

# WWTP Upgrade Project

June 10, 2013



*Borough of Chambersburg*

# May 14, 2013 Bid Results:

BOROUGH OF CHAMBERSBURG  
 Wastewater Treatment Plant Upgrade Project  
 Tuesday, May 14, 2013 @ 10:30 a.m.  
 ARRO #10281.00

The bids are being reviewed for legal sufficiency by the Solicitor's Office.

Item No.	Description	Unit	Est. Qty.	Michael F. Ronca & Sons, Inc. Bethlehem, PA Named Electrical Subcontractor: Garden Spot Electric		PC Construction Co. South Burlington, VT Named Electrical Subcontractor: Garden Spot Electric		Adams Robinson Enterprises, Inc. Dayton OH Named Electrical Subcontractor: MBR Construction Services, Inc.		Allan A. Myers, LP Worcester, PA Named Electrical Subcontractor: Garden Spot Electric		HRI, Inc. State College, PA Named Electrical Subcontractor: Garden Spot Electric		Wickersham Construction & Eng. Lancaster, PA Named Electrical Subcontractor: Garden Spot Electric	
				Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price
1	All Work described in the Drawings and Specifications but not including work required by items 2 - 7.	LS			\$ 30,176,500.00		\$ 30,665,500.00		\$ 30,642,700.00		\$ 31,540,000.00		\$ 32,392,000.00	\$ 33,407,400.00	\$ 33,407,400.00
2	SCADA System as provided by Sherwood Logan.	LS			\$ 491,000.00		\$ 491,000.00		\$ 491,000.00		\$ 491,000.00		\$ 491,000.00		\$ 491,000.00
Allowances															
3	Structural Modifications to Floating Cover as Specified in Section 13531, Article 3.01, Paragraph C.	LS			\$ 50,000.00		\$ 50,000.00		\$ 50,000.00		\$ 50,000.00		\$ 50,000.00		\$ 50,000.00
Quantity Adjustments															
4	Miscellaneous Unclassified Excavation (excluding test pits).	CY	20	\$ 200.00	\$ 4,000.00	\$ 50.00	\$ 1,000.00	\$ 25.00	\$ 500.00	\$ 50.00	\$ 1,000.00	\$ 50.00	\$ 1,000.00	\$ 211.00	\$ 4,220.00
5	Miscellaneous Aggregate for Backfill and Other Uses:														
	5a. PA 2A.	CY	10	\$ 75.00	\$ 750.00	\$ 75.00	\$ 750.00	\$ 65.00	\$ 650.00	\$ 85.00	\$ 850.00	\$ 36.00	\$ 360.00	\$ 32.00	\$ 320.00
	5b. AASHTO 57.	CY	10	\$ 75.00	\$ 750.00	\$ 75.00	\$ 750.00	\$ 65.00	\$ 650.00	\$ 75.00	\$ 750.00	\$ 42.00	\$ 420.00	\$ 37.00	\$ 370.00
6	Miscellaneous Concrete.	EA	10	\$ 750.00	\$ 7,500.00	\$ 600.00	\$ 6,000.00	\$ 600.00	\$ 6,000.00	\$ 900.00	\$ 9,000.00	\$ 470.00	\$ 4,700.00	\$ 525.00	\$ 5,250.00
Contingency Items															
7	Test Pit Excavation and Backfill:														
	7a. Depth 0'-0" to 8'-0".	CY	300	\$ 35.00	\$ 10,500.00	\$ 35.00	\$ 10,500.00	\$ 25.00	\$ 7,500.00	\$ 45.00	\$ 13,500.00	\$ 54.00	\$ 16,200.00	\$ 32.00	\$ 9,600.00
	7b. Depth 8'-1" to 16'-0".	CY	500	\$ 40.00	\$ 20,000.00	\$ 45.00	\$ 22,500.00	\$ 30.00	\$ 15,000.00	\$ 50.00	\$ 25,000.00	\$ 81.00	\$ 40,500.00	\$ 37.00	\$ 18,500.00
TOTAL ITEMS 1 THRU 7:					\$ 30,761,000.00		\$ 31,248,000.00		\$ 31,514,000.00		\$ 32,131,100.00		\$ 32,996,180.00		\$ 33,986,860.00

# May 14, 2013 Bid Results (cont.):

BOROUGH OF CHAMBERSBURG  
 Wastewater Treatment Plant Upgrade Project  
 Tuesday, May 14, 2013 @ 10:30 a.m.  
 ARRO #10281.00

The bids are being reviewed for legal sufficiency by  
 the Solicitor's Office.

Item No.	Description	Unit	Est. Qty.	Galway Bay Corp. Jeannette, PA Named Electrical Subcontractor: Garden Spot Electric		Quandel Construction Grp. Harrisburg, PA Named Electrical Subcontractor: Garden Spot Electric		Walsh Construction Co. Pittsburgh, PA Named Electrical Subcontractor: MBR Construction Services		Average Unit Price of Low Three Bidders	Average Unit Price of All Bidders
				Unit Price	Extended Price	Unit Price	Extended Price	Unit Price	Extended Price		
1	All Work described in the Drawings and Specifications but not including work required by Items 2 - 7.	LS		\$ 33,600,000.00	\$ 33,600,000.00	\$ 33,714,835.00	\$ 33,714,835.00	\$34,740,000.00	\$ 34,740,000.00	\$ 30,594,900.00	\$ 32,353,215.00
2	SCADA System as provided by Sherwood Logan.	LS			\$ 491,000.00		\$ 491,000.00		\$ 491,000.00	\$ 491,000.00	\$ 491,000.00
Allowances											
3	Structural Modifications to Floating Cover as Specified in Section 13531, Article 3.01, Paragraph C.	LS			\$ 50,000.00		\$ 50,000.00		\$ 50,000.00	\$ 50,000.00	\$ 50,000.00
Quantity Adjustments											
4	Miscellaneous Unclassified Excavation (excluding test pits).	CY	20	\$ 35.00	\$ 700.00	\$ 208.00	\$ 4,160.00	\$ 30.00	\$ 600.00	\$ 91.67	\$ 95.44
5	Miscellaneous Aggregate for Backfill and Other Uses:										
	5a. PA 2A.	CY	10	\$ 25.00	\$ 250.00	\$ 32.70	\$ 327.00	\$ 30.00	\$ 300.00	\$ 71.67	\$ 50.63
	5b. AASHTO 57.	CY	10	\$ 27.00	\$ 270.00	\$ 38.20	\$ 382.00	\$ 30.00	\$ 300.00	\$ 71.67	\$ 51.58
6	Miscellaneous Concrete.	EA	10	\$ 300.00	\$ 3,000.00	\$ 510.00	\$ 5,100.00	\$ 1,000.00	\$ 10,000.00	\$ 650.00	\$ 628.33
Contingency Items											
7	Test Pit Excavation and Backfill:										
	7a. Depth 0'-0" to 8'-0".	CY	300	\$ 20.00	\$ 6,000.00	\$ 80.00	\$ 24,000.00	\$ 27.00	\$ 8,100.00	\$ 31.67	\$ 39.22
	7b. Depth 8'-1" to 16'-0".	CY	500	\$ 30.00	\$ 15,000.00	\$ 110.00	\$ 55,000.00	\$ 60.00	\$ 30,000.00	\$ 38.33	\$ 53.67
TOTAL ITEMS 1 THRU 7:					\$ 34,166,220.00		\$ 34,344,804.00 *		\$ 35,330,300.00		

\* corrected by ARRO

# WWTP Project Cost Estimates

	12/23/2011	As of 6/10/2013
UV Project (complete)	\$990,000	\$1,003,000
Force Main Project (complete)	\$400,000	\$435,000
VFD Project (complete)	(Main Project)	\$68,000
Headworks/Influent Pump Station	\$8,500,000	\$30,761,000
Main Project (Process Upgrades)	\$20,500,000	
Technical/Administrative Expenses	\$6,110,000	\$6,110,000*
Associated H2O Grants	(\$2,000,000)	(\$2,000,000)
<b>Total</b>	<b>\$34,500,000</b>	<b>\$36,377,000</b>

\*Engineering costs include design, construction management, and construction inspection services under current contracts with AECOM and ARRO.

# Summary of Overall Cost Reduction

Items	Previous (Prior to 2010)	Today	Change in Cost	Cost Reduction Percent
WWTP Expansion	\$39,144,800	\$36,377,000	\$16,316,488	31.0%
CPI Adjustment (2% a year for 3 years)	\$2,348,688			
New Headworks	\$10,000,000			
UV System Upgrade	\$1,200,000			
Nutrient Credits	* \$2,724,000	\$336,150	\$2,387,850	87.7%
Interceptors	\$27,507,600	\$1,975,000	\$25,532,600	92.8%
<b>TOTAL</b>	<b>\$82,925,088</b>	<b>\$38,688,150</b>	<b>\$44,236,938</b>	<b>53.4%</b>

Note: All above based upon estimated costs

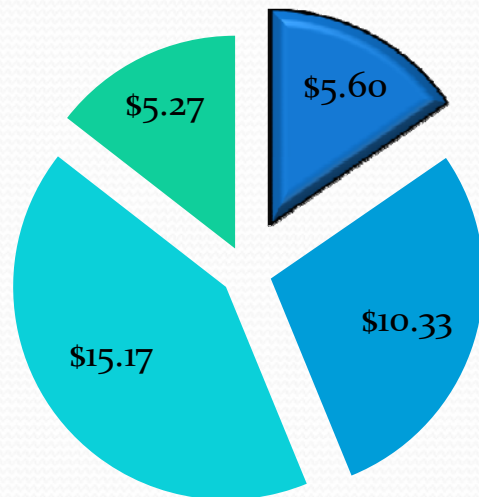
\* At \$5 per Nitrogen credit and \$9 per Phosphorus credit for 3 years

# Wastewater Treatment Plant Project

- \$36,377,000 capital cost estimate; \$5,600,00 Borough share
- Reduction from \$50 - \$55 million estimate prior to 2010.
- Financed through a portion of an \$8 million line of credit with F&M Trust.

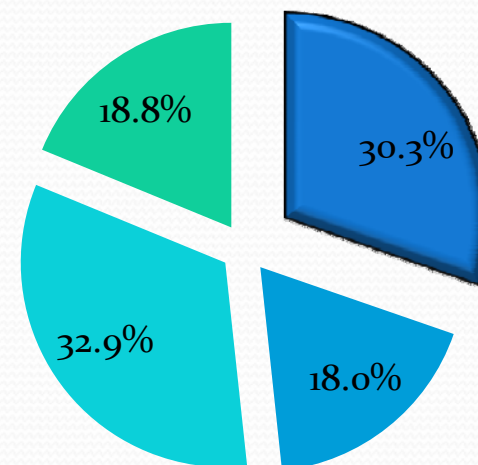
**Construction Costs**  
(In Millions of \$)

■ Chambersburg ■ Hamilton  
■ Greene ■ Guilford

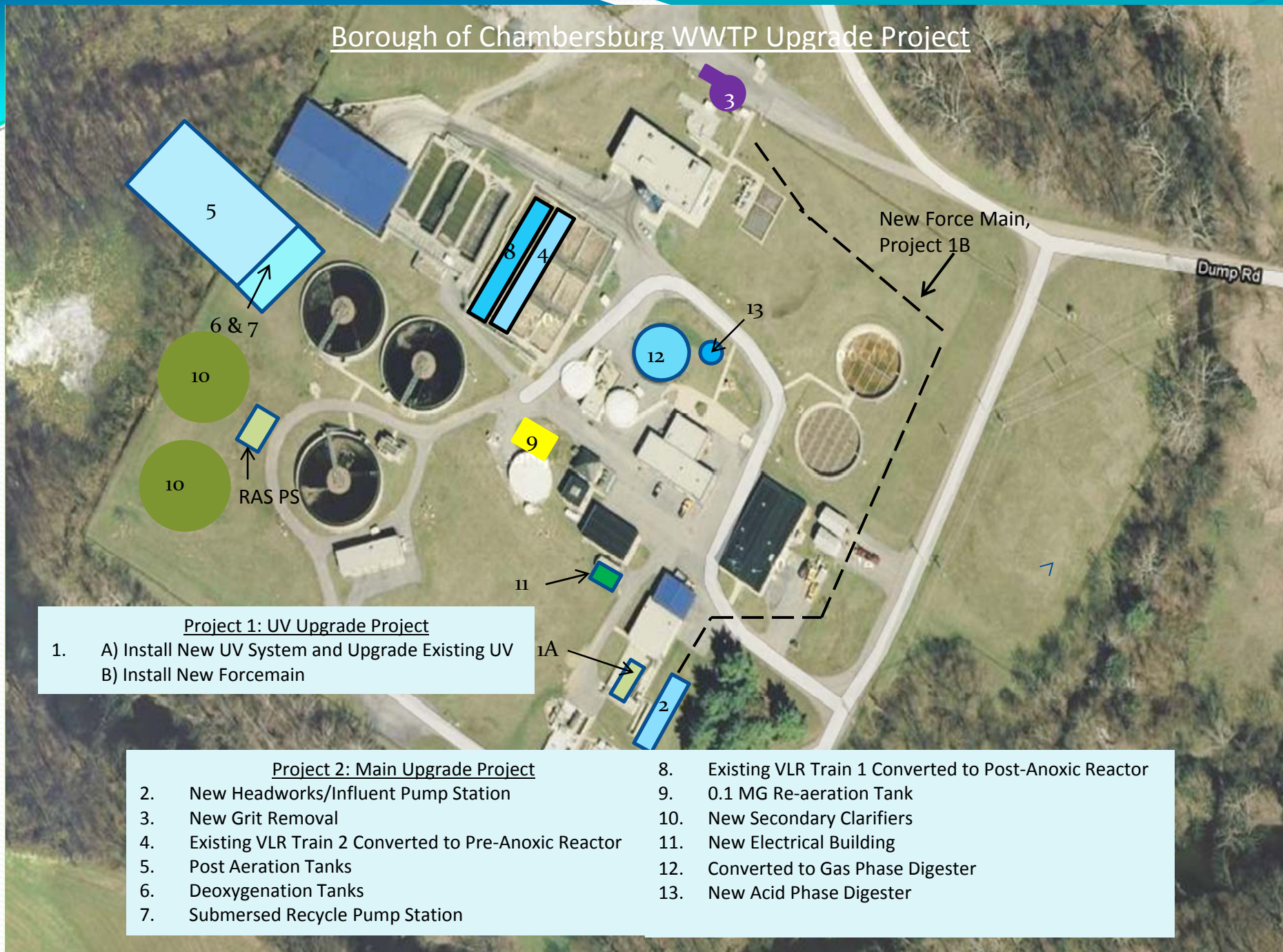


**Approximate O&M Costs**

■ Chambersburg ■ Hamilton  
■ Greene ■ Guilford



# Borough of Chambersburg WWTP Upgrade Project



Project 1: UV Upgrade Project  
 1. A) Install New UV System and Upgrade Existing UV  
 B) Install New Forcemain

- |   |  |
|---|--|
| <u>Project 2: Main Upgrade Project</u>                  |  |
| 2. New Headworks/Influent Pump Station                  | 8. Existing VLR Train 1 Converted to Post-Anoxic Reactor |
| 3. New Grit Removal                                     | 9. 0.1 MG Re-aeration Tank                               |
| 4. Existing VLR Train 2 Converted to Pre-Anoxic Reactor | 10. New Secondary Clarifiers                             |
| 5. Post Aeration Tanks                                  | 11. New Electrical Building                              |
| 6. Deoxygenation Tanks                                  | 12. Converted to Gas Phase Digester                      |
| 7. Submersed Recycle Pump Station                       | 13. New Acid Phase Digester                              |