

WASTEWATER TREATMENT FACILITIES



Wastewater Treatment Facilities

The Wastewater Treatment System collects, conveys and processes wastewater from an estimated 3 million people, generated in a service area, which includes the City of Houston, several municipalities and unincorporated communities in the Houston metropolitan area. The system consists of approximately 6,500 miles of sanitary sewer lines, over 441,000 service connections, over 380 sanitary lift stations, 40 wastewater treatment plants, and three major sludge treatment facilities. The average daily wastewater flow through the system is estimated at 222 million gallons per day (MGD) (284 MGD 12-month maximum). As reflected by state permits, the effective treatment capacity of the system is 565 MGD. The permitted capacity of plants is a part of the wastewater system treatment capacity that ranges from 0.15 MGD for the smallest plant to 200 MGD for the 69th Street Wastewater Plant.

The program of improvements provides for the continued upgrade of the System and compliance with the regulations issued by the Texas Commission on Environmental Quality (TCEQ) and the U.S. Environmental Protection Agency (EPA). The City of Houston rehabilitates approximately 115 miles of pipe each year, or about 2% of the System. Per council action on July 8, 2015, alternative construction measures which would minimize corrosion to the City's infrastructure and maximize the opportunities for the reuse of gray water (or other non – potable water) are being considered where applicable.

The Capital Improvement Plan (CIP) provides an estimate of delivery by fiscal year for the next five years. The delivery schedule is affected by unanticipated external forces outside of the control of the City, such as, private utilities, property acquisition, other agencies, outside funding partners, etc. However, the City makes every attempt to deliver a good product in a timely manner. This five-year CIP includes \$951 million of improvements. It is financed by a combination of pay-as-you-go and revenue bonds.

Highlights of the FY2016 - 2020 CIP include:

- Compliance with TCEQ citywide Agreed Order will continue through FY2016 construction projects.
- Rehabilitate neighborhood sewers to improve service, remove excessive infiltration, prevent sanitary sewer overflows and eliminate sewage backups.
- Renew and rehabilitate the city wide force main system and various lift stations.
- Upgrade, rehabilitate or renew various wastewater treatment plants.
- Evaluate and rehabilitate large diameter sewers.

Project Allocation	Fiscal Year Planned Appropriations					2016-2020
	2016	2017	2018	2019	2020	
Planning						
Acquisition-Land						
Design	16,986	12,913	3,871	5,813	6,828	46,411
Construction	135,839	165,286	176,750	178,838	183,785	840,498
Equipment Acquisition			310			310
Salary Recovery	60					60
Other	14,313	18,993	20,799	3,988	5,949	64,042
Total Allocation	167,198	197,192	201,730	188,639	196,562	951,321
Source of Funds						
8500 - PWE-W&S Syst Consolidated Constr Fd	110,198	140,192	144,730	131,639	139,562	666,321
Proposed TWDB (8500)	57,000	57,000	57,000	57,000	57,000	285,000
Total Funds	167,198	197,192	201,730	188,639	196,562	951,321

**WASTEWATER TREATMENT FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project	Fiscal Year Planned Appropriations					2016-2020
		2016	2017	2018	2019	2020	
R-000019	Emergency Needs for Wastewater Utility						
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,000	1,000	1,000	1,000	1,000	5,000
	Project Total	1,000	1,000	1,000	1,000	1,000	5,000
R-000020	Miscellaneous Needs for Public Utility						
	8500 - PWE-W&S Syst Consolidated Constr Fd	6,265	1,590	15,840	2,255	945	26,895
	Project Total	6,265	1,590	15,840	2,255	945	26,895
R-000035	Wastewater Force Main Renewal						
	8500 - PWE-W&S Syst Consolidated Constr Fd	5,040	10,628	1,502	9,420	18,988	45,578
	Project Total	5,040	10,628	1,502	9,420	18,988	45,578
R-000265	Wastewater Treatment Plant Improvements						
	8500 - PWE-W&S Syst Consolidated Constr Fd	37,315	43,722	7,417	50,492	70,230	209,176
	Project Total	37,315	43,722	7,417	50,492	70,230	209,176
R-000266	Neighborhood Sewer Rehab Program						
	Proposed TWDB (8500)	50,000	50,000	50,000	50,000	50,000	250,000
	Project Total	50,000	50,000	50,000	50,000	50,000	250,000
R-000267	Lift Station Renewal & Replacement						
	8500 - PWE-W&S Syst Consolidated Constr Fd	3,329	17,810	20,225	9,326	20,243	70,933
	Project Total	3,329	17,810	20,225	9,326	20,243	70,933
R-000298	Almeda Sims Wastewater Treatment Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	575		6,033	6,150		12,758
	Project Total	575		6,033	6,150		12,758
R-000500	WW Improvements under M/N						
	8500 - PWE-W&S Syst Consolidated Constr Fd	4,752	15,583	12,099		3,743	36,177
	Project Total	4,752	15,583	12,099		3,743	36,177

**WASTEWATER TREATMENT FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2016-2020	
		2016	2017	2018	2019	2020		
R-000509	69th Street Wastewater Treatment Plant							
	8500 - PWE-W&S Syst Consolidated Constr Fd	575	35,700	26,152	16,950		79,377	
	Project Total	575	35,700	26,152	16,950		79,377	
R-000521	Sewer Line Replacement by Other Govt							
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,050	1,000	1,000	1,000	1,000	5,050	
	Project Total	1,050	1,000	1,000	1,000	1,000	5,050	
R-000536	Wastewater Treatment Plant Consolidation							
	8500 - PWE-W&S Syst Consolidated Constr Fd	16,216	2,071	27,933	18,152	16,740	81,112	
	Project Total	16,216	2,071	27,933	18,152	16,740	81,112	
R-000800	Collection System-Sponsor Participation							
	8500 - PWE-W&S Syst Consolidated Constr Fd	6,000	710	6,000	1,000	1,000	14,710	
	Project Total	6,000	710	6,000	1,000	1,000	14,710	
R-000801	Sewer Service to Unserved Areas							
	8500 - PWE-W&S Syst Consolidated Constr Fd	386	3,484		9,801		13,671	
	Project Total	386	3,484		9,801		13,671	
R-002011	Neighborhood Sewer Systems Improvements							
	8500 - PWE-W&S Syst Consolidated Constr Fd	6,989	1,229	13,794		1,292	23,304	
	Project Total	6,989	1,229	13,794		1,292	23,304	
R-002013	Large Diameter Sewer (LDS) Rehab							
	8500 - PWE-W&S Syst Consolidated Constr Fd	15,800	1,500	1,500	1,500		20,300	
	Proposed TWDB (8500)	7,000	7,000	7,000	7,000	7,000	35,000	
	Project Total	22,800	8,500	8,500	8,500	7,000	55,300	
R-002015	Wastewater Substitute Service Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	4,095	4,165	4,235	4,305	4,375	21,175	
	Project Total	4,095	4,165	4,235	4,305	4,375	21,175	

**WASTEWATER TREATMENT FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2016-2020
		2016	2017	2018	2019	2020	
R-NA0000	Wastewater Contingencies						
	8500 - PWE-W&S Syst Consolidated Constr Fd	811			288	6	1,105
	Project Total	811			288	6	1,105
	Total Appropriations:	167,198	197,192	201,730	188,639	196,562	951,321