



CLIENT: Enfield WPCF  
Enfield, CT  
PROJECT: Facilities Plan  
PROJECT #: 227363

PREPARED BY: AH, MJB  
CHECKED BY: PD, JS  
ESTIMATE: Facilities Plan  
DATE: 05/18/15

Improvement	2013 Capital Plan & Rate Study	2015 Facilities Plan	Change Addition/(Reduction)	Comments
<b>Planning</b>				
Facilities Plan & I/I Study	\$ 1,550,000	\$ 1,111,559	\$ (438,441)	Woodard & Curran engineering fee was significantly less than originally budgeted
<b>Water Pollution Control Facility</b>				
Construct Headworks Building for screen & grit chamber, (2) new mechanical influent screens, with grinders, washers, and compactors; reconfigure influent channel; new grit removal & washing equipment.	\$ 4,500,000	\$ 2,934,000	\$ (1,566,000)	Replace aeration system, motorized clamshell and add enclosure instead of adding new grit removal system. It is less costly than to retrofit the existing structure to fit grit removal system. New grit removal system would also generate considerable head loss.
Replace influent sluice gates and primary clarifier equipment	\$ 1,100,000	\$ 1,424,000	\$ 324,000	Unanticipated need to replace handrails to meet OSHA code. Replace scum mixer to reduce operations & maintenance costs.
Demolish Incinerator and Rehab Control Building: including upgrade roof supports in BFP room, evaluate heating system and electrical components, provide new laboratory and office space	\$ 3,500,000	\$ 5,763,000	\$ 2,263,000	Hazardous materials report indicated more extensive issue than anticipated. Extent of building envelope & incineration structure deterioration more extensive than anticipated.
Replace existing blowers	\$ 1,300,000	\$ 2,219,000	\$ 919,000	Leaking air discharge piping between the Ops building and the aeration tanks was previously unknown. Improved process & energy efficiency with separated grit blowers.
Replace RAS Pumps	\$ 250,000	\$ 276,000	\$ 26,000	Negligible
Aeration Tanks concrete repairs, replace diffusers, repair and/or replace aeration tank influent gates, replace nitrate and dissolved oxygen analyzers, replace existing baffles inside aeration tank, replace aeration tank froth spray system	\$ 1,640,000	\$ 4,881,600	\$ 3,241,600	Additional baffling & sluice gates needed with the selected VOM/BNR process. Also provide compressible air mixing which reduces power consumption. Adding a capital solution with no mechanical components in the wastewater stream and no bridges/platforms will result in significant life-cycle cost savings.
Replace influent and effluent gates and secondary clarifier mechanisms, weirs, troughs, etc.	\$ 1,900,000	\$ 2,793,000	\$ 893,000	Unanticipated need to replace handrails to meet OSHA code. Provide weirwasher system and scum mixers to reduce maintenance costs.
Replace basket strainer and valve on plant water suction, add soft starts for plant water pumps, replace sodium hypochlorite carrying water pump, replace valve on PW suction line, add chlorine feed for Plant Water System	\$ 135,000	\$ 459,000	\$ 324,000	Unanticipated need to replace plant water system completely due to inadequacy of existing plant water system.
Provide new septage receiving station	\$ 500,000	\$ 77,000	\$ (423,000)	Replace only the septage receiving pump because the new sewer fees reduced septage disposal in Enfield by 70%.
Install primary scum pump station	\$ 100,000	\$ -	\$ (100,000)	Not required. Instead scum mixer and shear gate will be replaced.
Add Instrumentation and Controls for Disinfection System	\$ 75,000	\$ 153,000	\$ 78,000	Unanticipated need to replace the disinfection feed pumps due to leaking & maintenance issues.
Provide emergency power to diesel fuel pumps	\$ 15,000	\$ 61,000	\$ 46,000	Negligible
Structural/Geotechnical evaluation of floor inside original plant	\$ 10,000	\$ -	\$ (10,000)	Keep garage building. Structural evaluation not required
Replace SCADA system	\$ 300,000	\$ -	\$ (300,000)	SCADA integration cost included with each piece of equipment
Replace underground storage tank at original plant	\$ 50,000	\$ -	\$ (50,000)	This was only required if other underground utilities were relocated
Replace RAS and WAS flowmeters	\$ 100,000	\$ 43,000	\$ (57,000)	Negligible
Replace influent and primary effluent samplers	\$ 30,000	\$ 43,000	\$ 13,000	Negligible
Sludge Pumping Station including light rehab including roof replacement	\$ -	\$ 276,000	\$ 276,000	Haz materials study indicated minor renovations & roof replacement is required
Chemical systems: carbon, caustic	\$ -	\$ 193,000	\$ 193,000	Carbon addition to bioreactors recommended to enhance BNR performance for winter season permit compliance
Generator load bank	\$ -	\$ 104,000	\$ 104,000	Unanticipated improvement to the resiliency of the facility's emergency power
Demolition abandoned structures: sludge holding tank, lime storage tank	\$ -	\$ 100,000	\$ 100,000	Demolish abandoned structures to make room for new processes & for safety improvements
Sludge Processing Upgrades/Odor Control	\$ 4,000,000	\$ 3,552,000	\$ (448,000)	Odor control study presented solution which is less costly than anticipated
<b>Collection System*</b>				
I/I Improvements*	\$ 3,750,000	\$ 750,000	\$ (3,000,000)	Early I/I results indicate less issues than anticipated
Collection System Structural Repairs*	\$ 1,250,000	\$ 500,000	\$ (750,000)	Early modeling results indicate less collection system issues than anticipated
Force Main Repair/Replacement*	\$ 2,000,000	\$ 500,000	\$ (1,500,000)	Early modeling results indicate less force main issues than anticipated
Pump Station Upgrades*	\$ 7,850,000	\$ 5,500,000	\$ (2,350,000)	High priority Pump Station work estimated at \$4M. Remaining PS work estimated at \$1.5M.
<b>TOTAL PLANNING ESTIMATE</b>	<b>\$ 1,550,000</b>	<b>\$ 1,111,559</b>	<b>\$ (438,441)</b>	
<b>TOTAL WPCF UPGRADE</b>	<b>\$ 19,505,000</b>	<b>\$ 25,352,000</b>	<b>\$ 5,846,600</b>	<i>We recommend including Gravity Thickening at approximately \$4.3M to improve plant operations, odor control and reduce labor costs. This is not included in the current Base Case estimate.</i>
<b>TOTAL COLLECTION SYSTEM UPGRADE</b>	<b>\$ 14,850,000</b>	<b>\$ 7,250,000</b>	<b>\$ (7,600,000)</b>	
<b>TOTAL FACILITIES PLAN PROJECT</b>	<b>\$ 35,905,000</b>	<b>\$ 33,714,000</b>	<b>\$ (2,191,841)</b>	

\* Collection system study is on-going - these are preliminary estimates based upon information gathered to date.