

Cost Analysis and Techniques

Michael Whigham SR, Manager of Construction & Maintenance, Public Works



Maintenance of Stormwater BMPS

September 13, 2019 - Tampa, FL / FSA Seminar

Storm Water Maintenance Cost

Task Summary Report with Core Service							7/31/2019
							9:49 AM
Task	CS	**WOs	Units	UOM	*Total Cost	*Avg. Cost/Unit	
DADM ADMINISTRATIVE FOR DRAINAGE	6	94	11,023.25	Hours	\$350,723.06	\$31.82	
DCI COMPLAINT INVESTIGATION DR	6	47	52.00	Each	\$3,193.96	\$61.42	
DCIB CLEAN INLET BASKET	6	7	324.00	Each	\$6,207.11	\$19.16	
DCWR CLEAN WASH RACK	6	6	6.00	Each	\$1,381.63	\$230.27	
DDC DITCH CLEANING	6	35	429,384.00	Square Yd	\$25,102.63	\$0.06	
DDI DRAINAGE INSPECTIONS	6	59	24,558.50	Each	\$19,617.78	\$0.80	
DDM DITCH MOWING	6	178	3,818,845.00	Square Yd	\$93,669.06	\$0.02	
DDR DITCH REPAIR	6	33	12,101.00	Square Yd	\$47,149.29	\$3.90	
DDS DITCH SPRAYING	6	74	1,379,451.00	Square Yd	\$31,217.34	\$0.02	
DIC INLET CLEAN	6	78	2,252.00	Each	\$38,096.62	\$16.92	
DIN INLET NEW	6	7	9.00	Each	\$20,978.76	\$2,330.97	
DIR INLET REPAIR	6	25	90.00	Each	\$28,368.97	\$315.21	
DITR INLET TOP REPLACE	6	2	5.00	Each	\$2,029.47	\$405.89	
DLC LAKE CLEAN	6	4	930.00	Square Yd	\$14,553.36	\$15.65	
DLR LAKE REPAIR	6	4	104.00	Square Yd	\$2,568.40	\$24.70	
DLS LAKE SPRAY	6	21	282,158.00	Square Yd	\$6,198.63	\$0.02	
DLSM LAKESHORE MOW	6	19	144,567.00	Square Yd	\$2,670.43	\$0.02	
DPCD CLEAN PCD	6	10	290.00	Each	\$18,561.00	\$64.00	
DRPC RETENTION POND CLEAN	6	21	201,626.00	Square Yd	\$31,365.03	\$0.16	
DRPM RETENTION POND MOW	6	145	2,468,130.00	Square Yd	\$52,387.13	\$0.02	
DRPR RETENTION POND REPAIR	6	13	3,466.00	Square Yd	\$7,677.67	\$2.22	
DRPS RETENTION POND SPRAY	6	80	1,750,551.00	Square Yd	\$22,306.11	\$0.01	
DSPC STORM PIPE CLEAN	6	181	95,504.50	Linear Feet	\$138,380.53	\$1.45	
DSPN STORMPIPE NEW/REPLACE	6	6	372.00	Linear Feet	\$50,166.27	\$134.86	
DSPR STORMPIPE REPAIR	6	39	257.00	Each	\$102,158.28	\$397.50	
DSS STREETSWEEEPING	1	184	15,168.45	Lane Mile	\$468,010.23	\$30.85	
DSSPL STREETSWEEEPING PARKING LOTS AND FACILITIES	1	117	967.40	Lane Mile	\$48,043.67	\$49.66	
DTRN TRAINING	6	10	15.25	Each	\$3,929.65	\$257.68	
DTSO TRANSFER STATION OPERATIONS	6	34	639.50	Each	\$79,016.08	\$123.56	
DTV TELEVISIONING LINES	6	107	68,750.00	Linear Feet	\$61,599.73	\$0.90	
DWALL RETAINING/HEAD WALL	6	3	268.00	Square Feet	\$11,069.34	\$41.30	
LADMIN Administrative Work	0	256	7,110.50	Hours	\$278,475.37	\$39.16	
LAPM Aquatic Plant Management	0	147	3,868.75	Hours	\$104,718.06	\$27.07	
LEDUC Education/Public Outreach Events	0	33	148.50	Each	\$6,535.76	\$44.01	
LFLOOD Flood Control Structure Inspection	0	16	58.50	Hours	\$2,237.79	\$38.25	
LIDPR Illicit Discharge Investigation - Proactive	0	2	2.00	Each	\$76.14	\$38.07	
LIDRE Illicit Discharge Investigation - Reactive	0	16	27.00	Each	\$1,365.17	\$50.56	
LMOI Major Outfall Inspection	0	4	54.00	Each	\$1,152.72	\$21.35	
LSAMP Water Quality Sampling	0	30	164.00	Hours	\$5,453.50	\$33.25	
LSHLAS Shoreline Assessment	0	13	849,287.00	Linear Feet	\$3,462.13	\$0.00	
LSPM Special Projects - Maintenance	0	26	467.00	Hours	\$13,665.36	\$29.26	
LSPP Special Projects - Prep/Planning/Oversight	0	23	145.00	Hours	\$5,647.60	\$38.95	
LSTR Training / Professional Development	0	30	530.25	Hours	\$21,405.31	\$40.37	
LSWURA Storm Water Utility Review - Admin	0	42	1,346.50	Hours	\$57,902.89	\$43.00	
LTRAEX Training (NPDES) - External	0	5	70.00	Hours	\$2,051.15	\$29.30	
LTRAIN Training (NPDES) - Internal	0	7	39.00	Hours	\$1,298.22	\$33.29	
LWLMON Water Quality Monitoring	0	68	1,209.25	Hours	\$44,434.15	\$36.75	
SAC ALLEY CLEAN	5	99	509,503.00	Square Yd	\$28,259.63	\$0.06	
SADA INSTALL CURB RAMP	2	3	6.00	Each	\$8,789.83	\$1,464.97	
SADM ADMINISTRATIVE	0	144	21,159.75	Hours	\$826,176.00	\$39.04	

Street Sweeping Cost Comparison

After conducting a cost comparison between in-house sweeping (\$59.08 per curb mile) and contract sweeping (\$43.75 per curb mile) it would be more cost effective to let contract sweepers perform the routine sweeping within the City and keep two in-house sweepers to perform downtown sweeping twice a week, sweep the lake routes, clean the PCD's and inlet baskets; and perform any special events or unscheduled tasks. By utilizing both in-house and contract sweepers, an additional 4750 curb miles can be swept per year with the same funding. These additional miles will allow the city to be swept twice a month for nine months of the year.

Street Sweeping Cost Comparison

Street sweeping cost in 2010 \$59.08 per curb mile

Street sweeping cost in 2019 \$30.85 per curb mile

2010 11,000 curb miles swept - Four Street Sweepers

2018 21,000 curb miles swept – Six Street Sweeper.

2010 4- hours of actual broom time

2019 7- hours of actual broom time

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