

## Stormwater Operation and Maintenance Calculator

How To Use This Spreadsheet: Fill in the rates and hours (or use defaults) in the green box below. These values will be used for all calculations. In the black boxes, provide information related to STP maintenance (or use defaults). Operation and Maintenance (O&M) costs will be calculated in the blue boxes. Update the red box to indicate how many of each STP type will be maintained to get your total O&M costs.

Equipment and Labor Rates			
Labor Type	Hourly Rate	Equipment Type	Hourly Rate
Laborer	\$ 50.00	Dump Truck	\$ 45.25
Technician	\$ 85.00	Excavator	\$ 72.00
Engineer	\$ 115.00	Vacuum Truck	\$ 74.20
		Street Sweeper	\$ 54.00
		Pick Up Truck	\$ 19.45
		Loader	\$ 60.25
		Skid Steer	\$ 22.50
		Camera Van	\$ 51.22
		Mower (all types)	\$ 22.50
Equipment rates based on latest FEMA schedule of equipment rates ( <a href="https://www.fema.gov/schedule-equipment-rates">https://www.fema.gov/schedule-equipment-rates</a> )			

Swirl Separator	
Number of times cleaned annually	1
Hours to Clean	2
Inspections per year	2
Hours per inspection	2
Hours for recertification inspection	4
Years between required recertification	3
Hours per year of general upkeep	1

Annual Maintenance Cost Summary	
Cleanout	\$ 348.40
Inspection	\$ 340.00
Recertification	\$ 153.33
General Upkeep	\$ 50.00
<b>Annual Maintenance Cost (Year 1)</b>	<b>\$ 891.73</b>
Estimated Annual Cost Increase (%)	1.5%
Annual Maintenance Cost (Year 2)	\$ 905.11
Annual Maintenance Cost (Year 3)	\$ 918.69
Annual Maintenance Cost (Year 4)	\$ 932.47
Annual Maintenance Cost (Year 5)	\$ 946.45
Annual Maintenance Cost (Year 6)	\$ 960.65
Annual Maintenance Cost (Year 7)	\$ 975.06
Annual Maintenance Cost (Year 8)	\$ 989.69
Annual Maintenance Cost (Year 9)	\$ 1,004.53
Annual Maintenance Cost (Year 10)	\$ 1,019.60
<b>Annual Maintenance Cost Over 10 Years</b>	<b>\$ 9,543.97</b>

Stormwater Detention Ponds	
Number of times mowed annually	2
Labor hours to mow	4
Years between forebay cleanout	5
Labor hours to clean forebay	40
Equipment hours to clean forebay	20
Inspections per year	2
Hours per inspection	3
Hours for recertification inspection	6
Years between required recertification	3
Hours per year of general upkeep	8

Annual Maintenance Cost Summary	
Mowing	\$ 9,000.00
Forebay Cleanout	\$ 869.00
Inspection	\$ 510.00
Recertification	\$ 230.00
General Upkeep	\$ 400.00
<b>Annual Maintenance Cost (Year 1)</b>	<b>\$ 11,009.00</b>
Estimated Annual Cost Increase (%)	1.5%
Annual Maintenance Cost (Year 2)	\$ 11,174.14
Annual Maintenance Cost (Year 3)	\$ 11,341.75
Annual Maintenance Cost (Year 4)	\$ 11,511.87
Annual Maintenance Cost (Year 5)	\$ 11,684.55
Annual Maintenance Cost (Year 6)	\$ 11,859.82
Annual Maintenance Cost (Year 7)	\$ 12,037.72
Annual Maintenance Cost (Year 8)	\$ 12,218.28
Annual Maintenance Cost (Year 9)	\$ 12,401.56
Annual Maintenance Cost (Year 10)	\$ 12,587.58
<b>Annual Maintenance Cost Over 10 Years</b>	<b>\$ 117,826.26</b>

Treatment Wetland	
Number of times mowed annually	2
Labor hours to mow	4
Years between forebay cleanout	5
Labor hours to clean forebay	40
Equipment hours to clean forebay	20
Inspections per year	2
Hours per inspection	3
Hours for recertification inspection	6
Years between required recertification	3
Hours per year of general upkeep	8
Annual hours to maintain wetland vegetation	8
Annual cost for replacement vegetation	\$ 250.00

Annual Maintenance Cost Summary	
Mowing	\$ 9,000.00
Forebay Cleanout	\$ 869.00
Inspection	\$ 510.00
Recertification	\$ 230.00
General Upkeep	\$ 400.00
Maintain Vegetation	\$ 650.00
<b>Annual Maintenance Cost (Year 1)</b>	<b>\$ 11,659.00</b>
Estimated Annual Cost Increase (%)	1.5%
Annual Maintenance Cost (Year 2)	\$ 11,833.89
Annual Maintenance Cost (Year 3)	\$ 12,011.39
Annual Maintenance Cost (Year 4)	\$ 12,191.56
Annual Maintenance Cost (Year 5)	\$ 12,374.44
Annual Maintenance Cost (Year 6)	\$ 12,560.05
Annual Maintenance Cost (Year 7)	\$ 12,748.46
Annual Maintenance Cost (Year 8)	\$ 12,939.68
Annual Maintenance Cost (Year 9)	\$ 13,133.78
Annual Maintenance Cost (Year 10)	\$ 13,330.78
<b>Annual Maintenance Cost Over 10 Years</b>	<b>\$ 124,783.03</b>

Stormwater Treatment Practice (STP) Type	Number of STPs Maintained	Annual Maintenance Cost	10 Year Maintenance Cost
Stormwater Detention Pond	1	\$ 11,009.00	\$ 117,826.26
Treatment Wetland	1	\$ 11,659.00	\$ 124,783.03
Swirl Separator	1	\$ 891.73	\$ 9,543.97
<b>Total</b>		<b>\$ 23,559.73</b>	<b>\$ 252,153.27</b>