



Eco-Infrastructure Solutions, LLC
Product Estimate & Cost Comparison for Super Absorbent Polymer(SAP) Use In Sludge/Liquid Solidification

<u>Type of Waste:</u>	<u>Waste water sludge/Liquid</u>	
	<u>Current</u>	<u>SAP</u>
Solidification Product:	xxxxxxx	General Application
Waste Volume weight(#/gal)	8.35	8.35
Waste Gallons:	40000	40000 (Per day)
Waste Quantity(tons):	167	167
Solidification Product #:	1600	0.015 (Initial testing should be at 0.0025% and go up as needed)
Waste Product #:	2500	1
Product Amount Needed/Ton(%):	0.64	0.015
Product Amount Needed/Ton(lbs.):	1280	30
Product Cost/lb.:	\$ 0.015	\$ 1.30
Product Shipping Cost/lb.:	\$ 0.02	\$ 0.30
Product Cost/Ton of Waste:	\$ 44.80	\$ 48.00
Total Product Needed for Waste(lbs.):	213760	5010
Total Product Tons:	106.88	2.51
Total Product Cost for Waste:	\$ 7,481.60	\$ 8,016.00
	<u>Transportation & Disposal Costs</u>	
Landfill Disposal Fee/Ton:	\$ 35.00	\$ 35.00
Transportation Cost/Ton to Landfill:	\$ 5.00	\$ 5.00
Total Waste & Product Weight(Tons):	273.88	169.505
Total Landfill Disposal Cost:	\$ 9,585.80	\$ 5,932.68
Total Transportation Cost:	\$ 1,369.40	\$ 847.53
Total Transportation & Disposal Cost:	\$ 10,955.20	\$ 6,780.20
	<u>Labor Costs</u>	
Process Time/Ton of Waste(Minutes):	20	18
Number of Workers Needed:	2	2
Process Man-Hours/Ton of Waste:	0.667	0.60
Cost/Man-Hour (Wages+Benefits):	\$ 38.00	\$ 38.00
Total Man-Hours:	182.587	\$ 101.70
Total Labor Cost:	\$ 6,938.29	\$ 3,864.71
Total Cost of Waste Disposal:	\$ 25,375.09	\$ 18,660.91
Savings Using SAP Product:	\$ 6,714.18	

The use of an SAP product will result in the following benefits:

- *With SAP's there will be lower transport fees and disposal costs due to less loads and weight when it replaces other solidification products.
- *With SAP's there will be no need for special equipment, a dump truck should be sufficient for transportation of the solidified material which will reduce transportation costs.
- *When using SAP's there will be lower total landfill disposal fees due since waste volume has not expanded as much when compared to using other solidifying materials and by reducing the weight.
- * With using SAP's there will be faster processing time and resulting labor savings as compared to other solidification materials.
- * With SAP's there will be no exothermic reaction to release organics or PCBs into the environment.
- *SAP's have the ability to bind most soluble Heavy Metals to prevent leaching.
- *With SAP's the faster processing rate ends a task quicker and frees up the resources and assets to be quickly mobilized on another task generating additional savings.
- *With SAP's there would be a reduction in the use and costs of other methods, equipment or products that are currently being used for dewatering and solidification.