ENGINEER'S REPORT

Joseph Brillo

SOLID WASTE MANAGEMENT FACILITY

Engineers:

ROWELL AND ASSOCIATES, P. C.
North Syracuse, N. Y.

August 1981

Supersedes Report of
April 1981

S U M M A R Y

The State of New York, under Title 6, Part 360 of the Conservation law, requires any person proposing to modify the use of a solid waste management facility to submit to the Department of Environmental Conservation (D.E.C.) a construction permit reflecting such proposed modifications. This report has been compiled in accordance with these regulations.

A "Comprehensive Solid Waste Management Plan" for Cayuga County and the region delineated on the Regional Map incorporated in this report and known as the service area, does not exist. The development of a modern solid waste facility to serve this area would initiate the creation of a needed comprehensive plan.

The population trends of this service area are shown in Table 1 and are projected to increase over a period of the next 50 years by 4.5%/10 years. The construction of this privately owned and operated facility would help relieve the burden on the general public from the development of a publicly owned and financed operation.

Solid waste management services should be improved in many of the municipalities and private industries of the Central New York region. Disposal systems must complement the collection system so that the entire management system is efficient and meets the present and future needs of regional residents and businesses. The projected growth rate in both population and industrial development mandate the construction of the facility. The facility will provide a logical, efficient and effective solution to the future solid waste management problem in this area.

TABLE 1. Population Trends of Central New York

County	1970	1980	Change	% Change	Projected 2020
Cayuga	77,439	79,667	+ 2,228	+ 2.9	91,000
Cortland	45,894	48,839	+ 2,945	+ 6.4	64,000
Madison	62,845	64,968	+ 2,114	+ 3.3	75,000
Onondaga	472,835	463,247	- 9,588	- 2.0	416,000
Oswego	100,897	113,721	+12,824	+12.7	174,000
TOTAL	759,919	770,442	+10,525	+ 4.5	820,000

Source: Preliminary Population Counts, U. S. Bureau of Census

The site has been receiving wastes since 1964. With the installation of modern environmental monitoring equipment and periodic inspections by representatives of the local Health Department and D.E.C., the facility can and will provide a sound management plan to minimize or eliminate any adverse environmental impacts. The facility will provide a safe and environmentally sound solution for the communities and industries with solid waste management problems within the service area.

ENGINEER'S REPORT

Existing Conditions in the Service Area

The major generator of this service area is of a rural nature. The majority of the solid wastes generated from this region are septic tank wastes from private single-family dwellings or small hamlets and villages without municipal sewer systems.

The wastes from these units are collected periodically by a septic tank cleaning service company, and transported to a publicly-owned waste treatment facility for disposal, or spread on the ground surface for disposal, conditioning or fertilizing the land.

The industrial wastes generated in this service area are predominatly non-hazardous. These non-hazardous wastes are transported to several State approved disposal facilities within the service area for containment and final disposal. The hazardous wastes which are produced are transported to hazardous waste management facilities which have been approved by the State and federal government for this purpose. Table 2 shows the quantities, composition and distribution of the solid wastes and sewage managed by Joseph P. Brillo, owner/ operator of Brillo's Sewerage Disposal, that are generated in this service area.

Projected Waste Generation

The portion of the projected wastes managed by Mr. Brillo's firm that are generated in this service area are shown in Table 3. It should be noted that approximately 50% of the solid wastes handled are from agricultural or industrial

TABLE 2. SOLID WASTE CLASSIFICATION AND DISTRIBUTION

Generator	Type	Quantity Gal./Yr.	Composition*	Collection Practice	Destination
Private	Septic Tank	175,000	Human and household wastes	Septic tank cleaning service	Syracuse Metro. Waste Treatment Plant
Syracuse Metro. Treat. Plant	Sewage sludge	200,000	Grit and sludge	Tank truck	Brillo's Solid Waste Management Facility Tn. of Victory, N. Y.
Int'l. Multi-Foods Baldwinsville, N.Y.	Waste grains	24,000	Waste grain - shaft & dirt	Tank truck	Brillo's Solid Waste Management Facility Tn. of Victory, N. Y.
Welch Allyn Co. Skaneateles Falls, N.Y.	Polishing waste	15,000	50% solids, 15% silica sand, 15% polyester material, 15% aluminum oxide, 5% cerium oxide (see appendices)	Tank truck	Brillo's Solid Waste Management Facility Tn. of Victory, N.Y.
Allied Chemical Solvay, N. Y.	Contaminated soil	20,000	Diatomaceous earth/ sodium nitrite & ammonium chloride	Tank truck	Allied Chemical waste beds, Solvay, N. Y.
Miller Brewing Gas Project, Cayuga Co.,N.Y.	Salt water	N/A	S.P. 1.22 salt water, Chloride 180,000 ppm	Tank truck	Temporary storage Auburn, N. Y.
Revere Copper & Brass, Rome, N.Y.	Oil/Water mixtures	300,000	2% Oil 98% Water	Tank truck	CECOS International Niagara Falls, N. Y.
SYROCCO Baldwinsville, N. Y.	Used paint filters	N/A	95% fiberglass filters, 5% lacquer base paint	55-gal. drums	CECOS International Niagara Falls, N. Y.

* Composition determined by chemical analysis prepared by generator or certified testing laboratory.

TABLE 3.

PROJECTED WASTE GENERATION - 30-YEAR PLAN

Service Area Population *		Rate of Generation		Generator	Disposal Site
Present	30-Year Projection	Type	Rate		
770,442	800,000	Septic Sludge	4.5%/10,000 people/year	Syracuse Metropolitan Waste Treatment Plant & Cayuga County Private septic systems	Brillo's Solid Waste Management Facility Town of Victory, N. Y.
N/A	N/A	Polishing and grinding compounds	15,000 gal. per year	Welch Allyn Co. Skaneateles Falls, N. Y.	Brillo's Solid Waste Management Facility Town of Victory, N. Y.
		Waste grains	24,000 gal. per year	International Multi-Food Baldwinsville, N.Y.	Brillo's Solid Waste Management Facility Town of Victory, N. Y.
		Contaminated soils	20,000 gal. per year	Allied Chemical Solvay, N. Y.	Allied Chemical Waste Beds Solvay, N. Y.
		Salt water	N/A	Miller Brewing Co. Gas Project Cayuga Co., N.Y.	Miller Brewing Company Auburn, N. Y.
		Oil/Water mixture	Present 300,000 gal. per year	Present Revere Copper & Brass Rome, N. Y.	Present CECOS International, Inc. Niagara Falls, N. Y.
			Projected 1,000,000 gal. per year	Projected New contracts due to increased demands	Projected Brillo's Solid Waste Management Facility Town of Victory, N. Y.
		Paint filters	N/A	SYROCCO Baldwinsville, N. Y.	CECOS International, Inc. Niagara Falls, N. Y.

* Source: Preliminary Population Counts, U. S. Bureau of Census

sources and cannot be directly related to the population growth rate. The remaining wastes are, in fact, a direct correlation between population and rate of generation.

Alternative Courses of Action

Currently Cayuga County does not have an approved solid waste management facility for the disposal of non-hazardous municipal and industrial wastes. The increasing need for such a facility is inevitable. The health and well being of the general public will benefit greatly from a properly managed and environmentally-sound disposal facility of this type. It will help in controlling increasing taxes because it is privately owned and operated, and public funds will not be needed for development of the facility or for operating expenses.

The alternative action of "no project" is being rejected. The burden in terms of time and money from public financing of a publicly owned and operated facility was the over-riding consideration for this rejection. It would involve legislative action and without a doubt an increase in the taxes of the county for operating expenses and development of the site.

Site Analysis of Proposed Project

Site location maps, transportation systems, topography maps and supporting documents are in the Appendix of this report.

The site, located along Route 370 in the Town of Victory, approximately 2.5 miles westerly of the Village of Cato, N. Y., contains 78 acres ±. This total acreage contains both the usable areas and unusable lands; i.e., drainage swales, wet and wooded areas. The flora and fauna of this site are typical examples of those found in Central New York. The flora varies from open field types, grasses, briers, herbaceous plants, etc., to upland wood species such as Beech, Birch and Maple, with a wide range of intermediate species. The fauna also varies throughout this area. Species representative of the area include white tail deer, cottontail rabbits, ruffed grouse and grey squirrels.

The site is effectively screened by a large wooded area to the north and a cut bank created by the construction of Route 370 to the south and west. The easterly side of the property is isolated by open farm lots, abandoned farm land, and hedge rows. Trees and brush restrict any view from Route 370 or residences near the site.

At the present time there are no public utilities on the site. If it becomes necessary for such services, electricity would be readily available; water and sanitary facilities could be installed.

Background noise levels generated from on-site equipment will be temporary and of low intensity. Upon completion of each sludge landfill site, noise levels will decrease to the current level. Current off-site levels are from heavy truck traffic along Route 370 and air traffic patterns which cross this region.

In regard to the effect of the project on the site, it can be noted that in the 17 years that the site has been in

operation no serious environmental problems have affected the wildlife or habitat in the area. The effect upon the health or well being of the general public has not been altered in any way.

Soil borings, as shown in the Appendices, indicate the dumping site to be underlaid with a very compact glacial till. Groundwater in the area, when existing, runs on top of this layer and runs in a northerly direction toward Little Sodus Creek. Fine sands and silts generally exist above the glacial till as can be seen on Sheet 8 of 8 of the contract drawings. The permeability* of this layer above the glacial till, in which the sludge landfill will take place, averages about 9×10^{-5} cm/sec. We believe the permeability of the glacial till to be much less than the above-mentioned figure. We feel that any leachate from the dump will not leach below the glacial till.

Since the soil borings were taken during the wettest part of the year, groundwater elevations, as shown on the Geological Cross-sections are at their highest. It also should be noted that groundwater does not exist year-round above the glacial till.

Operations and Proposed Construction

The present operation of this facility is controlled by one man. His responsibilities include ownership of the property, maintenance of the site's disposal areas, haul roads, facility control, and record keeping. He is the only hauler using the facility, therefore controlling the receipt and processing of all solid wastes brought on the site.

* See Appendices

Joe Billo

Calocerinos & Spina
CONSULTING ENGINEERS
1020 Seventh North Street, Liverpool, NY 13088 · (315) 457-6711

ENVIRONMEN
LABORATO

AUG 1981

To: Welch Allyn
Skaneateles Falls, New York

Date: August 6, 1981

File No. 405.044

Attention: Mr. Clair Eichinger

Sample No. 1818

ANALYSIS REPORT

Source Welch Allyn | Date Collected 7/27/81 | Date Received 7/27/81

Location Pollution Sludge | Time Collected N/A | Sample Type Grab

RCRA Extraction Procedure as given in the Federal Register May 19, 1980.

Parameter	Maximum Extract Level	Analyzed Level
Arsenic	5.0 mg/l	<0.002 mg/l
Barium	100.0 mg/l	<1. mg/l
Cadmium	1.0 mg/l	<0.01 mg/l
Chromium - Hexavalent	5.0 mg/l	<0.004 mg/l
Chromium - Total	5.0 mg/l	<0.01 mg/l
Lead	5.0 mg/l	0.58 mg/l
Mercury	0.2 mg/l	<0.002 mg/l
Selenium	1.0 mg/l	<0.002 mg/l
Silver	5.0 mg/l	<0.01 mg/l
*Ignitability	N/A	No
*Corrosivity	N/A	No
*Reactivity	N/A	No

*The classification of these materials as being either Ignitable, Corrosive, or Reactive is based upon visual inspection and other background information.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)."