



STORM DRAINAGE SYSTEM

Storm Drainage System

The Storm Water Drainage Program designs and constructs drainage improvement projects in areas of the City with a demonstrated need of flood protection for Houston and its residents. The Storm Water Drainage System consists of sheet flow of rainfall runoff overland to the street, street conveyance to an inlet, inlet interception to underground pipe (storm sewer), and pipe conveyance to project outfall at receiving system. The receiving system can be a bayou, tributary channel, or another storm sewer. The Program consists of the following major components (totals do not include water and wastewater utility system funding):

Capital Improvement Projects:

- The City uses objective criteria to develop a ranked list of the highest priority need areas across the City and prioritize candidate storm drainage projects based on their benefits and costs. Projects are developed in accordance with the City's design criteria to convey 2-year rainfall events in the storm sewer and reduce the risk of structural flooding during 100-year storm events. Properties within special flood hazard areas or the 100-year flood zone will be protected from localized event flooding, but may not be protected from flooding related to inadequate level of service of the receiving system.

Local Drainage & Storm Water Action Team Projects:

- These programs address localized storm water drainage system problems including inadequate level of service due to underground storm sewer capacity, inlet capacity, and/or structural failure of the storm sewer or outfall. Engineering and construction are accomplished by work order contracts in order to address these problems quickly and cost effectively. The FY2019-2023 CIP commits approximately \$133 million to these programs.

The Capital Improvement Plan (CIP) provides an estimate of delivery by fiscal year for the next five years. The FY2019-2023 CIP includes \$583 million for Storm Water Drainage improvements funded primarily through drainage fees

assessed on non-exempted benefitted property and a dedication of ad valorem revenue to the Dedicated Drainage and Street Renewal Fund (DDSRF).

The FY2019-2023 CIP reflects a reduction in the anticipated amount of DDSRF funding available for appropriation. As a result, a number of projects listed in the Adopted FY2018-2022 CIP no longer fit within the fiscal capacity of the five-year CIP. As additional funding is identified in future CIPs these projects will be prioritized for construction.

Storm Drainage System Projects deferred to future CIPs:

M-410007-0001	Gulfway Terrace Sec 1 Area
M-410019-0001	Sharpstown Area 2
M-410022-0001	Garden Oaks and Shepherd Park (East)
M-410036-0002	Spring Shadows Area

Project Allocation	Fiscal Year Planned Appropriations					2019-2023
	2019	2020	2021	2022	2023	
Planning						
Acquisition-Land	2,368		875		21,806	25,050
Design	12,661	15,666	23,427	20,023	20,569	92,346
Construction	86,463	112,469	104,685	73,633	81,185	458,435
Equipment Acquisition						
Salary Recovery						
Other	500	1,000	1,500	3,000	1,000	7,000
Total Allocation	101,993	129,135	130,487	96,655	124,560	582,831
Source of Funds						
4042 - Street & Trfc Control & Strm Drain DDSRF	63,727	118,135	129,487	95,655	123,560	530,565
5000 - Federal Government - Grant Funded	37,266					37,266
5430 - Federal State Local - HPW Pass thru DDSR	1,000	11,000	1,000	1,000	1,000	15,000
8500 - HPW-W&S Syst Consolidated Constr Fd						
Total Funds	101,993	129,135	130,487	96,655	124,560	582,831

STORM DRAINAGE SYSTEM - Summary of Funds
2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project	Fiscal Year Planned Appropriations					2019-2023
		2019	2020	2021	2022	2023	
M-000247	Nottingham & Yorkshire Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF			12,359			12,359
	8500 - HPW-W&S Syst Consolidated Constr Fd			4,967			4,967
	Project Total			17,325			17,325
M-000288	Easthaven Blvd (Bryant to Ledge)						
	4042 - Street & Trfc Control & Strm Drain DDSRF		10,857				10,857
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,994				1,994
	Project Total		12,850				12,850
M-000294	Cullen Drainage and Paving						
	4042 - Street & Trfc Control & Strm Drain DDSRF				12,422		12,422
	8500 - HPW-W&S Syst Consolidated Constr Fd				1,783		1,783
	Project Total				14,205		14,205
M-000295	Scott Street Drainage and Paving						
	4042 - Street & Trfc Control & Strm Drain DDSRF				9,877		9,877
	8500 - HPW-W&S Syst Consolidated Constr Fd				1,218		1,218
	Project Total				11,095		11,095
M-000700	Kress Street Area Paving and Drainage						
	4042 - Street & Trfc Control & Strm Drain DDSRF	4,080					4,080
	Project Total	4,080					4,080
M-410001	Woodshire Area Drainage and Paving						
	4042 - Street & Trfc Control & Strm Drain DDSRF		10,180				10,180
	8500 - HPW-W&S Syst Consolidated Constr Fd		2,022				2,022
	Project Total		12,201				12,201

STORM DRAINAGE SYSTEM - Summary of Funds
2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project						2019-2023
		2019	2020	2021	2022	2023	
M-410002	Potomac & Nantucket Area Drng and Paving						
	4042 - Street & Trfc Control & Strm Drain DDSRF			12,942			12,942
	8500 - HPW-W&S Syst Consolidated Constr Fd			2,885			2,885
	Project Total			15,827			15,827
M-410004	Little York, Courlandt Mdws, York Mdws						
	4042 - Street & Trfc Control & Strm Drain DDSRF		8,132				8,132
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,250				1,250
	Project Total		9,382				9,382
M-410005	Spring Shadows (North)						
	4042 - Street & Trfc Control & Strm Drain DDSRF		13,660				13,660
	Project Total		13,660				13,660
M-410006	Arlington Heights Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF	11,964			9,703		21,667
	8500 - HPW-W&S Syst Consolidated Constr Fd	5,613			4,634		10,247
	Project Total	17,577			14,338		31,914
M-410008	Freeway Manor South Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF			10,686			10,686
	8500 - HPW-W&S Syst Consolidated Constr Fd			1,361			1,361
	Project Total			12,048			12,048
M-410009	Briar Meadow Subdivision Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF	13,395					13,395
	8500 - HPW-W&S Syst Consolidated Constr Fd	6,475					6,475
	Project Total	19,870					19,870

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CIP No.	Project						2019-2023
		2019	2020	2021	2022	2023	
M-410010	Freeway Manor: North of Edgebrook						
	4042 - Street & Trfc Control & Strm Drain DDSRF	408			16,917		17,325
	8500 - HPW-W&S Syst Consolidated Constr Fd				3,737		3,737
	Project Total	408			20,654		21,062
M-410013	Melrose Park Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF	1,036		3,597			4,633
	Project Total	1,036		3,597			4,633
M-410014	Wynnewood Acres Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF		7,706				7,706
	Project Total		7,706				7,706
M-410015	Magnolia Park Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF	149	1,965	13,169		7,880	23,163
	8500 - HPW-W&S Syst Consolidated Constr Fd			6,304		4,986	11,290
	Project Total	149	1,965	19,474		12,866	34,453
M-410016	Westridge and Braes Terrace Area						
	4042 - Street & Trfc Control & Strm Drain DDSRF			7,198			7,198
	8500 - HPW-W&S Syst Consolidated Constr Fd			10,633			10,633
	Project Total			17,831			17,831
M-410017	Garden Oaks and Shepherd Park (West)						
	4042 - Street & Trfc Control & Strm Drain DDSRF		19,865				19,865
	8500 - HPW-W&S Syst Consolidated Constr Fd		2,282				2,282
	Project Total		22,147				22,147
M-410019	Sharpstown Area 2						
	4042 - Street & Trfc Control & Strm Drain DDSRF		2,080	4,032		21,806	27,918
	Project Total		2,080	4,032		21,806	27,918

**STORM DRAINAGE SYSTEM - Summary of Funds
2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2019-2023	
		2019	2020	2021	2022	2023		
M-410021	Pinewood Village Area 2 (South)							
	4042 - Street & Trfc Control & Strm Drain DDSRF	61		10,957				11,018
	8500 - HPW-W&S Syst Consolidated Constr Fd			939				939
	Project Total	61		11,896				11,957
M-410023	Richmond Plaza (South) Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF				18,167			18,167
	8500 - HPW-W&S Syst Consolidated Constr Fd				1,627			1,627
	Project Total				19,794			19,794
M-410024	Southland Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF				11,813			11,813
	8500 - HPW-W&S Syst Consolidated Constr Fd				1,309			1,309
	Project Total				13,122			13,122
M-410025	Inwood Forest Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF		2,657	331		8,894		11,882
	8500 - HPW-W&S Syst Consolidated Constr Fd					6,509		6,509
	Project Total		2,657	331		15,403		18,391
M-410027	Richmond Plaza (North)							
	4042 - Street & Trfc Control & Strm Drain DDSRF					3,180		3,180
	8500 - HPW-W&S Syst Consolidated Constr Fd					2,775		2,775
	Project Total					5,955		5,955
M-410028	Westbury Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF	714		12,650				13,364
	8500 - HPW-W&S Syst Consolidated Constr Fd			8,637				8,637
	Project Total	714		21,287				22,001

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CIP No.	Project						2019-2023	
		2019	2020	2021	2022	2023		
M-410029	Chateau Forest West Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF	714				6,479	7,193	
	8500 - HPW-W&S Syst Consolidated Constr Fd					8,235	8,235	
	Project Total	714				14,714	15,428	
M-410035	Jefferson Davis School Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF		3,406	544		15,966	19,916	
	8500 - HPW-W&S Syst Consolidated Constr Fd					1,572	1,572	
	Project Total		3,406	544		17,538	21,488	
M-410036	Spring Shadows Area							
	5430 - Federal State Local - HPW Pass thru DDSR		10,000				10,000	
	8500 - HPW-W&S Syst Consolidated Constr Fd		400				400	
	Project Total		10,400				10,400	
M-410038	Central Park Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF			3,567			3,567	
	Project Total			3,567			3,567	
M-410039	Cottage Grove East Area							
	4042 - Street & Trfc Control & Strm Drain DDSRF	3,997	11,462				15,459	
	8500 - HPW-W&S Syst Consolidated Constr Fd		6,892				6,892	
	Project Total	3,997	18,354				22,351	
M-420126	Local Drainage Program (LDP)							
	4042 - Street & Trfc Control & Strm Drain DDSRF	10,932	11,580	12,233	12,000	12,000	58,745	
	5000 - Federal Government - Grant Funded	37,266					37,266	
	Project Total	48,198	11,580	12,233	12,000	12,000	96,011	

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CIP No.	Project						2019-2023
		2019	2020	2021	2022	2023	
M-430006	Storm Water Action Team (SWAT)						
	4042 - Street & Trfc Control & Strm Drain DDSRF	7,500	7,500	7,500	7,500	7,500	37,500
	Project Total	7,500	7,500	7,500	7,500	7,500	37,500
M-430100	Pre-Engineering for Storm Water Drainage						
	4042 - Street & Trfc Control & Strm Drain DDSRF	1,038	1,112	1,215	1,500	1,500	6,365
	Project Total	1,038	1,112	1,215	1,500	1,500	6,365
M-430220	Project Mgmt. Incl. Testing & Inspection						
	4042 - Street & Trfc Control & Strm Drain DDSRF	1,587	1,619	1,652	1,700	1,700	8,258
	Project Total	1,587	1,619	1,652	1,700	1,700	8,258
M-430241	Stormwater Pump Station & Flood Warning						
	4042 - Street & Trfc Control & Strm Drain DDSRF	1,000	1,000	1,000	1,000	1,000	5,000
	5430 - Federal State Local - HPW Pass thru DDSR	1,000	1,000	1,000	1,000	1,000	5,000
	Project Total	2,000	2,000	2,000	2,000	2,000	10,000
M-430296	Mitigation Program for CIP Projects						
	4042 - Street & Trfc Control & Strm Drain DDSRF	4,652	2,355	2,355	2,355	2,355	14,072
	Project Total	4,652	2,355	2,355	2,355	2,355	14,072
M-430800	Developer Participation						
	4042 - Street & Trfc Control & Strm Drain DDSRF	500	1,000	1,500	3,000	1,000	7,000
	Project Total	500	1,000	1,500	3,000	1,000	7,000
M-500001	Future Design						
	4042 - Street & Trfc Control & Strm Drain DDSRF			10,000	10,000	10,000	30,000
	Project Total			10,000	10,000	10,000	30,000
M-NA0000	Funding Offset						
	8500 - HPW-W&S Syst Consolidated Constr Fd	-12,088	-14,839	-35,726	-11,308	-27,078	-101,039
	Project Total	-12,088	-14,839	-35,726	-11,308	-27,078	-101,039

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2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2019-2023	
		2019	2020	2021	2022	2023		
	Total Appropriations:	101,993	129,135	130,487	96,655	124,560	582,831	