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ALLEGANY COUNTY

SOLID WASTE MANAGEMENT PLAN

REVISED SEPTEMBER, 1993

* * *

RICHARD A. YOUNG, SUPERINTENDENT

* * *

ALLEGANY COUNTY DEPARTMENT OF PUBLIC WORKS
Room 210, County Office Building
Belmont, New York 14813
716-268-9230

* * *

PREPARED BY
JOHN J. MANCUSO, DEPUTY SUPERINTENDENT II
J. MICHAEL KEAR, COUNTY PLANNER
GRETCHEN T. JOHNSON, RECYCLING COORDINATOR

printed on recycled paper

Intro. No. 48 - 94

RESOLUTION NO. 46-94

County Attorney

TITLE: ADOPTION OF ALLEGANY COUNTY SOLID WASTE MANAGEMENT PLAN

Offered by: Public Works Committee

WHEREAS, this Board of Legislators on behalf of the County of Allegany believes that the County Department of Public Works has developed a viable solution to the County's solid waste management needs by preparing a plan in accordance with the provisions of Environmental Conservation Law section 27-0107, now, therefore, be it

RESOLVED:

1. That the County of Allegany adopts the integrated solid waste management plan prepared by the Allegany County Department of Public Works, revised December 10, 1993, and entitled "Allegany County Solid Waste Management Plan".

2. That the County of Allegany will implement such solid waste management programs, projects and plans as identified in the recommendations of such Plan, as the local integrated solid waste management plan in effect for Allegany County; such implementation to be through its Department of Public Works unless otherwise determined by the County Board of Legislators.

3. That the County of Allegany through its Department of Public Works intends to provide the New York State Department of Environmental Conservation with reports every two years displaying compliance with the action items and schedules contained in such Plan.

3. That the County of Allegany through its Department of Public Works intends to submit any modifications to the Plan to the New York State Department of Environmental Conservation for approval whenever there is any substantive deviation from such Plan.

I, Linda J. Canfield, Clerk of the Board of Legislators of the County of Allegany, State of New York do hereby certify that the foregoing constitutes a correct copy of the original on file in my office and the whole thereof of a resolution passed by said Board on the 24th day of January, 1994.

Linda J. Canfield
Clerk, Board of Legislators, Allegany County

Dated at Belmont, New York this 24th day of January 1994

Moved by Palmiter Seconded by Budlick VOTE: Ayes 15 Noes 0 Absent 0 Voice ____

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RICHARD A. YOUNG
Superintendent

SWMP COMMENTS: Where to find them
Second A.C. Draft Submitted 5/93
DEC letter dated 7/26/93, reviewed by Mike McTague

DEC Comment A1. The Allegany County response to comments concerning the discussion of waste-to-energy facilities states that certain information could be found in Figures 3-1 through 3-9 and on Table 3-2, but did not include these figures or table in the response. The response should be revised to either incorporate these figures and table or to remove the references to these figures and table from the Allegany County response.

A.C. response to A1. Can be found on SWMP pgs. 24-40

DEC Comment D7. Allegany County describes all solid waste facilities in the County and indicates that "(Descriptions correspond to number on map)". Where is this map located that is being referenced in this comment?

A.C. response to D7. Can be found on SWMP appendix-3.

DEC Comment D11. The plan text on pg. 39, line 2 should be revised according to your response. Please be advised that all information discussed in the Allegany County response to comments (where appropriate) musts be incorporated into the appropriate sections of all copies of the finalized solid waste plan. Additionally, the CRA must accompany all copies of the Solid Waste Management Plan.

A.C. response to D11. Can be found on SWMP pg. 53

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Superintendent

SWMP CRA Comments: Where to find them
A.C. "Acceptable" draft submitted as portion of SWMP 2/93
Additional DEC letter dated 7/21/93, reviewed by Ben Pierson

DEC Comment 1. Address the rational for choosing the dates for starting recycling junk mail and sludge. These dates are specifically: junk mail - Feb. 1994 and sludge - Jan. 1997. This rational must include the technical and economic analysis for choosing these dates. Specifically, Allegany County should be recycling materials for which economic markets exist (see General Municipal Law 120-aa). to perform the economic analysis for these materials, the County may use this Divisions TAGM. This TAGM may prove useful to the County as they prepare the economic analysis for these materials, however; it is not mandatory for the county to use this TAGM. The County may use their own methodology for preparing their economic analysis. Whatever method the County utilities will be subject to Department review. The County must also provide references and justifications for the costs, criteria used in the economic analysis (ex. market prices, hauling costs, collection/processing cost, avoid tipping fees, etc.).

A.C. response to 1. Can be found on CRA pgs. 5, 23, 67-68, and 92.

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Superintendent

SWMP COMMENT: WHERE TO FIND THEM
FIRST A.C. DRAFT SUBMITTED 2/92
DEC LETTER DATED 10/92, REVIEWED BY MIKE MC TAGUE AND ALAN FUCHS

DEC Comment A1. Under Section G, the plan must evaluate the range of available options for waste-to-energy (WTE) facilities including biogasification, pyrolysis, mass burn, modular, refuse-derived fuel, and fluidized bed combustion facilities. Particular attention should be given to the required size of the WTE facility for the anticipated waste stream.

A.C. response to A1. Can be found on SWMP pgs. 23-45

DEC Comment B1. Do any of the facilities discussed on pg. 17 and listed in A-3 appear on the Department's Registry of Inactive Hazardous Waste Disposal Sites? If so, please list the status of each facility.

A.C. response to B1. Can be found on SWMP pgs. 16-17

DEC Comment B2. There is no data or information about C+D debris landfills in the plan. A discussion of the topic should include: the rate of generation of C+D waste; capacity of existing sites; and the need for sites to meet the projected needs of the future. The current status of Railroad Valley recycling in Angelica regarding its permit status and capacity to accept C+D waste should also be included.

A.C. response to B2. Can be found on SWMP pgs. 4-5.

DEC comment C1. Under Section G, the plan should further evaluate the range of options for composting the waste stream including window, aerated static pile, in vessel, co-composting and backyard composting.

A.C. response to C1. Can be found on SWMP pg. 24

DEC Comment C2. There is no mention in the plan text of septage management unless it was consolidated into the sewage sludge category. The plan text should specify this. If not included in the sewage sludge category, septage management should be further discussed.

A.C. response to C2. Can be found on SWMP pg. 5

DEC Comment C3. The plan indicates that all sewage sludges are currently being disposed of at local landfills. However, there is no detailed discussion of future plans other than a brief mention that composting and landspreading may be provided for these alternate disposal methods. Alternatives for sewage sludge management need to be further evaluated in the plan text.

A.C. response to C3. Can be found on SWMP pg. 24

DEC Comment D7. The plan must show on a map and describe existing solid waste management facilities, both public and private, within the County.

A.C. response to D7. Can be found on SWMP pgs. 16-21.

DEC Comment D8. All public and private practices and contractual relationships for solid waste collection must be identified. This discussion should give a clear picture of how the waste being generated within the planning unit is being collected.

A.C. response to D8. Can be found on SWMP pgs. 2-3.

DEC Comment D9. The plan should discuss what efforts have been made by the County to foster waste reduction (i.e. educational efforts) and to encourage State and Federal waste reduction incentives.

A.C. response to D9. Can be found on SWMP pgs. 23-24.

DEC Comment D10 On page 31, the plan text makes reference that more information on future costs can be found on pg.19 of the plan. However, upon turning to pg. 19, no additional information could be found. The plan text on either pg. 31 or 19 should be revised.

A.C. response to D10. Can be found on SWMP pg. 48.

DEC Comment D11 On the top of pg. 39, line 2, the plan text should indicate what chart and page is being referenced.. The reference on pg. 39 is currently blank.

A.C. response to D11. Can be found on SWMP pg. 53.

DEC Comment D12 On pg. 46, the plan states: "In 1992, an estimated 10% of real property tax will be spent on operating costs for the County's Solid Waste Management system. For example, if a resident's property tax bill is $1,000 the $130 will go to Solid Waste Management operating costs." The plan text should be revised to reflect a figure of $100 to go to solid waste management operating costs (this would be 10% of the $1,000) or the percentage of real property taxes being spent on the solid waste system should be adjusted from 10% to 13%.

A.C. response to D12 Can be found on SWMP pg. 60.

DEC Comment D13. On page 49, paragraph 6, the plan discusses cost information can be found on page A-4. This information is on page A-5 and the plan text should be revised to reflect this. Additionally, costs for the operation and maintenance of both facilities should be broken down and included on page A-5. Equipment costs should also be included here, as well as how the capital costs will be amortized on a per-year basis.

A.C. response to D13. Can be found on SWMP pg. 16.

a. June 28, 1991 letter to the County transmitting NYSDEC comments on their June 20, 1990 CRA.
b. Feb. 3, 1992 letter to the County transmitting NYSDEC comments on their Dec. 1991 CRA.
c. April 10, 1992 letter from the county transmitting to NYSDEC a response to comments.
d. April 15, 1992 memo from the County transmitting to NYSDEC a response to comments.
e. May 1, 1992 letter to the county from NYSDEC notifying the County of the acceptability of the CRA and the need to incorporate their response to comments.

A.C. response to E1. Can be found on SWMP appendix -1.

DEC Comment E2. The CRA must be amended to address the loss of RVR as an IPF. All references to RVR should be amended to describe how those services are currently being provided.

A.C. response to E2. Can be found on CRA pg. 16-18.

DEC Comment E3. Pg. 31 of the SWMP indicated that an IPF may be built by 1994 and on pg. 49 of the SWMP it is stated that the IPF will be owned and operated by the County by June 1994. The plan should be revised to be consistent and additional information, if available, should be provided on the Status of the County IPF.

A.C. response to E3. Can be found on CRA pg. 75 and SWMP pg. 16.

DEC Comment E4 Page 52 of the SWMP indicates that by June 1, 1992 clear bags will be required and on pg. 11 of the CRA it is stated that the concept of using clear bags is still in the planning stages. This concept should be consistent through out the document.

A.C. response to E4. Can be found on CRA pg. 14, 92, and SWMP pg. 64.

DEC Comment E5. Pg. 53 and 55 of the SWMP indicates that by December 1996 a pilot recycling program for junk mail and magazines will be instituted. Also on pg. 55 of the SWMP it is indicated that this program will be required in 1992. The plan should be revised to reflect the 1992 date.

A.C. response to E5. Can be found on CRA pg. 92 and SWMP pg.66

DEC Comment E6. On pg. 6 of the CRA textiles are discussed. The County should contact the council for Textile Recycling at 7910 Woodmont Ave., Suite 1212, Bethesda, MD 20814 (301) 656-1079; to obtain additional options for recycling textiles. The information obtained from the council should be included in the CRA.

A.C. response to E6. Can be found on CRA pg. 7 and 23.

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CRA COMMENTS: WHERE TO FIND THEM
Second A.C. draft submitted 12/91
DEC letter dated 2/3/92, reviewed by Alan Fuchs

Past Comments from 6/28/90, some additional information needed on the following:

DEC Comment 2a. Partially addressed: Page 3; What category does the following materials fall under: books, foundry sand, leather, asbestos, and regulated medical waste?

A.C. response to 2a. Can be found on CRA pg. 1

DEC Comment 2c. Partially addressed on pg 2, last paragraph; What records is the 3.5 pounds of solid waste per person per day based on?

A.C. response to 2c. Can be found on CRA pg. 2 and 2a.

DEC Comment 2e+h. Partially addressed. Additional information must be provided on window glass, ceramics, plastic (other than #1 +#2), and textiles (other than clothing reuse).

A.C. response to 2e+h. Can be found on CRA pgs. 4-9 and 15-19.

DEC Comment 4a. Partially addressed. Additional information must be provided on the marketing of all components of the waste stream. This must include food waste, all types of paper, window/ceramic glass, textiles, and C & D materials. This section should provide the preparation requirements of markets for this material.

A.C. response to 4a. Can be found on CRA pgs. 4-9 and 24-25.

DEC Comment 5a. Partially addressed. The County has not completed its evaluation of these alternatives and therefore has not selected one. The County must focus its program on one, or a mixture of alternatives. Until this is done, the CRA will not be acceptable. In addition, the list of alternatives considered is not complete. Alternatives for collection should include: curbside vs. drop-off, number of sorts required who would provide services, etc. Alternatives for processing should include: none, minimal (baling, hand sorting, etc.), fully mechanical MRF, etc. Alternatives for marketing should include, private, County, etc.

A.C. response to 5a. Can be found on CRA pgs 28-84.

DEC Comment 6a. Partially addressed. When will textiles, organics, (yard, food, and wood waste), sewage sludge, catalogs, telephone books, paperboard, and books be recycled. These items should be included on your schedule along with a description of the program used to accomplish the recycling of these items.

A.C. response to 6a. Can be found on CRA pgs. 91-95.

DEC Comment 6c. Partially addressed. The table projecting the recycling percentages of each material needs to be modified. The County should be capable of obtaining near maximum recycling rates by the year 1997. This table should project recycling rates for those materials listed under comment 6a. In addition, the following items should be addressed:

i. The paper categories in the table seem low compared to other programs and published reports. The County should be capable of recycling at least 65% of the ONP and OCC by the year 1997. The county should also be capable of recycling at least 55%-60% of the office paper. Other papers such as OMG, mixed papers, (junk mail), books and paperboard should also be recycled to some extent by 1997. The overall total paper category should be recycled at least 55% - 60%.

ii. The glass category in the table also seems low. The County should be capable of recycling at least 55% - 60% of this material by 1997.

A.C. response to 6c. Can be found on CRA pgs. 85-100.

NEW COMMENTS

DEC Comment 9. Page 12: In 1992, the County is initiating a reporting system to obtain more complete information. Please provide additional detail on this reporting system.

A.C. response to 9. Can be found on CRA pgs. 15-16.

DEC Comments 10. These local laws and regulations restrict the landfilling of certain materials in the County landfill. However, they do not specifically require all recyclables be source separated if they are economically feasible. For instance, a citizen could discard all their waste material if the hauler uses an out-of-County facility. Please provide additional information that will be required to source separate materials which are economically feasible to recycle.

A.C. response to 10. can be found on CRA pgs. 101-102.

DEC Comment 11. How will the county determine the economic feasibility of recycling specific materials? What will the County do if one or both of there private processors refuse to take materials that are deemed to be economically feasible to recycle?

A.C. response to 11. can be found on CRA pgs. 89-91.

NOTE: The "acceptability" of this draft with incorporated changes was given by DEC in letter dated 5/1/92.

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CRA COMMENTS: WHERE TO FIND THEM
First A.C. Draft Submitted 6/90
DEC letter dated 6/28/90, reviewed by Rodger Schlaf

DEC Comment 1a. Pages in report should be numbered and sections numbers to correspond to the outline.
A.C. response to 1a. Done

DEC Comment 1b. Pages should be printed on both sides
A.C. response to 1b. Done

DEC Comment 2a. The "other" category should be broken down, into some components. This would include at a minimum C & D waste and sludge.
A.C. response to 2a. Can be found on CRA pg. 1

DEC Comment 2b. Additional information must be supplied describing how the estimated quantities of waste for future years was derived.
A.C. response to 2b. Can be found on CRA pgs. 2 & 2a

DEC Comment 2c. The estimated quantities of waste must be projected for the life of the project. This must consist of year by year projections for, at a minimum, ten years.
A.C. response to 2c. Can be found on CRA pg. 2a

DEC Comment 2d. The projections of solid waste for future years must be broken down into the components listed in appendix A, along with other ones previously addressed. Once these estimates are made the County will have quantities of specific materials which they can use to determine their recycling rate.
A.C. response to 2d. Can be found on CRA pg. 3

DEC comment 2e. This section must provide a discussion on the possibilities which exist to recycle all potential materials. This must include all materials listed on the waste characterization table, waste, oil, and household hazardous waste. In addition, this must include the materials the County does not plan on recycling currently.
A.C. response to 2e. Can be found on CRA pgs 4-9

DEC Comment 2f. How will the County encourage composting by individual localities?
A.C. response to 2f. Can be found on CRA pgs. 78-81

DEC Comment 2g. The information from ICI waste survey should be tabulated and provided in this report. At a minimum this should provide information of the types and quantities of waste generated and the amount of recycling taking place.

A.C. response to 2g. Can be found on CRA pgs 10-11 and 15-16

DEC Comment 2h. This section must provide an evaluation of the types of solid waste. This evaluation must be directed at the potential to recycle them.

A.C. response to 2h. Can be found on CRA pgs.. 5-19

DEC Comment 2i. The stated relationship between cleanliness of paper and length of fibers is not established. While it is true paper intended for recycling should be kept free of contaminants, that is true regardless of the length of the fibers. Contamination does not shorten fibers, continuous recycling does.

A.C. response to 2i. So noted

DEC Comment 2j. The section identifies I.C.I. waste as a target for recycling efforts. The plan should go a step further and identify what strategy will be used to identify which waste will be targeted. In addition, information on marketing this material should be provided.

A.C. response to 2j. Can be found on CRA pgs 10--11 and 15-16

DEC Comment 3a. The county should includes a map which indicates the locations of transfer stations along with the areas they service.

A.C. response to 3a. Can be found on CRA pg 16

DEC Comment 3b. In the projection on landfill life, how was the 36,578 tons per year arrived at in the table?

A.C. response to 3b. Can be found on CRA pgs 82-83

DEC Comment 3c. Has the County considered the use of rubberized asphalt as a means to use their used tires.

A.C. response to 3c. Can be found on CRA pg 105

DEC Comment 3d. Elaborate on the security or monitoring methods used at the drop-off centers to insure separation of recyclables from other garbage or from each other. What additional measures can be taken?

A.C. response to 3d. Can be found on CRA pgs 11-14, 25, and 104-105

DEC Comment 3e. What will be the impact of the proposed recyclables recovery effort on existing recyclables recovery programs?

A.C. response to 3e. Can be found on CRA pg. 20

DEC Comment 4a. This section(s) should provide details on how all materials must be prepared for market.
A.C. response to 4a. Can be found on CRA pg. 24-25

DEC Comment 4b. The page dealing with market services available for assistance in preparation and transportation of recovered materials should be expanded to indicate what these services are.
A.C. response to 4b. Can be found on CRA pg. 24-27

DEC Comment 4c. In future contacts for market survey information, information such as phone numbers, complete addresses, price information, quality requirements, and contact terms should be noted when available.
A.C. response to 4c. Can be found on CRA pg. 22

DEC Comment 4d. What current and future market restrictions may apply to corrugated cardboard, tires, and oil?
A.C. response to 4d. Can be found on CRA pgs. 7-8, 22-27, and 105-106

DEC Comment 5a. This section (4) must be expanded to include information on the types of recycling systems considered along with the specific program selected by the County. The rational for selecting the program should be provided.

A.C. response to 5a. Can be found on CRA pgs.. 28-84

DEC Comment 5b. The county must also provide information which indicates how the life span of their landfill will be impacted by their recycling efforts.
A.C. response to 5b. Can be found on CRA pgs 83-84

DEC Comment 6a. The schedule provided is adequate for the MRF. However, all components of the counties recycling program must be addressed in the schedule. For instance, when will glass be recycled county wide?
A.C. response to 6a. Can be found on CRA pgs 91-95.

DEC Comment 6b. How will the County's plans be effected if State funding is not available?
A.C. response to 6b. Can be found on CRA pgs 85-91

DEC Comment 6c. This section (5) must describe and provide details on the County's total recycling plan. When reading this section, a person living in the county should be able to determine how, when, where, and by whom recycling will effect them. Information on the counties intentions to recycle each type of material in the solid waste stream should be included. A projection of how many tons of each materials will be recycled must be provided for the next ten years.
A.C. response to 6c. Can be found on CRA pgs 85-100

DEC Comment 7. How does the County plan on addressing the town ordinance in the future to assure they do not hinder their program.

A.C. response to 7. Can be found on CRA pgs. 101-102

DEC Comment 8. Additional detail must be provided to Section 7. Future plans to be formulated during August planning meetings must address concerns of subparagraphs 360-1.9 (f)(7)(i)-(iv).

A.C. response to 8 Can be found on CRA pgs 103-106

ALLEGANY COUNTY SOLID WASTE MANAGEMENT PLAN

REVISED DECEMBER 10, 1993
~~September 1993~~

Table of Contents

Section C: 360-15.9(c)

Section D: 360-15.9(d)

Section E: 360-15.9(e)

Section F: 360-15.9(f)

Section G: 360-15.9(g)

Section H: 360-15.9(h)

Section I: 360-15.9(i)

EXECUTIVE SUMMARY

ALLEGANY COUNTY SOLID WASTE MANAGEMENT PLAN

Executive Summary

Allegany County has prepared this Comprehensive Solid Waste Management Plan to comply with the State's Solid Waste Management Act of 1988, as well as to document current and proposed strategies for managing the County's solid waste stream. The planning period is ten years and the plan will be updated by the Department of Public Works as specified by the New York State Department of Environmental Conservation.

This study presents an evaluation of Allegany County's existing system and an assessment of opportunities for enhancement. The framework is the state's policy on Solid Waste Management and the methods used in this County to achieve these policy goals.

Allegany County assumed responsibility for solid waste management throughout the County in the early 80's when smaller municipal landfills were being forced to close because they were in substandard condition or at the end of their useful lives. The County transfer station system was established in 1983 (seven stations) and was originally to supply solid waste to the Cattaraugus County WTE facility. The County then began the process of developing its own landfill, in 1985, to avoid reliance on private landfills for management of bulky waste and residuals. The County landfill began operation in 1987 and is now the backbone of the solid waste system. The transfer stations and landfill function as an integrally related system and support the operation of the recycling program which began in 1989.

An important component of the County system is the 1991 Solid Waste Law, which provides the mechanism for enforcement of source separation and also a legal framework for the operation of a solid waste disposal network. This law establishes the method by which the County controls disposal of solid waste and the recyclables handling program. The law was written so that the County could regulate the use of its facilities while maintaining compliance with State regulations and policies. Flow control is not part of the County system, but all solid waste and recyclables entering County facilities must meet the regulations in the County law. The County's control begins at the County facilities. Residents, commercial haulers and businesses are free to handle their disposal requirements as they wish, but if their waste is destined for a County facility, it must conform to our regulations.

The County Board of Legislators established Allegany County as the planning unit for solid waste management in 1989. All municipalities are members of the unit and participants in the Plan.

A. Principle Findings

1. Waste Quantities and Population

Approximately 32,000 tons of waste per year are generated in Allegany County. This is predominantly residential and commercial. Industrial waste comprises a small percentage of the total waste stream since Allegany County is mainly rural with an agricultural based economy. The population has been declining since 1980 and currently is around 50,000. Economic development has been slow in the past decade but recently, some major accomplishments have had a positive influence on the County's economic outlook. The Ceramic Corridor, the retention of Acme Electric in Cuba and the Wellsville Airport access road are among the latter.

2. Solid Waste Management Facilities

Allegany County has at the present time few privately owned facilities. There is a container redemption facility in Cuba and a C&D landfill in Wellsville. The Hylands Ash Monofill is seeking a permit to construct in the Town of Angelica.

The County owns and operates seven transfer stations and a sanitary landfill. Long term disposal capacity at the landfill is sufficient for the next 20 years. The possibility of expansion on the existing site will be explored within the next seven years.

There currently is no economic or environmental justification to pursue energy recovery incineration (County Owned) as a disposal alternative to landfilling non-recyclables.

The County's long-term disposal strategy will be to effectively maximize the life of the County Landfill and to operate its facilities and recycling program as efficiently as possible.

3. County Recycling Program

The County Recycling Program began as a voluntary program in 1989 and became mandatory in 1991. The marketing has always been handled by the Public Works Department and in the early stages of development, local intermediate processors handled all items (Crown Y and Railroad Valley). The types of materials separated have remained the same since the program's inception. The methods of handling them and the markets have undergone many changes. These are outlined in the CRA. The system is and will continue to be a transfer station based operation. Recently the County Landfill added a staging area as a storage/transfer point for some recyclable items.

B. Future Actions and Proposed Strategies

As stated earlier, the County will continue to own and operate its solid waste facilities. The transfer stations are not planned to undergo any drastic changes. Different equipment may be installed and some minor physical alterations may occur but the basic operation will not change.

The landfill will be expanded laterally to fill the permitted "footprint" and expansion on the existing property will be investigated. The County will look for ways to improve the efficiency and cost-effectiveness of the operation.

Composting of yard waste and sewage sludge will be explored and the plan would be to use an area on the County's landfill property.

The County is not planning a C&D facility at this time, but would look to yard waste management strategies as a way to handle the wood component. The Solid Waste regulations allow for limited amounts of C&D to be disposed of in the County Landfill and this will continue.

The recycling program will be enhanced slowly as current methods and practices are improved and efficiency is increased. Additional items will be brought on-line when economically feasible. More local markets and end-users will be pursued and possibly promoted.

INTRODUCTION and DESCRIPTION OF ACTION

Introduction and Description of Action

This document constitutes a detailed Solid Waste Management Plan for Allegany County. The plan presents an evaluation of the current status of solid waste management and handling practices in the County and serves as a guide for future solid waste management planning and implementation.

This plan has been prepared in accordance with the Solid Waste Management Act of 1988. It has also been prepared in conformance with the goals and objectives of the New York State Solid Waste Management Plan and the requirements of 6 NYCRR Part 360 - the New York State rules and regulations which govern the design and operation of solid waste management facilities in New York State.

By reviewing and accepting this plan, and by adopting its various recommendations, the County is endorsing the same four solid waste methodologies that are set forth in the State's Solid Waste Management Policy. More specifically, this plan follows the New York State Solid Waste Management Plan and the Solid Waste Management Act of 1988, which formally establishes a solid waste hierarchy concerning the preferred methods of solid waste handling in New York State. In descending order of preference these methods are:

- First, to reduce the amount of waste generated;
- Second, to reuse material for the purpose for which it was originally intended or to recycle that which cannot be reused;
- Third, to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled.
- Fourth, to dispose of solid waste that is not being reused, recycled, or from which energy is not being recovered by land burial or other methods approved by the New York State Department of Environmental Conservation.

The subsequent sections of this document summarize the alternatives open to Allegany County in achieving these policy goals. A brief characterization of past and present waste management practices is provided. At the completion of this document, final overall program recommendations will be made for solid waste management in the County for the next 10 years. A listing of previous County Comprehensive studies and other reports used as a basis for the development of this plan are on page iii.

Background:

The following background discussion is a description of past solid waste management planning and practices in Allegany County. It is based on the report compiled in 1990 titled "**The History of Solid Waste in Allegany County.**" The full report is included as Appendix SWMP-2.

Allegany County did not attempt to manage solid waste until the late 1960's, at which time the County Planning Board was designated the Refuse Agency. Also, at that time a Planning Consultant was hired to research the solid waste problem. The problem being to bring the many small town and village landfills that were nearing capacity and of substandard condition together; and further consider a large, single County owned and operated system. In 1968 the County considered for a

short period of time (and again in 1973) a burn plant, but the idea never materialized.

Throughout 1969 potential landfill sites were investigated and in 1970 the Solid Waste Committee was created to study a joint effort with Steuben County for land disposal. In 1972 the study was completed and a single, county owned and operated landfill was recommeded. The Planning Board was designated as the implementing agency for that study. Throughout the mid 1970's many towns and villages petitioned the County both in support and opposition to the study. Another committee, the Solid Waste Advisory Committee was formed to help implement the plan and recommended public input.

In 1973 a Solid Waste Disposal Engineer was hired to do a surveillance of potential sites. A pilot transfer station was set up in the Town of Willing and EQBA funds were applied for.

In 1974 a consolidated solid waste disposal summary report was filed by the new committee which basically supported the previous report. Again many towns and villages wrote in support and in opposition to this new report. More public meetings were held to determine the public majority, which eventually supported the idea.

In 1975, a potential site was investigated with soil borings. Later that year a resolution was put forward electing the single landfill system of solid waste disposal in the County of Allegany, the resolution was defeated. Throughout the rest of 1975 the towns and villages requested the County to look at other options, either a single landfill at another site or a multi-location system. The jurisdiction of solid waste was now assigned to the Planning and Historical Committee.

In 1978, the Office of Administrative Assistant was created and assigned as one of its responsibilites, the implementation of any environmental programs. At that time, Allegany County was asked (and later accepted) to participate in the proposed Cuba Cheese Refuse to Energy Project. 1979 brought engineer services for a transfer station system to supply the Cuba Cheese Refuse to Energy Project. The project was funded in 1980 and positions were created for a Solid Waste Department, and in 1981 the Department of Public Works was established.

In 1982, a Final Environmental Impact Statement was approved and construction for the transfer station system was started. The County was awarded $500,000 EQBA funds for the project which was finished in 1983.

Throughout 1983 a DEIS was prepared for a landfill site. In 1985 the landfill property was purchased with soils investigation, preliminary plans, and specifications were completed. Excavation and the construction of a one acre liner test patch was done to prove the landfill design.

Throughout 1986 construction of the County landfill on County Route 48 in the Town of Angelica was ongoing. In 1987 the leachate plan was completed in June and on September 23rd disposal in the new facility commenced.

Actually the first recycling started in 1984 by separating scrap metal at the transfer stations. Planning of a full scale recycling program

did not begin until 1988 when the position of Recycling Coordinator was created. State grant money was applied for and received to start a recycling education program. On July 1, 1989 the official recycling program began on a voluntary basis, and in accordance with state law, the program became mandatory by September 1992.

In February of 1990 the County decided, by resolution, not to continue to supply the Cattaraugus County Incinerator with waste to burn and further not to bury the ash in the County landfill. The County now buries all it's own non-recyclable garbage.

In January of 1991 the County Solid Waste Law was passed requiring by law mandatory recycling and a permit system, and in March of 1991 the County approved the engineering services for a Materials Recovery Facility, the services were rendered but the facility was tabled.

(Information on 1992 and 1993 will be added with the first yearly update after approval of plan.)

Allegany County is not facing a solid waste crisis at this time, like many other New York State municipalities. We are fortunate to posses a solid waste system consisting of long-term landfill space, transfer stations, and a recyclables storage transfer area. The County foresees no future "problems" associated with the management of the waste stream other than the usual issues associated with repermitting facilities or permitting potential expansions of existing facilities. The ability of the County to continue to afford to comply is the only other real concern.

The solid waste planning efforts undertaken by the County since 1966 are documented in the following reports:

- 1972: Steuben-Allegany County Solid Waste Study
- 1974: Consolidated Solid Waste Disposal Report
- 1981: Draft Environmental Impact Statement for Transfer Station System
- 1982: Final Environmental Impact Statement for Transfer Station System
- 1984: Draft Environmental Impact Statement for County Landfill
- 1984: Final Environmental Impact Statement for County Landfill
- 1990: Solid Waste History Report
- 1991: Allegany County Comprehensive Recycling Analysis

A copy of each of these reports and various other documents on solid waste management are kept on file in the Clerk of the Board Office.

<u>Objectives</u>:

The primary objective of the Allegany County Solid Waste Management Plan is the adoption of a long-term strategy for solid waste management disposal which conforms with all State requirements and goals.

The focus of Allegany County's Solid Waste Management Plan is based on:

- an evaluation of the existing County system in order to measure it against new state requirements for solid waste

management; and
- the assessment of opportunities to enhance the system and prolong the useful life of the County Landfill.

The preparation of the plan is necessary to provide Allegany County a road map for managing the County's solid waste through the 1990's and beyond.

To begin with, State policy requires that quantities of waste shall be reduced, and every effort made to remove and recycle materials prior to their entering the waste stream. The County's plan describes current efforts in this regard, and outlines methods by which this component of the plan can be enhanced. Existing markets are identified and methods for collecting, processing, and sale of these materials are discussed.

Construction of new solid waste management facilities or expansion of existing ones requires permitting from New York State Department of Environmental Conservation. These permits, issued under Part 360 Regulations, are required in Allegany County on a regular basis as new cells at the County Landfill are developed. The Solid Waste Management Act of 1988 stipulates that applications after April 1, 1991 for these construction permits will not be considered complete until the County has developed a solid waste management plan.

The most general of these objectives is keeping solid waste management costs at a minimum while maintaining the fullest possible protection of the environment. The cost issue is important for a number of reasons. Over the last two decades, the County has assumed from the towns and villages in Allegany County the responsibility of managing solid waste. One of the assurances the County has given its municipalities in this process has continued to be that, solid waste management costs be kept as low as possible. The County has an obligation to do everything in its power to fulfill these assurances.

Allegany County has a shrinking population base and a struggling economy. The key to stabilizing both the population and the economy lies in a twofold economic development effort: attract new businesses to the area and see that conditions in the County are such that existing businesses can survive, prosper, and continue to provide job opportunities. A sound solid waste management program is important to the realization of the economic development efforts: The cost for solid waste disposal is one of the costs of doing business that is being increasingly scrutinized in deliberation about locating in an area or moving out of it. Not only is the cost at any one moment of time important, but its predictability over a number of years also is critical.

The other side of the equation is important too: the fullest possible protection of the environment is important in maintaining a safe, attractive place for the county's residents to live.

The maintenance of existing solid waste management facilities is becoming increasingly more expensive with each passing year. It is important that Allegany County make future waste management decisions based on both economic and environmental concerns.

Since landfills will always be required for portions of the County's waste stream that cannot be diverted, reused, recycled, or composted,

the plan addresses the need for continued land burial facilities.

It will be a continued objective of this plan to maintain public contact and support throughout the implementation of the various plan components.

Finally, Allegany County has developed carefully over the past decade a sound approach to solid waste management. The basis of that sound approach is the land-disposal facility known as the Allegany County Sanitary Landfill. Accordingly, one of the chief purposes of the plan is to encourage and initiate activities, programs, and attitudes that will serve to expand the longevity and viability of the existing waste disposal facility.

SECTION A - O

SECTION A:

360-15.9(a)(1-3) Description of the planning unit

Allegany County was designated as the planning unit for Solid Waste Management on behalf of all towns and villages in the County by the Board of Legislators in June of 1989. The original intent of the resolution was for the purpose of applying for State funding to finance the development of a Comprehensive Solid Waste Management Plan for the entire County. The County had actually assumed the role of "planning unit" well before the official resolution of the Board when municipal landfills were forced to close by new DEC and Health Dept. regulations. The task of the County lawmakers and related agencies was to assist the municipalities with Solid Waste Management problems. Since assuming responsibilities for solid waste management planning, the County has undertaken the following: a survey of municipalities to identify those interested in participating in a multi-municipal solid waste disposal facility, the identification of potential sites for a County landfill and preliminary research into a county-wide system of transfer stations. Since 1989, the County has developed a recycling program and implemented long range planning for the County landfill.

The planning unit covers Allegany County, an area of 670,000 acres. It is bounded on the north by Livingston and Wyoming counties, on the west by Cattaraugus County, on the east by Steuben County and on the south by the Commonwealth of Pennsylvania (see Appendix SWMP-3 for map). The County has a declining population, currently estimated at 50,470 (1990 census) with an average density of 48 people per square mile. There are 29 townships and 11 incorporated villages included in the planning unit.

360-15.9(a)(4) Significant circumstances

The six largest population centers are Wellsville (population 8,085), followed by Alfred (5,690), Cuba (3,391), Bolivar (2,355), Friendship (2,180) and Andover (1,950). (See appendix SWMP-4 for a complete list of municipalities.)

The County is rural with 200 active dairy farms and another 600 small part time farms; 46,256 acres of state forest land; and 2,100 acres of county forest. Seasonal residents come throughout the year for the lakes, hunting and fishing. In summer, Cuba and Rushford lakes attract many visitors. There are 3,000 seasonal dwellings in the County. About 400 are situated on Cuba Lake and 700 near Rushford Lake.

Wellsville is the largest population center. The county transfer station serving the Wellsville area takes in 34% of the solid waste and recyclables generated by county residents, businesses and industries.

Large industries include manufacturing of steam turbines and generators; utility and industrial air preheaters and related equipment; and voltage regulators, transformers and related equipment. The County is the home of Alfred University, Alfred State College and Houghton College. Other significant industries include dairy products, wood and wood products, high technology ceramics, paving, oil and gas, other manufacturing concerns, and handcrafts.

SECTION B:

360-15.9(b) Characterization of the County's solid waste

Factors such as population density and land use affect the composition of the solid waste stream, the methods of collection, and the effectiveness of recycling programs. Sparsely populated rural areas tend to generate primarily residential wastes, with commercial and industrial wastes constituting only a small portion of the total waste stream.

Because of low population densities and large areas of unimproved land, yard wastes, and construction and demolition debris frequently remain on site in rural areas. Residents of rural areas generally deliver their waste to one of the seven transfer stations for disposal, although private haulers also may serve rural households.

Village and hamlet locations, on the other hand, tend to generate larger volumes of yard wastes, such as grass clippings and brush, in addition to household wastes. In the past, yard wastes were generally bagged and disposed of in landfills. The County landfill no longer accepts yard wastes. Some municipalities continue to pick up leaves and have made arrangements with local farmers to compost them.

Most urban areas tend to generate residential, commercial, and industrial wastes. Some municipalities provide collection service to residents and businesses (sometimes under contract with a private hauler). In other areas, business is responsible for disposing of their own wastes. Urban areas, which may have residential areas with small lots and many large, mature trees, also generate large volumes of leaves rather than grass clippings and brush.

The County produces solid waste that can be categorized as residential, commercial or industrial.

In the County, the largest category of waste is residential. The Allegany County Comprehensive Recycling Analysis is included as appendix SWMP-1. The CRA, Section 1, gives a year-by-year projection of the County's generated waste stream, including quantity and type.

Construction and demolition debris generated by County residents is generally the result of demolition of existing structures, new construction of buildings, land clearing, and seasonal or storm-related cleanups. Waste water treatment plant sludge is generated by seven municipal treatment facilities within the county (Alfred, Belmont, Bolivar, Cuba, Friendship, Houghton and Wellsville). In addition, the sludge generated by the City of Olean waste water treatment plant is accepted at the County Landfill in exchange for treatment of the landfill's leachate.

<u>Solid Waste collection in Allegany County</u>

Solid Waste collection in Allegany County is accomplished by three major methods. The first and most prevalent is individual hauling of solid waste to County facilities. A large percentage of County residents and businesses do not have public or private waste collection services and therefore they become their own hauler. The Department of Public Works has sold 11,400 permits as of 3/93 for use of our facilities and this

number represents over 50% of household & businesses in the County.

The second most frequent method of collection which is employed is the use of commercial private waste haulers. Those haulers service households, businesses, institutions and some are involved in contractual relationships with municipalities. There are about 18 commercial haulers who have curbside collection operations. These haulers also pick up recyclables and most use our transfer station drop-off centers. About half market some recyclables independently of the County System.

Several towns and villages in the county provide waste collection services to the residents and businesses within their jurisdiction. Cuba Village, the Town of Friendship, and Village of Alfred all contract with commercial private haulers for curbside pick up.

The third method of collection which differs only slightly from the second is the curbside collection of waste by municipalities using their own personnel and equipment. The Villages of Belmont, Canaseraga and Wellsville fall into this category. Belmont and Wellsville use packer trucks for refuse. Belmont uses a dump truck for recyclables and collects one item per week. These are taken to County facilities. Wellsville uses a homemade recyclables vehicle and collects the following items on a weekly basis: (One group per week) All colors of glass, metal cans, plastic, news and cardboard. Wellsville markets clear glass independently and delivers cardboard to a County transfer station. The rest of the items are stored at their Highway Department facility in County owned containers and then handled by the County.

Wastes from out of the County

There are three sources of solid waste from outside the county: 1) Olean treatment plant sludge, 2) ceramic wastes from Olean-American Tile, and 3) residential waste from the Town of Ossian in Livingston County (about 150 tons/year). The waste accepted conforms to the County's disposal rules and regulations. For example, sources in Town of Ossian are required to sort for recycling. There are no plans to change any of these arrangements.

Foundry sand was accepted from Dresser-Rand in Olean. That practice has been discontinued. Currently, consideration is being given to accepting a different kind of solid waste (dense and low volume) from that facility.

Wastes and Recyclables sent out of the County

No waste disposed of at any County owned Solid Waste Management Facility is then sent out of County for disposal. Recyclables that are collected may be sent to processors or direct markets outside the county, see appendix SWMP-1 (CRA Section 3) for available and potential markets.

Private concerns send some recyclables out of the County. For example, several school districts (as well as the County) have programs to collect office paper. That paper is accepted by a Steuben County firm, Hornellsville Recyclers, which then markets it.

Leachate from the landfill is currently sent to the City of Olean waste water treatment plant with the exception of one annual load which is

sent to Amherst in order to maintain a backup disposal system with that plant. Some leachate is also sent to the City of Salamanca waste water treatment plant during peak flows.

Construction and Demolition Debris Landfill (C&D)

Allegany County permits disposal of one cubic yard of construction and demolition debris per hauler per day with specific prohibitions on size and materials. Unacceptable debris or volumes greater than one cubic yard can be taken to one private DEC-permitted C&D landfill, Southern Tier Kleen Fill in Wellsville.

The County transfer stations originally accepted C&D waste as well as yard waste with limitations only on length. When the County landfill became operational in 1987, it was soon apparent that landfill space was extremely expensive and its use should be optimized by diverting certain materials that need not be disposed of in a sanitary landfill. In 1988 the practice of accepting yard waste and C&D for disposal in the landfill was terminated. This decision was reevaluated in 1990 because no provisions were made to manage the residential or individual C&D waste stream, especially that which was generated from households. The firm Railroad Valley was permitted to accept C&D for processing but very quickly ran into trouble both financially and legally. Kleen-Fill, Inc. was established in the Town of Wellsville as a permitted C&D landfill and this facility mainly handled the waste from contractors and large demolition projects.

The County lawmakers made an allowance in the Solid Waste Law that permitted the disposal of one cubic yard of C&D per day for any hauler who is permitted to use County facilities. The objective was to provide a means of disposal for owners of households with small amounts of C&D. This would prevent or discourage illegal disposal along roadsides. Yard waste is still prohibited from all County Facilities.

Construction and demolition debris generation in Allegany County is a component of the residential/commercial waste stream. Based on reports from Kleen-Fill, Inc. and statistics from the County landfill and estimates of C&D generation from population figures, the amount of C&D generated in this County is about 5000 tons per year.

Kleen-Fill, Inc. began operation in early 1991 and has a 5 year Part 360 Solid Waste Management Facility Permit, renewable at the end of five years if the permitted footprint is not filled to capacity. The site is 2.5 acres and has a design capacity of approximately 80,000 cubic yards. It currently has 90% of its available capacity remaining and based on 1992 disposal figures, the annual volume of waste disposed of at this facility would be approximately 4000 - 6000 yards. However, this site is underutilized and it is probable that the annual volume will increase as more economic development occurs in this area. The volume would most likely increase to 8000 yards per year. The site life can be estimated to be approximately 8 years. Once the capacity of this site is exhausted, another location would have to be found because the original footprint is the only suitable land for a C&D landfill on that particular property.

Allegany County Solid Waste Management Facilities accept a very limited amount of C&D material as a result of the County's Solid Waste Law. A hauler can dispose of only one cubic yard per day. This allowance in

the law was established to give homeowners and small contractors a means of disposing of small quantities of C&D. All metal that is a component of C&D is separated for recycling. It is estimated that County facilities received about 1000 tons of C&D and 80% of this was landfilled. The rest was recycled as scrap metal.

To summarize C&D waste generation and capacity; the County's private C&D landfill has sufficient capacity to handle the County's disposal needs until the year 2000. County solid waste facilities will continue to accept 1000 - 1500 tons per year from individual haulers. There will be a need to develop new disposal capacity within the next ten years, either publicly or privately owned as Kleen-Fill, Inc. exhausts its available capacity. A new site which is privately owned must be capable of handling approximately 4,500 tons per year as the rate of generation in the County is likely to increase to 7000 tons per year by the year 2000. 500 - 1000 tons of this material should be recycled, about 1500 tons will be handled by County facilities and the rest will be disposed of on private properties.

Railroad Valley Recycling in Angelica ceased operations as a C&D processing facility in early 1992. It can no longer accept <u>any</u> waste material.

<u>Sludge</u>

Sludge from the County's seven waste water treatment plants (Alfred, Belmont, Bolivar, Houghton, Cuba, Friendship, Wellsville) and the City of Olean has been accepted for burial at the landfill since 1988. Annual landfilled totals are:

1988	3,136.77 tons
1989	3,373.22 tons
1990	3,682.65 tons
1991	3,131.93 tons
1992	3,196.18 tons

The sludge tonnage is included in the "industrial" category on the waste stream analyses below.

Septage is the liquid and solid material pumped from septic tanks and cesspools. It is normally collected privately and disposed of either in a municipal wastewater facility or through landspreading on a private farm.

There are currently six permitted septage handlers in Allegany County and several wastewater treatment plants that accept septage. Land disposal is practiced by Empire Cheese and Friendship Dairies and a couple of septage haulers. The dairy waste is not true septage but results from water treatment at the respective facilities.

The current septage management practices in the County are expected to continue; and, the local treatment facilities plan to continue in the future with septage disposal. The Bolivar facility expects to resume septage treatment in the near future.

Incinerator ash

Ash from the Cuba incinerator was accepted at the landfill in 1988 and 1989. The ash tonnage is included in the "industrial" total on the waste stream analyses below. Annual burial totals are:

1988	15,220.93 tons
1989	14,648.19 tons

Yard and agricultural wastes

Neither of these wastes is accepted at the landfill. The County has provided information and workshops on municipal and household composting. A demonstration composting project is under consideration.

Waste oil

Waste oil is not accepted at the landfill. Information, including a DEC publication, is offered to the public explaining the State-mandated system for collection of oil through service stations.

Hazardous wastes

No commercial or industrial hazard wastes are accepted at the landfill.

Household hazardous wastes

The Department offers residents information, including a DEC flyer, on handling household hazardous wastes and using alternative products. A county-wide collection day is being researched to determine the cost, procedures and scheduling that would be involved.

Contaminated soil

The County has accepted for burial at the landfill 5,758.36 tons of clean-up debris since 1989. The soil is from underground tank closures and surface spills. The tonnage per year is:

1989	722.37
1990	448.23
1991	1,250.92
1992	3,336.84

The County is presently looking at alternatives to landfilling, such as bio-remediation.

Asbestos

The landfill has accepted less than 500 pounds of asbestos-contaminated material since 1989. The materials are handled in accordance with DEC regulations including double-bagging and labeling. The County will accept up to 100 pounds of tested asbestos material per project. Generators of greater amounts will be referred to a DEC-approved, private landfill.

Regulated medical wastes

The County landfill does not accept medical wastes. Generators of the waste currently make their own arrangements with private firms.

Allegany County solid waste stream breakdown

Following is a list of tables describing the waste stream breakdown starting in 1983. Each table shows a yearly tonnage of solid waste handled by the County in three categories; incinerated, landfilled, recycled, and further describes the source.

Table B-1
Allegany County Solid Waste Stream
1983

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	12,334	10,091 (P)	-0-
TOTALS	12,224	10,091 (P)	-0-
Total tons of solid waste handled in 1983. 22,425			

(P) = Patton's landfill, Alfred

Table B-2
Allegany County Solid Waste Stream
1984

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	17,826.04	13,221.18 (P)	-0-
TOTALS	17,826.04	13,221.18 (P)	-0-
Total tons of solid waste handled in 1984 . . . . . 31,047.22			

(P) = Patton's landfill, Alfred

Table B-3
Allegany County Solid Waste Stream
1985

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	16,777.52	14,494.17 (P)	-0-
Landfill and/or transfer station collection -large appliances	-0-	-0-	154.87
TOTALS	16,777.52	14,494.17 (P)	154.87
Total tons of solid waste handled in 1985 . . . . . 31,426.47			

(P) = Patton's landfill, Alfred

Table B-4
Allegany County Solid Waste Stream
1986

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	18,207.56	12,279.98 (P) 1,315.58 (C)	-0-
Landfill and/or transfer station collection -large appliances	-0-	-0-	250
TOTALS	18,207.56	13,595.56	250
Total tons of solid waste handled in 1986 . . . . . 32,053.12			

(P) = Patton's landfill, Alfred
(C) = CID landfill, Chaffee

Table B-5
Allegany County Solid Waste Stream
1987

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	18,688.27	812 (P) 5,405.48 (C) 4,996.41 (A)	-0-
Landfill and/or transfer station collection -large appliances	-0-	-0-	258.96
TOTALS	18,688.27	11,213.89	258.96
Total tons of solid waste handled in 1987 . . . . . 30,161.12			

(P) = Patton's landfill, Alfred
(C) = CID landfill, Chaffee
(A) = Allegany County Landfill, Angelica

Table B-6
Allegany County Solid Waste Stream
1988

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	16,969.15	34,585.25 (A) (r: 8,407.07) (c: 2,597.16) (i: 23,581.02) (sludge: 3,136.77)	-0-
Landfill and/or transfer station collection - large appliances - scrap metal	-0-	-0-	 501.95 55.00
TOTALS	16,969.15	34,585.25	556.95
Total tons of solid waste handled in 1988 . . . . . 52,111.35			

(A) = Allegany County Landfill, Angelica
(r:) = residential
(c:) = commercial
(i:) = industrial

NOTE: 521,944.44 gal. of liquid waste (landfill leachate) was hauled to the City of Olean waste water treatment plant. The increase in total tons

of solid waste handled from 1987 to 1988 is attributed to several factors. In 1987 and 1988 solid waste handled referred to the amount of waste that was hauled from our transfer stations to the Cattaraugus County Waste-to-Energy Facility, the waste hauled to landfills, both private and County owned, and the amount separated for recycling and hauled to a private facility. The County Landfill began operations on September 30, 1987 and received 4996.41 tons of waste by years' end. The waste was non-burnable bulky waste that could not be incinerated. Ash from the WTE facility was landfilled in Cattaraugus County. In 1988, all of the ash was landfilled in Allegany County (15,220.93 tons) and the County landfill also began receiving sewage sludge from the City of Olean and the seven plants in Allegany (3137 tons), foundry sand from Friendship Foundry (4120.66 tons) and other industrial waste from County businesses. The industrial waste landfilled accounts for the increase in tonnage handled by Allegany County.

Table B-7
Allegany County Solid Waste Stream
1989

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	14,492.15	39,801.13 (A) (r: 9,919.39) (c: 1,949.86) (i: 27,931.88)	-0-
Landfill and/or transfer station collections - tires - large appliances - scrap metal - cardboard - glass	-0-	-0-	 60.00 440.00 118.99 134.46 57.18
TOTALS	14,942.15	39,801.13	810.63
Total tons of solid waste handled in 1989 . . . . . 55,553.86			

(A) = Allegany County Landfill, Angelica
(r:) = residential
(c:) = commercial
(i:) = industrial

NOTE: 1,266,639.75 gal. of liquid waste (landfill leachate) was hauled to the City of Olean waste water treatment plant.

Table B-8
Allegany County Solid Waste Stream
1990

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or collections	-0-	40,813.03 (A) (r: 24,414.81) (c: 2,186.25) (i: 14,211.97)	-0-
Landfill and/or transfer station collections	-0-	-0-	
- tires			101.80
- large appliances			366.30
- scrap metal			113.00
- cardboard			61.82
- glass			103.02
- metal cans			68.64
- newspapers			216.34
- lead-acid batteries			26.40
- plastic			30.90
County office buildings - office paper	-0-	-0-	6.71
TOTALS	-0-	40,813,03	1,094.93
Total tons of solid waste handled in 1990 . . . . . 41,907.96			

(A) = Allegany County Landfill, Angelica
(r:) = residential
(c:) = commercial
(i:) = industrial

NOTE: 1,099,168.64 gal. of liquid waste (landfill leachate) was hauled to the City of Olean waste water treatment plant.

Allegany County did not use the Cattaraugus County WTE facility in 1990 and therefore did not landfill the ash, which would account for a decrease in solid waste handled by about 14,000 tons per year.

In 1991 the decrease of about 8000 tons of waste from the 1990 totals can be attributed to several factors. In 1990, Allegany County landfilled foundry sand from two facilities; Friendship Foundry and Dresser-Rand. This totaled about 7000 tons. Both facilities ceased foundry operations and no sand was landfilled in 1991 and Olean tile began to recycle some of its waste, accounting for another 500 tons.

Table B-9
Allegany County Solid Waste Stream
1991

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or landfill collections	-0-	31,426.28 (A) (r: 20,646.73) (c: 1,926.5) (i: 8,853.05)	-0-
Landfill and/or transfer station collections	-0-	-0-	
- tires			131.85
- large appliances			296.91
- scrap metal			573.22
- cardboard			261.19
- glass			210.53
- metal cans			167.49
- newspapers			395.21
- lead-acid batteries			17.86
- plastic			89.16
- office paper			6.93
TOTALS	-0-	31,426.28	2,150.35
Total tons of solid waste handled in 1991 . . . . . 33,576.63			

(A) = Allegany County Landfill, Angelica
(r:) = residential
(c:) = commercial
(i:) = industrial

NOTE: 880,592.35 gallons of landfill leachate were hauled for treatment at waste water plants -- 874,438.87 gallons to the City of Olean and 6,153.48 gallons to the Town of Amherst.

Table B-10
Allegany County Solid Waste Stream
1992

Source	Disposition		
	Incinerated	Landfilled	Recycled
Transfer stations and/or landfill collections	-0-	32,805.09 (A) (r: 19,516.71) (c: 1,564.69) (i: 11,723.69)	-0-
Landfill and/or transfer station collections	-0-	-0-	
- tires			62.27
- large appliances			291.06
- scrap metal			829.42
- cardboard			606.31
- glass			374.60
- metal cans			255.98
- newspapers			607.45
- lead-acid batteries			25.54
- plastic			140.05
- office paper			8.04
TOTALS	-0-	32,805.09	3,200.72
Total tons of solid waste handled in 1992 . . . . . 36,005.81			

(A) = Allegany County Landfill, Angelica
(r:) = residential
(c:) = commercial
(i:) = industrial

NOTE: 1,592,509.78 gallons of landfill leachate were hauled for treatment at waste water treatment plants.

SECTION C:

360-15.9(c) Existing and Proposed Solid Waste Facilities

Currently operating County facilities include a landfill and seven transfer stations which are dispersed throughout the rural area.

An environmental impact statement for the seven transfer stations was approved in January 1982. They are operating under DEC transfer station permit numbers 02 T01 to 02 T07.

An environmental impact statement for the landfill was approved in November 1984. The landfill is operating under DEC sanitary landfill permit 90-86-0233. Operation at present is covered by a State Administrative Procedures Act permit.

Haulers, both individual and commercial, must buy a permit to use the facilities. The permit costs $10. Permit holders are entitled to deposit recyclables in the proper container or landfill-bound waste in the stationary compactor. The only additional charge for users is a fee for disposing of tires. See appendix CRA-25 for the list of accepted recyclables and transfer station schedules within Allegany County Local Law for Solid Waste Management and Resource Recovery.

The County has engaged in various planning efforts for more than a decade in an attempt to address its short and long term solid waste disposal needs. These efforts are documented in the following reports and are summarized below:

Final Working Report -- Solid Waste Transfer System, Allegany County, Edwards and Moncreiff, P.C., November 1980

Preliminary Report for County Landfill, Allegany County, Edwards and Moncreiff, P.C., July 1981

Final Environmental Impact Statement, Allegany County Transfer Station System, Wellsville Area Station, Terrestrial Environmental Specialists, Inc., 1982

Present Allegany County Solid Waste Facilities

Allegany County Sanitary Landfill, Angelica

Transfer Stations:

Station 1 -- Caneadea
Station 2 -- Canaseraga
Station 3 -- Cuba/Friendship
Station 4 -- Angelica
Station 5 -- Alfred
Station 6 -- Bolivar
Station 7 -- Wellsville

County Transfer Stations

The County's seven transfer stations began full operation in 1983. The transfer stations were designed to accept solid waste from municipal and private handlers, including packer trucks, and from private citizens in their personal vehicles.

The refuse accepted was hauled by the County to the Cattaraugus County Incinerator at Cuba where it was burned resulting in generation of energy (steam). Non-burnable waste was hauled to private landfills.

Previous to implementation of the transfer station system, plans only touched lightly on the matter of disposal of refuse. The County Legislators recognized that there was a need to address the following situations:

1. Where will the refuse be taken should the incinerator at Cuba be shut down?

2. The transfer stations would accept only limited amounts of bulky items, such as old refrigerators. Where would these items be taken?

3. There were numerous instances of bulky collections such as annual municipal trash pickups and large volumes of construction debris. The refuse in excess of predicted tonnage was both burnable and non-burnable. Would it be accepted at the transfer stations or be diverted to another disposal site?

4. Commercial and industrial refuse, while not representing a large volume, needed consideration.

These questions were eventually resolved with the opening of the landfill in 1987 and termination of the use of the incinerator in 1989.

When the department began a voluntary recycling program in 1989, all of the transfer station container rentals and hauling were contracted to a private intermediate processing facility, Railroad Valley Recycling. The County has gradually purchased its own containers and hauling vehicle.

County Landfill

In 1981, the Board of Legislators retained Edwards and Moncreiff, P.C., Engineers and surveyors to develop a county-wide landfill feasibility report. The results of this report are documented in Preliminary Report for County Landfill.

The report indicated that a sanitary landfill would be necessary. At that time there were two approved landfills in the County. One operated by the Village of Cuba on Jackson Hill Road in the Town of Cuba. The other was operated by LaVerne Patton and located off County Route 42 in the Town of Alfred. None of these landfills complied fully with 6 NYCRR Part 360 regulations. The preliminary report explored incinerator use and sending as much refuse as possible to the landfill.

These alternatives included: 1. Using the Cuba Village and Patton sites and 2. Constructing an entirely new county landfill with a useful life of 40 years.

Estimates indicated that a county-wide landfill would be the most economical method of solid waste disposal at a then-estimated cost of $13 per ton.

Land was purchased Feb. 27, 1984, and site preparation began in May 1985. Cell 1 opened Sept. 23, 1987. There will be a total of nine cells covering 23 acres.

The County landfill was designed to meet or exceed standards of the time. In 1992, there were currently four cells of 2.5 acres each. Daily cover consists of a minimum of six inches of soil. There are no unlined cells and all areas have a leachate collection system feeding into a 200,000-gallon basin that is annually emptied, cleaned and inspected. Groundwater is sampled four times a year at 15 locations.

The first cell, opened in 1987 and filled to capacity in February 1989, has a double clay liner. The second cell, filled in July 1991, was upgraded to a single composite liner of soil and 80 ml HDPE. Both cells have intermediate covers and will have gas venting when the final cover is constructed.

Cell 3, currently in use, has a double composite liner. The current estimate of the life span of the landfill is 24.6 years (see CRA, page 83). See appendix SWMP-5 for diagrams of the cells.

All loads arriving at the landfill are weighed and logged with records kept of the type of waste, origin and location of disposal.

County Intermediate Processing Facility (IPF)

The County has investigated the development of its own IPF in order to reduce dependency on the private sector. In June 1991, the County requested proposals for engineering services in relation to the design and construction of an IPF to be located at the landfill. A preliminary design is in hand.

Proposed to be constructed at the landfill, the facility would be low technology and labor intensive. Mechanical equipment would consist of one or two balers, a forklift or wheel loader and possibly a conveyor. The building would be designed to maximize efficiency in unloading, sorting, processing and storage of market-ready materials. Preliminary specifications and cost estimates are on appendix SWMP-6. PLEASE NOTE: The County has suspended its plans to develop an IPF due to economics and lack of material quantities.

Other solid waste management facilities

INACTIVE

There were 18 dumps in the county accepting tires, refuse, building and construction debris, industrial and/or hazardous wastes. All of the following are now inactive, see list appendix SWMP-7.

A. Patton's Busy Bee Landfill - this site was recently classified as a Class 11-A (significant threat to health) because it is the source of groundwater contamination for area drinking water supplies.

B. Wellsville Town Dump - this site has been in the RI-FS stage and plans are proceeding for the remedial phase.

C. Day Farm Dump - this site is still in the testing stage -- the types and extent of contamination are being investigated.

D. Railroad Valley Recycling Inc., State Route 19, Angelica, NY 14709 - Railroad Valley was an intermediate processing facility with a DEC recycling facility permit valid until 1995. It handled traditional recyclables and construction and demolition debris. They went out of business and ceased operation in 1992.

ACTIVE

Crown Y Ltd. Partnership, 122 E. Main St., Cuba, NY 14727 —

Crown Y was an intermediate processing facility which handled traditional recyclables and processed newspaper into animal bedding. Due to a severe fire in 1992, Crown Y has limited its recyclables handling and returned to container redemption. Crown Y was exempt from permitting as a beverage industry recycler. However, Crown Y's application for a recycling facility permit may still be in the process.

C E Consulting and Marketing, 112 Park Avenue, Wellsville, NY 14895 —

C E currently serves as a consulting broker for industries in New York and Pennsylvania. A tiny percentage of their volume is waste generated in Allegany County. They are working on getting a building in the County and would then apply for a DEC recycling facility permit.

Jerge's Used Auto Parts, Transit Road, Belfast, NY 14711 —

Jerge's is a holding yard for scrapped large appliances and vehicles. It holds a DEC scrap collector's license and is a registered dismantler. The two-year permits are in the process of being renewed.

Southern Tier Kleen Fill Inc., Vorhees Hill Road, Wellsville, NY 14895 —

The facility accepts construction and demolition debris. It is operating under a DEC permit which expires Feb. 28, 1996. The operating life of the facility is limited by DEC regulations to five years.

PLEASE NOTE: A list of current recyclables markets is included in appendix CRA-13, which are used or are potential markets for the generated materials in Allegany County.

Solid Waste Management Facility Map Legend
(See map in appendix SWMP-3)

A. Allegany County Facilities (Descriptions correspond to numbers on map)

All County transfer stations have stationary compactors, hopper shelters and an office for the full-time operator. The compactors pack solid waste into County-owned roll-off ejection containers which are hauled by County trucks. Each recyclable item collected is stored in its own roll-off.

1. **Transfer Station #1**
This station serves the Northwestern part of the County and is the second largest station by volume.

2. **Transfer Station #2**
Located in the village of Canaseraga, this station has a small service area and is only open twice per week. It serves the town of Burns, and Grove and is the smallest station by volume.

3. **Transfer Station #3**
Located close to the center of the County, this station serves the Western part of the County.

4. **Transfer Station #4**
This station is a small volume station, located very close to the County Landfill.

5. **Transfer Station #5**
This is a high volume station in the Alfred-Almond area, originally sited there to serve the two-college community of Alfred. It has a large service area.

6. **Transfer Station #6**
The Bolivar station serves the Southwestern townships of the County.

7. **Transfer Station #7**
This station serves the largest population center and has the highest volume of solid waste and recyclables.

8. **County Landfill**
Opened on September 30, 1987, this facility is on a 322 acre parcel and the permitted disposal area is 23 acres. Currently, seven acres have been developed and an additional 5 are permitted for construction. The facility employs double-liner and leachate collection systems.

B. Private Facilities

9. **Kleen-fill**
This is a DEC permitted C&D landfill in the town of Wellsville.

10. **Crown-Y Recycling**
This facility is a returnable beverage container redemption center, and is working toward being an intermediate processing center again for a variety of recyclables, including glass and paper. It is located in Cuba, NY. The permit status is pending.

PROPOSED

Hyland Ash Monofill --

Discussions with DEC and County officials indicate that there is currently one proposed private solid waste management facility progressing through the permitting process. Hyland Facility Associates has purchased the Herdman farm, a 289-acre parcel of land located in the Town of Angelica.

Hyland has proposed a project to construct and operate an ash monofill. Plans call for two separate but contiguous cells over an area of 28.27 acres. About 62 additional acres would be used for support facilities including buildings, roads, leachate containment structures, borrow areas and sedimentation ponds. The estimated life of the landfill would be 19 years.

SECTION D:

360-15.9(d) Future Population, Waste Generation, Changes & Special Conditions

Allegany County's population has been declining. The estimates below are based on statistics prepared by DEC and NYS Department of Commerce. Their original figures have been modified using actual population changes and trends projected from several key local economic developments. The estimate includes an initial loss of population (currently occurring), stabilization as the new industries become established and, finally, a small growth in the population.

The data was modified because the figures from the Department of Commerce did not accurately reflect the population trends in the County. The last decade has shown a steady population decline and we estimate this trend will continue for the next few years. Recent developments in the area of economic development have the potential to cause a modest population growth and this is reflected in the figures. The net result over ten years is a 2% decline from the 1990 Census figures.

Table D-1 estimates the population and waste generation in the county will show from 1992 - 2001.

Table D-1
Estimated Populations and Waste Generation
in Allegany County
1992-2001

Year	Population	Tons/Year*
1992	49,259	31,465
1993	48,077	30,709
1994	46,923	29,972
1995	46,950	29,990
1996	46,975	30,000
1997	47,351	30,246
1998	47,730	30,488
1999	48,112	30,732
2000	48,497	30,978
2001	48,885	31,225

* Tons/year figure determined by multiplying the population by 3.5 pounds solid waste/person/day. The 3.5 rate is based on landfill tonnage and population records kept since 1983 and

includes waste generated by commercial, industrial and residential sources.

Breakdowns of waste by stream component (organics, paper, glass, cardboard, textiles, metal cans and aluminum, plastic and other (sewage sludge, scrap metal, construction and demolition debris, large appliances, tires, lead-acid batteries and dry-cell batteries)) can be found in the CRA, pages 1-9.

Changes to the planning unit
No changes to the planning unit are anticipated in the near future.

Special conditions
There are no potential special conditions anticipated at this time.

Major Transportation Routes in Allegany County
(as indicated on County Map - appendix SWMP-3)

A. **State Highways**

1. **Route 17**

This is a four-lane, limited access highway that provides the County with a major East-West transportation route. This Southern Tier Expressway runs from Chautauqua County east to New York City and gives access to all major population centers in the State, either directly or indirectly.

2. **Route 19**

This road is one of the major North-South routes in the County and passes through the County Seat and Wellsville, the County's largest population center. It runs in to Pennsylvania to the South and Wyoming County to the North.

3. **Route 244**

This is another East-West route that runs from Belmont to the Alfred-Hornell area.

4. **Route 243**

This route connects Route 19 with the Southwestern part of the County, as well as providing access to Cattaraugus County and ultimately the Buffalo area.

5. **Route 305**

This road provides a Southwestern route from Route 19 at Belfast to Cuba and on to the Portville-Olean area of Cattaraugus County.

6. **Route 417**

This is another major East-West route that runs along the Southern

portion of Allegany County linking Wellsville and Olean and providing access to Steuben County.

7. **Route 21**

This is a short, but vital road that provides a route to Hornell for towns in the Southeastern portion of the County. It also connects Alfred with these areas.

B. **County Roads**

1. **County Route 20**

This former state highway is the major East-West route in the County system, running through the center of the County.

2. **County Route 16**

A major North-South highway from Angelica to the Northeast portion of the County.

3. **County Route 15**

This is a major North-South route that is used mainly as an alternative to State Route 19 to get to the Rochester area.

4. **County Route 12**

This highly travelled road connects Wellsville and Alfred.

5. **County Route 3**

This connects State Route 19 with the Northwestern corner of the County and provides access to the Arcade area and is used as a way to travel to the Buffalo area.

6. **County Routes 9, 10 & 11**

These roads are connected and provide a major route that runs across the County from Almond to Bolivar.

7. **County Route 4**

This road is located in the northern portion of the County and connects County Route 15 and State Highway 19.

8. **County Routes 33 & 18**

These roads provide a route from State Route 417 South into Pennsylvania.

Table D-2 gives a breakdown of the solid waste stream per estimates from estimated populations in Table D-1.

Table D-2
ALLEGANY COUNTY SOLID WASTE STREAM BREAKDOWN

	1991	1995	2000
Municipal Solid Waste (Residential, Commercial, Institutional)	24,270	21,500	21,500
Industrial Waste	1,720	1,500	1,300
Sewage Sludge	1,250	1,200	1,200
Construction & Demolition Debris	5,000	6,000	7,000
Total	32,240	30,200	31,000

SECTION E:

360-15.9(e) Projections of changes to the waste stream

It is hoped that the waste stream will have significantly lower percentages of items such as packaging and food wastes as the public becomes more educated and active in making choices while shopping or in choosing to implement home composting.

Another anticipated change is that, with the projected economic development of the County, commercial waste will rise from 6% (1989) to 10% (1997).

A minor change is that large appliances are expected to be an increasingly smaller percentage of the waste stream. The volume has been dropping yearly and is expected to drop more then level out as the backlog of unusable items is depleted through disposal.

SECTION F:

360-15.9(f) Comprehensive Recycling Analysis

Revenues, if any, gained from sales of recyclables usually do not directly cover the costs of collection and processing. Instead, the gain is realized indirectly through avoided costs of burying the same materials. For this reason, viable markets include users of recyclables that will accept products from the County without reimbursement as well as those that charge to accept recyclables, in addition to paying markets.

Markets for recyclables are very volatile. Market research which identifies buyers, prices paid or charged, and processing requirements can become outdated in only a few months. Prices and processing requirements provided by

brokers are subject to market fluctuations and should be used for short-term planning purposes only.

As municipalities across the State increase their recycling efforts, the supply of recyclables may exceed demand. As a result of excess supply, prices fall. The newspaper market, for example, experienced an over-supply in 1989 that resulted in a steep drop in prices. The same market trend is occurring in other materials targeted for recycling. However, with the creation of new markets, the demand may increase in the future, leading to an increase and stabilization of prices paid for recyclables.

The Allegany County Comprehensive Recycling Analysis is attached as Appendix SWMP-1. The CRA will be updated by the Department of Public Works, and a complete updated copy to the NYS DEC by September 1996.

SECTION G:

360-15.9(g) Evaluation of Various Technologies

Listed below are discussions of waste reduction, recycling, composting, waste-to-energy, land burial and waste exportation as appropriate technologies for solid waste management. Each method includes (A) a description of the technology and (B) a technology evaluation.

The implementation of a solid waste management plan that integrates various components of the waste management hierarchy will have a variety of environmental, social and economic impacts. Most impacts cannot be adequately assessed until a specific technology has been selected and a specific site for a waste management facility has been chosen.

Overall, implementation of the Plan will have far reaching positive impacts. By establishing a clear course of action, the County will remove uncertainty from decision making. Businesses will be able to plan for future needs, residents will have a clear understanding of long range waste disposal costs and its impacts on their taxes, and municipal officials will have the appropriate knowledge for planning future growth and development.

Adverse impacts will result from the actual construction and operation of associated waste management facilities. The impacts may span a wide range of resources including land use, aesthetics, ground and surface waters, wetlands, flood plains, historic and archaeological, open space, agricultural and others. While this Plan points out the expected areas of impacts, it will remain the role of a site specific SEQR review, either by means of an Environmental Assessment Form or Environmental Impact Statement, to assess project specific impacts and mitigation measures.

Many of these adverse impacts can be partially, or even fully, mitigated by use of careful siting procedures and by use of the best available design technology.

Siting considerations, including those specified in various sections of 6 NYCRR Part 360 or federal Resource Conservation and Recovery Act regulations, will either prevent a facility from being located on a site that would result in significant impacts (such as landfills over aquifers) or will insure that potential

impacts (such as the presence of archaeological resources) are considered in the selection process.

Design features, such as a landfill with a double liner and leachate collection system, provide an inherent mitigation of potential impacts resulting from operation of a facility. Design considerations can aid in reducing effects such as those associated with ground and surface water, air quality, noise, odor, traffic flow, and aesthetics.

The Technology Evaluation For Waste Reduction can be found on pages 28-33 in the CRA, which is included as part of this document, as appendix SWMP-1. In the CRA, on pages 33-61, the Technology Evaluation for Collection Systems, Reuse and Recycling can be found. The Composting Technology Evaluation is in the CRA on pages 61-69.

Septage management, sewage sludge management, and yard waste management are consolidated into the composting section which is addressed in the CRA on pages 61 through 69 and 75 through 81.

WASTE TO ENERGY EVALUATION

There are numerous WTE Technologies in varying stages of development which can be evaluated as solid waste management options. They can be grouped into combustion and non-combustion technologies.

The combustion group includes modular mass burn, RDF and fluidized bed facilities. The waste is combusted at high temperatures and the heat is recovered by a boiler. Key features include waste storage and handling, waste feeding, combustion, steam and electricity generation, air pollution control and ash residue handling.

The non-combustion group includes pyrolysis and biogasification. Pyrolysis uses heat in an oxygen free atmosphere to decompose organic waste physically and chemically into a gas or liquid energy product. Biogasification is a process by which organic matter is decomposed, anaerobically and without the addition of heat, to generate methane gas. A discussion of the six types of WTE technologies will follow.

Table G-1 is a list of proposed and operating waste-to-energy facilities in New York State.

Table G-1
Status of Waste-To-Energy in New York State
(As of March 1990)

MUNICIPALITY	DESIGN CAPACITY (Tons per day)	STATUS AS OF 10/89
A. Long Island:		
Glen Cove (C)	250	Operational
Hempstead (T)	2,319	Operational
Long Beach (C)	200	Operational
North Hempstead (T)	990	In Permitting
Oyster Bay (T)	1,080	In Permitting
Babylon (T)	750	Operational
Islip (T)	400	Operational
Islip (T)	400	Under Planning
Huntington (T)	750	Under Construction
Brookhaven (T)	600	Under Planning
SUBTOTAL CAPACITY:	7,739	
B. New York City:		
Brooklyn Navy Yard (Brooklyn)	3,000	In Permitting
Arthur Kill (Staten Island)	3,000	Under Planning
Barritto Point (Bronx)	2,000	Under Planning
Sherman Creek (Manhattan)	1,200	Under Planning
Mespeth (Queens)	1,200	Under Planning
SUBTOTAL CAPACITY:	10,400	
C. UPSTATE NEW YORK:		
Westchester County	2,250	Operational
Dutchess County	400	Operational
Albany (C)	600	Operational
Albany (Am. Ref-Fuel)	1,500	Under Planning
Montgomery/Fulton/ Ostego/Schoharie Counties	400	Under Planning
Washington/Warren Counties	400	Under Construction
Oneida County	400	Operational
Herkimer/Oneida Counties	200	Under Planning
St. Lawrence County	400	In Permitting
Oswego County	250	Operational
Broome County	200	In Permitting
Onondaga County	570	Operational
Cattaraugus/Allegany County	990	In Permitting
Niagara Falls (C) (Occidental Energy Corp.)	108	Operational
	2,200	Operational
SUBTOTAL CAPACITY:	10,468	
TOTAL STATE CAPACITY:	28,607	

SOURCE: NYS Department of Environmental Conservation
Division of Solid Waste
State Solid Waste Management Plan, 1989/90 Update

I. Mass Burn

A. Technology Description

1. Description

In mass burn, the most common waste-to-energy technology, combustion of solid waste occurs with minimal preprocessing of the waste at the facility. In a typical mass burn facility, the refuse collection vehicle is weighed as it enters the site and then proceeds to the tipping area where it dumps the refuse into a bunker or storage pit. The refuse bunkers are enclosed and include travelling overhead cranes that feed refuse to the mass burn furnace via a waste hopper and waste delivery chute. The overhead cranes also are used to thoroughly fluff and mix the refuse to loosen it and improve its firing quality. The refuse is combusted as it travels through the furnace on grates. Energy is recovered as steam and bottom ash is removed from the combustion chamber.

2. System Design

Mass burn facilities use grate systems to mix and agitate waste as it travels through the furnace. Agitation also aerates the waste, promoting thorough combustion of the refuse. Commonly used grate systems include reciprocating grates, reverse reciprocating grates, rocking grates, cascade grates and drum grates. Figure G-1 illustrate these different types of grates. (See appendix SWMP-8)

The air required for combustion is supplied by fans or blowers through openings in the furnace from below the grates (under-fire air) and above the grates (over-fire air). Under-fire air initiates combustion and supplies oxygen to the refuse burning on the grates. Over-fire air mixes with volatile gases given off as the refuse burns and causes ignition and combustion of the gases. Residual or bottom ash is removed from the furnace bottom by a conveyor and cooled by spraying or quenching with water. In most cases, fly ash, composed of the particles suspended in the gas stream and removed by air pollution control equipment, is combined with the bottom ash.

There are three major types of mass burn furnaces - the water wall, refractory and rotary kiln. Figures G-2, G-3 and G-4 illustrate these typical furnace designs. (See appendix SWMP-8)

In a waterwall furnace, energy is recovered by a closely-spaced steel tube furnace lining which forms a continuous wall around the combustion chamber. In a refractory furnace, energy is recovered by a convection-type waste heat boiler installed at a point after the combustion chamber. Of the two, the waterwall furnace is more efficient and economical and heat recovery

rates range from 65 to 70 percent. Compared with a 60 percent heat recovery efficiency for refractory-lined furnaces.

The rotary kiln furnace is a modification of the refractory lined furnace. Refuse is fed to a primary combustion chamber where it is pre-dried and ignited. Burning is completed in a refractory-lined rotating furnace. The rotating action of the furnace mixes the refuse, allowing better combustion and causes the materials to move through the furnace. The expected heat recovery rate from a rotary kiln furnace is comparable to a waterwall furnace - about 65 to 70 percent.

The quantity of energy recovered in a waste-to-energy facility is related to the type of furnace employed. On average, approximately 500 to 600 kilowatt hours (kwh) of electricity is generated per ton of refuse; steam is produced at an average rate of approximately three to four pounds per pound of solid waste. In both cases, these averages represent net energy output after internal uses to run the facility.

B. Technology Evaluation

1. Applicability/Capacity

A mass burn facility can handle most solid wastes. In general, no preprocessing (sizing, shredding or separation) of waste is needed, other than the removal of bulky or potentially hazardous materials. A mass burn facility can reduce the waste stream by 90 percent in volume and 70 to 75 percent in weight.

Commercially available mass burn units range in size from 100 to 1000 tons per day (TPD). Typical designs consist of multiple furnaces to achieve total burn capacity and provide both reliability and flexibility. The Part 360 Regulations requires three units per facility to ensure availability. The largest facility allowed by law is 3000 TPD. The mass burn technology is utilized for larger facilities, usually in excess of 400 TPD. Most mass burn facilities are field erected, but prefabrication of major components is possible.

A mass burn facility can be designed for co-generation of steam and electricity. Mass burn furnaces, especially the refractory-lined type, have been used for co-disposal of municipal solid waste and sewage treatment sludges.

2. Reliability/Experience

Mass burn technology has been in use in some form or other since the 1930's. It is proven and reliable with extensive design, construction and operating experience. More than 300 facilities currently are in operation in the U.S., Europe, Japan and South America.

The most advanced of the mass burn furnaces is the waterwall furnace which employs advanced stoker design, combustion control, uniform air flow and state-of-the-art air pollution control equipment and operating methods. An on-line reliability rate of up to 90% has been reported for waterwall furnaces. A number of qualified vendors are licensed to market mass burn technology in the United States.

3. System cost

The capital cost for mass burn facilities ranges from $100,000 to $135,000 per ton per day of design capacity. Estimated operation costs range from $25 to $35 per ton and tend to increase as plant size decreases. Estimated revenues from the sale of electricity are $30 per ton, assuming six cents per kilowatt hour (Kwh) and 500 Kwh per ton of waste.

II. Modular Combustion

A. Technology Description

1. Description

Modular combustion systems are small-scale, waste-to-energy facilities comprised of multiple pre-designed and factory manufactured modular combustion units that are assembled on site. Modular systems are available in two designs - modular waterwall or modular starved (or controlled) air refractory units.

2. System Design

In modular facilities, refuse is dumped on the tipping floor and loaded into the feed hopper with a front-end loader or bull-dozer. Typically, waste is fed to the furnace intermittently with a horizontal hydraulic ram. Some modular systems have grates similar to those employed in field-erected installations. Figure G-5 illustrates a typical modular waste-to-energy system. (See appendix SWMP-8)

Modular waterwall furnaces are controlled-air, fully oxidizing furnaces. These furnaces have good combustion efficiency with respect to ash residue quality, since there is greater reduction in the organic or volatile matter of the ash with a modular furnace. However, because of the low-cost design of the feeding and mixing mechanisms, combustion efficiency is lower than mass burn waterwall furnaces. The thermal efficiency of this system is approximately 50 to 60 percent. Electrical generation rate for modular facilities is approximately 400 to 450 Kwh per ton of waste burned, after internal use. Steam production ranges from two to three pounds per pound of solid waste, after internal use.

In a modular starved-air system, there are two combustion chambers. In the primary chamber, partial pyrolysis of the refuse occurs under starved-air conditions, reducing the peak combustion rate and producing incompletely burned residues. In the secondary chamber, the partially pyrolized products are burned with excess air and an auxiliary fuel burner. The thermal efficiency of this system is approximately 50 to 60 percent.

B. Technology Evaluation

1. Applicability/Capacity

Modular waste-to-energy facilities currently in operation range in size from 50 to 400 tons per day (TPD). Individual modular units range in size from 25 to 120 TPD. Modular systems can handle most waste streams without preprocessing except for removal of large bulky items. However, modular facilities usually are not cost competitive with mass burn facilities or facilities greater than 400 TPD.

The construction time for modular systems is 12 to 18 months compared with 18 to 36 months for field-erected mass burn systems. The waste reduction capability of modular systems is approximately 85-90 percent by volume and 50-60 percent by weight.

The option to use multiple units with variable sizes allows flexibility in the design and operation of modular systems.

2. Reliability/Experience

A number of modular systems have been in operation since the 1970's. However, not all of these systems accept mixed municipal waste and many were designed for homogeneous industrial wastes. The simple design of modular systems is more suitable for smaller energy and steam generating systems. On-line reliability of modular furnaces is slightly less than for mass burn furnaces. Available data indicate that the operation life of a modular incinerator is shorter than a mass burn incinerator.

3. System Cost

Capital costs of a modular waste-to-energy facility are significantly lower than for a mass burn facility. However, operation and maintenance costs are higher. Estimates for capital costs range from $75,000 to $90,000 per ton per day of design capacity and for operating costs, $30 to $40 per ton. Estimated revenues from the sale of electricity are $24 per ton, assuming six cents per kilowatt hour (Kwh), and 500 per ton of waste. Additional cost considerations are discussed in section VIII.B of this chapter.

III. Refuse-Derived Fuel (RDF) Facilities

A. Technology Description

1. Description

Refuse-derived fuel (RDF) is a fuel product or fuel supplement derived from processing municipal solid waste. RFD preparation involves size segregation and reduction and may include materials recovery. This preprocessing (sorting and refining) of waste enhances its fuel value and also creates the opportunity for recycling materials such as glass and ferrous metals. Materials recovery also results in fewer boiler operating problems and a reduction in the volume of incinerator residue that must be landfilled.

The technology used for burning solid fuels such as coal and wood is well developed and generally applicable to RDF-based facilities. However, coal and wood are very homogeneous and easily combustible. RDF is heterogeneous and therefore difficult to burn, necessitating careful design of an RDF furnace.

a. Types of RDF

RDF is characterized by: (1) wide range of material density; (2) wide range of particle size; (3) wide range of time required for combustion; (4) variable moisture content; and (5) presence of heavy inert materials, such as glass, sand, dirt, metals, etc.

Currently, three general types of RDF are being produced on a commercial basis: coarse, fluff and densified. These RDF's differ in the degree of material processing they undergo. Mechanical processing of removal of organics and metals, and screening to remove inorganic particles. Fluff RDF involves additional stages of shredding, separation and screening to produce a higher fuel value. Densified RDF is produced by compacting RDF into pellets, briquettes or cubettes.

2. System Design

There are two major components of RDF-based systems: the RDF processing system and the RDF-based furnace. Design criteria for both components must be considered when evaluating waste-to-energy alternatives. In general, approximately 0.5 to 0.7 pounds of RDF can be produced from each pound of solid waste.

a. RDF Processing Systems

Four basic processes are involved in the production of

RDF; size reduction, separation, materials recovery and densification. Figure G-6 illustrate two processing facilities utilized for the production of RDF. (See appendix SWMP-8) A number of proprietary processes are available for preparing RDF.

In many RDF systems, size reduction is the first step in the production process. The waste is reduced in size and broken up for subsequent separation. Flail mills and hammermill shredders are commonly used for size reduction.

In the separation step, trommels, disc-screens, vibrating screens and air classifiers can be used to separate non-combustibles. The remaining fraction is a product called the light fraction that is rich in combustible materials. This light fraction, or RDF, can be used directly or undergo further processing.

In the materials recovery step, the heavy fraction, ferrous metals, nonferrous metals and glass, can be further separated by magnetic separation, screening and air classification.

Densification is the fourth step in some RDF processing. RDF is usually densified if it is to be stored for extended periods or transported to an industrial user. Densified RDF is produced by condensing the light fraction into pellets, cubettes or briquettes.

b. RDF Combustion Systems

RDF can be used for energy production by co-firing with fossil fuel in industrial or utility boilers, or as the sole or primary fuel in a dedicated RDF boiler. The latter approach has become more common since it allows for the design of a furnace that can handle the difficulties associated with the burning of RDF.

RDF can be burned in grate burning systems, suspension-fired systems, fluidized bed systems or a combination thereof. Grate burning systems (and the combustion process) are similar to mass burn and modular systems where the waste is combusted as it travels through the furnace. In suspension-fired furnaces, the fuel is burned in suspension; there is no burn-out grate for completion of combustion or for removal. To ensure complete combustion, only high quality "fluff" RDF fuel can be used in this type of furnace. In fluidized bed systems, RDF is mixed in the furnace with an inert material (sand) and circulated until complete burnout is achieved.

B. Technology Evaluation

1. Applicability/Capacity

RDF production processes incoming refuse and separates the organic fraction from the inorganic fraction and metals. The organic fraction is used as a fuel; the inorganic fraction and metals can be processed for materials recovery. Hence, an RDF system can enhance the recyclables recovery program of a municipality. However, the materials recovered are not as clean or as easily marketed as source-separated material.

The capacity of an RDF facility will depend on its two components: the furnace and the RDF production facility. Typically, the design capacity of RDF facilities is between 600 and 2000 tons per day (TPD). An RDF plant below 600 TPD capacity is not economical compared with a mass burn facility because of the high costs associated with the front-end processing requirements of an RDF facility.

An overall volume reduction of 90 to 92 percent can be expected from an RDF facility with a corresponding weight reduction of 80 - 85 percent. These reductions will depend on two major factors: the composition of the raw municipal waste and the materials recovery that takes place during fuel processing.

An RDF boiler is approximately 10% more efficient than a mass burn waterwall furnace because RDF is more homogeneous than raw municipal waste and inert materials have been removed prior to burning.

The energy requirements for the entire RDF system are greater than any other combustion process. Even so, after internal usage, approximately 500 - 525 Kwh of electricity can be generated per ton of combusted RDF. Steam availability is two to three pounds per pound of combusted RDF.

2. Reliability/Experience

Commercial RDF facilities were started in the 1970's when the energy crisis emphasized the need for energy conservation and materials recovery. Many of the first-generation RDF incinerators were unsuccessful for both technological and economic reasons.

In many cases, the RDF fuel did not meet specifications and this deficiency led to boiler corrosion, slagging, incomplete combustion and excessive emission of particulates and other air pollutants. Experience has indicated that RDF incinerators are more reliable when only RDF is burned instead of mixing RDF with other fuels. Recent generations of RDF facilities have overcome these difficulties and are operating successfully.

3. System Cost

The capital and operating costs on a ton-per-day basis of an RDF waste-to-energy system are closely comparable to other types of waste-to-energy systems. RDF furnaces can be smaller because a significant portion of the waste stream that is burned in the RDF furnace has been removed in the RDF fuel production process. But any savings from smaller furnace size are offset by the costs associated with the RDF production process.

Capital costs for the RDF waste-to-energy system range from $110,000 to $140,000 per ton per day of design capacity. Estimated operating costs of an RDF system range from $30 to $40 per ton. These operating costs can be offset by the sale of electricity or steam and by the sale of materials recovered in the RDF production process.

IV. Fluidized Bed Combustion

Use of the fluidized bed technology for the disposal of mixed municipal waste is still considered to be in the emerging stages, and data on long-term reliability and operating experience are limited.

A. Technology Description

1. Description

The fluidized bed furnace is a cylindrical refractory-lined shell with a bed of sand. The bed of sand is expanded by air pressure during operation to mix the waste with the sand and air. Solid waste must be processed into RDF prior to combustion in a fluidized bed furnace.

2. System Design

The fluidized bed furnace, as shown in Figure G-7, is a very simple design with no interior moving parts. (See appendix SWMP-8) The air-blowing fan is its major moving component.

Preheated air is introduced under pressure and flows through a bed of sand supported by girds and plates. This air flow under pressure fluidizes the sand bed and expands it 30 to 40 percent in volume. Coarse, fluff or densified RDF is introduced into the sand bed where it mixes with the sand and air and is combusted. Because of the complete mixing that occurs in the furnace, excess air requirements are minimal. Complete combustion is possible by controlling retention time of the waste in the furnace. Careful control of air pressure prevents waste from floating above the combustion zone. The energy recovery unit may be integral with or separate from the combustion chamber.

B. Technology Evaluation

1. Applicability/Capacity

Fluidized bed combustion systems have been used extensively for sewage sludge disposal. Municipal waste must be processed into an RDF-type fuel in order to be used in a fluidized bed furnace.

2. Reliability/Experience

Fluidized bed combustion facilities for burning municipal waste to recover energy exist in Japan. A facility in Duluth, Minnesota burns a combination of shredded waste and sewage sludge. No facilities utilizing this technology exist in New York State.

While the use of fluidized bed furnaces for sludge incineration is common, the technology is still being refined for municipal solid waste applications and limited operational data is available to predict long term reliability and costs.

3. System Cost

Preliminary capital costs can be estimated by multiplying the design tonnage per day times $200,000 per ton. Operating costs are estimated at $45 per ton. Estimates include the RDF processing system. Additional cost considerations are discussed in section VII.B of this chapter.

V. Biogasification

The biogasification technology is still in its developmental stages and cannot be considered a proven technology for disposal of mixed municipal solid waste.

A. Technology Description

1. Description

Biogasification is a biological process in which organic matter is decomposed by anaerobic organisms (organisms that grow in the absence of air), producing methane gas as a major by-product. The three basic steps involved in the process are:

a. Pre-processing -- organic material is separated from the waste stream, shredded and mixed into a slurry;

b. Decomposition -- the slurry is placed in anaerobic digesters for a 5 to 30 day period (14 days is typical) for generation of methane gas; and

c. Treatment -- methane gas is refined to market specifications.

2. System Design

Many varieties of design exist for biogasification systems. The key component of any commercial biogasification system is one or several continuously stirred digesters with pre- and post-digester processing. The stirring improves contact of the biological organisms with the waste, provides thorough mixing of the tank contents and breaks up scum.

In a typical facility, the solid waste is delivered to a receiving area and processed to remove the non-organic material and reduce particle size of the remaining organic material. After processing, the organic material goes into a pre-mix tank, where the waste is mixed with primary sludge, nutrients and steam. The slurry from the pre-mix tank is fed into digesters for anaerobic decomposition. Methane gas produced during the digestion process is refined into a useable product. The solid residue from the process is an organic material that can be dewatered and may have potential for use as fuel in a dedicated boiler.

B. Technology Evaluation

1. Applicability/Capacity

A facility based on biogasification can be sized to meet the capacity needs of a planning unit. However, only the organic fraction of the waste stream can be processed by biogasification. In general, about 50 percent of the waste stream is organic matter. However, this depends on the characteristics of the planning unit, and, especially the amount of yard waste entering the waste stream. Only about 50 percent of organic solid waste fed into the digester is converted to gas. The remainder requires further processing or disposal.

Furthermore, the system requires large quantities of water for processing and generates large quantities of liquid and solid waste which must be further treated or disposed. This system also generates a filter cake with high heavy metal concentration.

Plant material, though organic in nature, is not readily biodegradable and thus not suitable for biogasification without preprocessing. On the other hand, sewage sludges are readily biodegradable.

Markets exist for gas produced by the biogasification process.

2. Reliability/Experience

A 100 TPD demonstration project in Pompano Beach, Florida has operated successfully since 1978 and is the only large-scale system operating in this country. More research and

development is needed before the biogasification process can be considered a reliable solid waste management alternative. Further-more, gas production is reduced at temperature below 50°F, therefore making it a less desirable technology in colder climates.

3. System Cost

Substantial capital investment is required for a biogasification facility. Cost information is not available to estimate planning and development costs for this type of facility.

VI. Pyrolysis

The technological and economic feasibility and operational reliability of the pyrolysis technology has not been proven on a commercial basis for disposal of mixed municipal waste.

A. Technology Description

1. Description

Pyrolysis uses heat in an oxygen-deficient or oxygen-free environment to decompose municipal solid waste. The products of pyrolysis include combustible gas or liquid hydrocarbons, such as hydrogen, methane, and carbon-monoxide, which can be burned immediately to produce steam, or stored for later use or sale. Pyrolysis also produces solids, including carbon-rich residue and non-combustible materials such as glass and metals.

The products of pyrolysis depend on many factors. The most important of these are the type of carbonaceous solids in the waste, the operating temperatures, the heating rate and the type of equipment used. Temperatures below 1000°F and slow heating favor production of char and oxygenated gases. Temperatures above 1500°F and rapid heating favor production of flammable gases.

2. System Design

The application of pyrolysis for municipal solid waste is relatively new and can be traced back to about 1968. The major components of a typical system are storage facilities for municipal solid waste, a feed system, a front-end-RDF system, a pyrolytic reactor, a product cleaning or treating system, a product collection and storage system and a solid, liquid and gaseous by-product and residue removal system.

Various types of pyrolysis systems have been marketed. Figure G-9 shows a schematic for pyrolysis reactors. (See appendix SWMP-8)

B. Technology Evaluation

1. Applicability/Capacity

There are no commercial, full scale, successfully operating pyrolysis systems. Conceptually, a facility can be designed to meet the capacity needs of the planning unit.

2. Reliability/Experience

Pyrolysis has been used for many years for coal gasification and to produce methanol, acetic acids and turpentine from wood. However, more research and development are required to make this technology a viable alternative for municipal solid waste management. Currently, no full scale municipal solid waste pyrolysis facility exists in the U.S.

3. System Cost

Preliminary estimates of capital costs for pyrolysis facilities are approximately $150,000 per ton per day of capacity. Operating costs range from $35 to $45 per ton.

VII. Technology Selection

A. Size and Capacity Considerations

Local governments can integrate recycling and waste-to-energy through careful solid waste management planning to ensure that integrated solid waste management projects can manage the current waste stream and accommodate changes to it. Planners must consider the relationship of facility processing capability, waste flow projections and guarantees for delivery of solid waste over the life of the facility. Forecasting these and any other changes to the waste quantity and quality is essential for planning successful programs.

If a waste-to-energy facility is financed with revenue bonds, the long-term economic viability of the project depends on a guarantee for the life of the facility of a definite amount of solid waste for which the facility will be paid by the municipality at a certain tipping fee per ton delivered. The municipality's guarantee of solid waste ensures that the facility will be able to produce for sale a certain amount of energy. In effect, guaranteeing the input solid waste and the output energy of a waste-to-energy facility guarantees the facility's long-term financial viability.

The key to success is proper sizing of a waste-to-energy facility to assure a long-term supply of waste without interfering with recycling activities. Facility sizing must take many factors into consideration, including sufficient capacity to maintain facility availability at all times. Bypassing solid waste would result in a decrease of available landfill space, if space is even available, and would incur a significant cost for the cost for the community.

The fact that the waste-to-energy facility has capacity beyond that required to process the solid waste remaining after reuse/recycling does not, in and of itself, represent a conflict with recycling/reuse programs. Excess capacity in a larger facility does not equate to a commitment to burn additional wastes, including recyclables, especially in light of permit conditions that require maximum recycling/reuse programs regardless of the size of the facility. A larger facility may, indeed, be advisable from an engineering and solid waste management perspective.

Overall, facility size must be sufficient for normal facility operation and maintenance, as well as, for outages resulting from equipment malfunction. In addition, the facility must be sized to accommodate seasonal peaks in the amount of solid wastes that generally occur during spring cleaning, tourist seasons and after holiday weekends. In some cases, the fluctuation in the amount of solid waste from peak to low periods can approach 40 percent. The facility can be designed with an incineration unit as a standby or back-up to increase overall facility availability. This redundant capacity may be needed at facilities where bypassing of solid waste is difficult because of limited landfill space or because the landfill is distant from the facility.

Municipalities can also factor future needs of the community into the plans for the configuration and size of the facility. For example, the facility can be sized to include surrounding areas that do not participate initially or to account for changes in area population growth and waste generation rates. Socio-economic considerations such as changes in employment patterns, economic growth or individual "throw-away" attitudes also can be considered in determining facility size.

6 NYCRR Part 360-3.2(a)(6)(i) requires the applicant for a waste-to-energy facility to "...submit a table or graph showing the projected quantities delivered per month during the first year of operation and the background data and assumptions used to produce this table or graph..." In addition, the Part 360 application for a permit to construct a solid waste management facility must describe seasonal solid waste variations and projections for future quantities of solid waste to be processed. Departmental review of all data and assumptions is undertaken to assure validity.

As part of a permit application, 6 NYCRR Part 360-1.9(f) requires the development of a comprehensive recycling analysis and implementation of a recyclables recovery program. Section 360-1.11(h) specifies that a recyclables recovery program must be included as part of the permit conditions for a solid waste management facility. By inclusion in the permit application process, the quantity of solid waste reduced and recycled is made a consideration in sizing.

The facility design capacity represents the maximum capacity of the facility to process solid waste. The facility design capacity <u>does not</u> represent a contractually-obligated amount of solid waste to be

delivered to the facility. Therefore, as long as the "put or pay" contractual obligation of a municipality to provide solid waste to a WTE facility accommodates the waste reduction and recycling program developed by the municipality and approved by the Department, a balance is struck between the size of a waste-to-energy facility and waste reduction/recycling programs.

B. Cost Considerations

Previous sections in this chapter provided relative cost ranges for the various technologies. The unit capital costs include the cost for system engineering, design, permitting, site work, building, combustion, energy production, air pollution and ancillary equipment, start-up and testing, insurance and contingencies. Additional legal, financial and administrative costs must be added to the unit capital costs to estimate the total project cost. In general, these additional costs can be estimated at 33 percent of the unit capital costs.

The unit operating and management (O&M) costs include labor, maintenance, materials, supplies and utilities. The capital and O&M costs do not include the costs for bypass and residue disposal, which are discussed in Chapter 4, and the annual debt service for the total project cost. As an example, the average annual debt service for a facility with a unit capital cost of $100,000 per ton per day of design capacity would be approximately $37 per ton assuming an interest rate of 8 percent over 20 years.

Actual capital and O&M costs will depend on procurement procedures, project financing and other factors specific to the planning unit. Therefore, both capital and O&M costs must be determined by the planning unit using cost information specifically applicable to the planning unit. In addition, the economics associated with waste-to-energy facilities depend heavily on the sale of recovered energy to help offset projected costs. Table G-2 provided a detailed list of factors to consider.

TABLE G-2
GENERAL WASTE-TO-ENERGY COST FACTORS

Pre-development:

Site Selection
Environmental Assessments
Permit Application (includes Engineering/Legal Fees)
Land Acquisition/Lease

Site Preparation and Construction:

Site Preparation
Construction Labor
Construction Management
Structures (Materials and Equipment)
Start-up

Acceptance Testing
Insurance During Construction
Financing costs (Capitalized Interest, Bonding, etc.)
Miscellaneous (Sales and Use Taxes, etc.)

Facility Operation and Maintenance:

Administrative Personnel
Equipment (Labor, Contracts, Supplies, Spare Parts)
Facility and Building (Labor, Contracts, Supplies, Spare Parts)
Fuel and Chemicals
Testing and Monitoring
Contract Services
- Reporting Requirements
- Legal
- Management
- Equipment Rental

Host Fees
Residue/Bypass Hauling, Treatment, And Disposal*
Major Equipment Replacement (Replacement Year and Replacement Cost)
Equipment Rentals or Leases
Insurance

Closure/Post Closure: (if any)

Revenues:

Recovered Energy (Steam and/or Electricity)
Tipping Fees

SOURCE: NYSDEC DIVISION OF SOLID WASTE TAGM: SW-89-5001, April 5, 1989
NYS SOLID WASTE MANAGEMENT POLICY GUIDANCE

Although there is great interest and promise in these technologies, they are in development. The costs, performance, and environmental impacts are only vaguely understood.

Waste-to-energy -- Impact Analysis

Waste-to-energy plants offer a solution to waste disposal with the positive effect of providing a source of energy which doesn't use limited fossil fuels. However, there is a great deal of public controversy surrounding the development of these plants due to concerns about air emissions and disposal of ash. Furthermore, the economics of developing a successful waste-to-energy facility favor a regional facility in order to assure the quantities of waste needed to keep the facility operating efficiently.

Airborne contaminants may be released to the atmosphere in gaseous or particulate forms. Public concern about the environmental effects of waste-to-energy facilities most often focuses on potential impacts from these air emissions. The most recent advances in scientific knowledge have focused attention on organic compound and trace metal emissions from refuse combustion facilities.

In particular, these are dioxin and furan emissions. This focus has been on both mass burning facilities and those combusting refuse-derived fuel.

In response to the concern regarding dioxin and furan emissions, a substantial amount of research has been conducted and is in progress. Their origin, formation and destruction during combustion, rate of capture by control devices, and effect on public health are being investigated.

One of the key tools in judging the effects of these emissions is risk assessment. This technique provides a worst case estimate of future health impacts resulting from the operation of a refuse combustion facility. This is based upon a number of conservative assumptions including:

1. The facility would emit the maximum projected amount of pollutants,

2. Weather conditions would match the worst of several previous years, resulting in maximum annual concentrations,

3. The entire county population would be exposed to the maximum concentrations,

4. The maximum exposure would continue day and night for 70 years,

5. All the dispersed pollutants would be respirable,

6. 75% of what is inhaled would be retained,

7. 100% of what is retained would be absorbed, and

8. Toxic and carcinogenic effects can result from a single exposure to one molecule of the pollutant under study.

Waste-to-energy projects incorporating refuse combustion use risk assessment to provide permit application review agencies, elected officials, and the public with information concerning the impact of various trace metals and organic compounds found in air emissions. This is a required part of permit applications in New York.

The conclusion of risk assessments at other waste-to-energy facilities was that the emitted amounts of the pollutants studied were too small to conclude that there would be any discernable impact on public health over a short or long timeframe.

In addition, the U.S. Environmental Protection Agency conducted its own risk assessment on five operating mass burning facilities and reached similar conclusions.

Criticisms have been directed at the technique of risk assessment itself and the assumptions used in the risk assessments. However, risk assessment is a widely accepted and used technique that accommodates a lack of absolute certainty on many factors by utilizing worst case assumptions.

A primary assumption of risk assessments receiving attention and criticism has

been the expected stack emissions of the pollutants under study. Stack emission rates of pollutants have been shown to vary over a wide range. Critics have said that the highest rates measured from mass burning facilities should be used in any risk assessment. The risk assessments have generally used emissions from facilities of similar design and operation to those being proposed. This is in recognition of the important effect which furnace and boiler design, waste characteristics, and mode of operation have on pollutant emissions.

Overall, the emissions from well designed and operated refuse-derived fuel facilities and as-received municipal solid waste mass burning systems would be expected to be approximately the same. Both systems should be able to consistently meet regulatory standards.

Basic construction practices and state-of-the-art pollution control equipment would be incorporated into the design of any waste-to-energy facility to deter potential air quality impacts and to comply with federal and state air quality emission guidelines. As a part of the design and permitting process, the facility would be subjected to detailed air quality modelling including a possible requirement for up to one year of ambient air quality monitoring. After construction it would have to pass strict emissions tests before being certified for operation.

The impacts from fugitive dust and vehicle exhaust associated with the construction of the facility could be reduced through proper construction measures. Proper maintenance of the equipment, roadways, and work areas would be the basis of minimizing any short term construction related impacts. Fugitive dust from the handling and disposal of ash into a landfill area can also produce impacts. Some mitigation measures to reduce ash dust impacts include covering the transportation vehicles, using daily cover material to reduce ash exposure to wind and ash quenching.

Water quality -- The construction and operation of a waste-to-energy facility should not result in any significant impacts to the existing water quality of a site. Some short term impacts may result from the construction of the facility. These impacts are considered typical of all construction projects and are easily mitigated through basic precautions. A typical impact is an increase in soil erosion and sedimentation from the clearing, grubbing, and earthwork at the site.

Erosion - Can be controlled with the placement of hay bales or by constructing swales to deter and direct runoff. Sedimentation ponds can be constructed to collect runoff thus allowing for settlement of sediments in the water. If water wells are used to provide process and/or cooling water to the facility, there could be a lowering of the groundwater table. Increasing impervious surfaces may cause a decrease in infiltration of precipitation to the groundwater. However, depending upon the type of facility and the site, treatment of these water resources may be done on-site, possible allowing for regeneration of the groundwater table.

Ash -- Another matter receiving attention in connection with mass burning systems is that of residue (ash) characteristics. Ash from combusted refuse has elevated concentrations of heavy metals relative to uncombusted refuse. Approximately ten percent of the ash is collected from the particulate device

which is usually a high efficiency electrostatic precipitator. The microscopic fly ash particles have higher surface area-to-volume ratios than larger particles. Therefore, fly ash contains the highest concentrations of these materials. This is offset by the high buffering capacity of mixed bottom and fly ash which resists the release of pollutants into the environment.

This has been recognized by the State in the 6 NYCRR Part 360 regulations as they relate to the land burial of ash. Built with a proper liner, cap, and groundwater monitoring system, an ash residue landfill should not impose an impact to the water quality at the site.

In general, the construction and operation of a waste-to-energy facility, including the landfill, should not pose a significant impact upon the existing groundwater quality. The actual extent of any long term impacts would be evaluated on the basis of the facility type and the specific site.

Traffic -- Short and long term traffic impacts would result from the construction and operation of a waste-to-energy facility. Traffic propagated by the construction of a proposed facility would be minimal and would most likely be absorbed into the local traffic stream. Vehicles transporting waste materials would affect the local community but a properly sited facility would be reached by primary transportation routes where traffic related impacts would be minimal. Actual traffic patterns and their impacts should be evaluated in greater detail when a candidate site had been selected.

Noise -- A waste-to-energy facility is the source of various sound producing equipment. Noise levels at the facility would vary in intensity and duration during the various construction and operation phases. Noise levels would fluctuate during the different construction phases of the facility as various equipment was used. The greatest levels of noise would be generated during the clearing and excavation process of the site by earth moving equipment. During the actual erection and finishing phases of the facility, noise levels would vary with the type of construction. In order to minimize the impacts from noise, proper maintenance of machinery, adequate mufflers, and active work hours between 7 a.m. and 5 p.m. would have to be maintained.

Since a waste-to-energy facility operates continuously, noise levels at the site perimeters are important impacts that need to be considered. Actual noise levels escaping to adjacent properties are dependent upon the facility type and the site characteristics. Most often the process operations are enclosed within the facility structure, thus noise levels can be contained and reduced. Major sources of noise are from the refuse trucks, refuse handling combustion process, electrical generation, air pollution control equipment, and the cooling and residue handling systems.

Aesthetics -- A waste-to-energy facility is an industrial operation that would have many of the same aesthetic impacts that can be associated with such facilities. Stacks for discharging emissions, which must often be very high to meet air quality standards and to assure proper dispersal, would be visible from a distance. Other features of the facility, such as roadways, retention ponds, and structures, may be screened in order to present a pleasant appearance.

Historical and archaeological sites -- Construction of a waste-to-energy facility

could have an adverse impact on historic or archaeological resources. During a facility siting process, however, known historic and archaeological sites would be taken into consideration. While such consideration would not necessarily mean that such sites would not be affected, it would reduce the potential for impact. Undocumented resources would be identified during site specific impact analysis.

Biological communities -- Impacts upon biological communities are to be expected whenever a site is developed. Impacts associated with the construction and operation of a facility include a permanent loss of habitat, displacement of resident populations of wildlife, and disturbance to nearby populations from the noise and other development activities. Impacts to aquatic communities should be minimal since the operation of a facility should not adversely impact water quality.

Odors and vectors -- Odors are always a factor which must be addressed when large volumes of waste are being handled. The potential for odor generation at a waste-to-energy facility comes primarily from the storage and combustion of the refuse. Refuse containing organic material that is sorted for extended periods of time at sufficient temperatures and moisture content would generate significant odor. To mitigate any potential for odor impacts at a facility, the refuse must be handled properly and processed quickly. By drawing air through the combustion chamber, a negative pressure can be created in the storage area so that odors would not escape to the outside. Also, to keep odors from accumulating, basic good housekeeping practices would be established. In order to keep odors from being emitted from the combustion process, temperatures greater than 1,400 degrees must be maintained.

Vectors, such as insects and rodents, can be controlled with the proper operation of a facility. Should vectors pose a significant problem for a facility, insecticide or rodenticide could be applied.

Economic values -- During the construction of the facility, building material suppliers and the local construction crafts would be involved and benefitted. A permanent work force would be needed to operate the facility which would be recruited from the local community. The facility would benefit the County by providing a source of waste disposal with a reduction of land space needed for land burial.

Adverse impacts -- Airborne contaminants may be released to the atmosphere in gaseous or particulate forms. Soil erosion and sedimentation would result from earthwork activities. Short term traffic increases would occur during construction of the facility and long term traffic increases during operation are probable. A loss of habitat and a disturbance to resident wildlife populations are other expected impacts from development and operation of a facility. There would also be visual impacts resulting from the stack, building, and other features of the facility.

Mitigation measures -- Proper siting procedures that consider the potential adverse effects on air quality, traffic and other areas provides an important means of reducing impacts. The use of the best available technology for controlling plant emissions would reduce the potential impacts to air quality. Soil erosion techniques, such as the placement of hay bales or the construction of swales and ponds to deter, direct, and contain runoff, would mitigate impacts

created by required earthwork during construction. Transportation routes would be a factor in site selection. Potential impacts and mitigation would be identified during the analysis of candidate areas. Landscaping would mitigate some of the aesthetic impacts of the facility.

Growth-inducing impacts -- The availability of energy in the form of the steam or electricity generated at a waste-to-energy facility could be used to encourage the development of an industrial park in the vicinity of the facility. Such development could induce further growth of employment and thereby increased demand for housing, police, schools, and other community services.

Irreversible and irretrievable commitment of resources -- The construction and operation of a waste-to-energy facility would require the commitment of manufactured and natural resources. The greatest amount of resource commitment would come during the construction phase of the facility. Resources such as fuel oil, gasoline, electricity, concrete, steel, stone and other miscellaneous building materials would be consumed or made irretrievable for future use. Energy output from manual labor would be irreversible. Money invested for the construction and maintenance of the facility would be irreversibly committed.

A commitment of resources for the operation of the facility would be required. However, electricity produced by the facility would be used to operate the machinery and lighting. Excess electricity could be sold back to the local public utility under the Public Utilities Regulatory Policy Act (PURPA). Manual labor would be required to maintain the facility and fossil fuels would be consumed for refuse handling and delivery to the facility.

Use and conservation of energy -- Ultimately the operation of a waste-to-energy facility would result in the net production of energy. Even though the over-the-road miles traveled to a single facility would be greater than those required to travel to numerous sites, the quantity of equipment and their total hours of operation for refuse handling and compaction needed at one waste-to-energy facility would compensate for those required to operate many solid waste management facilities. The greatest benefit of a waste-to-energy facility in terms of energy use would result from the sale of recovered energy to the local utility.

LANDFILL EVALUATION

Landfill (A) -- Description

Once relied upon as the accepted method of waste disposal, land burial has been reduced to the bottom of the list of the State's preferred waste management alternatives. While waste reduction, re-use, recycling, and waste-to-energy technologies can and should be pursued as part of a solid waste management plan, adequate landfill capacity will still be required to handle the residuals from the waste stream which cannot be handled by other methods.

Recognizing the need for landfill capacity as part of an integrated solid waste management system, the County has constructed a state-of-the-art landfill in the Town of Angelica. In recent history, the term "sanitary landfill" referred to the disposal of solid waste into the ground and the regular application of cover soil to control odors and aesthetic impacts. This limited operation was regarded as

state-of-the-art technology and met the general requirements of state solid waste management regulations.

As the environmental impacts of these facilities became more apparent throughout the 1970's, technological developments in the field of solid waste disposal were born of necessity. A greater concern for the protection of groundwater resources resulted in the concept of landfill liners and leachate collection systems. Monitoring programs were initiated at many landfill sites to detect contaminant releases to groundwater. In many cases, immediate facility closure and site remediation became necessary.

Landfill -- Expansion Option

Landfill expansion can be in the form of vertical expansion, where additional lifts of solid waste are placed above the existing landfill footprint, or a lateral expansion, where additional site acreage is used for landfill purposes. Evaluation of either alternative requires consideration of several factors including regulatory, environmental, economic, and operational concerns. By strict interpretation, the "expansion" of an existing landfill facility could not occur unless the facility is currently permitted for a certain capacity or maximum grades. In the context of this Plan, the term "expansion" is intended to be synonymous with "continued operation."

A vertical landfill expansion involves the continued filling operation over the existing landfill limits to higher final elevations. This type of expansion is usually undertaken at sites that have exhausted their ability to expand laterally and are relatively shallow in depth. Vertical expansions have several distinct advantages. The most apparent benefit is that new land resources need not be committed for disposal purposes.

Potential impacts to groundwater are mitigated by restricting the landfill surface area exposed to precipitation and consequent leachate generation. In some cases, a vertical expansion can actually reduce leachate generation by providing greater surface slope which in turn increases surface runoff and decreases infiltration. Many shallow-sloped sites suffer from ponding and poor drainage which results from landfill subsidence. The additional thickness of solid waste also provides absorptive capacity.

Since leachate generation is a direct function of area, landfills with a greater volume to area ratio generally experience less leachate generation as percolating moisture is able to soak into drier portions of the solid waste. This advantage can only be realized if the waste stream buried is well below field capacity or saturation point.

Economic benefits from a vertical expansion can also be realized through the avoidance of development costs -- construction, permitting, etc. -- typically associated with lateral expansion. Vertical expansions provide greater use per acre and can also help to densify underlying waste layers as the landfill settles, thereby attaining maximum tonnage per cubic yard of available air space.

Disadvantages of vertical expansions include operation and maintenance difficulties experienced in reaching higher elevations of the fill area. Waste hauling vehicles may have problems reaching active working faces over steeper

roads, especially during adverse weather conditions. Upper areas can also be more susceptible to higher winds and litter problems. While runoff may be promoted, erosion can occur during intense storm events before a sound vegetative cover is established.

Visual aesthetics can be the biggest concern with vertical expansions. Areas which are not well screened from view can have a negative impact on nearby residents or passers-by. The lateral expansion of a landfill requires the use of new land area for disposal purposes. Lateral expansions could involve the development of new disposal area on the same property but not necessarily directly adjacent to existing fill area. Expansion which takes place contiguous to existing landfill areas in which new waste is placed over the sideslopes of existing waste is called piggy-backing.

In many ways lateral landfill expansion is similar to new landfill development in that regulatory requirements for permitting are essentially the same. One advantage of lateral expansion is that, properly designed and constructed in accordance with current regulatory standards, it provides greater protection to the environment. Any new area developed must include a liner system, leachate collection and removal system, and facilities required for a permit. At sites which are already filled to maximum elevations, lateral expansion represents the only viable method of continued operation, provided that adequate land resources area available.

Disadvantages of lateral expansion include the economic impact of developing new landfill area in accordance with current regulation. The cost per cubic yard for design, permitting, and construction of new, lined cells would be substantially greater than that for a vertical expansion. Along with the increased cost would be the time required for implementation of this extensive process. New cells could take many months to prepare before the expanded capacity could be utilized.

Using new land resources for a landfill would be considered a greater environmental impact than the continued operation over areas which have already received waste. Lateral expansion precludes the potential use of a property for other development, or for preservation.

Landfill -- Reclamation Option

Landfill reclamation, sometimes called "landfill recycling" or "landfill mining" is an emerging practice that may provide expanded disposal capability at existing sites, or alternatively reduce closure areas and cost. Certain of the technical aspects may be applicable to practice at newly constructed sites.

There are several generic approaches currently being considered; two philosophies are now most dominant. One approach involves excavating raw solid waste and then immediately screening the material to produce reusable cover soil and recyclable products such as metal, plastics, paper, fuel for waste-to-energy plants and other potential recyclables. The non-usable residue is then placed back into the landfill. In some cases the residue is intended to be composted for future handling. The Naples, Florida (Collier County) project is reportedly practicing the procedure while developing proprietary technology known as "BCMR" (bury, compost, mine, reclaim). This approach is being marketed by a firm known as "Landfill Reclamation and Rehabilitation, Inc." No other practicing

sites are known at this time.

Landfill -- Stabilization Option

Another approach involves stabilizing the raw solid waste by aerobically decomposing the organics prior to screening. The stabilized material is then screened to recover soil, metal, plastics, and other residues. Paper is not present in the end product. This technology, known as "in-place stabilization" is being performed locally as part of a landfill cap repair at the Albany landfill. Advantages of this method include elimination of blowing litter, reduction of odor problems, and elimination of the need for a combustion facility or markets for low grade or contaminated paper. There is no need to re-excavate in the future.

Although there is great interest and promise in these technologies, they are in development. The costs, performance, and environmental impacts are only vaguely understood.

Landfill -- Multiple Landfills Option

The concept of multiple landfills might be considered as an alternative but the merits are quickly lost on the basis of economics. Multiple landfills would provide the likely advantage of minimizing haul distances to one central facility. However, the additional costs of development, operating and maintaining two or more facilities outweigh any potential savings in transfer costs.

Landfill (B) -- sizing

The landfill site is about 319 acres with 30 originally set aside for the landfill. This amount was reduced by 25 percent after the 1988 change in DEC regulations which doubled the size of the buffer zone.

Landfill (C) -- cost

The capital costs of the landfill and transfer stations were:

Transfer Stations	$2,152,628.00	
Estimated Debt Service	40,400.00	$2,193,028.00
Landfill	1,841,744.00	
Estimated Debt Service	1,493,552.67	3,335,296.67
		5,528,324.67

The annual operating cost of the system the first year (1983) was $454,400. By 1991, the cost rose to $1,346,212.68. The projected cost for 1992 is $1,455,000.

Construction of cells 5 and 6 is scheduled to begin in 1993 and is expected to cost $4.2 million.

Landfill (D) -- Impact Analysis

The facility was built and constructed in accordance with applicable regulations and accepted engineering practice. The factors listed below were considered in the planning process before construction. The landfill will provide for waste

disposal for at least the next 24 years while minimizing negative environmental impacts.

Zoning and Land Use

6 NYCRR Part 360-2.12(e)(1) and 2.12(e)(3) require that the siting process consider an area's growth patterns and proximity to incompatible developments. No changes were required for the County facility.

Aquifers and hydrology

6 NYCRR Part 360-2.12(c)(1) prohibits the construction of a new landfill or the lateral expansion of an existing landfill over a primary water supply aquifer, principal aquifers, or within public water supply wellhead areas. Surface hydrological characteristics were considered and evaluated in the design process.

Wetlands

According to 6 NYCRR Part 360-1.14(c)(4), no new landfill may be constructed or operated within the boundary of a designated wetland. The wetland on the site was less than five acres and classified as a wet meadow under DEC Freshwater Wetlands guidelines. It was not considered to be of significant ecological importance and thus was not subject to protective regulations.

Noise

The perception of noise impacts is relative to existing noise levels at and around the landfill site. A landfill located in a rural area has a greater effect on adjacent noise levels than one located in an urban area. During construction, noise sources include earth moving vehicles, dump trucks, and other construction equipment. During operation, the noise sources include landfill compaction equipment, bulldozers, packer trucks, and other vehicles delivering waste. Added traffic on roadways servicing the landfill site also have an impact on noise levels.

Land contiguous with the property is occupied by forest except adjacent to County Route 48. The nearest occupied home is about 500 feet southwest of the property line while the next nearest is 1,500 feet to the south.

Odor

Perhaps one of the major fears of residents residing near a landfill is that the facility will emit strong and pungent odors that will permeate the surroundings and result in a loss of property values. In fact, modern landfill design and management techniques will significantly reduce the generation of odors from decomposing waste through use of daily cover, methane and other gas collection systems, and leachate control.

Traffic

The construction and operation of a county-wide landfill increases the traffic, particularly truck traffic, on roads that service the facility. It would be difficult

to conceive of a landfill site that would have less impact on travel or road usage. In addition, the central location of the site within the county produces nearly optimal hauling distances.

Airport proximity

Construction and operation of a landfill will have no effect on airport flight operations because according to NYCRR Part 360-2.12(e)(3), a landfill may not be constructed within 5,000 feet of an airport serving propeller driven aircraft and 10,000 feet of an airport serving turbo-jet driven aircraft. In order to minimize the chance of a bird and aircraft collision, landfills must be located outside of these designated radiuses. No nearby airports were identified.

Topography

As stated in 6 NYCRR Part 360-2.12(d)(5), consideration must be given to the effects natural topography will have upon the construction and operation of a proposed landfill. The site is on the side of a hill. Upon observation from the road, it appears very steep. After examination from the top of the property, it was apparent that the property had excellent potential if developed properly. A ravine begins in the north central section of the site. It did not present any problems for development.

Archaeological and historic sites

The County's history and prehistory have left archaeological sites and historic buildings on the landscape. The construction of a landfill could have a significant impact on such sites. No significant historic and archaeological sites were identified.

Soils

The construction and operation of a landfill will have a direct impact upon the soils of a site. Normal landfill operations require that excess on-site soils be stockpiled and used for daily cover material.

According to 6 NYCRR Part 360-2.12(d)(1,2), soils located at a site should be of low permeability and at least 10 feet thick between the landfill liner and bedrock. This criterion was designed to mitigate any potential groundwater contamination in case of liner and leachate control system failure.

Also to be considered is the increase in dust generation and the increase in soil erosion at a site. Typical construction practices such as the spraying of roads with water to control dust were used. Drainage swales and sedimentation ponds were constructed to direct and collect runoff water. These actions to mitigate the impact of on-site runoff were implemented during the construction stages of the landfill.

Aesthetics

Because a regional landfill will involve the disruption of large areas of ground, there is a distinct probability that there will be significant aesthetic impacts. Measures to reduce the visual impacts of a landfill were implemented during the

early phases of construction. The working face of the landfill is positioned perpendicular to the prevailing winds to avoid debris from being blown around the site. Any windblown debris scattered around the perimeter of the landfill is collected weekly.

There was an impact on aesthetics through the use of the site for a landfill. The area is visible from State Routes 17 and 19 and from County Route 20. It is not visible from County Route 48. This impact can be mitigated by selective plantings.

Vectors

Proper landfill construction and maintenance procedures can deter the impacts associated with vectors. The active face of the landfill is covered with clean fill on a daily basis to minimize the potential of odor and debris spreading to adjacent properties. If the landfill exhibits the need for any additional support to mitigate the impacts from vectors, the County Health Department will be called and, if necessary, a licensed exterminator can be contracted.

Wildlife

According to 6 NYCRR Part 360-.1.14(c)(3), no solid waste management facility may be constructed or operated in any manner which causes or contributes to the destruction of any endangered or threatened wildlife or the wildlife's habitat. During the site selection process, locations of any critical habitats or endangered wildlife were identified according to the New York State Natural Heritage Data Base and DEC consultation. The site was evaluated and recognized as not being located in a critical habitat or wildlife zone.

Residential proximity

According to 6 NYCRR Part 360-2.12(e)(1), consideration must be given to a landfill's proximity to residential communities. The landfill site is not in close proximity to a residential area. Other environmental impacts, such as noise, odor, air quality, traffic, and aesthetics would have a greater impact if the landfill was located near residential areas.

Adverse impacts

The construction and operation of a solid waste management facility will have unavoidable adverse impacts. During the construction of the facility, there are obvious short term negative impacts such as increased soil erosion, increased air emissions and increases in water runoff. Many of these short term negative impacts have been reduced with basic construction practices.

The commitment of land to the construction and operation of a landfill is an unavoidable impact. Even though only a percentage of a landfill site would actually be used for landfill purposes, many other types of development are restricted on the entire parcel. If the land has potential for development after closure, land reclamation procedures should be enacted during the initial design phases of the project. For example, grading of the site to provide gently rolling slopes could be useful for parks and recreation uses. Land reclamation could greatly mitigate the impact of commitment of land.

The positive long term effects of safe waste disposal must be weighed against negative short term effects. All impacts upon the local environment were identified in accordance with 6 NYCRR Part 360 and SEQR regulations in general during the site selection process.

Mitigation measures

Most adverse impacts associated with landfill construction and operation can be mitigated by careful site selection and design in accordance with appropriate regulations. In order to properly plan, construct, and operate a solid waste management facility, the mitigation measures for the adverse impacts must be addressed.

Most short term and some long term impacts can be mitigated using basic construction practices such as maintaining adequate mufflers on equipment to minimize noise, maintaining dust control by spraying dirt roadways with water, creating swales and collection pools to deter runoff and collect sediment from erosion, creating berms, landscaping the site to screen visual impacts, and capping active areas on a daily basis to control odor and debris.

To mitigate the impact of an increase in noise levels associated with the construction and operation of a landfill only basic construction practices will need to be implemented. All vehicles on the premises will maintain adequate mufflers and operate only during the normal working hours of 7:00 a.m. to 5:00 p.m. With consideration of other criteria regarding the siting of a landfill in proximity to incompatible structures, noise impacts were further diminished by siting the landfill away from areas such as schools and hospitals which are sensitive to noise.

Simple, effective measures were incorporated during the construction and operation of the landfill to mitigate possible impacts caused by odor generation. Cover material is stockpiled on site and spread over the active areas on a daily basis. If a considerable odor problem is foreseen, an active odor control system can be installed during the construction of the landfill.

The possible impacts brought upon a community by the increased amount of traffic caused by the construction and operation of a landfill were addressed during the siting process. In consideration of 6 NYCRR Part-2.12(e)(2), favorable routes available for trucks bringing construction materials, then refuse, to a landfill, were evaluated from USGS topographic, NYSDOT, and County maps. Favorable routes are those that are adequately designed to handle heavy payload trucks; offer direct, safe corridors from waste stream sources to the landfill; are regularly maintained during winter months; and offer little impact on residential communities.

The latest land reclamation technologies were incorporated into the site design to offset the permanent commitment of land. In order to alleviate the cost associated with planning and engineering a landfill, the possibility of obtaining State and Federal grants should be investigated. Tipping fees can be regulated to offset the costs of the construction and maintenance of the landfill.

Together with the proper siting, financing, and operating procedure, the negative impacts associated with land burial have been reduced. Other measures

to offset the impacts of land burial will be addressed in accordance with 6 NYCRR Part 360 and SEQR regulations.

Irreversible and irretrievable commitment of resources

The planning, construction and operation of a landfill will require the irreversible and irretrievable commitment of natural and manufactured resources. The commitment of land space to a landfill is irretrievable. The physical and biological effects of installing and operating a landfill facility will probably be irreversible. The commitment of materials used for construction of the facility will be irretrievable.

The cost of managing and operating the facility will be irretrievable. The expenditure of energy resources and labor during the construction and operation would be irreversible and irretrievable.

Growth-including aspects

No significant growth inducing impacts were anticipated from the construction and operation of the county-wide landfill.

The labor force required to construct the landfill was provided from the local community. The people and equipment to operate and maintain the facility will come from the community.

Commercial establishments may view the reliable and adequate disposal of waste as a benefit to their operation. This could give rise to expansion of industry and increased employment.

These growth inducing impacts would be expected to be of minimal significance and generally beneficial to the local community.

Use and conservation of energy

The construction and operation of the landfill should result in the conservation of energy and funds. A localized facility eliminates the need for the out-of-County transfer of waste, thus reducing the quantity of truck fuel consumed and any other over-the-road expenses.

SECTION H:

360-15.9(h) Selection of a Waste Management System

Prior to 1983, solid waste was handled by private or municipal landfills, dumps and incinerators (see appendix SWMP-7). Cattaraugus County built an incinerator in Cuba to be used for its county's waste. The incinerator was designed to convert waste to steam energy.

Allegany County decided to join in the waste-to-energy plan and set up the transfer station system to efficiently provide fuel to the incinerator. The County also decided to build its own landfill for non-burnable refuse. The primary rationale was that the two private facilities being used were not acceptable long-term solutions. Patton's landfill in Alfred could not be upgraded to meet DEC's

1988 regulations and CID in Chaffee was too far away.

The landfill opened in 1987. Voluntary recycling was implemented in 1989. Since then, many factors were considered in further developing the County's solid waste management plan.

Among them was New York State's hierarchy of solid waste management methods and the State's solid waste management goals through the year 1997 were factors in selecting a waste management system.

Waste reduction is at the top of the State's hierarchy of solid waste management methods. The State SWMP sets forth a reduction goal of eight to 10 percent by 1997. Successful waste reduction strategies will necessitate adjustments in business practices and fundamental attitude changes among the population.

Benefits from waste reduction include avoided disposal costs, protection of the environment and conservation of natural resources. Potential adverse impacts include the costs of program planning and development, public education and implementation of changes in business practices.

Chosen waste reduction alternatives are discussed in the CRA pages 81-84. Chosen composting alternatives are discussed in the CRA pages 75-81.

Recycling and re-use comprise the second method in the State's hierarchy. The Solid Waste Act mandates the enactment of local laws or ordinances by September 1, 1992, requiring the source separation and segregation of recyclable, re-usable or other components for which economic markets for alternate uses exist, and enactment of local recycling programs by 1992. The State SWMP has set a combined waste reduction/recycling goal of 50% statewide by 1997. This figure will vary from locality to locality depending on the comparative costs for recycling wastes versus other methods of disposal, the reliability of markets for recycled materials, public participation, and the commitment of local officials. In addition, state legislation providing economic incentives for recycling will be needed. Chosen recycling alternatives are discussed in the CRA pages 69-75.

Waste-to-energy facilities are identified as an acceptable method of reducing the solid waste stream, though less preferable than source reduction of recycling. Based on available information, DEC has concluded that a properly designed and operated facility should not produce air emissions that will significantly or unacceptably increase risks to human health and the environment.

Landfills are at the bottom of the State's hierarchy of solid waste management methods. Assuming the State's goals are realized by 1997, the only wastes requiring burial will be ash residue from waste-to-energy facilities and specialty incinerators; nonrecyclable and unburnable construction and demolition debris; some sewage sludge; some non-burnable, non-hazardous industrial waste; municipal waste from some suburban and rural areas; and wastes from waste-to-energy facilities that are shut down for repairs. The State anticipates the need for approximately one hundred large landfills to accommodate these wastes.

Solid Waste Incineration and Sewage Sludge Management

The State SWMP sets forth goals in connection with solid waste incineration and

sewage sludge management. The State SWMP calls for phasing out municipal incinerators having little or no energy recovery over the next ten years. New incinerators will be constructed only for wastes that cannot be handled by one of the above methods, such as infectious wastes and contaminated sewage sludges. Regarding non-contaminated sewage sludge, the SWMP calls for reusing and recycling as much as possible through composting and landspreading.

The key implementation issues evaluated in this section include the following:

- Ownership/operation
- Procurement
- Waste flow control
- Financing

Ownership and Operation of Solid Waste Facilities

Solid waste facilities may be either publicly or privately owned. Either option has distinct advantages and disadvantages. While the County has made a commitment to provide solid waste management services previously handled at a local level, the factors involved with ownership arrangements for specific facilities were considered.

The County owns the seven transfer stations and the landfill but other facilities might be more appropriately owned privately or by some alternative arrangement. The following sections explore public and private ownership arrangements and the factors associated with each.

Public ownership

One of the primary objectives in developing a county-wide landfill system is the consolidation of overall responsibility at the County level while retaining the benefits of public ownership. Landfill ownership by the County will provide for better control of the overall solid waste management program allowing landfill operation to be coordinated with other major County activities such as recycling. Public control over this integrated system will afford the County a better opportunity of meeting its own goals, as established in this Plan.

In general, public ownership of solid waste facilities has several advantages. Publicly owned facilities tend to be managed from a service-oriented perspective as opposed to private facilities which function as a profit-oriented business. Tipping fees at a public landfill, for example, should be a direct function of the actual costs for developing, operating, and maintaining the facility. In contrast, fees at a private facility could escalate to whatever the "market" might dictate through a supply and demand pricing structure. Public facilities also offer an alternative of being financed through the general tax base as well as through direct user fees.

Public ownership also allows for greater community involvement in the project, which will become an economic asset to be shared by all County residents. As with the case of a public transportation system, taxpayers will see their tax dollars put to work in the form of a needed public service. They will also have a greater opportunity to participate in all stages of the project including development, operation, and future uses.

Public ownership of solid waste facilities imposes additional responsibility on government, which can be a disadvantage of this form of ownership. Public officials involved in solid waste projects can face intense political pressures from opposition groups. Public ownership also places additional burdens on the public works department and administrative systems of a municipality. Risks associated with a solid waste project, including financial, environmental, and political, are assumed by the municipality instead of being transferred to the private sector.

The County is responsible for the operation of the transfer stations and the landfill and for keeping them in compliance with regulatory requirements. The County is liable for closure and post-closure monitoring and maintenance tasks for a period of 30 years.

Private ownership

Private ownership of solid waste facilities can transfer responsibility and risk associated with solid waste management away from the public. It can also offer a prime economic opportunity for the private sector. Many private companies have prospered in the waste management business, partly because of the tax benefits that were available prior to Tax Reform Act of 1986. Recognizing the need for the solid waste facilities and the potential for profits created by this demand, several firms were able to grow rapidly and began to command large portions of the waste market.

One of the primary advantages of private ownership of facilities is the available resources which can be provided by large established waste companies. There are many full-service solid waste management vendors with successfully operating waste disposal facilities. These vendors possess not only the required capital and financing capability, but also the technology and experience derived from their involvement in all facets of the business. These companies are able to assume the risks associated with project development, thereby relieving the burden on municipalities. In areas where municipalities face many other public service obligations, the private sector can provide needed waste management and disposal services.

Economic benefits of private ownership also come in the form of minimized "up-front" costs. Private companies can handle initial development costs including those for design, permitting, and construction. The cost to the general public does not generally begin until operations are underway. In contrast, development by a municipality requires the public to share the initial cost associated with the siting, design, permitting, and construction of the facility.

Some of the disadvantages associated with private ownership have emerged as result of federal tax legislation. While privately owned facilities had been able to benefit from investment tax credits, tax exempt industrial development bonds, and accelerated depreciation, these benefits have been reduced by tax reform efforts.

The most apparent disadvantage of private facility ownership would be the limited control by the municipality and general public over the facility during all stages. Although a private organization is likely to cater to the needs and concerns of the public in order to gain acceptance for a proposed facility, residents being serviced by a private facility become dependent on that facility

and the company that controls it. A private company may seek increased fees due to general company hardship, may accept waste from non-county sources, or may have serious financial problems that affect the operation of the facility. Local residents would have little, if any, control over these situations. In addition, the asset value of the facility is not shared with the public. Solid waste facilities can become a significant economic asset to a community from which all residents should benefit.

Waste Flow Control

Depending upon the final integration of waste management techniques, control of the waste flow may play a crucial role in the success or failure of the Plan. Flow control refers to the ability of the County to control the quantity of waste or recyclables that enter the waste management system. For waste-to-energy systems, flow control is a critical variable because the efficiency of the plant and its ability to meet projected energy production goals is contingent upon a reliable flow of "fuel". Often, lending agencies will require that a municipality enact specific legislation or become party to a contractual agreement that guarantees a minimum tonnage per year or other period of time.

Even without a waste-to-energy facility, however, flow control can play an important role. For example, if the County desires to take advantage of economies of scale in developing its recycling program, it may wish to enact county-wide legislation that requires that all recyclable materials be handled through the County operated facilities. This may conflict with the desires of private waste haulers who may intend to develop their own markets for these recycled materials. If financing of waste management facilities is tied to user fees, then flow control will again be an important factor because rates will be determined on the basis of project waste flow.

Flow control maybe affected by three general methods:

- By contract -- The contractual method involves a voluntary agreement between a facility operator (public or private) and those responsible for waste hauling. The contract would specify a guaranteed quantity of waste, a tipping fee, and provisions for escalation of the tipping fee over the term of the contract. In addition, the contract should include provisions for the owner of the facility to accept a specified amount of waste or recyclables. The contract method has the advantage of guaranteeing that a set amount of waste will be delivered to the facility. Contract negotiations, however, may be lengthy and costly.

- By law -- Enacting ordinances to require waste flow towards a specific facility may be an appropriate way to meet waste flow goals. Such legislation must be carefully drafted to be consistent with State waste management goals and to avoid potential problems with legal challenges.

- By market factors -- It may be possible to attain an adequate level of flow control simply by setting tipping fees at a low enough level to encourage use of the facility. The approach may require public subsidy of these low fees through use of general funds or through taxing, but has the advantage of reducing the need for enforcing contracts or laws.

FINANCING

General Discussion

A variety of options are available to the County for financing the development of solid waste management facilities and equipment purchases. Publicly owned facilities will most often be financed from public sources such as general obligation and municipal revenue bonds. Privately owned facilities may receive funds from industrial development bonds, private equity investments, and other traditional sources. State or federal programs may provide grants or low interest loans for use in purchasing equipment.

The determination of an appropriate financing structure requires an analysis of the probable costs of service under all alternatives, the applicable legal restrictions imposed under current laws, and the willingness of the County to accept certain risks and offer certain guarantees.

At one end of the financing structure spectrum, a project may be municipally controlled and financed with either general obligation or tax exempt revenue debt. At the opposite end of the spectrum, the project could theoretically be financed entirely by a private sponsor's equity. In reality, projects involving materials recovery and waste-to-energy facilities are often financed through a structure that blends these two extremes and involves some combination of municipal, project, or private debt and equity from the private sector. Most landfills are financed exclusively with municipal debt. Within this general framework, integrated solid waste management facilities implementation and structuring may involve a sharing of risks between the public and private participants. The allocation of project control and the shifting of project risk bears directly upon the cost of services. A discussion of the various sources of financing follows.

General Obligation Bonds

General obligation bonds are a common method used by municipalities to finance public improvement projects. General obligation bonds obligate the issuing municipality to use the full faith and credit of its taxing powers to ensure timely payments of project debt service. Such bonds tend to bear a lower interest rate than other forms of debt due to the unconditional nature of the municipality's obligation. The issuing municipality's general credit rating affects the marketability and interest rates of general obligation bonds.

General obligation bond financing also has certain disadvantages. In particular, general obligation bond financing may affect the issuing municipality's constitutional debt limit and therefore inhibit the community's capacity to finance other public improvement projects.

Municipal Revenue Bonds

Municipal revenue bonds are tax-exempt obligations with the debt service paid solely from the revenues derived from operating the facilities acquired or constructed with the proceeds of the bonds. Such bonds differ from general obligation bonds in that they are not secured by a pledge of the issuer's taxing power.

Municipal revenue bonds do not require voter approval and the issuing municipality's statutory debt limitations do not apply to such bonds. Determination of the interest rate is a complex process that involves the review of the project's economic and technical feasibility by a rating agency. Because of the potential of unforeseen revenue shortfalls, these bond issues normally require the capitalization of a debt service reserve fund.

Industrial Development Bonds

Industrial Development Bonds (IDBs) represent a specific form of municipal revenue bond. IDBs are tax-exempt, long-term bonds issued by a public benefit corporation acting on behalf of the municipal entity to foster industrial or economic development. This type of financing instrument has been used extensively for solid waste disposal facilities.

The use of IDBs to finance a project results in the project either being leased or sold to a private corporation, or, in some instances the bond proceeds are loaned to a private corporation. Although IDBs have been successfully used for solid waste disposal facility financing, the Federal Tax Reform Act of 1986 has significantly changed the use of such an instrument. For example, the act reduced the tax-exempt IDB allocation for privately owned waste-to-energy projects. Therefore, privately owned projects must now compete with all types of industrial development projects for a share of the State's allocation during the year. The allocation limit established in the act is set at $50 per capita or $150 million per state.

Another impact of the act on IDBs is the restriction on tax exempt financing of non-qualifying costs. In certain cases, non-qualifying equipment costs are limited to 5 percent of tax-exempt issuances. Thus, under this "95:5 rule", expenses for the construction or installation of equipment related to the sale of by-products from the facility are not tax-exempt. Examples of non-qualifying equipment include turbine-generator sets for a waste-to-energy facility and magnetic separation equipment for the recovery of ferrous metal in a materials recovery facility. Therefore, these portions of the facilities' expenses must now be financed with taxable debt or private equity.

Private Equity

Private equity is another financing source available for solid waste disposal facilities. Private equity involves capital contribution from the facility developer or third parties such as commercial banks, insurance companies, and private investors. This alternative is restricted to privately owned facilities.

The private equity contributed by investors allows the developer to own the facility for tax purposes. The owner's rate of return is generated from a share of the project energy and/or materials recovery revenue, any management fees, and the attainment of tax benefits as owner of the facility.

The Tax Reform Act of 1986 has significantly reduced the attractiveness of private equity as a financing source for solid waste disposal facilities. Examples of significant changes include the elimination of the 10 percent investment tax credit, doubling of the depreciation schedule for both real and personal property from 5 to 10 years, and the reduction of the use of tax-exempt debt for facilities.

County Costs

The annual cost to the County resulting from implementation of the Plan will equal operation and maintenance costs, plus a sinking fund for landfill final-phase closure and post-closure maintenance costs, plus debt service, less revenues (if any) from the sale of materials. The County can pay these costs from the existing general fund.

The advantage of using the general fund is that no new administrative systems or procedures would be required to raise the money for the Plan. There are several disadvantages to this approach:

- The County budget is ultimately balanced by the adjustment of real property taxes, which in 1992 will represent about 21.2 percent of general fund revenues. There is a basic inequity in supporting solid waste management costs with ad valorem taxes in that property owners pay in proportion to property values rather than in accordance with how much waste they generate.

In 1992, an estimated 10 percent of real property taxes will be spent on operating costs for the County's solid waste management system. For example, if a resident's property tax bill is $1,000, then $100 will go to solid waste management operating costs. See Public Works 1992 Spending Chart in appendix SWMP-9.

- The costs of constructing and operating a solid waste disposal facility have been borne at the County level. These costs would have a significant impact on the general fund and would compete with the costs of other vital County services within the County's constitutional taxing limitations.

The alternative would involve generating a dedicated revenue stream through the imposition of user fees to support a separate solid waste management fund. This would be analogous to the water and sewer rates charged by many municipalities to pay for the cost of providing those services. Users of County waste management facilities would pay a per ton, or lacking weigh scales, a per load, per bag or per cubic yard fee for such use. It may not be advisable to impose such fees at recycling facilities, as it may deter participation in the recycling program. However, it should be considered a solid waste management facility.

The advantages and disadvantages of the user fee approach are essentially a "mirror image" of those for the general fund approach. The primary disadvantage of the user fee system is that it would require a new billing and accounting system to administer the program. The main advantages are as follows:

- There is greater potential for establishing an equitable relationship between the amount of waste generated and the amount paid for disposal. Waste haulers would charge disposal costs directly through to waste generators. Since most residential customers are charged a flat fee for pickup, there would be less "cause and effect" impact felt at that level. However, since many commercial, institutional, and industrial customers are charged on a "per load" or "per container" basis, they would pay for disposal in proportion to the waste they generate. This also establishes a direct economic incentive for these customers to reduce and recycle their

waste.

- The cost of solid waste disposal would be removed from the real property tax levy, and would not compete with other services provided for by the general fund.

- Waste generators at tax-exempt properties would pay their fair share of disposal costs.

Implementation alternatives

Solid waste disposal was previously handled at the township level or privately. The County initiated a transfer station/landfill program and subsequent recycling program to provide a major service to all of its residents. While the County does not propose to universally assume all solid waste management responsibility within its bounds, it has created a unified, county-wide approach toward a viable solid waste solution.

In deciding not to pursue a waste-to-energy facility as the primary solid waste management, the County weighed the history of the existing plant. In 1990, Cattaraugus County decided to send ash from the Cuba incinerator to another disposal site thus no longer needing municipal solid waste from Allegany County. In 1991, Cattaraugus County declined to upgrade the facility and began the process of decommissioning the plant.

Allegany County does not have the funds to purchase and upgrade the plant. The two counties are currently involved in a controversy over the incinerator's real property taxes owed to Allegany County by Cattaraugus County. This situation precludes any discussion on maintaining operation of the plant.

Waste exportation is financially out of reach.

THE PLAN

Allegany County will continue to maintain the transfer station and landfill system. Clear bags for refuse disposal will be required by June 1, 1992. This regulation will make the County's separation regulations easier to enforce. Limited compacting of selected recyclable items will begin in 1992 at key transfer stations.

This practice of using our existing stationary compactors at three transfer stations to compact cardboard and plastic into ejection containers (not co-mingled) is easier to handle these items and less labor and capitol intensive. The Friendship and Angelica transfer stations are used on days they are closed to the public for cardboard and plastic. Loads are hauled in by our own trucks from other stations; businesses and commercial haulers can bring in their recyclables. The Wellsville station has a compactor dedicated to card-board and operates 5 days a week.

The proposed vertical expansion of the landfill will not be implemented, a lateral expansion is planned in the construction of Cell 5 and 6.

The County will continue to monitor its waste stream. In 1993, a reporting system

for business, industry and haulers will be implemented. Different components will be evaluated and alternative methods for handling will be examined.

In September 1993, the County will begin look at the feasibility of charging a fee for contaminated soil. Funds will be allocated in 1995 to investigate alternatives (primarily bio-remediation and vapor extraction) and to encourage the private sector, possibly by assisting in treatment at a site other than the landfill.

By September 1995, the County will encourage development of private concerns which will develop a non-burial method to handle contaminated soil (generally from petroleum products) which presently is accepted for burial in the landfill without a fee.

The County will support more private handling of construction and demolition debris. The Public Works Department will investigate in 1993 the feasability of implementing a a tipping fee system, including a "pay per bag" for all county facilities.

As a rural area with a higher-than-average percentage of organics in the waste stream, the County will emphasize composting. A demonstration project is slated to be implemented in 1993.

The County's commitment to recycling will be maintained and expanded as new components will be added. Other paper (magazines, glossy inserts, bulk mail as well as office paper) will be added when feasible. Junked vehicles in the County will be inventoried as the first step in recycling them, and helping to visually clean the County countryside.

The County Recycling Coordinator is and will continue to be responsible for evaluating components of the waste stream, searching out recycling markets and developing implementation plans.

The Plan elements above are generally in keeping with the State's hierarchy of solid waste management methods with the exception of using waste-to-energy facilities.

In the County Plan, **reduction** has been encouraged through the recycling program and educational efforts, both in-house and with a contractor. Another strategy for waste reduction is to find an alternative to land burial of contaminated soil.

The County will monitor state and federal legislative developments aimed at reducing solid waste and will endorse them as is appropriate.

The Department of Public Works and the Recycling Coordinator serve as an informational resource and consultant to anyone (individuals, businesses, industries, schools, institutions, groups, agencies, etc.) who wants more information, implementation strategy ideas or to initiate a waste reduction program.

Recycling and re-use will be encouraged by the "clear bag" regulation. Clear bags make it easier for the transfer station operators to check refuse for recyclables as well as unacceptable refuse.

The County has implemented and will maintain an office paper recycling program in all county-owned buildings. The program accepts only white paper so departments have been encouraged to purchase only white paper products. The office paper program is in addition to an organized bin system for recycling the traditional commodities required by County law.

Through the Buildings & Grounds section of the Department of Public Works, county facilities are using products (mostly paper supplies) that have a percentage of recycled materials in them. County-wide mailing will continue to be printed on paper made from recycled products.

Recycling and re-use have been the focus of more than three years of educational programing (see page CRA page 95-100 for more information).

The Department of Public Works will continue to investigate and evaluate the recycling potential of components of the waste stream. One step in this process is the survey of business and industry.

SECTION I:

360-15.9(i) Implementation Timetable

Pre-plan Chronology

The chronology below was drawn from a complete history of solid waste in Allegany County which is included as appendix SWMP-2. The items below put the current situation and future plans in a historical context.

December 1966 -- The County Planning Board consultant reports on site requirements for a landfill. Solid waste is handled by private haulers, individual residents and municipalities using private and municipal dumps, incinerators and landfills.

January 1974 -- The Allegany-Steuben Counties' Comprehensive Solid Waste Planning Study is completed.

January 1980 -- Solid Waste Supervisor was hired and assigned to the Solid Waste System.

November 1980 -- The County approves a contract to supply solid waste as fuel for Cattaraugus County's incinerator in Cuba, Allegany County.

March 1983 -- Six transfer stations open. The seventh opens in June. All started shipping waste to the Cattaraugus County Incinerator and Patton's Landfill in Alfred.

1985 -- Land is purchased for a landfill site.

1986 -- Voluntary recycling of large appliances is begun at the landfill.

September, 1987 -- The first cell opens at the landfill.

October, 1988 -- A recycling coordinator position is created.

1989 -- The agreement with Cattaraugus County for Allegany County to supply waste and accept ash is terminated. Ash from incinerator is no longer sent to the landfill. Burnable wastes from the transfer stations are no longer sent to the incinerator; they are now buried at the landfill.

February 1989 -- Cell 1 at the landfill is filled to capacity and Cell 2 is opened.

1989 -- A recycling education program is initiated. Voluntary recycling of five traditional items; newspaper, cardboard, metal cans, plastic, glass: and two non-traditional items; tires and lead-acid batteries begins. Railroad Valley Recycling is contracted as the intermediate processor to handle recyclables for the county.

April 1991 -- The county's solid waste law is passed.

June, 1991 -- Source separation for recycling of five traditional and four non-traditional items becomes mandatory for all users of the County system. $10 permits are required for use of County solid waste facilities.

July 1991 -- Cell 2 at the landfill is filled to capacity and Cell 3 is opened.

October 1991 -- The preliminary design of an intermediate processing facility for recyclables is completed and reviewed (later tabled). Construction of cell 4 is completed.

September and October 1991 -- New contracts are signed with two intermediate processors. Crown Y will handle the western three transfer stations and Railroad Valley will handle the eastern four as well as the Village of Wellsville.

Implementation Schedule

June, 1992 -- Use of clear bags for landfill-bound refuse is required.

By the end of 1992 -- A reporting system for business, industry and haulers will be implemented in order to determine the volumes of landfill-bound solid waste, recyclables and items disposed of in other ways or out of the county. Limited processing operations of selected items begin at key transfer stations.

November 1993 -- Demonstration composting project researched. Support development of private composting projects.

January 1994 -- Cell 3 filled to capacity; Cell 4 opens.

June 1994 -- County will determine the feasibility of owning and operating an intermediate processing facility or upgrading current facilities for processing recyclables.

September 1995 -- Investigate and select an alternative method for handling contaminated soil (mobil incineration, on-site remediation, or an alternative). Support development of private construction and demolition debris facilities.

August 1996 -- Cell 4 filled to capacity; cell 5 opens.

1997 -- Implement an alternative method to landfilling for handling sewage sludge

(composting).

November, 2001 -- Cell 5 filled to capacity; cell 6 opens.

PLEASE NOTE: Additions to this implementation schedule can be found in the CRA on pages 91 and 92.

SECTION J:

360-15.9(j) Interim Management Plan

The interim management plan consists of continuing to do what has been implemented thus far and following the SWMP Implementation Schedule and the CRA Implementation Schedule (found on page CRA-91). The Implementation Schedule in both the CRA and SWMP are guidelines only. The county reserves the right to add, delete, or otherwise change project implementations put forth in either schedule.

SECTION K:

360-15.9(k) Administrative Structure

Table K-1
Staffing and Supervisory Structure
Allegany County Department of Public Works
---Solid Waste Management---

Allegany County Voters

Allegany County Board of Legislators

Allegany County Public Works Committee

Superintendent of Public Works[1]
Richard Young

Deputy Superintendent II[2]
John Mancuso

Landfill Supv. (1)[3]	Transfer System[4] Supv. (1)	Recycling Coordinator (1)[5]
	Transfer station[6] operator (4)	

1) Superintendent-of-Public-Works
Oversees the overall planning, budgeting and operation of the County Solid Waste Management System.

2) Deputy-Superintendent-II
Assists in planning for Solid Waste Management, prepares annual budget, oversees daily operation, manages compliance activities in regards to State and Federal Regulations.

3) Landfill-Supervisor
Manages daily landfill and transfer station operations, as well as special construction project using County personnel.

4) Transfer-Station-Supervisor
Manages daily transfer station operations, trucking of solid waste to the landfill and trucking recyclable to various locations.

5) Recycling-Coordinator
Responsible for implementing recycling education programs, researching and securing markets for recyclables, assisting in development of recyclables handling methods and maintain records of recyclables handled.

6) Transfer-Station-Operator
Operates County Transfer Stations; compacts solid waste into ejection containers, maintains collection areas for recyclables.

SECTION L:

360-15.9(1) Laws and Regulations

Several new laws and regulations are anticipated. A regulation requiring the use of clear bags for landfill-bound refuse was passed in early 1992. Also expected in 1993 are resolutions requiring:

a.) private haulers and industry to report quantities of recovered recyclables and their disposal location, and

b.) recycling of magazines and glossy inserts.

As an approved 10-year plan is implemented, legislation will have to be passed as specific objectives are set and procedures initiated. For example, if the county is to purchase and operate all the equipment associated with solid waste disposal through transfer stations, budgets must be approved for truck purchases. It is possible that additional townships or villages within the county may begin curbside pickups or implement other methods for managing solid waste. No problem is anticipated regarding conflicts with the County's resolutions.

SECTION M:

360-15.9(m) Cost Analysis of the Integrated System

The cost of Allegany County's solid waste Management system from its inception in 1983 through the end of 1991 can be divided into operating costs and capital costs. Operating costs cover the annual operation of the landfill and transfer stations. It also includes the cost to operate the recyclables handling program. Capital costs include land acquisition for facilities, construction costs, equipment costs and financing costs. Closure costs are included in annual operating expenses because a fund was established whereby money was set aside for every ton put into the landfill.

Annual operating costs for the entire solid waste system are financed through the annual line item budget entitled A8160.

In 1991 expenditures totaled $1,145,139. This does not include spending on equipment purchases. In 1992 the expenditures totaled $1,260,000. Recent spending has remained relatively consistent, even when considering 5% increases in force account costs. Above figures do not include amortized capital investments from 1983 - 1991.

Table M-1

The following is a cost analysis for operating the transfer station system including recycling program:

I. Transfer Station	1991	1995	2000
A. Capital Investment [amortized over 20 years] (Land, Buildings, Compactors, Containers and Financing)	$110,000	$110,000	$120,000
B. Administrative	$ 55,750	$ 62,000	$ 72,000
C. Force Account	$230,000	$253,000	$291,000
D. Equipment [amortized over ten years] (trucks, trailers, loaders, tractors, recycling containers)	$ 60,500	$ 60,500	$ 80,500
E. Insurance, Equipment repair and maintenance, supplies, fuel, recyclables handling, repair and maintenance of transfer station buildings and grounds, utilities	$188,500	$226,200	$272,000
TOTAL	$644,750	$712,000	$835,500

Table M-2

The following is a cost analysis for operating the County Landfill:

II. County Landfill	1991	1995	2000
A. Capital Investment [amortized over 20 years] (Land purchase, site development, cell construction, support facilities, financing)	$ 332,150	$ 482,150	$ 497,650
B. Administrative	$ 56,250	$ 59,065	$ 65,065
C. Force Account	$ 156,760	$ 165,000	$ 185,000
D. Equipment (Capitol expenditures amortized over 10 year period)	$ 86,880	$ 122,000	$ 130,000
E. Closure	$ 140,000	$ 250,000	$ 250,000
F. Environmental Monitoring	$ 38,000	$ 45,000	$ 55,000
G. Leachate	$ 45,000	$ 45,000	$ 50,000
H. Engineering Consultant	$ 120,000	$ 125,000	$ 130,000
I. Utilities	$ 7,000	$ 7,500	$ 8,000
J. Fuel	$ 39,000	$ 42,000	$ 50,000
K. Equipment Repair and Maintenance	$ 84,000	$ 90,000	$ 95,000
L. Equipment Rental	$ 15,000	$ 15,000	$ 20,000
M. Repair & Maintenance of Building and Grounds and Support Facilities	$ 20,000	$ 25,000	$ 30,000
N. Insurance	$ 2,400	$ 2,800	$ 3,500
O. Permit fees, Services supplies, Tools, Education	$ 40,700	$ 45,000	$ 50,000
P. Interdepartmental Labor	$ 2,500	$ 3,000	$ 5,000
TOTAL	$1,185,640	$1,523,515	$1,624,215

**REVENUE

1991	$ 465,050
1995	$ 400,000
2000	$ 410,000

** Revenues have decreased from the 1991 level because the amount of waste that was previously imported from Cattaraugus Counth has decreased substantially. The 1992 total revenue figure was $374,473. The projected increase from 1995 through 2000 is due to the recyclable program.

SECTION N:

360-15.9(n) Neighboring Jurisdictions

Participation of neighboring jurisdictions has been secured through conversations with counterparts in those counties. Cattaraugus, Chautauqua and Allegany counties, with coordination through Southern Tier West Regional Planning and Development Board, have been discussing a joint waste management project.

Recycling efforts have been discussed and joint efforts investigated through the New York State Association for Recycling and the more informal Region 9 cooperative marketing group. Discussions with neighboring counties will continue.

SECTION O:

360-15.9(o) Comments

This final Plan contains comments and views generated by concerned members of the public as well as governmental, environmental, commercial and industrial interests and people in neighboring jurisdictions.

Comments and views were solicited and compiled through the following outreach plan:

1. Distribute review copies of the draft Plan to the Allegany County Legislature, the 16 public libraries and the Town of Angelica. The review copies will be in place 30 days before the hearing. Notices of the locations of the copies will be posted at the transfer stations and the landfill.

2. Distribute a news release and publish a legal notice 30 days in advance announcing a public meeting for the purpose of review and comment on the Plan. The release will also include the locations of review copies of the draft Plan.

3. Mail review copies to the four border counties (Livingston, Wyoming, Cattaraugus and Steuben), Chautauqua County, Southern Tier West Regional Planning and Development Board and the U.S. Department of Agriculture (Soil Conservation Service, and Agriculture Stabilization and Conservation Service).

LIST OF TABLES

List of Tables

LIST OF APPENDIX

List of Appendix

SWMP - 1

Allegany County Comprehensive Recycling Analysis

(Document is separately bound in 3 ring binder)

ALLEGANY COUNTY

COMPREHENSIVE RECYCLING ANALYSIS

SWMP - 1

REVISED DECEMBER 10, 1993

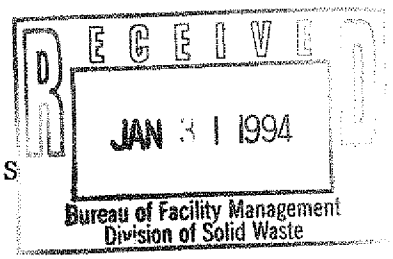
* * *

ALLEGANY COUNTY DEPARTMENT OF PUBLIC WORKS
Room 210, County Office Building
Belmont, New York 14813
716-268-9230

* * *

Richard A. Young, Superintendent
John J. Mancuso, Deputy Superintendent II
Gretchen T. Johnson, Recycling Coordinator

printed on recycled paper



ALLEGANY COUNTY
COMPREHENSIVE RECYCLING ANALYSIS

Table of Contents

SECTION 1

SECTION 2

SECTION 3

SECTION 4

SECTION 1: Analysis of Waste Stream

360-1.9(f)1(i)

Analysis of Waste Stream by Component

The analysis of the composition of Allegany County's waste stream is based upon Analysis of the Solid Waste Stream in Six Southern Tier Counties, a study conducted by Alfred University. Determinations were based on weight.

The largest component of the waste stream (30%) is **organics**, including yard waste, kitchen waste, and wood products manufacturing waste.

After organics, the largest component is **paper** (24%). Paper includes white and colored ledger, bulk mail, catalogs, newspapers, telephone books, magazines, computer paper and books.

Glass represents the third largest component of the waste stream, 13% in Allegany County. Glass includes clear, brown and green containers, window and auto glass, ceramics, pottery and dishware.

Cardboard and boxboard come in fourth in Allegany County with 8%. Corrugated cardboard boxes as well as boxes for products such as cereal and soap are included.

Textiles make up 2% of the waste stream in Allegany County. Included are items such as clothing, carpeting, household linens and leather.

Metal (3%) includes bi-metal, tin, steel and aluminum cans (beverage, paint, aerosol and fuel containers, for example) and aluminum foil.

Plastics in Allegany County make up 3% of the waste stream. Items included are food and product packaging, containers, toys, automotive parts and household items.

"Other" items make up 17% of the waste stream. Included are scrap metal (30% of this category), sewage sludge (20%), construction and demolition debris and asbestos (18%), large appliances (15%), tires (11%), lead-acid and dry cell batteries (4%), and regulated medical waste (2%).

Note Foundry sand is eliminated from the waste generation report for the reason that it is no longer produced in Allegany County.

The table below projects the population of Allegany County through 2001. The estimates are based on statistics prepared by NYSDEC and NYS Department of Commerce. The original estimates in their report have been modified using actual population changes and trends projected from several key local economic developments. The estimate includes an initial loss of population (currently happening), stabilization as the new industries become established and, finally, a small growth in the population.

The Wellsville Airport Industrial Park is expected to draw several new industries to the county. A new access road to the Wellsville Airport has already been constructed. Several new industries are slated to be located in the industrial park. In addition, a state prison facility is to be built in the Town of Friendship.

The New York State "Ceramics Corridor" business incubator project is being developed and funded by a $5 million grant and a $5 million loan through the NYS Urban Development Corp. One of the high technology ceramics industries incubators will be located at Alfred. It will house new ceramic and glass companies for a designated period until the companies are strong enough to relocate in permanent facilities.

Studies show that about 80 to 95 percent of an incubator project's graduates relocate in the local area. A feasibility and marketing study conducted by M2H Groups of Boulder, Col., projected that by the end of the incubator's sixth year of operation, 1,500 new jobs will have been created.

Beginning in 1983, actual disposal figures could be compiled because of the establishment of a Transfer Station System. The figures seemed to confirm earlier estimates as they averaged about 3.4 lbs. per person, per day. The Environmental Impact Statement for the transfer station system provided a breakdown by township of solid waste generation and this average was 3.59 pounds per person, per day.

TABLE I-1

Estimated Population and Waste Generation in Allegany County

1991-2001

Year	Population	Tons/Year*
1991	50,470	32,238
1992	49,259	31,465
1993	48,077	30,709
1994	46,923	29,972
1995	46,950	29,990
1996	46,975	30,000
1997	47,351	30,246
1998	47,730	30,488
1999	48,112	30,732
2000	48,497	30,978
2001	48,885	31,225

* Tons/year figures were reached by multiplying the population by 3.5/pounds solid waste/per person/per day. The 3.5 rate is based on records kept since 1975 and includes waste generated by commercial and industrial institutions. Prior to 1983, which was the year that Allegany County assumed responsibility for solid waste management throughout the County, there was the Allegany-Steuben County's Comprehensive Solid Waste Planning study by Day and Zimmerman, Inc. in 1974. Another report that was more specific to Allegany County was the Allegany County Summary Report on Consolidated Solid Waste Disposal, prepared by Don MacFarquhar in 1974.

TABLE 1-2

Estimated Waste Generation in Allegany County (By Component)

1991-2001

Organics		Paper		Glass	
1991	7,737	1991	9,671	1991	4,191
1992	7,552	1992	9,440	1992	4,091
1993	7,370	1993	9,213	1993	3,992
1994	7,193	1994	8,992	1994	3,896
1995	7,198	1995	8,997	1995	3,899
1996	7,200	1996	9,000	1996	3,900
1997	7,259	1997	9,074	1997	3,932
1998	7,317	1998	9,146	1998	3,963
1999	7,376	1999	9,220	1999	3,995
2000	7,435	2000	9,293	2000	4,027
2001	7,494	2001	9,368	2001	4,059

Cardboard		Textiles		Metal cans, aluminum	
1991	2,579	1991	645	1991	967
1992	2,517	1992	629	1992	944
1993	2,457	1993	614	1993	922
1994	2,398	1994	599	1994	899
1995	2,399	1995	600	1995	900
1996	2,400	1996	600	1996	901
1997	2,420	1997	605	1997	907
1998	2,439	1998	610	1998	915
1999	2,459	1999	615	1999	922
2000	2,478	2000	620	2000	929
2001	2,498	2001	625	2001	937

Component: Plastic		Component: "Other"	
1991	967	1991	5,640
1992	944	1992	5,475
1993	922	1993	5,343
1994	899	1994	5,215
1995	900	1995	5,218
1996	901	1996	5,220
1997	907	1997	5,263
1998	915	1998	5,305
1999	922	1999	5,347
2000	929	2000	5,390
2001	937	2001	5,433

The percentage of commercial solid waste in the total waste stream will begin to show an increase after 1993 as the effects of the new prison and ceramic corridor project become evident. In 1989, commercial waste made up 6% of the waste stream and the projection for 1997 is 10%.

Seasonal Variations in the Waste Stream

Allegany County is particularly susceptible to seasonal variations because of the large number of absentee landowners. More than 9,200 parcels are owned by out-of-county residents.

Nationwide, February is usually the month with the lowest generated tonnage. In Allegany County, however, December usually has the lowest weight.

Other variables contributing to the differences include spring and fall clean-ups, holidays, and influxes of seasonal residents such as sportsmen. For example, January shows a sharp increase over December because of refuse generated from Christmas which falls at the end of the previous month. May is the peak month of the year because of spring clean-ups and an increase in seasonal residents. Householders on Cuba and Rushford lakes as well as campers in the county's 14 campgrounds contribute to the high volumes of solid waste in June and July.

The following is a monthly breakdown of a typical year in Allegany County.

TABLE 1-3

Seasonal Variations, A Typical Year

Month	Tons of Residential Waste
January	1830
February	1471
March	1937
April	2227
May	2467
June	2322
July	2212
August	2210
September	2315
October	1995
November	1648
December	1161

360-1.9(f)1(ii)

Recycling Components of the Waste Stream: Assessment of Possibilities

Organics

Recycling encouraged. Yard waste is not accepted at county

facilities. Residents are encouraged to mulch or compost. Through its education program, the county is providing information about and encouraging home composting.

In Spring 1991, the Department of Public Works invited all 29 towns and 11 villages in the county to consider participating in larger scale composting operations. The county offered to provide equipment and partial funding and to act as a consultant in setting up joint ventures. The concept is still being considered. Other efforts include: Municipal and Home Composting information programs. Fall leaf collection by some municipalities. The leaves are accepted by local farmers and composted. Residents are encouraged (via educational efforts) to compost home-generated kitchen waste.

A demonstration project at Alfred State University is currently being researched. The project would involve using telephone books and newspapers for animal bedding. The used bedding would then be combined with cafeteria food and other wastes to make compost to be then used in the Horticulture program and by the college grounds crew.

Wood waste, generated by about 20 wood products industries in Allegany County, is being recycled. Wood waste consists of sawdust and slabwood. The slabwood is currently used for firewood. Sawdust is used for bedding by local farmers.

Paper

Recycling is implemented for newspapers, boxboard and cardboard. Office paper is voluntary. Collection bins are located at all transfer stations. Papers are marketed to different locations; Southern Tier Recycling Center, Phoenix Recycling, and Hornellsville.

Working with local firms which use recyclables is also being pursued. For example, Crown Y and other local haulers processes newspapers to sell for animal bedding and Fibercel of Portville uses cardboard in its packaging production.

Recycling other paper grades such as magazines, office paper, catalogs, glossy inserts, bulk mail and envelopes will be looked into at a later date when economically feasible markets exist. Emphasis in 1993 will be to "make what we are currently doing more efficient and cost effective", not only for papers but all materials in the recycling program. *By Feb. 1994 a program for magazines (catalogs, glossy inserts and junk mail) will be implemented, see schedule pg. 94.

Recycling for office and computer paper in all county buildings is implemented (see brochure, appendix CRA-1). The Department of Public Works is actively supporting office and computer paper recycling in area schools, institutions and

businesses by supplying market information, set-up ideas and technical assistance. Approximately 24 tons of office paper generated in Allegany County is being recycled each year with Hornellsville Recycling of Arkport (1991 data).

Information about new outlets is constantly being sought and disseminated. For example, a county-wide mailing in December 1991 and in 1992 included an address for an organization which accepts and re-uses old greeting cards.

Glass

Recycling is implemented for clear, green and brown glass containers. Clear glass is marketed to Ball Incon in Port Allegany Pa. while green and brown glass is marketed at RRT Empire Returns in Syracuse, N.Y.. Some glass may be marketed to different locations depending on market availability and location.

Clear glass is placed in 30 yard roll off containers at each transfer station while green and brown glass are collected in barrels. The glass is then housed at the County Landfill until a load is ready to go to market.

Allegany County is currently pursuing a proposal from Gernatt Asphalt Products, Inc., Collins, N.Y. to include a percentage of glass material in the manufacturing of a road sub-base material in road construction. This proposal includes the use of container glass as well as window glass, ceramics, and other glass material that would otherwise be considered contaminates of the container glass and therefore be landfilled or not reclaimed under the current system.

Plastic

Recycling partially implemented. Plastic containers with resin codes of 1 or 2 are accepted (as long as the top opening is smaller around than the base of the container). Some area stores will accept their own plastic bags in special containers. Plastics are collected in 30 yard roll off containers at each transfer station. All plastics are transported by Allegany County and marketed by Southern Tier Recycling in Olean, N.Y..

Plastics present a major educational problem because of confusion about what is acceptable, changes in markets, and contamination problems with contents and caps on containers. Educational efforts include a push to educate consumers to purchase products in recyclable and re-use containers.

The Recycling of additional plastic container resin codes other that 1 and 2 is being considered, at present, no local economic markets for these materials exist. As markets develop and the current program becomes more efficient, other

resin codes may be added.

Metal cans
Recycling implemented for tin, steel, aluminum and bi-metal cans. All cans are marketed to Hornell Waste Materials in Hornell N.Y.. All can types are commingled in a 30 yard roll off at each transfer station then transported to market.

Other types of cans such as aerosol and cylinders are not recycled because of safety factors and market specifications. These are not planned to be included due to these reasons.

Textiles
Residents are encouraged to donate used clothing to those in need and re-use other items for rags, garden flagging, etc. Allegany County is pursuing the means of recycling other textiles such as upholstered furniture, towels, linens, footwear, and non-resalable clothing to a private textile recycling industry. Other than the traditional voluntary agencies such as Goodwill Industries, and the Salvation Army, none have been identified in the immediate area.

Other
Sewage sludge
Some possibilities. Under consideration is a plan for towns and villages to mix the sludge with yard waste to make compost either on their own or at a County facility. Current research, such as a Cornell Waste Management Institute project on land spreading in forest lands, is being monitored. As stated later in this document, sewage sludge will be landfilled for the next 5 years. In the interim, alternatives will be considered.

Batteries (lead-acid)
Recycling implemented. All transfer stations are serving as collection points. The batteries are purchased by Crown Y which transports them from the stations and sells them to a smelter.

Batteries (dry-cell)
Some possibilities. About 5 percent of the batteries are ones from which mercury and silver can be reclaimed. Separating out these is under consideration. Most of the others could be disposed of (for a fee) by Mercury Refining of Latham, N.Y. However, the vast majority are directly disposed of in a sanitary landfill. Allegany County's own landfill meets part 360 standards for disposing of dry-cell batteries.

Tires
Recycling implemented. The Department of Public Works makes extensive use of recapped tires. Waste tires are collected at the landfill and accepted (for a fee) by Modern Recycling of

Model City, N.Y.. The tires are currently being chipped and used for fuel or as landfill construction material.

Other possibilities under consideration by the county are
--using chipped tires in leachate collection layers,
--using tires in the manufacture of rubberized asphalt by local companies, and
--using densified tires in concrete building blocks based on technology and equipment from Target Compaction Inc. of Canastota.

Large appliances
Recycling implemented. Currently collected at the landfill and trucked to Jerge's, a local scrap dealer, for baling and subsequent marketing with scrap autos. Under consideration by the county is a plan to strip metal from the appliances and market separately if future market restrictions dictate this course of action.

Construction and demolition debris
Some recycling implemented. The scrap metal portion is separated and sold to Hornell Waste Material.

Under consideration is the purchase of a wood chipper dedicated to processing the wood portion of construction and demolition debris. Chips could be available to county residents, towns and villages for mulch and landscaping. Keeping out pressure treated wood would be an anticipated problem.

A large portion of this debris goes directly to Klein-fill which is a permitted construction and demolition debris landfill in Wellsville, N.Y..

Scrap metal
Recycling implemented. Scrap metal is separated and sold to Hornell Waste Material. 30-40 yard roll offs are located at each transfer station and the County Landfill for collection.

Waste oil
Recycling implemented for household use under the NYSDEC mandated program. The county provides information on recycling used motor oil through mailings and public education. About 10% of the waste oil generated in the county is burned in waste oil furnaces to provide heat for buildings.

Household hazardous waste
Many household hazardous wastes must be disposed of rather than recycled. At the current time, the county provides information on storage and using alternatives. Information is being compiled from waste handling firms and other counties

on their experiences with residential collection days and ongoing programs. Limiting factors include liability concerns, overall cost, the collection process, storage, and final disposition.

Anti-freeze and freon offer some possibilities for recycling. The county is looking into purchase of a reclaimers, initially for use within the Department of Public Works. In addition, the county is exploring a pilot project using an alternative to the traditional coolant, ethyl glycol, in county equipment. Propylene glycol antifreeze, a non-toxic alternative, is gaining widespread acceptance in the trucking industry. Allegany County is monitoring these developments.

360-1.9(f)1(iii)

Reduction Strategies

Various strategies are now being employed to achieve a reduction in the amount of solid waste destined for disposal at the county's facilities.

A description of the various strategies to achieve a reduction in the amount of solid waste destined for disposal are as follows.

Waste Reduction:
In taking action to reduce waste in Allegany County, focus on consumer education programs and waste disposal regulations is planned. It is important for consumers to realize their individual efforts make a difference on the waste stream. Consumer decisions not only need to be made prior to disposal but prior to purchasing. Knowledge of packaging and environmental friendly products is imperative for consumers to make the proper choice.

In an effort to promote sound State packaging legislation, Allegany County officials may choose to comment on sample legislation such as CONEG Source Reduction Task Force - Model Legislation, an Act Concerning Reduction in Packaging Waste, February 11, 1992.

A consumer education program will be geared toward "being an environmentally alert consumer". Consumers are typically found where they do everyday functions such as banking, shopping, and at the post offices. This type of location will be targeted for visual exhibits, display boards and handout materials. In 1993 visual and written materials will be developed on various topics such as environmentally friendly labeling, natural alternatives to household hazardous waste, recyclable packaging, business waste

reduction and packaging with recycled content. This program will be mirrored after New York's public education and information program.

Additional projects, such as waste exchanges and household hazardous waste reduction, are planned to be included as part of the county's waste reduction program in 1994. Businesses are currently given information on waste exchanges in the Business Waste Reduction/Recycling Packet.

To encourage waste reduction in the business sector, Allegany County will be offering a "face-to-face" approach to its Business Waste Reduction/Recycling Program. County businesses will be first contacted by mail with information on assessing their waste management practices and technical assistance offered by the Department of Public Works staff. Each business will then be contacted on a one on one basis to evaluated their current waste management practices, recommendations will be made on waste reduction/recycling alternatives, and be given a packet of information specifically geared toward business waste reduction and recycling. The Business Waste Reduction/Recycling Packet for Allegany County contains the following information:

New York State Department of Economic Development Office of Recycling Market Development (NYSDED ORMD). 1992. **"The Bottom Line, a Guide to Waste Reduction for New York State Businesses".**
- A how to guide on implementing a waste reduction program specific to New York State.

NYSDEC. 1991. **"It's the Law in 1992".**
- A pamphlet on New York State's Source Separation Law.

NYSDEC. 1991. **"Recycling Emblems, What Do They Mean".**
- Explains the New York State recycling emblem program.

NYSDEC. 1991. **"S.T.O.P.".**
- A pamphlet on the STOP - Save That Office Paper program.

NYSDEC. 1991. **"Stop Right There! An Office Paper Recycling Handbook".**
- A step by step guide to setting up a successful office paper recycling program.

Allegany County Business Recycling Profile:
ABB Preheater - Wellsville
Allegany County Source Separation Law
Allegany County Business Recycling pamphlet
Solid Waste Management Options for Businesses

Recyclables Market Listing
Source Reduction Tips for Businesses
various articles and information resources

The Business Waste Reduction/Recycling Packet for Allegany County is also available for loan at the Belmont Free Library, donated by the Department of Public Works. Continued information of the Business Recycling Program can be found on pg. 15.

The development of a local waste reduction education program will be to foster good waste reduction practices. These practices and mindset should start as early as possible in grade school. As part of Allegany's "general recycling education program" waste reduction will be stressed in school programs and curriculum.

Various strategies are now being employed to achieve a reduction in the amount of solid waste destined for disposal at the county's facilities.

Source Separation Law:
The county solid waste law requires source separation at the residential, commercial-industrial and institutional levels. The law essentially gives Allegany County control of solid waste as well as the haulers of solid waste. However, this control only begins at the solid waste management facilities owned and operated by Allegany County.

There is no flow control built into the law. County regulations are enforced by the municipalities with curbside collection programs, by the private haulers, and by the operators of the county facilities.

In Allegany County, six of the 11 villages have curbside collection programs. Three of these communities contract with private refuse haulers and the others use their public works departments for collection.

All of these programs include source separation of recyclables using various collection methods and schedules while adhering to county-imposed regulations. These regulations include the types of recyclables that must be separated and preparation requirements. The following is a breakdown of the existing source separation programs.

Allegany County provides assistance to the municipalities in the form of technical advice, access to transfer station drop-off centers, scaling of loads, payment of their tipping fees at local intermediate processing centers (if any), and the establishment of a transfer operation for the county's largest population center, Wellsville.

The Village of Wellsville accounts for a large percentage of recyclables generated within the county. Correspondingly, the service area of the Wellsville transfer station takes in 35% of the county's solid waste.

A special arrangement was made to handle the recyclables from the Village of Wellsville's curbside collection program. The county supplies three roll-off containers at the village's Highway Department facility. Village crews pick up a single item per week using a recycling truck. The materials are transferred into the county-owned open-top containers. The county hauls the full containers to a private recycling facility.

TABLE 1-4

Allegany County Municipal Curbside Collection Programs

Municipality	Hauler	Comments
Wellsville	village DPW	hauled by county from central collection point to private recycling facility.
Alfred	Pattons	marketed by Pattons Disposal
Cuba	Pattons	marketed by Pattons Disposal
Friendship	WW Disposal	marketed by WW Disposal
Belmont	village DPW	loads scaled at county landfill taken to transfer station or CrownY
Canaseraga	village DPW	hauled to county transfer station in Canaseraga

The approximately 22 commercial refuse haulers who are permitted to use county facilities service approximately 6,000 households in the county. All of these haulers are required to enforce with their customers the county's source separation regulations. All haulers pick up all seven of the items mandated for recycling under county law.

In most cases, containers at county transfer stations are used for storage of recyclables collected by private haulers. Several haulers market specific recyclables (glass, metal, cardboard) on their own. In one case, arrangements were made for direct delivery to Crown Y with the Village of Belmont.

It is important to note the operation of the County Landfill pertaining to "tipping fees". Allegany County has no tipping

fee for County residents, Private Haulers or Municipal Haulers operating within the county and hauling county refuse. The funding of the County Landfill is through the tax base and thus "free" at the scale or point of disposal. All haulers and users of County facilities are required to be permitted. See permitting requirements for haulers in appendix CRA-25 for further information.

Intermediate processors

Crown-Y is the only intermediate processors in Allegany County. Crown-Y provides processing services for returnable beverage containers and newspaper only.

Southern Tier Recycling Center Inc. is a major processor located in Olean, N.Y.. Allegany County uses STR exclusively for plastic, most newspaper and cardboard.

The major intermediate processor for office paper generated in Allegany County is Hornellsville Recycling in Arkport.

Allegany County is currently under contract with Southern Tier Recycling, plus others. The contract requires the companies to handle all recyclables from county transfer stations.

Industrial and Commercial Recyclables Recovery

Strategies related to industrial and commercial recyclables recovery involve:

* face-to-face meetings with various establishments to assess each situation,
* deciding what materials are available for recycling, and
* assisting in the handling and marketing of such materials.

The Department of Public Works provides public information about the purchase of equipment and helps set up office paper recycling programs.

A large percentage of the commercial waste in the Village of Wellsville is cardboard. The previously discussed arrangement with the village (for storage and transportation of their recyclables using county equipment) has been invaluable to the generators of cardboard. Instead of baling, transporting and marketing their waste cardboard, the generators simply bundle it and set it out for village crews. The county benefits because this arrangement greatly reduces the amount of waste that is disposed of at the Wellsville transfer station and, ultimately, the county landfill.

Another strategy for waste reduction involves the use of

educational materials and presentations to various groups. The materials focus on re-use and recyclables recovery. The educational component of the county's overall program is currently carried out by the recycling coordinator.

Targeted groups include schools (teacher training and direct student presentations), businesses, civic organizations and municipal officials. The general public is targeted through displays, county-wide mailings, newspaper articles and radio public service announcements.

Allegany County has a higher-than-average amount of organic wastes. A primary source is household yard and kitchen waste. To respond to this situation, home composting workshops have been and will continue to be held to instruct county residents in this relatively simple form of waste reduction.

Another strategy to reduce the amount of solid waste landfilled in Allegany County is the implementation of the permit system mandated by the solid waste law. This system is designed to eliminate out-of-county waste in Allegany County facilities. Large amounts of solid waste previously entered the system, especially near the borders of the county. This practice is now under control and the reduction in tonnage is now becoming apparent.

DPW permits use of the transfer stations on a regular basis by commercial and industrial generators as well as schools, offices, health care institutions, etc.

June 1, 1992 Allegany County required by law the use of clear garbage bags for disposal. This strategy will facilitate better enforcement of the county's source separation regulations and thus further reduce landfilled solid waste. It would, in effect, increase the participation rate in the county-wide recyclables recovery program.

SECTION 2: Existing Efforts to Recover Recyclables

360-1.9(f)(2)(i)

Complete records are maintained of recovered recyclables passing through county facilities. Those handled by commercial haulers or by the generating business, institution or industry are harder to tally.

Business, Industry and Institutions

In 1990, Allegany County conducted a Non-household Waste Study of the major businesses. Of the 64 companies contacted, 33 responded. The questionnaire included the type of business, amount of solid waste generated per year, materials recycled or reused and what method was used.

The results of the survey are included as appendix CRA-2. At that time, only 15 of the 33 respondents were recycling a portion of their waste stream. To encourage further recycling in the business sector, the Business Waste Reduction/Recycling Packet for Allegany County was compiled. The packet is designed to educate managers about solid waste and the recycling laws, rules and regulations, and as a resource providing information on locating waste haulers, recycling centers and special disposal sites. County personnel are available for waste reduction/recycling workshops and site visits, offered in conjunction with the packet. A list of materials included in the packet is listed on pg. 10.

As part of the Business Recycling Program and information packet, businesses are asked to report tonnage information on their recycling efforts. The county will initiate in 1993 a reporting system to obtain more complete information. In an attempt to promote cooperative efforts, most of this information will be gathered on a face to face basis. A list of questions and information to be gathered from businesses is included as appendix CRA-3. The annual report form is included as appendix CRA-4.

Currently, there are many recyclable recovered from businesses, industries and institutions. Some examples are:

- commodities from kitchens at the county's three colleges
- scrap vehicles and vehicle parts from junk yards
- cardboard from a number of industries (Acme Electric of Cuba, Friendship Dairy of Friendship, Empire Cheese of Cuba, K-Mart, ABB Air Preheater and Dresser Rand, all of Wellsville)
- cardboard from grocery stores (Giant in Wellsville and Shurfine in Alfred, etc.)
- scrap metal from manufacturing firms such as Dresser-Rand

- waste oil from consumers directly to service stations
- office paper programs in the Wellsville, Alfred-Almond, Bolivar, Whitesville and Belmont school districts, ABB Air Preheater, Alfred University, Alfred State College, ACCORD and all Allegany County buildings yield about 24 tons per year (1992 data).
- composting of leaves generated by residents of the villages of Cuba and Wellsville
- direct marketing of some components by commercial haulers such as Neu Disposal of Cuba, Consolidated Disposal of Whitesville, and WW Disposal of Harrison Valley, Pa.

Private Haulers

An initial survey of waste haulers was conducted in November 1991 to get an idea of what independent recycling was being done. In 1993 additional information will be sought on a face to face basis (see information to be gathered, appendix CRA-3). Haulers will be asked, among other things, describing how recyclables are collected, prepared, marketed, and how they enforce mandatory recycling with their customers.

Municipal Curbside Programs

Curbside recycling programs are carried out in six villages (Alfred, Belmont, Canaseraga, Cuba, Friendship and Wellsville). Details on these programs may be found on page 12.

Allegany County

Allegany County started a voluntary recycling program on July 1, 1989. This program was developed to experience first hand the day-to-day operations of a recycling program. The program was a trial or pilot project which gave Allegany County some insight into what a full scale recycling program would entail. The program was run using the existing seven transfer stations as drop-off centers. A map included as appendix CRA-5 shows where each transfer station is located.

Each station was equipped with two twenty-yard roll-off containers which were compartmentalized for seven different recyclable items. The first roll-off separated green glass, brown glass, clear glass and metal cans in four different compartments. The second roll-off separated newspaper, corrugated cardboard and plastics.

When full, each roll-off was taken away and replaced with an empty one. Prior to the July 1, 1989, starting date, bids were accepted for a two-year contract to provide services. Railroad Valley Recycling (closed in March 1992) was low bidder. The contract required Railroad Valley Recycling to

supply Allegany County with recycling containers at the transfer stations. A rental fee of $165 was paid per month per container (later changed to $105/mo.). Hauling services were also required of Railroad Valley Recycling. The charge to Allegany County was $75 each time a full container was exchanged for an empty one. Tonnage and cost reports are included as appendix CRA-6 to CRA-9.

In 1991, Allegany County began to look at future options. A potential recyclables market survey was conducted to determine quality and quantity requirements, container availability, transportation and distance to market, processing required, and contract terms, should the county ever assume direct responsibility for processing, transportation and marketing. Survey results are included as appendix CRA-12 and CRA-13.

Allegany County bid out the handling of recyclable materials for the new service contract in June 1991. These materials would be generated by the county's source separation requirements and handled at county solid waste management facilities. It was the intention of Allegany County to further continue its recycling program and to handle certain recyclable materials generated within the county in a manner separate and distinct from the handling of solid waste destined for land disposal.

The bid process awarded contracts to two companies, Railroad Valley Recycling and Crown Y. Each company was awarded a portion of the program by splitting the transfer stations into east and west zones. Railroad Valley Recycling was awarded a contract for the east zone stations 2, 4, 5 and 7, while Crown Y picked up the west zone stations 1, 3 and 6. In addition, the Railroad Valley Recycling contract covered container rental, transportation, processing and marking of recyclables (except containers and marketing for green and brown glass). The Crown Y contract covered processing and marking of all recyclables from stations 1, 3, and 6 as well as green and brown glass from stations 2, 4, 5 and 7. Allegany County purchased 10 containers and a truck to provides hauling for stations 1, 3, and 6.

Allegany County planned to gradually purchase additional recycling containers and phase in the work force and equipment for hauling needs. The county further intended to own all its own recycling containers and provide all its own hauling to a processing center or direct market by the end of 1992.

In 1992 the County purchased 20 additional roll off containers throughout the year to accommodate the remaining transfer stations, phasing out the rentals form RVR and

providing 1 roll off for each individual material. In March of 1992, Allegany County was made aware that RVR had filled for bankruptcy and no longer delivered any recyclables to that location. All recyclables were now all being delivered to Crown-Y.

In June of 1992, Crown-Y experienced a devastating fire, crippling their recycling center. Allegany County was forced to locate markets for the collected materials without a break in the recycling program. Markets were located for all materials in a matter of days, without causing any laps in the program.

Various processor and venders were used until a formal bid was let for the Allegany County Recycling Program. The bid was let in July and contracts started in October. The bid and bid tally are included as appendix CRA-10 and CRA-11.

Special consideration was given to wording of the bid so that some recyclable could be sent to two different locations. Each material was awarded to the following vender:

Newspaper - Southern Tier Recycling Center, Inc. and Harold Mitchell

Cardboard - Southern Tier Recycling Center, Inc. and Phoenix Recycling Co. of Buffalo

Plastic - Southern Tier Recycling Center, Inc.

Metal Cans - Hornell Waste Materials, Co.

Glass (verbal agreements) - Ball Incon and RRT Empire Returns

Other efforts are made to recover tires, scrap metal, lead-acid batteries and large appliances (white goods). Allegany County is disposing of these non-traditional materials by contracting with processors from the private sector. In 1989 a county law was passed which requires all residents and businesses to disposal of waste tires and large appliances (white goods) at the county landfill. This method allows for a central collection point as well as accurate determination by scales of annual tonnage. Scrap metal and battery collections are handled at the county transfer stations. Both items currently provide revenue and are transported by the contractor. See appendix CRA-6 to CRA-9 for totals of recovered materials.

Tire removal bid specifications were prepared for a contract to begin March 1, 1989. The contract was awarded to

Integrated Tire of Buffalo and a similar service contract was awarded in 1990 and 1991. In 1992 the contract was awarded to Modern Recycling of Model City, N.Y.. The county will rely on the private sector for waste tire removal in the foreseeable future.

It is anticipated that local sources for disposal will become available within the next 10 years, especially as a component of rubberized asphalt or a landfill construction material. There are two asphalt plants in Allegany County and at least five in Steuben and Cattaraugus counties. Several large, well-established construction companies as well as the county and the NYS Department of Transportation use large amounts of asphalt for road surfacing. Currently, a private company is researching (for uses in county roads) a crumb rubber product from waste tires.

The annual generation of waste tires in Allegany County is estimated to be about 17,000 tires. The annual tonnage is expected to stabilize between 170 and 200 tons per year.

The tonnage of large appliances (white goods) has been steadily increasing since 1983 with a drastic increase from 1987 (258 tons) to 1988 (502 tons). The county will continue to rely on the local private sector for appliance recycling. The county does not plan on processing large appliances in any manner unless sources of disposal completely disappear or the market value increases. If that ever happens, appliances would have to be dismantled for useable parts then baled or shredded. The county would have to contract this work with the private sector or purchase expensive equipment. Additional staffing would also be needed. The current arrangement is with Jerges Used Auto.

Realizing that large percentages of scrap metal can be re-used or recycled instead of landfilled, the Department of Public Works offered one-year contracts for its sale beginning November 1990. The county will continue to offer yearly contracts for scrap metal collection and recycling. The current contract is with Hornell Waste Materials, Co. in Hornell, N.Y..

In October 1990, Allegany County began collecting lead-acid batteries at the seven transfer stations. Sales of the batteries will be handled by a yearly contract. The current arrangement is with Crown-Y of Cuba, N.Y..

360-1.9(f)(2)(ii)

Impact on Existing Programs

Allegany County's current plans will not have an adverse effect on any current recycling efforts by individuals, municipalities or commercial establishments. The Allegany County solid waste law regarding the maintenance and operation of solid waste and resource recovery, though requiring the separation of recyclables from the waste stream, does not mandate the exclusion of recycling by individuals or other institutions.

The non-household waste survey will continue to be updated. It is hoped that with the results of this survey and the new reporting system, a more accurate picture of the overall waste stream and recycling efforts can be identified. The county also hopes to identify specific waste producers and work with them to identify and establish markets for their recyclables.

The Department of Public Works staff will work closely with the business community to handle their waste and recycling needs. The county also fully intends to support the commercial and industrial establishments within the county in their recycling efforts.

The loss of Railroad Valley did not have as great an impact on the County's handling of recyclables as did the Crown-Y fire. The latter forced the County to develop more efficient collection and transportation methods and to find additional markets. We discovered the necessity of having more than one market for each item. The storage area at the landfill was established as a storage area for items that were brought in from transfer stations and private haulers. It allowed us to stockpile full loads, if necessary, so that we were not in a constant situation of having overflowing containers at the drop-off points and not able to handle them fast enough.

Our current method of using three transfer stations, 3, 4 and 7 and the landfill to consolidate loads has alleviated the necessity to construct a storage building. We will investigate the possibility of installing a free-span type roof over the asphalt pad at the landfill.

SECTION 3: Available and Potential Markets

360-1.9(f)(3)(i)

Review of Available Information

The available information used to identify markets came from a number of sources. The sources included local telephone directories, national publications including BioCycle, Recycling Today, Resources Recycling, Waste Age, Recycling Times, The Paper Stock Report, Official Board Markets, Fibre Board News, Fiber Market Report, state resources such as the New York State Recycling Resource Handbook, New York State Department of Economic Development Office of Recycling Market Development listings and publications, and local potential market listings from Niagara, Cattaraugus and Steuben counties, as well as information obtained at conferences.

In 1992 when the market survey was updated, the New York State Department of Economic Development Office of Recycling Market Development market listings and staff technical assistance was used exclusively.

Also identified were five market services available for assistance in preparation and transportation of recovered recyclables: Gannett Fleming Inc. (solid waste management services), P.O. Box 1963, Harrisburg, Pa.; Gershman, Brickner & Bratton Inc. (solid waste management consultants), 2735 Hartland Road, Falls Church, Va.; Resource Integration Systems (waste reduction and recycling consultants), One Salmon Brook St., Granby, Ct.; Keith A. Schimel (environmental engineering consultant), 330 Apple St., Syracuse, N.Y.; and CE Consulting and Marketing, 31 W. State St., Wellsville, N.Y.

Allegany County continues to be involved with different recycling informational organizations. These include Southern Tier West Regional Planning Board, the NYS Association of Reduction, Reuse and Recycling and an informal Cooperative Marketing Group of DEC Region 9 counties, all of which, among other goals, is to cooperate and facilitate recycling market information, identify potential regional markets, and communicate individual county needs. Allegany County will continue to be a strong part of these organizations and to investigate new markets to better serve the residents of the County.

Survey of Potential Markets

Separation, collection and processing of recyclables is meaningless unless an economic market can be found for each material recovered. Allegany County has made a concerted effort to identify local markets by conducting a recyclables market survey and updating it periodically, see appendix CRA-12 and CRA-13. The area surveyed reached north to Rochester and into Canada, northwest to Buffalo, west to Jamestown, east to Elmira and Syracuse, and south into Pennsylvania, to name some locations.

The market survey contains addresses, phone number, contact person, preparation required, and other important information.

Allegany County has also been involved in ongoing home composting workshops through our recycling education program. Through this program county residents are encouraged to divert food waste from the waste stream via home composting. Residents are then encouraged to use the compost for landscaping and gardening purposes. In furthering this effort, the County is considering approaching the BOCES center to man a demonstration home composting site. This site would give residents some visual and hands-on information on a working compost pile.

Care must be taken when composting food waste. Meat, bones and fatty foods such as cheese, salad dressing, and leftover cooking oil should be kept out. Anything that was once alive can be composted. Yard wastes, such as fallen leaves, grass clippings, weeds and the remains of garden plants, make excellent compost.

At this time, cardboard and newspaper are collected as part of our mandatory recycling program. The Allegany County offices also have an office paper recycling program, and encourage other offices to do so. Other types of paper such as telephone books, magazines, catalogs, junk mail and books are being reviewed for collection in 1993. In order to collect these grades a market must be secured. Currently, the County markets 90% of their collected cardboard and newspaper to Southern Tier Recycling Center in Olean, N.Y.. The office paper that is collected goes to Hornellsvile Recycling in Arkport, N.Y..

Southern Tier Recycling is willing to accept these other grade of paper for a fee. Allegany County has chosen not to add any additional materials to the existing recycling program at this time. The goal of 1993 is to make what we

are currently recycling more cost effective. Additional containers would have to be purchased for additional paper grades along with securing a contract.

The County would like to implement the recycling of junk mail, magazines and glossy inserts by Feb. 1994. At this time an "economic" market does exist and this material will be included in the Recycling Program, which is noted on page 94 of the implementation schedule.

Clear, green and brown container glass is being collected through the existing recycling program. As stated in Section 1, a proposal from Gernatt Asphalt would consider taking some of our container glass and ceramics to put into road sub-base. Allegany County would then be diverting glass that was considered containments and otherwise landfilled, to be recovered. This proposal would create a local market for this material.

In addition to glass contaminants that would otherwise be landfilled, the County is considering the idea to have a "swap" exchange area. The area or location would be for selected uncontaminated construction materials. Debris such as lumber, sinks, faucets, doors, windows and various materials resulting from remodeling projects, repair or demolition of structures would be selected. The County is researching other municipalities that might have this type of "swap" program. Some materials such as metals are already being diverted from the waste stream. This scrap metal is taken to Hornell Waste Materials in Hornell, N.Y..

A central exchange area at the landfill could also be used as a storage area for chipped brush. Chipped brush in the area would come from land-clearing projects, seasonal and storm clean-up and utility line maintenance, and Christmas trees. The chips would then be available to the public for landscaping, gardening and trail maintenance.

Currently textiles are recovered by voluntary social service organizations through donations at drop-off boxes or other locations along with traditional "garage sale" practices throughout the County. Plans are being made to cooperate with the local Salvation Army Unit to place drop-off boxes at each County Transfer Station at the County Landfill. Other items such as upholstered furniture, wood furnishings, lawn mowers, bicycles, etc., would be items that could also be included at the "swap area". The main preparation requirement for these items would be for them to be kept clean and dry, especially any textiles. The County could keep records from the area with a sign in/out sheet of items dropped off and removed.

Types of Processing Necessary

Allegany County began its official "Allegany County Recycling Program" in July 1989. Since that time the county has contracted with private firms to perform the services of processing and marketing of most recyclables. At that time two intermediate processing facilities were located within Allegany County, the county tried to use these facilities in hopes of promoting the development of recycling businesses.

To provide a good clean quality product, Allegany County mails out preparation requirements for recycling in a County-wide mailing twice a year. Every household, commercial establishment, business, industry, and institution is mailed informational booklets. The format has changed over the years, past copies are included as appendix CRA-15 to CRA-20. The most current mailing is included as appendix CRA-21.

Plastics Sorting in Allegany County, appendix CRA-22 was designed to respond to the constant questions on plastic recycling and to further promote better plastic sorting and knowledge. These guidelines for preparation requirements are available at all transfer stations, the landfill, and the Department of Public Works.

A listing of markets surveyed is included as appendix CRA-12 and CRA-13. Each source was asked a series of questions on quality and quantity requirements, container and transportation requirements, processing and contract terms.

This listing will be used to determine decisions on distance to market, processing necessary, fee and/or payments and any additional requirements the County may encounter.

The market survey is a good tool for identifying the types of processing necessary for separation and upgrading of recovered recyclables to assure market acceptance. All surveyed were asked for the type of processing necessary before delivery and the type of equipment used by the market.

Preparation or quality requirements were also requested to assure market acceptance. Allegany County preparation guidelines are an effort to meet the most restrictive of these in an attempt to be flexible and adapt to all markets.

The county remains flexible also through its local law regarding solid waste management and source separation. The law treats quality guidelines as rules and regulations.

This law gives the Department of Public Works the ability to propose rules and regulations and change them by administrative directives, if needed. The procedures for adopting a new rule or regulation are included as appendix CRA-26.

In the past the county had provided two large 20 cubic yard containers for the collection of glass, metal cans, plastic, cardboard and newspaper at each transfer station. It was found that people were willing to drop off recyclables although they sometimes failed to adhere to the preparation standards.

To alleviate excessive transportation costs and cross contamination, additional containers were purchased. This should result in a higher quality product due to easier screening of contaminates from each load.

On July 22, 1991, a second employee was added at the Wellsville Transfer Station. The Wellsville station is the largest and serves the most people, transferring one third of all Allegany County solid waste and recyclables. This employee will assist in the checking of Solid Waste Permits and policing of recyclables brought to the facility not only by the residents but also commercial waste haulers.

When residents deposit recyclables in containers at the transfer stations, every effort is made to have an employee check the commodities. However, checks are not always possible. The same is true for commercial waste haulers depositing their loads of recyclables. To ensure the quality of the materials meet acceptable county standards, public education efforts are also used.

Starting in 1993, the Recycling Coordinator and Transfer Station Supervisor will be dedicating one day each week to enforcement and public education for the solid waste laws and recycling preparations.

As mentioned above, twice a year all Allegany County residents are mailed information on the preparation requirements for recyclables. Other public education efforts include press releases, radio advertising, special community events such as the County Fair, exhibit booths, and speeches.

Also helping to police the quality of material being collected are the commercial waste haulers. The waste haulers screen recyclables at the curb and the quality of this material has shown to be very good.

360-1.9(f)(3)(iv)

Available Market Services for Preparation and Transportation

Currently all materials collected are either taken directly to the intermediate processing facility upon being collected by the county or picked up by the contracted recyclers. There are several privately owned hauling companies located in Allegany County that could be used if necessary. The county also maintains a fleet of refuse hauling tractor trailers and has purchased a straight-chassis roll-off truck dedicated to hauling recyclables. At this time the county does not expect any problems in transporting collected recyclable material.

Currently the county stores collected glass, metal cans, tires, scrap, and white goods on an asphalt pad at the County Landfill. Other than the recyclables that are stored in the containers at each transfer station, all other storage at this time is done by the contracted private recycler. If in the future the private recyclers cannot meet the storage needs of the county recycling program, it will become necessary to construct a building at the landfill to store and process recyclables.

360-1.9(f)(3)(v)

Restrictions to Market Development

Finding markets for materials is an ongoing endeavor of the county. The task is made difficult by the natural swings of commodities markets. Currently, with widespread mandated recycling, there tends to be a glut of materials from time to time. Often the marketing challenge is to find a market that will buy rather than a dealer who will accept the commodity for a fee. For example, in 1989 the county sold glass for $25/ton. In 1991, the county paid $19.50/ton to have a dealer take it, then again in 1992 a market was found to pay the County $50.00/ton.

Environmental considerations may limit markets. For example, if tires are burned for fuel, air quality must be taken into account. Logistics and cost can limit marketing. Using tires in asphalt appears to be an appropriate recycling activity in Allegany County. But, using them in the manufacturing process raises the overall cost. Tires have to be handled, transported, weighed and stored.

Each component of the waste stream has to be examined with such factors in mind. Some restrictions currently exist on certain types of glass such as window glass, mirrors, light bulbs, fluorescent tubes, pottery and crystal. Plastics are limited to specific resin bases.

The local economy and national economic trends can effect market development. For example, there is a market for shredded newspapers with local dairy farmers. But, the market may falter as many local farms go out of business.

In addition, there is often a lag time while manufacturing plants re-tool or are built to accommodate post-consumer materials.

Another limit to marketing is simply the potential cost to the county of gearing up to get into the business. Start-up costs can seem prohibitive, especially when taxpayers are footing the bill. Rather than buy roll-off containers for its seven transfer stations, Allegany County initially rented them and contracted with a dealer who would sort and market. Evaluation of the rental fees has prompted the county to purchase its own roll-offs.

SECTION 4: Considerations in Program Selection

360-1.9(f)(4)(i)

I. WASTE REDUCTION STRATEGIES AND ANALYSIS

Waste reduction has first priority in new York State's solid waste management policy. Waste reduction activities are directed at preventing waste at its source. At the manufacturing level, waste reduction means redesigning products and packaging with waste reduction as a goal. At the consumer level, it means changing purchasing and disposal habits and attitudes, so that the overall quantity of solid waste is measurably reduced form previous levels.

Although consumer education and industry cooperation can achieve measurable results, waste reduction may be most successful when it is mandated by specific laws. The most effective waste reduction legislation would be enacted at the state and federal levels, with action at the local level being limited to consumer education programs and waste disposal regulations.

IDENTIFICATION OF ALTERNATIVES

Waste reduction is a pre-management tool because it prevents waste by decreasing the volume and/or weight of materials prior to their entry into the waste stream. Decreasing the waste stream can have an impact on the size and life of waste disposal facilities in an integrated solid waste management system.

Waste reduction alternatives:

A) controlling product packaging
B) mandatory industrial/commercial waste reduction programs
C) changing consumer habits

A. Controlling Product Packaging

Packaging waste accounts for approximately one third of the State's municipal solid waste stream. Packaging is used to sell, transport and preserve products in the marketplace. Purely voluntary actions by industry to reduce packaging waste have been limited because of concerns for protecting products and maintaining competitive position in the marketplace. Also, historically, inexpensive solid waste disposal fees did not foster concern about packaging waste. Significant reduction of packaging wastes seems possible only through legislation and government/industry cooperation at

the state and federal level, with public support. However, public and industry awareness and the threat of statutory measures has caused some companies to become more aware of how their packaging contributed to the solid waste stream and to take voluntary action to reduce that waste.

Control of product packaging can take several forms, including: packaging standards; packaging bans; and fees applied to certain types of packaging.

Regulatory standards for materials packaging could be established to control bulk, weight and overall packaging. In addition, regulations could be established that ban a particular package or packaging, although this is not normally recommended.

Although packaging bans have direct and immediate impacts, they may not produce the desired results. Banning materials from the marketplace may do little to reduce waste, because other products or materials may replace the banned product with no net effect on waste reduction. Bans are politically popular in some areas, but as an effective solid waste management tool they are highly questionable.

A system of packaging fees or taxes based on recyclability or recycled content of the materials incorporates the costs of solid waste management into the product packaging. Under such a system, packaging materials would be rated for recyclability and recycled content and fees would be levied according to the ease or difficulty in recycling the packaging or percentage of recycled content in the package. Packaging for materials which identified markets would incur a minimum fee. Fees would increase in relation to availability of markets for particular materials with the highest fees levied against packaging materials for which no markets exists. Fees would be adjusted as markets develop and reusable packaging or packaging subject to deposit programs would be exempt. Although politically popular, a fee program is practically impossible to administer in an equitable manner, considering the thousands of packaging and product categories.

A non-regulatory, non-fee approach to controlling product packaging would be directed at consumers and industry with the use of "environmental friendly labelling" to educate them about packaging. The New York State recycling emblems are an example of this type of labelling. New York State has established voluntary recycling emblems and regulations (6 NYCRR Part 368) governing the proper use of recycling emblems which identify products containing materials which have been recycled or materials which may be recyclable or reusable.

The State intends to implement and conduct a program of public education and information to inform both public and private sectors as to the merits of the use of secondary materials and for consumers to actively seek consumer products which contain secondary materials or which are easily recycled or reused.

In general, legislative action is needed to implement the waste reduction measures for controlling product packaging. Several legislative options have been considered by New York and other states to control product packaging.

B. Mandatory Industrial/Commercial Waste Reduction Programs

As a result of more stringent environmental regulations and increased disposal costs, many industrial and commercial waste generators are in various stages of developing and implementing waste reduction programs of their own. These programs focus not only on reducing the amount of waste they generate, but also on reducing the toxicity of wastes.

Elements of these programs usually include:

- **good housekeeping practices** -- including waste segregation, improved operation and maintenance, inventory controls and spill/leak prevention;

- **input substitution or input material modification** -- replacing a material used in a process or product with a non-toxic, less toxic, recycled, or recyclable material;

- **technology modification** -- improved controls, process redesign, process modification and equipment changes;

- **product reformulating** -- substituting an end product with one that is more durable or required a less toxic production process or a process that produces less waste; and

- **lightweighting** -- substituting lighter and fewer materials for traditional packaging or product materials (this may reduce weight but not necessarily volume of solid waste).

Efforts would go further if these programs were made mandatory, but this would be most effective at the federal level to avoid placing New York State industries at a competitive disadvantage. Requirements for mandatory waste reduction programs could range from requiring a written program to establishing industry-specific waste reduction targets.

C. Changing Consumer Habits

In the past, purchasing decisions by most consumers rarely reflected recycling or other solid waste management concerns. But as decreasing landfill space and other solid waste issues appear more frequently in the press, many consumers are becoming more aware of these concerns. It is entirely appropriate for State and local government officials to encourage the public with economic incentives and effective public education programs to be mindful of the impact of their purchasing habits on the solid waste stream, and to alter those habits. The New York State Recycling emblems were designed to further this objective.

Economic incentives include deposits and local user fees. The purpose of deposit programs, such as New York's Returnable Container Act, is to give consumers an incentive to return packaging materials and thereby remove these materials from the waste stream. Local user fees for solid waste collection, such as "fee-per-bag" programs, also encourage consumers to reduce the amount of waste they discard. (Although local user fees may foster littering and illegal dumping, as well.)

A concerted long-term education program, starting in grade school, is necessary to change the throwaway ethic that Americans have developed since World War II. Public Education programs should encourage waste reduction by focusing on the relationship between consumer habits and waste management and disposal.

Consumers can reduce waste by purchasing more durable products, products which use less packaging, and products in larger packages or reusable/recyclable/ recycled containers. Industry will most likely yield to the pressure to reduce packaging and offer other packaging options as consumers begin to change their buying patterns, borrow or rent items, and otherwise change life-styles. The basic goals of a waste reduction program are ones that influence the following consumer purchases listed in Table 4-0.

Table 4-0
Waste Reduction Goals

1. Purchasing only what is needed, and in bulk quantities whenever possible.

2. Purchasing recycled products.

3. Purchasing durable products.

4. Purchasing unpackaged products.

5. Purchasing sensibly packaged products.

6. Avoiding excess packaging.

7. Getting Involved:
   - Writing to companies about wasteful packaging.
   - Writing to legislators about waste reduction.
   - Practicing waste reduction.
   - Talking to retailers about your waste reduction preferences and practices.

8. Borrowing or repairing products instead of purchasing or throwing away.

9. Eating at restaurants that do not use disposable food containers.

10. Using both sides of writing paper.

EVALUATION AND ASSESSMENT

Waste reduction can be applied to most elements of the waste stream. However, aside from consumer education and local user fees, most actions necessary to mandate waste reduction would be most effective if initiated at the state and federal level. A cooperative effort between government and the private sector would enhance implementation of new waste reduction laws.

Waste reduction programs should, where applicable:

- maintain uniform market conditions to the maximum extent possible;

- expand markets for recycled/recyclable/reusable materials;

- consider the potential for effectiveness given the various local, state, regional and other markets;

- influence consumer action through purchase practices geared to reduce the solid waste stream; and

- utilize or implement waste exchange programs.

Since waste reduction is a matter of legislative and social change and still in the early stages of development, few quantitative estimates can be made. However, one successful waste reduction program now in effect in New York does provide some data: New York State's 1983 Returnable

Container Act (RCA) has been successful in reducing the weight of the waste stream by five percent and the volume by eight percent.

In general, administrative costs of developing and implementing a packaging standards and fees, and mandatory industrial/commercial waste-reduction programs are prohibitively high, especially if they are developed on a product-by-product or single-industry basis. Furthermore, the cost to the packaging industry and the consumer must be fully explored.

The cost of education programs is highly variable and depends upon the content, media, audience, scope and life of individual projects. In the long run, a grade school curriculum that encourages sound solid waste practices may be the most cost-effective public education tool.

II. REUSE AND RECYCLE

Reuse and recycling are the second element in the State's solid waste management policy and in Allegany County's. Reuse refers to minimizing the amount of waste requiring disposal by reusing items otherwise destined for the waste stream. Recycling means separating or extracting materials from the waste stream and using them to manufacture new products.

The March 1987 New York State Solid Waste Management Plan established a Statewide 50 percent waste reduction/re use/recycling goal by 1997 (8-10 percent waste reduction and 40-42 percent reuse/recycling). This CRA and our local solid waste management plan contain a recyclables recovery program which seeks to maximize to the extent economically and technically practicable the recovery/reuse of solid waste. The program includes specified, progressively increasing percentages of the waste stream that are intended to be recovered as recyclables. The percentages reflect ambitious, yet realistically attainable goals.

This CRA and our local solid waste management plan also addresses the source separation mandate which was added to Section 120-aa of the General Municipal Law by the Solid Waste Management Act of 1988, see appendix CRA-25. Our source separation mandate requires "that solid waste which has been left for collection or which is delivered by the generator of such waste to a solid waste management facility, shall be separated into recyclable, reusable or other components for which economic markets for alternate uses exist."

A. Source Separation Description/System Design

Recyclables can be separated at the source, meaning at the household, business, industry or institution where they are generated. If sufficient container and storage space is available, recyclables can be gathered and kept for collection without being mixed with other wastes. Separated recyclables can be mixed together, or "commingled" in one container. Alternatively, separated recyclables can be stored in separate containers. Recyclable materials can be picked up at the source by municipal or private carters or transported directly by the generator to a collection center.

The extent of source separation depends on the number of recyclables to be separated and the requirements of the intended market. As a general rule, markets prefer recyclables which are clean, high quality, dry and uncontaminated by food, other wastes or recyclables.

1. Source Separation: Voluntary

The success of voluntary source separation programs depends upon community participation and public education. The decision to participate is left up to the individual resident, business or institution. However, voluntary programs are only an option until September 1, 1992, when source separation becomes mandatory in New York State.

A voluntary program can appeal to and build community spirit, while minimizing costs to local government and staff. Since compliance is generally lower at the start of a recycling program, most communities will not at first need additional collection capability to handle the volume of recyclables. However, a drawback of voluntary programs is that participation levels tend to be low and the quantity of recyclables may not be sufficient to make the recycling program cost effective. Markets are generally volume-oriented and may require a minimum guaranteed volume. This is one incentive for local governments to act together in a regional program.

2. Source Separation: Mandatory

A mandatory ordinance requires that recyclables covered by the ordinance be separated from other trash and put out for collection or disposed of at specified locations, with specific penalties for non-compliance. The degree to which a mandatory program will produce high levels of participation is a function of public information and enforcement of the ordinance. Table 4-1 shows the relationship between mandatory ordinances and voluntary programs in terms of the degree of participation. Table 4-1 demonstrates that weekly collection of recyclables helps to achieve greater participation than programs where collection occurs less frequently.

Mandatory recycling can be encouraged through incentive systems or by a consistent system of increasing penalties for the first, second or third offenses. For example, if a household does not comply after several warnings, the municipality might refuse to provide collection until the residents separate recyclables. Peer pressure, at least in some neighborhoods, can also serve as a strong incentive to recycle, especially where a separate, highly visible container is set out at curbside for collection.

Table 4-1

Effect of Collection Frequency on Public Participation*

	Collection Frequency	
	Weekly	Less than Weekly
Voluntary Programs		
Number Surveyed	17	14
Participation Range	10-80%	4-65%
Average Participation Rate	46%	29%
Mandatory Programs		
Number Surveyed	9	6
Participation Range	40-98%	25-85%
Average Participation Rate	73%	48%

* Public participation is defined as the percentage of potential participants that participates. Public participation percentage does not equal percentage recovery of targeted recyclables.

Source: Camp, Dresser & McKee, 1988

3. System Design

Source separation is not a facility-oriented operation. However, there are several "design" considerations that influence a source separation program. Such design considerations focus on the degree of separation that occurs at the source. At one end of the spectrum is "commingled" recycling, in which recyclables, regardless of type, are separated out as one mixed group from the non-recyclable material. At the other end of that spectrum is detailed or multiple separation of recyclables, in which each recyclable to be collected by the municipality is separated from the others at the source. System design should also reflect the way in which recyclables are prepared, i.e., rinsed containers, cap removal, bundled vs loose newspapers. These

considerations may affect container design and participation rates.

Commingled recyclables must be further separated or sorted either when collected at truckside or during subsequent processing. In some cases, the buyers of recyclables will sort the materials themselves. Generally speaking, prior separation makes the recyclables more attractive to the markets that will use or process them.

Detailed separation requires participants to sort their recyclables into separate containers, one for each of the materials being recycled, or into one compartmentalized container. The degree of public participation tends to drop off as the number of recyclables to be separated increases. This can be overcome to some extent by starting with two or three recyclables and gradually increasing the number of categories to be sorted as public awareness and participation increase.

Convenience will increase participation, as well. For example, different colored containers - a distinct color for each recyclable - make source separation easier for both participants and pick-up crews.

B. Technology Evaluation

1. Applicability/Capacity

Source separation can help materials stay clean and remain uncontaminated by other wastes, making them more attractive to a wider market. In addition, source separation in itself does not require funding from government unless the recycling program decides to provide bags or containers to participants to encourage their cooperation.

All three major groups of waste generators - residential, commercial and industrial - can source separate. The degree to which source separation will be successful in each of the three groups depends on the types of wastes generated, the proportion of recyclables in the waste and the degree of participation by each sector. Sound public education programs, along with local ordinances, will encourage source separation. Other social, cultural and physical factors also may apply.

Residential wastes tend to be the most diversified of the three main categories of waste. Because the most frequently recycled materials -- newspapers, bottles and cans -- are found in residential waste, source separation is highly applicable to residential wastes. Residential wastes can also be the most contaminated with garbage or other debris.

Commercial and institutional wastes come from sources, such as retail stores, supermarkets, restaurants, home and garden centers, auto repair shops and professional offices, among others. Some commercial wastes contain a high percentage of paper products, while others, such as bars and restaurants, have a high percentage of glass and food wastes. The types of wastes generated from a particular establishment will generally remain consistent. Some seasonal variations occur, such as during the Christmas holidays or in the warmer months in areas with many visitors.

Industrial wastes refers to solid wastes generated by manufacturing or industrial processes. The material from a particular source is generally homogeneous and predictable. However, industrial wastes vary significantly from location to location. Some industrial sources may have a very high proportion of recyclable wastes, others may not. Also, some types of wastes may not be applicable to a source separation program, though the waste itself may be highly recyclable through an industrial waste exchange or by other means. The Northeast Industrial Waste Exchange, headquartered in Syracuse, attempts to match waste generators with waste users by providing a listing of specific industrial wastes that are potentially recyclable or reusable and by providing a listing of potential waste recyclers.

Table 4-2 summarizes advantages and disadvantages of source separation alternatives. Source separation can be accomplished in any community, regardless of area, total population or current collection system. All areas may not be suited to one type of collection system. In sparsely populated areas, a drop-off center may be more effective than curbside collection. Commercial, institutional and industrial sources of recyclables should not be overlooked; they may generate large quantities of homogeneous materials at one location, simplifying collection and marketing.

2. Reliability/Experience

The reliability of source separation strategies can be directly correlated with the degree of participation. The major advantage of mandatory source separation is that participation rates are higher than in voluntary programs. Increased rates of compliance are attributed to fear of penalty as well as to peer pressure. Since more people cooperate with a mandatory plan, a greater volume of waste is usually diverted from the disposal facility.

3. System Cost

System costs for source separation depend on many variables, such as the size of the community, the equipment

used, and the degree of sorting. Most of the costs of source separation are associated with collection and with public education. A community should also expect some administrative and enforcement costs associated with the source separation program. System costs are covered in more detail in the applicable sections of this chapter.

Table 4-2

Source Separation

Advantages	Disadvantages
Extends landfill life - removes potential wastes from the waste stream. Lowers net disposal costs for solid waste disposal.	People may object to Source separation because it is time and space consumming.
Separation is done by the household with not cost to the community as far as separating recyclables from the waste stream.	Additional facility space may be needed to handle source-separated materials
Source separation is highly applicable to residential wastes.	Voluntary programs may not achieve the desired level of recycling.
Source separated industrial wastes may be recyclable through industrial waste exchanges.	People may not prepare recyclables properly, resulting in diminished recyclability of materials.
Mandatory source separation is an effective and reliable means of achieving recycling.	
Source separation can be implemented on a small-scale, then expanded.	
Source-separated recyclables are usually uncontaminated by garbage and other debris.	

Source: New York State Department of Environmental Conservation Division of Solid Waste

Allegany County, to help implement a source separation program hired a "recycling coordinator." This person will usually oversee the administration, enforcement and education

of the source separation program, as well as the marketing of the collected recyclables. When hiring a recycling coordinator, the most important qualifications that person should have is previous recycling experience, environmental and business background. The costs of a recycling coordinator are similar to those of adding an administrative staff person to the community work force, including salary and additional office and administrative costs.

C. Summary

According to the Solid Waste Management Act of 1988, all municipalities in the State must, by no later than September 1, 1992, adopt a local law or ordinance requiring that solid waste be separated into recyclable, reusable or other components for which economic markets for alternate uses exist.

Allegany County chose to begin on a voluntary basis, then go to mandatory recycling once the groundwork had been laid and the program was ready to expand. Starting with voluntary recycling enables planners to identify and correct problems or flaws in program design.

Ideally, a recycling program should evolve over a period of time, from one or two recyclables at first and eventually to every recyclable material. However, many municipalities need to begin recycling as soon as possible because of severe disposal capacity problems, and cannot afford to wait through a test of voluntary or pilot mandatory programs.

Cooperation with other localities in a regional source separation and recycling program is usually more efficient and produces recyclables in greater quantities, making them more attractive to markets. Economies of scale will reduce costs.

The key concept in source separation is public participation. Without it, source separation doesn't work. Public education is, therefore, one of the most important elements in a successful source separation program.

III. COLLECTION SYSTEMS

Curbside collection, drop-off centers and buy-back facilities are the major ways in which recyclables can be collected. These methods and the necessary equipment and operational strategies associated with collecting recyclables are described below.

A. Description/System Design

1. Curbside Collection

Curbside collection means that recyclables are picked up at the point of generation. Curbside service usually is offered in cities and suburbs, because it is the most cost-effective and convenient method of collecting recyclables in medium to high density population areas. In general, communities with more than 300 people per square mile or greater than 5,000 inhabitants should consider curbside collection. (Allegany County as a whole has about 48 people per square mile.)

Curbside collection is convenient for waste generators, requiring little or no change in their routines. This system also has the highest potential for keeping recyclables out of the disposal facility because participation is relatively easy. Curbside collection is the best means for encouraging participation, especially if collection of recyclables takes place on the same day as regular collection, and specific highly visible set-out containers are used. Wastes may be commingled or sorted into the components being recycled. If curbside garbage collection is provided, then curbside collection of recyclables must also be provided.

In residential recycling, set-out containers are frequently used. A set-out container is usually made of plastic and is often box-shaped and stackable. Some larger set-out containers can hold a large quantity of recyclables and can be rolled to the curb. Communities distribute the containers to residents generally two or three weeks before the recycling program is scheduled to begin. Residents can use their containers to store recyclables until pickup day.

2. Drop-off Facilities

A second collection option is the use of one or more drop-off facilities, which consist of a centrally-located facility with covered bins, large containers, or stalls or trailers to receive and store recyclables. Drop-off stations are most often used in rural areas where it is inconvenient or prohibitively expensive to provide curbside service. Typically, one or two staff persons are on-site to discourage vandalism, maintain the site, assist those who are dropping off recyclables, and insure the safety of persons who use the facility. Staff may also sort recyclables and provide quality control. Drop-off stations are sometimes provided for items that are recyclable but not usually collected at curbside.

Residents and other generators transport their recyclables to the drop-off center. They may be required to separate the various materials into distinct bins or be allowed to deposit them in a commingled bin.

Start-up costs for drop-off stations are relatively low because equipment, personnel and maintenance requirements are minimal. These stations are a cost-effective method of collecting bulky items (such as major appliances) or special materials (such as waste oil and batteries).

The mobile drop-off center is a specialized collection vehicle or a vehicle carrying separate containers which stops at a specified location on a regular schedule.

3. Buy-Back Facilities

Buy-back facilities are similar to drop-off stations because participants must transport their recyclables to the facility. The difference is that participants are paid in cash for the items they bring to the facility. Some buy-backs are privately owned and operated, such as R2B2 in New York City, but municipally-owned centers do exist. Buy-back centers are typically located in urban, low-income areas in order to foster participation through direct incentives. These centers also have a litter-reducing effect.

The advantage of buy-back facilities is the financial incentive which attracts a core clientele and influences them to gather and deliver high-value materials such as aluminum. Buy-backs are not always advantageous for local government-run recycling programs. If citizens can get cash for recyclables, they are less likely to give them to the local government which is collecting them. Moreover, participation rates are low for buy-back systems, making them the most costly per-ton method of materials recovery.

4. Special Collection Day

In a curbside recycling program, "special collection" indicates that recyclables are collected on a different schedule from regular garbage. For instance, a different day of the week or time of day can be designated during which only recyclables or certain recyclables will be collected.

A variation on this idea for both curbside and drop-off programs is to designate a day or week during which recyclables are collected or dropped off. Special curbside collection allows pickup of recyclables without overburdening staff and equipment used for regular collection. Drop-offs are well suited to special collections of specific materials, since people seem willing to participate in a well-publicized occasional program for the collection of seasonal, i.e. yard waste, or hard to recycle materials such as "white goods" or household hazardous waste.

A special collection may incur added costs for staff,

equipment and publicity. Household hazardous waste collection events, for instance, require specialized equipment and staff for collecting, storing and transporting the wastes, and may also require permits. Also, special collection days must be adequately publicized so that the public knows that it is taking place.

5. Collection Equipment

For most municipalities starting a source separation program, additional equipment should be selected on the basis of efficiency, cost, safety, labor requirements, capacity, collection schedule, and market arrangements. In many cases, existing equipment can be modified and used until new equipment is purchased. Equipment also can be "borrowed" from or shared with other municipal departments.

a. Compactor Trucks

Compactor trucks can be used to collect recyclables. They have the advantage of being able to reduce the volume of the waste because they are equipped to compress the waste as it is received. Most collection fleets already have compactor trucks.

Compactor trucks are easy to load and unload and can be used to collect recyclables as long as the vehicle is cleaned thoroughly before use. In some instances, recyclables have been contaminated by inadequately-cleaned compactor trucks. Therefore, compactor trucks should be dedicated exclusively to recycling, if used. The compactor pressure can be adjusted to avoid breaking recyclable glass. With a trailer attached, both recyclables and regular garbage can be picked up by compactor trucks. However, compared to other vehicles for collecting recyclables, compactor trucks are very expensive to operate. Also, unlike other types of recycling collection vehicles, they cannot handle two or more source separated recyclables.

b. Smaller Collection Vehicles

Included in this category are refuse scooters and box-bed, pick-up, dump-body and stake-body trucks.

Small collection vehicles cost less to operate and maintain than compactor trucks. They are more versatile and can be used by the municipality in other programs. The major disadvantage is that some of these vehicles have no dumping mechanisms; materials must be unloaded manually at considerable cost, risk and loss of time. These vehicles also have an elevated loading height, making collection difficult and less efficient.

c. Compartmentalized Vehicles

Many vehicles specifically designed for recycling are not available on the market. These vehicles have distinct loading and storage compartments to collect two or more recyclables. They include covered vehicles with two to three compartments, uncovered vehicles with four to five compartments, and open vehicles with side-dumping bins. A smaller truck also can be compartmentalized by equipping it with bins or drums. This allows for the collection of more types of recyclables, but smaller quantities of each.

Compartmentalized vehicles provide for efficient collection of two or more types of recyclables, have a large capacity, and are less expensive to operate than compactor trucks. One disadvantage is that one bin may fill faster than another. However, some vehicles are equipped with adjustable bins, so that the operator can adjust the number and capacities of the bins to a particular situation.

d. Racks

Racks are mounted on the side or underneath vehicles to hold newspapers while the rest of the garbage is being collected. They are not usually recommended because they are open and newspapers can get soggy in bad weather or from splashing through water on the roads. Also, their capacity is usually inadequate.

e. Trailers

Trailers can be purchased with self-dumping compartments to collect different recyclables and can be attached to collection trucks. Recyclables are collected more economically in this manner than with a separate truck or a specially-designed truck. Trailers are available in a variety of sizes and designs, and can be modified inexpensively.

Trailers can be used in two ways: The first is to attach a trailer to a truck tractor to collect different recyclables simultaneously. The second is to collect one or more recyclables along with refuse by attaching the trailer to a collection vehicle.

The disadvantages of trailers is that they have maneuvering problems and may be less feasible in areas with many alleys, steep hills, dead-ends or severe winters. The trailers may also fill up more quickly than the refuse truck. Also, some insurance companies won't provide liability or workman's compensation for drivers working with truck and trailer combinations.

f. Special Containers

Some recycling programs provide residents with special containers in which to sort and store their recyclables. This measure of providing residents with a highly visible, daily reminder to recycle appears to improve participation (see Table 4-3) by 10 to 20 percent. Placement at curbside increases public awareness of recycling, and creates a degree of peer pressure to recycle, as well as a sense of community spirit. However, the size of the container should be appropriate for use by residents. A recycling program may consider providing different-sized containers for the various types of households.

Table 4-3

Effect of a Special Curbside Collection Container on Public Participation

Community	Public Participation (%) With Special Container	Without Special Container
Champaign, Illinois	83	11
Kitchener, Ontario	75	65
San Jose, California	75	48
Santa Rosa, California	70	35
Toronto, Ontario	66	42

Source: Camp, Dresser & McKee, 1988

B. Technology Evaluation

1. Applicability/Capacity

Curbside collection is particularly applicable in areas where there is already curbside collection of wastes. When source separation of recyclables becomes mandatory on September 1, 1992, curbside collection of recyclables will be required in New York State where there is curbside collection of wastes. Curbside collection is typical in more densely populated areas of the state and is found less frequently in more rural areas.

Curbside collection of recyclables where there is already curbside collection of garbage makes it possible to pick up recyclables at the same time as the waste. In some cases, to minimize expenses, the same vehicles, with modification, can be used for both purposes.

A curbside collection program for recyclables where there is not already a curbside collection of garbage will undoubtedly cost more, and may not be practical because of the added cost. Recyclables collection schedules and routes would have to be developed and collection vehicles and personnel would have to be provided.

Drop-off's can be a useful way to start a recycling program and especially useful in communities where the residents already bring their waste to a disposal facility. Drop-offs are also suitable for the collection of infrequently generated wastes such as used oil, white goods, batteries, tires and household hazardous waste.

Special collections are ideal for seasonal recyclables such as yard waste, Christmas trees, leaves or debris from spring cleaning, as well as for infrequently generated materials such as household hazardous wastes or materials which accumulate in small amounts over a period of time (tires, white goods, batteries, bedsprings). Publicizing a special collection is essential for its success.

Buy-backs are typically run by private entities for profit or by volunteer groups to gather recyclables that they can sell for fund-raising purposes. Buy-backs tend to bring in the recyclables which command the highest prices. However, privately run buy-backs will compete with local government programs.

2. Reliability/Experience

Curbside collection has proven to be an effective means of collecting source-separated recyclables, especially where curbside collection of waste already occurs. There is generally a much higher participation rate than drop-off programs, because participants need only to separate the recyclables and place them at the curb. This minimizes the effort required by the participant and results in a higher participation rate. Efforts can be further minimized by having recyclable s collected on the same day as when regular wastes are collected.

A separate vehicle is often employed for the collection of recyclables in a curbside program. Combined collection of trash and separated recyclables by a trailer towed behind the trash collection vehicle has been found not to work well,

particularly during the winter when roads are slippery.

Compared to curbside collection programs, drop-off centers are less expensive in capital costs as well as operation and maintenance costs, but they may not significantly reduce the waste stream.

Buy-back centers have proven useful in industrialized and urbanized areas.

3. System Cost

Collection and transportation costs are site-specific cost components of a recycling program, varying with the type of program (e.g., source separation) and such factors as population density, participation levels and area served. As such, general cost ranges are virtually impossible to establish for a recycling program.

Table 4-4 lists the costs of various collection equipment. Curbside collection is more costly than drop-off or buy-back alternatives, because of equipment costs.

Table 4-4

Recycling Collection Vehicles Costs

Description	Capacity	Estimated Price
Compactor Trucks		
- Rear Packer	20 C.Y.	$ 90,000
- Rear Packer	31 C.Y.	$ 110,000
- Front-loading Packer	30 - 40 C.Y.	$ 120,000
Smaller Collection Vehicles		
- Flatbed truck with bins	10 - 15 C.Y.	$16,000 - 25,000
- Dump truck	7 - 12 C.Y.	$25,000 - 35,000
Compartmentalized Trucks		
- Automatic loading 3 - 6 Compartments Telescopic hoist for rear dumping side and top loading	31 - 32 C.Y.	$56,000 - 84,000
- Manual loading up to 8 compartments hoist for rear dumping	Up to 34 C.Y.	$35,000 - 50,000

Source: New York State Department of Environmental Conservation Division of Solid Waste

C. Summary

The major options for collecting recyclables include curbside collection by municipal or private recycling crews (required where curbside pickup of garbage is provided), drop-off centers where residents bring their recyclables to a special location, and buy-back facilities where residents are paid for their recyclables. Many factors must be taken into account in deciding which of these options, or combination of options, to select. Some of these factors include population density, waste generation rates, existing collection practices and facilities, available markets and public attitudes. Table 4-5 summarizes the various advantages and disadvantages of collection options and equipment.

In designing and implementing our collection systems, we considered how to maximize the collection of recyclables while minimizing costs, and consider ways in which recyclables collection can be integrated with existing collection systems.

In general terms, curbside collection of recyclables would be practiced in municipalities that already have curbside collection, either by private haulers or the municipality. In less populated and rural area, or areas with a depressed local economy, drop-off or buy-back centers might be more appropriate, although participation will be lower. We compared various strategies and the cost of implementing them when designing our recyclables collection program.

Since the greatest degree of household participation in source separation will occur if recyclables are put out at the same time as "trash," it makes sense to pursue options that will allow the collection of recyclables at the same time that "trash" is collected. However, this may not be feasible for many reasons, including the quantity of recyclables collected and where they are taken for processing.

The geographic location and environmental setting where processing takes place will influence the design of the collection system. Wherever possible, the collection process should try to fit in with the collection of regular garbage. This will not only ensure the greatest degree of participation by households, but also will minimize collection costs.

Table 4-5

Collection Systems
Collection Equipment - Compactor Trucks

Advantages	Disadvantages
Compactor trucks are easy to load and empty.	Compactor trucks must be completely clean before being used to collect recyclables.
Compactor trucks can also be used to collect recyclables as long as the vehicle is cleaned thoroughly and compactor pressure is adjusted to avoid breaking recyclable glass.	Compactor trucks cannot hold separate recyclables except by attaching a trailer for recyclables.
With a trailer attached, both recyclables and regular garbage can be picked up by compactor trucks.	

Collection Equipment - Small Vehicles

Advantages	Disadvantages
Small collection vehicles cost less to operate and maintain than compactor trucks.	Small trucks have no dumping mechanisms; materials must be unloaded manually at considerable cost, risk and loss of time unless a dump mechanism is purchased and fitted.
Small collection vehicles are more versatile (can be used in many ways by the municipality).	
By equipping a smaller truck with bins or drums, more types of recyclables can be collected.	Small collection vehicles have an elevated loaded height making collection dangerous and in efficient.
	Small vehicles may have to make more unloading runs as recycling participation rates increase.

Collection Equipment - Compartmentalized Vehicles

Advantages	Disadvantages
Compartmentalized vehicles provide for efficient collection of two or more streams of recyclables.	Specialized equipment such as compartmentalized vehicles are less versatile than multi-purpose equipment, which can be put to other uses by the municipality.
Compartmentalized vehicles have large capacity.	
Existing vehicles can be modified with bins for recycling.	

Collection Equipment - Trailers

Advantages	Disadvantages
Trailers attached to collection trucks can collect recyclables more economically than a separate truck or a specially designed truck.	Trailers have maneuvering problems and use of them in areas with many alleys, steep hills, dead-ends or severe winters is questionable.
Trailer are available in a variety of sizes and designs.	Some waste hauling unions prohibit their members from working with trailers.
Trailers cost little for a municipality to modify.	Some insurance companies won't provide liability or workmen's compensation for drivers working with truck and trailer combinations.

Source: New York State Department of Environmental Conservation Division of Solid Waste

IV. STORAGE/TRANSFER OF UNPROCESSED RECYCLABLES

Following collection, recyclables may be delivered to temporary storage/transfer facilities, directly to a buyer or to an intermediate processing facility. This section discusses the storage/transfer of unprocessed recyclables. In most cases, some form of storage/transfer is required in order to achieve economical transport and market-acceptable quantities.

A. Description/System Design

The need for and type of storage/transfer facilities will depend on market arrangements and specifications, the recyclables collection system and the location of processing facilities. In rural areas, the same facility may serve both as drop-off center and storage facility.

Low-population communities often require storage of recyclables until enough materials are accumulated for economical transport and marketing. Many small towns and villages use a trailer located at a town garage, or some other convenient location, to store recyclables brought in by residents, accumulated from drop-off centers and special collection events, or collected at curbside. When the trailer is full, it can be attached to a truck tractor to transport the recyclables to market.

In larger communities where specialized recycling vehicles are utilized, transfer to transport vehicles is common when markets are distant. In most cases, storage is provided to allow for equipment down-time, weekends and holidays, overnight storage and transfer of materials and market lulls. Long-term storage of unprocessed recyclables is not commonly practiced because of the potential for odors, vectors, fires, etc.

1. System Design

Storage/transfer facilities can use different designs and equipment, depending on the volume of recyclables, the nature of materials collected and the location of the market.

Trailer bodies and bins or stalls are the predominant equipment used at storage facilities. Trailer bodies or roll-off containers provide enclosed space for storing recyclable materials; they are mobile, and can be attached to a truck tractor to transport the recyclables. A storage trailer can be parked at any facility, such as a landfill or a town garage. Individuals can bring recyclable materials and transfer them to the trailer body. In some cases, the equipment is lent by or rented from the buyer of the recyclable materials as part of the market agreement.

Bins are containers which are enclosed on four or five sides and open on one side for access. They can be made from wood, steel, cement block or cement; however, since they are stationary, recyclables must be transferred from them for transport. The bins should be covered and kept as clean as possible. The site chosen for storage should be fenced to prevent vandalism and to insure the safety of visitors. The storage site should not be allowed to become littered and unsightly. It may be necessary to staff the site for security and maintenance. Weatherproof storage, if required,

can be provided in a warehouse, Quonset hut or shed.

The design elements of a transfer station for recyclables are similar to those for a transfer station for refuse. System design should integrate the site with the building floor plan, taking into account the need for utilities, road access, minimization of travel between the collection points and the transfer station, and location of the site away from residential areas to mitigate environmental impact such as noise and truck traffic.

The design of the building itself should incorporate areas for loading, unloading and storage of recyclables as well as for transfer station equipment. Consideration also should be given to ease of access for removing the recyclable or shipping them to intermediate processors or end users. For instance, if it is expected that most of the recyclables can be shipped by rail to their markets, strong consideration should be given to locating the transfer station at a rail siding. Otherwise, the facility should be located near a major highway. Transfer operations should be kept as simple as possible, and the building and appurtenances sized accordingly.

B. Technology Evaluation

1. Applicability/Capacity

Almost every community with a recycling program needs some kind of short-term storage facility. It may be used only for contingencies, such as when markets are depressed for a particular recyclable, or it may be an integral part of the program, particularly if recyclables must be shipped to an end-user or an intermediate processing facility or transported only in large quantities. These concerns might be particularly applicable to smaller communities.

2. Reliability

From a facility design point of view, the storage and transfer of recyclables shares some of the design considerations of a transfer station for unsorted solid waste. Complex mechanical systems have a greater chance of suffering down time, as do unproven technologies. The simpler the system, the more effective it is likely to be.

3. System Cost

Table 4-6 lists the costs for various storage and transfer containers. In many cases existing public work sites can be used for small storage/transfer operations. Capital costs for new storage/transfer facilities and sites

are associated with building and site improvements. Average capital costs can range from $15,000 per ton of capacity for a small-haul facility to approximately $5,000 per ton of capacity for a large truck transfer facility. Operational costs are associated with on-site labor, maintenance, utilities and hauling. Operating costs can range from $15 per ton to $8 per ton respectively for the facilities discussed. Based on round trip transfer times of 60 minutes, these costs will increase as haul distances increase.

Table 4-6

Costs of Storage/Transfer Containers

Description	Capacity	Estimated Price
Roll-off Container	20 C. Y.	$ 2,800
Roll-off Container	30 C. Y.	$ 3,100
Roll-off Container	40 C. Y.	$ 3,400
Bins w/forklift tubes	2 C. Y.	$ 450
Bins w/forklift tubes	3 C. Y.	$ 500
Bins w/forklift tubes	4 C. Y.	$ 550
Trailers - Flatbed	Variable	$ 5,000 -10,000
Trailers - Flatbeds w/bins	Variable	$15,000 -30,000

Source: New York State Department of Environmental Conservation Division of Solid Waste

Table 4-7

Storage/Transfer of Unprocessed Recyclables

General

Advantages	Disadvantages
Storage facilities give low-population communities a means to accumulate sufficient recyclables for economical transport.	Storage of recyclables for extended periods of time may result in market risk if prices should decrease while recyclables are stored.

Table 4-7 Continued

A storage facility gives the community a place where residents can drop off recyclables, regardless or the type of recyclable program in effect. To some extent, storage space gives the community a place to store recyclables when the market is low or non-existent for a particular recyclable. Storage trailers are mobile, and can be located wherever most needed - e.g., shopping mall, town garage, etc. Environmental impacts are low. Storage systems are generally simple and not subject to breakdown or mechanical failure.	If not carefully maintains, extended storage periods may create odors and vermin problems. Some noise and increased traffic will be associated with storage facility.

Bins/Stalls

Advantages	Disadvantages
Stationary bins are easy to use and clean. They are simple enough to construct that recycling programs can make their own.	Additional handling of materials is needed because the contents of bins must be transferred for transport. Stationary bins are not water tight, but can be made so with modification.

Indoor Storage

Advantages	Disadvantages
Recyclables are kept clean, separated and dry for later retrieval.	Security may be needed to prevent vandalism.

Existing unused structures can be used.

Table 4-7 Continued

Roll-off Containers

Advantages	Disadvantages
Roll-off containers come in a variety of sizes and require little maintenance.	Roll-off containers do not protect recyclables from the weather, but can be protected with tarps.
Roll-off containers eliminate additional handling of recyclables because they can be moved onto a roll-off truck to transport the materials.	
Roll-off containers are available commercially and can be leased.	

Source: New York State Department of Environmental Conservation Division of Solid Waste

V. MATERIALS RECOVERY FACILITIES/INTERMEDIATE PROCESSING FACILITIES

As discussed in this chapter, the materials recovery facility (MRF) or intermediate processing facility (IPF) does not separate recyclables from the waste stream, but further separates or processes source-separated recyclables in order to meet the quality control requirements of a particular buyer or end-user. The term MRF is used within this text, but may be referred to as an "IPF" as well.

A. Description/System Design

MRF's are designed and operated to sort, clean and densify source separated recyclables by manual and mechanical means for subsequent transport and sale. They may utilize sophisticated separation and processing equipment to separate the waste stream into several fractions, including ferrous metals, glass, aluminum, plastics, paper, an organic or light fraction, and residue. A MRF will usually contain a building with a paved receiving area, lights, heat, plumbing and adequate space for processing and storage. The facility is staffed to operate equipment and help sort and process

materials. The processing facility also may contain a drive-on scale for billing purposes, a tipping floor, front-end loaders in order to feed the recyclables or raw waste onto conveyor belts and assorted processing machinery (described below). Additionally, machinery may be used to receive and convey recyclables.

A distinction is made from other types of facilities, especially refuse-derived fuel plants and composting plants that process raw municipal waste and separate out significant quantities of recyclables such as glass, metal, and other unprocessible materials prior to processing. This fraction of waste can be recycled, but, because it is not source-separated, is not as clean or as easily marketed as source-separated material, unless the system employs a washing stage. Such facilities will use processing equipment similar to that used in an MRF to separate out glass, metal and other materials that cannot be incinerated or composted.

Three basic operations may occur at a MRF: cleaning, sorting, and densifying. These are discussed in detail below:

1. Cleaning Systems

Cleaning is a process that prepares recyclable material for market. Clean material is of considerably higher value than contaminated or dirty material; in fact, many markets will not accept recycled material that is not clean. Cleaning operations typically include:

- manually removing rings, lids, caps, labels; and

- using trommel screens to remove dust and dirt.

2. Sorting Systems

Sorting divides recyclables into specific categories. These functions may be carried out by: hand sorting for small appliances, glass, metals, heavy plastic, and various grades of paper; using trommel screens to pass lighter recyclables such as paper and plastics, and to drop out metals, glass, and ceramics; using a magnetic separator to remove ferrous metal recyclables from commingled recyclables; using air classifiers and ballistic separators to sort light recyclables from heavier materials; using eddy currents for aluminum; and using optical sorters to sort glass by color.

A MRF may perform any or all of the following operations:

- sorting metals into ferrous and non-ferrous;

- sorting paper by grades or from heavier recyclables;

- sorting containers by material (plastic, glass and metal); and

- sorting glass according to color.

a. Air Classifier

Waste can be separated based on the relative weights of materials; the air classifier uses gravity to sort materials according to this principle. Four basic types of air classifiers exist; air knife, rotary drum, vertical system and horizontal system. In all cases, a stream of air is used to separate materials such as paper and light plastic from the heavier fractions of waste.

b. Ballistic Separator

Another type of classifier which can separate two or three waste streams simultaneously is the ballistic separator. In this system, the waste is carried up a conveyor belt at a certain angle, allowing the lighter materials to travel up the belt and the heavier materials to fall back.

c. Screens

Screens are designed to separate wastes by size. The most commonly used screen is called a rotary trommel screen, a cylindrical rotating chamber with holes. Smaller sized particles such as glass, dirt and other small contaminants pass through the holes and are removed. Larger particles such as paper and plastics generally will be carried along on the screen for further processing. Other types of screens which are used less frequently in solid waste management are vibratory deck screens and disc screens.

d. Magnetic Metal Separator

This device uses magnets to separate ferrous from non-ferrous metals. Markets pay well for aluminum cans, but they must be uncontaminated by other metals.

e. Aluminum Separators

Aluminum separation usually takes place a long with glass and plastic separation, as these two components are usually what is left after other separation operations have taken place in an MRF.

Aluminum separation is accomplished in one of two ways.

The most commonly used method is known as heavy media separation or froth flotation which involves the use of an aqueous suspension of finely-divided particles of magnetite or ferrosilicate which give the solution a high specific density, causing the aluminum to float on top where it can be skimmed off. In order for this process to work well, the plant should have a feed rate of 2,000 to 3,000 tons per day of raw material.

The other method, called an "aluminum magnet," currently is in use in only a few facilities, including one at Gallatin, Tennessee, and at the Rhode Island MRF in Johnston, Rhode Island. The process involves the generation of a magnetic field known as an eddy current around a rotating drum. When a non-ferrous conducting material enters this field, it is deflected by the eddy currents. The method has limitations because the deflection is dependent upon the geometry and size of the object being deflected. In Rhode Island, the process is used to separate aluminum cans from other source-separated materials.

f. Optical Sorting

This process separates glass based on the light-reflective properties of the glass. The glass must be in the range of 1/4 to 3/4 inches in diameter, and is passed along a vibrating feeder where a sensor measures the optical reflectivity of the glass. A blast of compressed air then separates the glass from the rest of the waste stream.

Optical sorting separates glass from non-glass particles at an efficiency of 99%; it also separates colored from clear glass. The processing rate varies from one half tone to fifty tons per hour.

3. Densifying Systems

Densifying is a process which reduces the volume of recyclables for storage and transport. Paper and plastic can be shredded and bailed, glass can be crushed, cans flattened and white goods crushed and shredded. A variety of equipment can be used to perform these processes. The most commonly used machinery is described below:

a. Baler

A baler is a compaction device that crushes material into large rectangular blocks, reducing it in volume and making it uniform in shape for easy storage and shipping. Balers are versatile because they can process several kinds of materials and can be designed for specific components of the waste stream, including aluminum, paper and plastic.

Three factors are important in a baler: degree of compaction, throughput and bail size. "Throughput," or operating capacity, is the most important of the three.

b. Shredder

Some shredders work on many types of materials, such as paper, plastic and aluminum. Others are designed to handle a single type of material. A hogger, for example, works on demolition wood. A plastic shredder may be very beneficial because of the volume reduction achieved; however, the market may dictate the volume reduction technique it prefers. (i.e. shredding, baling, etc.). Shredders are prone to explosions if items such as gas tanks and propane tanks are not removed prior to shredding. This is more of a concern where shredders are used to process raw municipal solid waste, and is less of a concern where recyclables alone are processed.

c. Can Crusher and Flattener

By crushing or flattening cans, the number of cans transported per shipment is greatly increased. The largest can crushers process thousands of cans an hour. Some can crushers have special features, such as a blower that automatically feeds the cans into a truck.

d. Glass Bottle Crusher

These crushers simply crush the glass to reduce volume. Mechanical bottle crushers are preferred to manual crushing because they are less dangerous for personnel. Some models have attached screens or trommels to remove paper and aluminum contaminants.

e. Granulator

Granulators are generally used to reduce the volume of plastic. Some also remove impurities, usually by means of an air classifier that operates on the principle of sedimentation to sort materials.

f. Chipper

A chipper is a slower-speed shredder generally used for demolition lumber, tree scrap, pallets, boxes and old furniture. The product of chipping is useful as fuel or mulch. Chippers may also be used to shred tires to produce a useful fuel or recyclable material.

B. Technology Evaluation

A MRF processes source-separated recyclables to meet the specification of markets. The objective of these facilities is to process high volumes of recyclables and prepare them for efficient bulk shipment.

1. Applicability/Capacity

In most cases, collected recyclables must be prepared or processed to meet market specifications. Processing yields clean, homogeneous secondary materials which have been reduced in volume to facilitate transport. As a general rule, secondary materials can be used in the same way as virgin materials as long as they are not contaminated.

Typically, recyclables recovered from the waste stream will include:

- residential recyclables, such as glass (clear, amber and green), cans (ferrous and non-ferrous), newspaper, corrugated cardboard, and rigid plastic;

- commercial recyclables, such as corrugated cardboard, computer paper, and white ledger paper; and

- residential and commercial compostables, such as leaves, yard waste, tree trimmings and wood pallets.

A MRF can be customized to the needs of the municipality and the type of materials being recovered. Because such facilities are expensive to build and operate, they are most suitable where the population served is great enough to justify the cost of construction and operation.

Source-separated recyclables have not been mixed with raw waste and are generally clean and more marketable than recyclables from a pre-processing operation for composting or waste-to-energy production. Keeping recyclables clean should be a goal when designing a recycling program, since some end-users are more particular than others about contaminants in recyclables. Contamination may result in a lower price or rejection of the recyclables.

2. Reliability

MRF's are complex mechanical systems. The component of the system must be carefully matched in processing capacity so that one component does not overwhelm the others in the system. Redundancy also is important in these systems. MRF's usually have a high degree of reliability since unprocessed waste does not enter the system.

3. System Cost

Cost can vary according to the processing capacity size, number of processes and technologies employed and prices received for the recyclables. An example of the capital costs (estimated) for a facility in New York State is given in Table 4-8; this facility is designed to handle commingled glass, cans and plastic containers, as well as newspaper and cardboard.

C. Summary/Conclusions

A MRF is an effective way to process source-separated recyclables, particularly in urbanized areas. But because of the costs involved, a planning unit should consider carefully its proposed recycling program and targeted markets before electing to construct and operate a MRF.

Table 4-8

Western Finger Lakes
Material Recycling Center Capital Cost Estimate
(75 Tons per day)

Cost Category	Expected Cost
Equipment	$ 500,000
Land	30,000
Site Improvements	50,000
Building	800,000
Total:	$1,370,000
AMORTIZED COST:	$ 155,383*

* Includes the cost of debt service reserve fund, capitalized interest fund and cost of bond issuance for 20 years at 7% annual interest rate.

Western Finger Lakes
Estimated Operating Costs for Materials Recycling Center
(75 Tons per day)

Cost Category	Expected Cost
Annual Operating Cost	$ 551,654
Amortization Cost Per Year	155,383
Total Gross Operating Cost:	$ 707,037
Gross Cost/Ton	$ 51
Average Revenue/Ton	43
Net Cost/Ton (tipping fee)	8

Table 4-8 Continued

Net Cost Per Year: $ 108,987

Source: Pytair, Theodore S. "Evaluating and Selecting Among Waste Management Alternatives in the Western Finger Lakes Solid Waste Management Program", "Materials and Energy Recovery from Municipal Solid Waste" (Third Annual Symposium sponsored by The Nelson A. Rockefeller Institute of Government and the State University of New York, October, 1987).

VI. COMPOSTING

A. DESCRIPTION OF THE SYSTEM AND DESIGN

1. WINDROW SYSTEM: Windrows are long piles of compostable materials, usually approximately 12 feet wide and 6 feet high. The rows are kept moist and turned over to aerate the system, which promotes uniform decomposition, and ensures that all the material decomposes at a satisfactory rate. Because of the amount of land area required and labor needed, windrow systems are most commonly used for yard waste. Windrow composting of yard wastes produces a usable product in six months to two years, depending on the rate of decomposition. To accelerate decomposition, compostable materials can be shredded, nitrogen added (if needed), and the windrow turned over more frequently. These additional operations can shorten the time needed for decomposition to less than one year.

2. AERATED STATIC PILE: In this composting system, the material to be composted, usually sewage sludge, is typically mixed with a bulking agent such as wood chips, and formed into piles. A system of pipes underneath the piles are connected to blowers, which force air through the piles which are have usually covered with woodchips, which provide a source of carbon, structural stability, and increased porosity for air flow. The microbes that metabolize and decompose organic wastes need aeration (oxygen) to prevent excessive heat buildup and remove moisture from the piles. With an aeration system, piles can be built wider and consume less land than windrow systems. When composting is complete, the piles are broken up and can be screened to remove the bulking agents.

3. IN-VESSEL COMPOSTING: Mechanical equipment is available that accelerates decomposition by controlling the flow of air and water. Some of these are enclosed and computer-controlled to further accelerate the decomposition process.

Most of these systems are modular and fall into four major types:

a) agitated bed systems;
b) silo systems;
c) tunnel systems; and
d) enclosed static piles.

a) Agitated Bed Systems use a shallow compost pile to minimize compaction, which in turn lessens the pressure requirements for aeration. The reactor flow is horizontal, and the design can be either rectangular or circular. In either case, the systems are sized for a 14-day retention time and provide intermittent mixing of the composted material.

b) Silo Systems are vertical plug flow reactors. The feed mixture is added to the reactor, and air is typically forced upward through the compost and exhausted at the top. Like agitated bed systems, the design can be either rectangular or circular. Reduction of pathogens and volatile solids occurs in the upper portion of the reactor.

c) Tunnel Systems are horizontal plug flow reactors that receive waste materials from a conveyor. The reactor consists of a rectangular concrete container which can be stacked on top of the other to reduce space requirements. The reactor is divided into four compartments and air is injected perpendicular to the waste flow. A hydraulic ram is used to create a cavity in which to add waste. Tunnel systems are used primarily to compost sludge, but other wastes may be co-composted with the sludge.

d) Enclosed Static Pile Systems. Unlike the other processes described above, enclosed static pile systems are stationary. Feed materials are added to each pile in a width-wise direction, until the pile reaches a predetermined width. The piles compost for three weeks in an enclosed, insulated building. Finished compost is removed, screened, and sent to a curing and storage area.

4. CO-COMPOSTING: Co-composting means the simultaneous composting of two or more diverse waste streams, typically mixed municipal solid waste and sewage sludge. Co-composting of municipal solid waste with sludge is best handled in an enclosed system because of the potential for odors and the need for leachate collection. Sludge can also be mixed with chipped yard wastes, which will accelerate the process because sludge is rich in nitrogen, woody wastes and leaves are rich in carbon, both required for composting to occur; a carbon nitrogen ratio of 20:1 or 30:1 is best. Any co-composting requires careful design and management. Co-

composting of municipal solid waste, in particular, requires a stringent program to remove household hazardous waste, which can interfere with the composting process and contaminate finished compost.

There are widely varying types of co-composting systems on the market. They differ in important aspects such as preprocessing requirements, the volume of residuals, the quality of the resulting compost, and the amount of nutrients.

5. BACKYARD COMPOSTING: As part of Allegany County's overall municipal solid waste management program, householders are encouraged to compost in their own yards. The householder attempting to compost must have adequate outdoor space, though not for the bin or pile.

Backyard composting is an excellent method of diverting kitchen wastes (without meat, bones or fatty foods), garden wastes, grass clippings, leaves, and some tree trimmings from the waste stream. A mixture of materials makes the best compost for plants. Backyard composting produces valuable material for mulching and mixing with soil to nourish flowers, vegetables, trees and shrubs or for seeding new lawns or bare spots when carefully applied.

Community and individual benefits include: savings on collection costs, waste disposal costs, and beautifying costs. However, composting requires some efforts on the part of the householder, and information on the proper methods for backyard composting can be obtained from the Allegany County Department of Public Works, Cooperative Extension, or local library.

B. TECHNOLOGY EVALUATION

1. APPLICABILITY/CAPACITY

a) Mixed Municipal Solid Waste. Composting can divert a significant portion of the waste stream from disposal, since approximately 40-50% in general, of municipal solid waste is organic in nature and potentially compostable. The organic fraction of the municipal waste stream typically will require processing prior to composting. Furthermore, household hazardous wastes must be removed prior to processing. Keep in mind that a municipal solid waste composting facility will generate residues that must be properly disposed of, typically at a landfill.

b) Yard Wastes, can constitute up to 20 percent or more of the waste stream, in general, and can be effectively composted. Leaves and yard waste are generated seasonally;

therefore, collection would take place only during certain periods of the year.

Land requirements depend on the volume and types of yard waste to be composted and the type of equipment used for composting. Yard wastes are composted by the windrow method. For preliminary planning purposes, roughly one acre is needed for each 3,000 cubic yards of yard waste.

A solid waste management facility (Part 360) permit is not required for facilities that compost 3000 cubic yards per year or less, which allows communities to try composting on a small scale without the additional expense of the permitting process.

c) Sewage and Septage Sludge. With the current landfill capacity crisis across the state, many communities are seeking alternative methods for managing sludge from wastewater treatment plants. Of those alternatives, composting is probably the fastest-growing. The number of communities that have begun sludge composting in the last six years has risen dramatically in New York State, and continues to grow. Also, with less and less land available or landspreading sewage sludge, particularly in heavily-populated areas, composting is becoming an attractive alternative.

Sludge typically is composted by either the aerated static pile or in-vessel composting methods. For the aerated static pile method, approximately one acre of land is needed for each five dry tons of sludge composted. Good quality sludge and proper operational control are essential to the success of a sludge composting program.

2. RELIABILITY/EXPERIENCE

a) Mixed Municipal Solid Waste. Several communities in New York State are planning to compost their mixed municipal solid waste. Their experiences and the experiences of other communities in other states and other nations can be a valuable resource to those who are considering municipal waste composting. At present, composting of mixed municipal solid waste has had limited success. There are eight operating composting facilities for municipal solid waste in the United Stated at this time.

There are several factors to consider prior to municipal waste composting:

* Composting waste is sensitive to the incoming waste. A number of physical, chemical and biological conditions must be carefully controlled in order for

the waste to compost properly. Because municipal solid waste is heterogeneous, waste must usually be processed before or, in some cases, after it is composted. The purpose of the processing is to remove as much of the inorganic fraction of the waste as is practical and to make the organics a uniform size;

* As with any recyclable, the compost product must be effectively marketed. Multiple outlets for the material should be identified prior to operation of the facility. Municipalities should use it in public works and highways projects;

* Compost must be monitored carefully to ensure that it meets regulatory requirements; compost must not exceed regulatory limits for heavy metals and organic compounds. Compost that does not meet the applicable standards cannot be used for its intended purpose. The Department of Environmental Conservation also requires that a sufficiently high temperature be maintained in the material in order to destroy viral, bacterial and parasitic pathogens. Additional requirements apply, depending upon the composting method used.

* Entering refuse must be well-characterized prior to facility design. Excessive amounts of commercial, non-putrescrible or other waste components will affect the sizing of the facility components and the composting process;

* Municipal solid waste composting facilities tend to be very mechanically oriented; therefore, the separation and processing equipment used prior to composting must be reliable. Facilities have experienced operational problems with front-end separation and shredding equipment in particular;

* A municipal solid waste composting facility does not eliminate the need for a sanitary landfill. A landfill must be available to accept by-pass waste from facility shutdown, unmarketable compost and uncompostable wastes.

b) Yard Waste is relatively easy to compost and can be effective because leaves, a major portion of yard wastes, usually are collected separately and readily degrade. Leaf composting methods are well-documented in terms of facility design and control. Composting leaves is a good way for a community to begin, make a significant decrease in the waste stream, and benefit the community by reducing costs.

c) Sewage Sludge. Before 1983, sludge composting was practiced by only a handful of communities. Since then, many communities have implemented sludge composting projects, and many more are in the planning stages. Sludge composting is a proven technology, with worries about marketing the sludge taking a back seat to odor control as the major concern. However, much research is currently underway to develop effective operational methods and odor control systems. Several methods have been found effective.

Marketing the sludge appears to be less of a problem than it used to be, with most composted sludge now going to landscaping and general contractors, public works projects, nurseries and homeowners.

3. SYSTEM COST

The costs of composting can vary considerably, depending upon the size and type of facility and the waste being composted.

a) Municipal Solid Waste. Limited cost information is available on the capital and operating costs of mixed municipal solid waste composting. For municipal waste composting, capital costs vary widely for an in-vessel facility, but can be estimated at $50,000-75,000 per ton-per-day of design capacity. The operation and maintenance costs, exclusive of the revenue received from the sale of compost and other recyclables, can be estimated at $35-45 per ton. Costs include pre-processing of the waste prior to composting, which may involve shredding, screening and magnetic separation. The estimated operation and maintenance costs include labor, electricity, fuel, maintenance, monitoring, material supplies, water, administrative costs, building maintenance and renewal, and replacement costs. Annual debt service and landfilling costs must be added to these estimated capital and O&M costs. Capital and other costs can vary significantly with the amount of preprocessing required, the equipment used, and amount of waste or compost that must be landfilled.

b) Yard Waste: Costs for yard waste composted by the windrow method range from $4.00 to $6.00 per cubic yard, depending upon the size of the facility. Paradoxically, the cost does not get cheaper as the facility gets larger. The larger facility (over 30,0000 tons per year) will cost about $6.00 per cubic yard to process wastes. Yard waste composting costs include: land, land improvements, equipment usage, initial windrowing, combining windrows, water application, second windrow turning, curing pile formation, shredding and screening, insurance, supplies, contingencies and overhead.

c) Sewage Sludge: Costs of composting sludge vary considerably, depending upon the method used. BioCycle magazine conducts an annual survey of sewage sludge composting facilities. According to the 1988 survey, the cost per dry ton for aerated static pile facilities ranged from $59 to $300, with most costs falling between $125 and $175. The average windrow composting project had operating costs of $130 per dry ton, with costs ranging from $80 to $158. In-vessel sludge composting costs ranged from $71 to $325 per dry ton, with the average being $175 per dry ton.

With cost in mind, it was decided by Allegany County (in 1992) to accept sewage sludge for disposal for the next five (5) year span (through January, 1997) to give both the County and Municipalities "planning room" for composting of sewage sludge. It is important to note the operation of the County Landfill pertaining to "tipping fees". Allegany County has no tipping fee for County residents, private haulers or municipal haulers operating within the County and hauling County refuse. The funding of the County Landfill is through the tax base and thus "free" at the scale or point of disposal. All haulers and users of County facilities are required to be permitted. (See permitting requirements for haulers, appendix CRA-25 for further information.)

A specific cost comparison for 1993 would show at this time and in the foreseeable future there does not seem to be an "economic" market for sewage sludge. Since Allegany County does not charge the municipalities a tipping fee for sludge disposal, figuring an economic analysis for avoided cost is difficult.

Utilizing 1993 data, construction costs for the current working landfill Cell 3 were $910,000.00 (includes interest on bond for one year). In adding this figure to the 1993 operating budget of $1,284,104.00 we have a total cost of $2,194,104.00. Dividing this 1993 total cost by an estimated 38,355.84 tons of material to be buried, our estimated cost per ton (use as tipping fee @ cost) would be $57.20.

To compare this to the cost of sludge compost, as noted above, the cost per dry ton for Aerated Static Pile facilities is an estimated $125.00 - $175.00; Windrow Composting project costs range from $80.00 - $158.00 and In-vessel range from $71.00 - $325.00.

With only 1,126 tons of sludge generated in Allegany County in 1992, our cost per ton would tend to be on the high side. Even with sludge comprising 20% of the "other" category, which makes up 17% of the total waste stream generated (See CRA, Page 1), the County is actively looking into a program.

Since sludge composting is a proven technology, Allegany County plans on having a facility in place by 1997, even though the economics based on our current operation are not favorable. In considering the overall picture at the landfill, space saved will equal tax dollars saved.

(C) ADVANTAGES/DISADVANTAGES

The advantages and disadvantages for the various types of composting are not expected to meet all the solid waste disposal needs of a municipal waste composting facility. A composting facility will not eliminate the need for a landfill, since one is needed to handle by-pass wastes, materials unsuitable for composting, and unsuitable compost. Also, composting is not cost-free; it can require a major investment in equipment and process control in order to ensure that it works properly. The availability of reliable markets or uses for the composted material as a first condition in the consideration of composting on a large scale must be ensured.

Composting of mixed municipal waste also requires careful pre-processing of the waste stream and vigilant monitoring of conditions during composting. But with proper pre-processing and process control, composting can recycle a significant portion of the solid waste stream.

Composting does not reduce the volume of waste as much as a waste-to-energy plant. It transforms waste into a usable organic material. As such, one of the most important considerations for a community considering composting is: What do we do with the compost?

a) Advantages:

All Types: All composting can produce a useful soil enricher to use for public parks, lawns, and residents or plant nurseries.

Municipal Solid Wastes: Reduces the amount of waste which need landfilling or other types of disposal.

Yard Waste: Composting eliminates the need to dispose of a large seasonal waste stream.

The compost can often be sold to residents or plant nurseries, thereby reducing the processing costs.

Backyard: If residents compost in their yards, the municipality doesn't have to collect and dispose of the waste, thus saving costs for these services.

Backyard composting produces a valuable material for mulching and mixing with soil to nourish flowers, vegetables, trees and shrubs, or for seeding new lawns or bare spots.

Backyard composting instills good recycling habits in children.

b) Disadvantages:

All Types: Odors are a potential problem.

More compost may be produced than there is a use for; marketing may help overcome this disadvantage.

Municipal Solid Waste: Typically, this is very equipment-oriented and, therefore, reliable and proper sizing are critical.

High costs.

Monitoring is crucial to prevent heavy metal content from making compost unmarketable.

Facility siting may be difficult.

Backyard: Adequate space is needed for a compost bin or pile.

Care must be exercised in composting kitchen waste so as not to attract flies or animals.

360-1.9(f)(4)(ii)

SYSTEMS CONSIDERED AND CHOSEN

Four major kinds of systems were considered for the Recycling Program:

1. Limiting the required number of recyclables in the mandatory program to three or four.

This alternative was discarded in order to maintain continuity with the voluntary pilot program begun in 1989. The program accepted seven recyclables.

2. A system similar to Steuben County's three central transfer stations with baling equipment, storage facilities and in-house marketing.

This alternative was discarded for two reasons. The county was reluctant to close existing stations after the public became used to their availability. In addition, there would be considerable cost to implement processing and storage programs.

3. Use the seven transfer stations adding balers and handling equipment at two or three key stations. Along with upgrading transfer stations (3), this is currently being strongly considered.

4. Build an intermediate processing facility (IPF) or storage/transfer area for unprocessed recyclables at the county landfill. Recyclables sorted at transfer stations and transported to the IPF or storage area for processing and marketing.

In arriving at these four alternatives, the county reviewed NYSDEC's resource materials on recycling, made personal visits to facilities, contacted operators of other programs and reviewed specific resource separation and recyclable recovery program ideas from Cattaraugus County, Niagara County, Steuben County, Madison County and Chautauqua County.

Upgraded transfer stations--extended discussion

Each station currently accepts waste from many sources. The four primary are a) individuals bringing in their own household refuse, b) commercial haulers bringing in household waste from curbside collection, c) commercial haulers bringing in waste from businesses and institutions, and d) municipalities bringing in household waste from curbside collection. The hauler is responsible for placing recyclables in the correct bins.

Transfer station operators are on duty but, especially on weekends, may be unable to provide adequate supervision. Contamination problems are chronic.

One solution under consideration is to cut back the existing transfer station schedule to provide for two employees at each station. Currently some plastics and cardboard are run through a converted garbage compactor unit to reduce some transportation costs at the Wellsville and Cuba-Friendship transfer stations.

Intermediate processing facility, storage/transfer area extended discussion

In June of 1991, Allegany County requested proposals for engineering services in relation to the design and construction of an IPC to be located at the county landfill.

The facility would be low technology and labor intensive. Mechanical equipment would consist of one or two balers, a forklift or wheel loader and possibly a conveyor. The building will be designed to maximize efficiency in unloading, sorting, processing and storage of market-ready materials.

Recyclables would arrive at the IPC source separated in the roll off containers from the transfer stations and from private hauler curbside collection vehicles. (This idea was later abandoned for the following project.)

In 1993, Allegany County will undertake a construction project, to make modifications to the asphalt pad that was originally built to store white goods and waste tires. Currently, containers for metal and glass have been added and all containers are at grade. This system is inefficient and it is difficult to maintain a clean and orderly area. A grade separation will be installed using steel sheet piling, which will allow open-top containers to be placed below the elevation of the asphalt pad. Room for at least five containers will be provided and the pad itself will be enlarged somewhat as asphalt will have to be extended to the sheet piling wall.

The concept of putting a free span roof over this entire area will also be explored. This would increase the versatility of this pad as far as processing or handling other types of materials.

I. Chosen Collection Alternatives

The decision to maintain a drop-off system for collection of recyclables was influenced by the fact that seven transfer stations were already in operation and functioned well during the voluntary phase of the program. The stations are well-placed throughout the County so that each one has a service area that encompasses about 163 square miles, with the exception of the Canaseraga Station, which takes in about 72 square miles. The stations are located approximately in the geographic center of their respective service areas, which makes them extremely convenient for both commercial haulers and residents.

With the existence of this system, it was not economically feasible for Allegany County to finance a curbside collection program, either by contract with the private sector or with the use of its own personnel and equipment. The rural nature of the County with its low population densities as well as infrastructure problems precluded selection of a County wide curbside collection system. It was felt that the private commercial haulers could incorporate curbside collection of

recyclables into their businesses, especially if required by County Law. Several towns and villages already ran their own programs or contracted with the private sector.

Another major consideration was the financial investment that the County had made in hauling equipment designed to service central collection points (transfer stations). The entire system of stations and hauling equipment was set up to replace municipal landfills and provide for a flow of solid waste to the Cattaraugus County incinerator. It was not designed with the collection or storage of separated recyclables in mind. However, the system was flexible enough so that the handling of recyclables could be incorporated into the operation.

The County made the decision to limit its control over the flow of solid waste, including recyclables, to that which actually enters County owned facilities. The legal framework was established to mandate that solid waste entering County facilities be separated into recyclable and non-recyclable components. This approach had forced municipalities and private contractors who provide curbside collection to make provisions for handling recyclables at this level. The County cannot afford to take control of solid waste and recyclables at the curb. Therefore, the County's system of using established drop-off centers will be written into any contracts with the private sector for handling recyclables collected at transfer stations. This will change only if the County owns and operates its own materials processing center and does not need to contract for the processing of recyclables. The collection system that exists in Allegany County is actually a combination of curbside and drop-off. Haulers are not required to bring recyclables into the County system, they are merely offered that option.

The provider of services for handling recyclables was decided upon on the basis of several factors. The County had no facilities of its own for processing and had to rely on the private sector. It also was not able to provide trucking for the recyclables collected at transfer stations because the trucks were kept busy hauling solid waste to the landfill. Purchase of a separate truck was considered at the time (1990) but the existing fleet had just been upgraded at considerable expense. The purchase of containers was not possible because of financial constraints. Start up costs to own all of the required containers would have been around $65,000 and the County was in the midst of financing an expansion of the landfill.

Another factor governing the County's selection of the private sector as a provider of recyclables handling services was the existence of two intermediate processors within the

County. The financial burden on the County could be eased by moving slowly into a recyclables handling venture by contracting with the private companies for the majority of services.

Immediately after the County passed legislation to mandate source-separation, the decision was made to begin moving toward self-sufficiency in the area of recyclables storage and transportation. Containers were purchased as well as a hauling truck and changes were written into contracts to provide for the use of County equipment and personnel.

Alternatives to the system of public - private handling of recyclables that was chosen include the following:

1. Strictly private sector handling of recyclables; this system was used for the voluntary program and has evolved into the present system. The cost of container rental and trucking, when factored over an extended period of time caused the County to make the investment in equipment. Container purchase is a one-time expense as containers can last indefinitely. The County was paying $27,000 per year for rental. The purchase of a truck was also dictated by the amount being spent on private trucking and the cost that was projected due to the increase in volume ($90,000 per year). The truck cost about $80,000.

2. A system similar to Steuben County's three central transfer stations with County owned baling and storage equipment, with in-house transportation and marketing. This alternative was discarded because the County was reluctant to close existing stations after the public had become used to their availability. In addition, there would have been considerable cost to revamp three or four transfer stations to accommodate storage structures. The Department of Public Works does not have the proper equipment to transport some recyclable items, such as baled material.

The number of materials or sorts that the County requires in its source separation legislation was influenced by the fact that the County owns and operates a landfill and increasing its longevity is the main goal. Another factor in the decision process was the willingness of local intermediate processors to handle all of the materials in the County program.

The County chose a system of requiring seven materials to be separated from solid waste destined for land disposal. This originated as a two year voluntary program and was transformed into the present system, which now has the backing of the County Solid Waste Law. The rationale behind the requirement for seven sorts was to maximize the impact on

the tonnage of solid waste that had to be landfilled and thus the total amount of space actually saved.

The alternative considered was to limit the number of materials required to be separated in several different scenarios.

1. Clear glass and metal cans only
2. Clear, green and brown glass and metal cans
3. Glass (clear only) metal cans, cardboard (corrugated only) and newspapers
4. Glass (all colors) metal cans, cardboard (corrugated only) and newspapers
5. Clear glass, metal cans, cardboard (corrugated and boxboard), newspapers, plastic (1 & 2)

Alternatives one and two above were considered because of the ease of collection and storage and the fact that there would be some revenues from sale of these items. Number three was considered because newspaper and cardboard were high volume items that were difficult to compact in a landfill. Alternatives four and five involved trying to cut down on the cost of handling seven different items by eliminating plastics and boxboard, and green and brown glass respectively.

All of the alternatives considered were eliminated mainly because of the difficulty of re-educating the residents of the County, who were used to sorting seven items. The lucrative, easy to collect items have the least impact on landfill space. It is the paper products that take up the most space.

II. Chosen Alternatives for Processing

The County selected the present system it employs for the processing of recyclables because private facilities were already in existence that could process the materials generated at County Facilities. The stations were not designed to accommodate specialized equipment for recyclables, except for storage containers. It was also unfeasible at the beginning of our program to hire the additional personnel necessary to process materials on-site.

Contracts with the private companies specified that all processing prior to marketing was to be done at their facility. The only handling done at the transfer stations is sorting out contamination in the containers.

The following alternatives were looked at before it was decided that no processing would be done at the stations. These alternatives are still being evaluated, however, and it

appears likely that the County will begin to process some materials before they are hauled to the intermediate processors.

A. Construct pole barn structures at each transfer station with separate bays for different materials and an area for a vertical baler. This is a system that is employed in a neighboring County and was examined very closely. The main difference between our County and Steuben County is that Steuben only has three transfer stations.

The above alternative was not used because of several reasons. The main reason was the cost to build seven structures and purchase seven balers, which would have been close to $250,000. Another important reason was the lack of sufficient space at each station. They were not designed with expansion of existing facilities in mind. The Wellsville station is limited by its location within a flood plain and the restrictions on construction and grading.

B. Performing processing operations at two or three of the larger stations. Processing would be limited to baling or compacting plastic or cardboard and possibly both. This system is the most viable and is being strongly considered at the present time to increase the efficiency of our hauling to intermediate processors.

C. Legislation to restrict the use of transfer stations to residential traffic and divert the larger, commercial haulers of solid waste to the landfill was implemented in 1992. This measure does not seem to be related to the recycling program but it has a dramatic impact on the efficiency of our collection and hauling of recyclables. It results in more time for the station operator to dedicate to the recyclables containers and at the two largest volume stations. At the Wellsville station, the second garbage compactor is used strictly for cardboard, cutting down on the number of hauls required.

D. Construction of an intermediate processing facility for the recyclables collected at transfer stations as well as those generated by County businesses and industries is still under consideration. It was not implemented previously because of the cost and the existence of the two private IPF's. The ability to contract with the latter allowed the County to move fairly quickly in establishing a recycling program.

III. Chosen Composting Alternatives

In evaluating composting as a solid waste management option in Allegany County, the various technologies for storage,

treatment, and disposal were researched and analyzed: Windrow System, Aerated Static Pile, In-vessel Composting, Co-Composting, and Backyard Composting.

For the past several years, state environmental regulatory agencies, including the New York State Department of Environmental Conservation (DEC), have been pressing county and municipal authorities to minimize their reliance on landfills as the principal means for solid waste disposal. Landfills are simply long-term storage containers, and these containers cannot be relied upon for the long-term, ultimate disposal of many types of solid waste. It has become increasingly clear that better alternatives are needed for the ultimate destination of many types of solid waste.

DEC's Solid Waste Management Plan stresses waste reduction and reuse/recycling as key elements in the goal of reducing the solid waste stream by up to 50% by 1997. Composting has been specifically noted by Allegany County as a crucial component to further the recycling program and our Solid Waste Management Plan.

Of particular interest is the non-toxic, organic fraction of the solid waste stream. Non-toxic materials would include leaf and yard waste, food processing and other agro-industrial wastes, sewage sludge, and manures. These materials degrade readily. But in a landfill the decaying products may not decay and are undesirable, possibly leaching away and ultimately entering groundwaters. A more effective method of handling these potentially useful organic materials is processing them by composting, and recycling the compost through soil and plant systems.

Thus, composting must be an essential component in Allegany County's Recycling Program. Although items such as paper, glass, metal and plastic can be recycled with little processing, many materials such as leaves, yard waste, sewage sludge, and food processing wastes are not readily recycled unless first composted. Composting these materials makes them useable on a wide scale for landscaping, lawn care, landfill cover, and many other horticultural uses. Uses of compost depend on both physical and chemical properties. Physical properties such as texture are important visually, but also for air and water movement. Chemical properties such as soluble salts, pH, and macronutrients and trace mineral concentration are important in developing uses such as incorporation into potting mixes, working into flower beds, and adding soil when establishing new lawns.

The United States Department of Agriculture has suggested the following uses for compost: establishment and topdressing of

lawns, mixing into nursery soils and conservation plantings.

Technically, composting is the biological decomposition and stabilization of organic substrates. This process generally takes place under conditions which allow development of thermophilic temperatures as a result of the accumulation of biologically produced heat. When produced from a well managed system, the final product will be sufficiently stable for storage and application to land without adverse environmental effects.

However, in another sense composting is simply biological combustion. The amazing diversity of micro-and macro-organisms that thrive in the compost pile generate enormous heat energy by metabolically burning organic matter using the oxygen in the compost pile, with the release of carbon dioxide and water. Some of this energy is used for growth and reproduction by these tiny creatures. The reminder of the energy, about two-thirds, is lost as heat.

In order to initiate an aerobic composting process, the material must contain adequate oxygen to start the biological fire, relatively permeable to permit the passage of air and saturated moisture vapor, and have an adequate supply of biologically active carbon that can be readily degraded by the microorganism and provide the fuel for the biological fire, and reasonably dry, about 40% dry matter. For many compostable materials, bulking agents must be added to achieve these properties. Bulking agents have included sawdust, leaves and yard wastes, paper and other items. These materials absorb moisture, add texture to the pile's bulk, and provide biologically available carbon to fuel the biological fire.

In a compost pile of adequate size, the pile insulation retains the heat and it begins to build up, increasing the temperature of the pile. As the pile temperature increases, the population of organisms diversifies to those more tolerant of the higher temperatures. Heat will continue to build up, if none is removed, to quite high temperatures, 70 degrees C or greater. Eventually the pile will become virtually sterile and the composting process will atop. As a result, the pile must be aerated to remove the heat. We want to cool the biological fire, but not blow it out altogether. The aeration is managed so as to maintain some desired temperature, usually 55 degrees C, as required for adequate pathogen kill. If the system is aerated properly, the air not only carries away heat, but it absorbs moisture from the pile and as this moisture saturated air leaves the pile, the compost begins to dry out. The finished compost should be dry, friable material that is odor free.

In summary, composting is an essential component of a community recycling program. Nearly 50% of the solid waste stream can be composted. As these materials are withdrawn from the solid waste stream, not only is the reliance on other disposal alternatives decreased, but the community can participate in and benefit from an environmentally sound program of solid waste management.

Developing composting as a component in Allegany County's Recycling Program begins at the source of the solid waste generation stream, the home. It has been estimated that 80% of County residents are in rural populated areas and could easily start (many have) a home composting program. In general these same residents have the need for and the land available to use finished compost.

Some municipalities in Allegany County pick up leaves and yard waste separately. These municipalities could start a more manageable and efficient composting program and still fall below regulated quantities. Large paper bags of up to two cubic feet are available as containers for these materials. The bags with their contents can be unopened and used in the compost program. The finished compost, after screening to remove the larger pieces could be used for a variety of the horticultural and agricultural purposes of Towns, Villages, and individual residents.

A Generic Guide Packet for Municipal Yard Waste Composting in Allegany County was developed as a technical assistance guide for municipalities within the County. Allegany County strongly supports municipal yard waste composting on the town and village level. Though a County level composting facility would not be cost effective at this time, (see page 67 system costs and economic analysis) the County could possibly assist in composting projects or programs which could take the form of equipment or capital. Contributions by the County would be influenced by several factors such as but not limited to, Department of Public Works Committee approval.

The Generic Guide Packet for Municipal Yard Waste Composting in Allegany County, contains the following information:

Environmental Protection Agency (EPA). 1989. **"Yard Waste Composting: A Study of Eight Programs".**

- An assessment of eight yard waste composting program across the United States.

New York State Energy Research and Development Authority, Cornell Cooperative Extension, New York State Department of Environmental Conservation. 1990. **"Yard Waste Management: A Planning Guide for New York State".**

- A planning guide which contains the key information local officials need to design and implement successful composting and chipping programs.

New York State Legislative Commission on Solid Waste Management. 1992. **"Earth for Sale: Policy Issues in Municipal Solid Waste Composting".**
- A document in response to the escalation interest in composting as a waste management and cost issue.

Cornell University Department of Agricultural and Biological Engineering. 1990. **"Municipal Yard Waste Composting: Operator's Fact Sheets".**
- Basic fact sheets, on water, air, temperature, building windrows, etc..

ICMA. 1990. **"Leaf Composting Program".**
- Small scale (less than 3000 cubic yard per year) leaf composting.

Cornell Waste Management Institute. 1992. **"Cornell University Home Study Program: Municipal Composting Management".**
- An instructional course on municipal composting.

Allegany County also has the ability to access a database, **CENET CURRENT,** through Cornell University. It is a "composting bulletin board" that allows counties across New York State to link communications on composting programs and information. The County can access this database and make this information available to the Towns and Villages upon request.

Along with technical assistance that the Department of Public Works staff can provide, the County has available resource materials for loan. These resource materials along with the Generic Guide to Municipal Yard Waste Composting in Allegany County, are also available at the Belmont Free Library, donated by the Public Works Department. These loan materials include the following plus an extensive file:

BioCycle. 1989. **"The BioCycle Guide to Yard Waste Composting"**

BioCycle. 1989. **"The BioCycle Guide to Composting Municipal Wastes".**

BioCycle. 1991. **"The BioCycle Guide to the Art & Science of Composting".**

Northeast Regional Agricultural Engineering Service Cooperative Extension. 1992. **"On-Farm Composting Handbook".**

The Local Government Commission. 1990. **"A Local Solution to the Solid Waste Crisis: Composting Yard Waste".**

Videos:
Cornell Waste Management Institute. 1992. **"Turning Over an Old Leaf: Municipal Yard-Waste Composting the 20% Solution".**

Cornell Waste Management Institute. 1991. **"Recycling Yard Waste: A Tour of Community Programs".**

St. Lawrence University. 1987. **"Composting in Seattle, WA."**

Recycling Systems, Inc. 1991. **"The Total Wood Recycling Equipment".**

A Home Composting Guide Packet for Allegany County is also available to County residents from the Department of Public Works. Along with the technical assistance that the Department of Public Works staff can provide, the County has available resource materials for loan on Home Composting as well. These resource materials along with the Home Composting Guide Packet for Allegany County, are also available at the Belmont Free Library, donated by the Department. These loan materials include the following plus an extensive file:

Cornell Cooperative Extension. 1990. **"Home Composting".**

Cornell Cooperative Extension of Albany County. 1991. **"Composting at Home Let it Rot!! It's Nature's Way of Recycling".**

Northeast Regional Agricultural Engineering Service Cooperative Extension. 1991. **"Composting to Reduce the Waste Stream: A Guide to Small Scale Food and Yard Waste Composting".**

Mary Appelhof. 1982. **"Worms Eat My Garbage".**

Fact Sheets:
Food Web of the Compost Pile
Redworms, Nature's Little Composters
Compost Facts
Compost Mound
Wire Mesh Bin
(Fact Sheets continued)
Wood and Wire Three-Bin Turning Unit
Worm Compost Bin

SEWAGE AND SEPTAGE SLUDGE COMPOSTING

Allegany County anticipates accepting sewage sludge at the

County Landfill for disposal for at least the next five years unless prohibited by DEC or EPA. The following general issues would apply to the County as well as any Town or Village pursuing a municipal sewage/septage sludge composting project or program:

1) Locate a suitable location.
2) Investigate sources of funding for a project - including demonstration grants from EPA, DEC, NYSERDA, etc.
3) discussion on the design of the project, i.e., the method of composting to use, equipment, cost, and land preparation required.
4) discussion on the end use/market for the product, market to local farmers, landscapers and other such businesses or use of a certain amount for landfill cover.

IV. Chosen Waste Reduction Alternatives

Reduction of the solid waste stream is the first element in New York State's solid waste management policy. Although some action is possible at the local level, most initiatives must occur at the state and federal level and are dependent on public and industry support.

The New York State Solid Waste Management Plan calls for an eight to ten percent reduction of the waste stream by 1997. Cooperation and mutual support between industry, local government and consumers is needed to achieve this goal. Allegany County's efforts to enhance and promote state and federal waste reduction initiatives on a local level may include:

- lobbying for sound state and federal legislation to mandate reduction in packaging volume, changes in packaging materials, expansion of the RCA, and deposit or fee laws for batteries, tires and other problem wastes;

- encouraging county businesses to use State Recycling emblem where applicable and develop a business waste reduction program;

- developing consumer waste reduction visual aids and written materials and waste exchange programs;

- developing local education programs to foster good waste reduction practices and Allegany County's recycling plans. Local education programs should include the support of waste reduction programs and recycling programs starting as early as possible in grade schools;

- developing a local household hazardous waste reduction program including alternative products information:

- implementing waste reduction program within local government offices and work places.

- adopting local user fees on waste disposal: and

- in extreme cases, instituting local packaging bans unequivocally determined to be detrimental to local solid waste management programs and the environment.

An extended discussion on chosen waste reduction alternatives can be found on pages 9-14, 360-1.9(f)1(iii).

Impact of Recycling on Current Landfill Tonnage and Longevity

Allegany County's recyclables recovery program will have the effect of increasing the life span of the county landfill due to reduction in the amount of solid waste requiring land disposal. The landfill was designed with an expected life span based on available air space, compaction rate of refuse, and the estimated daily tonnage. The current design capacity is 146 tons/day but the average tonnage is 110 tons/day.

Figures in Table 4-9 are based on information in the Engineering Report and Plan of Operation dated Feb. 16, 1990. The figures assume that there is no reduction due to a recyclables recovery program. It shows volume capacities and estimated life spans of each cell in the landfill.

The yearly tonnage figure of 36,578 is an average for the first 2 1/2 years of operation. The compaction rate is derived from the same time period.

The current life span estimates use a lower compaction rate of 1,000/pounds/cubic yard because of a major change in operations which took place at the end of 1989. Allegany County was burning most of its municipal solid waste (MSW) at the Cattaraugus County incinerator and was landfilling the ash from that facility.

Foundry sand from two different foundry operations was also being landfilled. The high percentage of dense industrial waste resulted in a very high compaction rate. Beginning in 1990, the ratio of this industrial waste to MSW dropped substantially when Allegany County stopped using the incinerator and foundry sand was no longer produced. All of the county's waste was landfilled and the compaction rate was thus reduced.

Table 4-9: Landfill Life Span

	Total volume in cubic yards (Air Space)	Available Solid Waste Capacity (10% for daily cover)	Projected Useful Life Span in Years Based on 36,578 Tons per Year 1300#/Cubic Yard **
Cell 2	120,000	108,000	1.92
Cell 3	135,000	121,500	2.16
Cell 4	184,000	165,600	2.94
Cell 5	245,000	220,500	3.92
Cell 6	255,000	229,500	4.08
Cell 7	226,000	203,400	3.61
Cell 8	206,000	185,400	3.29
Cell 9	267,000	150,300	2.67
Totals:	1,538,500	1,384,200	24.60

The following charts show the relationship between the projected waste stream and recycling rates and the capacity and life span of the county landfill.

In Table 4-10, the "Amount of Waste Stream Landfilled" takes into account the projected recycling rates discussed in Section 5ii and assumes that 82% of the county waste stream would be landfilled if no recycling was taking place. The rate is based on past figures.

The "Total Amount Landfilled" includes the two industrial waste streams from Cattaraugus County (sewage sludge and ceramic waste).

Table 4-10: Comparisons With and Without Recycling

Year	Total All. Co. Waste Stream	Amount of Stream Landfilled	Total Amount Landfilled	Amount Landfilled w/ 0% Recycled
1991	32,238	26,400	32,200	35,746
1992	31,465	21,081	26,681	32,281
1993	30,709	19,040	24,640	30,782

1994	29,972	17,683	23,283	30,177
1995	29,990	17,094	22,694	30,192
1996	30,000	16,500	22,100	30,200
1997	30,246	15,728	21,328	30,402
1998	30,488	14,939	20,539	30,600
1999	30,732	14,442	20,044	30,800
2000	30,978	13,940	19,540	31,002
2001	31,225	13,115	18,715	31,205

Table 4-11 assumes a compaction rate of 1,000 pounds/cubic yard and the available air space capacity from Table 4-9.

Table 4-11

Projected Useful Life Span of Landfill Cells Through 2001
based on 300 operating days per year
and values from Tables 4-9 and 4-10

Cell	Capacity in Tons	Life Span (Yrs.)	Tons/ Day	Date of Completion	Life Span (Yrs.) w/o Recycling	Tons/ Day
3	60,750	2.06	98	2-1-93	1.8	113
4	82,800	3.43	78	8-1-96	2.7	102
5	110,250	5.4	69	11-1-01	3.63	101

The overall life span of the landfill based on projections contained in this analysis is 30.4 years. The life span without a recyclables recovery program is 22.2 years. In conclusion, the county's program should increase the life span by 37%, with current data. As recycling percentages go up the life span should increase.

SECTION 5: Implementation of Program

360-1.9(f)(5)(i)

Description of Procedures

The recyclables recovery program selected and currently in operation is a combination of extensive planning, a sound legal framework, efficient facility operation, expenditures for proper equipment and contracts with the private sector for handling recyclables.

The basis of the county program is the transfer station system. Seven stations have dedicated areas for storage containers. Allegany County purchased 14 containers in 1991, and 20 more in 1992. Two 48-yard ejection containers are also being used for newspaper storage at two transfer stations.

The following chart shows the basic design of the county program at the transfer station level. It also includes materials accepted at the landfill and methods used for storage and marketing arrangements.

Wellsville Transfer Station

Containers	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
48-yard ejection	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

* (HWM) owned by Hornell Waste Materials

Bolivar Transfer Station

Container	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
30-yard	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

Alfred/Almond Transfer Station

Container	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
30-yard	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

Angelica Transfer Station

Container	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
30-yard	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

Cuba-Friendship Transfer Station

Container	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
30-yard	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

Canaseraga Transfer Station

Container	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
30-yard	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

Caneadea Transfer Station

Container	Materials
30-yard	plastic
30-yard	cardboard
30-yard	clear glass
30-yard	metal cans
48-yard ejection	newspapers
50-gal. barrels	green, brown glass
40-yard(HWM)*	scrap metal

Lead-acid batteries are stored on wooden pallets at each station and picked up once each month by Crown Y.

Magazines will be included in the newspaper container 12/93.

County Landfill

In 1991, an asphalt pad was constructed for the storage of waste tires and large appliances (white goods). The use of this pad has been expanded in 1993 to include a scrap metal container, containers for green glass, brown glass, and a storage/containment area for clear glass.

Large appliances and waste tires are stored in county-owned 40-yard open top containers. In 1992 arrangements were as follows: The appliances are hauled by the county to Jerge's Used Auto Parts of Belfast. The tires are hauled by the county to Modern Recycling in Model City. The green and brown glass are marketed to any available market and hauled by Allegany County. Clear glass is transferred to a 40-yard box when a suitable amount is collected, then sent to Ball-Incon in Pa.. The recyclable materials accepted at the landfill are from residential and commercial sources.

Most of the appliance dealers and repair services bring appliances directly to the landfill. Most of the waste tire generators, such as service stations, automobile junk yards and retail establishments bring them directly to the landfill. All materials accepted at the landfill are scaled and logged.

The county now hauls all of the recyclables collected at the transfer stations with its new roll-off truck which is dedicated exclusively to the hauling of recyclables containers (with the exception of scrap mental).

The arrangement with the Village of Wellsville has been discussed previously and will not be repeated in this section except to note that a large portion of the county's recyclables are handled through this system.

Daily operation of the recyclables program involves scheduling deliveries of full containers with market contacts, working under the terms of their respective contracts. Transfer station operators notify their supervisor when a container needs to be pulled and an empty one substituted. All loads are scaled at the county landfill or at scales located at the receiving market.

Each transfer station is designed to accommodate an open top refuse container below grade so that heavy materials can be throw in into them from the same level as the vehicle roadways.

The scrap metal containers are located in the below-grade areas at the transfer stations and are owned by Hornell Waste Materials. The company has the contract for handling all scrap metal collected at the transfer stations and the landfill.

Scrap metal includes iron, steel, aluminum, copper, tin, and brass. Metal cans (food and beverage containers) are not included. Hornell Waste pays Allegany County a price per ton of metal collected. The price is based on the listing for the Buffalo area in Americas Metal Markets. The cost for transportation of the containers to the Hornell facility is deducted from the payment. Hornell Waste is notified when a container is full. Their trucks haul the full one and leave an empty one.

All of the traditional recyclable materials that are handled through the transfer stations (glass, newspaper, cardboard, plastic containers and metal cans) are processed for marketing at their respective market (see page 18).

About 32% of the commercial haulers are using containers at county transfer stations to deposit recyclables from their curbside collection programs. 46% bypass the county's system entirely by marketing their materials outside the county.

Several county industries and commercial establishments deal directly with outside markets for the handling of their recyclables. Included are large-scale generators of cardboard such as Acme Electric, K-Mart, Ames Department stores and Swain Ski Center, ABB Preheater, Giant Food Mart, and Dresser Rand.

It should be apparent from the previous discussion of the implementation of Allegany County's recyclables recovery program that the county does not want to control the flow of recyclables. The system is designed to handle those recyclables which are generated by users of the transfer

stations as well as limited amounts from commercial sources including commercial haulers.

The existence of Southern Tier Recycling Center with their baling capabilities provides justification for this approach. STR is easily accessible from all parts of the county for our loose cardboard/boxboard mix and loose plastic PET/HDPE mix. The Department of Public Works will continue its policy of encouraging and assisting the flow of these recyclable materials directly to STR. All materials that bypass the county transfer station system will be accounted for using several methods in 1993.

The county will offer the use of its scales for weight verification to other generators of recyclables, no matter where their destination, as long as they originate within Allegany County.

Another method for accountability will be to initiate a reporting system in 1993 where haulers, business and industry will be requested to provide figures about private recyclables recovery efforts. The goal is to make an accurate determination of the total amount of recycling that is taking place in the county.

Funding for the Allegany County recyclables recovery program is derived exclusively from the annual Department of Public Works budget. Possible future capitol projects such as the construction of an IPF would require bonding to finance. Expansion of certain transfer stations as well as the installation of recyclables handling equipment might also require borrowing.

The Department of Public Works is the entity responsible for the implementation of the recyclables recovery program. The hierarchy is generally as follows: Superintendent of Public Works, Deputy Superintendent II, Landfill Supervisor, Transfer Station Supervisor and Recycling Coordinator, and Transfer Station Operators. The Board of Legislators Public Works Committee oversees the entire system through its authority to approve the legal framework, the public bidding process, execution of Public Works contracts and the appropriation of fund for program operation.

Beginning in 1989, Allegany County was recycling eleven items with no consideration for the economic feasibility of doing so. Recycling was implemented solely from community pressure.

This Department will perform an economic evaluation to determine the feasibility of recycling the items that are currently handled within our program. The actual cost of

recycling will be compared to our main disposal alternative which is the County Landfill. We will examine the cost of landfilling the recyclable material as opposed to the cost of separation, collection, processing and hauling.

The cost to landfill solid waste is an extremely complicated figure to arrive at and there are no hard and fast rules to abide by when calculating this cost. Our analysis will take into account capital expenditures, including land, equipment, disposal cell and environmental monitoring facilities construction and debt service. We will also include operating expenses, total tonnage disposed of and air space consumed. We will arrive at a cost per ton to dispose of solid waste in the County Landfill.

When determining the economic feasibility of recycling, an avoided cost will be used which will be the cost per ton to landfill solid waste in the County landfill. This cost is a composite of the average operating cost per ton and the total capital costs associated with the landfill, divided by the total tons landfilled. The cost we have arrived at is $53.15 per ton and this figure will be recalculated in 1993 according to the (TAGM) on Avoided Costs in Solid Waste, included as appendix CRA-14. It will also take into account the landfill revenues earned since the opening of the facility and recycling revenues.

The 1992 cost to handle all of the recyclable items currently in our program averages $56.91 per ton. This cost includes capital equipment, transportation, collection and other associated costs. It also takes into account revenues earned on recyclables in 1992. The total tonnage that would have been landfilled without the recyclables program was 2823 tons in 1992. This figure does not include tires, lead-acid batteries and white goods, all which have never been landfilled. The total avoided cost is therefore $150,042.45. The cost to handle the total tonnage in our recycling program is $182,153, which includes all items.

The cost to operate a recyclables program is somewhat higher than disposal in the landfill but the justification for continuance is the space saved. Solid waste that contains a high percentage of recyclable items will consume more air space than solid waste with the same percentage removed and handled separately. The in place density (compacted) of solid waste in our landfill is about 1200 lbs-*--. Solid Waste with high volumes of recyclables, especially plastic and cardboard, would probably average 1000 lbs/yd or less. Since the avoided cost is actually less than the cost to collect, transport and process separated recyclables, we will attempt to improve our handling efficiency to lower the cost of the recyclables program. We will look at different

options for processing or marketing. We will look for markets or end-users that are closer geographically to our collection points. Our goal is to maintain our current program and refine our handling methods.

The most economically feasible method for Allegany County to operate its recyclables recovery program at the present time is through the local processors. If one company refuses to accept a particular item, we will send that item to another facility. If both refuse to accept the same item, we will have to contact another recyclables handling company. Several options are available because different companies have interest in our recyclables. We are developing a contingency plan which could be implemented in a short time period should the above mentioned possibility become a reality. The plan will consist of marketing alternatives for each material in order to maintain the program without interruptions. Metal cans could be taken directly to Hornell Waste Material or glass could be handled by a local marketing specialist. Options are being developed for the other materials as well.

360-1.9(f)(5)(ii)

Implementation Schedule

April 1991--Pass Solid Waste Law

June 1991--Permit system goes into effect
Village of Wellsville transfer station begins

July 1991--Purchase of 14 new recyclables containers

August 1, 1991--New contract with Railroad Valley Recycling

August 1991--Request for proposals for engineering services related to a county intermediate processing facility

September 1, 1991--Contract with Crown Y begins

September 1991--New roll-off truck for recyclables becomes operational

October 1991--Preliminary design of IPF completed and reviewed - later tabled

November 1991--Budget formulated for construction of IPF - later tabled

January 1992--Limited compacting operations of selected items begin at key transfer stations

February 1992--Pass clear bag regulation

August 1992--Full compliance with source separation regulations by individual and commercial generators - enforcement ongoing

September 1992--Full compliance with source separation regulations by all public schools, colleges and universities - enforcement ongoing

December 1992--Pilot recycling program for junk mail and magazines - tabled - market not feasible

March 1993--Completion of 10 year plan, SWMP/CRA

March-April 1993--Education Campaign developed, implementation on-going in 1993

May 1993--Business Waste/Reduction Recycling Program started, implementation on-going in 1993

May-June 1993--Municipal and Home Composting "Informational" Program started, implementation on-going in 1993

August 1993--Figure economical feasibility of each recyclable

September 1993--Magazine, catalog and glossy insert recycling implementation started.

January 1994--Textile recycling, waste exchange, "swap area" program developed, implemented on-going in 1994

February 1994--Junk mail, telephone book recycling program/market to be researched

March 1994--Municipal Composting Program/site developed

January 1997--Initiate sewage sludge recycling program. *see CRA pg. 67 for economic analysis and further information.

*note - paperboard is included with current cardboard recycling. The schedule for the county's program takes into account the fact that the seven recyclable items currently mandated were all included, county-wide, beginning with the voluntary program in 1989. There was no "phasing in" to a mandatory program of collecting these items.

Scrap metal, tires, large appliances and automotive batteries were also included as mandatory items with the passage of the solid waste law in early 1991. Expansion beyond the above-mentioned items would take the form of pilot projects initially. These might include dry-cell batteries, junk mail, magazines, yard waste and sewage sludge.

The following schedule shows the amounts of each type of material that the county would like to recover by percentage and weight in tons.

TABLE 5-1

PERCENTAGE AND TONS OF RECYCLABLES TO BE RECOVERED FROM THE WASTE STREAM

YEAR	PERCENTAGE	TONS
1991	11	3546
1992	15	4720
1993	20	6142
1994	25	7493
1995	30	9000
1996	35	10500
1997	40	12098
1998	42	12805
1999	43	13215
2000	44	13630

TABLE 5-2

SCHEDULE OF AMOUNTS OF RECYCLABLES TO BE RECOVERED (TON/YEAR) 1991-1996

MATERIAL	1991	1992	1993	1994	1995	1996
Paper(news,office)	967	1370	2343	2500	3135	3600
Mixed Paper(junk-mail,magazine,books)			30	50	55	100

Cardboard	300	503	663	1033	1300	1450
Glass	500	665	750	857	1093	1800
Plastic Containers	97	127	150	178	225	300
Organics			25	25	50	75
Metal Cans	221	293	350	400	450	500
Sewage Sludge						100
Scrap Metal	600	798	1000	1500	1700	1700
Textiles			25	30	35	50
Large Appliances	300	300	250	310	332	200
C & D	361	400	342	350	350	350
Tires	150	198	144	160	165	165
Lead-Acid Batteries	50	66	70	100	110	110
TOTAL	3546	4720	6142	7493	9000	10500

TABLE 5-3

SCHEDULE OF AMOUNTS OF RECYCLABLES
TO BE RECOVERED (TON/YEAR) 1997-2001

MATERIAL	1997	1998	1999	2000	2001
Paper(news,office)	4800	5000	5100	5100	5300
Mixed Paper(junk-mail,magazine,books)	150	175	175	200	200
Cardboard	1525	1650	1750	1800	2000
Glass	2100	2200	2300	2300	2500
Plastic Containers	374	487	610	635	710
Organics	3630	3659	3688	3718	3747
Metal Cans	544	641	692	745	750
Sewage Sludge	150	150	200	200	225

Scrap Metal	2106	2129	2140	2150	2100
Textiles	50	50	50	50	50
Large Appliances	360	401	405	435	430
C & D	366	425	428	432	430
Tires	165	170	170	170	170
Lead-Acid Batteries	110	110	110	110	110
TOTAL	16430	17247	17818	18045	18722

360-1.9(f)(5)(iii)

Actions to Maximize Markets

A major action to maximize markets will involve working closely with the County's Economic Development and Planning Department. One objective will be to encourage development of businesses that would use the collected recyclables. One possibility, for example, would be to support expansion of animal bedding (made from shredded newspaper) enterprises. Other possibilities would be to piggyback onto the existing cardboard needs of Fibercel of Portville, support manufacturing of rubberized asphalt, and encourage use of glass - particularly green and brown - in road sub-base.

A second objective will be to apprise potential businesses of the county's recycling laws and regulations in the hope that they can base some purchasing decisions on whether or not, when discarded, the products can be recycled or landfilled. A third objective will be to pursue state and federal funds for appropriate local development projects.

The Department of Public Works itself will continue to monitor market developments, pass information onto commercial haulers if appropriate and work with NYSDEC and the NYSDED Office of Recycling Market Development.

360-1.9(f)(5)(iv)

Public Relations and Education

Allegany County has developed a strategy for implementing an effective Recycling Education Program in 1993. This strategy gives information on the existing education program as well as a game plan for future endeavors.

STRATEGY FOR ALLEGANY COUNTY RECYCLING EDUCATION

This strategy was designed to meet the recycling education needs of Allegany County. Other programs active in the recycling field were evaluated for their collective experiences. Their successes and failures were drawn upon to develop this strategy. The goal of this strategy is to create a preliminary blueprint for a county recycling education campaign which will ultimately increase participation.

The strategy began with reviewing model education and communication programs. Programs such as the famous Keep America Beautiful Campaign and other successful county programs such as Onondaga's "Operation Separation" and Oswego's "Let's Sort It Out", among other counties, have demonstrated that in order to achieve the necessary goals of significant source reduction, recycling, and sound solid waste management practices, there must be a countywide solid waste/recycling education and communications program.

Building on this information, an assessment of our current education efforts began by addressing some of the following questions, each is explained in more detail below.

1.) What are we currently doing?
2.) What can we do to make it better?
3.) What are the needs of the community and specific target groups?
4.) How can we meet those needs?

1.) Currently, the education program consists of:

- Direct mailings to all county residents at least twice a year, with preparations requirements, transfer station schedule, permit information, etc. Copies are included as appendix CRA-15 through CRA-21.

- Two traveling exhibits on (a.) recycling in general (3 sets of panels) and (b.) household hazardous wastes, paint and motor oil handling and disposal (1 set of panels each). The exhibits can be scheduled for nearly every group, library, bank, and grocery store in the county. Banks are the next target group. The exhibits are on display at the county fair every year.

- Presentations to students, teachers, college classes, community groups and staffs of local agencies, businesses and industries.

- Mailings to specific groups such as school districts, libraries, commercial haulers, businesses, county employees, etc.

- Responding to requests for general or specific information from people who telephone, write or visit the Department of Public Works office, the transfer stations or the landfill. The plastic sorting chart is included as appendix CRA-22.

- Articles written for publications. For example, a series of four articles on recycling in the county have appeared in the newsletter of a citizen's environmental group.

- Tours of the landfill and transfer stations.

- Free literature available at the transfer stations and landfill, left with exhibits or in public buildings or distributed at meetings or community events.

- Public hearings by legislative committees on changes in the law, rules or regulations.

- A commercial haulers' meeting at least once a year

2.) Three critical areas of improvement exist to make the current education program better:

a.) Unify all information with existing logo with one theme,
b.) develop more localized information resources, and
c.) use more media publicity.

a.) All education materials and graphic should have a clear positive message in order to stimulate higher participation. A county recycling theme, symbol or mascot would be a particularly useful "unifying" factor, and might become readily recognized as representative of the message.

Allegany County does have a recycling logo which has been used on resource materials. Two different themes or "slogans" have been used in the past. "Educating Allegany County for a more resourceful tomorrow" was changed to "Once is not enough" due to its length, though the later could be construed as negative. A 30 second radio public service announcement (PSA), was developed in 1991 using the theme "Recycle, reuse and rethink."

b.) An inventory of resources having local information needs to be developed. Resources are needed on a range of issues and topics such as waste reduction, composting, environmental shopping and household hazardous waste.

There is a common need for "how to" manuals, or basic guides to the various aspects and components of recycling and solid waste management. Suggestions include: municipal composting, food composting in restaurants, business waste reduction, school recycling programs, waste exchange and buying recycled products. Copies of all resources should also be located at selected libraries throughout the county.

c.) A **media campaign** using radio, newspapers, signs, billboards, and video will enhance and publicize the existing recycling program. The public has a continuing need to know what is going on, what changes or progress has been made, and a need to know what they are doing is making a difference. Without this information, the public may feel lost and that their efforts do not matter. They also want to know costs.

Any award or recognition contest on recycling should be pursued and entered. Promotion of your program being the best at some aspect of recycling is the best publicity. Special promotional "give away" items are also effective at special events and presentations. Recognition and objects in hand help people, especially children, remember your message.

Five **radio** PSA's have been developed to increase the recyclables marketability. Recyclables need to be viewed as commodities and raw materials for manufacturing rather than garbage. The preparation requirements for each recycled item are very important, each for a specific reason. Recyclabes must be prepared properly or markets will not accept them. Most generally, the public will separate the proper items if they know what to do. These radio PSA's or commercials should receive dedicated air time to reach county residents. Radio talk shows such as Contact 790 should also be utilized. Free advertising should be taken advantage of whenever possible.

Newspaper advertising should consist of block ads explaining each recyclable item. Separate ads should be developed for glass, metal cans, newspaper, cardboard, and plastic. An advertisement should be placed in each local publication once a week, with the different ads on a rotating basis. Newspapers should also be utilized more with progress reports on the recycling program at least quarterly.

A special insert at least once a year should be placed in local papers. Earthday is an especially good event, where recycling is publicized effectively. Inserts should have lots of graphics, pictures and public interest stories about how "others" recycle.

Signs for each of the roll-off recycling containers placed at the county transfer stations should be installed. Each container needs to have a visual reminder of where to place items and how to prepare them properly. **Billboard** within the county should be utilized to publicize the recycling program with its logo, theme, etc. The more public awareness the more participation.

Exhibits are excellent visual advertising. The existing exhibits on recycling and household hazardous waste should be available with free literature at as many public areas, special events, and fair type locations as possible.

Video is another avenue for publicity. Several standard videos could be developed and used with community groups, schools, and on public view stations.

3.) The educational needs of the community vary widely with each target group. Three target groups are specifically identified:

a.) Schools,
b.) consumers, and
c.) special interest groups/special events.

a.) A localized approach should be taken for the development of an integrated curriculum on recycling and solid waste management for schools. Each level from preschool to college should be addressed with separate subject matter and lessons plans. These lesson plans should be designed to be used by teachers, volunteer educators as well as for presentations done by the County Recycling Coordinator.

b.) Specific information needs to be developed for consumers and this information needs to be available where consumers are found. An environmental shopping, alternative products listings, and a special exhibit need to be developed and displayed at grocery stores, banks, post offices, etc. Other consumer topics include home composting, household hazardous waste and environmental shopping.

c.) Special target groups such as senior citizens, business and industry, camp grounds, apartment and mobile home parks, as well as special events such as the county fair and conservation field days, are all very different and have different recycling educational needs. Each needs to be addressed separately with specific targeted information developed and disseminate.

Business or organizations such Southern Tier West, Cooperative Extension and BOCES may be promoting some aspect of recycling. An effort should be made to keep in contact with such groups and to coordinate efforts. Any public/private partnership takes advantage of resources and energies and achieves wider participation in education activities. Projects should include model business recycling programs and buying recycled products.

Each of these recommendations is anticipated to serve as a catalyst for the development of a coherent and effective strategy for a county recycling education program.

The recycling education needs of a community change, therefore the recycling resource information must be updated yearly. This strategy represents an initial game plan for a needed countywide education and communications program and has the added advantage of being easily, cost effectively, and immediately put into place.

Allegany County has the opportunity to achieve its essential goals as set in the Comprehensive Recycling Analysis, provided that its citizens know HOW and WHAT to do to achieve those goals. A Countywide education and communications campaign must be implemented for Allegany County to achieve these solid waste/ recycling goals.

Past Public Relations and Education
Cornell Cooperative Extension

A significant part of the county's educational efforts was contracted out to Cornell Cooperative Extension in the past. Their local office staff delivered programs to teacher, students, community and business groups and at events such as environmental awareness days. Several workshops on home and municipal composting were presented. Resource materials were purchased and are available for loan. Free literature was distributed. Community recycling education volunteers were recruited and trained.

Due to budgetary constraints, there contract was not renewed. If in the future funding is found, future projects and implementation of the Strategy for Allegany County Recycling Education with the Extension may entail, consumer information sessions in grocery stores and workshops for municipal officials and representatives of local businesses and industry and composting projects.

360-1.9(f)(6)(i)

Potential Restraints, Town of Angelica, Town of Cuba

The Town of Angelica and the Town of Cuba, both within Allegany County, have solid waste disposal laws. Copies of these local laws are included as appendix CRA-23 and CRA-24, respectively. Both the Angelica and Cuba laws were researched and found to pose no restrictions to the Allegany County law regarding solid waste management and recycling.

County legislation, "A Local Law, in Relation to the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery," was enacted June 11, 1991. A copy of the law is included as appendix CRA-25.

The purpose of Allegany County's local law is to ensure the long range preservation of the health, safety, and well-being of the public, and the economic productivity and environmental quality of Allegany County by conserving natural resources and reducing the potential for pollution of the environment. Recyclables will be source-separated by the generator or by the hauler after pickup and prepared for collection in accordance with the specifications of the law.

If at any time in the future there is found to be any conflict with any local law or ordinance, the county will inform the NYSDEC of this fact and take action to remedy the situation. In appendix CRA-26, the process for adopting a new rule or regulation to the solid waste law in Allegany County can be found.

360-1.9(f)(6)(ii)

Local Laws

As the county's local law encompasses all the county's waste control and recycling guidelines, it is felt that no other laws or ordinances will be required to implement the county's recycling program. Allegany County expects to amend this law as conditions change or are identified in order to further encourage the source separation and recycling of solid waste.

As stated in Section 5, the development and enhancement of economic markets for recyclables recovery will be part of Allegany County's continuing efforts towards economic growth.

The County Solid Waste Law, with its attended rule and regulations, requires that certain items be separated from solid waste that is disposed of at County facilities. Allegany County, at the present time, owns and operates all of the solid waste disposal facilities in the County, with the exception of a privately owned construction and demolition debris landfill. All solid waste that is non-recyclable and destined for land disposal, is handled at a County facility. The only exception has been previously noted.

The reason that all solid waste is disposed of at our facilities is pure economics. There are no tipping fees and our Board of Legislators is not planning on imposing them in the foreseeable future. It would be economically unfeasible for a hauler to take his collected waste to an out-of-county disposal facility. Tipping fees are charged in Steuben County, Cattaraugus County, Erie County landfills and landfills in the Northern Tier of Pennsylvania. The fact that no tipping fees are planned should provide you with the assurance that County residents will source separate the items mandated by our law. Failure to do so will result in revocation of hauling permits.

In the event that a privately owned disposal facility is sited in Allegany County and solid waste generated in our County went to that facility, our law would have to be amended to deal with that situation. We would then require source separation at the point of generation regardless of where the waste was destined.

Allegany County will determine the economic feasibility according to the NYSDEC's August 24, 1992 memorandum titled "Avoided Cost in Solid Waste". This document is intended for those municipalities which seek to cease recycling a material previously included in a approved CRA (see appendix CRA-14).

SECTION 7: Future Actions to Further New York State Solid Waste Management Objectives

360-1.9(f)(7)(i)

Scope of Existing and New Programs

Allegany County's current recyclables recovery program has been discussed in detail throughout the analysis. The program falls primarily under the third priority of the state's solid waste management policy. The current scope of the program covers five traditional recyclables (glass, newspaper, cardboard and boxboard, metal cans, and plastic containers) as well as four non-traditional items (lead-acid batteries, scrap metal, tires and large appliances).

Plans are to expand the scope in 1994 to cover pilot programs for recycling textiles, magazines and other paper grades. Other components of the waste stream are constantly scrutinized as potential recyclables through monitoring of technology developments, implementation of pilot and full-scale recycling programs and market developments. As sufficient information becomes available, evaluations will be made regarding inclusion in Allegany County's system.

In addition, the county intends to use the results of both the Non-household Waste Study and the Market Outlook Survey to help pinpoint the county's major producers of recyclables and work with them to identify potential markets.

A key element of the recyclables recovery program is consumer education. Responding to the state's solid waste management priorities regarding reduction and re-use as well as recycling, the county will continue to offers tips, facts and advice through its educational and informational programs.

Activities under the state's third priority fit into two categories: energy saved and energy generated. Significant amounts of energy are saved when components of the waste stream are recycled. For example, using state estimates of barrels of oil saved per ton of recycled materials, Allegany County saved 441.06 barrels of oil by recycling 487.43 tons of traditional components (284.87 tons of paper, 103.02 tons of glass, 68.64 tons of ferrous metal and 30.90 tons of plastic.) The figures are limited to recyclables that came through the county system in 1990 when the program was voluntary. Waste-to-energy activities by the county, at present, is to use all of its generated waste oils to provide heat via a waste oil furnace at the county landfill.

360-1.9(f)(7)(ii)

Operation of Transfer Stations and Landfill

This analysis is for the re-permitting of the county transfer station system and the landfill. No expansion of any of these facilities is currently deemed necessary due to the recyclables recovery program. Allegany County has been approached by Erie, Chautauqua and Cattaraugus counties regarding potential joint efforts in recycling and marketing of collected materials. Discussions have taken place regarding cooperation in these areas but no real commitments have yet been reached. This potential effort will be monitored.

360-1.9(f)(7)(iii)

Enhancing Recovery of Recyclables

Two ideas for enhancing the recyclables recovery program involve changing some of the mechanics of collection. Under consideration is collecting one traditional recyclable category per week (glass the first week of the month; cardboard, boxboard and plastic the second week; metal cans and aluminum the third; and newspapers the fourth, for example). Transfer stations would still accept landfill-bound refuse and non-traditional items (such as dry-cell batteries and scrap metal) at all times. Haulers would have the choice of collecting all recyclables and storing the off-week items until they're accepted or picking up the item being accepted that week.

The second idea under consideration is to modify the existing transfer station configuration. This would involve a couple of options. The first would be to reduce the number of stations and convert those that would remain into larger, more efficient stations. Each would have increased capabilities for handling recyclables.

The closed stations could be sold to the private sector or abandoned. A variation on this theme would be to use certain stations strictly for the large commercial haulers and the rest for individuals. Or, one station could be converted to a recyclables handling station by using the stationary compactor, or a baler for one item at a time.

A separate but related idea is for the county to operate an intermediate processing facility. A more viable idea is the storage/transfer area at the County Landfill. Such a venture is currently in the preliminary design phase but will be completed in 1993.

A constant activity of the recyclables recovery program is education of the public to increase participation. Every time preparation requirements change or an item is added, the public must be informed through channels such as those listed on pages 96-100. Efforts will be made to encourage county residents to reduce the amount of waste they are producing and re-use as much of it as possible.

In addition, Allegany County will rely upon the Solid Waste Management and Source Separation Law as the mechanism for implementation and enforcement of the recycling program. The Department of Public Works has the authority to impose strict regulations on haulers and individuals who do not abide by the law or illegally dumping of out-of-county waste. The law (see appendix CRA-25) provides for enforcement through permitting, fines and fee establishment.

360-1.9(f)(7)(iv)

Procurement Practices

In line with the state's first, second and third priorities for solid waste management, efforts will continue to be made to promote waste reduction, re-use and recycling in the work place. Presentations and mailings include information on suppliers and companies who offer products with recycled contents and/or products that can be recycled or re-used.

The Allegany County Department of Public Works itself has purchased and used recycled copy paper and letterhead since 1990. The Building Maintenance Department is now using recycled content products for all its paper needs such as hand towels and tissue. Public Works will continue to promote the use of recycled paper throughout the other departments. County employees are encouraged to use white ledger as it can be recycled through the county's office paper recycling program; colored paper is not a component at this time.

The county has also worked with a local intermediate processing facility to encourage the use of shredded newspaper for animal bedding.

Allegany County has experimented with rubberized asphalt on a stretch of county road that was resurfaced using the asphalt product from a local company.

In addition, the county also re-uses all of its waste oils - transmission fluid, hydraulic and gear oils as well as motor oil from the county fleet of vehicles and equipment -to provide heat from a waste oil furnace at the county landfill.

Other measures include the use of recapped tires on a variety of vehicles and looking into the use of traffic control devices made from recycled plastic.

compiled by:
Gretchen T. Johnson
3-9-93,
revised 9-2-93
revised 11-2-93

COMPREHENSIVE RECYCLING ANALYSIS
LIST OF APPENDIX

CRA-24 TOWN OF CUBA SOLID WASTE DISPOSAL LAW

CRA-25 ALLEGANY COUNTY LOCAL LAW #1 SOLID WASTE MANAGEMENT AND RESOURCE RECOVERY

CRA-26 PROCEDURE FOR RULES AND/OR REGULATIONS ADOPTION

CRA-1

A GUIDE TO OFFICE PAPER RECYCLING FOR ALLEGANY COUNTY

Printed on Recycled Paper . . . Of Course!

"ALLEGANY COUNTY EMPLOYEES"

ALLEGANY COUNTY
DEPARTMENT OF PUBLIC WORKS
Room 210, County Office Building
Belmont, New York 14813

There's still more you can do

Make a conscious effort to purchase products made from, or packaged in, recycled materials. Have your company stationery, business cards and brochures printed on recycled paper stock. In this way, you will help create an increased demand for separated recyclables, and you will help the county's recycling effort to be a success.

You've seen how recycling can help you recover a valuable resource for your company. But, more important, recycling is a responsible way for everyone, businesses and individuals alike, to get involved in lightening our trash load. It's an idea whose time has come — and it's here to stay.

. . . if you have more specific questions,

. . . need a collection container,

. . . or want an additional one,

please contact:

ALLEGANY COUNTY
DEPARTMENT OF PUBLIC WORKS

•

Room 210
County Office Building
Belmont, New York 14813
716-268-9230

•

For business or government, an office paper recycling program is a small investment that has a high return. At the cost of only a little time, a little space and a slight change in the way they do business, offices all over the country are reducing their costs for waste disposal and helping to save resources.

How Office Paper Recycling Works

White bond paper, xerox copies, computer printout and other common office paper are desirable materials for recycling. In most offices, each employee separates recyclable paper at his or her own desk. Periodically each employee deposits the separated paper at a central point. Paper is then collected from the deposit points and transported to a recycling firm. Many recycling firms pick up collected office paper.

If your office is like most, you'll see that the majority of what you're throwing away is paper. And much of that is considered "high-grade" paper.

The following types of paper are acceptable for office paper recycling:

- letterhead paper
- copy machine paper
- typing paper
- tablet paper
- bond computer paper

Some other types of office trash can be recycled, but in a separate recycling effort:

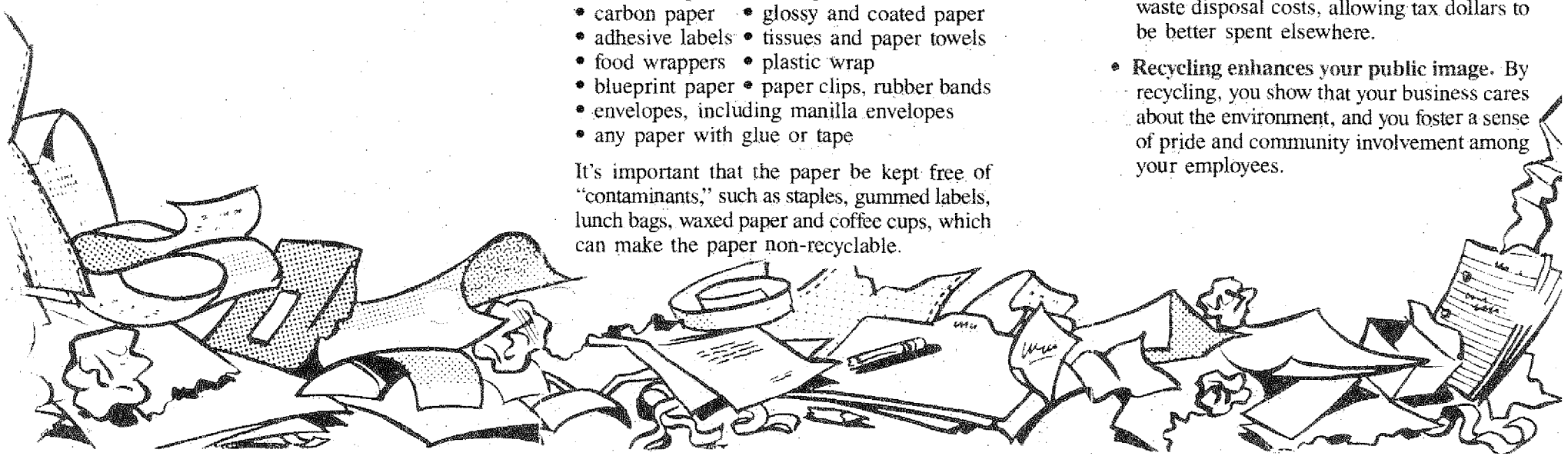
- newspaper
- manilla folders
- cardboard and paperboard

What's left in your basket is unacceptable, and would be disposed of through normal channels:

- carbon paper
- glossy and coated paper
- adhesive labels
- tissues and paper towels
- food wrappers
- plastic wrap
- blueprint paper
- paper clips, rubber bands
- envelopes, including manilla envelopes
- any paper with glue or tape

It's important that the paper be kept free of "contaminants," such as staples, gummed labels, lunch bags, waxed paper and coffee cups, which can make the paper non-recyclable.

- **Recycling is cost-effective.** By selling your reclaimed paper in the recyclable material marketplace, you can recover most, if not all, of the cost of recycling. And, as the cost of building modern waste disposal facilities affects your trash disposal rates, recycling revenues will help offset the increases.
- **Recycling conserves the environment.** By reducing the amount of trash that would ordinarilly go to a waste disposal facility, recycling plays a big part in keeping our environment clean. And the process of making paper from recycled pulp creates 74 percent less air pollution and 35 percent less water pollution than the process of producing paper from wood fiber.
- **Recycling conserves resources.** Obviously, if we're making new paper from old paper, we're conserving trees. But we're also conserving energy, since less energy is required to make paper from recycled fiber than from wood pulp. Consider this: for each ton of paper that is recycled, 17 trees and 460 gallons of oil are saved!
- **Recycling benefits the community.** By eliminating a large portion of the waste stream, recycling can help reduce municipal waste disposal costs, allowing tax dollars to be better spent elsewhere.
- **Recycling enhances your public image.** By recycling, you show that your business cares about the environment, and you foster a sense of pride and community involvement among your employees.



NON-HOUSEHOLD WASTE SURVEY RESULTS

NAME OF BUSINESS	TYPE OF BUSINESS	AMOUNT OF WASTE GENERATED YEARLY	MATERIAL RECYCLED	REUSED ON SITE	RECYCLED OFF SITE
ABB AIR PREHEATER INC.	MACHINE SHOP	158.4 TONS	PAPER,WOOD	NONE	CROWN-Y
ACME ELECTRIC CORP.	ELECTRONIC POWER SUPPLIES	383.7 TONS	METAL	NONE	DAVE MEYERS OLEAN STEEL
ALBROS BUILDERS, INC.	GENERAL CONTRACTING	14.82 TONS	NONE	NONE	NONE
ALFRED CERAMIC ENT. INC.	MANUFACTURING	NONE	NONE	NONE	NONE
ALLEG. REHAB ASSOC., INC.	PSYCHIATRIC TREATMENT	7.65 TONS	NONE	NONE	NONE
ALLEGANY BITUMENS INC.	HIGHWAY CONSTRUCTION	7.5 TONS	NEWSPAPER, CARDBOARD	NONE	ALLE. COUNTY
AMER. PAINT PADDLE CO., INC.	MANUFACTURING	1.59 TONS	METAL,WOOD,PAPER	NONE	N/A
ANGELICA FOREST PRODUCTS	LUMBER	48 TONS	NONE	NONE	NONE
ANGELICA SPRING CO.	COIL SPRINGS	NONE	NONE	NONE	NONE
BAKERS OF JERICO HILL, INC.	HEAVY CONSTRUCTION	NONE	NONE	NONE	NONE
BALDWIN'S FOREST PRODUCTS INC.	LUMBER	3600 TONS	SAWDUST	NONE	BEDDING FOR FARMERS
BELL EQUIPMENT COMPANY	TRUCK EQUIP.	13.88 TONS	METAL	YES	NONE
BO-GE ASSEMBLY CO. INC.	TURBINE REPAIR	48 CUBIC YDS.	NONE	NONE	NONE
BULK-TAINERS CORP.	STEEL FABRICATION	NONE	NONE	NONE	NONE
CUBA MEMORIAL HOSPITAL, INC.	HOSPITAL	112.61 TONS	CARDBOARD, PLASTIC	NONE	CROWN-Y
DRESSER-RAND	TURBINE MANUFACTURER	24 TONS	CARD, PAPER, METAL, WSTE OIL	YES	RVR,ST PALLET EXC.,JAMES.SCRAP
EMPIRE CHEESE, INC.	MANUFACTURE	180 TONS	CARD., WOOD	NONE	RRV
FRIENDSHIP DAIRIES, INC.	DAIRY PRODUCTS	282.12	NONE	NONE	NONE
HARRIS SUPPLY CO., INC.	DISTRIBUTOR	NONE	NONE	NONE	NONE
HERALD FORD, INC.	LEASING	1.54 TONS	NONE	NONE	NONE
HI-TECH CERAMICS	MANUFACTURING	65.68 TONS	METAL	YES	NONE
JONES MEMORIAL HOSPITAL	HOSPITAL	39.09 TONS	CARDBOARD, PAPER	NONE	N/A
JOYCE WESTERN CORP.	CONSTRUCTION EQUIP. SERVICING	44.4 TONS	WOOD, METAL, PAPER, OIL	YES	NONE
NEW FRONTIERS OF ALFRED, INC.	CERAMIC MANUFACTURING	2.03 TONS	CLAY, PAPER	YES	NONE
OTIS EASTERN SERVICE, INC.	OFFICE RENTAL	64.75 TONS	GLASS,METAL, PAPER	NONE	ALLEGANY CO., HORNELL WASTE
P.M. RESEARCH	MANUFACTURING	3.64 TONS	METALS, PLASTIC, CARDBOARD	NONE	HORNELL WASTE METAL
PALMER AIRMOTIVE LTD.	AIRCRAFT REPAINTING	12 CUBIC FT.	NONE	NONE	NONE
RUSHFORD MILLING LTD.	LUMBER DRYING AND MILLING	138.6 TONS	WOOD	YES	NONE
SHADOWDANCER, INC.	GIFTWARE	15.69 TONS	STEEL	NONE	JERGE'S AUTO CRUSHING
SOUTHERN TIER CONCRETE	MANUFACTURING	1.08 TONS	WOOD PALLETS	NONE	SOUTHERN TIER PALLET EXCHANGE
WELLSVILLE MANOR NURSING HOME	HEALTH CARE	NONE	NONE	NONE	NONE
WHITESVILLE WOOD PRODUCTS	FURNITURE PRODUCTS	1026 CUBIC YDS.	NONE	NONE	NONE
WLSV HIGHLAND NURSING HOME	NURSING HOME	25.57 TONS	CARDBOARD	NONE	ALLEGANY CO.

CRA-3

Informal information gathered from Business Waste Reduction/Recycling Program:

This information will be updated by the Department of Public Works every two years. Recycling tonnage reports will be submitted yearly by the business. The following information will be gathered and recorded on the accompanying form.

WASTE/RECYCLING SURVEY

GENERAL INFORMATION

NAME OF BUSINESS: _____

ADDRESS: _____

_____

PHONE NUMBER: _____ FAX NUMBER: _____

CONTACT PERSON FOR WASTE/RECYCLING INFORMATION:

_____

Brief description of business, product or service: _____

_____

_____

Number of employees: _____

Business Waste Reduction/Recycling questions:

WASTE DISPOSAL INFORMATION

What waste disposal company or private hauler do you use:

_____

Describe the type of service; number of dumpsters; compactor or bag pick-up; number of pick-ups per week:

_____

_____

_____

_____

_____

Do you haul any, all or none of your own garbage, if so please describe; do you take it to a transfer station, landfill, recycling center or another facility:

_____

_____

_____

_____

_____

WASTE STREAM ANALYSIS

What IS your waste stream? Do you know what your garbage is made up of, include everything from office paper - to floor sweepings - to food waste - to scrap metal, everything. Also try to estimate what percent each material is of the total waste stream:

_____

_____

_____

How much garbage do you generate in a years time? Use whatever nomination is easiest for you; tons, cubic yards, number of dumpsters emptied per month (specify size of container), number of bags per week:

RECYCLING

From your waste stream analysis, what materials are you recycling or reusing? List and specify what you are doing with any of the following: GLASS BOTTLES, PLASTIC BOTTLES, METAL CANS, NEWSPAPERS, CARDBOARD, OFFICE PAPER, TIRES, BATTERIES, SCRAP METAL, USED OIL, WOOD WASTE, and any other materials:

What equipment/storage/personnel/employee education, do you use, had to purchase, or need for recycling:

_____

_____

_____

_____

Do you have any past recycling reports?

Please add any comments or questions.

gtj 10/9/92

CRA-4

ALLEGANY COUNTY DEPARTMENT OF
PUBLIC WORKS
ROOM 210 • COUNTY OFFICE BUILDING • BELMONT, NEW YORK 14813
TELEPHONE 716-268-9230 FAX 716-268-9446

HIGHWAY
SOLID WASTE
BUILDINGS & GROUNDS
•
RICHARD A. YOUNG
Superintendent

Recycling Tonnage Yearly Report Form

Date _____

Name _____ Phone _____

Address _____

MATERIAL:	**TONNAGE:**
1. _CLEAR GLASS_____	_____
2. _GREEN GLASS_____	_____
3. _BROWN GLASS_____	_____
4. _METAL CANS_____	_____
5. _PLASTIC_____	_____
6. _NEWSPAPER_____	_____
7. _CARDBOARD_____	_____
8. _LEAD-ACID BATTERIES___	_____
9. _WHITE GOODS_____	_____
10._SCRAP METAL_____	_____
11._TIRES_____	_____
12._OFFICE PAPER_____	_____
13._OTHER_____	_____
14._____	_____
15._____	_____

TOTAL: _____

GTJ
12/92

CRA
-5

ALLEGANY COUNTY

PREPARED BY

ALLEGANY COUNTY DEPARTMENT OF PUBLIC WORKS
RICHARD A. YOUNG, SUPERINTENDENT
1992

ROAD NAME	RTE. #
ABBOTTS ROAD	7C
ALFRED STATION ROAD	4C
BAKER VALLEY ROAD	7B
BALLARD ROAD	17B
BASSWOOD HILL ROAD	13
BEACH HILL ROAD	3A
BEAUMONT ROAD	7E
BELFAST ROAD	2E
BIRDSALL-CLAWWOOD ROAD	16B
BRENTWOOD CAMP ROAD	4B
BURFALO ROAD	3
BURNS ROAD	14
CLARKSVILLE ROAD	1
CORWIN HILL ROAD	21A
COUNTY LINE ROAD	1A
DALTON ROAD	16
EAST HILL ROAD	4B
EAST STATE STREET	2E
ELEVEN MILE ROAD	2B
ELM VALLEY ROAD	6C
FINK HOLLOW ROAD	15A
FOUR MILE ROAD	3B
GIBSON HILL ROAD	2E
HALL ROAD	7C
HANDY CORNERS ROAD	7B
HASKELL ROAD	8
HILLCREST ROAD	4B
HOUGHTON CAMPUS ROAD	2E
HUME ROAD	2C
HUMBLE ROAD	8
INDEPENDENCE ROAD	2C
INDEPENDENCE ROAD	22A
JERSEY HILL (CAMP ROAD)	2A
KARR VALLEY ROAD	1
KNIGHTS CREEK ROAD	9
MCHENRY VALLEY ROAD	11
MESSER ROAD	19B
MIDDLEBUSH HILL ROAD	21
MILLER STREET ROAD	19B
NORTH ALMOND VALLEY RD.	8C
OHI ROAD	5
O'DONNELL ROAD	6C
OSSMAN ROAD	15A
PETROLIA ROAD	9
PINE ROAD	3B
RAMSON ROAD	7
REXVILLE ROAD	18A
RICHBURG ROAD	4C
RIVER ROAD	4B
SALT RISING ROAD	3A
SHOVEL HOLLOW ROAD	2E
SINCLAIR ROAD	4A
SLADEN CREEK ROAD	12C
SNYDER HILL ROAD	1
SOUTH BOLIVAR ROAD	23
SOUTH SHORE ROAD	2E
SOUTH VALLEY ROAD	13
SPRING MILLS ROAD	19
SWAN ROAD	24
TIBBETTS HILL ROAD	4A
TRAPPING BROOK ROAD	3C
WEST NORTON ROAD	3A
WEST SHORE ROAD	7D
WHITE CREEK ROAD	17
WISCOY ROAD	27
WUNDERMARK ROAD	10

LEGEND

STATE SYSTEM
4-LANE LIMITED ACCESS
2-LANE

COUNTY SYSTEM
2-LANE

TOWN SYSTEM
PAVED
GRAVEL IMPROVED
GRAVEL UNIMPROVED

STATE FOREST
STATE WILDLIFE MGT. AREA
COUNTY FOREST
N.Y.S. D.E.C. ROADS

WYOMING COUNTY
LIVINGSTON COUNTY
CATTARAUGUS COUNTY
McKEAN COUNTY
PENNSYLVANIA
POTTER COUNTY

CENTERVILLE
HUME
GRANGER
GROVE
BURNS
CANEADEA
ALLEN
RUSHFORD
BIRDSALL
ALMOND
WEST
BELFAST
ANGELICA
AMITY
CUBA
FRIENDSHIP
ALFRED
WARD
SCIO
WIRT
ANDOVER
CLARKSVILLE
WELLSVILLE
INDEPENDENCE
GENESEE
BOLIVAR
ALMA
WILLING

CRA-6

ALLEGANY COUNTY DEPARTMENT OF
PUBLIC WORKS
ROOM 210 • COUNTY OFFICE BUILDING • BELMONT, NEW YORK 14813
TELEPHONE 716-268-9230 FAX 716-268-9446

HIGHWAY
SOLID WASTE
BUILDINGS & GROUNDS
•
RICHARD A. YOUNG
Superintendent

1989 YEAR END REPORT

ALLEGANY COUNTY RECYCLING PROGRAM

GRETCHEN T. GARY / RECYCLING COORDINATOR

TONNAGE

	STATION 1	STATION 2	STATION 3	STATION 4	STATION 5	STATION 6	STATION 7	MONTHLY TONNAGE	MONTHLY HAULS	WORKING DAYS
JULY	5.63	2.47	2.79	2.55	1.00	1.35	7.22	23.01	19	24
AUGUST	7.17	2.31	4.19	7.63	5.73	2.82	11.39	41.24	27	27
SEPTEMBER	8.28	2.14	4.13	5.35	.72	4.68	8.75	34.05	23	25
OCTOBER	4.00	3.78	2.39	5.37	6.05	2.01	11.32	34.92	24	26
NOVEMBER	7.48	1.22	5.37	3.97	1.28	2.34	8.54	30.20	24	23
DECEMBER	5.18	.84	2.36	7.13	2.33	3.33	7.05	28.22	22	26
TOTALS	37.74	12.76	21.23	32.00	17.11	16.53	54.27	TOTAL TONNAGE 191.64	TOTAL HAULS 139	TOTAL DAYS 151

AVERAGE TONS/MONTH : 31.94
AVERAGE HAULS/MONTH : 23
AVERAGE TONS/HAUL : 1.38
AVERAGE TONS/DAY : 1.27

616 1-17-90

1989 YEAR END REPORT

ALLEGANY COUNTY RECYCLING PROGRAM

GRETCHEN T. GARY / RECYCLING COORDINATOR

COST ITEM

	RENTALS	HAULS	REVENUE	AVOIDED COST	NEWSPAPER	CARDBOARD	PLASTIC	GLASS	METAL	TOTALS
JULY	2,310	1,425	78.75	1042.12	13.90	3.97	1.99	1.89	1.26	23.01
AUGUST	2,310	2,025	237.75	1867.76	22.21	6.35	3.17	5.71	3.80	41.24
SEPTEMBER	2,310	1,725	306.50	1542.12	15.25	4.36	2.18	7.36	4.90	34.05
OCTOBER	2,310	1,800	295.75	1581.53	16.16	4.62	2.31	7.10	4.73	34.92
NOVEMBER	2,310	1,800	179.50	1367.76	14.78	4.22	2.11	5.45	3.64	30.20
DECEMBER	2,310	1,650	283.75	1278.09	11.81	3.37	1.69	6.81	4.54	28.22
TOTALS	$13,860	$10,425	$1,382	$8,679.38	94.11	26.89	13.45	34.32	22.87	191.64

TOTAL COST: $24,285.00
TOTAL AVOIDED COST (@45.29/TON) + REVENUE: $10,061.38
OVERALL COST: $14.223.62

AVERAGE COST/TON: $74.22

COST ESTIMATE WITHOUT RENTAL
TOTAL HAULING COST: $10,425.00
TOTAL AVOIDED COST+REVENUE: $10,061.38

TOTAL COST/TON: $1.90

CRA-7

ALLEGANY COUNTY DEPARTMENT OF
PUBLIC WORKS
ROOM 210 • COUNTY OFFICE BUILDING • BELMONT, NEW YORK 14813
TELEPHONE 716-268-9230 FAX 716-268-9446

HIGHWAY
SOLID WASTE
BUILDINGS & GROUNDS
•
RICHARD A. YOUNG
Superintendent

RECYCLING PROGRAM FOR 1990

Allegany County continued a voluntary recycling program through out the 1990 year. A total of 1094.93 tons of recyclable materials were collected and removed from the waste stream. Using an estimated cost of $50.00 per ton to bury a ton of garbage at the County landfill, an "avoided cost" of $54,746.50 was saved by recycling 1094.93 tons of material.

The following is a break down of the 1094.93 tons removed from the waste stream by recycling:

COMMODITY	TONS REMOVED	REVENUE	COST
GLASS	103.02	$2,475.50	CONTAINER RENTAL:
METAL CANS	68.64	$1,716.00	$28,455.00
NEWSPAPER	216.34	-0-	HAULING SERVICES:
CARDBOARD	61.82	-0-	$31,671.25
PLASTIC	30.90	-0-	
SCRAP METAL	113.00	$1,564.83	-0-
OFFICE PAPER	6.71	$238.96	-0-
WHITE GOODS	366.30	-0-	$1,000.00
WASTE TIRES	101.80	$11,095.00	$17,579.70
LEAD-ACID BATTERIES	26.40	$275.00	-0-

TOTAL REVENUE FROM SALES OF RECYCLABLES: $17,365.29
TOTAL COST OF SERVICES FROM RECYCLING: $78,705.95
PERCENTAGE OF RESIDENTIAL WASTE STREAM RECYCLED: 4.48%

GTJ 1-24-91

CRA-8

ALLEGANY COUNTY DEPARTMENT OF
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HIGHWAY
SOLID WASTE
BUILDINGS & GROUNDS
•
RICHARD A. YOUNG
Superintendent

RECYCLING PROGRAM REPORT FOR 1991

Allegany County made monumental strides with the recycling program in 1991. A total of 2150.35 tons of recyclable materials were collected and removed from the waste stream. This amount is a 96% increase over the 1094.93 tons of recyclables collected in 1990. This dramatic increase is essentially due to the Allegany County Solid Waste Management and Resource Recovery Law passed in June of 1991. This law mandated the source separation of solid waste and required a permit to dispose of any waste or recyclable item at any Allegany County Solid Waste Management Facility.

The following is a breakdown of the 2150.35 tons of recyclables removed from the waste stream:

ITEM	TONS
GLASS	210.53
METAL CANS	167.49
NEWSPAPER	395.21
CARDBOARD	261.19
PLASTIC	89.16
BATTERIES	17.86
TIRES	131.85
WHITE GOODS	296.91
SCRAP METAL	573.22
OFFICE PAPER	6.93
TOTAL RECYCLED	**2150.35**

Total revenue from sale of recyclables: $9,151.87

Total fees collected for tire disposal: $9,669.70

Total cost of contracted services: $92,137.03

Percent of residential waste stream recycled: 10%

Percent of total waste stream recycled: 7%

* This report does not include recycled tonnage from private haulers or municipalities with independent recycling programs.

GTJ
1-27-92

CRA-9

ALLEGANY COUNTY DEPARTMENT OF
PUBLIC WORKS
ROOM 210 • COUNTY OFFICE BUILDING • BELMONT, NEW YORK 14813
TELEPHONE 716-268-9230 FAX 716-268-9446

HIGHWAY
SOLID WASTE
BUILDINGS & GROUNDS
•
RICHARD A. YOUNG
Superintendent

02/16/93

RECYCLING PROGRAM REPORT FOR 1992

MONTH	GLASS	METAL CANS	PLASTIC	CARD-BOARD	NEWS-PAPER	OFFICE PAPER	BATTERIES	TIRES	WHITE GOODS	SCRAP METAL	MONTHLY TOTAL
** QUARTER 1											
JANUARY	26.65	22.48	10.04	45.27	33.61	2.16	0.18	0.00	18.54	23.08	182.01
FEBRUARY	29.99	15.27	7.74	35.15	47.02	0.00	1.02	6.69	15.24	40.39	198.51
MARCH	41.82	24.31	12.93	45.69	42.33	1.10	0.29	0.00	19.57	30.35	218.39
** Subtotal **	98.46	62.06	30.71	126.11	122.96	3.26	1.49	6.69	53.35	93.82	598.91
** QUARTER 2											
APRIL	39.27	28.24	14.53	43.20	63.34	0.00	0.99	6.88	19.48	79.48	295.41
MAY	33.02	14.79	12.46	49.16	49.79	1.11	2.33	20.15	41.81	127.23	351.85
JUNE	40.71	22.12	12.13	52.85	60.22	0.00	1.38	6.88	25.91	87.90	310.10
** Subtotal **	113.00	65.15	39.12	145.21	173.35	1.11	4.70	33.91	87.20	294.61	957.36
** QUARTER 3											
JULY	30.12	22.03	10.44	44.15	60.70	1.25	2.29	9.97	27.79	62.28	271.02
AUGUST	22.11	15.48	9.78	52.28	48.69	1.05	6.03	0.00	33.00	88.39	276.81
SEPTEMBER	25.10	25.85	14.74	60.69	53.92	0.00	3.89	0.00	32.18	77.73	294.10
** Subtotal **	77.33	63.36	34.96	157.12	163.31	2.30	12.21	9.97	92.97	228.40	841.93
** QUARTER 4											
OCTOBER	49.94	19.58	11.99	60.40	39.33	0.00	2.27	0.00	23.33	76.11	282.95
NOVEMBER	12.69	22.00	11.43	55.20	47.88	1.37	4.87	0.00	18.88	58.77	233.09
DECEMBER	23.18	23.83	11.84	62.27	60.62	0.00	0.00	11.70	15.33	77.71	286.48
** Subtotal **	85.81	65.41	35.26	177.87	147.83	1.37	7.14	11.70	57.54	212.59	802.52
*** Total ***	374.60	255.98	140.05	606.31	607.45	8.04	25.54	62.27	291.06	829.42	3200.72

1992 RECYCLING PROGRAM REVENUE

MONTH	GLASS	METAL CAN	CARDBOARD	OFFICE PAPER	BATTERY	SCRAP METAL	HIGHWAY SCRAP	TIRE FEES	MONTHLY TOTAL
JANUARY	0.00	0.00	0.00	41.82	18.75	0.00	306.22	120.90	487.69
FEBRUARY	0.00	0.00	0.00	0.00	81.25	0.00	119.50	333.40	534.15
MARCH	0.00	0.00	0.00	19.89	25.00	0.00	0.00	331.50	376.39
APRIL	0.00	0.00	0.00	0.00	72.50	189.61	105.84	391.70	759.65
MAY	0.00	0.00	0.00	34.52	185.00	278.52	591.55	919.10	2008.69
JUNE	0.00	9.37	0.00	0.00	108.75	220.04	203.75	398.50	940.41
JULY	1506.00	118.00	0.00	24.96	185.00	172.18	0.00	592.60	2598.74
AUGUST	1105.50	86.07	0.00	22.32	266.25	68.20	227.70	298.50	2074.54
SEPTEMBER	1255.00	138.45	17.95	0.00	261.25	58.21	221.49	405.70	2358.05
OCTOBER	1854.00	117.48	30.02	0.00	111.25	46.46	496.41	101.90	2757.52
NOVEMBER	634.50	132.00	9.15	34.63	147.50	0.00	511.75	115.50	1585.03
DECEMBER	1159.00	142.08	22.12	0.00	0.00	0.00	420.77	312.00	2055.97
*** Total ***	7514.00	743.45	79.24	178.14	1462.50	1033.22	3204.98	4321.30	18536.83

CRA-10

ALLEGANY COUNTY DEPARTMENT OF
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HIGHWAY
SOLID WASTE
BUILDINGS & GROUNDS
•
RICHARD A. YOUNG
Superintendent

July 14, 1992

NOTICE TO BIDDERS

The Allegany County Department of Public Works will receive sealed bids until 3:00 P.M. (E.S.T.) August 18, 1992. At that time, bids will be opened in Room 222, County Office Building, Belmont, New York on the following item:

ALLEGANY COUNTY RECYCLING PROGRAM

Bid proposals can be submitted for the acceptance of clear glass, green glass, brown glass, cardboard, newspaper, plastic containers and metal cans. Specifications for the recycling program will be available at the Public Works Office on or after July 20, 1992, Room 210, County Office Building, Belmont, New York 14813.

The Allegany County Department of Public Works reserves the right to reject any or all bids and to accept the bid it determines to be in the best interest of Allegany County.

Richard A. Young, Superintendent
Allegany County Department of
Public Works
Room 210, County Office Building
Belmont, New York 14813

JJM/dt
7/14/92

DIRECTIONS FOR SUBMISSION FOR PROPOSALS

1. All proposals shall be in sealed envelope with company name in upper left corner.

2. In lower left corner print "Sealed Bid, August 18, 1992, Recyclables."

3. A non-collusive bidding certificate must be executed and accompany each bid proposal.

4. Bids must be submitted on bid proposal sheet to be considered formal.

JJM/dt
7/6/92

REQUEST FOR BID PROPOSALS TO ACCEPT RECYCLABLE MATERIALS FROM ALLEGANY COUNTY SOLID WASTE FACILITIES.

I. Statement of objective and current source separation program.

It is the intention of the Allegany County Department of Public Works to contract with private sector recyclables handling facilities for the acceptance of recyclable materials which are collected and stored at county facilities.

Recyclable materials are collected pursuant to the County Solid Waste Law, which mandates source separation of the following items: Clear glass, green glass, brown glass, plastic containers, cardboard, newspapers, and metal cans. Storage containers are provided at each of the County's seven transfer stations as well as the County Landfill. The landfill is used to consolidate certain materials brought in from transfer stations in order to increase payloads. It is the intention of the Department of Public Works to maintain collection and marketing of the above mentioned materials. Definitions of these materials can be found in Appendix A and preparation requirements are based on the definitions.

The Department of Public Works will request bid proposals for the acceptance of each individual item and bidders may submit a proposal for one or more items.

II. Guidelines for submission of proposals.

The following information regarding the County's current program must be considered when submitting a bid proposal:

A. Recyclables materials can currently be supplied in the following forms:

Green glass - open-top roll-off, 30 or 40 yds.
Brown glass - open-top roll-off, 30 or 40 yds.
Clear glass - open-top roll-off, 30 or 40 yds.
or loaded on bidders truck.

Newspaper - 30 yard roll-off loose (4 tons), 48 yard ejection container, hand loaded, (5-7 tons) or 48 yard ejection container loaded with stationary compactor (12 tons)

Cardboard - 30 yard roll-off, loose (1600 lbs.), 48 yard ejection container loaded with stationary compactor (3-4 tons). A proposal can be submitted for the acceptance of baled cardboard along with specific requirements. The Public Works Dept. is considering the purchase of a baler and needs information as to availability of markets.

Plastic Containers - 30 yard roll-off, loose (500-1000 lbs.) 48 yard ejection container loaded with stationary compactor (2-3 tons). A proposal can be submitted for the acceptance of baled plastic along with specific requirements.

Metal Cans: 30 or 40 yard roll-off container (3-4 tons). A proposal can be submitted for the acceptance of baled metal cans along with specific requirements.

B. Allegany County can transport recyclable materials to bidders facility. However, mileage from the County landfill to bidder's facility will be a consideration when selecting a bid proposal for each material.

C. Bidders must examine Appendix A to determine the exact nature of the recyclable materials specified under each definition.

D. Bidder must specify his material requirements if they deviate from Allegany County's requirements. Bidder's special requirements, if any, will be a consideration when selecting a bid proposal for each material.

E. Bidder must specify the cost, if any, for processing materials for market, or the rate of reimbursement to Allegany County for supplying materials to bidder. All costs or reimbursements will be on a per ton basis.

F. Allegany County will guarantee no minimum amount of recyclable materials to any bidder over the life of the contract.

III. General Specifications

A. The Allegany County Department of Public Works reserves the right to reject any or all bids and to accept the bid or bids it determines to be in the best interest of Allegany County.

B. Any deviations from the requirements contained in this document must be fully explained in writing and is subject to approval of the Superintendent of Public Works.

C. The successful bidder for each recyclable material in these specifications will accept that material at his facility, upon request from Allegany County, regardless of fluctuations in market conditions, during the life of the contract. Repeated failure to accept such materials within a reasonable time frame after a request is made will result in immediate termination of contract.

D. No bidder may withdraw his bid for a period of sixty (60) calendar days after the date set for opening thereof and the bids shall be subject to acceptance by Allegany County during this period.

E. The successful bidder to whom a contract is let, granted or awarded shall not assign, transfer, convey, sublet, or otherwise dispose of the contract or his right, title or interest therein or his power to execute such contract, to any person or corporation without the prior consent, in writing, by Allegany County.

F. The successful bidder agrees to provide Workers' Compensation Insurance, Disability Benefits Insurance, Unemployment Insurance and Social Security Benefits for any employees of the bidder used in connection with the work as required by law.

G. To the fullest extent permitted by law, the successful bidder shall indemnify and hold harmless the County of Allegany, its officers, employees, servants and agents against the loss, damage of liability caused by personal injuries, wrongful deaths and loss of, or damage , to property resulting from the acts of the bidder arising out of or in connection with the performance of this agreement.

H. Upon the execution of an Agreement and prior to the commencement of work, the successful bidder shall provide a certificate of insurance to verify coverage for general liability with a limit $1,000,000 and auto coverage with limits of $1,000,000 each occurrence and $3,000,000 aggregate.

I. The successful bidder shall comply with all local, state and federal laws, rules, regulations and ordinances applicable to the handling of recyclable materials from collection to marketing. A copy of NYSDEC permits for a recyclable handling facility, if required, must be provided to Allegany County.

Access to the facility must be available to Department of Public Works staff on request.

J. The contract period shall be October 01, 1992 to September 30, 1993.

K. Either party may terminate the contract upon 30 days written notice to the other party.

APPENDIX A

Recyclable Materials

1. CANS shall mean containers comprised of aluminum, tin, steel, or a combination thereof, which formerly contained only food and/or beverage substances. It shall not mean aerosol, paint, varnish or fuel cans.

2. CARDBOARD shall mean woodpulp-based material which is usually smooth on both sides with a corrugated center. It shall also mean boxboard or paperboard having the same material and characteristics as cardboard, but without a corrugated center. It shall not mean wax-coated or glossy or soiled cardboard.

3. GLASS shall mean all clear (flint), green and brown (amber) colored glass containers. It shall not mean mirrors, auto glass, milk white glass, window glass, light bulbs, cookware, pyrex, crystal or ceramics.

4. NEWSPAPER shall mean newsprint and all newspaper and newspaper advertisements, supplements, comics and enclosures. It shall not mean magazines, books, telephone books, or glossy ads such as junk mail and newspaper inserts.

5. PLASTIC CONTAINERS shall mean containers that: (1) are composed of plastic; and (2) have on the bottoms the number 1 or 2 inside a recycling triangle or the letters PETE or HDPE next to such triangle; and (3) have a top which is smaller around than the base.

BID PROPOSAL SHEET

NOTE: Bidder can submit a proposal for one material, all materials or any combination thereof.

I. CLEAR GLASS ____ No Bid

A. Processing Fee _____

B. Reimbursement Rate _____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements _____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

F. Comments _____

_____

_____

_____

_____

_____

II. GREEN GLASS ____ No Bid

A. Processing Fee _____

B. Reimbursement Rate _____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements _____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

F. Comments _____

_____

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III. BROWN GLASS ____ No Bid

A. Processing Fee _____

B. Reimbursement Rate _____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements_____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

F. Comments _____

_____

_____

_____

_____

_____

IV. NEWSPAPERS _____ No Bid

(Method of delivery:(1) 30 yard roll-off, loose;
(2) 48 yard ejection container, loose;
(3) 48 yard ejection container, compacted)

Please refer to method of delivery number, if necessary, for proposals submitted below.

A. Processing Fee _____

_____

_____

B. Reimbursement Rate _____

_____

_____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements_____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

_____

F. Comments _____

_____

_____

_____

V. CARDBOARD ____ No Bid

(Method of delivery: 48 yard ejection container, compacted; 30 yard Roll-off, loose; baled.

Loose or Compacted Cardboard

A. Processing Fee _____

B. Reimbursement Rate _____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements _____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

F. Comments _____

_____

_____

_____

_____

_____

*Baled Cardboard

A. Reimbursement Rate _____

B. Bale Requirements _____

_____

_____

C. Material Requirements _____

_____

_____

D. Storage and Transportation _____

_____

_____

_____

E. Preparation Requirements

_____

_____

_____

_____

_____

*** The County does not presently own a baler but will make a decision on the purchase of one based on bid proposals contained herein.

VI. PLASTIC CONTAINERS _____ No Bid

(Method of delivery: 30 yard Roll-off, loose; 48 yard ejection container, compacted; baled.

Loose or Compacted Plastic

A. Processing Fee _____

B. Reimbursement Rate _____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements _____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

F. Comments _____

_____

_____

_____

_____

_____

* Baled Plastic

A. Reimbursement Rate _____

_____

B. Bale Requirements

_____

_____

_____

C. Material Requirements _____

_____

_____

D. Storage and Transportation _____

_____

_____

_____

*** The County does not presently own a baler but will make a decision on the purchase of one based on bid proposals contained herein.

VII. Metal Cans ___ No Bid

(Method of delivery : 30 or 40 yard open top, loose; baled

Loose Cans

A. Processing Fee _____

B. Reimbursement Rate _____

_____

C. Delivery Requirements _____

_____

_____

_____

D. Preparation or Material Requirements _____

_____

_____

_____

_____

_____

E. Transportation Cost if available _____

F. Comments _____

_____

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_____

* Baled Cans

B. Reimbursement Rate _____

_____

C. Bale Requirements _____

_____

_____

D. Material Requirements _____

_____

_____

_____

E. Storage and Transportation _____

_____

_____

_____

F. Comments _____

_____

_____

*** The County does not presently own a baler but will make a decision on the purchase of one based on bid proposals contained herein.

(Bid Proposal Sheet Cont.)

Date:_____

Name of Company _____

Company Address_____

_____

_____

_____

Bid Submitted By:_____

Title: _____

Telephone No.: _____ Fax Number_____

Subscribed and sworn to before me

this_____day of _____, 19___

_____
Notary Public

NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this bid, each bidder and each person on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor, and

3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

_____

_____

_____

Subscribed and sworn to before me
this ____ day of _____, 19___.

_____
Notary Public

NOTE: If Bidder is a Corporation, the corporate name and title of Officer signing must be stated.

ALLEGANY COUNTY RECYCLING PROGRAM
BID TALLY

NOTE: ALL PRICES ARE F.O.B. LOOSE UNLESS OTHERWISE SPECIFIED

BIDDER NAME AND ADDRESS	NEWSPAPER	CARDBOARD	PLASTIC	CLEAR GLASS	GREEN GLASS	BROWN GLASS	METAL CANS	#DEVIATIONS OR COMMENTS
Hornell Waste P.O. Box 356 Hornell, N.Y. 14846							PAYMENT/TON $6.00	
Harold Mitchell RD 127 Hunt, N.Y. 14846	COST/TON $12.00 delivered to: Angelica, Short Tract, or Dansville							
Phoenix Recycling 1 Marseille Ave. West Seneca, N.Y. 14224	COST/TON $12.50 PAYMENT/TON $8 ONP#	PAYMENT/TON $2.50 BALED-PAY/TON $5.00#	BALED-PAY/TON $20.00 CLEAR HDPE#				PAYMENT/TON $8.00 BALED-PAY/TON $15.00#	ONP #8 $4.00/TON OCC BALES 800-900 LBS PLAS BALE 800-900 LBS $10.00 50/50 METL BISCUIT 3X3X3
Southern Tier Recycling Center 225 Homer St. Olean, N.Y. 14760	COST/TON $15.75 no twine or plastic bags	COST/TON $15.75 BALED-PAY/TON $3.00 no twine or plastic bags	COST/TON $15.75	COST/TON $15.75 30-40 yard roll-off	COST/TON $15.75 30-40 yard roll-off	COST/TON $15.75 30-40 yard roll-off	COST/TON $15.75	
Oak Tree Recycling P.O. Box 323 Hornell, N.Y. 14843		BALED-PAY/TON $6.50 trailer and transport provided#	BALED-PAY/TON $40.00 ONLY CLEAR HDPE $40.00 MIX $20.00 50/50 trailer and transport provided#				BALED-PAY/TON $8.50 TIN ONLY OCC each end, shrink wrapped trailer and transport provided#	PRICE FLUCTUATION W/15 DAY NOTICE OCC BALES 700 LBS MIN LOADING PROVIDED
Miller Brewing Co. RR# 6, Co. House Rd Auburn, N.Y. 13021				PAYMENT/TON $45.00		PAYMENT/TON $40.00		

BIDDER NAME AND ADDRESS	NEWSPAPER	CARDBOARD	PLASTIC	CLEAR GLASS	GREEN GLASS	BROWN GLASS	METAL CANS	#DEVIATIONS OR COMMENTS
CE Consulting and Marketing 33 Seneca St. Wellsville, N.Y. 14895		BALED-PAY/TON $5.00 transport provided, possible trailer provided#	BALED-PAY/TON $5.00 HDPE, PET separate bale trailer and transport provided WR#	PAYMENT/TON $10.00 transport provided, loaded by County#	PAYMENT/TON $5.00 transport provided, loaded by County#	PAYMENT/TON $5.00 transport provided, loaded by County#	BALED-PAY/TON $15.00 TIN ONLY trailer and transport provided WR#	OCC BALE 800-1000LBS MIN. 16 TON MONTH NO ASIAN BOARD PLAS BALE 600-800LBS GLASS 20 TON LOAD CLEAN PER MILL SPEC METL BALE 600-800LBS PERIODIC INSPECTION LOADING BY COUNTY
C.I.D. Refuse Service 10860 Olean Rd. Chaffee, N.Y. 14030	COST/TON $25.00 transport provided @ $200.00/haul NO bags paper or plastic, No twine or bundles in ONP or OCC#	COST/TON $25.00 BALED-PAY/TON $20.00 transport provided @ $200.00/haul trailer provided @ $150.00/month	COST/TON $45.00 BALED-PAY/TON $20.00 transport provided @ $200.00/haul trailer provided @ $150.00/month	COST/TON $15.00 transport provided @ $200.00/haul	COST/TON $45.00 transport provided @ $200.00/haul	COST/TON $45.00 transport provided @ $200.00/haul	COST/TON $15.00 transport provided @ $200.00/haul	OCC BALE 500 LBS MIN PLAS BALE 500LBS MIN FEE LOW-IF SEPARATE 22FT. OUTSIDE RAIL REJECTION FEE
B.F.I. Waste Systems 2321 Kenmore Ave. Box 9 Kenmore, N.Y. 14217	PAYMENT/TON $5.25	COST/TON $0.00 PAYMENT/TON $0.00 BALED-PAY/TON $5.00#	COST/TON $128.00 BALE-COST/TON $88.00 HDPE, PET separate	PAYMENT/TON $12.50	COST/TON $24.75	PAYMENT/TON $1.00	PAYMENT/TON $7.50 BALED-PAY/TON $15.00	OCC BALE 800 LBS MIN NO ASIAN BOARD
	COMMINGLE W/ONP, OCC, OMG COST/TON $13.95		COMMINGLED W/PLAS, GLASS, METL COST/TON $17.95					

PAPER Market Outlook Survey

August 1991

COMPANY	CONTACT		COMMODITY	QUALITY	QUANTITY	PRICE	CONTAINER	PICK-UP	PROCESSING REQUIRED	CONTRACT	COMMENTS
PHOENIX RECYCLING	SAM CAPESE	(716)685-1514	ONP, OCC,	NONE	NONE		YES	YES	NONE	YES	TAKES COMINGLED RECYCLABLES
MARCEL PAPER MILLS, INC.		(201)798-4000	ONP, OBG, CATALOGS, JUNK MAIL	CLEAN,NO YELL BOOKS	NONE	$0/TON	NO	YES	BALED	YES	
MAY BROCK CO., INC.	LORI BROCK	(716)852-6662	ONP METAL	NO WAXY OCC	NONE	$20/TON	YES	YES	BALED	YES	
CASCADES NIAGARA FALLS	MIKE DiCAMILLO	(716)285-3681	ONP,OCC	DRY, NO WAXY	NONE	$30/TON BALED DELIVERED	?	?	BALED	NO	
U.S. RECYCLING INDUSTRIES	FRANK	(716)891-6300	ONP,OCC	DRY, NO WAXY	40,000 LBS. MILL SIZE BAL	$17.50/TON BALED	NO	YES	BALED	YES	
FOREST WOOL INC.	MIKE CORRIGAN	(716)458-0330	ONP	DRY	NONE	MARKET	?	?		?	ONLY TAKING MONROE COUNTY
MODERN RECYCLING	MIKE LOREE	(716)754-8226	ONP, OCC	NO GREEN	YES (IF TRANSPORTED)	$24.80/TON MIXED	YES	YES	NONE	?	
TAMCO PAPER STOCK INC.	TOM KLEPFER	(716)852-1035	ONP, ALL WASTEPAPER, OCC,	SORTED	NONE		YES	YES	SORTED AND BALED	NO	
ERIE ENERGY PRODUCTS	CHAD KLAHR	(814)454-2828	ONP	DRY, BUNDLED, CLEAN	NONE	$15.00/TON DELIVERED	YES	?		NO	ACCEPTS ONLY WHEN NEEDED
DOMTAR FIBER PRODUCTS INC.		(716)681-1560	ONP, OCC, OFFICE	STANDARD	DEPENDING ON LOCATION		NO	YES		NO	DOING BUSINESS WITH CROWN-Y
CANUSA FIBRE GROUP	G. JARVIS COFFIN	(716)648-2652	ONP, MAGAZINES, OFFICE, OCC	SORTED	20 TON	20-OCC, -10-MAGS, 5-10-ONP	NO	YES	BALED		WANTS TO DESIGN A PROGRAM FOR US
U.S. GYPSUM CO.	JOE VERNON/BOB BEYER	(716)948 5221	ONP, OCC, MIXED								NOT ACCEPTING AT PRESENT TIME
FRONTIER FIBERS	HOWARD WISEMAN	(716)692-3448	ONP, PAPER								NOT INTERESTED

PLASTIC Market Outlook Survey
August 1991

COMPANY	CONTACT	COMMODITY	QUALITY	QUANTITY	PRICE	CONTAINER	PICK-UP	PROCESSING REQUIRED	CONTRACT	COMMENTS
PHILIP SHUMAN AND SONS INC.	GENE (716)685-2121 FARREL	PLASTIC		NONE		YES	YES	NONE	YES	
ICS CHEMICAL CORP.	JIM CROFT (716)636-0161	PLASTIC	NO OIL, CAPS, DIRT	35,000 POUNDS	REVIEWED MONTHLY	YES	YES		YES	WILL HELP SET UP SORTING LINES
ONTARIO RECYCLING	TOM (716)328-4253 KLEPFER	PLASTIC, HDPE, PS, PETE	SEPERATED, CLEAN	TRUCKLOAD	$.08-.11/LB NATURAL	YES	NO	BALED	YES	
ERT EMPIRE RETURNS CORP.	ROBERT (800)541-4948 MOSS	PLASTIC, PETE, HDPE,	SORTED, CLEAN		$10/TON	NO	NO	LOOSE		
CLEARVUE POLYMERS	DOUG (518)842-7134 WADSWORTH	PLASTIC BOTTLES	CAPS OFF, WASHED, NO OIL	NONE	20/TON MIXED 140/TON HDPE	NO	YES	BALED	YES	LEASE BALERS(OCC MARKET IF WE LEASE)
ALUMNI ENTERPRISES	MYRON (716)662-8445 CASCIO	PLASTIC, PETE, HDPE, ANY	STANDARD	NONE	MARKET	NO	NO	BALED		
KELLEY POLYMERS INC.	MICHELLE (716)877-8009 CATALANO	PLASTIC								
NORTH AMERICAN PLASTICS RECYCLING CORP.	TOM (516)747-6883 TOMASZEK	PLASTIC, PET, HDPE, SHRINK WRAP								
MOBIL CHEMICAL	MR. WATUNA (716)948-6700	PLASTIC, LDPE, HDPE								
WTE/STAR PLASTICS	PETER (516)459-1080 MECKLER	PLASTIC, PET, POLYETHYLENE, POLYCARBONATE		TRUCKLOAD	MARKET	YES	YES	BALED, GRINDED	YES	
PHOENIX RECYCLING	SAM CAPESE (716)685-1514	PLASTIC	NONE	NONE		YES	YES	NONE		TAKES RECYCLABLES COMINGLED
MODERN RECYCLING	[illegible] (716)754-8226 ECKMAN	PLASTIC	NONE	YES IF PICKED UP		YES	YES	NONE		

METAL Market Outlook Survey
August 1991

COMPANY	CONTACT	COMMODITY	QUALITY	QUANTITY	PRICE	CONTAINER	PICK-UP	PROCESSING REQUIRED	CONTRACT	COMMENTS
ERNEST AND JOSEPH CHAMBERS INC.	RAYMOND (716)692-5865 KISSEL	METAL								SAME OWNER AS KISSEL AND SONS
JOSEPH BARSUK'S ALL METAL INC.	JOE BARSUK (716)343-5696	METAL	STANDARD	NONE	MARKET	YES	YES		YES	
AUBURN STEEL	GARY (315)253-4561 CALDWELL	METAL, TIN CANS	SEPERATE FROM BI-METAL	20 TON LOADS		NO	NO	WASHED AND BALED OR SHREDDED	NO	
BATAVIA WASTE MATERIAL	SHERRY (716)343-6555	METAL, ALUMINUM	NO PAPER	NO		NO	NO		NO	
ANGIE'S SCRAP IRON AND METAL INC.	ANGELO (716)284-8729 ONEVELO	METAL, ALUMINUM, TIN	NONE	NONE	$440/TON ALUMINUM 20/TON TIN	YES	YES	BALED	YES	
AMG RESOURCES CORP	JAMES (412)777-7336 ORENDORFF	METAL	CLEAN	NONE	$45-60/GROSS TON	NO	NO	CLEANED	YES	
PHOENIX RECYCLING	SAM CAPESE (716)665-1514	METAL, CANS	NONE	NONE		YES	YES			NONE
MODERN RECYCLING	JOE (716)754-8226 HICKMAN	METAL		YES IF PICKED UP		YES	YES			NONE
MAX BROCK CO., INC.	LORI BROCK (716)652-6662	METAL	NONE	NONE		YES	YES	BALED	YES	
RRT EMPIRE RETURNS CORP.	ROBERT (800)541-4948 MOSS	METAL	SORTED, CLEAN	N/A	5.00/TON	NO	NO	LOOSE	N/A	

GLASS Market Outlook Survey
August 1991

COMPANY	CONTACT		COMMODITY	QUALITY	QUANTITY	PRICE	CONTAINER	PICK-UP	PROCESSING REQUIRED	CONTRACT	COMMENTS
CENTRAL BOTTLING CO.	JOSEPH RUNKLE	(315)255-5203	GLASS, FLINT, AMBER, AND GREEN								SENDING INFORMATION
OWENS-ILLINOIS/BROCKWAY GLASS		(315)598-0931	GLASS								
PHOENIX RECYCLING	SAM CAPESE	(716)685-1514	GLASS	NONE	NONE		YES	YES			NONE
MODERN RECYCLING	JOE HICKMAN	(716)754-8226	GLASS	NONE	YES IF PICKED-UP		YES	YES			NO GREEN GLASS
ANCHOR GLASS CONTAINER CORP.		(607)737-3531	GLASS	COLOR SORTED	NONE	$.02/LB	NO	NO	LOOSE OR LARGE CULLETS	YES	
RRT EMPIRE RETURNS CORP.	ROBERT MOSS	(800)541-4948	GLASS	SORTED, CLEAN	N/A	18.50-CLR. 23.50-GRN 12.50-BRN	NO	NO	LOOSE	N/A	AT FULL CAPACITY

CRA-13

ANTIFREEZE (Ethylene Glycol)

FPPF Chemical Co., Inc.
Buffalo, NY
(800)735-3773
Contact: Robert Roth
Manufacturer. Makes equipment and chemicals needed to process used antifreeze. Have a network of recyclers throughout the country using their equipment.

BATTERIES

Household:
Mercury Refining
790 Watervliet-Shaker Rd.
Latham, NY 12110
Plant:
26 Railroad Ave.
Albany, NY 12205
Contact: Vicki Hart/David Cohen
(800)833-3505; (518)785-1703
Recycler. Will contract for, but will not pick up household batteries (no lead acid) in lined, steel pails or drums. Company recovers mercury and silver; arranges for recycling or proper disposal of batteries it cannot use.

Clean Harbors
Syracuse
Contact: Sam Doubleday
(315)463-1349
Collects and ensures proper disposal or recycling of batteries.

Lead Acid
Atkins Waste Materials
80 Steel Street
Rochester, NY 14606
(716)254-8360
Contact: Louis Atkins
Recycler. Will contract for and pick up lead acid batteries which are sent to refineries. They can be loose, in gaylords, boxes, drums, etc.

Angie's Scrap Iron & Metal, Inc.
2133 Maple Ave.
Niagara Falls, NY 14305
(716)284-8729
Contact: Angelo Onevelo
Recycler. Handles ferrous and non-ferrous metals, and lead-acid batteries.

William Kugler and Brothers
5220 Lockport-Junction Rd.
Lockport, NY 14094
(716)434-0690
Contact: George Kugler
Recycler. Accepts lead-acid batteries.

Crown Battery
6444 Ridge Rd. (Wrights Corners)
Lockport, NY 14094
(716)433-8383
Manufacturer/retailer. Sends batteries to OH for salvage and remanufacture.

Kissel & Sons Scrap
831 River Rd., PO Box 57
N. Tonawanda, NY 14120
(716)692-5865
Contact: Raymond Kissel
Recycler. Takes lead acid batteries.

Integrated Tire
333 Ganson St.
Buffalo, NY 143203
(716)847-8473
Contact: Tom Flynn
Recycler. Takes lead acid batteries; usually coordinates with tire pickups.

CONSTRUCTION & DEMOLITION DEBRIS

Parker Bay Consultants, Inc.
Delaware Park Casino
Buffalo, New York 14222
(716)882-5920 (office)
(716)882-2558 (facility)
Contact: Al Gilewicz, President
Processor. Operates the Squaw Island C&D recycling facility under contract with the City of Buffalo. Takes broad range of mixed C&D, including vinyl siding.

NE Construction Materials Recycling
460 Lake Shore Blvd., East
Rochester, NY 14617
Contact: Dave Militello, (716)647-3136; or
Contact: Bill Bastuk, (716)342-9103
Recycler. Just starting a business, and are looking for material committments. Will contract for and pick up a minimum of 250 lbs of C&D debris from the Rochester area. No hazardous contaminants or oil-based materials. No more than 5-10 tons/wk.

Jim Frederico Wrecking, Inc.
PO Box 60897
Rochester, NY 14606
Contact: Gary Frederico
Recycler. Just starting a business, and are looking for material commitments. Call for details.

Parker Bay Consultants, Inc.
150 Lee Road
Gates, New York 14606
(716)458-5680
Contact: Dave Nowackowski or Jeff Tryon
Processor. Now open. Serves Rochester area for construction and demolition debris. Takes broad range of mixed C&D. See Buffalo listing for corporate information.

Waste Management of N. America
1661 Mount Read Blvd.
Rochester, NY 14608
(716)254-7631
Contact: Diane Fiorino
Will take C&D debris, but are currently landfilling. They are looking for recycling markets.

COMMERCIAL COMPOSTING OPERATIONS

Munson Farms
248 Munson Rd.
Groton, NY 13073
(607)898-3548
Contact: Phil Munson

Concorde Engineering
P.O. Box 171
Springville, New York 14141
(716)592-4170
Contact: Hank Duwe
Processor. Operates windrow turning equipment. Will travel to site.

RAGS/CLOTHES/FIBER

Fiber Waste Converters, Inc.
622 Northumberland Ave.
Buffalo, NY 14215
(716)834-0884
Contact: Richard Olka
Manufacturer. Buys post-consumer worn or torn clothes to make wiping cloth. Takes 300-1,000 lb., baled. Synthetic and cotton fabrics, no separation required, no button or metal removal needed. No oil/solvent/polish/dirty rags accepted.

RESTAURANTS/FOOD WASTE

Baker Commodities, Inc., Rochester Division
2268 Browncroft Blvd.
Rochester, New York 14625
(716)482-1880

Baker Commodities, Inc., Syracuse Division
Taft Park Drive
Syracuse, New York 13217
(315)458-4901

Baker Commodities, Inc., Jamestown Division
225 Main Street
Frewsburg, New York 14738
(716)569-3425

Darling & Co.
2000 William Street
Buffalo, New York 14240
(716)895-0655

GLASS

RRT Empire Returns
Box 536 101 Kuhn Road
Syracuse, NY 13211
(800)541-4948
Contact: David Grace
Processor. Operates glass beneficiation facility, including state-of-the-art ceramic detection equipment. Sells furnace-ready cullet.

Central New York Bottle Co., Division of Miller Brewing
RD#6 County House Rd.
Auburn, NY 13021
(315)255-5203
Contact: Joe Runkle
Manufacturer. Will contract for 1 year for clean, color-sorted container glass, delivered. As of 5/15/91, CNY Bottle was still taking green glass and paying for it. Uses glass to make bottles.

Anchor Glass Container Corp.
1901 Grand Central Ave.
Elmira, NY 14902
(607)737-3531
Contact: Duane Nielsen
Manufacturer. Color-separated clear and brown glass (no longer taking green glass as of 1991). Uses glass to manufacture bottles.

Owens Brockway Glass
RD#5, Great Bear Rd.
Fulton, NY 13069
(315)598-0931
Contact: Bill Anton
Or, contact: Brian Houger (315)598-0900.
Manufacturer. Only accepts furnace-ready cullet. See listing for RRT Empire Returns.

Hill Abrasives
PO Box 427
Ontario, NY 14519
(315)524-2626
Contact: John Hill
Manufacturer. Converts 25 tons of container glass per week in to loose grain abrasives for metal finishing and body shop work, filtering-water purification and highway striping for non-skid reflective surfacing.

Central Recycling Cooperative
184 Sheridan Ave.
Elmira Heights, NY 14903
(607)733-2227

Resource Recycling Tech
PO Box 1568
Binghamton, NY 13903
(607)729-9331
Contact: Brian Feely, Purchasing Mgr.
Processor.

Ithaca Scrap Processors
402 Third St., at Route 13
Ithaca, NY 14850
(607)272-1830
Contact: Ida Webber
Processor. Takes all kinds of recyclables, including glass.

Empire Recycling Corp, Inc.
PO Box 574
Utica, NY 13503
(315)724-7161
Contact: Michael Foye or Steve Kowalski.
Processor. Accept only container glass. Clear must be separated from amber and green. Green and brown can be mixed. It must be clean; caps and labels are okay. It can be crushed.

Waste Management of NY
2003 Bleeker St.
Utica, NY 13501
(315)797-5225
Contact: Fred David

GENCO Ind.
Div. of Genesee County ARC
64 Walnut St.
Batavia, NY 14020
(716)343-1123
Contact: Thomas Glair

RRT Empire Returns of Monroe County, Inc.
384 Lee Road
Rochester, NY 14606
(716)254-3380
Contact: Bob Moss
Upstate Returns Corp.
189 Martin St.
Rochester, NY 14605
(716)232-4870
Contact: Hiram Hernader, Purchasing Director.

Waste Management of Rochester
1661 Mt. Read Blvd.
Rochester, NY 14604
(716)385-3163
Contact: Paul Grugnale

ALPCO Inc., Recycling Div.
846 Macedon Center Rd.
Macedon, NY 14502
(716)986-3143
Contact: Alton Plumb
Processor. Will pick up mixed glass in gaylord boxes. Accepts labels, but no lids.

Integrated Waste
100 Corporate Parkway, Suite 312
Amherst, NY 14226
(716)833-3344
Contact: Chuck Laubisch
Processor. Accepts all recyclables.

Phoenix Recycling Co., Inc.
1 Marseille Ave.
West Seneca, NY 14224
(716)685-1514
Contact: Carmela Copece

Daystar Recycling
25R Lafayette Ctr.
Canandaigua, NY 14424
(716)396-6550
Contact: Mark Naef
Processor/Recycler. Will contract for and pick up in Central and Western NY a minimum of 20 ton/wk of color-sorted container glass. Labels are okay. No ceramics or plate glass.

Glass--Other States PA

Pennsylvania Cullet Processing Center
P.O. Box 174
Corsica, Pennsylvania 15829
814-379-3991
FAX 814-379-3592
Contact: Wendy Schimp

Processor. Glass beneficiation facility shipping furnace-ready cullet to several manufacturing plants in the area. Wants color-separated container glass only. No other kinds of glass or ceramics. Wants only whole or broken bottles. Will not accept any mechanically crushed glass. Shipment is by appointment only. As of 12/15/92 needs all three colors of glass. Will pay, even for green. In the event of over-supply, reserves the right to restrict shipments to those suppliers who provide all three colors.

Owens-Brockway Glass Containers
151 Grand Avenue
Clarion, Pennsylvania 16214
814-226-0513

Manufacturer. Only accepts processed, furnace-ready cullet. See above listing for the Pennsylvania Cullet Processing Center, but will discuss opportunities with anyone who can ship furnace-ready material. All shipments must be scheduled. First time customers must receive clearance through corporate offices in Toledo, Ohio. Talk to Patty Hauser at 419-247-1199.

Ball-Incon Containers
1 Glass Place
Port Allegany, Pennsylvania 16743
814-642-2521
Contact: Steve Gruey

Manufacturer. Has no cleaning equipment, and can only take very clean material. Is most interested in flint. Will accept some amber. Will not take any green.

MRF LIST (companies that take multiple materials):

Shay Trucking
North Main Street
Dansville, NY 14437
(716)335-6018
Contact: Jon Shay

Recycler. Are the polystyrene collection center for Plastics Again in Western NY.

BFI, Inc.
262 Woodward Avenue
P.O. Box 571
Kenmore, NY 14217
Contact: Peter Martin

Laidlaw Waste Systems
4545 Morgan Place
Liverpool, NY 13090
(315) 457-0003
Contact: Lee Cornell

CID Recycling Center
10860 Olean Road
Chaffee, NY 14030-9799
Contact: Richard Penfold

Crown - Y
P.O. Box 54
Cuba, NY 14727
Contact: Tim Resch

Waste Management, Inc.
1661 Mount Reed Blvd.
Rochester, NY 14606
(716)254-6600
Contact: Mike Whyte

RRT Empire Returns Corp.
101 Kuhn Road
P.O. Box 536
Syracuse, NY 13211-0536
(315)455-7080
Contact: Thomas Jordan
Processor/Large MRF.

Hornellsville Recycling
P.O. Box 276
Arkport, NY 14807
Contact: Ed Phelps
Recycler/Processor. Will contract for and pick up CPO/high grades packaged in containers in west/central NY and northern PA. Will contract for, but will not pick up, PVC in the form of vinyl siding or flexible sheet, from western NY and northern PA for use in the manufacture of drainage pipes, and garden hose. Needs the material in customer boxes.

RRT Empire Returns
429 East Hiawatha Blvd.
Syracuse, NY 13208
(315)475-0116
Processor/MRF. Takes all paper and OCC.

Genco. Ind. (Division of Genessee Co. ARC)
64 Walnut St.
Batavia, NY 14020
(716)343-1123
Contact: Wayne Kornow
Processor/MRF.

Ontario Recycling, Inc.
12 Carin Street
Rochester, NY 14611
(716)328-4253
Contact: Craig Lahr
Processor. Will contract for and pick up HDPE and most resins. Accepts them in any form. Prefer separated materials but will negotiate for mixed.

Integrated Waste Systems
266 Hopkins Street
Buffalo, NY 14220
Contact: Jack Quigley
Southern Tier Recycling
255 Homer Street
Olean, New York 14760
(716)372-6905
Contact: Ed Renaud/Mike Threehouse

Modern Recycling
4746 Model City Road
Model City, NY 14107
(716)754-8226
Contact: Mike Loree
Processor. Accepts delivered ONP and high grades.

ALPCO Inc., Recycling Division
846 Macedon Center Road
Macedon, NY 14502
(716)986-3143
Contact: Alton Plumber
Processor. Will pick up mixed glass in gaylord boxes. Accepts labels, but no lids. Will contract for and pick up baled OCC, ONP and high grade paper. Will pick up white goods and tin cans.

RRT Empire Returns of Monroe County, Inc.
384 Lee Road
Rochester, NY 14606
(716)254-3380
Contact: Bob Moss
Processor/MRF. Takes ONP loose or bundled in brown bags. Separated PET and HDPE containers.

Ithaca Scrap Processors
402 Third St., at Route 13
Ithaca, NY 14850
(607)272-1830
Contact: Ida Webber
Processor. Takes all kinds of recyclables, including glass, high grades and baled OCC.

Central Recycling Coop
184 Sheridan Ave
Elmira Heights, NY 14903

Oil Refiners/reprocessors

Buffalo Waste Oil Service
(Safety Clean)
PO Box 427
Buffalo NY 14205
(716)855-2212
Contact: Mary Speak
Contact: Mike Bradish (716)826-8931

Chem-ecol, Ltd.
Unit 22
255 Great Arrow Ave.
Buffalo, NY 14207
(716)877-4585
Contact: Bill Tait
Recycler/Manufacturer. Will pick up a minimum of five 55-gal drums of hydraulic and lubricating oil in East and mid-US and Canada. No PCBs, dirt, water, rust or scale.

Niagara Lube
(716)822-2300
Contact: Tom McCloud

Valvoline Quick Chnger
Zayre's Plaza
5897 South Transit Rd.
Lockport, NY 14094
Accepts motor oil from individuals.

Lamar Enterprises, Ltd.
129 Pond View Heights
Rochester, NY 14612
(716)723-1316 or 728-8837
Contact: Al Oakley
Distributor. Sells "Black Gold" waste oil burners manufactured by Robert Sun, Inc., Tenessee.

PAPER

ALPCO Inc. Recycling Div.
846 Macedon Ctr. Rd.
Macedon, NY 14502
(315)986-3143
Contact: Alton Plumb, Jr.
Recycler. Will contract for and pick up baled OCC, ONP and high grade paper.

Daystar Recycling Corp.
25R Lafayette Center
Canandaigua, NY 14424
(716)396-9550
Contact: Mark Naef
Recycler. Will contract for and pick up baled OCC (no boxboard) and ONP in western and central NY.

Krieger Waste Paper, Inc.
50 Portland Ave.
Rochester, NY 14065
(716)232-4767
Contact: Richard Michaels
Recycler. Takes OCC and ferrous and non-ferrous metals.

RRT Empire Returns of Monroe County, Inc.
384 Lee Road
Rochester, NY 14606
(716)254-3380
Contact: Bob Moss
Processor/MRF. Takes ONP loose or bundled in brown bags.

Regional Recycling and Resource Recovery
315 Hollenbeck St.
Rochester, NY 14621
(716)342-7210
Contact: Chris Porte
Processor/Recycler.

Suncoast Industries
a.k.a. Forest Wool
One Curlew St.
Rochester, NY 14606
(716)458-0330
Contact: Richard Vincelli
Manufacturer. Makes insulation, hydroseeding mulch and animal bedding. Uses dry, ONP with normal inserts.

Certified Document
(subsidiary mill for Forest Wool Inc.)
(716)458-9873
Manufacturer/Processor. Takes office paper. Provides confidential destruction services.

Flower City Tissue Mill
700 Driving Park Ave., PO Box 13497
Rochester, NY 14613-0497
Only takes pulp substitutes.

Paper Mills Supply Co. (formerly called Gordon Wastepaper Co.)
PO Box 1604
Rochester, NY 10603
(716)244-5050
Contact: Dave Gordon

Spector Waste Paper
1436 Scottsville Rd.
Rochester, NY 14624
(716)235-8856

US Gypsum Co.
2844 Judge Rd., PO Box 139
Oakfield, NY 14125
(716)948-5221
Contact: Joe Vernon
Manufacturer. Uses mixed paper, ONP, OCC and pulp substitutes

Cascades Niagara Falls, Inc.
4001 Packard Rd., PO Box 1830
Niagara Falls, NY 14302
(716)285-3681
Contact: Mike DiCamillo
Manufacturer. Makes brown paper for corrugated manufacture. Will contract for and pick up loose, boxed high grades separated by grade and OCC, chipboard, and linerboard. Will work with everyone. Also buys baled OCC from brokers and packers.

National Recycling Center
105 Skillen St.
Buffalo, NY 14207
(716)875-6922
Contact: Michael Lewkowitcz
Recycler/Processor. Takes OCC, ferrous and non ferrous metals

Royal Waste Material, Co.
21 Grey St.
Buffalo, NY 14212
(716)856-9684
Contact: J.B.
Processor. Takes high grade paper and a minimal amount of OCC

US Recycling Industries
475 Ludwig Ave.
Buffalo, NY 14227
(716)891-6300
Contact: John Rome

Caraustar Industries
Stevens St., PO Box 508
Lockport, NY 14094
(716)434-2045
Contact:
Manufacturer. Makes gypsum board liner using baled ONP, OCC and pulp substitutes.

Domtar Fiber Products
3421 Walden Ave.
Depew, NY 14043
(716)681-1560
Contact: Mike Florio
Broker (for the mill in Lockport). Takes 180 tpd, baled mixed paper, boxboard cutting, OCC and ONP. Will spot bins for office paper collection at high volume supplies.

Ramcol Fibers Inc.
226 Ohio St.
Buffalo, NY 14204
(716)845-5650
Contact: Trey Coley/Vince George
Processor. Takes high grades. Services large office suppliers with bins and transport.

Genco. Ind. (Division of Genessee Co. ARC)
64 Walnut St.
Batavia, NY 14020
(716)343-1123
Wayne Kornow
Processor/MRF.

Allentown Industries
101 Oak St.
Buffalo, NY 14206
(716)856-6354
Contact: Sam Licata
Recycler/Processor. Office paper, delivered.

Phoenix Recycling Co. of Buffalo
5661 Transit Road
Depew, NY 14043
(716)685-1514
Contact: Sam Copece
Recycler. Takes all paper and OCC, and will negotiate on storage and transport.

Paper Recycling Co. Inc.
PO Box 128
Medina, NY 14103
(716)798-2694
Contact: John Bale
Broker/Recycler. Will contract for and pick up ONP, OMG and ledger papers in the NE, either in bins, baled or in gaylords. Interested in gable-top containers (milk cartons).

Modern Recycling Inc.
PO Box 209
Model City, NY 14107-0209
(716)754-8226
Contact: Mike Loree
Processor. Accepts delivered ONP and high grades.

Frontier Fibers Inc.
22 Mechanics St.
N. Tonawanda, NY 14043
Contact: Howard Wiseman
(716)692-3448
Processor. Will provide bins and transport for office paper. Mixed office paper should be separated from CPO. Will negotiate transport. No minimum if delivered. Also accepts delivered OCC.

Max Brock Co., Inc.
18 Metcalf
Buffalo, NY 14206
(716)852-6662
Contact: Jerry or Harold Brock
Processor/Recycler. Takes high grade, CPO and OCC, delivered. Need to have white/yellow manilla folders separated out.

Wray Fibres International
1231 Delaware Ave., #5
Buffalo, NY 14209
(716)886-0535
Contact: Dan O'Connor
Broker. Wastepaper.

Canusa Fibre Group
PO Box 548, 1 Main Street
Hamburg, NY 14075
(716)648-2652
Contact: Tom Seekins
Broker. Will contract for and pick up high grades/CPO, ONP and OMG from western NY. No minimum, but must provide in boxes, gaylords or baled.

TAMCO Paper Stock Inc.
860 Seneca St.
Buffalo, NY 14210
(716)852-1035
Contact: Tom Klepfer
Broker. Baled high grade papers, separated by grade. Prefers trailer loads.

Associated Paper Stock
PO Box 590
East Aurora, NY 14052
(716)655-4420
Contact: Larry Allen
Broker. OCC and high grades.

International Fibres
8680 Main St.
Williamsville, NY 14221
(716)634-3955
Contact: Dan Marciano
Broker. OCC and wastepaper.

Great Lakes Paper Fibres Corp.
PO Box 663
Buffalo, NY 14240
(716)854-3232
Contact: Nicholas Amati, Art Bevilaqua
Processor/Broker. Services large office paper supplies. Will pick up minimum of 2 tons. Will provide Gaylord boxes or canvas carts that hold 600-700 lbs.

PHOTO WASTE RECYCLING

The following are photographic film recyclers interested in recovering silver from film, as well as other reusable materials. For films that do not contain silver, you may be able to market them to outlets that accept LDPE plastic for recycling.

Gemark Corp.
216 DuPont Ave.
Newburgh, NY 12550
(914)561-1720
Contact: Steve Navedo

Certified Document Destruction
1 Curlew Street
Rochester, NY
(716)458-9873

PLASTICS

Marsh Plastics
4043 Maple Road
Amherst, NY 14226
(716)834-6500
Contact: Mike Bendes
Broker. Will pick up and contract for (individual basis) truckloads of all resin types, sorted. They prefer to handle engineering resins like polycarbonate, ABS, PPO, acetol. Will accept them in containers standard to the industry, ie gaylords or covered drums.

Ultraplas
205 Commercial Street
Blasdell, NY 14219
(716)823-8924 FAX (716)826-6509
Contact: Kevin Friedman
Processor. Grinding. Wants HDPE milk jugs and detergent bottles. Prefers truckload quantities.

Shay Trucking
North Main Street
Dansville, NY 14437
(716)335-6018
Contact: Jon Shay
Recycler. Is the polystyrene collection center for Plastics Again in Western NY.

TAMCO Paper Stock, Inc.
860 Seneca St.
Buffalo, NY 14210
(716)852-1035
Contact: Tom Klepfer
Broker. Needs hard plastics for a lumber manufacturing firm.

Ontario Recycling, Inc.
12 Cairn Street
Rochester, Ny 14611
(716)328-4253
Contact: Craig Lahr
Processor. Will contract for and pick up HDPE and most resins. Accepts them in any form. Prefer separated materials but will negotiate for mixed.

Kellex Polymers Inc.
135 Tonawanda
Buffalo, NY 14207
(716)877-8009
Contact: Michelle Catalano

Royal Waste Material Co.
21 Grey St.
Buffalo, NY 14212
(716)854-9684
Contact: JB Nowak

US Recycling Industries
475 Ludwig Ave.
Buffalo, NY 14227
(716)891-6300
Contact: Frank Karczewski
Recycler/Processor. HDPE baled, delabeled and washed with rings removed.

RRT Empire Returns of Monroe County, Inc.
384 Lee Road
Rochester, NY 14606
(716)254-3380
Contact: Bob Moss
Processor/MRF. Separated PET and HDPE containers.

Paper Recycling Co. Inc.
PO Box 128
Medina, NY 14103
(716)798-2694
Contact: John Bale
Processor/Recycler. Will contract for and pick up a minimum of a 1/2 truck full of ABS, PET, HDPE, LDPE and PVC in the NE US. They can be loose, in gaylords or baled.

ICS Plastics Corp.
135 Pineview Drive
Amherst, NY 14228
(716)636-0363
Contact: J. Paul MacPherson III
Broker/Processor. Has outlets for resin-separated materials all over the world. He accepts all plastics baled or in gaylord boxes. Films must be baled. Requires at least a truckload. Will negotiate on transport.

Occidental Chemical Corp
360 Rainbow Blvd., S. Box 728
Niagara Falls, NY 14302
(215)251-1092
Contact: Robert Elcik/Ginny Luft.
Manufacturer. A large PVC buyback program, if you provide them with minimum one-ton bales of clean, post-consumer PVC bottles, they will arrange for transport.

Mobil Chemical
1159 Pittsford-Victor Rd.
Pittsford, NY 14534
Contact: Glenn Garbach at (716)248-1348
Mike Vatuna at (716)248-1532
Manufacturer. Makes stretch film and LDPE/HDPE grocery sacks (recycling program with Wegman's). Garbach handles stretch film applications, Vatuna everything else.

Unicorn Polymer Products, Inc.
8900-A Old Lake Rd.
Angola, NY 14006
(716)549-6078
Contact: Richard Kryder
Manufacturer. Plastic lumber maker starting production in 1991. Wants mostly pre-identified baled to spec plastics.

Alumni Enterprises
4201 N. Buffalo St.
Orchard Park, NY 14127
(716)662-8445
Contact: Myron Cascio
Broker. Primarily interested in PET and HDPE.

Hornellsville Recycling
PO Box 276 Hurlbut St.
Arkport, NY 14807
(607)295-7083
Contact: Ed Phelps
Manufacturer/Processor. Will contract for, but will not pick up, PVC in the form of vinyl siding or flexible sheet, from western NY and no rthern PA for use in the manufacture of drainage pipes, and garden hose. Needs the material in customer boxes.

Mobil Chemical
PO Box 799
Macedon, NY 14502
(315)986-6630
Contact: Gary Haigh
Recycler. Will contract for and pick up truckloads of post-in dustrial LLDPE.

Shuman Plastics
35 Neoga St.
Depew, NY 14043
(716)685-2121
Contact: Ken Shuman
Processor/Exporter/Broker. Charges to pick up 1,000 - 5,000 lbs of all plastic resins. Charges for loose materials. Will provide containers.

PLASTICS-PVC

Paper Recycling Co. Inc.
PO Box 128
Medina, NY 14103
(716)798-2694
Contact: John Bale
Processor/Recycler. Will contract for and pick up a minimum of a 1/2 truck full of ABS, PET, HDPE, LDPE and PVC in the NE US. They can be loose, in gaylords or baled .

Occidental Chemical Corp
360 Rainbow Blvd., S. Box 728
Niagara Falls, NY 14302
(215)251-1092
Contact: Robert Elcik/Ginny Luft.
Manufacturer. A large PVC buyback program, if you provide them with minimum one-ton bales of clean, post-consumer PVC bottles, they will arrange for transport.

Hornellsville Recycling
PO Box 276 Hurlbut St.
Arkport, NY 14807
(607)295-7083
Contact: Ed Phelps

Manufacturer/Processor. Will contract for, but will not pick up, PVC in the form of vinyl siding or flexible sheet, from western NY and northern PA for use in the man ufacture of drainage pipes, and garden hose. Needs the material in customer boxes.

TELEPHONE DIRECTORIES

Liberty Ash, Inc.
112 Phylis Court
Elmont, NY 11003
(718)526-1465
Contact: Michael Bellino

Recycler. Will contract for any amount of "intact" phone directories. They use the books for: Boiler fuel, rubber and wood products.

"Specialty Paper Products" (formerly Boise Cascade)
PO Box 68
Beaver Falls, NY 13305
(315)346-1111
Contact: Harry Bracken

Manufacturer. Takes small quantities of telephone white sections, bindings and covers must be removed, 1 truckload/every couple of mos. Only thru a broker.

Columbia Corp.
Rte. 295
Chatham, NY 12037; and Waloomsac, NY
(518)392-4000
Contact: Ken Wilbur/Larry Beayon.

Manufacturer. Only taking limited amounts of directories for recycling through NYNEX. Contact John Balaguer of NYNEX at (508)762-1636 for information.

TIRES

Integrated Tire
333 Ganson St.
Buffalo, NY 14202
(716)847-8473

Processor. Some tires are recycled, some are cut and sent for tdf.

Main Tire Exchange
North Main St.
Dansville, NY 14437
(716)335-6018
Contact: Harold Flickiner
Recycler. Wants clean, dry truck tires only.

Tire Disposal Inc.
3232 Buffalo Road
Rochester, NY 14624
(716)247-5545
Contact: Judy and Leo Sailer, Sr.
Processor/Manufacturer. Recycles tires to be used in products sold by Re-Tire Co. (716)458-6842. Will take car or truck tires, delivered . Rims cost $50 extra (8/5/91).

Quad Technologies
3909 Witmer Road
Niagara Falls, New York 14305
(716)298-4985
Contact: Corey Sanoian
Transporter/Processor. Accepts over 600,000 tires/month. Tires are processed for reclaim and asphalt rubber markets.

TONER CARTRIDGES/CASSETTES

Many office and computer supply stores offer toner recharges as well. This list is definitely not all-inclusive.

Toner Cartridges--Western NY:
TC Technologies
860 Englewood Ave.
Tonawanda, NY 14223
(716)874-2745
Contact: Richard Herman

Bonner-New Inc.
Box 130
Depew, NY 14034

RRI Ribbon Reinking Service
215 #3 Pepper Tree Drive
Amherst, New York 14228
(716) 691-4257
Contact: Kevin Hatton
Company reclaims and reinks spent computer ribbon cartridges. The reinked cartridges are sold at a substantial discount to new cartridges. Primarily Buffalo area but can serve whole state.

Quality Laser Care
775 Main St.
Suite 325
Buffalo, New York 14203
(716)852-2203
FAX (716)852-2204
Contact: Gary Skalyo
Remanufacturing laser toner cartridges.

American Toner & Cartridge
35 Mushroom Boulevard
Rochester, NY 14623
(716)272-8100
Contact: Mike Skidmore

EIT - Environmental Imaging Technology, Inc.
2851 Clover Street (Barn Bazaar)
Pittsford, New York 14534
(716)264-0720 FAX (716)264-9312
Contact: Tony Antinoro
Re-manufactures laser toner cartridges, inkjet cartridges. Does printer ribbon re-inking and re-loading.

EcoLaser of Rochester
Box 343, 144 Fairport Village Landing
Fairport, New York 14450
(716)383-9030
Contact: Lisa Iddings
Buys and refurbishes used laser printer, personal copier, microfilm and laser fax cartridges. Also, "restrings" printer ribbons.

WOOD

Northeastern Construction Materials Recycling
460 Lakeshore Blvd. Ext.
Rochester, NY 14617
(716)647-3136
Contact: Bill Bastuk
Processor. Will contract for and pick up a minimum of 1 ton of wood (no pressure treated, no paint); maximum 10-20 ton/wk within 80 miles of Rochester.

Pallet Exchange Inc.
534 Hopkins Street
Buffalo, NY 14220
(716)823-2400
Contact: Jim Jankowiak
Recycler/Processor. Accepts wooden pallets for processing.

Interstate Pallet Exchange
5626 Saunders Settlement Rd.
Lockport, NY 14094
(716)434-5730
Contact: Donald Clark, President
Recycler/Processor. Will contract for and pick up minimum 1-t on loads of broken wood pallets. Also accepts wood waste, which Interstate chips and sells as boiler fuel.

Pallet Peddler
9515 Roanoke Rd.
Stafford, NY 14143-9540
Contact: Al Legott
(716)768-8762

METALS

Advance Metals Recycling
776 Ohio St.
Buffalo, NY 14203
(716)847-6200
Contact: Rick
Recycler. Ferrous/non-ferrous. Car shredder. Taking white goods from GLOW region.

TAMCO Paper Stock, Inc.
860 Seneca St.
Buffalo, NY 14210
(716)852-1035
Contact: Tom Klepfer
Broker. Taking tin cans.

Twin Village Salvage
4153 Broadway
Depew, NY 14043
(716)683-5373
Takes tin cans.

Joseph Barsuk's All Metal Inc.
3604 Pearl St., PO Box 265
Batavia, NY 14020
(716)343-5696.
Contact: Joseph Barsuk

Batavia Waste Material
301 Bank
Batavia, NY 14020
(716)343-6555
Contact: Sherry
Take tin cans.

William Kugler & Brothers, Inc.
5220 Lockport-Junction Rd.
Lockport, NY 14904
(716)434-0690
Contact: George Kugler
All metals, including tin cans and white goods.

Kissel and Sons Scrap Iron
831 River Rd.
N. Tonawanda, NY 14120
(716)692-5865
Contact: Raymond Kissel
Ferrous and non-ferrous metals.

Ernest and Joseph Chambers, Inc.
Route 63
Medina, NY 14103
Ferrous and non-ferrous metals. Take white goods.

Angie's Scrap Iron & Metal, Inc.
2133 Maple Ave.
Niagara Falls, NY 14305
(716)284-8729
Contact: Angelo Onevelo
Ferrous, non-ferrous and batteries.

Scrap Metal of Niagara Inc.
4805 Lockport Rd.
Niagara Falls, NY 14306
(716)284-5865
Contact: Simon
Ferrous, non-ferrous and white goods.

Edward Arnold Scrap Processing, Inc.
2216 Angling Rd.
Corfu, NY 14036
(716)891-6300
Contact: Ed Arnold Jr.
All metals. Will provide containers for collection and pick up.

US Recycling Industries
475 Ludwig Ave.
Buffalo, NY 14212
(716)891-6300
Contact: John Rome
Takes tin cans, washed, delabeled, 1 end open, baled. Delivered at door without baling has no value.

Max Brock Co., Inc.
18 Metcalf
Buffalo, NY 14206
(716)852-6662
Contact: Jerry/Harold Brock
Tin cans can be mixed with sheet steel. Takes all metals. For payment, must separate metals.

National Recycling Center
112 Skillen St.
Buffalo, NY 14207
(716)875-6792
White goods.

Daystar Recycling Corp.
25R Lafayette Center
Canandaigua, New York 14424
(716)396-9550 Fax (716)396-9560
Contact: Mark Naef
Specializes in steel(tin) cans. Sources for mills in Canada and Ohio.

CRA-14

SW-92-4005
August 24, 1992

New York State Department of Environmental Conservation

MEMORANDUM

TO: Regional Solid Waste Engineers, Bureau Chiefs, Section Supervisors
FROM: Norman H. Nosenchuck, Director, Division of Solid Waste
SUBJECT: DIVISION TECHNICAL AND ADMINISTRATIVE GUIDANCE MEMORANDUM: AVOIDED COSTS IN SOLID WASTE
DATE:

PURPOSE

This Technical and Administrative Guidance Memorandum (TAGM) on Avoided Costs in Solid Waste is intended for those municipalities which do not now have an approved Comprehensive Recycling Analysis (CRA), or which seek to cease recycling a material previously included in an approved CRA. This TAGM provides a consistent approach for such municipalities to apply to the very complex problem of determining when "economic markets," as defined in GML Section 120-aa(2)(a), do exist. This TAGM provides a framework for consistency between local government's efforts to create and enforce local source separation laws, and the existing solid waste management framework provided by local Solid Waste Management Plans (SWMPs) and Comprehensive Recycling Analyses (CRAs). Finally, this TAGM provides guidance, in the form of technical assistance to the regulated community, that will enable all municipalities in New York State to evaluate the costs of solid waste management in a similar manner.

BACKGROUND

The roles of the municipalities and of the Department in the development of local source separation laws and ordinances are defined in law and in Regulation:

- GML Section 120-aa(2)(a) requires that:

> "...no later than September first, nineteen hundred ninety-two, a municipality shall adopt such a local law or ordinance to require that solid waste which has been left for collection or which is delivered by the generator of such waste to a solid waste management facility, shall be separated into recyclable, reusable or other components for which economic markets for alternate uses exist."

This section of statute defines "economic markets" to exist when:

> "...the full avoided costs of proper collection, transportation and disposal of source separated materials are equal to or greater than the cost of collection, transportation and sale of said material less the amount received from the sale of said material."

- While the Department is not authorized to directly enforce compliance with the requirements of GML Section 120.aa, 6 NYCRR Part 360 requires the Department to consider the extent to which these local laws foster and encourage recycling. For example when reviewing a CRA, 6 NYCRR Subparagraph 360-1.9(f)(5)(iii) requires the Department to evaluate the impact of these local laws on:

> "...the development and enhancement of economic markets for recyclables recovered within the service area under local laws or ordinances adopted or to be adopted under section 120-aa of the General Municipal Law."

Additionally, when determining the duration of solid waste management facility operating permits, 6 NYCRR Subdivision 360-1.11(d), requires that the Department consider:

> "...the extent of the commitment to implementing a recyclables recovery program and to develop and enhance economic markets for recyclables recovered within the proposed service area under local laws or ordinances adopted or to be adopted under section 120-aa of the General Municipal Law.

The Department cannot make such a consideration without evaluating whether the manner in which a municipality makes their determination of the presence of "economic markets' is appropriate.

The Department is also mandated to provide technical assistance to the regulated community.

- ECL Section 27-0715.1 requires the Department to "...conduct a comprehensive program of technical assistance to local governments, the private sector and individuals to enhance their capabilities to properly plan for and implement solid waste management programs consistent with the state solid waste management policy set forth in 27-1016 of this article."

- ECL Section 27-0715.1 requires the Department to "...assist municipalities in identifying and evaluating (i) alternatives available for management of current and future solid waste, including costs and impacts of specific waste management methods..."

- ECL Section 27-0175.2(c) requires the Department to provide "...assistance in developing and implementing waste reduction, source separation and recycling programs."

Given this mandate, the Department has developed this TAGM as technical assistance to explain the perspective which the Department will apply when considering these important local source separation laws.

The Department has also published a companion document to this TAGM entitled "Guide to Writing a Local Recycling Law," April 1992. This provides some general information on how a municipality could comply with GML Section 120-aa. Copies of this Document are available from the Regional Solid Waste Engineer, or from the Bureau of Waste Reduction and Recycling.

GUIDANCE

Throughout this TAGM there are numerous references to "the Department" or "Department staff" as either sources of information or guidance or as the recipient of correspondence, reports, explanations or justifications.

Since this TAGM is expected to give guidance to those outside DEC, it would be helpful to give these people a more specific point of contact. In each instance, the initial point of contact should be the Bureau of Waste Reduction and Recycling as follows:

New York State Department of Environmental Conservation
Division of Solid Waste
Bureau of Waste Reduction and Recycling
50 Wold Road
Albany, NY 12233-4015

Telephone (518) 457-7337

Note to municipalities and others: If you are sending reports or other correspondence, please send the original to the address above, and send a copy to you local Regional Solid Waste Engineer. (See Attachment A)

The Department recognizes that recycling can impose certain additional costs upon a municipality, a solid waste management authority, a planning unit or any sub-unit of a planning unit (hereafter, these will collectively be referred to as a municipality in this TAGM) that they would not incur if they did not recycle. Many of these costs may not be directly recovered through reduced collection and disposal costs, especially in the early stages of a recycling program. However, this TAGM is based upon the assumption that most municipalities have already, or will soon be, instituting recycling programs to recover recyclable materials despite these extra costs.

These recycling programs are based upon the CRAs and local SWMPs which incorporate not only economic considerations but go beyond economics to incorporate policies and logistics into solid waste management planning to achieve a least cost scale of operations by evaluating subjects like: the need for a materials recovery facility (MRF); the appropriate types of material collection programs and equipment; or the methods and amounts of materials processing which must be done.

The method described in this TAGM evaluates the changes (marginal cost) to the actual, life-cycle costs which will occur when adding or deleting a recyclable material to an existing or planned solid waste management system to be implemented through a CRA. This evaluation is then used to identify those recyclable materials which should be added to or deleted from that system based upon the anticipated, long term presence of "economic markets" as defined in GML Section 120-aa.

GML Section 120-aa also requires an evaluation of economic markets for reuse of materials. This TAGM does not specifically address a calculation of avoided costs for the reuse of materials. However, in general, the method and ideas presented here are also applicable to evaluating the presence of "economic markets" for the reuse of materials.

This guidance is presented in three sections:

I. Suggested Method
II. Definition of Parameters Used in the Suggested Method

III. General Considerations for "Economic Markets" Evaluations

I. Suggested Method

This TAGM provides a two step method which a municipality may use to make a determination of "economic markets."

Step 1. Establish a BASELINE of recyclable materials:

In Step 1, create a BASELINE or list of materials which the municipality plans to recycle. Include those recyclable materials which will require source separation on September 1, 1992, under the requirements of GML Section 120-aa, because "economic markets" exist. Also include any other materials which will be recycled by the municipality in its discretion.

When a municipality or planning unit has an approved CRA before September 1, 1992 (the effective date of GML Section 120-aa) the BASELINE should include all of the materials which are identified as recyclable in the most recently approved CRA. When no CRA has been approved prior to September 1, 1992, include those materials identified in a draft CRA. However, the BASELINE should be modified, as soon as that CRA is approved, to include the recyclable materials identified in it.

If appropriate, the BASELINE may specify some materials which are slated for recycling but which will not require mandatory source separation because "economic markets" do no exist for the materials. This may be due to logistics or other considerations based upon existing source separation, recycling and other resource recovery activities in the area. Describe the reasons for this distinction in the CRA, the Local SWMP or in the documentation for the "economic markets" analysis.

This BASELINE will be the starting point for the Step 2 evaluation.

Step 2. Evaluate the Marginal Cost of Adding or Deleting Recyclable Materials From the BASELINE.

In Step 2, calculate the marginal costs of recycling specific materials using the FORMULA:

"ECONOMIC MARKETS" EXIST IF THE **ADDITIONAL COST TO COLLECT, PROCESS & TRANSPORT** RECYCLABLES TO MARKET IS LESS THAN OR EQUAL TO THE **MARKET VALUE** OF THE RECYCLABLE MATERIAL PLUS THE **AVOIDED DISPOSAL COST.**

Apply this FORMULA to all recyclable materials not already on the BASELINE, which are to be evaluated for "economic markets." (Consult the Department for guidance on what materials to consider in the Step 2 evaluation.) Evaluate materials either singly or in groups, depending on which method will best promote the development of "economic markets."

When reporting the results of a Step 2 evaluation to the Department,

document only those materials which the Department has specifically requested a Step 2 evaluation and which "economic markets" do not exist; unless including this analysis for other materials will help address local concerns.

Also use the FORMULA to document that "economic markets" do not exist before removing materials from the BASELINE or from an existing source separation mandate. However, it is well known that the best way to encourage the development of strong recyclable materials markets and to foster greater public participation is to maintain consistency in the program, especially in the area of what recyclable materials should be source separated. Accordingly, the Department recommends that municipalities not drop recyclable materials except in extreme cases of lost "economic markets".

A municipality need not submit documentation to the Department for any material which, they determine, "economic markets" do exist.

4 II. Definition of Parameters Used in the Suggested Method

If a municipality chooses to evaluate economic markets using the suggested method in this TAGM, evaluate the FORMULA's specific parameters as described below:

A. ADDITIONAL COSTS TO COLLECT:

Include all additional collection costs that result from adding a material to the BASELINE, less any cost savings from not collecting the same material as solid waste. These ADDITIONAL COSTS TO COLLECT can be either positive or negative representing costs or avoided costs.

Generally, collection costs end when recyclable materials reach a MRF and when other solid waste reaches a disposal facility or a transfer station. Include costs for handling and transporting materials after they arrive at these end points elsewhere in the FORMULA.

Calculate the ADDITIONAL COSTS TO COLLECT in three parts:

1. Additional recyclable materials collection costs;

The costs to collect recyclable materials are the costs to add a material to an existing recyclables collection system which wouldn't be needed if that material wasn't being source separated. This includes:

- costs to modify a collection vehicle or system to handle the material - i.e., costs for an on-vehicle compactor for plastic bottles;
- costs for extra staff time needed collect that material - i.e., the time to hand separate bottles at the curb; and
- additional educational or administrative expenses - i.e., promotional materials to advertise the new source separation mandates.

2. Reduced solid waste collection costs;

Subtract any savings gained, by reducing the volume of solid waste requiring collection, from the additional recyclable materials collection costs. Since solid waste collection vehicles are generally more expensive to purchase and operate than are the vehicles most commonly used to collect recyclable materials, savings can be gained by:

- a reduction in the number of raw waste collection per household each week;
- prolonged life and reduced maintenance of expensive packer trucks;
- longer, more efficient solid waste collection routes which reduce staff time and vehicle wear; and
- removal of dense or non-compactable recyclable materials, such as newspapers and bottles, which may improve the compaction efficiency of trash collection vehicles and enable them to collect higher tonnage per vehicle trip.

In some cases, removing one specific recyclable material from waste collection may have no real impact on mixed waste collection costs. However, if several recyclable materials are removed, significant savings can be realized. Calculate these savings using a total system analysis as described in section III.E of this TAGM.

3. Savings to the Waste Generator;

In some cases, most notably in the commercial sector, source separation of recyclable materials may result in a direct savings to the waste generator. For example, if a generator's waste disposal contract is based upon weight or volume, increased recycling can drastically reduce their solid waste disposal expenses. If appropriate, include this savings when calculating the ADDITIONAL COSTS TO COLLECT.

However, be careful to consider whether or not this savings by the generator ultimately results in a decrease in revenues at a municipally operated solid waste facility. If this is the case, this loss of revenue may offset cost benefits when considering the economics of the municipality's total solid waste management system.

In cases where source separation increases costs to the generator, evaluate these costs too.

B. ADDITIONAL COSTS TO PROCESS:

Include all costs incurred to add a material to the BASELINE recycling system and to prepare the collected material to obtain the specified MARKET VALUE. Consider only the amount of those costs which are above the cost savings from not having to process the material as solid waste (i.e., baling, transfer, shredding) in the manner for which the AVOIDED DISPOSAL COST has been calculated.

When processing is to be done under contract, include the appropriate portion of the contract price in the ADDITIONAL COST TO PROCESS. However, in evaluating avoided costs analyses the Department may request information to justify a contract which appears unreasonable when compared to similar contracts obtained by other municipalities in the surrounding areas.

Also include the cost to store and dispose of any reject materials which cannot be recycled which will result specifically from adding the material being considered.

In some cases a municipality will have to increase the size or capabilities of certain multi-use processing equipment when adding a recyclable material to an existing system. In other cases, all that will be required is to provide another bin for a picker to place these materials into. In both cases, there may be some additional administrative work in dealing with the market for these materials. Include these in the ADDITIONAL COSTS TO PROCESS.

Some of these costs, like the administrative costs, will be annual expenses. Others, like the addition of new processing equipment, will be amortized capital costs. However, sometimes new equipment may lower the costs for processing some materials already on the BASELIN. Consider these system-wide savings as avoided processing costs for the material(s) being evaluated.

C. ADDITIONAL COSTS TO TRANSPORT:

Include all recyclables transportation costs less the cost of transporting the material if it were to be disposed as solid waste.

Generally, the transport of recyclable materials should consider moving the materials from the MRF to the location where the specified MARKET VALUE is to be paid. The costs for transportation of solid waste should consider moving the materials from a transfer station to the disposal facility for which the AVOIDED DISPOSAL COST has been calculated. However, take care to match the start/end points to those considered in the calculation of ADDITIONAL COSTS TO COLLECT.

The ADDITIONAL COSTS TO TRANSPORT can be negative in those cases where recyclables market prices are quoted FOB the loading dock of the MRF and the solid waste is being disposed in a distant landfill. In other cases, however, where markets for recyclable materials are distant and the recyclable materials are bulky, the ADDITIONAL COSTS TO TRANSPORT can be significant.

D. MARKET VALUE:

The MARKET VALUE should be the known or anticipated value that will be paid to a municipality, or that the municipality will have to pay (negative market value) to an outside entity (a processor, broker or an end used) to

take the recyclable materials from the municipality. After the outside entity takes control of the material, it should no longer be under the municipality's control.

Base the MARKET VALUE on long term market price expectations rather than relying solely upon current prices. Keep in mind the need for long term program stability characterized by the sustained ability to move material to market despite fluctuations in market conditions and price.

Base projected revenues on:

- experience in what has been received in the past for the specific materials;
- any anticipated changes to available markets which may occur after the September 1, 1992 legislative deadline for mandatory source separation laws;
- industry analyses and projections; and
- any existing or proposed contract prices which will be in force during the period considered in the evaluation of "economic markets." However, the Department may request information to justify a contract which appears unreasonable when compared to similar contracts obtained by other municipalities in the surrounding areas.

The Department recognizes that, for many materials, long term market information is not available and a firm estimate of MARKET VALUE may be difficult to obtain. Don't identify an "economic market" prematurely by assigning an overly optimistic MARKET VALUE. Instead, define the method by which future market trends for a material will be assessed in subsequent iterations of the "economic markets" evaluation.

E. AVOIDED DISPOSAL COST

The AVOIDED DISPOSAL COST represents the cost savings a municipality achieves by not having to dispose of recyclable materials as solid waste.

The Department recognizes that the calculation of AVOIDED DISPOSAL COSTS can be extremely complex. Accounting systems for landfills, often do not include all of the true costs and in some cases, municipal accounting systems may not explicitly define the costs adequately to make these calculations. Even so, this information is essential if a municipality is to define the presence of "economic markets" for recyclable materials.

When calculating the AVOIDED DISPOSAL COST, the Department recommends a two-part process which first determines the savings in the actual disposal expenses and then evaluates the indirect costs which accompany this reduction.

1. Savings to the Actual Disposal Expenses

Calculate savings to the actual disposal expenses assuming that an approved solid waste management facility in New York State or an out-of-state facility, which complies with the applicable solid waste management regulations of the governing state, will be used. If such a facility is not currently being used assume costs for the use of such a facility as called for in a Department approved local SWMP. This could include transfer and transportation costs if appropriate.

The facilities used in considering the actual disposal expenses generally fall into two categories:

a) Facilities under contract

When a municipality proposes to dispose of solid waste at an acceptable facility under contract, use the full per ton, tipping fee defined in the contract for the actual disposal expenses. However, in evaluating "economic markets" analyses the Department may request information to justify a contract which appears unreasonable when compared to similar contracts obtained by other municipalities in the surrounding areas.

b) Municipally owned/operated facilities

When a municipally owned/operated facility is used, calculate the savings to the actual disposal expenses as the savings realized in the total disposal costs at that facility. Very often this may not be closely related to the facility's tip fee because the tip fee at a solid waste management facility often will not account for the true cost of disposal at the facility. (There are many reasons for this which are outside the scope of this TAGM.)

Instead, use a total system analysis, as described in section III.E of this TAGM, to calculate exactly what costs will be reduced as the waster volume decreases. This approach will allow you to calculate the cost savings on a per ton basis, even if you are considering the removal of only one or two recyclable products at a time.

At a minimum, however, when applying the suggested method, the actual disposal expenses at a municipal disposal facility should be no less than an average long term spot market solid waste disposal price for acceptable facilities in the region. This minimum value will account for the opportunity cost lost by the municipality (if recyclable materials are disposed as waste) for using disposal capacity which could have otherwise been sold on the spot market.

2. Indirect Costs

The AVOIDED DISPOSAL COST should also include the impact of indirect costs of recycling to a municipality's solid waste management system. These indirect costs will vary for each system. Some examples of possible indirect costs are:

- Waste generators may be charged on a volume basis for disposal of solid waste, but there may be no charge for disposal of recyclable materials. This will decrease revenues to the municipality;

- With certain types of disposal facilities, such as solid waste incinerators or composting facilities, removal of specific recyclable materials may improve or diminish the operational efficiency of the facility. This could raise or lower costs to the municipality.

- Certain materials, when landfilled, will take up greater amounts of space or require greater handling, on a per ton basis, than do others. This can be caused by differences in density of the materials, potential environmental hazards and even the physical nature of the material. These differences, can increase or decrease costs to a municipality.

- The impact of removing any one specific recyclable material from the wastestream may have a far different impact upon disposal costs than would the removal of several recyclable materials at the same time. A significant reduction in required disposal capacity could decrease the peak demand placed upon an existing facility and even make a planned expansion unnecessary.

Carefully consider these types of indirect costs when evaluating the AVOIDED DISPOSAL COSTS.

III. General Considerations for "Economic Markets" Evaluations

When evaluating the presence of "economic markets" a municipality may use the method provided in this TAGM or some alternative method acceptable to the Department. However, the following guidance is provided to municipalities, whether or not they use the proposed method, to provide a level of consistency in "economic markets" analyses throughout the State.

A. Who Should Prepare the Evaluation of Economic Markets? - How Often?

The "economic markets" evaluation should be performed by any municipality which is responsible for solid waste collection or recycling when drafting the initial local law or ordinance. In some cases this may mean that each municipality performs their own analysis. In other instances several municipalities whose solid waste management systems are interrelated, either a planning unit or several planning units combined, may benefit by performing their "economic markets" analysis on a regional basis. The planning period to be considered in this initial analysis should be the same as the planning period used in the local solid waste management plan or plans for the municipalities involved.

In addition, the analysis should be updated, if necessary, each time the municipality prepares a CRA, CRA update, or Annual Report of Recycling Activities. Municipalities should consult the Department for guidance on which materials, if any, should be considered in their updated evaluation.

Submittals to the Department should include: a summary of those recyclable materials evaluated; the results of the evaluation; documentation of the "economic markets" evaluation for those materials which the Department has requested such a determination and which the municipality determines that "economic markets" do not exist; and a copy of the proposed (or existing) local laws/ordinances requiring the source separation of the recyclable materials.

B. Items Which Must Be Separated With or Without "Economic Markets"

Certain materials must be separated from the wastestream whether or not "economic markets" exist. For example, lead acid batteries are excluded from the wastestream by law (Chapter 150 Laws of 1990 and ECL 27-0701). Also, 6 NYCRR 360-3(e)(l)(iii) requires that all permitted solid waste incinerators have a program in place to separate out certain untreatable wastes which include all batteries and bulky wastes. There are also certain items which must be excluded at specific solid waste management facilities through permit conditions. Examples of these include yard waste, glass, metals and household hazardous waste. In these cases, the materials must be separated. The question of "economic markets" is, therefore, moot and an analysis is unnecessary. Any costs incurred as a result of separating these materials should be kept separate and not combined with the costs associated with recycling other materials which depend on the existence of "economic markets."

C. Removal of Materials From Mandated Separation Requirements

From time to time, changes in market conditions may make certain recyclable materials lose their "economic markets." In these cases, a municipality may desire to drop these recyclable materials from their list of materials requiring source separation until market conditions become more favorable. The "economic markets' analysis can be used to demonstrate that this is appropriate.

However, it is well known that the best way to encourage the development of strong recyclable materials markets and to foster greater public participation is to maintain consistency in the program, especially in the area of what recyclable materials should be source separated. Accordingly, the Department recommends that municipalities not drop recyclable materials except in extreme cases of lost "economic markets."

D. Complex Situations / WastePlan / AVOIDED COST SPREADSHEET

Due to the potential variability of the many solid waste management systems throughout the State, this TAGM tries to lay a general framework for a municipality to use when evaluating the presence of "economic markets." The Department acknowledges that this TAGM will not fully define every situation which can arise. Municipalities are encouraged to contact the Department for assistance in interpreting how this TAGM should be applied in their specific case.

In many situations, the presence of multiple solid waste management scenarios, or a combination of municipal and commercial collection systems, may make it very difficult to evaluate the presence of "economic markets." In this case, a municipality can consider the wastestream in small pieces

and evaluate each separately. For example, a municipality might create a different list of recyclable materials for the residential wastestream than it does for the industrial or commercial wastestream within their jurisdiction.

If this method is chosen, the complexity of the system might necessitate the use of a computer program, like "WastePlan," to keep track of all of the variables. The "WastePlan" computer program is currently being made available by the New York State Association for Solid Waste

Management (NYSASWM) and the New York State Energy Research and Development Authority (NYSERDA) for use by municipalities. For information on how to obtain a copy of this program and instructions on its use, contact your Regional Solid Waste Engineer.

Another way to handle complex situations is to assign a range of values to the parameters required in the evaluation of "economic markets" based on the range of costs anticipated within the municipality. Then you can evaluate the presence of economic markets using just the median values of these ranges.

The appendix of this TAGM contains a model for a spreadsheet which may be used by a municipality to assign median values for recyclable materials when applying the FORMULA presented in this TAGM. A copy of this spreadsheet, for use on a LOTUS computer program, may be obtained by sending a formatted 3 1/2 or 5 1/4 inch disk to:

The New York State Department of Environmental Conservation
Division of Solid Waste
Bureau of Waste Reduction and Recycling
50 Wolf Road
Albany, NY 12233-4015

E. Use a Total System Analysis Where Appropriate

Calculating the savings achieved by the removal of just one or two recyclable materials can be extremely difficult. Generally a small reduction in the amount of waste disposed will have little discernible impact upon a municipality's annual operating expenses or debt service for capital costs. But, savings in the costs for managing the remaining solid wastes do occur when aggressive recycling is instituted. To account for these changes use a total system analysis to analyze small waste volume reductions as part of a total system rather than as incremental changes.

For example, a small change to the amount of solid waste requiring collection or disposal will have no appreciable impact on collection or disposal costs. The savings may be significant, however, when an additional ten or twenty percent (10-20%) of the wastestream is recycled.

To do a total system analysis, evaluate the changes to the cost for the entire solid waste management system as the recycling system grows and matures. Do this by considering the changes in collection or disposal costs anticipated as a recycling system moves from no recycling or

recycling at current levels, to recycling once short term goals are realized and finally, recycling at the level which will be achieved as a long term goal.

From this, you can calculate the disposal cost savings achieved on a per ton basis for each stage of the recycling program's growth. Then you can assign this cost per ton to each of the recyclable materials to be removed in that stage.

Apply a total system analysis to any areas in the calculation of "economic markets" when the monetary value of small changes in waste volume must be known.

F. Fixed and Capital Costs

In any evaluation of "economic markets," a municipality should assume that a certain minimum level of recycling will occur, whether they use the method proposed in this TAGM or not. There will be certain expenditures for education, administration, multi-purpose collection vehicles, MRFs, or balers which will serve several recyclable materials. These will remain essentially the same not matter how many recyclable materials are collected. These fixed and capital costs should not be assigned to any one specific material or group of materials; even on a pro-rated, amortized basis.

While intuitively this may seem to prejudice the FORMULA unfairly in favor of recycling, it doesn't. The addition or removal of any one specific material will not make this equipment any more or less necessary. This cost, therefore, will not change.

To approach this issue from another tack, consider the case where an appropriate portion of fixed costs and amortized capital costs were to be assigned to each new material on a pro-rated basis. If this is done, the share of these costs assigned to each material already being recycled (the materials in the BASELINE if you are using the method of this TAGM) should be reduced by a commensurate amount. Thus, each material which already has an "economic market," would realize a greater economic advantage that it had before. That additional cost advantage should be credited to the material being added to the system. This credit will balance out the pro-rated fixed costs and amortized capital costs assigned to the product being considered for a net impact of zero.

A hypothetical example of this relationship follows:

1. Assume that the annual fixed costs and amortized capital costs for an entire recycling program are $1,000.

2. If 4 materials are included in the BASELINE recycling system, each material should be assigned a portion of that cost which we will arbitrarily assume to be $250, or 1/4 of the total.

3. If a new material (Material E) is added to that system the Material E would be assigned a cost of 1/5 of the total $1,000 for amortized and capital costs, or $200.

4. At the same time however, each of the BASELINE products would have their share of the fixed and amortized capital costs reduced from $250 to $200. Thus providing a cost advantage of $50 for each of the four materials, or a total of $200.

5. This $200 cost advantage should appropriately be subtracted from the $200 assigned initially to Material E for fixed and capital costs. This results in no net changes to the costs for Material E for these fixed costs.

G. Recycling System Efficiency

Over the first several years of a recycling program, the initial start-up costs, on a per ton basis, are far more costly than the per ton costs of a stable, mature program. Using a BASELINE to set an initial level of recycling which is appropriate for the municipality, as discussed in this TAGM, guarantees that the "economic markets" evaluation will consider a recycling system of a magnitude and scale appropriate to the municipality.

Some other issues regarding system efficiency are discussed below.

1. Percent Recoveries

Initially, when adding a material to a recyclable materials collection system, percent recoveries will be low. When evaluating economic markets the appropriate percent recovery should be that anticipated, once optimum public participation has developed.

2. Overall Program Efficiency

When evaluating CRAs and "economic markets" analyses, the Department will be looking at the overall program efficiency. In some cases, the lack of an "economic market" may be the result of a municipality's use of a less than optimal method of handling that recyclable material. In this case, Department staff will work with the applicant to seek ways to streamline the recycling program before the "economic market" analysis is approved.

3. Limited Amounts of Material

For some small municipalities, the amount of certain recyclable materials available may be extremely limited. In these cases, it could become difficult for this material to be economically recycled, especially if the markets are far away. A small scale program may also have unusually high processing and other costs. In these cases, the Department may request that the municipality seek to work with neighboring communities or with nearby planning units to achieve a more efficient system before the evaluation of "economic markets" is approved.

4. Adding More Efficient Equipment

Sometimes adding a specific, high-volume recyclable material, or a group of recyclable materials, may require a municipality to make significant increase in the size or capabilities of their multi-use

collection equipment or their administrative and personnel staffs. An appropriate portion of these costs, based upon the percentage use of that machinery for the product being evaluated, should be included in calculating the cost of collection or processing of that recyclable material.

However, if this equipment will result in a savings on processing costs or an increased market value for products already included in the BASELINE, this savings should be assigned to the cost analysis of the material for which the modifications have been made.

As a hypothetical example of this relationship, the city of Useagain wishes to consider whether there is an "economic market" for the addition of PVC non-returnable containers to their BASELINE recycling system. They estimate that they will obtain 10 tons of PVC each year.

Currently, Useagain collects and markets 50 tons of mixed HDPE and PET non-returnable containers which are baled and sold as mixed plastic for $37 per ton. Their market will not accept PVC in the mixed bales.

Engineering analyses have indicated that the most cost effective way for Useagain to add PVC non-returnable containers to their recycling system would be to add a highly automated plastic identification and separation machine to the process line in their MRF. The annual cost for operation and maintenance of this equipment, combined with an 20 year amortization of it's initial purchase and installation price is $6,500 each year.

However, the new sorting machine will also allow Useagain to separate and market the 50 tons of mixed HDPE and PET, as separated materials for which they will be paid an average price of $140/ton. Thus, by adding this machine Useagain will realize an <u>additional</u> annual revenue of $103/ton for the HDPE and PET, or a total cost benefit of $5,150. Since this machine would not be necessary if PVC recycling were not to be done, this cost benefit should be assigned to the PVC container processing cost evaluation. This cost benefit will effectively reduce Useagain's net annual PVC processing cost to $1,350, or $135 for each of the 10 tons of PVC which they expect to recover.

H. Time Value of Money

The time value of money is important when considering major capital projects undertaken by municipalities. Many solid waste management costs occur up-front and require long-term financing. Other costs, such as the daily operation and monitoring of facilities recur annually. Still, other expenses, like landfill closure, and maintenance and monitoring, will occur at some time in the future. To account for this, discount all costs consistently at a rate acceptable to the Department. For use in the proposed method of this TAGM, it is recommended that all costs be discounted to present day values.

I. Social and Environmental Costs

Social and environmental costs of solid waste management represent the costs for adverse impacts, real or perceived, to those living in proximity to a facility and the costs for adverse impacts upon environmental resources. Recycling activities also have a certain level of environmental and social cost.

The cost of social and environmental impacts is often estimated as the cost to build and operate facilities which will avoid them. This TAGM recommends that all cost evaluations consider only the use of approved solid waste management facilities which substantially meet the requirements of New York State's Part 360 regulations or the appropriate regulations of the state in which the facility is located.

J. Commercial Solid Waste Management

In many municipalities throughout New York State, the handling of solid waste occurs through the efforts of a combination of public and private entities. This public/private cooperation in the handling of solid waste can create several problems in an evaluation of "economic markets." These are discussed below:

1. Commercially Generated Solid Waste

The Department acknowledges that there can be extreme difficulties involved in getting data on commercially managed solid waste. Similarly, enforcement of recycling ordinances on commercial solid waste can be difficult, especially if a municipality does not have flow control. Where no information is available, the evaluation should, at a minimum, identify those areas where additional information and/or additional legislative authority is needed.

2. Commercial Waste Management

Frequently, the public/private partnership in solid waste management means that solid waste and recyclables can move back and forth from the public to the private sectors. For example, a homeowner may pay a private carter to pick up waste, who in turn may pay to dispose of that waste at a publicly-owned landfill or transfer station. Recyclables handled by the same carter or collected through other means may go to a municipal or private MRF.

Often, when waste moves from the private to the public sector, someone pays for the service provided. A proper evaluation of who pays the costs or receives the revenues (or any subsidies which exist) is crucial when considering the presence of "economic markets." For the purposes of determining "economic markets," the bottom line should be the anticipated

economic impact to the municipality, its residents, businesses and institutions.

K. Subsidized Costs

Properly account for all subsidies which impact costs. This should include an evaluation of what will happen if and when these subsidies end.

Subsidies provided by the municipality to encourage recycling, or for other purposes, still have a cost impact to the municipality which is part of the cost of recycling. Grant monies and low interest loans provided by the Federal or State governments also save the municipality money, however, the costs must often be paid by taxes, a portion of which ultimately come from the municipality. Subsidies provided through some other source should also be properly accounted for.

L. Depletion Costs

Landfills and some other solid waste management facilities have limited useful lives after which they must be replaced. Depletion costs relate the value of the existing disposal capacity to the cost of its replacement. In some cases, depletion costs can be significant. In others, they make little or no difference. These are discussed below:

1. New, Municipally Owned Solid Waste Management Facilities

If an "economic markets" analysis considers disposal costs at a municipally owned landfill which is generally in compliance with all Part 360 regulations, depletion costs will have little impact on the value of solid waste disposal.

Depletion costs are calculated based upon the difference in cost between the facility being used and the cost of a replacement facility. At this time, New York State's solid waste management regulations provide state-of-the-art levels of environmental protection. The best estimate of the costs of replacement facilities are that they will be essentially the same as current costs, except for inflation. Accordingly, depletion costs will be negligible.

2. Non Complying Municipally Owner Facilities

If a municipality is currently relying on a short term, substandard interim facility (such as a landfill under consent order) which will need replacement in the near future, replacement will cost far more than today's disposal. Accordingly, depletion costs could be a major part of the value of disposal capacity at that facility, which far exceeds the current tip fee. This value should be added to the avoided cost of disposal of solid waste when evaluation the presence of "economic markets."

3. Facilities Under Contract

If an "economic markets' analysis considers disposal costs at a facility under a per ton contract, in most cases, depletion costs will not be a factor. Since the municipality does not own the resource, it suffers no harm if that resource is used up. If, however, a municipality relies on

a contract for a set amount of air space this limited resource can be used up. In this case, depletion costs should be considered.

M. Non Depletion Of Natural Resources

Using the framework presented in this TAGM, any cost benefits derived from recycling in terms of non-depletion of raw materials should not be considered unless the municipality itself will receive the benefit. Generally, this would only be the case if the raw materials are to be derived locally or if a manufacturing facility in the municipality receives a cost benefit, by using the recycled materials generated in that municipality, which would not otherwise be available to them. As an example municipally-generated compost can often be used at a municipal facility at no cost to the municipality.

N. Volunteer Labor

The value of time spent by volunteers to administer the recycling program should be considered a cost if it appears that this source of labor will not be available to the municipality on a long term basis. This should be calculated as the cost to replace this labor.

Attachments:

A. Regional Offices/Solid Waste Engineers
B. Model Avoided Costs Spreadsheet

cc: E. Sullivan
R. Cross
R. Feller
J. Willson
K. Hamm
M. Keenan
Regional Directors
Regional Engineers

CRA-15

RECYCLE

Recycling begins in the store where we choose products packaged in recycled and/or recyclable material, such as:

- glass
- paperboard
- aluminum
- some plastics

REDUCE

... the volume of trash going to landfills by buying products packed in recyclable packaging.

When shopping:

- buy only what you need
- look for the recycle symbol
- or the words:"made from recycled paper"
- choose boxes with gray interior (recycled paperboard)
- buy "econosize" or bulk packaging when possible. It not only saves money, but also reduces packaging
- avoid disposable products

RE-USE

... as much as you can. For example: clothing-donate, hand down, resell

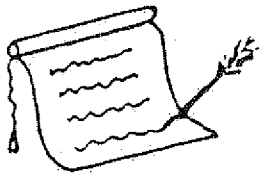
boxes - save and use for storage

Re-using materials helps reduce the amount of waste needing disposal. If you can't, find someone else who can.

REJECT

... products that are overpackaged or ones with non recycled/recyclable containers. Learn to distinguish, identify and reject:

- blister packs
- non-recyclable plastics
- mixed material packages (brick paks)
- overpackaged products



Write to manufacturers to compiain about their failure to help with our waste disposal crisis!

IMPORTANT RECYCLING INFORMATION

POSTAL CUSTOMER

Allegany County
Department of Public Works
County Office Building Rm 210
Belmont, New York 14813

BULK RATE
CAR-RT
US POSTAGE PAID
WELLSVILLE, N.Y.
PERMIT # 300

Logo Contest Winner

* BRIAN HUNT *

Belmont Central School

FACT: New York State generates 18,000,000 tons of municipal solid waste annually. In Allegany County we produce 35,000 tons annually.

FACT: The average New Yorker throws out approximately five pounds of trash each day, adding up to more than a ton per person each year.

F T: Fewer than 300 landfills remain open in New York State today; by 1990 only 100 are expected to be in use.

PRINTED ON RECYCLED PAPER

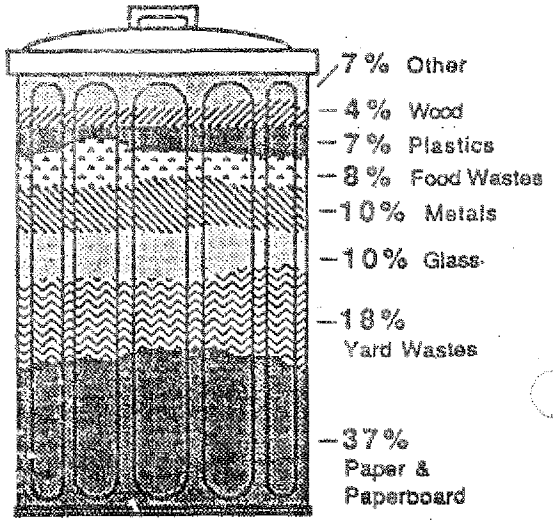
From the desk of...

Gretchen T. Gary

Allegany County Recycling Coordinator

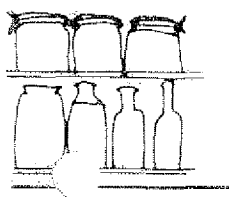
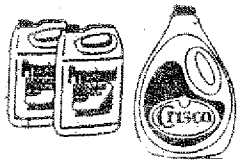
"...Education, social and cultural changes are needed to bring the waste disposal problem under control. This pamphlet is the first of many in which the Allegany County Department of Public Works has selected to provide you, the householder and business person with information. I encourage county residents to become more aware of the current waste disposal problems facing us today. Your talents, help and views are always welcome!"

Components of Municipal Solid Waste



GIVE YOUR TRASH A SECOND CHANCE!

RECYCLABLE MATERIALS

MATERIALS TO REMOVE	WHAT IS BEING ACCEPTED	WHAT IS NOT BEING ACCEPTED	RECYCLING PREPARATION
GLASS 	glass containers: clear, brown and green	milk white glass plate glass light bulbs fluorescent bulbs crystal	rinse - labels can stay on. separate by color. store - do not break
PAPER 	newsprint cardboard boxes box board - shoe boxes - cereal boxes - packaging boxes	waxed or plastic coated cardboard and paper glossy inserts & ads colored inserts & ads -"funny page" magazines, phone books	newspapers - keep clean and dry. stack less than 1 ft. high, tie with twine or pack in brown grocery bag. cardboard - breakdown flat, stack and tie in small bundles.
PLASTIC 	all plastic containers plastic wrap & bags milk jugs & crates detergent & shampoo bottles butter tubs motor oil bottles pvc pipe	plastic toys, dolls	rinse clean flatten for storage
METAL CANS 	tin cans steel cans aluminum cans bi-metal cans	aerosol cans	remove labels rinse clean flatten for storage

As of July 1, 1989, containers for your recyclable material will be available at each of the seven waste transfer stations throughout Allegany County.

For information on composting, disposing of tires, waste oil, batteries, white goods (appliances), and household hazardous wastes, contact the Allegany County Department of Public Works.

(716) 268-9230

CRA-16

The Allegany County Recycling Program

"Educating Allegany County For a More Resourceful Tomorrow"

Turn to the back page for preparation requirements on recyclables.

Printed on Recycled Paper

Disposal Areas For Solid Waste & Recyclables

Transfer Station 1	**Caneadea, State Route 19**
Transfer Station 2	**Canaseraga, State Route 70**
Transfer Station 3	**Cuba/Friendship, County Road 20**
Transfer Station 4	**Angelica, County Road 20**
Transfer Station 5	**Alfred/Almond, Satley Hill Road**
Transfer Station 6	**Bolivar, Deans Flats Road**
Transfer Station 7	**Wellsville, Island Park Entrance**
County Landfill	**Angelica, County Road 48**

Turn to back page for preparation requirements on recyclables.

New Transfer Station Schedule

Operating Schedule for Allegany County Transfer System
Effective February 5, 1990

Station	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1) Caneadea			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
2) Canaseraga					8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
3) Cuba/ Friendship	8:00 a.m. 3:30 p.m.			8:00 a.m. 3:30 p.m.		8:00 a.m. 12:00 p.m.
4) Angelica		8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.		8:00 a.m. 12:00 p.m.
5) Alfred		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.
6) Bolivar			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
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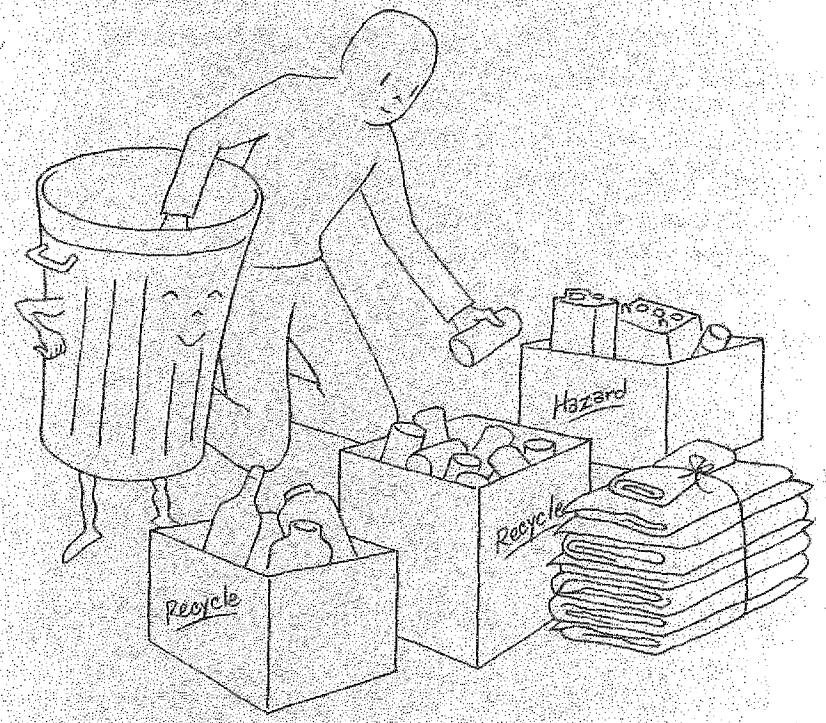
8) Landfill	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 12:00 p.m.

Note: Holiday Schedule for 1990 (All facilities will be closed)

October 8	Columbus Day	**November 23**	Day after Thanksgiving
November 12	Veteran's Day	**December 25**	Christmas Day
November 22	Thanksgiving Day		

PUT WASTE IN ITS PLACE

-- a guide to household solid waste management



Allegany County
Department of Public Works
Room 210 County Office Building
Belmont, NY 14813
(716) 268-9230

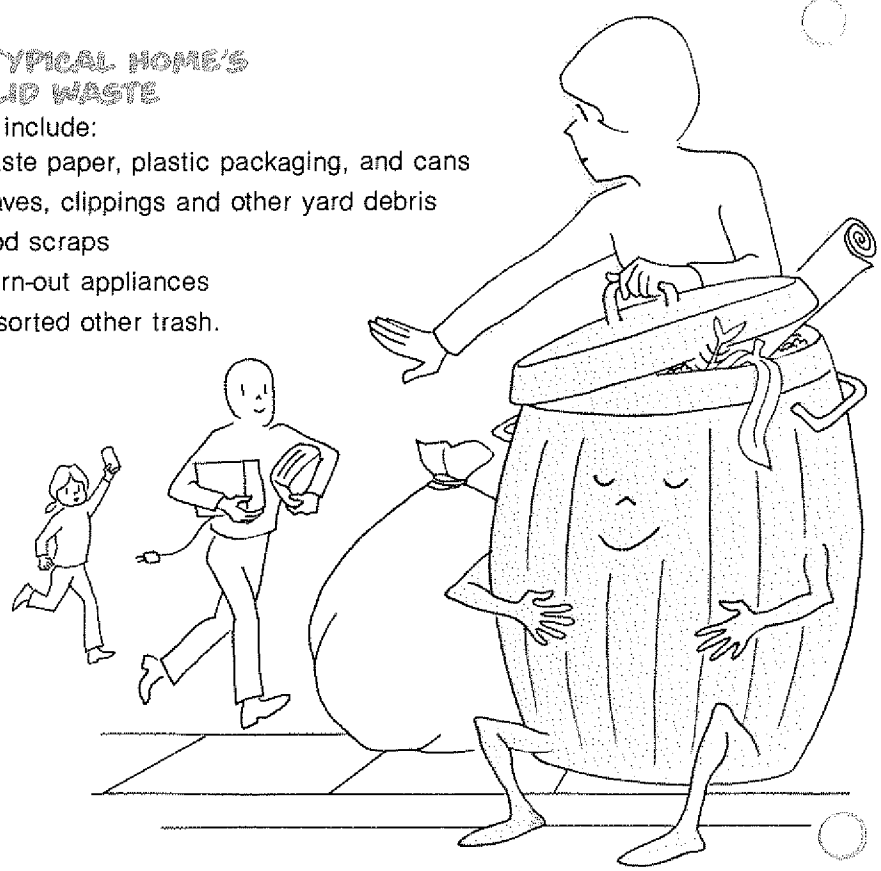
WHAT IS HOUSEHOLD SOLID WASTE?

It's anything and everything we throw away, leave for the garbage truck or take to "the dump."

A TYPICAL HOME'S SOLID WASTE

may include:

- waste paper, plastic packaging, and cans
- leaves, clippings and other yard debris
- food scraps
- worn-out appliances
- assorted other trash.



We throw away a lot of solid waste -- several pounds per person, per day!

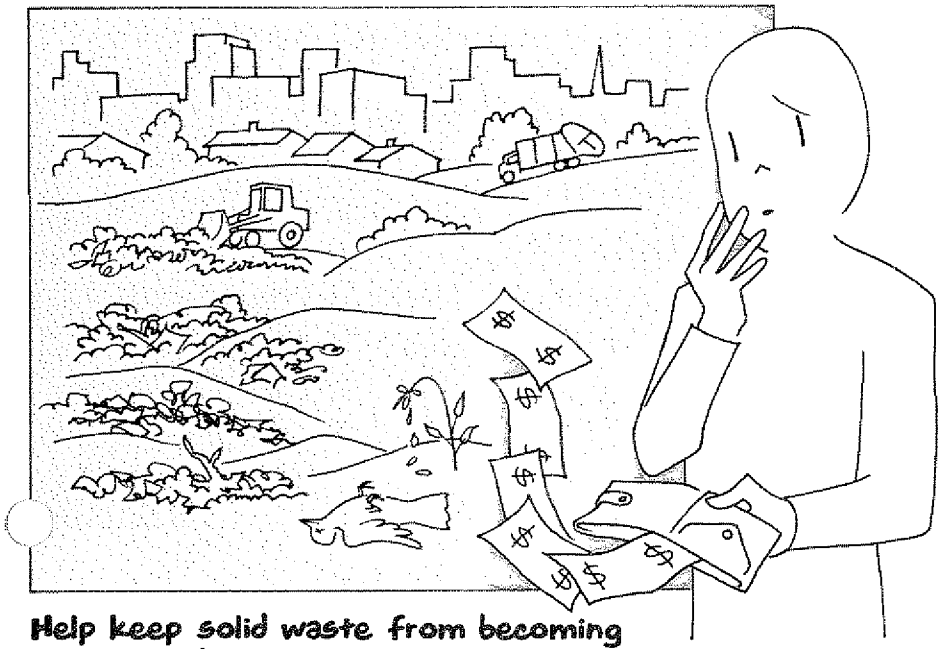
WHY SHOULD I LEARN ABOUT IT?

Because household solid waste affects:

YOUR COMMUNITY, which must use its land and money to dispose of waste.

THE ENVIRONMENT -- the air, soil and water -- which may become polluted by improperly handled waste.

YOU, who must help pay the community's disposal costs -- and live in the environment.



Help keep solid waste from becoming an ugly problem. Learn more...

A SCRIPTOGRAPHIC BOOKLET by CHANNING L. BETE CO., INC., South Deerfield, MA 01373 U.S.A.

Lithographed in U.S.A. 1990 Edition 48260B-3-90
To reorder phone 800-628-7733 and request booklet number 48280.

WHERE THE GARBAGE HAS GONE

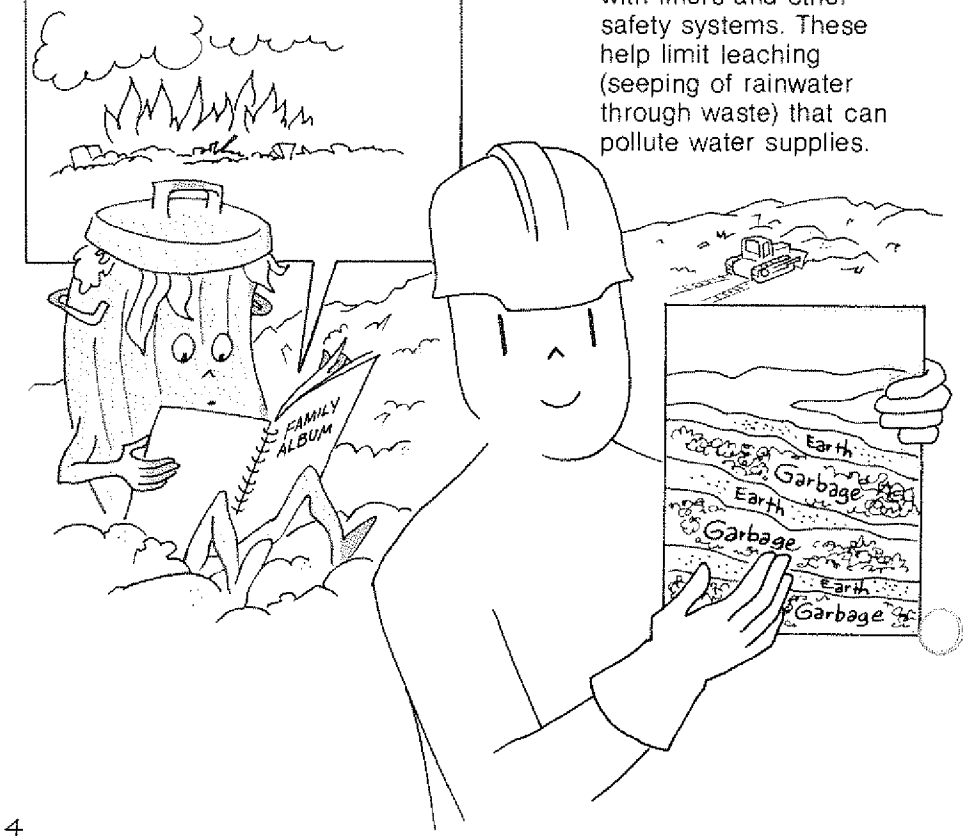
IN THE PAST,
convenience was the major factor in solid waste disposal. Our wastes were often:

- thrown in lakes, rivers and streams
- piled or burned in open dumps.

Concern over pollution and public health put an end to these practices.

TODAY,
most communities bury their solid waste in a "sanitary landfill." Landfills are an improvement over old disposal methods because:

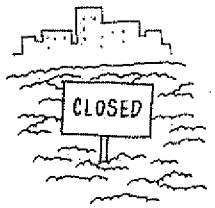
- Waste is covered with soil each day to limit odor and pests.
- They can be designed with liners and other safety systems. These help limit leaching (seeping of rainwater through waste) that can pollute water supplies.



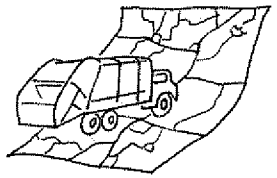
SO WHAT'S THE PROBLEM?

There are many! For example:

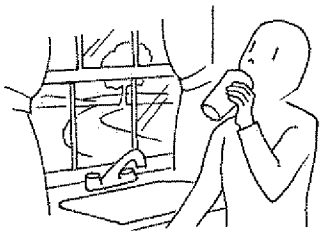
LANDFILLS DON'T LAST FOREVER.
In many communities, they're already full, or will be soon.

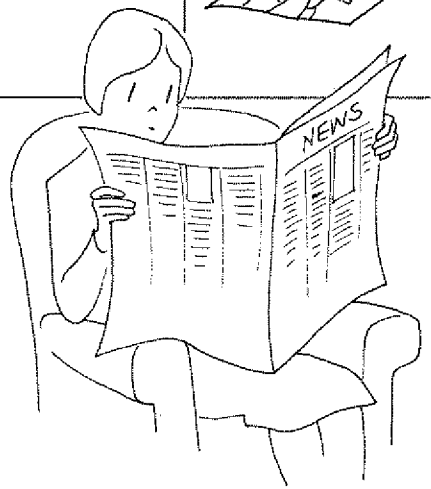


FINDING NEW LANDFILLS IS DIFFICULT
Many communities can't find an acceptable site for a new landfill. Instead, they may have to pay high fees to transport waste elsewhere.



LANDFILLS MAY CREATE ENVIRONMENTAL PROBLEMS
Solid wastes may contain hazardous chemicals. And even landfills with liners have the potential for some leaching.





That's why every community should study its disposal plans <u>now</u> -- while there's time to make wise choices.

SOME OPTIONS FOR SOLID WASTE MANAGEMENT

Your community can consider:

① RECYCLING

-- collecting waste materials so they can be used again

RECYCLING CAN BE AN EFFECTIVE METHOD

of solid waste management.

- It reduces the amount of waste that needs disposal.
- It can be cost-effective, since collected materials can be sold to help cover the costs of the recycling program.

RECYCLING SAVES RESOURCES, TOO

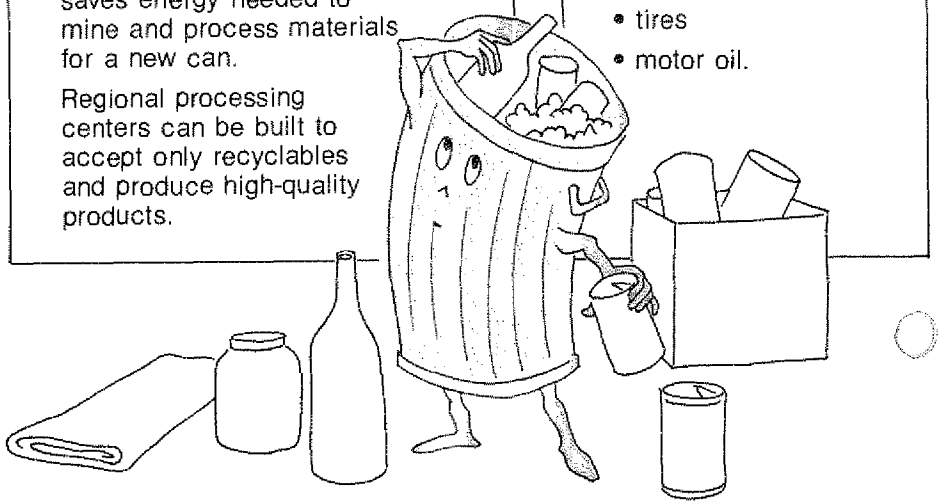
-- recycling a can, for example, saves metal. It also saves energy needed to mine and process materials for a new can.

Regional processing centers can be built to accept only recyclables and produce high-quality products.

MANY MATERIALS CAN BE RECYCLED,

including:

- newspaper and other paper products
- corrugated cardboard
- aluminum and some other metals
- glass
- plastics
- automobile batteries
- tires
- motor oil.

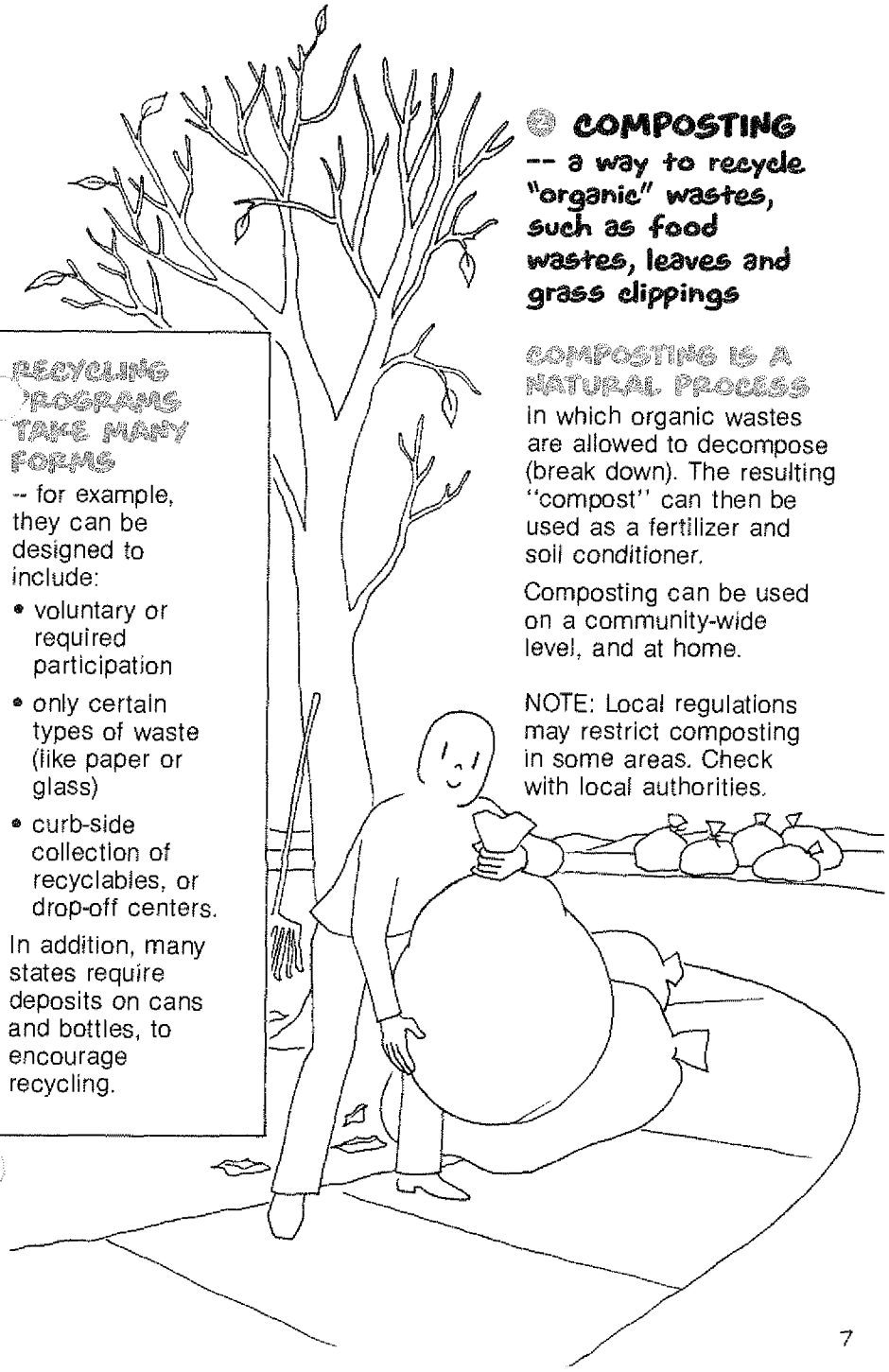


RECYCLING PROGRAMS TAKE MANY FORMS

-- for example, they can be designed to include:

- voluntary or required participation
- only certain types of waste (like paper or glass)
- curb-side collection of recyclables, or drop-off centers.

In addition, many states require deposits on cans and bottles, to encourage recycling.



② COMPOSTING

-- a way to recycle "organic" wastes, such as food wastes, leaves and grass clippings

COMPOSTING IS A NATURAL PROCESS

In which organic wastes are allowed to decompose (break down). The resulting "compost" can then be used as a fertilizer and soil conditioner.

Composting can be used on a community-wide level, and at home.

NOTE: Local regulations may restrict composting in some areas. Check with local authorities.

③ BURNING ("RESOURCE RECOVERY")

Specially designed incinerators burn waste at high temperatures.

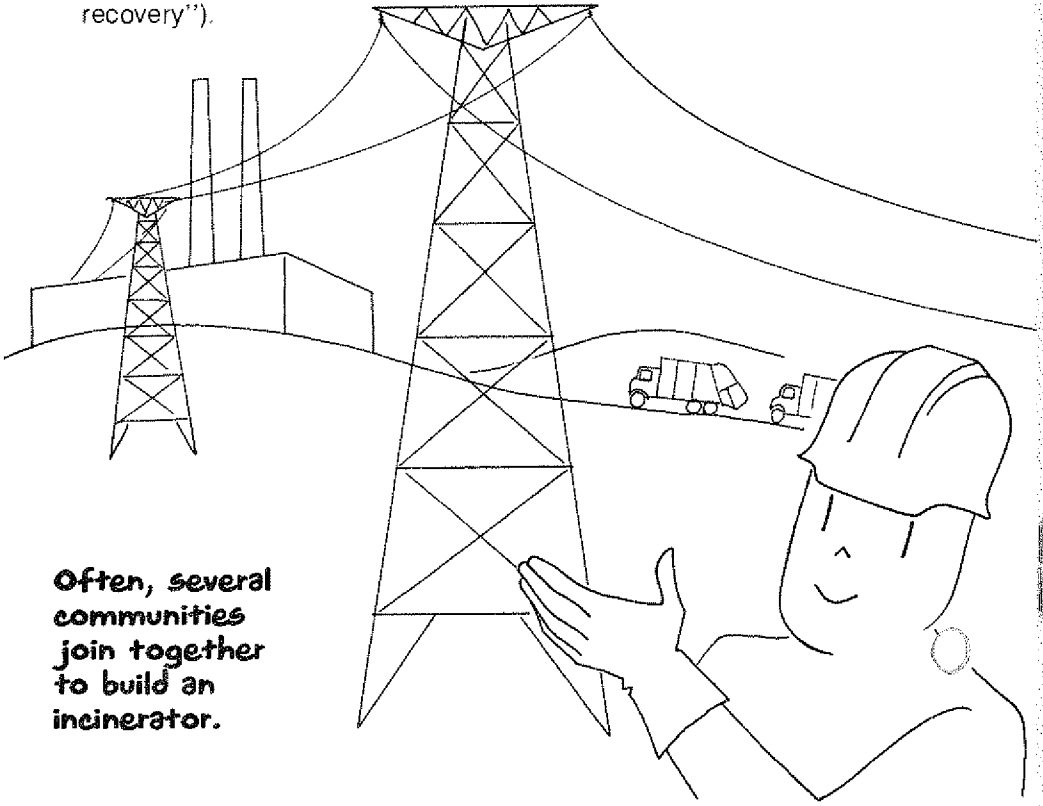
INCINERATORS HAVE THESE ADVANTAGES:

- Burning waste greatly reduces its volume.
- Incinerators can be designed to use waste as a fuel for producing electricity and heat (often called "resource recovery").

DIFFERENT METHODS CAN BE USED

Depending on the incinerator's design, the waste may be:

- processed, by removing the burnable items and shredding what remains. (This helps the waste burn better and improves its "fuel value.")
- burned as-is, without processing.



Often, several communities join together to build an incinerator.

EACH OPTION HAS LIMITS

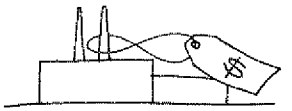
There's no method that will solve every solid waste problem. Be sure to consider the drawbacks of:

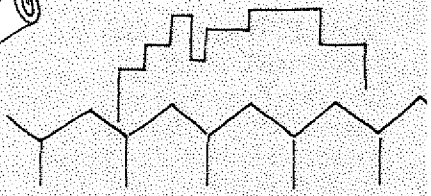
RECYCLING AND COMPOSTING

- Not all wastes can be recycled or composted. Leftover waste must be taken to a landfill.
- Markets for recyclable materials are limited.
- Programs depend on public support to be successful.

INCINERATORS

- They are very expensive to build.
- They can break down.
- They may require a steady supply of waste (therefore, they may compete with recycling programs).
- Air and water pollution must still be monitored.
- Landfills are needed for disposal of ash.





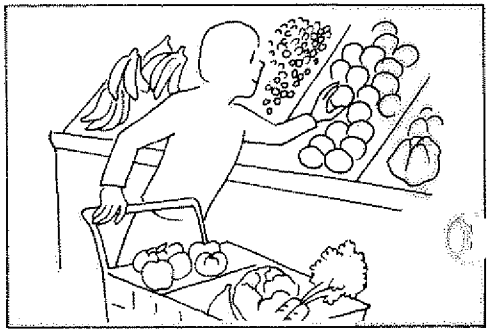
Your community can make good choices about solid waste management -- if it takes time to discuss its needs and options.

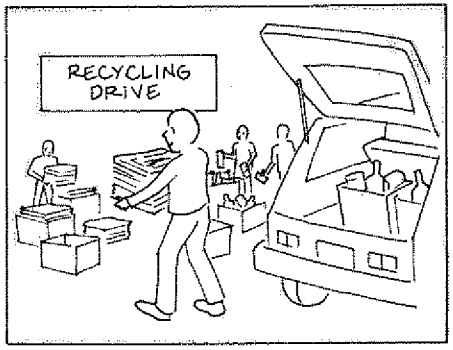
WHAT YOU CAN DO

Get involved -- community action begins with people like you!

PRACTICE WASTE REDUCTION

Try to choose products with recyclable packaging. And, buy products with less packaging (such as fresh produce instead of produce in cans or cardboard boxes).





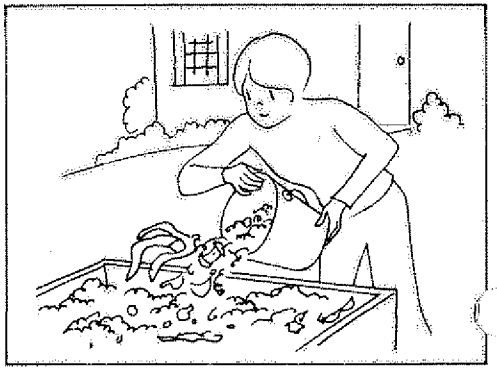
START RECYCLING NOW

Don't wait for local governments to act. Work with local schools, civic and youth groups, etc., to organize recycling drives.

START YOUR OWN COMPOST PILE

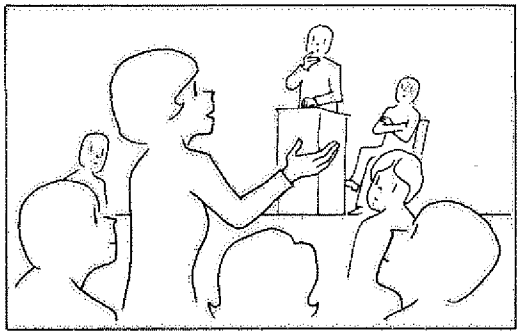
Don't throw away your organic waste – keep a compost pile outside. Use it in your garden if you have one, or give it to someone who does.

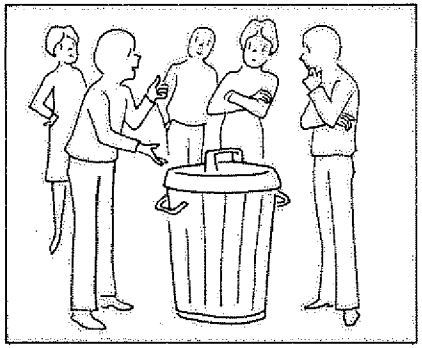
(Remember to check with local officials about restrictions on composting.)



RAISE THE ISSUE OF SOLID WASTE MANAGEMENT

Insist that public officials address these issues, and explain community programs. Suggest starting a recycling program.



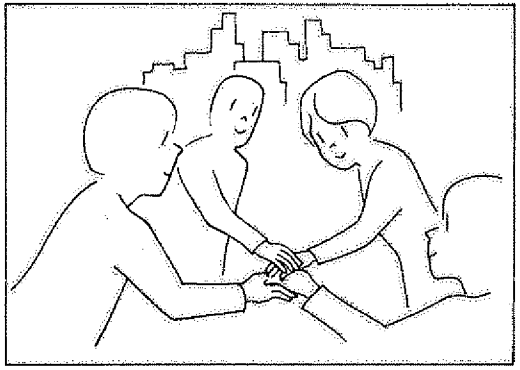


TAKE PART IN COMMUNITY DISCUSSIONS

Help to educate friends and neighbors about solid waste management in your community. Support efforts to encourage local businesses and industries to reduce waste and recycle more.

WHAT YOU DO REALLY CAN MAKE A DIFFERENCE

Take responsibility for solid waste management in your home and community – today!



DON'T LET YOUR TRASH BECOME A HAZARD

Without proper handling, many everyday products can become hazardous waste!

HOUSEHOLD HAZARDS COME IN MANY FORMS

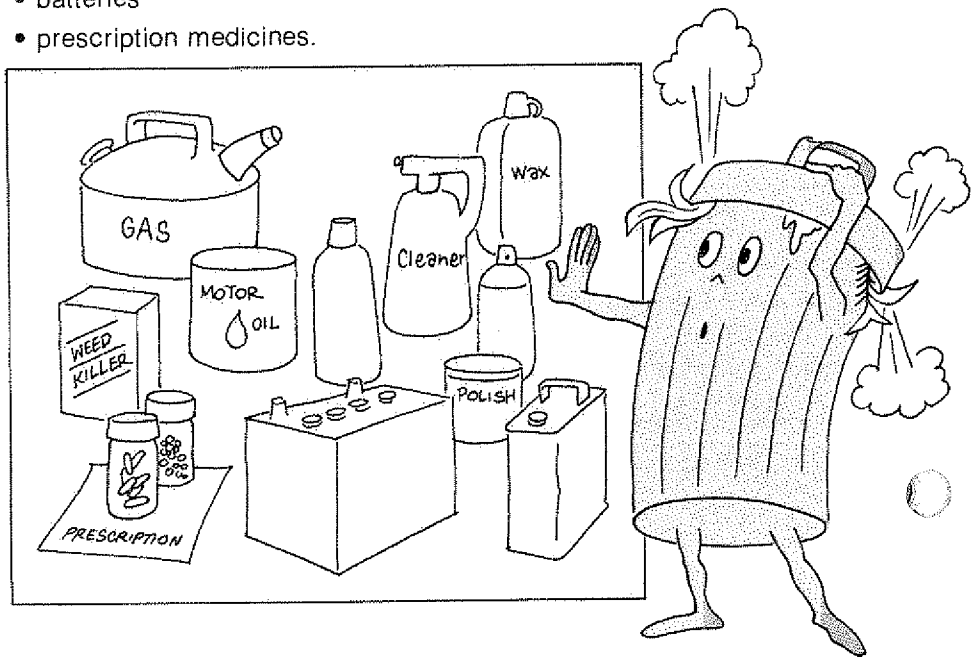
For example:

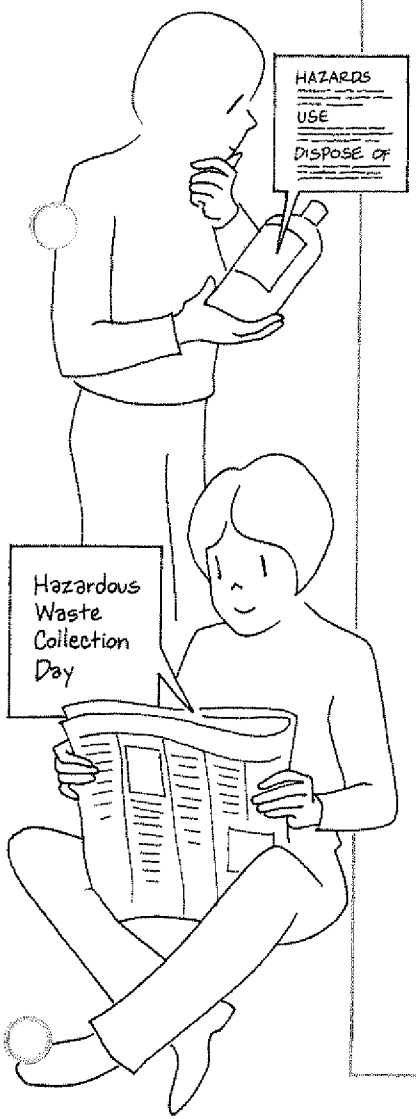
- gasoline and kerosene
- motor oil, radiator fluid, and other automotive products
- pesticides, herbicides and fertilizers
- household cleaners, polishes and waxes
- oil- and lead-based paints and thinners
- solvents
- batteries
- prescription medicines.

PROPER HANDLING IS IMPORTANT

If these products are disposed of like ordinary wastes, they can:

- injure sanitation workers
- damage septic or sewer systems
- cause explosions or fires
- pollute or poison water supplies.





CONTROL HAZARDOUS WASTES!

- Read labels on all products, to identify possible hazards.
- Choose nonhazardous substitutes when available.
- Keep products in their original containers.
- Buy only as much of a product as you will use right away.
- Use only as directed.

DISPOSE OF HAZARDOUS WASTES CAREFULLY

- Follow label instructions for disposal, if available. If not, ask the manufacturer or dealer for advice, or contact your state's department of health, environment, etc.
- Store safely until you can dispose of the product properly.

LOOK INTO COMMUNITY DISPOSAL PROGRAMS

Some communities sponsor programs to help residents dispose of hazardous wastes. Ask officials to plan a hazardous waste program if they haven't already.

SOME QUESTIONS AND ANSWERS

How bad can the solid waste problem really be?

That depends. Is there a limit to the money your community is willing to spend for solid waste disposal? How much pollution can you put up with? These are key questions that need to be answered.

How much can recycling and composting really help?

A great deal of household solid waste can be recycled or composted -- but only if the public gets involved. So, it's really up to you and your community.

How can I get neighbors interested in solid waste issues?

Share this booklet! Spread the word about the importance of solid waste management -- in the home and in the community! Support cooperation between neighboring towns, cities and counties.

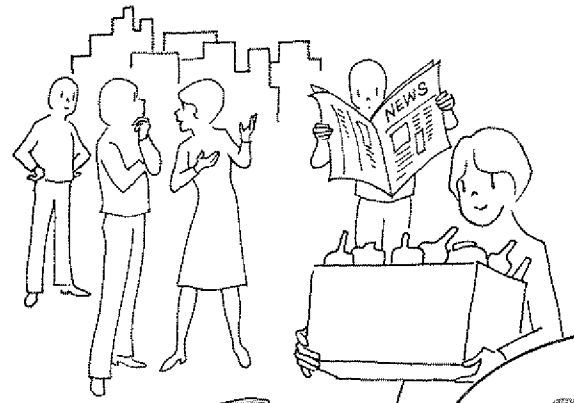
SOO--

START DEALING WITH THE SOLID WASTE ISSUE NOW!

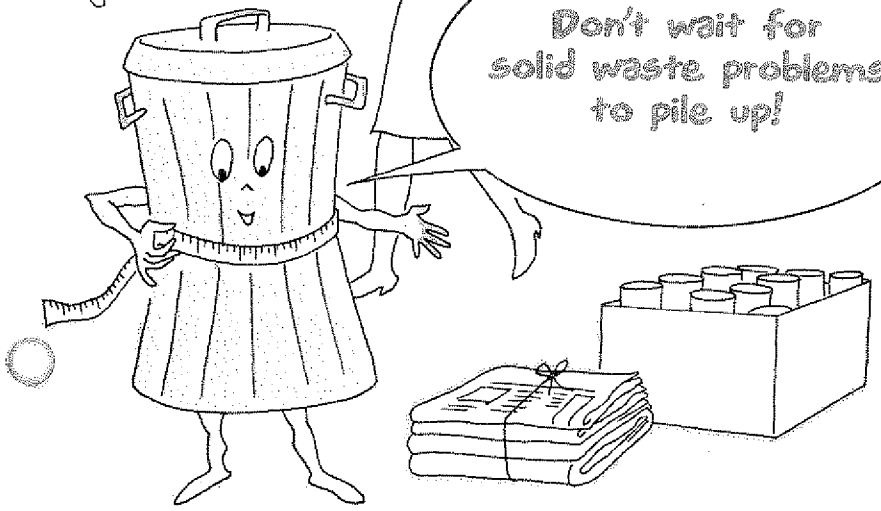
✓ **RAISE THE ISSUE** of solid waste management in your community.

✓ **KNOW THE OPTIONS** available for managing solid waste.

✓ **MANAGE SOLID WASTE** in your own home through waste reduction, recycling and composting (as permitted).



Don't wait for solid waste problems to pile up!



Rules For Disposal of the Following Material:

BATTERIES (dry cell and lead-acid) accepted at any transfer station; place at designated areas.

SCRAP METAL accepted at any transfer station; place at designated areas.

TIRES accepted at landfill only; at transfer station on designated days each year. $1.00 each car tire, $2.00 each truck tire, $9.00 each large truck tire.

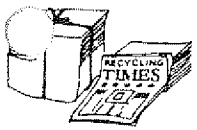
WHITEGOODS (large appliances) remove doors, or dismantle in such a way that will not be a hazard to the public. Whitegoods are accepted at the county landfill only, no charge.

Materials Not Accepted at Allegany County Transfer Stations or Landfill:

Yard waste
Construction & demolition debris
Waste oil
Hazardous waste
Low-level radioactive waste
Nuclear waste

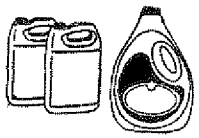
Preparation Requirements For Recycling

GLASS (clear, green, brown) Rinse, labels can stay on, separate by color. Transfer Stations ***will not accept*** for recycling: auto glass, plate glass, light bulbs, fluorescent bulbs, lids, crystal, household drinking glasses or pottery.



PAPER (newspaper, cardboard, boxboard) Keep clean and dry, stack newsprint and tie in bundles less than one foot high or pack in brown grocery bag, break down cardboard flat and tie in small bundles. Transfer Stations ***will not accept*** for recycling: waxed coated cardboard, glossy inserts and ads, colored inserts and ads, magazines, junk mail or phone books.

METAL CANS (tin, steel, aluminum, bi-metal) Rinse clean, remove labels, flatten for storage. Ink printed cans are acceptable. Transfer Stations ***will not accept*** for recycling: aerosol cans or propane cylinders.



PLASTIC CONTAINERS (HDPE, PET) Dairy and water bottles, gallon milk jugs, juice/drink containers, liquid laundry detergent, shampoo, windshield washer fluid containers are all examples. Plastic containers must be rinsed clean, lids discarded. Transfer Stations ***will not accept*** for recycling: styrofoam, toys, lids, car plastics, plastic wrap or bags, plastic utensils or degradable plastics.

FOR MORE INFORMATION, CONTACT:
Gretchen T. Gary, *Recycling Coordinator*
Allegany County Department of Public Works
Room 210 County Office Building • Belmont, NY 14813
(716) 268-9230

Allegany County
Department of Public Works
Rm. 210 County Office Building
Belmont, NY 14813

Bulk Rate
CAR-RT
US Postage Paid
Wellsville, NY
Permit #300

IMPORTANT RECYCLING INFORMATION

Postal Customer

CRA-17

The Allegany County Recycling Program

"Educating Allegany County For a More Resourceful Tomorrow"

Turn to the back page for preparation requirements on recyclables.

Printed on Recycled Paper

Disposal Areas For Solid Waste & Recyclables

Transfer Station 1	Caneadea, State Route 19
Transfer Station 2	Canaseraga, State Route 70
Transfer Station 3	Cuba/Friendship, County Road 20
Transfer Station 4	Angelica, County Road 20
Transfer Station 5	Alfred/Almond, Satley Hill Road
Transfer Station 6	Bolivar, Deans Flats Road
Transfer Station 7	Wellsville, Island Park Entrance
County Landfill	Angelica, County Road 48

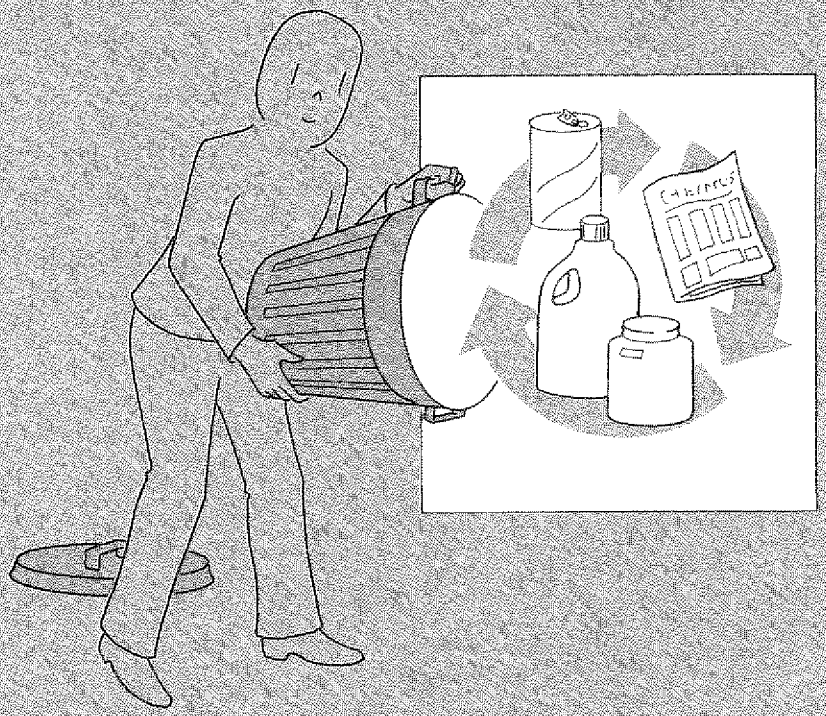
Turn to back page for preparation requirements on recyclables.

New Transfer Station Schedule

Operating Schedule for Allegany County Transfer System
Effective February 5, 1990

Station	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1) Caneadea			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
2) Canaseraga					8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
3) Cuba/ Friendship	8:00 a.m. 3:30 p.m.			8:00 a.m. 3:30 p.m.		8:00 a.m. 12:00 p.m.
4) Angelica		8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.		8:00 a.m. 12:00 p.m.
5) Alfred		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.
6) Bolivar			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
7) Wellsville	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:00 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
8) Landfill	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 12:00 p.m.

WHAT YOU SHOULD KNOW ABOUT RECYCLING



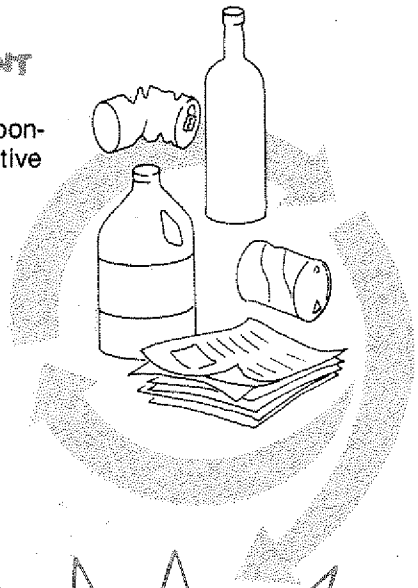
Allegany County
Department of Public Works
Room 210 County Office Building
Belmont, NY 14813
(716) 268-9230

WHAT IS RECYCLING?

It's a way of turning used household materials into new products! Recycling is:

A WASTE MANAGEMENT METHOD

It can be a responsible, cost-effective way to help solve some of our disposal problems.



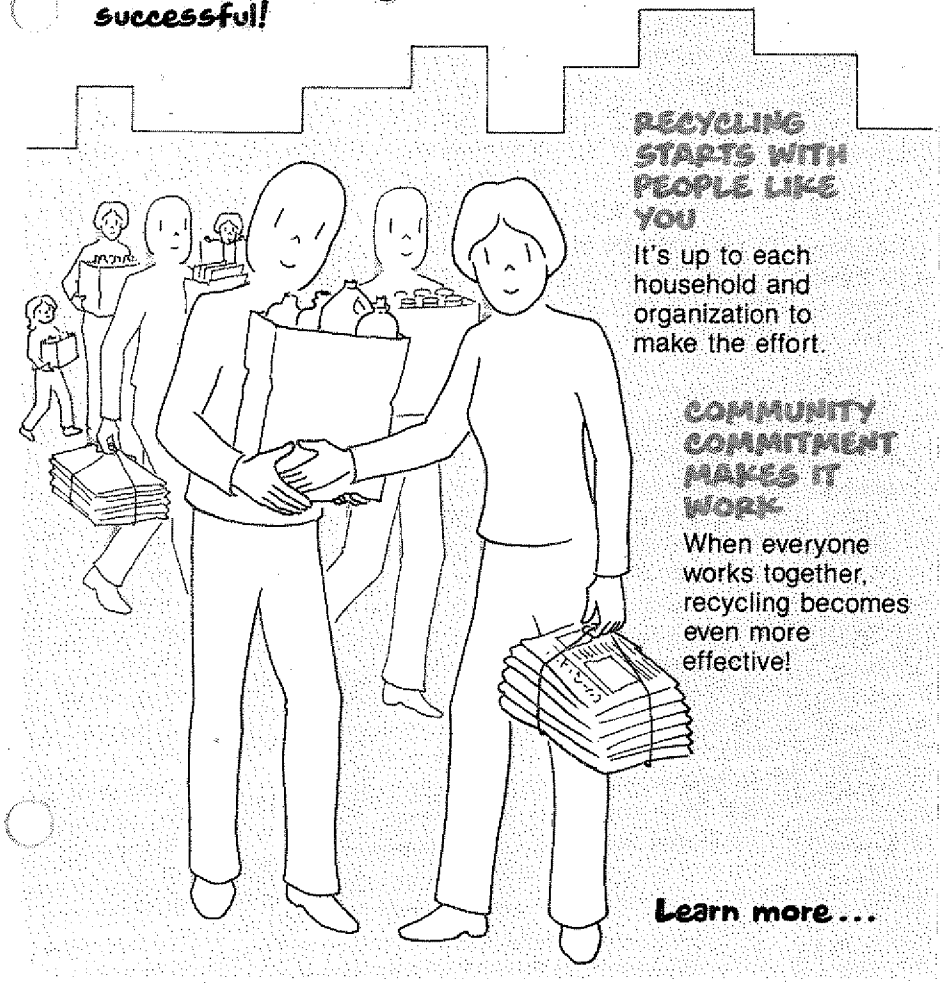
GOOD FOR OUR ENVIRONMENT

Recycling helps preserve our natural resources, reduce pollution and save energy.

Any way you look at it, recycling makes sense!

WHY SHOULD I LEARN ABOUT RECYCLING?

Because you can help make recycling successful!



RECYCLING STARTS WITH PEOPLE LIKE YOU

It's up to each household and organization to make the effort.

COMMUNITY COMMITMENT MAKES IT WORK

When everyone works together, recycling becomes even more effective!

Learn more . . .

A SCRIPTOGRAPHIC BOOKLET by CHANNING L. BETE CO., INC., South Deerfield, MA 01373 U.S.A.

Lithographed in U.S.A. 1990 Edition 48595C-6-90
To reorder phone 800-626-7733 and request booklet number 48595.

WHAT CAN BE RECYCLED?

Many used materials can be recycled. For example:

GLASS

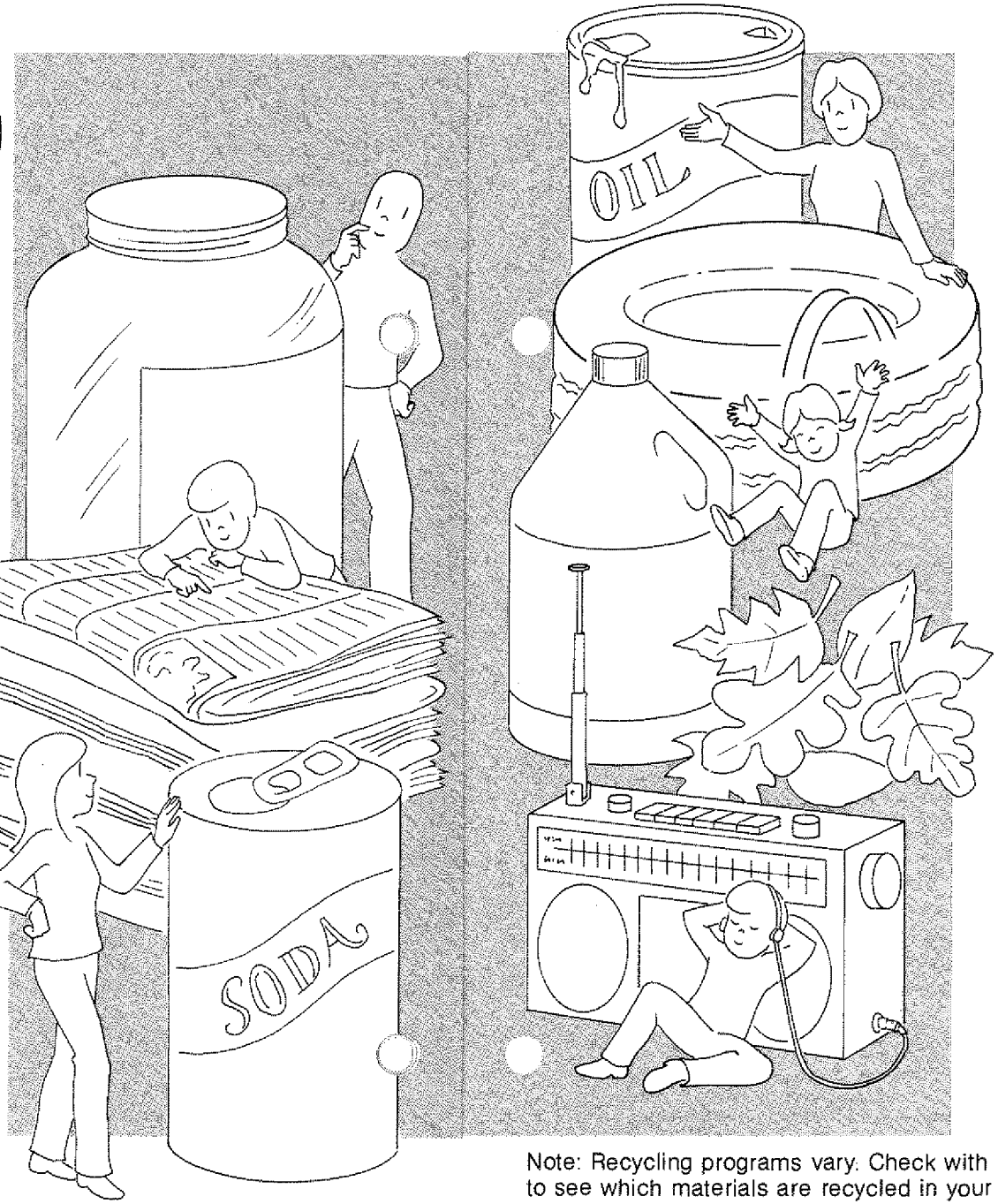
Bottles and jars can be melted down to make new containers, fiberglass, insulation, and more.

PAPER

Old newspapers and other paper can be used to make new paper, packaging, building materials and many other products.

METALS

Beverage and food cans can be melted down and made into new cans, or used as material for sheet metal, doors and window frames. Metal from some batteries can be recycled, too.



MOTOR OIL

Motor oil drained from cars, lawn mowers, etc., can be re-refined and used as fuel and lubricating oils.

RUBBER

Old tires can be shredded and made into rubber products, such as new tires and floor mats. Recycled rubber can also be used as an asphalt extender in road construction.

PLASTICS

Some types of plastic can be recycled to make many things -- from fiberfill to flower pots.

YARD WASTE

Grass clippings, leaves, etc., can be composted and used to enrich soil.

FURNITURE AND APPLIANCES

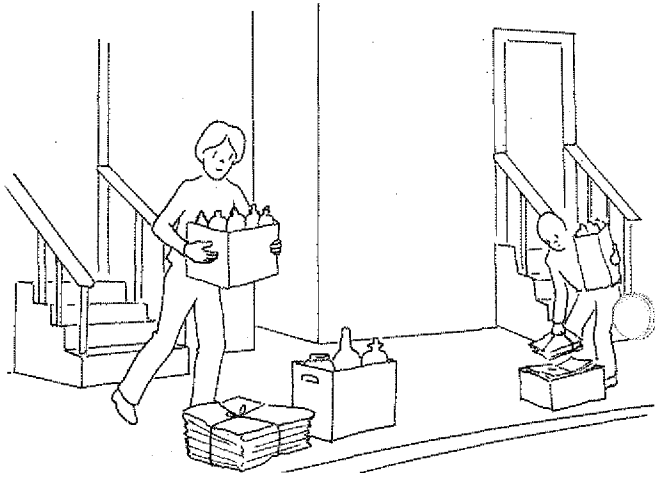
Old refrigerators, chairs, etc., can often be repaired or used for parts. (Eventually the metal can be used for many new products.)

Note: Recycling programs vary. Check with local officials to see which materials are recycled in your community. In some communities, recycling may be required by law.

HOW RECYCLING WORKS

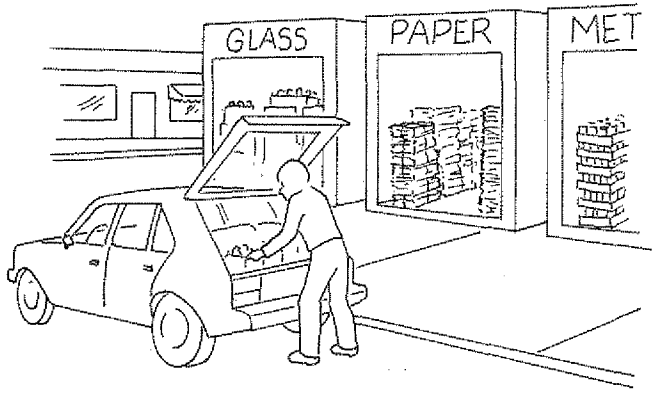
CURBSIDE COLLECTION

In some communities, residents leave recyclables at the curb. A pickup service collects the items on a regular schedule.



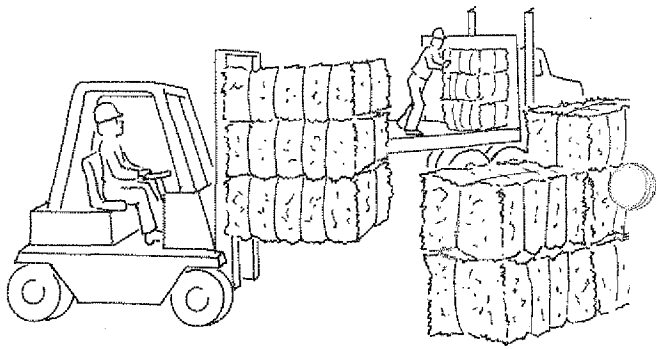
DROP-OFF AND "BUY-BACK" CENTERS

Communities or independent recyclers may have central locations where residents can leave recyclables. Some centers pay cash for recyclable materials.



COMMERCIAL PICK-UP

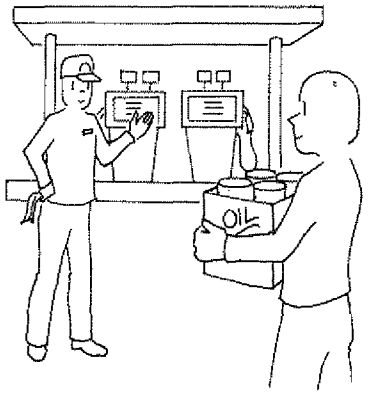
In some areas, commercial recyclers collect recyclables from businesses, industries, schools, etc.



OTHER OPTIONS

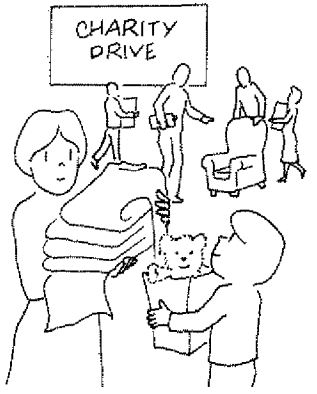
SERVICE STATIONS

often take used motor oil. (There may be special "collection centers" for waste oil, too.)



CHARITIES, THRIFT STORES AND SHELTERS

often accept used clothing, toys and household items.

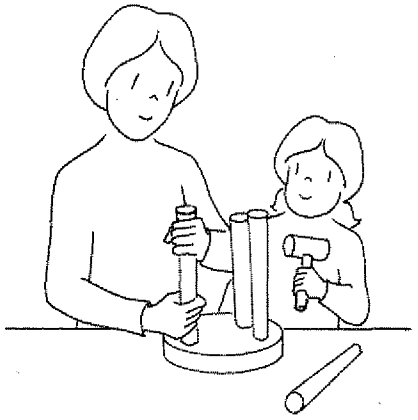


RETAILERS

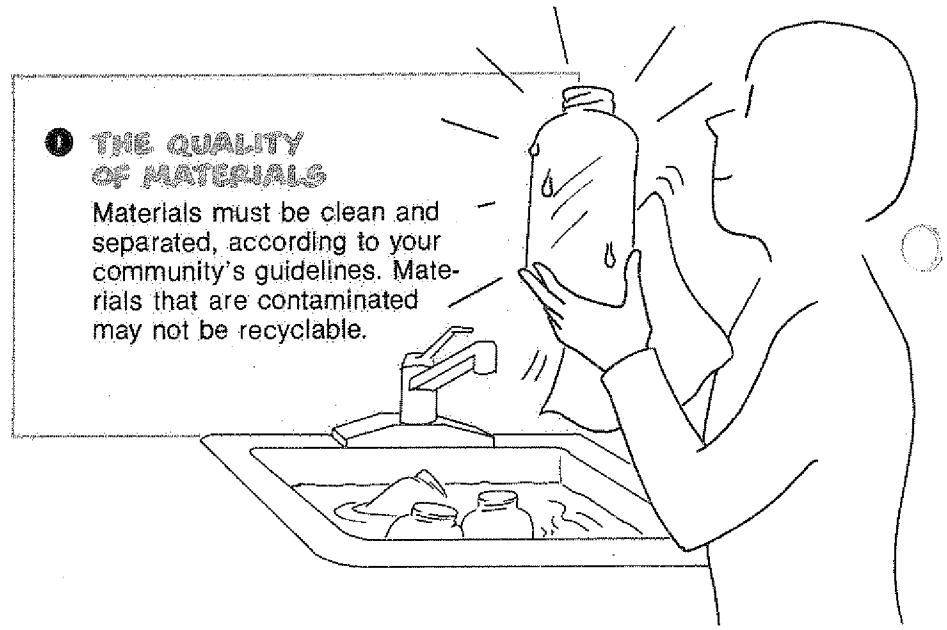
may take old appliances, furniture, etc., as "trade-ins" to fix and sell. Automotive suppliers may offer a trade-in amount for old batteries.

YOU

can repair or reupholster many items yourself – and save money, too!

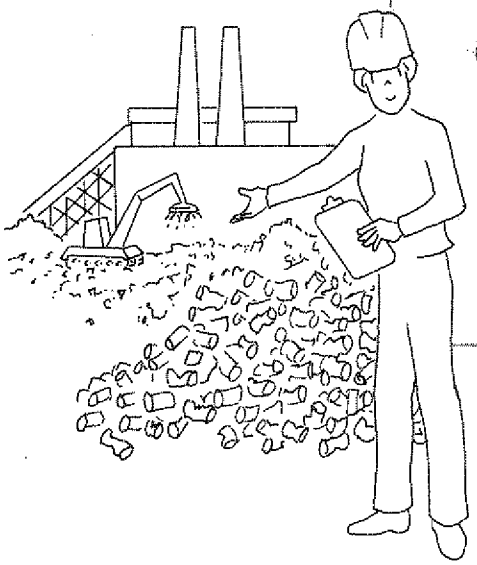


THERE ARE 2 KEYS TO SUCCESSFUL RECYCLING:



❶ THE QUALITY OF MATERIALS

Materials must be clean and separated, according to your community's guidelines. Materials that are contaminated may not be recyclable.



❷ THE QUANTITY OF MATERIALS

For recycling to work, buyers of materials must have a steady supply. That's why it's important for everyone to recycle!

HOW TO PREPARE MATERIALS FOR RECYCLING

With a little practice, you'll find it's easy to recycle -- and it takes less than 5 minutes a day!

GLASS

Rinse and separate by color. Store unbroken in boxes or bags.

PLASTICS

(soft drink and detergent bottles, milk jugs, etc.) Rinse, flatten and store.

MOTOR OIL

Drain carefully, and store in a clean, sealed container.

METALS

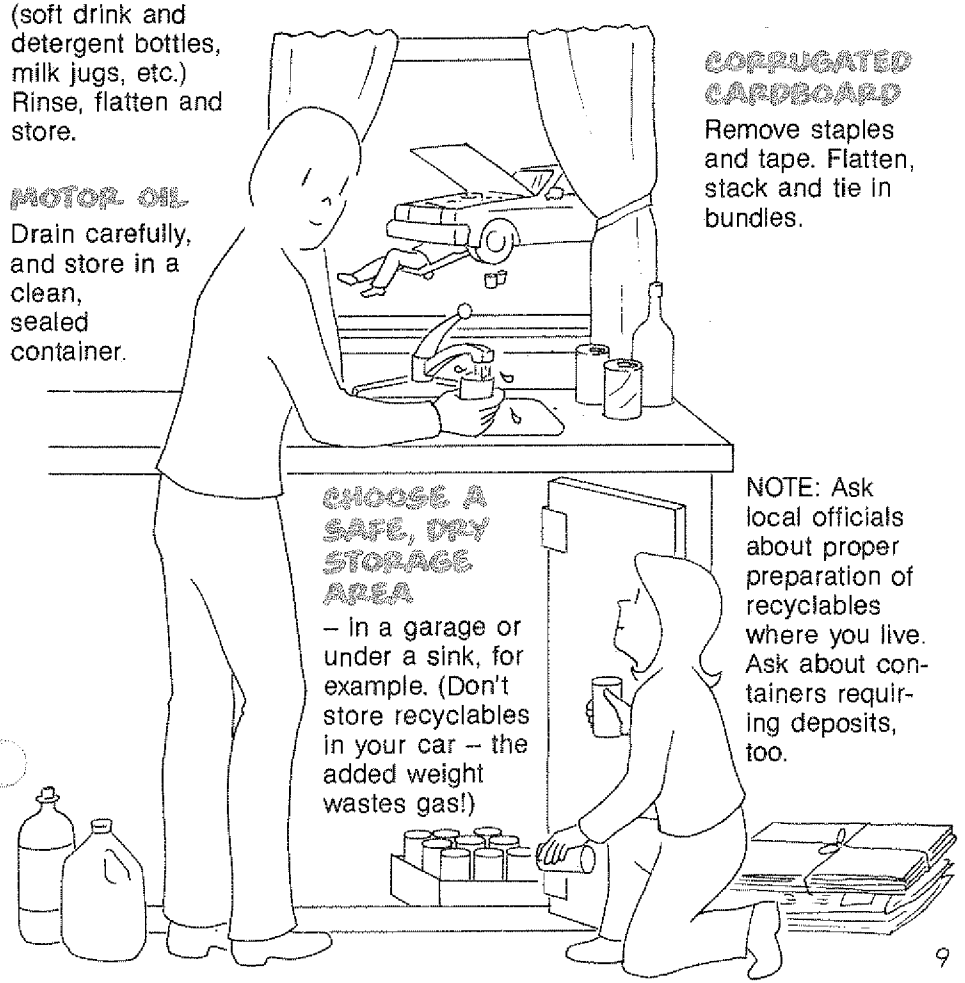
(aluminum cans and, in some communities, tin-coated food and beverage cans) Rinse and store. To save space, flatten cans first.

NEWSPAPERS

Remove any cardboard or glossy inserts. Stack and tie in 8"-12" bundles, or place in paper bags.

CORRUGATED CARDBOARD

Remove staples and tape. Flatten, stack and tie in bundles.



CHOOSE A SAFE, DRY STORAGE AREA

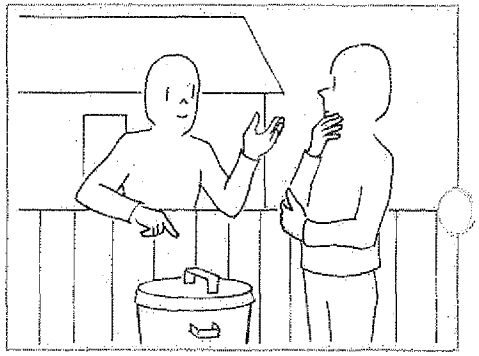
– in a garage or under a sink, for example. (Don't store recyclables in your car – the added weight wastes gas!)

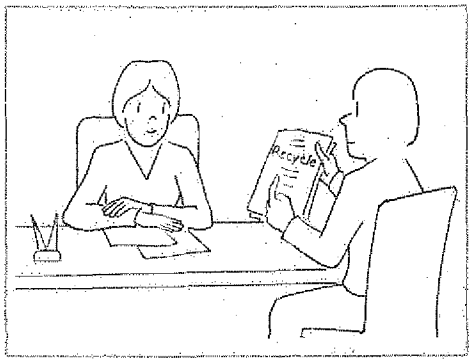
NOTE: Ask local officials about proper preparation of recyclables where you live. Ask about containers requiring deposits, too.

MORE WAYS TO MAKE RECYCLING A SUCCESS

SHARE YOUR ENTHUSIASM FOR RECYCLING

Talk with neighbors. Bring up recycling at community meetings and gatherings. Suggest recycling paper and beverage cans at work, too.



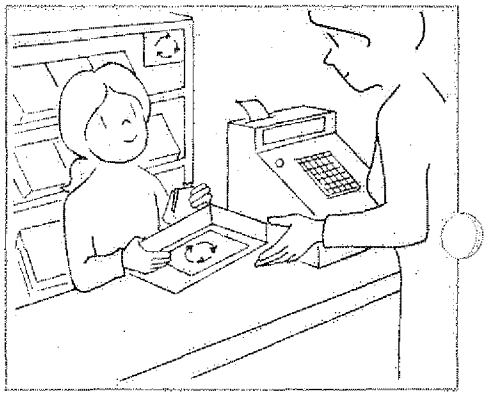


ENCOURAGE LOCAL OFFICIALS

Tell them that you consider recycling to be sound waste management. Help them make recycling programs a success.

BUY RECYCLED GOODS

Give your business to companies that use recycled materials. Look for the recycling symbol on bottles, cans, paper, etc. (Boxes made of recycled paper are gray inside.)

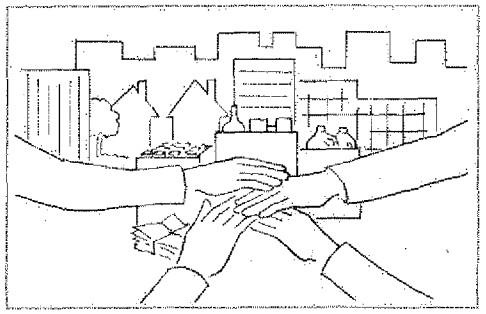


START YOUR OWN PROGRAMS

If one doesn't exist where you live.

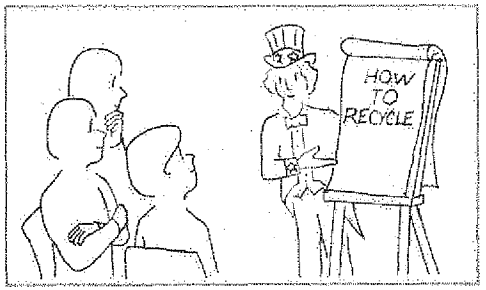
ORGANIZE FRIENDS AND NEIGHBORS

Work together to recycle. For example, form a car pool to take recyclables to collection sites. Get people involved!



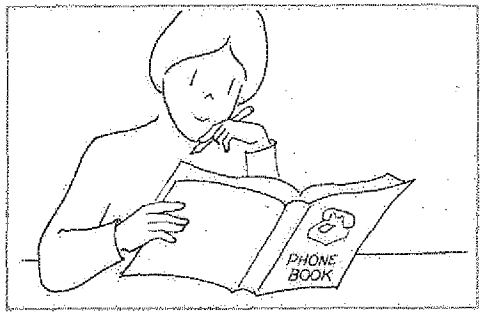
SEEK GOOD ADVICE

Government agencies, environmental groups, and local recycling businesses can offer guidance on setting up local recycling programs.



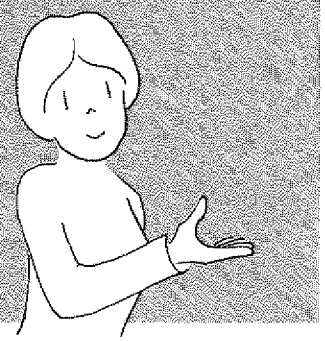
FIND MARKETS FOR MATERIALS

The phone book may list commercial and community recyclers. Your library may also have recycling directories.



Recycling can be a great way to help solve a local solid waste problem!

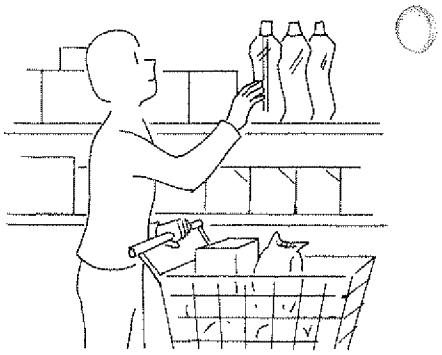
HELP REDUCE WASTE AND REUSE MATERIALS, TOO



BUY RECYCLABLE GOODS

For example, choose:

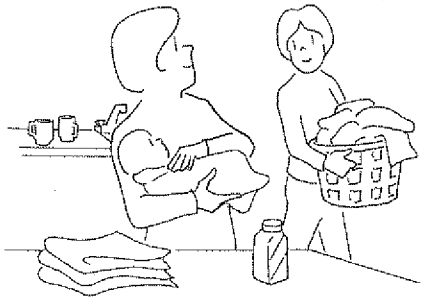
- cleansers in glass pump bottles, not aerosol cans
- eggs in paper fiber cartons.



CHOOSE DURABLE (REUSABLE) GOODS

For example:

- Launder cloth diapers, or use a diaper service, instead of tossing disposable ones.
- Use china for food and coffee instead of disposable plates and cups.
- Buy rechargeable batteries.



AVOID EXTRA PACKAGING

For example:

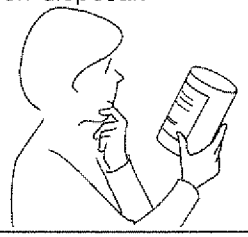
- buy in bulk, rather than in single serving packages
- avoid items sold in plastic "bubbie" or "blister" packs.

Explain your reasons to the store manager.

AVOID HAZARDOUS CHEMICALS

They not only fill up landfills, they can harm the environment!

- Read product labels carefully. Choose nonhazardous products whenever possible.
- Dispose of chemicals only as directed.
- Take advantage of special days for community hazardous waste collection disposal.

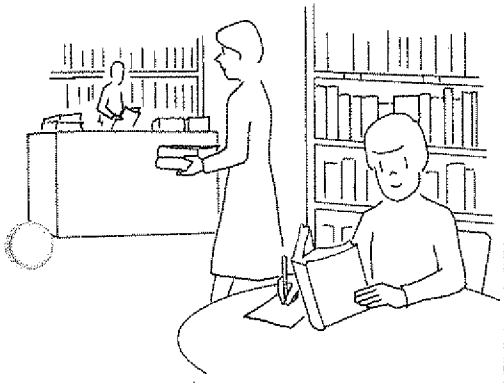


SELL OR DONATE LEFTOVERS

- Offer unwanted paint, cleansers, etc., to neighbors.
- Give old clothing, furniture and appliances to charities.
- Have a yard sale.

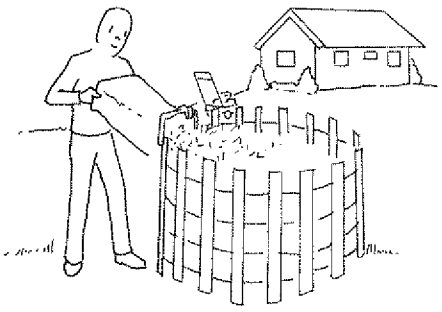
LIMIT PURCHASES

- Think before you buy -- avoid impulse purchases, and buy only what you need.
- Borrow or rent books, tools and other things you'll rarely use.



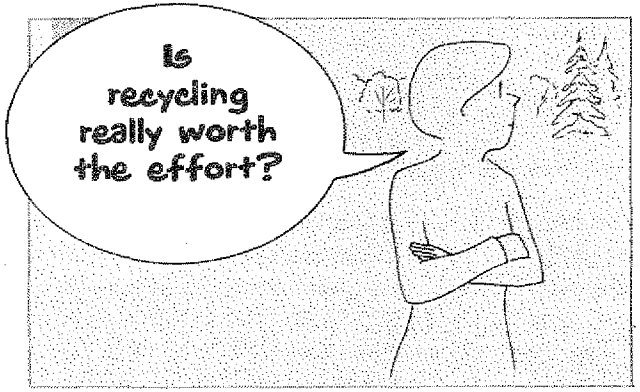
START A COMPOST PILE

Recycle vegetable peels, lawn clippings, etc., and enrich your soil! Your library or local extension service can offer advice. (Check to see if your community has regulations on composting.)

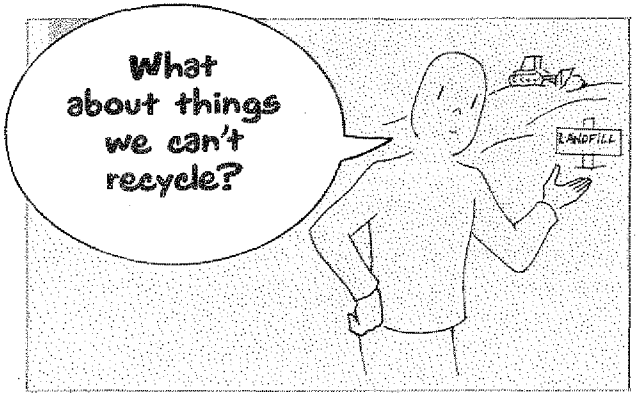


SOME QUESTIONS AND ANSWERS

Excellent! Many materials can be recycled with no loss of quality. (Some are even improved. Recycled paper, for example, may be sturdier and more flexible.)



Definitely. Recycling helps save the environment! Many communities with recycling programs report savings in landfill and incinerator costs, too.



There may always be a need for landfills. But the more we recycle, the longer our landfills will last.

Soo--

PUT RECYCLING TO WORK AT HOME!

✓ **UNDERSTAND THE WASTE PROBLEM,** and how recycling can help.

✓ **ENCOURAGE RECYCLING** – and buy recycled products!

✓ **HELP REDUCE WASTE** through other means.

Rules For Disposal of the Following Material:

BATTERIES (dry cell and lead-acid) accepted at any transfer station; place at designated areas.

SCRAP METAL accepted at any transfer station; place at designated areas.

TIRES accepted at landfill only; at transfer station on designated days each year. $1.00 each car tire, $2.00 each truck tire, $9.00 each large truck tire.

WHITEGOODS (large appliances) remove doors, or dismantle in such a way that will not be a hazard to the public. Whitegoods are accepted at the county landfill only, no charge.

Materials Not Accepted at Allegany County Transfer Stations or Landfill:

Yard waste
Construction & demolition debris
Waste oil
Hazardous waste
Low-level radioactive waste
Nuclear waste

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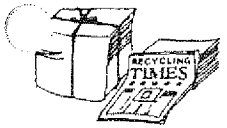
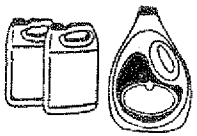
Preparation Requirements For Recycling

GLASS (clear, green, brown) Rinse, labels can stay on, separate by color. Transfer Stations ***will not accept*** for recycling: auto glass, plate glass, light bulbs, fluorescent bulbs, lids, crystal, household drinking glasses or pottery.



PAPER (newspaper, cardboard, boxboard) Keep clean and dry, stack newsprint and tie in bundles less than one foot high or pack in brown grocery bag, break down cardboard flat and tie in small bundles. Transfer Stations ***will not accept*** for recycling: waxed coated cardboard, glossy inserts and ads, colored inserts and ads, magazines, junk mail or phone books.

METAL CANS (tin, steel, aluminum, bi-metal) Rinse clean, remove labels, flatten for storage. Ink printed cans are acceptable. Transfer Stations ***will not accept*** for recycling: aerosol cans or propane cylinders.



PLASTIC CONTAINERS (HDPE, PET) Dairy and water bottles, gallon milk jugs, juice/drink containers, liquid laundry detergent, shampoo, windshield washer fluid containers are all examples. Plastic containers must be rinsed clean, lids discarded. Transfer Stations ***will not accept*** for recycling: styrofoam, toys, lids, car plastics, plastic wrap or bags, plastic utensils or degradable plastics.

FOR MORE INFORMATION, CONTACT:
Gretchen T. Johnson, *Recycling Coordinator*
Allegany County Department of Public Works
Room 210 County Office Building • Belmont, NY 14813
(716) 268-9230

Allegany County
Department of Public Works
Rm. 210 County Office Building
Belmont, NY 14813

Bulk Rate
CAR-RT
US Postage Paid
Wellsville, NY
Permit #300

IMPORTANT RECYCLING INFORMATION

Postal Customer

CRA -18

BACK-ALLEY

A BEHIND THE SCENES LOOK
AT THE
ALLEGANY COUNTY RECYCLING PROGRAM

Volume 1, Number 1 Spring 1990

DEAR RECYCLERS,

Welcome to BACK-ALLEY! This quarterly newsletter was developed to provide you, the waste hauler, recycling company, town supervisor, mayor, solid waste official and those avid recyclers, with inside information and updates on the Allegany County Recycling Program.

As New Yorkers transform their behaviors from throw away, to use-it-again, there is an unprecedented opportunity for recycling professions to work together to provide leadership and guidance in the communities and state we live in.

We hope this newsletter will help meet just that need. We at the county are eager to examine issues collectively and to develop long-term solutions that are both environmentally sound and realistic.

In the coming months, we will be providing opportunities to meet and discuss, as well as, report on the thought provoking ideas. If you would like to be an informed leader in Allegany County's recycling movement, or a knowledgeable professional in the solid waste field, you will want to read this newsletter and all others to follow.

Sincerely,

Gretchen T. Gary

Gretchen T. Gary
Recycling Coordinator

THE DEGRADABLE PLASTICS HOAX

by Jeanne Wirka,
Environmental Action Magazine

It's happening more and more. It's probably happened to you. A friend, eager for your stamp of environmental approval, calls with the news.

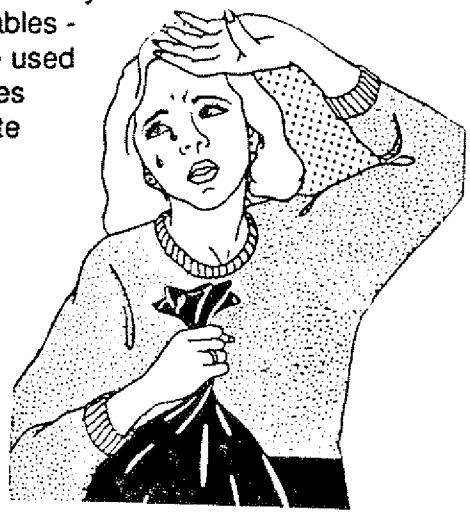
"I'm doing something about the solid waste problem! I've switched to degradable plastic trash bags!" Sometimes your friend's wonderful news is that they've bought Baby a new kind of diaper - the degradable variety. Or that the neighborhood supermarket is now packing groceries in degradable plastic bags.

There's a hoax afoot.

Promoters of degradable plastics are taking advantage of consumers' desire to do the right thing by marketing an unproven, "feel-good" product that has little, if any, environmental merit. In the process, they are diverting attention from more promising solutions to plastic waste like source reduction and recycling.

Degradable plastics are a consumer rip-off. There is a wide gap between so-called "disappearing" plastics products and reality. Experts don't know the answers to basics questions like: Do they really degrade, and, if so, into what? How long will it take? Are the by-products harmful to the environment?

Many plastic recyclers fear that the additives used in degradables - especially those used in biodegradables - will contaminate the recycling process and impair the quality of good end products of recycled plastic, such as lumber, pallets, auto parts, and fiberfill.



Printed on recycled paper

RECYCLING PROGRAM STATISTICS

TONNAGE

	STATION 1	STATION 2	STATION 3	STATION 4	STATION 5	STATION 6	STATION 7	MONTHLY TONNAGE	MONTHLY HAULS	WORKING DAYS
JULY	5.63	2.47	2.79	2.55	1.00	1.35	7.22	23.01	19	24
AUGUST	7.17	2.31	4.19	7.63	5.73	2.82	11.39	41.24	27	27
SEPTEMBER	8.28	2.14	4.13	5.35	.72	4.68	8.75	34.05	23	25
OCTOBER	4.00	3.78	2.39	5.37	6.05	2.01	11.32	34.92	24	26
NOVEMBER	7.48	1.22	5.37	3.97	1.28	2.34	8.54	30.20	24	23
DECEMBER	5.18	.84	2.36	7.13	2.33	3.33	7.05	28.22	22	26
TOTALS	37.74	12.76	21.23	32.00	17.11	16.53	54.27	TOTAL TONNAGE 191.64	TOTAL HAULS 139	TOTAL DAYS 151

AVERAGE TONS/MONTH: 31.94
AVERAGE HAULS/MONTH: 23
AVERAGE TONS/HAUL: 1.38
AVERAGE TONS/DAY: 1.27

RECYCLING PROGRAM COSTS

	RENTALS	HAULS	REVENUE	AVOIDED COST	NEWS-PAPER	CARD-BOARD	PLASTIC	GLASS	METAL	TOTALS
JULY	$2,310	$1,425	$78.75	$1042.12	13.90	3.97	1.99	1.89	1.26	23.01
AUGUST	2,310	2,025	237.75	1867.76	22.21	6.35	3.17	5.71	3.80	41.24
SEPTEMBER	2,310	1,725	306.50	1542.12	15.25	4.36	2.18	7.36	4.90	34.05
OCTOBER	2,310	1,800	295.75	1581.53	16.16	4.62	2.31	7.10	4.73	34.92
NOVEMBER	2,310	1,800	179.50	1367.76	14.78	4.22	2.11	5.45	3.64	30.20
DECEMBER	2,310	1,650	283.75	1278.09	11.81	3.37	1.69	6.81	4.54	28.22
TOTALS	$13,860	$10,425	$1,382	$8,679.38	94.11	26.89	13.45	34.32	22.87	191.64

TOTAL COST: $24,285.00
TOTAL AVOIDED COST (@45.29/TON) + REVENUE: $10,061.38
OVERALL COST: $14,223.62

AVERAGE COST/TON: $74.22

COST ESTIMATE WITHOUT RENTAL
TOTAL HAULING COST: $10,425.00
TOTAL AVOIDED COST + REVENUE: $10,061.38

TOTAL COST/TON: $1.90

WHO SAID "RECYCLING MAKES MONEY!?"

By Gretchen T. Gary

They laid it on the line and they didn't make it pretty. Industry panelists at the NYS Legislative Commission on Solid Waste Management Conference held Jan. 31 - Feb. 2, talked about the "real world" of recycling, and it's not the one dreamers may imagine. Recycling may cost some money, Honey!

But realism in recycling attracted a large turnout from across the state. Many persons attending were members of local government, concerned about how to implement NYS mandatory recycling law, effective Sept. 1, 1992.

Information acquired from the conference got these comments in Allegany County:

"Recycling won't work unless people change their throwaway attitudes," said Steve Nease, Allegany County Landfill Supervisor. As to how much solid waste is recyclable, he said, "Fifty percent is out of the question. Twenty-five percent maybe, it's a better figure because the markets are so shaky at times."

Grant Dean, Allegany County Transfer Station Supervisor, commented on the need for better definitions and standards for recycling (State and County). "Don't rush into recycling," he said. "You'd be surprised at the number of people who will not pay to take recyclable material away. They want to be paid. Forget about making thousands of dollars recycling, it's gonna cost ya."

Recycler's Viewpoint: Pete Vile, Waste Recyclers Council

BETTER DEFINITIONS AND STANDARDS NEEDED FOR RECYCLING TO SUCCEED

With the growing trend to exempt recycling centers from solid waste regulations, better definitions are needed to protect the public against abuses.

For instance, in New Jersey, where recycling facility operators are not required to obtain solid waste facility permits, regulators and industry are debating the question of when is a recycling facility really a waste transfer station.

Although the state defines a recycling facility as one that produces minimal residue, it has no definition of what minimal residue is. If a facility recycled greater than 50% of its incoming waste, for example, is it a recycling facility or a transfer station?

Classification as a recycling facility could save the operator significant amounts of time and money. To help clear up the issue, a **bill has been introduced in the state legislature that would define minimal residue as 10% of the incoming waste.**

Whether or not a recycling facility is a transfer station is equally important in areas where out-of-town waste is prohibited from disposal facilities.

In Connecticut, trash generated in a particular locality must go to the same localities disposal facility. Since recycling centers are in a sense considered manufacturing facilities, the residue they generate is permitted at local disposal facilities. Without a clear definition of a recycling center this has opened the way for trash transfer stations to claim to be recycling centers in order to gain access to local disposal facilities.

Otherwise, after the transfer station had recycled part of the load, the operator would be required to return the residue to the originating town's disposal facility. This has led the Department of Environmental Protection to develop the initial **criteria that a recycling center must recycle 80% of the material it receives. If more than 20% residue is generated then the facility is a transfer station.** The Department plans to further refine these percentages for specific types of waste when better data is available.

The fact that operating requirements for recycling centers are much less stringent than for transfer stations in many states has also created problems. In California, franchise holders for municipal refuse collection must meet strict operating requirements. Unregulated recycling companies, however, are able to undercut the franchise holder in bids for commercial refuse hauling because of the lower standards they must meet as recycling centers, even though they are providing a similar service.

These examples point out the need for well-thought-out guidelines governing recycling centers and transfer stations. The current advantages recycling centers now receive has led companies to abuse the system that was meant to give recyling a boost.

To rectify this, definitions need to be developed for transfer stations, transfer recycling stations and recycling centers. A transfer station simply transfers waste, with little if any reduction in the quantity of waste sent for disposal. A transfer-recycling station should remove at least 25% of the waste received for recycling. A recycling center should not be allowed to generate a residue greater than 5% of the material received.

ALLEGANY COUNTY RECYCLING PROGRAM
1990
INITIATIVES

A June 1, due date was given to Allegany Co. from the NYS DEC for completion of a CRA, (comprehensive recycling analysis). The CRA will describe existing, proposed, and potential recycling efforts of Allegany County.

With the onset of the mandatory program, a full scale publicity campaign to promote recycling in Allegany County, will be created and introduced.

A proposal for a 3 year recycling education program will be developed and decided on in early June. Education will focus on schools and consumers, as well as retail operations and industry.

The mandatory source separation law of Allegany County is being prepared for introduction and review by County attorneys in July. The review period may take anywhere from 2 weeks to six months. Draft copies will be available after the review period, from the Co. Department of Public Works (716) 268-9230.

A constant source of markets for recyclable material will be pursued. The out look is good, new industries have been looking at N.Y.. A waste paper facility has plans to start construction in early fall. Although these plants won't be ready to accept waste paper for 1 to 2 years, it's a start!

LEGISLATIVE UPDATE

Gretchen T. Gary, Recycling Coordinator

In a recent interview with Delores Cross, Allegany County Legislative Chairman, recycling was discussed as a major top priority. "Developing and preserving our pristine environment in Allegany County must come from an inner feeling and a committed, cooperative effort from everyone. An important first step in organizing and achieving this goal is the establishment of the Office of Development and Planning."

With solid waste management, roads, and bridges important issues of the 90's, the Department of Public works committee members have their work cut out for them. Chairman Cross has said, "To be a legislator on the Public Works committee deserves some credit, it is one of the hardest and most problematic committees to be on. I feel very confident with Alton Sylor as chairman of the Public Works Committee, his experience, knowledge, and conservative efforts are a definite asset to the county."

Allegany County is working on developing a sound and realistic Source Separation Law to be introduced this year. With the established goals of Cross and Sylor, the road ahead looks like a good one!

YOU CAN MAKE A DIFFERENCE

REDUCE YOUR JUNK MAIL

If you write to:

Direct Marketing Association
6 East 43rd St.
New York, N.Y. 10017

Ask to be eliminated from mailing lists, their mail preference service will stop your name from being sold by most large mailing companies. This will reduce new pieces of junk mail going to your address by up to 75% but not affect mail you receive from companies that already have your address.

SOLID WASTE CORNER . . .

SOLID WASTE MANAGEMENT IN ALLEGANY COUNTY

by John J. Mancuso

Allegany County owns and operates a state of the art sanitary landfill which was opened in 1987 in order to handle refuse generated in Allegany County.

All Town and Village landfills were closed due to inadequate design resulting in the potential for ground water contamination.

The County Landfill is designed and operated to meet the latest Department of Environmental Conservation regulations which are the most astringent in the Nation. Double liner systems are employed with leachate collection to protect groundwater. Groundwater beneath the site is continuously monitored in order to detect any early signs of contamination.

In 1989, construction of a third cell, or refuse disposal area, was begun and should be completed in 1990. This cell has a double composite-liner system which is composed of two earthen (clay) liners and two synthetic (plastic) liners. The County will also build a white goods storage pad in 1990. White goods are discarded appliances such as washers, dryers, and refrigerators.

The other aspect of Allegany County's solid waste management scheme is a transfer system made up of seven conveniently located stations throughout the County. These stations accept residential solid waste and recyclables which is transferred by County employees to the County Landfill.

NEW TRANSFER STATION SCHEDULE

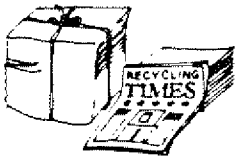
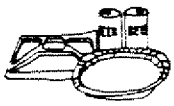
OPERATING SCHEDULE FOR ALLEGANY COUNTY TRANSFER SYSTEM
EFFECTIVE FEBRUARY 5, 1990

	STATION	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1)	Caneadea			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
2)	Canaseraga					8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
3)	Cuba/ Friendship	8:00 a.m. 3:30 p.m.			8:00 a.m. 3:30 p.m.		8:00 a.m. 12:00 p.m.
4)	Angelica		8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.		8:00 a.m. 12:00 p.m.
5)	Alfred		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.
6)	Bolivar			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 am. 3:30 p.m.
7)	Wellsville	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:00 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
8)	Landfill	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 12:00 p.m.

Note: Holiday Schedule for 1990 (All facilities will be closed)

January 15	Martin Luther King, Jr. Day
February 12	Lincoln's Birthday
February 19	Washington's Birthday
May 28	Memorial Day
July 4	Independence Day
September 3	Labor Day
October 8	Columbus Day
November 12	Veteran's Day
November 22	Thanksgiving Day
November 23	Day after Thanksgiving
December 25	Christmas Day

RECYCLABLE MATERIALS

Materials	What Can Be Recycled	What Can't Be Recycled	Recycling Preparation
Glass 	Glass containers: clear, amber and green	milk-white glass plate glass light bulbs fluorescent bulbs crystal	Rinse—labels can stay on Remove metal rings screwdriver or needle-nose pliers Separate by color Store—do not break
Paper 	newsprint corrugated boxes egg cartons junk mail telephone books computer cards and print out paper	waxed or plastic-coated cellophane	Newspapers—keep clean and dry, stack less than 1 ft. high, tie with twine or pack in brown grocery bag or box Cardboard—break down flat, stack and tie in small bundles. Office—stack in separate box.
Aluminum (non-ferrous metal) 	all aluminum foil food wrap, TV trays, pie tins; ice cube trays aluminum siding, storm doors, windows and gutters, lawn furniture		Trays, tins, foil; rinse, flatten and store Other— remove foreign materials cut into 3 ft. lengths tie or store separately in bags or bundles
Ferrous Metal 	most ferrous metals, but separated according to type: cast iron, steel sheet metal, tin-coated cans, bi-metal cans (steel and aluminum)	non-ferrous metals cannot be mixed with ferrous metal; they can be identified with a magnet, which ***will not*** stick to them.	Tin Cans—test with magnet, rinse, remove labels and ends, flatten (include ends) store in box or bag. Bi-metal Can—Prepare same way as tin cans, but store separately. Other ferrous: check with local scrap dealer about preparation and selling.
Non-ferrous Metals 	nickel, bronze, copper, brass and lead	ferrous metals cannot be mixed with non-ferrous (test with magnet which will stick to ferrous metals	Check with your local scrap dealer or recycling center about preparation and sale.
Plastics	all plastic containers		Rinse, remove metal caps. Flatten and store.
Organic Wastes	non-animal food scraps, yard and lawn waste	meat and fish scraps (attract and breed pests)	Ask your local library or county agricultural extension for composting instructions.
Motor Oil 	oil drained from a car, motorcycle, or lawn mower	oil contaminated by anti-freeze	Drain oil into container. Seal securely and take to a Used Oil Collection Site

CLIP AND SAVE

IMPORTANT NAMES, NUMBERS, AND ADDRESSES

NYS Department of Environmental Conservation
Division of Solid Waste
Bureau of Waste Reduction and Recycling
RM. 210, 50 Wolf Rd.
Albany, N.Y. 12233-4015
(518) 457-7337

NYS Department of Environmental Conservation
Region 9 Office
600 Delaware Avenue
Buffalo, N.Y. 14202-1073
(716) 847-4585

Delores Cross, Legislative Chairperson
Allegany County Board of Legislators
RM. 200, Co. Office Bldg.
Belmont, N.Y. 14813
(716) 268-9222

Public Works Committee Members:
Alton Sylor, Chairperson
Max Allen • Arnold Loucks, Jr.
Clair Wentworth • Keith Palmiter
* *all may be contacted through the Board of Legislators*
(716) 268-9222

Allegany County Department of Public Works
RM. 210, Co. Office Bldg.
Belmont, N.Y. 14813
(716) 268-9230
* *the following people may be contacted at this address*

Richard Young, Superintendent
David Roeske, Deputy Superintendent I
(specialty - Highways)
John Mancuso, Deputy Superintendent II
(specialty - Solid Waste)
Steven Nease, Landfill Supervisor
Grant Dean, Transfer Station Supervisor
Gretchen Gary, Recycling Coordinator

Allegany County Landfill - (716) 268-5400

IN THE NEXT ISSUE OF "BACK - ALLEY" . . .

We look forward to bringing you a first glance at Allegany County's Source Separation Law, more on degradable plastics and the idea of using old newspapers as animal bedding.

Training Professionals

WHAT RECYLCING COORDINATORS SHOULD KNOW

By Rob Gogan

Job opportunities in the recycling field have grown to the extent that demand for qualified people has in some places outstripped supply. In response to this shortage, training programs for recycling coordinators have emerged in both the public and private sector. To get a sense of the value of such training programs and the subjects they should focus on, a representative panel of 26 nationally-recognized recycling experts was recently surveyed. The panel of program directors, public relations experts, recycling specialists from private companies, university professors, and training consultants were asked whether recycling coordinators should have "skill and knowledge" in 13 different areas. The areas are listed here from most needed to least needed based on their collective responses:

1. How to manage information and recycling records; 2. Economics of recycling; 3. How to obtain publicity and motivate recycling; 4. Budgeting procedures; 5. Recycling program case studies; 6. How to find/maintain domestic and international markets; 7. Local government; 8. Recycling operations; vehicle routing and specifications; 9. Product specifications for secondary materials; 10. Disposal options, costs and technologies; 11. Solid waste law and background to policy issues; 12. Technology of secondary materials processing; 13. Labor relations.

There was clear consensus that the first 10 areas are important. Only lukewarm agreement was generated by the last three. Regarding the highest-scoring skill, information management, one expert noted, "Coordinators don't have to know everything themselves, but they need to know what they don't know and where to find it." Another added that information research skills, such as knowing how to access trade associations, markets, and technical data sources, was critical.

An open question allowed respondents to suggest other areas they viewed as important. Trish Ferrand of the County of San Diego emphasized the need for history and background to policy questions. "We've had an influx of technicians [into the recycling field] who haven't had any environmental background," she said. "They are unprepared to deal forcefully when policy crises come up."

Jerry Powell of *Resource Recycling* pointed to a paradox of recycling training. "Training programs usually involve singing in the choir. Recycling trainees need 'jarring' by experts in metallurgy, truck specifications, and public administration."

Maurice Sampson of the Urban Recycling Institute in Philadelphia disapproved of the notion that recycling coordinators need pre-service training credentials; he feared that many bright and talented people might be barred from the field. In his opinion, recycling coordinators should "be skilled in the art of the problem solving process, self starting and thick skinned. Everything else can be learned [on the job]."

Value of Training

When asked whether training the 13 areas listed above would improve the performance of recycling coordinators, respondents unanimously agreed. Panelists also agreed that training would improve the quality of recovered materials, and help recycling coordinators earn higher salaries.

Agreement was less robust on whether training would give coordinators more credibility with the general public or whether it would promote better relations between recycling coordinators and secondary materials markets.

Four out of the 22 responding panelists said they believed the skills and knowledge needed by a recycling coordinator can only be learned on the job. They acknowledge that training would help improve performance, but feel nothing can substitute for inherent abilities and experience. On the whole, however, respondents strongly disagreed with the premise that recycling is a "common sense" job that doesn't require any training or experience.

Allegany County
DEPARTMENT OF PUBLIC WORKS
Rm. 210 County Office Bldg.
Belmont, New York 14813

CRA-19

BACK-ALLEY

A BEHIND THE SCENES LOOK
AT THE
ALLEGANY COUNTY RECYCLING PROGRAM

Volume 1, Number 2 & 3 Winter 1990

ANIMAL BEDDING - A RECYLCING ISSUE?!

By Christopher Thompson
Recycling Program Summer Intern

The market for recycled newspaper is not growing fast enough with the supply. With the increased recycling effort, a market for newspaper is becoming harder to find. An old idea that may help a very new problem, is animal bedding from shredded newspaper.

The fact is, straw and other bedding is becoming scarce and more expensive. Newspaper prices range from 40-60 dollars per ton, whereas the cost of straw often reaches up to 100 dollars per ton.

Although this is a big advantage it is not the only advantage of newspaper. The newspaper will last up to twice as long because of the absorbency. Fly and disease control is increased. The paper is virtually dust and mold free which causes fewer respiratory problems in the animals.

The only problem is that the colored and glossy paper products are toxic. All paper used in bedding should be sorted and these types of paper eliminated. But, in comparison to sawdust, newspaper and office paper is the healthier alternative.

Another subtle factor is the distribution of crops. This form of bedding eliminates the need for the extra fields of straw by allowing these fields to be used for a more profit making crop. Hopefully this will help the prosperity of the agricultural community.

The paper bedding can be used for almost all types of livestock including beef, dairy, pork, and poultry producers as well as horse farms. Veterinarians and animal shelters have also used paper as bedding for smaller animals.

In short paper bedding is cheaper, superior in quality, more convenient, and readily available.

If you would like to try shredded newspaper for animal bedding or would like more information, contact: CROWN-Y of Cuba, at (716) 968-3658.

(see graph on back page . . .)

HOW ENVIRONMENTALLY SAFE ARE BIODEGRADEABLE PLASTICS

By Christopher Thompson
Recycling Program Summer Intern

In this environmentally minded age, biodegradable sounds like the cure all way to help the planet. In actuality "Biodegradable" plastics do not live up to the public assumption of the definition.

Plastic is made up of very long chains of repeating molecules known as polymers. These polymers are so tightly bound that all environmental forces are resisted (like wind and rain) and microorganisms that break down organic materials.

These plastics can be made biodegradable one of two different ways: Make the large polymers themselves appetizing to microorganisms; or find a way to weaken the polymer chains so that they break up into smaller pieces - potentially small enough for themselves to be eaten.

Only the first method produces "true biodegradable" readily consumed by microbes. Costs for this method run high, 15 dollars a pound or more. Therefore these polymers have yet to hit the full scale commercial market.

The big problem is that no biodegradable really disappear in the landfill. In order to prevent contamination of the water table, landfills are kept dry and cool. This environment is not ideal for the microorganisms necessary for degrading. So, the best answers still lie in paper and in Reduce, Reuse, and Recycle!!!!

RECYCLING PROGRAM STATISTICS

1990 TONAGE

	RENTAL	HAULS	REVENUE	AVOIDED COST	NEWSPAPER	CARDBOARD	PLASTIC	GLASS	METAL	TOTAL
JANUARY	$2,310	$2,100	$437.50	$1,997.00	15.71	4.49	2.24	10.50	7.00	39.94
FEBRUARY	$2,310	$1,575	$324.00	$1,562.50	12.80	3.66	1.83	7.78	5.18	31.25
MARCH	$2,310	$2,025	$364.00	$1,649.00	12.90	3.69	1.84	8.74	5.82	32.99
APRIL	$2,310	$2,100	$206.50	$1,655.00	17.39	4.97	2.48	4.96	3.30	33.10
MAY	$2,310	$2,775	$411.00	$2,167.00	18.83	5.38	2.69	9.86	6.58	43.34
JUNE	$2,310	$2,625	$294.00	$1,898.50	18.35	5.24	2.62	7.06	4.70	37.97
TOTALS	$13,860	$13,200	$2,037	$10,929.50	95.98	27.43	13.70	48.90	32.58	218.59

TOTAL COST: $27,060.00
TOTAL AVOIDED COST (@50.00/TON) + REVENUE: $12,966.50
OVERALL COST: $14,093.50

AVERAGE COST/TON: $64.47

COST ESTIMATE WITHOUT RENTAL
TOTAL HAULING COST: $13,200.00
TOTAL AVOIDED COST+REVENUE: $14,093.50

TOTAL COST/TON: $4.09

1990 RECYCLING PROGRAM COSTS

	STATION 1	STATION 2	STATION 3	STATION 4	STATION 5	STATION 6	STATION 7	MONTHLY TONNAGE	MONTHLY HAULS	WORKING DAYS
JANUARY	8.65	5.09	1.64	6.38	5.36	1.50	11.32	39.94	28	25
FEBRUARY	5.03	1.35	4.13	2.51	2.83	4.87	10.53	31.25	21	22
MARCH	4.57	3.17	1.79	5.34	4.77	3.54	9.81	32.99	27	27
APRIL	5.79	1.54	3.97	6.79	2.18	2.15	10.68	33.10	28	25
MAY	8.57	2.90	4.71	6.66	6.97	3.51	10.02	43.34	37	26
JUNE	5.39	5.02	2.87	5.96	1.95	4.03	12.75	37.97	35	26
TOTALS	38.00	19.07	19.11	33.64	24.06	19.60	65.11	TOTAL TONNAGE 218.59	TOTAL HAULS 176	TOTAL DAYS 151

AVERAGE TONS/MONTH: 36.43
AVERAGE HAULS/MONTH: 29.33
AVERAGE TONS/HAUL: 1.24
AVERAGE TONS/DAY: 1.45

A NEW APPROACH TO WASTE MANAGEMENT

By Gretchen T. Johnson, *Recycling Coordinator*

It seems like overnight, Allegany County has found itself confronted once more with an old chore: taking out the garbage. Over the last two years, the "waste crisis" has moved from being a cry of alarm, to a reality and is now threatening to recede into little more than a cliche'.

Any number of reasons for, and solutions to, the crisis are offered by those involved:

- Some see landfills filling up; while others see them draining poisons into ground water.
- Some consider incinerators a clean alternative to unsightly dumps; others see only air pollution and toxic ash.
- Some regard skyrocketing costs of landfilling and incineration as the problem; others view those same costs as providing incentives to explore and fund better alternatives such as recycling.
- Some blame citizen opposition and : "environmental evangelists" for the crisis; others believe they have no alternative but to block the limited choices offered them.

To find truly viable solutions, we must go back to where we should have started in the first place. Rational management of our garbage requires that we understand what is in it and how best to manage each component.

Traditionally, we've buried all of our garbage, typically in dumps that are little more than large holes in the ground. Now many communities are attempting to replace those mass landfills with "mass-burn" incinerators. Of course, incinerators don't make garbage disappear, they only process it and reduce its volume, still leaving large amounts of ash that must itself be landfilled.

Our traditional approaches to landfilling and incineration form two myths that compromise our ability to find workable solution to the solid waste dilemma: that we can manage garbage without considering its individual components: and that a single method can successfully manage our entire waste stream.

If garbage is anything, it is diverse. It contains some materials that are recyclable, others that aren't; some that burn, others that don't; and some materials that are probably best buried, others that should never be.

Yet today's landfills are operated as mass graves for everything; lead-acid batteries and last week's leftovers, all receive equal treatment. And mass-burn incinerators eat garbage as if it were a homogeneous fuel like coal, when it consists of materials such as cans and bottles (which don't burn), yard waste and paper (which burn but can be composted or recycled), and still other materials that contain toxic metals.

Landfills contaminate groundwater and incinerators pollute the air, creating toxic ash because they don't discriminate in the waste they handle.

No matter how we view the issue, from any angle, we must recognize garbage for the mixture of material that it is. This applies whether we are trying to find the safest and most economical way of disposing of these materials, or evaluating the potential to recycle these resources and energy value.

In making decisions, we must take steps to keep separate (or to separate garbage into) its various components. This ethic is already at the heart of recycling. The idea of source separation must become the reasoning behind incineration and landfilling.

Reality dictates that source reduction, recycling, incineration, and landfilling - New York States now-familiar waste management hierarchy - will all play some role in solid waste management planning.

QUESTIONS AND ANSWERS ON PLASTICS

Can Plastics Be Recycled?

Absolutely. Although plastics recycling is in its infancy, it is growing very rapidly. Already 20% of all soda bottles made of PET (polyethylene teraphthalate) are being recycled and the plastics industry has set a goal of 50% by the mid-1990s. The market value of recycled PET and the other commonly used plastics are very competitive, and demand is far ahead of current supply. The Plastics Council is now hard at work developing and improving techniques and markets for recycling PET and the other commonly used packaging plastics. The EPA has set a national goal of 25% source reduction and recycling of municipal solid waste by 1992, and the plastics industry is committed to supporting that goal.

Can Plastics Be Incinerated Safely?

Yes. Although incinerators of the past earned a bad reputation for smoke, modern waste-to-energy incinerator technology is capable of burning municipal solid wastes, including plastics, with emissions far below even the rigid standards adopted by the EPA. In fact, plastics, being petroleum derivatives, have a very high energy value -- as much as double that of coal. Add that to the fact that such incinerators reduce dependance on coal- or oil-fired power and the net impact on the air is not an issue.

However, 20-30% of incinerator fuel (by weight) remains as ash, which requires strict management and handling practices or treatment to ensure safe disposal.

Why Not Make All Plastics Degradable?

It is important not to confuse municipal solid waste disposal issues with our litter problem. While degradable plastics might play a role in controlling the accumulation of litter and marine debris, degradation offers no benefit to solid waste management, for three reasons:

First, materials buried in a landfill, unlike composted materials, do not degrade appreciably for **decades**. so degradation does not reduce the volume of trash. Second, what degradation does occur is discouraged by landfill managers. It can leach toxic liquids, poisoning the groundwater, and it can make the reclaimed land unstable and destroy its real estate value. Third, degradable plastics, if mixed in waste stream, can contaminate other plastics, compromising their value for recycling, and resulting in a net **increase** in the amount of plastics discarded.

AN EAR FOR THE PUBLIC WANTS
"What Does The Public Want From Solid Waste Professionals?"

By Gretchen T. Johnson, *Recycling Coordinator*

The NIMBY syndrome is not, by any means, a new phenomenon. Social NIMBY has been around for some time (no one really likes to have a dump next door). At the root of the problem is the distrust of government officials by the citizens.

In the solid waste field, NIMBY has been developing steadily, at roughly the same rate as the buildup of the solid waste crisis. The increasing availability of information regarding the environmental impacts of (and alternative options for) solid waste management has been one major factor in its growth. The organization of grassroots environmental groups has also fostered the development of NIMBY into the widespread force it is today in the solid waste field.

The following is an attempt to interpret the public's perspectives regarding waste management, based on observations made over the past 10 years.

Shooting wars aren't necessary

The intensity of NIMBY feelings has escalated in recent years. A growing number of grassroots organizations made up of local residents upset by the often righteous attitude of facility proponents and scared by the environmentalist detractors of projects, are accumulating more information which counters that provided by proponents of specific projects. Unfortunately, the nonprofit environmental sector lacks the funds needed to cover every environmental issue deserving a technical expert's attention. There are relatively few public interest researchers, and they are stretched to the limit.

A positive note is that some larger, nonprofit environmental research/advocacy organizations have taken a greater interest in solid waste management issues not involved with siting, including the EPA hierarchy. This has broadened the usually narrow NIMBY focus and has fostered constructive dialogue useful in government decision making.

However, this isn't happening fast enough. Scant bits of information, and sometimes disinformation, are still being communicated about the impacts of incineration and ash management. Sometimes the dissemination of disinformation arises due to the inability to gain access to more accurate or up-to-date information from vendors and governments. At other times, it is due to unbridled zeal on the parts of some vendors and environmentalists, coupled with a belief that the only way to have meaningful input is to attack the other side.

Too often the result is an adversary situation. Underfunded environmentalists and community activists are pitted against vendors, solid waste departments, and their consultants in series of pitched battles. The prime purpose is to defeat the other side; sometimes, lawsuits are among the weapons. Frequently, a single element (say, a resource recovery plant) of what should be an integrated, long range plan (of source reduction and recycling initiatives, and recycling, composting, incineration, and landfilling facilities) is the narrow focus of discussion.

As a consequence, the individual facility is delayed, no integrated solution is agreed upon, and the solid waste crisis is intensified. The current situation cries out for greater and earlier cooperation and involvement of the public in all stages of decision-making.

The public's desires are not unreasonable!

It is often said that the people's interest in the solid waste issue goes no further than their own curbs. What with the **Mobro** "garbage barge" and recent accounts of backhauling trash in empty food trucks, the public has been startled into awareness of the worsening solid waste crisis.

In those communities facing closure of major disposal facilities, the siting of new ones inevitably draws the public attention.

Generally speaking, the public's desires are not unreasonable. People would like to be assured that government agencies responsible for waste management will take a broad view of the situation. They would like to see government researching and prioritizing methods of waste prevention and management, and choosing those that represent the state of the art -- safe for people and the environment, both now and in the long term.

In addition, the public wants to see these alternatives structures into a well-thought-out integrated plan. The plan should be implemented efficiently, cost-effectively, and in

(Continued on page 5 . . .)

YOU CAN MAKE A DIFFERENCE
RECYCLE MOTOR VEHICLE BATTERIES

K-Mart, in partnership with Exide Corporation, the world's largest battery manufacturer, is the first to announce a nationwide junk battery collection program.

Just bring in any junk automotive, truck, marine, RV, or light truck/van battery to any K-Mart store in the country.

K-Mart will pay you $2.00 for each battery you bring in, no matter where you bought it.

due time. The public also insists that the agencies involved commit sufficient resources to obey both the spirit and the letter of environmental and waste management laws.

Citizens also seem to want minimum inconvenience. This translates to a preference for curbside pickups, rather than drop-off centers for recycling.

How the public feels about waste

Regarding siting of disposal facilities, the public has seemingly paradoxial desires. It has usually been opposed to the importation of other municipalities' wastes.

At the same time, the environmental community (and many citizens) do not see as a responsible or sustainable policy, to permit large-scale exportation of wastes -- refuse, ash, sludge, hospital, or hazardous wastes -- beyond local and national borders. In addition, there is the preference that waste management facilities, including even sanitation garages and recycling processing centers, be located as far away from home as possible (the NIMBY syndrome). This is particularly applicable to the siting of incinerators and landfills. Additionally, the public wants to be kept informed about government decision-making for waste management, particularly as such planning affects them, and it wants to participate in the planning process as early as possible, before plans are set in concrete.

A sure way to foment dissension between the public and the government is to allow the public to become convinced that government has lost touch with its desires and is no longer representing its interests. The NIMBY syndrome is a likely outgrowth of government's indifference to its citizens' desires and requests for involvement in the planning process. Specifically, the public seems largely to agree with the waste management hierarchy adopted by the U.S.

EPA:
- source reduction and reuse;
- recycling and composting;
- incineration, ash disposal, and reuse; and
- landfilling of residues and refuse as a last resort

However, the public seems to have other priorities. These include:

• Implementation of nonincineration technologies, including recycling, composting, and source reduction as soon as possible.

• Education about nontoxic alternatives for, and scheduling pickups for, regular household hazardous waste, and educating about the special handling, disposal, and reuse of such waste.

• A minimum amount of toxicity in a stack emissions from incineration of MSW or sludge. This sometimes translates to the public's insistence on having no incineration. But in other cases, it translates to wanting the best available designs, emission controls and continuous monitoring with economics not a factor. In addition, there is a preference for technology which recovers materials and thus involves lower emissions and greater recycling potential if the alternative were mass-burn without source-seperation.

• Assurances that environmental standards are being met at all times. Regulatory enforcement is seen as chronically and severely underfunded, allowing polluters to make a mockery of environmental laws. Even the development by regulators of adequate standards requiring the most up-to-date technologies is seen as underfunded, inadequate, and long overdue.

• Sufficient government commitment (i.e., funding, staffing) to learn from the successes of others' technology and information transfer and to develop its own expertise in devising efficacious implementation of initiatives which promote the upper two tiers of the hierarchy.

• Uniform, stringent worker training, certification standards, and safety procedures at incinerator plants and other waste management facilities, and close monitoring of same by regulatory authorities.

• Rail and barge transport of waste as more preferable than increased truck traffic through neighborhoods.

• State-of-the-art ash handling, treatment, and environmentally sound reuse (if possible) or disposal.

The root cause: lack of respect

How can the public's desires be reconciled and communicated effectively, and be integrated into policy decisions made about individual projects, and more important, integrated plans?

Where can responsible proponents of opposing viewpoints air and debate both the pros and the cons of individual resource recovery plants? Where can people on varying sides of the issues debate integrated solid waste management plans? The occasions in which such local forums have been created are few and far between.

Such a sanctioned opportunity for organized and informed public participation -- early and continuously throughout the process -- is the missing element in the decision-making process. In short, this has been seen as a **lack of respect** for the public's point of view. Government lacks an organizational structure to ensure and promote cooperation between government and the public.

These past (and present) policies are the root causes for the failure of a number of resource recovery plants -- and for the delay of others.

IN THE NEXT ISSUE OF BACK ALLEY . . .

We **still** look forward to bringing you a first glance at Allegany County's Source Separation Law, the county's Comprehensive Recycling Analysis, and information on how to attend and speak at a Public Works Committee meeting.

TOUGH RECYCLING LESSON: LOOK BEFORE YOU REAP

By Todd Sloane, *City & State 1989*

One of the most favored terms used by state and local officials these days is recycling.

Many waste-management experts believe, however, that right after uttering that buzzword, government officials should ponder another equally important term: markets.

Rapidly filling landfills and new state and federal solid-waste regulations have made recycling the fastest growing waste disposal alternative. But the recycling industry is telling public officials to look before they leap, because in some instances the market just isn't there - and they will be unable to find anyone who wants to take their recyclable material.

"We have proven America will recycle, and, boy, do they come out, rich and poor, young and old, city and suburb," said Jerry Powell, president of Resource Conservation Consultants, Portland, Ore.

"But we have yet to prove that industry really wants more of this material, " Mr. Powell said.

Markets for recyclable waste have become especially critical because recycling programs are booming as never before. More than 1,000 communities have programs with curbside pickup. Waste-management experts point out that the U.S. Environmental Protection Agency has proposed regulations, including stronger ground-water monitoring and covers for open pits, that by August 1990 would make new landfills far more expensive to site and operate, making recycling a must in every state.

Private industry at first was slow to respond to the national move toward recycling. Now, it has awakened to the demand, although private efforts still are far from enough to handle the mushrooming amount of recyclables.

Success is often guaranteed for government-backed recycling program when there is a local materials-recovery facility, commonly known in the industry as a MRF (pronounced "mirf"), guaranteeing a market for recyclable material.

Programs without such facilities, however, must play the supply-and-demand game. For instance, recyclers in some parts of the country, including New Jersey, New York, and Chicago, have had trouble unloading old newspapers and corrugated boxes. Some experts contend that as more localities introduce recycling programs, a glut also could develop in certain regions for glass and used tires.

The types of material collected and the ways they are processed by states and municipalities can determine whether a market exists for recylables. For example, glass and steel containers must be properly sorted, processed and shipped to willing and reliable producers, such as bottle and can manufacturers, before they can be recycled.

As plastic-recycling industries begin to develop they are experiencing growing pains. Many small companies have already gone out of business as projections for sales fail to pan out, leaving local recycling projects without ready markets. Even the process of sorting out plastic soft drink bottles, which are easier to recycle than many other products, is often too much for recycling programs to handle.

In less populated and less industrialized areas, governments may have trouble getting rid of material because of the lack of local recycling plants; in addition, purchasers of recyclable material may find it easier and less inexpensive to deal with suppliers close to home.

Since most communities involved in recycling intermix, or comingle, steel cans, aluminum and bottles, a local MRF is critical to the success of a recycling program, experts say.

"When materials wind up as a new product, that's when recycling happens, not when a truck comes by to pick up old cans or newspapers," said J. Frank Bernheisal, vice president of Gershman, Brickner & Bratton Inc., a Falls Church, VA, company that manages several MRFs.

He said the number of processing facilities is rising, proving that more communities are getting wise to this fact.

Today, forward-thinking governments are designing collection programs around marketing strategies. Proof of this can be found in the growing number of processing facilities around the country. At the beginning of 1989, there were 16 MRFs, all on the East Coast. Another 25 are scheduled to begin operations by the end of the year.

"It is critical that before you go into recycling you inventory your markets," said William L. Kovacs, an attorney with the Washington-based law firm of Echert Seamans Cherin & Mellott who has worked with the Americ Paper Institute, New York, on recycling legislation.

"Most states don't have a list of paper mills, glass producers and rubber producers in their state or region, and what specifications are as to quality of the material they will accept," he said. "Often, **quality** is more important than anything else."

"You need a region of 3 million people to set up a rubber reprocessing center, and you need a region of 4 million to 5 million people to set up a paper plant. In order to get these plants, you have to have a reliable source of material, but so far the states aren't out there working together on this."

Some states waking up

But some states are waking up to the marketing issue. Twenty-eight states and 11 localities have passed resolutions or legislation calling for state and local governmental preference for products that contain certain percentages of recycled material, according to the American Paper Institute. Some states have authorized studies of recycling markets in their regions. At least a few states have looked at, but haven't adopted, grant and loan programs and tax incentives to open up recycling markets.

Minnesota has opened a market for discarded tires by providing start-up loans to a new business that recycles 4 million tires a year, employes 60 people and turns a pr

Even a once silent congress has taken up several b... that would encourage the use of recyclables in a range of

(Continued on page 7)

Tough Recycling Lesson: . . . Continued

products. One bill, sponsored by Sen. John H. Chafee, R-RI, would identify state and regional markets for recyclables and require stricter EPA procurement guidelines.

In addition, the EPA, which has set a target of recycling 25% of the nation's waste stream by 1992, has established procurement guidelines for all federal, state, and local agencies that receive federal funds to buy more than $10,000 worth of designated recycled products a year.

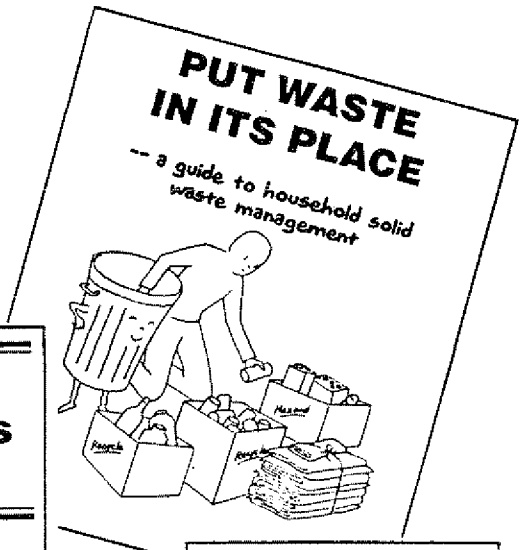
The fastest-growing sector of the recycling business is without a doubt plastic, but that may be because it has the farthest to grow. While plastic makes up 7.5% of the residential and commercial waste stream, less than 1% is recycled.

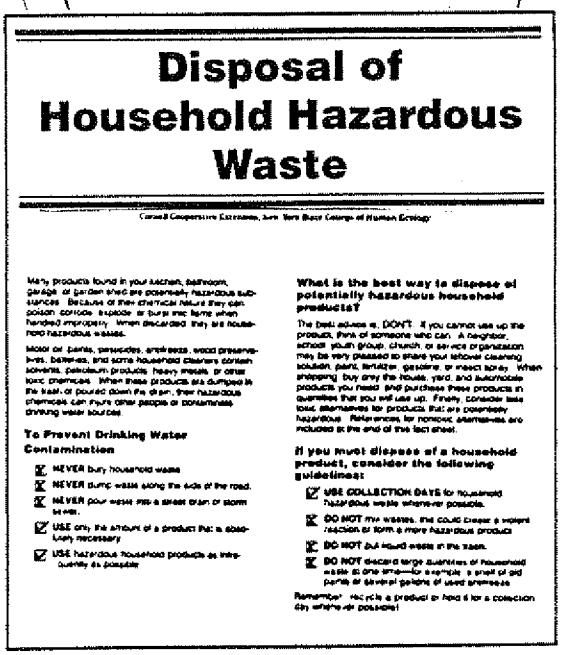
In 1986, Rhode Island became the first state to mandate curbside recycling; in the process, the state may have unknowingly set itself up as a model for other state and local governments in collecting, processing, and marketing recyclables.

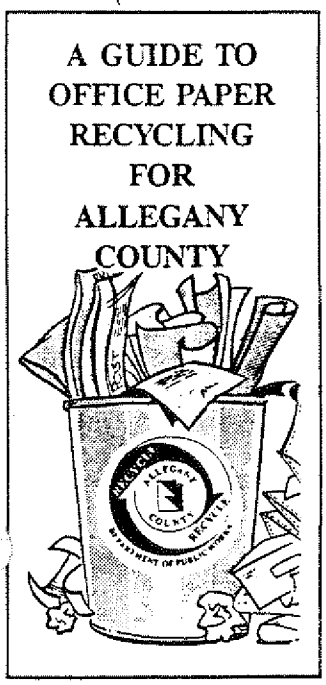
For starters, the state **didn't** try to go into the recycling business straight-off. Rather, it issued a request for proposals from private recyclers and ended up choosing New England CRinc., North Billerica, Mass., to run its program.

State officials automatically sensed that more residents would participate in a recycling program if they were asked to place all their recyclables into one container for curbside pickup, rather than separate the material into different containers. The single-container concept prompted officials to build a central MRF in Johnston, RI. A complex sorting machine around a conveyor belt separates paper, aluminum, glass, tin, steel, and plastic. Trucks await each material, and a willing buyer is on the other end.

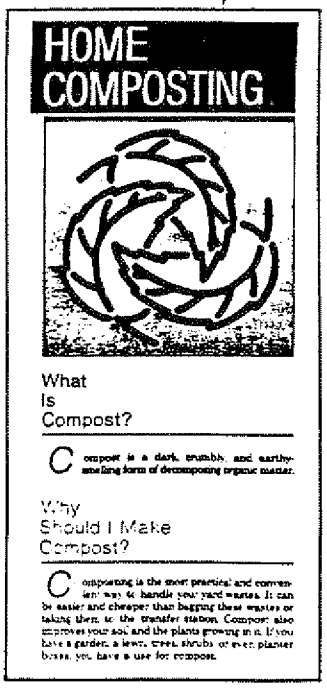
NEW INFORMATION IS AVAILABLE







FOR COPIES WRITE TO:
Gretchen T. Johnson
Allegany County
Dept. of Public Works
Rm. 210, Co. Office Building
Belmont, New York 14813



Composition of Paper Products and Agricultural Materials

(All values in mg/kg or ppm on a dry wt. basis)

		Newspaper			Magazines			Office Paper		
		Avg.	Low	High	Avg.	Low	High	Avg.	Low	High
Cd	Cadmium	1.5	0.2	3.5	4.3	0.1	45.7	0.3	0.2	0.3
Cu	Copper	13.8	2.1	102.1	9.0	3.6	16.2	3.4	3.4	3.4
Cr	Chromium	0.9	0.3	3.1	2.5	1.5	4.2	2.8	1.0	4.7
Mn	Manganese	63.8	24.0	124.6	11.2	1.8	46.6	17.3	11.7	22.9
Ni	Nickel	1.7	0.6	7.8	1.7	0.7	7.6	1.7	0.9	2.4
Pb	Lead	1.1	0.0	12.9	4.0	1.6	6.3	1.2	1.1	1.4
Zn	Zinc	13.6	5.2	72.4	67.9	4.2	305.5	8.1	3.4	12.8

		Agricultural Limestone	Chicken Manure	Sawdust	Inorganic Fertilizer (10-10-10)	Inorganic Fertilizer (10-40-0)	Mineral Soil	DEC Standard
Cd	Cadmium	0.7	0.1	0.8	8.5	25.1	0.2	25
Cu	Copper	10	75	13	8	21	43	1000
Cr	Chromium	6	21	4	38	169	16	1000
Mn	Manganese	453	429	176	144	187	1000	none
Ni	Nickel	20	65	7	21	51	25	200
Pb	Lead	55	25	12	30	41	22	1000
Zn	Zinc	113	494	496	106	276	88	2500

Note: The DEC standard listed is the maximum level of metals allowed in sludge or other solid waste applied to agricultural land.

Note: Funding for newsletter by Allegany County in conjunction with the New York State Department of Environmental Conservation.

Allegany County
DEPARTMENT OF PUBLIC WORKS
Rm. 210 County Office Bldg.
Belmont, New York 14813

ALLEGANY COUNTY
DEPARTMENT OF PUBLIC WORKS
ROOM 210 - COUNTY OFFICE BUILDING
BELMONT, NEW YORK 14813

Bulk Rate
CAR-RT
US Postage Paid
Wellsville, NY
Permit #300

Postal Customer

Allegany County Recycling Program

Phil Windus, left, transfer station operator at Angelica and Caneadea, assists Shirley Benjamin of Belmont as she recycles cardboard.

Village Residents Take the Lead

Well before recycling became mandatory, Village of Cuba residents sorted their garbage and recycled many items.

Mayor David Chamberlain said that there was a lot of willingness to participate because people were concerned about garbage being burned in the incinerator.

Under former Mayor Paula Robinson, the first pickup on Feb. 7, 1989, stopped at 33 households and gathered 572 pounds (.29 tons) of glass and cardboard. By November 1989 the program was providing curbside pickup of glass, plastic, tin, cardboard and newspaper. The take that month was 13,117 pounds (6.56 tons).

This fall, the village is trying out composting residents' leaves. A town resident has agreed to take the leaves and process them so, said Chamberlain, "It ends up being compost, not just a pile of leaves."

Check the Labels

Not everything that's marked as recyclable can actually be recycled. Some items aren't accepted in the Allegany County system. For example - at the moment - Allegany County residents can't recycle magazines but residents in other counties might be able to. On the other hand, Allegany County residents can recycle cardboard but residents in another county might not be able to.

Other items such as foam polystyrene can be recycled in very few places.

Some, such as plastic bags, can't be recycled in the county system but stores using them might take them back.

Check the label and see **exactly** what it says. Does it simply urge you to recycle? Does it say the item is recyclable? Does it say the item is made from recycled materials? What percentage?

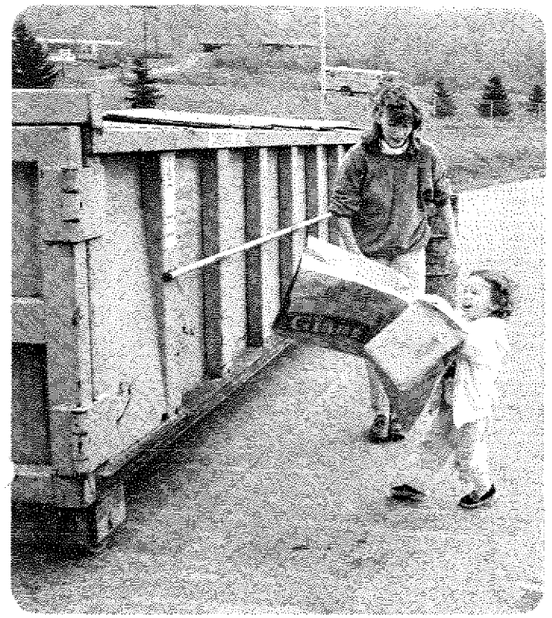
printed on recycled paper

RECYCLER'S NEWS

Allegany County
Department of Public Works
December 1991

CRA-20

Once is not enough... RECYCLE



Michele Bledsoe of Belmont, right, helps her mother, Alinda Bledsoe. The two were making use of the Angelica transfer station.

INSIDE

Allegany County Recycles

A record 257 tons of materials were recycled in October in Allegany County - instead of being buried in the county landfill in Angelica.

This is up from 193.77 tons in May (the month before the recycling law took effect) and 99.09 tons in January (5 months before recycling became mandatory).

The tonnage includes glass, metal, newspapers, cardboard, boxboard, plastic, scrap metal, large appliances, lead-acid batteries and tires.

Residents can recycle most of the items without charge at the 7 transfer stations. For details, see the charts on pages 3 and 4.

ARC Clients to Sort Paper

PWI the adult vocational work center of the Association for Retarded Children in Wellsville, is setting up a pilot project to sort waste paper for the post office.

Don Case, quality control manager for PWI, said they're hoping to start in early January.

Fifteen to 20 employees, all clients of ARC, will sort the paper into different types. The employees will earn money based on how much paper she or he sorts.

PWI will then market the paper.

Currently PWI employees are sorting paper for Railroad Valley Recycling of Belmont.

Why the Rules Keep Changing

Recycling is a booming business. As more and more governments pass laws requiring separation of garbage and recycling of items, there are more and more items to be cleaned, sorted, weighed, transported, sold or bought, processed and marketed.

Right now, the greater the volume, the harder it is to sell. For example, a few years ago, glass could be sold for $40 per ton. Now, some dealers won't even take green or brown glass and charge a fee to take clear because the re-sale price is so low it doesn't cover the dealer's costs.

Dealers and recyclers see this as a problem that can be solved. However, it will take a few years for plants that can use the recycled items to go into operation and catch up with all the items being recycled.

Until things even out, the national markets can effect how you sort your garbage. For example, if you use transfer stations in Canaseraga, Angelica, Alfred/Almond or Wellsville, you now have to put green and brown glass in separate barrels instead of the large metal trailer. This is because the green and brown go to one dealer while the clear goes to a different dealer.

Local Woman Invents Recycling Divider

Vicki Middaugh of Wellsville has invented a recycling device that is going nationwide.

It's a divider that sits on top of a garbage can. Each of the four pie-shaped sections secures a heavy duty plastic bag. In the space taken up by one garbage can, four different items can be sorted and stored in the four bags - glass, cans, plastic and boxboard, for example.

When a bag is full, it can be lifted out, emptied and returned for another load.

Middaugh is now using a new mold for the divider - which contains recycled plastic - and has been able to drop the retail price to $9.95 (it was $14, then dropped to $11.95).

In October, Service Star began offering the divider to its 4,300 hardware stores. Locally, the divider is being sold at Wellsville Giant, Cuba Shurfine and at ARC facilities as a fundraiser.

Ryan Wiatrowski, left, and Aaryn Calhoun, both of Bolivar, sort paper from Bolivar Central School's recycling program. Coordinated by teacher Greg Sahm, the High School Science Club is into its third year of the effort. Each room in the school has a box. Full boxes are brought to the boiler room.

Recycle Greeting Cards

St. Jude's Ranch for Children will take your old greeting cards (Christmas, all-occasion, get well, sympathy, etc.) and recycle them.

The ranch, a home for abused, neglected and troubled children and youths, is in southern Nevada. The children cut, trim and paste the card fronts onto the ranch's own cards.

The young people earn pocket money and the ranch raises funds by selling packets of the cards.

To reduce your postage costs, you can cut off the back of the cards before mailing. Packets of cards can be sent (by U.S. Mail) to P.O. Box 60100, Boulder City, NV 89006-0100 or (by UPS) to 100 St. Jude's Street, Boulder City, NV 89005.

To request information about ordering new cards, write to the post office box.

(Thanks to Julie Carter of Wellsville for this information.)

Name _____

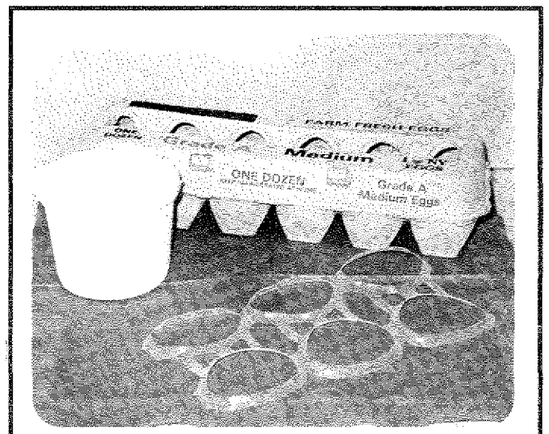
Address _____ Town _____ Zip _____

A. _____ Individual entry _____ Group entry
(If a group, attach a list of members of family, class or group)

B. Age category _____ mixed (family) _____ grades K-2 _____ grades 3-5
_____ grades 6-8 _____ grades 9-12 _____ adult

Mail or deliver Trash to Treasure entries by 3:30 p.m., Monday, January 20, 1992, to Allegany County Department of Public Works, Room 210, County Office Building, Belmont, NY 14813.

- Entry Blank - Clip and Return - - - - - - - - - - - - - - - - - - -



What can you do with this "garbage"?
Enter the contest and let us know!

Trash to Treasure
A "Garbage" Re-use Contest

Re-using items reduces the amount of waste that ends up in the landfill. Let your imagination run wild and brainstorm lists of ideas of how to re-use the three items pictured. You may enter as an individual or with a group. For each of the three items, come up with 1) the longest list of possible uses and 2) your single most creative idea.

The three items are a plastic container with a lid, a 12-egg carton, and a set of plastic rings for holding six-packs.

Age categories are mixed (family), grades K-2, 3-5, 6-8, 9-12 and adult. Lists must be **in the office** by 3:30 p.m., Monday, January 20, 1992.

Winners will receive a certificate and a recycling box (1 per category, a total of 12). Winning entries will be posted in the Belmont Literary and Historical Society Free Library for a month.

Want to Get Less Bulk Mail?

Write to:
Direct Marketing Association
11 West 42nd Street
P.O. Box 3861
New York, NY 10163-3861

Businesses that are members of the association will take you off their lists.

Please note that writing to them won't take you off all lists. For example, many non-profit organizations get names by exchanging mailing lists.

Exhibits Available

Recycling and waste disposal exhibits are now available.

One exhibit has a general recycling theme. The other covers disposal of paint, oil and household hazardous wastes.

Both exhibits are accompanied by free handouts and are available at no cost. They will be delivered and set up for you.

For more information or to schedule contact the recycling coordinator.

Permits for use of any of the 7 transfer stations or the landfill are required for all users of county facilities. A sticker must be displayed on each vehicle. The permit, good until June 1993, costs $10. Stickers for extra vehicles under the same permit cost $2 each. If a permit-holder gets a new vehicle and transfers license plates, there is a $2 fee. I a permit-holder gets a new vehicle and new plates, there is a $2 fee. Permit applications are available at transfer stations, the landfill and the Department of Public Works, Room 210, County Office Building, Belmont. Completed applications with checks or money orders made out to "Allegany County" can be brought in or mailed.

Allegany County Solid Waste Management Facilities Schedule

#	Station	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	Caneadea			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
2	Canaseraga					8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
3	Cuba/ Friendship	8:00 a.m. 3:30 p.m.			8:00 a.m. 3:30 p.m.		8:00 a.m. noon
4	Angelica		8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.		8:00 a.m. noon
5	Alfred/ Almond		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.
6	Bolivar			8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.
7	Wellsville	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.	8:00 a.m. 3:30 p.m.		8:00 a.m. 3:30 p.m.	8:00 am. 3:30 p.m.
8	Landfill	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. 3:00 p.m.	8:00 a.m. noon

Facility Locations

Transfer Station 1	Caneadea, State Route 19
Transfer Station 2	Canaseraga, State Route 70
Transfer Station 3	Cuba/Friendship, County Road 20
Transfer Station 4	Angelica, County Road 20
Transfer Station 5	Alfred/Almond, Satley Hill Road
Transfer Station 6	Bolivar, Deans Flats Road
Transfer Station 7	Wellsville, Island Park Entrance
County Landfill	Angelica, County Road 48

FOR MORE INFORMATION, CONTACT
Gretchen T. Johnson, Recycling Coordinator
Allegany County Department of Public Works
Room 210, County Office Building, Belmont, NY 14813
(716) 268-9230

Preparation Requirements for Recycling

	ITEM	YES	NO
	GLASS	Rinse Labels can be left on Separate by color Remove lids and neck rings	NO window glass, auto glass, mirrors, fluorescent bulbs, light bulbs, drinking glasses, pottery or ceramics
	METAL CANS	Rinse and remove labels Tin, steel, aluminum and bi-metal cans, clean aluminum foil and tins	NO propane cylinders, aerosol, paint or fuel cans. NO cans with any kind of non-metal lining
	NEWSPAPERS	Clean, dry newsprint Bundle in one-foot or shorter stacks or place in brown grocery bag	NO glossy inserts, junk mail, catalogs, telephone books or magazines
	CARDBOARD AND BOXBOARD	Clean, dry cardboard and boxboard. Stack and tie in one-foot high or shorter bundles. Stacks of brown grocery bags OK Examples of boxboard: cereal and soap boxes with a gray or brown inside	NO cardboard or boxboard with a wax, plastic or vinyl coating. NO boxboard such as frozen food containers with a white inside.
 	PLASTIC CONTAINERS	Rinse, discard lids Labels can be left on Run through 3 checks. If it passes all three, it can be recycled. Check 1: Is it a jar, bottle or jug? If no, discard If yes, on to check 2 Check 2: Does it have a 1 or 2 on the base? If no, discard If yes, on to check 3 Check 3: Is top opening smaller around than the base? If no, discard If yes, recycle it. Examples of acceptable plastic: water bottles, milk and windshield wipe jugs, dish detergent and shampoo bottles	NO polystyrene, foam polystyrene (such as Styrofoam), toys, bags even if marked "recyclable," plastic wrap, utensils, car plastics or any kind of packaging

Note: If you crush plastics and cans, they take up less room in your home and the transfer station bins don't fill up so quickly.

Preparation Requirements

BATTERIES - Lead-acid (from cars)	Accepted at any transfer station Place in designated area
SCRAP METAL	Accepted at any transfer station, at landfill Place in designated area
TIRES	Accepted at landfill only, except on designated collection days at the transfer stations. Fees are $1.50 for tires with 17" rim or less; $9 for tires with rims greater than 17" but 24.5" inches or less; 35 cents per pound for each tire with rims greater than 24.5" or 7 cents per pound for all tires with rims 24.5" or less **in a single load of 21 or more.**
LARGE APPLIANCES (white goods)	Remove doors or dismantle in such a way that the appliance will not be a hazard to the public. Appliances are accepted only at the landfill. There is no charge.
CONSTRUCTION AND DEMOLITION DEBRIS	One cubic yard per hauler per day accepted at transfer station or the landfill. All items must be less than 3 feet long. **Items accepted:** roofing and siding shingles, pieces of wood, floor and wall covering, plaster and dry wall, window glass, non-metallic plumbing fixtures, certain plastic, non-asbestos insulation and electrical wiring. **Items NOT accepted:** bricks, rock, concrete, masonry materials, soil, asphalt pavement.

Materials NOT accepted at county transfer stations or the landfill:

YARD WASTE	Contact the recycling coordinator for information on mulching and composting.
WASTE OIL	Store in plastic container with a tight lid. Don't mix with anything else. Take it to a service station. Most are required to accept up to 5 gallons of used oil per person per day at no charge.
HAZARDOUS WASTE	Contact the reycling coordinator for information on storing household waste and non-hazardous alternatives to many household products.
LOW-LEVEL RADIOACTIVE AND NUCLEAR WASTE	

Recycler's News is published by the Allegany County Department of Public Works, Room 210, County Office Building, Belmont, NY 14813, (716) 268-9230. It is mailed to all residences receiving services through post offices located in Allegany County. County residents who receive mail through post offices in Steuben, Livingston, Wyoming, Cattaraugus, McKean or Potter counties are asked to contact Gretchen Johnson, Recycling Coordinator, to be added to a list to receive Recycler's News. This edition edited by Kath Buffington.

A Message From the Chairman

Is the recycling program expensive for Allegany County?

You bet it is!

And it's probably a chore and a nuisance for the average homeowner as well.

Still in all, it's our best hope to make a dramatic difference in the present solid waste stream.

Let's hope the manufacturers in the USA follow the lead of citizens and local governments and make the necessary changes at their end.

Delores Cross
Chairman, Allegany County Board of Legislators

Who Hauls it Away?

A lot of Allegany County residents buy a hauling permit and take their garbage and recyclables to a transfer station.

Some residents pay a private hauler to handle their garbage.

Five villages and one township in Allegany County provide curbside pick-up of solid waste.

No matter whether you lug it to the curb or drive it yourself to a transfer station, all haulers are covered by the same regulations.

The information on pages 3, 4 and 6 is the **county** sorting chart and facilities schedule.

If you have curbside pick-up, the basic items and preparation will be similar. But, your schedule may vary. Or, some private haulers may require additional preparation, such as placing recyclables in a particular kind of container.

If you have questions ...

... and use county facilities.

Contact Gretchen Johnson, recycling coordinator, 716-268-9230, Department of Public Works, Room 210, County Office Building, Belmont 14813.

... and have a private hauler that you pay directly.

Contact the private hauler.

... and live in the villages of Belmont, Canaseraga or Wellsville, (village employees pick up the garbage and recyclables) or in the villages of Alfred or Cuba or the Town of Friendship (private haulers under contract do the pick-ups), contact the people listed below.

Village of Alfred. Linda Burlingame, Village Clerk, 607-587-9188, 7 West University Street, Alfred 14802.

Village of Belmont. Village Clerk, 716-268-5522, 9 a.m. - noon or 1-3 p.m., 1 Schuyler Street, Belmont 14813.

Village of Canaseraga. Phil Coombs, 607-545-8369, or Village Clerk, 607-545-8963, Village Hall, Canaseraga 14822.

Village of Cuba. Gilbert Stearns, 716-968-2487, or Diane Wilson, Clerk-Treasurer, 716-968-1560, 17 East Main Street, Cuba 14727.

Town of Friendship. Carl Schneider, 716-973-7580, after 4 p.m., Town Hall, 50 West Main Street, Friendship 14739.

Village of Wellsville. Bill Hanson, 716-593-1850, 200 Bolivar Road, Wellsville 14895.

ALLEGANY COUNTY
DEPARTMENT OF PUBLIC WORKS
ROOM 210 - COUNTY OFFICE BUILDING
BELMONT, NEW YORK 14813

Bulk Rate
CAR-RT
US Postage Paid
Wellsville, NY
Permit #300

POSTAL CUSTOMER

Allegany County Recycling Program

Dorothy Stoll, left, of Scio, recycles plastic jugs at the County Transfer Station. Encouraging everyone to recycle, "It is so important", she says.

TRASH TO TREASURE WINNERS

In the last issue of Recycler's News, you were asked to "Let your imagination run wild" and brainstorm a list of ideas on how to re-use three different items: a plastic container with lid, a 12-egg carton, and a set of plastic rings for holding a six-pack. For each item, contestants were asked to list 1) the longest list of possible uses and 2) their single most creative ideas.

The winners were the Gateway Class at the Washington Intermediate School in Wellsville; A. Goetschius, K. Joy, L. Spillane, E. Barney, H. Elliott, L. Wygant, and G. Lee of the Wellsville Middle School; Triple-A-Winners 4-H Club of Scio; Florence Fuller of Houghton and Ken Wise of Cuba.

A special thanks to all of you who entered th "Trash to Treasure" contest.

RECYCLER'S NEWS

Allegany County
Department of Public Works
Fall/Winter 1992

CRA-2

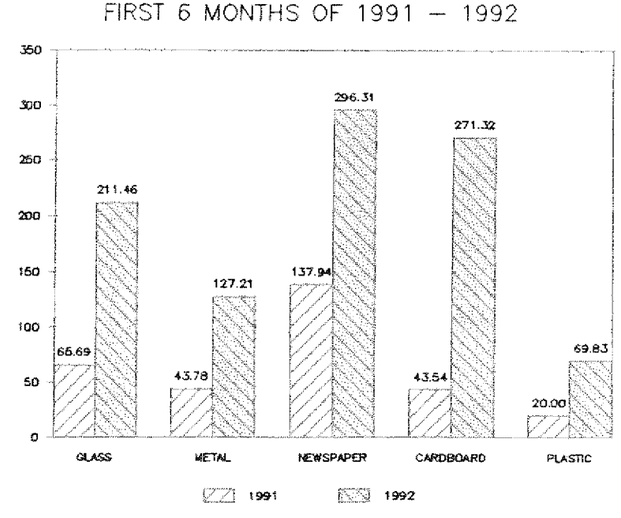
Once is not enough... RECYCLE

INSIDE

Samantha Gardner of Wellsville, right, recycles glass bottles and jars at the curb. The Village of Wellsville picks up glass and other recyclables weekly on a rotating basis.

RECYCLING INCREASES

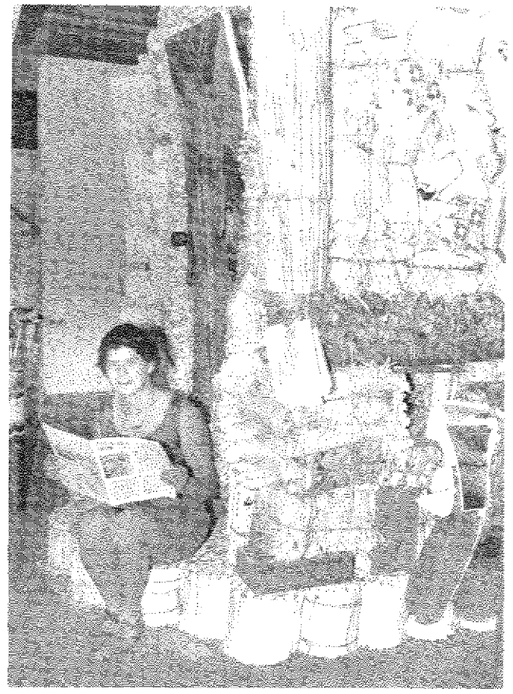
The figures don't lie, the Allegany County recycling Program has increased by leaps and bounds. In the first six months of 1991 we recycled 312 tons of glass, metal cans, newspaper, cardboard, and plastic. So far in 1992, we have recycled 296 tons of newspaper alone! 975 tons of these materials have been recycled so far in the first half of 1992. This is an increase of over 200%! THANK YOU FOR YOUR PARTICIPATION.



HOUSE OF PAPER

People threaten to huff and puff and blow her house down, but Andrea Henkels has other plans: the recycling bin. Henkels, a senior art and design/environmental studies major at Alfred University, built a house from recycled paper, twine and cardboard, with a 2-by-2 inch frame for stability.

It took "just a semester," said Henkels, to gather the materials and build her house, which is roughly 6-by-8 feet, and tall enough (ten feet) for people to walk in. She gleaned the paper - plain white, computer paper, colored paper, "sticky notes," newsletters, and virtually anything else that was tossed into the paper recycling boxes - from three buildings on campus. She estimates that she used about a ton of paper.



Glass Recycling Made Easy

Acceptable

Glass food and beverage containers can be easily recycled by glass container plants. Metal caps and lids should be removed but labels can remain.

- **Soda Bottles**
- **Beer Bottles**
- **Juice Containers**
- **Ketchup Bottles**
- **Wine and Liquor Bottles**
- **Food Containers**

Not Acceptable

The following materials are not recycled by glass container plants and should not be mixed in with container glass.

- **Ceramic Beer and Wine Caps**
- **Ceramic Cups and Plates**
- **Clay Flower Pots**
- **Crystal**
- **Light Bulbs**
- **Mirror and Window Glass**
- **Heat Resistant Ovenware**
- **Drinking Glasses**

RECYCLER'S NEWS

Published twice a year by
The Allegany County
Department of Public Works
Rm. 210, County Office Building
Belmont, NY 14813
(716) 268-9230

Recycler's News informs Allegany County residents of the latest recycling information. It is mailed to all residences receiving services through post offices located in Allegany County. County residents who receive mail through post offices in Steuben, Livingston, Wyoming, Cattaraugus, McKean or Potter counties are asked to contact Gretchen Johnson, Recycling Coordinator, to be added to a list to receive Recycler's News.

Articles and ideas are welcome!
Deadlines for publication are February 15th and August 15th.

ARE YOU AN ENVIRONMENTAL SHOPPER?

Dear Readers:

We'd like to know your environmental shopping techniques. Please let us know your interesting recycling ideas or valuable recycling tip? Complete and return this survey by November 15, 1992. Prizes will be awarded for the best results.

Mail to: Recycling Coordinator / Survey Results
Allegany County D.P.W.
Rm. 210, County Office Building
Belmont, NY 14813

CLIP AND RETURN

NAME: _____

ADDRESS: _____

1. Do you look for products advertised as "environmentally friendly," with recyclable packaging or recycled content? What types of products have you bought and at what store?
2. What do you consider recyclable packaging? Please give an example.
3. What do you consider recycled content packaging? Please give an example.
4. Do you use the bulk section at the grocery store? What do you buy there?
5. Do you have your groceries packed in paper or plastic? Do you reuse or recycle the bag? Do you bring your own bags?
6. Do you buy milk and/or juice in plastic jugs, paper cartons, or glass bottles? Is milk available in your area packaged in glass bottles? Would you buy it if it was? Would you be interested in milk delivery?
7. Do you use cloth or disposable diapers? Do you or would you use a diaper service? Is a diaper service available in your area?
8. What disposable items do you use or buy, razors, etc.?
9. Do you use any substitutes for household cleaners?
10. Are you willing to spend more money for products in recyclable packaging? How much more?

PERMITS

Permits are required for the use of any of the 7 transfer stations or the county landfill, cost $10. For an application call (716) 268-9230.

CLEAR BAGS

Garbage accepted in clear bags only! Colored bags are no longer accepted at the transfer stations or the county landfill.

Recycled Greeting Cards Sent

Last issue we told you about St. Jude's Ranch for Children in southern Nevada that recycles greeting cards. The Allegany County Offices sent them 2 paper boxes filled with old cards so far this year.

If you would like to recycle your greeting cards, they can be sent to: 100 St. Jude's St., Boulder City, NV 89005.

Facility Locations

Transfer Station	1	Caneadea, State Route 19
Transfer Station	2	Canaseraga, State Route 70
Transfer Station	3	Cuba/Friendship, County Road 20
Transfer Station	4	Angelica, County Road 20
Transfer Station	5	Alfred/Almond, Satley Hill Road
Transfer Station	6	Bolivar, Deans Flats Road
Transfer Station	7	Wellsville, Island Park Entrance
County Landfill		Angelica, County Road 48

Allegany County Solid Waste Management Facilities Schedule

#	Station	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	Caneadea			8:00 am 3:30 pm		8:00 am 3:30 pm	8:00 am 3:30 pm
2	Canaseraga					8:00 am 3:30 pm	8:00 am 3:30 pm
3	Cuba/ Friendship	8:00 am 3:30 pm			8:00 am 3:30 pm		8:00 am noon
4	Angelica		8:00 am 3:30 pm				8:00 am 3:00 pm
5	Alfred/ Almond		8:00 am 3:30 pm	8:00 am 3:30 pm	8:00 am 3:30 pm		8:00 am 3:30 pm
6	Bolivar			8:00 am 3:30 pm		8:00 am 3:30 pm	8:00 am 3:30 pm
7	Wellsville	8:00 am 3:30 pm	8:00 am 3:30 pm	8:00 am 3:30 pm		8:00 am 3:30 pm	8:00 am 3:30 pm
8	Landfill	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am noon

IF YOU HAVE A QUESTION ... and use county facilities. Contact The Department of Public Works, Room 210, County Office Building, Belmont, 14813, at (716) 268-9230.

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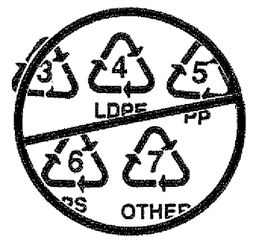
Village of Wellsville. Bill Hanson, (716) 593-1850, 200 Bolivar Road, Wellsville 14895.

Preparation Requirements for Recycling

	ITEM	YES	NO
	GLASS	Rinse Labels can be left on Remove lids and neck rings Separate by color	NO window glass, auto glass, mirrors, fluorescent bulbs, light bulbs, drinking glasses, pottery or ceramics
	METAL CANS	Rinse and remove labels Tin, steel, aluminum and bi-metal cans are all OK	NO PAINT CANS! NO propane cylinders, aerosol, or fuel cans. NO cans with any kind of non-metal lining NO ALUMINUM FOIL OR TINS
	NEWSPAPERS	Clean, dry newsprint Place newspaper in brown paper grocery bags	NO glossy inserts, junk mail, catalogs, telephone books or magazines DO NOT PUT NEWSPAPERS IN PLASTIC BAGS! DO NOT BUNDLE WITH TWINE!
	CARDBOARD	Clean, dry cardboard Break down and stack in brown grocery bags Boxes such as cereal and shoe boxes with a gray or brown inside are accepted	NO PIZZA BOXES NO cardboard with waxed or plastic coating. No frozen food boxes or boxes with white inside DO NOT PUT CARDBOARD IN PLASTIC BAGS! DO NOT BUNDLE WITH TWINE!
   1 PETE  2 HDPE	PLASTIC CONTAINERS	Rinse, discard lids Labels can be left on Run through 3 checks. If it passes all three, it can be recycled. Check 1: Is it a bottle or a jug? If no, discard If yes, on to check 2 Check 2: Does it have a 1 or 2 on the base? If no, discard If yes, on to check 3 Check 3: Is top opening smaller around than the base? If no, discard If yes, recycle it Examples of acceptable plastic: milk jugs, water bottles, shampoo and laundry soap bottles	NO LIDS OR CAPS! NO PLASTIC BAGS! NO "STYROFOAM" NO BUTTER TUBS NO YOGURT CONTAINERS NO PLASTIC WRAP ONLY PLASTIC BOTTLES AND JUGS! 

Note: If you crush plastics and cans, they take up less room in your home and the transfer station bins don't fill up so quickly.

Other Materials Accepted

BATTERIES - Lead-acid (from cars)	Accepted at any transfer station Place in designated area
SCRAP METAL	Accepted at any transfer station, at landfill Place in designated area
TIRES	Accepted at landfill only, except on designated collection days at the transfer stations. Fees are $1.50 for tires with 17" rim or less; $9 for tires with rims greater than 17" but 24.5" or less; 35 cents per pound for each tire with rims greater than 24.5" or 7 cents per pound for all tires with rim 24.5" or less **in a single load of 21 or more.**
LARGE APPLIANCES (white goods)	Remove doors or dismantle in such a way that the appliance will not be a hazard to the public. Appliances are accepted only at the landfill. There is no charge.
CONSTRUCTION AND DEMOLITION DEBRIS	One cubic yard per hauler per day accepted at transfer station or the land fill. All items must be less than 3 feet long. **Items accepted:** roofing and siding shingles, pieces of wood, floor and wall covering, plaster and dry wall, window glass, non-metallic plumbing fixtures, certain plastic, non-asbestos insulation and electrical wiring. **Items NOT accepted:** bricks, rock, concrete, masonry materials, soil, asphalt pavement.

Materials NOT accepted at county transfer stations or the landfill:

YARD WASTE	Contact the recycling coordinator for information on mulching and composting.
WASTE OIL	Store in plastic container with a tight lid. Don't mix with anything else. Take it to a service station. Most are required to accept up to 5 gallons of used oil per person per day at no charge.
HAZARDOUS WASTE	Contact the recycling coordinator for information on storing household waste and non-hazardous alternatives to many household products.
LOW-LEVEL RADIOACTIVE AND NUCLEAR WASTE	

PLEASE NOTE . . .

A lot of Allegany County residents buy a hauling permit and take their garbage and recyclables to a transfer station. Five villages and one township in Allegany County provide curbside pick-up of solid waste and recyclables. While still some residents pay a private hauler to handle their garbage.

No matter whether you lug it to the curb or drive it yourself to a transfer station, all haulers are covered by the same regulations.

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If you have curbside pick-up, the basic items and preparation will be similar, but your schedule may vary. Some private haulers may require additional preparation, such as placing recyclables in a particular kind of container.

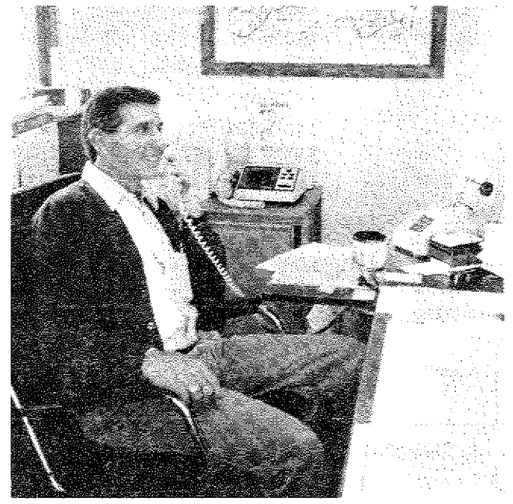
A Message from the Superintendent . . .

Just a sincere thanks from the Department of Public Works for everyone's good job of recycling.

The old saying that every little bit helps is really true.

Allegany County is among the leaders across the State of New York when it comes to recycling ... because of you!

Richard A. Young
Superintendent, Allegany County
Department of Public Works



RECYCLING EXHIBITS HELP WIN NATIONAL AWARD

Mary J. Sienkiewicz, Association Director for Cornell Cooperative Extension of Allegany County, was selected by the National Association of Extension Home Economists as a Regional Award Winner in the communication and Media/Packaged program Category. This award recognized excellence in extension programming within the northeastern United States. The educational exhibits on recycling ("Reduce ... Reuse ... Recycle It") and household hazardous waste ("Disposal of Household Hazardous Waste, Paint and Motor Oil") received New York State Association of Extension Home Economists honors. The exhibits were recognized for their creative and timely delivery of an important educational message to a broad audience.

Accoring to Sienkiewicz, "The exhibit series involved many individuals including Allegany County Recycling Coordinator Gretchen Johnson and Cornell University faculty who provided important subject matter. And of course, the design and production f the exhibit would not have been possible without the funding from the Allegany County Department of Public Works."

MUST SEE EXHIBITS!!

These recycling and household hazardous waste exhibits are available to you at no cost and are accompanied by free handouts.

They will be delivered and set up for you. For more information please contact recycling coordinator at (716) 268-9230.

CRA-22

Plastic Sorting in Allegany County

The easiest way to decide if a plastic container can be recycled or not is to give each container three quick checks.

Check 1:
Is it a jar, bottle or jug?
If no, discard.
If yes, go on to Check 2.

Check 2:
Does the base have a 1 or 2 in a recycling triangle? The triangles are usually tiny and embedded in the plastic itself. Sometimes they are on the label. A few have "PETE" or "HDPE" instead of numbers. Older containers probably won't have any code at all.
If no, discard.
If yes, on to Check 3.

Check 3:
Is the top opening smaller around than the base?
If no, discard.
If yes, recycle it.

Some examples of containers that usually pass all three checks are gallon milk jugs, shampoo bottles and windshield washer containers.

Some examples of containers that don't usually pass all three checks are plastic peanut butter jars, deli salad containers and margarine tubs.

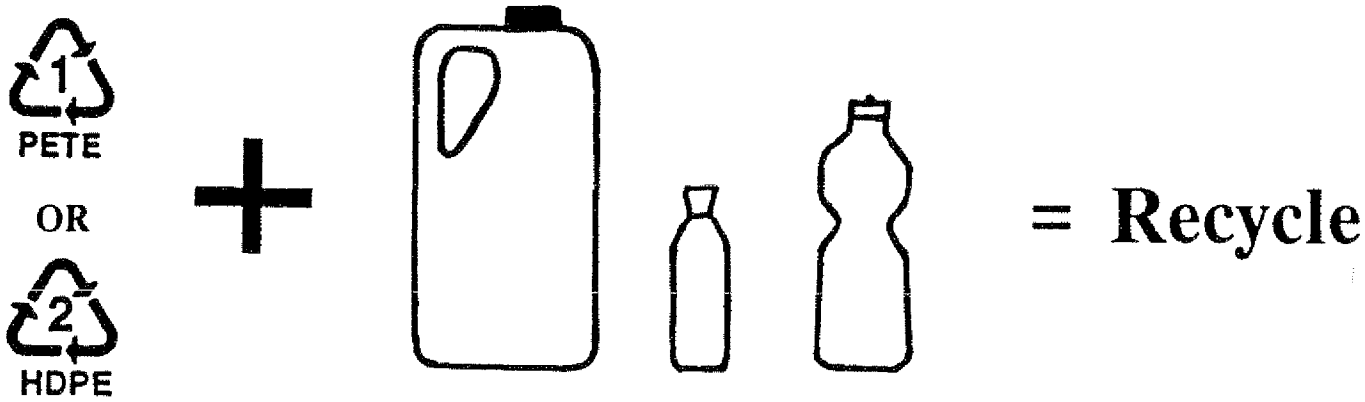
Please rinse all containers thoroughly. Labels may be left on. No lids of any sort are accepted. No polystyrene, foam polystyrene (such as Styrofoam), toys, bags (even if marked recyclable), plastic wrap, utensils, car plastic or any kind of packaging are acceptable.

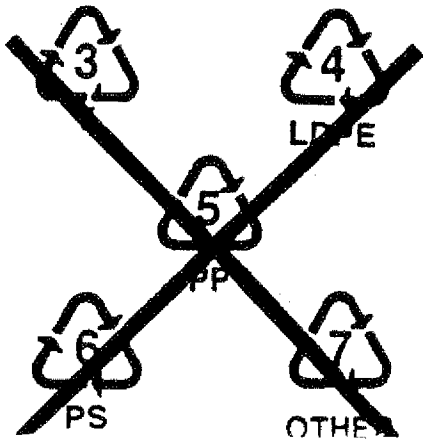
Don't be fooled by plastic bags and containers marked as recyclable. That is a generic label meaning that the container can **potentially** be recycled. Each recycling unit area, however, has different procedures. For example, plastic bags are not recyclable in the Allegany County system. However, some stores in the area will take their own bags back.

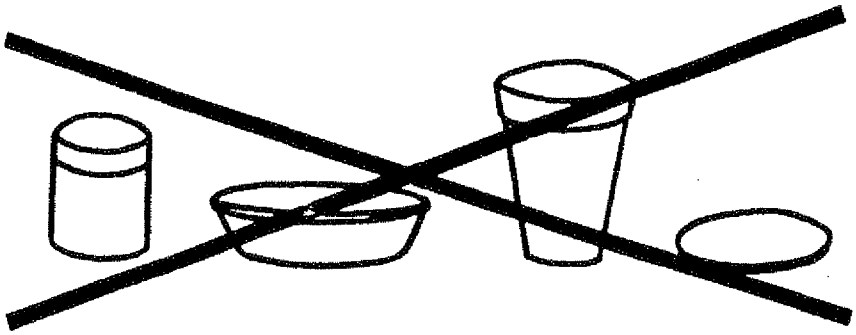
The primary reason for sorting plastics is that there simply aren't many buyers for plastics other than 1s and 2s. The reason the plastics get different codes is because plastics vary chemically and have different melting points. Containers just can't be tossed into the same vat and melted down. Some 2s such as ones with a top opening larger around than the base have a different melting point than other 2s.

--over--

Don't forget to reduce your landfill waste by re-using containers; buying recyclables or containers such as cardboard or paper that degrade faster; buying a large quantity and refilling a small container; storing leftovers in containers instead of in plastic bags or covering with plastic wrap; asking fast food counter clerks to skip the plastic tops on drinks and declining straws and extra plasticware; asking for take-out foods to be packed in something other than polystyrene plastic containers; and asking checkout people to pack groceries in your own re-useable cloth bag or in paper bags.







;RA-23

Town of Angelica
Local Law No. 2 of the year 1988

A local law known as the "Solid Waste Disposal Law of the Town of Angelica".

Be it enacted by the Town Board of the Town of Angelica as follows:

I. Title

This Local Law shall be known as the "Solid Waste Disposal Law of the Town of Angelica".

II. Introductory Matters

A. Findings of the Town Board

The Town Board finds that environmental science is presently inadequate to satisfactory evaluate and control pollution from solid waste disposal facilities. Among other factors, the Board finds as follows:

1. The inability of geological science to precisely ascertain the existence and flow of groundwaters and to map subterranean geology makes its impossible to determine the extent to which solid waste disposal may, or may not be, contaminating water supplies.

2. Moreover, the accumulated extent of hazardous waste disposal in solid waste disposal facilities cannot be measured or accurately determined because of state and federal regulations permitting disposal of residential or small user quantities of hazardous wastes.

3. The Town's needs for solid waste disposal are more than met by the existing Allegany County Landfill Facility located within the Town, which facility recently obtained a New York State permit to operate.

4. Future correction of pollution from sanitary landfills may be very expensive or impossible to achieve. Ground water pollution threatens the health and livelihood of Town residents who rely exclusively on ground water for human consumption and agricultural purposes.

5. The Town's existing community character will be adversely and unalterably impacted by the location and operation of any further solid waste management facilities within the Town.

6. Substantial scientific opinion questions the environmental and health effects of both "resource recovery" facilities that incinerate or burn solid waste and of the handling and disposal of ash residue from such facilities. Recent NYSDEC and federal Environmental Protection Agency studies indicate that such ash often demonstrates the characteristics of hazardous waste by the leaching of heavy metals in toxic amounts.

7. Solid waste regulation under the New York Environmental Conservation Law (ECL) is inadequate to relieve the foregoing concerns.

B. Purposes of Local Law

1. To restrict the operation of solid waste management facilities within the Town in order to preserve and promote a clean, wholesome, and attractive environment for the community;

2. To protect the residents of the Town from the effects of solid waste disposal, including;

   a. Unaesthetic results, including odors, blowing litter, increased traffic, dust, and noise, and

   b. Deterioration in property values associated with adjacent or proximate disposal operation that may interfere with the orderly development of properties; and

   c. Threats to public health or the environment by contamination of air, land, surface waters, or groundwaters.

3. To exercise the Town's police powers under the Municipal Home Rule Law and Section 130 and 136 of the Town Law for the physical and mental well-being and safety of its citizens and to restrict solid waste disposal operations within the Town that might otherwise be permitted under the Environmental Conservation Law (ECL). Section 27-0711 of the ECL specifically recognized and authorized the right and authority of a town to legislate stricter controls on solid waste disposal operations than state law requires.

III. Definitions

The following definitions shall apply to the corresponding words:

A. **COMMERCIAL HAZARDOUS WASTE, TREATMENT, STORAGE OR DISPOSAL FACILITY**
Any facility that solicits or accepts hazardous waste from third parties for the purpose of treating, storing or disposing of hazardous wastes.

B. **HAZARDOUS WASTE**
Waste meeting the definition set forth in 6 NYCRR Part 371.

C. **6 NYCRR**
Title 6 of the New York Code, Rules and Regulations.

D. **SOLID WASTE MANAGEMENT FACILITY**
Any facility employed beyond the initial solid waste collection process and managing solid waste including, but not limited to: storage areas or facilities; transfer stations; rail-haul or barge-haul facilities; processing facilities; landfills; ashfills; disposal facilities; solid waste incinerators; recycling facilities; and waste tire storage facilities.

E. **SOLID WASTE**
All putrescible and non-putrescible materials or substances that are discarded or rejected as being spent, useless, worthless, or in excess to the owners at the time of such discard or rejection, including but not limited to garbage, refuse, industrial, commercial and household waste, sludges from air or water treatment facilities, rubbish, tires, ashes, contained gaseous material, incinerator residue and construction and demolition debris. In addition:

1. A material is "discarded" if it is abandoned by being:

   a. Disposed of;
   b. Burned or incinerated, including being burned as a fuel for the purpose of recovering useable energy; or
   c. Accumulated, stored, or physically, chemically, or biologically treated (other than burned or incinerated) instead of or before being disposed of.

2. A material is "disposed of" if it is discharged, deposited,

injected, dumped, spilled, leaked, or placed into or on any land or water.

F. **INDUSTRIAL WASTE**
Any liquid, gaseous, solid, or waste substance or combination thereof resulting from any process of industry, manufacturing, trade, or business. It shall include, but not be limited to, pesticides, lime, acids, chemicals, petroleum products, tar, dye-stuffs.

G. **COMMERCIAL WASTE**
Solid waste generated by stores, offices, warehouses and restaurants.

H. **HOUSEHOLD WASTE**
Solid Waste from residential sources.

I. **CONSTRUCTION AND DEMOLITION DEBRIS**
Uncontaminated, inert solid waste resulting from the construction, remodeling, repair, and demolition of structures, and from road building and land clearing. Such waste includes, but is not limited to, bricks, concrete and other masonry materials, soil, rock, wood, wall covering, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles, asphaltic pavement, glass, plastics that are not sealed in a manner that conceals other wastes, and metals that are incidental to any of the above.

J. **LANDFILL, or SANITARY LANDFILL**
Any disposal area for solid waste in or upon the ground.

K. **ASHFILL**
Any landfill designed to accept ash, ash residue, bottom ash, combined ash, or fly ash.

L. **ASH RESIDUE**
All the solid residue and any entrained liquids resulting from the combustion of solid waste at a solid waste incinerator, including bottom ash, boiler ash, fly ash, and the solid residue of any air pollution control device used at a solid waste incinerator.

M. **BOTTOM ASH**
The ash residue remaining after combustion of solid waste in a solid waste incinerator that is discharged through and from the grates of the stoker.

N. **COMBINED ASH**
The mixture of bottom ash and fly ash.

O. **FLY ASH**
The ash residue from the combustion of solid waste that is entrained in the gas stream of the solid waste incinerator, which includes, but is not limited to, particulates, boiler ash, cinders, soot, and solid waste from air pollution control equipment.

P. **SOLID WASTE INCINERATOR**
An incinerator in which household waste and non-hazardous industrial /commercial waste are combusted for energy.

Q. **PERSON**
Any individual, partnership, firm, association, business, industry, enterprise, public or private corporation, political subdivision of the state, government agency, municipality, estate, trust, or any other legal entity whatsoever.

R. **RECYCLING**
Means the reuse of solid waste recovered from the solid waste stream into goods or materials suitable for reuse in original or changed form.

IV. Exemptions

The following are not subject to this Local Law:

A. Any activities occurring within the Village of Angelica;

B. Any disposal of manure in normal farming operations;

C. Any operation or facility which receives or collects only non-putrescible, nonhazardous solid waste and beneficially uses or reuses or legitimately recycles or reclaims such waste. Such exempt facilities would include citizen recycling programs, municipal recycling operations, and bona-fide salvage dealers; and

D. The operation of the Allegany County Landfill located within the Town, subject to the County's continued ownership and operation of such landfill in accordance with all applicable DEC requirements.

None of the above exemptions shall be construed to permit any activity contrary to existing building codes or other laws or as exempting persons engaging in any such activities from obtaining any other permits required by state or local law.

V. Prohibited Activity

A. No commercial hazardous waste treatment, storage, or disposal facility shall hereafter be permitted to commence operation or to expand operations within the Town of Angelica.

B. No solid waste management facility (landfill, ashfill, solid waste incinerator, etc.) shall hereafter be permitted to commence operation or to continue operation within the Town of Angelica.

C. Waivers from these prohibitions may be granted by the Town Board in its discretion, and on such conditions as it may reasonably establish, only for facilities located on an applicant's premises and serving only the applicant's waste products generated within the Town. Persons who believe they qualify for such a waiver shall apply to the Town Board and provide such information, proof of financial security, and such other documents as the Town Board may reasonably require. No person who qualifies for and receives this waiver shall accept, handle, import, transport, or handle any waste created or generated by any other party or from any location outside of the Town of Angelica.

VI. Enforcement

A. Upon a violation of this Local Law by any person, the Town Board shall be entitled to obtain an injunction against such persons prohibiting further violations and, in addition, ordering that any solid waste disposed of in violation of hereof be removed from the Town, and ordering that any land on which solid waste is disposed of in violation of this Local Law be restored as nearly as possible to its former condition by the removal of any waste illegally disposed of and by such other restorative measures as are available, and further ordering that the operator remedy any effects of the violation on surrounding or adjacent properties or resources, including, without limitation, air, crops, water bodies, wetlands, and groundwaters.

B. For any violation of this Local Law the violator shall be subject to a civil penalty of up to $25,000 for each violation. Each day of non-compliance shall be a separate and distinct violation. The Town shall be entitled to recover such fines in an action at law in any court of competent jurisdiction.

C. Upon an action for injunction relief or for a civil penalty hereunder, the Town shall be entitled to a

further award and judgment for its costs, expenses, disbursements, and reasonable attorneys' fees in connection therewith.

D. If any person who obtained a waiver pursuant to Section V.C. violates any term or condition of the waiver then the Town, in addition to A, B, and C above, shall also be entitled to revoke the waiver.

VII. Miscellaneous

A. This Local Law shall be deemed to supersede and repeal any other ordinances and local laws to the extent inconsistent therewith.

B. If any part of this Local Law shall be judicially declared to be invalid, void, unconstitutional, or unenforceable, all unaffected provisions hereof shall survive such declaration, and this Local Law shall remain in full force and effect as if the invalidated portions had not been enacted.

C. Nothing herein shall be deemed to be a waiver of or restriction upon any rights and powers available to the Town of Angelica to further regulate the subject matter of this Local Law.

VIII. Effective Date

This Local Law shall become effective when it is filed with the Secretary of State pursuant to the Municipal Home Rule Law.

1. (Final adoption by local legislative body only.)

I hereby certify that the local law No. 2 of 1988 of the Town of Angelica was duly passed by the Board of Trustees on _____ 1988 in accordance with the applicable provisions of law.

(Certification to be executed by County Attorney, Corporation Counsel, Town Attorney, Village Attorney or other authorized Attorney of locality.)

STATE OF NEW YORK
COUNTY OF ALLEGANY

I, the undersigned, hereby certify that the foregoing local law contains the correct text and that all proper

proceedings have been had or taken for the enactment of the local law annexed hereto.

Signature

Leslie J. Haggstrom,
Attorney a t Law

Town of Angelica

(928-2320)

GTJ:8/16/91

;RA-24

I. Title

This Local Law shall be known as the "Solid Waste Disposal Law of the Town of Cuba"

II. Purposes of Local Law

1. To restrict the operation of solid waste management facilities within the Town (not including the Village of Cuba) in order to preserve and promote a clean, wholesome, and attractive environment for the community;

2. To protect the residents of the Town from the effects of solid waste disposal, including:

   a. Unaesthetic results, including odors, blowing litter, increased traffic, dust, and noise and

   b. Deterioration in property values associated with adjacent or proximate disposal operation that may interfere with the orderly development of properties; and

   c. Threats to public health or the environment by contamination of air, land, surface waters, or ground waters.

3. To exercise the Town's police powers under the Municipal Home Rule Law and Section 130 and 136 of the Town Law for the physical and mental well-being and safety of its citizens and to restrict solid waste disposal operations within the Town that might otherwise be permitted under the ECL. Section 27-0711 of the ECL specifically recognized and authorized the right and authority of a town to legislate stricter controls on solid waste disposal operations than state law requires.

III. Definitions

The following definitions shall apply to the corresponding words:

A. **COMMERCIAL HAZARDOUS WASTE, TREATMENT, STORAGE OR DISPOSAL FACILITY** - Any facility that receives from offsite any hazardous waste from any person that is not part of the same trust, firm, joint-stock company, corporation (including government corporation), partnership, association, state, Federal government and any agency thereof, municipality, commission, political subdivision of a state, or any interstate body, except when small

quantities of hazardous wastes from public bodies are accepted on an emergency basis with the approval of the commission on a no-cost basis. Treatment, storage and disposal units located at commercial facilities are not considered part of the commercial facility if they manage only hazardous waste initially generated on site.

B. **HAZARDOUS WASTE** - Waste meeting the definition set forth in NYCRR part 371.

C. **6 NYCRR** - Title 6 of the New York Code, Rules and Regulations.

D. **SOLID WASTE MANAGEMENT FACILITY** - Any facility employed beyond the initial solid waste collection process and managing solid solid waste including, but not limited to: storage areas or facilities; transfer stations; rail-haul or barge-haul facilities; processing facility; resource recovery facilities; sanitary landfills; secure land burial facilities; solid waste incinerators; composting facilities; surface impoundments; waste tire storage facilities; and waste oil storage reprocessing and rerefining facilities.

E. **SOLID WASTE** - All putrescible and non-putrescible materials or substances that are discarded or rejected as being spent, useless, worthless, or in excess to the owners at the time of such discard or rejection, including, but not limited to: garbage, refuse, industrial, commercial and household waste, sludges from air or water treatment facilities, rubbish, tires, ashes, contained gaseous material, incinerator residue and constructions and demolition debris. In addition:

    1. A material is "discarded" if it is abandoned by being:

        a. Disposed of;
        b. Burned or incinerated, including being burned as a fuel for the purpose of recovering usable energy; or;
        c. Accumulated, stored, or physically, chemically, or biologically treated (other than burned or incinerated) instead of or before being disposed of.

    2. A material is "disposed of" if it is discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water.

F. **INDUSTRIAL WASTE** - Any liquid, gaseous, solid, or waste substance or combination thereof resulting from any process of industry, manufacturing, trade or business. It shall include, but not be limited to, pesticides, lime, acids, chemicals, petroleum products, tar, and dye-stuffs.

G. **COMMERCIAL WASTE** - Solid Waste generated by residential stores, offices, warehouses and restaurants.

H. **HOUSEHOLD WASTE** - Solid Waste from residential sources.

I. **CONSTRUCTION AND DEMOLITION DEBRIS** - Uncontaminated inert solid waste resulting from the construction, remodeling, repair, and demolition of structures, and from road building and land clearing. Such waste includes, but is not limited to, bricks, concrete and other masonry materials, soil, rock, wood, wall covering, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles, asphaltic pavement, glass, plastics that are not sealed in a manner that conceals other wastes, and metals that are incidental to any of the above.

J. **LANDFILL, OR SANITARY LANDFILL** - Any disposal facility or part of a facility where solid waste, including hazardous waste, is placed in or on land, and which is not a land treatment facility, a surface impoundment or an injection well.

K. **ASHFILL** - Any landfill designed to accept ash, ash residue, bottom ash, combined ash, or fly ash.

L. **ASH RESIDUE** - All the solid residue and any entrained liquids resulting from the combustion of solid waste at a solid waste incinerator, including bottom ash, boiler ash, fly ash, and the solid residue of any air pollution control device used at a solid waste incinerator.

M. **BOTTOM ASH** - The ash residue remaining after combustion of solid waste in a solid waste incinerator that is discharged through and from the grates or stoker.

N. **COMBINED ASH** - The mixture of bottom ash and fly ash.

O. **FLY ASH** - The ash residue from the combustion of solid waste that is entrained in the gas stream of the solid waste incinerator, which includes, but is

not limited to, particulates, boiler ash, cinders, soot, and solid waste from air pollution control.

P. **SOLID WASTE INCINERATOR** - An incinerator in which household waste and non-hazardous industrial/commercial waste are combusted for energy.

Q. **PERSON** - Any individual, partnership, firm, association, business, industry, enterprise, public or private corporation, political subdivision of the state, government agency, municipality, estate, trust, or any other legal entity whatsoever.

R. **RECYCLING** - Means the reuse of solid waste recovered from the solid waste stream into goods or materials suitable for reuse in original or changed form.

IV. <u>Exemptions</u>

The following are not subject to this Local Law:

A. Any disposal of manure in normal farming operations;

B. Any operation or facility which receives or collects only noputrescible, nonhazardous solid waste and beneficially uses or reuses or legitimately recycles or reclaims such waste. Such exempt facilities would include citizen recycling programs, municipal recycling operations, and bona-fide salvage dealers; and

None of the above exemptions shall be construed to permit any activity contrary to existing building codes or other laws or as exempting persons engaging in any such activities from obtaining any other permits required by state and local law.

V. <u>Prohibited Activity</u>

A. No commercial hazardous waste treatment, storage, or disposal facility shall hereafter be permitted to commence operation or to expand operations within the Town of Cuba.

B. No Non Municipal solid waste management facility (landfill, ashfill, solid waste incinerator, etc.) shall hereafter be permitted to commence operation or to continue operation within the Town of Cuba.

C. No municipal solid waste management facility shall commence or expand operation within the Town of Cuba subsequent to the effective date of this local law.

D. Waivers from these prohibitions may be granted by the Town Board in its discretion, and on such conditions as it may be reasonably established, only for facilities located on an applicant's premises and serving only the applicant's waste products generated within the Town. Persons who believe they qualify for such a waiver shall apply to the Town Board and other documents as the Town Board may reasonably require the person who qualifies for and receives this waiver shall accept, handle import, transport, or handle any waste created or generated by any other party or from any location outside of the Town of Cuba.

VI. Enforcement

A. Upon a violation of this Local Law by any person, the Town Board shall be entitled to obtain an injunction against such persons prohibiting further violations and, in addition, ordering that any solid waste disposed of in violation of hereof be removed from the Town, and ordering that any land on which solid waste is disposed of in violation of this Local Law be restored as nearly as possible to its former condition by the removal of any waste illegally disposed of and by such other restorative measures as are available, and further ordering that the operator remedy any effects of the violation on surrounding or adjacent properties or resources, including, without limitation, air, crops, water bodies, wetlands, and groundwaters.

B. For any violation of this Local Law the violator shall be subject to a civil penalty of up to $10,000 for each violation. Each day of non-compliance shall be a separate and distinct violation. The Town shall be entitled to recover such fines in an action at law in any court of competent jurisdiction.

C. Upon an action for injunctive relief or for a civil penalty hereunder, the Town shall be entitled to a further award and judgment for its costs, expenses, disbursements, and reasonable attorneys' fees in connection therewith.

D. If any person who obtained a waiver pursuant to Section V.C. violates any term or condition of the waiver then the Town in addition to A, B, and C above, shall also be entitled to revoke the waiver.

VII. Miscellaneous

A. This Local Law shall be deemed to supersede and repeal any other ordinances and local laws to the extent inconsistent therewith.

B. This local law repeals Town of Cuba Ordinance adopted May 22, 1961 relating to dumping landfills by the Town of Cuba.

C. If any part of this Local Law shall be judicially declared to be invalid, void, unconstitutional, or unenforceable, all unaffected provisions hereof shall survive such declaration, and this Local Law shall remain in full force and effect as if the invalidated portions had not been enacted.

D. Nothing herein shall be deemed to be a waiver of or restriction upon any rights and powers available to the Town of Cuba to further regulate the subject matter of this Local Law.

VIII Effective Date

This Local Law shall become effective when it is filed with the Secretary of State pursuant to the Municipal Home Rule Law.

GTJ
8-19-91

Local Law Filing CRA-25

NEW YORK STATE DEPARTMENT OF STATE
162 WASHINGTON AVENUE, ALBANY, NY 12231

(Use this form to file a local law with the Secretary of State.)

Text of law should be given as amended. Do not include matter being eliminated and do not use italics or underlining to indicate new matter.

County
~~City~~ of Allegany
~~Town~~
~~Village~~

Local Law No. 1 of the year 1991

A local law in relation to the maintenance and operation of Allegany
(Insert Title)
County's solid waste management and resource recovery

Be it enacted by the Board of Legislators of the
(Name of Legislative Body)

County
~~City~~ of Allegany as follows:
~~Town~~
~~Village~~

SECTION 1. LEGISLATIVE INTENT

The County of Allegany is engaged in solid waste management and resource recovery as defined by Article 27 of the Environmental Conservation Law. It is the intent of this local law, to the extent authorized by Environmental Conservation Law Section 27-0711, to authorize and direct the County Superintendent of Public Works to promulgate rules and regulations consistent with Environmental Conservation Law Section 27-0711, this local law and such other local laws and resolutions as may hereinafter be enacted for the County's solid waste management and resource recovery.

SECTION 2. DEFINITIONS

As used in this local law:

1. "Board of Legislators" means the Board of Legislators of the County of Allegany.

2. "Committee" means the Public Works Committee of the Board of Legislators.

3. "County Facility" means a Solid Waste Management Facility owned or operated by the County of Allegany.

(If additional space is needed, attach pages the same size as this sheet, and number each.)

4. "Department" means the Allegany County Department of Public Works.

5. "Hauler" means a person, corporate or individual, who collects and transports solid waste for disposal within the County of Allegany.

6. "Resource Recovery" means the separation, extraction and recovery of usable materials, energy or heat from solid waste through source separation, recycling centers or other programs, projects or facilities.

7. "Solid Waste" means all putrescible and non-putrescible materials or substances discarded or rejected as being spent, useless, worthless or in excess to the owners at the time of such discard or rejection, including but not limited to garbage, refuse, industrial and commercial waste, sludges from air or water pollution control facilities, or water supply treatment facilities, rubbish, ashes, contained gaseous material, incinerator residue, demolition and construction debris, discarded automobiles and offal but not including sewage and other highly diluted water carried materials or substances and those in gaseous form.

8. "Solid Waste Management" means the purposeful and systematic transportation, storage, processing, recovery and disposal of solid waste.

9. "Solid Waste Management Facility" means any facility employed beyond the initial solid waste collection process including, but not limited to, transfer stations, baling facilities, rail haul or barge haul facilities, processing systems, including resource recovery facilities or other facilities for reducing solid waste volume, sanitary landfills, facilities for disposal of construction and demolition debris, plants and facilities for compacting, composting or pyrolization of solid wastes, incinerators and other solid waste disposal, reduction or conversion facilities.

10. "Superintendent" means the Superintendent of Public Works of the County of Allegany.

SECTION 3. GENERAL FUNCTIONS, POWERS AND DUTIES OF THE DEPARTMENT AND THE SUPERINTENDENT

1. It shall be the responsibility of the Department, in accordance with such existing provisions and limitations as may be by law and elsewhere set forth in law, by and through the Superintendent, to carry out the solid waste management and resource recovery policies of the County of Allegany. In so

CRA-26

PROCEDURE FOR
RULES AND/OR REGULATIONS
ADOPTION

First: Superintendent determines proposed rule and/or regulation and submits to County Attorney for approval of form together with time and date of Public Works Committee meeting and time at which public hearing will be held.

Second: County Attorney returns approved form together with approved meeting notice form.

Third: Superintendent causes posting of proposed rule and/or regulation and meeting notice in Department office and on official County bulletin board.

Fourth: Superintendent deposits proposed rule and/or regulation and meeting notice in County mailboxes of Public Works Committee members. Any member of the public is entitled to one free copy.

NOTE: Steps 3 and 4 must be done at least 30 days before the Public Work's Committee meeting designated to act on the adoption of the rule and/or regulation.

Fifth: Superintendent files copy of proposed rule and/or regulation and meeting notice with Clerk of the Board in sufficient time for the Clerk to cause their publication at least 10 days before the above meeting of the Public Works Committee.

Sixth: Public Works Committee meets on day, time and place designated in meeting notice. At time previously designated the public is heard on the proposed rule and/or regulation.

Seventh: Public Works Committee votes.

NOTE: At least a majority of the regular members must vote in the affirmative to adopt not just a majority of those present.

Eighth: If adopted, a copy of the adopted rule and/or regulation is filed with the Clerk of the Board.

Ninth: Rule and/or regulation becomes effective on the 10th day from the date of filing.

doing, the Superintendent, with the advice and consent of the Committee, shall have power to:

a. Coordinate and develop policies, planning and programs related to the solid waste management and resource recovery of the County of Allegany.

b. Prescribe the practices and procedures for use of County facilities.

c. Prescribe and recommend methods for the recovery, recycling and reuse of solid waste or, where recycling and reuse are not possible, the disposal of solid wastes, including domestic and industrial refuse, junk cars, litter and debris consistent with sound health, scenic, environmental quality, and land use practices, for solid waste offered for disposal at County Facilities, including, but not limited to, the types of solid waste acceptable for disposal at County Facilities, the limitation of disposal of such waste to solid waste generated solely within the County of Allegany except when outside solid waste is authorized for disposal at a County Facility by resolution or local law adopted by the Board of Legislators when it may from time to time determines it to be in the public interest to allow such outside solid waste to be so disposed.

d. Encourage activities consistent with the purposes of this law by advising and assisting local governments, institutions, industries, and individuals.

e. Undertake a public information and education program to inform and involve other public and private organizations and groups and the general public in the commitment to the principles and practices of Allegany County Solid Waste Management.

f. Cooperate with the executive, legislative and planning authorities of the State of New York, neighboring counties and their municipalities in furtherance of the policy of the County of Allegany.

g. Exercise and perform such other functions, powers and duties as shall have been or may be from time to time conveyed or imposed by law, including, but not limited to, all the functions, powers and duties assigned and transferred to the Department by the Board of Legislators.

h. Promulgate such rules and regulations to implement this law, or other laws or resolutions of the Board of Legislators and the Committee, as well as assure compliance with the Environmental Conservation Law, the Rules and Regulations of the New York State Commissioner of Environmental Conservation and the United States Environmental Protection Agency.

SECTION 4. PERMITTING OF HAULERS

1. All haulers shall obtain a permit from the Department before their use of any County Facility is allowed. Issuance of a permit to a hauler shall allow the hauler to offer for disposal and dispose of, at a County Facility, solid waste generated solely within the County of Allegany, or generated outside the County of Allegany when authorized by the Board of Legislators in accordance with the provisions of section three of this local law, and acceptable for disposal pursuant to rules and regulations promulgated by the Superintendent.

2. No hauler shall offer for disposal or dispose of solid waste inconsistent with the rules and regulations promulgated by

the Superintendent or with this law or other local law or resolution of the Board of Legislators or with the Environmental Conservation Law. Such inconsistent offering or disposal of solid waste shall constitute a violation of this local law. In the event of a violation, the permit issued by the Department to a hauler may be suspended or revoked by the Superintendent after taking into consideration: the amount of solid waste that was offered for disposal or disposed of, the type or generation origin of waste that was offered for disposal or disposed of, and the number and frequency of prior violations.

3. Prior to any suspension or revocation of a permit, the Superintendent shall conduct a hearing at which the Superintendent or the Superintendent's designee shall preside. At such hearing the Department shall have the burden of proof by a fair preponderance of the evidence. The hauler shall be permitted to be represented by counsel and to introduce evidence on the hauler's behalf. Adherence to the formal rules of evidence shall not be required.

SECTION 5. PROMULGATION OF RULES AND REGULATIONS

The Superintendent shall cause a proposed rule or regulation to be posted conspicuously in the Department in a place maintained for that purpose and on the official bulletin board for notices located in the Allegany County Courthouse at Belmont, New York, where it is accessible to members of the general public, and shall cause a copy of the proposed rule or regulation to be provided to the members of the Committee at their mailboxes maintained at the County Office Building, Belmont, New York; such

posting and depositing to be at least thirty days prior to offering the proposed rule or regulation for adoption at a regular or special meeting of the Committee. A member of the general public requesting a copy of the posted proposed rule or regulation from the Department shall be provided one copy without charge. A copy of the proposed rule or regulation shall be filed with the Clerk of the Board of Legislators who shall cause a copy to be published once in the official newspapers at least ten days prior to offering the proposed rule or regulation for adoption at such regular or special meeting of the Committee. Prior to the vote on the question of adoption of the proposed rule or regulation at such meeting of the Committee, an opportunity to be heard shall be given to the public. Adoption of the rule or regulation shall be upon the affirmative vote of a majority of all regular members of the Committee. Upon adoption, a copy of the rule or regulation shall forthwith be transmitted to the Clerk of the Board of Legislators for filing and shall be binding as law on the tenth day after such filing, excluding the day of filing.

SECTION 6. FEES

The Board of Legislators may establish fees for permits and for the disposal of solid waste at any County Facility.

SECTION 7. EFFECTIVE DATE

This local law shall take effect immediately.

Superintendent of Public Works' Rules and Regulations for the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery

TABLE OF CONTENTS

Summary Table

Sections

SECTION 1. DEFINITIONS

As used in these rules and regulations:

1. "Board of Legislators" means the Board of Legislators of the County of Allegany.

2. "Committee" means the Public Works Committee of the Board of Legislators.

3. "Compaction vehicle" means a vehicle equipped with a hydraulically operated mechanism to compress or reduce the volume of solid waste placed in the vehicle.

4. "Construction and Demolition Debris" means uncontaminated solid waste resulting from the construction, remodeling, repair and demolition of structures and roads; and uncontaminated solid waste consisting of vegetation resulting from land clearing and grubbing, utility line maintenance and seasonal and storm related cleanup. Such waste includes, but is not limited to: bricks, concrete and other masonry materials, soil, rock, wood, wall coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles, asphaltic pavement, glass, plastics that are not sealed in a manner that

conceals other wastes, electrical wiring and components containing no hazardous liquids, and metals that are incidental to any of the above. Solid waste that is not construction and demolition debris (even if resulting from the construction, remodeling, repair and demolition of structures and roads and land clearing) includes, but is not limited to: asbestos wastes, garbage, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, carpeting, furniture, appliances, tires, drums and containers, and fuel tanks. Specifically excluded from the definition of construction and demolition debris is solid waste (including what otherwise would be construction and demolition debris) resulting from any processing technique, other than that employed at a construction and demolition processing facility, that renders individual waste components unrecognizable, such as pulverizing or shredding.

5. "County Facility" means a Solid Waste Management Facility owned or operated by the County of Allegany.

6. "D.E.C." means the Department of Environmental Conservation of the State of New York.

7. "Department" means the Allegany County Department of Public Works.

8. "ECL" means the Environmental Conservation Law of the State of New York.

9. "Hauler" means a person, corporate or individual, who collects and transports solid waste for disposal within the County of Allegany.

10. "Hazardous Waste" means "Hazardous Waste" pursuant to ECL Section 27-0901 and any Rules and Regulations promulgated by D.E.C. consistent therewith.

11. "Industrial Waste" means "Industrial-Commercial Waste" pursuant to ECL Section 27-0303 and any Rules and Regulations promulgated by D.E.C. consistent therewith.

12. "Minor Construction Debris" means uncontaminated solid waste, none of which is longer than three feet, resulting from the construction, remodeling and repair of structures. Such waste includes, but is not limited to: wood, wall and floor coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles, glass, plastics that are not sealed in a manner that conceals other wastes, electrical wiring and components containing no hazardous liquids, and metals that are incidental to any of the above. Solid waste that is not minor construction debris (even if resulting from the construction, remodeling and repair of structures) includes bricks, concrete and other masonry materials, soil, rock and asphaltic pavement.

13. "Resource Recovery" means the separation, extraction and recovery of usable materials, energy or heat from solid waste through source separation, recycling centers or other programs, projects or facilities.

14. "Solid Waste" means all putrescible and non-putrescible materials or substances discarded or rejected as being spent, useless, worthless or in excess to the owners at the time of such discard or rejection, including but not limited to garbage, refuse, industrial and commercial waste, sludges from air or water pollution control facilities, or water supply treatment facilities, rubbish, ashes, contained gaseous material, incinerator residue, demolition and construction debris, discarded automobiles and offal but not including sewage and other highly diluted water carried materials or substances and those in gaseous form.

15. "Solid Waste Management" means the purposeful and systematic transportation, storage, processing, recovery and disposal of solid waste.

16. "Solid Waste Management Facility" means any facility employed beyond the initial solid waste collection process including, but not limited to, transfer stations, baling facilities, rail haul or barge haul facilities, processing systems, including resource recovery facilities or other facilities for reducing solid waste volume, sanitary landfills, facilities for disposal of construction and demolition debris, plants and facilities for compacting, composting or pyrolization of solid wastes, incinerators and other solid waste disposal, reduction or conversion facilities.

17. "Superintendent" means the Superintendent of Public Works of the County of Allegany.

SECTION 2. COMPLIANCE WITH RULES AND REGULATIONS

All haulers seeking to dispose of solid waste generated within the County of Allegany or offered for disposal within the County of Allegany shall be in compliance with these rules and regulations, County of Allegany Local Law No. 1 of 1991, the Laws of the State of New York, any rules and regulations promulgated pursuant to such Laws and shall otherwise be in compliance with all other laws and rules and regulations adopted by any governmental entity and applicable thereto. In particular, the Rules and Regulations of D.E.C. are incorporated herewith. The Superintendent, upon request, may require proof of such compliance including, but not limited to, copies of permits granted by D.E.C. or the Environmental Protection Agency of the United States Government.

SECTION 3. PERMITTING OF HAULERS

(a) All haulers shall obtain a permit from the Department before their use of any County Facility is allowed. Issuance of a permit to a hauler shall allow the hauler to offer for disposal and dispose of, at a County Facility, solid waste generated solely within the County of Allegany, or generated outside the County of Allegany when authorized by the Board of Legislators pursuant to section three of County of Allegany Local Law No. 1 of 1991, and acceptable for disposal pursuant to these rules and regulations. No hauler shall offer for disposal or dispose of solid waste inconsistent with these rules and regulations or with any other Federal, State or local law or any resolution of the Board of Legislators. Such inconsistent offering or disposal of solid waste shall constitute a violation of these rules and regulations.

(b) The Superintendent shall issue a permit consistent with these rules and regulations and County of Allegany Local Law No. 1 of 1991. Upon proper completion of the application form set forth as Appendix A below and payment of the permit fee, if any, a permit, in the form set forth as Appendix B below, shall be issued. In addition a bumper sticker, with a number shown thereon, shall be issued for each vehicle registered to the hauler and to be used by the hauler for delivery of solid waste to a County Facility and set forth in the application form; such sticker to be permanently affixed to the front bumper of each such vehicle. A permit shall be valid from the issue date, but only so long as the holder of such permit is a hauler of solid waste generated within the County of Allegany, or generated outside the County of Allegany when such solid waste can be disposed of at a County Facility pursuant to authorization of the Board of Legislators under section three of County of Allegany Local Law No. 1 of 1991, and acceptable for disposal pursuant to these rules and regulations. Permits and bumper stickers issued hereunder shall not be transferable.

(c) A hauler shall file a modification application anytime there is a change in the information contained in the original permit application.

(d) On and after the sixtieth day after these rules and regulations take effect, no hauler shall be allowed to offer for disposal and dispose of solid waste at a County Facility, as authorized by these rules and regulations, unless such hauler possesses and continues to possess a valid permit and valid bumper stickers issued pursuant to these rules and regulations.

(e) Permit applications and permits shall be available at times and places designated by the Department.

SECTION 4. WASTE ACCEPTABLE FOR DISPOSAL

(a) Except as limited below, solid waste generated within the County of Allegany may be disposed of at a County Facility. Except as limited below, solid waste generated outside the County

of Allegany that the Board of Legislators may, from time to time as it sees fit in the public interest, permit to be disposed of at a County Facility, may be disposed of at a County Facility. The following solid waste may not be offered for disposal at or disposed of at any County Facility:

(1) Hazardous waste in any quantity.

(2) Any liquids and wastes including sludges, slurries, chemical or industrial wastes which are less than twenty per cent solids.

(3) Any drum, pail, or other container which has not had the ends cut off and been crushed in accordance with D.E.C. Rules and Regulations. In addition, any container which had held hazardous waste and is not empty according to 40 United States Code of Federal Regulations 261.7(a)(3).

(4) Industrial waste not approved for disposal by D.E.C.

(5) All free liquids.

(6) Batteries, as defined in paragraph (1) of subdivision (a) of section six of these rules and regulations, except at a County Facility designated by the Superintendent.

(7) Grass clippings, leaves, small brush and ashes.

(8) Construction and demolition debris with the exception of minor construction debris up to one cubic yard per day per hauler.

(9) Animal carcasses, except at a County Facility designated by the Superintendent.

(10) Any waste prohibited by D.E.C. in the operating permit or permits granted to the County of Allegany for a County Facility, or as may be otherwise prohibited or limited by D.E.C.

(11) Solid waste, other than designated and separated recyclable materials, which exceeds seven cubic yards per day per hauler at each County Facility which is a transfer station. It shall be presumed that solid waste offered for disposal by a hauler from a compaction vehicle having a load capacity in excess of seven cubic yards exceeds seven cubic yards.

(b) No solid waste contained in a plastic bag may be offered for disposal and disposed of at a County Facility unless such plastic bag is transparent (clear) to allow such contents to be readily identified by an operator of such County Facility.

SECTION 5. SUSPENSION OR REVOCATION OF PERMIT

(a) In the event of a violation of these rules and regulations the permit issued by the Department to a hauler may be suspended or revoked by the Superintendent, after taking into consideration: the amount of solid waste that was offered for disposal or disposed of, the type or generation origin of waste that was offered for disposal or disposed of, and the number and frequency of prior violations. Prior to any suspension or revocation of a permit, the Superintendent shall conduct a hearing in which the Superintendent or the Superintendent's designee shall preside. At such hearing the Department shall have the burden of proof by a fair preponderance of the evidence. The hauler shall be permitted to be represented by counsel and to introduce evidence on the hauler's behalf. Adherence to the formal rules of evidence shall not be required.

(b) Following a determination by the Superintendent that he has probable cause to believe a violation has occurred of the within rules and regulations, he shall issue notice of probable cause concerning the violation to the permitted hauler. The Superintendent shall attempt to negotiate a course of remedial action to be taken by such hauler. A course of remedial action shall consist of that conduct to cause the violation to cease and desist and to compensate financially for any economic adverse consequences of the violation. In the event the Superintendent and the hauler fail to negotiate a course of remedial action within ten (10) days of the issuance of notice of probable cause, the Superintendent shall forthwith cause a hearing to be held upon written notice to the hauler, consistent with sub-section (a) of section five of these rules and regulations.

SECTION 6. RESOURCE RECOVERY

(a) As used in this section, the following definitions shall apply:

(1) "Batteries" shall mean lead-acid batteries, each with a capacity of six or more volts which contains lead and sulfuric acid and which is used as a power source in a vehicle.

(2) "Cans" shall mean containers comprised of aluminum, tin, steel, or a combination thereof, which formerly contained only food and/or beverage substances. It shall not mean aerosol, paint, varnish or fuel cans.

(3) "Cardboard" shall mean woodpulp-based material which is usually smooth on both sides with a corrugated center. It shall also mean boxboard or paperboard having the same material and characteristics as cardboard, but without a corrugated center. It shall not mean wax-coated or glossy or soiled cardboard.

(4) "Glass" shall mean all clear (Flint), green, and brown (amber) colored glass containers. It shall not mean mirrors, auto glass, milk white glass, window glass, light bulbs, cookware, pyrex, crystal or ceramics.

(5) "Newspaper" shall mean newsprint and all newspapers and newspaper advertisements, supplements, comics and enclosures. It shall not mean magazines, books, telephone books, or glossy ads such as junk mail and newspaper inserts.

(6) "Plastic containers" shall mean containers composed of plastic that have on the bottoms the number 1 or 2 inside a recycling triangle or the letters PETE or HDPE next to such triangle and have a top which is smaller around than the base.

(7) "Recyclable material" shall mean any material which is used for its material recycling or reuse value.

(8) "Scrap metal" shall mean items comprised of any metal, but not including cans or white goods.

(9) "Separate" or "separated" shall mean the separation of the specified recyclable material from other solid waste and from any other recyclable materials.

(10) "Tires" shall mean tires from cars, trucks, and other vehicles.

(11) "Vehicle" shall mean any motor powered device which is self-propelled and designed for carrying persons or property or which is used for the transportation of persons, including, but not limited to, automobiles, buses, trucks, boats, motorcycles, snowmobiles and lawn and garden equipment.

(12) "White goods" shall mean major appliances such as refrigerators, freezers, water heaters, stoves, washing machines, dryers and dishwashers. It shall also mean metal heating or cooling systems.

(b) No recyclable material specified in this section nor any recyclable material specified in any rule or regulation adopted pursuant to County of Allegany Local Law No. 1 of 1991 shall be accepted for disposal or disposed of at any County Facility unless such recyclable material is separated, and prepared for disposal in accordance with the provisions of any administrative directive of the Superintendent issued pursuant to these rules and regulations.

(c) Separated recyclable materials which may be offered for disposal and disposed of at a County Facility designated by the

provisions of any administrative directive of the Superintendent pursuant to these rules and regulations, are as follows:

(1) Batteries.
(2) Cans.
(3) Cardboard.

(4) Glass according to color. The colors are clear (flint), green, and brown (amber).

(5) Newspapers.
(6) Plastic containers.
(7) Scrap metal.
(8) Tires.
(9) White goods.

SECTION 7. COUNTY FACILITIES: SUPERINTENDENT'S ADMINISTRATIVE AUTHORITY TO FIX HOURS OF OPERATION OF, DETERMINE ITEMS OF SOLID WASTE TO BE DISPOSED AT AND DETERMINE PREPARATION OF RECYCLABLE MATERIALS PRIOR TO DISPOSAL AT

(a) The Superintendent shall have the authority to fix the operating hours of each County Facility.

(b) The Superintendent shall have the authority to determine and designate the County Facility where items of solid waste, to include a recyclable material as defined in section six of these rules and regulations, may or will not be accepted for disposal.

(c) The Superintendent shall have the authority to determine and specify the preparation required for any recyclable material before any such recyclable material can be offered for disposal or disposed of at any County Facility.

(d) Exercise by the Superintendent of any authority granted under subdivisions (a), (b) and (c) of this section shall be done by administrative directive, shall be at the discretion of the Superintendent and shall not be deemed the promulgation of a rule or regulation.

(e) Any administrative directive shall be in writing, shall be published once in the official newspapers for notices as fixed by the Board of Legislators pursuant to law, and shall be conspicuously posted at each County Facility. An administrative directive shall take effect on the commencement of the next day following the day when both such publication and posting is accomplished unless a later effective date is determined and specified by the Superintendent in such directive.

(f) Any administrative directive may be published in any unofficial newspaper or non-newspaper as may be authorized by the Committee, and may be conspicuously posted in any other public place deemed appropriate by the Superintendent.

(g) Any such administrative directive shall be filed with the Department and a copy mailed or delivered to the Clerk of the Board of Legislators and Chairman of the Committee. The failure to file, mail or deliver such administrative directive shall not affect its validity.

SECTION 8. PAYMENT OF FEES FOR USE OF COUNTY FACILITIES

No credit will be accepted at any County Facility. All fees established by the Board of Legislators for the use of a County Facility shall be paid for in cash, or may be paid for by good check if the total fees are in excess of ten dollars.

SECTION 9. SEVERABILITY OF RULES AND REGULATIONS

In the event a Section herein shall be determined to be unlawful or invalid, those Sections remaining shall be so sustaining and given separate enforcement without regard to those Sections declared unlawful or invalid.

APPENDIX A

APPLICATION FOR A PERMIT TO DISPOSE OF WASTE AT ALLEGANY COUNTY SOLID WASTE MANAGEMENT FACILITIES

PART 1 - HAULER INFORMATION

1. Hauler Name: _____

   _____

2. Residence Address:

   No. and Street _____

   _____ County _____ State _____
   City, Town or Village

3. Contact Person: _____

   Phone Number: _____

4. Type of Application: (check one)

   ____ Original Application ____ Renewal ____ Modification

5. List the Town(s) in Allegany County where solid waste will be generated for disposal in Allegany County: Town(s) of

   _____.

6. (If applicable) Authorization to Dispose of Non-County Waste: County Board Resolution No. ____ - 9__.

PART II - VEHICLE INFORMATION

1. Total number of vehicles registered to the hauler and to be used for delivery of solid waste to a County Facility:

	Vehicle Make	Type	Year	License Number
A.	_____	____	____	_____
B.	_____	____	____	_____

Monday in September; the second Monday in October; November 11; the fourth Thursday in November; the fourth Friday in November; December 25. If any of the days fall on a Sunday, closing will be on the following Monday. If any of the days fall on a Saturday, closing will be on the preceding Friday.

5. Tires, with rims removed, can be disposed of at County transfer stations only during normal business hours as established by this directive on the following Saturdays in 1991:

a. TS#1 on June 1; TS#2 on June 8; TS#3 on June 15; TS#4 on June 22; TS#5 on June 29; TS#6 on July 6; and, TS#7 on July 13

6. A hauler can dispose of the following at County transfer stations in the quantities specified:

a. All waste acceptable for disposal including recyclable materials, but excluding: (1) tires in a single load of twenty-one or more, (2) all large off-road construction equipment tires, (3) all white goods, and (4) all animal carcasses.

7. A hauler can dispose of the following at the County Landfill in the quantities specified:

a. All waste acceptable for disposal including recyclable materials, but excluding batteries.

b. All large off-road construction tires.

c. All animal carcasses.

8. This administrative directive shall be published once in the official newspapers of the County of Allegany for the year 1991 and conspicuously posted at each County Facility defined in Local Law No. 1 of 1991.

9. This administrative directive shall take effect June 11,1991.

Dated: April 12, 1991

Allegany County Superintendent of Public Works

ALLEGANY COUNTY DEPARTMENT OF
PUBLIC WORKS

HIGHWAY DIVISION
SOLID WASTE DIVISION
BUILDINGS & GROUNDS DIVISION

ROOM 210 COUNTY OFFICE BUILDING BELMONT, NEW YORK 14813
TELEPHONE 716 268-9230

COUNTY DEPARTMENT OF PUBLIC WORKS
SUPERINTENDENT'S ADMINISTRATIVE DIRECTIVE NO. II-91.

Pursuant to County of Allegany Local Law No. 1 of 1991, effective February 11, 1991, and "Superintendent of Public Works' Rules and Regulations for the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery," effective April 12, 1991, the Allegany County Superintendent of Public Works does hereby approve and adopt the following administrative directive:

1. Purpose. In order to process recyclable material in an economic manner, it is necessary that standards of preparation of recyclable material be established before they are acceptable to the County for disposal at a County Facility.

2. Definitions. As used in this Directive, unless the context otherwise requires, the term:

a. "Batteries", "cans", "cardboard", "glass", "newspapers", "plastic containers", "recyclable material", "scrap metal", "tires", "vehicle" and "white goods" shall have the same meaning as defined in sub-section (a) of section six of the first above mentioned Superintendent's Rules and Regulations.

b. "County Facility" shall mean a Solid Waste Management Facility owned or operated by the County of Allegany.

c. "County Landfill" shall mean the County's Solid Waste Management Facility located on County Road 48 in the Town of Angelica.

d. "Hauler" means a person, corporate or individual, who collects and transports solid waste for disposal within the County of Allegany and who possesses a valid permit from the County Department of Public Works.

e. "Removed" shall mean physical separation from and not commingled with the recyclable material.

f. "Solid Waste Management Facility" shall have the same meaning as defined in Local Law No. 1 of 1991.

g. "Superintendent" shall mean the Superintendent of Public Works of the County of Allegany.

C. _____ ____ ____ _____

D. _____ ____ ____ _____

E. _____ ____ ____ _____

The undersigned Hauler does hereby certify that the above information is true and correct to the best of Hauler's knowledge.

_____ _____

Date

Signature of Applicant, if individual.
Signature of authorized Official of applicant, if other than individual.

APPENDIX B

PERMIT TO DISPOSE OF WASTE AT ALLEGANY COUNTY SOLID WASTE MANAGEMENT FACILITIES

This permit and bumper sticker(s) are not transferable.

This permit is only valid from the Issue Date.

Once signed by the County, the original will be kept and filed by the County and a copy will be sent to Hauler as an approved permit. One bumper sticker is to be permanently attached to the front bumper of each vehicle listed in the application.

_____
Hauler Name

_____
Address

_____
City, Town or Village and State

This Permit No. _____ has been issued to the above Hauler together with bumper sticker(s) numbered _____

_____.

_____
Issue Date

_____
Superintendent of Public Works
or Authorized Representative

ALLEGANY COUNTY DEPARTMENT OF
PUBLIC WORKS

HIGHWAY DIVISION
SOLID WASTE DIVISION
BUILDINGS & GROUNDS DIVISION

ROOM 210 COUNTY OFFICE BUILDING BELMONT, NEW YORK 14813
TELEPHONE 716 268-9230

COUNTY DEPARTMENT OF PUBLIC WORKS
SUPERINTENDENT'S ADMINISTRATIVE DIRECTIVE NO. I-91.

Pursuant to County of Allegany Local Law No. 1 of 1991, effective February 11, 1991, and "Superintendent of Public Works' Rules and Regulations for the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery," effective April 12, 1991, the Allegany County Superintendent of Public Works does hereby approve and adopt the following administrative directive:

1. Purpose. This directive establishes the general business days and hours when County transfer stations and the County Landfill will be open to receive waste acceptable for disposal from a hauler. In addition, this directive specifies where waste acceptable for disposal may be disposed of.

2. Definitions. As used in this directive, unless the context otherwise requires, the term:

a. "County Landfill" shall mean the County's Solid Waste Management Facility located on County Road 48 in the Town of Angelica.

b. "County transfer stations" shall mean the seven established County transfer stations identified herein by prefix letters "TS", and numbered as follows: Transfer station located in: Town of Caneadea is number 1; Town of Burns is number 2; Town of Friendship is number 3; Town of Angelica is number 4; Town of Almond is number 5; Town of Bolivar is number 6; Town of Wellsville is number 7.

c. "Hauler" shall mean a person, corporate or individual, who collects and transports solid waste for disposal within the County of Allegany and who possesses a valid permit from the County Department of Public Works.

d. "Large off-road construction equipment tires" shall mean tires having a rim diameter greater than 24.5"

e. "Solid Waste Management Facility" shall have the same meaning as defined in Local Law No. 1 of 1991.

f. "Tires" shall mean tires from cars, trucks, and other vehicles. It shall not mean "large-off road construction equipment tires".

g. "Vehicle" as used herein, shall mean any motor powered device which is self-propelled and designed for carrying persons or property or which is used for the transportation of persons, including, but not limited to, automobiles, buses, trucks, boats, motorcycles, snowmobiles and lawn and garden equipment.

h. "Waste acceptable for disposal" shall mean the solid waste acceptable for disposal as set forth in section four of the first above mentioned Superintendent's Rules and Regulations.

3. Days and hours of operation. The normal business days and hours of operation for County transfer stations and the County Landfill are as follows:

TS	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
#1			8:00 am 3:30 pm		8:00 am 3:30 pm	8:00 am 3:30 pm
#2					8:00 am 3:30 pm	8:00 am 3:30 pm
#3	8:00 am 3:30 pm			8:00 am 3:30 pm		8:00 am 12:00 pm
#4		8:00 am 3:30 pm				8:00 am 3:30 pm
#5		8:00 am 3:30 pm	8:00 am 3:30 pm	8:00 am 3:30 pm		8:00 am 3:30 pm
#6			8:00 am 3:30 pm		8:00 am 3:30 pm	8:00 am 3:30 pm
#7	8:00 am 3:30 pm	8:00 am 3:30 pm	8:00 am 3:00 pm		8:00 am 3:30 pm	8:00 am 3:30 pm
Landfill	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 3:00 pm	8:00 am 12:00 pm

4. All County transfer stations and the County Landfill will be closed for holidays each year on the following days: January 1; the third Monday of January; February 12; the third Monday in February; the last Monday in May; July 4; the first

3. Each of the following recyclable materials can be offered for disposal by a hauler at a County Facility designated by administrative directive of the Superintendent to receive the recyclable material, if the recyclable material to be offered is prepared for disposal, as follows:

a. Batteries shall be clean and unbroken.

b. Cans shall be rinsed clean and any separate labels removed.

c. Cardboard shall be clean, dry, cut flat and tied in bundles less than one foot high or packed in brown paper bags.

d. Glass separated by color shall be rinsed clean and lids removed.

e. Newspapers shall be clean, dry and tied in bundles less than one foot high or packed in brown paper bags.

f. Plastic containers shall be rinsed clean and lids removed.

g. Scrap metal shall not have non-metal items connected to them.

h. Tires shall have rims removed.

i. White goods shall have doors unhinged or dismantled.

4. This administrative directive is subject to the provisions of Superintendent's Administrative Directive No. I-91.

5. This administrative directive shall be published once in the official newspapers of the County of Allegany for the year 1991 and conspicuously posted at each County Facility defined in Local Law No. 1 of 1991.

6. This administrative directive shall take effect June 11,1991.

Dated: April 12, 1991

Allegany County Superintendent
of Public Works

THE HISTORY OF SOLID WASTE IN ALLEGANY COUNTY

This document is a chronological report of resolutions and discussions of the Board of Legislators regarding Solid Waste Management from 1966 to present.

All pertinent information has been recorded. Resolutions of a lesser importance such as funds transfers, labor positions created and some equipment purchases have not been included.

This consolidated information can be utilized as a reference tool for past solid waste discussions, decisions and year end reports.

This document is updated yearly with the Allegany County Legislators' Proceedings by the **Department of Public Works.**

May 5, 1966: Resolution No. 39-66: Application to Farmers Home Administration for Federal Funds - designation of Allegany County Planning Board as County Water, Sewer Drainage and Refuse Agency.

December 29, 1966: At a special meeting of the Board of Supervisors, Chairman Smith turned the meeting over to Supervisor Kopler. Mr. Kopler stated that the Planning Board has made some studies of the sanitary landfill problem in the county and asked Mr. Arthur Black, Planning Consultant, to elaborate on their findings. Mr. Black spoke of conditions which must be considered before a sanitary landfill can be satisfactorily established, such as, terrain, climate, nature of soil, density of population, etc. He explained some of the pitfalls which municipalities might encounter in setting up a sanitary landfill and advised that they be extremely cautious; also, that they strive to keep the overall cost at a minimum.

Mr. Black advised that he planned to attend a meeting in Albany on January 6, 1967, with members of the New York State Public Health Department and the Federal Government to learn of the possibility of the availability of Federal Funds to support a demonstration project on refuse collection and disposal in Allegany County. He requested that municipalities write letters immediately to the Planning Board supporting their interest in cooperative efforts in operating a sanitary landfill which he might take to Albany to substantiate his request that this county be considered for a demonstration project. He also stated that it is his understanding that if such a project were approved for this area the Federal Government would stand two-thirds of the cost of initiating the project and two-thirds of the cost of the operation for three years.

January 9, 1967: At the regular meeting of the Board of Supervisors, Mr. Black spoke on the problem of disposing of solid waste. He outlined a meeting he had attended in Albany, New York, on January 6, for the purpose of learning of the possibilities of securing available Federal Funds for the installation and operation of a demonstration sanitary landfill project for this county.

Mr. Black introduces Mr. Berton Meade, District Sanitary Engineer of the State Department of Health. Mr. Meade explained in detail the parts 19 and 190 of the Sanitary Code which have been assigned to the State Department of Health for enforcement. He explained the position of the State Department of Health on the enforcement of the provisions of the Sanitary Code pending the establishment of a demonstration project in this area. He outlined the necessary requirements which must be met before a landfill can be established.

April 7, 1967: At the regular meeting of the Board of Supervisors, Mr. Arthur Black, Planning Consultant, was granted the privilege of the floor. He informed the Board that the New York State Department of Health has announced that they will enforce the temporary set of regulation which Mr. Berton Meade, District Sanitary Engineer, presented to the Board at the January meeting, especially with regard to open burning at dumps. He suggested that municipalities enact ordinances which would give them control over open burning at dumps.

October 9, 1967: At the regular meeting of the Board of Supervisors, a letter received by the Allegany County Planning Board regarding the application for a Comprehensive Solid Waste Planning Grant for Allegany County from the New York State Department of Health, advising that both the Regional Health Office in Rochester and the District Health Office in Hornell have recommended approval of the application and as soon as the necessary review can be made by the State Office. The Planning Board will be advised of their findings.

December 20, 1967: Resolution No. 132-67: A contract was created between the County of Allegany and Arthur Black to represent the Planning Committee as a Planning Consultant.

January 8, 1968: At the regular meeting of the Board of Supervisors, a letter from Mr. Berton E. Mead, District Sanitary Engineer, New York State Department of Health, advising that a number of new items have been added to the State Sanitary Code and that the Department of Health is presently taking definite action relating to various items in the fields of Water Pollution Control, Air Pollution Control and Refuse Disposal.

February 12, 1968: At the regular meeting of the Board of Supervisors, Mr. Patrick Brown, Sanitation Engineer, New York State Department of Health with the District Office in Hornell, New York, was granted the privilege of the floor. Mr. Brown brought the members up to date on the matters of refuse disposal, air pollution and water pollution, with special emphasis on the enforcement phase of the program now in effect. He advised that persons or municipalities who do not comply with the terms of the Sanitary Code may expect to be summoned before the State Health Department for hearings. He further stated that violations were subject to fines. He emphasized that open burning, either major or minor in nature, is strictly prohibited in any incorporated area of the State. He stated that studies are being made of sources of pollution and a determined effort is being made to alleviate these sources.

September 9, 1968: At the regular meeting of the Board of Supervisors, Chairman Smith introduced Mr. David Benforado, Product Coordinator and Mr. Eugene Krumm, New Product Group Technical Expert, of Air Preheater Corporation. These gentleman explained the operation of the Combustall Waste Incinerator being manufactured by the Air Preheater Corporation as it relates to solid waste disposal in residential areas.

The problem of solid waste disposal is confronting all municipalities and according to the laws of the State of New York, provisions for proper disposal of this type of waste must be made within the immediate future. These gentlemen stated that their product controlled effectively smoke, odor and flyash which are the main offenders and could meet the requirements of any code now in effect in the United Stated or proposed in the near future. They invited the Supervisors to attend a test burning on Monday, September 23, 1968 at 7:45 pm at the Andover Road Plant of the Air Preheater Corporation.

August 11, 1969: At the regular meeting of the Board of Supervisors, a letter form the Village of Angelica regarding possible availability of County Home Farm land for use as a sanitary landfill for the Village and Town of Angelica.

October 13, 1969: At the regular meeting of the Board of Supervisors, Mr. William Heaney, Mayor of the Village of Angelica, informed the Board that the Village of Angelica would like to purchase approximately 14 acres of the County Home Farm land for a landfill project. Referred to the Planning Department.

November 10, 1969: At the regular meeting of the Board of Supervisors, Mr. Gary Petrichick, Planning Director, passed out a map showing the location of the County Farm property desired by the Village of Angelica for a landfill. He

reported that he had made a study of the proposal. His recommendations were as follows: (1) "That the site in question not be used for a sanitary landfill. Although it would appear that the County will have no immediate use for the land, its proximity to the proposed Southern Tier Expressway (soon to be the major East-West arterial across New York State) would indicate the need for a use more keeping with the desired image of Allegany County. (2) If the need for a landfill operation outweighs the above recommendation, the "County should consider leasing instead of selling the land to give the County flexibility in the future. (3) If the first recommendation is followed, steps should be taken to locate an alternate landfill site with emphasis placed on multi-town cooperation."
December 8, 1969: Resolution No. 138-69: Authorizing the Allegany County Planning Board to apply and contract for a Solid Waste Disposal Study to the New York State Department of Health jointly with Steuben County.

March 9, 1970: Resolution No. 44-70: Amended Resolution No. 138-69 by providing for the creation of a Stueben-Allegany County Solid Waste Study Committee.

January 11, 1971: At the regular meeting of the Board of Legislators, the following persons were appointed to the Steuben-Allegany County Solid Waste Study Committee: John W. Hasper, Chairman, Planning Board; Mrs. Hilda C. Smith, Vice-Chairman, Planning Board; Lee R. Ryan, Secretary, Planning Board; Gary Petrichick, Director, Department of Planning; Donald MacFarquhar, Director of Public Works, Village of Wellsville; and Charles Hebblethwaite, County Extension Agent.

October 12, 1971: At the regular meeting of the Board of Legislators, a notice from the Joint Legislative Committee on Environmental Conservation regarded a Seminar to be held on Recycling Solid Waste: Technology and Markets, was referred to the Planning Committee.

January 10, 1972: At the regular meeting of the Board of Legislators, the receipt of the draft Steuben-Allegany County Solid Waste Study was noted and submitted by Day & Zimmermann Consulting Services. The draft is their analysis for collection, haul, transfer treatment, and disposal of solid waste in Allegany County exclusive of Burns, West Almond and Alfred which will be submitted January 14.

May 8, 1972: At the regular meeting of the Board of Legislators, Legislator Ryan brought the members up to date on the activities of the Steuben-Allegany County Solid Waste Study Committee and their recommendations.

May 22, 1972: At the regular meeting of the Board of Legislators, a resolution from the Town of West Almond was

received regarding their objection to a sanitary landfill within the Town of West Almond.

June 12, 1972: Resolution No. 110-72: Resolution designating Planning Board as agency to promote the implementation of Solid Waste Study.

October 23, 1972: Resolution No. 215-72: Resolution favoring passage of Environmental Quality Bond Act of 1972 Proposition on November 7, 1972 ballot.

January 22, 1973: At the regular meeting of the Board of Legislators, Legislator Ryan spoke to the Board on the pre-implementation steps of the Steuben and Allegany Counties Solid Waste Management Study. He stressed the importance of forming a Solid Waste Management Committee to be available to implement actions and carry out programs. A detailed Pre-implementation Procedure was distributed to each legislator and a copy is on file in the clerk's office.

March 26, 1973: At the regular meeting to the Board of Legislators, Legislator Ryan began a presentation of the recommendations of the Steuben and Allegany Counties Comprehensive Solid Waste Study by introducing various individuals connected with the study; Richard Daniel of the Engineering Firm of Day and Zimmermann; Gordon Eastwood, Project Coordinator from the Department of Environmental Conservation; Jack Taggart, Sanitary Engineer and Chester Janik, Solid Waste Engineer, both with the Environmental Conservation Region 9, Buffalo office. Mr. Daniel and Mr. Eastwood gave detailed reports on the recommendations contained in the Solid Waste Study, a copy of which is on file in the Clerk of the Board's office.

Resolution No. 49-73: Creation of Solid Waste Advisory Committee to implement Solid Waste Study Recommendations.

Resolution No. 50-73: Resolution appointing two Board members to the Solid Waste Advisory Committee. (Ryan and Hasper)

April 9, 1973: At the regular meeting of the Board of Legislators, Legislator Shine informed the Board that the Air Preheater Corp. wished to give a demonstration to Board members of their "Combustall" incinerator, to be held April 17, 1973 at their plant in Wellsville. They would like the Board to consider this type of solid waste disposal in view of the recent Solid Waste Study which recommended the landfill method of disposal. Legislator Ryan, Chairman of the Solid Waste Advisory Committee stated that the Committee had not ruled out entirely the incinerator type of disposal, but considered for the present needs of the area that the landfill was more reasonable.

April 23, 1973: At the regular meeting of the Board of Legislators, Legislator Shaner introduced Supervisor Jack A. Cooper of the Town of Bolivar, who presented a resolution signed by the Supervisors of the Town of Bolivar, Genesee and Wirt and the Mayors of the Villages of Bolivar and Richburg, advising the Board of Legislatures and the State Department of Health of their wish and intent to continue the operation of their present landfill and not participate in the County-operated landfill proposal at this time.

May 23, 1973: At the regular meeting of the Board of Legislators, Legislator King read a letter which he had received from the Town Clerk of the Town of Scio stating that the Town Board had voted unanimously against a multi-district sanitary landfill and felt their present incinerator and landfill was more efficient and less costly to operate. They do not wish to participate in the proposed County operated landfill at this time. Legislator Lackey presented a letter which he had received from Mr. James E. Dunn, P.E. of Bolivar, New York, regarding the establishment of a County-wide Solid Waste Disposal Program and urging the Board to proceed with the development of such a program. Chairman Hale referred this to the Solid Waste Advisory Committee.

Resolution No. 67-73: Authorizing Steuben-Allegany County Solid Waste Committee and Allegany County Solid Waste Advisory Committee to hold public information meeting.

Resolution No. 85-73: Approval of agreement with Donald MacFarquhar, P.E. for Solid Waste Disposal Engineering Services.

August 13, 1973: At the regular meeting of the Board of Legislators, Legislator Ryan announced that a Summary Report of the Comprehensive Solid Waste Planning Study for Allegany and Steuben Counties had been placed on each Legislator's desk.

September 10, 1973: At the regular meeting of the Board of Legislators a report was distributed from Conrad Kruger on his participation in a helicopter surveillance flight over fourteen of Allegany County's landfill sites, which was arranged by the Environmental Conservation Solid Waste Division. Existing conditions at each of the sites were examined to give an overview of the operations. Mr. Kruger noted that almost all the landfills at the time they were visited were running and in fairly good operation.

November 12, 1973: Resolution No. 176-73: The Solid Waste Advisory Committee recommended that a Solid Waste Pilot Project be instituted in a part of the Town of Willing. This resolution transferred funds from Contingent to Capital Fund Account for this Solid Waste Pilot Project. The Project will consist of placing two solid waste containers on the County

highway maintenance garage property for the use by residents within a two mile area. (amount of $2,200)

November 26, 1973: Resolution No. 190-73: Resolution approving of Solid Waste Collection Agreement with Donald E. Dillie. See resolution 176-73.

December 21, 1973: Resolution No. 223-73: Extending completion date of agreement dated May 22, 1973 with Donald A. MacFarquhar for Solid Waste Disposal Engineering Services.

January 2, 1974: At the organizational meeting of the Board of Legislators, a motion was made that Legislator Hasper and Ryan be re-appointed to the Solid Waste Advisory Committee to serve at the pleasure of the Board.

January 14, 1974: Resolution No. 16-74: Completion of Allegany-Steuben County's Comprehensive Solid Waste Planning Study by Day & Zimmermann, Inc.

January 28, 1974: Resolution No. 31-74: Authorizing Chairman of the Board to execute application to obtain State Grant under Environmental Quality Bond Act of 1972.

March 25, 1974: Resolution 59-74: Resolution to transfer Contingent Funds to pay for an additional container and services to the Solid Waste Pilot Project in the Town of Willing, to a Capital Fund. (sum of $750)

April 5, 1974: At the regular meeting of The Board of Legislators, Legislator Ryan reported on a meeting he attended while at Grossingers, in relation to solid waste disposal, and noted that almost without exception most communities favor the landfill method of disposal over any other process.

April 22, 1974: Resolution No. 83-74: Approved the extended agreement with Donald E. Dillie for additional collection services for the Solid Waste Pilot Project in the Town of Willing.

October 15, 1974: Resolution No. 173-74: Approved an agreement with Donald A. MacFarquhar, P.E., for additional Solid Waste Disposal Engineering Studies.

October 28, 1974: At the regular meeting of the Board of Legislators, the Allegany County Summary Report on Consolidated Solid Waste Disposal was distributed. Legislator Lee Ryan, Chairman of the Solid Waste Advisory Committee, was granted the privilege of the floor. Mr. Ryan gave a summary of the Committee's activities over the past months leading to the compilation of the report and introduced Don MacFarquhar, who had prepared the report. Also giving views on the Solid Waste Proposal were Jack

Tygert, Senior Sanitary Engineer with Region 9 of the New York State Department of Environmental Conservation and County Sanitarian Conrad Kruger.

Resolution No. 191-74: Approval of Option Agreement with Frederick W. and Marlies Warner and transfer of Contingent Funds to Solid Waste Disposal Project Account to cover consideration for Option Agreement.

December 5, 1974: At a special meeting of the Board of Legislators a resolution from the Town Board of Scio was read, opposing the proposed County-wide landfill.

December 23, 1974: At the regular meeting of the Board of Legislators, a letter was read from the Town of Clarksville, stating that the Town Board unanimously opposed the proposed County landfill. An additional letter was read from the Town of Friendship stating that the Town Board went on record supporting the County Solid Waste and Landfill Proposal. A letter from the Village of Angelica was also received advising that the Village Board is opposed to the County landfill proposal.

Resolution No. 230-74: Approval of Option Agreement with Harry and Hazel Hale and transfer Contingent Funds to Solid Waste Disposal Project Account to cover consideration for Option Agreement.

December 30, 1974: At a special meeting of the Board of Legislators, Legislator Ryan brought to the Board's attention a series of meetings which will be held with Town and Village Officials throughout the County in regards to the recent Solid Waste Proposal made by the Solid Waste Advisory Committee.

January 13, 1975: At the regular meeting of the Board of Legislators, a letter from Allan E. Raymond, P.E., Director, Bureau of Facility Design and Operation, N.Y.S. Department of Environmental Conservation, addressed to Donald A. MacFarquhar, P.E., commending him on the Allegany County Summary Report on Consolidated Solid Waste Disposal. Another letter from Mr. Raymond addressed to Legislator Ryan complimenting the fine work done on the Solid Waste Disposal Report.

A letter from the Village Clerk of Belmont, stating that by formal vote of the Village Board, it is opposed to the proposed Allegany County Solid Waste Disposal Plan.
A letter from the Town Clerk of Angelica, stating that by resolution the Town Board went on record as opposing the proposed Allegany County Solid Waste Disposal Plan.

January 27, 1975: At the regular meeting of the Board of Legislators a letter was read from the Village of Bolivar

regarding the continued use of the present landfill facility utilized by the Towns of Alma, Wirt, Scio, Bolivar, Genesee and the Villages of Richburg and Bolivar. Another letter from Lou L. Burton, Chairman, Town of Amity Planning Board, stating the Board's opposition to the proposed County landfill at Belvidere.

Resolution No. 27-75: Authorizing Chairman to enter into and execute agreement with Parrat-Wolff, Inc., for soil test borings at proposed landfill sites and fixing monetary limitation for such work. (sum of $2,500)

February 10, 1975: At the regular meeting of the Board of Legislators, Legislator Ryan was granted the privilege of the floor and introduced Mr. Donald Owens of the Soil Conservation Service, East Aurora, who gave a report on the results of the test boring made at the Warner and Hale properties in Belvidere, the site for the proposed County landfill.

A letter from Alfred J. Tucker, Town of Caneadea Supervisor, stating that the Town Board adopted a resolution favoring the participation of the Town on the proposed County landfill. A letter from Gary S. Horowitz, Mayor, Village of Alfred stating that the Village Board is opposed to the proposed County landfill. A letter from Robert C.. Kelley, Business Manager, Alfred University, stating that the University is opposed to the system of a single County-owned landfill at this time. A letter from Leonard Presutti, Mayor, Village of Belmont, stating that the Town Board of Trustees have voted in opposition to the proposed County landfill. A letter from Richard Miess, Town of Amity Supervisor stating that the Town Board is opposed to the proposed County landfill. A letter from H. E. Finnemore, Town of Alma Supervisor, in opposition to the proposed County landfill.

Legislator Ryan also asked Mr. Donald MacFarquhar, Professional Engineer, to comment on the results of the test borings which were made at the site of the proposed County landfill. Mr. McFarquhar said that he considered the site for the landfill to be environmentally sound and one which could be operated in an economical manner. Topographic mapping was necessary since there were many questions which could not be answered without such mapping.

Also Mr. Jack Tygert of the NYS DEC also addressed the Board and stated that although there is no such thing as the perfect site for a landfill, the site under consideration was as close to ideal as can be found in Allegany County. He also referred to existing landfills in the County and said that very few meet all the requirements of the DEC.

Mr. Roy Campbell, Director of the Southern Tier West Regional Planning and Development Board told the Board that there was

a possibility that the County could obtain between $30,000 and $60,000 from the Appalachian Regional Commission for the Solid Waste Project, however, if Revenue Sharing Funds were being considered for the project, he would have to investigate further, since Appalachian funds are also Federal Funds.

Resolution No. 43-75: Authorizing Chairman to enter into and execute an agreement with Erdman, Athony, Associates for Topographic Mapping and Property Survey Services relating to the proposed County landfill sites and fixing monetary limitations for such work. ($6,900)

February 24, 1975: At the regular meeting of the Board of Legislators, a resolution from the Town Board of the Town of Hume on support of the proposed County landfill. A letter addressed to former County Sanitarian, Conrad Kruger and John L. Loeb, Jr., Chairman of the State of New York Council of Environmental Advisors, stating that Allegany County and its public service organization have been selected to receive the "Keep New York State Clean" Gold Broom Award for service to the community on behalf of a cleaner environment.

Resolution No. 53-75: Transfer of Contingent Funds to Solid Waste Study Project Account. (sum of $5,000)

March 10, 1975: At the regular meeting of the Board of Legislators, a letter from Ernest Wadsworth, Supervisor, Town of Cuba, stating that the Town Board approves the proposed County landfill at the Warner site east of Friendship. A letter from Margaret J. Watson, Town Clerk of West Almond, stating that the Town Board is opposed the proposed County landfill.

March 24, 1975: At the regular meeting of the Board of Legislators, a copy of the Landfill Site Investigation Report (Warner and Hale properties) prepares by Donald A. MacFarquhar, P.E., was placed on each Legislator's desk.

A letter from Ronald F. Foley, owner of the Sanitary Disposal Company of Belfast, N.Y., expressing his support for the Solid Waste Disposal Plan. A letter from M.A. Vossler, Clerk-Treasurer of the Village of Cuba, N.Y., stating that members of the Cuba Village Board had voted unanimously to take part in the Solid Waste Disposal Program if and when the County decides to go ahead with the project.

Mr. David Dorrance, Allegany County Sanitarian, was granted the privilege of the floor and spoke briefly in regard to the recent presentation of the Gold Broom Award to Allegany County from the Keep New York State Clean Committee, for the best recycling project presented by a County in New York State. Mr. Dorrance accepted the award on behalf of the County in a presentation held on March 7, 1975 in Rochester,

N.Y. The project was the junk car program developed by former County Sanitarian Conrad Kruger and former Assistant Planner Robert McNary.

A motion to adopt Resolution Intro. No. 72-75 (Resolution electing the Single Landfill System of Solid Waste Disposal in the County of Allegany; directing Ways , Means & Finance Committee to provide method of implementation by County forces and abolishing Solid Waste Advisory Committee after certain matters have been concluded) was made by Legislator Ryan, and seconded by Legislator Kopler. The motion was then made by Legislator Hasper, seconded by Legislator Shaner and carried, that Resolution Intro. No. 72-75 be tabled until the next special or regular meeting of the Board, in order to give the Board time to review the Landfill Site Investigation Report which had been distributed earlier.

A motion to adopt Resolution Intro. No. 73-75 (Exercise of Option to Purchase lands of Harry Hale and Hazel Hale) was made. The motion was then made and carried that Resolution Intro No. 73-75 be tabled until the next special or regular meeting of the Board.

A motion to adopt Resolution Intro No. 74-75 (Exercise of Option to Purchase lands of Frederick W. and Marlies Warner) was made. The motion was then made and carried that Resolution Intro. No. 74-75 be tabled until the next special or regular meeting of the Board.

A motion to adopt Resolution Intro. No. 75-75 (Resolution earmarking Federal Revenue Sharing Funds to defray costs of purchase of lands of Warner and Hale) was made. The motion was then made and carried that Resolution Intro. No. 75-75 be tabled until the next special or regular meeting of the Board.

March 27, 1975: At the regular meeting of the Board of Legislators, Legislator Ryan was granted the privilege of the floor and spoke on the final phase of the Solid Waste Disposal Plan. Mr Ryan then introduced Donald A. MacFarquhar, consulting Engineer, who reported on the data which had been obtained in soil test boring and topographic mapping at the Warner and Hale properties in Belvidere, the proposed landfill site.

Several members of the Solid Waste Advisory Committee spoke regarding the Solid Waste Plan and Mr. Jack Tygert of the Department of Environmental Conservation congratulated the Committee on the work they had done.

Following further debate, a motion to adopt Resolution Intro No. 72-75 (Resolution electing the Single Landfill System of Solid Waste Disposal in the County of Allegany; directing Ways, Means & Finance Committee to provide method of

implementation by County forces and abolishing Solid Waste Advisory Committee after certain matters have been concluded), was made by Legislator Ryan and seconded by Legislator Kopler. The motion was defeated upon a roll call vote.

Resolution Intro. No. 73-75, 74-75, and 75-75 were declared "dead" for lack of motion to adopt.

April 28, 1975: At the regular meeting of the Board of Legislators, a resolution of the Town Board of the Town of Hume requesting the Board of Legislators to reconsider a County landfill for all of Allegany County. A letter from the Town Clerk, Town of Friendship, stating that the Town Board supports further consideration by the Board of the plan for a County-wide landfill. A letter from J. Michael Brace, Mayor, Village of Andover, requesting that the Board support the Solid Waste Proposal, as the Board's recent decisions not to proceed will create a financial handicap for the citizens of the Village of Andover.

May 27, 1975: Resolution No. 111-75: Resolution of intent to provide a system of Solid Waste Disposal for Allegany County; establishing special Solid Waste Committee of Board and abolishing Solid Waste Advisory Committee.

June 20, 1975: At the regular meeting of the Board of Legislators, the Clerk announced Chairman Hale's appointments to the Solid Waste Committee: Ryan (District V), Shelley (District II), Embser (District IV), Kramer (District III), and Kopler (District I).

July 28, 1975: At the regular meeting of the Board of Legislators, a letter addressed to Legislator Ryan from Lou L. Burton, Chairman of the Town of Amity Planning Board with petition attached containing 45 names of residents opposing the location of a landfill in the vicinity of Belvidere.

August 11, 1975: Legislator Ryan, Chairman of the Solid Waste Committee, reported to the Board on recent meeting of the Committee and its opinion that the Single Landfill System is considered the most practical and economical. In this regard, another farm has been inspected by the Committee as a possible landfill site. A soils investigation will be necessary before further consideration can be given and funds will be required to undertake this work. Following a lengthy debate, the Chairman requested an expressing of intent from the Board as to whether it favored the single landfill concept of solid waste disposal. Upon a roll call vote on this question, it was defeated.

Following further discussion, a motion was made by Legislator Ryan, seconded by Legislator Pfuntner and adopted upon a roll call vote, that the Solid Waste Committee investigate a

Multi-location Solid Waste Disposal System.

October 27, 1975: At the regular meeting of the Board of Legislators, a letter from the Village of Cuba in regards to reconsidering a County-wide landfill system was read.

November 10, 1975: Resolution No. 225-75: Abolishing Solid Waste Committee: assigning Solid Waste jurisdiction to Planning & Historical Committee.

February 23, 1976: At the regular meeting of the Board of Legislators, a resolution from the Town Board of the Town of Hume requesting the Board of Legislators' reconsideration of a County-level Solid Waste Disposal Program. Referred to the Planning & Historical Committee.

June 13, 1977: At the regular meeting of the Board of Legislators, Legislator Shelley introduced Local Law Intro. No. 3-77, being a Local Law pursuant to Article 8 of the New York State Environmental Conservation Law providing and Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant.

Resolution No. 107-77: Resolution setting date of Public Hearing on proposed Local Law pursuant to Article 8 of the New York State Environmental Conservation Law providing an Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant.

June 24, 1977: At the regular meeting of the Board of Legislators, Chairman Hale closed the regular session for the purpose of holding a Public Hearing on Local Law Intro. No. 3-77, entitled "A Local Law pursuant to Article 8 of the NYS Environmental Conservation Law providing and Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant." Legislator Shelley called upon G. Petrichick, Director of Planning, to explain the purpose of the Law, no one further desiring to be heard, the Public Hearing was declared closed.

Resolution No. 110-77: Adoption of Local Law Intro. No. 3-77, pursuant to Article 8 of the NYS Environmental Conservation Law providing an Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant.

September 26, 1977: At the regular meeting of the Board of Legislators, a notice from the Department of Environmental Conservation regarding a public meeting to be held in Buffalo on October 3, 1977 in regard to the proposed selection of boundaries appropriate for carrying out Regional Solid Waste Management Planning under the Federal Resource Conservation

and Recovery Act of 1976.

October 11, 1977: At the regular meeting of the Board of Legislators, Legislator Shelly introduced Local Law Intro No. 9-77, being a Local Law to repeal Local Law No. 2-69, entitled " A Local Law to establish a Department of Planning and the Office of the Director of Planning."

Legislator Shelley also introduced Local Law Intro No. 10-77, being a Local Law to amend Local Law No. 4-77, entitled " A Local Law pursuant to Article 8 of the NYS Environmental Conservation Law providing and Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant", in relation to the definition of Designee and the procedure for submission of proposed Action.

Resolution No. 166-77: Resolution setting date of Public Hearing on proposed Local Law to repeal Local Law No. 2-69, entitled "A Local Law to establish a Department of Planning and the Office of Director of Planning".

Resolution No. 167-77: Resolution setting date of Public Hearing on proposed Local Law to amend Local Law No. 4-77, entitled "A Local Law pursuant to Article 8 of the NYS Environmental Conservation Law providing an Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant", in relation to the definition of Designee and the procedure for submission of proposed Action.

October 24, 1977: The regular meeting of the Board of Legislators was closed for several public hearings. The first regarding Resolution No. 166-77, Mr. Lou Burton, Chairman, Allegany County Planning Board, read a statement relative to this Local Law and no one further desiring to be heard, the Public Hearing was declared closed. The second Public Hearing regarding Resolution No. 167-77, no one desiring to be heard, the hearing was declared closed.

Resolution NO. 192-77: Adoption of Local Law Intro. No. 9-77, to repeal Local Law No. 2-69, entitled "A Local Law to establish a Department of Planning and the Office of Director of Planning".

Resolution No. 193-77: Adoption of Local Law Intro. No. 10-77, to amend Local Law No. 4-77, entitled "A Local Law pursuant to Article 8 of the New York State Environmental Conservation Law providing an Environmental Quality Review of Actions which may have a significant effect on the environment and which are proposed by an Applicant", in relation to the definition of Designee and the procedure for submission of proposed Action. Designee shall mean the Planning and Historical Committee.

Resolution No. 194-77: Abolishing all positions in Planning Department.

May 8, 1978: At the regular meeting of the Board of Legislators, a letter from Ronald Hale, Supervisor, Town of Alfred, in regard to Resource Recovery and Solid Waste Management was read. Chairman King stated he would respond to this letter.

July 10, 1978: Resolution No. 139-78: Adoption of local law Intro No. 2-78, to create the Office of Administrative Assistant. (Shall assist Board in the administration of environmental programs within the County of Allegany as part of job).

November 27, 1978: At the regular meeting of the Board of Legislators, Legislator Hitchcock requested the privilege of the floor for William White, Chairman of the Cattaraugus County Refuse Department and Paul Dudden, Senior Managing Engineer with the firm of Barton, Brown, Clyde & Loguidece, who gave a slide presentation showing solid waste disposal and resource recovery projects which are currently in operation at various locations in the country. Discussion was held and questions raised on how Allegany County would participate in the proposed Cuba Cheese Refuse to Energy Project currently under consideration by both Cattaraugus and Allegany Counties.

January 8, 1979: At the regular meeting of the Board of Legislators, a letter was distributed at the request of Legislator Hitchcock, Chairman of the Planning and Historical Committee from the Consulting Engineering Firm of Barton, Brown, Clyde & Loguidice, P.C. offering their services to assist the County in the implementation of a Solid Waste Transfer System.

A letter was read from the Town Clerk of the Town of Hume expressing interest in participating in the Cuba Cheese Solid Waste Disposal Plan.

February 25, 1980: Resolution No. 56-80: Establishment of Capital Fund Project for Allegany County Solid Waste Program. (amount of $600,988)

March 24, 1980: Resolution No. 87-80: Approval of Engineering Services proposed with Edwards and Moncreiff, P.C. in regard to County Solid Waste Program.

April 14, 1980: Resolution No. 97-80: Acceptance of Bid of Pfuntner Sales & Service, Inc. for truck for Solid Waste Program. ($8,249)

Resolution No. 101-80: Amendment of County Non-unit Salary Plan to add title of Solid Waste Supervisor.

October 27, 1980: Resolution No. 202-80: Established a total authorization amount for County Solid Waste Program. ($1,250,000; $500,000 anticipated state aid grant, $149.012 anticipated federal revenue sharing, and $600,988 Res. No. 56-80)

November 10, 1980: Resolution No. 235-80: Creation of position of Solid Waste Supervisor.

Resolution No. 236-80: Approved a Contract to Supply Solid Waste with Cattaraugus County.

November 24, 1980: At the regular meeting of the Board of Legislators, Legislator Hitchcock requested the privilege of the floor for Lee S. Edwards of the firm of Edwards and Moncreiff, Engineers and Surveyors, who reviewed the Final Working Report for the Solid Waste Transfer System, prepared by his firm, a question and answer period followed.

Resolution No. 246-80: Amended the agreement with Edwards and Moncreiff, P.C. in regard to County Solid Waste Program.

Resolution No. 249-80: Approved Engineer's Final Working Report dated November 12, 1980 in relation to County Solid Waste System subject to legal implementation requirements.

January 5, 1981: Resolution No. 4-81: Appointment of Gary J. Robbins as County Superintend of Highways.

April 13, 1981: At the regular meeting of the Board of Legislators, a slide presentation showing various transfer sites in other counties was given. Also presented was a report on the problems encountered with the Final Working Report together with proposed Amendments to the Working Report prepared by Edwards & Moncreiff.

June 8, 1981: At the regular meeting of the Board of Legislators, a report was given on the Solid Waste Transfer System as it stands today in regard to the locations of the sites for which the County has options and those with options pending. Executive Session was called to discuss the exercising of an Option to Purchase Real Estate for use as a site in the County under consideration as a possible Solid Waste Transfer Station.

Resolution No. 117-81: Approval of agreement with New York State Commissioner of Environmental Conservation in relation to payment of Environmental Quality Bond Act funds for County Solid Waste Project.

June 22, 1981: At the regular meeting of the Board of Legislators, Executive Session was called to discuss the exercising of Options to Purchase Real Estate for use as sites in the County under consideration as possible Solid

Waste Transfer Stations.

Resolution No. 124-81: Authorization for firm of Edwards and Moncreiff, P.C. to undertake Environmental Engineering Services relating to County Solid Waste Program and to subcontract for such services; authorizing cost of such services to be charged to Solid Waste Capital Fund. (sum of $20,000)

July 13, 1981: At the regular meeting of the Board of Legislators, a copy was given of the 1980 Journal of Proceedings and a Preliminary Report for the County Landfill prepared by Edwards & Moncreiff.

Resolution No. 134-81: Agreement to pay for costs of Transfer Station System not aided by Federal or State Governments.

July 27, 1981: At the regular meeting of the Board of Legislators, Legislator Hitchcock requested privilege of the floor for Mr. Roy R. Pedersen from the firm of Edwards & Moncreiff, Engineers and Surveyors, who reviewed the Preliminary Report for Allegany County Landfill prepared by his firm. A copy of the report was distributed to each legislator at the July 13th Board meeting. A question and answer period followed.

September 14, 1981: At the regular meeting of the Board of Legislators, noted received and placed on file in the Office of the Clerk of the Board was the Draft Environmental Impact Statement in relation to the Allegany County Transfer Station System.

Legislator Hasper introduced Local Law Intro No. 1-81, which will establish a Department of Public Works.

Resolution No. 150-81: A resolution setting date of Public Hearing on proposed Local Law to establish a County Department of Public Works.

September 28, 1981: At the regular meeting of the Board of Legislators, Chairman King closed the regular session for the purpose of holding a Public Hearing on the establishment of a County Department of Public Works. No one desiring to speak, the Public Hearing was declared closed.

Resolution No. 161-81: Adoption of Local Law Intro. No. 1-81, establishing a County Department of Public Works.

Resolution No. 162-81: Determination of completion of Draft Environmental Impact Statement for Allegany County Transfer System; authorizing Clerk of Board to file notice of completion; fixing date for Public Hearing on Draft Environmental Impact Statement and on direct action to

establish Allegany County Transfer System; ratifying actions of Planning and Historical Committee acting as Designee under Resolution No. 62-77 for the Allegany County Solid Waste Transfer System action.

October 26, 1981: At the regular meeting of the Board of Legislators, Chairman King closed the regular session for the purpose of holding a Public Hearing on the Draft Environmental Impact Statement in regards to the Allegany County Transfer Station System. No one desiring to speak, the Public Hearing was declared closed and the meeting reconvene in regular session.

November 9, 1981: Resolution No. 192-81: A resolution requiring the construction of any resolution and direction of County Board that is still in effect and contains titles of County Superintendent of Highways or Deputy County Superintendent of Highways or name Allegany County Department of Highways to mean respectively County Superintendent of Public Works, Deputy County Superintendent of Public Works and Allegany County Department of Public Works.

November 23, 1981: Resolution No. 208-81: Authorizing increase in authorized amount for Environmental Engineering Services pursuant to Resolution No. 124-81. (increased by $5,000)

EXECUTIVE SESSION - All resolutions were approval of option to purchase real estate in relation to County Solid Waste Program.

March 9, 1981:	Resolution No. ES-1-81
	Resolution No. ES-2-81
	Resolution No. ES-3-81
	Resolution No. ES-4-81
March 23, 1981:	Resolution No. ES-5-81
April 27, 1981:	Resolution No. ES-6-81
May 26, 1981:	Resolution No. ES-7-81
June 8, 1981:	Resolution No. ES-8-81
June 22, 1981:	Resolution No. ES-9-81
July 13, 1981:	Resolution No. ES-10-81
August 10, 1981:	Resolution No. ES-11-81
	Resolution No. ES-12-81
	Resolution No. ES-13-81
November 9, 1981:	Resolution No. ES-14-81

November 23, 1981: Resolution No. ES-15-81
Resolution No. ES-16-81

January 11, 1982: At the regular meeting of the Board of Legislators, noted received was the Final Environmental Impact Statement prepared by Terrestrial Environmental Specialists, Inc.

February 8, 1982: At the regular meeting of the Board of Legislators, the following statement was read by the Clerk in regard to the Final EIS for Solid Waste Transfer Stations. "The Planning and Historical Committee reviewed the Final Environmental Impact Statement for six of the seven proposed Transfer Stations on January 6, 1982. The EIS was found satisfactory and complete in its analysis and conclusions of the proposed action. The EIS was accepted by the Planning and Historical Committee as complete on January 6, 1982 and filed in accordance with the law."

June 28, 1982: Resolution No. 166-82: Increasing authorization amount for County Solid Waste Program. (increased by $400,559)

August 9, 1982: At the regular meeting of the Board of Legislators, a statement was read by the Clerk regarding the review of the Final Environmental Impact Statement by the Planning and Historical Committee for the proposed Wellsville area Transfer Station.

Resolution No. 178-82: Approval of the action to continue with the development and operation of seven Transfer Station sites under the County Solid Waste Transfer Station System; directing Public Works Department to implement mitigation measures.

Resolution No. 179-82: Award to L.C. Whitford Company, Inc. for concrete work and hopper shelter construction on Transfer Station sites.

Resolution No. 180-82: Authorizing County Department of Public Works to let bids and award contracts for equipment, machinery and Public Works in connection with the construction and operation of the Allegany County Solid Waste Transfer System.

August 23, 1982: At the regular meeting of the Board of Legislators, Legislator Kramer, Chairman of the Public Works Committee requested privilege of the floor for Fred Kelley, Solid Waste Supervisor who gave a report on six of the seven Transfer Station sites under construction at the present time. He is waiting for permits before construction can be started at the Wellsville site. This report is on file in the office of the Clerk of the Board.

October 25, 1982: At the regular meeting of the Board of Legislators, Legislator Kramer requested privilege of the floor for Fred Kelley, Solid Waste Supervisor who gave a progress report on the construction of the transfer sites in the County, a copy of which is on file in the office of the Clerk of the Board.

November 8, 1982: At the regular meeting of the Board of Legislators, noted received form the Allegany County Attorney was a Deed conveying property by the Town of Wellsville to the County for the Wellsville Solid Waste Transfer Station which was placed on file in the Office of the Clerk of the Board. It was remarked that the County needed this deed before the Department of Environmental Conservation will allow the County to go ahead with the construction of this site.

Resolution No. 234-82: A resolution in connection with the real estate to be conveyed by the Village of Wellsville to the County of Allegany to provide that fee title will only be reconveyed to the Village of Wellsville.

November 22, 1982: Resolution No. 243-82: Approval of agreement between Allegany County and Environmental Consultants, Inc. in regard to a proposed Solid Waste Landfill in Allegany County.

December 27, 1982: Resolution No. 264-82: Creating four positions of Transfer Station Operator in County Public Works Department.

1982 ANNUAL SOLID WASTE REPORT

Construction commenced on the seven transfer stations that will be a part of the Allegany County Solid Waste Collection and Disposal System. Costs associated with this construction for 1982 are $1,263,987.69.

January 3, 1983: Resolution No. 9-83: Designating Planning & Historical Committee as Designee under Resolution No. 62-77 for entire Allegany County Solid Waste System action.

February 28, 1983: Resolution No. 49-83: Approval of Resource Recovery Project Supplemental Contract with Cattaragus County.

Resolution No. 52-83: Increase authorization amount for County Solid Waste Program. (increase by $548,453)

March 14, 1983: Resolution No. 74-83: Establishing Capital Project for Solid Waste trucks. (amount of $168,702.67)

April 11, 1983: Resolution No. 87-83: Approval of agreement between County Superintendent of Public Works and Town Superintendent of Highways of the Town of Almond in

relation to rehabilitation and maintenance of portion of Satley Hill Road for Solid Waste Transfer Station purposes.

May 23, 1983: Resolution No. 106-83: Increasing authorization amount for County Solid Waste Program. (increase by $1,100,000)

June 13, 1983: Resolution No. 114-83: Creation of position of Assistant Solid Waste Supervisor in County Public Works Department.

July 11, 1883: At the regular meeting of the Board of Legislators, Legislator Cross requested privilege of the floor for Fred Sinclair, District Manager of the Soil and Water Conservation District; David Dorrance, Public Health Administrator; William C. Greene, County Historian and Fred Kelley, Solid Waste Supervisor who explained the process by which they determine whether a certain piece of property would make a viable landfill site and how it affects their particular department.

August 22, 1983: At the regular meeting of the Board of Legislators, Chairman Hasper requested Peter Kosinski, Administrative Assistant to bring the Board up to date on the funding approved by the State for the County's Solid Waste Program. Mr. Kosinski noted that Allegany County had been awarded a $500,000 grant of Environmental Quality Bond Act funds based on the original estimated cost of this project at $1.1 million. As it is now estimated the cost will be $2.2 million, it is recommended that the County apply for additional funds in the amount of $450,000. A motion was made by Legislator Hitchcock, seconded by Legislator Frair and carried to request this funding for our Solid Waste Project from the New York State Department of Environmental Conservation.

September 12, 1983: Resolution No. 166-83: Appointment of Law Firm of Wilkie Farr & Gallagher as Bond Councel, (for the County of Allegany to pay the costs of purpose and/or construction of a Solid Waste Disposal and Transfer System.)

Resolution No. 167-83: A resolution authorizing the purchase and/or construction of a Solid Waste Disposal and Transfer System to serve the County of Allegany, N.Y. at a total maximum estimated cost of $3,465,000, and authorizing the issuance of $1,500,000 Serial Bonds of said County to pay costs thereof.

September 26, 1983: At the regular meeting of the Board of Legislators, the following resolution (176-83) was considered from the floor.

Resolution No. 176-83: Bond resolution dated September 26, 1983 a resolution authorizing the purchase and/or

construction of Solid Waste Transfer Stations and trucks for the operation thereof to serve the County of Allegany, N.Y. at a total maximum estimated cost of $2,365,000, and authorizing the issuance of $400,000 Serial Bonds of said County to pay the cost thereof.

December 27, 1983: Resolution No. 243-83: Termination of agreement with Environment Consultants, Inc. and authorizing Chairman to execute general release.

1983 ANNUAL SOLID WASTE REPORT

Operations commenced in March of 1983, with the opening of six transfer stations. The seventh station opened June 1, 1983. Operating costs are as follows:

Station	per ton operating cost	st. operating cost
1) Caneadea	$20.38	$64,684.94
2) Canaseraga	$21.70	$53,828.81
3) Cuba/Friendship	$16.40	$64,896.88
4) Angelica	$19.61	$57,499.96
5) Alfred	$21.64	$63,173.15
6) Bolivar	$19.41	$62,677.93
7) Wellsville	$18.41	$65,463.22
average	$17.65	total $432,224.89

The incinerator burned 24,668,000 lbs. or 12,334 tons of refuse for Allegany County in 1983. The Patton Landfill buried 20,182,000 lbs. or 10,091 tons. This was a total of 44,850,000 lbs. handled by the County in 1983, or an average of 3,737,500 lbs. per month. Down time at the stations totaled 7 hours or one hour for each station for the year.

The construction of the transfer system was completed in 1983. Total expenditures were $935,024.31 in 1983. The total project cost was $2,185,145.88, which left a balance of $13,566.12 of the total original appropriation of $2,199,012.00.

January 23, 1984: Resolution No. 25-84: A resolution authorizing the purchase of a track loader to be used in conjunction with a Solid Waste Facility of the County of Allegany, N.Y. at a maximum estimated cost of $129,000, and authorizing the issuance of $129,000 Capital Notes of said County to pay the cost thereof.

Resolution No. 26-84: A resolution authorizing the original improvement of a refuse disposal area designed for location of a sanitary landfill installation in and for the County of Allegany, N.Y. at a maximum estimated cost of $972,000, and authorizing the issuance of $923,000 Serial Bonds of said County and the appropriation and expenditure of $49,000 available current funds of said County to pay the cost thereof.

February 14, 1984: At the regular meeting of the Board of Legislators, Chairman Hasper called a Public Hearing to

obtain public input into the County's application to the U.S. Department of Housing and Urban Development for a Small Cities Job Bill Grant of $200,000 for Landfill Development Property Purchase and Access Road Construction. The notice of Public Hearing was read by the Clerk. There being no one wishing to speak, the Public Hearing was officially closed. February 27, 1984: Resolution No. 65-84: Approval of agreement between Allegany County and Southern Tier Consulting in regards to a proposed Solid Waste Landfill in Allegany County.

June 25, 1984: Resolution No. 134-84: Authorizing County Public Works Department to sell recyclable solid waste material.

September 24, 1984: At the regular meeting of the Board of Legislators, Legislators Cross, Chairman of the Planning & Historical Committee requested the privilege of the floor to announce that a draft copy of the Environmental Impact Statement, prepared by Southern Tier Consultant, Dr. Gary Pierce, on the proposed Allegany County landfill, had been placed on each Legislator's desk for their information.

December 10, 1984: Resolution No. 226-84: Approval of the action to continue with the development and operation of the proposed County owned landfill subject to acquisition of same; directing County Public Works Department to continue with such action and to implement mitigation measures subject to acquisition of landfill site; declaring certain findings in relation to such action.

December 21, 1984: Resolution No. 254-84: Amendment of Resolution No. 65-84 entitled "Approval of agreement between Allegany County and Southern Tier Consulting in regard to a proposed solid waste landfill in Allegany County" to increase agreement cost to County by one thousand dollars.

Resolution 255-84: Exercise of Option to Purchase Real Estate of Lorette Bauer, Mike M. Akrawi and Hermine A. Akrawi on relation to County Solid Waste Program.

Resolution No. 256-84: Exercise of Option to Purchase Real Estate of Janet Lang in relation to County Solid Waste Program.

Resolution No. 261-84: Transfer of Contingent Funds to Solid Waste Account. (sum of $30,000)

EXECUTIVE SESSION
February 27, 1984: Resolution No. ES-1-84: Approval of Option to Purchase Real Estate of Loretta Bauer, Mike M. Akrawi and Hermine R. Akrawi in relation to County Solid Waste Program.

May 14, 1984: Resolution No. ES-2-84: Approval of Option to Purchase Real Estate and Mineral Rights of Janet Lang, in relation to County Solid Waste Program.

1984 ANNUAL SOLID WASTE REPORT

In 1984 the incinerator burned 35,652,080 lbs. or 17,826.04 tons of solid waste from Allegany County. The Patton Landfill buried 26,442,360 lbs. or 13,221.18 tons of non-burnables in 1984. This is a total of 62,094,440 lbs. or 31,047.22 tons handled by Allegany County. This is an average of 200,305 lbs. per working day.

This is an operating cost of $22.69 per ton for 1984, compared to $19.27 per ton operating cost for 1983. The $3.42 per ton increase is due to the incinerator tipping fee increase of $10.00 per ton for eight months of 1984.

The 62,094,440 lbs. total waste handled represents 3.27 lbs. of waste generated per person, per day, each day of the year. This average is down from the 1983 average of 3.4 lbs. per day. This is due to the bottle bill and recycling efforts.

In 1984 the environmental review phase of this project was completed. The following is a list of the major expenditures in 1984:

Engineering	$47,249.88
Soils investigation	39,077.10
Environmental work	26,902.40
Equipment purchase	130,932.29

The total money spent on this project in 1984 was $260,835.87 of the original appropriation of $1,100,000.00 to be used to complete the project.

January 2, 1985: Resolution No. 5-85: Reappointment of Gary J. Robbins as County Superintendent of Public Works.

June 24, 1985: Resolution No. 133-85: Creation of Landfill Supervisor and Landfill Operator positions in Public Works Department.

1985 ANNUAL SOLID WASTE REPORT

In 1985 the landfill property was purchased with soils investigation and preliminary plans and specifications completed.

Excavation and the construction of a one acre liner test patch was completed. This test will be used to prove the landfill design.

Construction began on the landfill maintenance building. Costs related to the 1985 landfill project are as follows:

Engineering	$56,235.58
Soils investigation	$30,277.97
Construction	$587,541.27 * (includes building)

In 1985 the incinerator burned 33,555,040 lbs. of Allegany County waste. The total waste handled was 62,543,380 lbs. This was an average of 200,549 lbs. per working day, up slightly from the average of 1984 of 200,305 lbs. per working day.

The cost of disposing of this waste increased $2.60 per ton to $25.59 per ton. This was due to the $4,000 per month increase in the tipping fee at the Patton Landfill. This was a flat rate above the $16.30 per ton fee paid to the Patton Landfill.

The 62,543,380 lbs. total waste handled represents 3.29 lbs. generated per person, per day, each day of the year. This is a slight increase over 1984, but, well below the 3.46 lbs. per person in 1983. This is due to the effects of the bottle bill and County Recycling efforts. Also, 309,577 lbs. of white goods were recycled by the County this year.

January 13, 1986: At the regular meeting of the Board of Legislators, Mr. Walter Martelle, Executive Director of the Allegany County Industrial Development Agency, briefly addressed the Board in regard to Resolution Intro. No. 20-86. He explained that in order for the Cattaraugus County Industrial Development Agency to proceed with the financing of the expansion of the Resource Recovery Facility located in Cuba, N.Y., the Allegany County Board of Legislators must give its permission because the facility is located in Allegany County and falls under this County's jurisdiction. Mr. Martelle urged the Board to support this action.

Resolution No. 20-86: Granting consent to Cattaraugus County Industrial Development Agency to use its funds in respect of a project to expand the County's Resource Recovery Facility in the Town of Cuba.

January 27, 1986: At the regular meeting of the Board of Legislators, a memo was received from the Department of Public Works regarding Landfill Project Cost Summary.

Resolution No. 35-86: A resolution authorizing the issuance of an additional $595,000 Serial Bonds and the appropriation and expenditure of an additional $33,000 available current funds of the County of Allegany N.Y. to pay part of the cost of the original improvement of a Refuse Disposal Area designed for location of a Sanitary Landfill installation in and for said County.

February 24, 1986: Resolution No. 64-86: Created position of Deputy Public Works Superintendent II and Transfer System Supervisor. (Deleting titles of Solid Waste Supervisor and Assistant Solid Waste Supervisor)

March 24, 1986: Resolution No. 112-86: Bond resolution dated 3/24/86. A resolution authorizing the consolidation and sale of $1,936,000 Serial Bonds of the County of

Allegany, New York, for various public improvements. (Refuse Disposal Area)

October 14, 1986: At the regular meeting of the Board of Legislators, noted was a letter of resignation from Gary Robbins, Superintendent of Public Works, effective 10/19/86.

October 27, 1986: Resolution No. 202-86: Appointment of William R. Hanson as County Superintendent of Public Works.

November 10, 1986: At the regular meeting of the Board of Legislators, noted received and placed on file in the Office of the Clerk was a letter from William Hanson, Superintendent of Public Works, appointing Fred Kelley, Jr., Wellsville, N.Y., Deputy Superintend II of the County Public Works Department effective 10/27/86, for a period of four years.

1986 ANNUAL SOLID WASTE REPORT

In 1986, the incinerator burned 36,415,120 lbs. of Allegany County waste. The Patton Landfill buried 24,559,963 lbs. of waste. The C.I.D. Landfill buried 2,631,160 lbs. of waste. The total amount of waste handled was 63,606,243 lbs. for the year. This was an average of 203,866 lbs. per working day, up slightly from the average for 1985 of 200,459 lbs. per working day.

This average is 3.35 lbs. of waste per person per day on a yearly basis. This is a slight increase over 1985, which was 3.29 lbs. per person per day.

The cost of disposing of this waste decreased from $25.29 to $25.05 per ton. This is due to efforts of the County employees to make the operation more efficient. Also recycling 500,000 lbs. of white goods aided to this reduction in per ton cost. It cost $.0125 per lb. to dispose of waste in 1986.

In 1986, the construction of the landfill was 85% completed. The landfill maintenance building was 95% completed. Solid waste operations moved into this building.

A total of $84,561.80 was spent on Engineering and Soils Work. A total of $452,204.01 was spent on Construction.

We spent $216,502.59 on force-account work of this construction total. We anticipated completing the landfill in 1986, but could not do so because of rainy weather throughout the construction season.

February 9, 1987: Resolution No. 33-87: Authorizing County Public Works Department to pay tipping fee of twenty dollars per ton to Cattaraugus County for disposal of solid waste at Cuba Resource Recovery Plant with provisions that no further increase in fee will be authorized unless new Solid Waste Disposal Contract provides for such increase; directing County Public Works Department to enter into negotiations with Cattaraugus County for new Solid Waste Disposal Contract and to present recommended contract for approval by December 31, 1987.

February 23, 1987: Resolution No. 58-57: Increase authorization amount for County Landfill Project. (increase of $175,000)

May 11, 1987: At the regular meeting of the Board of Legislators, placed on each Legislator's desk was a copy of the Chairman's Report for April and a memo from Fred Kelley, Deputy Superintendent II, Public Works Department, regarding the Allegany County Solid Waste Transfer System and its inability to accept tires at its Transfer Stations. The Clerk of the Board also read a notice from the Department of Public Works regarding the acceptance of a joint proposal for the "Landfill Leachate Research Project," between Tompkins and Allegany County.

June 8, 1987: Resolution No. 115-87: Establishing a Leachate Treatment Plan to be implemented after the County Landfill becomes operational; directing County Department of Pubic Works to recommend to County Board a future Leachate Treatment Plan after leachate treatment research project is completed and thereafter at times deemed appropriate by said County Department or by the County Board.

July 27, 1987: Resolution No. 155-87: Transfer of funds form Contingent Account to Solid Waste Landfill Project Capital Account. (Transfer of $58,200 to cover final completion costs for paving, leachate tank and building, and engineering services.)

October 13, 1987: Resolution 202-87: Transfer of funds from various accounts to Solid Waste Account. (sum of $156,900)

1987 ANNUAL SOLID WASTE REPORT

In 1987 the Cattaraugus County Enercan Energy Service Facility incinerated 37,376,540 pounds of Allegany County waste. The Patton Landfill buried 1,624,000 pounds of Allegany County waste. The C.I.D. Landfill buried 10,810,960 pounds of Allegany County waste. Allegany County hauled 517,930 pounds of white goods to recycling operations. The new Allegany County Landfill buries 9,992,820 pounds of waste in 1987.

The total pounds of waste disposed of by Allegany County in 1987 amounted to 60,322,250. 1987 had 320 operating days. An average of 189,000 pounds of waste was hauled per day by Allegany County. This averages 3.18 pounds of waste generated per person per day.

The cost of disposing of this waste increased from $25.05 per ton to $37.95 per ton. This substantial increase is due to increased tipping fees at both Cattaraugus County Incinerator and C.I.D. Landfill, Inc. Tipping fees increased from $14.50 per ton to $20.00 per ton at the incinerator and from $12.00 per ton to $20.00 and $30.00 per ton at C.I.D. Landfill, Inc.

In 1987 construction of the Landfill in Allegany County

was completed. Disposal in the new Facility commenced September 23, 1987. The efforts of the County for the past five years became a reality.

A total of $66,909.67 was spent on Engineering and Soils work in 1987.
A total of $143,927.37 was spent on construction.
A total of $33,090.36 was spent on force account work of this construction.
A total of $67,000.00 was spent on equipment purchases.
A total of $1,926,285.60 was spent on the entire project.

January 4, 1988: Resolution No. 10-88: Approval of interim terms with Cattaraugus County regarding disposal of solid waste and ash; directing County Public Works Department to submit final contract to County Board within sixty days for approval.

February 24, 1988: Resolution No. 68-88: Amendment of Resolution No. 10-88 to increase duration periods of provisions from sixty to one hundred twenty days.

Resolution No. 69-88: Establishment of Repair Reserve Fund for County Solid Waste System Repairs of Capital Improvements or equipment.

May 9, 1988: Resolution No. 116-88: Amendment to Resolution No. 10-88 to increase duration periods of provisions from sixty to one hundred eighty days.

May 23, 1988: Resolution 135-88: Transfer of Contingent Funds to Solid Waste Personal Services and Contractual Expenses Accounts. (sum of $10,000)

June 27, 1988: Resolution No. 153-88: Amendment of Resolution No. 10-88: to increase duration periods of provisions from one hundred eighty to two hundred ten days.

Resolution No. 168-88: Excluding construction debris, demolition waste and other non-hazardous materials from Allegany County Landfill; authorizing County Superintendent of Public Works to adopt Rules, Regulations and orders to enforce such exclusion by July 22, 1988 or earlier under certain circumstances.

July 11, 1988: Resolution No. 164-88: Transfer of funds from Contingent Account to Solid Waste Contractual Expenses Account. (sum of $75,000 to cover unanticipated additional cost of the artificial liner for the construction of Year #2 Cell at the landfill)

July 25, 1988: Resolution No. 170-88: Appointment of Richard Young as County Superintendent of Public Works.

Resolution No. 181-88: Approval of "Contract between Allegany County and Cattaraugus County Solid Waste Disposal-1988"; authorizing Board Chairman to execute contract. August 8, 1988: At the regular meeting of the Board of Legislators, noted received was a letter from Richard Young, Superintendent of Public Works, appointing John Mancuso, Friendship, N.Y., as Deputy Superintendent II of the County Public Works Department, effective August 1, 1988, for a period of four years.

October 11, 1988: Resolution 230-88: Authorizing the filing of an application for a State Grant in and for Local Resource Reuse and Recovery Program; appropriating funds and obligated County funds for program use.

October 24, 1988: Resolution No. 243-88: Creation of position of Recycling Coordinator in Public Works Department.

Resolution No. 235-88: Transfer of funds from Contingent Account and Interfund Transfers Account to Solid Waste Contractual Expenses Account. (sum of $338,000 to cover unanticipated tipping fees, engineering fees and water analysis)

December 12, 1988: Resolution No. 277-88: Authorizing County Department of Public Works to obtain membership in National Recycling Coalition, Inc.

Resolution No. 297-88: Approval of "Contract between Allegany County and Cattaraugus County Solid Waste Disposal-1989"; authorizing Board Chairman to execute contract.

1988 ANNUAL SOLID WASTE REPORT

The Allegany County Solid Waste System spent a total of $1,963,359.36 in 1988. Some of the major factors contributing to this figure are as follows:

- Construction of a 2.63 acre cell with a combination clay-HDPE liner system.
- Purchase of a truck-tractor, 1-ton utility truck and a 1/2-ton pickup.
- Increased engineering costs (80% above the 1987 appropriation) due to the complexity of the liner system.
- Total amount of solid waste handled by the Department of Public Works increased from 30,161.12 tons in 1987 to 48,199.94 tons in 1988.

The tonnage that was handled by the Department of Public Works increased in 1988 primarily because of the industrial waste that was brought to the landfill. A breakdown of Industrial waste is as follows:

Incinerator Ash	15,220.93

Friendship Foundry Sand	4,120.66
Sewage Sludge	3,136.77
Heritage Cutlery	50.36
CE AirPreheater	77.71

The County Landfill received a total of 34,585.25 tons in 1988. This is broken down in the following categories:

Industrial:	23,581.02
Residential:	8,407.07
Commercial:	2,597.16

Allegany County Employees transported a total of 23,657.89 tons of municipal solid waste. This amount includes 16,969.15 tons hauled to the Cattaraugus County Incinerator in Cuba and 5,968.64 hauled from County owned Transfer Stations to the County Landfill. A total of 501.95 tons of white goods were hauled to scrap yards for processing.

Scrap metal and small electrical appliances were removed from the waste stream beginning around August 1, 1988 and about 55 tons were sold to private individuals.

Revenues generated by the Solid Waste System came primarily from two sources: Ash disposal at the County Landfill from Cattaraugus County amounted to $319,639.53; sewage sludge from the City of Olean amounted to $45,427.16.

The County Landfill generated 512,944.44 gallons of leachate which were hauled to the City of Olean waste treatment facility at a cost of $.27 per gallon.

The cost per ton to dispose of solid waste handled by the Department of Public Works in 1988 was $40.73. This amount was only slightly above the 1987 per ton cost of $38.00.

The position of Recycling Coordinator was created and filled. Also, a voluntary recycling program was set up to start in 1989 and a mandatory program to be implemented in 1990.

January 23, 1989: Resolution No. 44-89: Regulating the disposal of tires at Allegany County Transfer Stations and Landfill; establishing disposal fees for tires; authorizing County Superintendent of Public Works to adopt rules, regulations and orders.

February 14, 1989: Resolution No. 56-89: Determination of Public Emergency; approving and ratifying actions of Deputy Superintendent of Public Works I, Chairmen of Public Works Committee and Board in Authorizing the contracting of clay liner work without competitive bids; approving payment for clay liner work, all in relation to County Sanitary Landfill synthetic liner installation.

Resolution No.; 74-89: Approval of agreement with Turbo-Products of Dresser-Rand, Inc., in relation to disposal of

sand at County Landfill; authorizing Board Chairman to execute agreement.

February 27, 1989: Resolution No. 78-89: A resolution authorizing the construction of a three year cell at the Allegany County Landfill site, including incidental improvements, in and for the County of Allegany, N.Y., at a maximum estimated cost of $2,500,000, and authorizing the issuance of $2,500,000 Serial Bonds of said County to pay the cost thereof.

March 27, 1989: Resolution No. 112-89: Establishing Capital Project of acquisition of equipment for Public Works Department use and providing funds for such purchases.

Resolution No. 113-89: Authorizing County Department of Public Works to obtain membership in National Resource Recovery Association, an affiliate of the U.S. Conference of Mayors.

April 10, 1989: Resolution No. 123-89: Approving of Local Resource and Recovery Program Solid Waste Management Project State Grant contract; authorizing Chairman to execute contract.

May 8, 1989: Resolution No. 132-89: Regulating the disposal of white goods at Allegany County Transfer Station and Landfill; Authorizing County Superintendent of Public Works to adopt rules, regulations and orders.

June 26, 1989: Resolution No. 162-89: Designating the County of Allegany as a Planning Unit to apply for State Grant funds for development of a Comprehensive Solid Waste Management Plan; Authorizing Chairman of Board of Legislators to sign the grant application and certification.

August 14, 1989: Resolution No. 199-89: Approval of agreement with American Olean Tile Co., in relation to disposal of tile waste at County Landfill; authorizing Board Chairman to execute agreement.

December 11, 1989: Resolution No. 282-89: Approval of Order on Consent of New York State Department of Environmental Conservation regarding construction of containment facility for white goods and tires at County Landfill.

1989 Annual Report of the Cornell Cooperative Extension of Allegany County - Enhancing the Environment: Programs were initiated in the area of solid waste management education; individuals participated in two county seminars on recycling. Related issues, disposal of household hazardous waste, were addressed through programs for groups and media. Conservation field days, a special interest program for over 700 sixth grade students, provided participants

with information about their environment and issues facing communities.

1989 ANNUAL SOLID WASTE REPORT (summary)

The Allegany County 1989 Solid Waste program - the excavation of Cells 3 and 4 with the liner construction of Cell 3 half finished. The landfill took in 39,801 tons of solid waste on 1989. Allegany County also initiated a recycling program in June of 1989, which kept in excess of 800 tons of solid waste form entering the County Landfill.

January 8, 1990: Resolution No. 22-90: Approval of agreement with American Olean Tile Company, in relation to disposal of tile waste at County Landfill; authorizing Board Chairman to execute agreement.

Resolution No. 23-90: Approval of agreement with Turbo-Products division of Dresser Rand, Inc., in relation to disposal of waste foundry sand at County Landfill: authorizing Board Chairman to execute agreement.

February 26, 1990: Resolution No. 93-90: Adjustment of 1990 County Budget. Allegany County will not use Cattaraugus County's incinerator at Cuba, New York in 1990, and that Cattaraugus County will not be disposing of ash in our County Landfill, and funds were budgeted for the payment of anticipated fees in connection with such incinerator use, and the anticipated receipt of fees form Cattaraugus County for such landfill use were budgeted as an anticipated revenue, and that the 1990 County Budget should be adjusted as follows: Appropriations Solid Waste-Contractual Expenses decrease $931,500, and A1990.4 Contingent-Contracutal Expenses increase $301,500. Revenues Solid Waste-Fees/Catt. Co. decrease $630,000.

April 18, 1990: Resolution No. 126-90: Approval of Order on Consent No. 89-168 of New York State Department of Environmental Conservation; authorizing payment required by such Order and authorizing Chairman to execute such Order. The required payment of $1,500 shall be charged to Solid Waste Contractual Expenses Account.

May 29, 1990: Resolution No. 142-90: Appropriation of Recycling State Grant in aid to Solid Waste Contractual Expenses Account. A State grant in aid of $10,250 for recycling is hereby appropriated.

Resolution No. 143-90: Transfer of funds from Contingent Account to Solid Waste Contractual Expenses Account. (sum of $105,000 to pay anticipated solid waste disposal tipping fees.

July 23, 1990: Resolution No. 179-90: Approval of agreement with Town of Ossian, in relation to the use by the Town of

the Transfer Station at Canaseraga, New York and the County Landfill.

September 24, 1990: Resolution No. 222-90: Approval of amendment to Local Resource Reuse and Recovery Program Solid Waste Management Project State Grant contract; authorizing Chairman to execute contract amendment.

December 21, 1990: Resolution No. 303-90: Transfer of funds from Solid Waste Contractual Expenses Account to Capital Project Accounts for the construction of an addition to the County Landfill building for the installation of monitoring wells, and for other landfill purposes.

1990 Annual report of the Cornell Cooperative Extension of Allegany County - Enhancing the Environment: With an emphasis on the broad aspect of waste reduction, recycling and composting and their relationship to the overall issue of solid waste management, educational efforts included composting workshops for the general public and recycling workshops for elementary school teachers.

1990 ANNUAL SOLID WASTE REPORT (summary)

The Allegany County Solid Waste Program included the completion of cell three and the purchase of 90% of the materials required for cell four. The county landfilled 40,813.03 tons of solid waste and 1,094.93 tons of recyclable material were collected and removed from the waste stream.

January 28, 1991: At the regular meeting of the Board of Legislators, Sylor introduced Local Law Intro. No. 1-91, entitled "A Local Law in Relation to the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery", a copy of said local law having been placed on each legislator's desk.

Resolution No. 31-91: Resolution setting date of Public Hearing on a Local Law, in relation to the maintenance and operation of Allegany County's Solid Waste Management and Resource Recovery.

February 11, 1991: At the regular meeting of the Board of Legislators, Chairman Cross announced that she was closing the regular meeting at this time to hold a Public Hearing on Local Law 1-91, entitled "A Local Law in Relation to the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery". Mr. Klein of Cuba, spoke in opposition to the process that was used to develop the Local Law. A copy of Klein's comments are on file in the Clerk's office. It was noted that a letter commending on the proposed Local Law from Mr. Chamberlain of Cuba, was placed on each legislator's desk. There being no one else further desiring to speak, the public hearing was declared closed and the Board reconvened in regular session.

Resolution No. 61-91: Resolution determining that the proposed Local Law regarding the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery will not have a significant adverse effect on the environment.

Resolution No. 62-91: Adoption of Local Law 1-91 in relation to the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery.

March 13, 1991: Resolution No. 75-91: Establishing fees for permits and disposal of solid waste at a county facility.

March 25, 1991: Resolution No. 100-91: A resolution authorizing the construction a three year cell at the Allegany County Landfill site, including incidental improvements, in and for the County of Allegany, NY, at a maximum estimated cost of $915,000, and authorizing the issuance of serial notes of said County to pay the cost thereof.

Resolution No. 102-91: A resolution authorizing the construction of a Materials Recovery Facility at the Allegany County Landfill site, including incidental improvements, in and for the County of Allegany, NY, at a maximum estimated cost of $143,000, and authorizing the issuance of serial notes of said County to pay the cost thereof.

Resolution No. 105-91: Resolution designating the Public Works Committee as the appropriate agency for SEQRA reviews in regard to the promulgation of rules and reevaluation pursuant to Local Law 1-91.

April 22, 1991: At the regular meeting of the Board of Legislators, also noted received was a certified copy of Public Works Committee Resolution No. II titled "Adoption of Superintendent of Public Works' Rules and Regulations for the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery" which was filed in the Clerk's office on April 2, 1991.

May 28, 1991: Resolution No. 141-91: A resolution in relation to the proposed ash monofill in the Town of Angelica.

June 24, 1991: At the regular meeting of the Legislators, noted received and filed in the Clerk's office were copies of Administrative Directives 1-91 and 2-91 pursuant to Superintendent of Public Works Rules and Regulations for the Maintenance and Operation of Allegany County's Solid Waste Management and Resource Recovery.

July 22, 1991: Resolution No. 171-91: Determining that the disposal in Allegany County of solid waste generated be a

limited number of Town of Ossian, Livingston County citizens is in the public interest of Allegany County provided agreement for such disposal is approved and executed; approval of agreement with Town of Ossian, in relation to the use by the Town of the Transfer Station at Canaseraga, NY, and the County Landfill.

August 12, 1991: Superseding fees for disposal of tires established by Resolution No. 75-91 with new fees effective September 1, 1991.

Resolution No. 178-91: Determining that the disposal in Allegany County of solid waste ie, sludge, generated by the city of Olean, Cattarugus County is in the public interest of Allegany County provided agreement for such disposal is approved and executed; approval of agreement with City of Olean, in relation to disposal of sludge at County Landfill and disposal of leachate at City's waste water treatment plant; authorizing Board Chairman to execute agreement.

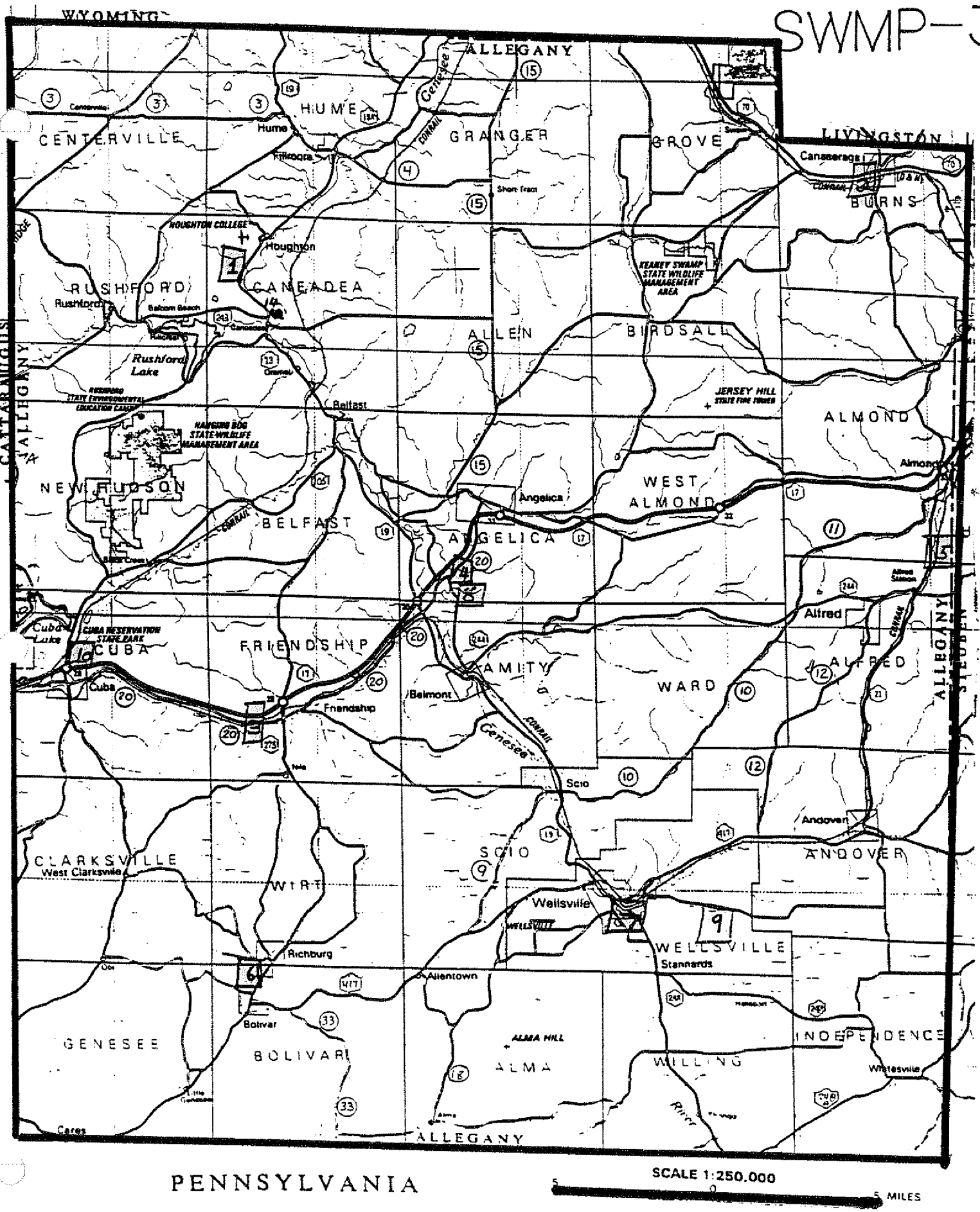
Resolution No. 179-91: Determining that the disposal in Allegany County of solid waste, ie, tile waste, generated by the Olean Tile Co., Cattaraugus County is in the public interest of Allegany County provided agreement with American Olean Tile Co., in relation to disposal of tile waste at Co. Landfill; authorizing Board Chairman to execute agreement.

1991 ANNUAL SOLID WASTE REPORT (summary)

In 1991 Allegany County Solid Waste Program included the construction of cell four. The construction of a leachate storage pond and the installation of new groundwater monitoring wells were funded with completion in 1992. The County landfilled 31,426.28 tons of solid waste and 2,150.35 tons of recyclable materials were collected and removed from the waste stream. A total of $915,000 was bonded in 1991 for Landfill work.

Gretchen T. Johnson, Recycling Coordinator
3/25/91, revised 3/18/92, revised 6/24/93

SWMP-3


WYOMING
ALLEGANY
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CONRAIL
GRANGER
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LIVINGSTON
Canaseraga
D & H
BURNS
Short Tract
HOUGHTON COLLEGE
Houghton
KEARNEY SWAMP STATE WILDLIFE MANAGEMENT AREA
RUSHFORD
Rushford
CANEADEA
ALLEN
BIRDSALL
Rushford Lake
JERSEY HILL STATE FIRE TOWER
Belfast
HANGING BOG STATE WILDLIFE MANAGEMENT AREA
ALMOND
Almond
NEW HUDSON
WEST ALMOND
Angelica
BELFAST
ANGELICA
Alfred
Cuba Lake
CUBA RESERVATION STATE PARK
CUBA
FRIENDSHIP
AMITY
ALFRED
WARD
Cuba
Friendship
Belmont
Scio
Andover
CLARKSVILLE
West Clarksville
SCIO
ANDOVER
WIRT
Wellsville
WELLSVILLE
Stannards
Richburg
Allentown
Bolivar
GENESEE
BOLIVAR
ALMA HILL
ALMA
INDEPENDENCE
WILLING
Whitesville
Cores
ALLEGANY
PENNSYLVANIA
SCALE 1:250,000
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Allegany County Municipalities

Township	1990 Population	Township	1990 Population
Alfred	5,690	Friendship	2,180
Allen	400	Genesee	1,669
Alma	829	Granger	504
Almond	1,632	Grove	479
Amity	2,242	Hume	1,954
Andover	1,950	Independence	1,024
Angelica	1,413	New Hudson	710
Belfast	1,497	Rushford	1,166
Birdsall	228	Scio	1,964
Bolivar	2,355	Ward	330
Burns	1,294	Wellsville	8,085
Caneadea	2,541	West Almond	277
Centerville	677	Willing	1,422
Clarksville	1,040	Wirt	1,133
Cuba	3,401	**TOTAL**	50,086

Incorporated Villages (11) and 1990 Population

Incorporated Village	1990 Population	Incorporated Village	1990 Population
Alfred	4,512	Canaseraga	679
Almond	517	Cuba	1,896
Andover	1,094	Fillmore	449
Angelica	937	Richburg	487
Belmont	1,001	Wellsville	5,223
Bolivar	1,259	**TOTAL**	18,054

Schematics of Cell 1 (1985-1987)

REFUSE

#2 Stone		12" Primary leachate collection layer
	24" Primary clay liner - precompacted clay	
Sch. 80 Collection pipe laterals	24" Secondary clay liner	Filter Fabric 12" Secondary leachate collection (a leak detection system to ensure the integrity of the primary liner)
	Subgrade 14% grade for positive drainage of leachate	

2 1/2% Grade	2 1/2% Grade
12" Primary leachate collection layer	
24" Primary clay liner	Leachate collection pipe filter fabric
12" Secondary leachate collection	Collection pipe
24" Secondary clay liner	

Subgrade

Underdrain carries groundwater to maintain in separation from the liner system	2' x 3' underdrain
	8" perforated 80 PVC underdrain collection pipe

Allegany County
Intermediate Processing Facility
1991 Cost Estimates*

Floor Plan 1 (100' x 160')

Building shell (metal)	268,800
Foundation work	169,600
Electrical, mechanical	81,600
Structure slab	88,000
Approach slab	22,400
Sub total	630,400
10% contingency	63,040
Sub total	693,440
Engineering	21,500
Soils investigation	2,000
Disbursements	2,000
TOTAL Plan 1	718,940

Floor Plan 2 (70' x 160')

Building shell (metal)	188,160
Foundation work	118,720
Electrical, mechanical	72,000
Structure slab	61,600
Approach slab	15,680
Sub total	456,160
10% contingency	45,616
Sub total	501,776
Engineering	21,500
Soils investigation	2,000
Disbursements	2,000
TOTAL Plan 2	527,276

*Estimates do not include equipment such as bins, conveyor, balers, etc.

Inactive Landfill Sites in Allegany County

Patton's Busy Bee Landfill
County Road 42
Alfred NY 14802
(T,R,B&C,IW,HS)

Burns Town Dump
Route 70A
Canaseraga NY 14822
(T,R,B&C)

Andover Town Dump
Route 417
Andover NY 14804
(T,R,B&C)

Wellsville Town Dump
Duffy Hollow Road
Wellsville NY 14895
(T,R,B&C,IW,HS)

Amity Town Dump
Route 19
Belmont NY 14813
(T,R,B&C)

Scio Town Dump & Incinerator
Davis Hill Road
Scio NY 14880
(T,R,B&C)

Bolivar Town Dump
County Road 33
Bolivar NY 14715
(T,R,B&C)

Angelica Village Dump
Joncy Road
Angelica NY 14709
(T,R,B&C)

Willing Town Dump
Hunt Hill Road
Wellsville NY 14895
(T,R,B&C)

Cuba Town Dump
Jackson Hill Road
Cuba NY 14727
(T,R,B&C)

New Hudson Town Dump
Hew Hudson Road
Black Creek NY 14714
(T,R,B&C)

Caneadea Town Dump
Sand Hill Road
Caneadea NY 14717
(T,R,B&C)

Friendship Town Dump
County Road 31
Friendship NY 14739
(T,R,B&C)

Friendship Town Dump
Blouvelt Road
Friendship NY 14739
(T,R,B&C)

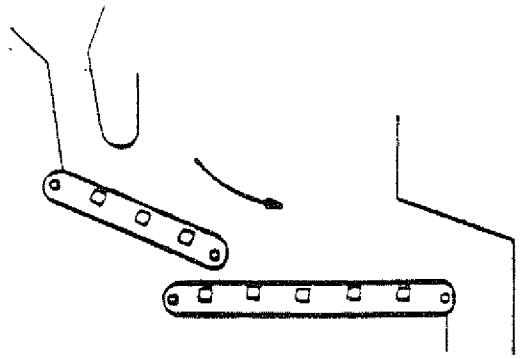
Macler
Town of Friendship
Reed Road
Friendship NY 14739
(IW)

Macler
Town of Friendship
County Road 20
Friendship NY 14739
(IW)

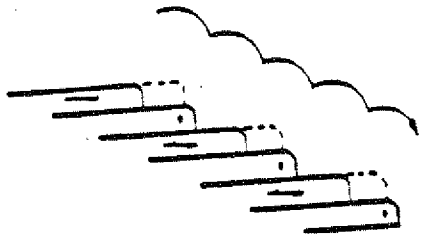
Day Farm Dump
Route 417
Little Genesee NY 14754
(T,R,B&C,IW)

Gaynor Dump
East Valley
Alfred NY 14802
(T,R,B&C)

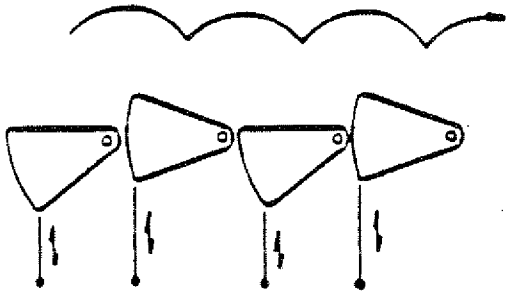
T = Tires
R = Refuse
B&C = Building & Construction
IW = Industrial Waste
HS = Hazardous Substances



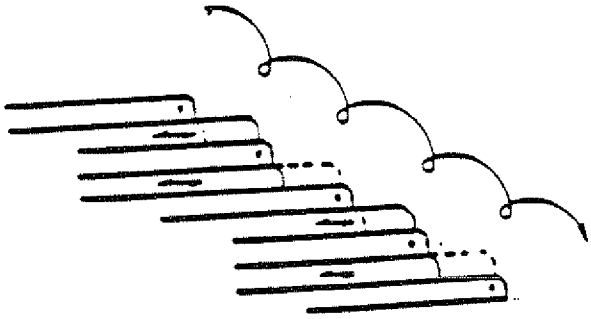
TRAVELLING GRATE



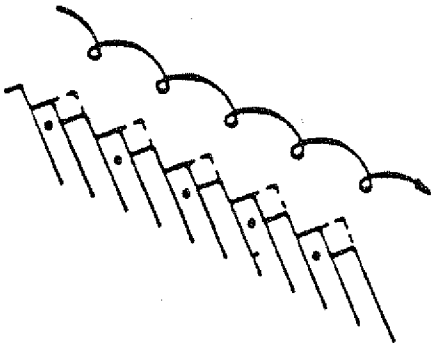
RECIPROCATING GRATE



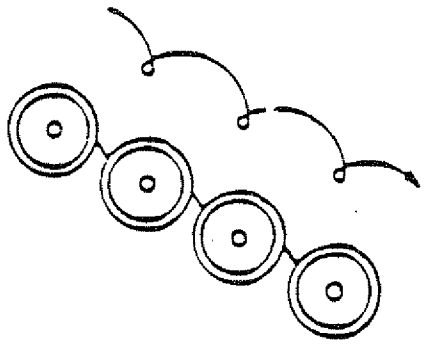
ROCKING GRATE



KASCADE GRATE



REVERSE RECIPROCATING GRATE



DRUM GRATE

SOURCE: DVIRKA, 1986

FIGURE G-1
GRATE SYSTEMS

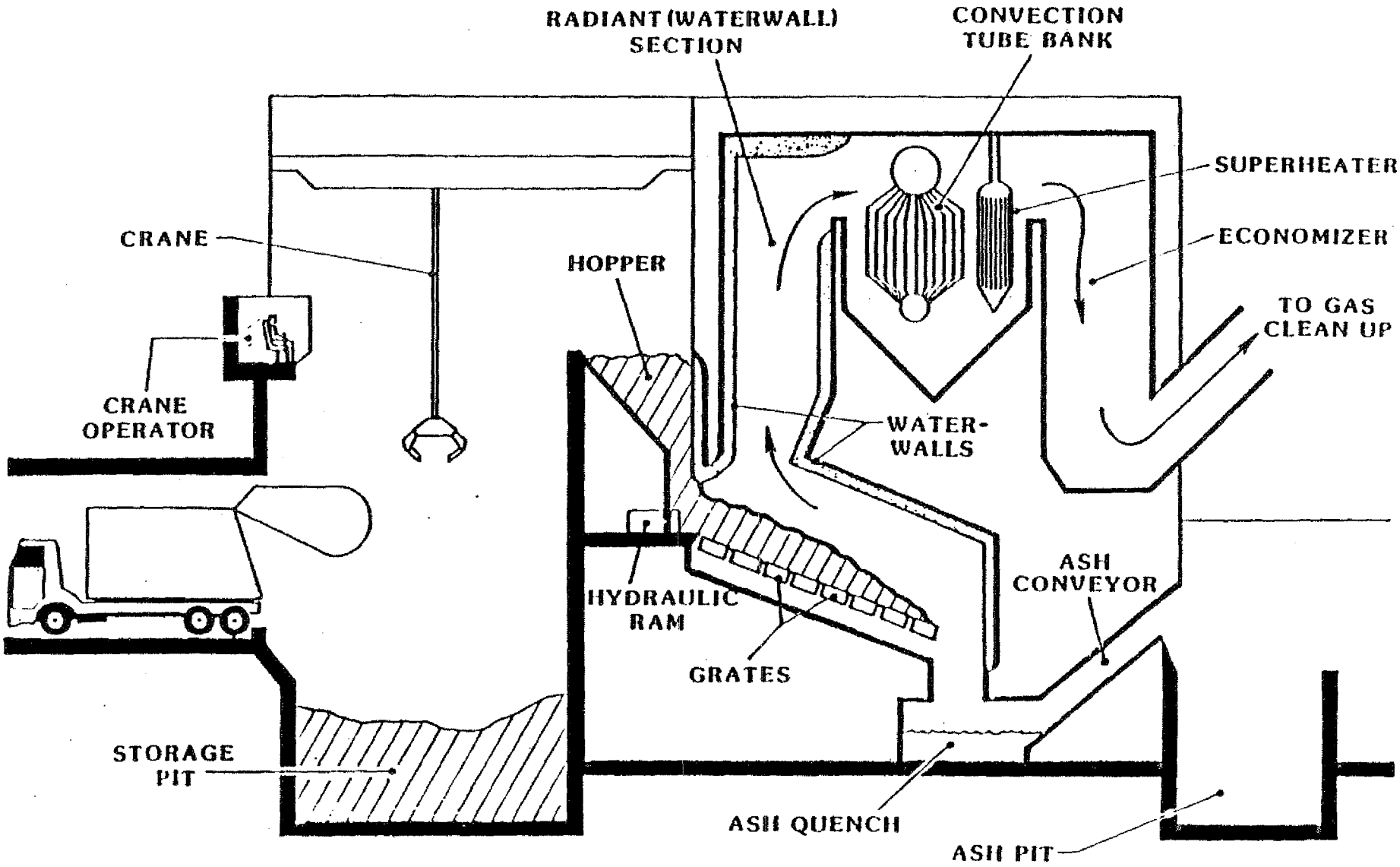


FIGURE G-2
MASS BURN WATERWALL FACILITY

SOURCE: USDOE, 1988

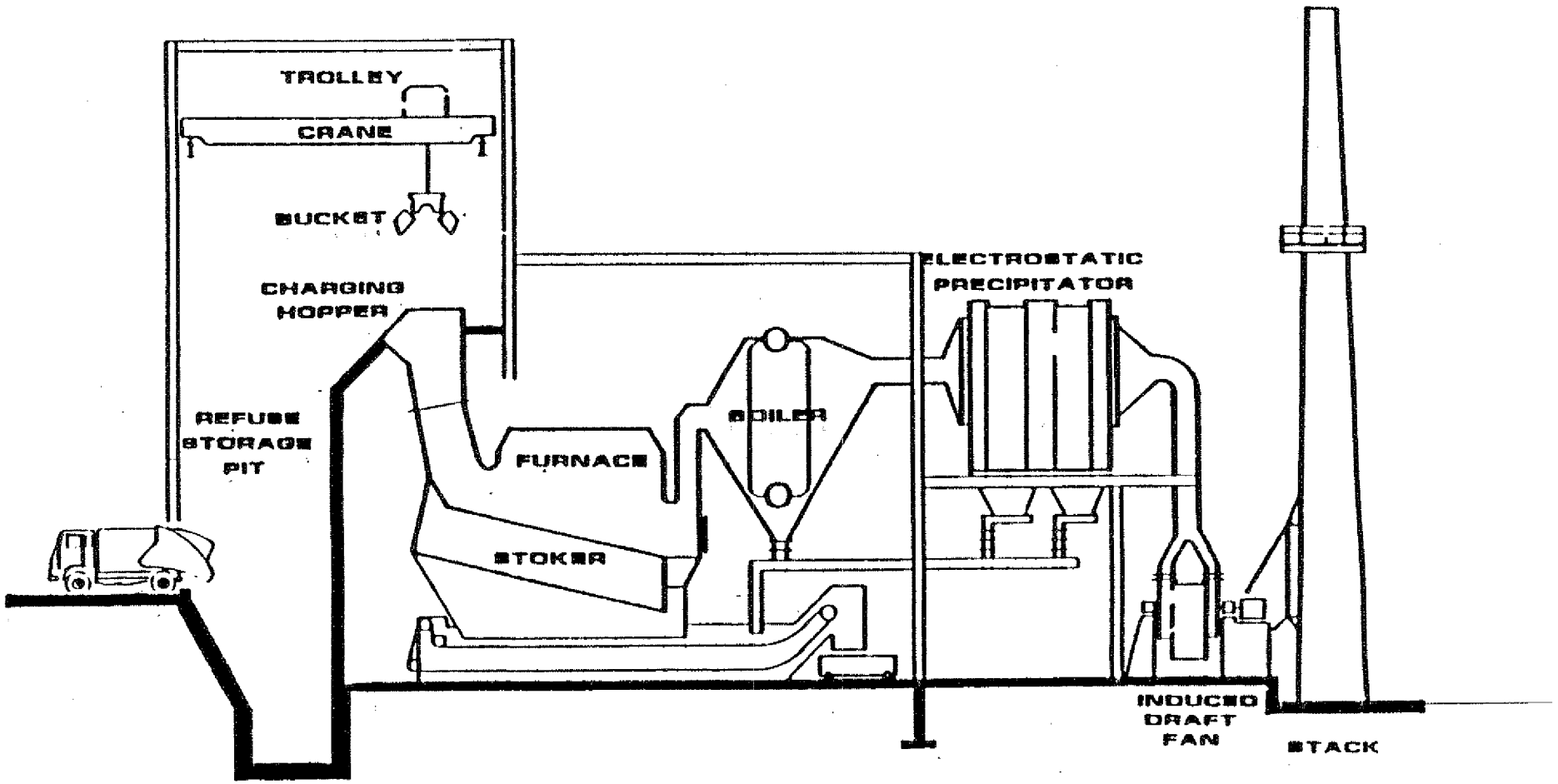


FIGURE G-3
MASS BURN REFRACTORY FURNACE/
CONVECTION BOILER FACILITY

SOURCE: MALCOLM PIRNIE, INC., 1989

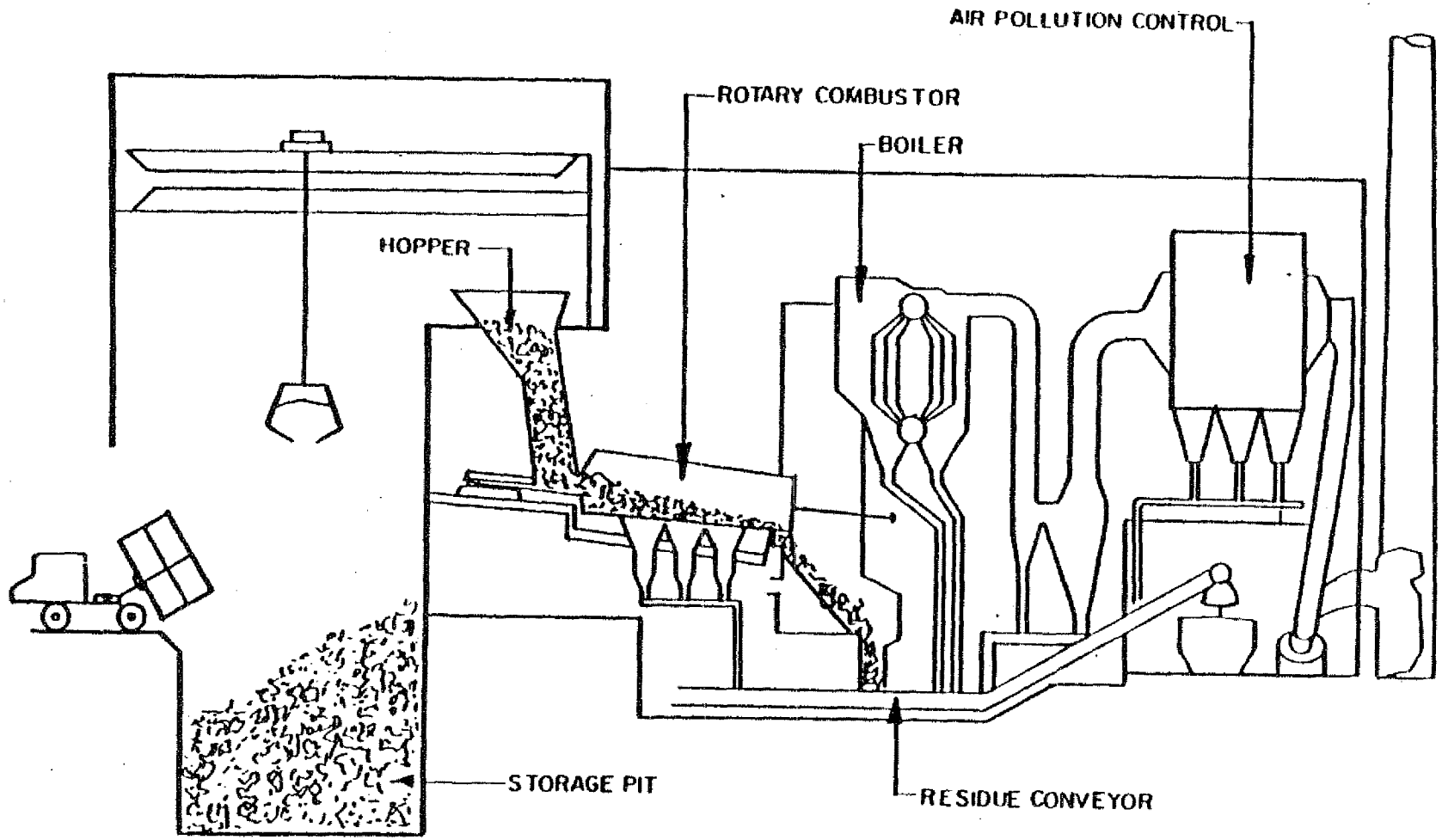


FIGURE G-4
MASS BURN ROTARY
COMBUSTOR FACILITY

SOURCE: BARTON & LOGUIDUICE, 1989

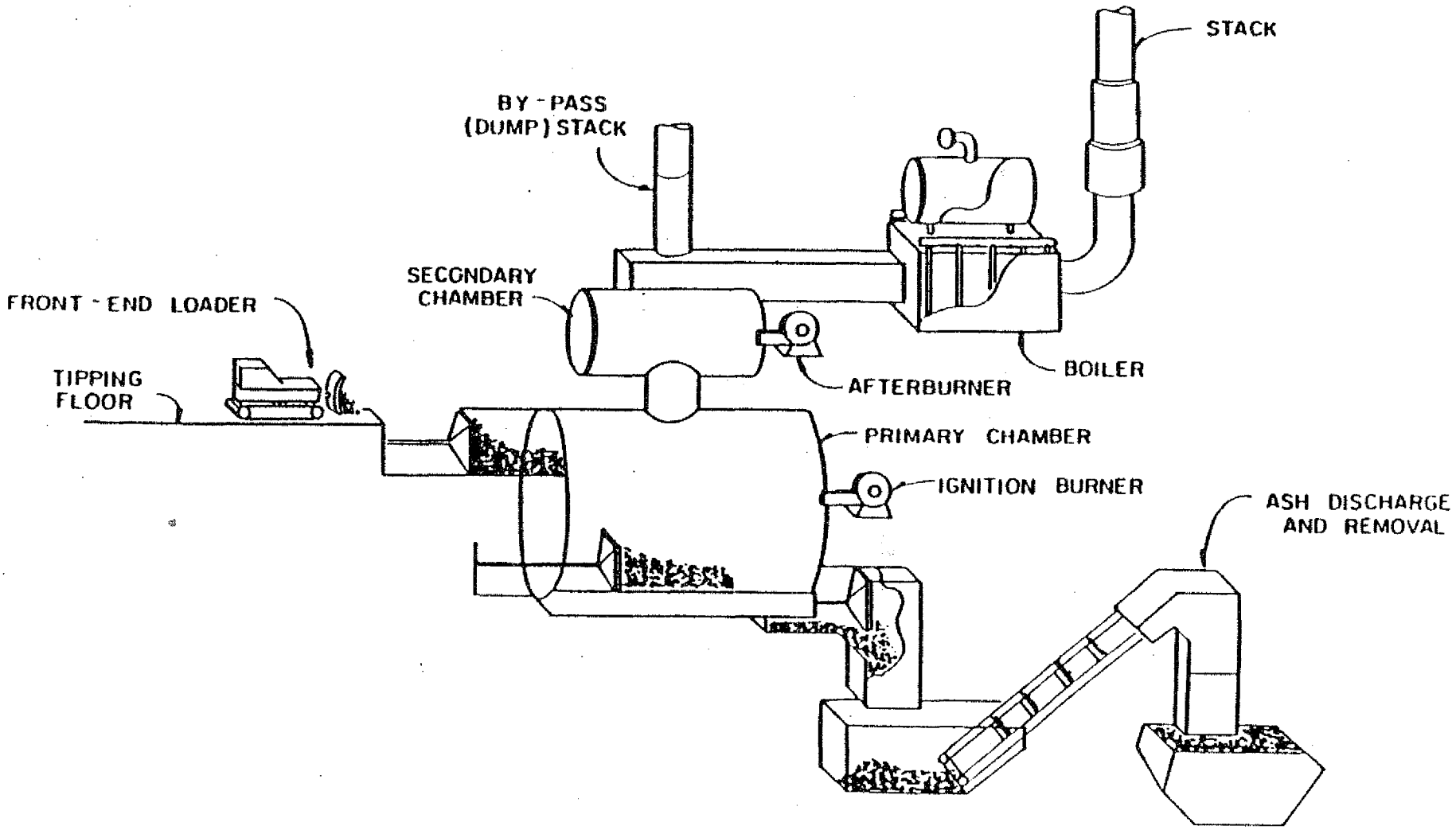
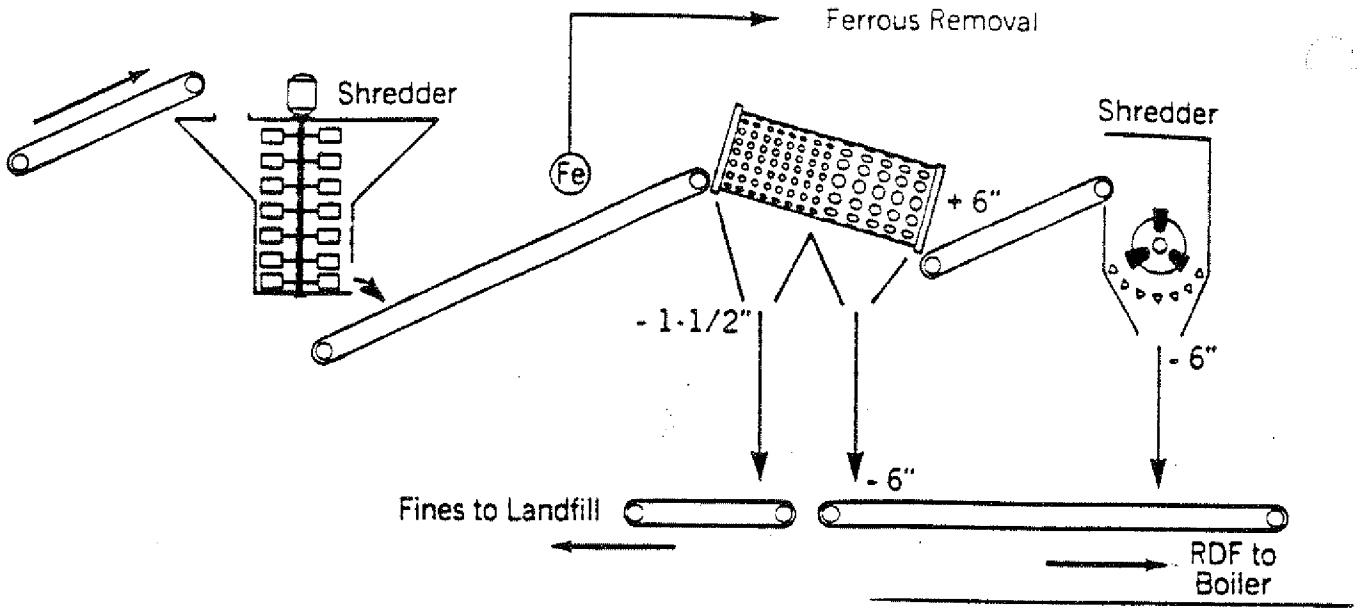
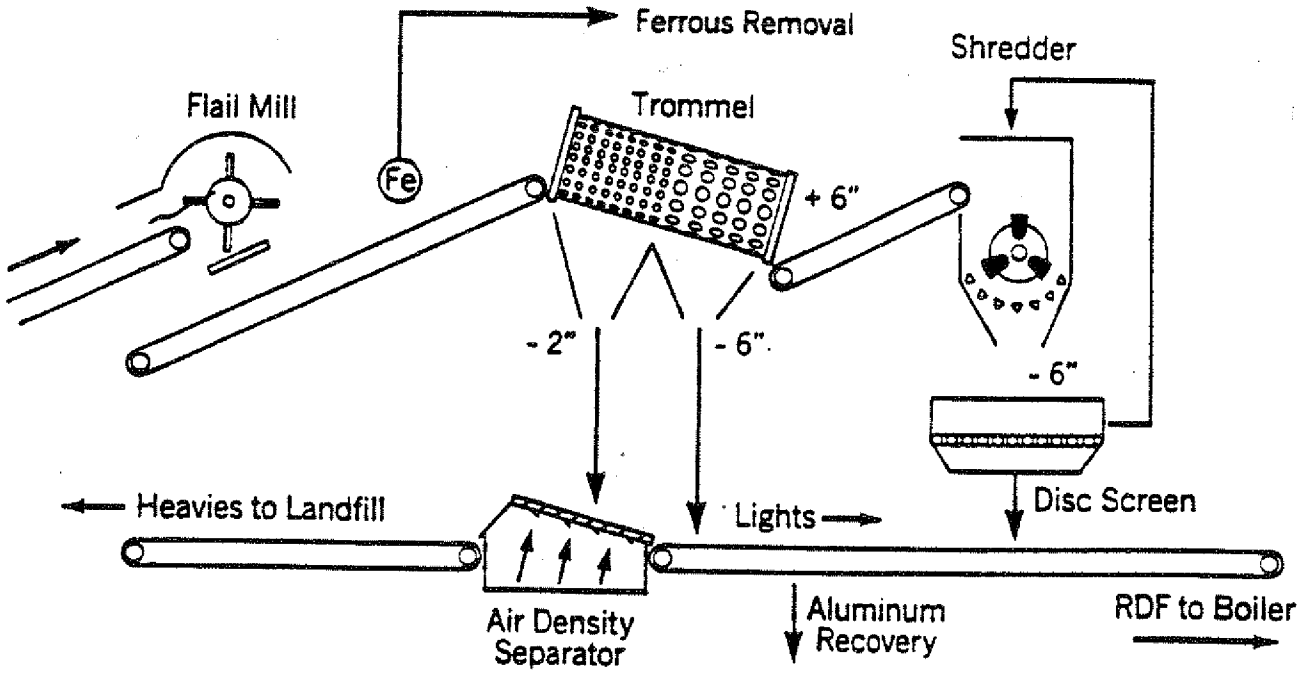


FIGURE G-5
MODULAR WASTE-TO-ENERGY
FACILITY

SOURCE: USEPA, 1987



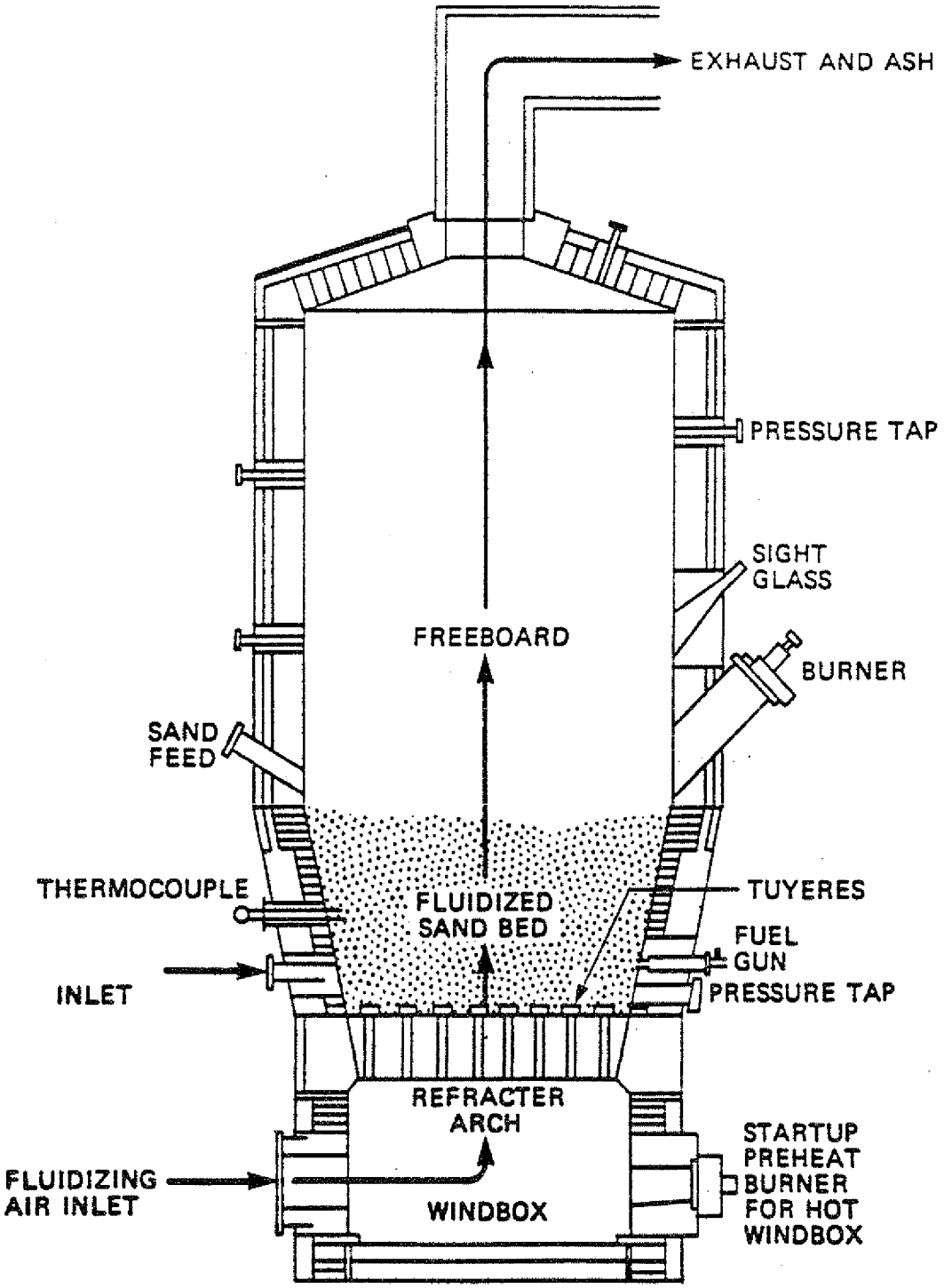
PROCESS FLOW SCHEMATIC (HAVERHILL, MA)



PROCESS FLOW SCHEMATIC (PALM BEACH, FL)

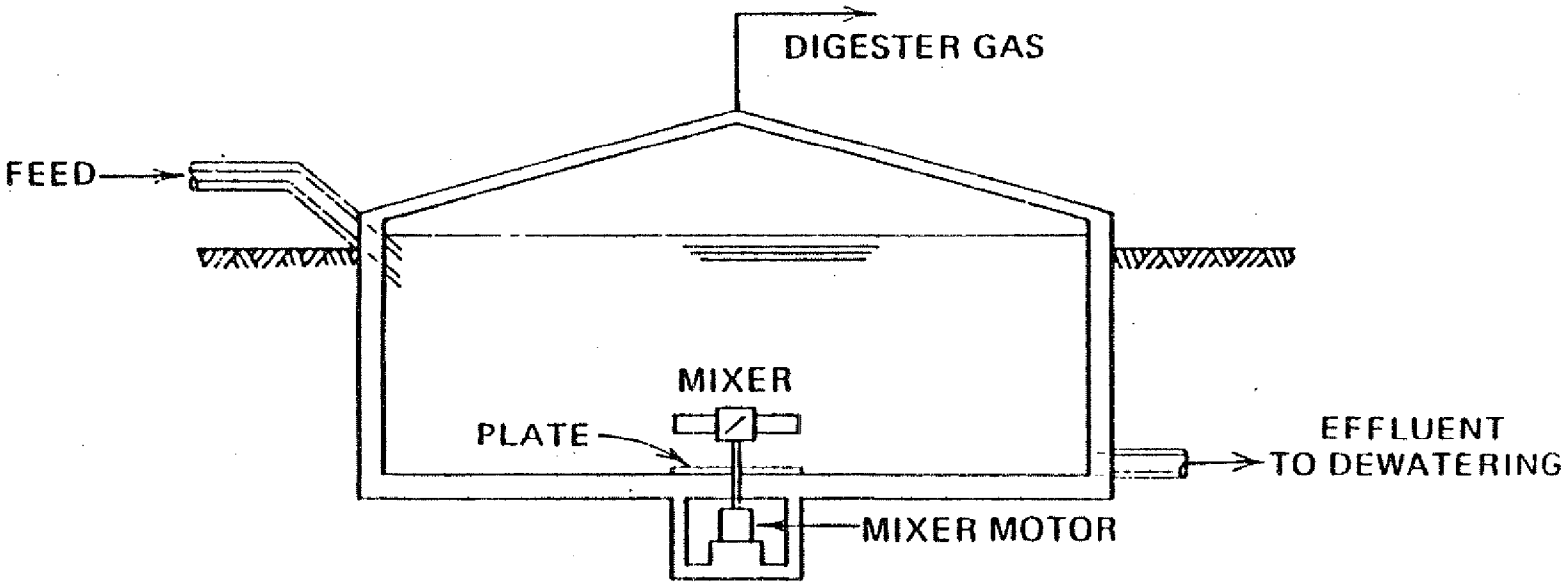
SOURCE: WASTE AGE, APRIL 1989

FIGURE G-6
RDF PROCESSING
FACILITIES



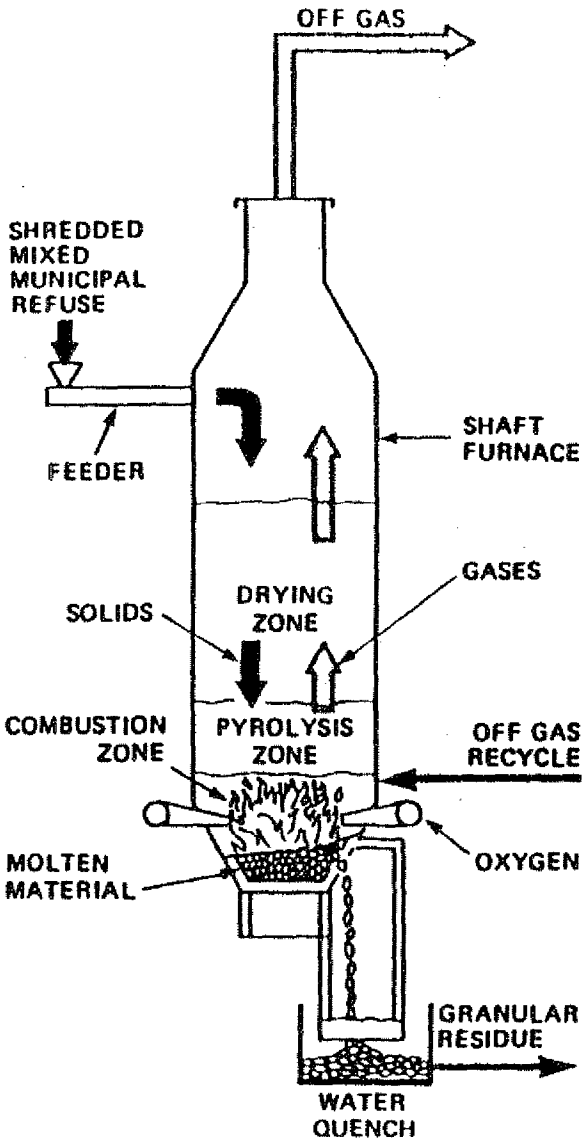
SOURCE: USEPA, 1979

FIGURE G-7
FLUIDIZED BED
FURNACE

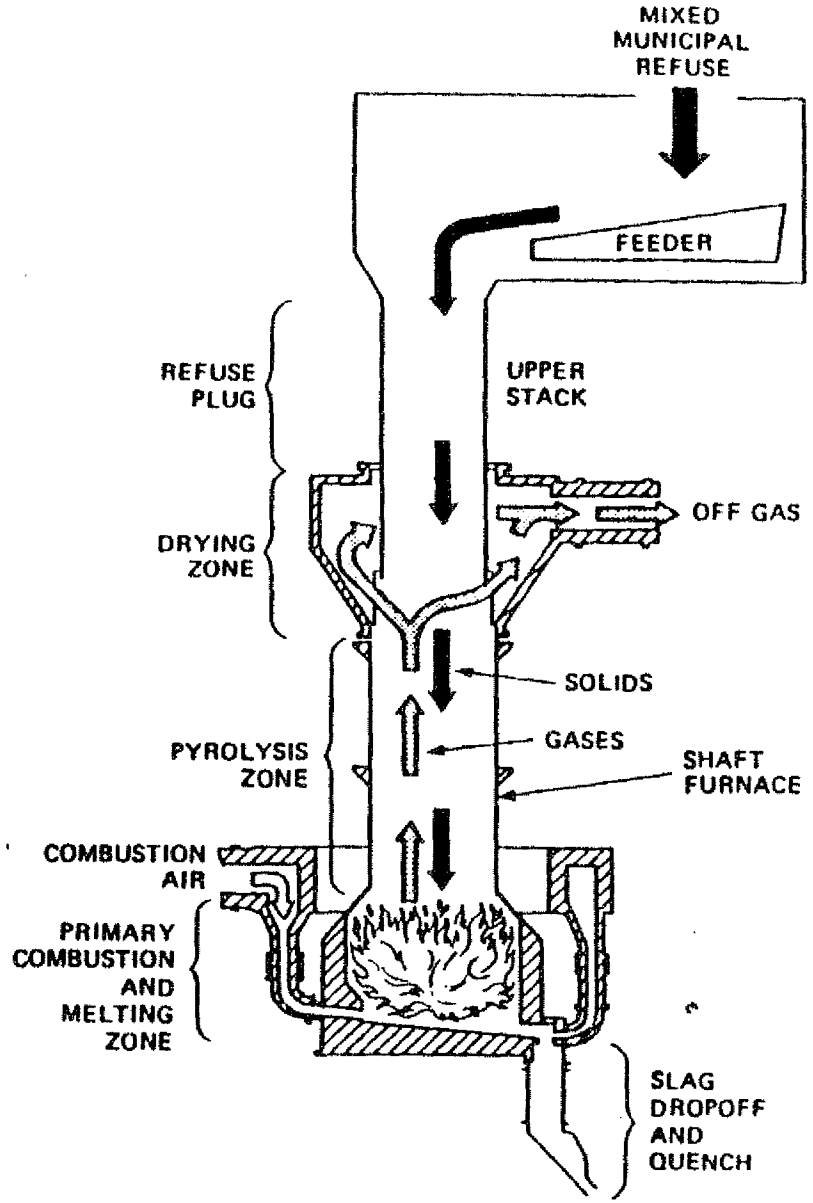


SOURCE: WALTER, 1986

FIGURE G-8
BIOGASIFICATION REACTOR



PUROX℠ REACTOR



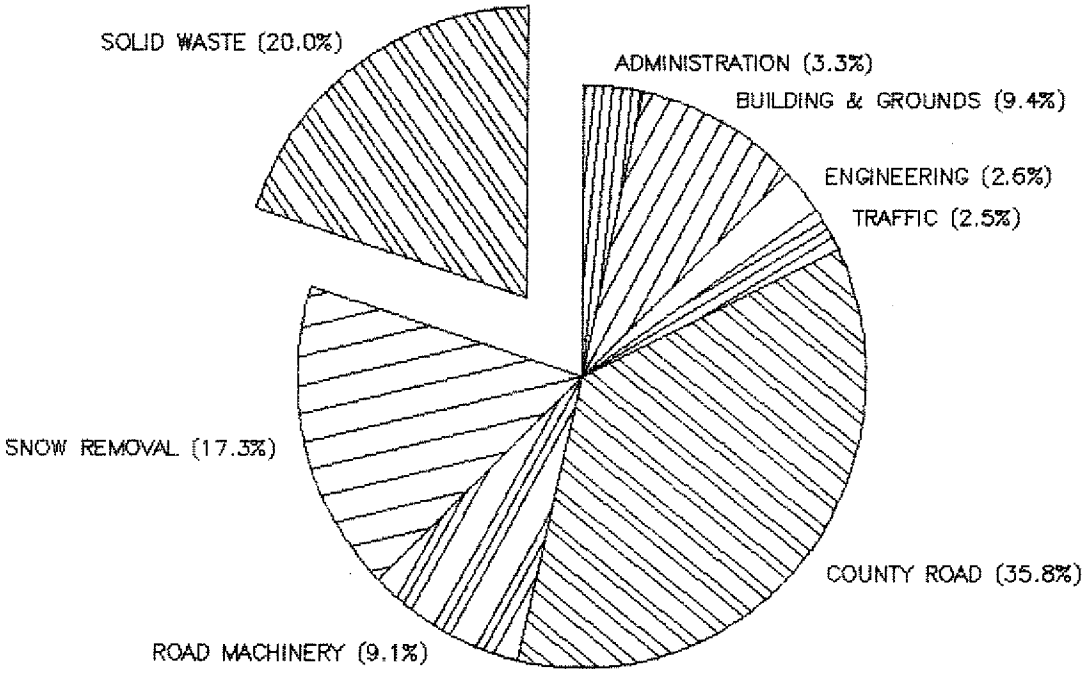
ANDCO-TORRAX REACTOR

SOURCE: USEPA, 1979

FIGURE G-9
PYROLYSIS REACTORS

PUBLIC WORKS SPENDING

1992



1992

ADMINISTRATION	$	234,735.00
BUILDING & GROUNDS		670,626.00
ENGINEERING		182,399.00
TRAFFIC		177,124.00
COUNTY ROAD		2,548,550.00
ROAD MACHINERY		644,811.00
SNOW REMOVAL		1,231,200.00
SOLID WASTE		1,424,764.00
TOTAL	$	7,114,209.00

D. Santangelo
09/02/93

SWMP-10

14-16-4 (2/87) — Text 12

PROJECT I.D. NUMBER

617.21

SEQR

Appendix C

State Environmental Quality Review

SHORT ENVIRONMENTAL ASSESSMENT FORM

For UNLISTED ACTIONS Only

PART I—PROJECT INFORMATION (To be completed by Applicant or Project sponsor)

1. APPLICANT /SPONSOR
Allegany Co. DPW

2. PROJECT NAME
Allegany Co. Solid Waste Plan

3. PROJECT LOCATION:
Municipality

County Allegany Co.

4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map)
All municipalities within Allegany Co.

5. IS PROPOSED ACTION:
☒ New ☐ Expansion ☐ Modification/alteration

6. DESCRIBE PROJECT BRIEFLY:
10 year Comprehensive Solid Waste Plan

7. AMOUNT OF LAND AFFECTED:
Initially 1 acres Ultimately _____ acres

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS?
☒ Yes ☐ No If No, describe briefly

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT?
☒ Residential ☐ Industrial ☐ Commercial ☒ Agriculture ☐ Park/Forest/Open space ☐ Other
Describe:
Rural - 3 residences within a quarter mile radius

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)?
☒ Yes ☐ No If yes, list agency(s) and permit/approvals
Yes, Approval From DEc

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
☒ Yes ☐ No If yes, list agency name and permit/approval
Yes, Permit to operate DEC Sanitary Landfill

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☐ Yes ☒ No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Richard Young, Supt. of Public Works Date: 12/09/93

Signature: Richard A. Young

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

OVER

PART II—ENVIRONMENTAL ASSESSMENT (To be completed by Agency)

A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.12? If yes, coordinate the review process and use the FULL EAF
__ Yes ☑ No

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency.
__ Yes ☑ No

C. COULD ACTION RESULT IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic patterns, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly:

NO

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly:

NO

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly:

NO

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly.

No, No existing plans in place

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly.

No handling of existing and projected waste stream.

C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly.

NONE

C7. Other impacts (including changes in use of either quantity or type of energy)? Explain briefly.

NONE

D. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS?
☐ Yes ☑ No If Yes, explain briefly

PART III—DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed.

☐ Check this box if you have identified one or more potentially large or significant adverse impacts which **MAY** occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.

☐ Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action **WILL NOT** result in any significant adverse environmental impacts **AND** provide on attachments as necessary, the reasons supporting this determination:

Allegany County Economic Development and Planning Office
Name of Lead Agency

John Walchli, Jr.
Print or Type Name of Responsible Officer in Lead Agency

Chairman Planning & Dev. Comm
Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Michael Egan County Planner
Signature of Preparer (if different from responsible officer)

12/9/93
Date