

**FIRST AMENDED NOTICE OF CONCILIATION  
AND SECRETARY'S ORDER**

**ORDER NO. 2003-W-0053**

To: Department of Special Services  
New Castle County  
187A Old Churchmans Road  
New Castle, Delaware 19720

The Delaware Department of Natural Resources and Environmental Control ("Department" or "DNREC") entered a Notice of Conciliation and Secretary's Order against New Castle County ("County") in October 2003 ("Original Order"). During these past five years, the County has completed the comprehensive study of the Brandywine Hundred area as required by the Original Order, which included hydraulic modeling and extensive field testing and data collection. Based on these findings, the County developed the CSO Elimination Plan, which was approved by DNREC in December 2004. In the approved CSO plan, the County's fiscal and resource commitment to the goals of the Original Order increased significantly from the original \$9 million fiscal investment anticipated in 2003 to an estimated \$230 million over the course of three Phases.

DNREC considers the existence of a combined sewer overflow and sanitary sewer overflows a serious and significant environmental issue in the County. These past five years have also increased DNREC's understanding of the scope of the County sanitary sewer issues. With this improved understanding, DNREC is able to order the County to perform more specific, corrective actions to reach the goals of the Original Order. As such, the following additions (set forth in bold) are incorporated into the Original Order on the effective date of this Amended Order, and the County is ordered to comply with the directives herein. The United States Environmental Protection Agency, Region III, has reviewed and approved this Amended Order.

The text of the Original Order is italicized below and the updated amendment language is bolded.

*This is to notify the County of New Castle ("County or Respondent"), that the Secretary of the Department of Natural Resources and Environmental Control ("DNREC") has found the Respondent in violation of 7 Del. C. Chapter 60 and the Delaware Regulations Governing the*

*Control of Water Pollution (“Regulations”), and accordingly the Department is issuing this Notice of Conciliation and Secretary’s Order.*

### BACKGROUND

*The Department is responsible for administering the National Pollutant Discharge Elimination System (“NPDES”) Program and §3.0 and 6.02 of the Regulations. Accordingly, the Department issues and enforces permits under the NPDES program.*

*The County owns, operates and maintains a sewage collection system, transmission, and treatment system throughout New Castle County. This system is comprised of approximately 1,500 miles of pipe, 149 pump stations, and three treatment plants. Part of the Brandywine Hundred area is serviced by a combined sewer system. The remainder of the County is serviced by a separate sanitary sewer system. Combined sewers are designed to convey sanitary sewage during dry weather and sanitary sewage and storm water during periods of wet weather or snow melt. Two combined sewer overflow structures (“CSO”), the location of which are illustrated on Exhibits A1 and A2, attached hereto and made a part hereof, were designed and constructed over thirty years ago in the Brandywine Hundred area to discharge excess combined wet weather flows into the Delaware River.*

*Sanitary sewers convey only sanitary waste along with small amounts of inflow and infiltration. Although the County undertakes significant efforts to prevent sanitary sewer overflows County-wide, it experiences overflows each year for reasons, including but not limited to vandalism, contractor errors, tree roots and grease accumulation.*

*The County has taken significant efforts to minimize overflows. For example, as a part of its System Evaluation and Capacity Assurance Program, the County uses a GIS-based Model (“Model”) to track system capacity, existing flow, reserved flow and proposed flow in various service areas. The Model is based upon data accumulated from flow meters, design flows for new construction, proposed and speculative development flows, water usage records, industrial flows, infiltration/inflow rates (I/I), peak flow rates, sewer billing records, and related data. The Model is used on a regular basis to determine whether capacity is available for new development and to assist in planning County projects.*

*The County also implements a comprehensive Preventative Maintenance Program and has continuously improved this program throughout the years in terms of automated tracking and equipment modernization. This program features extensive annual sewer system cleaning as well as rehabilitation and replacement activities.*

*The Federal Clean Water Act provides a long-term planning, design, approval, and implementation process for communities to develop remediation plans for CSO systems. The County and DNREC, however, are committed to the completion of a more expeditious program to eliminate the two CSO Structures in Brandywine Hundred. Accordingly, this Order will facilitate the further acceleration of the County’s efforts to eliminate the CSO Structures.*

Since the enactment of this Order in October 2003, the County's sanitary sewer system has increased to approximately 1,700 miles of pipe, 160 pump stations, and three treatment plants. The County has taken significant steps towards meeting the requirements in the Original Order, including the implementation of the CSO Elimination Plan, completion of the Stoney Creek Pump Station and Forcemain Project, and implementation of the updated Fats, Oil and Grease Program and updated Sanitary Sewer Overflow Response Procedures. The County has submitted timely annual reports documenting progress on these projects.

Most notably, one of the two CSO Structures identified in the Original Order, known as NC-7, has been eliminated and sealed. Flows were eliminated in 2002, and the County conducted monitoring in 2003 - 2006 to be certain that the CSO could be permanently sealed. The monitoring did not reflect any additional flow at NC-7, and as of June 2006, the NC-7 CSO has been permanently sealed. The County must continue efforts through this Amended Order to eliminate flows from the other remaining CSO Structure, ND-34.

#### FINDING

*The Department has determined that the County has violated 7 Del. C. 6003(a)(2), and 3.02 of the Regulations, which provide that "No person shall, without first having obtained a permit from the Secretary, undertake any activity in a way which may cause or contribute to the discharge of a pollutant into any surface or ground water," and 6.02 of the Regulations which states "No person shall discharge any pollutant, including sewage... into... waters of the State or otherwise alter the physical, chemical or biological properties of State waters and make them detrimental to the public health or to animal or aquatic life... without a permit or equivalent authorization from the Secretary."*

#### NOTICE OF CONCILIATION

*In consideration of the foregoing finding, notice is hereby given that it is proposed, pursuant to 7 Del. C. 6005(b)(2), that the County undertake the following actions:*

##### I. Eliminate the CSO Structures in Brandywine Hundred

###### A. *Southern Delaware County Authority*

*DNREC acknowledges that due to the County's diligent efforts, Southern Delaware County Authority (SDCA) diverted its sewer flow, totaling over one million gallons per day, entirely out of the County's CSO system in Brandywine Hundred in May 2002.*

**No County action required. The SDCA flows continue to be diverted outside of the County sanitary sewer system.**

###### B. *Improvements to CSO System*

*The County shall allocate and spend no less than nine million dollars by December 31, 2005 to assess and make improvements to the CSO system infrastructure*

*and/or system operation in Brandywine Hundred. At the time of the effective date of this Order, the following projects are contemplated toward this work.*

**The County spent in excess of \$22 million by December 31, 2005 on the CSO system infrastructure in Brandywine Hundred.**

*(1) Replacement of Stoney Creek Pump Station. The County shall replace the existing Stoney Creek Pump Station and forcemain to significantly increase capacity of the pump station. The County intends to include such design improvements in the new pump station as variable speed drives, back-up emergency power systems, redundant pumping systems, and improved wet well and force main technology. This increase in pumping capacity and new technological design should significantly reduce flows discharging from the CSO Structure located upstream of the pump station.*

**The Stoney Creek Pump Station and Forcemain Project was completed in Fall 2007. The County spent approximately \$12 million in these upgrades.**

*(2) Manhole Rehabilitation Program: The County shall continue to evaluate and rehabilitate the deteriorating manholes in Brandywine Hundred. Manholes shall be prioritized in terms of need for repair and/or replacement based upon inspections and inflow and/or infiltration rates obtained from the evaluations. Anticipated manhole rehabilitation work shall include installation of improved design watertight lids, relining of manholes, grouting, minor structural repairs, and total replacement contingent on condition analysis.*

**The County has continued to evaluate the manholes in Brandywine Hundred. The County has learned that, in order to avoid damaging rehabilitated manholes, the manhole rehabilitation projects must be completed after the sewer rehabilitation project (which may include cured-in-place pipe and lateral lining, point repairs, and/or grout injection) is completed in a particular community. Thus, the CSO Elimination Plan will reflect that manhole rehabilitation will be completed as the final phase of each noted project. The County must continue to implement its expanded manhole evaluation and rehabilitation effort in those parts of the system that warrant this approach (i.e., areas of documented and significant inflow).**

*The County may revise this list, subject to approval by DNREC, based on future or changing needs to address CSO system capital improvements. The County shall submit to DNREC progress reports on the projects contemplated by this paragraph (including additions and/or exceptions to the above listed projects) as part of the annual reports required in Part III of this Order. As soon as the data becomes available, but not later than December 31, 2005, the County shall submit to DNREC a report documenting the expenditure of at least nine million dollars between calendar years 2002 and 2005 on assessing and making capital improvements to the combined sewer system infrastructure and/or system operation as called for in this paragraph.*

**The County submitted a report to DNREC documenting its expenditure of approximately \$22 million through December 31, 2005.**

C. *In addition to the projects specified in Paragraph IB above, the County shall conduct a study of the combined sewer system in Brandywine Hundred to determine the corrective measures necessary to safely eliminate the two CSO Structures without creating system problems such as back-ups and blockages in other parts of the combined sewer system. The County shall conduct the following activities and work, at a minimum in developing a CSO Elimination Plan (CSO-EP) and schedule which will outline corrective measures that the County will implement to eliminate the two CSO Structures in Brandywine Hundred:*

- *Review existing information:*
  - *Existing system flow data;*
  - *System construction information (materials, length, elevations, etc.);*
  - *System as-builts, maps and drawings;*
  - *Pump station operations data, including flow meter data;*
  - *Tidal data;*
  - *Back-up/overflow documentation;*
  - *Past studies and reports;*
  - *Television inspection information;*
  - *Tidal data;*
  - *Service connection elevations (where available);*
- *Collect new flow data for system response evaluation and hydraulic modeling using new flow meters installed for this study.*
- *Conduct field inspection and collect field data for the two CSO Structures*
- *Develop a dynamic hydraulic model (“Model”) for the interceptors upstream of the Stoney Creek and Naamans Road Pump Stations. The Model will be based on existing data and will be calibrated using flow data obtained as part of this study to simulate existing overflow conditions. The Model will be used to evaluate the impact of eliminating the two CSO Structures.*
- *Develop corrective measures, and a schedule for completing those measures, to address the elimination of the CSO Structures and related CSO issues identified in the modeling procedures.*

*The County shall submit the proposed CSO-EP within twelve months of the effective date of this Order. If weather conditions such as drought or other factors out of the County’s control prohibit it from collecting adequate data to properly develop and calibrate the Model, the County shall notify DNREC in writing and request additional time both parties deem necessary to develop the CSO-EP. DNREC shall not unreasonable withhold approval of such timely requests for extensions. The County shall initiate implementation of the proposed CSO-EP within sixty (60) days of receipt of the DNREC’s written approval of the Plan.*

**Prior to finalizing its CSO Elimination Plan, the County completed the investigative work set forth in the bulleted items above. The County submitted the CSO Elimination Plan and received DNREC approval as required. The County continues to update the Plan**

as needed and must obtain Department approval for any modifications to the Plan. Under the current CSO Elimination Plan, the County plans to spend approximately \$149 million in Phase One, \$40 million in Phase Two and \$40 million in Phase Three.

The County shall submit a revised and updated CSO Elimination Plan, along with updated estimates of expenditures for each Phase, within sixty days of the effective date of this Order. DNREC shall review and provide comment and/or its approval within sixty days of receiving it.

Based on its current data, the County has committed to seal CSO Structure ND-34 by December 31, 2018, provided that it does not create or increase overflows at other locations in the Brandywine Hundred system.

Examples of projects in the CSO Elimination Plan are the following:

- Brandywine Hundred Sewer Rehabilitation Program – First Priority Projects (approximately 90 project areas in North and South Brandywine Hundred)
- North Delaware Interceptor Replacement/Expansion Project
- Governor Printz Interceptor Replacement/Expansion Project

II. Minimization of County-Wide Sanitary Sewer Overflows

The County shall develop and implement the measures set forth below with the goal of eliminating all SSOs from the entire County sanitary sewer system.

- A. *Within one hundred twenty (120) days of the effective date of this Order, the County shall update its sewer overflow response procedure and submit to DNREC for approval. DNREC will provide comment and/or its approval with sixty (60) days of receipt of the program from the County and the County shall initiate implementation of the approved program within thirty days of receipt of DNREC's written program approval. The procedure shall identify the County's protocol for reporting sewer overflows.*

The County's SSO Response Procedures ("SSO-RP") was approved by DNREC on May 10, 2004. Since then, the County has implemented the procedures and continues to update the procedures as necessary to improve SSO response. In September 2007, the Standard Operating Procedures 17 - Sanitary Sewer Overflow Response Procedures were updated again and replaced with Standard Operating Procedure 29.1 - Sanitary Sewer Overflow Response Procedures ("SOP 29.1").

The County must continue to implement these procedures and revisit them periodically to update them as needed. The County must perform annual training of all employees involved in the implementation of the Sanitary Sewer Overflow Response Procedures.

- B. *Within one hundred twenty (120) days of the effective date of this Order, the County shall update its oil and grease management program and submit to DNREC for approval. DNREC will provide comment and/or its approval with sixty (60) days of receipt of the program from the County and the County shall initiate implementation of the approved program within thirty days of receipt of DNREC's written program approval.*

**The County's updated FOG Management Program was approved by DNREC on February 12, 2004. The County is required to continue to implement its approved program through these specific steps:**

- 1. Continue to update its inventory of Commercial Food Establishments ("CFE").**
  - 2. Continue to inspect CFEs and continue to focus inspections on any area that exhibits repeated problems. Establish a program whereby CFEs are assigned an inspection schedule based on grease history and conditions.**
  - 3. Continue to provide public education of the program through distribution of pamphlets at public meetings and public buildings and targeted mailings to potential problem areas.**
  - 4. Continue to update and maintain a website providing information to the public about the FOG Program and why greasy substances should not be flushed down the drain.**
  - 5. Continue to implement a grease abatement program.**
- C. **Capacity Management Operation Maintenance Program**

**The County shall submit its updated Capacity, Management Operation and Maintenance Program ("CMOM") within sixty days of the effective date of this Order. DNREC shall review and provide comment and/or its approval within sixty days of receiving it. The following practices and procedures are contained therein, and the County hereby commits to complete each item:**

**(1) Capacity Management:**

**The County uses a GIS-based approach in combination with hydraulic analysis to track system capacity, existing flow, reserved flow and proposed flow in various service areas. The approach is based upon data accumulated from flow meters, design flows for new construction, proposed development flows, water usage records, industrial flows, infiltration/inflow rates (I/I), sewer billing records, and related data. This approach is used on a regular basis to determine whether capacity is available for new development and to assist in planning County projects. Available capacity will be updated annually based on available system data and updated throughout the year in order to track proposed and newly committed sewer capacity.**

**(2) Maintenance – Sanitary Sewer Collection System:**

- (a) The County shall continue to utilize a maintenance schedule for each segment of its sanitary sewer collection system, which shall be adjusted as needed.**
- (b) The County must implement an information based approach to cleaning based on such factors as pipe age, SSO and blockage history, consequences of failure and available condition assessment information. The program will be dynamic in nature with frequency and location of cleaning activities adjusted to reflect current system performance information. The program will be assessed and modified, if necessary, on an annual basis. To assess quality of cleaning work, the County shall CCTV segments of the cleaned lines on a random basis.**

**(3) Maintenance - Pump stations:**

**Pump Stations shall continue to be inspected regularly and operating conditions monitored for maintenance purposes. Inspection frequency shall be set by a schedule, which is determined by age, condition, size, service, special conditions, failure consequences and history of each station. All pump stations shall continue to be built and maintained with redundant pumping capability and emergency back-up capability. In addition to the approximately \$12 million spent at Stoney Creek pump station and forcemain, the County is also currently in the process of rehabilitating eight of its other major pump stations, including but not limited to Naamans, White Clay Creek, and Terminal Avenue pump stations and has spent an additional approximately \$5 million on those efforts. The County will continue to evaluate the condition of its pump stations and perform rehabilitation projects as needed.**

**Force main valves and components shall also continue to be regularly maintained to ensure proper operation. Air release valves, vacuum breaks, and combination valves shall be inspected and tested on a preventative maintenance schedule.**

**(4) Maintenance – Wastewater Treatment Plants**

**Wastewater treatment plants shall continue to be inspected daily by plant operators, and operating conditions must be monitored for quality, process, and maintenance purposes. All wastewater treatment plants shall continue to be built and maintained with redundant capability and emergency back-up capability. The County is currently in the process of upgrading two of its three wastewater treatment plants and has expended approximately \$10 million to date. The County shall continue to assess the condition of its wastewater treatment plants and perform rehabilitation projects as needed.**

### III. Reports

*While this Order is in effect, the County shall submit annual status reports to DNREC. The reports shall address the status of ongoing projects and document the expenditure of capital funds associated with sewer system upgrades and repairs. The first report is to be submitted one year from the date of execution of this Order and on that date every year after.*

**The County shall submit annual reports outlining progress during the previous fiscal year (July 1- June 30) on meeting the objectives of this Order before August 30<sup>th</sup> of each year. In addition, every three (3) years (first meeting to be held in 2011), the County and DNREC shall meet to discuss revisions to this Amended Order, the CMOM Program, and the CSO Elimination Plan and shall make revisions as needed until DNREC gives written notice otherwise.**

### IV. Penalty

The County is assessed a penalty in the amount of \$95,000. In order to satisfy that penalty in full, the County may pay that amount in full within sixty (60) days of the effective date of this Amended Order, or in the alternative to the \$95,000 upfront cash penalty, the County may pay \$45,000 in cash penalty within sixty (60) days of the effective date of this Amended Order and perform a supplemental environmental project (“SEP”) that costs in excess of \$100,000. The Department has the discretion to accept a proposed SEP. Once the Secretary grants final approval to the proposed SEP, the approved SEP shall become incorporated into this Notice of Conciliation and Secretary’s Order. If the County accepts the alternative including the SEP, the County must provide a construction schedule for the SEP within ninety (90) days of the date in which the Secretary granted approval to the proposed SEP. Additionally, the County shall submit quarterly progress reports for the SEP to DNREC; the first report shall be submitted within ninety (90) days after submission of the construction schedule.

In addition to the penalty assessment, the Respondent is hereby assessed estimated costs in the amount of \$5,000.00, pursuant to 7 Del. C. §6005(c), which were incurred by the Department in the investigation of the noted violations.

The Respondent shall submit two separate checks for the investigation costs and the penalty within sixty (60) days of the effective date of this Amended Order. The checks shall be made payable to the “State of Delaware” and shall be directed to: David Ormond, Deputy Attorney General, Department of Justice, 102 W. Water Street, Dover, Delaware, 19901.

### ORDER

*The provisions of this Notice of Conciliation and Secretary’s Order shall become effective and final, and all requirements contained within are hereby ordered, unless the Department receives from the Respondent, no later than twenty (20) days from receipt of this Notice, a written request for public hearing on these matters provided in 7 Del. C. 6005(b)(2).*

*In the event that Respondent fails to meet the deadlines as established in the final and effective Conciliation Order or any requirement of the Order, Respondent may be assessed a*

*penalty in the amount of a \$1,000 per day for each day of non-compliance, pursuant to 7 Del. C. 6005(b)(3). This provision shall not apply, however, where compliance is made impossible by earthquake, flood, other act of God, war, strike, or such other occurrence beyond the County's reasonable control. The County shall notify the Department in writing when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with its obligations under this Order. Such notice shall set forth the reasons for the measures taken and to be taken to prevent or minimize such delay or noncompliance; and the timetable by which such measures will be implemented and the date full compliance will be achieved.*

*Failure to so notify the Department within ten (10) working days of learning of such circumstances which result in the impossibility of compliance shall constitute waiver by the County of any claim of inability to comply with a requirement of this Order.*

*The final determination as to the legitimacy of the delay and/or the reasonableness of extended timetables shall be made by the Department in its sole discretion. The County reserves the right to challenge the Department's determination subject to the waiver provision above.*

#### PUBLIC HEARING

*In the event that the Respondent requests a hearing, the Department reserves the right to withdraw this Notice of Conciliation and Secretary's Order and take any additional enforcement action, including but not limited to, the imposition of civil penalties and recovery of the Department's costs pursuant to 7 Del. C. 6005(c). The Department otherwise does not intend to convene a public hearing on these matters, but reserves the right to do so at its discretion.*

*In lieu of requesting a public hearing, the Respondent may sign the attached waiver and return it to the Department. By doing so, Respondent waives its right to a hearing and an opportunity to be appeal or contest the Notice of Conciliation and Secretary's Order. The waiver shall be mailed to: David Ormond, Deputy Attorney General, Department of Justice, 102 W. Water Street, 3<sup>rd</sup> Floor, Dover, Delaware 19904.*

*If you have any questions regarding this Order, please contact R. Peder Hansen, Program Manager, Surface Water Discharge Section, at (302) 739-9946.*

EFFECTIVE DATE: \_\_\_\_\_

\_\_\_\_\_  
John A. Hughes, Secretary  
Department of Natural Resources and  
Environmental Control

cc: