

Project Schedule & Supporting Costing Information

**1999 Dollars
March 3, 2000**

Project#	YEAR 1 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight			
1	Illicit Discharge Elimination Program - Prevent, detect, and remove all physical connections to the drainage system that convey any material other than storm water.(project to be completed over 3 years)	LS		\$70,900				\$70,900		\$70,900
2	Sampling Program for Bacteria, Phosphorus - 6 sampling sites, sample 2x/year for Bacteria, Phosphorus	EVENT	2	\$4,680				\$9,360		\$9,360
3	USGS Stream Gage - Continue operation at Chalmers Rd. bridge	YR	1	\$9,000				\$9,000		\$9,000
4	Enforce Existing Ordinances - Enforce construction SEC methods of slope stabilization, sediment trapping devices, and construction entrance and roadway stabilization & Pond Maintenance - Assume 1 additional staff	LS		\$75,000				\$75,000		\$75,000
5	Ordinance and Code Revisions for storm water quality and management - * prorate across the community includes legal fees, public meetings and hearings assuming no legal challenges to the ordinance revisions	EA.	2	\$30,000				\$60,000		\$60,000
6	Stream Maintenance (routine) - Removal of log jams and trees. Assumes 3 problems per year. - Routine structural repairs	EA. EA.	3 5	\$2,500 \$5,000				\$7,500 \$25,000		\$32,500
7	Public Education Program - Encourage residents to switch to phosphorous free fertilizer and change leaf pick up practices and clean off catch basins in front of home -materials for one year -staff for one year	EA. EA.		\$67,000 \$53,000				\$67,000	\$53,000	\$120,000
8	Design in-system storage structures to large storm drain outlets	EA	5	\$15,000		\$75,000				\$75,000
9	Remedy 10 yr. Storm Flooding Problem - Design solution for Oakbrook Drive Crossing	LS	1	\$10,000		\$10,000				\$10,000
10	Investigate 100 Year Storm Flooding Problems & Determine Responsibilities - Eisenhower Office Park - Concord Center Area - Brookhaven Pond Outlet	LS	1	\$20,000		\$20,000				\$20,000
Costs for Year 1:					\$0	\$105,000	\$0	\$323,760	\$53,000	\$481,760

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Project#	YEAR 2 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight			
1	Illicit Discharge Elimination Program - Prevent, detect, and remove all physical connections to the drainage system that convey any material other than storm water.	LS		\$70,900				\$70,900		\$70,900
2a	Sampling Program for Benthics -6 sampling sites, sample 1x/year for Benthics	EVENT	1	\$3,300				\$3,300		\$3,300
3	USGS Stream Gage - Continue operation at Chalmers Road bridge	YR	1	\$9,000				\$9,000		\$9,000
4	Enforce Existing Ordinances - Enforce construction SEC methods of slope stabilization, sediment trapping devices, and construction entrance and roadway stabilization & Pond Maintenance - Assume 1 additional staff	LS		\$75,000				\$75,000		\$75,000
5	Ordinance and Code Revisions for storm water quality and management - * prorate across the community includes legal fees, public meetings and hearings assuming no legal challenges to the ordinance revisions	EA.	2	\$30,000				\$60,000		\$60,000
6	Stream Maintenance (routine) - Removal of log jams and trees. Assumes 3 problems per year. - Routine structural repairs	EA. EA.	3 5	\$2,500 \$5,000				\$7,500 \$25,000		\$32,500
7	Public Education Program -materials for one year -staff for one year	EA. EA.		\$67,000 \$53,000				\$67,000	\$53,000	\$120,000
8a	Add in-system storage structure to large storm drain outlets (Assume drains >= 10.5') - Burns Park Area Drain - Drain tributary to Landsdown Ponds - Cleaning on a monthly basis	EA. EA. EA.	3 1 36	\$150,000 \$100,000 \$200	\$540,000 \$120,000		\$54,000 \$40,000		\$5,000 \$5,000	\$831,254 \$227,560 \$7,200
9a	Remedy 10 yr. Storm Flooding Problems - Add slope protection at Oakbrook Drive crossing of the northwest branch near Main. Slope protection can be riprap, paving, gabions or bioengineering	LS	1	\$30,000	\$36,000		\$3,600		\$3,000	\$42,600
11	Start Detention Pond Study throughout the Watershed - Includes 100 Year Storm Ponds and First Flush Ponds, estimate 60 of each type Survey 40 ponds each year, purpose is to: Identify type of outlet Required maintenance/cleaning/repairs Ownership and maintenance responsibility Potential for retrofitting ponds with 100 year outlets Potential for adding sediment forebays (both types of ponds) Design retrofits	EA.	40	\$600		\$24,000				\$174,000
12	Structural Repairs - to be done by petition - Design structural repair for end sections, headwalls, wing walls etc.	EA LS	30 3	\$5,000 \$50,000		\$150,000				\$150,000
Cost for Year 2:					\$696,000	\$324,000	\$97,600	\$324,900	\$66,000	\$1,803,314
Finance Costs Year 2:						\$294,814				

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Project#	YEAR 3 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight			
1	Illicit Discharge Elimination Program - Prevent, detect, and remove all physical connections to the drainage system that convey any material other than storm water.	LS		\$70,900				\$70,900		\$70,900
2	Sampling Program for Bacteria, Phosphorus - 6 sampling sites, sample 2x/year for Bacteria, Phosphorus	EVENT	2	\$4,680				\$9,360		\$9,360
3	USGS Stream Gage - Continue operation at Chalmers Road Bridge	YR	1	\$9,000				\$9,000		\$9,000
4	Enforce Existing Ordinances - assume 1 additional staff - Enforce construction SEC methods of slope stabilization, sediment trapping devices, and construction entrance and roadway stabilization & Pond Maintenance	LS		\$75,000				\$75,000		\$75,000
5	Ordinance and Code Revisions for storm water quality and management - * prorate across the community includes legal fees, public meetings and hearings assuming no legal challenges to the ordinance revisions	EA.	2	\$30,000				\$60,000		\$60,000
6	Stream Maintenance (routine) - Removal of log jams and trees. Assumes 3 problems per year. - Routine structural repairs	EA. EA.	3 5	\$2,500 \$5,000				\$7,500 \$25,000		\$32,500
7	Public Education Program -materials for one year -staff for one year	EA. EA.		\$67,000 \$53,000				\$67,000	\$53,000	\$120,000
8a	Add in-system storage structure to large storm drain outlets (Assume drains >= 10.5') - County Farm Park Area Drain - Cleaning on a monthly basis	EA. EA.	1 36	\$100,000 \$200	\$120,000			\$7,200	\$5,000	\$125,000 \$7,200
11a	Retrofit Detention Ponds (3 year plan) <i>Survey 40 ponds</i> <i>Design</i> <i>Construct</i> - 100 yr. Storm ponds, remove existing outlet structures & replace with with a riser standpipe with a low flow opening - Retrofit ponds (100 yr. or first flush) with wetlands - Retrofit ponds (100 yr. or first flush) with a sediment forebay <i>Project management (staff time)</i>	EA. EA. EA. EA. EA. EA.	40 30 30 5 10 0.5	\$600 \$5,000 \$4,000 \$30,000 \$10,000 \$75,000		\$24,000 \$150,000			\$25,000 \$5,000 \$5,000	\$913,417
12a	Structural Repairs - to be done by petition - Start structural repairs for end sections, headwalls, wing walls etc.	EA	5	\$175,000	\$1,050,000				\$105,000	\$1,612,605
13	Residential Street Sweeping - Phase 1 (Area F) - Reduce pollutant discharges to storm water by cleaning pavement monthly Cost includes labor, equipment, materials and services, and disposal.	MILE	61	\$100				\$6,100	\$4,000	\$10,100
14	Brown Park Pond Improvements - Design	LS	1			\$250,000				\$250,000
15	County Farm Park Wetland Pond - Design	LS	1			\$50,000				\$50,000
Cost for Year 3:					\$1,540,000	\$474,000	\$192,500	\$337,060	\$103,000	\$3,345,082
Finance Costs Year 3:						\$698,522				

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Project#	YEAR 4 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight			
2a	Sampling Program for Benthics - 6 sampling sites, sample 1x/year for Benthics	EVENT	1	\$3,300				\$3,300		\$3,300
3	USGS Stream Gage - Continue operation at Chalmers Road bridge	YR	1	\$9,000				\$9,000		\$9,000
4	Enforce Existing Ordinances - Assume 1 additional staff - Enforce construction SEC methods of slope stabilization, sediment trapping devices, and construction entrance and roadway stabilization & Pond Maintenance	LS		\$75,000				\$75,000		\$75,000
5	Ordinance and Code Revisions for storm water quality and management - * prorate across the community includes legal fees, public meetings and hearings assuming no legal challenge to the ordinance revisions	EA.	2	\$30,000				\$60,000		\$60,000
6	Stream Maintenance (routine) - Removal of log jams and trees. Assumes 3 problems per year. - Routine structural repairs	EA. EA.	3 5	\$2,500 \$5,000				\$7,500 \$25,000		\$32,500
7	Public Education Program -materials for one year -staff for one year	EA. EA.		\$67,000 \$53,000				\$67,000	\$53,000	\$120,000
11a	Retrofit Detention Ponds (3 year plan) <i>Survey 40 ponds</i> <i>Design</i> <i>Construct</i> - 100 yr. Storm ponds, remove existing outlet structures & replace with with a riser standpipe with a low flow opening - Retrofit ponds (100 yr. or first flush) with wetlands - Retrofit ponds (100 yr. or first flush) with a sediment forebay <i>Project management (staff time)</i>	EA. EA. EA. EA. EA. EA.	40 30 30 5 10 0.5	\$600 \$5,000 \$4,000 \$30,000 \$10,000 \$75,000		\$24,000 \$150,000			\$25,000 \$5,000 \$5,000	\$913,417
12a	Structural Repairs - to be done by petition - Start structural repairs for end sections, headwalls, wing walls etc.	EA	5	\$175,000	\$1,050,000			\$105,000	\$6,000	\$1,612,605
13a	Residential Street Sweeping - Phase 2 (Areas C& F) - Increase area based on evaluation, may need increased capital costs of new sweeper. - Capital costs are estimated to be \$50,000/year to lease sweeper Cost includes labor, equipment, materials and services, and disposal.	MILE	230	\$100				\$23,000	\$4,000	\$27,000
14a	Brown Park Pond - Construction - Excavation above elevation 801 feet - Excavation below 801 feet - Wetland Creation	CY CY Acres	25,000 40,000 8	\$10 \$20 \$40,000	\$300,000 \$960,000 \$384,000			\$75,000	\$50,000	\$2,494,543
15a	County Farm Park Pond - Construction - Excavation above elevation 809 feet - Excavation below 809 feet - Install outlet structure - Wetland Creation	CY CY LS Acres	7,000 3,000 1 1	\$10 \$20 \$4,000 \$40,000	\$84,000 \$72,000 \$4,800 \$48,000			\$20,000	\$30,000	\$263,600
Cost for Year 4:					\$3,272,800	\$174,000	\$330,700	\$269,800	\$178,000	\$5,610,965
Finance Costs Year 4:						\$1,385,665				

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Project#	YEAR 5 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)	
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight				
2	Sampling Program for Bacteria, Phosphorus - 6 sampling sites, sample 2x/year for Bacteria, Phosphorus	EVENT	2	\$4,680				\$9,360		\$9,360	
3	USGS Stream Gage - Continue operation at Chalmers Road Bridge	YR	1	\$9,000				\$9,000		\$9,000	
4	Enforce Existing Ordinances - Assume 1 additional staff - Enforce construction SEC methods of slope stabilization, sediment trapping devices, and construction entrance and roadway stabilization & Pond Maintenance	LS		\$75,000				\$75,000		\$75,000	
5	Ordinance and Code Revisions for storm water quality and management - * prorate across the community includes legal fees, public meetings and hearings assuming no legal challenges to the ordinance revisions	EA.	2	\$30,000				\$60,000		\$60,000	
6	Stream Maintenance (routine) - Removal of log jams and trees. Assumes 3 problems per year. - Routine structural repairs	EA. EA.	3 5	\$2,500 \$5,000				\$7,500 \$25,000		\$32,500	
7	Public Education Program -materials for one year -staff for one year	EA. EA.		\$67,000 \$53,000				\$67,000	\$53,000	\$120,000	
11a	Retrofit Detention Ponds (3 year plan) <i>Survey 40 ponds</i> <i>Design</i> <i>Construct</i> - 100 yr. Storm ponds, remove existing outlet structures & replace with with a riser standpipe with a low flow opening - Retrofit ponds (100 yr. or first flush) with wetlands - Retrofit ponds (100 yr. or first flush) with a sediment forebay Project management (staff time)	EA. EA. EA. EA. EA. EA.	40 30 30 5 10 0.5	\$600 \$5,000 \$4,000 \$30,000 \$10,000 \$75,000		\$24,000 \$150,000			\$120,000 \$150,000 \$25,000 \$15,000 \$10,000 \$37,500	\$25,000 \$5,000 \$5,000	\$913,417
12a	Structural Repairs - to be done by petition - Start structural repairs for end sections, headwalls, wing walls etc.	EA	5	\$175,000	\$1,050,000				\$105,000	\$6,000	\$1,612,605
13b	Residential Street Sweeping - Phase 3 (all areas) - Increase area based on evaluation, may need increased capital costs of new sweeper. - Capital costs are estimated to be \$50,000/year to lease sweeper Cost includes labor, equipment, materials and services, and disposal.	MILE	634	\$100				\$63,400	\$4,000	\$67,400	
14b	Brown Park Pond - start monitoring	LS		\$10,000				\$10,000	\$7,500	\$17,500	
15b	County Farm Park Wetland Pond - start monitoring	LS		\$10,000				\$10,000	\$7,500	\$17,500	

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Project#	YEAR 5 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight			
16	Commercial Street and Parking Lot Sweeping - This area will start based upon pilot evaluation - Parking lot sweeping estimate assumes 20% of commercial area is parking lot.	MILE	314	\$100				\$31,400	\$3,000	\$34,400
17	Streambank Stabilization - Design - Assume 5 miles of stream need stabilization, bioengineering and/or rip rap	LS	1			\$178,000			\$30,000	\$208,000
18	Habitat Improvements - Design - Revegetation of banks - Habitat Structures, small scale in-stream such as log check dams, etc.	LS	1	\$12,000		\$12,000			\$10,000	\$22,000
19	Catch Basin Restriction Pilot Project - Place Catch Basin Restrictors in Area A (tributary to Landsdown Ponds) - Clean Catch Basins on a monthly basis - Remove restrictors at end of pilot program if desired	EA.	419	\$1,000	\$502,800	\$75,000	\$50,000		\$25,000	\$1,169,329
		EA.	5,028	\$40				\$201,120		
		EA.	419	\$100	\$50,280					
*	Private Company Conducting Catch Basin Cleaning for the Creekshed- - Cleaning is done 2x/year by a private company, public and commercial areas * numbers are for comparison purposes	Mile	948	\$1,584				\$1,501,632		\$1,501,632
20	Catch Basin Cleaning - Cleaning done by employees, 3 new vacators - Three crews of 2 people each are needed - Disposal costs are included	Mile	948		\$75,000			\$397,150		\$472,150
Costs for Year 5:					\$2,048,080	\$439,000	\$242,500	\$965,930	\$181,000	\$4,840,161
Finance Costs Year 5:						\$963,651				

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Project#	YEAR 6 Proposed Restoration Activity Description	Unit Cost			Construction Costs			O&M Cost (\$/yr)	Public Involvement (\$)	Total Project Costs (\$)
		Units	Qty.	Unit Cost (\$)	Capital Costs (includes 20% contingency)	Design & Engineering	Construction Oversight			
2a	Sampling Program for Benthics - 6 sampling sites, sample 1x/year for Benthics	EVENT	1	\$3,300				\$3,300		\$3,300
3	USGS Stream Gage - Continue operation at Chalmers Road Bridge	YR	1	\$9,000				\$9,000		\$9,000
4	Enforce Existing Ordinances - Assume 1 additional staff - Enforce construction SEC methods of slope stabilization, sediment trapping devices, and construction entrance and roadway stabilization & Pond Maintenance	LS		\$75,000				\$75,000		\$75,000
5	Ordinance and Code Revisions for storm water quality and management - * prorate across the community includes legal fees, public meetings and hearings assuming no legal challenges to the ordinance revisions	EA.	2	\$30,000				\$60,000		\$60,000
6	Stream Maintenance (routine) - Removal of log jams and trees. Assumes 3 problems per year. - Routine structural repairs	EA. EA.	3 5	\$2,500 \$5,000				\$7,500 \$25,000		\$32,500
7	Public Education Program -materials for one year -staff for one year	EA. EA.		\$67,000 \$53,000				\$67,000	\$53,000	\$120,000
13b	Residential Street Sweeping - Phase 3 (all areas) - Continue sweeping area based on evaluation, may need increased capital costs of new - Capital costs are estimated to be \$50,000/year to lease sweeper Cost includes labor, equipment, materials and services, and disposal.	MILE	634	\$100				\$63,400	\$4,000	\$67,400
14b	Brown Park Pond - start monitoring	LS		\$10,000				\$10,000	\$7,500	\$17,500
15b	County Farm Park Wetland Pond - start monitoring	LS		\$10,000				\$10,000	\$7,500	\$17,500
16	Commercial Street and Parking Lot Sweeping - Continue sweeping area based upon pilot evaluation - Parking lot sweeping estimate assumes 20% of commercial area is parking lot.	MILE	314	\$100				\$31,400	\$3,000	\$34,400
17a	Streambank Stabilization - start construction - Assume 5 miles of stream need stabilization, bioengineering and/or rip rap	LF	26,400	\$45	\$1,425,600		\$142,560		\$30,000	\$2,211,311
18a	Habitat Improvements - Implement - Revegetation of banks - Habitat Structures, small scale in-stream such as log check dams, etc.	LS EA.	1 10	\$100,000 \$3,000	\$120,000 \$36,000		\$5,000 \$3,000		\$5,000 \$5,000	\$174,000
20	Catch Basin Cleaning - Cleaning done by employees using 3 leased vacators - Three crews of 2 people each are needed - Disposal costs are included	Mile	948		\$75,000			\$397,150		\$472,150
Costs for Year 6:					\$1,656,600	\$0	\$150,560	\$758,750	\$115,000	\$3,294,061
Finance Costs Year 6:						\$613,151				