements are not practical, and such readings and/or estimates are taken at the time of the event which triggers the assessment of additional costs, fines or penalties. The exceedance charge from the Philadelphia Water Department will be distributed to each municipality, authority or other entity (each individually a “Customer” or collectively, “Customers”) that exceeds its allowable flows based upon its proportion to the total flow exceedance. The calculation would be as follows:

Customer Share of Surcharge (\$) = (Total of Customer Daily Flow Exceedances for Billing Period (MG) / Sum of all Customers’ Daily Flow Exceedances for Billing Period (MG)) X PWD Surcharge Amount (\$) for Billing Period

AN EXAMPLE OF THE PENALTY CALCULATION IS PROVIDED IN EXHIBIT “F.”

7. **Meters.** The requirement to provide data, calibration, inspection, and the like of the meters measuring the flow from the Authority is referenced in the Agreement between BCWSA and the Authority dated January 2, 2018, which said Agreement is incorporated by reference as though it is fully set forth at length.

8. **Inspections.** BCWSA and the Authority shall provide to each other, from time to time, all information relevant and appropriate to the proper administration of the provisions of

this Supplemental Agreement. Any inspections to be undertaken by any party to this Supplemental Agreement, in accordance with the provisions of this paragraph, shall be conducted at reasonable times and with reasonable notice. Complete records of any inspections will be provided to the other party herein within 30 days of the date of any such inspection, with the exception of the inspection reports discussed in Paragraph 7 above.

9. **Capacity.** The parties hereto acknowledge and agree that future sewer capacity is subject to regulations of the City of Philadelphia and DEP. Accordingly, events may occur to prompt the City of Philadelphia and/or DEP to restrict future sanitary sewer connections to the Neshaminy Interceptor.

10. **Force Majeure.** Notwithstanding any other provisions of this Supplemental Agreement, neither BCWSA nor the Authority are responsible for any damages to the other for any failure to comply with this Agreement resulting from an act of God or riot, sabotage, public calamity, flood, strike, breakdown of facilities or common transportation facilities, or any other event beyond its reasonable control. For the purposes of this Agreement, a flood or storm that constitutes a force majeure would be a storm named by an agency of the Federal government. The party having the responsibility for the facility so affected, however, shall proceed promptly to remedy the consequences of such event, with such costs to be shared in accordance with the terms and conditions of this Supplemental Agreement or the original Neshaminy Interceptor Agreement between the Authority and BCWSA for the Neshaminy Interceptor. Notwithstanding anything herein to the contrary, if a force majeure event occurs that causes the City of Philadelphia to take any enforcement action against BCWSA or issue any fines/penalties/assessments against BCWSA in accordance with the provisions of the City of Philadelphia Agreement, then the Authority cannot rely on this provision as a defense to a claim

by BCWSA of a breach of this Supplemental Agreement arising from the same force majeure event.

11. **Default.** In the event of a breach of this Supplemental Agreement by either party, the other party may resort to whatever remedies are available, at law or equity, to enforce this Supplemental Agreement. The parties, by executing this Supplemental Agreement, acknowledge and agree that monetary damages are not an adequate remedy so either party may resort to a court of equity in order to enforce the provisions of this Supplemental Agreement and to compel compliance by the defaulting party.

12. **Severability.** Should any provision herein or for any reason be held illegal or invalid by a court of competent jurisdiction, no other provision of this Supplemental Agreement shall be affected as the Supplemental Agreement would have been executed even if such invalid or illegal provision had not been contained herein.

13. **Other Agreements.** This Supplemental Agreement shall not limit BCWSA from entering into other agreements with other municipalities or municipal authorities, but if any such agreement contains terms, standards, and/or conditions more favorable to the municipality or municipal authority, then the terms, standards, and/or conditions of the more favorable terms shall be extended, granted, conferred, or otherwise provided to the Authority.

14. **Effective Date.** The Effective Date shall be the date of the execution and delivery hereof by the parties hereto.

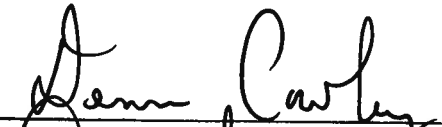
15. **Waiver.** If any party to this Supplemental Agreement does act and insist upon strict performance of this Supplemental Agreement or any other terms, conditions, or otherwise, same shall not be considered as a waiver of any of the rights hereunder.

16. **Interpretation.** This Supplemental Agreement shall be interpreted in accordance with the laws of the Commonwealth of Pennsylvania and shall be binding upon the respective parties, its successors, and assigns and may not be assigned to any third party without the written consent of the other party hereto, which consent shall not be unreasonably withheld. This Supplemental Agreement shall be interpreted as an amendment or supplement to any and all existing agreements by and between BCWSA and the Authority related to the Neshaminy Interceptor and is not meant to be a replacement of the aforementioned agreements.

17. **Disputes.** If the parties cannot resolve the matter, then the dispute shall be resolved in accordance with the resolution process noted in Exhibit "G" of this Agreement, which is attached hereto and incorporated by reference. To the extent any disputes arise pursuant to the terms and conditions of this Supplemental Agreement and cannot be resolved by the parties, such disputes shall be litigated in the Court of Common Pleas of Bucks County.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the parties hereto have caused this Agreement to be executed, under seal, by affixing their respective hands and seals on the day and year first above written.

BUCKS COUNTY WATER AND SEWER AUTHORITY

By:  _____

Attest:  _____

NEWTOWN, BUCKS COUNTY, JOINT MUNICIPAL AUTHORITY

By:  _____

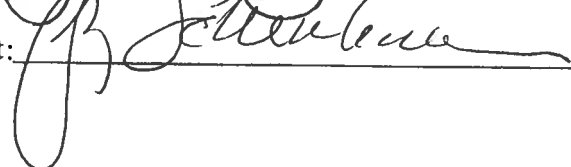
Attest:  _____

EXHIBIT A
AGREEMENT BETWEEN BUCKS COUNTY WATER AND SEWER AUTHORITY AND
CITY OF PHILADELPHIA

AGREEMENT

This Agreement, made this 5th day of February, 1988 and effective as of January 1, 1988 by and between the City of Philadelphia, hereinafter called "City", and the Bucks County Water and Sewer Authority, hereinafter called "Authority".

WITNESSETH:

WHEREAS, City owns and operates wastewater collection and treatment facilities to convey, treat and dispose of wastewater its by-products, including sludge, collected from retail customers within the City and from outlying municipalities, townships, authorities and entities including Authority; and

WHEREAS, City desires to reserve wastewater treatment capacity for wholesale suburban customers at its Northeast Water Pollution Control Plant (the "Plant") on a long term basis to ensure the most efficient use of the City's resources and facilities, and to provide full and fair compensation to City; and

WHEREAS, the Council of the City of Philadelphia has by Ordinance, Bill No. 1129, May 20, 1987, directed the Water Commissioner to enter into new agreements for the sale of wastewater treatment service to suburban communities; and

WHEREAS, Authority desires to acquire wastewater treatment capacity from City at the Plant to ensure a sufficient wastewater treatment capacity for the communities it serves; and

WHEREAS, the Plant has limited capacity and City has other suburban customers who purchase wastewater treatment service from City; and

WHEREAS, Authority agrees to pay for its reserved wastewater treatment capacity in accordance with this Agreement;

NOW, THEREFORE, intending to be legally bound and in consideration of the mutual covenants contained in this Agreement, the parties agree as follows:

I. WASTEWATER QUANTITY AND QUALITY

A. Reservation of Capacity - City shall reserve wastewater treatment capacity for the Authority at the Plant as set forth in Exhibit "A" attached hereto and incorporated herein ("Flow and Loadings Limits") commencing on the date of this Agreement.

B. Capital Contribution - Upon execution of this Agreement, in consideration of the reservation of capacity at the Plant, Authority shall pay ELEVEN MILLION NINE HUNDRED THOUSAND DOLLARS (\$11,900,000.00) to City for net cost to City for wastewater conveyance and treatment facilities, systems and equipment completed prior to July 1, 1986 and allocated to the service of Authority under the terms and conditions stated herein plus THREE HUNDRED AND SEVENTY-THREE THOUSAND DOLLARS (\$373,000.00) for wastewater conveyance and treatment facilities, systems and equipment allocated to the service of Authority as stated herein and completed as of December 31, 1987. These sums plus any additional sums

paid to City by Authority for facilities, systems and equipment allocated to Authority under this Agreement shall be referred to as Authority's "Capital Contribution."

C. Pro-rata Share of New Facilities and Renewal and Replacement -

(1) Authority agrees to pay to City its pro-rata share as calculated by City of costs for capital expenditures for renewal and replacement of facilities, and for new facilities, excepting however, new facilities which are intended solely to increase the capacity of the Plant. The costs to be allocated shall be net of grants ^b or other reimbursement from the federal or state government. City shall provide Authority with a Facilities Capital Budget not later than thirty (30) days before the beginning of City's Fiscal Year to notify Authority of its share of the cost of capital improvements and renewal and replacement.

(2) Authority agrees to pay actual costs of capital improvements or renewal and replacement within sixty (60) days of receipt of the bill. In the event that Authority does not pay the bill when due, late charges will accrue in accordance with Section II.B., below.

D. Change in Capacity -

(1) Authority agrees that if the capacity of the Plant is upgraded or downgraded by Federal or State agencies or regulations or if City is directed to acquire additional facilities by Federal or State agencies or regulations,

Authority will pay any costs associated with its revised pro-rata share of capacity as calculated by City. Nothing in this Section I.D. shall serve to revise Authority's flow and loadings limits as set forth in Exhibit A attached hereto and incorporated herein ("The Flow and Loadings Limits Addendum").

(2) In the event that City has excess capacity available, City shall offer it to its suburban customers on a first come, first serve basis. If Authority desires to purchase such excess capacity, it agrees to pay rates and charges then in effect for such capacity, to make a capital contribution therefor and to terms consistent with this Agreement. Nothing in this Section I.D shall be construed as binding upon either party to agree to modify this Agreement, the Flow and Loadings Limits Addendum or binding upon the City to have additional capacity available.

E. Exceedance Charges -

(1) Flow and Loadings Limits - The wastewater delivered by Authority to City shall not exceed the limitations set forth in the Flow and Loadings Limits Addendum. For the purpose of this Agreement the term "Flow Limits" shall mean the maximum amount of wastewater as measured in millions of gallons per day which may be delivered to City for treatment in a given period of time and the term "Loadings Limits" shall mean the maximum biochemical oxygen demand ("BOD") loadings and suspended solids ("SS") loadings which shall be delivered to City for treatment annually.

(2) The Flow Limits shall be as set forth in the Flow and Loadings Limits Addendum. The Flow Limits for "Stage 1" shall remain in effect until acceptance of wastewater flow by City via the Force Main as set forth in Section IV.O, below. Thereafter, the Flow Limits for "Stage 2" shall govern this Agreement.

(3) The "Loadings Limits" for SS and BOD shall be as set forth in the Flow and Loadings Limits Addendum.

(4) Exceedance Charges - City shall estimate or measure the quantity and sample the quality of Authority's wastewater flow. Authority shall be liable to pay penalties to City for exceedances of agreed-upon Flow Limits and Loadings Limits as set forth in the Flow and Loadings Limits Addendum and the "Exceedance Charges Addendum" (attached hereto and incorporated herein as Exhibit "B").

(5) Plan to Eliminate Exceedances - In the event that Authority's wastewater flow exceeds the Flow Limits set forth in the Flow and Loadings Limits Addendum on five (5) or more occasions in one calendar year or eight (8) or more occasions in two consecutive calendar years, or ever exceeds the maximum annual average, or if Authority exceeds the Loadings Limits, either for BOD or SS, Authority agrees:

a) That upon written notice of exceedances from City, Authority shall develop and submit to City within one hundred and eighty (180) days of written notice a written report detailing a plan of action to eliminate the exceedances within five (5) years from the date of sub-

mission of the written report. City shall promptly approve or disapprove the plan. Approval of the plan outlined in the report will not be unreasonably withheld. City shall notify the Authority in writing within sixty (60) days of receipt of the plan of approval or disapproval and shall include reasons for failure to approve.

b) If Authority fails to submit a report outlining a plan to eliminate exceedances, or if City cannot approve such a plan, Authority shall be liable to City for a penalty of One Thousand Dollars (\$1,000.00) per week until such time as Authority submits a plan which City can approve.

II. WASTEWATER TREATMENT CHARGE

A. Wastewater Treatment Charges - Authority agrees to pay wastewater treatment charges. The wastewater treatment charges shall consist of:

(1) An operation and maintenance charge based upon actual or estimated wastewater flows and actual or estimated BOD and SS Loadings of wastewater delivered to the Plant by Authority. The operation and maintenance charge shall be based upon the cost (as defined below at Paragraph II.A. (3)) of conveying and treating wastewater delivered by the Authority. Such charges shall be based upon quantity, quality and flow rates of wastewater delivered as well as charges based upon billing, metering, sampling and other related

fixed costs.

(2) A management fee equal to ten percent (10%) of the charges set forth in paragraph (1).

(3) For the purpose of this Agreement the term "Cost" shall include all direct and indirect expenses, including but not limited to, labor, materials, equipment, power, chemicals, rentals, benefits and departmental overhead. Departmental overhead shall include, but not be limited to, such items of cost as administrative, financial, legal, accounting and engineering support.

(4) Authority shall have the right upon written request to review City's method of computing and allocating the cost of providing wastewater treatment service to Authority.

B. Billing and Penalties for Late Payment -

(1) Upon the execution of this Agreement, City shall render bills to Authority on a quarterly basis for the charges set forth in this Agreement. City reserves the right to bill Authority on a more or less frequent basis in the future.

(2) Bills shall be payable to City by Authority within thirty (30) days of receipt of bill by Authority. Authority shall notify City in writing of disputed charges prior to their due date. Authority may withhold payment of disputed charges, but in the event the dispute is resolved in favor of City, payment withheld shall be subject to late fees running from the original due date for said charges. In no event

shall City be liable to Authority for payment of interest or late fees of any nature on disputed charges.

(3) Late fees at the rate of one and one-quarter percent (1-1/4%) per month simple interest shall be added to any balance unpaid thirty (30) days after billing.

(4) City, upon six (6) months prior written notice to Authority, may increase or decrease late fees to a level reflecting additional or decreased costs incurred by City.

C. Notice of Changes in Rates - City shall provide notice to Authority of any change in rates or billing practices at least ninety (90) days in advance of the effective date of such new rates or practices.

III. CONSTRUCTION, OPERATION AND MAINTENANCE OF AUTHORITY'S CONVEYANCE SYSTEM AND RELATED MATTERS

A. Design and Construction of Sewers - Authority shall design, construct, own, operate and repair at its sole cost and expense sanitary sewers and connections to the City system necessary to convey its wastewater to the City limits.

B. Approved Connection Points - The locations of approved points of connection and provisions concerning these connections are described in Exhibit "C", attached hereto and incorporated herein (the "Connection Points"). No additional Connection Points shall be made without prior written approval from City acting through its Water Commissioner.

C. Plan to Eliminate Unauthorized Discharge - If any of Authority's Connection Points are determined by the City or any governmental regulatory agency to be maintenance problems or sources of unauthorized discharges, Authority agrees to immediately submit a plan to City outlining action to be taken to eliminate within forty-five days of written notification the problem or unauthorized discharge. City shall promptly approve or disapprove said plan. Any action taken pursuant to this section III.C. shall be at the sole expense of Authority.

IV. FORCE MAIN EXTENSION

A. Authority to Construct Force Main - Authority agrees to construct an extension of its connection piping and necessary appurtenances into City (the "Force Main") to reconnect with City's Upper Delaware Low Level Interceptor System in the vicinity of State Road and Shelmire Avenue in a location to be approved by City after completion of a route feasibility study performed at the sole cost of Authority.

B. Rights of Entry - For the purpose of constructing the Force Main, City shall assist Authority in acquiring rights of entry, easements and rights of way upon land necessary for construction of the Force Main. Rights of way or easements on land for which the City does not hold title required to construct the Force Main shall be acquired at the sole cost of Authority, City assisting in such acquisitions where possible.

C. Right to Revoke - In the event the Force Main is located within any City street and if such City street is needed

for a public purpose, City shall have the right upon twelve months prior written notice to Authority, to revoke or modify any right to place the Force Main within City's streets. In the event City exercises this right of revocation or modification, Authority shall, at its sole cost and expense:

1) Promptly relocate the Force Main according to the directions and requirements of City and restore the surface of the affected streets; or

2) with City's approval, not unreasonably withheld, pay City the increased cost of any project constructed by City in a different location as a result of Authority's failure to make such relocation.

D. Authority to Pay for New Sewer - Authority at its sole expense, shall construct the Force Main in the route to be approved by City in accordance with City's Standard Specifications, where applicable. Authority shall pay all construction expenses relating to the Force Main, including, but not limited to, design, preparation of plans and drawings, construction, and "as-built" plans. Authority shall also pay City for consultation with City's personnel and reasonable costs incurred by City in connection with City's periodic inspection, repair and testing of the Force Main.

E. Review - City shall have the right to review from time to time, plans, shop drawings, materials, workmanship and contract drawings for the Force Main.

F. Other Required Approvals - Any review by the Water Commissioner ("Commissioner") shall not be deemed to constitute approval required by any other department, board or commission of City, including, but not limited to, the Department of Licenses and Inspections and the Streets Department.

G. Emergencies During Construction - City shall have the right throughout the construction of the Force Main to take steps deemed necessary by the Commissioner to alleviate any emergency or potentially hazardous condition or conditions threatening public health, safety or welfare.

H. Drawings - Upon completion of the Force Main, Authority shall deliver to City a full set of shop drawings and "as-built" plans.

I. Materials and Workmanship - The materials used in the Force Main shall conform to the requirements of the plans and specifications and shall be well adapted for the kind of service required. The work shall be of first class construction, free from defects and the work shall be performed in a good and workmanlike manner.

J. Defective Work or Material - Authority shall remove, at its own expense, any work or material judged by City as defective or not in accordance with the plans and specifications and shall reconstruct, rebuild and replace the same until such time as City shall approve the work or material.

K. No Representation or Warranty by City -

(1) Notwithstanding anything contained in this Agreement, any review and/or approval by the City, or acceptance of the Force Main by the City, shall not constitute any representation, warranty or guarantee by City as to the substance or quality of documents, work or other matter reviewed, approved or accepted. No person or firm may rely in any way on such approval and at all times Authority and Authority's agents, contractors and subcontractors must use their own independent judgment as to the accuracy and quality of all such documents and other matters.

(2) The presence of City's representatives during construction shall not lessen the obligation of Authority for construction in accordance with the plans and specifications, free of defects.

L. Insurance -

(1) Prior to the commencement of construction of the Force Main and until one (1) year after acceptance of wastewater flow via the Force Main, Authority shall obtain and maintain in full force and effect or cause its contractor to obtain and maintain in full force and effect: (i) A policy or policies of comprehensive general liability and property damage insurance, with broad form endorsement, protecting Authority and City against all claims, suits and actions, for or on account of any damage or injury to property or persons, including death, arising out of this Agreement and the con-

struction contemplated by this Agreement. The insurance policy or policies shall be in the minimum aggregate amount of Two Million Dollars (\$2,000,000.00). Authority or Authority's contractor may obtain the levels of insurance required by this Section with a blanket and/or umbrella policy or policies; (ii) Automobile insurance (owned, nonowned, hired and leased) with total limits per occurrence of not less than One Million Dollars (\$1,000,000.00); and (iii) Workers' Compensation insurance as required by law, and employer's liability insurance with a limit of not less than One Hundred Thousand Dollars (\$100,000.00).

(2) Each insurance policy shall be in form and content reasonably satisfactory to the City Solicitor, shall name the City of Philadelphia as an additional insured, and shall also (i) contain a contractual liability endorsement applicable to Authority's obligations under Section VIII.C. of this Agreement, and (ii) provide that the insurance provided in the policy or policies shall not operate to limit or void coverage of any one insured with respect to claims against the same insured by any other insured. Each policy shall contain a clause that the policy cannot be cancelled, modified or permitted to expire unless and until at least thirty (30) days prior written notice is given to City. Authority shall provide City with a certificate or certificates of insurance evidencing such coverage at least fifteen (15) days prior to commencement of construction of the Force Main and shall, upon the request of the City, provide the

City within a reasonable time after such request, but in no event more than sixty (60) days, with a copy of such insurance policy or policies. At least thirty (30) days prior to the expiration of each policy, Authority shall deliver to City a certificate or certificates evidencing a replacement policy or policies to become immediately effective upon the termination of the previous policy. Each insurance policy obtained pursuant to this Section shall be obtained from insurers having a Best rating of A+7 or better and licensed to transact business in the Commonwealth of Pennsylvania.

(3) If Authority fails to cause such insurance to be maintained, City shall not be limited in the proof of any damages which City may claim against Authority or any other person or entity to the amount of the insurance premium or premiums not paid or incurred and which would have been payable upon such insurance, but City shall also be entitled to recover as damages for such breach the uninsured amount of any loss and damages, expenses of suit and costs, including, without limitation, reasonable cancellation fees, suffered or incurred during any period when Authority shall have failed or neglected to provide insurance as aforesaid.

M. Surety Bond - Prior to the commencement of construction of the Force Main and until one (1) year after acceptance of wastewater flow via the Force Main, Authority shall obtain and maintain in full force and effect:

(1) A performance bond, in the form attached to this Agreement as Exhibit "E" and made a part hereof, with a

surety company approved by City naming City as an obligee in the amount of Six Million Dollars (\$6,000,000.00) as security for the faithful performance of the obligations of Authority under this Agreement; and

(2) A labor and materialmen's bond in the form attached to this Agreement as Exhibit "F" and made a part hereof, with a surety company approved by City naming City as an obligee in the amount of Six Million Dollars (\$6,000,000.00) as security for the full payment of Authority's contractors and subcontractors and others furnishing labor and materials for the Force Main.

N. Conditions for Start of Construction - Prior to commencement of construction of the Force Main, Authority shall obtain:

(1) all policies of insurance required in Section IV.L. of this Agreement;

(2) the surety bonds required in Section IV.M. of this Agreement;

(3) all permits and approvals required pursuant to Section IV.F. of this Agreement.

O. Acceptance of Wastewater Flow Via Force Main - Authority shall notify City and obtain City's approval prior to the conveyance of wastewater flow to the Plant via the Force Main. Prior to acceptance of wastewater flow via the Force Main, all metering equipment must be installed and operable and Authority must present to City for its approval an emergency plan of action to be,

carried out in the event it is necessary to bypass or shut down the Force Main.

V. MAINTENANCE AND REPAIRS

A. Maintenance -

(1) Authority shall own and maintain the Force Main and equipment and the electronics associated with the meter installed in Bucks County. City shall own and maintain telemetering equipment installed in Bucks County which shall consist of equipment which converts the signal produced by the meter into a signal which can be transmitted over telephone lines. City shall also own and maintain all equipment located in City necessary to receive and record telemetered information.

(2) Authority shall submit to City for its approval, a plan to City prior to delivery of any wastewater flow to City via the Force Main setting forth a maintenance schedule and maintenance procedures for the metering equipment and electronics to be maintained by Authority under this section V.A. City shall review and approve or disapprove such plan within sixty (60) days of receipt. The plan shall demonstrate that Authority will obtain prompt service by qualified meter maintenance personnel to repair any meter or electronic malfunction or breakdown in a timely manner. City shall receive written reports of maintenance and inspection work performed on the meter.

(3) In the event of a malfunction or breakdown of the

meter, metering equipment or electronics associated with the meter, Authority shall provide City with a report from the independent contractor performing the repairs detailing the cause of the malfunction or breakdown and the repairs undertaken.

(4) A flow accuracy test utilizing metering equipment independent of the Authority's magnetic flow meter to verify the accuracy of the meter shall be performed by Authority's independent contractor annually. If the annual calibration check indicates that recalibration is required, the meter shall be recalibrated as required and another calibration check shall be performed within three (3) months and at three (3) month intervals thereafter until Authority and City determine that recalibration is no longer necessary. Thereafter, annual calibration checks shall resume. Accuracy within two percent (2%) shall be acceptable. City shall have the right to review the qualifications and approve or disapprove the independent contractor chosen by Authority to perform flow accuracy testing. Such approval shall not be unreasonably withheld or delayed. City shall receive a written report of the test directly from the independent contractor. Authority shall pay all costs associated with the flow accuracy testing.

B. Should Authority fail to maintain and repair the Force Main or metering equipment within thirty (30) days after notification by City or immediately in the event of an emergency or

hazardous condition, City shall have the right to proceed with repair or maintenance and to recover the cost thereof from Authority. In addition, Authority shall be liable for a penalty payable to City in the amount of fifteen (15) percent of the cost of maintenance or repairs.

C. Sampling - City shall have the right to enter the area served by Authority at any time upon reasonable advance telephone notice to sample Authority's wastewater for quality.

D. Flow and Strength Estimates - Where City, in its sole discretion, determines that it is impractical or uneconomical to meter and/or sample wastewater, or when actual strength and flow data is unavailable for reasons beyond the control of City or Authority, City shall estimate, using its standard methods for estimating flow and/or strength figures for billing purposes.

E. Billing Information - Upon request, City shall provide to Authority strength and flow data utilized in billing Authority, including descriptions of its standard methods for estimating flow and/or strength figures.

VI. WASTEWATER QUALITY RESTRICTIONS

A. Interjurisdictional Pretreatment Agreement - City and Authority shall enter into the contract attached hereto and incorporated herein as Exhibit "D" (the "Interjurisdictional Pretreatment Agreement"). Authority agrees to comply with all of the provisions contained therein.

B. Sludge Utilization -

(1) Authority recognizes the importance and urgent need to utilize sludge in a timely and proper manner. Immediately upon signing of this Agreement, Authority and City shall work to develop an environmentally sound sludge utilization program meeting Federal and State standards within the area served by Authority. Authority shall propose a sludge utilization program which does not require a Pennsylvania Department of Environmental Resources permit by March 15, 1988 and thereafter shall continue to work with City to develop other applications for sludge utilization in the area served by Authority.

(2) Authority shall actively support City's community education program for sludge by identifying community groups for City which have an interest in sludge utilization and by providing City with appropriate facilities in Bucks County at which City may conduct educational programs.

VII. PAYMENT OF MONIES DUE AND OWING

Upon execution, Authority and City agree to fulfill their respective financial obligations under a prior agreement of October 1, 1982 as modified herein. Retroactive to July 1, 1986, City shall waive the capital portion of the lump sum charge in consideration of the Capital Contribution made under this Agreement and effective as of that date.

VIII. MISCELLANEOUS

A. Inspection and Audit - The parties agree that each shall keep complete records and accounts concerning their responsibilities under this Agreement. Each party shall at all times have the right to examine and inspect said records and accounts upon 30 days written notice. If required by any law or regulation, Authority shall make said records and accounts immediately available to Federal and State auditors.

B. Arbitration of Disputes - If any dispute shall arise between the parties hereto, concerning terms, conditions and covenants of this Agreement, the same shall be submitted to a Board of Arbitration. The Board of Arbitration shall be composed of three (3) arbitrators, one appointed by City, one by Authority, and the third to be agreed upon jointly by the arbitrators selected by City and Authority.

The arbitrators representing Authority and City shall be named within five (5) days from the request for the appointment of such Board. If after a period of ten (10) days from the date of the appointment, the two (2) arbitrators appointed by City and Authority cannot agree on the third arbitrator, then either appointed arbitrator may request the American Arbitration Association or its successor to furnish a list of three (3) members of said Association, who are not residents of either Philadelphia or Bucks Counties, from which the third arbitrator shall be selected.

The arbitrator appointed by Authority shall then eliminate one (1) name from the list furnished by the American Arbitration Association within five (5) days after its publication, following which the arbitrator appointed by City shall eliminate one (1) name from the list within five (5) days thereafter. The individual whose name remains on the list shall be the third arbitrator and shall act as the Chairman of the Board of Arbitrators.

Each party shall bear the costs of its own arbitrator and the parties shall equally divide the costs of the third arbitrator and all other common costs.

The Board of Arbitrators, thus established, shall commence the arbitration proceedings within ten (10) days after the third arbitrator is selected and shall make its determination within thirty (30) days after the appointment of the third arbitrator. The decision of such arbitrators shall be final and binding upon the parties, except in the case of fraud.

C. Claims, Insurance and Related Matters -

(1) Authority agrees to defend, indemnify and save harmless City from and against all claims, actions, causes, suits, demands, losses, interest, penalties and liabilities arising from performance of the terms and conditions of this Agreement by reason of:

a) City's inability, due to causes beyond its control, to perform any of the provisions of this

Agreement;

b) Injury (including death) to persons and damages to property resulting from operations under this Agreement to convey Authority's wastewater to the Plant and to construct the Force Main whether due to the negligence or gross negligence of City, Authority or their employees, servants or agents or the inherent nature of their operations;

c) EPA or Pennsylvania Department of Environmental Resources action of any kind whatsoever, whether direct or indirect, for any work undertaken by Authority, its contractors or consultants, necessary and required by this Agreement due to rejection of said work by the EPA or Pennsylvania Department of Environmental Resources;

d) Any grant fund, or any portion thereof, received by Authority and later determined to be ineligible for reimbursement by the appropriate regulatory agency or grant auditors.

(2) City and Authority agree that in the event of EPA or Pennsylvania Department of Environmental Resources action or any other governmental regulatory action against City of any kind whatsoever, for activities carried out under this Agreement either by City or Authority or their employees, servants or agents, City and Authority shall equitably apportion responsibility for payment of any costs, fines, penalties or damages arising from such action.

(3) Anything in this Agreement to the contrary notwithstanding, Authority shall not be liable for injuries (including death) or property damage occurring during the course of treatment at the Plant, except, to the extent that such injuries and damages increase City's operating costs, Authority shall be responsible for its proportionate share of those increased costs.

(4) Nothing set forth in this Agreement shall limit or debar City from resorting to any appropriate remedy in law or equity, or any combination of remedies for non-compliance with this section VIII.C of this Agreement.

(5) Nothing contained in this Agreement shall be deemed to confer upon any third person any right against City or Authority or to vest in said third person any cause of action against City or Authority or to authorize any such person to institute any suit or suits against City or Authority.

(6) City shall have the right to approve counsel appointed on its behalf pursuant to this Agreement, unless appointed by Authority's insurer.

D. No Transfer of Rights - Authority shall not confer, transfer, convey, assign or license to any third party any rights obtained under this Agreement without the express written consent of the City. Such consent shall not be unreasonably withheld.

E. Term -

(1) Except as set forth in Section VII, this Agreement shall be effective as of January 1, 1988, and shall continue

in force and effect until terminated as hereinafter set forth.

(2) City shall have the right to terminate this Agreement for "cause" at any time, but only upon five(5) years written notice. "Cause" shall mean:

- a) continuing exceedances of the flow and loadings limits which are not corrected as required by this Agreement and which impair the safe and efficient operation of the system or which cause City to be in violation of permits issued by PaDER or EPA; or
- b) failure by Authority to meet its financial obligations under this Agreement for a period of six consecutive months; or
- c) failure by Authority to comply with a decision or determination of a Board of Arbitration or court of competent jurisdiction rendered under this Agreement within three months of the date of the decision or determination.

(3) In the event that City terminates this Agreement for cause, Authority shall forfeit its capital contribution, including the cost of the Force Main.

(4) Authority or City may terminate this Agreement for any reason after it has been in effect for thirty-five (35) years, but only by giving written notice five (5) years before the effective date of termination.

(5) In the event this Agreement terminates for any

reason, except for cause as set forth in subparagraph (2) of this Section VIII. E., City shall pay to Authority an amount equal to the Authority's share of the then-remaining value of all systems, equipment and facilities, except the Force Main, used to convey and treat Authority's wastewater under this Agreement (the "Assets"). The remaining value of the Assets shall be calculated as follows:

- a) The remaining useful life of each component of the Assets shall be separately calculated.
- b) The original and all subsequent contributions by the Authority towards the cost of acquisition, renewal and replacement of each component of the Assets shall be multiplied by a fraction whose numerator is the remaining useful life of the component, and whose denominator is the sum of the years the component has been in service since January 1, 1988, plus the remaining useful life.
- c) The amount thus calculated shall be paid to the Authority in cash on the effective date of termination.
- d) The calculation required hereunder shall be made by an independent appraiser selected jointly by the City and the Authority. The expense of the appraisal shall be divided equally between the City and the Authority. If the City and the Authority cannot agree on an appraiser, then one shall be selected by the same method to be used to select a third arbitrator under Section VIII.B. of this Agreement.

(6) Upon termination of this Agreement for whatever reason or upon expiration of this Agreement, Authority shall pay to City the costs of abandoning the Force Main, if any. Such costs shall be established by City as of the abandonment.

F. Ownership, Management and Control of Plant Facilities - City retains sole ownership and control of the Plant and all other sewage treatment facilities in the City except the Force Main, and agrees to operate, maintain, repair, and improve its facilities associated with service to Authority. City retains the sole and exclusive right to make all managerial and other decisions regarding its sewage treatment facilities, including but not limited to those decisions regarding maintenance, upkeep, expansion, or replacement of all or a portion of its sewage treatment facilities. Upon termination of this Agreement for any reason, by either party, ownership of the Force Main shall revert to City. Authority shall transfer its interest in all rights of way and easements for the Force Main to City in consideration of City's payment to Authority of one dollar (\$1.00). Said transfer of rights of way and easements to City shall be recorded in the real property records of Philadelphia County.

G. Severability - In the event any provision hereof is held illegal or invalid, no other provision of this Agreement shall be affected; and this Agreement shall then continue in full force as if such illegal or invalid provision had not been contained herein.

H. Successors and Assigns - All the covenants contained in this Agreement shall extend to and bind the respective successors and assigns of the parties hereto with the same effect as if the words "successors and assigns" had, in each case, been specifically mentioned.

I. Waiver - The failure of a party hereto to insist upon strict performance of this Agreement or of any of the terms or conditions hereof shall not be construed as a waiver of any of its rights herein granted.

J. Notices - All notices, payments and communications required to be given in writing under this Agreement shall be sent by United States mail, postage prepaid, or delivered by hand delivery with receipt obtained, to the addresses below or at such other addresses as City or Authority may designate in writing from time to time:

If intended for City:

Water Commissioner
ARA Tower
1101 Market Street
Philadelphia, Pennsylvania 19107

If intended for Authority:

Executive Director
Bucks County Water and Sewer Authority
1275 Almshouse Road
Warrington, Pennsylvania 18976

All notices shall be deemed received five (5) calendar days after mailing or upon actual receipt, whichever is earlier.

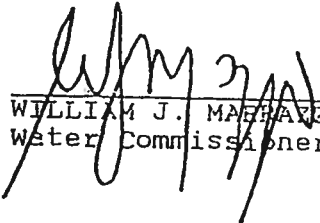
K. Captions - The captions in this Agreement are for convenience only and are not part of the Agreement. The captions do

not in any way define, limit, describe or amplify the provisions of this Agreement or the scope or intent thereof.

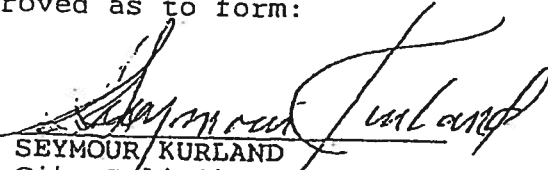
L. Entire Agreement - This Agreement and its Exhibits and Addendums, incorporated herein, represent the entire agreement of the parties hereto and there are no collateral or oral agreements or understandings. This Agreement may be amended or modified only in writing signed by both City and Authority.

IN WITNESS WHEREOF, The City of Philadelphia has caused this Agreement to be executed by its Water Commissioner; and the appropriate officer of the Bucks County Water and Sewer Authority has executed this Agreement on behalf of the Authority, and has hereunto affixed the corporate seal of the said Authority duly attested by the Appropriate officer thereof, the day and year first above written.

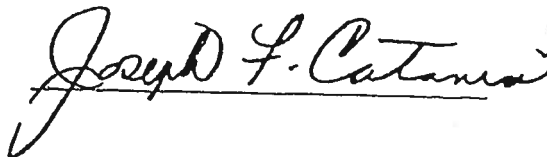
CITY OF PHILADELPHIA

By: 
WILLIAM J. MARRAZZO
Water Commissioner

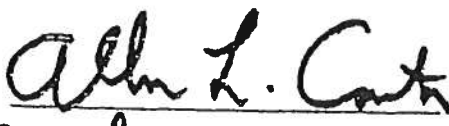
Approved as to form:

By: 
SEYMOUR KURLAND
City Solicitor

BUCKS COUNTY WATER AND
SEWER AUTHORITY

By: 
Joseph F. Catania

Attest:


Alvin L. Cook
att. sol.

FLOW AND LOADINGS LIMITS ADDENDUM

DAYLIGHT FLOW LIMITS

	<u>Maximum Annual Avg.</u>	<u>Instantaneous Max.</u>
STAGE 1	10 MGD	14 cfs ¹
STAGE 2	20 MGD	62 cfs

BOD AND SS LOADINGS

<u>ANNUAL SUSPENDED SOLIDS LOADINGS</u>	<u>ANNUAL BIOCHEMICAL OXYGEN DEMAND LOADINGS</u>
13,400,000 lbs.	13,400,000 lbs.

¹ The allowable flow rate during non-daylight hours in Stage 1 shall not exceed 40 cfs.

EXCEEDANCE CHARGES ADDENDUM

- I. Authority shall be liable to City for the exceedance charges stated below beginning January 1, 1992 or upon completion of the Force Main when Authority exceeds the quantity flow limits set forth in the Flow Limits Addendum.
- A. Volume: \$3,700.00 per unit of flow over the average daily limit during any consecutive 365 day period, such charge to be billed annually. The unit of flow used to determine exceedances shall be each hundred thousand gallons of wastewater flow per day.

II. Authority shall be liable to City for the exceedance charges stated below beginning January 1, 1988 when Authority exceeds the quality flow limits set forth in the Flow Limits Addendum.

- A. Suspended Solids (SS): \$480.00 per thousand pounds over the limit.
- B. Biochemical oxygen Demand (BOD): \$900.00 per thousand pounds over the limit.

III. Charges for Years Subsequent to 1987

During January 1988 and during January of each calendar year thereafter, the exceedance charges stated above will be adjusted in accordance with the changes in the Consumer price Index for the prior calendar year. The index to be used for this adjustment shall be the Consumer Price index published by the U.S. Bureau of Labor Statistics for all urban consumers (CPI-U) for the Philadelphia SMSA, all items.

APPROVED CONNECTION POINTS TO CITY WASTEWATER SYSTEM

Stage 1

1. Vicinity of State Road and Grant Avenue

Stage 2

1. Vicinity of State Road and Shelmire Avenue

EXHIBIT C

INTERJURISDICTIONAL PRETREATMENT AGREEMENT
BETWEEN
THE CITY OF PHILADELPHIA
AND
THE BUCKS COUNTY WATER AND SEWER AUTHORITY

This Agreement is entered into this 9th day of March , 1988,
between the City of Philadelphia ("City") and the Bucks County Water and
Sewer Authority ("Authority").

RECITAL

Whereas, City owns and operates a wastewater treatment system; and

Whereas, Authority currently utilizes this wastewater treatment system
pursuant to an agreement between City and Authority dated (the
"Service Agreement"); and

Whereas, City must develop and implement an industrial pretreatment
program pursuant to conditions contained in its discharge permit (Permit
#PA0026689) issued by the Pennsylvania Department of Environmental
Resources; and

Whereas, Authority desires to continue to utilize the wastewater treat-
ment system and recognizes its industrial waste control obligations under
40 CFR 403.

In consideration of the following terms and conditions City and
Authority agree:

Exhibit D

1. Within two months of the adoption by the City of its new wastewater control regulations, Authority shall enact and diligently enforce a resolution requiring each member municipality to enact an ordinance substantially identical to the regulations adopted by City and providing as specified below ("Resolution").
2. Authority, by Resolution, shall require each member municipality to enact an ordinance specifically incorporating the following provisions:
 - (a) a requirement that any industrial user responsible for any accidental discharge notify immediately both City and Authority;
 - (b) a prohibition on the use of dilution as a control technique for compliance with discharge limits except as allowed by Federal Pretreatment Standards;
 - (c) a grant of authority to impose mass discharge limits in lieu of, or in conjunction with, concentration discharge limits;
 - (d) a prohibition against and penalty for the knowing transmittal of false information by an industrial user to either City or Authority;
 - (e) a grant of explicit authority to Authority to require the industrial user to install all monitoring and pretreatment facilities.
 - (f) within six (6) months of enactment, each member municipality shall notify City and Authority of every non-domestic user with the potential to discharge an extremely hazardous substance as defined by the Superfund Amendments and Reauthorization Act of 1986 and every industrial user within its jurisdiction.
3. City and Authority shall periodically (at a minimum of every five years) review their respective regulations and resolutions and the

member municipalities' ordinances and jointly draft and adopt equivalent amendments to their respective regulations and resolutions where necessary to ensure the effective administration and operation of the pretreatment program. Whenever City becomes aware of a problem with the pretreatment program which can be mitigated by a change in the resolutions, City may draft an amendment which Authority must adopt. If Authority has adopted a resolution requiring its municipalities to adopt ordinances identical to City's regulations, then, whenever City amends its regulations, Authority shall adopt a resolution requiring its member municipalities to adopt the identical amendment.

4. Authority, by Resolution, shall require each member municipality to adopt as part of its ordinance and enforce, and Authority shall establish by resolution and enforce, specific discharge limits at least as stringent as the specific discharge limits established in City regulations.
5. Authority, by Resolution, shall require each member municipality to adopt as part of its ordinance a provision incorporating by reference into the ordinance categorical pretreatment standards promulgated by the U.S. Environmental Protection Agency (EPA) by authority of the Clean Water Act Sections 307(b) and (c) be automatically incorporated by reference into its member municipalities' ordinances. These standards shall supercede any specific discharge limits in the ordinance which are less stringent than the categorical standards as they apply to the particular industrial subcategory. Authority shall notify all affected industrial users of pertinent categorical standards and monitoring and reporting requirements contained in 40 CFR 403.12 or included as part of the categorical standards.

6. Authority, by Resolution, shall require each member municipality to include in its ordinance definitions for "significant industrial user", "industrial user" and "nondomestic user" which are identical to the definitions adopted by City. City may make the final determination as to whether a particular industrial user is a significant industrial user, industrial user or nondomestic user based on information City may request from Authority or its member municipalities. City shall control, through industrial discharge permits, industrial waste discharges from each significant industrial user, industrial user or nondomestic user discharging into the sewer.
7. If there exists any industrial user discharging to Authority sewer system but located outside the jurisdictional limits of Authority, then Authority shall within 30 days of this agreement notify such jurisdiction of this requirement and provide the City with copies of such notification. Authority shall negotiate and enter into an agreement with this outside jurisdiction. Such agreement shall be substantially equivalent to this Agreement, and shall be jointly executed by Authority, City and the outside jurisdiction. If the outside jurisdiction refuses to negotiate and execute an agreement, then City shall enter into a contract with the industrial user which contains terms and conditions substantially equivalent to City industrial discharge permits.
8. Authority, by Resolution, shall require each member municipality to file with City a certified copy of its ordinance and any amendments thereto. Authority shall fill with City other interjurisdictional agreements and any contract entered into for the purposes of industrial

waste control. If Authority maintains, Authority shall provide City access to and copies of, if requested, all industrial monitoring reports including 40 CFR §403.12 compliance reports, self-monitoring reports, baseline reports, records of violations and actions taken, and any other monitoring or reporting requirements imposed by federal, state or local regulations. Any records or other relevant information maintained shall be for at least six years.

9. Any authorized officer or employee of City may enter and inspect at any reasonable time any part of the sewer system of Authority. The right of entry and inspection shall extend to public streets, easements, and property within which the system is located. Additionally, City shall be permitted, as appropriate, to enter onto private property to inspect industrial waste discharges. Authority shall provide complete sets of sewer plans and make all necessary legal and administrative arrangements for these inspections. The right of inspection shall include on-site inspection of pretreatment and sewer facilities, observation, measurement, sampling, testing, and access to (with the right to copy) all pertinent compliance records located on the premises of the industrial user or non-domestic dischargers.
10. Authority and City hereby agree that the City shall implement a pretreatment program within Authority and shall perform in connection therewith technical and administrative activities which may include: 1) updating the industrial waste survey; 2) providing technical services, such as sampling, process chemical analysis, and engineering advice; 3) permitting; 4) compliance monitoring; 5) enforcement support and 6) monitoring hazardous waste disposal practices. Authority may assume

responsibility for conducting the pretreatment program implemented by City at any time upon 90 days' advanced written notice. To the extent Authority shall administer its own pretreatment program, it shall provide the City in writing a detailed outline of the program 90 days prior to initiating such a program and the City shall have the right to approve or disapprove the program. City may periodically review Authority pretreatment program activities and funding to ensure that Authority and any outside jurisdiction is adequately administering its pretreatment program in conformance with the Federal Pretreatment Regulations (40 CRF 403) and all City requirements.

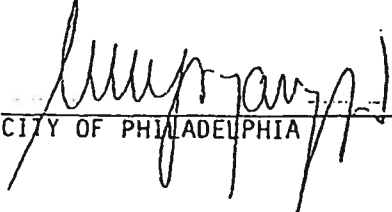
11. City shall review Authority resolution and each member municipality's ordinance and amendments thereto and any interjurisdictional agreements for conformance with 40 CRF part 403, and to ensure inclusion of all other legal provisions mandated by this Agreement. City shall periodically review the enforcement efforts of Authority and any other jurisdiction to ascertain whether pretreatment requirements are being diligently enforced.
12. If City determines that Authority and/or its member municipalities has failed or has refused to fulfill any pretreatment obligations, City may develop and issue a remedial plan containing a description of the nature of the pretreatment deficiencies, an enumeration of corrective steps to be taken and a time schedule for attaining compliance with all pretreatment requirements. Such plans shall be specifically enforceable in a court of competent jurisdiction. Where Authority fails to satisfy the terms of the remedial plan, City may, upon thirty days' written notice, refuse to accept any industrial waste discharges from Authority.

13. In the event that EPA or Pennsylvania Department of Environmental Resources action results in fines, penalties or costs being assessed against City because of industrial or non-domestic waste discharged from Authority, Authority and City shall equitably apportion responsibility for payment of such fines, penalties or costs. Authority shall fully indemnify, defend and hold harmless City for damages or costs arising from personal and property damage pursuant to the Service Agreement.
14. Where a discharge to the wastewater treatment system reasonably appears to present an imminent danger to the health and welfare of persons, or presents or may present an imminent danger to the environment, or threatens to interfere with the operation of the wastewater treatment system, City may immediately initiate steps to identify the source of the discharge, and to hold or prevent said discharge. City may seek injunctive relief against Authority or outside jurisdictions and/or any industrial or non-domestic user contributing to the emergency conditions, and/or may pursue other self-help remedies. Authority shall pay to City the cost of such steps taken to prevent, stop or ameliorate the effects of such discharge.
15. Any disputes arising out of this Agreement shall be submitted to binding arbitration performed in accordance with the procedures set forth in the Service Agreement between Authority and City dated February 5, 1988.
16. The terms of this Agreement may be amended only by written agreement of the parties. In any event, this Agreement shall be reviewed and revised, as necessary, at least every five years.

17. This Agreement modifies only those provisions of the existing Service Agreement between the two parties which conflict with the terms of this Agreement.

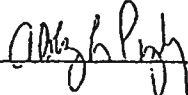
18. This Agreement will remain in effect so long as the Service Agreement remains in effect. Termination of the Service Agreement shall also result in the termination of this Agreement.

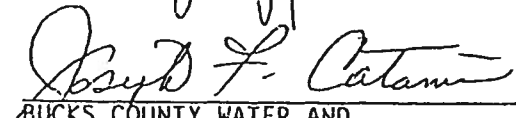
The parties hereto have executed this Agreement on the date shown above.


CITY OF PHILADELPHIA

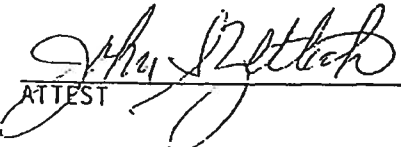
March 14, 1988
DATE

APPROVED AS TO FORM:
SEYMOUR KURLAND
CITY SOLICITOR

BY: 


BUCKS COUNTY WATER AND
SEWER AUTHORITY

March 9, 1988
DATE


ATTEST _____

March 9, 1988
DATE

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, THAT WE, THE BUCKS COUNTY WATER AND SEWER AUTHORITY (hereinafter called the "Principal Obligor"), and _____, Surety, are jointly and severally held and firmly bound unto the Water Department of City of Philadelphia ("City") in the sum of SIX MILLION DOLLARS (\$6,000,000.00) lawful money of the United States of America, to be paid to the said City, its successors and assigns, to which payment, well and truly to be made, we do bind ourselves and each of us, our and each of our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with the seal of the said Bucks County Water and Sewer Authority and with the corporate seal of the said _____, Surety, duly attested by the proper officers thereof.

Dated the _____ day of _____, in the year of our Lord One Thousand Nine Hundred and Eighty-Eight (1988).

WHEREAS, the above bounded Principal Obligor agreed to construct a sewer in the City in accordance with the terms and conditions of that certain agreement dated _____, 1988,

EXHIBIT "E"

by and between the City of Philadelphia, acting by and through its Water Department and the Principal Obligor (the "Agreement") and plans and specifications approved by the Water Commissioner of City.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal Obligor shall and do well and truly, in all respects, comply with all the terms, conditions and covenants contained in the above-mentioned Agreement, and shall do and pay unto the City of Philadelphia upon demand, any and all loss, damage and expenses which the said City may or shall sustain by reason of the failure of the said Principal Obligor to comply with the terms of the said Agreement, it being hereby understood and agreed that the reasonable decision of the Water Commissioner or his successor as to such failure in complying with the terms of the said contract Agreement and as to the amount of loss or damage sustained by reason thereof, being binding and conclusive upon the parties hereto, then this obligation to be null and void; otherwise, to be and remain in full force and virtue.

The undersigned Principal Obligor and Surety hereby agree that no modification of the terms of the above-mentioned Agreement or alteration in the work to be done under it, and no forbearance on the part of either City or the Principal Obligor to the other, either by the grant of any extension of time for the performance of the Agreement or otherwise, shall be deemed to release the undersigned or either of them, their or either of their heirs, executors, administrator or assigns, from their lia-

bility hereunder, notice to the Surety of any such modification, alteration, extension of forbearance hereby being waived.

And we do for ourselves and each of us, and each of our heirs, executors, administrators, successors and assigns, hereby authorize and empower any attorney of any court of record in Pennsylvania or elsewhere, upon the filing of this instrument or a copy thereof, duly attested as correct by such attorney, to appear for us or either of us, our or either of our heirs, executors or administrators, successors or assigns, and in our names or in the name of either of us, ~~our or either of our~~ heirs, executors or administrators, successors or assigns, confess a judgment against us or either of us, our or either of our heirs, executors or administrators, successors or assigns, in favor of the Water Department of the City of Philadelphia or any entity performing the functions of the Water Department, for the sum named in this bond, without defalcation, with costs of suit, release of errors, and with five percent (5%) added for collection fees; hereby waiving the benefit of all exemption laws and the holding in inquisition on any real estate that may be levied upon by virtue of such judgment, voluntarily condemning such real estate and authorizing the entry of such condemnation upon any writ of fieri facias and agreeing that said real estate may be sold under the same; and further waiving all errors, defects and imperfections whatsoever in the entering of the said judgment or any process thereon, and hereby agreeing that no writ of error or objection or motion or rule to open or strike off judgment or to

stay execution of appeal, shall be made or taken thereto. The right and power to appear and to enter or confess judgment hereinabove provided for and the right to assess damages under any such judgment shall be exercisable any number of times and shall not be exhausted by one or more uses thereof. And for the doing of these acts this instrument or a copy thereof attested as aforesaid shall be full warrant and authority.

This Performance Bond and the obligations hereunder shall terminate absolutely and be of no further force and effect upon the expiration of the Agreement.

PRINCIPAL:

Attest: *John Bettich*
[Seal]

By: *Joseph F. Catone*

Surety:

Attest: _____
[Corporate Seal] Secretary

By: _____
Attorney-in-fact

(If Attorney is not a Pennsylvania resident, this bond must be co-signed for the Surety by a Pennsylvania resident.)

LABOR AND MATERIALMEN'S BOND

KNOW ALL PERSONS BY THESE PRESENTS, THAT WE, The Bucks County Water and Sewer Authority (hereinafter called the "Principal Obligor"), and _____, _____, Surety, are jointly and severally held and firmly bound unto the Water Department of City of Philadelphia ("City") for the use of any and every person, copartnership, association or corporation interested in the sum of SIX MILLION DOLLARS (\$6,000,000.00) lawful money of the United States of America, to be paid to the said City, its successors and assigns, to which payment, well and truly to be made, we do bind ourselves and each of us, our and each of our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with the seal of the said Principal Obligor and with the corporate seal of the said _____, _____, Surety, duly attested by the proper officers thereof.

Dated the ____ day of _____, in the year of our Lord One Thousand Nine Hundred and Eighty-Eight (1988).

EXHIBIT "F"

WHEREAS, the above bounded Principal Obligor, agreed to construct a sewer for the Water Department of City in accordance with the terms and conditions of that certain agreement dated _____, 1988, by and between the City of Philadelphia, acting by and through its Water Department and the Bucks County Water and Sewer Authority (the "Agreement") and the plans and specifications approved by the Water Commissioner of City.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal Obligor shall and will promptly pay or cause to be paid to any and every person, ~~copartnership, association or~~ corporation, all sums of money which may be due for material furnished, equipment or machinery rented, services rendered by public utilities, and labor supplied or performed in the prosecution of the work covered by the above-mentioned Agreement, whether or not the said material, equipment, machinery, public utility services or labor enter into and become component parts of the work or improvement contemplated, including, inter alia, (a) all material furnished, equipment or machinery rented, services rendered by public utilities, and labor supplied or performed in preparing the site for the performance of the work covered by said contract, (b) equipment, machinery, public utility services, labor, shoring, sheathing and blasting supplies and other materials used on the site in doing such excavating as may be necessary or required to institute or perform the work specified in the Agreement or machinery rented, services rendered by public utilities and labor supplied or performed in the prose-

cution of work or repair or of maintenance required by or performed under the terms of said Agreement, then this obligation to be null and void; otherwise, to be and remain in full force and virtue.

It is understood and agreed that the City of Philadelphia, by its Water Department, may sue in assumpsit on this bond, for a breach by the Principal under the Agreement, for such sum or sums as may be justly due the City, and have execution thereon; and any such suit shall be commenced not later ~~than the date of termination of the Agreement.~~ ~~It is also understood and agreed that no person, copartnership, association or corporation, who is not a party to the Agreement shall have a right of action upon this bond.~~

The undersigned Principal Obligor and Surety, for themselves and each of them, their and each of their heirs, executors, administrators, successors and assigns, further agree, jointly and severally, that no modification, alteration, addition or extension of the terms of the above-mentioned Agreement or alteration, addition or diminution of the work to be done under it above-mentioned and described, and no forbearance on the part of either the City or of the Principal Obligor to the other, either by the grant of an extension of time for the performance of the Agreement, of the payments to be made under it, or otherwise, shall be deemed to release the undersigned or either of them, their or either of their heirs, executors or administrators, successors or assigns, from respective liability

hereunder; notice to said surety of any such modification, alteration, addition, extension, diminution and/or forbearance hereby being waived.

It is understood and agreed that the term "Principal Obligor" as used herein shall be construed to include both singular and plural, and shall be deemed to include and designate each and every of the individuals, copartnership, associations and artificial body of person who have entered into the above-mentioned Agreement with the City of Philadelphia, who have been designated above as "Principal", and who other than the Surety have signed and executed this present Indenture.

This Labor and Materialmen's Bond and the Obligations hereunder shall terminate absolutely and be of no further force and effect upon the expiration of the Agreement.

PRINCIPAL:

BUCKS COUNTY WATER AND SEWER AUTHORITY

X Attest: *John P. [Signature]*
[Seal]

By: *Joseph L. Catani*

Surety:

Attest: _____

By: _____
Attorney-in-fact

(If Attorney is not a Pennsylvania resident, this bond must be co-signed for the Surety by a Pennsylvania resident.)

[Corporate Seal]

AMENDMENT TO WASTEWATER
SERVICES AGREEMENT DATED
FEBRUARY 5, 1988

On this 15th day of May, 1997, the City of Philadelphia (hereinafter the "City") and the Bucks County Water and Sewer Authority (hereinafter the "Authority"), pursuant to Section VIII L. of the Wastewater Service Agreement dated February 5, 1988, (hereinafter the "Agreement") hereby amend the Agreement as follows:

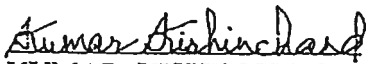
- A. Provisions A(1) through (5), inclusive, which follow immediately below, shall be in effect from May 15, 1997 until May 15, 2000. Thereafter, Provisions A(1) through (5) shall terminate and be null and void.
1. The City will accept the Authority's flow reduction plan as being sufficient to address its excessive flows. The Authority's flow reduction plan is attached hereto as Exhibit A.
 2. The Authority agrees that starting on July 1, 1996 its capital billings will be based on a 23 m.g.d. share of our Northeast treatment plant. The additional 3 m.g.d. of allocated capacity will be purchased on a depreciation and return basis at a cost of \$264,000 per 3 m.g.d. per year to be paid in quarterly installments along with the Authority's regularly scheduled capital billings. The retroactive billings for the 3 m.g.d. of additional allocated capacity from July 1, 1996 shall be paid as part of the Authority's next regularly scheduled quarterly capital billing. The Authority shall continue to pay for its initial allocation of 20 m.g.d. in accordance with Section I.C of the Agreement.
 3. The Authority will continue to pay the City for the additional 3 m.g.d. of allocated capacity until such time that the rolling 365 day average flow returns to 20 m.g.d. or below for a period of 90 consecutive days.
 4. If the rolling 365 day average flow returns to 20 m.g.d. or below for 90 consecutive days, but then, at any time thereafter, increases to over 20 m.g.d, the Authority shall again pay for the 3 m.g.d. of additional allocated capacity until such time that the rolling 365 day average flow again returns to below 20 m.g.d. for a period of 90 consecutive days.
 5. If at any time, from May 15, 1997 until May 15, 2000, the rolling 365 daily average flow exceeds 23 m.g.d., the Authority agrees that the City may exercise its right to once again deny all Act 537 planning modules.


- B. Upon termination of provisions A(1) through (5), inclusive, on May 16, 2000, the City shall determine whether the Authority's flow reduction plan has been successful or has failed. The Authority's flow reduction plan shall be deemed to have failed if on May 16, 2000, the rolling 365 day average flow exceeds 20 m.g.d. If the flow reduction plan has failed, then the Authority agrees that the City may again exercise its rights to deny Act 537 planning modules. If on May 16, 2000 the flow reduction plan succeeds, but at some later point in time the rolling 365 day average flow again exceeds 20 m.g.d., the City reserves its rights to again deny Act 537 planning modules.
- C. This Amendment represents the entire agreement of the parties hereto and there are no collateral or oral agreements or understandings.

IN WITNESS WHEREOF, the City of Philadelphia has caused this Agreement to be executed by its Water Commissioner; and the appropriate officer of the Bucks County Water and Sewer Authority has executed this Agreement on behalf of the Authority, and has hereunto affixed the corporate seal of the said Authority duly attested by the appropriate officer thereof, the day and year first above written.

City of Philadelphia


Bucks County Water and
Sewer Authority

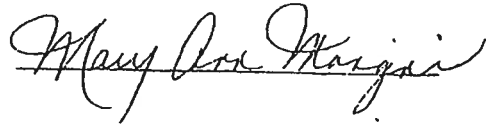
BY: 
KUMAR KISHINCHAND
Water Commissioner

BY:  6/17/97
BENJAMIN W. JONES
Executive Director

Approved as to form:

Attest:

BY: 
DAVID A. KATZ, ESQ.
Divisional Deputy City Solicitor



BUCKS COUNTY WATER AND SEWER AUTHORITY
NESHAMINY INTERCEPTOR FLOW REDUCTION PLAN

I. Agreement of all Neshaminy Interceptor Customers to be Billed

ADS flow meters have been installed at 62 points along the Interceptor. They have been tested and calibrated, and are now in service. Billing for the first quarter of 1997 has been based on metered flows, and that will be the case in the future.

II. Infiltration and Inflow Remediation

A. Bucks County Water and Sewer Authority has inspected and repaired 17,000 feet of spur lines entering the Interceptor. This project was completed this month (April 1997).

B. Bucks County Water and Sewer Authority has available \$11,000,000.00 for I/I remediation in municipal collection systems. It is proposing to use the money on the following terms:

1. Money will be allocated to each municipality in accordance with its needs and its proportionate use of total capacity in the Interceptor.
2. The amount spent on I/I remediation will be treated as a loan to the municipality. The loans will be interest-free for five (5) years, with no principal repayment required during that period. Thereafter, repayment will be at the Bucks County Water and Sewer Authority cost of funds, with amortization over twenty (20) years.
3. It is contemplated that the total remediation program will take thirty-six (36) months to complete, with results on the following schedule:

5% removal in first 6 months
10% removal in next 12 months
20% removal in next 24 months
30% removal in next 36 months

4. The savings in treatment costs as a result of I/I removal will provide the revenue necessary to repay the remediation costs.

III. Weather-Related flow Reduction

Bucks County Water and Sewer Authority believes that the unusual wet weather conditions between January 1996 and December 1996 have contributed to the high flow averages now existing.

<u>Month</u>	<u>Average Precipitation (1994 to 1995)</u>	<u>Actual Precipitation (1996 - 1997)</u>
January 1996	3.14"	4.38"
February 1996	2.54"	2.13"
March 1996	3.80"	4.27"
April 1996	2.11"	3.92"
May 1996	3.17"	3.17"
June 1996	1.00"	4.68"
July 1996	6.35"	5.65"
August 1996	2.85"	4.29"
September 1996	2.60"	4.19"
October 1996	3.46"	4.19"
November 1996	2.97"	2.89"
December 1996	2.03"	8.48"

EXHIBIT B
SETTLEMENT AGREEMENT
BETWEEN DEPARTMENT OF ENVIRONMENTAL PROTECTION AND BUCKS
COUNTY WATER AND SEWER AUTHORITY

BUCKS COUNTY WATER AND SEWER AUTHORITY,
Appellant,

v.

COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION,
Appellee

and

BUCKS COUNTY WATER AND SEWER AUTHORITY,
Plaintiff-Defendant

v.

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION,
Defendant

:
:
: **Pennsylvania**
: **Environmental Hearing**
: **Board Docket No.**
: **2012-138-L (Consolidated**
: **with 2012-146-L,**
: **2012-152-L, and**
: **2012-155-L)**
: **and**
: **Docket No. 2013-175-L**

:
:
: **IN REM**
: **EMINENT DOMAIN**
: **PROCEEDINGS**
:
:
: **Bucks County Court of**
: **Common Pleas Docket No.**
: **2013-4635**

SETTLEMENT AGREEMENT

Bucks County Water and Sewer Authority ("BCWSA") and the Pennsylvania Department of Environmental Protection ("Department") (jointly "the parties"), by and through their respective counsel, with the intent of resolving the above-captioned matters, pursuant to 25 Pa. Code § 1021.141, and all other applicable laws, enter into this Settlement Agreement ("Agreement"), and agree as follows:

A. On June 26, 2012, the Department issued a letter to BCWSA informing it that its 2010 Wasteload Management Report established that portions of BCWSA's Neshaminy Interceptor sewer system are in a state of projected hydraulic overload and that there is an existing hydraulic overload in the Totem Road Pump Station.

B. On July 27, 2012, BCWSA filed an appeal of the Department's June 26, 2012 letter ("Appeal 1") with the Pennsylvania Environmental Hearing Board ("EHB"). The Appeal is docketed at EHB Docket Number 2012-138-L.

C. On July 25, 2012, the Department issued a letter to BCWSA informing it that its 2010 Wasteload Management Report shows that portions of BCWSA's Neshaminy Interceptor sewer system are in a state of projected hydraulic overload and that there is a projected hydraulic overload in the Totem Road Pump Station.

D. On August 17, 2012, BCWSA filed an appeal of the Department's July 25, 2012 letter ("Appeal 2"). The Appeal is docketed at EHB Docket Number 2012-152-L.

E. On August 10, 2012, land developer Horizon Lot 2 Associates filed an appeal of the Department's June 26 and July 25, 2012 letters ("Appeal 3"). Counsel for BCWSA entered his appearance on behalf of BCWSA in Appeal 3 on August 17, 2012. The Appeal is docketed at EHB Docket Number 2012-146-L.

F. On August 24, 2012, Northampton Bucks County Municipal Authority ("NBCMA") filed an appeal of the Department's July 25, 2012 letter ("Appeal 4"). Counsel for BCWSA entered his appearance on behalf of BCWSA in Appeal 4 on September 18, 2012. The Appeal is docketed at EHB Docket Number 2012-155-L.

G. The EHB consolidated Appeal 2, Appeal 3, and Appeal 4 into Appeal 1 (hereinafter collectively, "Consolidated Appeals").

H. On August 19, 2013, the Department issued a letter to Bensalem Township, Bucks County (“the incompleteness letter”) finding incomplete a sewage facilities land development planning module which had been submitted for a project known as the “High Tides Café.”

I. On September 20, 2013, BCWSA filed an appeal of the Department’s August 19, 2013 incompleteness letter (“Appeal 5”). The Appeal is docketed at EHB Docket Number 2013-175-L.

J. On June 19, 2013, BCWSA filed a petition for the appointment of a board of viewers (“Petition”) with the Bucks County Court of Common Pleas (“BCCP”). BCWSA alleged that the Department conducted a de facto taking and a regulatory taking of some portion of its Neshaminy Interceptor sewer system and sought compensation for the alleged takings. The Petition is docketed at BCCP Dkt. No. 2013-4635.

K. The parties have engaged in settlement discussions and, as a result of those discussions, have reached agreement on a settlement of the Consolidated Appeals, Appeal 5, and the Petition, in accordance with the terms of the Agreement set forth below.

THEREFORE, the parties desiring to settle this matter without resorting to additional litigation and intending to be bound, hereby agree to the settlement of the Consolidated Appeals, Appeal 5, and the Petition as follows:

1. Within five (5) business days of the Department’s acceptance in writing of BCWSA’s Neshaminy Interceptor Corrective Action Plan (“NICAP”), in the same form

as attached to this Agreement (Exhibit "A"), by separate praecipe to each tribunal, BCWSA shall withdraw and terminate with prejudice the Consolidated Appeals (including its participation in Appeals 3 and 4), Appeal 5, and the Petition, subject to the conditions of this Agreement, and specifically subject to the provisions of 1.(a) and 1.(b) below. The praecipes shall state that the parties agree to bear their respective attorneys' fees, expenses, and costs associated with this Agreement, the Consolidated Appeals, Appeal 5, and the Petition.

(a) The separate praecipes of withdrawal of the Consolidated Appeals and Appeal 5 shall state that the withdrawals are with prejudice, subject to the limitation of the following reservation of rights. The parties will expressly reserve all rights to raise or dispute any and all factual or legal issues concerning the permitted hydraulic capacity of the Totem Road Pump Station in future proceedings in a Homes of Distinction settlement in the Consolidated Appeals and Appeal 5.

(b) BCWSA will withdraw the Petition with prejudice. However, nothing in this agreement shall preclude BCWSA from raising the issues raised in the Petition in any dispute between BCWSA and any third party, as to that third party, or from raising such issues in any federal action initiated by the United States Environmental Protection Agency, or from raising such issues in any action initiated by the Department.

2. Within five (5) business days of the Department's acceptance in writing of BCWSA's NICAP, BCWSA agrees to withdraw in writing its September 2, 2013 Right to Know Law Request to the Department, docketed as RTKL Request No. 4100-13-0154.

3. BCWSA agrees that it shall not file an appeal or take any other adverse action against the Department as a result of its acceptance of the NICAP as final, if accepted in the same form as Exhibit "A."

4. The Department shall continue to enforce the requirements of the Consent Order and Agreement, entered into by the Department, Keystone Turf Club, Inc., Bensalem Racing Association, Inc., Greenwood Racing, Inc., Greenwood Gaming and Entertainment, Inc., Robert Green, and William Hogwood ("Parx Casino and Racing") on May 16, 2011, pursuant to the terms and conditions of that document, attached to this Agreement (Exhibit "B"). Unless otherwise authorized or required by the Department, and in accordance with Exhibit B and NPDES Permit for Concentrated Animal Feeding Operations, NPDES Permit No. PA1120503 (Exhibit "C"), upon full implementation of the Best Management Practices schedule, set forth in Exhibit C, Special Permit Requirements, Part C, Paragraph N, but no later than May 20, 2016, Parx Casino and Racing is required to submit a request to the Department to permanently configure the diversion structure on Parx Casino and Racing's property, located at 3001 Street Road, Bensalem, PA 19020, so that no stormwater entering Basin B at that property will flow into BCWSA's Neshaminy Interceptor system. As contemplated in Exhibits B and C, the Department shall work diligently with Parx Casino and Racing to assure that, no later than May 20, 2016, Parx Casino and Racing will cease conveying stormwater from its racetrack operations into the Neshaminy Interceptor system. Until such a time that the Department approves Parx Casino and Racing's reconfiguring of the diversion structure and the cessation of conveyance of stormwater from the racetrack operations into the Neshaminy Interceptor system, as set forth in Exhibits B and C, a failure of Parx Casino

and Racing to comply with its deadline for full implementation of the Best Management Practices schedule and removal of stormwater flows from its racetrack operations into the Neshaminy Interceptor system by May 20, 2016, will not be counted by the Department towards any determination of exceedance or overload when the Department considers acceptance of new connections in Year 2017 and beyond against Neshaminy System municipal customers, provided that BCWSA has provided to the Department all metered sewage flow data for Parx Casino and Racing in BCWSA's annual Wasteload Management Report for each subsequent year that BCWSA seeks connections.

5. Provided that BCWSA terminates the Consolidated Appeals, Appeal 5, and the Petition, as agreed upon above, and provided that BCWSA remains in full compliance with the Department-accepted NICAP, the Department shall accept BCWSA's release of connections for years 2013 through 2016, as set forth in BCWSA's Neshaminy Interceptor Connection Management Plan ("NICMP"), attached to this Agreement (Exhibit "D"), or as modified by BCWSA and accepted by the Department, pursuant to the provisions of Paragraph 6.

6. The parties agree that BCWSA has a right to submit revised CMPs to the Department that alter the NICMP, and that the Department has a right to accept or not accept any such revisions in accordance with the Clean Streams Law, Act of June 22, 1937, P.L. 1987, *as amended*, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"), and the regulations promulgated thereunder, including, but not limited to, the Municipal Wasteload Management regulations, 25 Pa. Code §§ 94.1 *et seq.* Acceptance of changes to the NICMP shall be based on an evaluation of the impacts of such changes on projected flows to the Neshaminy Interceptor system and/or documented I/I removal

based on metered flows that confirm additional capacity is available. Year 2017 and beyond allocations will be based on municipal compliance with the flow limits established in their supplementary agreement with BCWSA and the remaining available capacity in the Neshaminy Interceptor Sewer System.

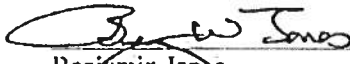
7. The parties agree to bear their respective attorneys' fees, expenses, and costs associated with this Agreement, the Consolidated Appeals, Appeal 5, and the Petition.

8. This Agreement constitutes the entire agreement between the Department and BCWSA, and no alteration, additions, or amendments shall be valid unless mutually agreed to by the parties, set forth in writing, and duly executed by them.

9. By their signatures below, the parties consent to the terms of this Agreement and represent that they are authorized to execute this Agreement on behalf of the party or parties for whom they sign.

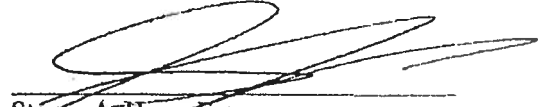
10. This Agreement shall terminate and be null and void on December 31, 2018, or earlier, if mutually agreed upon in writing by the parties.

FOR BUCKS COUNTY WATER AND SEWER AUTHORITY

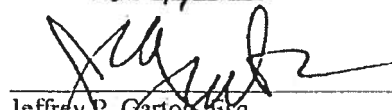

Benjamin Jones
Chief Executive Officer
1275 Almshouse Road
Warrington, PA 18976

Dated: 3/6, 2014

REVIEWED BY COUNSEL



Steven A. Hann, Esq.
Hamburg, Rubin, Mullin, Maxwell and Lupin
375 Morris Road
P.O. Box 1479
Lansdale, PA 19446-0773

Dated: 3/6/, 2014


Jeffrey P. Carlton, Esq.
Begley, Carlin and Mandio
680 Middletown Boulevard
Langhorne, PA 19047

Dated: 3/6, 2014

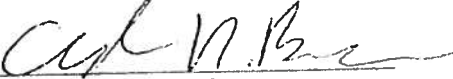
**FOR THE COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**



Jenifer Fields
Regional Program Manager
Clean Water Program
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401

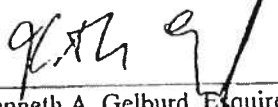
Dated: 3/10, 2014

REVIEWED BY COUNSEL



Adam N. Bram, Esquire
Assistant Counsel
Pennsylvania Department of Environmental Protection
Office of Chief Counsel
2 East Main Street
Norristown, PA 19401

Dated: 3/10, 2014



Kenneth A. Gelburd, Esquire
Assistant Counsel
Pennsylvania Department of Environmental Protection
Office of Chief Counsel
2 East Main Street
Norristown, PA 19401

Dated: 3/10, 2014



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

March 10, 2014

CERTIFIED MAIL NO. 7007 3020 0002 8264 4135

Mr. Benjamin Jones
Bucks County Water and Sewer Authority
1275 Almshouse Road
Warrington, PA 18976

Re: Municipal Wasteload Management Program
BCWSA Neshaminy Interceptor Corrective
Action Plan (NICAP) and Connection
Management Plan (NICMP)
Bucks County

Dear Mr. Jones:

The Department of Environmental Protection (DEP) received a submission on February 24, 2014, from Mr. John Swenson of Carroll Engineering Corporation, on behalf of the Bucks County Water and Sewer Authority (BCWSA). The information provided by Mr. Swenson includes a Corrective Action Plan (NICAP) and a Connection Management Plan (NICMP) for BCWSA's Neshaminy Interceptor. The NICAP and NICMP were submitted to fulfill BCWSA's obligations under 25 Pa. Code § 94.22, to address the projected hydraulic overload within the portions of the Neshaminy Interceptor, as discussed in the DEP's letters of June 26, 2012 and July 25, 2012, to BCWSA.

DEP has reviewed both the NICAP and NICMP. We hereby accept the submitted NICAP for portions of the Neshaminy Interceptor. This NICAP provides for the following:

1. BCWSA will initiate negotiations with tributary municipalities by March 31, 2014, aimed at the execution of supplemental agreements to existing service agreements. These agreements will establish average annual, maximum daily and instantaneous peak flow limits and a schedule for achieving these limits through proposed infiltration and inflow (I/I) activities as well as the completion of Act 537 planning.
2. BCWSA will participate, as necessary, in municipal Act 537 Plan updates for the Neshaminy Interceptor Service Area. This participation will include the provision of measured flow data, within 45 days if requested, for each metered municipal connection and an analysis of BCWSA conveyance and contracted conveyance facilities for the projected Service Area needs.

3. BCWSA will complete design, permitting and construction, as needed, for the upgrade to portions of the Neshaminy Interceptor for projected peak flow needs identified in municipal 537 planning.

In addition, DEP hereby accepts the submitted NICMP, last revised on February 24, 2014, with the tables last updated on February 17, 2014. The 2014 connections that include a proposed flow of 334,750 gallons of sewage per day (gpd) will be released with the acceptance of the NICAP. The remaining connections for 2015 and beyond will be released in accordance with the schedule included in the NICMP. This NICMP requires completion and compliance with listed milestones prior to the release of connections for specific municipalities.

You are requested to submit semi-annual reports due every six months. The semi-annual reports should provide the status of the corrective actions noted in your February 24, 2014, submission. The semi-annual report should also provide the status of the corrective actions as they relate to the accepted implementation schedule.

Please be advised that, in accordance with 25 Pa. Code, Section 71.51(b), no exemptions from sewage facilities planning can be issued for projects in municipalities tributary to the Neshaminy Interceptor until all milestones in the NICAP and NICMP implementation schedule have been completed. DEP may approve complete Sewage Facilities Planning Modules submitted by municipalities that are shown to be consistent with the NICAP and NICMP while the BCWSA is under a CAP and CMP. All planning modules submitted to DEP must include construction schedules that are consistent with the most currently approved version of the NICMP.

We request that your first semi-annual report be submitted to DEP by September 10, 2014.

A meeting has been scheduled for March 19, 2014, at 2 p.m. at the Bucks County Community College located at 275 Swamp Road in Newtown, PA. The purpose of this meeting is to discuss implementation of the NICAP and NICMP with representatives of the tributary municipalities served by the Neshaminy Interceptor. Representatives from the DEP, BCWSA and PWD will be available to explain the process and to answer questions that the tributary municipalities may have.

Mr. Benjamin Jones

- 3 -

March 10, 2014

If you have any questions, please contact Ms. Kelly Boettlin at 484.250.5184.

Sincerely,



Jenifer Fields, P.E.
Regional Manager
Clean Water

Attachments: BCWSA February 24, 2014 NICAP and NICMP

cc: Bensalem Township
Middletown Township
Langhorne Borough
Langhorne Manor Borough
Lower Southampton Township
Township of Falls Authority
Falls Township
Pennel Borough
Hulmeville Borough
Lower Makefield Township
Bristol Township
Northampton Township
Northampton, Bucks County, Municipal Authority
Newtown, Bucks County, Joint Municipal Authority
Newtown Township
Newtown Borough
Mr. Ponert - City of Philadelphia Water Department
Ms. Boettlin
Mr. O'Neil
Kenneth A. Gelburd, Esq. - DEP OCC
Adam Bram, Esq. - DEP OCC
Steve Hann, Esq.
Lynn Rauch, Esq.
Jeffrey Garton, Esq.
Mr. Argue, BCWSA
Mr. Swenson - Carroll Engineering Corporation
Senator Robert Tomlinson
Senator Charles McIlhinney, Jr.
Planning Section
Re 30 (GJE14CLW)066

Neshaminy Interceptor
Connection Management Plan (NICMP)

The attached listing by municipality represents a four year projection of anticipated connections from various developments to municipal sanitary sewer systems which are tributary to the Neshaminy Interceptor system. Connections will be approved in accordance with this listing immediately but may be curtailed subject to the completion of certain milestones listed below (as presented in the attached Corrective Action Plan NICAP):

Year 2014

1. Municipal connections consistent with the attached listing for Year 2014, will be released upon DEP acceptance of the NICAP.
2. Municipal connections consistent with the attached listing for Year 2015, will be allowed by BCWSA and DEP provided that the following items are completed in accordance with indicated schedule:
 - a. Municipalities shall prepare and submit for DEP approval a 537 Plan of Study outlining the steps to complete an update to their community 537 Plan no later than March 31, 2014. These Plans of Study will list the components of an Act 537 plan that will, at a minimum, select an alternative to address their sewage disposal needs within the Neshaminy Interceptor basin and provide a commitment to implement a comprehensive Inflow and Infiltration (I/I) plan (including a schedule and effectiveness evaluation) to reduce existing excessive wet weather flows to the Neshaminy Interceptor. The plan(s) of study shall also include a commitment to develop a capacity needs analysis as part of the Act 537 plan, if the municipality has not already completed a separate Act 537 plan to develop this analysis within the last 12 months.
 - b. Municipalities shall complete public sewer capacity needs analyses for the Neshaminy Interceptor basin no later than September 30, 2014 and submit to BCWSA.

Neshaminy Interceptor

Corrective Action Plan (NICAP)

1. Not later than March 2014, BCWSA will contact tributary municipalities to initiate negotiations with them for new supplemental agreements to the existing service agreements, which supplemental agreements will establish average annual, maximum daily and instantaneous peak flow limits. BCWSA will require municipal customers to establish a timetable to achieve these limits through repair, maintenance and other infiltration and inflow (I/I) improvements and to commence and complete 537 planning.
2. BCWSA will participate, as necessary, in Municipal 537 Facilities plan updates for the Neshaminy Interceptor Service Area by providing measured flow data, within 45 days, if requested, for each metered municipal connection and an analysis of BCWSA conveyance and contracted treatment facilities for the projected Service Area needs.
3. BCWSA will complete design, permitting and construction, as needed, for the upgrade to portions of the Neshaminy Interceptor for projected peak flow needs identified in municipal 537 Planning.

Year 2015

1. Municipal connections consistent with the attached listing for 2016, will be allowed by BCWSA and DEP provided that the following items are completed in accordance with indicated schedule:

- a. Municipalities shall execute the supplementary agreement (as outlined in the NICAP) with BCWSA no later than March 31, 2015.
- b. BCWSA shall use the needs projection provided by the municipalities to develop an analysis to provide the needed capacity in the Neshaminy Interceptor. BCWSA shall complete this analysis and provide to the municipalities no later than March 31, 2015.
- c. Municipalities shall incorporate the analysis prepared by BCWSA, as described in Year 2015 Step 1.b (above) into their Act 537 plans and use this information to select an alternative that is administratively, technically and environmentally acceptable to provide for their anticipated needs in the Neshaminy Interceptor basin.
- d. Municipalities shall complete the planning process and adopt their plans by resolution. Plans shall be submitted to DEP no later than October 1, 2015 for review and action.

Year 2016

1. Municipal connections consistent with the attached listing for 2017, will be allowed by BCWSA and DEP provided that the following items are completed in accordance with indicated schedule:

- a. Municipalities will implement their 537 Plans in accordance with the plan's implementation schedule.
- b. BCWSA will complete design, permitting and construction, as needed, for the upgrade to portions of the Neshaminy Interceptor for projected peak flow needs identified in the DEP approved municipal 537 Planning.
- c. Municipalities shall proceed with their comprehensive I/I plan for repairs, maintenance and/or replacement of facilities to reduce excessive wet weather flows.

Year 2017

1. Year 2018 and beyond allocations will be based on municipal compliance with the flow limits established in their supplementary agreement with BCWSA and the remaining available capacity in the Neshaminy Interceptor Sewer System, as determined by BCWSA and DEP.

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS					CONNECTION STATUS			PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GP/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017		
Crespo S/D	1-09004-231-E	Approved	13	0	13	13	250	3,250	6	7	0	0		
Wellington Estates		Approved	8	0	8	8	250	2,000	8	0	0	0		
DeLuca Residential (Wellington Estates)		Under Construction	29	0	29	20	250	5,000	7	7	6	0		
APBI Properties		Approved	7	0	7	7	250	1,750	3	4	0	0		
Jackson Village	1-09004-278-E	Approved	12	0	12	8	250	2,000	0	0	4	4		
Holland Enterprises S/D (Saddle Brook)	1-09004-279-E	Approved	116	0	116	116	250	29,000	35	27	27	27		
Liberty Plaza	1-09004-285-E	Approved	10	0	10	6	250	1,500	0	0	3	3		
Guarnaccia S/D	1-09004-250-E	Approved	9	0	9	6	250	1,500	0	2	2	2		
Capital Solutions (1)		Approved	8	0	8	8	250	2,000	0	8	0	0		
Tremont Village		Approved	128	0	128	85	250	21,250	0	0	42	43		
Costa (formerly DeEdgda)		Approved	15	0	15	15	250	3,750	5	5	5	0		
Lifestyle		Proposed	-	-	-	0	250	-	0	0	0	0		
Liberty Heritage Homes		Proposed	13	0	13	8	250	2,000	0	0	4	4		
Byberry Woods (SD Real Estate)		Proposed	39	0	39	39	250	9,750	0	12	12	15		
Oyatri Motel		Proposed	40	0	40	40	250	10,000	0	0	5	5		
Nrotetic		Proposed	5	0	5	5	250	1,250	0	0	4	4		
Livengrin		Proposed	15	0	15	11	250	2,750	0	3	4	4		
Parx Casino [a]	1-09004-313-3J	Proposed	712	0	712	474	250	118,500	0	0	237	237		
Pei Wei		Proposed	4	0	4	4	250	1,000	0	0	4	0		
Horizon Lot No. 2		Proposed	11	0	11	11	250	2,750	11	0	0	0		
High Tides Cafe	1-09004-329-3J	Approved	7.2	0	7.2	7.2	250	1,800	7.2	0	0	0		
4492 Bensalem Blvd. *	1-09004-336-X	Approved *	1	0	1	1	250	250	1	0	0	0		
Snyder Subdivision (Cypress Ave) *	1-09004-335-3J	Approved *	2	0	2	2	250	500	2	0	0	0		
Sarappo (4028 Bristol Pike) **		Proposed **	2	0	2	2	250	500	2	0	0	0		
Snyder Property (4351 Pine Street) ***	1-09004-328-X	Proposed	1	0	1	1	250	250	0	1	0	0		
Digrolamo (3981 Grace Ave.) ***	1-09004-323-3J	Proposed	1	0	1	1	250	250	0	1	0	0		
Lesnovec (Hubmeville and Galloway) ***	1-09004-320-E	Proposed	7	0	7	7	250	1,750	0	7	0	0		
Snyder (4800 Cypress Ave.) ***	1-09004-321-E	Proposed	1	0	1	1	250	250	0	1	0	0		
Woolk (2498 Anasia Lane) ***	1-09004-311-X	Proposed	1	0	1	1	250	250	0	1	0	0		
Robert Tisone (4337 Chestnut Ave) ***	1-09004-310-E	Proposed	1	0	1	1	250	250	0	1	0	0		
TOTAL						908.2		227,050	87	87	375	359		

[a] Used 712 EDU's as listed on the 2012 Chapter 94 Report.

* Requested between June 2012 and December 2013, approved by BCWSA

** Requested between June 2012 and December 2013, not yet approved by BCWSA

*** Added from DEP tables of application mailer and planning module databases, provided on 1-2-14

Connection Management Plan
 Updated on 2-17-14
 Nahantley Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	FLANNING STATUS				CONNECTION STATUS			PROJECTION SCHEDULE (EDU's)				
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017		
Shimoda Bldg														
Vide Property		Proposed	1	0	1	1	250	250	1	0	0	0	0	
Whales Property		Proposed	2	0	2	2	250	500	0	2	0	0	0	
Loretti Property		Proposed	2	0	2	2	250	500	0	0	0	0	2	
Historic Bldg. Rehab (at Hulme and Water Sts)		Anticipated	0	0	0 [b]	0	250	0	0	0	0	0	0	
TOTAL						5		1,250	1	2	0	0	2	

[b] Anticipated that any new flow would be offset by mitigation actions and/or existing EDU credits

Connection Management Plan
 Updated on 2-17-14
 Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS		CONNECTION STATUS				GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)			
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	2014			2015	2016	2017	
Miscellaneous Connections		Future	12	0	12	12	250	3,000	3	3	3	3	

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

PLANNING STATUS

CONNECTION STATUS

PROJECTION SCHEDULE (EDU's)

Development Name	DEP Code No.	Construction Status per Municipality	CONNECTION STATUS				GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)			2014	2015	2016	2017
Miscellaneous Connections		Future	4	0	4	4	250	1,000	1	1	1	1

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totom Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS				CONNECTION STATUS		GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	2014	2015			2016	2017		
Regency at Yardley - Single	1-09929-267-X	Under Construction	191	61	130	130	250	32,500	30	30	35	35		
Regency at Yardley - Townhomes	1-09929-267-X	Approved	186	0	186	25	250	6,250	0	0	0	25		
Matrix - Condo's	1-09929-267-X	Approved	165	0	165	84	250	21,000	0	0	28	56		
Matrix - Office	1-09929-267-X	Under Construction	6	2	4	4	250	1,000	0	3	1	0		
Brookshire Section I	1-09929-247-31J	Under Construction	21	20	1	1	250	250	1	0	0	0		
Brookshire Section II	1-09929-247-31J	Approved	8	0	8	8	250	2,000	5	3	0	0		
Trolo Tract	1-09929-262-E	Under Construction	5	4	1	1	250	250	1	0	0	0		
Minehart Subdivision	1-09929-255-31J	Under Construction	7	1	6	6	250	1,500	0	4	2	0		
Fiorelli Grove	1-09929-268-E	Approved	3	0	3	3	250	750	0	3	0	0		
Aria Hospital (c)		Proposed	223	0	223	148	250	37,000	0	0	74	74		
Capstone Terrace	1-09929-272-3J	Proposed	5,711	0	5,711	0	250	0	0	0	0	0		
Freeman's Farm	1-09929-278-F	Proposed	15	0	15	15	250	3,750	0	0	5	10		
Moon Nursery		Preliminary	15	0	15	15	250	3,750	0	15	0	0		
Sunshine Ln/Dogwood Dr (Harmony Lane Sub)		Preliminary	13	0	13	13	250	3,250	0	0	5	8		
Grey Nun Retirement Community		Unknown	114	0	114	0	250	0	0	0	0	0		
TOTAL						453		113,250	37	58	150	208		

[c] This project was reduced from 375,000 SF hospital with two 40,000 SF buildings to only a 180,000 SF health care village, but an updated EDU projection or connection rate was not provided. Therefore, the Projection Schedule has not been updated from the previous version of this table.

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

PLANNING STATUS

CONNECTION STATUS

PROJECTION SCHEDULE (EDU's)

Development Name	DEP Code No.	Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GP/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017
Newtown Township												
DeLaney Court	1-09935-156-E-rr	Under Construction	120	60	60	60	250	15,000	35	25	0	0
Villas	1-09935-160-E	Under Construction	172	122	50	50	250	12,500	22	28	0	0
Brabazon / 14 Eldridge		Approved	2	0	2	2	250	500	0	2	0	0
Smolczynski / 135 Swamp	1-09935-158-E	Approved	1	0	1	1	250	250	1	0	0	0
Johanson Kredahl Johnson	1-09935-169-E	Approved	1	0	1	1	250	250	0	0	1	0
Twining (Sullivan) / 178 Durham	1-09935-152-E	Approved	1	0	1	1	250	250	1	0	0	0
Univest Bank		Pending	10	0	10	10	250	2,500	2	8	0	0
Walsh / 385 Stoopville	1-09935-185-3J	Pending	1	0	1	1	250	250	1	0	0	0
Beneficial Bank	1-09935-179-X	Pending	10	0	10	10	250	2,500	2	8	0	0
Libby / 10 Friends Ln	1-09935-174-E	Pending	11	0	11	11	250	2,750	0	11	0	0
Platz / 761 Newtown Yardley	1-09935-189-3J	Pending	56	0	56	56	250	14,000	15	41	0	0
Melisky Tract / Stoopville		Pending	45	0	45	45	250	11,250	15	30	0	0
Silver Lake Exec Campus		Pending	45	0	45	45	250	11,250	0	45	0	0
Brookshire Estates	1-09935-155-3J	Pending	1	0	1	1	250	250	1	0	0	0
Deluca / 191 Durham		Pending	2	0	2	2	250	500	2	0	0	0
Luis Flores / 595 Lunson Hill		Pending	2	0	2	2	250	500	2	0	0	0
Promenade	1-09935-184-3J	Proposed	35	0	35	35	250	8,750	18	17	0	0
DeLorenzo Tomaso Pie	1-09935-186-X	Proposed	15	0	15	15	250	3,750	0	15	0	0
Qdoba Restaurant / 250 S Eagle		Proposed	10	0	10	10	250	2,500	10	0	0	0
Wong / 94 Rochboro Rd		Proposed	10	0	10	10	250	2,500	10	0	0	0
Stonehaven Homes / 162 Durham		Proposed	1	0	1	1	250	250	1	0	0	0
Pickering Manor		Proposed	35	0	35	35	250	8,750	10	10	15	0
Chandler Hall / 99 Barclay St	1-09935-188-3J	Proposed	7	0	7	7	250	1,750	0	7	0	0
IHM		Proposed	125	0	125	125	250	31,250	0	75	50	0
Wynmere Hunt / Buck Rd		Proposed	75	0	75	75	250	18,750	0	35	40	0
Stockland Inc / 4-6 Sycamore		Proposed	10	0	10	10	250	2,500	0	10	0	0
BC C College / Swamp Rd		Proposed	26	0	26	26	250	6,500	0	26	0	0
Optimal Sports / 826 Newtown-Yardley Rd	1-09935-190-3J	Proposed	6	0	6	6	250	1,500	0	6	0	0
Ryzner (Dilky) / 18.5 N Sycamore St		Proposed	25	0	25	25	250	6,250	0	25	0	0
Newtown Race / Pleasant Rd		Proposed	25	0	25	25	250	6,250	0	25	0	0
C Rock/Middle School	1-09935-180-X	Proposed	10	0	10	10	250	2,500	0	0	5	5
Mill Race Office Campus (1051 Lindenhurst Rd)	1-09935-134-X	Proposed	5	0	5	5	250	1,250	5	0	0	0
Business Commons		Potential	105	0	105	75	250	18,750	15	15	15	30
Newtown Shopping Center		Potential	105	0	105	75	250	18,750	15	15	15	30
Village @ Newtown E&W		Potential	105	0	105	75	250	18,750	15	15	15	30
Village @ Newtown South		Potential	105	0	105	75	250	18,750	15	15	15	30
Corners @ Newtown		Potential	140	0	140	100	250	25,000	20	20	20	40
Newtown Depot		Potential	105	0	105	75	250	18,750	15	15	15	30
Newtown Plaza		Potential	105	0	105	75	250	18,750	15	15	15	30
TOTAL						1267		316,750	162	559	221	225

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS		CONNECTION STATUS			GPM/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	2014			2015	2016	2017	
Clabbers		Proposed	3	0	3	3	250	750	0	3	0	0	
Dorothy Dersalet (Woodside Ave & Spring Ave)		Proposed	3	0	3	3	250	750	0	3	0	0	
Tulip Lane *		Approved *	1	0	1	1	250	250	1	0	0	0	
TOTAL						7		1,750	1	6	0	0	

* Requested between June 2012 and December 2013, approved by BCWSA

Connection Management Plan

Updated on 2-17-14

Nashamley Interceptor Service Area Tributary to Tatem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS				CONNECTION STATUS			PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GPWEDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017	
Keith Boyd Subdivision		Exemption Granted	4	1	3	3	250	750	3	0	0	0	
Spaeth Subdivision		Approved	3	1	2	2	250	500	2	0	0	0	
Sewer District 3 - Residential, Phase I (Harvest Ac)	EHB 2008-184L	Approved	41	14	27	8	250	2,000	2	2	2	2	
Sewer District 3 - Residential, Phase II (Tresymote Manor, Grenoble Manor Area)	EHB 2008-184L	Approved	254	84	170	48	250	12,000	12	12	12	12	
Sewer District 3 - Non-Residential Juliette's Garden	EHB 2008-184L	Approved	252	126	126	126	250	31,500	126	0	0	0	
Holland Estates		Approved	6	0	6	6	250	1,500	6	0	0	0	
Schutz Subdivision		Exemption Granted	7	2	5	5	250	1,250	5	0	0	0	
Lehurst Development (Toll Bros)		Approved	3	0	3	3	250	750	3	0	0	0	
Norton Subdivision (2 lots)	1-09937-390-31	Proposed	40	0	40	40	250	10,000	40	0	0	0	
Sewer District 3 - Non-Residential (Finure Growth)	1-09937-384-2	Proposed	2	1	1	1	250	250	1	0	0	0	
Davis Property	EHB 2008-184L	Proposed	54	2	52	40	250	10,000	10	10	10	10	
Sewer District 3 - 65 Richard Road	1-09937-393-X	Proposed	50	0	50	50	250	12,500	50	0	0	0	
295 Buck Road	1-09937-392-X	Proposed	2	0	2	2	250	500	2	0	0	0	
216 Bustleton Pike		Proposed	1	1	2	2	250	500	2	0	0	0	
Keith Boyd Manor Subdivision - Sunset Dr		Proposed	1	0	1	1	250	250	1	0	0	0	
Proposed Development (31.893 acres)		Proposed	10	0	10	10	250	2,500	10	0	0	0	
Proposed Development (12 acres)		Proposed	10	0	10	10	250	2,500	10	0	0	0	
Proposed Development (47.38 acres)		Proposed	10	0	10	10	250	2,500	10	0	0	0	
Proposed Development (6.7 acres)		Proposed	5	0	5	5	250	1,250	5	0	0	0	
Council Rock School District		Proposed	75	0	75	75	250	18,750	75	0	0	0	
Miscellaneous Growth per NBCMA's 2011 Chap 94		Proposed	Unknown	4	Unknown	80	250	20,000	20	20	20	20	
340 Rockville Road *	1-09937-394-X	Approved *	1	0	1	1	250	250	1	0	0	0	
10 Cameron Drive *		Approved *	1	0	1	1	250	250	1	0	0	0	
Bustleton Pike - Snyder *		Approved *	1	0	1	1	250	250	1	0	0	0	
Rockville Road (JM Contracting) *		Approved *	1	0	1	1	250	250	1	0	0	0	
Chapel Woods Assoc (581 Beverly Rd) **		Proposed	15	0	15	15	250	3,750	15	0	0	0	
656 East Holland Rd **		Proposed	1	0	1	1	250	250	1	0	0	0	
Kampus Klothes **		Proposed	1	0	1	1	250	250	1	0	0	0	
295 Buck Road (Unit 4) **		Proposed	5	1	4	4	250	1,000	4	0	0	0	
TOTAL						553		138,250	421	44	44	44	

* Requested between June 2012 and December 2013, approved by BCWSA

** Added from Northampton's update dated 2-14-14

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

PLANNING STATUS

CONNECTION STATUS

PROJECTION SCHEDULE (EDU's)

Development Name	DEP Code No.	Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GP/VEDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017
Durham Ridge	1-09003-297-311	Under Construction	20	16	4	4	250	1,000	2	2	0	0
Carter Subdivision	1-09003-318-E	Proposed	2	0	2	2	250	500	0	0	0	0
Hovnanian (Matrix Townhouses)	1-09003-355-E	Under Construction	160	0	160	140	250	35,000	20	40	40	40
SMMC (aka St Mary's Medical Center)		Under Construction	1	0	1	1	250	250	1	0	0	0
Saint Mary Health and Awareness		Proposed	78	0	78	78	250	19,500	0	0	39	39
Peretz/PECO Tract	1-09003-342-E	Proposed	20	0	20	20	250	5,000	0	10	10	0
George School	1-09003-365-X	Proposed	2	0	2	2	250	500	2	0	0	0
Glen Willow Properties	1-09003-323-3J	Proposed	116	0	116	87	250	21,750	0	29	29	29
Leonhauer Subdivision		Proposed	2	0	2	2	250	500	0	0	2	0
Woods Services Campus Addition	1-09003-366-X	Under Construction	5	0	5	5	250	1,250	5	0	0	0
Moss Subdivision	1-09003-331-E	Proposed	3	0	3	3	250	750	0	3	0	0
K&S Greenday		Proposed	1	0	1	1	250	250	0	1	0	0
OTS Veterinary Hospital	1-09003-347-E	Under Construction	12	0	12	12	250	3,000	12	0	0	0
Community Baptist Church	1-09003-338-3J	Proposed	6	0	6	6	250	1,500	0	0	3	3
Sara's Club [d]		Proposed	4	0	4	4	250	1,000	0	0	4	0
Penzel Rescue Squad Addition [d]		Proposed	1	0	1	1	250	250	0	0	0	0
Barner Subdivision (Cedar Ave) *		Approved *	1	0	1	1	250	250	1	0	0	0
Herling Homes (Willow Ave) *		Approved *	1	0	1	1	250	250	1	0	0	0
Clumpfer Subdivision (per 2005 Approval) *		Approved *	150	0	150	150	250	37,500	0	50	50	50
Matrix Commercial/Apartments **		Proposed	150	0	150	50	250	12,500	0	0	25	25
Stoer Farm **		Proposed	2	0	2	2	250	500	2	0	0	0
Country Builders (Adams Ave) **		Proposed	2	0	2	2	250	500	2	0	0	0
Country Builders (Cedar Ave) **		Proposed	2	0	2	2	250	500	2	0	0	0
McGrath-Arbutus Ave **		Proposed	1	0	1	1	250	250	1	0	0	0
Morris Ave **		Under Construction	1	0	1	1	250	250	1	0	0	0
Woods Services Cedarwood Addition **		Proposed	40	0	40	40	250	10,000	0	0	40	0
Bridgetown Mill House **		Proposed	75	0	75	50	250	12,500	0	0	25	25
Oxford Valley Mall - Restaurant Additions ***		Proposed	20	0	20	20	250	5,000	0	20	0	0
Shoppes at Flowers Mill ***		Proposed	20	0	20	20	250	5,000	0	20	0	0
TOTAL						687		171,750	52	157	267	211

[d] From 2012 Chapter 94 Report
 * Requested between June 2012 and December 2013, approved by BCWSA
 ** Added from Middletown's update dated 1-7-14.
 *** Added from Middletown's update from February 2014.

Connection Management Plan
 Updated on 2-17-14
 Neahamby Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS				CONNECTION STATUS			PROJECTION SCHEDULE (EDU's)						
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017				
<p>Divided Connections</p> <p>No anticipated connections over the next 4 years</p>																

Connection Management Plan

Updated on 2-17-14

Neaheminy Interceptor Service Area Tributary to Totem Road Pump Station

PLANNING STATUS

CONNECTION STATUS

PROJECTION SCHEDULE (EDU's)

Development Name	DEP Code No.	Construction Status per Municipality	CONNECTION STATUS				GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)			2014	2015	2016	2017
Seabrook Court	1-09938-014-3)	Proposed	12	0	12	12	3,000	0	6	6	0	0
Apt Rental Office		Proposed	1	0	1	1	250	0	0	1	0	0
Fairview Ave Subdivision		Proposed	2	1	1	1	250	0	0	1	0	0
Robbins Ave Apartments	1-09938-018-E	Proposed	12	0	12	12	250	0	12	0	0	0
TOTAL						26	6,500	0	18	8	0	0

Connection Management Plan
 Updated on 1-17-14
 Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS				CONNECTION STATUS		GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	2014	2015			2016	2017		
Viking Assoc. Townhouses 166-168 Lincoln Highway	1-09002-224-33	Proposed Proposed	40 50	0 0	40 50	10 35	250 250	7,500 8,750	0	10	10	10	15	
TOTAL						65		16,250	0	20	20	25		

Connection Management Plan

Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS				CONNECTION STATUS			PROJECTION SCHEDULE (EDU's)			
			EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017	
Med-Flex		Proposed	85	0	85	85	250	21,250	85	0	0	0	
2917 Veteran's Hwy (Fire City)		Proposed	2	0	2	2	250	500	2	0	0	0	
McDonalds (Ford Rd & Veteran's Hwy) [e]	1409001-243-31	Proposed	9	0	9	9	250	2,250	9	0	0	0	
3113 Veteran's Hwy		Approved	75	0	75	75	250	18,750	75	0	0	0	
3011 Veteran's Hwy		Approved	83	0	83	83	250	20,750	83	0	0	0	
1111 Veteran's Hwy		Proposed	7	0	7	7	250	1,750	0	7	0	0	
1159 Veteran's Hwy (Dunkin Donuts)		Proposed	4	0	4	4	250	1,000	0	4	0	0	
2520 & 2526 Durham Rd (AAMCO)		Proposed	10	0	10	10	250	2,500	0	10	0	0	
Community College Pad Site (for bank)		Proposed	3	0	3	3	250	750	0	3	0	0	
Ford Rd and Veteran's Hwy (former Getty Station)		Proposed	9	0	9	9	250	2,250	0	9	0	0	
TOTAL						287		71,750	254	33	0	0	

[e] McDonalds is an existing facility in Bristol Twp, but is relocating to a new location. Twp. is treating it as a new connection rather than a transfer until more info is available.

Connection Management Plan
 Updated on 2-17-14
 Neshamlay Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	Construction Status per Municipality	PLANNING STATUS				CONNECTION STATUS			PROJECTION SCHEDULE (EDU's)			
			EDI's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017	
Steepleview		Pending	200	0	200	200	250	50,000	200	0	0	0	
Stockland Trust		Pending	50	0	50	50	250	12,500	0	20	20	10	
Miscellaneous		Pending	25	0	25	57	250	14,250	20	15	12	10	
TOTAL						307		76,750	220	35	32	20	

Connection Management Plan
 Updated on 2-17-14

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS		CONNECTION STATUS			GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	PROJECTION SCHEDULE (EDU's)								
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (next 4 years)			2014	2015	2016	2017					
GRAND TOTAL FROM ALL MUNICIPALITIES																	
							4,581	1,145,300	1,339	1,023	1,121	1,098					

EXHIBIT C
CONNECTION MANAGEMENT PLAN

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area Tributary to Tolson Road Pump Station

Development Name	PLANNING STATUS			CONNECTION STATUS					NICMP APPROVED EDU'S			
	DEF Code No.	Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg Flow (GPD)	2014	2015	2016	2017
GRAND TOTAL FROM ALL MUNICIPALITIES						4,404		1,103,891	1,408	1,389	2,017	1,087

Connection Management Plan
 Updated on 5-3-19
 Neshaminy Interceptor Services Area Tributary to Toxam Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS				CONNECTION STATUS					NICMP APPROVED EDUS							
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017						
Hammerville Borough																		
Vile Property		Proposed	1	0	1	1	0	0	1	1	250	250	1	0	0	0	0	0
Wheeler Property		Proposed	2	0	2	2	0	0	2	2	250	500	0	2	0	0	0	0
Loretz Property		Proposed	2	0	2	2	0	0	2	2	250	500	0	0	0	0	0	2
Historic Bldg. Rehab (at Haines and Wax Sts)		Anticipated	0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	0
Ferrod Property (on Ford Ave.)		Proposed	1	0	1	1	0	0	1	1	250	250	0	0	0	0	0	0
Kiss Electric		Proposed	1	0	1	1	0	0	1	1	250	250	0	0	1	1	0	0
Black Property (Trenton Road)		Proposed	50	0	50	50	0	0	50	50	250	12,500	0	0	0	50	0	0
Lanshorne Wood Products Property (Trenton Road)		Proposed	35	0	35	35	0	0	35	35	250	8,750	0	0	0	0	0	35
TOTAL										92		23,000	1	2	52	37		

[a] Anticipated that any new flow would be offset by mitigation actions and/or existing EDU credits.

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	PLANNING STATUS		CONNECTION STATUS					NICMP APPROVED EDUs				
	DEP Code No.	Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GFD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017
Miscellaneous Connections		Future	12	0	12	12	250	3,000	3	3	3	3

Lanshorne Borough

Connection Management Plan

Updated on 5-3-19

Mechanically Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS				CONNECTION STATUS					NICMP APPROVED EDUS						
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Ave. Flow (GPD)	2014	2015	2016	2017					
Leamington Manor Borough																	
Miscellaneous Connections		Future	0	0	0	1	250	250	0	0	0	0	0	0	0	0	1
E&H Properties Construction (TPN 19-7-27-1)		Complete	1	1	0	0	250	0	0	0	0	0	0	0	0	0	0
McGrath (TPN 19-4-7-1)		Complete	1	1	0	0	250	0	0	0	0	0	0	0	0	0	0
Hershire Homes, Rivena Project (TPN 19-4-89-2) a)		Proposed	2	0	2	2	250	500	0	0	0	0	0	0	0	0	1
Ohio Group Property		Proposed	1	0	1	1	250	250	0	0	0	0	0	0	0	0	1
3116 W Prospect Ave (TPN 19-4-41-2)		Proposed	1	0	1	1	250	250	0	0	0	0	0	0	0	0	1
TOTAL						5		1,250	1	1	1	1	1	1	1	4	

a) Changed name from EVV Homes to Hershire Homes

█ = This project has either been partially or fully connected.

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEF Code No.	PLANNING STATUS				CONNECTION STATUS				NICMIP APPROVED EDU'S			
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017	
Lower Makefield Township													
Reserve at Yardley - Single	1-09929-267-X	Under Construction	191	157	34	34	250	8,500	30	30	35	35	
Reserve at Yardley - Carriages (f/m. Townhomes)	1-09929-267-X	Under Construction	186	22	164	75	250	18,750	0	0	30	18,750	
Mainix Lower Makefield Residential (aka Mainix Condo's)	1-09929-267-X	Approved	62	0	62	62	250	15,500	0	0	62	0	
Mainix - Office	1-09929-267-X	Complete	6	2	0	0	250	0	0	0	1	0	
Brookshire Section I	1-09929-247-31J	Complete	21	21	0	0	250	0	1	0	0	0	
Brookshire Section II	1-09929-247-31J	Complete	8	8	0	0	250	0	5	3	0	0	
Troilo Tract	1-09929-262-E	Complete	5	5	0	0	250	0	1	0	0	0	
Minehart Subdivision	1-09929-235-31J	Under Construction	7	5	2	2	250	500	0	4	2	0	
Fiorelli Grove	1-09929-268-E	Approved	3	0	3	3	250	750	0	3	0	0	
Ania Hospital (a)		Proposed	223	0	223	148	250	37,000	0	0	74	74	
Capstone Terrace	1-09929-272-3J	Proposed	192	0	192	0	250	0	0	0	0	0	
Reserve at Yardley (aka Freeman's Farm)	1-09929-278-E	Under Construction	15	14	1	1	250	250	0	0	5	10	
Moon Nursery		Approved	15	7	8	15	250	3,750	0	15	0	0	
Dorwood Drive (aka Harmony Lane Sub)	1-09929-273-3J	Proposed	14	0	14	23	250	3,500	0	0	14	0	
Grey Nun Retirement Community		Unknown	114	0	114	0	250	0	0	0	0	0	
Grace Point Church (aka 1st Baptist Church)	1-09929-282-3J	Approved	1	0	1	1	250	250	0	1	0	0	
Pennwood Middle School Renovations		Approved	1	0	1	1	250	250	0	0	1	0	
Miscellaneous Residential Development		--	60	0	60	51	250	12,750	0	0	51	0	
Miscellaneous Non-Residential Development		--	70	0	70	69	250	17,250	0	0	69	0	
Shoeb Brook Farm - Restroom		Proposed	1	0	1	1	250	250	0	0	1	0	
TOTAL						486		121,500	37	59	345	173	

[a] This project was reduced from 375,000 SF hospital with two 40,000 SF buildings to only a 180,000 SF health care village, but an updated EDU projection or connection rate was not provided. Therefore, the Projection Schedule has not been updated from the previous version of this table.

█ = This project has either been partiall) or fully connected.

Connection Management Plan

Updated on 5-3-19

Neshannony Interceptor Service Area Tributary to Totem Road Pump Station

Development Name	DEF Code No.	PLANNING STATUS				CONNECTION STATUS						NICMP APPROVED EDU'S																		
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg Flow (CPD)	2014	2015	2016	2017																		
Lower Southampton Township																														
Clabbers		Proposed	3	0	3	3	250	750	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Dorothy Detsales (Woodside Ave & Spring Ave)		Proposed	3	0	3	3	250	750	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tulip Lane		Approved	1	0	1	1	250	250	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Eastern Dawn Mobile Home Park Expansion		Proposed	52	0	52	52	250	13,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Next Tawanka Elementary School		Proposed	24.72	0	24.72	24.72	250	6,180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Misc. Growth		Potential	5/Year	0	5/Year	10	250	2,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tulip Lane (TFN 21-34-98)	1-09006-168-X	Proposed	1	0	1	1	250	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Citadel Bank (TFN 21-29-1, -2, -3, -4)	(a)	Proposed	3	0	3	3	250	750	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finnson, 2828 Creek Rd (TFN 21-34-202-1)	(b)	Proposed	1	0	1	1	250	250	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL						98.72		24,680		1	36	57	5																	

(a) Per Twp Engineer letter dated 4-24-19, 3 EDU's removed from Year 2015 Miscellaneous Growth column and used for this project.
 (b) Per Twp letter dated 3-18-19, 1 EDU requested for this property. This EDU was removed from the Year 2015 Miscellaneous Growth column.

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area Tributary to Tolson Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS			CONNECTION STATUS				NICMP APPROVED EDU'S			
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GED/EDU (used to calc Projected Flow)	Projected Ave-Flow (CPD)	2014	2015	2016	2017
Northampton Township	Exemption Granted 1-09937-401-31	Under Construction	4	3	1	3	250	750	3	0	0	0
	Special Subdivision 1-09937-401-31	Under Construction	3	1	2	2	250	500	2	0	0	0
Sewer District 3 - Residential	Exemption Granted EHB 2008-184L	Approved	41	21	20	8	250	2,000	2	2	2	2
	Phase II (Traymore Manor, Grenoble Manor, Areal	Approved	254	119	135	48	250	12,000	12	12	12	12
Sewer District 3 - Non-Residential	Exemption Granted EHB 2008-184L	Approved	254	138	116	125	250	31,250	125	0	0	0
	TPN 31-10-58	Completed	6	6	0	0	250	0	6	0	0	0
Leehurst Development (Toll Bros.)	Exemption Granted 1-09937-402-31	Under Construction	7	2	5	5	250	1,250	5	0	0	0
	Holland Estates	Under Construction	3	1	2	3	250	750	3	0	0	0
	Schwartz Subdivision 1-09937-390-31	Under Construction	40	38	2	2	250	500	40	0	0	0
Sewer District 3 - Non-Residential	Exemption Granted EHB 2008-184L	Proposed	54	2	52	40	250	19,000	10	10	10	10
	TPN 31-15-25	Proposed	10	0	10	10	250	2,500	10	0	0	0
Sewer District 3 - Non-Residential (Future Growth)	Proposed Development (12 acres)	Proposed	10	0	10	10	250	2,500	10	0	0	0
	Proposed Development (37.38 acres)	Proposed	10	0	10	10	250	2,500	10	0	0	0
	Proposed Development (6.7 acres)	Proposed	5	0	5	5	250	1,250	5	0	0	0
Miscellaneous Growth per NBCMA's 2011 Chap. 94	Proposed Council, Rock School District	Proposed	75	0	75	75	250	18,750	75	0	0	0
	Proposed 340 Rockersville Road	Completed	1	1	0	0	250	250	1	5	35	30
Keith Boyd Minor Subdivision - Sunset Dr	Proposed Development (31,893 acres)	Proposed	10	0	10	10	250	2,500	10	0	0	0
	Proposed Development (12 acres)	Proposed	10	0	10	10	250	2,500	10	0	0	0
Chapel Woods Assoc. (582 Beverly Rd)	Proposed Development (67.38 acres)	Proposed	10	0	10	10	250	2,500	10	0	0	0
	Proposed Development (6.7 acres)	Proposed	5	0	5	5	250	1,250	5	0	0	0
Kampus Klothes	Proposed 656 East Holland Rd (Waverly)	Proposed	15	0	15	15	250	3,750	15	0	0	0
	Proposed 10 Cameron Drive	Completed	1	1	0	0	250	250	1	0	0	0
Rockersville Road (JM Contracting)	Completed Busleton Pike - Snyder	Completed	1	1	0	0	250	0	1	0	0	0
	Completed Chapel Woods Assoc. (582 Beverly Rd)	Completed	1	1	0	0	250	0	1	0	0	0
Industrial Redevelopment (TPN 31-1-4)	Proposed 295 Buck Road (Unit 4)	Proposed	5	0	5	3	250	750	0	0	1	2
	Proposed Municipal Expansion	Proposed	4	0	4	4	250	1,000	0	0	4	4
Richboro Plaza (TPN 31-5-103)	Proposed Wawa - Richboro	Proposed	5	0	5	3	250	750	0	0	1	2
	Proposed 777 Harboro Road (TPN 31-5-82-1)	Proposed	2	0	2	0	250	500	0	0	2	0
Wright Property (TPN 31-5-23-4)	Proposed Industrial Redevelopment (TPN 31-1-4)	Proposed	36	0	36	36	250	9,000	0	1	0	0
	Proposed Wright Property (TPN 31-26-25-1)	Proposed	40	0	40	40	250	10,000	0	0	20	20
Cavalano/Pinnacle aka Russell Prop (TPN 31-10-75)	Proposed Sibley Property (TPN 31-1-7-2)	Proposed	2	0	2	2	250	500	0	0	2	0
	Proposed Jake's Eatery (TPN 31-15-145)	Proposed	8	0	8	8	250	2,000	0	0	8	0
Holland Middle School Expansion (TPN 31-35-5)	Completed 875 Buck Road (TPN 31-5-41)	Completed	4	4	0	0	250	0	0	4	0	0
	Proposed 1671 Bridgetown Pike (TPN 31-39-7-1)	Proposed	1	0	1	0	250	250	0	0	1	0
McKenna - 793 Harboro Road (TPN 31-5-82)	Proposed Misc. Change in Use	Proposed	63.5 *	0	13.5	13.5	250	3,375	0	0	63.5	0
	Proposed Russell Tract (TPN 31-5-45)	Potential	150	0	150	30	250	7,500	0	10	10	10
Deluca Subdivision at 500 New Road (TPN 31-5-40)	Proposed Municipal Expansion	Proposed	2	0	2	2	250	500	0	0	0	0
	Proposed Montauk Subdivision (TPN 31-15-20)	Approval Pending	2	0	2	2	250	500	4	1	0	0
Glasgow Road (TPN 31-13-3 & -8)	Proposed Civic Center Restroom	Approval Pending	1	0	1	1	250	250	0	1	0	0
	Proposed Glasgow Road (TPN 31-13-3 & -8)	Completed	1	1	0	0	250	0	0	0	0	0
444 St. Leonards Rd LLC (TPN 31-23-45)	Proposed Northampton Twp Police Station (111 Township Rd)	Completed	3	2	0	0	250	500	3	0	0	0
	Proposed 444 St. Leonards Rd LLC (TPN 31-23-45)	Under Construction	9	0	2	2	250	500	0	0	0	0
TOTAL	Proposed Stones Ford Rd (TPN 31-35-48-2)	Under Construction	1	0	1	1	250	250	0	1	0	0
			64.5	64.5	64.5	64.5	161,125	161,125	425	52	207	88

* The total EDU's (63.5) include existing sewer flows. Informed that no additional EDU's were needed for the expansion.
= This project has either been partially or fully connected.

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area, Tributary to Tolent Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS				CONNECTION STATUS						NICMP APPROVED EDU'S														
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg Flow (GPD)	2014	2015	2016	2017														
Pennadel Borough																										
Schoolhouse Court	1-09938-014-3J	Under Construction	12	2	10	10	250	2,500	12	0	0	0	0	0	0	0										
Alt. Rental Office (Village at Mill Creek)		Completed	1	1	0	0	250	0	0	0	0	0	0	0	0	0										
Fairview Ave Subdivision	1-09938-018-E	Completed	2	2	0	0	250	0	0	0	0	0	0	0	0	0										
Robbins Ave Apartments		Approved	12	0	12	12	250	3,000	12	0	0	0	0	0	0	0										
WAWA/CVS		Proposed	11	0	11	11	250	2,750	0	11	0	0	0	0	0	0										
200 W. Lincoln Highway		Proposed	4	0	4	4	250	1,000	0	0	0	0	0	0	0	0										
Miscellaneous Residential Development		-	42	0	42	42	250	10,500	0	0	0	0	0	0	0	0										
Miscellaneous Non-Residential Development		-	48	0	48	48	250	12,000	0	0	0	0	0	0	0	0										
TOTAL						127		31,750	24	11	96	0	0	0	0	0										

- This project has either been partially or fully connected.

Connection Management Plan

Updated on 5-3-19

Inshaminy Interceptor Service Area Tributary to Toxan Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS				CONNECTION STATUS						NICMFP APPROVED EDU'S						
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (CPD)	2014	2015	2016	2017						
Falls Township																		
Viking Assoc Townhouses	1-111102-234-3J	Under Construction	40	0	40	40	250	10,000	40	0	0	0	0	0	0	0	0	0
166-168 Lincoln Highway		Proposed	50	0	50	35	250	8,750	0	10	10	15	0	0	0	0	0	0
640 Lincoln Highway		Proposed	8	0	8	8	250	2,000	0	8	0	0	0	0	0	0	0	0
550 W. Trenton Avenue		Proposed	12.4	0	12.4	12.4	250	3,100	0	0	0	12.4	0	0	0	0	0	0
212 Lincoln Highway		Proposed	1	0	1	1	250	250	0	1	0	0	0	0	0	0	0	0
482 West Trenton Avenue		Proposed	1	0	1	1	250	250	0	0	0	1	0	0	0	0	0	0
115 Lincoln Highway/C W Wash (TPN 13-4-555,608,609,612,616&617)		Proposed	2	0	2	2	250	500	0	0	0	2	0	0	0	0	0	0
38 E. Cabot Blvd		Proposed	19	3	19	19	250	4,750	0	0	0	19	0	0	0	0	0	0
440 Lincoln Hwy (div. care)		Proposed	2	0	2	2	250	500	0	0	0	2	0	0	0	0	0	0
130 Trenton Road (div. care)		Under Review	5	0	5	5	250	1,250	0	0	0	5	0	0	0	0	0	0
188 Lincoln Highway		Proposed	2	0	2	2	250	500	0	0	0	2	0	0	0	0	0	0
312 N. Oxford Valley Road		Proposed	5	0	5	5	250	1,250	0	0	0	5	0	0	0	0	0	0
Miscellaneous Residential Redevelopment		--	20	0	20	20	250	5,000	0	0	0	20	0	0	0	0	0	0
Miscellaneous Non-Residential Redevelopment		--	30	0	30	23	250	5,750	0	0	0	23	0	0	0	0	0	0
AAA Car Care Center (TPN 13-3-35-J & 22-57-11-1)		Proposed	6	0	6	6	250	1,500	0	0	0	6	0	0	0	0	0	0
300 W. Trenton Ave. (TPN 13-35-27) (a)		Proposed	1	0	1	1	250	250	0	0	0	1	0	0	0	0	0	0
TOTAL						182.4		45,600	40	19	108.4	15						

(a) Per Twp Engineer letter dated 4/11/19, one EDU was added for this project and removed from the miscellaneous non-residential category. = This project has either been partially or fully connected.

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area Tributary to Tolson Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS				CONNECTION STATUS						NICMIP APPROVED EDU'S							
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed	EDU's Projected (2014-2017)	GP/EDU (used to calc Projected Flow)	Projected Avg. Flow (CPD)	2014	2015	2016	2017							
Bristol Township																			
Med-Flex Facility (Frost & Ford Rd)		Proposed	11	0	11	11	250	2,600	85	0	0	0	0	0	0	0	0	0	0
2917 Veteran's Hwy (Tire City)		Complete	2	2	0	0	250	0	2	0	0	0	0	0	0	0	0	0	0
McDonalds (Ford Rd & Veteran's Hwy)	I-09001-243-3J	Complete	9	9	0	0	250	0	9	0	0	0	0	0	0	0	0	0	0
3113 Veteran's Hwy		Approved	75	0	75	75	250	18,750	75	0	0	0	0	0	0	0	0	0	0
3011 Veteran's Hwy		Approved	83	0	83	83	250	20,750	83	0	0	0	0	0	0	0	0	0	0
1111 Veteran's Hwy		Proposed	7	0	7	7	250	1,750	7	0	0	0	0	0	0	0	0	0	0
1159 Veteran's Hwy (Dunkin Donuts)		Proposed	4	0	4	4	250	1,000	4	0	0	0	0	0	0	0	0	0	0
2520 & 2526 Durham Rd (AAMCO)		Proposed	10	0	10	10	250	2,500	10	0	0	0	0	0	0	0	0	0	0
Community College Pad Site (for bank)		Proposed	3	0	3	3	250	750	3	0	0	0	0	0	0	0	0	0	0
Ford Rd and Veteran's Hwy (former Gen. Station)		Proposed	9	0	9	9	250	2,250	9	0	0	0	0	0	0	0	0	0	0
Deon Square (518 S. Oxford Valley Rd)		Complete	5	5	0	0	250	0	0	0	0	0	0	0	0	0	0	0	0
2405 New Falls Road		Complete	1	1	0	0	250	0	0	0	0	0	0	0	0	0	0	0	0
Avenue B (TPW 5-1 [5-02])	I-09001-265-X	Waived	1	0	1	1	250	250	0	0	0	0	0	0	0	0	0	0	0
TOTAL						203		50,600	254	39	1	0	0	0	0	0	0	0	0

■ This project has either been partially or fully connected.

Connection Management Plan

Updated on 5-3-19

Neshaminy Interceptor Service Area Tributary to Tolson Road Pump Station

Development Name	DEP Code No.	PLANNING STATUS				CONNECTION STATUS				NICM APPROVED EDU'S					
		Construction Status per Municipality	EDU's Planned or Approved	EDU's Connected To Date	EDU's Needed (2014-2017)	EDU's Projected (2014-2017)	GPD/EDU (used to calc Projected Flow)	Projected Avg. Flow (GPD)	2014	2015	2016	2017			
Neutown Borough															
Steepview		Pending	170	38	132	132	250	33,000	200	0	0	0	0	0	0
Stockland Trust		Pending	50	0	50	50	250	12,500	0	0	20	20	10	10	10
Miscellaneous		Pending	25	0	25	46	250	11,500	9	15	12	12	10	10	10
1111 S. State Street		Proposed	1	0	1	1	250	250	1	0	0	0	0	0	0
130 S. State Street		Proposed	6	0	6	6	250	1,500	6	0	0	0	0	0	0
156 N. Lincoln Ave		Proposed	2	0	2	2	250	500	2	0	0	0	0	0	0
247 Lincoln Ave		Proposed	1	0	1	1	250	250	1	0	0	0	0	0	0
549 Lafayette St (DeLuca)		Proposed	1	0	1	1	250	250	1	0	0	0	0	0	0
TOTAL						239		59,750	220	35	32	20	20	20	20

□ This project has either been partially or fully connected per 2016 Chapter 94, Phase 1 connected 20 EDU's, 2 were existing

EXHIBIT D
NEWTOWN, BUCKS COUNTY, JOINT MUNICIPAL AUTHORITY
FLOW LIMITATIONS (PWD)

The following flow limitations are based on the five (5) year average that includes 2014 through 2018. On an annual basis, the flow limitations will be adjusted based upon the five (5) year rolling adjusted average, which said five (5)-year rolling average will adjust the flow limitations as noted in this Exhibit. The flows noted below shall be adjusted based upon projections and connections made during the five (5) previous years.

I.	Five-year Average Flow (2014-2018)	2,155,000 gpd
II.	Maximum Daily Flow	3,018,000 gpd
III.	Instantaneous Peak Flow	4,311,000 gpd

It should be noted that the Peak Instantaneous Flow at the connection points with Newtown, Bucks County, Joint Municipal Authority will be based on peak hourly flow.

EXHIBIT E
NEWTOWN, BUCKS COUNTY, JOINT MUNICIPAL AUTHORITY
FLOW LIMITATIONS (DEP)

The following flow limitations are based on the five (5) year average that includes 2014 through 2018. On an annual basis, the flow limitations will be adjusted based upon the five (5)-year rolling average, which said five (5)-year rolling average will adjust the flow limitations as noted in this Exhibit. The flows noted below shall be adjusted based upon projections and connections made during the period for the last five (5) years.

I.	(2014 - 2018) Average Flow	2,155,000 gpd
II.	Peak Hourly Flow	5,389,000 gpd

It should be noted that the Peak Flow at the connection points with Newtown, Bucks County, Joint Municipal Authority will be based on peak hourly flow.

EXHIBIT F
PENALTY CALCULATION
Neshaminy Interceptor
Sample Penalty Calculation for Customer Contributions to PWD Limit Exceedances

Column # =>	A	B	G=A-B	D	E	F=D-E	O	H	I=C/Hx100	J	K=IxI
	ABC Imp F loAE			Totem Road Pump Station			Exceedance Surcharge Allocation				
Date	Max Daily Cmgd)	Limit (mgd)	Exceedance (mgd)	Totem Rd Flow Ogd)	Limit (mgd)	Exceedance (mgd)	Sum of All Customers' Max Daily (mgd)	Sum of All Customers' Total Exceedance (mgd)	ABC Imp Share of Total Exceedance	RWD Surcharge	ABC Imp Share
5/18/2025	7.39	2.76	4.63	51.85	37.00	14.85	54.05	27.90	16.6%	6170,763.50	623,327.53
5/19/2025	3.82	2.76	1.06	40.59	37.00	3.59	33.27	7.23	14.6%	641,273.50	66,043.52
6/16/2025	4.20	2.76	1.44	38.27	37.00	1.27	34.42	8.29	17.4%	614,616.50	62,536.88
6/17/2025	6.80	2.76	4.04	45.28	37.00	8.23	50.24	24.06	16.3%	695,243.00	615,935.70
6/18/2025	4.01	2.76	1.25	40.71	37.00	3.71	39.16	13.03	9.6%	642,619.00	64,083.89

EXHIBIT G
RESOLUTION PROCESS

DISPUTE RESOLUTION

In the event of any dispute arising from or relating to this Agreement, or with regard to any invoices, or with regard to any basis of the charges or rates imposed by the Bucks County Water and Sewer Authority, the parties shall first submit such dispute to mediation. The mediator shall be mutually selected. If the parties cannot agree on a mediator within thirty (30) days of either party having demanded mediation and having submitted a list of at least two (2) acceptable mediators, either party may petition the Bucks County Court of Common Pleas for the appointment of a mediator. Before any party shall file such a petition with the Court, that party shall give seven (7) days written notice to the other party of the intention to file such a petition and shall ask the other party to provide the names and resumes of two persons of whom such other party desired to be included in the petition as proposed candidates to be selected by the Court as the mediator. In such petition, the party filing the petition shall set forth the names and resumes of no more two (2) candidates of the filing party's choice to be appointed as the mediator, and if the other party has provided the names and resumes of candidates for a mediator within seven (7) of the notice having been sent of the intention to file such petition, the filing party shall also include the names and resumes of two (2) candidates provided to the other party to be appointed as the mediator. The names and resumes of the proposed mediators shall be included in the Petition without any attribution as to which party has proposed any of the candidates. The Court shall have the power to appoint a mediator, provided that the appointed mediator is on the list submitted in the petition, and the appointment shall be final and binding upon the parties, provided that the person appointed is on the list of candidates submitted in the petition. Any person submitted as a candidate to be the mediator must either be experienced in flow metering technology or be an attorney experienced in the law relating to municipal authorities in Pennsylvania.

Any mediation must be concluded within one hundred twenty (120) calendar days of the appointment, unless both parties agree to extend the period for the mediation.

In the event that the parties are unable to reach a mediated resolution or in the event no resolution has been reached in the mediation within one hundred twenty (120) calendar days of the appointment of a mediator, or any extension as agreed upon in writing by the parties, then either party has the right to demand that the dispute be conclusively resolved through arbitration with a single arbitrator. In the event either party shall demand arbitration, the parties shall endeavor to agree upon an arbitrator. If the parties are unable to agree upon an arbitrator, then each party shall propose to the mediator one or two, but no more than two, candidates to be appointed as the arbitrator. The mediator shall select an arbitrator with the mediator being limited to selecting a candidate submitted by one of the parties. The arbitrator appointed must be a meter technology professional or an attorney experienced in municipal authority law in Pennsylvania. The arbitration shall be conducted in accordance with the construction industry rules of the American Arbitration Association; however, the arbitration does not need to be administered by the American Arbitration Association and the arbitrator does not need to be affiliated with the American Arbitration Association. The arbitration proceeding shall commence within thirty (30) days of the selection of the Arbitrator, and the Arbitrator shall render its written determination within thirty (30) days after the final hearing or evidentiary proceeding.

Both parties shall, in all circumstances, bear its own attorneys' fees and all costs regarding mediation. The costs of the mediator and all costs regarding mediation shall be divided equally between the parties, regardless of the outcome of the mediation.

In the event of Arbitration, if there is a substantially prevailing party, then the substantially prevailing party, in addition to any other damages or award, shall be entitled to an award of its reasonable attorneys' fees and costs incurred in the arbitration proceeding, and the non-prevailing party shall pay for the costs of the arbitrator. In the event of a dispute about a specific amount of money, the "substantially prevailing party" shall be the party, if any, which is awarded at least sixty (60%) percent of the principal amount in controversy. In all other cases, the Arbitrator may determine the substantially prevailing party, if any. The award of the arbitrator may be reduced to judgment in the Court of Common Pleas in Bucks County.

In the event that the dispute is resolved by arbitration, any amount determined by the arbitrator as having been in excess of the amount due from the Newtown, Bucks County, Joint Municipal Authority to the Bucks County Water and Sewer Authority, which has been paid by the Newtown, Bucks County, Joint Municipal Authority, shall constitute a credit to the Newtown, Bucks County, Joint Municipal Authority to be applied against the next monthly invoice from the Bucks County Water and Sewer Authority, and any amount determined by the arbitrator as being due to the Bucks County Water and Sewer Authority, which has not been paid by Newtown, Bucks County Joint Municipal Authority, shall be added to and be due as part of the next monthly invoice from the Bucks County Water and Sewer Authority.

APPENDIX B

Connection Management Plan

Updated 12-23-19

Neshaminy Interceptor Service Area Tributary to Totem Rd Pump Station

Development	DEP CODE No.	<u>Planning Status</u>		<u>Connection Status</u>		EDU's Projected 2014-2017	GPD/EDU (used to calculate Projected Flow)	Projected Avg Flow GPD	<u>NICMP Approved EDU's</u>			
		Construction Status Per Municipality	EDU's Planned or approved	EDU's Connected to date	EDU's Needed				2014	2015	2016	2017
Newtown Borough												
Steepleview		Pending	170	38	132	132	250	33,000	200	0	0	0
Stockland Trust		Pending	50	0	50	50	250	12,500	0	20	0	0
Misc.		Pending	47	0	76	46	250	11,500	9	15	32	20
111 S. State St		Proposed	1	0	1	1	251	251	1	0	0	0
130 S.State St	(a)	Proposed	6	0	6	6	250	1500	6	0	0	0
156 N. Lincoln Ave	(b)	Proposed	2	0	2	2	250	500	2	0	0	0
247 Lincoln Ave	(c)	Proposed	1	0	1	1	250	250	1	0	0	0
549 Lafayette St	(d)	Proposed	1	0	1	1	250	250	1	0	0	0

(a) 6 EDUS were taken from Year 2014 Misc. Category

(b) 2 EDUS were taken from Year 2014 Misc. Category

(c) 1 EDU was taken from Year 2014 Misc. Category

(d) 1 EDU was taken from Year 2014 Misc. Category

(e) EDUS were move from Stockland Trust 2016 (20) and 2017 (10) to miscellaneous 2016 and 2017

APPENDIX C

**NESHAMINY INTERCEPTOR EVALUATION
FOR
MUNICIPAL 537 PLANNING IN LOWER BUCKS COUNTY**

March 2015

(Revised September 2015)

(Last Revised January 2016)

I. PURPOSE

The Bucks County Water and Sewer Authority (BCWSA) provides sanitary sewer conveyance service to Lower Bucks County municipalities along the Neshaminy Creek between Newtown Township and Bensalem Township. Treatment plant capacity is also provided by BCWSA through an agreement with the City of Philadelphia Water Department.

A Settlement Agreement between BCWSA and the Pennsylvania Department of Environmental Protection (PADEP) included the establishment of a Corrective Action Plan (NICAP) and Connection Management Plan (NICMP) for the Neshaminy Interceptor and which included the requirement for tributary municipalities to complete updates to their Municipal 537 Plans, prepare a Sewer System Needs Analysis for their communities and complete a comprehensive inflow and infiltration (I/I) evaluation for their sanitary sewer systems.

This Interceptor evaluation will characterize the current flow conditions in the Neshaminy Interceptor and project conditions as a result of the municipal forecasted needs. This analysis will also consider the effects of reduction of infiltration and inflow from municipal sewer systems completed in conformance with the NICAP/NICMP and Supplemental Agreements which include flow limits for all tributary municipalities to the Neshaminy Interceptor. The original Evaluation (dated March 2015) utilized limits which mirrored the flow limits contained in the BCWSA Agreement with the City of Philadelphia. The September 2015 Evaluation utilized limits in accordance with DEP design standards, although the limits contained in the BCWSA Agreement with the City of Philadelphia still apply to penalties and fines (see individual supplementary agreements between BCWSA and municipalities for specific language). This version of the Evaluation (January 2016) revises Tables 1 and 3 of the report, as well as the Recommended Alternative. Additional lining of the 42"/48" Interceptor and a relief sewer of the 54" Interceptor has been included.

It is expected that the results of this evaluation will be incorporated into the individual municipal 537 Plan Updates, to complete the evaluation of sewer facilities necessary to serve the future needs.

II. BACKGROUND

The Authority provides sewage conveyance services to a large portion of Lower Bucks County by means of the Neshaminy Interceptor sewer, the main pump station at Totem Road, and the force main to the City of Philadelphia. The Neshaminy Interceptor begins in Newtown Township and proceeds down the Neshaminy Creek Valley for a distance of 14 miles where the Interceptor terminates at the Totem Road Pump Station in Bensalem Township. The Interceptor begins as a 12-inch diameter sewer, increasing in size up to 84-inch diameter as it picks up sewage from various gravity collection sewers, branch interceptors and force mains. The Core Creek Interceptor, a major branch of the Neshaminy Interceptor, extends the service area into Lower Makefield Township.

The Totem Road Pumping Station lifts sewage from the Neshaminy Interceptor and pumps it through parallel 36-inch and 42-inch diameter force mains to Philadelphia. The parallel force mains extend 27,000 feet to their point of terminus on Grant Avenue in Philadelphia. The force mains are combined into a single 42-inch force main at Grant Avenue and extend an additional 21,000 feet, where flows are discharged into the City of Philadelphia's Delaware Interceptor at Rhawn Street which conveys the flows to the Northeast Philadelphia Water Pollution Control Plant for treatment. The Authority owns 24 million gallons per day (MGD) capacity in the Northeast Plant for the Neshaminy Interceptor Service Area. The City of Philadelphia's maximum daily flow limit is 33 MGD and the peak instantaneous flow limit is 48 MGD. The average flow from the Neshaminy Interceptor Service Area for Year 2014 was 18.64 MGD.

The Neshaminy Interceptor Service Area provides wholesale sanitary sewer service to portions of the following municipalities: Bristol Township, Falls Township, Hulmeville Borough, Langhorne Manor Borough, Lower Makefield Township, Lower Southampton Township, Newtown Borough, Newtown Township, Northampton Township and Pennel Borough.

The Neshaminy Interceptor also provides retail sanitary sewer service to portions of the following municipalities: Bensalem Township, Langhorne Borough and Middletown Township.

III. PREVIOUS PLANNING, PERMITTING AND AGREEMENTS

A. Planning

Lower Bucks County 201 Facilities Plan: Completed in October 1985, this plan called for the conveyance of Neshaminy Interceptor flows to the Philadelphia Northeast Water Control Plant (NEWCP) including upgrades to the NEWCP plant, the Totem Road Pumping Station (to 60 mgd) and the extension of and paralleling of existing Force Mains.

Relief of 18 inch Neshaminy Interceptor (between Newtown Creek and Core Creek): Planning for this project was completed in approximately May 1988 for the construction of a relief sewer through Middletown Township to convey projected future sanitary sewer flows from Newtown Borough and Township and a portion of Northampton Township.

Lower Bucks Comprehensive Sewerage Plan: Completed in October 1988, this report updated the 201 Facilities Plan to include the phase out of the Newtown-Bucks County Joint Municipal Authority's Wastewater Treatment Plant (WWTP), the phase out of the Pennel Municipal Authority WWTP and phase out of the Falls Municipal Authority's WWTP. All flows from these 3 plants were to be sent through the Neshaminy Interceptor and via the replacement Totem Road Pumping Station and Force Mains to the NEWCP.

B. Agreements

1987 PWD Agreement

This agreement provided for the upgrade of the Totem Road Pumping Station and the extension of the force main further into the City. Treatment capacity was increased to an average of 20 mgd with a peak instantaneous flow of 40 mgd.

1996 PWD Agreement

This agreement provided for a temporary “rental” of average annual flow capacity as a result of an exceedance of the 20 mgd flow limit based on a 365 day rolling average basis.

2005 PWD Amendment (III) to Agreement

This agreement increased the average annual capacity at the NEWCP to 24 mgd and the peak instantaneous flow limit to 48 mgd. It also established a maximum daily flow limit of 33 mgd. This resolved a moratorium placed on the Neshaminy Interceptor Service Area in Year 2004, due to exceedance of the average annual flow in Spring 2003.

DEP Settlement Agreement

This agreement established a Corrective Action Plan and Connection Management Plan for all municipalities tributary to the Neshaminy Interceptor and included requirements for Supplemental Municipal Agreements containing flow limits, Municipal 537 Planning Updates, Comprehensive Infiltration and Inflow Evaluation of sanitary sewer systems and removal of excessive wet weather flows.

Supplemental Municipal Agreements

These agreements were to be completed by March 31, 2015. Flow limits were established using 5 year historical average flows from tributary municipalities and maximum day and peak instantaneous flow limits reflecting the factors used to establish the flow limits in the PWD Amendment III Agreement.

IV. NESHAMINY INTERCEPTOR EVALUATION – COMPUTER MODELING

A. Introduction

The portion of the Neshaminy Interceptor from the connection of the Core Creek Interceptor down to the Totem Road Pump Station has been modeled using Bentley SewerCAD V8i. This portion of the Interceptor consists of 30”, 33”, 36”, 42”, 48”, 54”, 60”, 72” and 84” diameter reinforced concrete pipe, with the majority of the Interceptor being installed in the mid to late 1960’s. See FIGURE A for a plan showing this portion of the Interceptor.

The portion of the Neshaminy Interceptor above the Core Creek Interceptor was not included in this model, since that portion was paralleled in Year 1988 with 30” pipe. The purpose of this model was to evaluate the Neshaminy Interceptor to convey existing flows with anticipated Inflow and Infiltration (I&I) reductions to achieve future flow limits and determine the best course of action to provide the necessary capacity for future municipal needs.

B. Modeling Calibration

For calibration purposes, the model was initially set up using the actual hourly flows recorded at each customer meter connecting to the Interceptor during a December 26, 2009 storm event. This was the storm used for the preliminary design of the Neshaminy Interceptor Surge Tank, which has not been constructed. The storm produced 2.16" of rain according to the Northeast Philadelphia Airport rain gauge, with additional snow melt caused by the estimated 2 to 4 inches of snow already on the ground surface at the time of the rain. The results were compared to the meter data from the nine (9) "N" meters that the Authority has installed in the Neshaminy Interceptor, and appropriate adjustments were made to the model to match observed conditions.

C. Existing Flow Conditions

The Totem Road Pump Station, which receives all the flows from the Neshaminy Interceptor and conveys them to the City of Philadelphia's Northeast Water Pollution Control Plant, is limited by agreement to 2 times the average daily flow. Based on a purchased average daily flow of 24 MGD, the peak limit is 48 MGD. For this reason, the original model scenario used the average flow from each customer meter, multiplied by a factor of 2.0 to arrive at the peak flow that connection would contribute to the Interceptor. Per DEP design requirements, the average flow from each customer meter is now multiplied by a factor of 2.5 to arrive at the peak instantaneous flow that connection would contribute to the Interceptor. An average daily hydrograph was developed for each customer meter using actual flows from a period of time during October 2009, in order to develop a flow pattern for each connection. The hydrographs were then converted to the 5-year average flow (2010-2014) for each customer meter, and peaked by a factor of 2.5, which represents the peak instantaneous limit established for Municipal customer systems in this Evaluation.

Table 1 (below) presents the 5-year average flow from each customer, the 5-year average flow reduced by 10% to account for peak flow reduction, the metered peak flow during the December 26, 2009 wet weather event, the customer peak limit based on a factor of 2.0 times the 5-year average flow (PWD Allowable Peak), and the customer peak instantaneous limit based on a factor of 2.5 times the 5-year average flow.

The assumed 10% reduction was used for the sole purpose of evaluating the initial phase of Neshaminy Interceptor improvements. It is expected that as a result of reducing peak flows to 2.5, average flows will be reduced as well. We have estimated 10%, but it could be more or less. If the average flow does not reduce by 10%, but the peak hour ratio is 2.5 or less, no enforcement action needs to be taken as long as Neshaminy Interceptor flows do not exceed the COP limits, or do not cause surcharging in the Interceptor.

TABLE 1

Customer	Avg. Daily Flow (ADF) (2010-2014)	ADF Reduced by 10% (via peak flow redux)	Metered Peak Instant Flow (12/26/09)	PWD Allowed Peak Flow 2 x ADF (peak hour)	Design Peak Flow 2.5 x ADF (peak 15-minute)
	(mgd)	(mgd)	(mgd)	(mgd)	(mgd)
Bensalem Township	4.46	4.01	15.22	8.03	10.03
Hulmeville Borough	0.07	0.07	0.45	0.13	0.17
Langhorne Borough	0.39	0.35	1.58	0.70	0.88
Langhorne Manor Borough	0.04	0.03	0.14	0.07	0.08
Lower Makefield Township	0.72	0.65	1.83	1.30	1.63
Newtown Township/Boro	1.97	1.78	3.80	3.55	4.44
Lower Southampton Township	0.49	0.44	1.21	0.88	1.10
Northampton Township	3.73	3.36	8.82	6.72	8.40
Middletown Township	3.58	3.23	9.90	6.45	8.06
George School	0.07	0.07	0.31	0.13	0.17
Core Creek Park	0.002	0.002	n/a	0.00	0.00
Korman Corporation	0.03	0.02	0.09	0.05	0.06
Penndel Borough	0.26	0.23	1.17	0.47	0.58
Falls Township	2.73	2.46	6.76	4.92	6.15
Bristol Township	0.15	0.13	0.85	0.26	0.33
TOTAL	18.71	16.84	--	--	--
Totem Road PS (attenuated)	18.09		54.00	--	--
PWD Agreement Limits	24.00		--	48.00	--

D. Future Flows

Each customer was to provide the Authority with their ultimate future needs, so that any planned improvements to the Interceptor would be adequately designed. Subsequent to the original evaluation in March 2015, each customer was to provide specific 10-year future needs projections in addition to estimated 10-year I&I flows to be removed from their systems. To date, most of the 10-year projections have been received. Not all municipalities provided 10-year estimated I&I Removal.

Future flows used in this evaluation are estimates and do not reflect a specific allocation to any municipality. Future flow capacity will be allocated to municipalities on a “first come, first serve” basis through the DEP planning process. Act 537 planning application processing will be dependent on actual flow quantities as measured at the PWD sewer connection, established municipal flow targets, and flow triggers established in this evaluation.

In order to proceed with the modeling, 10-year future flows were estimated based on a straight-line basis (10-year/25-year = 40%). The majority of the ultimate future needs received from the customers were generally noted to be 25-year projections. Table 2 (see below) summarizes the 10-year projections provided by the municipalities compared to the projections used in the model.

TABLE 2

Customer	10-Year Add'l Future Average Flow [per updated customer projections] (mgd)	10-Year Add'l Future Average Flow [based on straight-line basis] (mgd)
Bensalem Township [a]	0.68	0.39
Hulmeville Borough	0.02	0.01
Langhorne Borough	0.03	0.02
Langhorne Manor Borough	0.002	0.002
Lower Makefield Township	0.22	0.16
Newtown Township/Boro	0.36	0.18
Lower Southampton Township	0.06	0.03
Northampton Township	0.29	0.13
Middletown Township	0.22	0.20
George School	0.00	0.00
Core Creek Park	0.00	0.00
Korman Corporation	0.00	0.00
Penndel Borough [b]	0.06	0.06
Falls Township	0.02	0.03
Bristol Township [b]	0.04	0.04
TOTAL	2.00	1.24

[a] 0.17 mgd (ADF) of future flow enters one run above TRPS, which does not have hydraulic issues.

[b] Specific 10-year projection was not provided, so 40% of ultimate projection was used in both columns.

The future flows were added to the existing flow scenario (2.5xADF) described in Paragraph C above. Future flows were calculated at the Authority standard of 250 GPD/EDU. They were peaked by a factor of 2.5. A standard hydrograph was developed for all future flows, no matter which municipality they are associated with.

The intent is to make improvements to the Neshaminy Interceptor to satisfy the 10-year future needs. The improvements are contingent upon customers removing I&I from their systems. Flow triggers will be put in place, so that if the tributary municipalities are unable to remove the required I&I or if the rate/timing of future connections are higher/faster than anticipated, additional Interceptor improvements may go into effect, depending on the circumstances.

Table 3 (below) presents the additional future peak flow projections for each customer (multiplied by a factor of 2.5) and the projected future peak flow if adding the additional future flow to the "2.5xADF" flow (with I&I removal).

TABLE 3

	10-Year Add'l Future Peak Flow*	10-Year Projected Future Peak Instant Flow** (10-Yr Future + 2.5xADF)
Customer	(mgd)	(mgd)
Bensalem Township	0.97	11.01
Hulmeville Borough	0.02	0.19
Langhorne Borough	0.05	0.93
Langhorne Manor Borough	0.01	0.09
Lower Makefield Township	0.40	2.03
Newtown Township/Boro	0.45	4.89
Lower Southampton Township	0.07	1.18
Northampton Township	0.32	8.72
Middletown Township	0.49	8.55
George School	0.00	0.17
Core Creek Park	0.00	0.00
Korman Corporation	0.00	0.06
Penndel Borough	0.14	0.72
Falls Township	0.07	6.22
Bristol Township	0.11	0.44
TOTAL	3.10	--
Totem Road PS (attenuated)	--	39.30

* Calculated at "Ultimate Future Avg Flow" x 0.4 (40% Straight-line Basis) x 2.5 (Peak Factor)

** With I&I removed from the systems (and subsequent 10% reduction to ADF)

E. Model Results

1. Existing Average Flow and a Peak Factor of 2.5: In this scenario, the hydraulic design capacity of the Interceptor is exceeded, beginning midway through the 48" pipe and continuing up to the 30" Interceptor. The modeled flow at Totem Road Pump Station was calculated to be 40.46 MGD, which is below the 48 MGD peak limit imposed by the City of Philadelphia.
2. 10-Year Future Flow Conditions: The addition of future flow to the 2.5xADF scenario will only increase the pipe capacity exceedances in the Interceptor. The Interceptor's surcharged and pressurized state under the Future Flow Conditions is not acceptable.

The following Upgrade Alternatives were considered:

- a. Lining of the 30", 33", 36" and 42" portions of the Interceptor plus lining the first 3,000 feet of 48" Interceptor plus construction of a relief sewer along the 54" portion of the Interceptor

All Alternatives rely on municipal customers reducing their peak instantaneous flows to 2.5 times their average flow. By reducing peak flows, a corresponding reduction to existing flows should occur. For purposes of this evaluation, it is estimated that average flows will reduce by 10%.

This alternative (including the reduction in average daily flow by 10%) would reduce the hydraulic grade line (HGL) to within top of sewer pipe for existing and future flows at a peaking factor of 2.5. The estimated cost for this Alternative is \$18,173,000. The detailed cost estimate is included in Figure B.

- b. Upgrading the size of the 30", 33", 36" and 42" portions of the Interceptor plus construction of a relief sewer along the 54" portion of the Interceptor

This alternative would reduce the HGL to within the sewer pipe. The estimated cost for this alternative is \$24,206,000. The detailed cost estimate is included in Figure C.

F. Alternative Analysis

The following types of improvements to the Neshaminy Interceptor were considered for this evaluation:

1. Removal and Replacement of the Existing Sewer with Larger Diameter Pipe:
 - a. Advantages: The replacement pipe size can be increased to provide a surplus capacity in the design; any infiltration presently in the existing Interceptor piping will be removed; all excavations should be limited to the original trench of the pipe, thus eliminating rock excavation.
 - b. Disadvantages: Bypass pumping is required; significant surface disturbance will be sustained, especially with the larger diameter pipes and the deeper pipes; dewatering and environmental concerns would arise due to the close proximity to the Creek.

2. Installing a Relief Sewer alongside the Existing Interceptor:

- a. Advantages: Bypass pumping can be avoided; excavations can be slightly shallower.
- b. Disadvantages: Additional easements would likely be required; structures built in the vicinity of the Interceptor could inhibit the installation of a parallel sewer line in many cases; the existing Interceptor would remain in service, but its condition would not be improved in any way; rock excavation would likely be substantial; significant surface disturbance would still be encountered.

Conclusion on Relief Sewers - Due to the list of negative aspects with a relief sewer, cost estimates for this type of alternative to improve the entire Interceptor were not prepared.

3. Lining the Existing Interceptor:

- a. Advantages: Minimal excavations (only around certain manholes to temporarily remove the cone sections); minimal surface disturbance; avoid excavations in steep banks of the Creek, which would be very difficult to stabilize after construction; rehabilitate the existing infrastructure and extend its service life; increased smoothness in the pipe, which in turn decreases the friction losses; removal of any infiltration in the existing pipe.
- b. Disadvantages: Bypass pumping is required; slight decrease in pipe diameter, which is more than offset by the increase in smoothness of the pipe.

G. **Recommendations**

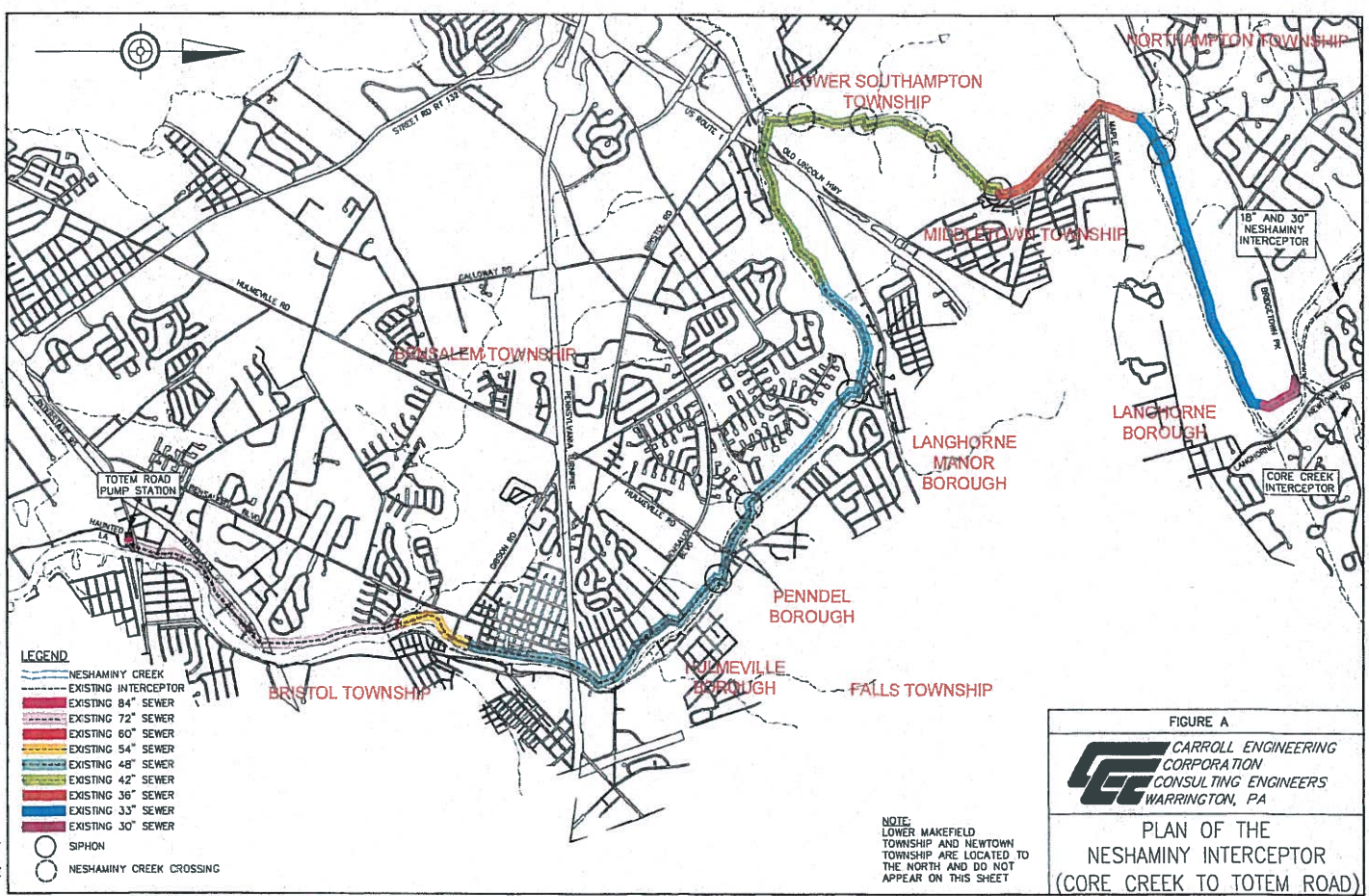
Lining of the 30", 33", 36" and 42" portions of the Interceptor plus lining the first 3,000 feet of 48" Interceptor plus construction of a relief sewer along the 54" portion of the Interceptor at an estimated cost of \$18,173,000.

Since this upgrade is based on significant I/I reductions, these modeled conditions could take some time to achieve and would need to be maintained in order to accommodate future flows. Connection limitations to Municipal customers who do not achieve the necessary reductions may be necessary.

H. Flow Triggers

1. Should the tributary municipalities be unable to remove the required I&I or if the rate/timing of future connections are higher/faster than anticipated, additional Interceptor improvements may go into effect, or connection restrictions put in place for municipalities which exceed their flow limits.
2. The existing 5-year average flow (2010-2014), as measured at Totem Road Pump Station, is 18.09 MGD. Should the 5-year historic average flow (to be recalculated on an annual basis) surpass 19.00 MGD, the following steps will be taken:
 - a. Evaluate the maximum day and peak flows to the City of Philadelphia (via Totem Road Pump Station) and determine if peak factors have been reduced.
 - b. Consider sewer connection moratoriums (to be determined by customer metered flow evaluations and compliance with Supplementary Agreements).
 - c. Consider further improvements to the Interceptor.

S:\projects\14258100\DWG Mar 31, 2015 8:06am dbr/mcm



- LEGEND**
- NESHAMINY CREEK
 - - - EXISTING INTERCEPTOR
 - EXISTING 84" SEWER
 - EXISTING 72" SEWER
 - EXISTING 60" SEWER
 - EXISTING 54" SEWER
 - EXISTING 48" SEWER
 - EXISTING 42" SEWER
 - EXISTING 36" SEWER
 - EXISTING 33" SEWER
 - EXISTING 30" SEWER
 - SIPHON
 - NESHAMINY CREEK CROSSING

FIGURE A

CE CARROLL ENGINEERING CORPORATION
CONSULTING ENGINEERS
WARRINGTON, PA

PLAN OF THE
NESHAMINY INTERCEPTOR
(CORE CREEK TO TOTEM ROAD)

NOTE:
LOWER MAKEFIELD
TOWNSHIP AND NEWTOWN
TOWNSHIP ARE LOCATED TO
THE NORTH AND DO NOT
APPEAR ON THIS SHEET

FIGURE B

**OPINION OF PROBABLE CONSTRUCTION COST
LINING EXISTING 30", 33", 36", 42" AND FIRST 3,000' +/- OF 48" NESHAMINY INTERCEPTOR SEWER
PLUS RELIEF SEWER OF 54" NESHAMINY INTERCEPTOR SEWER
PREPARED JANUARY 2016**

NO.	LINING PROJECT ITEM	UNITS	QUANTITY	UNIT PRICE	TOTAL PRICE
1	30" Liner	LF	1,730	\$ 220.00	\$ 380,600.00
2	33" Liner	LF	8,748	\$ 250.00	\$ 2,187,000.00
3	36" Liner	LF	5,406	\$ 270.00	\$ 1,459,600.00
4	42" Liner	LF	13,692	\$ 300.00	\$ 4,107,600.00
5	48" Liner	LF	3,089	\$ 320.00	\$ 988,500.00
6	Cleaning Sewer	LF	32,665	\$ 2.00	\$ 65,300.00
7	Removal of Existing MH Top Section (<10' deep)	EA	50	\$ 2,300.00	\$ 115,000.00
8	Replace Top Section of MH (<10' deep)	EA	50	\$ 5,425.00	\$ 271,300.00
9	Clearing (assume entire easement, for access to each lining setup)	Acre	17	\$ 14,700.00	\$ 253,800.00
10	Erosion and Sedimentation Controls	LF	32,665	\$ 5.00	\$ 163,300.00
11	TV Inspection	LF	32,665	\$ 1.00	\$ 32,700.00
12	Restoration and Seeding (exclude paved areas)	LF	29,571	\$ 6.00	\$ 177,400.00
13	Estimated Monthly Bypass Equipment Rent	Month	3.8	\$ 65,500.00	\$ 248,900.00
14	Relocate/Reset Bypass Piping	EA	17	\$ 5,000.00	\$ 85,000.00
15	Watchman for overnight and weekends	LS	1	\$ 293,000.00	\$ 293,000.00
16	Fuel for Bypass Pumps	Days	110	\$ 650.00	\$ 71,500.00
17	Bypass Delivery/Pickup	LS	1	\$ 12,000.00	\$ 12,000.00
18	Pre/Post Construction Video	LS	1	\$ 15,000.00	\$ 15,000.00
19	Bonds & Insurance (2%)	LS	1	\$ 218,600.00	\$ 218,600.00
20	Mobilization (2%)	LS	1	\$ 218,600.00	\$ 218,600.00
Construction Subtotal					\$ 11,364,700.00
Contingency (25%)					\$ 2,841,200.00
Construction Total					\$ 14,205,900.00

25% Soft Costs (Engineering, Legal, Administration) \$ 2,841,200.00

TOTAL LINING PROJECT COST (ROUNDED) \$ 17,048,000.00

NO.	54" RELIEF SEWER PROJECT ITEM	UNITS	QUANTITY	UNIT PRICE	TOTAL PRICE
1	24"/36" PVC Gravity Sewer	LF	2,100	\$ 90.00	\$ 189,000.00
2	Stone Bedding	CY	960	\$ 60.00	\$ 57,600.00
3	Soil Excavation	CY	3,700	\$ 5.50	\$ 20,350.00
4	Rock Excavation (depth estimated)	CY	2,200	\$ 75.00	\$ 165,000.00
5	Suitable Backfill (with compaction)	CY	4,400	\$ 5.00	\$ 22,000.00
6	Clean Fill Imported to Site	CY	750	\$ 20.00	\$ 15,000.00
7	Hauling Excess Material	CY	2,200	\$ 10.00	\$ 22,000.00
8	6' Diameter MH (10'-15' deep)	EA	4	\$ 11,600.00	\$ 46,400.00
9	6' Diameter MH (10'-15' deep) - Doghouse	EA	1	\$ 15,000.00	\$ 15,000.00
10	6' Diameter MH (15'-20' deep)	EA	1	\$ 19,500.00	\$ 19,500.00
11	6' Diameter MH (>20' deep)	EA	1	\$ 25,350.00	\$ 25,350.00
12	Core Drill Existing Manholes for Connection	EA	2	\$ 3,000.00	\$ 6,000.00
13	Small Stream Crossing	LS	1	\$ 20,000.00	\$ 20,000.00
14	Clearing	Acre	2	\$ 13,000.00	\$ 27,695.13
15	Erosion and Sedimentation Controls	LF	2,100	\$ 5.00	\$ 10,500.00
16	TV Inspection	LF	2,100	\$ 1.00	\$ 2,100.00
17	Pipe Testing	LF	2,100	\$ 2.00	\$ 4,200.00
18	Restoration and Seeding	LF	2,100	\$ 6.00	\$ 12,600.00
19	Estimated Monthly Bypass Equipment Rent (<72" Portion)	Month	0	\$ 80,000.00	\$ 13,600.00
20	Bypass Delivery/Pickup	LS	1	\$ 4,000.00	\$ 4,000.00
21	Dewatering (200' well point system)	Days	30	\$ 600.00	\$ 18,000.00
22	Pre/Post Construction Video	LS	1	\$ 5,000.00	\$ 5,000.00
23	Bonds & Insurance (2%)	LS	1	\$ 14,500.00	\$ 14,500.00
24	Mobilization (2%)	LS	1	\$ 14,500.00	\$ 14,500.00
Construction Subtotal					\$ 749,895.13
Contingency (25%)					\$ 187,500.00
Construction Total					\$ 937,395.13

25% Soft Costs (Engineering, Legal, Administration) \$ 187,500.00

TOTAL RELIEF SEWER PROJECT COST (ROUNDED) \$ 1,125,000.00

GRAND TOTAL PROJECT COST (ROUNDED)					\$ 18,173,000.00
---	--	--	--	--	-------------------------

FIGURE C

**OPINION OF PROBABLE CONSTRUCTION COST
REMOVE AND REPLACE EXISTING 30", 33", 36" & 42" NESHAMINY INTERCEPTOR SEWER
PLUS RELIEF SEWER OF 54" NESHAMINY INTERCEPTOR SEWER
PREPARED JANUARY 2016**

NO.	ITEM	UNITS	QUANTITY	UNIT PRICE	TOTAL PRICE
1	36" (PVC)	LF	1,730	\$ 79.00	\$ 136,700.00
2	42" (PVC)	LF	14,154	\$ 96.00	\$ 1,358,800.00
3	48" (PVC)	LF	13,692	\$ 117.00	\$ 1,602,000.00
4	Excavation (reuse material)	CY	98,185	\$ 6.00	\$ 589,100.00
5	Hauling Excess Material	CY	40,011	\$ 11.70	\$ 468,100.00
6	Suitable Backfill (with compaction)	CY	66,707	\$ 6.00	\$ 400,200.00
7	Stone Bedding	CY	24,421	\$ 62.00	\$ 1,514,100.00
8	Removal of Existing Sewer Pipe (30"-36")	LF	15,884	\$ 45.00	\$ 714,800.00
9	Removal of Existing Sewer Pipe (42")	LF	13,692	\$ 57.00	\$ 780,400.00
10	Disposal of Removed Pipe	Ton	9,713	\$ 81.00	\$ 786,700.00
11	6' Diameter MH (<10' deep)	EA	22	\$ 8,500.00	\$ 187,000.00
12	6' Diameter MH (10'-15' deep)	EA	27	\$ 13,100.00	\$ 353,700.00
13	6' Diameter MH (15'-20' deep)	EA	13	\$ 22,100.00	\$ 287,300.00
14	6' Diameter MH (>20' deep)	EA	3	\$ 28,700.00	\$ 86,100.00
15	Removal of Existing MH (<10' deep)	EA	22	\$ 2,300.00	\$ 50,600.00
16	Removal of Existing MH (10'-15' deep)	EA	27	\$ 3,200.00	\$ 86,400.00
17	Removal of Existing MH (15'-20' deep)	EA	13	\$ 4,300.00	\$ 55,900.00
18	Removal of Existing MH (>20' deep)	EA	3	\$ 5,300.00	\$ 15,900.00
19	Longitudinal Road Work (incl. traffic control, repaving, stone)	LF	2,580	\$ 215.00	\$ 554,700.00
20	Neshaminy Creek Crossings (non-siphons) - Three Total	LF	1,134	\$ 226.00	\$ 256,300.00
21	Small Stream Crossings	EA	2	\$ 11,300.00	\$ 22,600.00
22	Jack and Bore (Route 1, 60" Casing Pipe)	LF	200	\$ 850.00	\$ 170,000.00
23	Jack and Bore (Old Lincoln Hwy, 60" Casing Pipe)	LF	100	\$ 850.00	\$ 85,000.00
24	Boring Pits (incl. dewatering and excavation/backfill)	EA	4	\$ 11,300.00	\$ 45,200.00
25	Clearing	Acre	16	\$ 14,700.00	\$ 228,500.00
26	Erosion and Sedimentation Controls	LF	29,576	\$ 5.00	\$ 147,900.00
27	TV Inspection	LF	29,576	\$ 1.00	\$ 29,600.00
28	Pipe Testing	LF	29,576	\$ 2.00	\$ 59,200.00
29	Restoration and Seeding	LF	26,482	\$ 6.00	\$ 158,900.00
30	Estimated Monthly Bypass Equipment Rent	Month	18	\$ 65,500.00	\$ 1,179,000.00
31	Relocate/Reset Bypass Piping	EA	15	\$ 5,000.00	\$ 75,000.00
32	Watchman for overnight and weekends	LS	1	\$ 1,629,000.00	\$ 1,629,000.00
33	Fuel for Bypass Pumps	Days	500	\$ 650.00	\$ 325,000.00
34	Bypass Delivery/Pickup	LS	1	\$ 6,000.00	\$ 6,000.00
35	Dewatering (200' well point system)	Days	500	\$ 680.00	\$ 340,000.00
36	Pre/Post Construction Video	LS	1	\$ 10,000.00	\$ 10,000.00
37	Bonds & Insurance (2%)	LS	1	\$ 295,900.00	\$ 295,900.00
38	Mobilization (2%)	LS	1	\$ 295,900.00	\$ 295,900.00
Construction Subtotal					\$ 15,387,500.00
Contingency (25%)					\$ 3,846,900.00
Construction Total					\$ 19,234,400.00
25% Soft Costs (Engineering, Legal, Administration)					\$ 3,846,900.00
TOTAL REPLACEMENT PROJECT COST (ROUNDED)					\$ 23,081,000.00
TOTAL RELIEF SEWER PROJECT COST (ROUNDED) [from Figure B]					\$ 1,125,000.00
GRAND TOTAL PROJECT COST (ROUNDED)					\$ 24,206,000.00

**NESHAMINY INTERCEPTOR IMPROVEMENTS
IMPLEMENTATION SCHEDULE**

MILESTONE

**ELAPSED TIME
(FROM DEP PLAN APPROVAL)**

NESHAMINY INTERCEPTOR IMPROVEMENTS

54 Inch Interceptor Relief Sewer ()**

Design, Easements and Permits within 8 months

Bid, Award and Construction Completion within 18 months

30 inch, 33 inch, 36 inch, 42 inch and 48 inch Interceptor Lining ()**

Design, Easements and Permits within 12 months

Bid, Award, and Construction Completion within 24 months

*****Interceptor Manhole Inspections will be conducted during Interceptor Improvements. Manhole Defects identified during inspections will be scheduled for repair with 12 months of discovery.***

NESHAMINY INTERCEPTOR IMPROVEMENTS FINANCING

Improvements are being financed with Year 2015A Sewer Revenue Bond funds. The debt service for this Bond issue is included in the wholesale sewer rate.

NESHAMINY INTERCEPTOR IMPROVEMENTS-EASEMENTS

The construction of the 54 inch Interceptor relief sewer will require acquisition of additional easements adjacent to the existing sanitary sewer easement. Easements will be obtained from one or more private property owners and Bensalem Township, as required.

The installation of CIPP lining is expected to be conducted from existing right-of-ways and existing Interceptor easements. Temporary construction easements will be obtained, if needed.

NESHAMINY INTERCEPTOR IMPROVEMENTS-PNDI AND BHP

It is anticipated the 54 inch Interceptor relief sewer will be installed by directional drilling. Excavation areas will be identified in submittals to PNDI and BHP for their determinations.

No excavation is anticipated for installation of liners. If excavation is anticipated during preparation of bid documents, those locations will be identified in submittals to PNDI and BHP for their determinations.

APPENDIX D



**2019 SANITARY SEWER SYSTEM
INFILTRATION AND INFLOW (I/I) PROGRAM
UPDATE**

December 2019

Revised February 2020



I. INTRODUCTION

Extraneous water from infiltration/inflow (I/I) sources reduces the useful life, and the capacity of sewer systems and treatment facilities to transport and treat domestic and industrial wastewaters. It also adds to the cost to rate payers for the collection, conveyance and treatment of these flows. Infiltration enters a sanitary sewer system through defective sewer pipe joints, breaks, or manhole defects, and occurs when existing sewer lines and manholes age and undergo material and joint degradation. Inflow normally occurs when rainfall and/or groundwater enters the sewer system through direct connections such as roof leaders, yard drains, catch basins, sump pumps, defective manhole covers and frame seals, or indirect connections with storm sewers. The removal of I/I by sewer system rehabilitation, replacement and inflow source removal, combined with an on-going operation and maintenance program, is essential to protect the environment and the significant capital investment in the Newtown, Bucks County, Joint Municipal Authority (NBCJMA) sewers and the regional conveyance and wastewater treatment facilities.

II. BACKGROUND

There are three major components of wastewater flow in a sanitary sewer system, base sanitary (or wastewater) flow, groundwater infiltration and rainfall derived inflow and infiltration, more commonly referred to as inflow. Every sewer system has some infiltration and/or inflow. Historically, small amounts of I&I are expected and tolerated. However, infiltration and inflow may be considered excessive when it surcharges mains and manholes and is the cause of sanitary sewer overflows (SSOs).

The NBCJMA program includes a comprehensive evaluation of the Authority's sanitary sewer system, focusing on infiltration and inflow (I/I) within the system. The program goals include the quantification of I/I volumes within the system, identification of those portions of the system that are major contributors of I/I, and implementation of a cost-effective rehabilitation program within the targeted areas. The program has been ongoing since 1997. The results of the program have been successful to date; lowering or maintaining average daily flows since that time with the addition of over 1,000 EDUs to the system.

The successful implementation of the NBCJMA program has been due to several reasons. Primarily the results are a credit to the NBCJMA Board's commitment to continually monitoring the system. Specific policies and practices that have contributed to the success and that will remain part of the program are:

- Modified the Standard Construction and Material Specifications to allow only DIP for use in new developments. Also, only inside drop connections are permitted utilizing 6 foot diameter manholes.
- An extensive permanent metering program to monitor flows throughout their

system at points of connection to the Bucks County Water and Sewer Authority (BCWSA) system.

- CCTV inspection of the sewers is an ongoing program.
- Grouting and lining of sections of the system has been performed as have replacements of sections of older interceptors. \$300,000 per year was spent from 1997 through 2006.
- Replacement of old castings is done regularly with road way improvements done in both the Borough and Township.
- Initiative to replace broken vent and cleanout riser and caps on private property at the NBCJMA's cost.

III. PURPOSE

The intent of this update is to address the requirements of the BCWSA Settlement Agreement with the PADEP to reduce the flows to the Neshaminy Interceptor and Totem Road Pumping Station. The NBCJMA Program has been and will continue to be a systematic, comprehensive approach for conducting sewer system evaluations. Although site-specific conditions may warrant different approaches, these guidelines provide the overall framework for performing the required work. The I/I analyses are typically divided into the following phases:

Phase 1 – Data Collection

- Task 1.1 - Collection System Inspection
- Task 1.2 - Review and Assessment of Existing Information
- Task 1.3 - Flow Monitoring
- Task 1.4 - Physical Survey
- Task 1.5 - Televisual (CCTV) Inspections
- Task 1.6 - Building Inspections
- Task 1.7 - Lateral Inspections
- Task 1.8 - Smoke Testing

Phase 2 - System Repair and Rehabilitation Activities

- Task 2.1 - Internal Mainline Sewer Repair
- Task 2.2 - External Mainline Sewer Repair
- Task 2.3 - Internal Manhole Repair
- Task 2.4 - External Manhole Repair
- Task 2.5 - Building Repairs
- Task 2.6 - Lateral Repairs

Phase 3 - Program Reporting Activities

- Monthly Status Reports

IV. GOALS

- To reduce ratepayer costs for transporting and treating wastewater by implementing cost-effective I&I reduction projects.
- To address the requirement of the Supplemental Agreement between the NBCJMA and the BCWSA.
- To minimize liability from water pollution and public health risks by eliminating sanitary sewer overflows in storm events.
- To eliminate sufficient I&I for an estimated reduction of 120,000 gpd **AADF** over the next 10 years for the Township and Borough.
- To eliminate sufficient I&I to avoid the capital costs to the NBCJMA of any Neshaminy Interceptor expansion not needed to support the build-out of certain neighborhoods.
- To eliminate enough I&I to offset the environmental and regulatory impact of sewer system expansion and increased water demand over the next 10 years.

V. DESCRIPTION OF PROGRAM

Phase 1 - I/I Investigations

Task 1.1 - Collection System Inspection

The NBCJMA regularly conducts night studies and visual inspections of the sanitary sewer system. These inspections focus on those portions of the system that are known problem areas or are suspected of contributing I/I to the system. The areas to be inspected will be based on historical information such as historical flow meter data surcharged areas, manhole overflows, high maintenance areas, complaints by residents, odor problems, etc.

Attached as Appendix A is a map of the NBCJMA collection system delineating the major drainage basins, the sub-basins draining to the nine (9) permanent metering locations in the system, the locations of all pumping stations and the tributary service areas to these pumping stations.

The inspections and metered flow information will be used to identify problem areas that require repair. The inspections will also be used to determine the need for placement of any temporary flow meters as part of the flow monitoring program defined in Task 1.3.

Task 1.2 - Review and Assessment of Existing Information

Available data such as sewer system drawings, metering records (metering data from 1995 to present is available in 15 minute intervals), precipitation quantities, past reports, and other pertinent information as well as NBCJMA staff experience with the system will be reviewed and constantly updated. The information will be

used to prioritize sewer system sub drainage areas, identify key manholes within each sub drainage area for further investigation and possible temporary flow metering purposes, and plan future work tasks.

Task 1.3 - Flow Monitoring

A temporary flow metering program was initially implemented in the fall of 1997 to identify and quantify extraneous flows within the system. That program was used to prioritize the work performed to date. Subsequent metering has been done through the years on an as needed basis to gauge the results of remediation and repair work. The NBCJMA has turned over eight (8) permanent meters to the BCWSA. Prior to this, the NBCJMA owned, maintained and calibrated the meters on a monthly basis. Flows were monitored in “real time” and actions taken to address extraneous flows. Attached as Appendix B is an historical graph of the average daily flows discharged from the system since 1997. Peak flows and SSOs are also monitored and used to prioritize repair work. Appendix C provides a tabular record of permanent flow meter records for the past 5 years.

Task 1.4 - Physical Survey

A physical survey of these prioritized areas of the sewer system is performed during and after wet weather and high groundwater conditions. The survey is typically conducted during late night-early morning hours when domestic wastewater flows are typically at a minimum and infiltration is the primary flow component.

Task 1.5 - Internal Televisual (CCTV) Inspection

Using closed circuit televisual equipment (CCTV), the sewers identified during the physical survey as having excessive flow are internally inspected. CCTV inspections are performed in conjunction with the metering program and physical survey during periods of wet weather. The Authority has their own CCTV rig and flusher. This enables them to identify and quickly internally inspect areas of concern. The NBCJMA also contracts out larger work that involves air testing and grouting of lines.

Task 1.6 - Building Inspections

In portions of the system identified as having extraneous flow, a building inspection program is performed to identify sources of inflow, such as possible sump pump connections. The NBCJMA has asked residents for voluntary access at times to inspect private systems and to identify sump pump connections. Attached Appendix D is a letter from 1997 as an example of the Authority’s successful voluntary program. The Township and Borough also have ordinances prohibiting

sump pump and other extraneous flow connections to the public sewer system. A copy of these ordinances are attached as Appendix E to this Plan.

Task 1.7 - Lateral Inspections

In portions of the system identified by CCTV inspection as having extraneous flow, a building lateral inspection program is performed on laterals suspected of being sources of I/I. The Authority personnel routinely check cleanouts in yards for evidence of sump pump discharges.

Task 1.8 - Smoke Testing

The purpose of smoke testing is to identify sources of inflow in the sewer system. Smoke testing is a tool that could be utilized during dry weather and unfrozen ground conditions. Emissions of smoke from a drainage appurtenances or other structures provides evidence of its suspected connection to the test sewer section.

Phase 2 - System Repair and Rehabilitation Activities

Task 2.1 - Internal Mainline Sewer Repair

Portions of the mainline sewer identified as having points of leakage are internally tested and sealed. This work will be based on the results of the physical survey and CCTV testing of the system.

Task 2.2 - External Mainline Sewer Repair

Those portions of the sewer identified as having significant damage are externally repaired or replaced. The areas to be repaired will be based on information obtained during Phase 1 of the program (i.e., inspection, metering program, physical survey, CCTV inspection).

Task 2.3 - Internal Manhole Repair

Manholes that are identified as having minor points of leakage are sealed. A hole is drilled in each area of active leakage. Chemical grout is injected through each drill hole into the defected and surrounding soil. When the active leakage is sealed, the injection holes are subsequently sealed with patching material.

Manholes identified as having more significant leakage are internally restored. Restoration is by means of a liner application. Loose and unsound material will be removed and the internal manhole surfaces will be cleaned. Active infiltration must be sealed prior to making the application.

Task 2.4 - External Manhole Repair

Manholes identified as having significant damage will be externally repaired or replaced. The manholes to be repaired or replaced will be based on information obtained during Phase 1 of the program (i.e., inspection, metering program, physical survey, CCTV inspection).

Task 2.5 - Building Sewer Repair

The results of the building inspections performed under Task 1.6 of this program will determine the need to conduct repairs or modifications to buildings sewers connected to the system. Typically, this work involves disconnecting inflow sources, such as sump pumps, roof leaders, etc. As mentioned above, the NBCJMA has done repairs to vent caps and cleanouts for residents. This has resulted in some homeowners permitting Authority personnel access voluntarily to their homes for inspections. The ordinances attached in Appendix E also provide the municipal backing to undertake these efforts. Aside from some individual projects undertaken by the NBCJMA, responsibility for these repairs is the property owners.

Task 2.6 - Lateral Repair

The results of the lateral inspections performed under Task 1.7 of this program will determine the need to conduct repairs to building laterals connected to the system. This work can involve internal repairs to seal leaks or joints or may involve the complete replacement of the lateral. Since these portions of the system are dedicated to the NBCJMA, the responsibility for the repairs lies with the Authority.

Phase 3 - Program Reporting Activities

Monthly Status Reports

NBCJMA staff prepare monthly status reports providing a summary of the work completed. These reports are used to evaluate the effectiveness of the investigations and repairs performed to date and to direct efforts and resources in the future.

Yearly Status Reports

NBCJMA staff and consultant will summarize the monthly reports and provide an annual report with the Chapter 94 reporting done each March.

VI. CURRENT ACTIVITIES

Based on the Tasks referenced herein, the NBCJMA is currently replacing 5,900 LF of 8-inch VCP and 25 manholes in the Nob Hill and a portion of the Devonshire Meadows developments tributary to the Colonial Commons Pumping Station. This is a continuation of the work initiated in 2011 with the replacement 1915 LF of 8-inch VCP and 9 manholes in another portion of the Devonshire Meadows development also tributary to the Colonial Commons Pumping Station. As reported to the PADEP and in the NBCJMA tributary municipality Chapter 94 forms, SSOs have occurred at the pumping station during certain rainfall events. Substantial work has been performed in the past in this tributary area including “fold and form” lining of the sewers, air testing and grouting of the mains and laterals, house inspections and the identification and removal of sump pumps connected. The effectiveness of this work has been limited. During 2019, the NBCJMA awarded a contract to replace the VCP with DIP, new manholes and new 6 inch laterals. Additionally, since a major source of I/I is from private sources, the NBCJMA has included the CCTV inspection of the 4-inch building sewer and replacement of any found to be defective. Trench drains will be installed in strategic locations during the work. The purpose of these drains is to reduce the groundwater in the sewer trenches. It is anticipated that substantial completion of the project will occur in the Spring of 2020.

Additional measures implemented by the NBCJMA have been:

- Updating of the NBCJMA Standard Material and Construction Specifications. Among the already specified use of DIP for all new sewers, manholes chimney seals and more stringent lateral construction requirements have been added.
- The Authority staff have continued an ongoing program of identifying broken vent caps and risers and repairing them.
- Manhole frames and covers are replaced during roadway paving operations in the oldest sections of the system (Newtown Borough) with newer, gasketed frames and covers.
- BCWSA metering records are reviewed by NBCJMA staff and consultants and monitored for any apparent malfunctions or indicators of I/I.

VII. PROJECTED AND ONGOING ACTIVITIES

It is difficult to clearly define excessive I/I into sewer systems. Sewer systems respond over a range of precipitation events depending on intensity and duration, along with varying groundwater levels at the time of the event. Based on the approach adopted by this Plan, the NBCJMA considers the following I/I sources as excessive, and every attempt will be made to identify and eliminate as part of the I/I Program:

- I/I sources directly or indirectly contributing substantial volumes to wet weather SSO events or otherwise as necessary to prevent SSO events.
- Infiltration and inflow sources which can cost-effectively be removed from the sewer system.
- All public and private inflow sources, unless existing conditions render such removal technically infeasible or cost prohibitive.

The system map included in Appendix A, provides a breakdown of the 3 major drainage basins, the sub basins tributary to the metering chambers and sub-basins tributary to the NBCJMA pumping stations. As indicators (flow meter data, SSOs, house back-ups, pump timer readings, etc.) warrant, the NBCJMA will further investigate and refine these drainage areas to direct future efforts. After the completion of the 2019 Sanitary Sewer Replacement Project in the spring of 2020, the NBCJMA efforts will be focused on evaluating the effectiveness of the project and determine future work to achieve the stated goals of this program. Effectiveness will be measured by the elimination of SSOs at the pumping station, pump timer information/draw down tests, the reduction in customer complaints of backups into residences, and the ongoing monitoring the NBCJMA does as has been described herein.

No future projects are identified at this time since no specific areas are noted as contributing to SSOs or to other excess flows. The continual monitoring of the system as proposed in this plan will lead to identified projects on a as needed basis. The NBCJMA will continue the ongoing maintenance efforts that have led to the reduction in flows over the years of the program. The older system in the Borough is a current focus of these investigations.

APPENDIX A

NEWTOWN, BUCKS COUNTY,
JOINT MUNICIPAL AUTHORITY
WASTEWATER COLLECTION AND
CONVEYANCE SYSTEM









DECEMBER 2019

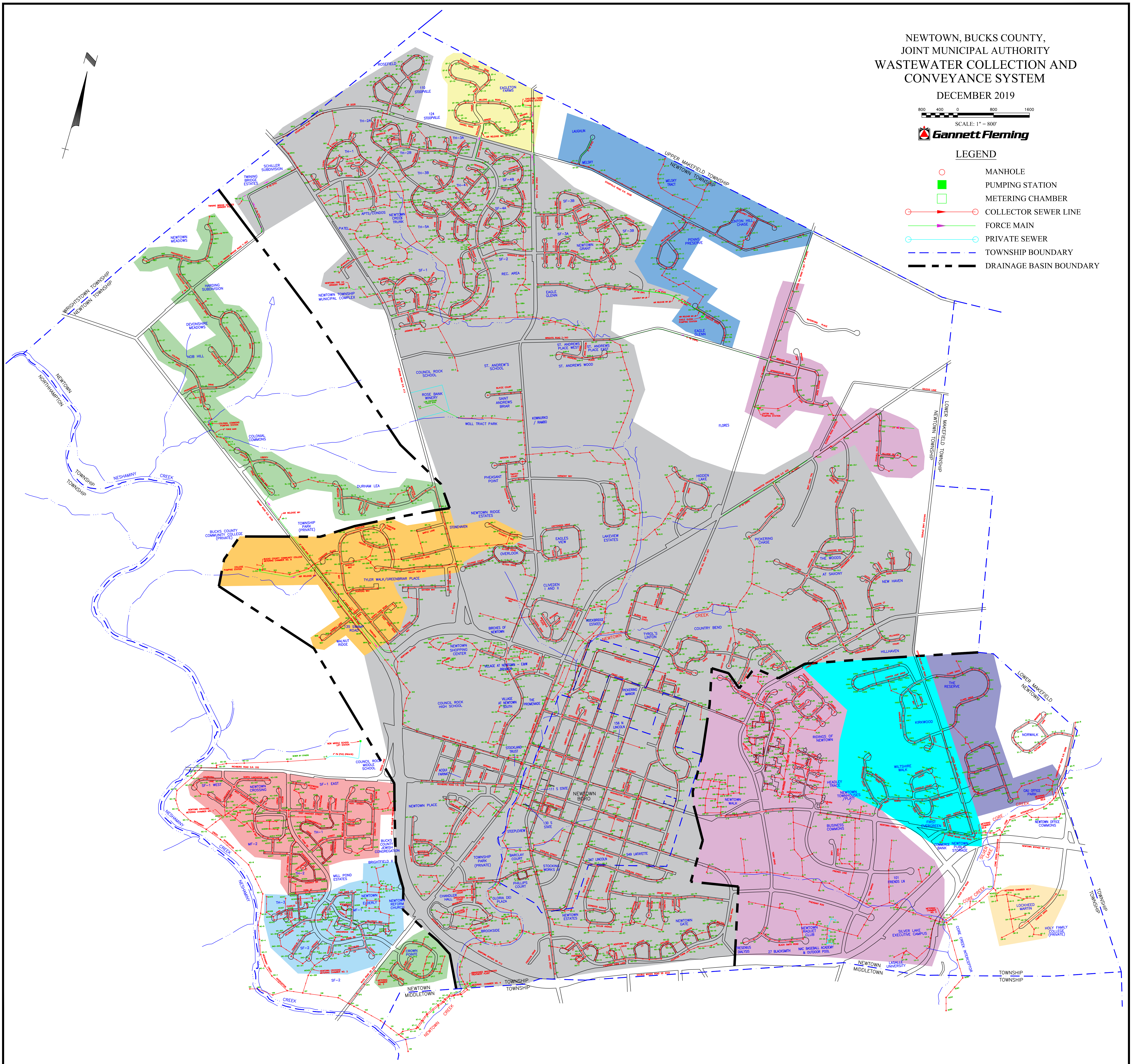


SCALE: 1" = 800'



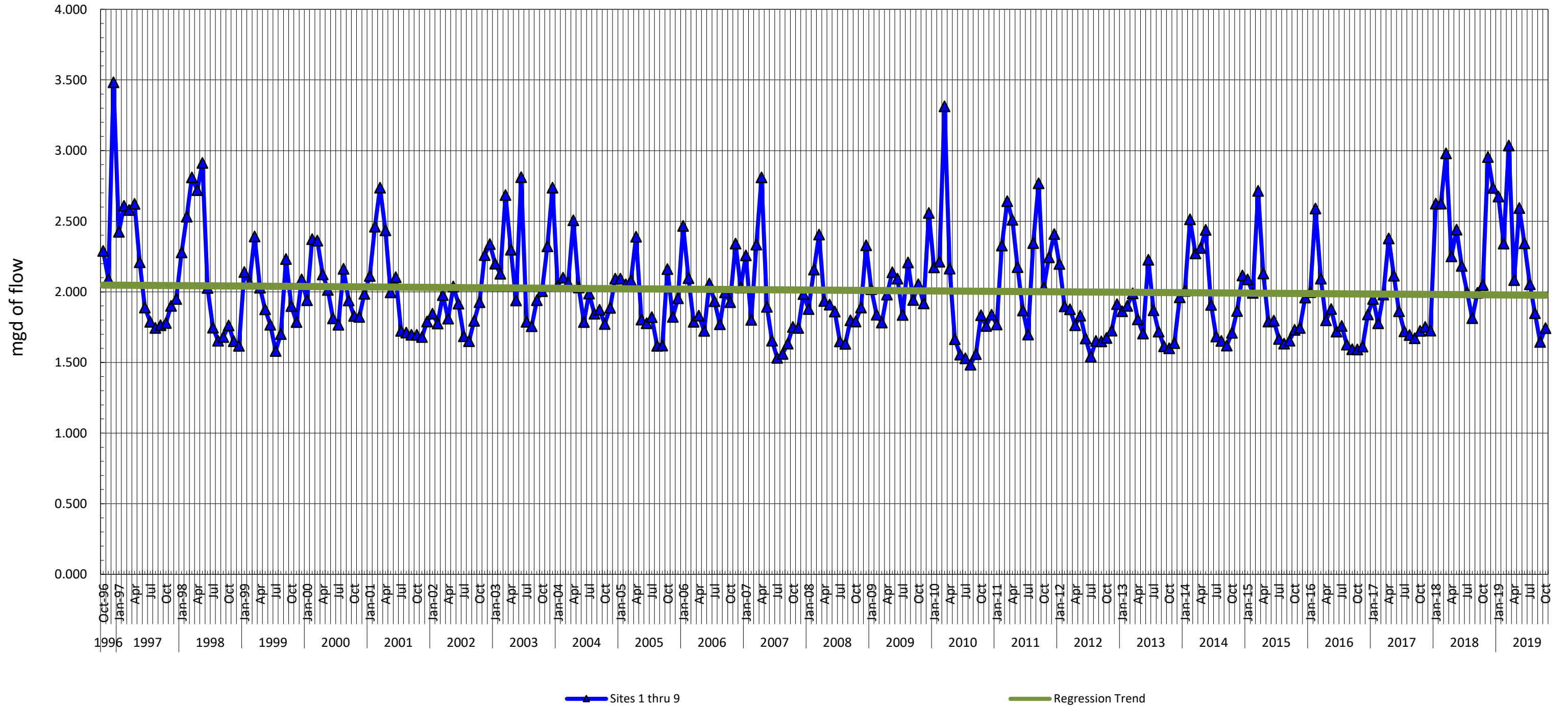
LEGEND

-  MANHOLE
-  PUMPING STATION
-  METERING CHAMBER
-  COLLECTOR SEWER LINE
-  FORCE MAIN
-  PRIVATE SEWER
-  TOWNSHIP BOUNDARY
-  DRAINAGE BASIN BOUNDARY



APPENDIX B

Appendix B
Newtown, Bucks County, Joint Municipal Authority
Average Monthly Flows



APPENDIX C

Appendix C Newtown, Bucks County, Joint Municipal Authority 5 year Meter Flows						
Meter Site	2014	2015	2016	2017	2018	2019*
1	0.104	0.107	0.104	0.097	0.098	0.094
2	0.048	0.045	0.042	0.041	0.048	0.445
3	0.022	0.022	0.022	0.021	0.02	0.018
4	1.465	1.385	1.33	1.346	1.576	1.578
5	0.279	0.261	0.251	0.273	0.378	0.369
6	0.05	0.05	0.05	0.05	0.052	0.050
7	0.02	0.017	0.015	0.01	0.008	0.012
9	0.019	0.022	0.023	0.025	0.021	0.228
Total	2.007	1.909	1.837	1.863	2.201	2.4482
Rain Fall	60.949	58.025	56.097	56.524	74.97	44.42

* Through October

APPENDIX D

Newtown, Bucks County, Joint Municipal Authority

Serving Newtown Township and Newtown Borough
15 South Congress Street
P.O. Box 329

Telephone
(215) 968-4109

Newtown, Pennsylvania 18940

Facsimile
(215) 860-6701

August 1997

To Our Valued Customers:

Your Sewer Authority has worked hard to keep your sewer bills as low as possible. You can help to keep rates down by taking certain steps in your home that will minimize the amount of infiltration entering the sanitary sewer system. In order for us to achieve this goal, we need your cooperation. Please refer to the diagram enclosed for the location of the following items:

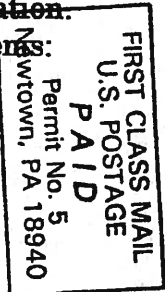
- Missing or Broken Traps
- Missing or Broken Clean Outs
- Sump Pumps
- Gutters and Downspouts

It is through these four places that unnecessary water enters the sewer system.

Traps and Cleanouts: The trap and/or clean out are in your yard with a flat or mushroom type cap. If the cap is missing or broken off, it must be replaced so that ground water will not enter the system. Please call the Authority office to report this situation. Caps will be replaced by the Authority at no cost to the homeowner.

Sump Pumps: These pumps are in the basement of your home. They pump ground water away and help to keep your home dry. Sump pumps must drain into your lawn or yard area. It is prohibited and illegal to have the sump pump connected to the sanitary sewer. Such connections allow a tremendous amount of water to enter the system which, in turn, must then be treated and paid for by all customers. Consider this example:

Our average customer uses 20,000 gallons of water in a quarter. In a single day, one sump pump illegally connected to the sewer, can pump 50,000 gallons of clear ground water into the sewer. That is 2 ½ times the amount of sewage that the average household disposes of in a quarter year.



Gutters and Downspouts: Many homes divert rain water directly to the sanitary sewer system by connecting these items. In addition to being prohibited and illegal, these connections cause millions of gallons of unnecessary sewage to enter the system. This impacts everyone's sewer bills.

It is the responsibility of the homeowner to permanently disconnect sump pumps and downspouts from the sanitary sewer system.

Homeowner's Associations may contact the Authority to have a representative attend an Association's meeting to answer any questions that your Association may have regarding this program.

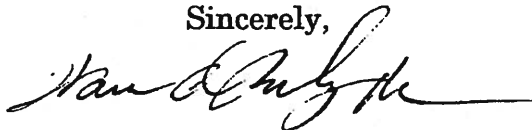
Authority personnel will be conducting inspections in your neighborhood. Inspections will be done between the hours of 9:00 A.M. and 3:00 P.M. Authority employees are required to carry photo identification at all times, and travel in vehicles marked Newtown Sewer Authority. Notification will be mailed to you when your neighborhood is scheduled for inspection.

If you have any questions please contact our office during regular business hours, Monday through Friday, 8:30 A.M. to 4:30 P.M. at (215) 968-4109.

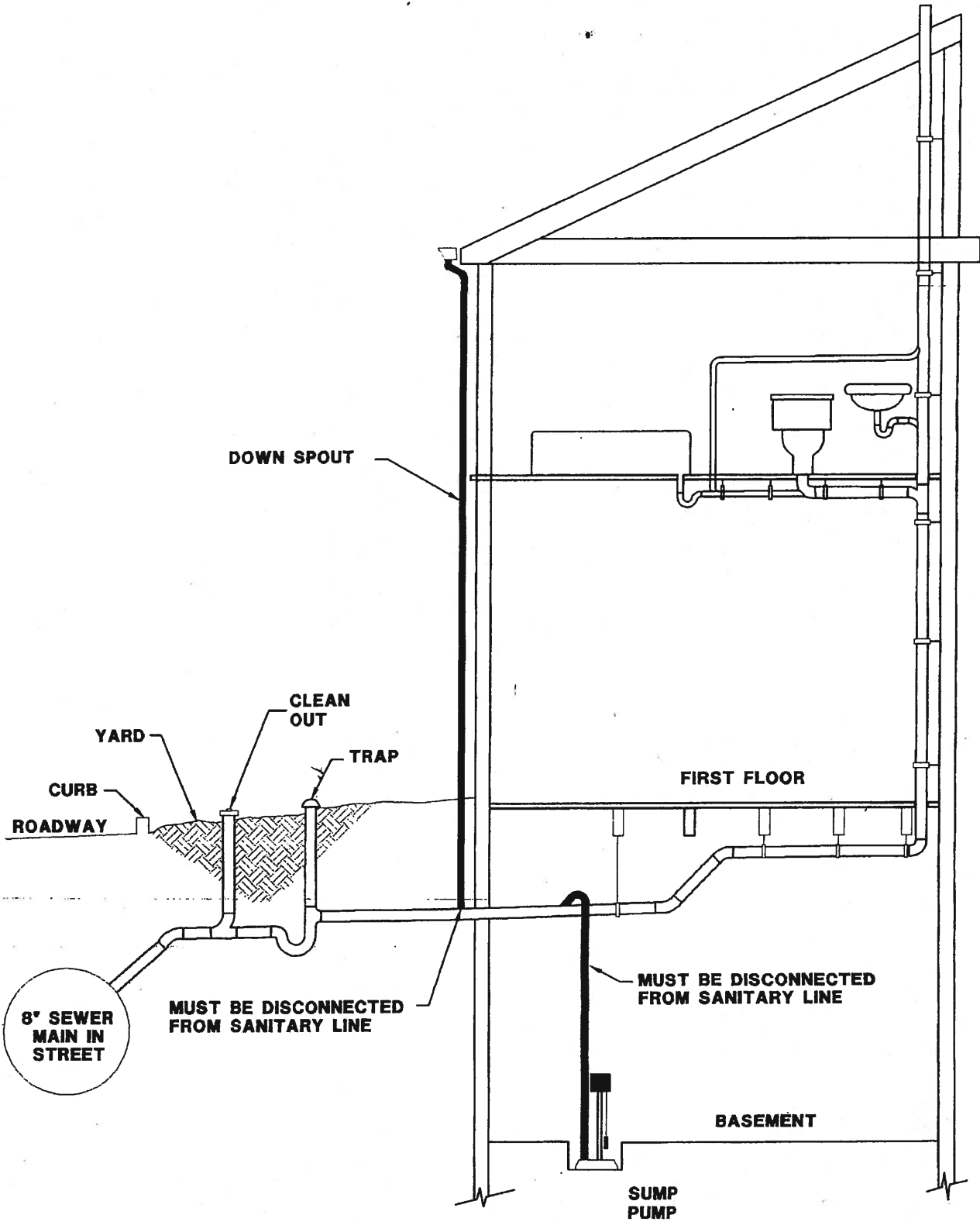
We look forward to working with you in reducing the amount of excess infiltration to the sewer system. This will be a cost saving measure to everyone.

Thank you in advance for your understanding and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "Warren A. Gormley", written in a cursive style.

Newtown, Bucks County, Joint Municipal Authority
Warren A. Gormley
Field Superintendent



DOWN SPOUT

CLEAN
OUT

TRAP

YARD

CURB

ROADWAY

FIRST FLOOR

MUST BE DISCONNECTED
FROM SANITARY LINE

MUST BE DISCONNECTED
FROM SANITARY LINE

8' SEWER
MAIN IN
STREET

BASEMENT

SUMP
PUMP

APPENDIX E

Newtown Township
Thursday, January 24, 2019

Chapter 18. Sewers

Part 1. BUILDING SEWERS AND CONNECTIONS

§ 18-101.1. Purpose and Policy.

[Ord. 29-1962, 8/13/1962; as added by Ord. 98-O-4, 3/11/1998, § I(8)]

This Part sets forth uniform requirements for direct and indirect discharges to the sewer system.

§ 18-101.2. Definitions.

[Ord. 29-1962, 8/13/1962, Art. 1; as amended by Ord. 98-O-4, 3/11/1998, § I(8)]

Unless the context specifically and clearly indicates otherwise, the meaning of terms used in this Part 1 shall be as follows:

AUTHORITY

Newtown, Bucks County, Joint Municipal Authority, a Pennsylvania municipality authority.

BUILDING SEWER

The extension from the sewage drainage system of any improved property to the lateral of a sewer.

IMPROVED PROPERTY

Any property within this Township upon which there is erected a structure intended for continuous or periodic habitation, occupancy or use by human beings or animals and from which structure sewage and/or industrial wastes shall be or may be discharged.

INDUSTRIAL WASTES

Any solid, liquid or gaseous substance or water borne waste or form of energy rejected or escaping in the course of any industrial, manufacturing, trade or business process or in the course of the development, recovery or processing of natural resources, as distinct from sanitary sewage.

LATERAL

That part of the "Sewer System" extending from a "Sewer" to the curb line or, if there shall be no curb line, to the edge of the pavement or to the edge of cartway, if not paved, or, if no such "Lateral" shall be provided, then "Lateral" shall mean that portion of, or place in a "Sewer" which is provided for connection of any of any "Building Sewer."

OWNER

Any "Person" vested with ownership, legal or equitable, sole or partial, or any property located in this Township.

PERSON

Any individual, partnership, company, association, society, corporation or other group or entity.

SEWAGE

Water-carried household and toilet wastes from any residence, commercial and industrial establishment.

SEWER

Any pipe or conduit constituting a part of the "Sewer System" used or usable for sewage collection purposes.

SEWER SYSTEM

All temporary and permanent facilities at anytime and from time to time owned or leased to and operated by the Authority and used or usable for or in connection with the collection, treatment and disposal of sanitary sewage and acceptable industrial waste.

TOWNSHIP

The Township of Newtown, Bucks County, Pennsylvania, a political subdivision, acting by and through its Board of Supervisors.

§ 18-102. Use of Public Sewers Required.

[Ord. 29-1962, 8/13/1962, Art. 2; as amended by Ord. 98-O-4, 3/11/1998, § I(8)]

1. The owner of any improved property located in this Township and which improved property is or hereafter becomes accessible to and whose principal building is within 150 feet of the sewer system, shall make connection therewith, in such manner as this Township and the Authority may require, within 60 days after notice to such owner from this Township to make such connection, for the purpose of discharge of all sewage and acceptable industrial wastes from such improved property, subject to such limitations and restrictions as shall be established herein or otherwise be established by this Township or the Authority, from time to time.
2. All sewage and acceptable industrial wastes from any improved property, after connection of such improved property with a sewer shall be required under Subsection **(1)** of this § 102, shall be conducted into a sewer, subject to such limitations and restrictions as shall be established herein or otherwise shall be established by this Township or the Authority, from time to time.
3. No person shall place or deposit or permit to be placed or deposited upon public or private property within this Township any sewage or industrial wastes in violation of Subsection **(1)** of this § 102.
No person shall discharge or permit to be discharged to any natural outlet within this Township any sewage or industrial wastes in violation of Subsection of this § 102, except where suitable treatment has been provided which is satisfactory to this Township.
4. No privy vault, cesspool, sinkhole, septic tank, holding tank or similar receptacle shall be used and maintained at any time upon any improved property which has been connected to a sewer or which shall be required under Subsection **(1)** of this § 102 to be connected to a sewer.
Every such privy vault, cesspool, sinkhole, septic tank, holding tank or similar receptacle in existence shall be abandoned and, at the discretion of this Township, shall be cleansed and filled under the direction and supervision of this Township; and any such privy vault, cesspool, sinkhole, septic tank, holding tank or similar receptacle not so abandoned and, if required by this Township, cleansed and filled, shall constitute a nuisance and such nuisance may be abated as provided by law, at the expense of the owner of such improved property.
5. No privy vault, cesspool, sinkhole, septic tank, holding tank or similar receptacle at any time shall be connected with a sewer.
6. The notice by this Township to make a connection to a sewer, referred to in Subsection **(1)** of this § 102, shall consist of a copy of this Part 1, including any amendments at the time in effect, and a written or printed document requiring the connection, and may be given at any time after a sewer

is in place which can receive and convey sewage and industrial wastes for treatment and disposal from the particular improved property. Such notice shall be served upon the owner either by personal service or by registered or certified mail, as provided by law.

§ 18-103. Building Sewers and Connections.

[Ord. 29-1962, 8/13/1962, Art. 3]

1. Except as otherwise provided in this Subsection (1) of this § 103, each improved property shall be connected separately and independently with a sewer through a building sewer. Grouping of more than one improved property on one building sewer shall not be permitted except under special circumstances and for good sanitary reasons or other good cause shown, but then only after special permission of this Township and the Authority, in writing, shall have been secured.
2. All costs and expenses of construction of a building sewer and all coats and expenses of connection of a building sewer to a lateral or sewer shall be borne by the owner of the improved property to be connected; and such owner shall indemnify and save harmless this Township and the Authority from all loss or damage that may be occasioned, directly or indirectly, as a result of construction of a building sewer or of connection of a building sewer to a lateral or sewer.
3. A building sewer shall be connected to a sewer at the place designated by the Authority or where the lateral is provided.

The invert of a building sewer at the point of connection shall be at the same or a higher elevation than the invert of the lateral or sewer. A smooth, neat joint shall be made and the connection of a building sewer to the lateral shall be made secure and watertight.

4. If the owner of any improved property located in the Township and which improved property is or hereafter becomes accessible to and whose principal building is within 150 feet from the sewer system, after 60 days notice from the Township, in accordance with § 102(1), shall fail to connect such improved property, as required, this Township may enter upon such property and construct such connection and may collect from such owner the costs and expenses thereof. In such case, the Township shall forthwith, upon completion of the work, send an itemized bill of the cost of construction of such connection to the owner of the improved property to which connection as been so made, which bill shall be payable forthwith. In case of neglect or refusal by the owner of such improved property to pay said bill, the Township shall file municipal liens for said construction within six months of the date of the completion of the construction of said connection, the same to be subject in all respects to the general law provided for the filing and recovery of municipal liens.

§ 18-104. Rules and Regulations Governing Building Sewers and Connections to Sewers.

[Ord. 29-1962, 8/13/1962, Art. 4; as amended by Ord. 56-1973, 11/5/1973; as amended by Ord. 98-O-4, 3/11/1998, § I]

1. Where an improved property, at the time connection to a sewer is served by its own sewage disposal system or device, the existing house sewer line shall be broken on the structure side of such sewage disposal system or device and attachment shall be made, with proper fittings, to continue such house sewer line as a building sewer.
2. No building sewer shall be covered until it has been inspected and approved by this Township and the Authority. If any part of a building sewer is covered before so being inspected and approved, it shall be uncovered for inspection at the cost and expense of the owner of the improved property to be connected to a sewer.

3. Every building sewer of any improved property shall be maintained in a sanitary, safe and watertight operating condition by the owner of such improved property.
4. Every excavation for a building sewer shall be guarded adequately with barricades and lights to protect all persons from damage and injury. Streets, sidewalks and other public property disturbed in the course of installation of a building sewer shall be restored, at the cost and expense of the owner of the improved property being connected, in a manner satisfactory to this Township.
5. If any person shall fail or refuse, upon receipt of a written notice of this Township or the Authority, in writing, to remedy any unsatisfactory condition with respect to a building sewer, within 60 days of receipt of such notice, this Township or the Authority may refuse to permit such person to discharge sewage and industrial wastes into the sewer system until such unsatisfactory condition shall have been remedied to the satisfaction of this Township and the Authority.
6. This Township reserves the right to adopt, from time to time, additional rules and regulations as it shall deem necessary and proper relating to connections with a sewer and the sewer system, which additional rules and regulations, to the extent appropriate, shall be and shall be construed as part of this Part.
7. It shall be the owner's responsibility to maintain, repair and/or replace building sanitary drainage systems if the Township determines that they do not meet the requirements of the Part. All building sanitary drainage systems to the sanitary sewer main shall be borne by the owner. In the case where damages to the sanitary sewer main occur due to a building sanitary drainage system, it shall be the responsibility of the building sanitary system owner to replace or repair the length of pipe to which the indemnify the Township from any loss or damage that may directly or indirectly be occasioned by the installation of the building sanitary drainage system.
8. Where existing building sanitary systems connected to the sanitary sewer main area to be abandoned by reason of demolition of buildings and structures or for any other reason, they shall be disconnected and permanently sealed at the sanitary sewer main. All costs and expenses incidental to this work shall be borne by the owner. Existing building sanitary drainage systems may be used in connection with new buildings only when they are found, after examination and testing as directed to meet all requirements of this Part.
9. The size, slope, alignment, materials or construction of a building sanitary drainage system and the methods to be used in excavation, placing of the pipe, joint testing and backfilling the trench shall all conform to the requirements of the Building and Plumbing Codes and other applicable rules and regulations.
10. Whenever possible, the building sanitary drainage system shall be brought to the building at an elevation below the basement floor. In the instance where gravity flow in the building drainage system to the sanitary sewer main is not possible, sanitary wastewater shall be lifted and discharged to the sanitary sewer main by a means approved in accordance with the requirements of the Building and Plumbing Codes, with all costs being borne by the owner. Floor drains in any new building located below finished grade shall not be connected to the building sanitary drainage system. In the instance where either an existing building sanitary drainage system is repaired or buildings experience a maximum of two reported sewage backups through existing floor drains within a two-year period, floor drains connected to building sanitary drainage systems shall be disconnected or plugged. All costs and expenses incidental to this work shall be borne by the owner.
11. The Township or the Authority reserves the right to refuse permission to connect to the sewer system, to compel discontinuance of use of the sewer system, or to compel pretreatment of industrial wastes by any industry in order to prevent discharges deemed harmful, or to have a deleterious effect upon any portion of the sewer system. The discharge of roof water, storm water, surface drainage, building foundation drainage or accumulated water as the result of heavy rains, flooding, or otherwise by the pumping of a sump-pump or other method into the sewer system is expressly prohibited.

12. The Authority's representatives shall have access at all reasonable times to water and any other meters used for establishing or determining water consumption, water excluded from the sewer system and/or waste waters discharged to the sewer system.
13. No person shall make connection of sump pumps, roof down spouts, foundation drains, areaway drains, floor drains or other sources of surface run-off or groundwater to a building sanitary drainage system or building drain which in turn is connected directly or indirectly to a Township sanitary sewer main, unless such connection is approved in writing by the Township for purposes of disposal of polluted surface drainage or for the prevention of potentially hazardous conditions.
14. The connection of the building sanitary drainage system into the Township sanitary sewer main shall be made with either a wye-type fitting or as directed by the Township and must comply with applicable rules and regulations of the Township. All such connections shall be made gas tight, water tight and must be inspected. Hydrostatic pressure testing of all new or replacement building sanitary drainage systems shall be required and testing procedures must conform to the requirements of the Township's Building and Plumbing Codes. Any deviation from the prescribed procedures and material must be approved by the Township before installation. Upon determination by the Township that a new or existing building sanitary drainage system connection is not properly discharging wastewater flow into the sanitary sewer main, the owner shall be required to repair or replace the existing sanitary sewer connection system. In the instance where the owner connect separately to the sanitary sewer main. All costs and expenses incidental to this work shall be borne by the owner.
15. The applicant for the building sanitary drainage system permit shall notify the Authority when the building sanitary drainage system is ready for inspection and connection to the Township sanitary sewer main. The connection to the sanitary sewer main and testing shall be made under the supervision of the Authority or its representative.

§ 18-105. Enforcement.

[Ord. 29-1962, 8/13/1962, Art. V; as amended by Ord. 91-O-11, 7/22/1991; by Ord. 97-O-22, 12/3/1997; and by Ord. 98-O-4, 3/11/1998, § 1(8)]

1. Any person who shall violate this Part shall be liable, upon conviction for a first offense and conviction for each subsequent offense, to a fine of not less than \$15 nor more than \$1,000. Each day that a violation shall continue shall be deemed and shall be taken to be a separate offense and shall be punishable as such.
2. Fines and costs imposed under provisions of this Part shall be enforceable and recoverable in the manner at the time provided by applicable law.

*Borough of Newtown, PA
Tuesday, April 10, 2018*

Chapter 110. Plumbing

Article II. Administration and Enforcement

§ 110-23. Property owners' rights.

- A. Property owners shall be permitted to dig their own ditches, lay pipe and make connections and engage in plumbing on their own properties only, subject to inspection and approval by the Plumbing Inspector. The words "their own plumbing" shall be construed to include making repairs, installations and maintenance of waterlines serving their respective properties.
- B. Persons doing the work on their own properties shall not be subject to license fees and examinations; however, plumbing and/or sewer permits must be obtained for the work.
- C. No ditches or enclosures having pipes laid therein shall be closed or covered until pipes and connections have been approved by the Plumbing Inspector.

§ 110-24. Right of entry.

[Amended 2-9-1993 by Ord. No. 508, approved 2-9-1993]

For the purpose of enforcing the rules and regulations of the borough and advancing and protecting the public health, the Building Inspection Underwriters may enter upon the premises of any person, firm or corporation connected to the system at any time after proper notification has been given to the owner for the purpose of inspecting the sewer facilities located thereon and for the purpose of determining compliance with the requirements of the borough. In the event that the Plumbing Inspector or other duly authorized representatives are denied access to any customer's premises for these purposes, the Building Inspection Underwriters reserves the right to discontinue sewer service to such premises until inspection is permitted and compliance with the requirements of the borough has been determined.

§ 110-25. Endorsement of permits.

Upon completion of the work and after the Plumbing Inspector has accepted the work as conforming to this chapter, the plumbing permit and/or sewer permit will be endorsed by the Plumbing Inspector and returned to the Authority.

§ 110-26. Conformity required; inspection.

- A. From and after the passage of this chapter, the construction of plumbing systems shall be conducted only under and in accordance with the following rules, regulations and requirements.
- B. No change of drainage, sewerage or the sewer connections of any building or house shall be permitted, unless notice therefor shall have been given the Building Inspection Underwriters.
[Amended 2-9-1993 by Ord. No. 508, approved 2-9-1993]

- C. All pipings, traps and fixtures of a plumbing system shall be inspected by the Plumbing Inspector to ensure compliance with all of the requirements of this code in the installation and construction of this system in accordance with the approved plans and their permit. It shall be the duty of the plumber to notify the Plumbing Inspector orally, by telephone, or in writing not less than eight working hours between the hours of 8:00 a.m. and 4:00 p.m. before the work is to be inspected or tested. It shall be the duty of the plumber to make sure that the work will stand the test prescribed before giving the above notification. If the Plumbing Inspector finds that the work will not stand the test, the plumber shall be required to renotify as above.