



Anchorage Regional Landfill Leachate Minimization Project

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In 2018, the Anchorage Regional Landfill (ARL) trucked out 31 million gallons of leachate. This is a very expensive process and ARL is nearing the limit of their ability transport the leachate. GES is proposing two actions for minimizing the amount of leachate generated. The first recommendation is to reduce the permeability of the side slopes to lower the amount of precipitation that becomes leachate. The second action is a public awareness campaign aimed at lowering the amount of liquid waste entering the landfill thereby reducing total leachate generated.

Recommended Action A: Reducing The Permeability of the Side Slopes

- Precipitation absorbed through side slopes is a significant contributor to leachate
- Use street-sweeping material on top of gravel to create a smooth surface
- Spray waste latex paint on top of street sweepings to reduce permeability
- Experimental data suggests this could prevent 32% of precipitation from becoming leachate

The Experiment

- Designed to test the effectiveness of paint as a means of reducing permeability
- Boxes with interior screens at slopes matching the exterior
- Water poured from can to simulate precipitation
- Runoff and seepage collected and measured

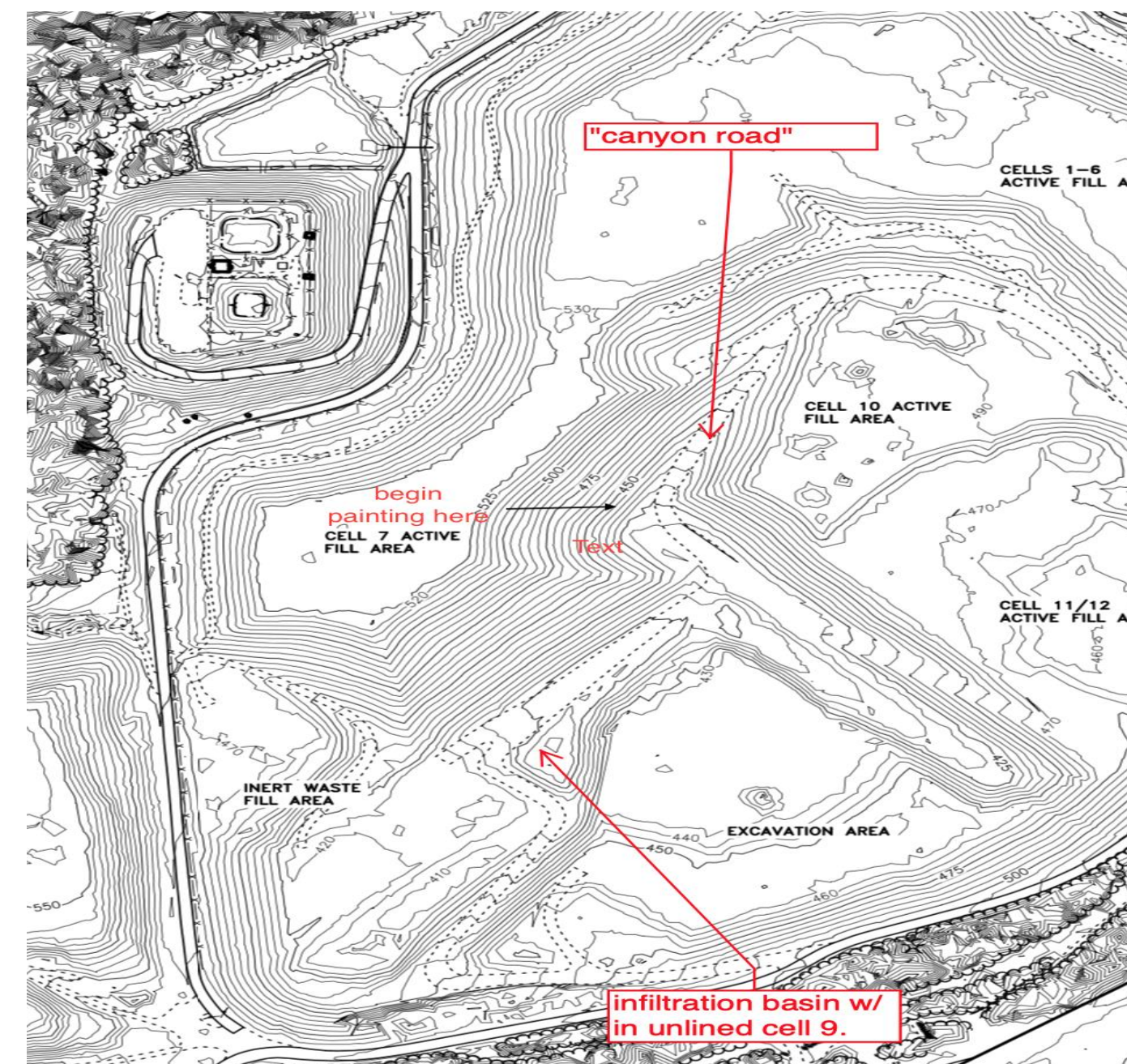


The Results: In the box with painted street sweepings, 5.96 L of water was poured and 1.96L became runoff.

Projected Leachate Savings:

- Year 1: 4 acres painted, 574,000 gal cumulative saved, \$25,000 cumulative saved
- Year 5: 20 acres painted, 8.6 million gal cumulative saved, \$379,000 cumulative saved
- Year 10: 36.75 acres painted, 31 million gal cumulative saved, \$1.4 million cumulative saved

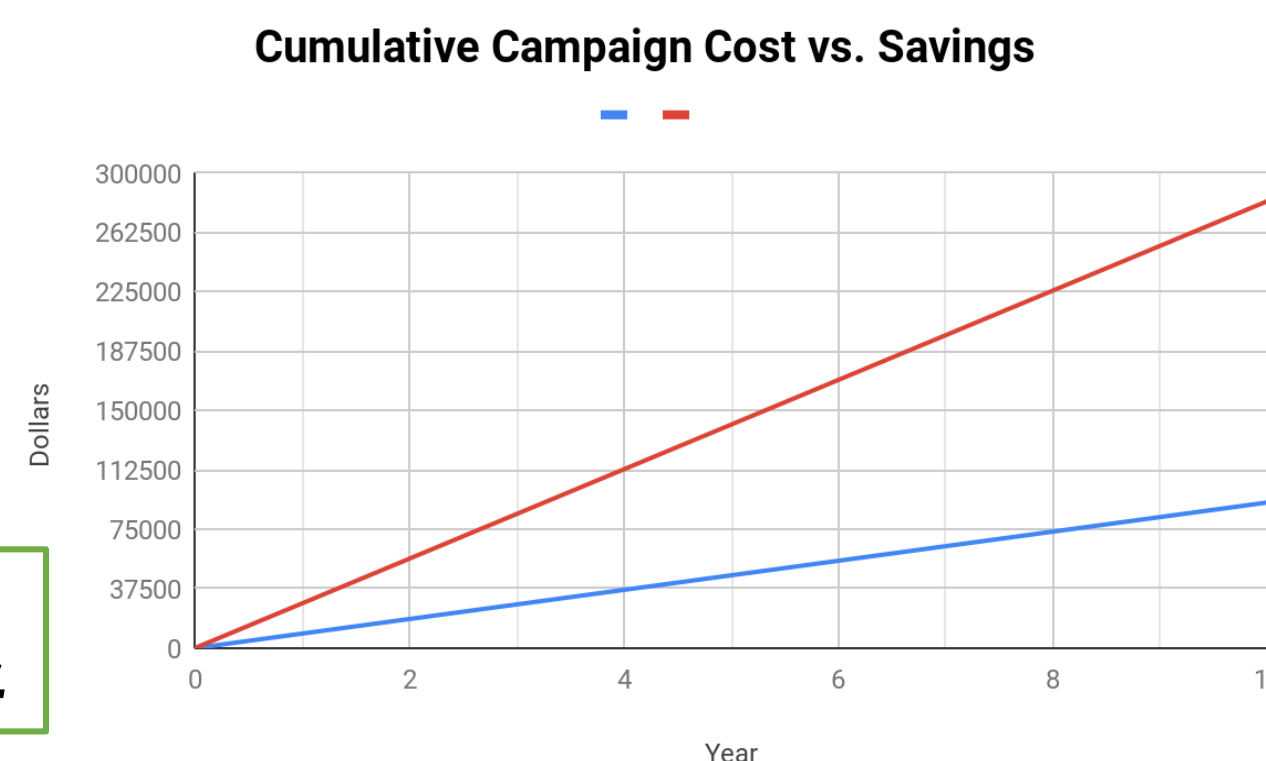
Application Area:



Recommended Action B: Public Campaign for Reduced Liquid Waste

- *The message:* Help reduce the amount of liquid that enters the landfill in order to minimize leachate production (see flyer)
- What if? Residential customers help prevent 1 gallon of liquid from going in their trash per week and commercial customers 2 gallons = 2% decrease in liquid waste in landfill = estimated 3% decrease in leachate production
- Goal is to involve all 15,000 SWS customers
- Total cost of materials and labor to fully implement campaign = \$7,200 - \$9,200
- Ongoing public communication plan updated on a quarterly basis

This graph shows the cumulative amount spent to implement the campaign in BLUE, assuming the maximum cost of \$9,200/yr, and the resulting annual savings in leachate haul costs in RED.



The campaign will save an estimated \$28,320/yr.

Public Outreach

Flyer Sample to be included with SWS customer bills mailed out quarterly.

Includes information regarding why the campaign is necessary, simple ways to help reduce liquid waste, and the availability of hazardous waste collection facilities.

GES Engineering strongly recommends SWS to share this message with the community as a means to reduce the generation of leachate and simultaneously encourage users to engage in additional conscious waste disposal practices.

HELP REDUCE Leachate

Leachate is a mixture of liquids that has seeped through the landfill.

WHY? Every year, the Anchorage Regional Landfill sees 29 MILLION gallons of leachate. ARL is currently at max capacity for hauling leachate to Anchorage Water and Wastewater Utility.	WAYS TO REDUCE - Pour out liquids from containers before tossing in the garbage - Close your trash can/cart lid(s) when outside - Know where to dispose special items, such as oil, paint, fuel, cleaners, and other hazardous household materials*	WHERE TO DISPOSE HAZARDOUS MATERIALS Central Transfer Station Tuesday, Thursday, & Saturday 8 am - 5 pm Hazardous Waste Collection Facility at ARL Tuesday - Saturday 8 am - 5 pm
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*Businesses strongly encouraged to bring materials to CTS or HWC

907-343-6250 | www.muni.org/Departments/SWS



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