



WATER UTILITY SYSTEM FACILITIES

Water Utility System

The Water Utility System delivers treated surface and ground water to customers through a series of storage tanks, pump stations, transmission and distribution mains. This potable water is sold to domestic, commercial, industrial, governmental and other customers in the Houston metropolitan area. In addition, untreated surface water is delivered for sale to governmental, industrial and agricultural customers. The System provides water to the residents of Houston as well as municipalities, municipal utility districts, and water authorities outside the City limits. The service population is approximately 4 million.

The System relies on 86% Surface Water and 14% Groundwater sources. Surface water is sourced from Lake Conroe and Lake Houston in the San Jacinto River System and Lake Livingston in the Trinity River System. In aggregate, these supplies are sufficient to meet the City's expected water demands beyond the year 2060. However, additional water supply strategies have been developed to meet the long-term needs. In addition, the System continues to shift its supply source from groundwater to surface water in accordance with state mandates.

The Capital Improvement Plan (CIP) provides an estimate of delivery by fiscal year for the next five years. The FY2020-2024 CIP includes approximately \$3.0 billion of Water Utility System improvements financed by a combination of pay-as-you-go, revenue bonds and proposed contributed capital.

Highlights of the FY2020-2024 CIP:

- Continue funding the Design-Build contract for the 320 MGD expansion of the Northeast Water Purification Plant with regional water authority funding partners
- Continue to construct surface water transmission lines to access and deliver expanded treated surface water supplies for Houston and surrounding water authorities

- Continue funding for replacement of neighborhood water mains to improve fire protection, water quality, system reliability and assure compliance with Texas Commission on Environmental Quality (TCEQ) regulations
- Install chloramination chemical systems at 30 groundwater pump stations
- Rehabilitate wells, ground storage tanks and pump stations as part of long range asset management

Project Allocation	Fiscal Year Planned Appropriations					2020-2024
	2020	2021	2022	2023	2024	
Planning						
Acquisition-Land	4,680	781	541	552	550	7,104
Design	118,756	13,580	2,110	6,046	7,950	148,442
Construction	1,307,311	448,805	640,621	169,151	165,260	2,731,148
Equipment Acquisition	45,662	5,284	5,388	5,498	5,500	67,332
Salary Recovery						
Other	5,481	4,053	4,105	4,160	3,950	21,749
Total Allocation	1,481,890	472,503	652,765	185,407	183,210	2,975,774
Source of Funds						
5000 - Federal Government - Grant Funded				41,400		41,400
8319 - HPW-W & S Contributed CAP	2,960					2,960
8500 - HPW-W&S Syst Consolidated Constr Fd	388,713	199,350	332,995	144,007	183,210	1,248,275
8505 - Water Authorities Capital Contrib-NEWPP	733,233	148,282	319,770			1,201,285
8506 - HPW-NEWPP Construction Fund	185,960					185,960
8507 Water Auth NETL	107,191					107,191
8508 HPW NETL Constr	63,832					63,832
8509 Water Auth SETL		106,618				106,618
8510 HPW SETL Constr		18,254				18,254
Total Funds	1,481,890	472,503	652,765	185,407	183,210	2,975,774

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2020-2024 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project		Fiscal Year Planned Appropriations					2020-2024
			2020	2021	2022	2023	2024	
S-000012	Southeast Water Purification Plant							
	8500 - HPW-W&S Syst Consolidated Constr Fd		13,520				13,520	
	Project Total		13,520				13,520	
S-000019	Emergency Needs for Water Utility							
	8500 - HPW-W&S Syst Consolidated Constr Fd		312	531	541	552	550	2,486
	Project Total		312	531	541	552	550	2,486
S-000020	Miscellaneous Water Needs							
	8500 - HPW-W&S Syst Consolidated Constr Fd		177	340	184	353	300	1,354
	Project Total		177	340	184	353	300	1,354
S-000035	Neighborhood Water Main Replacement							
	8500 - HPW-W&S Syst Consolidated Constr Fd		2,504	34,287	24,429	35,416	27,500	124,137
	Project Total		2,504	34,287	24,429	35,416	27,500	124,137
S-000056	East Water Purification Plant							
	8500 - HPW-W&S Syst Consolidated Constr Fd		30,609		16,230		100,000	146,839
	Project Total		30,609		16,230		100,000	146,839
S-000065	NE Water Purification Plant Expansion							
	8500 - HPW-W&S Syst Consolidated Constr Fd		78,601	2,594	81,366			162,561
	8505 - Water Authorities Capital Contrib-NEWPP		733,233	148,282	319,770			1,201,285
	8506 - HPW-NEWPP Construction Fund		185,960					185,960
	Project Total		997,795	150,876	401,136			1,549,807
S-000100	New / Replacement Ground Water Wells							
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,732	997	6,384	12,034	9,000	30,146
	Project Total		1,732	997	6,384	12,034	9,000	30,146

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2020-2024 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2020-2024
			2020	2021	2022	2023	2024	
S-000101	Pre-Engineering for Water Projects							
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,018					1,018
	Project Total		1,018					1,018
S-00019A	Real Estate Annual Appropriation							
	8500 - HPW-W&S Syst Consolidated Constr Fd		4,680	531	541	552	550	6,854
	Project Total		4,680	531	541	552	550	6,854
S-000200	Water Well Renewal Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		8,293	3,915	5,031	3,864	5,000	26,103
	Project Total		8,293	3,915	5,031	3,864	5,000	26,103
S-000500	Water Improvements under M/N							
	8500 - HPW-W&S Syst Consolidated Constr Fd		13,668	24,403	16,514	23,477	810	78,872
	Project Total		13,668	24,403	16,514	23,477	810	78,872
S-000521	Water Main Replacement by Other Govt							
	8500 - HPW-W&S Syst Consolidated Constr Fd		4,129	1,400	1,400	1,400	1,400	9,729
	Project Total		4,129	1,400	1,400	1,400	1,400	9,729
S-000600	Water Storage Tank Rehabilitation							
	8500 - HPW-W&S Syst Consolidated Constr Fd		3,837	7,427	5,410	5,520	8,000	30,194
	Project Total		3,837	7,427	5,410	5,520	8,000	30,194
S-000700	Water Main Grid Extensions Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd			3,183		3,312		6,495
	Project Total			3,183		3,312		6,495
S-000701	Lg Diameter Water Line Rehab							
	8500 - HPW-W&S Syst Consolidated Constr Fd		13,099	8,564	6,864		7,000	35,528
	Project Total		13,099	8,564	6,864		7,000	35,528

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2020-2024 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project							2020-2024
			2020	2021	2022	2023	2024	
S-000702	Valve Replacement & Installation Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		4,244		4,416		8,660	
	Project Total		4,244		4,416		8,660	
S-000800	Sponsor Participation-Water Mains Prog.							
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,040	2,122	2,164	2,208	2,000	9,534
	Project Total		1,040	2,122	2,164	2,208	2,000	9,534
S-000890	Lake Houston Dam Projects							
	5000 - Federal Government - Grant Funded					41,400		41,400
	8500 - HPW-W&S Syst Consolidated Constr Fd					13,800		13,800
	Project Total					55,200		55,200
S-000894	San Jacinto River Authority							
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,352	419	824	841	800	4,237
	Project Total		1,352	419	824	841	800	4,237
S-000895	Trinity River Authority							
	8319 - HPW-W & S Contributed CAP		2,960					2,960
	8500 - HPW-W&S Syst Consolidated Constr Fd		6,906					6,906
	Project Total		9,865					9,865
S-000900	Surface Water Transmission Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		137,560	71,123	122,358	21,487		352,528
	8507 Water Auth NETL		107,191					107,191
	8508 HPW NETL Constr		63,832					63,832
	8509 Water Auth SETL			106,618				106,618
	8510 HPW SETL Constr			18,254				18,254
	Project Total		308,583	195,995	122,358	21,487		648,423

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2020-2024 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2020-2024
			2020	2021	2022	2023	2024	
S-000901	Condition Assessment and Rehabilitation							
	8500 - HPW-W&S Syst Consolidated Constr Fd		6,760		3,547		5,500	15,807
	Project Total		6,760		3,547		5,500	15,807
S-000956	Automatic Meter Reading Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		40,483					40,483
	Project Total		40,483					40,483
S-000958	Meter Replacement & Upgrade Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		5,179	5,284	5,388	5,498	5,500	26,849
	Project Total		5,179	5,284	5,388	5,498	5,500	26,849
S-001000	Pump Station Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		11,495	24,721	32,049	8,000	8,000	84,265
	Project Total		11,495	24,721	32,049	8,000	8,000	84,265
S-002015	Water Substitute Service Program							
	8500 - HPW-W&S Syst Consolidated Constr Fd		260	265	271	276	300	1,372
	Project Total		260	265	271	276	300	1,372
S-900001	Upgrades to CUS-Owned Support Facilities							
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,500	3,000	1,500	1,000	1,000	8,000
	Project Total		1,500	3,000	1,500	1,000	1,000	8,000
	Total Appropriations:		1,481,890	472,503	652,765	185,407	183,210	2,975,774



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