

July 7, 1998

Ms. Sherene Hess
Executive Director
Indiana County Solid Waste Authority
1715 Route 117 South
Homer City, Pennsylvania 15748

Via Facsimile

Subject: **Recommendations for General Layout of Recycling Operations in the Authority's new Building**

Dear Sherene:

R. W. Beck is pleased to provide Indiana County Solid Waste Authority with recommendations for the overall layout of recycling operations at the Authority's new facility located in Homer City, Pennsylvania. The Authority currently provides curbside collection of source separated recyclable materials to the two mandated municipalities, Indiana Borough and White Township. Collection crews sort and separate materials at the curbside by type, and deliver them to a recycling center owned and operated by the Authority. At the Center, collected materials are processed and marketed along with items dropped off by residents or commercial haulers.

The current facility is approximately 55 feet by 88 feet. Given the present level of recycling in the County (3,060 tons of recyclables were processed and marketed in 1997), the operation has outgrown the current structure. To accommodate the growth, the Authority purchased an existing building to house recycling operations for County-generated recyclable materials. The building was previously a lumber yard business and provides the Authority with sufficient area to accommodate the current level of recycling and while allowing for growth to handle additional quantities of materials. It is the intent of the Authority to expand recycling in Indiana County to meet and exceed the diversion goal of 35 percent proposed for Pennsylvania by 2003.

To assist the Authority in configuring the layout of the new building for a recycling operation, an R. W. Beck staff person visited the structure on June 9, 1998. Based on observations and discussions with Authority staff, the following factors were taken into consideration:

- Materials collected for processing and marketing include: OCC; clear, brown and green glass containers; aluminum, steel, tin and bimetal containers; number 1 and 2 plastic bottles; newspaper; magazines and catalogs; and office paper;
- Authority will expand collection to capture additional quantities of materials currently being recycled and other items as opportunities arise;
- The facility will be laid out to minimize the handling of materials and maximize the efficiency of the operation;
- Reduction in handling will help minimize the cost of the operation; and
- The processing area in the new building is approximately, 200 feet by 100 feet.

RECOMMENDATION FOR LAYOUT OF RECYCLING OPERATIONS AT THE NEW SITE

PROCESSING OPERATION INSIDE THE BUILDING

The open area designated for processing recyclable materials inside the building is approximately 200 feet by 100 feet. It is the intent of Authority staff to have this area serve as the processing and storage location for all paper items collected and as the processing area for cans as it is preferable to operate the can densifier inside the building. As a result, up to five (5) different items (OCC, newspaper, office paper, plastic bottles and metal cans) will be processed in this area. To accommodate the storage and processing of these materials, R. W. Beck recommends the area be configured as shown in Figure-1. The main features if this proposed layout include:

- Primary storage of loose and processed (baled or densified) materials and processing operations will be located on the north side of the building;
- The area along the north wall will be partitioned off into fifteen (15) foot wide, by twenty (20) foot deep sections for storage of loose and processed materials;
- Concrete barriers will be placed between sections used to store loose materials, reducing the potential of materials mixing and allowing materials to be piled;
- The barriers will extend approximately twenty (20) feet partitioning off an area of approximately 300 square feet;
- Balers will be positioned between the loose material storage area and the area used to store bales (this minimizes travel distance required to load and unload the balers);
- Materials delivered in collection vehicles will be tipped directly into the appropriate loose storage area, unless processing operations restrict access, in which case the material will be tipped in the center area of the building and later pushed by loader into the proper storage area;
- If additional storage area is required for loose or baled materials, the southern side of the processing area will be used for overflow;
- An existing wooden wall will be moved approximately five (5) to the west and used to isolate the densifier from the rest of the operation in an effort to reduce noise throughout the building;

- A hole of approximately 2 feet by 2 feet will be opened in the north wall near the can densifier to accommodate installation of a chute for discharging aluminum cans into wire cages on the outside of the wall for processing at a later time;
- Processed materials will be loaded into transport vehicles using a portable loading dock (details are attached); and
- Because of odor issues, plastics could be stored outside under the existing roof on the back of the north wall. Handling, however, will become more cumbersome due to the extra travel distance required to move material to and from the baler, and an overhead door will have to be installed in the north wall.

PROCESSING OPERATION OUTSIDE THE BUILDING

There are two areas to the north side of the building that provide an ideal area for storage of glass because both have roofs to cover the storage area and reduce freezing of the glass in the winter months. These locations also keep this material away from paper operations and reduce potential of contamination of paper with broken glass.

Adjacent to the area referenced above, is a brushy area which could be cleared and used to compost yard waste materials.

GLASS STORAGE AREA

- Under one of the roofed areas, three bunkers can be constructed for storage of glass bottles and jars;
- Barriers can be placed around three sides of the roofed area, 35 feet apart (distance coincides with the distance between the vertical supports) to construct bunks for three colors of glass;
- Material will be dumped directly from the collection vehicles into each of the three storage bunks and a loader bucket can be used to crush the glass and reduce volume of the material;
- When a load of material has accumulated, the glass can be loaded into a transport vehicle;
- If additional area is needed for storage, sufficient space is available to partition off extra bunks for storage; and
- If additional height is required to load material into transport vehicles, the portable loading dock could be moved to elevate the loader to a height sufficient to load.

COMPOSTING AREA

- A yard waste composting operation can be established in the brushy area north of the building, by clearing some brush material;
- The present surface is appropriate for composting assuming minimal disturbance of the top soil; and

- The area available after clearing should be adequate for the potential amount of material delivered to the site.

PORTABLE LOADING DOCK

The facility does not have any loading docks, nor is there a sufficient grade at the building to accommodate construction. The purchase of a portable loading dock will substitute for a permanent loading dock. Additionally, the portable loading dock will provide flexibility at the operation by allowing the loading of trucks to occur at the most convenient site. The portable loading dock can also be used if additional height is required to load glass in transport containers. To meet the needs of the Authority's operation, the loading dock should meet the following criteria (information on the Bluff Equipment Portable Yardramp is attached):

- Length should be up to 36 feet;
- Width should be no more than 84 inches;
- Capacity of the ramp should be at least 20,000 pounds;
- Constructed of steel, on wheels and have a tow-bar to facilitate moving the ramp with either a forklift, and/or the small or large loaders; and
- Cost of the ramp should be in the range of \$7,500 to \$13,000.

SUMMARY

The above recommendations assume that the Authority will continue using the existing equipment. These recommendations should allow the facility to get up and running as quickly as possible while minimizing set-up costs in the short-term. With the extension of the Act 101 Recycling Fee, there will be opportunities for the Authority to secure grant funds for additional processing equipment in the future. In the near-term it is important to adjust the operations to the new building.

Ms. Sherene Hess

July 1, 1998

Page 5

Please feel free to call me at (717) 730-0404 if you have any questions on the recommendations explained in this letter report.

Sincerely,

R. W. BECK, INC.

Richard M. Schlauder

Director, Environmental Services Pennsylvania Office

cc: Charlotte Frola, SWANA
Carl Hursh, PA DEP