

BOROUGH OF RINGWOOD  
PASSAIC COUNTY, NJ  
RECYCLING PLAN ELEMENT

Introduction

The 1987 New Jersey Statewide Mandatory Source Separation and Recycling Act requires that municipal master plans include a recycling element which incorporates State recycling goals for solid waste. The Recycling Act also requires municipal development regulations controlling site plans and subdivisions to include provisions which will insure conformity with a municipality recycling ordinance.

This master plan element addresses the requirements of the Recycling Act for the Borough of Ringwood, thereby providing the final element of the Master Plan adopted in 1991.

Background Land Use Information

The Recycling Act has generated certain publications focusing on background information relating to source separation and recycling. A variety of this information is presented herein to assist Borough officials with their recycling responsibilities. It is also noted that this information may be of use to the Planning Board and Zoning Board of Adjustment in reviewing site plan and subdivision applications for recycling facilities.

Single-Family Homes

Under the Recycling Act, any proposal containing 50 or more single family residences must provide for the collection, disposition and recycling of designated materials within the development. Concerning individual residences, space should be allowed in the kitchen, laundry room, basement or the garage for storage of recyclables. Approximately three (3) square feet of floor area will adequately hold a week's accumulation of recyclables. Municipalities with biweekly or monthly collection may need to allow extra space for material storage. This is enough space to hold either a three (3) tier unit or three or four (3-4) five (5) gallon buckets.

Commercial and Industrial Establishments

The Recycling Act requires all recycling activities for commercial and industrial development utilizing 1,000 or more square feet of land take place within the development.

Developers of these establishments generating a homogenous waste stream must have a plan for recycling these materials. The most likely materials will be office paper, corrugated containers, glass, tin cans and food waste. In order to determine the amount of space required for storage, cubic yard equivalents have been provided in the next section of this report.

### Plan Review Considerations

All developments requiring recycling facilities should be reviewed with attention focused on the following questions:

- What materials will be collected?
- Where will materials be stored?
- Where will materials be picked up?
- Who will pick up materials?
- How often will the materials be picked up?
- How much material will be generated?
- How much storage area is required for each material?
- Will storage areas be clearly separated from refuse areas?

Some of the information necessary to address these questions is provided in the following information on typical recyclables in nonresidential developments.

#### Office Paper

Office workers generate a substantial amount of office paper per week. The loading dock or other service areas of a building should therefore be designed for interim storage of Gaylord containers or hampers. These containers are approximately 4' x 4' x 4' and hold approximately five hundred (500) pounds of paper. The size of the storage area required will be dependent on the number of workers in the buildings and the frequency with which the vendor picks up the materials. The average generation rates provided in this report should be consulted for this and other nonresidential recyclables.

#### Corrugated Containers

Because corrugated is a particularly bulky item for disposal, it needs to be flattened and baled, compacted or tied in bundles. Space will be required for storage of materials prior to pickup by either a paper vendor or a recycling contractor. The amount of space required for storage will depend on the amount of material generated by the establishment, and whether the material is baled, tied in bundles or stored in a compactor.

The Borough may wish to consider the mandatory use of compactors for major cardboard users.

#### Glass

The simplest method for storing glass, after it has been separated by color, is by purchasing or leasing a glass crusher. This will obviously allow more glass to be stored in a smaller space. If this is not available, glass will need to be rinsed,

color-separated and stored in fifty-five (55) gallon drums, in small dumpsters or in 4' x 4' x 4' pallet boxes which can be loaded by a fork lift. There are approximately three (3) twelve (12) ounce bottles in a pound, and one (1) cubic yard of whole bottles weighs six hundred (600) pounds (or approximately nine hundred (900) twelve (12) ounce bottles.

### Tin Cans

A commercial establishment generating ferrous (tin-plated steel) cans, which are used for food storage, in large quantities should be required to recycle them. For sanitary reasons, cans should be rinsed before storing. There are approximately twelve (12) cans in a pound, and approximately eighteen hundred (1,800) cans in a cubic yard.

### Food Waste

Food waste is any edible waste material resulting from the handling, preparation, processing, cooking, or consumption of food. This waste product represents yet another recyclable that unfortunately has been neglected in municipal recycling efforts to date. One popular means of handling this waste through composting, a recycling approach that may have some application on a Borough-wide basis.

### Average Generation Rates

The following average generation rates may be used in assessing the recycling needs of the Borough:

Newspaper	8-10 pounds per person monthly
Glass	5-7 pounds per person monthly
Aluminum	0.4 pounds per person monthly
Tin Cans	6 pounds per person monthly
Plastic containers	
PET <sup>1</sup>	0.4 pounds per person monthly
HDPE <sup>2</sup>	0.4 pounds per person monthly
Corrugated cardboard	depends on level of commercial activity
High grade office paper	20 pounds per office worker monthly
Mixed office paper	40 pounds per office worker monthly

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<sup>1</sup> Polyethylene Terephthalate such as soda and juice bottles.

<sup>2</sup> High Density Polyethylene such as translucent milk jugs, dish detergent, liquid laundry detergent, and certain tubs like cottage cheese.

### Average Density of Materials

Recyclable materials are shown by density, weight and volume in the following chart.

Newspaper	1 cubic yard = 600 pounds
	1 12 inch stack = 35 pounds
Glass (whole bottles)	1 cubic yard = 600 pounds
	1 grocery bag = 16 pounds
Aluminum cans (whole)	1 cubic yard = 74 pounds
	1 grocery bag = 1.5 pounds
Tin cans	1 cubic yard = 150 pounds
	12 cans = 1 pound
Plastic containers (50% flattened)	
PET	1 cubic yard = 45 pounds
HDPE	1 cubic yard = 25 pounds

### Ringwood Borough Recycling Program

Ringwood now operates a highly successful recycling program that features curbside pick-up and a Borough-wide recycling center. Through the first nine months of 1991, this program collected 40 percent of the total solid waste generated in Ringwood, up from 39 percent in 1990. The program includes all recyclable materials required for collection by the Recycling Act, and far exceeds the minimum levels of recycling required by this legislation.

### Plan Goals

The goals of this recycling element of the Ringwood Borough Master Plan are as follows:

1. To promote the maximum practicable recovery and recycling of recyclable materials from municipal solid waste through the use of planning practices designed to incorporate the State Recycling Act's plan goals.
2. To continue to increase the amount of recyclable materials collected as a percentage of the Borough's solid waste stream. A short term goal over the next three years should be to achieve a 50 percent reduction in solid waste through recycling.
3. To recognize the State Recycling Act's current designation of glass, aluminum beverage cans, newspaper, yard waste, corrugated cardboard and office paper as required materials for source separation and recycling, and explore expansion the Borough's recycling efforts beyond these mandatory materials to include items such as motor oil, domestic and automobile batteries, all plastic

containers, additional compost materials, chipboard and construction waste.

4. To promote and expand the Borough's recycling program through public relations efforts and explore program features such as the sale of recycling bags and bins to local residents and the purchase of a baler for plastic materials.

5. To recognize recycling and its related activities such as storage and collection as a valid concern and issue for all future development applications in the Borough, and to establish appropriate review requirements, either by ordinance or by practice, to address the recycling process.

6. To recognize the Borough as the appropriate entity for the implementation, collection, administration and enforcement of the required source separation and recycling programs.

7. It is recognized that the goals and guidelines outlined in this element reflect current state, county and municipal standards, all of which may be modified as recycling technology evolves. For this reason, it is anticipated that the Borough recycling ordinance, may from time to time be modified and amended.

#### Plan Implementation

This plan element recognizes "An Ordinance Amending Chapter 28, Recycling Material, of the Revised Ordinance of the Borough of Ringwood" as the principal implementing mechanism of this document. The ordinance provides a description of the recyclables to be collected in the Borough, source separation procedures, curbside collection days and procedures, leaf and garden debris collection procedures, and the identification of a Borough Recycling Center as a collection alternative to curbside pick-up. The Ordinance also provides appropriate restrictions, penalties and enforcement procedures for the recycling program.

Other implementation efforts are available as well. As indicated earlier, the review of recycling areas and procedures must now become a mandatory review consideration for all development applications before the Borough. Other creative means of implementing this Plan might include recycling awareness programs at local schools, and the distribution or sale by the Borough of recycling bins, cans or other receptacles. Another suggestion includes the adoption of an ordinance mandating the use of compactors at all facilities generating major levels of cardboard or other compactable materials. Finally, the possible development of a Borough compost pile - with composted materials free for re-use to local residents - is another creative implementation tool for Ringwood to consider. This compost pile may be expanded beyond the grass and leaves now collected to include all garden waste and organic food material generated by local residents.

This plan also recommends an updating of the aforementioned Ordinance as appropriate to address any of the future changes in list of recyclable materials required under the State Recycling Act.

4. To provide  
throughout the  
borough of  
local recycling  
materials

P. David Zimmerman  
Borough Planner

5. To provide  
as storage  
all future  
ordinances

Adopted on July 27, 1992  
by the Ringwood Borough  
Planning Board

6. To provide  
the appropriate  
encouragement  
programs

IN WITNESS WHEREOF

I, P. David Zimmerman,  
Borough Planner

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P. David Zimmerman  
Borough Planner