

SEMSWA

2018 Budget

Fee Discussion



Asset Management

Outcome:

SEMSWA's Infrastructure Asset Management Program is the combination of management, financial, economic, engineering, and other practices applied to infrastructure assets with the objective of providing the required level of service in the most cost-effective manner. It includes the management of the whole life cycle - design, construction, commissioning, operating, maintaining, repairing, modifying, replacing, and decommissioning/disposal - of infrastructure assets.

Indicators:

SEMSWA extends the life of corrugated metal pipe through:

- Planning, design, and installation of cured-in-place pipe, or other appropriate techniques, where most advantageous, from a financial and engineering perspective

SEMSWA maintains an inventory of all important stormwater structures, including ponds, pipes, culverts, manholes, inlets, and channels through:

- Videoing pipes, assessing condition, and documenting results
- Regularly observing ponds, culverts, manholes, inlets, and channels, assessing condition, and documenting results

SEMSWA maintains infrastructure at or above the required operating condition through:

- Preventative maintenance applied at the time of the life cycle of the asset which is most cost-beneficial
- Restorative maintenance applied when the asset is no longer in operating condition
- Replacement applied when the asset is undersized or has failed ¹

1. This approach is by far the most costly form of infrastructure maintenance.



Is Preventative Maintenance Worth It?

Anecdotal evidence suggests the following:

The asset will perform better

The asset's life will be extended



**An Even More Convincing Argument Can be
Made by Determining the Economic Value of
Preventative Maintenance**

Does PM generate a solid rate of return?

SEMSWA**Example of Savings Through Preventative Maintenance**

Cost to Restore Unnamed Creek at Eaglecrest	\$ 101,000
Estimated days to maintain per year	3
Cost per day	\$ 1,100
Cost to maintain per year	\$ 3,300
Useful life if not maintained	10
Cost of preventative maintenance over useful life	\$ 33,000
Savings	\$ 68,000
ROI:	206%

SEMSWA**Example of Savings Through Preventative Maintenance**

Cost to restore Hollow Park	\$ 155,000
Estimated days to maintain per year	4
Cost per day	\$ 1,100
Cost to maintain per year	\$ 4,400
Useful life if not maintained	15
Cost of preventative maintenance over useful life	\$ 66,000
Savings	\$ 89,000
ROI:	135%

SEMSWA

Example of Savings Through Preventative Maintenance

Estimated Cost to restore Riviera Pond	\$ 150,000
Estimated days to maintain pond per year	4
Cost per day	\$ 1,100
Cost to maintain per year	\$ 4,400
Useful life if not maintained	15
Cost of preventative maintenance over useful life	\$ 66,000
Savings	\$ 84,000
ROI:	127%

Unnamed Creek Vegetation Management

- Channel and culvert blocked by willow tree and cattails- 3200 feet of channel was worked on
- Willow tree removed and cottonwood trees limbed up and cattails cut- 1,008,000 pounds of vegetation removed



Unnamed Creek Vegetation Management

- Channel section blocked with vegetation and trees
- Trees are removed and lower limbs are cut to allow for water to flow



Riviera Pond- Before and After



Riviera Pond

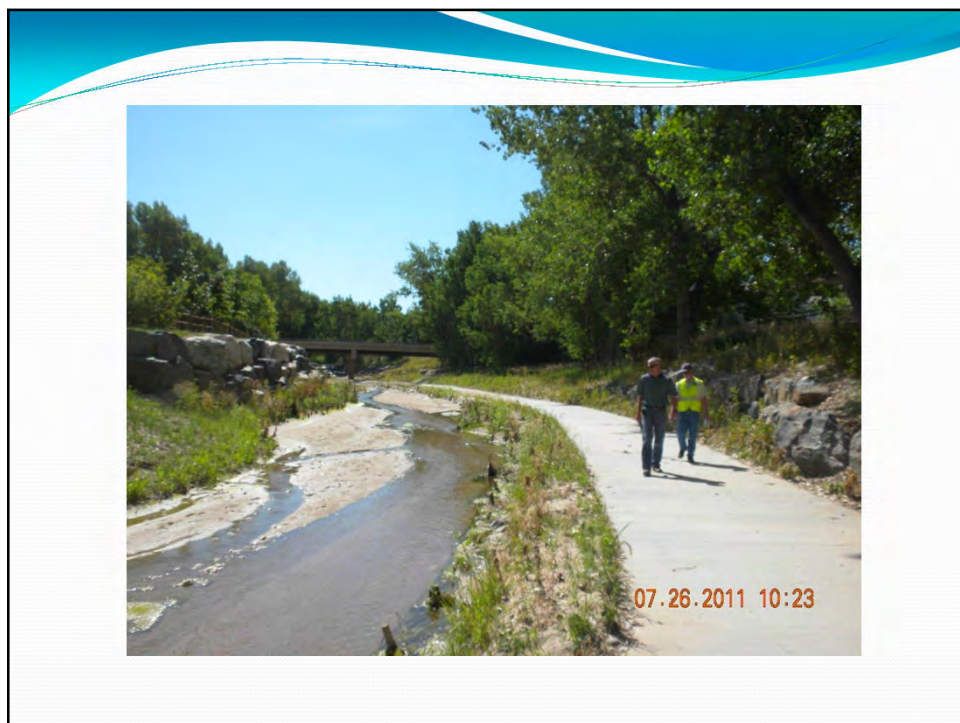
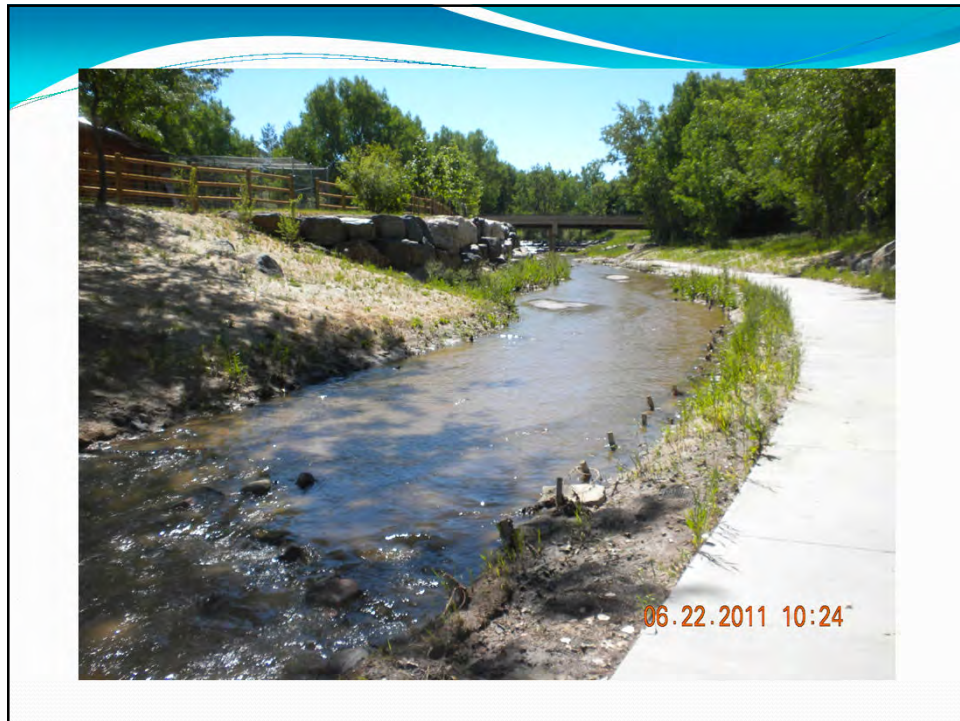
- Vegetation Management- Winter 2016- low flow channel is filling in, but still working
- Vegetation growing back- fast! Channel needs minor sediment removal- can be performed with in-house equipment



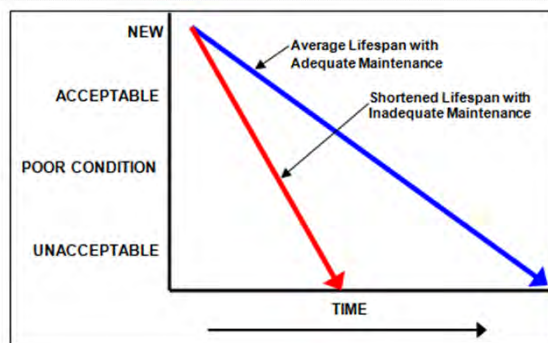
Piney Creek Hollow Park

- Minimal Maintenance performed
- Large quantity of sediment built-up









Type of Infrastructure	Estimated Quantity (2007)			Actual Quantity (2017)		
	Miles	Linear Feet	Number	Miles	Linear Feet	Number
Open Channels						
Total "major" channels	110	581,000	-	176	929,000	-
Total "other" channels	122	644,000	-	275	1,452,000	-
Structures in Channels						
Drop Structures	-	-	700	-	-	1,491
Weed Control/Mowing/Debris Removal	-	-	-	-	469 acres	158
Storm Sewer Systems						
Pipe	157	829,000	-	288	1,520,000	-
Street Inlets and Catch Basins	-	-	1,700	-	-	8,440
Outfalls	-	-	1,600	-	-	2,400
Manholes	-	-	1,700	-	-	5,140
Detention Ponds (for peak flow attenuation)	-	-	370	-	-	817
Water Quality Ponds (to improve water quality per NPDES permit)	-	-	95	-	-	279

Figure 2-3: SEMSWA Proposed Maintenance Budget, 2007 – 2027

