

# GLASS WORKSHOP ALTERNATIVES

## ALTERNATIVE #1 – No Longer Accept Glass at Recycling Center - No Local Recycling of Glass

Glass would be Disposed of at the Klondike Landfill as it would be Discarded with Regular Household Waste

### Benefits:

- The easy way, no resident has to transport glass to the Recycling Center.
- No handling of bottles and having to haul drums of glass to the landfill which is taxing on the Recycling Center employees and vehicles.
- No rinsing of glass bottles or jars utilizes less water.
- Increases revenue received at the Klondike Landfill.
- Employee wages at the Recycling Center would be saved by the amount of time it takes to process glass.
- Wear and tear on Recycling Center vehicle plus taxing miles to the Moab Landfill.
- Save freight costs (which includes cost of fuel) for shipping glass to Coors in Golden, CO, when a belly dump truck can be found.

### Cons:

- Glass would then cost \$29 per ton to landfill as opposed to \$14 to recycle as indicated in the Solid Waste Management Special Service District report of May 2008.
- Increase in number of trips to the Klondike Landfill by Bob's Sanitation for disposal.
- Increase transportation by 44 miles roundtrip from Moab to Klondike Landfill.
- Klondike Landfill fills quicker as it will be accepting glass otherwise diverted for recycling.

### Actions Needed:

- Remove barrels for glass deposit and no longer accept glass for recycling at Recycling Center.
- Residents dispose of glass in their household waste rather than recycling at local Recycling Center.

## **ALTERNATIVE #2 - Utilize Glass as Cover Material at the Class IV (Moab) Construction Waste Landfill**

### **Glass is Landfilled in Its Whole State – Not Processed by Crushing**

#### **Benefits:**

- Provides cover material in the absence of available dirt at the Moab Landfill.
- Reduces excavation costs for dirt to use as cover material.
- No storage required to house processed glass before selling to markets.

#### **Cons:**

- One-mile round-trip very steep and taxing on Green Solution and Recycling Center vehicles to haul trailers full of barrels of glass to Moab Landfill.
- Loading of truck with drums of glass and having to haul to the landfill is taxing on the Recycling Center Employees.
- Cannot produce enough glass to replace dirt needed for cover at the Moab Landfill.
- Utilizing crushed glass as cover material creates a safety issue for users of the Moab Landfill.
- Recycling public is not happy their intended recycled glass is being landfilled.
- Utilizing equipment at Moab Landfill to smash glass which creates wear and tear and emissions.

#### **Actions Needed:**

- Continue current practice of loading barrels of glass in either Recycling Center or Green Solutions truck/trailer and transporting to Moab Landfill.
- Solid Waste District continues crushing of glass at Moab Landfill by running over it with heavy equipment to utilize for cover material.

## **ALTERNATIVE #3 – Purchase of a 40 Cubic Yard Belly Dump Trailer, Construction of a Storage Facility, and Reaching Current and New Markets**

### **Benefits:**

- Continue recycling glass again.
- Recycling public would be pleased their sorted and delivered glass was recycled rather than used as landfill cover.
- The Recycling Center currently has a brand new glass crusher.
- Owning a belly dump trailer would eliminate dependence on trucking companies.
- Hire local drivers w/tractor (when possible) to transport belly dump of crushed glass to markets.
- Expands upon market options for transporting to markets outside our community.
- Ship crushed glass to Denver, CO – Freight \$600 – Revenue \$50 per ton for brown / \$20 per ton for clear/green.
- Ship crushed glass bottles (brown and clear/green) to Heritage Glass in Salt Lake City – Freight \$500.
  - Heritage Glass needs to secure rail freight to Coors for this to be possible.
  - Revenue per ton undetermined until rail freight is secured.
- Begin shipping crushed glass to Fibertek currently in Nephi, UT, and possibly in the future to a Fibertek location in Salt Lake City, UT.
  - Company would want all clear, green, and a small percentage of blue glass but cannot pay a per ton fee to the Recycling Center. Fibertek may be able to arrange and pay for freight.
- Begin accepting window pane glass, crush and ship to Heritage Glass in Salt Lake City at \$80 per ton and free freight (company will arrange and pay for freight).
- Utilize overflow of crushed glass as cover at Moab Landfill.
- Crushing glass to sell to markets equals labor costs to load whole bottles, transport and deposit at the Moab Landfill.
- Crushing and transporting of glass was working for the Recycling Center previously when transportation could be obtained.

### **Cons:**

- Expenses for belly dump trailer and storage building.
- The costs for purchase of a belly dump trailer to again ship crushed glass to Coors and purchase and construct a storage facility will need to be raised or gained through a grant.
- Longer distance for transportation costs.
- Revenue to Klondike Landfill is lost.
- Moab Landfill would continue to need cover material over and above overflow of glass.
- Without belly dump trailer and storage facility, this alternative is not feasible as glass would be crushed and stockpiled which eventually becomes contaminated with sand and is not marketable unless cleaned with water.

## **ALTERNATIVE #3 - Continued**

### **Needs:**

- Purchase a belly dump truck – estimated at \$25,000.
- Purchase of storage facility to house crushed glass prior to shipping – estimated at \$45,000
  - Need 60' W x 60' L x 20' high metal/concrete storage facility.
- Utilize self dumping hoppers to transport crushed glass into storage facility – estimated \$1,000 for two hoppers.

### **Actions Needed:**

- Secure capital funds or grant for costs associated with alternative.

## **ALTERNATIVE #4 – Obtain Pulverizer for Glass Processing, Purchase of Belly Dump Trailer, and Construction of Storage Facility**

### **Benefits:**

- Continue recycling glass again.
- Recycling public would be pleased their sorted and delivered glass was recycled rather than used as landfill cover.
- Achieve local support to utilize the product in Moab (see attachment for possible uses).
- Achieve support from surrounding communities to recycle their glass in Moab.
- Achieve support from surrounding communities to utilize the glass produced by the pulverizer.
- Creates a product and better markets that are more local and economical and expands upon market options for transporting to markets outside our community.
  - Clear/Green Glass First Option – Do not ship if possible but produce a sand product for local use.  
Clear/Green Glass Second Option – Produce aggregate and ship direct to Coors, Denver, CO, at \$20 Per Ton - \$600 freight per truck (24 tons per truck).  
Clear/Green Glass Third Option – Ship to Heritage Glass in Salt Lake City for rail freight shipping to Coors (unknown payment per ton) (24 tons per truck).
  - Produce and ship brown aggregate to Coors, Denver, CO, at \$50 per ton - \$600 freight per truck (24 tons per truck).
  - Begin accepting window pane glass, crush or produce aggregate and ship to Heritage Glass in Salt Lake City at \$80 per ton plus free freight (company will arrange and pay for freight).
  - Possible ability to sell sand and gravel locally and to surrounding communities.
- Utilize excess of processed glass as cover at the Moab Landfill and waste product of screened contaminants produced by pulverizer.
- Crushing glass to sell to markets equals labor costs to load whole bottles, transport and deposit at the Moab Landfill.
- Crushing and transporting of glass was working for the Recycling Center previously when transportation could be obtained.

### **Cons:**

- Expense of pulverizer, belly dump trailer, and storage building.
- The costs for the alternative will need to be raised or gained through a grant.
- Longer distance for transportation costs.
- Revenue to Klondike Landfill is lost.
- Moab Landfill would continue to need cover material over and above overflow of glass.
- Expensive alternative if we cannot achieve local buy in and a commitment to utilize the product produced.

## ALTERNATIVE #4 - Continued

### Needs:

- Purchase of a pulverizer – estimated at \$100,000.
- Purchase of belly dump trailer – estimated at \$25,000.
- Purchase of storage facility to house crushed glass prior to shipping – estimated at \$45,000
  - Need 60' W x 60' L x 20' high metal/concrete storage facility.
- Utilize self dumping hoppers to transport crushed glass into storage facility – estimated \$1,000 for two hoppers.

### Actions Needed:

- Secure capital funds or grant for costs associated with alternative.

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**Canyonlands Community Recycling (CCR)** invites your participation in all aspects of our new mission of *“Enhancing sustainability by empowering the Moab community to reduce, reuse, and recycle!”* Should you be interested, please contact us at [MoabRecycles@Frontier.com](mailto:MoabRecycles@Frontier.com). Also, please visit our website at **MoabRecycles.Com**. We welcome you to share your ideas and your email address so that we can provide updates on our events and education efforts.

Following are just a few links that provide further interesting information on the possibilities of recycling glass. We hope you find them useful:

<http://www.recycle.net/andela/>

[http://www.glassagg.com/recycled\\_glass.html](http://www.glassagg.com/recycled_glass.html)

[http://www.gpi.org/files/leGlassresourcerecyclingTable\\_SERA\\_v5forPosting\\_portrait.pdf](http://www.gpi.org/files/leGlassresourcerecyclingTable_SERA_v5forPosting_portrait.pdf)

<http://earth911.com/recycling/glass/>

<http://www.thegardenofglass.com/pages.asp?pageid=42657&qclid=CLWRzaTg56MCFOXs7QodzhBm2w>

CCR remains a non-profit 501(c)(3) corporation. Public support through donations is necessary to further our efforts to provide recycling education and assist the Community Recycling Center in any manner possible. Donations may be mailed to CCR, P.O. Box 97, Moab, Utah 84532. We appreciate your support.