

SUNBURY WASTEWATER TREATMENT PLANT

The Sunbury Wastewater Treatment Plant serves the City of Sunbury and Upper Augusta Township in Northumberland County. The wastewater treatment plant upgrade project began with the initiation of the planning phase in 1998. The Act 537 plan was approved by the DEP in 2000 followed by design completion in 2001 and construction completion and start-up in 2003. The Sunbury wastewater plant upgrade project was featured in a 2003 CPWQA event.



The treatment plant was originally constructed in 1952. By 1998 the treatment plant was functionally obsolete and most facility components had exceeded their useful life. It was time to upgrade the plant not just to meet evolving more stringent regulations but to replace a worn-out facility.



Upgrading the Sunbury plant involved two unique challenges. First the upgrade planning occurred at a time when biological nutrient removal (BNR) was just coming to the forefront as a wastewater treatment requirement. Plant upgrades were being completed in this era without providing BNR capability. Sunbury chose to include BNR in its upgrade plans which has since proven to have been a wise decision. Today the Sunbury plant produces an effluent quality that generates BNR credits which Sunbury sells for additional, albeit modest income. Furthermore, the decision to undertake the BNR upgrade in 2003 has avoided what would now be costlier additional facility upgrades.

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Sunbury Wastewater Treatment Facility continued

Secondly, Sunbury is a combined sewer overflow (CSO) community. As a CSO Sunbury needed to address how to best incorporate capital upgrades that would bring Sunbury into compliance with the Clean Water Act through the National Pollutant Discharge Elimination System permit program guided by the EPA Combined Sewer Overflow Control Policy. Sunbury chose a phased approach to the CSO problem. An equalization basin was constructed with the project. The basin enabled capturing the “first flush” during a precipitation and runoff event and at the same time helping to mitigate CSO bypass events. Planned but not constructed with the project were additional preliminary treatment facilities capable of processing 50 MGD of wet weather flow. In conjunction with the constructed project Sunbury prepared and received DEP approval of a Long-Term Control Plan which set forth the going forward CSO control strategies for attaining full compliance with the Clean Water Act by 2023.

The upgrade project made substantial changes to the wastewater treatment plant costing \$21.6 million dollars in 2003. The plant dry-weather capacity was increased from 3.5 MGD to 4.2 MGD allowing for continuous periodic treatment of up to 8 MGD. Renovation, replacement, or addition of the following unit processes was performed.



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Sunbury Wastewater Treatment Facility continued



1. Influent metering
2. Mechanical bar screens
3. Vortex grit chambers
4. Raw influent pumping
5. Equalization basin
6. Aeration basin additions for multi-mode operation
7. Replacement of secondary clarifiers
8. Conversion of digesters from anaerobic to aerobic
9. UV disinfection
10. Sludge thickening and dewatering facilities
11. Sludge storage
12. Process and sludge handling pumping systems
13. Plant monitoring and process control network
14. Emergency power
15. Maintenance center building
16. Employee center building
17. Administration and laboratory building

The 50 MGD CSO pumping capacity was added to the plant in 2007 along with additional collection system pumping and piping capacity to insure sufficient CSO flows reach the plant for preliminary treatment. CSO preliminary treatment units may need to be added to the plant depending upon the success of passive treatment strategies now being pursued through the Long-Term Control Plan activities.

TEAR OFF and drop in registration box at our May CPWQA Plant Tour

WOULD YOU LIKE TO WIN A \$50 VISA GIFT CARD (who wouldn't!!)

Just answer the question, (correctly, of course) and bring it with you to the May CPWQA Plant tour. **DROP THE ANSWER WITH YOUR NAME ON IN IN THE BOX AT REGISTRATION** and we will randomly draw a winner at the lunch afterwards. ***Must be present to win!*** Good Luck!

WHAT DOES SOR MEAN (ASSOCIATED WITH PRIMARY CLARIFICATION)?

1. **Standard Operating Regime**
2. **Sand Organic Rut**
3. **Surface Operating Rotation**
4. **Surface Overflow Rate**

**CORRECT
ANSWER:**

Name: _____

GETTING TO KNOW YOUR CPWQA BOARD MEMBERS



Howard Butler

Where do you work and what is your position? **Project Engineer with GHD**

How long have you been a member of CPWQA? **1 year.**

Where did you attend college? **Penn State – Worthington Scranton and Harrisburg.**

Where is your hometown? **Sterling, PA (good luck finding it on a map).**

Do you have any pets? **No pets, just two children.**

What are your pet peeves? **Red tape and cold pizza.**

If you could spend an hour with anyone, who would you pick? **The grandfather that I'm named for.**

What was your first job? **Dishwasher at a small family restaurant.**

What is the most noticeable change in the Wastewater industry? **The learning curve for operators – you have to be part biological process person, part mechanic, part electrician, and part programmer to operate effectively.**

What do you like to do in your spare time? **Reading, canoeing, and camping.**

Tell us something about yourself that would surprise your peers? **I'm a pretty well read science fiction and fantasy junkie.**

What events have had the most influence on you? **Trading three years of my life to Uncle Sam in exchange for college tuition, and bringing my daughters home for the first time.**

Where is your favorite vacation destination? **A small beach in the Carolinas.**

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Todd Musser and
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Sunbury, PA

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Lebanon, PA*

September 8, 2017
SUPER TOUR
& TRADE SHOW
Capital Region Water Harrisburg



CPWQA
Central Pennsylvania Water Quality Association

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