

# R eferences



## *Introduction*

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- "Recycling is Garbage." John Tierney. New York Times Magazine. June 30, 1996

## *Chapter 2*

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### ***Chapter 3***

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“Advantage Recycle: Assessing the Full Costs and Benefits of Curbside Recycling.” Environmental Defense Fund. 1995.
2. “Once Per Week Solid Waste Collection.” Ed Jablonowski and Barbara Stevens. New Jersey Municipalities Magazine. December 1994.
3. “Rate Structure Design: Setting Rates for a Pay-As-You-Throw Pricing Program.” U.S. Environmental Protection Agency (EPA 530-R-99-006). January 1999.

### ***Chapter Four***

1. Interview with Allan Zozzaro, 02/25/98.
2. Interview with Jerry Lobasco, 02/25/98.
3. Interview with John Mulligan, 02/25/98.
4. “A Report on the Discussion of Glass Container Recycling in the Northeast.” The Northeast Recycling Council. Brattleboro, Vermont. September 1993.
5. Interview with Bruce Logan, 12/02/97.
6. Interview with Brian Lefke, 11/17/98.
7. “Marketing Recyclables.” Richard Abramowitz and Jeffrey Foote. MIS Report. International City/County Management Association. January 1994.

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2. Interview with Joseph Maraziti Jr. 12/17/98.
3. N.J.A.C. 7:26H-6.1 et seq.
4. Interview with Joseph Maraziti Jr. 12/17/98.
5. N.J.S.A. 40A-11.1 et seq.
6. Interview with Brian Lefke, 11/17/98.

### ***Conclusion***

1. “Technology for a Sustainable Future: A Framework for Action.” U.S. Office of Science and Technology Policy. Undated.

# Talking like an accountant

**Accrual accounting** is a system that recognizes costs when they occur, or accrue, regardless of when cash outlays are made.

**Amortization** is an accounting method for calculating the current annual costs related to obligations for future outlays. For example, current payments needed to retire a debt by maturity are amortization expenses.

**Avoided cost** is the reduction in costs of one activity made possible by the operation of a different activity. In solid waste management, avoided costs often mean savings realized in the cost of collecting, transferring, transporting, and disposing garbage that is made possible by waste reduction, recycling and composting.

**Bid** is an offer to buy goods or services at a stated price.

**Bilateral contract** is a contract in which there are mutual promises between two parties.

**Capital outlay** is an outlay of cash to acquire a resource that will be used for more than one year. Capital outlays are converted into annual costs using the accounting method of depreciation.

**Cash flow accounting**, also known as cash basis accounting or general fund accounting, is a system where cash outlays for goods and services are recorded as they are actually paid out.

**Cost** means the dollar value of resources used for an operation during a given period.

**Depreciation** is an accounting method for allocating costs of capital outlays over the useful life of a resource. Useful life is a projection of how long a resource is expected to provide services; it may differ significantly from the actual amount of time the resource is used.

**Direct costs** are costs that can be linked specifically to an activity, program or department.

**Externality** is a benefit or harm caused by an activity for which there is no compensation paid by the party generating the activity. In solid waste management, for example, reduced depletion of natural resources is often cited as a positive externality of recycling, and potential for groundwater contamination in the future is often cited as a negative externality of landfills.



**Fixed costs** are costs that do not change with the level of a given activity over a specific time period. In solid waste management, they often include interest, depreciation, overhead and many salaried positions that cannot be changed quickly in response to changes in program operations or service levels.

**Full cost accounting** is a systematic approach for identifying, summing, and reporting the actual costs of solid waste management, taking into account past and future outlays, overhead costs and operating costs. It does not include “externalities” that are not reflected in current market prices. In this manual, full cost accounting terms and definitions are used in accordance with the U.S. Environmental Protection Agency’s “Full Cost Accounting for Municipal Solid Waste Management: A Handbook” (Document EPA530-R-95-041).

**Future outlay** means an expenditure of cash in the future that is obligated by current or prior activities.

**GAAP** stands for Generally Accepted Accounting Principles, which are the rules, procedures and practices that define accepted accounting practices.

**GASB** stands for the Government Accounting Standards Board, an independent organization that sets accounting standards for state and local governments.

**Hidden costs** are costs of activities or resources that appear to be free, or are understated, because the actual expense is incurred or recorded by another agency or organization.

**Indirect costs** are costs that are not exclusively related to one activity or program. Indirect costs for solid waste can include accounting, collections, payroll, personnel, legal, purchasing, information systems, record keeping, custodial, management, and expenses related to governing bodies of an organization.

**Integrated solid waste management** incorporates multiple approaches to manage the entire municipal solid waste stream. In an integrated system, increased activity in one activity – recycling, for example – creates savings that can be captured in another activity, such as garbage collection, transfer and disposal.

**Liquidated damages** are “reasonable estimates” of damages likely to result from a breach of contract. They are not penalties for failure to perform.

**Marginal cost** is the change in total costs resulting from a specific decision or change in activity. Also called incremental cost.

**Net cost** of a solid waste management activity is its full cost, minus its by-product revenues.

**Operating costs** are regularly recurring costs of resources that are used over a relatively short period of time (usually less than one year).

**Opportunity cost** is the value placed on activities or alternatives foregone when a decision is made to employ or allocate a resource.

**Outlay** is an expenditure of cash.



**Overhead costs** are the management and support costs of running an organization. They cannot be tied to a particular activity or program, so they are allocated to all departments or programs using a variety of formulas. They are one kind of indirect cost.

**Pay-as-you-throw (PAYT) pricing** is a strategy for pricing garbage collection and disposal service in which the total amount paid by a customer is related to the amount of garbage disposed. Also known as “per-unit pricing” or “variable rate pricing.”

**Performance bond** is a guarantee that protects an organization or individual in the event that a contractor fails to perform services required by contract.

**Sunk costs** are costs that cannot be recovered at the time a decision is made and, therefore, are irrelevant to any cost-benefit calculation.

**Time value of money** is the financial principal that a dollar in hand today is worth more than a dollar received tomorrow.

**Variable costs** change with the level of a given activity, such as recycling collection or garbage disposal. They are often operation, maintenance and other costs that can be reduced quickly in response to lower waste disposal tonnage.



# A ppendices

## Appendix A: Market indicators

The following publications list market indicators for commodity pricing. Publications are subscription-based with the exception of the ISRI Scrap Circular, which is updated at the discretion of the association.

- 1. *The Fibre Market News***  
4012 Bridge Avenue  
Cleveland, Ohio 44113  
tel. 216-961-4130  
fax 216-961-0364  
toll free: 1-800-456-0707  
Published 24 times per year.
- 2. *Official Board Markets; The Yellow Sheet***  
8 Anchor Way  
Port Washington, NY 11050  
tel 516-767-6444  
fax 516-767-2822  
Published weekly.  
Generally, mill direct pricing for paper.
- 3. *Waste News***  
PO Box 07942  
Detroit, Michigan 48207-9862  
tel 1-800-678-9595  
fax 313-446-6777  
Published weekly.  
This is also a general industry news publication.
- 4. *The Paper Stock Report***  
13727 Holland Road  
Cleveland, Ohio 44142-3920  
tel 216-362-7979  
fax 216-362-6553  
Published weekly.
- 5. *Pulp and Paper Week***  
525 Market Street, Suite 500  
San Francisco, California 94105  
tel 800-289-0969  
fax 785-841-2634  
Published 48 times per year.

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6. ***SEFEX***  
121 McBride Avenue  
Paterson, New Jersey 07501  
tel 973-278-1199  
fax 973-278-8686  
www.sefex.com
  7. ***Recycling Markets***  
255 Revere Drive, #01  
Northbrook, Illinois 60062  
tel 1-800-962-3001  
fax 847-962-3001  
Published twice per month.  
Provides paper prices.
  8. ***Platt's Metals Week (Platt's Standard and Poor's)***  
1221 Avenue of the Americas  
New York, New York 10020  
tel 212-512-3065  
fax 212-512-4008  
Published weekly.  
Non-Ferrous metals pricing.
  9. ***Plastics Recycling Update***  
PO Box 10540  
Portland, Oregon 97296-0540  
tel 503-227-1319  
fax 503-227-6135  
Covers plastics usage and market trends.
  10. ***American Glass Review***  
1011 Clifton Ave. #B-1  
Clifton, NJ 07013-3518  
tel 201-779-1600  
fax 201-779-3242
  11. ***SCRAP Magazine***  
Institute of Scrap Recyclers  
1325 G. Street, NW, Suite 1000  
Washington, D.C. 20005-3104  
tel 202-737-1770  
fax 202-626-0900  
Published bi-monthly.  
Contains scrap metals and pricing.

12. ***ISRI Scrap Specifications Circular***

Institute of Scrap Recyclers  
1325 G. Street, NW, Suite 1000  
Washington, D.C. 20005-3104  
tel 202-737-1770  
fax 202-626-0900

General publication providing guidelines for scrap specifications, including quality standards.

13. ***American Metal Market***

350 Hudson Street, 4th Floor  
New York, New York 10014  
tel 212-887-8550  
fax 212-887-8493  
e-mail: rwilliam@chilton.net

Published daily.

Covers pricing and market conditions for metals.

14. ***Recycler's World***

[www.recycle.net/](http://www.recycle.net/)

On-line resource for most commodities.

***Other sources of information***

1. ***Glass Packaging Institute***

1627 K Street, NW, Suite 800-L  
Washington, DC 20006  
tel 202-887-4850  
fax 202-785-5337  
e-mail: gpiwest@aol.com

Glass packaging trade association.

2. ***National Association of PET Container Resources***

2105 Water Ridge Parkway  
Suite 570  
Charlotte, NC 28217  
tel 704-423-9400  
fax 704-423-9500

PET container trade association.

## Appendix B: PSI Specifications

- (1) Mixed Paper  
Consists of a mixture of various qualities of paper not limited as to type of baling or fiber content. Prohibitive materials may not exceed 2%. Total outthrows may not exceed 10%.
- (2) (Grade not currently in use)
- (3) Super Mixed Paper  
Consists of a baled, clean, sorted mixture of various qualities of paper containing less than 10% of groundwood content. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 3%.
- (4) Boxboard Cuttings  
Consists of baled new cuttings of paperboard used in the manufacture of folding cartons, set-up boxes, and similar boxboard products. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 2%.
- (5) Mill Wrappers  
Consists of baled paper used as outside wrap for rolls, bundles, or skids of finished paper. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 3%.
- (6) News  
Consists of baled newspaper as typically generated from newsdrives and curbside collections. Prohibitive materials may not exceed 1%. Total outthrows may not exceed 5%.
- (7) Special News  
Consists of baled, sorted, fresh newspapers, not sunburned, containing not more than the normal percentage of rotogravure and colored sections. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (8) Special News De-Ink Quality  
Consists of baled, sorted, fresh newspapers, not sunburned, free from magazines, white blank, pressroom over-issues, and paper other than news, containing not more than the normal percentage of rotogravure and colored sections. This grade must be tare-free. Prohibitive materials are not permitted. Total outthrows may not exceed 1/4 of 1%.
- (9) Over-issue News  
Consists of unused, overrun newspapers printed on newsprint baled or securely tied in bundles, containing not more than the normal percentage of rotogravure and colored sections. Prohibitive materials are not permitted. Total outthrows - None permitted
- (10) Magazines  
Consists of baled coated magazines, catalogues, and similar printed materials. May contain a small percentage of uncoated news-type paper. Prohibitive materials may not exceed 1%. Total outthrows may not exceed 3%.
- (11) Corrugated containers  
Consists of baled corrugated containers having liners of either test liner, jute, or kraft. Prohibitive materials may not exceed 1%. Total outthrows may not exceed 5%.

## ISRI's Scrap Specifications Circular 1998, Guidelines for Paper Stock, PS-98 Domestic Transactions

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- (12) Double Sorted Corrugated  
Consists of baled, double sorted corrugated containers, generated from supermarkets and/or industrial or commercial facilities, having liners of test liner, jute, or kraft. Material has been specially sorted to be free of boxboard, off-shore corrugated plastic, and wax. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 5%.
- (13) New Double-Lined Kraft Corrugated Cuttings  
Consists of baled new corrugated cuttings having liners of either test liner, jute or kraft. Insoluble adhesives, butt rolls, slabb or hogged medium, and treated medium or liners are not acceptable in this grade. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (14) (Grade not currently in use)
- (15) Used Brown Kraft  
Consists of baled used brown kraft bags free of objectional liners and original contents. Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.
- (16) Mixed Kraft Cuttings  
Consists of baled new brown kraft cuttings, sheets and bag scrap free of stitched paper. Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.
- (17) Carrier Stock  
Consists of baled printed or unprinted, unbleached new beverage carrier sheets and cuttings. May contain wet strength additives. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (18) New Colored Kraft  
Consists of baled new colored kraft cuttings, sheets and bag scrap, free of stitched papers. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (19) Grocery Bag Scrap  
Consists of baled, new brown kraft bag cuttings, sheets and misprint bags. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (20) Kraft Multi-Wall Bag Scrap  
Consists of new brown kraft multi-wall bag cuttings, sheets, and misprint bags, free of stitched papers. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (21) New Brown Kraft Envelope  
Cuttings Consists of baled new unprinted brown kraft envelopes, cuttings, sheets. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (22) Mixed Groundwood Shavings  
Consists of baled trim of magazines, catalogs and similar printed letter, not limited with respect to groundwood or coated stock, and may contain the bleed of cover and insert stock as well as beater-dyed paper and solid color printing. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (23) Telephone Directories  
Consists of clean telephone directories printed for or by telephone directory publishers. Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.

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- (24) White Blank News  
Consists of baled unprinted cuttings and sheets of white newsprint or other uncoated white groundwood paper or similar quality. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (25) Groundwood Computer Printout  
Consists of groundwood papers which are used in forms manufactured for use in data processing machines. This grade may contain colored stripes and impact or nonimpact (e.g., laser) computer printing). Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (26) Publication Blanks  
Consists of baled unprinted cuttings or sheets of white coated or filled groundwood content paper. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (27) Flyleaf Shavings  
Consists of baled trim from magazines, catalogs and similar printed matter. May contain the bleed of cover and insert stock to a maximum of 10%. dark colors. Beater-dyed paper may not exceed 2%. Shavings of novel news or newsprint grades may not be included in this grade. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (28) Coated Soft White Shavings  
Consists of baled unprinted, coated, and uncoated, shavings and sheets of white groundwood free printing paper. May contain a small percentage of groundwood. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
- (29) (Grade not currently in use)
- (30) Hard White Shavings  
Consists of baled shavings or sheets of unprinted, untreated white groundwood free paper. Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.
- (31) Hard White Envelope Cuttings  
Consists of baled groundwood free cuttings, shavings or sheets of unprinted, untreated and uncoated white envelope paper: Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.
- (32) (Grade not currently in use)
- (33) New Colored Envelope Cuttings  
Consists of baled groundwood free cuttings, shavings, or sheets of untreated, uncoated bleachable colored envelope paper. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (34) (Grade not currently in use)
- (35) Semi Bleached Cuttings  
Consists of baled sheets and cuttings of unprinted, untreated, groundwood free paper such as file folder stock, manila tabulating card trim, untreated milk carton stock, or manila tag. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (36) Manila Tabulating Cards  
Consists of printed groundwood free, bleachable manila-colored cards which have been manufactured for use in tabulating machines. This grade may contain manila-colored tabulating cards with tinted margins. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.
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- (37) Sorted Office Paper  
Consists of baled paper, as typically generated by offices, containing primarily white and colored groundwood free paper, free of unbleached fiber. May include a small percentage of groundwood computer printout and facsimile paper. Prohibitive materials may not exceed 2%. Total outthrows may not exceed 5%.
- (38) Sorted Colored Ledger  
Consists of printed or unprinted sheets, shavings, and cuttings of colored or white groundwood tree ledger, bond, writing, and other paper which has a similar fiber and fiber content. This grade must be free of treated, coated, padded or heavily printed stock. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 2%.
- (39) Manifold Colored Ledger  
Consists of sheets and trim of new (industrially generated) printed or unprinted colored or white groundwood free paper used in the manufacture of manifold forms, continuous forms, data forms, and other printed pieces such as sales literature and catalogs. All stock must be uncoated and free of nonimpact printing. A percentage of carbonless paper is allowable. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 2%.
- (40) Sorted White Ledger  
Consists of printed or unprinted sheets, shavings, guillotined books, and cuttings of white groundwood free ledger, bond, writing, and all other papers which have a similar fiber and filler content. This grade must be free of treated, coated, padded, or heavily printed stock. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 2%.
- (41) Manifold White Ledger  
Consists of sheets and trim of new (industrially generated) printed or unprinted white groundwood free paper used in the manufacturing of manifold forms, continuous forms, data forms, and other printed pieces such as sales, literature and catalogs. All stock must be uncoated and free of nonimpact printing. A percentage of carbonless paper is allowable. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 2%.
- (42) Computer Printout  
Consists of white groundwood free paper in forms manufactured for use in data processing machines. This grade may contain colored stripes and impact or non-impact (e.g. laser) computer printing, and may contain no more than 5% groundwood in the pack. All stock must be untreated and uncoated. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (43) Coated Book Stock  
Consists of coated groundwood free paper, printed or unprinted in sheets, shavings, guillotined books and cuttings. A reasonable percentage of paper containing fine groundwood may be included. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (44) Coated Groundwood Sections  
Consists of printed, coated groundwood paper in sheets, sections, shavings or guillotined books. This grade may not include news quality groundwood paper. Prohibitive materials are not permitted. Total outthrows may not exceed 2%.
- (45) Printed Bleached Board Cuttings



Consists of groundwood free printed bleached board cuttings, free from misprint sheets, cartons, wax, greaseproof lamination, gilt, inks, adhesives or coatings that are insoluble. Prohibitive materials may not exceed 1/2 of 1%. Total outthrows may not exceed 2%.

(46) Misprinted Bleached Board

Consists of groundwood free misprint sheets and cartons of bleached board, free from wax, greaseproof lamination, gilt, and inks, adhesives or coatings that are insoluble. Prohibitive materials may not exceed 1%. Total outthrows may not exceed 2%.

(47) Unprinted Bleached Board

Consists of groundwood free unprinted, untreated bleached board cuttings, sheets or rolls, free from wax, greaseproof lamination and adhesives or coatings that are insoluble. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.

(48) #1 Bleached Cup Stock

Consists of baled, untreated cuttings or sheets of coated or uncoated cup base stock. Cuttings with slight bleed may be included. Must be free of wax, poly, and other coatings that are insoluble. Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.

(49) #2 Printed Bleached Cup Stock

Consists of baled printed, untreated formed cups, cup die cuts, and misprint sheets of coated or uncoated cup base stock. Glues must be water soluble. Must be free of wax, poly, and other coatings that are insoluble. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.

(50) Unprinted Bleached Plate Stock

Consists of baled groundwood free bleached coated or uncoated, untreated and unprinted plate cuttings and sheets. Prohibitive materials are not permitted. Total outthrows may not exceed 1/2 of 1%.

(51) Printed Bleached Plate Stock

Consists of baled groundwood free bleached coated or uncoated, untreated printed plates and sheets. Must be free of coatings or inks that are insoluble. Prohibitive materials are not permitted. Total outthrows may not exceed 1%.



# Appendix C:

## Local Public Contracts Law Reference Guide

This appendix provides an index to New Jersey's Local Public Contracts Law (N.J.S.A. 40A-11.1 et seq.).

An asterisk indicates the topic is discussed in Chapter 5 of this manual. Some bid language recommended in Chapter 5 is optional; other language may be mandated by statute. To ensure legal compliance, review specifications with a lawyer before implementing a bid package.

This appendix provides an outline of the law. Refer to the statute for complete details.

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# Appendix D: Uniform Solid Waste Bid Specifications Reference Guide

This appendix provides an index for the Uniform Solid Waste Bid Specifications (N.J.A.C 7:26H-6.1 et seq.). Bids that combine recycling collection with solid waste collection must conform to these specifications. A bid for recycling collection service alone must conform to the Local Public Contracts Law, but need not follow the requirements of the Uniform Solid Waste Bid Specifications.

An asterisk indicates the topic is discussed in Chapter 5. Some bid language recommended in Chapter 5 is optional; other language may be mandated by statute. To ensure legal compliance, review specifications with a lawyer before implementing a bid package. This appendix is only an outline of the law. Refer to the statute for complete details.

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NJAC 7:26H-6.1	Purpose
NJAC 7:26H-6.2	Scope and applicability
NJAC 7:26H-6.3	Definitions
NJAC 7:26H-6.4	General instructions
NJAC 7:26H-6.5	Bidding requirements *
NJAC 7:26H-6.6	Conditions and limitations *
NJAC 7:26H-6.7	Award and execution of contract
NJAC 7:26H-6.8	Lowest responsible bidder *
NJAC 7:26H-6.9	Performance bonds *
NJAC 7:26H-6.10	Vehicle dedication affidavit
NJAC 7:26H-6.11	Contracts required to be filed
NJAC 7:26H-6.12	Work specifications
NJAC 7:26H-6.13	Conditions for curbside and rear yard collection



NJAC 7:26H-6.14	Authorized disposal facility
NJAC 7:26H-6.15	Additional terms and conditions
NJAC 7:26H-6.16	Invoice and payment procedures
NJAC 7:26H-6.17	Insurance requirements *
NJAC 7:26H-6.18	Recycling *

Appendix A Contains the language and the format of the Uniform Solid Waste Bid Specifications.\*\*

\*\*In some circumstances the New Jersey Department of Environmental Protection allows minor deviations from required language in the specifications. You should consult a lawyer before doing so.



## Appendix E: Worksheets

The following worksheets and the information they contain may be reproduced and used in your recycling program. Please acknowledge the source of the worksheets if they are reproduced for the purposes of distribution.

## Full cost accounting for collection crews, cont.

### Estimated cost for collection crews

### Annual cost

#### Operating costs

##### *Labor*

Direct labor	_____	
Backup labor	_____	
Crew leader	_____	
Mechanic	_____	
Recycling coordinator	_____	
Labor subtotal		_____

Fringe benefits	_____	
Fringe benefits subtotal		_____

##### *Vehicle operation & maintenance*

Replacement parts	_____	
Fuel & fluids	_____	
Insurance	_____	
Licenses & taxes	_____	
O&M for backup vehicle	_____	
Vehicle operation & maintenance subtotal		_____

##### *Other operating expenses*

Employee training	_____	
Direct supplies	_____	
Promotion/education	_____	
Other operating expenses subtotal		_____

Subtotal operating expenses		_____
-----------------------------	--	-------

## Full cost accounting for collection crews, cont.

<b>Capital costs</b>	<b>Annual cost</b>
Item: collection vehicle	_____
Purchase price	_____
Useful life	_____
Annual depreciation — collection	_____
Item: backup vehicle	_____
Item: pick-up truck	_____
Purchase price	_____
Useful life	_____
Annual depreciation — pick-up truck	_____
Item: containers	_____
Purchase price	_____
Useful life	_____
Annual depreciation — containers	_____
Subtotal capital costs	_____
Subtotal direct costs	_____
 <b>Overhead costs</b>	
Indirect and overhead costs	_____
Subtotal overhead costs	_____
<b>Grand total</b>	<b>\$</b> _____
<b>Cost per day</b>	<b>\$</b> _____
<b>Cost per hour</b>	<b>\$</b> _____



## Talking to markets: A checklist

The following checklist for surveying potential buyers of recyclables is adapted from The International City/County Management Association's report *Marketing Recyclables*.

- contact information (name of buyer and firm, location, phone, fax, e-mail and website)
- type of market (broker, processor or end-user)
- types of material purchased
- specifications for each material, including listing of contaminants, acceptable contamination levels, and the physical form required (baled, loose, compacted)
- shipping requirements, including minimum and maximum size of loads, method of delivery, capacity, and any distance restrictions
- availability of transportation assistance
- procedures for determining weights and contamination levels
- price and payment schedules, including any pricing tied to a market indicator
- availability of long-term contract
- number of years in business

## Municipal demographic information data sheet

	Current year	Projected
<i>Residential sources</i>		
Single family	_____	_____
Multi-family(up to four family)	_____	_____
Apartments/condominiums	_____	_____
Other	_____	_____
<i>Commercial sources (by type)</i>		
Office building	_____	_____
Retail	_____	_____
Restaurant/bar	_____	_____
Supermarket	_____	_____
Convenience store/deli	_____	_____
Institutional sources	_____	_____
Schools	_____	_____
Hospitals	_____	_____
Houses of worship	_____	_____
Municipal sources	_____	_____
Municipal buildings	_____	_____
Libraries	_____	_____
Municipal depots*	_____	_____
Parks	_____	_____

\* This includes collection at any recycling depots the municipality may operate.

### *Development trends*

New housing units in the past 5 years	(     )
New housing units approved for the next year	(     )
New housing units projected over the life of the contract	(     )
New retail or commercial units or square footage next year	(     )

## Municipal collection information data sheet

**Tonnage reports:**      **Year** \_\_\_\_\_      **Year** \_\_\_\_\_

**Material recycled:**      (Tons)                              (Tons)

*Glass*

Amber                              \_\_\_\_\_                              \_\_\_\_\_

Green                              \_\_\_\_\_                              \_\_\_\_\_

Brown                              \_\_\_\_\_                              \_\_\_\_\_

*Aluminum*

Used beverage  
containers                              \_\_\_\_\_                              \_\_\_\_\_

Scrap foil                              \_\_\_\_\_                              \_\_\_\_\_

*Steel cans*

*Plastic containers*

PETE                              \_\_\_\_\_                              \_\_\_\_\_

HDPE                              \_\_\_\_\_                              \_\_\_\_\_

*Newspaper (grade)*                              \_\_\_\_\_                              \_\_\_\_\_

*Corrugated cardboard* \_\_\_\_\_                              \_\_\_\_\_

*Other materials*                              \_\_\_\_\_                              \_\_\_\_\_

# Data to collect in a route audit

## Truck and route information

*Model and year of truck:* \_\_\_\_\_  
Truck ID or license number: \_\_\_\_\_  
Capacity: \_\_\_\_\_  
Number of compartments: \_\_\_\_\_

*Material collected and capacity per compartment:*

1	_____
2	_____
3	_____
4	_____
5	_____
6	_____

*Contents of vehicle at start of shift:* \_\_\_\_\_

*Crew size:* \_\_\_\_\_

*Frequency of collection:* \_\_\_\_\_

*Total length of route:* \_\_\_\_\_

Odometer at first stop: \_\_\_\_\_  
Odometer at last stop of first load, if one load: \_\_\_\_\_  
Odometer at MRF: \_\_\_\_\_  
Odometer at return to route (for second load): \_\_\_\_\_  
Odometer at last stop of second load: \_\_\_\_\_  
Odometer at return to route: \_\_\_\_\_  
Odometer at return to garage: \_\_\_\_\_

## Observed route statistics

*Total number of stops on route:* \_\_\_\_\_

Single family: \_\_\_\_\_  
Multi-family: \_\_\_\_\_  
Commercial/non-profit: \_\_\_\_\_

*Total number of stops with set outs:* \_\_\_\_\_

Single family: \_\_\_\_\_  
Multi-family: \_\_\_\_\_  
Commercial/non-profit: \_\_\_\_\_

*Total number of items collected:* \_\_\_\_\_

Single family: \_\_\_\_\_  
Multi-family: \_\_\_\_\_  
Commercial/non-profit: \_\_\_\_\_



**Data to collect in  
a route audit,  
cont.**

*Number of stops served first load:*  
Single family: \_\_\_\_\_  
Multi-family: \_\_\_\_\_  
Commercial/non-profit: \_\_\_\_\_

*Number of stops served second load, if more than one:*  
Single family: \_\_\_\_\_  
Multi-family: \_\_\_\_\_  
Commercial/non-profit: \_\_\_\_\_

*Tonnage for first load:* \_\_\_\_\_

*Tonnage for second load:* \_\_\_\_\_

**Key time statistics (in minutes)**

*Length of work day:* \_\_\_\_\_

From start of work day to leaving for route: \_\_\_\_\_

Drive time to first stop on route: \_\_\_\_\_

Drive time to marketing facility: \_\_\_\_\_

First load: \_\_\_\_\_

Second load: \_\_\_\_\_

Total unloading, weighing and  
turnaround time at market facility: \_\_\_\_\_

First load: \_\_\_\_\_

Second load: \_\_\_\_\_

Lunch and break time: \_\_\_\_\_

Compaction or compartment adjustment: \_\_\_\_\_

Refueling: \_\_\_\_\_

Breakdowns or unscheduled delays: \_\_\_\_\_

Other (clean up of spillage or breakage,  
customer interaction, etc.): \_\_\_\_\_

At garage at end of work day: \_\_\_\_\_

*Time available for collection:* \_\_\_\_\_

**Calculations**

*Average collection seconds per stop:* \_\_\_\_\_

Single family: \_\_\_\_\_

Multi-family: \_\_\_\_\_

Commercial/non-profit: \_\_\_\_\_

*Average number of items per set out:* \_\_\_\_\_

Single family: \_\_\_\_\_

Multi-family: \_\_\_\_\_

Commercial/non-profit: \_\_\_\_\_

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**New Jersey**  
**Department of Environmental Protection**

***MISSION STATEMENT***

VISION: The Department of Environmental Protection is committed to providing a high quality of life for the residents of New Jersey.

MISSION: To assist the residents of New Jersey in preserving, sustaining, protecting and enhancing the environment to ensure the integration of high environmental quality, public health and economic vitality. We will accomplish our mission in partnership with the general public, business, environmental community and all levels of government by:

- Developing and integrating an environmental master plan to assist the department and our partners in decision-making through increased availability of resource data on the Geographic Information System
- Defining and publishing reasonable, clear and predictable scientifically based standards
- Achieving the department's goals in a manner that encourages compliance and innovation
- Employing a decision-making process that is open, comprehensive, timely, predictable and efficient
- Providing residents and visitors with affordable access to safe and clean open space, historic and natural resources
- Assuring that pollution is prevented in the most efficient and practical way possible
- Assuring that the best technology is planned and applied to achieve long-term goals
- Assuring that non-treatable wastes are isolated, managed and controlled
- Enhancing environmental awareness and stewardship through education and communication
- Fostering a work environment that attracts and retains dedicated and talented people
- Committing to an ongoing evaluation of the department's progress toward achieving our mission