UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA, Plaintiff, PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION Plaintiff-Intervenor, v. SCRANTON SEWER AUTHORITY, *and* PENNSYLVANIA AMERICAN WATER CO. Defendants.	CIVIL ACTION NO. 3:CV-09-1873 (Judge Jones)

AMENDED CONSENT DECREE

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WHEREAS, on September 29, 2009, Plaintiff, the United States of America ("United States"), on behalf of the United States Environmental Protection Agency (the "EPA"), filed a Complaint in this matter against the Scranton Sewer Authority ("SSA") seeking injunctive relief and civil penalties, and alleging, *inter alia*, that the SSA violated the Clean Water Act (the "CWA"), 33 U.S.C. §§ 1251-1387, and certain terms and conditions of the National Pollutant Discharge Elimination System ("NPDES") permit issued to the SSA pursuant to the CWA relating to the municipal wastewater treatment plant and collection system owned and operated by the SSA;

WHEREAS, Plaintiff-Intervenor, the Commonwealth of Pennsylvania Department of Environmental Protection ("PADEP") filed a Complaint in Intervention against the SSA seeking injunctive relief and civil penalties, and alleging, *inter alia*, that the SSA violated the Clean Water Act, 33 U.S.C. §§ 1251-1387, Sections 201, 202 and 401 of the Clean Streams Law, 35 Pa. Stat. Ann. §§ 691.201, 691.202 and 695.401, and certain terms and conditions of the NPDES Permit issued to the SSA pursuant to the CWA relating to the municipal wastewater treatment plant and collection system owned and operated by the SSA;

WHEREAS, the SSA is a municipal authority organized under the Municipal Authorities Act, as amended, 53 Pa. Cons. Stat. Ann. §§ 5601-5623, that owns, operates, and maintains a publicly owned treatment works ("POTW"), which includes a wastewater treatment plant known as the Scranton Sewer Authority Wastewater Treatment Plant ("WWTP") and a collection system ("Collection System") which collects stormwater and wastewater from residential, commercial and industrial sources for the purpose of transporting that wastewater to the WWTP. Certain portions of the Collection System are a Combined Sewer System and other portions are a Sanitary Sewer System. The WWTP and Collection System are authorized to discharge

pollutants in accordance with the SSA's NPDES permit into the Lackawanna River, Roaring Brook, Stafford Meadow Brook, Little Roaring Brook, Keyser Creek, Leggetts Creek, and Meadow Brook; all of which are located within the jurisdiction of the U.S. District Court for the Middle District of Pennsylvania;

WHEREAS, the United States and the PADEP alleged in the Complaint that the SSA has violated and was continuing to violate Sections 301 and 402 of the Clean Water Act, 33 U.S.C. §§ 1311 and 1342, Sections 3, 201, 202 and 401 of the Clean Streams Law, 35 Pa. Stat. Ann. §§ 691.3, 691.201, 691.202 and 691.401, by impermissibly discharging untreated sewage from the Collection System to the Lackawanna River and several smaller water tributaries to the Lackawanna;

WHEREAS, the United States brought its claims pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. In its complaint, the United States sought the imposition of civil penalties and injunctive relief against the SSA for alleged violations of Section 301(a) of the CWA, 33 U.S.C. § 1311(a), and terms and conditions of the NPDES permit last issued by the PADEP as NPDES Permit No. PA-0026492, effective on October 1, 2009 and amended on May 13, 2011;

WHEREAS, the SSA demonstrated through disclosure of its financial records to Plaintiffs that it had, and would likely continue to have for the foreseeable future, limited ability to pay civil or stipulated penalties and simultaneously meet the compliance requirements of this Consent Decree;

WHEREAS, the United States, the PADEP and the SSA previously negotiated the terms of a Consent Decree, which was lodged with this Court on December 13, 2012, and was entered by this Court by order dated January 31, 2013 (the "Original Consent Decree");

WHEREAS, Section XIX of the Original Consent Decree provided for modification of the Original Consent Decree by written agreement signed by all of the Parties or their successor in interest, and provided where the modification constitutes a material change, it shall be effective only upon approval by the Court;

WHEREAS, pursuant to Section XIX of the Original Consent Decree, on December 18, 2015, the United States, the PADEP and the SSA filed with the Court (for notice purposes only) an Agreed Non-Material Modification of Consent Decree providing for certain modifications to the description and schedule for particular projects in the Long Term Control Plan ("LTCP") set forth in Appendix B of the Original Consent Decree;

WHEREAS, Paragraph 5 of the Original Consent Decree provided terms and conditions applicable in the event that the SSA wishes to transfer ownership of the WWTP or the Collection System and the purchaser wishes to assume the obligations of the Original Consent Decree;

WHEREAS, the SSA, as Seller, and Pennsylvania-American Water Company ("PAWC" or the "Defendant") as Buyer, have entered into an Asset Purchase Agreement dated as of March 29, 2016 (the "Asset Purchase Agreement"), under which, subject to satisfaction of certain conditions, PAWC will acquire and thereafter solely manage and operate the WWTP and Collection System (the "Transaction");

WHEREAS, the Closing of the Transaction (as defined below) is conditioned upon satisfaction of certain conditions precedent as set forth in the Asset Purchase Agreement, including but not limited to (1) approval of the Transaction by the Pennsylvania Public Utility Commission ("PAPUC"); (2) receipt of other required consent and regulatory approvals; and (3) the agreement by the United States and the PADEP to the lodging of an Amended Consent Decree; and (4) the approval by this Court of an Amended Consent Decree. This Amended

Consent Decree provides for, among other matters: (i) substitution of PAWC for the SSA as the party Defendant to the Consent Decree and release of the SSA in accordance with Article II, Section 5 of the Original Consent Decree upon the Closing of the Transaction; and (ii) adoption of an Amended Nine Minimum Controls Plan applicable to Defendant PAWC upon the Closing of the Transaction;

WHEREAS, the SSA and PAWC provided notice to the United States and the PADEP of the execution of the Asset Purchase Agreement and PAWC's agreement to assume the SSA's obligations under the Original Consent Decree, which shall become effective as of the Closing of the Transaction, as required under Sections II and XVI of the Original Consent Decree;

WHEREAS, PAWC is a Pennsylvania Corporation with its principal place of business in Pennsylvania, and subsidiary of American Water Works Company, and an investor-owned public utility company regulated by the PAPUC pursuant to the Pennsylvania Public Utility Code, 66 Pa. Cons. Stat. Ann. §101 et seq.;

WHEREAS, as of the date of lodging of this Amended Consent Decree, the SSA has paid all stipulated penalties demanded under Paragraph 45 of the Original Consent Decree;

WHEREAS, the operation, maintenance, and schedule for improvements for the WWTP and Collection System will continue to be governed by the provisions of this Amended Consent Decree, implementing EPA's Combined Sewer Overflow Policy, 59 Fed. Reg. 18688 (April 19, 1994) as identified in Section 402(q) of the Clean Water Act, 33 U.S.C. § 1342(q);

WHEREAS, the Parties are entering into this Amended Consent Decree to reflect the substitution of PAWC for the SSA as the Defendant in this matter, and to modify certain other terms of the Original Consent Decree in light of the contemplated acquisition of the WWTP and Collection System by PAWC and substitution of PAWC for the SSA as the Defendant;

WHEREAS, nothing in this Consent Decree will be construed as an admission by the SSA or PAWC of violations of any provisions of the CWA, or of the SSA's current or past NPDES permits, or of the Clean Streams Law; and

WHEREAS, the United States, the PADEP, the SSA, and PAWC ("Parties") recognize, and this Court by entering this Consent Decree finds, that this Consent Decree has been negotiated in good faith and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest;

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I (Jurisdiction and Venue) below, and with the consent of the Parties, it is hereby ORDERED, ADJUDGED and DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the United States, the PADEP, the SSA and PAWC and the subject matter of this action pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1331, 1345, 1355, and 1367. Venue is proper in this District pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1391(b) and 1395(a). For purposes of this Consent Decree, or any action to enforce this Consent Decree, Defendant consents to the Court's jurisdiction over this Decree and any such action and over Defendant and consents to venue in this judicial district.

2. For purposes of this Consent Decree, Defendant agrees that the Complaint and the Complaint in Intervention state claims upon which relief may be granted pursuant to Sections 301 and 402 of the Clean Water Act, 33 U.S.C. §§ 1311 and 1342, and Sections 3, 201, 202, 401, 601, and 605 of the Clean Streams Law, 35 Pa. Stat. Ann. §§ 691.3, 691.201, 691.202, 691.401, 691.601, and 691.605.

II. APPLICABILITY AND BINDING EFFECT

3. This Amended Consent Decree will apply to and be binding upon the United States, on behalf of the EPA, the PADEP, and upon Defendant and its successors, assigns, and all other entities and persons provided for in Fed. R. Civ. P. 65(d). Within one business day of the Closing of the Transaction, PAWC shall notify the Court and the United States, the PADEP, and the SSA as to the occurrence of Closing of the Transaction by filing on the docket of the above-captioned matter a copy of the notice in Appendix D executed by both the SSA and PAWC.

4. Defendant shall notify the following of the existence of this Consent Decree and make a copy available to them: all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Consent Decree, as well as to any contractor retained to perform work required under this Consent Decree.

5. Effective upon Closing of the Transaction, PAWC shall be substituted for the SSA as the "Defendant" for all purposes of this Consent Decree, and the SSA shall be released from all obligations and liabilities under this Consent Decree, except as specified in Paragraph 36. In the event that the Defendant transfers any ownership or operation of its WWTP, the Collection System, or any portion of the WWTP or Collection System, and includes in such transfer, the transfer of any obligations under this Consent Decree, the Defendant will give written notice and a copy of this Consent Decree to any successors in interest at least 30 Days prior to such transfer. Defendant will condition any transfer, in whole or in part, of ownership, operation, or other interest in its WWTP, the Collection System, or any other portion of the WWTP and/or Collection System upon the successful execution of the terms and conditions of this Consent Decree. Simultaneously with notice to any successor in interest, the Defendant will provide written notice of such transfer to the United States and the PADEP as provided in

Section XVI (Notices and Submissions). In the event of any such transfer of ownership or other interest, the Defendant will not be released from the obligations or liabilities of this Consent Decree unless: (i) the transferee has the financial and technical ability to assume these obligations and liabilities; (ii) the United States and the PADEP have agreed to release the SSA from the obligations and liabilities; (iii) the United States, the PADEP, and the transferee have jointly moved to substitute the transferee as Defendant to this Consent Decree; and (iv) the Court has approved the substitution.

6. In any action to enforce this Consent Decree, Defendant will not raise as a defense the failure of its officers, directors, agents, contractors, employees, successors, assigns or any other persons or entities provided for in Fed. R. Civ. P. 65(d) to take any actions necessary to comply with the provisions hereof. Nothing in this Paragraph prevents the Defendant from invoking Section XI of this Decree (Force Majeure), provided that the event meets the definition of a Force Majeure provided in Paragraph 53.

III. OBJECTIVES

7. The objectives of this Consent Decree are for the Defendant to take the steps necessary to achieve full compliance with the CWA including, but not limited to, 33 U.S.C. § 1342(q) and the regulations promulgated thereunder, and the Clean Streams Law and the regulations promulgated thereunder. All plans, reports, construction, remedial maintenance, and other obligations in this Consent Decree or resulting from the activities required by this Consent Decree shall have the objective of causing Defendant to come into and remain in full compliance with the terms and conditions of Defendant's NPDES Permit, the Clean Water Act, and the Clean Streams Law, as these terms are defined in Section IV (Definitions).

IV. DEFINITIONS

8. Unless otherwise defined herein, terms used in this Consent Decree shall have the meaning given to those terms in the CWA, 33 U.S.C. § 1251-1387 the regulations promulgated thereunder, or, if not defined in the Clean Water Act or its regulations, then as defined in the Pennsylvania Clean Streams Law, 35 Pa. Stat. Ann. §§ 691.1-691.1001 and the regulations promulgated thereunder. The following definitions shall apply to the terms used in the Consent Decree:

a. "Amended Consent Decree" shall mean this consent decree;

b. "Amended Nine Minimum Controls Plan" or "Amended NMC Plan" shall mean the plan attached hereto as Appendix B, as the same may be revised and updated in accordance with Section V.A. (Nine Minimum Controls) of this Consent Decree and in accordance with the CSO Policy.

c. "BNR Project" shall mean the wastewater treatment plant upgrades that the SSA is constructing pursuant to requirements in the NPDES Permit, which, as of the Effective Date, are described in Part C § SEVEN of the NPDES Permit.

d. "Building/Private Property Backup" shall mean a wastewater release or backup into a building or private property that is caused by blockages, flow conditions, or other malfunctions of the Collection System. A wastewater backup or release that is caused by blockages, flow conditions, or other malfunctions of a Private Lateral is not a Building/Private Property Backup.

e. "Clean Water Act" or "CWA" shall mean the Federal Water Pollution Control Act found at 33 U.S.C. §§ 1251-1387, and the regulations promulgated thereunder.

f. "Closing of the Transaction" means the consummation of the sale and purchase of the WWTP and Collection System pursuant to the Asset Purchase Agreement, when

title to the WWTP and Collection is conveyed to PAWC. The Asset Purchase Agreement provides that Closing shall take place on or before March 31, 2017. If Closing does not occur prior to March 31, 2017, the SSA will continue to be the "Defendant," PAWC will have no obligations under this consent decree, and the Parties will file a joint motion pursuant to Rule 21 of the Federal Rules of Civil Procedure to drop PAWC as a party.

g. "Collection System" shall mean the current and future municipal wastewater collection and transmission system previously owned or operated by the SSA and after the Closing of the Transaction owned and operated by Defendant, including all pipes, interceptors, force mains, gravity sewer lines, lift stations, pumping stations, manholes and appurtenances thereto designed to collect and convey municipal sewage and wastewaters (domestic, commercial, and industrial) to the WWTP or to a CSO Outfall. "Collection System" includes both the "Combined Sewer System" and the "Sanitary Sewer System."

h. "Combined Sewer Overflow Control Policy" or "CSO Policy" shall mean the policy issued by the EPA regarding combined sewer overflows, entitled "Combined Sewer Overflow (CSO) Control Policy," 59 Fed. Reg. 18688 (April 19, 1994) and as identified in Section 402(q) of the Clean Water Act, 33 U.S.C. § 1342(q).

i. "Combined Sewer Overflow" or "CSO" shall mean any discharge from the SSA's Combined Sewer System at a CSO Outfall designated in the currently applicable NPDES Permit.

j. "Combined Sewer System" shall mean the portion of the Collection System designed to convey municipal sewage and wastewaters (domestic, commercial, and industrial) and stormwater in the same system of pipes to the WWTP or to a CSO Outfall.

k. "Consent Decree" shall mean this Amended Consent Decree, all Appendices hereto, and all plans, schedules, reports, memoranda, or other submittals approved by the Plaintiffs pursuant to the requirements of this Consent Decree or any Appendix hereto. In the event of any conflict between the Consent Decree and any Appendix, this Consent Decree shall control.

l. "CSO Outfall" shall mean an outfall in the Combined Sewer System from which combined sewage and stormwater are discharged and so designated in the currently applicable NPDES Permit.

m. "Date of Lodging" shall mean the date that this Amended Consent Decree is lodged with the Clerk of the Court for the United States District Court for the Middle District of Pennsylvania.

n. "Day" shall mean a calendar day unless expressly stated to be a working day. When the day a report or other deliverable is due under this Consent Decree falls on a Saturday, Sunday, federal holiday, or legal holiday for Defendant, Defendant shall have until the next calendar day that is not one of the aforementioned days for submission of such report or other deliverable.

o. "Defendant" shall mean the SSA until the Closing of the Transaction, after which it shall mean Pennsylvania-American Water Company;

p. "Dry Weather Overflow" shall mean a discharge that occurs at a permitted CSO Outfall that is not caused by precipitation-related Inflow or Infiltration.

q. "Effective Date" shall mean the date set forth in Section XVII (Effective Date) of this Consent Decree.

r. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

s. "Green Infrastructure Measures" shall mean the range of stormwater control measures that use plant systems, soil systems, permeable pavement, or stormwater management, harvest and reuse, to store, infiltrate, evapotranspirate, or reuse stormwater and reduce flows to the Combined Sewer System. Green Infrastructure Measures may include, but shall not be limited to, extended detention wetland areas, green roofs, and cisterns.

t. "Infiltration" shall mean water entering the Collection System and service connections from the ground through means that include, but are not limited to, defective pipes and sewer walls, pipe and sewer joints, connections, and manhole walls.

u. "Inflow" shall mean water introduced into the Collection System, including service connections, from sources including, but not limited to, roof leaders, cellars, basement sump pumps, area drains in yards and driveways, foundation drains, cooling water discharges, drains from springs and other wet areas, cracked or broken manhole covers, cross connections from separate storm sewers, catch basins, stormwater, surface run-off, street wash waters, and drainage.

v. "Long Term Control Plan" or "LTCP" shall mean the currently applicable plan that the Defendant develops pursuant to Section V.B.

w. "MGD" shall mean million gallons per day.

x. "Nine Minimum Controls" or "NMCs" shall mean those controls identified in Section II.B. of the EPA's April 19, 1994, Combined Sewer Overflow (CSO) Control Policy.

y. "Nine Minimum Controls Plan" or "NMC Plan" shall mean the plan attached hereto as Appendix A, as the same may be revised and updated in accordance with Section V.A. (Nine Minimum Controls) of this Consent Decree and in accordance with the CSO Policy.

z. "NPDES Permit" shall mean the currently effective NPDES Permit No. PA-0026492, effective on October 1, 2009 and amended on May 13, 2011, issued to the SSA by the PADEP. This definition includes any subsequent modification or reissuance of the Permit in accordance with 40 C.F.R Part 123.

aa. "Operating Protocols" shall mean the procedures described, as of the Effective Date of the Original Consent Decree, in Part C, § TWELVE of the NPDES Permit. This definition includes any subsequent modification of the 'Operating Protocols' as set forth in any subsequent modification or reissuance of the NPDES Permit in accordance with 40 C.F.R. Part 123.

bb. "Original Consent Decree" shall mean the Consent Decree entered by this Court on January 31, 2013 (ECF No. 167), including any modifications that became effective prior to the Effective Date of this Amended Consent Decree.

cc. "PADEP" shall mean the Pennsylvania Department of Environmental Protection and any successor departments or agencies of the Commonwealth of Pennsylvania.

dd. "Paragraph" shall mean a provision of this Consent Decree identified by an Arabic number.

ee. "Parties" shall mean the United States, the PADEP, and the Defendant.

ff. "PAWC" shall mean Pennsylvania-American Water Company, a Pennsylvania Corporation with its principal place of business in Pennsylvania.

gg. "Plaintiffs" shall mean the United States and the PADEP.

hh. "Private Lateral" shall mean that portion of the Collection System not owned by Defendant and used to convey wastewater from a building(s) to a portion of the Collection System owned by Defendant.

ii. "Sanitary Sewer System" shall mean the current and future portion of the Collection System Sewer designed to convey municipal sewage and wastewaters (domestic, commercial, and industrial) to the WWTP in one system and stormwater in a separate system.

jj. "Sanitary Sewer Overflow" or "SSO" shall mean an overflow, spill, diversion, or release of wastewater from or caused by the Sanitary Sewer System. This term shall include: (i) discharges to waters of the Commonwealth of Pennsylvania or United States from the Sanitary Sewer System and (ii) any release of wastewater from the Sanitary Sewer System to public or private property that does not reach waters of the United States or the Commonwealth of Pennsylvania, including Building/Private Property Backups.

kk. "Section" shall mean a portion of this Consent Decree identified by an uppercase Roman Number.

ll. "Semi-annual Progress Report" shall mean the reports due on a semi-annual basis under Section VII (Reporting).

mm. "Six-month Period" shall mean a six month period ending on June 30 and December 31.

nn. "SSA" shall mean the Scranton Sewer Authority, a municipal corporation located in Scranton, Pennsylvania named as the defendant in the Complaint filed in this matter on September 29, 2009 (ECF No. 1).

oo. "Subparagraph" shall mean a provision of this Consent Decree identified by one or two lowercase letters followed immediately by a period. All Subparagraphs are incorporated into and a part of the Paragraph immediately preceding the Subparagraph.

pp. "Unpermitted Discharge" shall mean a Dry Weather Overflow or any discharge to waters of the United States or the Commonwealth of Pennsylvania from the Collection System at a location other than an Outfall designated in the NPDES Permit.

qq. "Waste Water Treatment Plant" or "WWTP" shall mean the waste water treatment plant owned and operated by Defendant located in Scranton, Pennsylvania.

V. COMPLIANCE MEASURES

A. NINE MINIMUM CONTROLS

9. The SSA shall, for as long as it is the Defendant, implement the Nine Minimum Controls Plan attached hereto as Appendix A in accordance with the provisions and schedules set forth therein. PAWC shall, for as long as it is the Defendant, implement the Amended Nine Minimum Controls Plan attached hereto as Appendix B in accordance with the provisions and schedules set forth therein.

10. Ongoing Review of the Nine Minimum Control Plan. Defendant shall, on at least an annual basis, evaluate the efficacy of the measures implemented under its Nine Minimum Controls Plan or Amended Nine Minimum Controls Plan, as well as other measures undertaken by Defendant pursuant to this Consent Decree, in reducing the impacts of Combined Sewer Overflows on receiving waters. Based on such evaluation, Defendant shall submit to Plaintiffs for review and approval additional proposed changes to its NMC Plan or Amended NMC Plan, to the extent any are necessary, which Defendant shall implement, upon approval by Plaintiffs, in accordance with the provisions and schedules set forth therein.

B. LONG-TERM CONTROL PLAN

11. Defendant shall implement the Long Term Control Plan ("LTCP") accepted by EPA and the PADEP on February 19, 2013, including the projects as described in Appendix C. Section 9.3.1 of the LTCP is amended by the schedule set forth in section 4.2 of the NMC Plan (Flow Optimization), "Operating and Monitoring Protocols for Maximizing Flow to WWTP and Outfall 003," attached hereto as Appendix B. This LTCP is designed to:

a. Meet the requirements of the EPA's CSO Policy, including but not limited to those requirements set forth in Section II.C. of the CSO Policy;

b. Select a remedy for CSOs that will result in no more than 4 overflows in a typical year to non-channelized tributaries of the Lackawanna River and no more than 9 overflows in a typical year to the Lackawanna River and its channelized tributaries;

c. Include a schedule for implementation with appropriate interim milestones that concludes no later than December 1, 2037;

d. Include a schedule for constructing CSO controls such as box culverts and storage tanks that is consistent with Appendix C; and

e. Include a post construction monitoring plan ("PCMP"), which must also meet the requirements of the CSO Policy, including the Policy's requirements that it be "adequate to verify compliance with water quality standards and protection of designated uses as well as to ascertain the effectiveness of the CSO controls" and that it "details the monitoring protocols to be followed, including the necessary effluent and ambient monitoring and, where appropriate, other monitoring protocols such as biological assessments, whole effluent toxicity testing, and sediment sampling."

12. Defendant shall complete implementation of the LTCP in accordance with the schedule in Appendix C.

13. Defendant shall undertake a study (the "GI Study") to evaluate the feasibility of implementing Green Infrastructure Measures as part of its long term controls for reducing CSOs from the Collection System. The evaluation in the GI Study must address at least the following criteria: GI site selection, identification and resolution of institutional issues and obstacles, public outreach, design and construction, and monitoring and evaluation. No later than December 1, 2017, Defendant shall submit the completed GI Study to the EPA and to the PADEP.

14. Following completion of the GI Study, Defendant may submit to the EPA and the PADEP for review and approval pursuant to Section VI (Review and Approval of Submittals) a modification of the LTCP that alters the CSO controls in the LTCP by incorporating Green Infrastructure Measures. Defendant shall include the following information with any such submission: (1) a description of the specific technology to be applied; (2) the locations where the technology will be used; (3) the design limits of the proposed use of the technology; and (4) the costs of installation and maintenance and who will bear those costs. If the proposed modification seeks to alter the size of any CSO control in the LTCP, the proposed modification must also include reliable computer modeling and other evidence sufficient to demonstrate that (1) the proposed Green Infrastructure Measures will result in a reduction of wet weather flows into the Combined Sewer System; (2) during future wet weather events Defendant will continue to achieve such flow reductions; and (3) as a result of the flow reductions achieved as a result of the proposed Green Infrastructure Measures, the proposed modification of the LTCP will achieve the same or better performance, in terms of gallons controlled and the number of CSO activations in a typical year, as the unmodified LTCP.

C. GENERAL COMPLIANCE

15. Effluent Limits.

a. Defendant shall comply with all final effluent limits set forth in the NPDES Permit.

b. Defendant shall implement the "Operating and Monitoring Protocols for Maximizing Flow to WWTP and Outfall 003" referenced in section 4.2 of the NMC Plan attached hereto as Appendix B and continue to at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of the NPDES Permit, including those facilities and systems designed to achieve the applicable Chesapeake Bay Nutrient requirements.

16. Dry Weather Overflows.

a. All Dry Weather Overflows from the Collection System are prohibited.

b. Defendant must report all Dry Weather Overflows to the PADEP by telephone at 570-826-2511 within twenty-four hours of when Defendant becomes aware of the Dry Weather Overflow and must provide written notification to the PADEP and the EPA within five Days of when Defendant becomes aware of the Dry Weather Overflow.

c. Should Defendant detect a Dry Weather Overflow, Defendant shall begin corrective action immediately. Defendant shall inspect the outfall(s) from which the Dry Weather Overflow occurred each subsequent Day until the overflow has been eliminated.

d. Defendant shall summarize all such Dry Weather Overflows in the Semi-Annual Progress Report required under Section VII (Reporting). Nothing in this Section shall eliminate or minimize any additional notification or reporting required by the NPDES Permit.

17. Compliance with Operating Protocols.

a. Defendant shall comply with the Operating Protocols regarding flows to the WWTP, which, as of the Effective Date of the Original Consent Decree, are described in Part C, § TWELVE of the NPDES Permit.

b. Should Defendant fail to comply with the Operating Protocols described in Subparagraph a. above for more than ten minutes in any 24-hour period, it shall report such failure within 10 Days in writing in accordance with Section XVI (Notices and Submissions).

c. Defendant shall, within 14 Days of a request by the EPA or the PADEP, provide a report in comma-delimited format of the measurements of influent to the WWTP and discharges from Outfall 003 recorded by its supervisory control and data acquisition (SCADA) system in increments of no more than five minutes. To the extent practicable, the data shall be provided in a single table with each measurement being taken simultaneously. Defendant may not limit its production of SCADA data to the data available from one server or storage location, unless that server or storage location contains all of data available to Defendant for the time period covered by the request.

d. Nothing in this Paragraph shall limit the United States' or the PADEP's authority to request other information or information in other formats.

18. Identification of Outfalls.

a. Defendant hereby affirms that it has conducted a thorough study of its collection system and has identified to the United States and the PADEP, to the best of its knowledge, all of the outfalls from which pollutants may enter waters of the United States or the Commonwealth of Pennsylvania.

b. Defendant shall not discharge pollutants into waters of the United States or the Commonwealth of Pennsylvania from any outfall not identified in its NPDES Permit.

c. Should Defendant discover an outfall that is not identified in its NPDES Permit, it shall notify the United States and the PADEP in writing in accordance with Section XVI (Notices and Submissions) within five Days of the discovery of the outfall. The notice shall include a description of the outfall, its location, the portion of the collection system that drains to the outfall, the description of any pathway by which discharges from the outfall might reach waters of the United States or the Commonwealth of Pennsylvania, any information as to whether stormwater is included in the discharges from the outfall, and any information that might indicate whether pollutants have been discharged from the outfall. Within 60 Days of the discovery of the outfall, Defendant shall submit to the EPA and the PADEP for review and approval pursuant to Section VI (Review and Approval of Submittals) a plan that addresses how the newly discovered outfall(s) will be addressed consistent with Defendant's applicable NPDES Permit.

19. Elimination of Sanitary Sewer Overflows. SSOs are prohibited.

20. Reporting Planned Changes and Non-Compliance.

a. Defendant shall comply with the provisions of the NPDES Permit requiring the reporting of anticipated and unanticipated non-compliance with the NPDES Permit, which, as of the Effective Date, are described in Part A, § III.C of the NPDES Permit.

b. Whenever written notice of non-compliance is required to be given to the PADEP pursuant to the NPDES Permit, Defendant shall simultaneously notify the EPA in accordance with Section XVI (Notices and Submissions).

VI. REVIEW AND APPROVAL OF SUBMITTALS

21. For each plan, report, schedule or other document submitted by Defendant for EPA and PADEP approval (other than a request to modify this Consent Decree submitted pursuant to Section XIX (Modification)) the EPA, after consultation with the PADEP, may

(a) approve the submittal, in whole or in part; (b) disapprove the submittal, in whole or in part; (c) approve the submittal upon specified conditions, directing Defendant to modify its submission; or (d) any combination of the above. If the EPA approves the submittal, the EPA shall notify Defendant in writing. If the submittal is disapproved in whole or in part, or approved with conditions, the EPA shall describe the deficiencies or conditions in writing so that Defendant can make the required modifications and provide the EPA with a modified submittal. Defendant may request a meeting and/or conference call with the EPA to discuss the deficiencies, but no such request or meeting shall extend any deadlines set forth in this Section.

22. Within 60 Days following receipt of any notice from the EPA disapproving a submittal or directing modification of a submittal pursuant to the preceding Paragraph (or within such longer time set forth in the notice or agreed to by the Parties), Defendant shall submit a modified submittal to the EPA and the PADEP for approval, subject only to Defendant's right to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution). The modified submittal shall correct any deficiencies identified by the EPA, and conform to any directions set forth in the notice provided pursuant to the preceding Paragraph. If Defendant fails to submit a modified document to the EPA within the 60-Day period, the EPA retains the right to modify or develop any disapproved or conditionally approved portion of the submittal. Defendant shall implement any such plan, report, schedule or other submittal as modified or developed by the EPA, subject only to Defendant's right to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution).

23. In the event that a resubmitted plan, report, schedule or other document or portion thereof is disapproved in whole or in part or approved with conditions by the EPA, the EPA shall provide Defendant with a written notice describing the remaining deficiencies or conditions for

approval. The EPA may require Defendant to correct the deficiencies or satisfy the conditions for approval of the submittal within a specified time frame, or the EPA may modify or develop any disapproved or conditionally approved portion of the submittal. Defendant may request a meeting and/or conference call with the EPA to discuss the deficiencies, but no such request or meeting shall extend any deadlines set forth in this Section. Following receipt of a notice requiring Defendant to correct deficiencies or satisfy conditions for approval, Defendant shall submit a modified document in accordance with the EPA's directions, subject only to Defendant's right to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution).

24. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 21 or 23, above, Defendant shall proceed, if directed by the EPA, to take any action required by any non-deficient portion of Defendant's submission, if such action can be undertaken independent of the deficient portion of Defendant's submission. Implementation of any non-deficient portion of a submission shall not relieve Defendant of any liability for stipulated penalties under Section X (Stipulated Penalties) for the deficient portion(s).

25. Other than a modification of the LTCP, all plans and studies submitted pursuant to this Consent Decree shall be incorporated herein as part of this Consent Decree upon approval by the EPA. A modification of the LTCP shall be incorporated into this Consent Decree only if the Parties enter into a written agreement pursuant to Paragraph 89.

26. Defendant shall take all lawful and appropriate actions to facilitate the implementation of this Consent Decree, including prompt review and approval of any appropriate and responsive bids, contracts, or other documents, and, if applicable, prompt review

and approval of any appropriate schedule of work necessary to maintain compliance with this Consent Decree.

27. If the EPA fails to take action under Paragraph 21 with respect to a submittal or modified submittal, other than the LTCP or a proposal to modify this Consent Decree, within 90 Days of receiving the submittal or modified submittal, the EPA shall extend any subsequent deadlines dependent upon approval of the submittal by the number of Days in excess of 90 that elapsed between: (i) the date that the EPA and the PADEP received the submittal or modified submittal; and (ii) the date that the EPA took action under Paragraph 21. Such extension will not be effective unless the EPA grants it in writing. Defendant may invoke dispute resolution under Section XII (Dispute Resolution) with respect to any disputes under this Paragraph.

VII. REPORTING

A. REPORTS

28. Defendant will provide to the EPA copies of all written notifications and reports that Defendant is required to submit to the PADEP relevant to this Consent Decree.

29. On January 31 and July 31 of every year commencing with the first full Six-month Period after Entry of this Consent Decree and continuing until termination of this Consent Decree, Defendant will submit to the EPA and the PADEP a progress report ("Semi-annual Progress Report") regarding the implementation of the requirements of this Consent Decree in the previous Six-month Period. The Semi-Annual Progress Report will include at a minimum:

a. A statement setting forth the deadlines and other terms that Defendant was required by this Consent Decree to meet since the date of the last Semi-annual Progress Report, whether and to what extent Defendant has met these requirements, and the reasons for any noncompliance;

b. A general description of the work completed within the prior Six-month Period, and a projection of work to be performed pursuant to this Consent Decree during the next or succeeding Six-month Period;

c. A summary of all contacts with the EPA and the PADEP during the reporting period relating to CSOs, SSOs, or implementation of the BNR Project;

d. A statement of any exceedances of NPDES Permit limitations; and,

e. A summary of all CSOs, SSOs and Unpermitted Discharges occurring within the Six-month Period including the actual or estimated frequency, duration, and volume of each CSO, SSO, and Unpermitted Discharge.

B. CERTIFICATION AND ADMISSIBILITY

30. Any report or plan relating to monitoring data or any representation made by Defendant as to its compliance with this Consent Decree that Defendant is required by this Consent Decree to submit, including reports or plans, shall be signed by an official or authorized agent of Defendant and shall include the following certification:

> I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

31. Defendant shall not object to the authenticity of any report, plan, or other submission prepared in accordance with Paragraph 30 or the information contained in said report, plan or submission in any proceeding to enforce this Consent Decree.

VIII. FUNDING

32. Compliance with the terms of this Consent Decree by Defendant is not conditioned on the receipt of federal or state grant or loan funds or upon Defendant's financial capabilities. In addition, Defendant's failure to comply is not excused by the lack of federal or state grant or loan funds, or by the processing of any applications for the same, or by Defendant's financial capabilities.

IX. CIVIL PENALTY

33. The SSA has paid in full to the United States the civil penalty described in Section IX.33 of the Original Consent Decree.

34. Defendant shall pay any civil penalty due to the United States by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with written instruction to be provided to Defendant, following lodging of the Consent Decree, by the Financial Litigation Unit of the U.S. Attorney's Office for the Middle District of Pennsylvania, 235 N. Washington Ave., Suite 311, Scranton, PA 18503, Phone: 570-348-2800. At the time of payment, Defendant shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, which shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States v. Scranton Sewer Authority*, and shall reference the civil action number 3:09-cv-1873 and DOJ case number 90-5-1-1-08778, to the United States in accordance with Section XVI (Notices and Submissions) and to:

EPA Region III Docket Clerk
Office of Enforcement and Compliance Assistance (3EC00)
1650 Arch Street
Philadelphia, PA 19103.

35. The SSA has paid in full to the PADEP the civil penalty described in Section IX.35 of the Original Consent Decree.

X. STIPULATED PENALTIES

36. The SSA shall be liable for stipulated penalties to the United States and the PADEP for violations of the Original Consent Decree as specified in the Original Consent Decree, until the Effective Date of this Amended Consent Decree. The SSA shall be liable for stipulated penalties to the United States and the PADEP for violations of this Amended Consent Decree as specified below up to, but not including, the day on which the Closing of the Transaction occurs. PAWC shall be liable for stipulated penalties to the United States and the PADEP for violations of this Amended Consent Decree as specified below beginning on the day on which the Closing of the Transaction occurs. If the Closing of the Transaction does not occur, the SSA shall remain liable for stipulated penalties to the United States and to the PADEP for violations of this Amended Consent Decree as specified below, until termination of this Amended Consent Decree pursuant to Section XX (Termination).

37. A violation of this Amended Consent Decree includes failing to perform any obligation required by the terms of this Consent Decree, including any work plan or schedule approved under this Consent Decree, according to all applicable requirements of this Consent Decree, and within the specified time schedules established by or approved under this Consent Decree.

38. Reporting Requirements. For each failure to submit a timely and adequate plan, report, schedule, written notice, or other submission required by this Decree, Defendant shall pay the following stipulated penalties to Plaintiffs per violation per Day:

Period of Noncompliance	Penalty per Day per Violation
Days 1-30	$500
Days 31-60	$750
Days 61-90	$1,000
Days 91 and over	$1,500

39. Compliance Milestones.

a. For each failure to comply with any deadline for completion of construction or for achievement of full operation set forth in the implementation schedule developed and approved pursuant to Paragraph(s) 11 and 12, Defendant shall pay the following stipulated penalties to Plaintiffs per violation per Day:

Period of Noncompliance	Penalty per Day per Violation
Days 1-30	$500
Days 31-60	$750
Days 61-90	$1,000
Days 91 and over	$2,000

b. For each failure to comply with a requirement of, or meet a deadline in, the Amended Nine Minimum Controls Plan pursuant to Paragraph 9 of Section V.A (Nine Minimum Controls), Defendant shall pay the following stipulated penalties to Plaintiffs per violation per Day:

Period of Noncompliance	Penalty per Day per Violation
Days 1-30	$500
Days 31-60	$750
Days 61-90	$1,000
Days 91 and over	$2,000

40. General Compliance.

a. For each discharge in violation of Subparagraph 16.a or for each discharge in violation of Paragraph 19 that reaches waters of the United States or the Commonwealth of Pennsylvania, Defendant shall pay the following stipulated penalties based on the volume of the discharge:

Volume:	The penalty shall be:
Less than 100 gallons	$100
100 to 2,499 gallons	$750
2,500 to 9,999 gallons	$1,250
10,000 to 99,999 gallons	$3,000
100,000 to 999,999 gallons	$5,000
1 million gallons or greater	$10,000

b. For each discharge in violation of Subparagraph 17.a, Defendant shall pay the following stipulated penalties based on the difference between the volume of combined sewage that Defendant would have taken into the WWTP while it was discharging from Outfall 003 if it had complied with Paragraph 17.a., and the volume of combined sewage that it actually took into the WWTP while it was discharging from Outfall 003:

Difference in Volume:	The penalty shall be:
Up to two million gallons	$2,500
More than two million gallons, but not more than four million gallons	$5,000
More than four million gallons, but not more than six million gallons	$7,500
More than six million gallons	$10,000

c. For each failure to comply with Subparagraph 18.b., Defendant shall pay the following stipulated penalties to Plaintiffs per violation per Day:

Period of Noncompliance	Penalty per Day per Violation
Days 1-30	$500
Days 31-60	$1,000
Days 61-90	$2,000
Days 91 and over	$3,000

d. [Reserved.]

e. For each failure to comply with Paragraph 15, other than a failure to comply with an annual effluent limit, Defendant shall pay the following stipulated penalties to Plaintiffs:

Type of Permit Limit:	Penalty per violation:
Daily or Instantaneous	$500
Weekly	$1,500
Monthly	$3,000

f. For each failure to provide telephonic notification in compliance with Paragraph 16.b, Defendant shall pay a stipulated penalty of $1,000 per occurrence.

g. For each failure to comply with Subparagraphs 16.c or 17.c, Defendant shall pay the following stipulated penalties to Plaintiffs per violation per Day:

Period of Noncompliance	Penalty per Day per Violation
Days 1-30	$500
Days 31-60	$750
Days 61-90	$1,000
Days 91 and over	$2,000

41. If any person discovers an outfall that existed as of the Effective Date, but that is not included in Defendant's NPDES Permit, Defendant shall pay a stipulated penalty of $2,500.

42. Access Requirements. For each failure to allow access to the WWTP in accordance with Section XV (Information Collection and Retention), below, Defendant shall pay stipulated penalties of $1,000 to Plaintiffs per Day.

43. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

44. For stipulated penalties incurred after the Effective Date of the Original Consent Decree, the amount of penalties for which Defendant is liable shall be multiplied by the quotient of: (i) the maximum penalty under 33 U.S.C. § 1319(d) as adjusted pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, Pub. L. 101-410, 104 Stat. 890, as amended; and (ii) $37,500.

45. Defendant shall pay stipulated penalties to the United States and the PADEP within 30 Days of a written demand by either Plaintiff. Defendant shall pay 50% of the total stipulated penalty amount due to the United States and 50% percent to the PADEP. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff.

46. Each Plaintiff may, in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

47. Stipulated penalties shall continue to accrue as provided in Paragraph 43, during any Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of the EPA that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing, together with interest, to the United States within 30 Days of the effective date of the agreement or the receipt of the EPA's decision or order.

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendant shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 Days of receiving the Court's decision or order, except as provided in Subparagraph c, below.

c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

48. [Reserved.]

49. Defendant shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 34, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

50. Defendant shall pay stipulated penalties owing to the PADEP by corporate check or the like made payable to "Commonwealth of Pennsylvania, Clean Water Fund" and sent to Program Manager, Clean Water Program, Department of Environmental Protection, Northeast Regional Office, 2 Public Square, Wilkes-Barre, Pennsylvania 18701-1915. The check shall be

accompanied by a transmittal letter which shall state that the payment is for stipulated penalties and for which violation(s) the penalties are being paid.

51. If Defendant fails to pay stipulated penalties according to the terms of this Consent Decree, Defendant shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or the PADEP from seeking any remedy otherwise provided by law for Defendant's failure to pay any stipulated penalties.

52. Subject to the provisions of Section XIII (Effect of Settlement), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States or the PADEP for Defendant's violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of the Clean Water Act, 33 U.S.C. §§ 1251-1387, or the Pennsylvania Clean Streams Law, 35 Pa. Stat. Ann. §§ 691.1-691.1001, Defendant shall be allowed a credit, for any stipulated penalties paid, against any statutory penalties imposed for such violation.

XI. FORCE MAJEURE

53. "Force Majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Defendant; its agents, consultants, or contractors; or any entity controlled by Defendant; that delays or prevents the performance of any obligation under this Consent Decree despite Defendant's best efforts to fulfill the obligation. The requirement that Defendant exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential Force Majeure and best efforts to address the effects of any such event (a) as it is occurring and (b) after it has occurred to prevent or minimize any resulting delay to the greatest extent possible. "Force Majeure" does not include Defendant's financial inability to perform any obligation under this Consent Decree.

54. Any delays in implementation of this Consent Decree shall not be excused merely because Defendant notified the EPA and/or the PADEP of the anticipated delay, regardless of whether such notification is contained in a report required under Section VII (Reporting) or any other communication.

55. When Defendant knows, or should have known by the exercise of reasonable diligence, of an event that might delay completion of any requirement of this Consent Decree, whether or not the event is a Force Majeure, Defendant will notify the EPA and the PADEP, in writing, within 14 Days after Defendant first knew, or in the exercise of reasonable diligence under the circumstances, should have known of such event. The notice will indicate whether Defendant claims that the delay should be excused due to a Force Majeure. The notice shall describe in detail the basis for Defendant's contention that it experienced a Force Majeure delay, the anticipated duration of the delay, the cause or causes of the delay, all actions taken or to be taken to prevent or minimize the delay, and the timetable by which those measures will be implemented. Failure to timely notify the EPA and the PADEP may, at the EPA's option, in consultation with the PADEP, preclude Defendant from asserting Force Majeure for the period beyond 14 Days it took Defendant to provide the required notice.

56. If, after consultation with the PADEP, the EPA finds that a delay in performance is, or was, caused by a Force Majeure, it will extend the time for performance, in writing, for a period to compensate for the delay resulting from such event and stipulated penalties will not be due to the United States or the PADEP for such period. If the EPA does not grant such an extension within 30 days of receiving Defendant's written notice of the Force Majeure, Defendant may consider the request for an extended time for performance to have been denied, and Defendant may invoke dispute resolution.

57. In proceedings on any dispute regarding a delay in performance, the dispute resolution provisions of Section XII (Dispute Resolution) will apply, and Defendant will have the burden of proving that the delay is, or was, caused by a Force Majeure and that the amount of additional time requested is necessary to compensate for that event.

58. Compliance with a requirement of this Consent Decree shall not by itself constitute compliance with any other requirement. An extension of one compliance date based on a particular event will not extend any other compliance date. Defendant will make an individual showing of proof regarding the cause of each delayed incremental step or other requirement for which an extension is sought. Defendant may petition for the extension of more than one compliance date in a single request.

XII. DISPUTE RESOLUTION

59. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree.

60. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendant sends the United States and the PADEP a written "Notice of Dispute." Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 30 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States, in consultation with the PADEP, shall be considered binding unless, within 30 Days after the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

61. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States and the PADEP a written "Statement of Position" regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendant's position and any supporting documentation relied upon by Defendant.

62. The United States, in consultation with the PADEP, shall serve its Statement of Position within 30 Days of receipt of Defendant's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

63. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States and the PADEP, in accordance with Section XVI (Notices and Submissions), a motion requesting judicial resolution of the dispute. The motion must be filed within 30 Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

64. The United States, in consultation with the PADEP, shall respond to Defendant's motion within the time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

65. Standard of Review.

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 63 pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by the EPA and/or the PADEP under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Defendant shall have the burden of demonstrating, based on the administrative record, that the position of the United States and/or the PADEP is arbitrary and capricious or otherwise not in accordance with law.

b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under Paragraph 63, Defendant shall bear the burden of demonstrating by a preponderance of the evidence that its position complies with this Consent Decree and that Defendant is entitled to relief under applicable law.

66. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 47. If Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section X (Stipulated Penalties).

XIII. EFFECT OF SETTLEMENT

67. [Reserved.]

68. This Consent Decree resolves the civil claims of the United States for the violations alleged in the United States' Complaint through the Date of Lodging of this Consent Decree and the civil claims of the PADEP for the violations alleged in the PADEP's Complaint in Intervention through the Date of Lodging of this Consent Decree.

69. The United States and the PADEP reserve any and all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated in Paragraph 68. This Consent Decree shall not be construed to limit the rights of the United States or the PADEP to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraph 68. The United States and the PADEP further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the POTW, whether related to the violations addressed in this Consent Decree or otherwise.

70. In any subsequent administrative or judicial proceeding initiated by the United States or the PADEP for injunctive relief, civil penalties, or other appropriate relief relating to the Facility, Defendant shall not assert, and may not maintain, any defense or claim against Plaintiffs based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or the PADEP in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 67 of this Section.

71. This Consent Decree does not limit or affect the rights of Defendant or of the United States or the PADEP against any third parties, not party to this Consent Decree, nor does

it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

72. This Consent Decree does not create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XIV. NOT A PERMIT

73. This Consent Decree is not a permit, or a modification of any permit, under any federal, state, or local laws or regulations. Defendant is responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits; and Defendant's compliance with this Consent Decree shall be no defense to any action commenced by the United States or the PADEP pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and the PADEP do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act, 33 U.S.C. §§ 1251-1387, or with any other provisions of federal, state, or local laws, regulations, or permits.

74. This Consent Decree does not authorize or approve the construction of any physical structure or facilities, or the modification of any existing treatment works or sewer system.

XV. INFORMATION COLLECTION AND RETENTION

75. The United States and the PADEP, and their representatives, contractors, consultants, and attorneys shall have the right of entry into and upon Defendant's WWTP and Sewer System, at all reasonable times, upon proper presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States or the PADEP in accordance the terms of to this Consent Decree;

c. obtain samples and, upon request, splits of any samples taken by Defendant or its representatives, contractors or consultants;

d. obtain documentary evidence, including photographs and similar data;

e. inspect and evaluate any portion or portions of the POTW;

f. inspect and review any records required to be kept under the terms and conditions of the Consent Decree, Defendant's NPDES Permit, any future modifications or renewals thereof, and the CWA; and

g. assess Defendant's compliance with this Consent Decree.

76. Upon request, Defendant shall provide the EPA and the PADEP or their authorized representatives splits of any samples taken by Defendant. Upon request, the EPA and the PADEP shall provide Defendant splits of any sample taken by the EPA or the PADEP.

77. Defendant shall retain the following documents and electronically stored data for at least five years from the date they are created:

a. All complaints received by Defendant or its contractors or agents from any person or entity pertaining to the matters addressed by this Consent Decree;

b. All documents required to be created, submitted, or maintained pursuant to Appendix A or B (Nine Minimum Controls Plans);

c. Documentation of all measures undertaken by Defendant to comply with the terms of this Consent Decree; and

d. SCADA data or other data regarding compliance with Paragraph 17 (Compliance with Operating Protocols).

78. Defendant shall retain the following documents and electronically stored data for at least five years after termination of this Consent Decree:

a. All reports, plans, permits, and documents submitted to the EPA or the PADEP pursuant to this Consent Decree, including all underlying research and data;

b. All data developed by, or on behalf of, Defendant pursuant to any post-construction monitoring activities; and

c. All reports and data regarding water quality.

79. Upon the closing of the transaction, the SSA shall transfer to PAWC all documents and electronically stored data in its possession, custody, or control that it is required to preserve pursuant to Paragraphs 77–78. PAWC shall retain any such transferred documents and electronically stored data for the applicable time period under Paragraph 77 or 78.

80. The information-retention requirements in this Section establish minimum retention periods that shall apply regardless of any contrary corporate or institutional policies or procedures but do not excuse Defendant from any legal requirement to retain documents or data for longer periods of time. At any time during this information-retention period, upon request by the United States or the PADEP, Defendant shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

81. At the conclusion of the information-retention period provided in Paragraph 79, Defendant shall notify the United States and the PADEP at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or the PADEP, Defendant shall deliver any such documents, records, or other information to the EPA or the PADEP. Defendant may assert that certain documents, records, or other information is privileged under the attorney-client

privilege or any other privilege recognized by federal law. If Defendant asserts such a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendant. However, no final documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

82. Defendant may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that Defendant seeks to protect as CBI, Defendant shall follow the procedures set forth in 40 C.F.R. Part 2.

83. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or the PADEP pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendant to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XVI. NOTICES AND SUBMISSIONS

84. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

As to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-1-1-08778

As to the EPA:

Chief
NPDES Enforcement Branch (3WP42)
Water Protection Division
U.S. Environmental Protection Agency, Region 3
1650 Arch St.
Philadelphia, PA 19103-2029

And

Christopher A. Day
Office of Regional Counsel (3RC20)
U.S. Environmental Protection Agency, Region 3
1650 Arch St.
Philadelphia, PA 19103-2029

As to the PADEP:

Program Manager – Clean Water Program
Department of Environmental Protection
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18701-1915

As to the SSA (when it is Defendant):

Executive Director
Scranton Sewer Authority
312-314 North Adams Avenue
Scranton, PA 18503-1501

Jeffrey Belardi
Belardi Law Offices
410 Spruce Street, 4th Floor
Scranton, PA 18503

As to PAWC (when it is Defendant):

Plant Manager
Cedar Ave. & Breck St.
Scranton, PA 18505

President
Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033

Vice-President, General Counsel and Secretary
Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033

85. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

86. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVII. EFFECTIVE DATE

87. The Effective Date of this Amended Consent Decree shall be the date on which this Amended Consent Decree is entered by the Court.

XVIII. RETENTION OF JURISDICTION

88. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XII (Dispute Resolution) and XIX (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XIX. MODIFICATION

89. Except as otherwise expressly set forth in this Consent Decree, the terms of this Consent Decree, including the attached appendices and the LTCP approved pursuant to this Consent Decree, may be modified only by a subsequent written agreement signed by all of the Parties or their successors in interest. Where the modification constitutes a material change to this Consent Decree, it shall be effective only upon approval by the Court.

90. Any disputes concerning modification of this Consent Decree shall be resolved pursuant to Section XII (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 65, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XX. TERMINATION

91. After Defendant has: (i) completed implementation of the requirements of Section V (Compliance Measures); (ii) certified that all construction required by the Long-Term Control Plan is complete and that the Long-Term Control Plan has been fully implemented; (iii) completed post construction monitoring as required by the Long-Term Control Plan; (iv) submitted a PCMP report to the EPA and the PADEP; (v) demonstrated in the PCMP report that any remaining CSOs will not cause Defendant to violate the CSO Policy or its NPDES Permit; (vi) satisfactorily complied, as determined by the EPA, with its NPDES Permit for a period of 12 months; and (vii) paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree; Defendant may serve upon the United States and the PADEP a "Request for Termination" stating that Defendant has satisfied those requirements, together with all necessary supporting documentation.

92. Following receipt by the United States and the PADEP of Defendant's Request for Termination, the Parties shall confer informally concerning the request and any disagreement that the Parties may have as to whether Defendant has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States after consultation with the PADEP agrees that the Consent Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Consent Decree.

93. If the United States after consultation with the PADEP does not agree that the Consent Decree may be terminated, Defendant may invoke Dispute Resolution under Section XII (Dispute Resolution). However, Defendant shall not seek formal dispute resolution under Paragraph 61 of any dispute regarding termination until at least 90 Days after service of its Request for Termination.

XXI. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

94. This Amended Consent Decree will be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the public comments regarding this Consent Decree disclose facts or considerations which indicate that this Consent Decree is inappropriate, improper, or inadequate. The SSA and PAWC consent to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Consent Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Consent Decree.

XXII. SIGNATORIES/SERVICE

95. Each undersigned representative of a Defendant and the PADEP and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of

Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

96. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXIII. COSTS OF SUIT

97. The United States, the PADEP, the SSA and PAWC shall bear their own costs of this action, including attorneys' fees, except that the United States and the PADEP shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendant.

XXIV. INTEGRATION

98. This Amended Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the United States, the PADEP, the SSA and PAWC with respect to the settlement embodied in the Decree and supersedes the Original Consent Decree, all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than deliverables that are subsequently submitted and approved pursuant to this Decree, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Consent Decree or the settlement it represents, nor shall it be used in construing the terms of this Consent Decree.

XXV. APPENDICES

99. The following Appendices are attached to, and a part of, this Consent Decree: "Appendix A" is the Nine Minimum Controls Plan; "Appendix B" is the Amended Nine

Minimum Controls Plan; Appendix "C" is a description of the projects in the approved Long Term Control Plan and the schedule for constructing those projects; and "Appendix D" is the form of the notice to be filed by Defendant within one business day of the Closing of the Transaction.

XXVI. FINAL JUDGMENT

100. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, the PADEP and Defendant. The Court finds that there is no just reason for delay and, therefore, enters this judgment as a final judgment under Federal Rules of Civil Procedure 54 and 58.

SO ORDERED THIS 7th DAY OF December, 2016

HON. JOHN E. JONES
UNITED STATES DISTRICT JUDGE

THE UNDERSIGNED PARTIES enter into this Amended Consent Decree in the matter of *United States v. Sewer Authority of the City of Scranton.*

FOR THE UNITED STATES OF AMERICA:

JOHN C. CRUDEN
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

10/27/2016
Dated

DANIEL S. SMITH
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THE UNDERSIGNED PARTIES enter into this Amended Consent Decree in the matter of *United States v. Sewer Authority of the City of Scranton*.

MARK POLLINS
Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

SUSHILA NANDA
Senior Attorney Advisor
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

THE UNDERSIGNED PARTIES enter into this Amended Consent Decree in the matter of *United States v. Sewer Authority of the City of Scranton*.

Cecil Rodrigues 10/27/2016
for SMG

SHAWN M. GARVIN
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THE UNDERSIGNED PARTIES enter into this Amended Consent Decree in the matter of *United States v. Sewer Authority of the City of Scranton.*

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

BHARAT PATEL, P.E.
Environmental Program Manager
Clean Water Program
Department of Environmental Protection
Northeast Regional Office
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10/11/16
Dated

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THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of United States v. Sewer Authority of the City of Scranton.

FOR THE SEWER AUTHORITY OF THE CITY OF SCRANTON.

October 6, 2016
Date

EUGENE P. BARRETT
Executive Director
Scranton Sewer Authority
312-314 North Adams Avenue
Scranton, PA 18503-1501

JEFFREY BELARDI, ESQ.
Belardi Law Offices
410 Spruce Street, 4th Floor
Scranton, PA 18503

THE UNDERSIGNED PARTIES enter into this Amended Consent Decree in the matter of *United States v. Sewer Authority of the City of Scranton.*

FOR PENNSYLVANIA-AMERICAN WATER COMPANY.

10/7/2016
Date

KATHY L. PAPE
President
Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033

ANDREW L. SWOPE
Vice-President, General Counsel and Secretary
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Hershey, PA 17033

APPENDIX A

CSO NINE MINIMUM CONTROLS PLAN

Background

The City of Scranton owns the wastewater collection, conveyance and treatment system serving the City of Scranton and the Borough of Dunmore. The Scranton Sewer Authority (SSA or the Authority) was appointed by the City of Scranton to act as the City's agent to maintain the wastewater system.

The wastewater system consists of over 275 miles of collection sewers and large interceptors, 80 combined sewer overflows (CSOs), 7 pumping stations and a wastewater treatment plant (WWTP). Approximately 63% (172 miles) of the collection sewers are combined sewers, which convey the combined storm water and sanitary sewage flow to regulator chambers prior to connection with an interceptor sewer. Under high wet-weather flow conditions that exceed the capacities of downstream facilities, the regulators direct combined sanitary sewage and storm water to the receiving streams. The SSA's NPDES Permit, No 0026492, lists permitted discharge points including: Treatment Plant Outfall – 001, Treatment Plant Headworks Bypass – 003 and CSOs – 004 through 082, totaling 80 CSO regulators. An additional five outfalls (numbers 83-87) have been requested to be added to the permit. Accordingly, there are 85 total designated CSO outfalls in the sewer system. SSA is currently working to permanently seal a number of these outfalls and will provide an update in the next annual report.

This document summarizes SSA's program to implement the Nine Minimum Controls pursuant to our discharge permit and the National CSO Policy.

1.0 Proper Operation and Regular Maintenance Program – NMC No. 1

1.1 Introduction

The first minimum control, proper operation and regular maintenance of the Combined Sewer System (CSS) and CSO outfalls consists of a program that establishes operation, maintenance and inspection procedures to ensure that a CSS and treatment facility will function in a way to maximize treatment of combined sewage and still comply with NPDES Permit Limitations. Implementation of this control is intended to ensure that the collection and treatment systems perform effectively. The essential elements of a proper operation and maintenance (O&M) program include maintenance of suitable records and identification of O&M as a high management priority.

The steps involved in implementing this minimum control are:

1. Assess how well the O&M program is implemented.

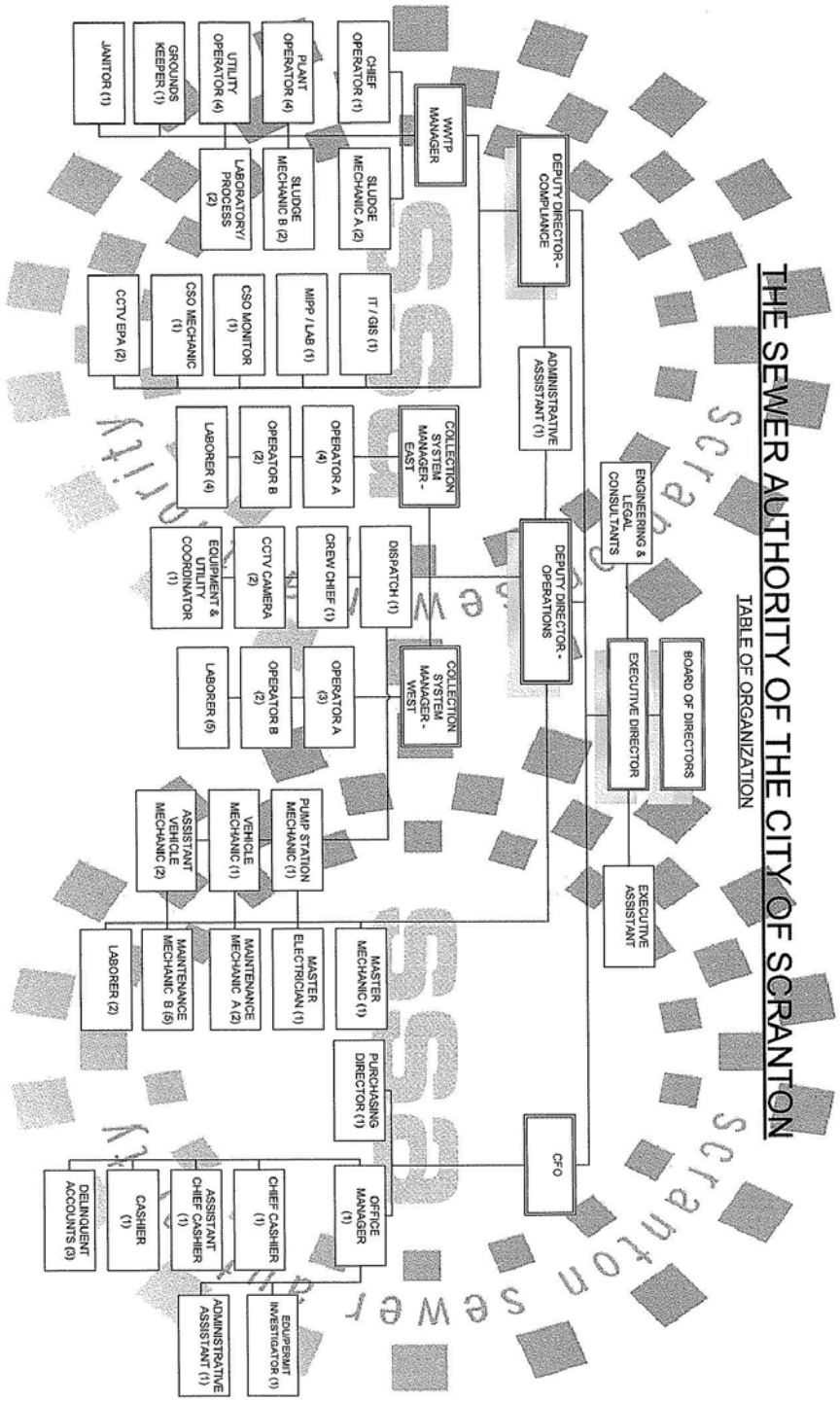
2. Determine if the O&M program needs to be improved to satisfy the intent of the CSO control policy.

3. Develop and implement the improvements to address CSOs.

4. Document any actions and report them to the PADEP.

1.2 Organizational Structure

The combined sewer system of the City of Scranton is owned and operated by the SSA. The SSA is a municipal Authority established by the City of Scranton and the Borough of Dunmore. Its Board consists of four members from the City of Scranton which are appointed by the Mayor and confirmed by City Council, and a fifth member who is appointed by the Borough Council of Dunmore. The Authority sewer system serves the City of Scranton and the Borough of Dunmore. The Authority has also entered into agreements with other adjoining municipalities and their sewer authorities for the treatment of additional municipal wastewaters. The Authority provides conveyance and treatment of wastewater from portions of the Boroughs of Taylor, Dickson City, and Moosic. The Authority holds an NPDES permit to discharge treated effluent and CSOs into the Lackawanna River and its tributaries. The organizational structure of the Authority is shown in Figure 1.


THE SEWER AUTHORITY OF THE CITY OF SCRANTON
TABLE OF ORGANIZATION
BOARD OF DIRECTORS
EXECUTIVE DIRECTOR
EXECUTIVE ASSISTANT
ENGINEERING & LEGAL CONSULTANTS
DEPUTY DIRECTOR - OPERATIONS
DEPUTY DIRECTOR - COMPLIANCE
ADMINISTRATIVE ASSISTANT (1)
CFO
WWTP MANAGER
CHIEF OPERATOR (1)
PLANT OPERATOR (4)
UTILITY OPERATOR (4)
GROUNDS KEEPER (1)
JANITOR (1)
SLUDGE MECHANIC A (2)
SLUDGE MECHANIC B (2)
LABORATORY/ PROCESS (2)
IT / GIS (1)
MIPP / LAB (1)
CSO MONITOR (1)
CSO MECHANIC (1)
CCTV EPA (2)
COLLECTION SYSTEM MANAGER - EAST
OPERATOR A (4)
OPERATOR B (2)
LABORER (4)
DISPATCH (1)
CREW CHIEF (1)
CCTV CAMERA (2)
EQUIPMENT & UTILITY COORDINATOR (1)
COLLECTION SYSTEM MANAGER - WEST
OPERATOR A (3)
OPERATOR B (2)
LABORER (6)
PUMP STATION MECHANIC (1)
VEHICLE MECHANIC (1)
ASSISTANT VEHICLE MECHANIC (2)
MASTER MECHANIC (1)
MASTER ELECTRICIAN (1)
MAINTENANCE MECHANIC A (2)
MAINTENANCE MECHANIC B (5)
LABORER (2)
PURCHASING DIRECTOR (1)
OFFICE MANAGER (1)
CHIEF CASHIER (1)
ASSISTANT CHIEF CASHIER (1)
CASHIER (1)
DELINQUENT ACCOUNTS (3)
EDUPERMIT INVESTIGATOR (1)
ADMINISTRATIVE ASSISTANT (1)

Scranton is a Class 2A City with a Home Rule/Mayor-Council form of municipal government. The elected mayor has the power and responsibility to administer government operations. The elected SSA Board of Directors has the power and responsibility to enact legislation, approve agreements, and adopt an annual budget. Typically the budget is prepared by the SSA staff and submitted to SSA Board of Directors for approval. The City director of public works, appointed by the mayor and confirmed by council, is responsible for the O&M of the public streets and the public storm water drainage system in the City. The Manager of the Borough of Dunmore is responsible for the O&M of the public streets and the public storm water drainage system in the Borough. The SSA maintains the responsibility to set user rates that are sufficient to meet the obligations of the Authority, operating and capital wise.

SSA is the permittee for the Combined Sewer System and is responsible for routine O&M. Figure 1 shows the current SSA organization chart.

1.3 Budget

Normal O&M expenses for the facilities are the responsibility of SSA. Non-routine and extraordinary maintenance expenses, as well as capital improvements are also the responsibility of the SSA.

SSA prepares an annual operating budget of revenues and expenses. The budget for the fiscal year beginning each April 1 will include the funds budgeted for resources and staff for the O&M program. The Authority sets rates for customers in the City of Scranton and the Borough of Dunmore and outside municipalities for bulk treatment of sewage. These various revenues support operation of facilities and the debt service. The Authority has the power, to float tax-exempt bonds or otherwise obtain funds for the design and construction of facilities.

The City is responsible for highway operations including streets maintenance. Highway operations are supported through the City general and the liquid fuels fund. The general fund obtains revenue through property taxes, other taxes, state grants, and various fees. The liquid fuels fund obtains revenue from proceeds of the state motor vehicle liquid fuels tax.

The Authority as owner and operator of the sewer system provides long-term planning and day-to-day operation of the facilities. The Authority operates, maintains, and repairs facilities, conducts measurements and testing, and provides reports to comply with environmental requirements. The Authority retains a consulting engineer and legal counsel.

1.4 Critical Facilities

The critical elements of the combined sewer system are listed in general order of priority below. These facilities and their roles in the operation of the combined sewer system were previously characterized in the 1970 “Design Report” and the October 1994 “Combined Sewer Overflow Minimization Final Plan of Action” reports.

PRIORITY	CRITICAL ELEMENTS OF THE COMBINED SEWER SYSTEM
1	Wastewater Treatment Plant
2	NPDES Outfall 003
3	Pump Stations
4	Diversion Chambers and CSO Outfalls
5	Sanitary Sewer Collection System
6	Combined Sewer Collection System

The operation, maintenance, inspection, and reporting requirements for the above-identified facilities (except the Treatment Plant) are outlined in the Collection System Operation and Maintenance Manual. This manual is to receive annual review to determine if revisions are needed. Requirements for the Treatment plant are listed in Wet Weather Operating Plan.

A list of the CSO regulators and their locations is included in the Collection System Operation and Maintenance Manual.

Trained SSA personnel will use the National Association of Sewer Service Companies (NASCO) ratings (numeric grades from 1-5, where 5 is the most significant defect) to rank its major trunk sewers, interceptors and each pump station by December 31, 2013.

1.5 Procedures for Routine Maintenance

The procedures for routine O&M are included in the Collection System Operation and Maintenance Manual. Typical O&M procedures that are part of the SSA manual include inspection with a CCTV camera, flow measurement, cleaning and removal of foreign materials, chemical treatment of roots, repair/rehabilitation of defects, and maintaining adequate records of inspections and findings.

SSA will use its JOBPLUS/CATS electronic work order management systems to identify and track all collection system routine maintenance. The JOBPLUS database contains all of SSA's Standard Operating Procedures for performing system maintenance. SSA inputs work orders from O & M manuals for new equipment in the JOBPLUS system, making modification as necessary to best fit SSA's process and applications. The JOBPLUS database generates work orders every Monday for each department, which complete tasks as they are able, depending upon the demands of the tasks, task priorities and available staffing. Consequently, tasks are not always completed within a given week, although SSA makes best efforts to perform assigned tasks within a weeks' time. All completed collection system inspection and cleaning is recorded in the CATS system. SSA managers use a map at the plant to direct crews' proactive maintenance through different areas of the collection system, generally working from north to south, and east to west, since the CATS system cannot generate work orders. CATS data is annually provided to SSA's regulators as part of its CSO Report. Although SSA currently cleans its system from north to south, SSA will evaluate cleaning from south to north, starting at the plant and working upstream.

In 2011, SSA rededicated itself to maximizing the utility and use of the JOBPLUS database to memorialize SOPs and to schedule/track maintenance required and performed. SSA presently schedules and prioritizes maintenance in JOBPLUS. When SSA acquires new equipment for the plant, the manufacturer's recommendations contained in the accompanying O& M manuals are entered into the JOBPLUS database and adjusted to meet SSA's application of the equipment. Every Monday, managers print out preventive maintenance work orders from JOBSPLUS and distribute the work orders to each department, as appropriate. Work crews proceed with work based on these work orders. In addition, as needed, corrective action work orders are delivered to managers and distributed to work crews.

1.6 Non-Routine Maintenance and Emergency Situations

A call out list of private contractors is maintained for both the plant and the collection system to insure that repairs can be arranged outside of normal working hours to the extent outside assistance is necessary.

The Authority recognizes that the operation of the sewer utility may require the expenditure of funds that have not been budgeted. The Authority has secured a $2 million revolving line of credit for extraordinary problems and expenditures for emergencies that can be accessed upon authorization by the Executive Director.

Management of emergencies in the collection system is also critical. Pipe failures can result in dry weather overflows. Upon notification by outside parties or upon discovery, the Authority takes immediate and appropriate steps to respond to the collection system problem, repair the problem and maintain or restore service to the customers. SSA's target response time for complaints and emergencies relating to collection system releases is as soon as possible. Typical response times are within an hour or two, depending upon the circumstances. Procedures are in place for arranging for bypass pumping between manholes if required to perform the work and SSA maintains a variety of pumps on hand, in addition to its call out list of private contractors, and is well equipped to respond to pump stations as necessary.

1.7 Inspections

Manual onsite inspections of all CSO discharge points will occur at least monthly; however, most outfalls are inspected several times each month in response to significant rain events and SSA will continue its practice of reviewing rainfall data and its correlation to activations at certain "problem" regulators. The result is that most outfalls are visited frequently each month whether due to (1) routinely scheduled inspections, (2) inspection following rain events, (3) in connection with outfall flow meter inspections, or (4) in connection with other visits/inspections. SSA will also regularly deploy a Vactor truck dedicated to CSOs, which it acquired and put into service in 2011.

Inspections include the following: (1) recording time of arrival and departure, (2) noting the inspection type (biweekly or rain event), (3) noting the condition of the outfall, (4) noting infiltration from the river, (5) nothing it the gate was moving freely, (6) noting the weather

conditions, (7) noting whether the wooden block was in or out, (8) noting whether discharge is present, and if so, (9) estimating rainfall, (10) noting the receiving waters, (11) estimating flow, (12) determining the cause of the discharge, (13) noting whether the discharge is wet weather or dry weather related, (14) estimating the duration of the discharge, (15) noting any erosion, (16) dispatching necessary equipment, (17) noting if solids and floatables being discharged, (18) noting whether a plume is present, and (19) performing sampling, noting any other maintenance needs for the regulator. Inspection forms will be completed for each CSO inspection. SSA will continue to employ a wooden block system to assist in verifying CSO activations.

These frequent physical inspections are supported by 1 permanent Sigma 950 flow meter, 4 permanent Sigma 940 flow meters, and 17 portable Sigma 910 flow meters thus providing monitoring at approximately one-third of the regulators in the system. Normal O&M of the wastewater facility occurs with records of operation maintained daily. A Computerized Managed Maintenance Program (CMMP) for preventative maintenance was initiated in January 2003. SSA is utilizing JOBPLUS. This program generates work orders and maintains inventory records. The program also tracks orders for parts and equipment. Historical records are stored in the CMMP database.

Pump stations will be inspected five days per week with logbooks and log sheets maintaining the O&M activities. This includes observations of blocks of wood placed in the emergency overflows and recording of storm pump operation.

Beginning in 2011, SSA undertook a grit cleaning program (televise, clean, re-televise). On a three-year, rolling basis, SSA will clean and inspect 150,000 feet of sewer lines per year, which effectively puts SSA on a 10-year cleaning schedule. SSA will conduct more frequent inspections for areas which warrant them. As appropriate, inspections will be digitally recorded and log sheets and digital recordings of the work will be maintained at the Treatment Plant and the SSA Board of Directors will be updated monthly on the progress of the program.

SSA inspects and cleans catch basins, manhole structures, and sewer lines each year. In our annual reports we will identify the following:

- Catch basins inspected – three-year rolling average of at least 2,000 per year. Catch basins will be inspected: (1) for the presence of a hood or trap (to retain floatables); (2) to determine the rate of solids accumulation (to facilitate a targeted cleanup schedule); and (3) to determine the physical condition of the basin (e.g., cracked, broken outlet pipe, adjacent street collapse) and to assign it a rating based on a consistent rating system.
- Catch basins cleaned – three-year rolling average of at least 2,000 per year.
- Catch basins repaired – as necessary consistent with the rating assigned to each catch basin, as follows: 1 – Excellent; Minor defects; 2 – Good; Defects that have not begun to deteriorate; 3 – Fair; Moderate defects that will continue to deteriorate; 4 – Poor; Severe defects that will become Grade 5 defects within the foreseeable future; or 5 – Attention required; Defects requiring a high priority for repair or attention to be made consistent with NASSCO standards, to return the catch basin to Good (2) or Excellent (1) condition, including the installation/replacement of hoods or traps.

- Manhole structures inspected – SSA's manholes are not labeled; however, SSA will assign identifiers to its manholes by January 1, 2013, and will update this section by March 1, 2013. In the meantime, SSA will inspect and clean all manhole structures at the same time it inspects and cleans the corresponding sewer segments.
- Manhole structures cleaned – see above.
- Manhole structures repaired/replaced – as necessary, consistent with the NASSCO rating assigned to each manhole; repairs to be consistent with NASSCO standards to return the manhole to Good (2) or Excellent (1) condition
- New manholes installed – as necessary.
- Sewer lines inspected – three-year rolling average of at least 150,000 feet per year.
- Sewer lines televised – three-year rolling average of at least 150,000 feet per year.
- Sewer line cleaned/jetted – three-year rolling average of at least 150,000 feet per year.
- Sewer lines replaced/repaired – as necessary, consistent with the NASSCO rating assigned to each sewer segment; repairs to be consistent with NASSCO standards to return the sewer line to Good (2) or Excellent (1) condition.

SSA maintains a network of rain gauges, which are inspected at least monthly, with many being inspected twice a month. The SSA rain gauges are supplemented by other area rain gauges, such as the Wilkes-Barre-Scranton Airport. These other rain gauges are maintained by the gauge owners (such as the Airport Authority).

1.8 Training

The Authority provides and promotes training of operators and maintenance personnel. The Authority supports operator certification for all personnel. At present the SSA has 6 certified "A" Wastewater Operators. The Authority provides direct training in various aspects of sewer operations on an as needed basis. The State operator certification Act as well as other training requirements such as those needed for PENNVEST loan compliance will be accomplished.

1.9 Periodic Review of O&M Plans

The operations manual and other operational instructions will be reviewed annually, during the 4th quarter of each calendar year. SSA is scanning all key O&M Manuals into a central electronic database, searchable by title, and anticipates completion of this effort in FY 2012. During the annual review of O&M manuals, a summary report will be developed which will identify any modifications to the previous O&M plans and document the benefits realized from the specific revisions. SSA will also make best efforts to obtain electronic versions of O&M manuals and will incorporate them into the database.

In particular, SSA now requires that all O&M activities be logged in the JOBPLUS database. This will facilitate our recording and reporting of the extensive collection system O&M that is performed annually.

SSA has developed a wet weather operations plan for the WWTP (April 2011), and will develop plans that identify pre-event, during-event-, and post-event/recovery actions for the

collection system components during the first quarter of 2012. The collection system component plans will present the necessary activities in two ways: (i) organized by event stage (pre-, during-, and post-event), and (ii) organized by collection system component. Upon completion of their development, those plans are incorporated herein by reference.

2.0 Maximum Use of the Collection System for Storage – NMC No. 2

2.1 Introduction

The second of the nine minimum controls is to maximize the use of the collection system for storage of wet weather flows. The goal of this control is to enable the sewer system to store wet weather flows, as much as possible, until downstream sewers and treatment facilities can handle them. Control measures to obtain the goal include: inspection and removal of obstructions; tide and control gate maintenance and repair; regulator adjustment (including float mechanisms); reduction or retardation of inflows and infiltration; upgrade and adjustment of pumps; raising existing weirs and installation of new weirs. Any attempt to implement the typical measures to maximize the use of the collection system for storage must be tempered with the prevention of upstream basement and street flooding.

SSA has developed a hydraulic model and has worked extensively with Gannett Fleming and EPA/PADEP to evaluate and take full advantage of available collection system storage. This has included a number of weir height adjustments and modeling runs looking to fine-tune collection system performance. These evaluations will continue with the ongoing development of the LTCP.

By way of additional background, following the completion of the hydraulic model calibration in 2010, an evaluation of the CSO regulator settings, including pump station settings, was completed by Gannett Fleming using the calibrated model. The evaluation identified a number of CSO regulators that could be adjusted to reduce the number of CSO activations and improve capture of wet weather flows. The CSO regulators that were identified include the following:

- #004 Wells Street – The regulator sluice gate was removed in 2010. The intercepting capacity was increased from 1.0 MGD to 3.25 MGD.

- #006 Gardner Street – Recommendations include removal of the sluice gate and increasing the opening in the side of the regulator chamber. The intercepting capacity would increase from 2.28 MGD to 4.40 MGD.

- #016 Pettibone Street - Recommendations include removal of the sluice gate and increase the opening in the side of the regulator chamber. The intercepting capacity would increase from 1.94 MGD to 5.02 MGD.

- #034 East Parker Street – The regulator weir height was increased from 3.5 inches to 7 inches in 2010. The intercepting capacity was increased from 0.25 MGD to 0.89 MGD

Gannett Fleming has used the hydraulic model to evaluate other locations where SSA can increase weir heights without causing in-system problems and these adjustments have been made. SSA will continue to work with Gannett Fleming to identify opportunities to safely and appropriately raise weirs throughout the system.

The weir at the Outfall 003 bypass has been analyzed by Gannett Fleming extensively. The existing weir elevation at Outfall 003 results in significant surcharging along the main interceptor and interceptor backflow at a number of other CSOs during heavy precipitation events. This weir is raised to the greatest extent possible.

2.2 Procedures in Place

2.2.1 O&M Manual

The SSA has existing procedures to maximize the available storage in the collection system. A Collection System O&M Manual is in place to provide procedures for the O&M of the regulator chambers and pumping stations by SSA employees.

SSA is scanning all O&M manuals for both the treatment plant and collection system into a central database so all manuals will be available to all staff. SSA will finish scanning the manuals and saving them to a dedicated location on SSA's server by April 1, 2013, where they will be accessible on SSA's network.

The JOBPLUS database (includes all permitted CSOs, but not pump stations, which will be added April 1, 2013) provides the appropriate instructions for each required collection system O&M task.

2.2.2 Pumping Stations

Pumping stations will be inspected by a dedicated inspection team five days each week. In order to monitor overflows, each pumping station has a block of wood or other suitable indicator device placed in the overflow pipe. During the inspection, the operators will record if the block is present or absent. Rainfall data from rain gauges will also be recorded. Correlation between precipitation and the presence/absence of the wood blocks, or other suitable indicator device, will be reported monthly as part of the Discharge Monitoring Reports (DMRs) and annually in the SSA Chapter 94 Wasteload Management Report. Anomalous information will be investigated and appropriate follow-up measures are implemented. Two pumping stations (Middle Street and Shawnee) are equipped with storm overflow pumps. Runtime meters are installed on the storm water pumps to monitor the quantity of flow pumped into the Lackawanna River. The Myrtle Street pumping station has two main pumps plus a larger capacity storm pump that conveys flow to the force main, maintaining flow in the system.

2.2.3 Main Interceptor

The current configuration of the influent structure maximizes storage in the main interceptor. The flow that is allowed forward into the WWTP is 25-million-gallons-per-day (MGD) and a peak hourly flow of 39 MGD. The Bypass 003 elevation is set at approximately the crown of the 6.5-foot-diameter interceptor. The invert elevation of the interceptor is 644.86 feet and the invert elevation of the bypass is 650.68 feet. Therefore, the main interceptor must be flowing at nearly full capacity into the plant headworks before any discharge backs up to the point of overflow.

SSA is presently cleaning several major sections of the main interceptor and will report on removed volumes in the FY 2012 annual report. Reports of future scheduled cleaning activities will be integrated into annual budgetary forecasts of extraordinary maintenance & repairs. In the Annual CSO Report a Sediment and Debris Report will be included and submitted to the agencies.

Modeling of the main interceptor for hydraulic capacity and storage capability has been conducted as a part of the LTCP and is an ongoing effort toward optimizing wet weather storage in the interceptor. Weir height adjustments and other system refinements will be made in accordance with the modeling results and associated engineering evaluations.

2.2.4 Sewer Condition Assessment

A television inspection program is necessary to determine lines that are damaged, have root intrusion or silt build-up and may be limiting the upstream storage in the line. A television inspection program, which consists of a goal of inspecting sewers at a rate of 150,000 feet each year, has been established. SSA owns two television camera trucks. The cameras have been typically used to support maintenance activities. The length of lines to be televised will be a combination of those televised in support of normal maintenance activities and those of exploratory nature. Exploratory work will focus on priority areas tributary and those where CSOs have been identified for possible elimination.

2.2.5 Inlets and Catch Basins

Routine maintenance activities including inlet and catch basin cleaning and sewer flushing are performed by SSA. SSA has Vactor and clam trucks available for cleaning. All inlets and catch basins in the system will be cleaned on a maximum 3-year cycle. In priority areas cleaning will be scheduled as needed at a greater frequency interval with priority areas being cleaned twice annually. SSA will identify priority areas and inform EPA and PaDEP of the same by January 15, 2013. Additional cleaning will occur when problems are reported. As defects are observed, they will be reported to the City, Borough or State (PennDOT) for corrective action. Copies of daily work reports and monthly Board reports are maintained.

2.3 Control Measures

SSA will televise and utilize the equipment for routine scheduled inspections. Where it is documented that sediment or other obstructions in non-major sewer lines are present, SSA will flush and/or schedule repair of the sewer. The removal of obstructions increases the storage capacity of the system and can reduce the volume of overflows. Where televising documents excessive clear water flow during dry weather, investigations will be performed to discover/identify the source of the inflow and/or infiltration, since the removal of extraneous flow increases the capacity of the system. Depending on the magnitude and severity, the SSA will schedule the repair/rehabilitation as a part of major capital or extraordinary repair under its annual budgetary program. In the case of storm sewer separation, projects may be referred to the appropriate party (City or Borough) for action. SSA enjoys acceptable levels of cooperation from the City and the Borough, and all known locations of clear water addition have been cooperatively addressed.

SSA personnel generally inspect flap tide gates monthly from topside and specific gates will be inspected as required from the interior. Certain gates, based on experience, are also inspected at least twice a year from the riverside to clean debris. Inspection of the downstream side of the tide gates will be completed monthly. The Collection System Operation and Maintenance Manual contains more specifics on regulator/gate inspection protocol. The function of tide gates is to minimize the receiving stream from flowing back into the sewer system during high river water levels. Proper maintenance is required to ensure that leaks and cracks are not present and that the gate is operating as designed. Leaks and cracks permit water to pass into the overflow and reduce the available downstream storage capacity of the system.

Per discussions with USEPA and PADEP, SSA is evaluating five outfalls where the hydraulic model suggests the possibility of inflows to the combined system. If any material inflow is confirmed to be occurring, SSA will evaluate the need and appropriateness of the installation of a gate or duckbill to prevent river water intrusion. SSA will report on its findings in the next annual report.

SSA continues to work with Red Valve, Inc. to identify a solution to the duckbill regulator for outfall 003. This regulator has allowed some river water intrusion into the treatment plant. Red Valve has already replaced the initial valve twice at SSA's request. As of the date of this plan, a third valve had been installed and appeared to be working properly.

Regulator settings will be adjusted and overflow weirs will be raised as practicable. Regulators are an important component of the CSO system as they regulate the amount of flow permitted into the downstream sewer and provide an outlet for excessive flows. Adjusting the regulator settings and increasing the overflow weirs may permit an additional amount of flow into the downstream sewer and will control the amount of flow discharged into the overflow line. Evaluation of the settings of the regulators was completed as part of the hydraulic modeling of the Lackawanna Watershed 2000 program. Further evaluation is ongoing as part of the CSO LTCP efforts and in response to evaluation requests from PADEP and USEPA.

Catch basins in the City of Scranton and Borough of Dunmore will be evaluated. The design standards including the hood structure, sump and capacity of storm water discharge to the collection system will be investigated. The use of the hood and sump accomplish isolation of sewer odors, prevention of solids and floatables from entering the sewers, enable an effective means of capture of solids, and provide a reservoir for extracting the solids using non-labor-intensive equipment. The City of Scranton and Borough of Dunmore bear the responsibility to ensure that adequate storm water management is provided under their respective NPDES permits for the EPA Storm Water Phase II program, through a prescribed implementation of Best Management Practice (BMPs) and regulatory reporting. The SSA attempts to limit the amount of storm water discharging into the combined sewer system through a storm water policy. For new connections, the SSA adopted a "Policy on the Connection of Stormwater Discharges into the Combined Sewer System" on November 25, 2003, which includes requirements for effective inlet and catch basin design. This policy sets limits on peak storm water flow into the combined system by requiring storm water management at new developments, as well as requiring developers to look for storm water separation if existing storm conveyance systems or streams are nearby. The policy was provided to the City of Scranton, Borough of Dunmore and adjoining municipalities for incorporation into their storm water management policies and for enforcement. This activity is dependent upon the cooperative adoption of design standards by the municipalities. SSA estimates there are between 10,000 and 14,000 catch basins in its system, of which approximately 75% to 80% contain solids and floatables controls.

Wet wells at all pump stations will be cleaned once per year or more frequently if identified to be necessary by SSA staff through the every weekday pump station inspections. SSA has a pump station SCADA system in place which assists in evaluating dry and wet weather flows to each station. In-line flow meters will document flow, real-time recording rain gauges will document rainfall information (which can be used to correlate pump station flow), wet well levels will be continuously recorded (providing for monitoring of overflows) and storm pump operation will be documented.

Comprehensive CSO regulator and tide gate inspections are performed each year. Detailed assessment of all regulators and appropriate remedial measures are recorded and will be summarized in our annual reports.

Based on the urban setting and the lack of unused facilities, it is not feasible to provide additional in-system storage without significant capital additions to the system, which will be further evaluated in the LTCP.

SSA is working cooperatively with PADEP and USEPA to identify distributed storage solutions along the main interceptor and in other strategic locations as part of the LTCP effort.

2.4 Additional Measures

The LTCP will include evaluation of additional measures for maximum use of the collection system for storage.

The pumping stations will be evaluated based on the monitoring being performed. Improvements required at the pumping stations will be determined.

3.0 Review and Modification of Pretreatment Requirements – NMC No. 3

3.1 Introduction

The third minimum control is the review and assessment of non-domestic source discharges on CSO impacts. The objective of this control is to minimize the impacts of discharges into combined sewer systems from non-domestic sources during wet weather events.

SSA has relatively few industrial users which collectively contribute an insignificant amount of flow to the collection system.

3.2 Pretreatment Requirements

SSA has worked closely with USEPA to maintain an updated pretreatment program. In 2011, SSA has issued new discharge permits to each of our significant industrial users. These permits reflect updated headworks analysis associated with our newly reissued NPDES discharge permit.

SSA's pretreatment program includes the identification and location of all possible industries, which may be subject to the program.

All permits will be enforced and industries that are in significant noncompliance with the pretreatment requirements will be published in the local paper as required by federal regulations.

The largest non-domestic user is the local landfill, which has already cooperatively agreed to hold waste within their lagoons during periods of wet weather. This will avoid potential non-domestic discharge through a permitted CSO. The SSA on-site inspections will support determination of compliance of industrial users.

Appropriate enforcement action will be taken to bring industrial users into compliance and the Enforcement Response Guide shall be fully implemented. The SSA will prepare quarterly reports and an annual report in accordance with NPDES permitting requirements. In addition, an educational letter concerning the impacts of wet weather discharges will be developed and sent to industries in the service area. The educational letter is being developed in an attempt to encourage industries to voluntarily act to reduce flows during wet weather periods.

During inspections of sewers, if oil and grease build-up is observed SSA will attempt to determine where it is originating and contact the source for resolution. All inspections and follow-up investigations will be documented. SSA does not have any chronic Food, Oils and Grease (FOG) areas that have not been addressed.

4.0 Maximization of Flow to the WWTP for Treatment – NMC No. 4

4.1 Introduction

The fourth minimum control is to maximize the volume of combined wastewater that is processed at the municipal WWTP. The objective of this control is to minimize the amount of combined wastewater that is discharged untreated into receiving waters. The discussion below pertains to the WWTP as it is currently constructed and will have to be amended before completion of the expansion of the WWTP.

4.2 Measures to Increase Treated Flow Volumes

4.2.1 Collection and Conveyance Facilities

SSA has developed an O&M Program and has implemented the program. SSA will implement simple modifications to the collection and conveyance facilities based upon the results of the flow monitoring and modeling tasks being undertaken. CSOs in the system will be inspected on at least a monthly basis. The main interceptor will be probed at manholes to determine the depth of sediment, which will be documented. The main interceptor was cleaned in 2011.

SSA is maximizing flow to the WWTP. The current configuration of the influent structure maximizes storage in the main interceptor. The flow that is allowed forward into the WWTP is approximately 25 mgd with short-term peak flows of 39 mgd in accordance with the Wet Weather Operating Plan. The Bypass 003 elevation is set at approximately the crown of the 6.5-foot-diameter interceptor. The invert elevation of the interceptor is 644.86 feet and the invert elevation of the bypass is 650.68 feet. Therefore, the main interceptor must be flowing at nearly full capacity into the plant headworks before any discharge backs up to the point of overflow.

Based on staff comments, O&M experience and engineering observations, the existing system has no inoperative or unused facilities in the service area. Retaining flow, during wet weather events by utilizing unused facilities, is not applicable and the construction of additional facilities to retain flow is not feasible in this system, unless otherwise determined through the development of the LTCP. Hydraulic modeling of the collection and conveyance system to determine the hydraulic capacities is ongoing and will be included in the LTCP.

4.2.2 Pumping Stations

SSA will conduct and document draw down tests at each pumping station annually in conjunction with the PADEP Chapter 94 Report. The tests will be used to determine if adequate capacity is available at each of the stations. The results of the draw down tests will be utilized to further calibrate and adjust the sewer system model. Simple modifications (*i.e.,* wet well pump operation level adjustments) will be performed and more complex modifications will be evaluated. Pumping stations with storm water pumps are equipped with run hour meters. During inspection of these pumping stations, storm water pumps frequency and quantity of flow is recorded.

The LTCP will include modeling of wet weather events to determine required capacity and complex modifications that are required to pumping stations based on achieving and maintaining the necessary capacity.

4.2.3 WWTP

A peak flow hydraulic capacity study of the WWTP has been performed to determine the capacity and capabilities of the WWTP under high-flow conditions. The analysis identified that the WWTP should be capable of properly treating a peak hourly flow of 34 to 39 mgd. After the peak hourly flow, the WWTP should be able to properly treat a flow between 25 to 30 mgd for the next 23 hours. The flows should then be sustained between 20 to 30 mgd with a maximum monthly WWTP flow of 20 mgd. SSA will not divert flow, unless an emergency situation occurs, less than what can be properly treated as documented by the Peak Flow Hydraulic Capacity Study. If flow is diverted before the WWTP peak and sustained capacities are reached, the reason why the flow could not be treated and the quantity of flow bypassed will be documented.

SSA has a Wet Weather Operating Plan, which consists of an operating protocol for the use of the Outfalls 001 (main plant outfall), and 003 (upstream of headworks). The WWTP hydraulic capacity goals and guidelines through the secondary treatment system were established as follows:

Permit Flow Parameter	Goal (mgd)	Guidelines for Acceptable Performance (mgd)
Annual Average Flow/ Average Monthly Flow	20	Up to 20
Maximum Average 24 hr Flow	25	23 to 30
Peak Hourly Flow	39	34 to 42

The WWTP Wet Weather SOP, including proposed protocols for accepting peak flows, remains under development. The plans will reflect SSA's experience, which has strongly indicated the need for flexibility in implementing the peak flow goals. These goals must be viewed in the context of tradeoffs between overall plant maintenance parameters and total amounts of wastewater required to be bypassed. When the flows entering the treatment plant exceed 25 mgd, the headworks are negatively impacted by heavy loadings of grit. SSA continues to address influent flow measurement and is working with its consultants, as well as its state and federal regulators, to address this issue.

The plant headworks has been a continuing limitation on our ability to process peak wet weather flows. After years of grit-related problems, we upgraded the grit removal systems using a Eutek/Hydro International system of grit snails. This new grit system has been unsuccessful in handling the grit which we are experiencing. This has led to major operational problems and the need to use Outfall 003 while the grit systems have been chronically down for cleaning. As a result, SSA is currently in litigation with Eutek/Hydro International, as well as the design engineering firm. In the meantime, SSA is evaluating other grit removal options in conjunction

with the LTCP effort. Notwithstanding the ongoing litigation, in 2011, SSA cleaned the main interceptor and the branch interceptors.

We have worked daily to try to find a solution to the inability of the new grit system to handle incoming grit. Based upon performance testing, it was established that the grit snails could not handle the specified capacity of grit. SSA is in settlement negotiations with the grit snail manufacturer over this performance deficiency. In the interim, SSA has implemented a grit box system that is working well and will continue to be used in the indefinite future. PADEP has been notified of this situation.

In some instances, such as successive peak flow events, the operator has an obligation to exercise engineering judgment to reduce wet weather flows in order to protect the mechanical integrity of the system and to prevent the need for even more extensive bypasses. Such engineering judgment cannot be replaced by an inflexible peak flow requirement of 39 mgd. Thus, it may be necessary from time to time to discharge to outfall 003 during peak flows of less than 39 mgd, in order to protect the biological or mechanical integrity or general operating capability of the plant. Such decision must rest in the sole discretion of the plant operator and will be meticulously documented. In the event of such discharges, the reporting requirements of the NPDES permit will be followed, and where an SSA operator exercises professional judgment in managing flows inconsistent with flow thresholds in the NPDES permit, SSA will provide appropriate notifications to PaDEP per applicable permit requirements.

The SSA will implement the following operating and monitoring protocols:

- Operating mechanisms will be set to convey a peak flow of 39 mgd to the treatment plant for one hour and 25 mgd thereafter;
- Outfall 003 may discharge if the combined sewage flows to the WWTP exceed 39 mgd for more than one hour in a twenty-four hour period and the SSA is in compliance with the EPA Notice of Compliance Order and all permit conditions. The discharge from Outfall 003 may continue for as long as the combined sewage flows to the WWTP equal or exceed 25 mgd.
- If flow is discharged from Outfall 003 when combined flows have not exceeded 39 mgd for more than one hour in a twenty-four hour period, or have not sustained 25 mgd thereafter, SSA will notify DEP and EPA within 24 hours of the discharge.
- SSA will collect data from Outfall 003 using the flow chart meter.
- SSA will collect data on the flow through the WWTP measured in Mgal on an hourly basis.
- SSA will submit monitoring information on a monthly basis to DEP for each instance in which there is a discharge through Outfall 003.

The grit system has been a major source of frustration for SSA. Despite the daily challenges to keep this system operating, SSA has redoubled its efforts and dedicates plant personnel to directly monitor the system during wet weather events. SSA is evaluating options for a long-term solution as part of the LTCP.

5.0 Elimination of CSOs During Dry Weather – NMC No. 5

5.1 Introduction

The fifth minimum control is to minimize CSOs during dry weather periods when the sewer system is not conveying significant quantities of storm water. The collection, conveyance and treatment facilities must have sufficient capacity to be able to handle peak dry weather flow. In addition, the facilities are operated and maintained to minimize the potential for overflows during dry weather (i.e. blockages, pump malfunctions, etc.).

5.2 Measures Necessary

SSA will inspect all CSOs at least on a monthly basis. See Section 1.7, above. These inspections coupled with SSA's extensive metering program allow the detection – usually at an early stage – of any dry weather overflows.

SSA will document all overflow inspections conducted and maintenance performed. SSA will document all overflows on the CSO Discharge Monitoring Reports and submit the reports to the Pennsylvania Department of Environmental Protection.

Dry weather overflows are identified by SSA's practice of chalking or placing a block of wood in the overflow pipe at the pumping stations and CSO Regulators. Generally, historic dry weather overflows have been due to blockages. Any lines that experience chronic blockages will be televised, cleaned and repaired or replaced as necessary to attempt to eliminate the occurrence of future blockages in these lines. Evaluation of other potential modifications to eliminate DWOs will be performed on a case-by-case basis as potential future chronic locations are identified.

Comprehensive CSO regulator and tide gate inspections were performed during September/October 2004, October/November 2009 and re-inspections are ongoing as part of SSA's daily inspection program and CSO LTCP effort.

The permanent signage located at each CSO was revised to the following language, "NOTICE Scranton Sewer Authority Combined Sewer Outfall Untreated Sewage CSO # _____. This site is at or downstream of a Combined Sewer Overflow. Avoid water-related activities during discharges or heavy rains. To report a discharge call 570-348-5337." The signage will enable the general public to report malfunctions.

CSO signs will be maintained and replaced promptly in the event a sign is missing or damaged.

6.0 Control of Solids and Floatable Material – NMC No. 6

6.1 Introduction

The sixth minimum control is intended to reduce visible floatables and solids from CSO discharges and receiving waters. Controls such as baffles, screens or racks can be included in the combined system to remove solids and floatables before reaching the receiving water. Floatables can be removed from larger receiving water with the use of booms and skimmer vessels. In addition, pollution prevention measures can be utilized to reduce the amount of extraneous floatables and solids entering the combined system.

6.2 Study

SSA performed a study of available controls for solids and floatables and determined that baffles in certain outfalls, coupled with pipe hoods in system catch basins would be the most effective approach for SSA to control solids and floatables. Baffles in CSOs continue to be evaluated and implemented.

6.3 Combined Sewage Control Methods

6.3.1 Collection System Control

The catch basin design will be evaluated to ensure adequate storm water control while attempting to reduce the amount of storm water and debris entering the combined system. Catch basins can be modified to prevent floatables from entering the combined system. Inlet grates can be installed at the top of the catch basins to reduce the street debris that can enter. Trash buckets can be installed in the basin below the grate to retain floatables while letting the stormwater pass to the combined system. Hoods are vertical cast iron baffles that are installed in basins. Hoods are effective for retaining debris within catch basins. A basin can be modified with a vortex valve, which is a throttling device to reduce the frequency and volume of a CSO event and control floatables.

Due to the fact that there are thousands of catch basins in the contributing municipalities, the plan of action to modify the basins will be limited to hoods. It would be cost prohibitive to the contributing municipalities to enact a more elaborate retrofit program. On November 25, 2003, the SSA adopted an updated policy for storm water discharges into the combined sewer system, which included requirements for effective inlet and catch basin design. This policy sets limits on peak storm water flow into the combined system by requiring storm water management at new developments, as well as requiring developers to look for storm water separation if existing storm conveyance systems or streams are nearby. The policy will be provided to the City of Scranton, Borough of Dunmore and adjoining municipalities for incorporation into their storm water management policies and for enforcement. This activity is dependent upon the cooperative adoption of design standards by the municipalities.

The effectiveness of a catch basin in controlling floatables is dependent on regular maintenance and cleaning. All inlets and catch basins in the system will be cleaned on a maximum six-year cycle. In priority areas, cleaning will be scheduled generally twice annually. Additional cleaning will occur when problems are reported. SSA will document cleaning and input information onto a map and into a database. Through marking/updating inlet and catch basin locations, the map data will be retained for later incorporation into electronic mapping of the sewer system. As defects are observed, they will be reported to the City, Borough or State for corrective action.

SSA has an extensive catch basin hood program. The hoods (bent pipe elbows) are reported to be quite effective at catching solids and floatables. Based upon the experience of SSA's collection system crews in direct response to queries from SSA's Deputy Director for Compliance, SSA believes that 75-80% of all SSA catch basins have some form of hood in place. SSA is currently installing PVC hoods in all remaining catch basins as it performs maintenance on catch basins.

6.3.2 CSO Control

Screens and trash racks are a series of vertical and horizontal bars or wires designed to remove coarse and floating debris from CSOs. The efficiency of this control is based on the design size and typically ranges from 25-90 percent of the total solids. Fine screens are more effective at removing smaller particles but they are also more susceptible to clogging and require additional maintenance. The effectiveness of screening units is reduced significantly by the presence of oil and grease. In order for trash racks or screens to be utilized, the outfall pipe must be an adequate length or land space available for a small structure and outfall must be high enough above the receiving water to permit regular maintenance. Trash racks and screens require regular inspection and maintenance. Application of any of these devices is capital intensive and would be further considered in the floatable control study and the LTCP.

Baffles are floatable control devices that can be installed in a discharge chamber in front of the overflow weir. Baffles are simpler than many of the other control methods and they have lower operating and maintenance costs. The design of the diversion chamber flow regulator and overflow weir determines the effectiveness of the baffles. The discharge chamber and overflow weir must be designed to provide reasonably uniform flow at a low velocity to ensure that floatables are not entrained.

Baffles have been installed at five diversion chambers on a pilot basis. The basic design of the baffle is the same for all of the regulators in the pilot project, but each baffle was customized to fit to the specific regulator such that they are not interchangeable among regulators. The baffles will continue to be monitored during and after storm events. SSA is evaluating the installation of baffles at approximately 10 more sites for FY 2012 and will report on those installations during the next annual report. These sites will be drawn from sites identified by EPA and will include outfalls where SSA staff can perform the installation (which means it will definitely occur in FY 2012) along with other installations that will require an engineering analysis and outside resources to implement (which means a longer schedule may be necessary than FY 2012).

Regulator and diversion chambers will be inspected monthly and cleaned as required. The inspection and cleaning will be documented in a form similar to the one located in the Collection System O&M Manual.

6.3.3 End-of-Pipe Controls

End-of-Pipe Controls are not currently in place in the SSA system. We have not found these controls to be effective for the SSA system.

6.4 Receiving Water Removal Methods

Receiving water removal methods are not currently utilized in the SSA receiving waters.

6.5 Source Control Methods

Street sweeping can be effective method to control the amount of street debris entering the combined system. SSA has obtained documentation from the City and Borough regarding the schedules for street sweeping. SSA has purchased its own street sweeper to facilitate effective street sweeping.

SSA will enforce the industrial pretreatment program to reduce the amount of extraneous material entering the combined system.

SSA has developed a website to inform the public about the combined sewer system. The website will include educational information addressing street litter. SSA will endeavor to support the City and Borough relative to disseminating educational messages that will advise residents of the importance of proper trash disposal related to the sewer system.

Labeling of specific catch basins is being implemented to identify that the combined sewer system interconnects directly to the receiving streams and that no dumping is allowed. Note that labeling within our GIS has been implemented and documented, but the physical labeling of each basin is still ongoing and is subject to availability of resources.

SSA has also approved a proposal from the Lackawanna River Corridor Association (LRCA) to develop a Public Education and Outreach Program. Among the tasks of the proposed program, SSA is working with LRCA to develop educational materials, identify target audiences and stakeholders, and utilize communication channels to reach and involve target audiences. SSA will conduct educational events for schools and community groups, develop volunteer opportunities for public involvement, and conduct public education meetings. A Household Hazardous Waste program will also be evaluated under the LRCA proposal.

Pollution Prevention Programs – NMC No. 7

7.1 Introduction

The seventh minimum control is the implementation of pollution prevention programs to reduce contaminants in CSOs. The objective of this control is to reduce to the greatest extent possible, the amount of contaminants that enter the combined sewer system.

7.2 Measures Necessary

SSA will provide information regarding pollution prevention on the website. In addition, pollution prevention information is included in sewer bill mailings.

SSA is evaluating continuation of a marking program to further raise public awareness of the connection between urban impervious area runoff and local water quality.

SSA has developed a website that will be used to provide educational information regarding recycling, proper disposal of waste, proper fertilizer and lawn care products application, and spent oil drop-off programs. The stakeholders involved with the LTCP development will be involved in determining the educational material to be placed on the website and any additional programs to inform residents.

SSA contacted the Lackawanna County Solid Waste Management Authority and determined that there is no collection of household hazardous waste in the area.

SSA is utilizing a clam truck for cleaning. All inlets and catch basins in the system will be cleaned within six years. Additional cleaning will occur when problems are reported.

Street sweeping can be effective method to control the amount of street debris entering the combined system. In concert with NMC No. 6, SSA will obtain documentation from the City and Borough when streets were swept. SSA has purchased its own street sweeper to facilitate street sweeping.

A Household Hazardous Waste program will also be evaluated under the LRCA Public Education and Outreach Program. SSA would like to have such a program, but it must be prioritized in light of all other regulatory commitments.

8.0 Public Notification – NMC No. 8

8.1 Introduction

The eighth minimum control is public notification to inform the public of the location of CSO outfalls, the actual occurrences of CSOs, and the potential health and environmental effects of CSOs.

8.2 Communications Strategy

SSA currently provides educational materials in sewer bill mailings. SSA will continue to provide educational material to residents.

The permanent signage located at each CSO was revised to the following language, "NOTICE Scranton Sewer Authority Combined Sewer Outfall Untreated Sewage CSO # ____. This site is at or downstream of a Combined Sewer Overflow. Avoid water-related activities during discharges or heavy rains. To report a discharge call 570-348-5337." The signage will enable the general public to report malfunctions.

SSA has developed a website to inform residents about the about the sewer system and proper operation of the system. Also, the site includes appropriate precautions, risks, potential health hazards, locations of the CSO discharges and incidents of DWOs.

SSA is also working with the Lackawanna River Corridor Association (LRCA) to develop and implement a Public Education and Outreach Program. Among the tasks of the proposed program, SSA will coordinate with LRCA to develop educational materials, identify target audiences and stakeholders, and utilize communication channels to reach and involve target audiences. SSA will conduct educational events for schools and community groups, develop volunteer opportunities for public involvement, and conduct public education meetings. A Household Hazardous Waste program will also be evaluated under the LRCA proposal.

SSA has also implemented additional controls at selected outfalls to prevent public access to CSO facilities (such as large diameter outfalls) and to ensure public safety. Recent fencing at Outfall 023 is a good example of these activities.

9.0 Monitoring to Characterize CSO Impacts – NMC No. 9

9.1 Introduction

The ninth minimum control is monitoring through visual inspections and other simple methods to determine the occurrence and apparent impacts of CSOs.

9.2 Characterization Measures

9.2.1 Mapping

The SSA has a comprehensive set of sewer system index drawings. Additionally, the details of most sewers are contained in original "spur books" obtained from the City Engineer's office for sewers constructed generally prior to 1960, "ward book" sewer mapping for expanded information on all sewers, and engineer's design or record drawings for construction since 1970. GIS mapping was performed as part of the Lackawanna Watershed 2000 program and has been updated by SSA during 2010 and 2011. The SSA has purchased a GPS grade survey unit to continually update this GIS system, as was done through 2010 into 2011.

9.2.2 Water Quality and Uses

SSA has compiled existing water quality data for the following receiving waters: Lackawanna River, Leggetts Creek, Roaring Brook, Stafford Meadow Brook and Keyser Creek.

As discussed below, using Hawk Mountain Labs, SSA has obtained ambient water quality data at key locations in our CSO receiving waters during the past several years.

The designated uses of some of the local waters in the Scranton area that receive CSO discharges include (as well as the universal designated uses of: Public Water Supply, Boating, Fishing, Water Contact Sports and Esthetics):

- Lackawanna River Warm Water Fishes
- Meadow Brook Cold Water Fishes
- Leggetts Creek Trout Stocking
- Roaring Brook Cold Water Fishes
- Keyser Creek Cold Water Fishes

However, actual uses of these water bodies may be different, which will be inventoried as part of the LTCP.

SSA has developed a comprehensive 3-year water quality monitoring program built upon previously performed water quality studies conducted by SSA as presented in the December 2006 Draft LTCP Report. The Water Quality Monitoring Program began in 2009 and is intended to establish baseline conditions and includes both dry weather and wet weather characterization:

- Dry weather river and stream characterization is intended to provide a baseline water quality description of the existing conditions of the SSA receiving waters to characterize water quality without inputs from CSO or stormwater discharges from the SSA service area. Dry weather monitoring occurs at 14 locations along the Lackawanna River and its six (6) tributaries (Leggetts Creek, Meadow Brook, Roaring Brook, Little Roaring Brook, Stafford Meadow Brook, and Keyser Creek), as well as the SSA WWTP Effluent Outfall No. 001.

- Wet weather river and stream characterization is intended to provide information, that when analyzed in conjunction with the other characterizations, will define the CSO contribution to, and stormwater impact on, water quality of the SSA receiving waters. Wet weather monitoring is conducted at the 14 dry weather monitoring locations, as well as five (5) CSOs (CSO Outfall Nos. 003, 004, 016, 023, and 029), and two (2) stormwater outfalls. Wet weather samples are taken on an hourly basis to depict changes in water quality during and following a wet weather event.

Laboratory analysis of the river and stream samples includes biochemical oxygen demand (BOD), total suspended solids (TSS), total dissolved solids (TDS), oil and grease,

dissolved oxygen (DO), pH, temperature, microbiological parameters (fecal coliform and E. coli), metals (total chromium, total copper, total lead, total mercury, total nickel, and total zinc), and nutrients (ammonia nitrogen, total nitrogen, and total phosphorus). The initial 3 year program includes approximately 20 dry weather sampling events and 2 wet weather sampling events. A benthic macro-invertebrate characterization was also conducted in 2011 to supplement the water quality data in assessing the effects of CSO discharges on receiving water quality in the SSA service area, and to serve as a benchmark for measuring improvements through long-term monitoring. The biota characterization analysis includes EPT Index (%), Hilsenhoff Biotic Index (HBI), Taxa Evenness, and Taxa Richness determinations. The results of this study will be used to assess and quantify the general aquatic health of the ecosystems and compared with previous and future studies to identify trends in the biotic community.

The planning incorporated into the initial 3-year Water Quality Monitoring Program has established the groundwork for on-going water quality monitoring throughout the SSA service area. At the completion of the initial monitoring program in summer 2012, a comprehensive report will be developed detailing the findings of the program and outlining recommendations for future water quality monitoring activities. This information will be included in the LTCP.

9.2.3 System Monitoring

SSA employs flow meters and its updated and calibrated hydraulic model to monitor CSO activations and volumes. SSA has rotated the meters and believes the model is adequately calibrated. SSA will continue to evaluate appropriate locations for in-system meters

SSA visually inspects CSO discharges and documents apparent impacts. This activity will continue in the future. Observations of debris discharged from the CSOs is recorded on inspection forms and inputted into the Authority's electronic database. Also in 2010 the SSA has put their CSO and flowmeter teams on a wireless system allowing direct communication with the Authority's JOBPLUS database. This approach allows more a more efficient and productive CSO inspection program.

SSA is evaluating several outfalls for the potential installation of baffles in an effort to minimize post-activation accumulation of debris.

SSA characterizes the frequency, duration and volume of CSO discharges on a monthly basis in the DMRs. Meters and wooden blocks are used to determine whether regulators have been active. Inspections document the dates the regulators were checked and presence/absence of previous overflows. This information is provided with the monthly DMR.

SSA will monitor flow with permanent and portable flow metering equipment at 15 CSO regulators. SSA installed flow-monitoring devices at the pumping stations as part of the improvements under Phase III of the Capital Improvements Program. Continuous flow monitoring at these select sites will provide information and documented data on frequency, duration and volumes of wet weather overflows. Rain gauges have been installed throughout the sewer system.

Dry weather overflows will be recorded when observed or when determined from public calls to the SSA office. SSA will document and track public complaints after receiving them.

9.2.4 Impact Data and Trends

SSA will compile trends on an annual basis of:

- frequency of measured overflow volumes where monitored
- rainfall data
- observations of debris discharged
- incidents of DWOs
- reports of water quality problems attributed to CSO discharges
- public complaints
- weir adjustments – dates, previous elevation, new adjusted elevation

These data are being evaluated as part of the development of the LTCP.

APPENDIX B

AMENDED NINE MINIMUM CONTROLS PLAN

Nine Minimum Control Plan Update

Scranton Wastewater System

PENNSYLVANIA-AMERICAN WATER COMPANY

October 4, 2016

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ACRONYM LIST

Acronym	Term
BMP	Best Management Practice
BNR	Biological Nutrient Removal
COA	Consent Order and Agreement
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CWA	Clean Water Act
DWO	Dry Weather Overflow
EPA	United States Environmental Protection Agency
I/I	Infiltration/Inflow
LTCP	Long-Term Control Plan
NMC	Nine Minimum Controls
NPDES	National Pollutant Discharge Elimination System
O&M	Operation & Maintenance
PaDEP	Pennsylvania Department of Environmental Protection
SCADA	Supervisory Control and Data Acquisition
WQS	Water Quality Standards

Background

This updated Nine Minimum Control Plan is intended to become effective upon Closing of the proposed acquisition by Pennsylvania- American Water Company (PAWC) of the wastewater system assets of the Scranton Sewer Authority (SSA). This wastewater collection and treatment system serves the City of Scranton and the Borough of Dunmore. The system also provides service through bulk service connections to adjacent portions of the Lower Lackawanna Valley Sanitary Authority (LLVSA) in the Borough of Taylor, adjacent portions of the Lackawanna River Basin Sewer Authority (LRBSA) including the Borough of Dickson City, also known as the Siniawa Sewer System, and the Montage Sewer District in the Borough of Moosic. The system has been classified by the Pennsylvania Department of Environmental Protection (PaDEP) as a combined sewer overflow (CSO) system.

The wastewater system consists of over 317 miles of collection sewers and large interceptors, 80 combined sewer overflows (CSOs), 7 pumping stations and a wastewater treatment plant (WWTP). Approximately 54% (172 miles) of the collection sewers are combined sewers, which convey the combined storm water and sanitary sewage flow to regulator chambers prior to connection to an interceptor sewer. Under high wet-weather flow conditions that exceed the capacities of downstream facilities, the regulators direct combined sanitary sewage and storm water to the receiving streams.

The wastewater treatment plant (WWTP) discharges treated effluent to the Lackawanna River under National Pollutant Discharge Elimination System (NPDES) Permit No. 0026492. The WWTP has an annual average design hydraulic capacity of 20.0 million gallons per day (mgd) and an annual average design organic loading capacity of 28,290 lbs. BOD5 per day. The WWTP includes the following processes:

- Screening and grit removal
- Primary settling
- Activated Sludge Process
- Secondary Settling
- Chlorine Disinfection
- Sulfur Dioxide Dechlorination
- Biological Nutrient Removal

The NPDES Permit No. 0026492, lists permitted discharge points including: Treatment Plant Outfall – 001, Treatment Plant Headworks Bypass – 003 and CSOs – 004 through 087. In addition to the WWTP discharge monitoring location - 001, there are a total of 80 CSO discharge locations in the combined sewer system.

SSA previously entered into a Consent Decree with the U.S. Department of Justice, U.S. Environmental Protection Agency (EPA) and the PaDEP dated January 31,2013 (U.S. District Court, Middle District of Pennsylvania, Civil Action 3: CV – 091873). This Consent Decree will be modified and responsibility transferred to PAWC as part of the acquisition of the Scranton sewer assets. Two of the requirements of this Consent Decree are to to minimize wet weather

overflows and eliminate dry weather overflows through the implementation of this Nine Minimum Control (NMC) Plan.

To ensure proper operation and maintenance of the CSOs and to comply with the requirements set forth in the NPDES Permit and Consent Decree, PAWC has developed and implemented the procedures and guidelines in this NMC Plan. The overall goal of this NMC Plan is to eliminate dry weather overflows, bring all wet weather CSO discharge points into compliance with the technology based and water quality based requirements of the CWA, and if CSOs occur as a result of a wet weather event, to minimize their impact on water quality, aquatic biota, and human health. The NMC Plan identifies actions or measures designed to reduce CSOs and their effects on receiving water quality during wet weather as well as to eliminate dry weather overflows.

The NMC Plan will be reviewed annually by various departments within PAWC including, but not limited to, Water Quality & Environmental Compliance, Field Operations, Legal, Engineering, and External Affairs. After submission of any proposed changes to the NMC Plan to the Parties and with the approval of the Parties to the Consent Decree, the NMC Plan will be revised as changes occur within the system, i.e. new construction, major repairs, equipment upgrades, inflow & infiltration (I&I) reduction, etc. These reviews and any revisions approved by the Parties to the Consent Decree will be recorded on the page following the title page of this document.

1.0 Proper Operation and Regular Maintenance Program – NMC No. 1

1.1 Overview

The first minimum control, proper operation and regular maintenance of the combined sewer system (CSS) and CSO outfalls in the City of Scranton and the Borough of Dunmore consists of a program that establishes operation, maintenance and inspection procedures to ensure that a CSS and treatment facility will function during wet weather in a way to reduce CSOs and their effects on receiving water quality, maximize treatment of combined sewage and still comply with NPDES Permit limitations. Implementation of this control is intended to ensure that the collection and treatment systems perform effectively in order to reduce the magnitude, frequency and duration of CSOs. The essential elements of a proper operation and maintenance (O&M) program include maintenance of suitable records and identification of O&M as a high management priority.

The steps involved in implementing this minimum control are:

1. Assess how well the O&M program is implemented.

2. Determine if the O&M program needs to be improved to satisfy the intent of the CSO control policy.

3. Develop and implement the improvements to address CSOs.

4. Document any actions and report them to the PaDEP.

Frequent inspection, regular maintenance, and the timely repair of facilities, including tide gates and regulators, are cost-effective ways to improve the control of CSOs. The elimination of obstructions increases the effective storage capacity of the CSS system and the quantity of wet weather flows that can be delivered to the treatment plant. Effective O&M practices will tend to mitigate the extent to which CSOs occur.

PAWC management is committed to allocate the proper resources to properly maintain the CSS, perform inspection and maintenance activities on equipment at the appropriate frequency, and make timely repairs to ensure that the CSS is operated effectively. The business systems currently in place and used by SSA – Lucity asset management system and the JOBPLUS database used to manage O&M records and activity - will continue to be utilized until PAWC can migrate them over to SAP. The SSA ERSI GIS system will be immediately incorporated into PAWC's ERSI GIS system.

1.2 Organizational Structure

The combined sewer system, owned and operated by PAWC, serves the City of Scranton and the Borough of Dunmore, and also serves other adjoining municipalities and their sewer authorities via inter-municipal agreements. NPDES permit PA 0026492 has been issued by

PaDEP for the discharge of treated effluent and CSOs into the Lackawanna River and its tributaries.

Effective upon Closing of the acquisition Transaction, PAWC will become the permittee for the combined sewer system and is responsible for routine O&M. Figure 1 shows the organization structure of PAWC. The listing below is the contact information for key operations personnel for the Scranton wastewater system.

Sr. Manager of Operations & Compliance
Traci Cross
Phone: 570-351-0160

Manager of Operations – Wastewater
Eugene Barrett
Phone: 570-348-5330

Operations Supervisor-Wastewater Treatment and Maintenance
Christine Wesolowski
Phone: 570-906-5044

Supervisor – CSO System and Basin – Operations and Maintenance
Gene Skelton
Phone: 570-906-9979

Supervisor – Collection System, Laterals and Manhole Maintenance
Todd Hartman
Phone: 570-840-9296

Chief Operator – Wastewater Treatment & Biosolids Operations and Maintenance
Kent Mackaliunas
Phone: 570-468-5820

Water Quality and Compliance Manager
Jenifer Milakeve
Phone: 610-233-6553

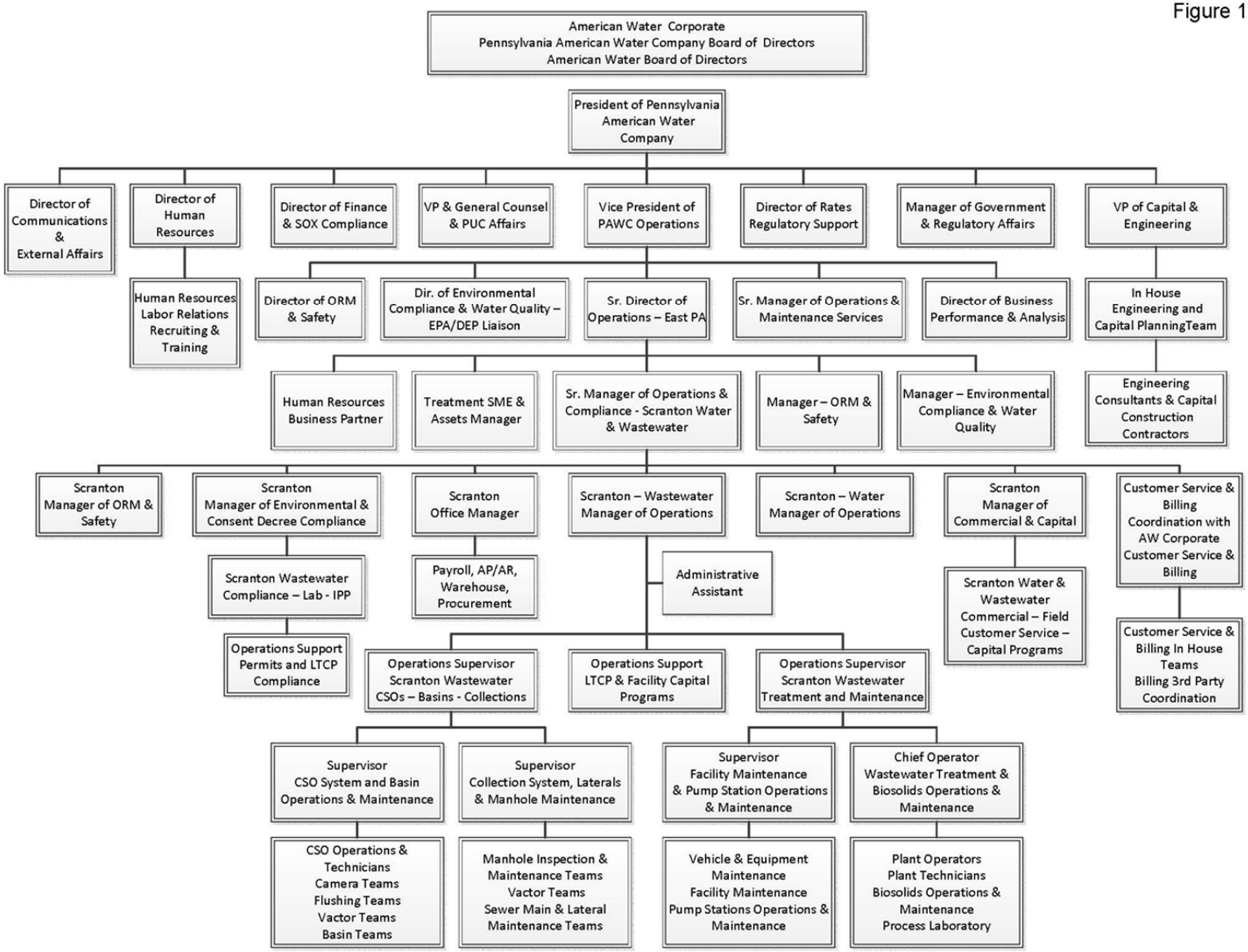
Director of Water Quality and Compliance
Chris Abruzzo
Phone: 717-639-0909

Production Asset Manager
Mark Cross
Phone: 570-362-4297

Senior Project Engineer
Dan Rickard
Phone: 570-371-1906

Emergency Contact Number: 570-348-5337

Figure 1


American Water Corporate
Pennsylvania American Water Company Board of Directors
American Water Board of Directors
President of Pennsylvania American Water Company
Director of Communications & External Affairs
Director of Human Resources
Director of Finance & SOX Compliance
VP & General Counsel & PUC Affairs
Vice President of PAWC Operations
Director of Rates Regulatory Support
Manager of Government & Regulatory Affairs
VP of Capital & Engineering
Human Resources Labor Relations Recruiting & Training
Director of ORM & Safety
Dir. of Environmental Compliance & Water Quality – EPA/DEP Liaison
Sr. Director of Operations – East PA
Sr. Manager of Operations & Maintenance Services
Director of Business Performance & Analysis
In House Engineering and Capital PlanningTeam
Human Resources Business Partner
Treatment SME & Assets Manager
Sr. Manager of Operations & Compliance - Scranton Water & Wastewater
Manager – ORM & Safety
Manager – Environmental Compliance & Water Quality
Engineering Consultants & Capital Construction Contractors
Scranton Manager of ORM & Safety
Scranton Manager of Environmental & Consent Decree Compliance
Scranton Office Manager
Scranton – Wastewater Manager of Operations
Scranton – Water Manager of Operations
Scranton Manager of Commercial & Capital
Customer Service & Billing Coordination with AW Corporate Customer Service & Billing
Scranton Wastewater Compliance – Lab - IPP
Payroll, AP/AR, Warehouse, Procurement
Administrative Assistant
Scranton Water & Wastewater Commercial – Field Customer Service – Capital Programs
Operations Support Permits and LTCP Compliance
Operations Supervisor Scranton Wastewater CSOs – Basins - Collections
Operations Support LTCP & Facility Capital Programs
Operations Supervisor Scranton Wastewater Treatment and Maintenance
Customer Service & Billing In House Teams Billing 3rd Party Coordination
Supervisor CSO System and Basin Operations & Maintenance
Supervisor Collection System, Laterals & Manhole Maintenance
Supervisor Facility Maintenance & Pump Station Operations & Maintenance
Chief Operator Wastewater Treatment & Biosolids Operations & Maintenance
CSO Operations & Technicians Camera Teams Flushing Teams Vactor Teams Basin Teams
Manhole Inspection & Maintenance Teams Vactor Teams Sewer Main & Lateral Maintenance Teams
Vehicle & Equipment Maintenance Facility Maintenance Pump Stations Operations & Maintenance
Plant Operators Plant Technicians Biosolids Operations & Maintenance Process Laboratory

1.3 Critical Facilities

The critical elements of the combined sewer system are listed in general order of priority below. These facilities and their roles in the operation of the combined sewer system were previously characterized in the 1970 "Design Report": and the October 1994 "Combined Sewer Overflow Minimization Final Plan of Action" reports.

PRIORITY	CRITICAL ELEMENTS OF THE COMBINED SEWER SYSTEM
1	Wastewater Treatment Plant
2	NPDES Outfall 001
3	NPDES CSO Outfall 003
4	Pump Stations
5	Diversion Chambers and CSO Outfalls
6	Sanitary Sewer Collection System
7	Combined Sewer Collection System

The operation, maintenance, inspection, and reporting requirement for the above identified facilities (except the Treatment Plant) are outlined in the Collection System Operation and Maintenance Manual. This manual will be updated in 2016 and undergo an annual review thereafter to determine if further revisions are needed. Requirements for the treatment plant are listed in Wet Weather Operating Plan.

A list of the CSO regulators and their locations is included in the Collection System Operation and Maintenance Manual.

Trained PAWC personnel will use the National Association of Sewer Service Companies (NASSCO) ratings (numeric grades from 1-5, where 5 is the most significant defect) to rank its major trunk sewers, interceptors and each pump station. Ten employees are currently PACP, LACP, and MACP NASSCO certified.

1.4 Budget

PAWC is responsible for funding both O&M expenditures as well as capital improvement projects. Capital and O&M Budgets are approved on a calendar year basis. The annual budgeting process typically begins in April of the preceding year in coordination with the state executive leadership, operations management and administrative budget owners. In Q3, the budget is reviewed and approved by Executive Leadership Team and presented to the PAWC Board of Directors and approved by the American Water Board in Q4.

Capital Expenditures:

Capital expenditures are developed annually by the PAWC engineering group, working with the local district managers and operations leadership. This planning encompasses large projects and more costly items such as pumps, instrumentation, and large maintenance items. Each year, the wastewater staff provides input in the budget process to assess the needs of the

wastewater plant and collection system including all projects identified in the LTCP. The collection system portion of the budget includes proposed funds for the CSOs. The needs are then prioritized and, if approved, incorporated into PAWC's annual budgetary plan. PAWC engineering is responsible for short term and long term planning and project delivery and will retain consulting engineers, as needed, to assist in that effort.

Operation and Maintenance Expenditures:

Operating expenses, which includes O & M, are developed annually at the local district level by the district budget owners based on the needs of the districts and are reviewed and approved by PAWC leadership. Environmental compliance issues are given top priority in the budget process as will any requirements identified in the approved LTCP. The size and financial structure of PAWC provides ample capacity to fund environmental compliance projects. The size of the organization also allows for flexibility in the allocation of resources such as manpower and needed equipment.

1.5 Procedures for Routine Maintenance

The procedures for routine O&M are included in the Collection System Operation and Maintenance Manual. Typical O&M procedures that are part of the manual include inspection with a CCTV camera, flow measurement, cleaning and removal of foreign materials, chemical treatment of roots, repair/rehabilitation of defects, and maintaining adequate records of inspections and findings.

PAWC will continue to use SSA's current electronic work order management systems, which includes JOBPLUS and Lucity, to identify and track all maintenance activities, until such time as these systems are integrated into PAWC's SAP systems. The JOBPLUS system generates work orders and maintains records for the maintenance, operations, sludge handling, pump station, and vehicle maintenance. The system will schedule and prioritize planned maintenance activity and track maintenance work performed. It also contains Standard Operating Procedures for performing routine preventative maintenance work. When new equipment for the plant is acquired, the manufacturer's recommendations contained in the accompanying O&M manuals are entered into the JOBPLUS database and adjusted to meet the specific application of the equipment. Every Monday, managers print out preventive maintenance work orders from JOBPLUS and distribute the work orders to each department. Work is accomplished on a prioritized basis and completed in a timely basis. Best efforts are taken to perform the assigned tasks within a week's time. In addition, as needed, corrective action work orders are distributed to managers and their work crews for follow-up action. Collection system inspection and maintenance activity is managed and recorded in the Lucity asset management system. The Lucity System tracks and maintains collection system, combined sewer overflows, flow meter and rain gauge records which include line maintenance, televising, basin cleaning and repair, sewer repair, emergency calls, CSO bi-weekly inspections and rain lists. Currently all collection system activities, with the exception of pump stations are recorded in Lucity. Data is annually provided to regulators as part of the CSO report.

1.6 **Non-Routine Maintenance and Emergency Situations**

A call out list of private prequalified contractors is maintained for both the plant and the collection system to insure that repairs can be arranged outside of normal working hours to the extent outside assistance is necessary.

Management of emergencies in the collection system is critical. Pipe failures can result in dry weather overflows. Upon notification by outside parties or upon discovery, PAWC takes immediate and appropriate steps to respond to the collection system problem, repair the problem and maintain or restore service to the customers. Our target response time for complaints and emergencies relating to collection system releases is as soon as possible. Typical response times are within an hour or two, depending upon the circumstances. Procedures are in place for bypass pumping between manholes, if needed, to perform the work. We maintain a variety of pumps on hand, in addition to a call out list of private contractors, and are well equipped to respond to pump station problems, as necessary.

The following is a list of Company personnel and external personnel who are available 24/7 to respond to an emergency situation:

PAWC	Phone Number
See personnel list on pg. 4	
Emergency Contact Number	570-348-5337

PaDEP	
Northeast Regional Office	
B.R. Patel – Program Manager – Clean Water	570-826-2511
Lackawanna County Emergency Management Agency	
Rich Barbolish – Deputy Director of Emergency Management	570-961-5511
Contractors	
Leeward Construction, Inc.	570-253-4090
Linde Corporation	570-299-5713
TSE Inc.	570-341-7557
Kriger Construction, Inc.	570-383-2042
Fabcor	570-307-0965
R.L.E. Enterprises, Inc.	570-842-4051
Pioneer Construction Company	570-647-0205
Leber & Bonham	570-586-0874
G.R. Noto	570-586-1600
TEAM Environmental	570-457-6164

1.7 Inspections

Manual on-site inspections of all CSO discharge points will occur at least twice a month; however, most outfalls are inspected several times each month in response to significant rain events. The practice of reviewing rainfall data and correlating it to activations at certain regulators will continue. The result is that most outfalls are visited frequently each month whether due to (I) routinely scheduled inspections, (2) inspection following rain events, (3) in connection with outfall flow meter inspections, or (4) in connection with other visits/inspections.

Inspections include the following: (I) recording date and time of arrival and departure, (2) noting the inspection type (biweekly or rain event), (3) noting the condition of the outfall, (4) noting infiltration from the river, (5) noting if the gate was moving freely, (6) noting the weather conditions, (7) noting whether the wooden block was in or out, (8) noting whether discharge is present, and if so, (9) estimating rainfall, (10) noting the receiving waters, (11) estimating flow, (12) determining the cause of the discharge, (13) noting whether the discharge is wet weather or dry weather related, (14) estimating the duration of the discharge, (15) noting any erosion, (16) dispatching necessary equipment, (17) noting if solids and floatables being discharged, (18) noting whether a plume is present, and (19) noting any other maintenance needs for the regulator. If debris is present in the structure, the crew will utilize a jet truck or a vactor truck to wash down the structure and remove the debris. Inspection forms will be completed for each CSO inspection. An example inspection sheet is shown in the Appendix (NMC-1, Exhibit A). A wooden block system will be used to assist in verifying CSO activations.

These frequent physical inspections are supported by 1 permanent Sigma 950 flow meter, 4 permanent Sigma 940 flow meters, and 17 portable Sigma 910 flow meters thus providing monitoring at approximately one-third of the regulators in the system.

Normal O&M of the wastewater facility occurs with records of operation maintained daily. The JOBPLUS program generates work orders. Historical records are stored in the database.

Pump stations are cleaned, maintained, and inspected five days per week with records of O&M activity maintained in logbooks and log sheets. This includes observations of blocks of wood placed in the emergency overflows and recording of storm pump operation.

SCADA equipment will continue to be deployed at some of the above-referenced locations to provide for real-time monitoring of the facilities in an effort to reduce the probability of an overflow event and improve response times if such an event occurs.

On a three-year, rolling basis, 150,000 feet of sewer lines per year, will be cleaned and inspected, which effectively is a 10-year cleaning schedule. More frequent inspections for areas

will be conducted when warranted. As appropriate, inspections will be digitally recorded and log sheets and digital recordings of the work will be maintained at the Treatment Plant and/or uploaded into the Lucity asset management system. Management staff will be updated monthly on the progress of the program.

Catch basins, manhole structures, and sewer lines are inspected and cleaned at the frequencies noted below. In our annual reports, we will identify the following:

- Catch basins inspected – three-year rolling average of at least 2,000 per year (out of approximately 8,000 catch basins in the City of Scranton and Borough of Dunmore). Catch basins will be inspected: (1) for the presence of a hood or trap (to retain floatables); (2) to determine the rate of solids accumulation (to facilitate a targeted cleanup schedule); and(3) to determine the physical condition of the basin (e.g., cracked, broken outlet pipe, adjacent street collapse) and to assign it a rating based on a consistent rating system.
- Catch basins cleaned-three-year rolling average of at least 2,000 per year.
- Catch basins repaired – as necessary consistent with the rating assigned to each catch basin, as follows: 1 – Excellent; Minor defects; 2 - Good; Defects that have not begun to deteriorate; 3 – Fair; Moderate defects that will continue to deteriorate; 4 – Poor; Severe defects that will become Grade 5 defects within the foreseeable future; or 5 – Attention required; Defects requiring a high priority for repair or attention to be made consistent with NASSCO standards, to return the catch basin to Good (2) or Excellent (1) condition, including the installation/replacement of hoods or traps.
- Manhole structures inspected – manholes are not labeled; however, we will inspect and clean all manhole structures at the same time we inspect and clean the corresponding sewer segments.
- Manhole structures cleaned - see above.
- Manhole structures repaired/replaced – as necessary, consistent with the NASSCO rating assigned to each manhole; repairs to be consistent with NASSCO standards to return the manhole to Good (2) or Excellent (1) condition
- New manholes installed - as necessary.
- Sewer lines inspected – three-year rolling average of at least 150,000 feet per year.
- Sewer lines televised- three-year rolling average of at least 150,000 feet per year.
- Sewer line cleaned/jetted- three-year rolling average of at least 150,000 feet per year.
- Sewer lines replaced/repaired – as necessary, consistent with NASSCO rating assigned to each sewer segment; repairs to be consistent with NASSCO standards to return the sewer line to Good (2) or Excellent (1) condition.

PAWC maintains a network of 11 rain gauges, which are inspected at least monthly, with many being inspected twice a month. Seven of the gauges are located at the pump stations and the remaining 4 are spread through-out the collection system. The rain gauges are supplemented by other area rain gauges, such as the ones at the Wilkes-Barre-Scranton airport. These other rain gauges are maintained by the gauge owners (such as the Airport Authority).

1.8 Training

1.8.1 Operations Risk Management

Pennsylvania American Water Co (PAWC) has an established Safety and Health Procedures Manual for all facilities throughout Pennsylvania. This manual contains various safety programs, including but not limited to; Confined Spaces, Electrical Safety, Hazard Communication, Hand and Power Tool Safety, Process Safety Management, and Employee Training.

PAWC provides and promotes training of operators and maintenance personnel. We require every new employee to attend an initial orientation that incorporates an overview of the overall Safety and Health program. Employees will also undergo additional training at this time for specific areas related to their particular job duties. In addition, PAWC also provides safety and health related training at various times during the year to continually educate our employees and install a high sense of safety awareness. Local supervisors also conduct safety talks on a weekly basis with all their employees to supplement and reinforce the importance of safety.

The Operational Risk Management (ORM) department and the Collection and Treatment departments are responsible for developing the overall training program and for applying for certification of continuing education hours with the Pennsylvania Department of Environmental Protection. Topics are chosen based on the requirements set forth in federal, state and local regulations and as hazards are identified within the company. The information contained in each training session include those items required by pertinent external regulations or internal requirements.

Training is conducted in a variety of ways and settings including but not limited to formal classroom, hands-on, peer to peer, computer based, video, and informal one to one. All training is performed in such a manner as to encourage employee involvement and interaction. Instructors are chosen based on qualification and experience related to the topics. PAWC utilizes both internal and external individuals and organizations to perform its training. A written record of the training is maintained by the ORM department.

1.8.2 Certification Programs

PAWC encourages all wastewater employees to attain the maximum level of certification appropriate for their duties. Currently the Scranton wastewater system employs over 60 full-time employees (7 Class A WW operators and 2 Subclassification A1E4 operators for the collection system) to maintain and operate the wastewater treatment plant and the collection system. Training is provided to meet the requirements of State operator certification as well as those for PennVest loan compliance. The company’s program includes an optional WW Collection System Certification.

1.9 Periodic Review of O&M Plans

The operations manual and other operational instructions are reviewed annually, during the 4th quarter of each calendar year. Key field O&M personnel are involved in this process. O&M manuals are in a central electronic database. During the annual review of O&M manuals, a summary report is developed which will identify any modifications to the previous O&M plans and document the benefits realized from the specific revisions. Best efforts will be made to obtain electronic versions of O&M manuals and incorporate them into the database.

O&M activities are logged in the JOBPLUS database. Collection system activities are recorded in the Lucity asset management system. This facilitates recording and reporting of the extensive collection system O&M that is performed annually. These management systems will eventually migrate over to PAWC's SAP system.

A wet weather operations plan for the WWTP has been developed including plans that identify pre-event, during-event, and post-event/recovery actions for the collection system components. The collection system component plans will present the necessary activities in two ways: i) organized by event stage (pre-, during-, and post-event), and (ii) organized by collection system component. The latest wet weather standard operating procedure is on file and has been provided to and reviewed by each operator.

2.0 Maximum Use of the Collection System for Storage – NMC No. 2

2.1 Overview

The second of the nine minimum controls is to maximize the use of the collection system for storage of wet weather flows. The goal of this control is to enable the sewer system to store wet weather flows, as much as possible, until downstream sewers and treatment facilities can handle them. Control measures to attain the goal include inspection and removal of obstructions; tide and control gate maintenance and repair; regulator adjustment (including float mechanisms); reduction or retardation of inflows and infiltration; upgrade and adjustment of pumps; raising existing weirs and installation of new weirs. Any attempt to implement the typical measures to maximize the use of the collection system for storage must be tempered with the prevention of upstream basement and street flooding.

By way of additional background, following the completion of the hydraulic model calibration in 2010, an evaluation of the CSO regulator settings, including pump station settings, was completed by Gannett Fleming using the calibrated model. The evaluation identified a number of CSO regulators that could be adjusted to reduce the number of CSO activations and improve capture of wet weather flows. The CSO regulators that were identified included the following:

- #004 Wells Street – The regulator sluice gate was removed in 2010. The intercepting capacity was increased from 1.0 MGD to 3.25 MGD.
- #006 Gardner Street- The removal of the sluice gate and increasing the opening in the side of the regulator chamber was completed. The intercepting capacity increased from 2.28 MGD to 4.40 MGD.
- #016 Pettibone Street – The removal of the sluice gate and increasing the opening in the side of the regulator chamber was completed. The intercepting capacity increased from 1.94 MGD to 5.02 MGD.
- #034 East Parker Street- The regulator weir height was increased from 3.5 inches to 7 inches in 2010. The intercepting capacity was increased from 0.25 MGD to 0.89 MGD.

Gannett Fleming used the hydraulic model to identify other locations where weir heights could be increased without causing in-system problems and these adjustments have been made.

The weir at the Outfall 003 has been analyzed by Gannett Fleming extensively. The existing weir elevation at Outfall 003 results in significant surcharging along the main interceptor and interceptor backflow at a number of other CSOs during heavy precipitation events. This weir is raised to the greatest extent possible.

A hydraulic model is being used to evaluate and take full advantage of available collection system storage. This has included a number of weir height adjustments and modeling runs looking to fine-tune collection system performance. These evaluations will continue with the ongoing development of the LTCP. Greeley and Hansen will continue to be retained as

program manager for Phase A and B projects of the LTCP. They have spent a significant amount of time running simulations on the model. During the development of the LTCP projects, volumes and peak flows for the proposed CSO facilities have been verified. Discrepancies between model data and field observations have been reconciled. The hydraulic model has been used to test adjustments to the regulator weir elevations to maximize the use of capacity in the downstream sewers. We will continue to look for opportunities to safely and appropriately raise weirs throughout the system.

2.2 Inspection and Maintenance

2.2.1 CSO Regulator Structures

Comprehensive CSO regulator and tide gate inspections are performed each year. Detailed assessment of all regulators and appropriate remedial measures are recorded and summarized in the annual reports.

2.2.2 Lift Pump Stations

Pumping stations will be inspected by an identified and trained inspection team five days each week. In order to monitor overflows, each pumping station has a block of wood or other suitable indicator device placed in the overflow pipe. During the inspection, the operators will record if the block is present or absent. Rainfall data from rain gauges will also be recorded. Correlation between precipitation and the presence/absence of the wood blocks, or other suitable indicator device, will be reported monthly as part of the Discharge Monitoring Reports (DMRs) and annually in the Chapter 94 Wasteload Management Report. Anomalous information will be investigated along with appropriate follow-up measures taken. Two pumping stations (Middle Street and Shawnee) are equipped with storm overflow pumps. Runtime meters are installed on the storm water pumps to monitor the quantity of flow pumped into the Lackawanna River. The Myrtle Street pumping station has two main pumps plus a larger capacity storm pump that conveys flow to the force main, maintaining flow in the system.

Wet wells at all pump stations will be cleaned once per year or more frequently if identified to be necessary through the every weekday pump station inspections. PAWC has a pump station SCADA system in place at key locations which assists in evaluating dry and wet weather flows to each station. In-line flow meters will document flow, real-time recording rain gauges will document rainfall information (which can be used to correlate pump station flow), wet well levels will be continuously recorded (providing for monitoring of overflows) and storm pump operation will be documented.

2.2.3 Collection System

A television inspection program is necessary to identify lines that are damaged, have root intrusion or silt build-up and may be limiting the upstream storage in the line. A television inspection program, with a goal of inspecting sewers at a rate of 150,000 feet each year, has been established. PAWC owns two television camera trucks. The cameras have been typically used to support maintenance activities. The length of lines to be

televised will be a combination of those televised in support of normal maintenance activities and those of exploratory nature. Exploratory work will focus on priority areas tributary and those where CSOs have been identified for possible elimination.

Where it is documented that sediment or other obstructions in non-major sewer lines are present, the sewer lines will be flushed and/or scheduled for repair. The removal of obstructions increases the storage capacity of the system and can reduce the volume of overflows. Where televising documents excessive clear water flow during dry weather, investigations will be performed to discover/identify the source of the inflow and/or infiltration, since the removal of extraneous flow increases the capacity of the system. Depending on the magnitude and severity, repair/rehabilitation will be scheduled as a part of major capital or extraordinary repair. In the case of storm sewer separation, projects will be coordinated with the appropriate party (City or Borough).

The current configuration of the WWTP influent structure maximizes storage in the main interceptor. [See Section 4 for a discussion of protocols and other steps to maximize flow to the WWTP for Treatment.] The Outfall 003 overflow elevation is set at approximately the crown of the 6.5 -foot-diameter interceptor. The invert elevation of the interceptor is 644.86 feet and the invert elevation of the Outfall 001 pipe is 650.68 feet. Therefore, the main interceptor must be flowing at nearly full capacity (approximately 89% capacity) into the plant headworks before any discharge backs up to the point of overflow.

Modeling of the main interceptor for hydraulic capacity and storage capability has been conducted as a part of the LTCP and is an ongoing effort toward optimizing wet weather storage in the interceptor. Weir height adjustments and other system refinements will be made in accordance with the modeling results and associated engineering evaluations.

2.2.4 Catch Basins

Routine maintenance activities including inlet and catch basin cleaning and sewer flushing are performed. The purpose of such routine catch basin cleaning is to minimize grit and debris that can enter into the collection system and be discharged out CSO outfalls and reduce the frequency of having the interceptors cleaned. PAWC has Vactor and clam trucks available for cleaning. Catch basins will be cleaned on a 3 year rolling average of at least 2,000 per year. In priority areas, cleaning will be scheduled as needed at a greater frequency interval with priority areas being cleaned twice annually. Additional cleaning will occur when problems are reported. As defects are observed, they will be reported for corrective action. Copies of daily work reports and management reports are maintained.

2.2.5 CSO Outfalls

We continue to monitor five outfalls where the possibility of inflows to the combined system could occur. If any material inflow is confirmed to be occurring, we will evaluate

the need for and appropriateness of installing a gate or duckbill to prevent river water intrusion.

2.2.6 Tide Gates

PAWC personnel generally inspect flap tide gates monthly from topside and specific gates will be inspected as required from the interior. Certain gates, based on experience, are also inspected at least twice a year from the riverside to clean debris. Inspection of the downstream side of the tide gates will be completed monthly. The Collection System Operation and Maintenance Manual contains more specifics on regulator/gate inspection protocol. The function of tide gates is to deter the receiving stream from flowing back into the sewer system during high river water levels. Proper maintenance is required to ensure that leaks and cracks are not present and that the gate is operating as designed. Leaks and cracks permit water to pass into the overflow and reduce the available downstream storage capacity of the system.

2.3 Reduction of Inflows

Catch basins in the City of Scranton and Borough of Dunmore have been evaluated. Design standards for new, modified, and replacement catch basins include a hood structure. Sump and capacity of storm water discharge to the collection system have been investigated. The use of the hoods and sumps accomplish isolation of sewer odors, prevention of solids and floatables from entering the sewers, enable an effective means to capture solids, and provide a reservoir for extracting the solids using non-labor-intensive equipment. It is estimated that approximately 75% to 80% of the catch basins contain solids and floatables controls.

Within the portions of the System service area which are served by municipal separate storm sewer systems (MS4 systems), the City of Scranton and Borough of Dunmore bear the responsibility to ensure that adequate storm water management is provided under their respective NPDES permits for the EPA Storm Water Phase II program, through a prescribed implementation of Best Management Practice (BMPs) and regulatory reporting.

With portions of the System service area served by the combined sewer system, PAWC attempts to limit the amount of storm water discharging into the combined sewer system. For new connections, the SSA previously adopted and implemented a “Policy on the Connection of Stormwater Discharges into the Combined Sewer System” which (1) included requirements for effective inlet and catch basin design, (2) sets limit on peak storm water flow into the combined system by requiring storm water management at new developments, and (3) required developers to look for storm water separation if existing storm conveyance systems or streams are nearby. That policy was provided to the City of Scranton, Borough of Dunmore and adjoining municipalities. Under the provisions of its PUC-approved tariff, PAWC has adopted and will implement a Policy and Procedure Concerning Stormwater Connections to Combined Sewer Systems (the “Stormwater Connection Policy”) which is similar to the former SSA policy. After obtaining experience in implementing the Stormwater Connection Policy, PAWC intends to amend its PUC tariff to incorporate more detailed standards and procedures concerning such connections to the combined sewer system.

2.4 Regulator Adjustments

Regulator settings will be adjusted and overflow weirs will be raised as practicable. Regulators are an important component of the CSO system as they regulate the amount of flow permitted into the downstream sewer and provide an outlet for excessive flows. Adjusting the regulator settings and increasing the overflow weirs may permit an additional amount of flow into the downstream sewer and will control the amount of flow discharged into the overflow line. Evaluation of the settings of the regulators was completed as part of the hydraulic modeling of the Lackawanna Watershed 2000 program.

2.5 Inline Storage

The LTCP has identified a number of locations where inline storage can be used to maximize the use of the collection system for storage. As these projects are constructed the operations of the adjacent CSO regulator will be reevaluated to maximize the effectiveness of the project.

2.6 Upgrade/Adjustment of Pump Operations at Intercepting Lift Stations

Pump operations at lift stations will be evaluated based on the monitoring being performed. Upgrades/adjustments will be made consistent with the hydraulic evaluation of the system.

3.0 Review and Modify Industrial Pretreatment Programs (IPPs) – NMC No. 3

3.1 PAWC Industrial Pretreatment Program

Minimum Control No. 3 requires the examination of industrial pretreatment programs and the development of program modifications as appropriate to reduce the environmental impact of combined sewer overflows (CSOs). Through the implementation of Control No. 3, limits are established to control "non-domestic discharges" to the combined sewer system from industrial and commercial locations (restaurants, gas stations, etc.). The overall objective of this control is to effectively implement and optimize pretreatment programs as appropriate for minimizing CSO impacts from industrial facilities.

Wastewater from homes, commercial buildings, and industrial facilities is transported via the collection system to the Wastewater Treatment Plant (WWTP) to treat typical biodegradable wastes, such as household waste, commercial waste, and industrial waste. PAWC's pretreatment program reduces the potential negative impact to the water quality of rivers and streams by treating wastewater before it is discharged to the wastewater treatment works.

Although upon acquisition of the system, the WWTP ceases to be a publicly-owned treatment works subject to the EPA industrial pretreatment regulations and program (see 40 C.F.R. Part 403), PAWC has adopted and intends to implement an industrial pretreatment program pursuant to PAWC's PUC-approved tariff and conditions in the NPDES Permit governing the system. Such provisions are intended to comply with the requirements of 40 C.F.R. §122.44(m) (governing indirect discharges to privately owned treatment works), and 25 Pa. Code §§92a.46, 92a.47(d), and specifically are designed to regulate indirect discharges such as to provide adequate protection of surface waters and avoid discharges that could cause interference or passthrough.

The PAWC pretreatment program regulates industrial discharges that may be detrimental to the wastewater treatment works. Regulations are established with specific load limitations for discharges to the system in order to:

- To prevent any damage to sewer system and wastewater treatment plants,
- Minimize health and the safety risks for workers, and
- Minimize the impact of discharges into the CSS from non-domestic sources during wet-weather events.
- Prevent the discharge of any harmful substances to the rivers, streams and other water resources.

To accomplish this, the Company issues a number of permits to regulate discharges to the sewers. Two types of permits are issued which regulate discharges to the sewer system. The permits which are part of PAWC's pretreatment program are as follows:

- Industrial Waste Discharge Permit - This permit specifies monitoring and reporting requirements for significant industrial users to demonstrate compliance with applicable local, state, and federal regulations.
- Hauled Wastewater Discharge Permit – This permit must be obtained by any discharger seeking to collect and transport septage waste to the WWTP for disposal.

The pretreatment program is primarily executed through the Industrial Waste Discharge Permit which specifies the monitoring, sampling, and reporting requirements for Significant Industrial Users. The implementation of the Significant Industrial User permit program enables PAWC to monitor and enforce the requirements for discharging wastewater to the sewer system. The Significant Industrial Users contributing to the system meets US EPA's definition of non-domestic users. As part of PAWC's program, the size and nature of their process discharges are evaluated to determine which users have the greatest non-domestic impact on the WWTP and potential water quality impacts from CSOs.

The Scranton wastewater system has had an Industrial Pretreatment Program since 1987. The Scranton System has relatively few permitted significant industrial users (SIUs), which collectively contribute an insignificant amount of flow to the collection system. A list of the SIUs is found in Section 3.2. The overall percentage of flow from SIUs is less than 5 percent of the total flow treated at the WWTP.

The previous operators of the Scranton wastewater system have worked closely with EPA to maintain an updated pretreatment program. In 2012, SSA had issued new discharge permits to each of the significant industrial users. These permits reflect updated headworks analysis associated with the newly reissued NPDES discharge permit. All permits are enforced and industries that are in significant noncompliance with the pretreatment requirements are published in the local paper as required by federal regulations.

The largest non-domestic user is the local landfill, which has already cooperatively agreed to hold waste within their lagoons during periods of wet weather. This will avoid potential non-domestic discharge through a permitted CSO. On-site inspections will support determination of compliance of industrial users.

During inspections of sewers, if oil and grease is observed, an attempt is made to determine its origin and contact the source for resolution. All inspections and follow-up investigations are documented. The wastewater system does not have any chronic Food, Oil, and Grease (FOG) areas that have not been addressed.

3.2 Significant Industrial Users

Significant Industrial Users are wastewater system users that:

- Are subject to any National Categorical Pretreatment Standard;

- Discharge an average of 25,000 gallons per day or more of process wastewater to the system or contribute a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
- Are found by PAWC, PaDEP, or EPA to have a reasonable potential, either alone or in conjunction with other discharges, to adversely affect the system.

PAWC monitors and enforces the pretreatment requirements for SIUs through site-specific permits in both the separate and combined sewer systems.

The Scranton wastewater system has a total of 14 permitted Significant Industrial Users that contribute to the collection system. A current listing of Significant Industrial users issued and their classification is provided in Table 3-1. SIUs are classified as either Categorical or Non-Categorical. Categorical SIUs are those who perform a categorically regulated process as stipulated in the federal regulations and have numerical limits as well as other reporting requirements. Non-Categorical SIUs are subject to the same federal reporting requirements, but are not subject to categorical pretreatment standards. There are 5 categorical industrial users and 9 significant non-categorical industrial users that discharge into the system.

SIUs that discharge process wastewater are required to periodically monitor their industrial process wastewater or process flow and develop spill prevention plans. All permitted SIUs are subject to required facility inspections by the IPP program staff at least once a year. The SIUs must provide a quarterly report of their facility that includes process flow and wastewater sample results, or certification of zero discharge. They must also notify PAWC of any noncompliance. Depending on the type of noncompliance, the Company can undertake a number of enforcement actions; including the issuance of a Notice of Violation, compliance or cessation directives, referral to PaDEP, or termination of discharge. Detailed records are kept by the Company to document instances of SIUs non-compliance. The records demonstrate that the majority of the permitted SIUs meet their requirements.

Table 3-1 Current Listing of Significant Industrial Users served by Scranton System

Company	Facility Address	Classification	Sewer Type
Apex Waste Management of Northeast PA	13 Peggy Parkway Dunmore, PA 18512	Significant Non-Categorical	Combined
Aramark Cleanroom Services	1037 Hemlock St Scranton, PA 18505	Significant Non-Categorical	Combined
CPG International	801 Corey St Scranton, PA 18505	Significant Non-Categorical	Combined
CPG International	888 Keyser Ave Scranton, PA 18504	Significant Non-Categorical	Combined
CSD Co Packers	100 West Poplar St Scranton, PA 18509	Significant Non-Categorical	Combined
David Elliot Poultry Farm	200 Breck St Scranton, PA 18505	Significant Non-Categorical	Combined
Enzyme Development Corporation	312 South Sherman Ave Scranton, PA 18504	Significant Non-Categorical	Combined
General Dynamics Ordinance and Tactical Systems	156 Cedar Ave Scranton, PA 18505	Categorical (Metal Finisher)	Combined
JCM Manufacturing	500 Mill St. Dunmore, PA 18512	Categorical (Metal Finisher)	Combined
Keystone Sanitary Landfill	Dunham Drive Dunmore, PA 18512	Significant Non-Categorical	Combined
Master Halco, Inc.	1000 North South Rd. Scranton, PA 18504	Categorical (Metal Finisher)	Combined
Noble Biomaterials	PO Box 3807 300 Palm St. Scranton, PA 18505	Categorical (Metal Finisher)	Combined
Steamtown National Historic Site	150 South Washington Ave. Scranton, PA 18503	Categorical (Metal Finisher)	Combined
United Gilsonite Laboratories	1396 Jefferson Ave. Scranton, PA 18509	Significant Non-Categorical	Combined

3.3 Pretreatment Program Sampling, Tests, and Reporting

PAWC requires the SIU to self-perform periodic quarterly sampling and testing of its wastewater. The SIU is required to submit a quarterly self monitoring Industrial Wastewater Discharge Monitoring Report form to PAWC. An example of the quarterly report submitted can be found in the Appendix (NMC-3, Exhibit B). PAWC conducts a complete inspection of the SIU facility and sampling of the permitted SIU once a year. PAWC utilizes an SIU Inspection Checklist during the yearly inspection. An example of the SIU Inspection Checklist can be found in the Appendix (NMC-3, Exhibit C). The inspection schedules are updated as needed based on facility compliance, however the frequency shall never be reduced below that required by the NPDES permit requirements.

The facility inspection and documentation of the inspection is as follows:

1. Record the name of the facility, date, time, PAWC Inspector, and facility representative.
2. Examine the maintenance and cleaning documentation of any grease traps, oil water separators, silver recovery units, or other pretreatment devices.
3. Conduct physical inspections of the pretreatment devices to verify proper operation and maintenance.
4. Collect regulatory samples of the pretreatment discharge for environmental compliance.
5. Process samples may be collected to measure the effectiveness of the maintenance and cleaning, and to recommend any changes to the maintenance schedules that may be needed.
6. Assess the impacts of each non-residential customer discharge on the total system flow and contamination of CSO discharges.
7. Emergency Response Plan with updated flow chart and chemical MSDS sheets

The inspection form also includes a section on CSO which identifies which CSO outfall the industrial facility contributes to, facility type, the frequency of process flows, and the ability to control discharges during wet weather. The inspection form also includes sections on:

- Water usage,
- Storage of raw materials and chemicals,
- Universal/non-hazardous/hazardous waste generation and disposal,
- Spill/slug control,
- Solvent/toxic organic management plan,
- Production processes,
- Pretreatment systems,
- Boilers and cooling towers,
- Transformers, capacitors and polychlorinated biphenyls (PCBs),

- CSO

PAWC will maintain an inventory of non-domestic users at the wastewater plant facility and in an electronic database. The inventory will be updated annually for accuracy. Hard copies at the facility will be maintained for a period of seven (7) years.

Following every calendar year, the Company develops an annual report of its pretreatment program activities pertaining to all permitted SIUs for the previous reporting year. This report lists permitted SIUs, sampling and inspection activities, noncompliance and enforcement actions taken during the previous year. Details of specific violations and enforcement actions are also provided. Facility pretreatment inspection reports are filed in hard copy at the wastewater facility for a period of 5 years and also in electric format.

3.4 General Permit Evaluation

The Industrial Waste Discharge Permits are site-specific permits which require additional administrative needs in comparison to general permits. There is no additional benefit to issue general permits for industrial discharges over the site-specific permits that are currently issued. The current site-specific permits regulate all wastewater discharged from the permitted facility, which includes contaminated stormwater (i.e. rainfall contaminated by products, by-products, waste products, or other materials). Additionally, all SIUs are required to monitor their flow to the sewer system.

3.5 IPP Enforcement Response Plan

Appropriate enforcement action will be taken to bring industrial users into compliance and the Enforcement Response Guide shall be fully implemented. The Guide will be updated in 2016 and placed on file and accessible at the WWTP. The Guide identifies the staff that is utilized to administer the program, the SIU compliance monitoring performed, and the enforcement procedures utilized for SIU discharge violations. PAWC will prepare quarterly reports and an annual report in accordance with NPDES permitting requirements. In addition, an educational letter concerning the impacts of wet weather discharges will be developed and sent to industries in the service area. If a new SIU is proposed to be connected to the sewer collection system, the SIU will need to provide PAWC with an Application for Industrial User Wastewater Survey and Permit Application. An example of the Application for Industrial User Wastewater Survey and Permit Application can be found in the Appendix (NMC-3, Exhibit D).

3.6 Fee Program

The fee program was developed by PAWC to recover costs of treating wastewater that exceeds the characteristics of normal household wastewater. The Company administers the fee program to applicable industrial users through routine wastewater sampling. The fee program establishes industrial loading fees, excess loading fees, and special discharge fees based in part on discharge concentrations of Biochemical Oxygen Demand (BOD5), ammonia nitrogen (NH3-

N), and total suspended solids (TSS). The fee program ensures regular contact with a number of facilities discharging high strength wastewater that may not require permitting as SIUs.

3.7 Assessment of impact of non-domestic discharges on CSOs

An assessment of the process flow quantities and associated pollutant contributions of SIUs, originally completed for the 1995 CSO documentation: Implementation of Nine Minimum Controls, was conducted again in 2011 in preparation of NPDES permit renewal to determine the relative potential significance of non-domestic discharges on water quality. The assessment included all SIUs in the Scranton area and their associated industrial process flows, total flows (include sanitary, non-contact cooling water) and evaluated their relative contribution to the total dry weather wastewater flows to the WWTP. The results demonstrate that the relative contribution of industrial flows from the SIUs to the total dry weather flow to the system is very small. A summary of the flow sources to the WWTP and the percent contribution of SIUs are provided in Table 3-2.

Table 3-2: Permitted Industrial Flow Contributions to the CSS system

No. of SIU	Average Dry Weather Plant (MGD)	Total Flow from SIUs (gpd)	% Contribution of Total Flow
14	10,510,000	477,000	4.54

3.8 Evaluate modifications to approved pretreatment program

The IPP program has been updated to reflect the change in ownership of the Scranton treatment works system from a publicly owned treatment works (POTW) system operated by SSA to a privately owned treatment works system operated by Pennsylvania-American Water Company. The local limits previously established in 2006 will need to be updated to reflect the recently completed BNR upgrades at the WWTP.

4.0 Maximize Flow to the WWTP for Treatment – NMC No. 4

4.1 Overview

The fourth minimum control is to maximize the volume of combined wastewater that is processed at the WWTP. The overall objective of this minimum control is to reduce the frequency, duration, and volume of combined sewer overflows by maximizing flows to the wastewater treatment plant through simple modifications to the combined sewer system and treatment plant. These modifications will enable as much wet weather flow as possible to reach the treatment plant and receive treatment.

4.2 Flow Optimization

As described below flow will be maximized to the WWTP in accordance with the upgrade of the WWTP and construction schedule for adding storage in the collection system..

In accordance with the operating protocol reflected in the NPDES Permit previously issued to SSA dated September 24, 2012 (which was intended to govern the WWTP prior to completion of the BNR project described in the approved LTCP), the WWTP was to be operated to convey a peak sanitary flow of 39 mgd to the WWTP for 1 hour and 25 mgd thereafter.

As part of the LTCP accepted by EPA and PADEP by letter dated February 13, 2013 (and attached to the Consent Decree), the BNR project was to be designed and constructed to increase the capacity of the WWTP to manage up to 46 mgd during wet weather conditions through the BNR and secondary clarifier systems, plus an additional 14 mgd through the CSO-related bypass of the secondary treatment portion of the treatment plant conveying flow from the primary system to the disinfection units, providing a total plant capacity of 60 mgd. Although construction of the BNR project was completed, the system is currently unable to achieve acceptance of 46 mgd of wet weather flow before encountering excessive solids loadings. Post-construction evaluations indicate both hydraulic and BNR performance issues that will require a combination of physical modifications and operational adjustments to achieve a wet weather capacity to convey and appropriately treat a peak hourly flow of up to 46 mgd through the BNR/secondary clarifier system and a total flow (including the bypass from the primary system to the disinfection units) of 60 mgd.

OPERATING AND MONITORING PROTOCOLS FOR Maximizing Flow to WWTP and OUTFALL 003:

I. The following Operating, Monitoring and Reporting protocols are applicable from the effective date of the reissued NPDES permit until four years after the effective date of the reissued NPDES Permit.

A. Operating mechanisms shall be set to convey a peak sanitary flow of 60 MGD to the WWTP until the primary clarifiers are full.

B. A CSO-related bypass of the secondary treatment portion of the P01W treatment plant is authorized only when (1) the permittee is implementing Nine Minimum Controls and a Long Term Control Plan and the bypass is part of the operational plan for implementing Nine Minimum Controls and the Long Term Control Plan, (2) it is in accordance with the provision of 40 CFR 122.41 (m), and (3) the flow rate to the P0TW treatment plant, as a result of a precipitation or snow-melt events, exceeds 25 MGD. Bypasses that occur when the flow at the time of the bypass is less than the above specified flow rate are not authorized under this condition.

C. In the event of a CSO-related bypass authorized under this condition, the permittee shall minimize the discharge of pollutants to the receiving water. At a minimum, the CSO-related bypass flows must receive primary clarification, solids and floatables removal, and disinfection. The bypass may not cause the effluent from the POTW to exceed the effluent limits contained in its permit.

D. Set the BNR Max Flow Set Point to 25 MGD and the BNR Bypass Gate Maximum Flow Set Point to14 MGD.

E. Set Point shall be no less than 25 MGD directing forward flow to the aeration basins. Forward flow in excess of 25 MGD up to 14 MGD may be directed to the BNR Bypass Channel.

F. Outfall 003 may discharge combined sewer overflow during wet weather conditions to the extent that the primary clarifiers are full, the BNR Reactor is receiving at least 25 MGD of forward flow, and the BNR Bypass Channel is receiving at least 14 MGD of flow.

G. Operating protocols are to be reevaluated on at least an annual basis to ensure maximum wastewater treatment.

II. The following Operating, Monitoring and Reporting protocols are four years after the effective date of the reissued NPDES Permit:

A. Operating mechanisms shall be set to convey a peak sanitary flow of 60 MGD to the WWTP.

B. A CSO-related bypass of the secondary treatment portion of the POTW treatment plant is authorized only when (1) the permittee is implementing the Nine Minimum Controls and a Long Term Control Plan and the bypass is part of the operational plan for implementing Nine Minimum Controls and the Long Term Control Plan, (2) it is in accordance with the provision of 40 CFR 122.41 (m) and (3) the flow rate to the POTW treatment plant, as a result of a precipitation or snow-melt events, exceeds 46 MGD. Bypasses that occur when the flow at the time of the bypass is less than the above specified flow rate are not authorized under this condition.

C. In the event of a CSO-related bypass authorized under this condition, the permittee shall minimize the discharge of pollutants to the receiving water. At a minimum, the CSO-related bypass flows must receive primary clarification, solids and floatables removal, and disinfection. The bypass may not cause the effluent from the POTW to exceed the effluent limits contained in its permit.

D. Set the BNR Max Flow Set Point to 46 MGD and the BNR Bypass Gate Maximum Flow Set Point to 14 MGD.

E. The BNR Reactor Max Flow Set Point shall be no less than 46 MGD directing forward flow to the aeration basins. Forward flow in excess of 46 MGD up to 14 MGD may be directed to the BNR Bypass Channel.

F. Outfall 003 may discharge combined sewer overflow during wet weather conditions to the extent that the primary clarifiers are full, the BNR Reactor is receiving at least 46 MGD of forward flow, and the BNR Bypass Channel is receiving at least 14 MGD of flow.

G. Operating protocols are to be reevaluated on at least an annual basis to ensure maximum wastewater treatment.

III. Monitoring Protocols:

A. A. Permittee shall collect data indicating the date, time, flow, cause, duration, and total quantity measured in MGD of discharges from Outfall 003.

B. Permittee shall collect data on the flow through the WWTP measured in MGD on an hourly basis.

C. The monitoring information described in this Paragraph shall be submitted to Department of Environmental Protection's Northeast Regional Office on a monthly basis for each instance in which there is a discharge through Outfall 003.

IV. Reporting:

A. In the event there is a discharge from Outfall 003 in violation of the operating protocol set forth in paragraph C of Operating Protocols, above, permittee shall notify DEP and EPA within 30 days of the discharge. Such notification shall describe the cause of the discharge (including the underlying cause of any condition, such as excess grit, that resulted in the discharge) and shall propose a schedule to implement corrective action to prevent a recurrence.

B. The permittee shall report any substantial changes in the volume or character of pollutants being introduced into the POTW or that may be present in the CSO-related bypass. Authorization of CSO-related bypasses under this provision may be modified or terminated when there is a substantial change in the volume or character of

pollutants being introduced to the POTW or in the bypassed flow. The permittee shall provide notice to the permitting authority of bypasses authorized under this condition within 24 hours of occurrence of the bypass.

C. A report that details the reevaluation(s) to the wet weather operating protocols shall be submitted within one (1) year. Subsequent reports are to be submitted on an annual basis. (placeholder – identify that duplicate reporting is not required under both NMC and Permit – that one report would satisfy both)

When the flows entering the treatment plant exceed 25 mgd, the headworks are negatively impacted by heavy loadings of grit. In some instances, as provided in the NPDES permit in Section B.I.G, (i.e., to "prevent loss of life, personal injury or "severe property damage." (40 CFR 122.41(m)(4)(i)(A))"), the operator may exercise judgment to reduce wet weather flows in order to protect the mechanical integrity of the system and to prevent the need for even more extensive bypasses. In the event of such discharges, the reporting requirements of the Consent Decree (10 days from the date of the failure to hit the flow targets) and NPDES permit will be followed, and where an operator exercises professional judgment in managing flows inconsistent with flow thresholds in the NPDES Permit, PAWC will provide appropriate notifications to EPA and PaDEP per applicable Amended Consent Decree and NPDES Permit requirements.

Based on staff comments, O&M experience and engineering observations, the existing system has no inoperative or unused facilities in the service area. Retaining flow, during wet weather events by utilizing unused facilities, is not applicable and the construction of additional facilities to retain flow is not feasible in this system, unless otherwise determined through the development of the LTCP. Hydraulic modeling of the collection and conveyance system used in optimizing the hydraulic capacities of the system will continue as the LTCP is developed. The flow optimization guidelines will be reevaluated when improvements are undertaken with the plant's headworks facility.

4.3 Cleaning and Inspection

Pump station tests are conducted annually at each pumping station in conjunction with the PaDEP Chapter 94 reporting. The tests are used to determine if adequate capacity is available at each of the stations. The results of the tests are utilized to further calibrate and adjust the sewer system model. Simple modifications (i.e., wet well pump operation level adjustments) are performed and more complex modifications are evaluated. Pumping stations with storm water pumps are equipped with run hour meters. During inspection of these pumping stations, storm water pump use frequency and quantity of flow is recorded.

Simple modifications to the collection and conveyance facilities based upon the results of the flow monitoring and modeling have been implemented. CSOs in the system are inspected

at least twice per month. The main interceptor is probed at manholes to determine the depth of sediment, which is then documented.

The grit system has been a major source of frustration during wet weather events. The plant headworks has been a continuing limitation on the ability to process peak wet weather flows. After years of grit-related problems, the grit removal system was upgraded to a Eutek/Hydro International system. This grit system was unsuccessful in handling the grit which was experienced. This has led to major operational problems and the need to use Outfall 003 while the grit systems have been chronically down for cleaning. SSA worked to find a solution to the inability of the grit system to handle incoming grit. SSA has implemented a new grit box system which has performed satisfactorily.

4.4 Facility Modification

BNR upgrades were recently completed at the WWTP. Plant operations continue to optimize the BNR system to increase wet weather flows through the WWTP. Any increases will be documented in the wet weather operations plan and are reflected in the DMRs.

As part of the on-going implementation of the LTCP and as updated field information is obtained, additional hydraulic analysis will be performed to investigate whether improvement alternatives designed to increase wet weather flow delivery to the WWTP in a balanced manner will be beneficial. Modifications could include:

- Regulator orifice enlargement
- Regulator connector pipe enlargement / replacement
- Existing regulator overflow weir elevation adjustment
- Regulator overflow weir elevation raised through chamber reconstruction and/or weir expansion

Additionally, PAWC will continue the efforts initiated by SSA to address the headworks limitations and improve the grit removal system.

4.5 Documentation and Reporting

Documentation will be submitted which demonstrates a diligent effort to evaluate alternatives for increasing flow to the WWTP and a description of any measures which are implemented. Examples are as follows:

- A description of any planned physical changes that are part of this control
- A cost estimate and implementation schedule for each of the changes listed above.

5.0 Elimination of CSO Discharges during Dry Weather – NMC No. 5

5.1 Overview

The fifth minimum control is intended to eliminate CSOs during dry weather periods when the sewer system is not conveying significant quantities of storm water. It includes control measures used to ensure that the combined sewer system does not overflow during dry weather flow conditions, such as inspection of the system to identify dry weather overflows (DWOs), correction of the DWOs, notification to the NPDES permitting authority when a DWO has occurred, and a description of the corrective actions taken. The collection, conveyance and treatment facilities must have sufficient capacity to be able to handle peak dry weather flow. In addition, the facilities must be properly operated and maintained to minimize the potential for overflows during dry weather (i.e. blockages, pump malfunctions, etc.).

One of the goals of the CSO control program is to eliminate dry weather discharges. Dry weather discharges at CSO outfalls can occur in any combined sewer system on either a chronic (i.e., regular or even frequent) basis or on a random basis (i.e., as a result of unusual conditions, or equipment malfunction). They are often the result of numerous site-specific conditions, including clogging by natural and manmade debris, construction activity, structural failure of the regulator, or hydraulic overloading by an unusual discharge of flow to the combined sewer system. Control measures used to minimize DWOs include regular inspection of CSS infrastructure that impacts the CSOs, sewer cleaning, prompt response to backups, CSO outfall and regulator inspection and maintenance, and regular pump station maintenance. Chronic dry weather discharges can and should be prevented from occurring at all CSO outfalls. Responding to any reports and determining the cause of dry weather discharges occurring within the sewer system is a priority. Often, random dry weather discharges cannot be prevented, and instead are promptly identified and abated. We have not observed any outfalls which have chronic discharges. Analysis is conducted via hydrologic and hydraulic modeling to ensure chronic overflows are not occurring.

Fats, Oils, and Grease (FOG) from improperly maintained discharges can accumulate on the interior of sewer collection system pipes, thereby reducing system storage and conveyance. Thus, FOG discharged to the combined sewer system can contribute to CSO events. FOG originates primarily from commercial food preparation establishments that do not have adequate grease control measures in place. Grease control equipment, such as grease interceptors and grease traps, separate and retain fats, oils, and grease prior to the wastewater exiting the food service establishment and entering the sewer system.

A key component of the FOG program is public education of both commercial and residential dischargers. Not only is washing grease down the drain a problem for the sewer system, but disposal of grease in a homeowner's or business’s drain allows for possible blockage in the lateral and a sewer backup into the building.

In addition to public education, FOG related dry weather CSO events can be minimized by proactively cleaning and jetting sewer areas known to have issues with FOG build up.

5.2 CSO Outfall and Regulator Inspections and Maintenance

Regulators are a principal focus of inspection activity as they are most commonly the originating point for DWOs. Regular inspections are conducted and maintenance performed on the CSO regulators and other infrastructure throughout the service territory. These programs ensure that sediment accumulations and/or blockages are identified and corrected immediately to avoid dry weather overflows. The maintenance staff maintains combined sewer regulator chambers with regulator devices that control the diversion of wastewater flow to the interceptor system and storm relief diversion chambers that allow excess flow during storm events to be diverted to storm relief sewers. These regulator chambers discharge through NPDES Permitted point sources which make up the CSO outfalls. The maintenance of the chambers are critical to the performance of the system in that they control the frequency, duration and quantity of CSO discharges. The maintenance program emphasizes frequent site visits aimed at clearing minor blockages before they develop into dry weather discharges. All combined sewer regulator chambers in the system are visually inspected at least two times per month and after wet weather events. In addition, the maintenance staff utilizes an extensive metering program and a remote monitoring network system to identify any locations in the collection system showing abnormal flow patterns. By using the monitoring network system in this manner, the crews are able to correct many partial blockages before they become a dry weather discharge. All overflow inspections conducted and maintenance performed will be documented and all overflows will be reported on the CSO Discharge Monitoring Reports which are submitted to PaDEP. Dry weather overflows shall be reported to PaDEP as soon as possible after discovery.

Tide gates are located and maintained at many of the regulator chambers in the system to minimize tidal inflow into the combined sewer system from the receiving water body. Tide gates are visually inspected at least two times per month.

5.3 Pump Station Cleaning, Inspection and Maintenance

Dry weather overflows are identified by chalking or placing a block of wood in the overflow pipe at the pumping stations and CSO Regulators. Generally, historic dry weather overflows have been due to blockages. Any lines that experience chronic blockages will be televised, cleaned and repaired or replaced as necessary so that the occurrence of future blockages in these lines might be eliminated. Evaluation of other potential modifications to eliminate DWOs will be performed on a case-by-case basis as potential future chronic locations are identified.

5.4 Collections System Cleaning, Inspection, and Maintenance

The conveyance system is monitored through direct observation and corrective action is taken in a prompt manner if a problem occurs. Sediments, tree roots, and other items can restrict flow and result in DWOs at upstream locations in interceptors. Restrictions can be removed through sewer flushing, power rodding, balling, jetting, power bucket machines, or other common maintenance methods. Ground water can enter the sewer system by infiltration

and, when combined with peak sanitary sewage flow, can exceed the capacity of the regulator. Where specific DWO problem locations can be linked to defects in localized sewer segments, repair may be appropriate as a minimum control measure.

5.5 Documentation and Reporting

The following documentation should demonstrate to the NPDES permitting authority the efforts to correct DWOs:

- A summary of alternatives considered and actions taken to identify and the correct DWOs
- A description of the procedures for notifying NPDES permitting authorities of DWOs and a summary of reports submitted
- A summary of periodic reports on progress toward eliminating DWOs

5.6 Signage at CSO Outfalls

The permanent signage located at each CSO was revised to the following language, "NOTICE- PAWC Combined Sewer Outfall Untreated Sewage CSO #_____. This site is at or downstream of a Combined Sewer Overflow. Avoid water-related activities during discharges or heavy rains. To report a discharge call 866-808-4219. The signage will enable the general public to report malfunctions.

CSO signs will be maintained and replaced promptly in the event a sign is missing or damaged. Examples of signage are found in the Appendix (NMC-8, Exhibit E).

6.0 Control of the Discharge of Solids and Floatables in CSOs – NMC No. 6

6.1 Overview

The goal of Minimum Control No. 6 is, where feasible, to reduce if not eliminate, by relatively simple means, the discharge of visible floatables and coarse solids from CSO discharges to the receiving water.

There are various technologies that can be used to control solids and floatables entering the receiving waters from CSOs. These technologies range from simple devices that remove the material from the CSO flow stream to devices that remove the floatables from the receiving water after they are discharged. Control practices also include efforts to prevent the extraneous solids and floatables from entering the combined sewer system. The methods utilized to address floatables and solids are described in this section.

Floatables and solids control measures consist of non-structural and structural technologies. Non-structural technologies include combined sewer system maintenance procedures such as sewer flushing, street sweeping, and inlet cleaning. Public education, land use planning and zoning, municipal solid waste collection programs including public trash receptacles within the CSO area, and ordinances are also considered non-structural technologies implemented to reduce solids and floatables entering the combined sewer system. These technologies are included as part of the Pollution Prevention Program Section (Minimum Control No. 7).

Structural Controls such as baffles, screens or racks can be included in the combined system to remove solids and floatables before reaching the receiving water. Floatables can be removed from larger receiving water with the use of booms and skimmer vessels. It was determined that baffles in certain outfalls, coupled with pipe hoods in system catch basins would be the most effective approach to control solids and floatables. Baffles in CSOs continue to be evaluated and implemented.

6.2 Inlet (Catch Basin) Cleaning, Labeling, and Inspection

The effectiveness of a catch basin in controlling floatables is dependent on regular maintenance and cleaning. All inlets and catch basins in the system will be cleaned at a three year rolling average of at least 2000 per year. In priority areas, cleaning will be scheduled generally twice annually. Additional cleaning will occur when problems are reported. Maintenance staff will document cleaning and input information onto a map and into a database. Through marking/updating inlet and catch basin locations, the map data will be retained for later incorporation into electronic mapping of the sewer system. Labeling of specific catch basins is being implemented to identify that the combined sewer system interconnects directly to the receiving streams and that no dumping is allowed. Note that labeling within our GIS has been implemented and documented, but the physical labeling of each basin is still ongoing.

6.3 Installation Solids Capture Measures in CSOs

Screens and trash racks are a series of vertical and horizontal bars or wires designed to remove coarse and floating debris from CSOs. The efficiency of this control is based on the design size and typically ranges from 25-90 percent of the total solids. Fine screens are more effective at removing smaller particles but they are also more susceptible to clogging and require additional maintenance. The effectiveness of screening units is reduced significantly by the presence of oil and grease. In order for trash racks or screens to be utilized, the outfall pipe must be an adequate length or land space available for a small structure and outfall must be high enough above the receiving water to permit regular maintenance. Trash racks and screens require regular inspection and maintenance. Application of any of these devices is capital intensive and would be further considered in the LTCP.

Baffles are floatable control devices that can be installed in a discharge chamber in front of the overflow weir. Baffles are simpler than many of the other control methods and they have lower operating and maintenance costs. The design of the diversion chamber flow regulator and overflow weir determines the effectiveness of the baffles. The discharge chamber and overflow weir must be designed to provide reasonably uniform flow at a low velocity to ensure that floatables are not entrained.

Baffles have been installed at eleven diversion chambers . The basic design of the baffle is the same for all of the regulators, however each baffle was customized to fit to the specific regulator such that they are not interchangeable among regulators. The baffles will continue to be monitored during and after storm events.

6.4 Catch Basin Modification

The catch basin design will continue to be evaluated to assess potential improvements that may be feasibly and cost effectively implemented during the process of periodic replacement or possible retrofits to facilitate adequate storm water control while attempting to reduce the amount of storm water and debris entering the combined system and prevent or reduce floatables from entering the combined system. Inlet grates can be installed at the top of the catch basins to reduce the street debris that can enter. Trash buckets can be installed in the basin below the grate to retain floatables while letting the stormwater pass to the combined system. Hoods are vertical cast iron baffles that are installed in basins. Hoods are effective for retaining debris within catch basins. A basin can be modified with a vortex valve, which is a throttling device to reduce the frequency and volume of a CSO event and control floatables.

Due to the fact that there are thousands of catch basins in the contributing municipalities, the plan of action to modify the basins will be limited to hoods. It would be cost prohibitive to implement a more elaborate retrofit program. As of the effective date of this updated NMCP, approximately 75-80% of all catch basins have some form of hood in place. PAWC will install hoods on the remaining catch basins as major repair and replacement work on catch basins is performed. The hoods are reported to be quite effective at catching solids and floatables.

On November 25, 2003, a policy was adopted by SSA for storm water discharges into the combined sewer system, which included requirements for new, effective inlet and catch basin design on new, modified or replacement catch basins. This policy sets limits on peak storm water flow into the combined system by requiring storm water management at new developments, as well as requiring developers to look for storm water separation if existing storm conveyance systems or streams are nearby. The policy was provided to the City of Scranton, Borough of Dunmore and adjoining municipalities to implement via their respective sewer and stormwater ordinances. PAWC intends to adopt similar standards governing new connections to the combined sewer system, to be implemented through PAWC's PUC-approved tariff and sewage system connection agreements.

Regulator and diversion chambers will be inspected biweekly and cleaned as required. The inspection and cleaning will be documented in a form similar to the one located in the Collection System O&M Manual.

End-of-Pipe Controls are not currently in place in the system. We have not found these controls to be effective for the system.

6.5 Street Sweeping

Street sweeping can be an effective method to control the amount of street debris entering the combined system. See Section 7.2 for a discussion of the street sweeping program.

6.6 Waterways Restorations

Receiving water removal methods are not currently utilized in the receiving water.

6.7 Outreach

A webpage on the PAWC site provides content to inform the public about the combined sewer system. The website will be enhanced to include educational information addressing street litter. PAWC will collaborate and support the City and Borough relative to disseminating educational messages that will advise residents of the importance of proper trash disposal related to the sewer system. Information will be disseminated via bill insert or message, and social media channels (Facebook, Twitter, YouTube, or Instagram.)

PAWC will work with the Lackawanna River Conservation Association (LRCA) to develop a Public Education and Outreach Program. Among the tasks of the proposed program, we will be working with LRCA to develop educational materials, identify target audiences and stakeholders, and utilize communication channels to reach and involve target audiences. Educational events for schools and community groups will be conducted along with public education meetings. Volunteer opportunities will be developed for greater public involvement. A household hazardous waste program will be evaluated as part of this effort.

7.0 Pollution Prevention Programs – NMC No. 7

7.1 Overview

The seventh minimum control is the implementation of pollution prevention programs to reduce contaminants in CSOs. The objective of this control is to reduce to the greatest extent possible, the amount of contaminants that enter the combined sewer system, and thus receiving waters via combined sewer overflows (CSOs).

7.2 Existing Programs

Pollution prevention programs help to reduce the amount of contaminants and floatables that enter the combined sewer system. The following pollution prevention programs have been undertaken either by PAWC, the City of Scranton, and/or the Borough of Dunmore.

1. Street Cleaning
2. Solid Waste Collection and Recycling
3. Bulk Refuse Disposal
4. Yard Waste
5. Water Conservation Program
6. Catch Basin Cleaning
7. Litter Control
8. Hazardous Waste Collection
9. Public Education

Street cleaning practices can remove a considerable solids load from the watershed surface, preventing litter, debris, and sand deposited on streets from entering catch basins and the combined sewer system and thus entering the receiving streams. As part of the sale of System by SSA to PAWC, the parties allocated certain equipment that had been jointly used in relation to implementation of the NMCP and the municipal separate storm sewer system ("MS4") assets. At closing, PAWC will receive certain street sweeping and basin cleaning equipment and SSA will retain certain equipment. Following closing of the Transaction, SSA, the City of Scranton and Borough of Dunmore will be responsible for street sweeping and catch basin maintenance in the portion of the service area served by the MS4 system, and PAWC will either directly or through cooperative arrangements maintain street cleaning and catch basin programs for the area served by the combined sewer system. In the areas served by the combined sewer system, streets will be swept periodically in the spring, summer, and fall as weather permits.

The City and Borough have a solid waste collection and recycling program that support pollution prevention as a CSO control. The City of Scranton and the Borough of Dunmore perform this activity with their own DPW workforce. All household refuse is collected once per week from the curb or alley. Recycling is also provided on a weekly basis in the City and bi-weekly in the Borough, on the same day waste collection is performed.

In the City, bulk refuse disposal products such as ("White Goods") refrigerators, water heaters, freezers, air conditioners, humidifiers, stoves, clothes dryers, dehumidifiers, ovens, dishwashers, water coolers, heat pumps, chillers, furnaces, and boilers must be taken to a scrapyard. DPW workers in the City will pick-up chairs, couches, and mattresses. The Borough of Dunmore will pick-up "White Goods" with the exception of TV's, refrigerators, and appliances with Freon. Goods are collected on the same day waste collection is performed.

Yard waste materials consisting of grass and shrubbery clippings, leaves, tree limbs, and other materials accumulated as the result of lawn and yard maintenance are collected by the Borough of Dunmore. Yard waste is collected on the same day waste collection is performed from April through the first week of December. The City of Scranton does not collect yard waste.

PAWC provides information on water conservation and household water use via bill inserts, website and social media. Conservation information is also shared at community events, such as senior fairs, environmental events, and presentations to civic and school groups throughout the year. Household conservation devices are available to customers enrolled in PAWC's low-income assistance program, H2O – Help to Others.

Cleaning of inlets and catch basins in the collection system is a routine maintenance activity conducted by PAWC utilizing Vactor and clam trucks.

To assist in litter control, the City places trash containers where the greatest accumulation of litter occurs: the downtown area and at other public spaces. Public outreach efforts will be used to educate residents on the importance of not littering in order to keep the City clean.

Hazardous materials and wastes, when not properly disposed, can infiltrate the City's sewer system and affect the cleanliness of waterways. Similarly, illegal dumping of any material is extremely harmful to the environment. PAWC, in conjunction with other stakeholders, will evaluate current local practices associated with the disposal of unsafe and unwanted materials that may cause significant environmental damage. Handling and disposing of hazardous waste materials requires a special set of regulations due to the potential damage they can cause to people, pets, and the environment. Pennsylvania residents must follow the requirements for household hazardous waste disposal outlined in the Title 25 of the Pennsylvania Code, subchapter F. If hazardous waste is present in the sewer system it is generally the result of illegal dumping of household and industrial waste or improper disposal of hazardous waste by flushing waste down a drain. A household hazardous waste program will be evaluated as part of the LRCA Public Education and Outreach Program activity.

PAWC will provide information regarding pollution prevention on its website. In addition, pollution prevention information will be included in water/sewer bills. We will evaluate a continuation of a marketing program to further raise public awareness of the connection between urban impervious area runoff and local water quality. PAWC's website will

be used to provide educational information regarding recycling, proper disposal of waste, and proper fertilizer and lawn care products application.

Another component in the PAWC pollution prevention program are public presentations outlining what CSOs are and why pollution prevention is important to the system's LTCP. A schedule will be developed for presentations to local schools and community groups.

Each year, a review will be conducted to evaluate the effectiveness of the overall pollution prevention program and the need for further educational efforts within the Scranton service area. Any improvements, modifications or evaluations of the program conducted during the reporting period, will be documented and reported. The PAWC brochure highlights the details of the PAWC pollution prevention program and how the public can get involved in pollution prevention. PAWC personnel will distribute this educational material during staff participation in public meetings, demonstrations, talks or conferences whenever such opportunities present themselves in order to further educate the public on its role in the program.

7.3 Waterways Restoration Effort

The waterways restoration effort is limited to removing large trash and debris from targeted sections of stream systems, with a primary focus along the Lackawanna River. Restoration efforts help improve water quality and reduce water pollution. The removal of debris from the streams limits the amount of pollution entering the major waterways.

7.4 Existing Public Information and Education Programs

Educating the public about CSOs and their harmful impact on receiving waters can significantly reduce the amount of pollutants and floatables able to enter waterways. When people are informed about the issues pollutants and floatables can cause, they are empowered to make small behavior changes to assist in prevention efforts. Public education programs can reduce the amount of litter and contaminants on the streets, and thereby reducing the amount of floatables and pollutants in the receiving waters. PAWC has developed proactive approaches to implementing public information and education programs about watershed protection and reducing potential sources of runoff contaminants. PAWC will establish Public Outreach Programs to educate the community on the CSO Long Term Control Plan, consisting of educational materials and public outreach events. This program would likely include future aspects related to the Green Stormwater Infrastructure initiatives. The goals of this program are to raise awareness of stormwater management, educate the public on the use of green infrastructure to reduce stormwater from being discharged into the combined collection system, increase public support for green stormwater infrastructure in impacted communities, and help facilitate the successful implementation and maintenance of green stormwater infrastructure.

PAWC has developed relationships with numerous community organizations to educate residents on household best practices regarding stormwater, including rain barrel workshops

and developing rain gardens. The company will continue to partner with LRCA and the county conservation district to support and promote these endeavors.

PAWC sponsors a “Protecting Our Watersheds” art contest each year for fourth-, fifth-, and sixth-grade students in the company’s service area. The contest encourages teachers and students to learn more about the importance of our local watersheds and their role in protecting them. The annual contest opens in January, with judging and prize notification taking place around Earth Day.

Additionally, PAWC partners with the Lackawanna River Conservation Association and other environmental groups to sponsor its annual Wonders of Water Camp for students 7-11 years old. The three-day camp educates students about the water cycle, importance of water and our watersheds, and covers topics such as “Only Rain Down the Drain” and acid mine drainage.

PAWC has working relationships with a number of local environmental organizations working to benefit our watersheds, including:

- Lackawanna River Conservation Association
- Pennsylvania Environmental Council
- Lackawanna County Conservation District
- Keystone College Environmental Education Center
- Pennsylvania Department of Conservation and Natural Resources
- Eastern Pennsylvania Coalition for Abandoned Mine Reclamation
- Earth Conservancy
- Penn State Cooperative Extension

8.0 Public Notifications – NMC No. 8

8.1 Introduction

The eighth minimum control is public notification to inform the public of the location of CSO outfalls, the actual occurrences of CSOs, and the potential health and environmental effects of CSOs. The principal benefit of a notification program is to reduce the potential public health risks in affected areas, and to increase public awareness of CSOs. The methods used are intended to provide reasonable assurance that the affected public will be informed in a timely, cost effective manner.

8.2 Public Notification Measures

PAWC provides educational materials in bill mailings and online through the company's website and social media channels. PAWC will continue to provide educational materials to residents and local stakeholders.

The permanent signage located at each CSO was revised to the following language, "NOTICE-PAWC Combined Sewer Outfall Untreated Sewage CSO #_____. This site is at or downstream of a Combined Sewer Overflow. Avoid water-related activities during discharges or heavy rains. To report a discharge, call 866-808-4219. The signage will enable the general public to report malfunctions. Examples of signage are found in the Appendix (NMC-8, Exhibit E).

PAWC's website (which has specific Scranton system page) will provide information to residents about the sewer system and proper operation of the system. Also, the site includes appropriate precautions, risks, potential health hazards, locations and occurrences of CSO discharges and incidents of DWOs. The website is also an important method of informing the public of LTCP projects.

Social media has become a very useful tool to pollution prevention, helping to spread information about these programs. PAWC utilizes multiple social media pages, such as Facebook (www.facebook.com/pennsylvaniaamwater), Twitter (@paamwater), Instagram (@paamwater), and YouTube (@paamwater). Social media sites are used to educate and inform customers about a variety of topics and issues, as well as emergency notification.

Public outreach and public participation programs will provide the public with stormwater education. This approach will also be used to notify stakeholders about projects and opportunities to experience green stormwater infrastructure, so that the public can adapt this information to help implement stormwater management on their properties and in their communities.

PAWC will participate in community activities and events to discuss planned projects with various neighborhood and civic organizations. These events enable the Company to gain community input on work that the public would like to see. Community meetings will also give the Company a chance to answer questions and disseminate information on how the Company

is addressing key issues, such as stormwater management, CSO, and other pollution prevention initiatives.

PAWC supports numerous watershed groups and stream restoration efforts through the company's Environmental Grant Program and other types of partnerships. PAWC has strong working relationships with state and local environmental groups, including the Pennsylvania Environmental Council and Lackawanna River Conservation Association (LRCA), which can help the Company develop and implement a Public Education and Outreach Program. For example, PAWC will coordinate with LRCA to develop educational materials, identify target audiences and stakeholders, and utilize communication channels to reach and involve target audiences. The Company regularly conducts educational programs at schools and in the community and supports volunteer opportunities for public involvement.

9.0 Monitoring to Characterize CSO Impacts and the Efficacy of CSO Controls-NMC No. 9

9.1 General

Monitoring and characterization of combined sewer overflow (CSO) impacts from a combined wastewater collection and treatment system are necessary to document existing conditions and to identify any water quality benefits achievable via CSO mitigation measures.

The purpose of the ninth minimum control is to perform visual reviews and apply other simple methods to characterize the CSO occurrences and impacts. Limited sampling and water quality analysis may also be performed to improve knowledge concerning CSO characteristics and potential water quality impacts.

PAWC has instituted many programs, reports, and activities that demonstrate and document the efforts taken to monitor and evaluate CSOs. These initiatives are constantly being updated and evaluated for improvements. This plan has supplied many methods for assessing the relative effectiveness of implementing of a number of the Nine Minimum Controls.

- For instance, PAWC's computerized Operation & Maintenance tracking system described in Section 1 and the flow monitoring systems referenced in Section 5 provide the basis to track, document and quantify the performance of PAWCs Operation & Maintenance activities (Minimum Control No. 5). PAWC visually inspects CSO discharges and documents apparent impacts. Observations of debris discharged from the CSOs is recorded on inspection forms and inputted into the electronic database. SSA characterized the frequency, duration and volume of CSO discharges on a monthly basis in the DMRs. Inspections document the dates the regulators were checked and presence/absence of previous overflows. This information is provided with the monthly DMR.

- Additionally, the hydraulic and hydrologic models of the combined sewer system are used to characterize and quantify the relative effectiveness of implementation of Minimum Control No. 2, Minimum Control No. 4, and Minimum Control No.5, PAWC employs flow meters and its updated and calibrated hydraulic model to monitor CSO activations and volumes. PAWC will monitor flow with permanent and portable flow metering equipment at CSO regulators and pumping stations. Continuous flow monitoring at these select sites will provide information and documented data on frequency, duration and volumes of wet weather overflows. Rain gauges have been installed throughout the sewer system. Dry weather overflows will be recorded when observed or when determined from public calls. PAWC will document and track public complaints after receiving them.

- Analyses are performed for assessing the potential for modifications to PAWCs pretreatment program to reduce industry-related impacts on CSO discharges.

The existing NMC Plan included a comprehensive 3- year water quality monitoring program to fully characterize the river and streams within the SSA service area and evaluate the impact of CSO discharges on the aquatic life. This initial monitoring, conducted from July 2009 through November 2011, was intended to establish baseline conditions and represent both dry and wet weather characterization. Specific information regarding the results of this monitoring is provided in the LTCP Report prepared by Gannett Fleming (September 2012). The baseline characterization data, along with data collected during the LTCP implementation will be used by PAWC to further evaluate and/or predict water quality trends, assist in evaluating CSO improvements, and educate the public on water quality and CSO control measures going forward.

Future monitoring by PAWC will consist of water sampling and analyses based on the key water quality indicator results presented in the LTCP, on a 5-year basis to coincide with the 5-year program milestone report frequency. The water quality analyses will focus on fecal coliform bacteria and temperature, as these are the two water quality criteria which are currently not being met within the Lackawanna River. Samples for these two parameters will be collected for five consecutive days each month during the summer (June, July, and August) when public contact is most likely to occur. The five consecutive day sampling period corresponds with Pennsylvania's water quality criteria for fecal coliform bacteria. Additional analyses will be performed once per month during the summer and will include; field measurements (pH and dissolved oxygen), conventional pollutants (BOD, TSS, Chloride, and Sulfate), and nutrients (Ammonia Nitrogen, Total Kjeldahl Nitrogen, and Total Phosphorus). A benthic macro-invertebrate characterization will also be conducted within each 5-year period to assess and measure biotic improvements against the 2011 benchmark assessment.

The proposed water quality monitoring locations will include the Lackawanna River and (6) tributary streams; Leggetts Creek, Meadow Brook, Keyser Creek, Roaring Brook, Little Roaring Brook, and Stafford Meadow Brook.

The designated monitoring will be completed within the Lackawanna River once each 5-year period. Water quality monitoring will be completed within the tributary streams at the end of the 5-year period in which all identified CSO control measures have been installed within the tributary stream's watershed. This water quality monitoring approach will be used by PAWC to assess the trends over time as CSO controls are implemented.

PAWC will compile trends on an annual basis of:

- Frequency of measured overflow volumes where monitored
- Rainfall data
- Observations of debris discharged
- Incidents of DWOs
- Reports of water quality problems attributed to CSO discharges
- Public complaints
- Weir adjustments – dates, previous elevation, new adjusted elevation

9.2 Reports

9.2.1 Quarterly CSO Discharge Monitoring Report

Four times a year, following each quarter, PAWC submits a Quarterly Special Discharge Monitoring Report to PaDEP documenting the CSO discharges that occurred during the previous quarter. In addition to a list of CSO discharges and their associated outfalls, the report also includes a quarterly record of inspections, discharges, blockages cleared, daily precipitation amounts from rain gages, a map of our wastewater system, and total overflow duration for all CSO point sources. The report is due 45 days after the end of each quarter.

9.2.2 CSO Control Program Annual Reports

Every year, PAWC provides an overview of all the activities and programs pertaining to components of the CSO Control Program.

PAWC creates an Annual Municipal Wasteload Management report in accordance to PA Code § 94.12 ("Chapter 94 report"), which is intended to provide a review of sewerage facilities for the preceding calendar year to ensure that progress is being made to address existing operational or maintenance problems, or to plan and construct needed additions. The purpose of this regulation is to prevent unpermitted and insufficiently treated wastewater from entering waters of the Commonwealth by requiring the owners and operators of sewerage facilities to project, plan, and manage future hydraulic, organic and industrial waste loadings to their sewerage facilities. PAWC shall submit the Chapter 94 report to both PaDEP and EPA.

PAWC will submit to PaDEP and EPA an Annual CSO Status Report which documents an overview of all its activities and programs pertaining to the CSO portion of the NPDES Water Pollution Control Plant permits. This report is conducted in accordance with the NPDES permits that are reported to PaDEP. This report is submitted with the annual Chapter 94 report.

The Annual CSO Status Report contains information on rainfall, inspections and maintenance, dry weather discharges, wet weather overflows, and chronic or continuous discharges during the fiscal year. The Annual CSO Status Report includes the following elements:

- Summary of the frequency and volume of CSO discharges during previous year
- Update of the CSO frequency and volume for a typical hydrologic year
- Summary of the in-stream impacts and effectiveness of CSO controls and restoration projects
- Summary of the information provided in the Quarterly discharge Monitoring Reports, including:

- Rainfall data – total Inches (to the nearest 0.01-inch) that fell each day and month for the period of the report.
- The total number of regulator inspections conducted during the period of the report.
- A list of blockages (if any) corrected or other interceptor maintenance performed, including location, date, and time corrected, and any discharges to the stream observed.

9.3 **Consent Decree Progress Reports**

On January 31 and July 31 of every year commencing with the first full six month period after entry of this Consent Decree and continuing until termination of the Consent Decree, PAWC will submit to the United States Environmental Protection Agency (US EPA) and the Pennsylvania Department of Environmental Protection (PADEP) a progress report ("Semi-Annual Report") regarding the implementation of the requirements of the Consent Decree in the previous six-month period. The Semi-Annual Progress Report will include at a minimum:

a) A statement setting forth the deadlines and other terms that PAWC was required by this Consent Decree to meet since the date of the last Semi-annual Progress Report, whether, and to what extent, PAWC has met these requirements, and the reasons for any non-compliance;
b) A general description of the work completed within the six-month period, and a projection of work to be performed pursuant to this Consent Decree during the next or succeeding six-month period;
c) A summary of all contacts with the EPA and the PADEP during the reporting period relating to CSOs, SSOs, or implementation of the BNR Project;
d) A statement of any exceedances of NPDES Permit limitations; and,
e) A summary of all CSOs, SSOs, and Unpermitted Discharges occurring within the six-month period including the actual or estimated frequency, duration, and volume of each CSO, SSO, and unpermitted discharge.

EXHIBIT A

PENNSYLVANIA AMERICAN WATER COMPANY CSO INSPECTION LOG

CSO No: _____ CSO LOCATION : _____

DATE: _____/_____/_____ TIME : _____ AM/PM

WEATHER: CLEAR DRY OVERCAST RAIN SNOW TYPE OF INSPECTION: RAIN EVENT_____BI-WEEKLY INSPECTION

INSPECTOR: _____

VISUAL Inspection

IS THERE A DISCHARGE? YES NO

CAUSE OF DISCHARGE : LINE BLOCKAGE EXCESSIVE FLOW OTHER (Explain in Comment section)

RAINFALL ESTIMATE: _____ INCHES TIME OF RAINFALL: START_____ STOP_____

Is there evidence of erosion? YES NO

IF DISCHARGING TO STREAM

Are there any solids or floatables being discharged to river	Yes	No
Is there a visible plume in stream	Yes	No
Were samples taken up stream of discharge	Yes	No
Were samples taken of discharge	Yes	No
Is outfall structure in need of repairs	Yes	No

COMMENTS:

_____

_____

_____

EXHIBIT B

INDUSTRY: _____

SAMPLE DATES: _____ - _____

Report Complete ☐yes ☐no

TTO Stmt: ☐yes ☐ no ☐ n/a Cert Stmt: ☐ yes ☐ no ☐ n/a

COC: ☐ yes ☐ no ☐ n/a Sampling Results: ☐ yes ☐ no ☐ n/a

Resampling Results: ☐ yes ☐ no ☐ n/a Flows: ☐ yes ☐ no ☐ n/a

Manifest: ☐ yes ☐ no ☐ n/a

ENTERED INTO LINKO: ☐ yes ☐ no

VIOLATIONS PRESENT: ☐ yes ☐ no ☐ n/a SNC ☐ NC ☐

If yes, describe_____

Resampling Results Attached: ☐ yes ☐ no

Surcharges Applicable: ☐ yes ☐ no
Invoice #:_____
Entered in QuickBooks: ☐ yes ☐ no

Surcharge $: _____

- Elevated: Ammonia ☐ yes BOD ☐ yes

Ammonia: Day 1:_____ Day 2:_____ Day 3:_____ Avg:_____(23.0mg/l)
BOD: Day 1:_____ Day 2:_____ Day 3:_____ Avg:_____(330.0mg/l)
pH: Day 1:_____ Day 2:_____ Day 3:_____ Avg:_____(6.0-9.0)
Flow Avg (Gals):)_____ Flow Total (Gals):_____

RECV'D ON TIME: ☐ YES ☐ NO
- At least Ten Days Late: ☐ yes ☐ no

SCANNED: ☐ yes ☐ no

ENTERED INTO MIPP QUARTER REPORT: ☐ yes ☐ no Date:_____

SURCHARGE SENT: ☐ yes ☐ no ☐ n/a

NOTICE OF VIOLATION(S) SENT: ☐ yes ☐ no ☐ n/a Date:_____

PENNSYLVANIA
AMERICAN WATER

EXHIBIT B

November 4, 2015

Company
Address
Address

Re: Quarterly Outfall FAC monitoring results
Permit No._____

Ms/Mr:

Enclosed please find the monitoring results for (company), permit #_____ for the 4th quarter 2016.

Please do not hesitate to contact me should you have any questions on the enclosed material.

Sincerely,

Name
Title

cc: file

PENNSYLVANIA
AMERICAN WATER

EXHIBIT B

January 14, 2016

Company
Address
Address

Re: Waste Permit No._____ Quarterly Flow Report

Ms/Mr:

Below please find the monthly flow for the 4th quarter 2015. Unfortunately, we only have flow for the month of October and half of November, due to the flow meter not functioning. This was discovered on Monday, January 11th and the meter was fixed on Thursday the 14th. As soon as it was realized that the meter was not functioning correctly, it was fixed. We also spoke on 1/14/15 to keep you updated on the situation.

October 2015
1384 gallons

November 2015 (through November 16th)
816 gallons

December 2015
0 gallons recorded

Please do not hesitate to contact me should you have any questions on the enclosed material.

Respectfully Submitted,

Name
Title

cc: file

PENNSYLVANIA
AMERICAN WATER

EXHIBIT B

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Date	Signature of Official
Phone	Title

PENNSYLVANIA
AMERICAN WATER

EXHIBIT B

TOTAL TOXIC ORGANICS STATEMENT

Based on my inquiry of the person or persons responsible for managing compliance with permit limitation or pretreatment standards for Total Toxic Organics (TTO), I certify that to the best of my knowledge and belief, no dumping of toxic organics into the waste water has occurred since the filing of the last discharge monitoring report. I further certify that the facility is implementing the toxic organic management plan submitted to the Control Authority.

Date	Signature of Official
Phone	Title

October 26, 2015

Attn: Name
Address

PENNSYLVANIA
AMERICAN WATER

EXHIBIT B

Address

Re: 2015 – 4th Quarter Pretreatment Sampling

Date Sampled: Day 1 – 10/06/15
Day 2 – 10/07/15
Day 3 – 10/08/15

Sampled By: "Company"
Sample Type: Wastewaster; 1-hour Composite (pH, CN, O&G, TPH, Toluene – Grab)
Sample Location: Sanitary Pump Station (FAC)
Sample Description: Discharge to Sewer
Laboratory IDs: Day 1 – 1510-07-07
Day 2 – 1510-08-07
Day 3 – 1510-09-07

Parameter	Method	Date(s) Analyzed (Day 1 to Day 3)	By	Day1 Results (mg/l)	Day 2 Results (mg/l)	Day 3 Results (mg/l)	Daily Mac (mg/l)
Arsenic	SM3113B	10/20/15	TDK	<0.005	<0.005	<0.005	0.20
Cadmium	SM3111B	10/15	TDK	0.002	0.002	<0.001	0.026
Chromium +6	SM3500CrD	10/07/15,10/08/15,10/09/15	TDK	<0.010	<0.010	<0.010	0.42
Chromium	SM3111B	10/20/15	TDK	0.009	0.003	0.001	6.00
Total Copper	SM3111B	10/20/15	TDK	0.037	0.022	0.023	2.00
Lead	SM3111B	10/20/15	TDK	0.009	<0.005	<0.005	0.69
Mercury	SW8467470A	10/15/15	(1)STL	<0.0002	<0.0002	<0.0002	0.02
Nickel	SM3111B	10/20/15	TDK	0.012	0.008	0.00	3.00
Silver	SM3111B	10/20/15	TDK	0.002	0.001	0.001	0.43
Zinc	SM3111B	10/20//15	TDK	0.164	0.117	0.1309	2.50
pH (std.units)	SM4500HB	10/06/15,10/07/15,10/08/15	TDK	7.22@18.0°C	7.86@18.4°C	6.82@18.2°C	6.0-9.0
Ammonia Nitrogen	SM4500NH3BD	10/26/15	TDK	56.8	71.0	62.8	350
BOD-5 Day	Sm5210B	10/07/15,10/09/15,10/09/15	TDK	231.	166.	183.	5,300
Cyanide	SM4500CNCE	10/19/15	TDK	<0.005	<0.005	<0.005	0.80
Oil & Grease	SM5520B (N Hexane)	10/15/15	TDK	Not Tested	Not Tested	Not Tested	1,500
TPH	EPA1664A (N Hexane)	10/15/15	TDK	Not Tested	Not Tested	Not Tested	100
'Toluene	EPA624	10/14/15	(1)STL	0.231	Not Tested	Not Tested	2.1

[1] Analysis completed by Suburban Testing Labs PADEP 06-0008

Results that exceed any limits are indicated by **Bold Red** font

Note: All analyses performed in accordance with US EPA approved analytical methods (Reference 40 CFR 136), including EPA acid digestion procedures (3010A/3020A). This report includes the attached Chain-of-Custody Form and has been reviewed and approved by the person signed below. The report is accurate to the best of our knowledge.

Quarterly Pretreatment FAC Sampling

Analysis conducted using the following Reporting Detection Limits (RDL)

PENNSYLVANIA
AMERICAN WATER

EXHIBIT B

Parameter	RDL (mg.l)
pH @ 16.2°C	NA
Ammonia as N	0.100
BODS	2.0
Cyanide	0.005
Oil & Grease	5.0
TPH	5.0
Arsenic	0.005
Cadmium	0.001
Chromium, Hexavalent	0.010
Chromium, total	0.001
Copper	0.001
Lead	0.005
Mercury	0.0002
Nickel	0.002
Silver	0.001
Zinc	0.001
Toluene	0.005

Parameter	Laboratory ID	Date Analyzed	Time Analyzed
Chromium +6	1510-0707	10/07/15	10/07/15 09:40
Chromium +6	1510-07-08	10/08/15	10/08/15 10:05
Chromium +6	1510-07-09	10/09/15	10/09/15 10:05
pH (std. units)	1510-07-07	10/06/15	10/06/15 07:40
pH (std. units)	1510-07-08	10/07/15	10/07/15 07:30
pH (std. units)	1510-07-09	10/08/15	10/08/15 07:30
BOD – 5 Day	1510-07=07	10/07/15	10/07/15 12:30
BOD – 5 Day	1510-07-08	10/09/15	10/09/15 13:00
BOD – 5 Day	1510-07-09	10/09/15	10/09/15 13:00

Sincerely,

EXHIBIT C

PENNSYLVANIA
AMERICAN WATER

INDUSTRIAL PRETREATMENT INPECTION REPORT

Permit No:_____ Inspection Date: _____ Time: _____

1. GENERAL INFORMATION:
   a. Facility Name:_____
   b. Parent Company or Affiliation:_____
   c. Facility Street Address:_____
   d. Facility Mailing Address:_____
   e. Date Present Operation Began at this Facility:_____
   f. (1) Facility Contact Person:_____
      Position/Title:_____
      Phone #_____ Cell #_____
      Fax #_____
      (2) Facility Contact Person:_____
      Position/Title:_____
      Phone #_____ Cell #_____
      Fax #_____

      Facility Personnel Present at Inspection:_____
      _____

2. PRODUCT OR SERVICE INFORMATION:
   a. Narrative description of the primary manufacturing or service activity at the facility:

      _____
      _____
      _____
      _____
      _____
      _____

EXHIBIT C

b. Kind of Operations: Continuous_____ Seasonal_____ Batch_____

Hours & Days of Operation - Explain: _____

_____

_____

_____

c. Major Raw Materials Used:

_____

_____

_____

d. Major Products or Services of the Operation:

_____

_____

_____

e. List all other activities, specific products, and services from this facility e.g., laboratory, research, etc.

_____

_____

_____

3. WATER SOURCES AND USE:

a. Raw Water Sources:

Public Water Supply:	Yes_____	No_____	Specify_____
Private Wells(s):	Yes_____	No_____	Specify_____
Surface Water:	Yes_____	No_____	Specify_____

b. Is the raw water source metered: Yes_____ No_____ Explain means of measuring the water flow: _____

c. Average Daily Water Usage:

_____

EXHIBIT C

d. Describe any water treatment, water conditioning, or purification process utilized:

_____

_____

_____

e. The company provided an updated process water flow schematic diagram: Yes___ No___

_____

4. WASTEWATER INFORMATION:

a. Discharge Method:

1._____public sewer
2._____surface water
3._____storm drain
4._____ground discharge
5._____waste hauler

b. Source of Public Wastewater:

1._____
2._____
3._____
4._____
5._____

b. Discharge flow is measured: Yes_____ No_____. If yes, describe the means of flow measurement:_____

_____

c. Typical flow of discharge: _____ per day,

_____ per year.

d. Kind of discharge: Continuous _____, Batch _____, Continuous-seasonal _____
If batch or continuous seasonal, explain flow, frequency, and quantity per batch:

_____

_____

_____

e. List names of the 4 major chemical constituents in discharging waste:_____

_____

_____

f. Discharge contains Categorical Standards: Yes _____ No _____

If yes, list applicable subpart:_____

_____

EXHIBIT C

5. WASTEWATER PRETREATMENT:

a. Does the facility have an active pretreatment program? Yes _____ No_____
If yes, what type of flow? Continuous _____ Batch _____

b. Is the process wastewater pretreated prior to discharge to the public sewer?
Yes _____ No _____ Describe:_____

_____

_____

c. Is this facility operation under a compliance schedule to install pretreatment?
Yes _____ No_____ Explain:_____

_____

_____

_____

d. Is process wastewater completely separated from the sanitary waste?:
Yes _____ No _____ Includes schematic flow charts of both process waste and sanitary waste. The charts should show the points of generations (different units making the waste), discharge points to the main collection line, all the floor drains, flow directions, points of treatments, and points of discharge to sewer for both waste flows.
Copy attached: _____ On file?:_____ Copy requested by PAWC?_____

e. In pretreatment of process waste, what parameters require major attention and relatively extensive effort to comply with the permit requirements?

_____

_____

_____

f. Describe any method/procedure that has been adopted and also any future plan that is under consideration by the facility management to reduce the volume and/or strength of the process waste at the point of generation.

_____

_____

_____

EXHIBIT C

g. Kind of treatment process: Physical _____ Chemical _____ Biological ____
Combination of some _____. If a combination , explain the process:

_____

_____

_____

_____

h. Describe the mechanism or means involved in the pretreatment process:

_____

_____

_____

_____

i. Include a schematic flow chart of the pretreatment facility and show all the units and different steps of the process.
Copy attached? _____ On file? _____ Copy requested by PAWC? _____

_____

_____

j. Explain the chemical(s) that are added during pretreatment process and their specific purpose?_____

_____

_____

_____

k. If the discharge flow is continuous, explain what parameters (in addition to the requirements) are measured, and on what frequencies (daily, weekly, quarterly):

_____

_____

l. What means/methods of quality control are used for in-house monitoring of these parameters? _____

_____

_____

EXHIBIT C

m. List the name, address and phone number of the engineering consultant firm or the individual engineer who assisted with the design of the pretreatment facility:

_____

_____

n. Name of the analytical laboratory who analyses the self-monitoring samples:

_____

_____

o. Does the analytical laboratory personnel also perform the sampling? Yes____No____

_____

If no, name the person(s) who sample and deliver to the laboratory:

_____

p. Name the person who operates the pretreatment facility:_____

What are said person's credentials:_____
Is said person a certified operator for industrial waste treatment? Yes____ No_____
If no, explain what technical training they have:_____

_____

q. Does the pretreatment facility generate any sludge or other residuals as a result of its operation? Yes _____ No ____ Explain: _____

_____

_____

_____

_____

What chemical or chemicals are used in the dewatering process?_____

_____

_____

What are the percent solids in the dewatered sludge and the monthly average solids generated? %TS: _____ Monthly Average (lb/mo): _____
How are the solid wastes stored? _____

_____

_____

r. What is the disposal method of dewatered sludge? Recycling_____ Landfill_____

Others_____ Explain:_____

_____

_____

EXHIBIT C

s. Do you use or operate any in-house recycling/recovery method? Yes_____ No _____ N/A _____ If yes, explain: _____

_____

_____

t. Recommendation of the inspector for pretreatment facility condition, operation and self-monitoring procedure:_____

_____

_____

_____

_____

_____

_____

_____

_____

6. WASTE:

a. Does this facility generate any waste process materials such as spent solvents, spent acids, base, etc.? Yes_____ No _____ If yes, explain:_____

_____

List quantities generated per month:_____

_____

How are the waste process materials disposed?_____

_____

How are the process materials stored?_____

_____

b. Does this facility generate any solid waste as a result of its operation? Yes_____ No_____ If yes, explain:_____

_____

List quantities generated per month:_____

_____

How are the waste process material disposed?:_____

_____

How are the waste process materials stored?:_____

_____

EXHIBIT C

c. Does this facility have a designated or centralized area for the storage of hazardous waste?
Yes _____ No _____ Explain/Comment:_____

_____

_____

_____

7. AIR POLLUTION:
   a. Are there any process tanks greater than 100 gallons? Yes _____ No _____
   Specify:_____

   _____

   _____

   _____

   b. Are there any heated surface cleaners (e.g., vapor degreasers, etc.)?
   Yes _____ No _____

   c. Does the facility have any exhaust systems in conjunction with the process operation (e.g., plating tanks, painting rooms, vapor degreaser, etc.)?
   Yes _____ No _____ if yes, is the system registered? Yes _____ No _____
   Describe:_____

   _____

   d. Are there any air pollution control devices: Yes _____ No _____
   Explain: _____

   _____

8. CHEMICALS USED AND IN POSSESSION:
List, in this section, all the chemical names, describe in what forms (liquid, slurry, powder, and granule) they are used, mark approximate quantities used (lb/yr), and describe the purpose they are used for (industrial process, laboratory use, pest control, etc.). If chemical group is not found in a group name in the following, list them under "others."
Example: Hydrochloric Acid (500 lb/yr, liquid, process)

   a. Acids: _____

   _____

   _____

   _____

   b. Ammonium Compounds (ammonia, ammonium hydroxide, ammonium chloride, ammonium nitrate, ammonium persulfate, etc.):

   _____

   _____

   _____

EXHIBIT C

c. Hydroxides/Caustic materials (sodium hydroxide/caustic soda, potassium hydroxide, etc.):_____

d. Inorganic Salts (chloride):_____

e. Trace Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Zinc, etc.):_____

f. Regulated Volatile Organic Compounds (VOCs) and Solvents (acetone, benzene, ethylene glycol, formaldehyde, methylene, toluene, xylene):_____

g. Regulated Synthetic Organic Compounds (SOCs) (various herbicides, pesticides, fungicides, and insecticides:_____

h. Biological Cell Products (bacteria, viruses, etc.):_____

i. Nuclear Materials (Uranium, Radium, Cobalt Isotope, Nickel Isotope, etc):

EXHIBIT C

j. Liquid Chlorine (Hypochlorite) and Chlorine Gas: _____

k. Surfactants (detergents, fabric softeners, emulsions, paints, adhesives, biocides, etc.):

l. Explosive Materials: _____

m. Enzyme Products: _____

n. Motor Oil, Industrial Oil, Hydraulic Fluid, etc.: _____

o. Cooking Grease: _____

p. Sugar Syrup, Maple Syrup, Liquid Starch, Glucose and Fructose:

q. Protein-based Products (proteins, amino acids, etc.): _____

r. Others: _____

EXHIBIT C

9. CHEMICAL STORAGE ROOM:
Describe, in this section, the factors/parameters related to the chemical storage room(s). The factors include: location and size of chemical storage room or stock room, arrangement of different chemicals and distance from the closest floor drain:

a. Are there raw organic solvents stored in an area appropriately safeguarded against spills reaching the sewers? Yes_____ No_____ Explain:_____

_____

b. Are there spent organics stored in an area appropriately safeguarded against spills reaching the sewers? Yes_____ No_____ Explain:_____

_____

c. Do you have a slug control plan? Yes_____ No_____ If yes, provide PAWC with a copy of the plan:_____

d. Have adequate hauling procedures been developed to prevent the organics used during the process operations from reaching the sewer in amounts exceeding Federal and Local Standard? Yes_____ No_____ Explain:_____

_____

e. How are the organic solvent used onsite disposed? Explain:_____

_____

f. Do you use a licensed hauler to haul your hazardous chemicals?

Name:_____ Phone:_____

Hauling Manifest No.:_____

g. Do you have a designated chemical storage room? Yes_____ No_____
If yes describe:_____

_____

h. Do you have a designated chemical storage area? Yes_____ No_____
If yes describe:_____

_____

i. Are the reactive chemicals stored separately? Yes_____ No_____
If yes, describe:_____

Ventilation of chemical storage room or area: Yes_____ No_____ Describe:_____

_____

Adequate ventilation _____ Inadequate ventilation_____ Describe:_____

_____

EXHIBIT C

Storage room security (door, lock, etc.): Yes_____ No_____ Describe:_____

_____

Fire protection means: Adequate_____ Inadequate_____ Describe:_____

_____

Distance of storage room, or area, to the points of use:

_____

_____

j. Chemical Transportation: Describe means of transport of chemicals from storage room or area to points of use (fork lift, hand truck, by hand, etc.):_____

_____

10. CHEMICAL SPILL CONTAINMENT::

a. Chemical Spill Containment: Yes_____ No_____ No. of Containments:_____
b. Describe type, shape, and size of each containment:

_____

_____

_____

_____

c. Structure of the containments (concrete, blocks, metal, double-wall container, spill skids etc.)::

_____

_____

_____

_____

d. Are the containment's volumes adequate to hold the maximum spill? Yes_____ No_____
e. Are any floor drains in the containment area or in the vicinity of the storage room or area? Yes_____ No_____ If yes, explain the possibility of spill into the drain:

_____

_____

EXHIBIT C

11. EMERGENCY SPILL PLAN:

a. Do you have a written emergency plan? Yes_____ No_____ Under preparation_____
Copy attached?_____ On file?_____ Copy requested by SSA?_____

_____

_____

b. Do you have a designated group or persons for an emergency: Yes_____ No_____

If yes, provide PAWC with the names and phone numbers:_____

_____

_____

Is any type of emergency drill practiced? Yes_____ No_____
How often?_____

c. Is any general all-staff emergency training given? Yes_____ No_____
What is the date of the latest training?_____

d. Do you conduct general staff safety meetings? Yes_____ No_____
How often?_____

e. Do you have a designated outside spill clean up team/company: Yes_____ No_____
If yes, provide PAWC with the names and phone numbers:_____

_____

f. Describe preparations for a spot spill clean up (sponge, blanket, absorbent, clean up kit, etc.):_____

_____

_____

g. Has there been any chemical spills in the last twelve months?: Yes_____ No_____
If yes, describe the kind and size of spill as well as the type of control/clean up work performed.

12. COMMENTS AND OBSERVATIONS NOTED DURING INSPECTION:

_____

_____

_____

_____

_____

EXHIBIT C

13. INSPECTION PARTICIPANTS

Print Name: _____
Signature: _____
Title: _____
Date: _____

Print Name: _____
Signature: _____
Title: _____
Date: _____

Print Name: _____
Signature: _____
Title: _____
Date: _____

Print Name: _____
Signature: _____
Title: _____
Date: _____

Print Name: _____
Signature: _____
Title: _____
Date: _____

EXHIBIT D

Pennsylvania American Water Company
800 W. Hersheypark Drive
Hershey, PA 17033
717-531-3000

Industrial User Wastewater Survey & Permit Application

Company Name			
Name of authorized personnel		Name of alternative personnel	
Title		Title	
Phone	Fax	Phone	Fax
Physical street address of business		Official mailing address, if different.	
City	State, Zip	City	State, Zip

The information provided by you on this questionnaire serves two functions:

1. The information is used to determine if your facility needs an Industrial User Pretreatment Permit (IUP) for the discharge of wastewater to the local sewer.

2. If an Industrial User Pretreatment Permit (IUP) is required, this survey serves as the application for an Industrial User Pretreatment Permit (IUP).

Requests for confidential treatment of information provided on this form shall be governed by procedures specified in 40 CFR Part 2. In accordance with Title 40 of the Code of Federal Regulations Part 403, Section 403.14 and the Local Sewer Use Ordinance (SUO), information and data provided in this questionnaire that identifies the content, volume and frequency of discharge shall be available to the public without restriction.

This is to be signed by an authorized official of your business establishment.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and/or imprisonment for knowing violations.

Signature of Authorized Representative Date

Industrial User Wastewater Survey & Permit Application

Part 1. General Information:

1. Provide a brief narrative description of the type of business, manufacturing processes, or service activities your firm conducts at this site.

2. List the primary products produced at this facility:

3. List raw materials and process additives used:

4. Are biocides added to any water discharged to the POTW, if yes describe:

Yes	
No	

5. Describe weekly production schedule, including shifts worked per day, employees per shift, and primary operation during shift.

6. Production process is:

		Check, if all continuous	
		Check, if all batch	
If both please enter, % continuous =	%	% Batch =	%

Industrial User Wastewater Survey & Permit Application

Part 1. General Information: (continued)

7. Does production vary significantly (+ 20%) by season. Describe.

Yes	
No	

8. Are any significant (+ 20%) changes in production that will affect wastewater discharge expected in the next 5 years. If yes, please describe.

Yes	
No	

9. List all current waste haulers. Give name, address, phone numbers, volume, and materials hauled off.

10. Attach a copy of laboratory anaylses performed in the last year on the wastewater discharge(s) from your facilities. Summarize data on the attached Data Summary Form.

11. Attach sketch or schematic showing sampling points and all connections to the sewer.

12. Complete the Wastewater Pollutants Checklist attached to this Survey.

Industrial User Wastewater Survey & Permit Application

Part 1. General Information: (continued)

13. Do you have, or have you ever applied for, been issued, or been denied an NPDES permit to discharge to the surface waters or storm sewers of Pennsylvania? If yes, list all other NPDES permits, permit numbers, dates, and names used to apply for them, or reason denied.

If yes: Permit, #, date, applicant name	Yes
If yes: Permit, #, date, applicant name	No

14. Do you have, or have your ever applied for or been issued an Industrial User Pretreatment Permit (IUP) to discharge wastewater to the sewer collection system. If yes, list all other IUP permits, permit numbers, dates, and names used to apply for them.

If yes: Permit, #, date, applicant name	Yes
If yes: Permit, #, date, applicant name	No

15. Do you have, or have you ever applied for or been issued any other Environmental Permits (for example; air, RCRA, groundwater, stormwater, general, Non-Discharge, septic tank, etc.). If yes, list all other permits, permit numbers, dates, and names used to apply for them.

If yes: Permit, #, date, applicant name	Yes
If yes: Permit, #, date, applicant name	No

16. Is a Spill Prevention Control and Countermeasure (SPCC) Plan prepared for this facility?

Yes	
No	

17. Is a Spill/Slug Control Plan required by the POTW, prepared for this facility?

Yes	
No	

Industrial User Wastewater Survey & Permit Application

Part 1. General Information: (continued)

18. Do you have any underground storage tanks at your facility? If yes, list contents and volume of each tank.

Yes
No

19. Do you have any above ground storage tanks at your facility? If yes, for each tank, list the contents, volume, whether the tank has any spill prevention or containment devices, such as dikes, and procedures for draining any containment devices.

Yes
No

# of Tanks

Industrial User Wastewater Survey & Permit Application

Part 2. Water Supply, Use, & Disposal Worksheet:

Water Used for:	Water Source (s) see Source List below	Avg. gal/day	Max gal/day	Measured	Estimated	Disposal Method (s) see Disposal List below	Avg. gal/day	Max gal/day	Measured	Estimated
1. Process Water										
2. Washdown water										
3. Water into product										
4. Air Quality Permitted units										
5. Domestic - toilets, drinking, café										
6. Cooling water, Process NON-Contact										
7. Boiler / Cooling tower blowdown										
8. Cooling water, HVAC										
9. Other										
	Totals =>					Totals =>				

Typical Water Sources:

1. City/Public supply
2. Private wells, drinking
3. Groundwater remediation wells
4. Private ponds
5. Surface waters of NC, please identify
6. Include others if applicable

Possible Water Disposal Methods

1. Sanitary sewer, with pretreatment
2. Sanitary sewer, without pretreatment
3. Storm sewer
4. Surface waters of NC
5. Evaporation
6. Land applied
7. To groundwater
8. Septic tank
9. Waste Haulers Identify
10. Water into Product
11. Include others, if applicable

Industrial User Wastewater Survey & Permit Application

Part 3. Pretreatment Facilites

Are there any pretreatment devices or processes used for treating wastewater before being discharged to the sewer? Check all that are present, and describe.

No pretreatment facilities => [ ]

1. Flow equalization

Aerated equalization => [ ]
Non-Aerated equalization => [ ]
Total volume of equalization (million gal.) => [ ]

			Describe any, if present
2. Activated Carbon	Yes	No	
3. Activated Sludge	Yes	No	
4. Air Stripping	Yes	No	
5. Centrifugation	Yes	No	
6. Chemical Precipitation	Yes	No	
7. Chlorination	Yes	No	
8. Cyanide Destruction	Yes	No	
9. Cyclone	Yes	No	
10. Dissolved Air Floatation	Yes	No	
11. Filtration	Yes	No	
12. Floculation	Yes	No	
13. Grease Trap	Yes	No	
14. Grit Removal	Yes	No	
15. Ion Exchange	Yes	No	
16. Neutralize, pH adjust	Yes	No	
17. Other Biological Treatment	Yes	No	
18. Ozonation	Yes	No	
19. Reverse Osmosis	Yes	No	
20. Screening	Yes	No	
21. Sedimentation	Yes	No	
22. Septic Tank	Yes	No	
23. Silver Recovery	Yes	No	
24. Solvent Separation	Yes	No	
25. Spill Protection	Yes	No	

List any others.

Industrial User Wastewater Survey & Permit Application

Part 4. Categorical Information:

1. When were operations started at this facility? **Facility start up date** [ ]

2. List all Standard Industrial Classification (SIC) codes for your facility. These may be found on State Unemployment forms, tax forms, accounting records, or from the Chamber of Commerce.

3. Has this facility ever been considered a Categorical Industrial User (CIU) as described by the Code of Federal Regulations (40 CFR)?

If yes, give complete 40 CFR number => [ ]

No [ ]

4. Are any other facilities owned and/or operated by your company permitted as Categorical Industrial Users (CIUs) as described by the Code of Federal Regulations (40 CFR)?

If yes please give name(s), location, and 40 CFR number. Yes [ ]

No [ ]

Industrial User Wastewater Survey & Permit Application

Part 4. Categorical Information: (continued)

5. Check any activities listed below that are performed at your facility:

Check Below	40 CFR #	Industrial Activity	Check Below	40 CFR #	Industrial Activity
	467	Aluminum Forming		432	Meat products
	427	Asbestos Manufacturing		433	Metal finishing
	461	Battery Manufacturing		464	Metal molding and casting
	431	Builders paper & board mills		436	Mineral mining and processing
	407	Canned & preserved fruits & veg.		471	Nonferrous Metal, Form & Powder
	408	Canned & preserved seafood		421	Nonferrous Metals Manufacturing
	458	Carbon black Manufacturing		414	OCPSF, Organic Chemicals, Plastics, & Synthetic Fiber Manufacturing
	411	Cement Manufacturing			
	434	Coal Mining		435	Oil & gas extraction
	465	Coil Coating		440	Ore mining and dressing
	468	Copper Forming		446	Paint formulating
	405	Dairy products processing		443	Paving & roofing materials mfg.
	469	Electrical, electronic components		455	Pesticide Manufacturing
	413	Electroplating		419	Petroleum Refining
	457	Explosives Manufacturing		439	Pharmaceutical Manufacturing
	412	Feedlots		422	Phosphate Manufacturing
	424	Ferro alloy Manufacturing		459	Photographic supplies
	418	Fertilizer Manufacturing		463	Plastics molding and forming
	464	Foundries, Metal Mold & Casting		466	Porcelain enameling
	426	Glass Manufacturing		430	Pulp, paper, and paperboard
	406	Grain Mills		428	Rubber Manufacturing
	454	Gum & Wood Chemicals Mfg.		417	Soap & Detergent Manufacturing
	460	Hospitals		423	Steam Electric power Generation
	447	Ink formulating		409	Sugar processing
	415	Inorganic chemical Manufact.		410	Textile mills
	420	Iron & Steel Manufacturing		429	Timber products processing
	425	Leather Tanning & Finishing		Others	

Wastewater Pollutant Checklist

Chemical Name	EPA Storet Code	Check if present at facility	Check if absent at facility	Check if present in discharge	Check if absent in discharge	Conentration in discharge, if known (mg/l)
Acid Extractable Organics						
2-Chlorophenol	34586					
2,4-Dichlorophenol	34601					
2,4-Dimethylphenol	34606					
2,4-Dinitrophenol	34616					
2-Methyl-4,6-dinitrophenol	34657					
4-Chloro-3-methylphenol	34452					
2-Nitrophenol	34591					
4-Nitrophenol	34646					
Pentachlorophenol	39032					
Phenol	34694					
2,4,6-Trichlorophenol	34621					
Base Neutral Organics						
1,2,4-Trichlorobenzene	34551					
1,2-Dichlorobenzene	34536					
1,2-Diphenylhydrazine	34346					
1,3-Dichlorobenzene	34566					
1,4-Dichlorobenzene	34571					
2,4-Dinitrotoluene	34611					
2,6-Dinitrotoluene	34626					
2-Chloronaphthalene	34581					
3,3-Dichlorobenzidine	34631					
4-Bromophenyl phenyl ether	34636					
4-Chlorophenyl phenyl ether	34641					
Acenaphthene	03405					
Acenaphthylene	34200					
Anthracene	34220					
Benzidine	39120					
Benzo (a) anthracene	34526					
Benzo (a) pyrene	34247					
Benzo (b) fluoranthene	34230					
Benzo (ghi) perylene	34521					
Benzo (k) fluoranthene	34242					
Bis(2-chloroethoxy) methane	34278					
Bis(2-chloroethyl) ether	34273					
Bis(2-chloroisopropyl) ether	34283					
Bis(2-ethylhexyl) phthalate	39100					
Butyl benzyl phthalate	34292					
Chrysene	34320					
Di-n-butyl phthalate	39110					

Wastewater Pollutant Checklist

Chemical Name	EPA Storet Code	Check if present at facility	Check if absent at facility	Check if present in discharge	Check if absent in discharge	Conentration in discharge, if known (mg/l)
Base Neutral Organics (continued)						
Di-n-octyl phthalate	34596					
Dibenzo (a,h) anthracene	34556					
Diethyl phthalate	34336					
Dimethyl phthalate	34341					
Fluoranthene	34376					
Fluorene	34381					
Hexachlorobenzene	39700					
Hexachlorobutadiene	34391					
Hexachlorocyclopentadiene	34386					
Hexachloroethane	34396					
Indeno(1,2,3-cd) pyrene	34403					
Isophorone	34408					
N-nitroso-di-n-propylamine	34428					
N-nitrosodimethylamine	34438					
N-nitrosodiphenylamine	34433					
Naphthalene	34696					
Nitrobenzene	34447					
Phenanthrene	34461					
Pyrene	34469					
Metals						
Aluminum	01104					
Antimony	01097					
Arsenic	01002					
Beryllium	01012					
Cadmium	01027					
Chromium	01034					
Copper	01042					
Lead	01051					
Mercury	71900					
Molybdenum	01062					
Nickel	01067					
Selenium	01147					
Silver	01077					
Thalium	00982					
Zinc	01092					

Wastewater Pollutant Checklist

Chemical Name	EPA Storet Code	Check if present at facility	Check if absent at facility	Check if present in discharge	Check if absent in discharge	Conentration in discharge, if known (mg/l)
Other Inorganics						
Barium	01007					
Chloride	00940					
Cyanide	00720					
Fluoride	00951					
Purgeable Volatile Organics						
1,1,1-Trichloroethane	34506					
1,1,2,2-Tetrachloroethane	34516					
1,1,2-Trichloroethane	34511					
1,1-Dichloroethane	34496					
1,1-Dichloroethylene	34501					
1,2-Dichloroethane	34531					
1,2-Dichloropropane	34541					
2-Chloroethyl vinyl ether	34576					
Acrolein	34210					
Acrylonitrile	34215					
Benzene	34030					
Bromodichloromethane	32101					
Bromoform	32104					
Bromomethane	34413					
Carbon tetrachloride	32102					
Chlorobenzene	34301					
Chloroethane	34311					
Chloroform	32106					
Chloromethane	34418					
cis 1,3-Dichloropropene	34704					
Dibromochloromethane	32105					
Ethylbenzene	34371					
Methylene chloride	34423					
Tetrachloroethylene	34475					
Toluene	34010					
trans 1,3-Dichloropropene	34699					
trans-1,2-Dichloroethylene	34546					
Trichloroethylene	39180					
Trichlorofluoromethane	34488					
Vinyl chloride	39175					
Others						
Xylene						

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

Lab =>
MDL =>
Notes =>

Laboratory performing analysis =>
Laboratory Method Detection Limits =>
Notes =>

Q = Flow
M = Metered
E = Estimated

Sample ID, or Count	Date Sample Collected	Notes about Sample	Q	MGD	gal/day	BOD <?	BOD Conc. Results from Lab mg/l	TSS <?	TSS Conc. Results from Lab mg/l	Ammonia <?	Ammonia Conc. Results from Lab mg/l
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
etc.											

TNS =>	Total number of samples =>			
Max. value =>	Maximum data value (mg/l) =>			
Avg. (use 1/2 BDL) =>	Average data value, Include BDL values as 1/2 detect limit =>			

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

		Arsenic		Cadmium		Chromium		COD		Copper	
Lab =>											
MDL =>											
Notes =>											
Sample ID, or Count	Date Sample Collected	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
etc.											
TNS =>											
Max. value =>											
Avg. (use 1/2 BDL) =>											

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

		Cyanide		Lead		Mercury		Nickel		Silver		Zinc	
Lab =>													
MDL =>													
Notes =>													
Sample ID, or Count	Date Sample Collected	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
etc.													
TNS =>													
Max. value =>													
Avg. (use 1/2 BDL) =>													

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

		Other =		Other =		Other =		Other =		Other =		Other =	
Lab =>													
MDL =>													
Notes =>													
Sample ID, or Count	Date Sample Collected	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
etc.													
TNS =>													
Max. value =>													
Avg. (use 1/2 BDL) =>													

Industrial User Wastewater Survey & Permit Application

Part 4. Waste Reduction Information:

State Pretreatment Rule 15A NCAC 2H0916 (C)(1)(M) requires Significant Industrial Users to include a description of waste reduction (pollution prevention) activities being utilized. The codes listed are standard EPA codes found on Toxic Release Inventory and other environmental forms. Please check all applicable codes for your facility related to wastewater discharge

Utilized	Code	Description
	W13	Improved maintenance scheduling recordkeeping, or procedures
	W14	Changed production schedule to minimize equipment and feedstock changeovers
	W19	Other changes in operating practices (explain briefly in comments)
	W21	Instituted procedures to ensure that materials do not stay in inventory beyond shelf life
	W22	Began to test outdated material - continue to use if still effective
	W23	Eliminated shelf-life requirements for stable materials
	W24	Instituted better labeling procedures
	W25	Instituted clearinghouse to exchange materials that would otherwise be discarded
	W29	Other changes in Inventory control (explain briefly in comments)
	W31	Improved storage or stacking procedures
	W32	Improved procedures for loading, unloading, and transfer operations
	W33	Installed overflow alarms or automatic shutoff valves
	W34	Installed secondary containment
	W35	Installed vapor recovery systems
	W36	Implemented inspection or monitoring program of potential spill or leak sources
	W39	Other spill and leak prevention (explain briefly in comments)
	W41	Increased purity of raw materials
	W42	Substituted raw materials
	W49	Other raw material modifications (explain briefly in comments)
	W51	Instituted recirculation within a process
	W52	Modified equipment, layout, or piping
	W53	Use of a different process catalyst
	W54	Instituted better controls on operating bulk containers to minimize discarding of empty containers
	W55	Changed from small volume containers to bulk containers to minimize discarding of empty containers
	W58	Other process modifications (explain briefly in comments)

Industrial User Wastewater Survey & Permit Application

Part 4. Waste Reduction Information:

Utilized	Code	Description
	W59	Modified stripping/cleaning equipment
	W60	Changed to mechanical stripping/cleaning devices (from solvents or other materials)
	W61	Changes to aqueous cleaners (from solvents or other materials)
	W62	Reduced the number of solvents used to make waste more amenable to recycling
	W63	Modified containment procedures for cleaning units
	W64	Improved draining procedures
	W65	Redesigned parts racks to reduce dragout
	W66	Modified or installed rinse systems
	W67	Improved rinse equipment design
	W68	Improved rinse equipment operation
	W71	Other cleaning and degreasing operation (explain briefly in comments)
	W72	Modified spray systems or equipment
	W73	Substituted coating materials used
	W74	Improved application techniques
	W75	Changed from spray to other system
	W78	Other surface preparation and finishing (explain briefly in comments)
	W81	Changed product specifications
	W82	Modified designed or composition of product
	W83	Modified packaging
	W89	Other product modifications (explain briefly in comments)
	W99	Other (specify in comments)

Comments (Please list corresponding code)

EXHIBIT D

Pennsylvania American Water Company

800 W. Hersheypark Drive

Hershey, PA 17033

717-531-3000

Industrial User Wastewater Survey & Permit Application

Company Name			
Name of authorized personnel		Name of alternative personnel	
Title		Title	
Phone	Fax	Phone	Fax
Physical street address of business		Official mailing address, if different.	
City	State, Zip	City	State, Zip

The information provided by you on this questionnaire serves two functions:

1. The information is used to determine if your facility needs an Industrial User Pretreatment Permit (IUP) for the discharge of wastewater to the local sewer.

2. If an Industrial User Pretreatment Permit (IUP) is required, this survey serves as the application for an Industrial User Pretreatment Permit (IUP).

Requests for confidential treatment of information provided on this form shall be governed by procedures specified in 40 CFR Part 2. In accordance with Title 40 of the Code of Federal Regulations Part 403, Section 403.14 and the Local Sewer Use Ordinance (SUO), information and data provided in this questionnaire that identifies the content, volume and frequency of discharge shall be available to the public without restriction.

This is to be signed by an authorized official of your business establishment.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and/or imprisonment for knowing violations.

Signature of Authorized Representative Date

Industrial User Wastewater Survey & Permit Application

Part 1. General Information:

1. Provide a brief narrative description of the type of business, manufacturing processes, or service activities your firm conducts at this site.

2. List the primary products produced at this facility:

3. List raw materials and process additives used:

4. Are biocides added to any water discharged to the POTW, if yes describe:

Yes	
No	

5. Describe weekly production schedule, including shifts worked per day, employees per shift, and primary operation during shift.

6. Production process is:

		Check, if all continuous	
		Check, if all batch	
If both please enter, % continuous =	%	% Batch =	%

Industrial User Wastewater Survey & Permit Application

Part 1. General Information: (continued)

7. Does production vary significantly (+ 20%) by season. Describe.

Yes	
No	

8. Are any significant (+ 20%) changes in production that will affect wastewater discharge expected in the next 5 years. If yes, please describe.

Yes	
No	

9. List all current waste haulers. Give name, address, phone numbers, volume, and materials hauled off.

10. Attach a copy of laboratory analysis performed in the last year on the wastewater discharge(s) from your facilities. Summarize data on the attached Data Summary Form.

11. Attach sketch or schematic showing sampling points and all connections to the sewer.

12. Complete the Wastewater Pollutants Checklist attached to this Survey.

Industrial User Wastewater Survey & Permit Application

Part 1. General Information: (continued)

13. Do you have, or have you ever applied for, been issued, or been denied an NPDES permit to discharge to the surface waters or storm sewers of Pennsylvania? If yes, list all other NPDES permits, permit numbers, dates, and names used to apply for them, or reason denied.

If yes: Permit, #, date, applicant name	Yes	
If yes: Permit, #, date, applicant name	No	

14. Do you have, or have your ever applied for or been issued an Industrial User Pretreatment Permit (IUP) to discharge wastewater to the sewer collection system. If yes, list all other IUP permits, permit numbers, dates, and names used to apply for them.

If yes: Permit, #, date, applicant name	Yes	
If yes: Permit, #, date, applicant name	No	

15. Do you have, or have you ever applied for or been issued any other Environmental Permits (for example; air, RCRA, groundwater, stormwater, general, Non-Discharge, septic tank, etc.). If yes, list all other permits, permit numbers, dates, and names used to apply for them.

If yes: Permit, #, date, applicant name	Yes	
If yes: Permit, #, date, applicant name	No	

16. Is a Spill Prevention Control and Countermeasure (SPCC) Plan prepared for this facility?

Yes	
No	

17. Is a Spill/Slug Control Plan required by the POTW, prepared for this facility?

Yes	
No	

Industrial User Wastewater Survey & Permit Application

Part 1. General Information: (continued)

18. Do you have any underground storage tanks at your facility? If yes, list contents and volume of each tank.

Yes
No

19. Do you have any above ground storage tanks at your facility? If yes, for each tank, list the contents, volume, whether the tank has any spill prevention or containment devices, such as dikes, and procedures for draining any containment devices.

Yes
No

# of Tanks

Industrial User Wastewater Survey & Permit Application

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1. Process Water										
2. Washdown water										
3. Water into product										
4. Air Quality Permitted units										
5. Domestic - toilets, drinking, café										
6. Cooling water, Process NON-Contact										
7. Boiler / Cooling tower blowdown										
8. Cooling water, HVAC										
9. Other										
	Totals =>					Totals =>				

Typical Water Sources:

1. City/Public supply
2. Private wells, drinking
3. Groundwater remediation wells
4. Private ponds
5. Surface waters of NC, please identify
6. Include others if applicable

Possible Water Disposal Methods

1. Sanitary sewer, with pretreatment
2. Sanitary sewer, without pretreatment
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6. Land applied
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9. Waste Haulers Identify
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Industrial User Wastewater Survey & Permit Application

Part 3. Pretreatment Facilites

Are there any pretreatment devices or processes used for treating wastewater before being discharged to the sewer? Check all that are present, and describe.

No pretreatment facilities => [ ]

1. Flow equalization

Aerated equalization => [ ]
Non-Aerated equalization => [ ]
Total volume of equalization (million gal.) => [ ]

			Describe any, if present
2. Activated Carbon	Yes	No	
3. Activated Sludge	Yes	No	
4. Air Stripping	Yes	No	
5. Centrifugation	Yes	No	
6. Chemical Precipitation	Yes	No	
7. Chlorination	Yes	No	
8. Cyanide Destruction	Yes	No	
9. Cyclone	Yes	No	
10. Dissolved Air Floatation	Yes	No	
11. Filtration	Yes	No	
12. Floculation	Yes	No	
13. Grease Trap	Yes	No	
14. Grit Removal	Yes	No	
15. Ion Exchange	Yes	No	
16. Neutralize, pH adjust	Yes	No	
17. Other Biological Treatment	Yes	No	
18. Ozonation	Yes	No	
19. Reverse Osmosis	Yes	No	
20. Screening	Yes	No	
21. Sedimentation	Yes	No	
22. Septic Tank	Yes	No	
23. Silver Recovery	Yes	No	
24. Solvent Separation	Yes	No	
25. Spill Protection	Yes	No	

List any others.

Industrial User Wastewater Survey & Permit Application

Part 4. Categorical Information:

1. When were operations started at this facility? **Facility start up date** [ ]

2. List all Standard Industrial Classification (SIC) codes for your facility. These may be found on State Unemployment forms, tax forms, accounting records, or from the Chamber of Commerce.

3. Has this facility ever been considered a Categorical Industrial User (CIU) as described by the Code of Federal Regulations (40 CFR)?

If yes, give complete 40 CFR number => [ ]

No [ ]

4. Are any other facilities owned and/or operated by your company permitted as Categorical Industrial Users (CIUs) as described by the Code of Federal Regulations (40 CFR)?

If yes please give name(s), location, and 40 CFR number.

Yes [ ]

No [ ]

Industrial User Wastewater Survey & Permit Application

Part 4. Categorical Information: (continued)

5. Check any activities listed below that are performed at your facility:

Check Below	40 CFR #	Industrial Activity	Check Below	40 CFR #	Industrial Activity
	467	Aluminum Forming		432	Meat products
	427	Asbestos Manufacturing		433	Metal finishing
	461	Battery Manufacturing		464	Metal molding and casting
	431	Builders paper & board mills		436	Mineral mining and processing
	407	Canned & preserved fruits & veg.		471	Nonferrous Metal, Form & Powder
	408	Canned & preserved seafood		421	Nonferrous Metals Manufacturing
	458	Carbon black Manufacturing		414	OCPSF, Organic Chemicals, Plastics, & Synthetic Fiber Manufacturing
	411	Cement Manufacturing			
	434	Coal Mining		435	Oil & gas extraction
	465	Coil Coating		440	Ore mining and dressing
	468	Copper Forming		446	Paint formulating
	405	Dairy products processing		443	Paving & roofing materials mfg.
	469	Electrical, electronic components		455	Pesticide Manufacturing
	413	Electroplating		419	Petroleum Refining
	457	Explosives Manufacturing		439	Pharmaceutical Manufacturing
	412	Feedlots		422	Phosphate Manufacturing
	424	Ferro alloy Manufacturing		459	Photographic supplies
	418	Fertilizer Manufacturing		463	Plastics molding and forming
	464	Foundries, Metal Mold & Casting		466	Porcelain enameling
	426	Glass Manufacturing		430	Pulp, paper, and paperboard
	406	Grain Mills		428	Rubber Manufacturing
	454	Gum & Wood Chemicals Mfg.		417	Soap & Detergent Manufacturing
	460	Hospitals		423	Steam Electric power Generation
	447	Ink formulating		409	Sugar processing
	415	Inorganic chemical Manufact.		410	Textile mills
	420	Iron & Steel Manufacturing		429	Timber products processing
	425	Leather Tanning & Finishing		Others	

Wastewater Pollutant Checklist

Chemical Name	EPA Storet Code	Check if present at facility	Check if absent at facility	Check if present in discharge	Check if absent in discharge	Conentration in discharge, if known (mg/l)
Acid Extractable Organics						
2-Chlorophenol	34586					
2,4-Dichlorophenol	34601					
2,4-Dimethylphenol	34606					
2,4-Dinitrophenol	34616					
2-Methyl-4,6-dinitrophenol	34657					
4-Chloro-3-methylphenol	34452					
2-Nitrophenol	34591					
4-Nitrophenol	34646					
Pentachlorophenol	39032					
Phenol	34694					
2,4,6-Trichlorophenol	34621					
Base Neutral Organics						
1,2,4-Trichlorobenzene	34551					
1,2-Dichlorobenzene	34536					
1,2-Diphenylhydrazine	34346					
1,3-Dichlorobenzene	34566					
1,4-Dichlorobenzene	34571					
2,4-Dinitrotoluene	34611					
2,6-Dinitrotoluene	34626					
2-Chloronaphthalene	34581					
3,3-Dichlorobenzidine	34631					
4-Bromophenyl phenyl ether	34636					
4-Chlorophenyl phenyl ether	34641					
Acenaphthene	03405					
Acenaphthylene	34200					
Anthracene	34220					
Benzidine	39120					
Benzo (a) anthracene	34526					
Benzo (a) pyrene	34247					
Benzo (b) fluoranthene	34230					
Benzo (ghi) perylene	34521					
Benzo (k) fluoranthene	34242					
Bis(2-chloroethoxy) methane	34278					
Bis(2-chloroethyl) ether	34273					
Bis(2-chloroisopropyl) ether	34283					
Bis(2-ethylhexyl) phthalate	39100					
Butyl benzyl phthalate	34292					
Chrysene	34320					
Di-n-butyl phthalate	39110					

Wastewater Pollutant Checklist

Chemical Name	EPA Storet Code	Check if present at facility	Check if absent at facility	Check if present in discharge	Check if absent in discharge	Conentration in discharge, if known (mg/l)
Base Neutral Organics (continued)						
Di-n-octyl phthalate	34596					
Dibenzo (a,h) anthracene	34556					
Diethyl phthalate	34336					
Dimethyl phthalate	34341					
Fluoranthene	34376					
Fluorene	34381					
Hexachlorobenzene	39700					
Hexachlorobutadiene	34391					
Hexachlorocyclopentadiene	34386					
Hexachloroethane	34396					
Indeno(1,2,3-cd) pyrene	34403					
Isophorone	34408					
N-nitroso-di-n-propylamine	34428					
N-nitrosodimethylamine	34438					
N-nitrosodiphenylamine	34433					
Naphthalene	34696					
Nitrobenzene	34447					
Phenanthrene	34461					
Pyrene	34469					
Metals						
Aluminum	01104					
Antimony	01097					
Arsenic	01002					
Beryllium	01012					
Cadmium	01027					
Chromium	01034					
Copper	01042					
Lead	01051					
Mercury	71900					
Molybdenum	01062					
Nickel	01067					
Selenium	01147					
Silver	01077					
Thalium	00982					
Zinc	01092					

Wastewater Pollutant Checklist

Chemical Name	EPA Storet Code	Check if present at facility	Check if absent at facility	Check if present in discharge	Check if absent in discharge	Conentration in discharge, if known (mg/l)
Other Inorganics						
Barium	01007					
Chloride	00940					
Cyanide	00720					
Fluoride	00951					
Purgeable Volatile Organics						
1,1,1-Trichloroethane	34506					
1,1,2,2-Tetrachloroethane	34516					
1,1,2-Trichloroethane	34511					
1,1-Dichloroethane	34496					
1,1-Dichloroethylene	34501					
1,2-Dichloroethane	34531					
1,2-Dichloropropane	34541					
2-Chloroethyl vinyl ether	34576					
Acrolein	34210					
Acrylonitrile	34215					
Benzene	34030					
Bromodichloromethane	32101					
Bromoform	32104					
Bromomethane	34413					
Carbon tetrachloride	32102					
Chlorobenzene	34301					
Chloroethane	34311					
Chloroform	32106					
Chloromethane	34418					
cis 1,3-Dichloropropene	34704					
Dibromochloromethane	32105					
Ethylbenzene	34371					
Methylene chloride	34423					
Tetrachloroethylene	34475					
Toluene	34010					
trans 1,3-Dichloropropene	34699					
trans-1,2-Dichloroethylene	34546					
Trichloroethylene	39180					
Trichlorofluoromethane	34488					
Vinyl chloride	39175					
Others						
Xylene						

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

Lab => Laboratory performing analysis =>
MDL => Laboratory Method Detection Limits =>
Notes => Notes =>

Sample ID, or Count	Date Sample Collected	Notes about Sample	Q = Flow M = Metered E = Estimated	MGD	gal/day	BOD <?	BOD Conc. Results from Lab mg/l	TSS <?	TSS Conc. Results from Lab mg/l	Ammonia <?	Ammonia Conc. Results from Lab mg/l
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
etc.											

TNS =>	Total number of samples =>				
Max. value =>	Maximum data value (mg/l) =>				
Avg. (use 1/2 BDL) =>	Average data value, Include BDL values as 1/2 detect limit =>				

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

		Arsenic		Cadmium		Chromium		COD		Copper	
Lab =>											
MDL =>											
Notes =>											
Sample ID, or Count	Date Sample Collected	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
etc.											
TNS =>											
Max. value =>											
Avg. (use 1/2 BDL) =>											

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

		Cyanide		Lead		Mercury		Nickel		Silver		Zinc	
Lab =>													
MDL =>													
Notes =>													
Sample ID, or Count	Date Sample Collected	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
etc.													
TNS =>													
Max. value =>													
Avg. (use 1/2 BDL) =>													

Data Summary Form

	<= Receiving POTW
	<= Receiving NPDES #
	<= Specific Sample Location ! i.e., Give IU Name, IUP#, and/or pipe#

		Other =		Other =		Other =		Other =		Other =		Other =	
Lab =>													
MDL =>													
Notes =>													
Sample ID, or Count	Date Sample Collected	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l	<?	Conc. Results from Lab mg/l
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
etc.													
TNS =>													
Max. value =>													
Avg. (use 1/2 BDL) =>													

Industrial User Wastewater Survey & Permit Application

Part 4. Waste Reduction Information:

State Pretreatment Rule 15A NCAC 2H0916 (C)(1)(M) requires Significant Industrial Users to include a description of waste reduction (pollution prevention) activities being utilized. The codes listed are standard EPA codes found on Toxic Release Inventory and other environmental forms. Please check all applicable codes for your facility related to wastewater discharge

Utilized	Code	Description
	W13	Improved maintenance scheduling recordkeeping, or procedures
	W14	Changed production schedule to minimize equipment and feedstock changeovers
	W19	Other changes in operating practices (explain briefly in comments)
	W21	Instituted procedures to ensure that materials do not stay in inventory beyond shelf life
	W22	Began to test outdated material - continue to use if still effective
	W23	Eliminated shelf-life requirements for stable materials
	W24	Instituted better labeling procedures
	W25	Instituted clearinghouse to exchange materials that would otherwise be discarded
	W29	Other changes in Inventory control (explain briefly in comments)
	W31	Improved storage or stacking procedures
	W32	Improved procedures for loading, unloading, and transfer operations
	W33	Installed overflow alarms or automatic shutoff valves
	W34	Installed secondary containment
	W35	Installed vapor recovery systems
	W36	Implemented inspection or monitoring program of potential spill or leak sources
	W39	Other spill and leak prevention (explain briefly in comments)
	W41	Increased purity of raw materials
	W42	Substituted raw materials
	W49	Other raw material modifications (explain briefly in comments)
	W51	Instituted recirculation within a process
	W52	Modified equipment, layout, or piping
	W53	Use of a different process catalyst
	W54	Instituted better controls on operating bulk containers to minimize discarding of empty containers
	W55	Changed from small volume containers to bulk containers to minimize discarding of empty containers
	W58	Other process modifications (explain briefly in comments)

Industrial User Wastewater Survey & Permit Application

Part 4. Waste Reduction Information:

Utilized	Code	Description
	W59	Modified stripping/cleaning equipment
	W60	Changed to mechanical stripping/cleaning devices (from solvents or other materials)
	W61	Changes to aqueous cleaners (from solvents or other materials)
	W62	Reduced the number of solvents used to make waste more amenable to recycling
	W63	Modified containment procedures for cleaning units
	W64	Improved draining procedures
	W65	Redesigned parts racks to reduce dragout
	W66	Modified or installed rinse systems
	W67	Improved rinse equipment design
	W68	Improved rinse equipment operation
	W71	Other cleaning and degreasing operation (explain briefly in comments)
	W72	Modified spray systems or equipment
	W73	Substituted coating materials used
	W74	Improved application techniques
	W75	Changed from spray to other system
	W78	Other surface preparation and finishing (explain briefly in comments)
	W81	Changed product specifications
	W82	Modified designed or composition of product
	W83	Modified packaging
	W89	Other product modifications (explain briefly in comments)
	W99	Other (specify in comments)

Comments (Please list corresponding code)

EXHIBIT E

CSO Outfall Warning Signs

CAUTION

DURING AND AFTER RAIN EVENTS

The water in this stream may be contaminated by a temporary overflow of sanitary sewer.

Physical contact with the water may pose a health risk.

For additional information, call XXX-XXX-XXXX.

WARNING

COMBINED SEWER OVERFLOW POINT

POLLUTION MAY BE PRESENT
WHEN OUTFALL IS DISCHARGING

CSO OUTFALL NO. 001
NPDES PERMIT NO.: PA0099999

FOR MORE INFORMATION, CALL
PENNSYLVANIA AMERICAN WATER-DISTRICT
XXX-XXX-XXXX

APPENDIX C

LONG TERM CONTROL PLAN

Description of Long Term Control Plan

The approved Long Term Control Plan ("LTCP") consists of the following documents:

1. The Sewer Authority of the City of Scranton, Lackawanna County, Pennsylvania, Combined Sewer Overflow Long Term Control Plan, prepared by Gannett Fleming, adopted October 23, 2012.

2. April 2013 Addendum to December 2012 CSO LTCP, attachment to Letter from Scranton Sewer Authority to USEPA re: SSA Response to February 19, 2013 Agency Comments on SSA's CSO LTCP dated April 15, 2013, responding to Letter from Michelle Price-Fay, Chief, NPDES Enforcement Branch to SSA, dated February 19, 2013 and related Attachment entitled "EPA/PADEP Comments on the Scranton Sewer Authority's Final Long Term Control Plan."

3. Scranton Sewer Authority CSO Long Term Control Plan November 2015 Supplement, Phase A Consent Decree Modifications (contained in Exhibit 1 to the Notice of Non-Materials Modifications of Consent Decree filed with the U.S. District Court on 12/18/2015).

I. Changes to Project Descriptions Relating to Storage

The project descriptions in all phases of the LTCP call for storage at various CSO outfall. Most of that storage was initially described as consisting of underground concrete box-like structures. As the Defendant proceeds through detailed planning and design for each project location, the shape and nature of the storage structure(s) may change due to site considerations. Defendant may change the shape and/or nature of any storage facility called for in the LTCP provided that (1) the revised project will provide the same storage volume; (2) the Defendant provides written notice to the Plaintiffs of the proposed refinement in the storage facility and a certification that the revised project will provide the equivalent storage volume as the project described in the approved LTCP.

II. Schedule

The schedule for implementation of the LTCP shall be as set forth in Exhibit 1 to this Appendix C.

APPENDIX C, EXHIBIT 1

SCRANTON SEWER AUTHORITY
CSO LONG TERM CONTROL PLAN
CSO CONTROL IMPROVEMENT SCHEDULE

1	2		3	4	5	11	12	13	24	25		
PHASE	YEAR	OUTFALL #	LOCATION	DISTANCE FROM OFBH (RIVER MILES)	CSO CONTROL TYPE	RECEIVING STREAM	STORAGE VOLUME, ESTIMATED (MG)	TOTAL CAPITAL COST, ESTIMATE	EXISTING OVERFLOW VOLUME (mg)	SCORING Total Score	Ranking
A	1	#066	Burke Street	10.045	Offline Culvert	Roaring Brook-Natural	0.134	$1,740,000	1.841	16	2
A	1	#080	Keyser Valley PS	7.192	Concrete equalization tank	Keyser Creek	0.029	$790,000	0.801	16	3
A	1	#067	Keyser Creek	7.102	Combined With Other	Keyser Creek	N/A	$1,100,000	0.325	0	
A	2	#087	Leggetts-Kelly	12.881	Interceptor Upgrade	Leggetts Creek	N/A	$880,000	0.684	17	1
A	2	#072	Leggetts Street	12.805	Sewer Separation	Leggetts Creek	N/A	$2,340,000	4.711	15	5
A	2	#065	Drinker Street	11.705	Offline Culvert	Little Roaring Brook	0.023	$780,000	0.171	14	8
A	3	#035	Sanderson Avenue	10.788	Sewer Separation	Lackawanna River-Upper	N/A	$190,000	1.475	15.5	4
A	3	#037	Brown Avenue	10.599	Offline Culvert	Lackawanna River-Upper	0.017	$1,120,000	0.879	14.5	7
A	3	#011	Von Storch Avenue	9.160	Offline Culvert & Sewer Separation	Lackawanna River-Upper	0.110	$2,760,000	8.283	13.5	9
A	3	#017	Vine Street	8.201	Regulator Improvements	Lackawanna River-Lower	N/A	$1,490,000	1.282	13.5	10
A	4	#020	E Lackawanna Avenue	7.802	Concrete tank	Lackawanna River-Lower	1.200	$2,870,000	8.812	13.5	11
A	4	#019	Linden Street	7.986	Offline Culvert	Lackawanna River-Lower	0.897	$5,430,000	19.26	11.5	22
A	4	#052	Wyoming Avenue	6.394	Sewer Separation	Lackawanna River-Lower	N/A	$790,000	0.477	13.5	12
A	4	#081	Pittston - Brook	6.710	Offline Culvert	Stafford Meadow Brook	0.080	$1,020,000	0.934	15	6
A	4	#084	639 E Elm St	6.974	Replace Regulator & Sewer Improvements	Stafford Meadow Brook	N/A	$2,370,000	0.693	13	13
A	4	#083	Irving-Elm	7.166	Replace Regulator & Sewer Improvements	Stafford Meadow Brook	N/A	$90,000	0.684	0	
A	4	#085	644 E Elm St	6.971	Replace Regulator & Sewer Improvements	Stafford Meadow Brook	N/A	$80,000	1.393	0	
B	5	#079	Myrtle Street PS	9.516	Offline Culvert	Roaring Brook-Natural	0.182	$1,860,000	2.663	13	14
B	5	#033	W Parker Street	11.424	Inline Culvert	Lackawanna River-Upper	0.013	$740,000	0.324	12.5	15
B	5	#038	Wurtz Avenue	10.486	Offline Culvert	Lackawanna River-Upper	0.117	$1,590,000	4.012	12.5	16
B	5	#078	Shawnee Avenue PS	11.046	Inline Culvert	Lackawanna River-Upper	0.009	$720,000	0.46	12.5	17
B	5	#040	W Market Street	10.087	Inline Culvert	Lackawanna River-Upper	0.017	$870,000	0.81	11.5	19
B	5	#012	Grove Street	9.102	Offline Culvert	Lackawanna River-Upper	0.087	$1,640,000	2.234	11.5	20
B	6	#018	Love Road	8.087	Offline Culvert	Lackawanna River-Lower	0.160	$1,850,000	4.536	11.5	21
B	7	#021	W Scranton Street	7.621	Offline Culvert	Lackawanna River-Lower	0.750	$4,960,000	1.757	11.5	23
B	7	#022	Washburn Street	7.468	Combined With Other	Lackawanna River-Lower	N/A	$120,000	18.944	0	
B	8	#030	Prescott Avenue	8.095	Offline Culvert	Roaring Brook-Natural	1.357	$6,700,000	23.747	12	18
B	8	#024	Hickory Street	7.021	Offline Culvert	Lackawanna River-Lower	0.245	$2,430,000	4.157	11.5	24
B	9	#025	Willow Street	7.031	Offline Culvert	Roaring Brook-Channel	0.360	$2,740,000	6.049	11.5	25
B	9	#049	River Street	7.285	Inline Culvert	Roaring Brook-Channel	0.014	$770,000	0.291	11.5	28
B	9	#073	Front Street	7.835	Replace Regulator	Roaring Brook-Channel	N/A	$80,000	0.128	0	
C	10	#027	Washington-Locust	6.394	Offline Culvert	Lackawanna River-Lower	0.211	$2,090,000	5.294	11.5	26
C	10	#047	Broadway Street	7.063	Inline Culvert	Lackawanna River-Lower	0.013	$830,000	0.345	11.5	27
C	10	#068	S Sixth Avenue	6.156	Offline Culvert	Lackawanna River-Lower	0.020	$1,140,000	1.523	11.5	29
C	10	#053	Cedar Avenue	6.580	Replace Regulator	Stafford Meadow Brook	N/A	$80,000	0.145	0	
C	10	#082	Locust - Cedar	6.606	Inline Culvert	Stafford Meadow Brook	0.045	$1,120,000	0.564	11	30
C	11	#086	414 Maple St	6.610	Replace Regulator	Stafford Meadow Brook	N/A	$80,000	0.278	0	
C	11	#004	Wells Street	11.590	Offline Culvert	Lackawanna River-Upper	0.482	$3,690,000	7.467	10.5	31
C	11	#031	Leggetts Creek	11.690	Combined With Other	Lackawanna River-Upper	N/A	$120,000	1.112	0	
C	12	#006	Gardner Avenue	9.479	Offline Culvert	Lackawanna River-Upper	0.296	$2,390,000	3.905	10.5	32
C	13	#013	Poplar Street 24-inch	8.969	Offline Culvert	Lackawanna River-Upper	1.559	$7,520,000	3.49	10.5	33
C	13	#014	Poplar Street 90-inch	8.967	Combined With Other	Lackawanna River-Upper	N/A	$120,000	23.985	0	
C	14	#015	Gordon Avenue (Pinebrook)	8.279	Precast, Post-Tensioned Tank	Lackawanna River-Lower	1.360	$10,967,000	36.524	10.5	34
D	15	#023	Luzerne Street	6.775	Offline Culvert	Lackawanna River-Lower	0.466	$3,620,000	19.385	10.5	35
D	16	#029	Genet Street	5.978	Offline Culvert	Lackawanna River-Lower	0.867	$5,030,000	19.074	10.5	39
D	17	#003A	WWTP Overflow	5.374	Precast, Post-Tensioned Tank	Lackawanna River-Lower	2.850	$17,753,000	93.295	10.5	40
E	19	#045	Emmett Street	7.131	Inline Culvert	Lackawanna River-Lower	0.008	$1,130,000	0.33	10.5	36
E	19	#048	Washington-Alder	6.940	Inline Culvert	Lackawanna River-Lower	0.014	$740,000	0.374	10.5	37
E	20	#051	Birch Street	6.915	Inline Culvert	Lackawanna River-Lower	0.017	$860,000	0.34	10.5	38
E	20	#005	Love Place	9.935	Offline Culvert	Lackawanna River-Upper	0.086	$1,850,000	2.483	9.5	41
E	21	#043	Olive Street	8.319	Offline Culvert	Lackawanna River-Upper	0.059	$1,390,000	1.315	9.5	42
E	21	#028	Fig Street	6.191	Offline Culvert	Lackawanna River-Lower	0.075	$1,800,000	2.611	9.5	43
E	22	#016	Pettibone Street	8.138	Offline Culvert	Lackawanna River-Lower	0.921	$4,700,000	17.86	9.5	44
E	23	#007	Philo Street	9.441	Offline Culvert	Lackawanna River-Upper	0.685	$3,770,000	4.341	8.5	45
E	23	#008	Hawk Street	9.379	Combined With Other	Lackawanna River-Upper	N/A	$120,000	14.291	0	
E	23	#026	W Elm Street	6.549	Offline Culvert	Lackawanna River-Lower	0.263	$2,740,000	1.826	8.5	46
E	24	#055	Drinker Place	10.804	Offline Culvert	Lackawanna River-Upper	0.761	$7,670,000	5.989	7.5	47
E	24	#056	Boulevard Avenue	10.801	Combined With Other	Lackawanna River-Upper	N/A	$120,000	2.562	0	
E	24	#057	Richmont Street	10.807	Combined With Other	Lackawanna River-Upper	N/A	$120,000	0.019	0	
E	24	#058	Grandview Street	10.850	Combined With Other	Lackawanna River-Upper	N/A	$120,000	0.129	0	
E	24	#059	Woodlawn Street	10.924	Combined With Other	Lackawanna River-Upper	N/A	$120,000	1.287	0	
E	24	#060	Park Avenue	10.999	Combined With Other	Lackawanna River-Upper	N/A	$120,000	0.496	0	
E	24	#061	Morel Street	0.000	None	Lackawanna River-Upper	N/A	$0	0	0	
E	24	#062	Fisk Street	0.000	Combined With Other	Lackawanna River-Upper	N/A	$120,000	0.268	0	
E	24	#063	Olyphant South 24-inch	11.153	Combined With Other	Lackawanna River-Upper	N/A	$120,000	1.936	0	
E	24	#064	Olyphant North 12-inch	11.148	None	Lackawanna River-Upper	N/A	$0	0	0	
E	25	#075	Capouse Avenue	9.730	Offline Culvert	Meadow Brook-Channel	0.158	$2,030,000	2.7	6.5	
E	25	#032	Watkins Street	11.634	Replace Regulator	Lackawanna River-Upper	N/A	$80,000	0.06	0	
E	25	#034	E Parker Street	11.288	Replace Regulator	Lackawanna River-Upper	N/A	$80,000	0.175	0	
E	25	#036	Tioga Street	10.658	Replace Regulator	Lackawanna River-Upper	N/A	$80,000	0.535	0	
E	25	#069	Crane Street	4.346	Replace Regulator	Lackawanna River-Lower	N/A	$80,000	0.485	0	
E	25	#074	Marion Street	9.597	Replace Regulator	Meadow Brook-Channel	N/A	$80,000	0.076	0	
E	25	#076	Sanderson-Marion	9.525	Replace Regulator	Meadow Brook-Channel	N/A	$100,000	0.093	0	48
						Total	17.017	$139,600,000	401.784		

*Note: the Scoring and Ranking columns and the color coding indicate how the projects were evaluated and grouped by the SSA in developing the LTCP.

IMPLEMENTATION OF APPENDIX C PROJECTS

The projects in Appendix C, Exhibit 1 shall be implemented in accordance with the following schedule:

All of the projects in Phase A shall be complete by December 1, 2017.

All of the projects in Phase B shall be complete by December 1, 2021. Moreover, as interim milestones:

- at least 5 of the projects in this phase will be complete by December 1, 2017;
- at least 7 of the projects in this phase will be complete by December 1, 2018;
- at least 9 of the projects in this phase will be complete by December 1, 2019; and
- at least 12 of the projects in this phase will be complete by December 1, 2020.

All of the projects in Phase C shall be complete by December 1, 2026. Moreover, as interim milestones:

- at least 4 of the projects in this phase will be complete by December 1, 2022;
- at least 7 of the projects in this phase will be complete by December 1, 2023;
- at least 9 of the projects in this phase will be complete by December 1, 2024; and
- at least 11 of the projects in this phase will be complete by December 1, 2025.

All of the projects in Phase D shall be complete by December 1, 2029. Moreover, as interim milestones:

- at least 1 of the projects in this phase will be complete by December 1, 2027; and
- at least 2 of the projects in this phase will be complete by December 1, 2028.

All of the projects in Phase E shall be complete by December 1, 2037. Moreover, as an interim milestone, at least 13 of the projects in this phase will be complete by December 1, 2033.

APPENDIX D

NOTICE OF THE CLOSING OF THE TRANSACTION

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA, *Plaintiff, and,* PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, *Plaintiff-Intervenor,* v. PENNSYLVANIA AMERICA WATER CO., *Defendant,*	Case No. 3:09-cv-1873 (Hon. John E. Jones III)

NOTICE OF CLOSING OF TRANSACTION
(No Action Required)

The Scranton Sewer Authority ("SSA") and Pennsylvania American Water Company ("PAWC") hereby provide notice the Parties and to the Court that the "Closing of the Transaction" (as defined in Paragraph 8(f) of the Amended Consent Decree entered in this matter on _____) took place on _____. Accordingly, without any further action by the Court, PAWC is now substituted for the SSA as the "Defendant" for all purposes of the Amended Consent Decree, and the SSA is released from all obligations and liabilities under the Amended Consent Decree, except as specified in Paragraph 36 of the Amended Consent Decree.

The Parties will meet and confer regarding a joint motion pursuant to Rule 21 of the Federal Rules of Civil Procedure to drop the SSA as a Party to this action.

[signature blocks for SSA and PAWC]