KANKAKEE COUNTY

SOLID WASTE MANAGEMENT PLAN UPDATE

Adopted
May 8, 2012

Prepared by:

KANKAKEE COUNTY
REGIONAL PLANNING DEPARTMENT

and

PATRICK
ENGINEERING INC.

Resolution # 2012-05-08-80

Resolution of the County Board of Kankakee County, Illinois

RE: UPDATE TO THE KANKAKEE COUNTY SOLID WASTE MANAGEMENT PLAN

WHEREAS, the Kankakee County Board adopted a Solid Waste Management Plan in October 1993, in August of 1995 the Plan was readopted following the input from the Illinois Environmental Protection Agency and in August of 2000 a five-year Plan updated was adopted; and,

WHEREAS, this 2012 Solid Waste Management Plan update supersedes and replaces the original 1993 Plan, the revised 1995 plan, and the 2000 Plan updated; and,

WHEREAS, the Kankakee County Regional Planning Commission formed a Solid Waste Subcommittee made up of 6 Regional Planning Commission Members and 2 County Board Members; and,

WHEREAS, the Solid Waste Subcommittee at a duly noticed meeting of March 13, 2012 having, reviewed, discussed and considered the matter has approved the 2012 Kankakee County Solid Waste Management Plan Update, herein Exhibit A, a copy of which is attached herein and made a part hereof; and,

WHEREAS, the Kankakee County Regional Planning Commission at its regularly scheduled and duly noticed meeting of March 27, 2012, having reviewed, discussed and considered the matter, concurs with the Solid Waste Subcommittee and has approved the 2012 Kankakee County Solid Waste Management Plan Update, Exhibit A; and,

WHEREAS, the Planning, Zoning, and Agriculture Committee (PZA) at its regularly scheduled meeting of April 25, 2012, upon review, discussion, and consideration, recommended the approval of the 2012 Kankakee County Solid Waste Management Plan Update, Exhibit A; and,

WHEREAS, the County Board at its regularly scheduled meeting of May 8, 2012 has now reviewed, discussed, and considered the recommendation by the PZA Committee, and now finds that the conclusions expressed therein are both reasonable and rationally supported by the evidence presented and that the 2012 Kankakee County Solid Waste Management Plan Update will not be detrimental to the public health, safety, and economic and general welfare.

NOW, THEREFORE, BE IT RESOLVED by the County Board of Kankakee County that the 2012 Kankakee County Solid Waste Management Plan Update, Exhibit A, is hereby approved.

PASSED and approved this 8th day of May 2012.

Michael G. Bossert, County Board Chairman

ATTEST:

Bruce Clark, County Clerk

TABLE OF CONTENTS

Resolution ii
List of Tables iv
List of Figures v
EXECUTIVE SUMMARY 1
CHAPTER 1. INTRODUCTION 3
CHAPTER 2. SUMMARY OF 1995 AND 2000 SOLID WASTE MANAGEMENT PLANS ... 7
CHAPTER 3. DEMOGRAPHICS UPDATE 15
CHAPTER 4. CURRENT AND PROJECTED WASTE GENERATION 25
CHAPTER 5. SOLID WASTE AND RECYCLING COLLECTION 33
CHAPTER 6. SOLID WASTE DISPOSITION 38
CHAPTER 7. WASTE REDUCTION AND RECYCLING RECOMMENDATIONS 46
CHAPTER 8. POLLUTION CONTROL FACILITY RECOMMENDATIONS 60
8.1. TRANSFER STATIONS 60
8.2. LANDFILLING 67
8.3. INCINERATORS AND ALTERNATIVE TECHNOLOGIES 78
CHAPTER 9. ENFORCEMENT/ IEPA DELEGATION AGREEMENT 98
CHAPTER 10. BROWNFIELDS 100
CHAPTER 11. FUNDING MECHANISMS 102
CHAPTER 12. LEGISLATIVE ACTIVITY 106
CHAPTER 13. SUMMARY RECOMMENDATIONS AND CONCLUSION 111
APPENDIX A. KANKAKEE COUNTY RECYCLING ORDINANCE 116

List of Tables

Table 2.1. Summary of Kankakee County Solid Waste Management Plan Components 8
Table 3.1. Municipal Populations 18
Table 3.2. Township Populations 19
Table 3.3. Kankakee County Housing Profile 20
Table 3.4. Kankakee County Population Projections 22
Table 4.1. 2004 Municipal Solid Waste Generation 27
Table 4.2. Kankakee County Waste Generation Rates for 2004 29
Table 4.3. Illinois County Total Waste Generation Rates 29
Table 4.4. Sample Waste Generation Calculation 30
Table 4.5. Kankakee County Waste Generation Projections: High Growth Scenario 30
Table 4.6. Kankakee County Waste Generation Projections: Low Growth Scenario 31
Table 5.1. Kankakee County Waste Management Service Providers 33
Table 5.2. Municipal Franchise Agreements 36
Table 6.1. Kankakee County Transfer Stations, 2009 40
Table 6.2. Kankakee County Area Landfills, 2009 41
Table 6.3. Kankakee County Wastes Disposed at Newton County Indiana Landfill, 2010 42
Table 6.4. Kankakee County Compost Facilities, 2009 42
Table 6.5. Scrap Metal Recyclers 43
Table 6.6. Waste Disposition Projections 44

Table 7.1. Sector Recycling Rates in Kankakee County (2004) 46
Table 8.1.1. Waste Separation Technologies 61
Table 8.1.2. Conceptual Cost Analysis for 400 Ton per Day Transfer Station 64
Table 8.2.1. Federal Landfill Standards at a Glance 68
Table 8.2.2. Conceptual Landfill Costs Summary 74
Table 8.3.2. List of Companies Responding to the RFI 79
Table 8.3.5. Cost Estimates for Conversion Technologies 91
Table 8.3.6. Results of Life-Cycle Cost Analysis - Year 1 (2011) 93
Table 8.3.7. Comparison of Conversion Technologies to Landfilling 95

List of Figures

Figure 3.1. Kankakee County Map 17
Figure 3.2. Kankakee County Population Projections 22
Figure 3.3. Kankakee County Total Employment 23
Figure 4.1. Sources of Municipal Waste - 2004 27
Figure 4.2. Kankakee County Waste Generation Projections: High Growth Scenario 31
Figure 4.3. Kankakee County Waste Generation Projections: Low Growth Scenario 32
Figure 6.1. Disposition of Municipal Solid Waste - 2004 38
Figure 6.2. Kankakee County Area Pollution Control Facilities 39
Figure 6.3. Projected Solid Waste Disposition - High Growth Scenario 45
Figure 6.4. Projected Solid Waste Disposition - Low Growth Scenario 45
Figure 8.1.1. Direct Haul vs. Transfer 64
Figure 8.2.1. Landfill Economies of Scale 75

EXECUTIVE SUMMARY

KANKAKEE COUNTY SOLID WASTE MANAGEMENT PLAN
FIVE-YEAR UPDATE
2012

In October 1993, the Kankakee County Board adopted a Solid Waste Plan prepared pursuant to the Illinois Solid Waste Planning and Recycling Act (415 ILCS 15/1 et.seq). In August of 1995, the County Board readopted the Plan, following input from the Illinois Environmental Protection Agency. In August of 2000, Kankakee County prepared and adopted a five-year Plan update, also required by Illinois law. In 2005, a comprehensive update was drafted, but disagreements concerning its content arose after public comments were solicited, and the County Board never adopted a final version. This document, again intended to be a more comprehensive and in-depth five-year update, has been completed considering the dynamic nature of the solid waste industry, the growth occurring in Kankakee County, and the finalization of long-term plans to ensure a growing recycling rate as well as solid waste disposal capacity within the County.

This 2012 Solid Waste Plan Update supersedes and replaces the original 1993 plan, the revised 1995 plan, and the 2000 plan update, and thus becomes the officially adopted Plan for the management of solid wastes generated within the boundaries of Kankakee County.

This 2012 Plan Update includes updated population figures from the 2010 Census, thus it incorporates new population projections and disposal needs for the twenty-year planning period. A summary of the current state of waste collection and disposal is provided, and modifications to the County waste reduction and recycling programs are recommended due to lagging recycling rates in all waste generation sectors analyzed. An overview and analysis of small-scale waste-to-energy technology as well as new and emerging alternative waste conversion technologies has been included in this update.

It is recommended that the final disposal options for Kankakee County include an in-county landfill, or the utilization of transfer stations - depending on private facility developments that are consistent with the County's Waste Management Plan.

As was the case in previous plans, the County has responsibly planned for its disposal needs for the next twenty-years. In summary, the County plans to improve established programs and institute new programs in the areas of solid waste planning, education, enforcement, recycling, waste reduction, and collection events. Unanticipated events may affect the timely implementation of the Kankakee County Solid Waste Management Plan, however, the County remains steadfast in its decision to provide economical, as well as environmentally responsible and sound waste management policies for its municipalities, residents and businesses.

CHAPTER 1. INTRODUCTION

Background

The Illinois Solid Waste Planning and Recycling Act (Public Act 85-1198, 415 ILCS 15/1 et seq.) became effective on January 1, 1989. This Act states that counties have the primary responsibility to plan for the management of waste within their boundaries to insure the timely development of needed waste management facilities and programs. It also states that waste reduction and recycling are preferable to the disposal of solid waste.

The Solid Waste Planning and Recycling Act (SWPRA) required that each county submit to the Illinois Environmental Protection Agency (IEPA), an officially adopted plan for the management of waste within its boundaries. Such plan had to conform with the waste management hierarchy established as Illinois State policy in subsection (b) of Section 2 of the Illinois Solid Waste Management Act, i.e., in descending order of preference: (1) volume reduction at the source; (2) recycling and reuse; (3) combustion with energy recovery; (4) combustion for volume reduction; (5) disposal in landfill facilities.

Pursuant to the SWPRA, the jurisdiction of this Plan encompasses Kankakee County and it municipal and township corporations. These corporate entities include:

Municipalities:	Townships:
Aroma Park	Aroma
Bonfield	Bourbonnais
Bourbonnais	Essex
Bradley	Ganeer
Buckingham	Kankakee
Cabery (Kankakee)	Limestone
Chebanse (Kankakee)	Manteno
Essex	Momence
Grant Park	Norton
Herscher	Otto
Hopkins Park	Pembroke
Irwin	Pilot
Kankakee	Rockville
Limestone	Salina
Manteno	St. Anne
Momence	Sumner

Reddick
St. Anne
Sammons Point
Sun River Terrace
Union Hill
Yellowhead

This Solid Waste Management Plan as updated is intended to provide for the management of solid waste in an environmentally and economically sound manner. Solid Waste Management encompasses the total life cycle of waste, from generation, storage, collection, transportation, hauling, processing, transfer, waste reduction, reuse, recycling, incineration and landfilling.

Additionally, the SWPRA requires that a recycling program be included in the Plan which shall be implemented throughout the county. Such program shall be designed to recycle, by the end of the third and fifth years of the program, respectively, 15% and 25% by weight of the municipal waste generated in the county.

The SWPRA also mandates that a county plan be updated and reviewed every 5 years with any necessary and appropriate revisions submitted to the IEPA.

In October 1993, the Kankakee County Board adopted its original Solid Waste Management Plan. After IEPA-recommended changes were addressed, the Kankakee County Board readopted the Plan in August of 1995. In August of 2000, Kankakee County submitted its first five-year update of the Plan to the IEPA. A comprehensive plan update was drafted to meet the requirement for the second five-year update, but disagreements arose after solicitation of public comments, and the document was never adopted.

The Kankakee County Health Department, Environmental Division is the entity responsible for implementing the Plan recommendations on behalf of the County. The County Health Department is also responsible for responding to dumping complaints and the licensing of waste haulers.

The 1995 plan contained 414 pages, which included technical information on volume reduction, recycling, composting, combustion, and landfilling. The 2000 Plan Update consisted of the IEPA "short form," prepared by the IEPA to assist local governments with submittal of Plan updates. The 2000 Plan Update did not include any new recommendations or changes to the 1995 Plan. However, Solid Waste Plan Amendments passed by the Kankakee County Board in 2001, 2002, 2003, and 2004 did make changes to the 1995 and 2000 plans.

History

On August 20, 1974, the County Board of Kankakee County executed an Agreement with Waste Management, Inc., and Waste Management of Illinois, Inc., for the operation of a sanitary landfill disposal site in Otto Township. This landfill has been operating since 1974 and stopped accepting waste in late 2005. Pursuant to this Landfill Agreement, waste deposited at the landfill "shall be only waste generated in Kankakee County to the extent that such policy is reasonably enforceable. Any substantial deviation from this policy shall be made only on prior written approval of the Chairman of the County Board, or his designated agent."

This 1974 restriction on out-of-county waste acceptance was carried through in the original 1993 plan, the readopted 1995 plan, and the 2000 five-year update.

In 2001 and 2002, amendments to the Solid Waste Plan were approved by the County Board (Resolutions 01-10-09-393 and 02-13-12-481, respectively) that deleted the restriction on out-of-county waste acceptance and recommended expansion of the currently existing landfill to handle Kankakee County's waste disposal needs for an additional twenty year period. The 2002 amendment also included specific requirements with respect to an environmental contingency fund, a property value guarantee program, and a domestic water well protection plan. The County Board also passed an amended Host Agreement in December of 2001.

In 2002 and 2003, siting applications were submitted to expand the then operating Kankakee Recycling and Disposal Facility, and to site a new landfill within the borders of the City of Kankakee. Both applications were unsuccessful.

In February of 2003, the County amended the Solid Waste Management Plan to state, “It is the intent of Kankakee County that no landfills or landfill operations be sited, located, developed or operated within Kankakee County other than the existing landfill located southeast of the intersection of U.S. Route 45/52 and 6000 South Road in Otto Township, Kankakee County, Illinois. The only exception to this restriction on landfilling is that an expansion of the existing landfill on the real property that is contiguous to the existing landfill would be allowed under this Plan.”

In September 2004, through Resolution 2004-09-14-194, the County Board amended the Solid Waste Management Plan to require a Host Community Agreement and fee for any type of Pollution Control Facility, including landfills, transfer stations, incinerators, etc., regardless of whether the proposed facility is to be sited inside or outside of municipal boundaries.

The Waste Management landfill stopped accepting waste in late 2005 and Kankakee County waste is being hauled directly to out-of-county landfills or to transfer stations (from which the waste is transported to landfills out of the County).

In this 2012 solid waste plan update, (which supersedes and replaces all prior plans), Kankakee County is planning for its disposal needs for the next 20 years, taking into account the various economic and environmental issues of concern.

CHAPTER 2. SUMMARY OF 1995 AND 2000 SOLID WASTE MANAGEMENT PLANS

This chapter summarizes the status of the Kankakee County Solid Waste Management Plan components contained in the 1993/1995 Plan and the 2000 Plan Update. Table 2-1 summarizes each recommended plan component as well as a recommendation to delete, implement or modify the component in the 2012 Plan Update.

Note: this chapter contains a status report for the previous plan components; the full recommendations for 2012 Plan Update components are found in Chapters 7 and 13.

It is necessary to periodically update the Kankakee County Solid Waste Management Plan in order that it conveys the intent of the Kankakee County Board with respect to Plan implementation. Some of the original Plan's recommended system components are no longer relevant, applicable, necessary, or appropriate. Therefore, they have been modified or deleted from this 2012 Plan Update to reflect current conditions.

Table 2.1. Summary of Kankakee County Solid Waste Management Plan Components (1993/1995 Solid Waste Plan And 2000 Five Year Update)

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Source Reduction And Reuse	Landscape waste reduction through backyard composting or mulching of yard clippings; rely on private sector.	No change, continue to implement.	No change, continue to implement.
	Conduct waste audits on commercial sector.	No change, continue to implement.	Implement.
	Provide source reduction awards to commercial sector.	No change, continue to implement.	Implement.
	Support adoption by State of Illinois of preferred packaging guidelines.	No change, continue to implement.	No change, continue to implement.
	Develop public-private partnership between County and local businesses to finance, develop, and implement source reduction programs and educational materials; involve IEPA pollution prevention office & expertise.	No change, continue to implement.	Implement.
	Support pay-per-bag method for residential waste source reduction but leave decision in hands of each municipality to implement.	No change, continue to implement.	Modify: Conduct a study on pay-as-you throw systems as incentive for waste reduction before making a Countywide recommendation; leave up to municipal contracts.
	Establish a public education program to change the purchasing habits of consumers.	No change, continue to implement.	Implement.
	Establish an information clearinghouse on source reduction information.	No change, continue to implement.	Implement.
	Establish a 10% source reduction goal for solid waste in residential, commercial, industrial, institutional, and construction & demolition debris sectors.	No change, continue to implement.	Modify: There is no standardized methodology to track source reduction goals on a Countywide basis; begin small-scale in-house tracking.
	County will develop and implement waste reduction programs in-house as an example to local businesses and municipalities.	No change, continue to implement.	Implement.
	County will research and apply for State and other grants to assist in funding waste reduction programs.	No change, continue to implement.	Implement.

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Recycling	Attain a 40% solid waste recycling rate by 2010.	No change, continue to implement.	Modify, Continue to pursue a recycling rate of 40% to be achieved by 2030
	Establish a public-private partnership whereby the County of Kankakee subsidizes the operation of the Kankakee training center as a County recycling center; County also subsidizes haulers collecting recyclables; implement program first in urban residential area and then in rural residential areas.	No change, continue to implement.	Replace: County will rely on private sector recycling through enacted recycling ordinance.
	Establish drop-off centers in rural areas.	No change, continue to implement.	Modify: County will rely on private sector establishment of drop-off sites in unincorporated areas. County will research franchising in unincorporated areas.
	Haulers should collect newspaper, aluminum cans, bi-metal cans, tin-plated steel food cans, all 3 colors of HDPE bottles and PETE bottles; consider expanding this list.	No change, continue to implement.	Achieved: Recycling ordinance specifies recyclables to be collected.
	Municipalities should require haulers to offer commercial recycling programs as a condition of obtaining a hauler license.	No change, continue to implement.	Modify: Commercial recycling to remain voluntary unless commercial recycling rates lag, then commercial recycling ordinance will be proposed.
	Establish a recycling education program to help residents, businesses, and political leaders within County.	No change, continue to implement.	Implement.
	Establish an office paper recycling program within all major County buildings.	No change, continue to implement.	Achieved. Continue existing program.
	Encourage municipalities and schools to implement an office-paper recycling program.	No change, continue to implement.	Implement.
	Implement a recycled product procurement program and encourage municipalities to do the same.	No change. Continue to implement	Implement.
	Collection, processing, and marketing of recyclables should remain the responsibility of the private sector.	No change, continue to implement.	Implement.
	An accounting system should be developed to track the quantities of materials being recovered by recycling programs and to measure progress toward the State of Illinois and County recycling goals.	No change, continue to implement.	Achieved through recycling ordinance. See Appendix A.

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Recycling	An ordinance should be passed making pilfering of recyclables illegal.	No change, continue to implement.	Achieved through recycling ordinance. See Appendix A.
	County will sponsor "clean days" periodically; develop a permanent HHW drop-off center in County.	No change, continue to implement.	Modify: Permanent HHW facility is not economically warranted at this time. County will rely on IEPA-sponsored events.
	Establish recycling drop-off centers at all schools; provide education.	No change, continue to implement.	Modify: County will rely on private sector and schools for establishment.
	County recommends that multi-family dwellings be provided with a recycling dumpster.	No change, continue to implement.	Achieved. Recycling ordinance requires multi-family recycling. See Appendix A.
	County will consider requiring businesses to perform a waste audit as a condition for obtaining a business license for firms over a certain size.	No change, continue to implement.	Modify: County will consider requiring all commercial facilities to recycle their largest volume and/or tonnage of recyclable material in a future commercial recycling ordinance.
	County will encourage haulers to offer commercial recycling programs as a condition of licensing.	No change, continue to implement.	Modify: County will consider requiring all haulers provide commercial recycling as a condition of licensing in a future commercial recycling ordinance.
	Establish an information clearinghouse on recycling information.	No change, continue to implement.	Achieved, updated annually as staff is available.
	Publicize recycling program progress.	No change. Implement	Implement.
	A quasi-mandatory recycling program, in which all residents are billed for recycling services although they may not participate, is appropriate for Kankakee County. If program does not work, Kankakee County will consider instituting a mandatory program.	No change, continue to implement.	Implement: Recycling is voluntary for residents, but they will be billed whether they recycle or not.
	County will research and apply for State and other grants to assist in funding recycling programs.	No change, continue to implement.	Implement.
Incineration	Open-chamber incineration of in-County solid waste is not a preferred alternative at this time.	No change.	Replace: Siting requests for incinerators, or other thermal conversion technologies designed to recover energy, fuels or chemicals from waste will be considered by the County Board on a case-by-case basis provided such facilities can be shown to be protective of the public health and welfare and economically viable. .
	County will allow a limited feedstock closed-chamber pyrolysis process for treatment and recycling of tires, restricted plastics, and auto fluff brought in from outside Kankakee County.	No change.	

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Incineration	If open-chamber incineration as a disposal technology for solid waste becomes viable in the future, smaller, modular units (capacity of 200 - 300 tons per day) should be considered, based on the amount of waste generated in the County, the smaller capital investment required for such units, and the proven performance record of modular incinerators.	No change.	Replace: Siting requests for incinerators, or other thermal conversion technologies designed to recover energy, fuels or chemicals from waste, will be considered by the County Board on a case-by-case basis provided such facilities can be shown to be protective of the public health and welfare and economically viable.
	As landfill tipping fees in the northeast Illinois region continue to increase, incineration may become more economically viable. Incineration with energy recovery and for volume reduction should be reviewed in the five-year updates to assess its viability.	No change.	
	MSW combustion rules and regulations should be monitored along with the status of other open-chamber incineration projects in areas with the same characteristics as Kankakee County.	No change.	
	Any applicant requesting site location approval, for either an open-chamber incineration facility, a closed-chamber limited feedstock incineration (pyrolysis) facility or a fluid bed facility, should agree to a host community agreement negotiated with the County. The host community agreement should be signed prior to submitting a siting application pursuant to Section 39.2 of the Illinois Environmental Protection Act.	No change.	Achieved: Host agreements are required by ordinance
	The host fee must be paid to the County and will be negotiated on a per ton basis. The incineration or fluid-bed facility must install a scale. The final host fee per ton will be adjusted annually based on the appropriate consumer price index for the host County.	No change.	Achieved: Negotiation of a host fee is required by ordinance.
	All siting requests for incinerators, fluidized bed, or pyrolysis plants utilizing thermal depolymerization and/or thermal distillation are required to be in compliance with the Kankakee County Siting Ordinance as well as the State of Illinois and federal regulations.	No change.	Modify: All siting requests for incinerators, or other thermal conversion technologies designed to recover energy, fuels or chemicals from waste, are required to be in compliance with the Kankakee County Siting Ordinance as well as the State of Illinois and federal regulations.

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Incineration	No hazardous wastes shall be accepted for processing in any incineration facility, open or closed chamber, or fluidized bed facility.	No change.	Modify: No hazardous wastes shall be accepted for processing in any incinerator or other thermal conversion facility.
Landfills	No new landfill is currently planned to be sited in Kankakee County.	No change.	A Feb. 2003 ordinance modified the plan to allow new or expanded landfilling only on land contiguous to the existing Kankakee County Landfill. Since this landfill is closed and an expansion of the landfill failed siting, it is recommended that this ordinance be reevaluated.
	County will periodically review the siting of new landfills in the County as needed or warranted by legislative or other relevant developments.	No change.	
	The County will continue to rely on the private sector to provide landfill capacity.	No change.	No change.
	Prior to granting siting approval pursuant to Section 39.2 of the Illinois Environmental Protection Act, contractual arrangements with the applicant shall be negotiated to limit the use of the landfill to in-county waste only. Kankakee County reaffirms its commitment to and the integrity of the landfill contract with Waste Management and reaffirms its commitment to prohibiting the importation of municipal waste to the existing landfill or any future landfill.	No change.	The in-county waste only requirement was removed by ordinance in 2001. Modify: Establishment of a new landfill or expansion of existing landfill will require capacity for Kankakee County waste for twenty (20) years as first priority; excess capacity, as determined by host agreement, may be filled with out-of-county waste.
	Prior to a granting of siting approval pursuant to section 39.2 of the Illinois environmental protection act, a host-benefit fee shall be established with the applicant.	No change.	Already Implemented.
	The owner or operator of any proposed new landfill or landfill expansion in the County shall be required to offer a proposal regarding the establishment of an environmental contingency escrow fund of a minimum of $1,000,000 based on an annual payment not to exceed five years (in addition to the financial assurance required by the State regulations).	No change.	Raise minimum escrow fund or other method to $ 2 million.

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Landfills	The owner or operator of a proposed new landfill or landfill expansion in the County shall be required to offer a proposal regarding the establishment of a property value guarantee program for households within a specified distance from the proposed landfill site.	No change.	See Kankakee County Ordinances, Section 8.2 and landfill recommendations, Chapter 13.
	The owner or operator of a proposed new landfill or landfill expansion in the County shall be required to offer a proposal regarding the establishment of a domestic water well protection plan for domestic wells located within 1000 feet of the proposed landfill site.	No change.	See Kankakee County Ordinances, Section 8.2 and landfill recommendations, Chapter 13.
	The contingency fund, property value guarantee program and domestic water well protection program are not mandatory but the owner/operator must conduct an analysis for the need for these programs and present their data and findings to the County. The County retains the right to agree or disagree with the findings.	No change.	See Kankakee County Ordinances, Section 8.2 and landfill recommendations, Chapter 13.
	Any applicant requesting site location approval for a landfill expansion or a new sanitary landfill within the County should agree, in a host community agreement negotiated with the County, to pay an appropriate host fee. The host community agreement should be signed prior to submitting a siting application pursuant to Section 39.2 of the Illinois Environmental Protection Act. The host fee will be negotiated on a per ton basis and the landfill must install a scale. The final host fee per ton will be escalated based on the appropriate consumer price index for the host County.	No change.	See Kankakee County Ordinances, Section 8.2 and landfill recommendations, Chapter 13.
	Kankakee County does not intend to pursue any siting studies for identification of new landfills in the County.	No change.	No Change.
Siting ordinance	The County will review its facility-siting ordinance and upgrade it as necessary.	No change.	Implement.

Plan Component	1993/1995 Recommendation	2000 Update	Status/Recommendations
Other	Any local unit of government in the County, which is responsible for reviewing a siting application, should have an appropriate consultant to assist in the review of the siting application. If a facility receives siting approval, the unit of local government should have an appropriate consultant review the permit application submitted to the IEPA. Finally, if a facility receives its necessary permits, the unit of local government should have an appropriate consultant oversee the construction of the facility.	No change.	Delete.
County jurisdiction	Kankakee County will take the lead role in the management of solid waste in the County as opposed to a municipal joint action agency or a solid waste district.	No change.	Implement.
Legislation	Track the status of bills introduced in the general assembly that may influence Kankakee County's Solid Waste Management Plan.	No change.	Implement.

CHAPTER 3. DEMOGRAPHICS UPDATE

Knowledge of the history and demographic makeup of an area makes it possible to assess trends in waste generation and predict the quantity and origin of municipal waste generated in that area. In addition, demographic data is necessary to design the operational components of the waste management system. This chapter presents current demographic statistics for Kankakee County and the trends expected to occur from 2010 through 2030, including population, employment and other demographic statistics.

Overview. Kankakee County was considered the perfect place to live by the Pottawatomi Indians long before the ever-increasing westward migration of the white settlers replaced them. For here was a rolling landscape with a beautiful river thickly bordered with groves of oak, hickory, maple, cedar and black walnut. The Kankakee River Valley's beautiful land and rich natural resources are a result of debris and minerals left by three massive glaciers that came down from Canada thousands of years ago. The Pottawatomi Indians called the Kankakee River the Theatiki. Through variations in the pronunciation of Theatiki, Kankakee evolved. Some of the meanings of Theatiki are Wolf, Swampy Place, and Wonderful Land. With the land in places sloping gently to the water's edge and in others rising in sheer limestone bluffs many feet above the river, and the abundant wildlife that inhabited the area, no more beautiful or varied scenery could be found in the Middle West than in Kankakee County.

Settlers came to Kankakee County in 1834, after the federal government signed the treaty of Camp Tippecanoe in 1832. As word spread about the government acquiring the land, many immigrants of New York and Vermont moved their way west, mostly locating in Momence, IL. An act of the Illinois Legislature created Kankakee County out of the north part of Iroquois County and the south part of Will County on February 11, 1853. The six original townships were: Yellowhead, Rockville, Bourbonnais, Momence, Aroma, and Limestone. The population of the new county was about 8,000. It wasn't until 1855 that the two western townships of Norton and Essex were taken from Vermilion County and added to Kankakee County.

The City of Kankakee grew in the shadow of Bourbonnais, a French settlement nearby. Kankakee nonetheless became the eventual seat of government for Kankakee County, and in

1855 became the site of a depot on the Illinois Central Railroad. By 1900 its population had grown to about 13,500.

Since that time Kankakee County has grown at a steady pace. The County contains 677 square miles and is the 18th largest county out of 102 counties within the State of Illinois. Kankakee County is located just 45 miles south of Chicago off of Interstate 57. Routes 45/52, 50, and 17 also run through the Kankakee County area. Several railroads, including Norfolk Southern, Canadian National, Union Pacific and KBS also pass through areas within Kankakee County. A map of Kankakee County is provided in Figure 3.1.

According to the 2010 Census, 113,449 people reside in Kankakee County. Most of Kankakee County's population lives within municipal boundaries. The 21 municipalities within the County now account for 74.7% of the County's population compared with 70.7% in 2000. The municipalities of Bourbonnais, Bradley, Kankakee and Manteno account for 60.4% of the County's 2010 population. The history of the population for each municipality from 1970 through 2010 is shown in Table 3-1.

Figure 3.1. Kankakee County Map

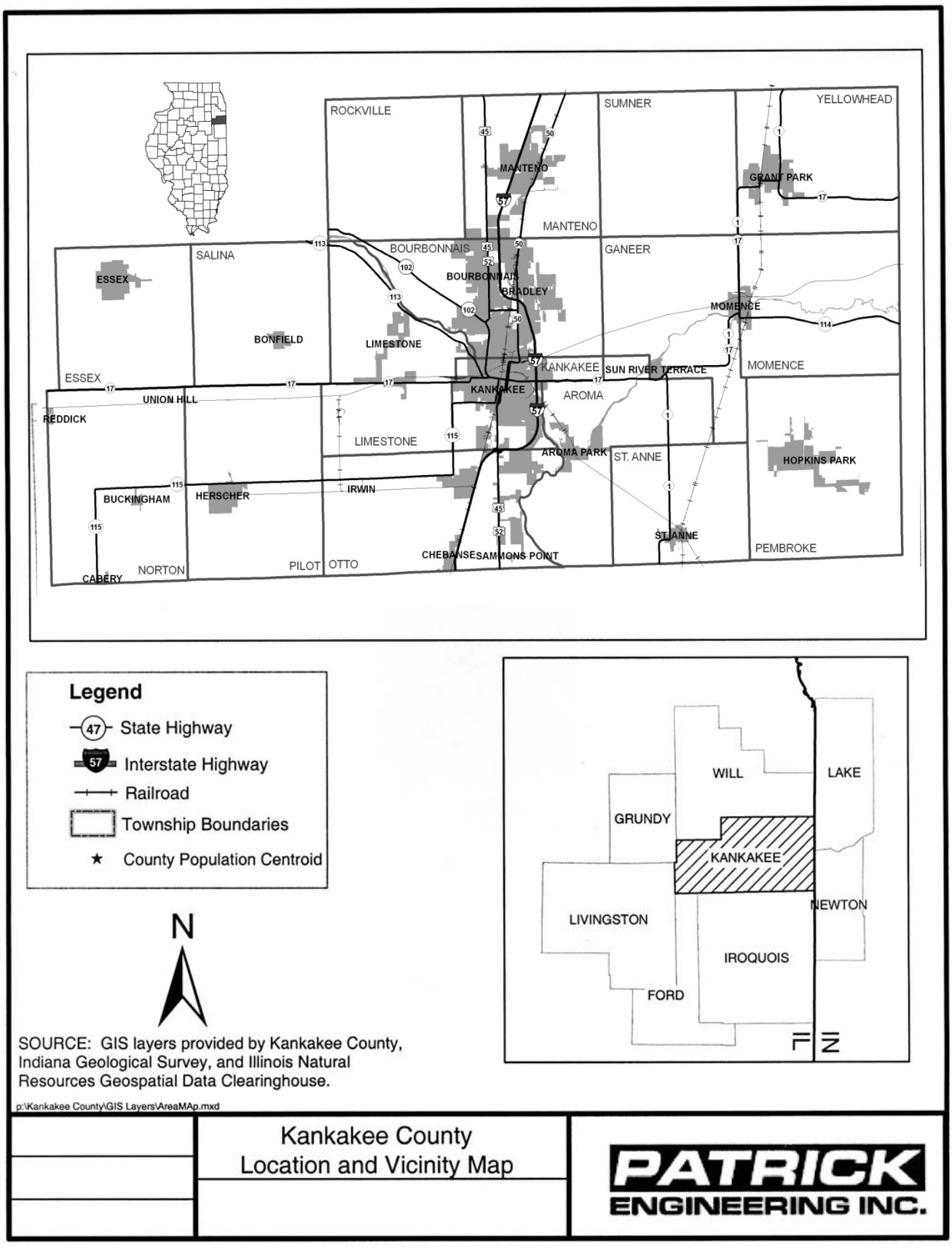


Table 3.1. Municipal Populations

Municipality	2010 Population	2000 Population	1990 Population	1980 Population	1970 Population
Aroma Park	743	821	690	673	896
Bonfield	382	350	299	294	241
Bourbonnais	18,631	15,256	13,934	13,280	5,909
Bradley	15,895	12,784	10,792	11,015	9,881
Buckingham	300	400	340	330	198
Cabery (K3)	88	96	85	108	71
Chebanse (K3)	396	459	425	461	429
Essex	802	500	482	463	364
Grant Park	1,331	1,358	1,024	1,038	914
Herscher	1,591	1,523	1,278	1,214	988
Hopkins Park	603	711	601	263	N/A
Irwin	74	60	50	112	87
Kankakee	27,537	27,491	27,575	29,633	30,944
Limestone	1,598	N/A	N/A	N/A	N/A
Manteno	9,204	6,414	3,488	3,155	2,864
Momence	3,310	3,171	2,968	3,297	2,836
Reddick	144	208	208	203	214
St. Anne	1,257	1,212	1,153	1,421	1,271
Sammons Point	279	N/A	N/A	N/A	N/A
Sun River Terrace	528	552	532	N/A	N/A
Union Hill	58	66	37	82	85
Source: U.S. Census Bureau					

Of the 17 townships in the County, three townships, Bourbonnais, Kankakee and Manteno account for 70% of the County's total 2010 population. Table 3-2 depicts the population for each township from 1970 through 2010.

Kankakee Township has lost population. In 1990, the Township had a population of 28,502 and by 2010 it declined to 27,558. On the other hand, Bourbonnais Township increased from 1990 growing from 29,129 to 40,137 (2010). Of the other townships in the County, only Manteno has had any significant change in their share of population, growing from 5,059 to 11,183 since 1980.

Table 3.2. Township Populations

Township	2010 Population	2000 Population	1990 Population	1980 Population	1970 Population
Aroma	5,157	5,835	5,565	6,107	5,847
Bourbonnais	40,137	33,061	29,129	29,316	20,987
Essex	1,480	1,294	994	995	802
Ganeer	3,215	3,222	3,146	3,490	3,404
Kankakee	27,558	28,029	28,502	31,081	33,819
Limestone	5,035	4,659	4,358	4,627	4,092
Manteno	11,185	7,846	5,059	4,951	8,159
Momence	3,820	3,884	3,570	4,383	3,545
Norton	978	1,067	1,129	1,239	1,130
Otto	2,582	2,430	2,558	2,714	2,649
Pembroke	2,140	2,784	3,320	4,693	4,351
Pilot	2,086	2,065	1,917	1,868	1,665
Rockville	879	786	614	612	696
Salina	1,396	1,317	1,189	1,218	1,004
St. Anne	2,191	2,108	2,196	2,547	2,408
Sumner	910	879	799	815	772
Yellowhead	2,700	2,567	2,210	2,270	1,920
TOTAL	**113,449**	**103,833**	**96,255**	**102,926**	**97,250**

Source: U.S. Census Bureau

Table 3-3 presents 2010 Census data on the type of residential occupancy in Kankakee County. The 2010 Census data indicates a total of 45,246 housing units of which 41,511 are occupied and 3735 are vacant.

Table 3.3. Kankakee County Housing Profile

Municipality	Total Housing Units	Owner Occupied	Renter Occupied	Vacant	Avg. Household Size (persons)
Aroma Park	306	215	71	20	2.58
Bonfield	148	122	20	6	2.69
Bourbonnais	6445	4169	1978	298	2.63
Bradley	6415	3904	2207	304	2.58
Buckingham	108	87	9	12	3.13
Cabery	116	80	24	12	2.56
Chebanse	455	325	96	34	2.52
Essex	301	256	31	14	2.79
Grant Park	550	373	139	38	2.58
Herscher	646	455	148	43	2.64
Hopkins Park	290	140	103	47	2.48
Irwin	30	22	5	3	2.74
Kankakee	10935	4753	4893	1289	2.67
Limestone	598	511	65	22	2.77
Manteno	3838	2749	887	202	2.53
Momence	1275	756	436	83	2.66
Reddick*	80	57	7	16	2.55
St. Anne	541	322	175	44	2.53
Sammons Point	116	77	26	13	2.71
Sun River Terrace	228	118	81	29	2.65
Union Hill	27	21	4	2	2.32
Unincorporated	11798	9086	1508	1204	2.31
TOTAL	45,246	28,598	12,913	3,735	2.39

Although all the 2010 Census data has not been released as of the date of this report, the 2000 Census found that of the total households in Kankakee County, approximately 82.5 percent are single family (households including 1 detached unit and 1 through 4 attached units), 9.5 percent are multi-family (households including 5+ attached units), and 7.9 percent are manufactured home developments (mobile homes, trailers, etc.).

Population Trends. The 2010 Census Bureau measured the population of Kankakee County to be 113,215 residents. This is an increase of 0.2 percent from a year earlier and 9 percent since the 2000 Census. Since 1990, Kankakee County has added an average of 893 people annually, although it has varied from as little as 130 people to as many as 1,617 people. Between 2000 and 2010, the Census estimates Kankakee County has added 9,616; the largest census population gain since the 1950's when Kankakee County added 18,539 people. Between 1990 and 2000, Kankakee County added 7,578; a 7.9 percent increase.

The Kankakee Area Transportation Study (KATS) has forecasted a conservative growth rate of .8% annually through 2020 bringing the county's population to approximately 120,000. Woods & Poole (2004) a private forecasting firm, projects Kankakee County to have estimated population of only 112,290 in 2020, and to grow to an estimated 117,950 by 2030.

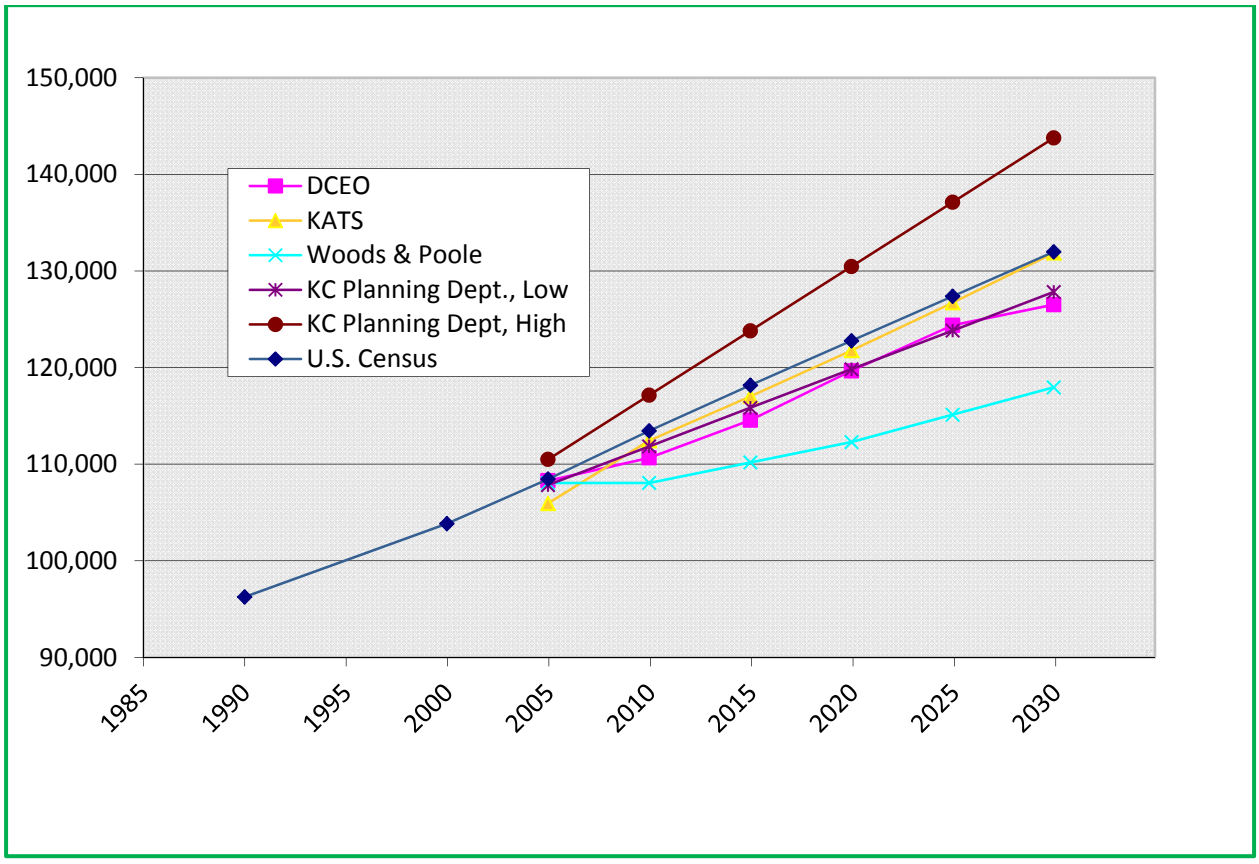
Based on 30-year projections from the Kankakee County Planning Department, the increase in housing units for the County will range from 300 and 510 units annually and from 9,000 and 15,300 total units over the projection period. These projections may translate into a total population increase for the entire County of between 23,990 and 39,933 persons over the next 30 years.

In addition to the above, population projections were obtained from the U.S. Census Bureau and the Illinois Department of Commerce and Economic Opportunity. Population projections for Kankakee County for the period 1990-2030 are shown in Table 3-4 and Figure 3-2.

The growth rates forecasted by Wood & Poole and by the high estimate from the Kankakee County Planning Department will be utilized as the low and high limits respectively to predict future waste quantities.

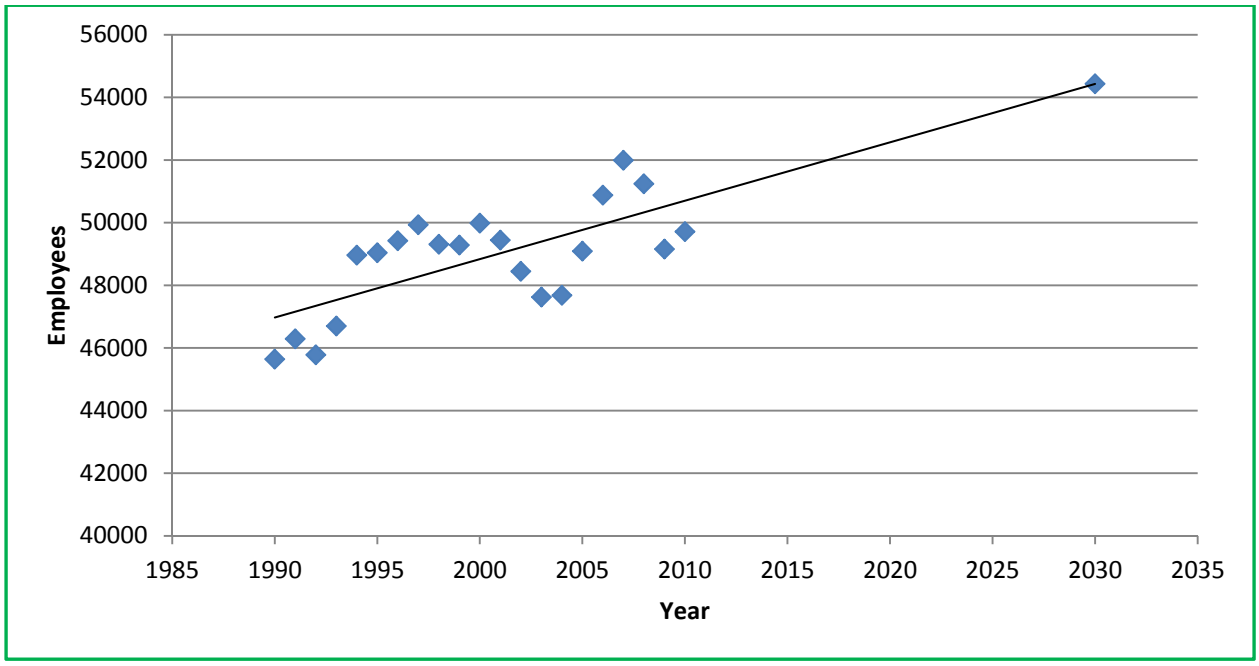
Table 3.4. Kankakee County Population Projections						
Year	U.S. Census	DCEO	Woods & Poole	KATS	KC Planning Dept., Low	KC Planning Dept., High
1990	96,255					
2000	103,833					
2005	108,453	108,286	105,947	108,053	107,831	110,489
2010	113,449	110,270	108,062	112,445	111,830	117,144
2015		112,697	110,176	117,015	115,828	123,800
2020		116,416	112,290	121,772	119,826	130,455
2025		119,967	115,120	126,721	123,825	137,111
2030		123,240	117,950	131,872	127,823	143,766

Figure 3.2. Kankakee County Population Projections



Employment Trends. According to the US Bureau of Labor Statistics, 49,711 people were employed in Kankakee County in 2010. Historical data shows employment numbers for Kankakee County have risen and fallen over the last twenty years but with an upward trend. Figure 3.3 illustrates this trend, which is approximates 0.38% growth per year. This projection results in an estimated employment of 54,432 by 2030.

Figure 3.3. Kankakee County Total Employment



Woods and Poole 2004 non-farm employment projections for Kankakee County show the County growing from 53,340 employees in 2000 to 71,090 employees in 2030, an increase of 17,750 or 33%. Woods and Poole employment projections are showing that they anticipate that jobs will begin to grow faster than the population. This would be a reversal of the previous trends in Kankakee County where the County has served as exporter of jobs. Woods and Poole 2004 estimates that industrial employment will increase from 23,240 in 2000 to 30,130 in 2030 - an increase of 6,890 jobs.

Other Demographic Trends. Between 2000 and 2010, the U.S. Census reported the number of households in Kankakee County increased by 4.636. Between 1997 and 2003, Woods and Poole estimates that the number of households in Kankakee County increased by 1,360 and the Kankakee County Planning Department reported 2,096 new housing starts countywide.

The median household income in Kankakee County is 10.9% below the State average income. Median household income in Kankakee County in 2000 was $41,532, and the median for the State was $46,590. However, incomes are increasing faster in Kankakee County than in the State. In 2003, the median price of a single-family home in Kankakee County was $104,500, which is about 40% below the State median. From an affordability perspective, half the households can afford the median price of a single-family home.

Various studies have found that per capita waste generation is related to the number of people per household, per capita income and retail sales, but the strongest predictors of overall waste generation are population and employment.

References

- 2030 Kankakee County Comprehensive Plan, January 2005.
- U.S. Census Bureau, Census 2010.
- Illinois Department of Commerce and Economic Opportunity, Office of Policy, Development, Planning and Research.
- Illinois Department of Employment Security, Economic Information and Analysis Division.
- U.S. Dept. of Commerce, Bureau of Economic Analysis.
- U.S. Bureau of Labor Statistics

CHAPTER 4. CURRENT AND PROJECTED WASTE GENERATION

The quantity and origin of municipal waste that is generated in the county must be determined in order to plan appropriately for the County's future solid waste management. The scope of this chapter is to quantify the municipal solid waste generated within Kankakee County and to provide projections of future quantities of waste generated based on projected demographic data.

The IEPA has defined "Municipal waste" to mean garbage, general household, institutional and commercial waste, industrial lunchroom or office waste, landscape waste, and construction and demolition debris from buildings and roads. This definition has also been interpreted to include:

- Abandoned or discarded household and commercial appliances (white goods)
- Abandoned or waste parts from automobiles normally removed as part of regular maintenance such as tires and batteries.
- Wastes collected in a household hazardous waste collection

Municipal waste does not include:

- Special or hazardous waste
- Abandoned or scrap automobiles
- Scrap metal from industrial operations such as machining, etc.
- Surplus or donated, reusable clothing or commodities donated to charitable organizations such as Goodwill or Salvation Army.
- Surplus or donated food for human consumption.
- Earth materials moved or removed during demolition or construction.

According to the mandates of 415IL15/4 and specific Kankakee County Ordinances, waste haulers, and/or recyclables, licensed by the County, shall submit annual reports on the amount of solid waste and recyclables collected, on March 31 of every year, to the Solid Waste Division of Kankakee County. More details on reporting and licensing requirements can be found in the Appendix A, under Article IV, pages 130 to 148.

It is also the duty of any licensed hauler not specifically referred to in this plan, but hauling waste collected in the county to send a report on the yearly amount of waste and/or recyclables collected to the Solid Waste Division of the Kankakee County on March 31 of every year.

From the reports the annual amounts of solid waste, recyclables and compost/landscape materials for Kankakee County can be determined.

Using this data with current census, the annual amounts of solid waste and recyclables per person can be calculated. In addition tables and figures on Kankakee County waste generation can be made and compared with previous prepared projected tables and figures.

The above aggregate data on solid waste and its calculated yearly reported, can be found online after March 31 of each year.

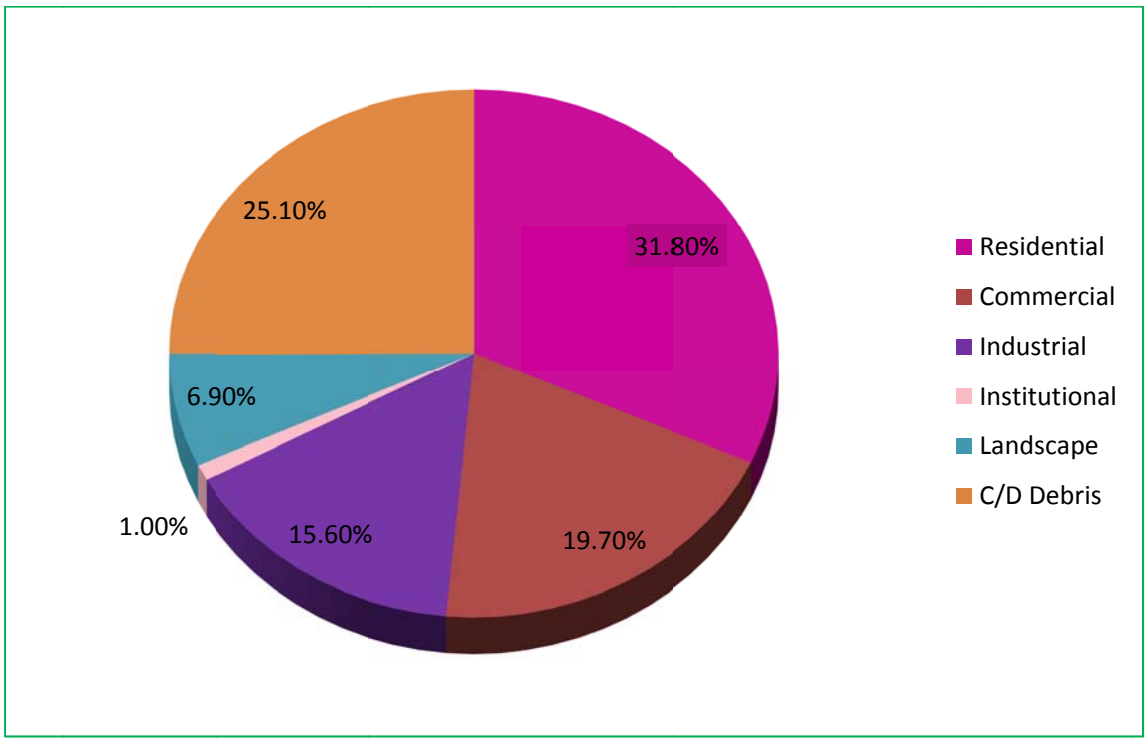
Every five years reports on the compiled annual results of the solid waste handling over this period with tables and figures shall be found online and sent to the IEPA.

The next most recent survey, conducted in 2004, had far better response and provided sufficient data to generate per-capita rates. Table 4.1 and Figure 4.1 summarize the results of that survey for 2004.

Table 4.1. 2004 Municipal Solid Waste Generation
(Tons Reported 2004)

Management Method / Waste Source	Landfilled	Recycled	Burned	Composted	Total	Percent of Total (%)
Residential	45,936	3,593	0	0	**49,529**	31.8%
Commercial	27,774	2,870	0	0	**30,644**	19.7%
Industrial	19,350	4,900	0	0	**24,250**	15.6%
Institutional	1,600	0	0	0	**1,600**	1.0%
Landscape	0	0	23	10,659	**10,681**	6.9%
C/D Debris	16,506	22,507	0	0	**39,013**	25.1%
TOTAL	**111,165**	**33,870**	**23**	**10,659**	**155,717**	
%	71.4%	21.8%	0.01%	6.8%		

Figure 4.1. Sources of Municipal Waste - 2004



Projected Waste Generation. Since population and employment are the primary variables affecting solid waste generation on a countywide scale, it was judged useful to base waste quantity projections on different sets of population and employment projections for Kankakee County. The projections presented here are based on the demographic trends described previously in Chapter 3 and the 2004 survey data above.

Two scenarios were developed to provide a range of expected waste generation for Kankakee County:

1) A high growth scenario using Kankakee County Regional Planning Commission's (RPC) high projections of population growth (1% annually) based on new housing development and a 0.58% average annual growth rate in employment (trend line projection from Figure 3.3 plus 0.2%). This was the most rapid population growth scenario discussed in Chapter 3.
2) A low growth scenario based on population projections by Woods and Poole (2004), a private forecasting firm (0.5% annually), and a 0.18% average annual employment growth rate (trend line projection from figure 3.3 minus 0.2%). This corresponds to the most conservative projection of population growth for Kankakee County.

The projected waste generation quantities were calculated assuming waste generation is proportional to population for residential waste, landscape waste and C/D debris; and proportional to employment for commercial, industrial and institutional waste. Generation rates were derived from the data collected from the 2004 hauler survey, and were considered to remain constant over the planning period. Table 4.2 lists the generation rates derived.

Table 4.2. Kankakee County Waste Generation Rates for 2004

Waste Type	Waste Generated (tons/year)	Population [Employment]	Rate*
Residential	49,529	107,424	2.53 lbs/person/day
Commercial/Industrial/Institutional.	56,494	[47,679]	6.5 lbs/employee/day
Landscape	10,681	107,424	0.54 lbs/person/day
C&D	39,013	107,424	1.99 lbs/person/day
TOTAL	155,717	107,424	**7.94 lbs/person/day**

* Rate = (tons/year) x 2000 ÷ population ÷365

While it is often difficult to compare waste generation rates between different localities due to different data reporting, collection and calculation methods, and the effects of varying demographics and commercial/industrial mixes, Table 4.3 shows a selection of reported total waste generation rates from a number of Illinois Counties for comparison.

Table 4.3. Illinois County Total Waste Generation Rates

County	Total Waste Generation Rate
Iroquois	5.0 lbs/person/day
Kane	7.7 lbs/person/day
LaSalle	9.3 lbs/person/day
Livingston	6.4 lbs/person/day
McHenry	7.8 lbs/person/day
McLean	7.1 lbs/person/day
Peoria	10.8 lbs/person/day
Rock Island	9.6 lbs/person/day
Vermillion	6.5 lbs/person/day
Will	5.6 lbs/person/day
Source: IEPA 2009 Landfill Capacity Report	

A sample calculation is shown in Table 4.4. Tables 4.5 and 4.6, and Figures 4.2 and 4.3, present the waste generation projections of the two scenarios.

Table 4.4. Sample Waste Generation Calculation

Waste Type	Rate*		Population (Employment)		Waste Generated (tons/year)
Residential	2.53 lbs/person/day	x	113,449	x 365 days ÷2000 lbs/ton	52,382
Comm./Ind./Inst.	6.5 lbs/employee/day	x	(49711)	x 365 days ÷2000 lbs/ton	58,970
Landscape	0.54 lbs/person/day	x	113,449	x 365 days ÷2000 lbs/ton	11,180
C&D	1.99 lbs/person/day	x	113,449	x 365 days ÷2000 lbs/ton	41,201
TOTAL	**7.94 lbs/person/day**				**163,733**

Table 4.5. Kankakee County Waste Generation Projections: High Growth Scenario

Year	2010	2015	2020	2025	2030
Demographic predictors					
Population (Regional Planning Commission, 1% growth)	113,449	119,236	125,318	131,711	138,429
Employment (0.58% Avg. annual growth rate)	49,711	51,169	52,671	54,216	55,807
Waste Type					
Residential	52,382	55,054	57,863	60,814	63,916
Commercial/ Industrial /Institutional	58,970	60,700	62,481	64,314	66,201
Landscape	11,180	11,751	12,350	12,980	13,642
C&D	41,202	43,304	45,512	47,834	50,274
TOTAL	163,734	170,808	178,206	185,942	194,033

Figure 4.2. Kankakee County Waste Generation Projections: High Growth Scenario

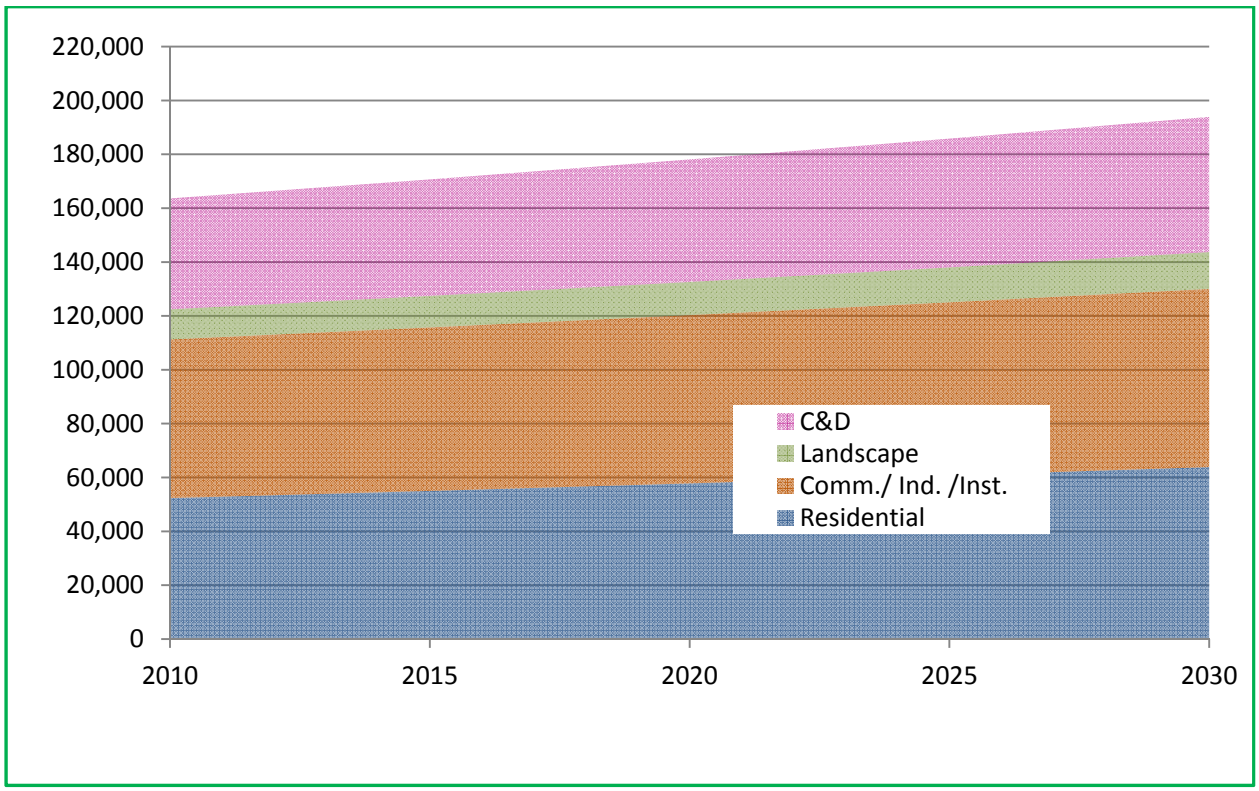
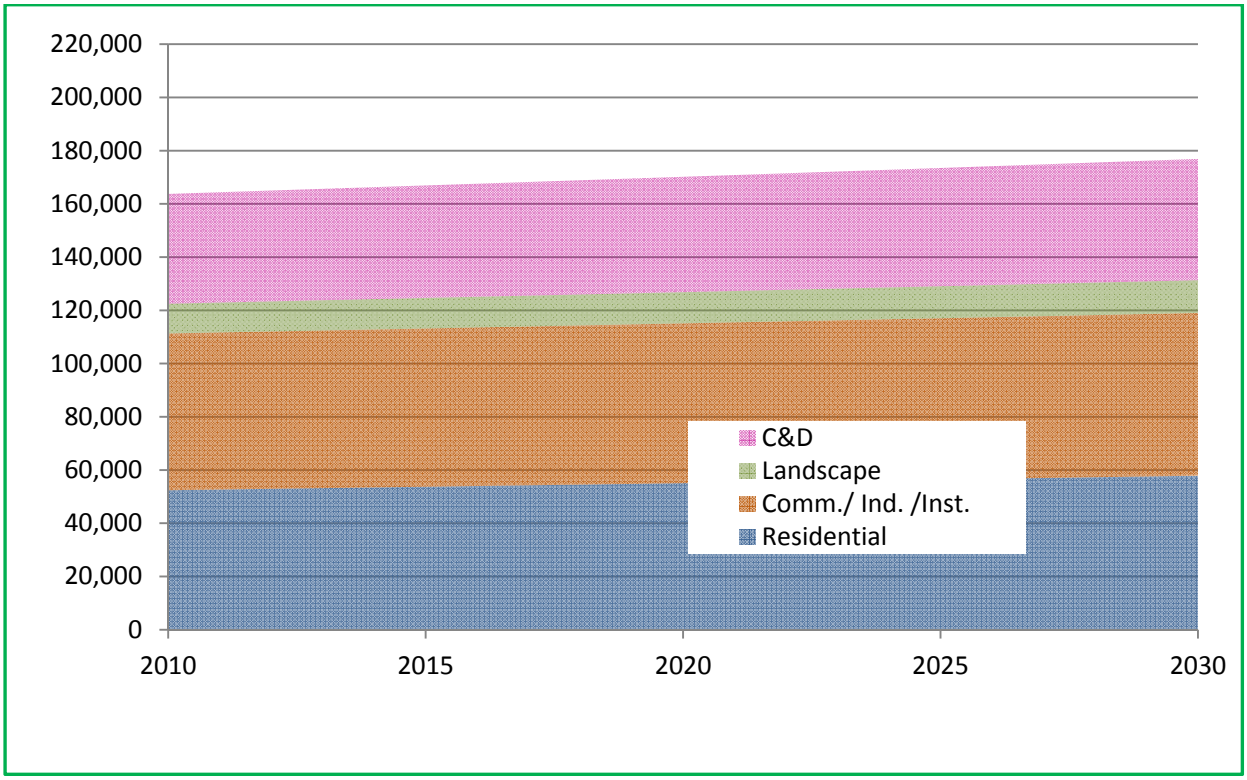


Table 4.6. Kankakee County Waste Generation Projections: Low Growth Scenario

Year	2010	2015	2020	2025	2030
Demographic predictors					
Population (Woods & Poole, 0.35% growth)	113,449	116,314	119,251	122,262	125,349
Non-farm Employment (0.2% Avg. annual growth rate)	49,711	50,160	50,613	51,070	51,532
Waste Type					
Residential	52,382	53,705	55,061	56,451	57,877
Commercial/ Industrial /Institutional	58,970	59,502	60,040	60,582	61,129
Landscape	11,180	11,463	11,752	12,049	12,353
C&D	41,202	42,242	43,309	44,403	45,524
TOTAL	163,734	166,912	170,162	173,485	176,883

Figure 4.3. Kankakee County Waste Generation Projections: Low Growth Scenario



In summary, based on the 2004 generation rates, and projections of the County's population and economic growth, the amount of waste generated could grow from an estimated 449 tons/day to between 485 and 531tons per day by the end of the 20-year planning period.

CHAPTER 5. SOLID WASTE AND RECYCLING COLLECTION

Waste and recycling collection in Kankakee County is accomplished primarily by private haulers. Within the City of Kankakee, residential waste collection, including bagged landscape waste, is franchised to a private hauler, but is supplemented with a city hauling crew that picks up large items including large tree limbs. The City also hauls waste collected from the cleanup of illegal dumping. Table 5.1 lists twelve haulers known to be operating in Kankakee County and the services they provide. County ordinance now requires license and several licensure conditions for all waste and recycling haulers.

Table 5.1. Kankakee County Waste Management Service Providers

Service Provider	Licensed With County	Services Provided
Homewood Disposal Corporate Headquarters 1501 W 175th Street Homewood, IL 60430 (708) 798-1004 www.homewooddisposal.com (Formerly A&J Disposal/Kankakee Sanitary) P.O. Box 289 Kankakee, IL 60901 815-932-1115 (Formerly Heartland Disposal) PO Box 588 Morris, IL 60450 815-942-5851	X	Residential, commercial and landscape waste disposal, commercial recycling, C/D debris
Allied Waste Services (formerly Apollo Disposal) 120 E. Industrial Drive Momence, IL 60954 815-472-3332 www.alliedwastechicago.com/residential/community/momence	X	Residential and commercial waste disposal, curbside and commercial recycling, C/D debris
Belson Steel Center Scrap, Inc. 1685 N. State Route 50 Bourbonnais, IL 60914 815-932-7416 www.belsonsteel.com		Metal scrap

Service Provider		Services Provided
River Valley Recyclers 288 West South Tec Dr. Kankakee, Illinois 60964 815-928-8400 www.rivervalleyrecycling.net	X	Recycling drop-off, auto recycling
Boomgarden Trash Piper City, IL 60959 815-383-2369		Residential waste disposal (Chatsworth)
City of Kankakee 850 N. Hobbie Ave Kankakee, IL 60901 815-933-0446 www.citykankakee-il.gov/citydept.htm#Environmental Services Utility		Residential bulky waste disposal, open dumping control
Land and Lakes 123 N. NW Highway, Fl 2 Park Ridge, IL 60068 847-825-500 www.land-and-lakes.com		Residential, Commercial, Special Waste disposal. Landscape waste composting. Food waste recycling.
PAC /Pembroke P.O. Box 601 Momence, IL 60954 815-944-6735	X	Residential waste disposal
Prairie Disposal 32302 S. Kedzie Grant Park, IL 708-946-6753	X	Residential waste disposal
Tri-City Disposal 418 N Michigan Ave Bradley, IL 60915 815-939-3252	X	Residential waste disposal
United Disposal of Bradley, Inc. P.O. Box 179, 1000 Liberty St Bradley, IL 60915 815-933-0081		Residential and commercial waste disposal, Curbside Recycling
Waste Management, Inc. 2100 Moen Avenue, Rockdale, IL 60436 (815-773-1165) www.wm.com	X	Residential waste disposal, Curbside Recycling

Haulers operate under contract to the municipality (are franchised) in all communities except Hopkins, Irwin, Reddick and Bonfield. Table 5.2 summarizes these franchise agreements. The weighted-average monthly cost per household of these agreements is approximately $19.86. The un-franchised areas report paying an average of $21.69/hh/mo without recycling service.

Recycling Collection. Residential curbside recycling collection is available in the communities of Bourbonnais, Bradley, Essex, Grant Park, Kankakee, Manteno, and Momence. According to the 2010 census, the single-family residences in these seven cities represent 67.7% of the households in Kankakee County. Drop-off recycling is available in Aroma Park, and Herscher. These communities account for an additional 1% of the households. While 68.7% of Kankakee County residents have recycling services available, 31.3% of the of the households in Kankakee County, including most small communities and unincorporated areas and residents of multi-family housing units, do not have easy access to recycling services.

Table 5.2. Municipal Franchise Agreements

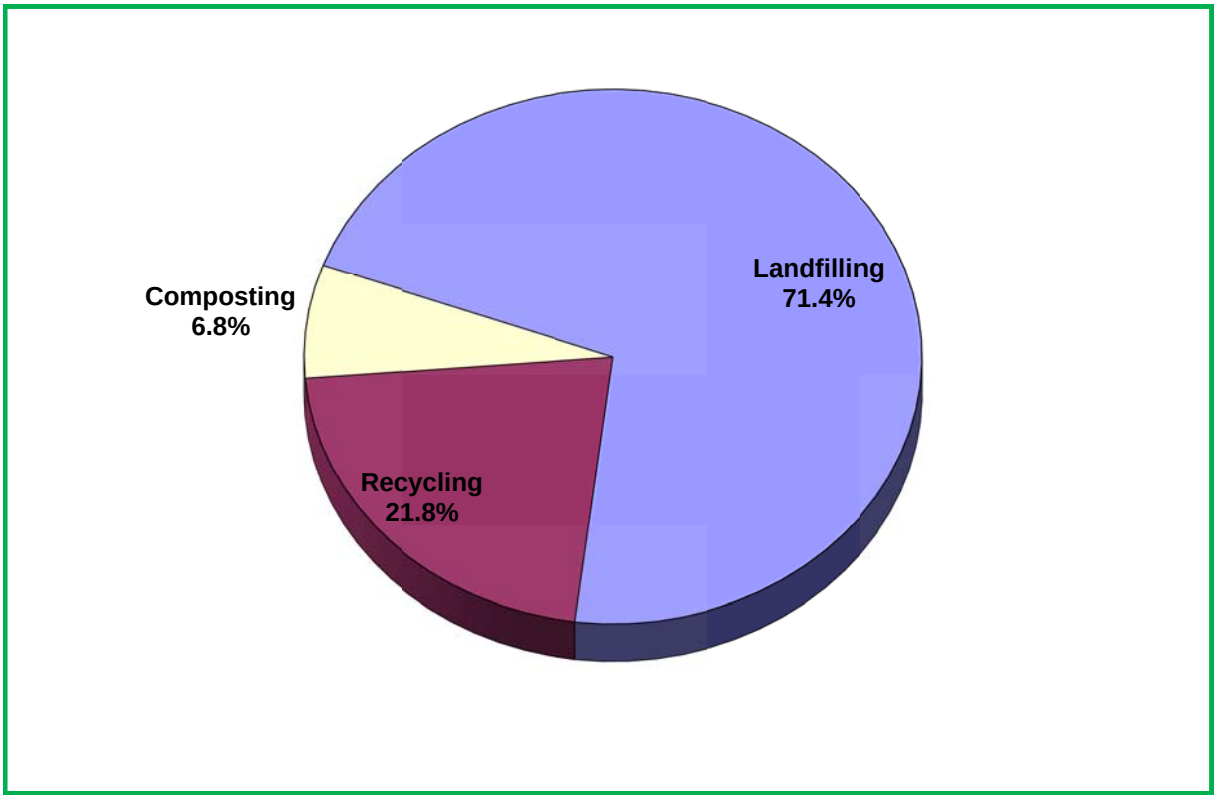
Municipality	Service Provider	Expiration Date	Pickup Frequency	Recycling Provision	Recycling Method	Approximate Cost $/hh/Mo (1)	Other Provisions
Aroma Park	A&J	2010-2014	Weekly	Drop-off site	Drop-off	$15.50	• Pay-as-you-throw for landscape waste, Apr.-Nov., $1.15/bag • Village picks up leaves or can burn • One bulk item per week
Bonfield	No franchise		Weekly	None		$26.67	Kankakee Sanitary/A&J is the hauler contracted by individuals
Bourbonnais	Allied	4/2010-3/2014	Weekly	Curbside Bi-weekly	Cart	$16.25	• Yard waste April 1st-Nov 30 • Bulk item pickups weekly
Bradley	Allied	2012-2017	Weekly	Curbside Bi-Weekly	Toters	$17.25	• Renews annually • One bulk item a month per household • Includes landscape waste pickup: Apr.-Nov.
Buckingham	A&J	5/2006-4/2012	Weekly	None	--	$15.00	• Includes landscape waste pickup • Includes bulk item pickup
Cabery (North side)	Boom Garden	N/a	Weekly	Limited to paper	No special containers	$15.00	• Includes landscape waste
Chebanse	A&J	6/09-5/2014	Weekly	None	--	$13.00	• Does not include landscape waste pickup • One bulk item per week
Essex	Waste Management Inc.	1/2011-12/2015	Weekly	Curbside	Carts	$21.80	• Does not include landscape waste pickup • Bulk items (call ahead for pickup)
Grant Park	Allied	4/2011	Weekly	Curbside	Green bag	$17.00	• Yard waste pickup with purchased tag • Contract is up for renewal
Herscher	A&J	5/1/2009-4/30/14	Weekly	Drop-off site	Drop-off	$13.00	• Does not include landscape waste pickup • One bulk item per week • 90-gal carts provided
Hopkins Park	No franchise		Weekly	No	--	$20.00	• PAC Waste is the hauler contracted by individuals
Irwin	No franchise						• Allied is the hauler contracted by individuals
Kankakee	Allied	1/2011-12/2015	Weekly	Curbside	Cart	$29.50	• Includes yard waste pickup. City picks up leaves • Bulk item pickup

Municipality	Service Provider	Expiration Date	Pickup Frequency	Recycling Provision	Recycling Method	Approximate Cost $/hh/Mo	Other Provisions
Manteno	A&J	6/30/13	Weekly	Curbside	Cart	$12.70	• Yard waste bags purchased individually and picked up April-Nov
Momence	Allied	10/2010-9/2016	Weekly	Curbside	Cart	$12.38	• Includes landscape waste pickup • Includes bulk item pickup
Reddick	No franchise		Weekly	None	--	$26.67	• Waste Management is the hauler contracted by individuals.
St. Anne	A&J	5/2009-4/2013	Weekly	None	--	$13.15	• One bulk item per week
Sun River Terrace	Allied	7/08-6/12	Weekly	None	--	$17.00	• One bulk item per week • Includes landscape waste pickup Apr.-Nov.
Union Hill	A&J		Weekly	None	--	$20.88 Village pays for all residents	• Once a year the Village gets a dumpster

CHAPTER 6. SOLID WASTE DISPOSITION

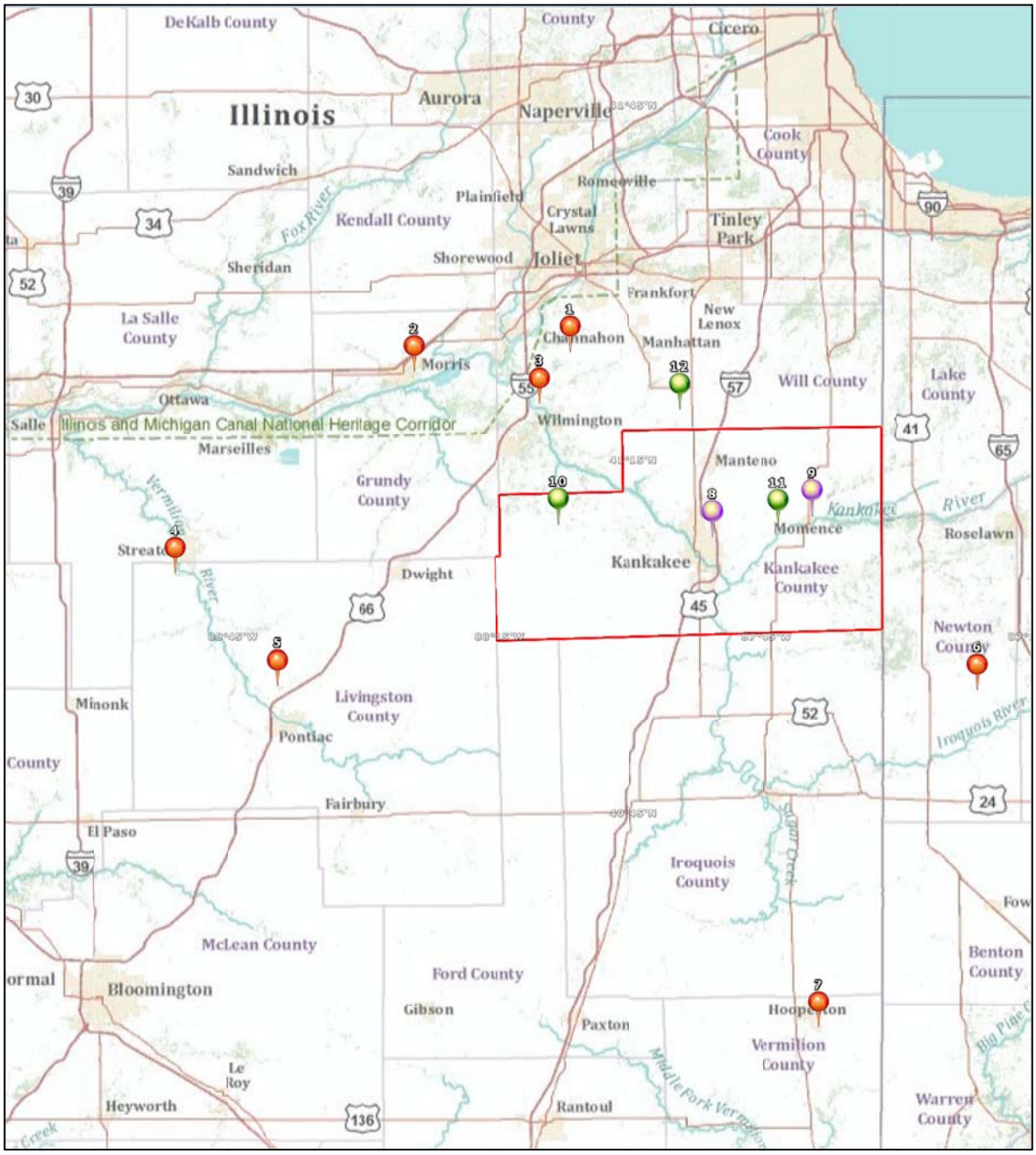
The majority of wastes discarded in Kankakee County are managed by landfilling with less than a third managed through recycling and composting. There are no municipal waste incinerators in operation in Kankakee County, although a small amount of landscape waste is disposed of by burning. Although an unknown amount, it is estimated that a very small percentage of the municipal waste is likely disposed of in backyard "burn barrels" in rural areas. Table 4.2 in Chapter 4 lists the quantities of each type of municipal waste managed by landfilling, recycling, composting and burning in 2004 as reported in the County's survey. Figure 6.1 shows the percentage of the total waste handled by each method. The values for burning assume backyard burn barrel disposal is negligible.

Figure 6.1. Disposition of Municipal Solid Waste - 2004



A number of pollution control facilities, including transfer stations, landfills and compost facilities, operate in Kankakee County and the surrounding area. Figure 6.2 shows the relative location of these facilities, which are described further below.

Figure 6.2. Kankakee County Area Pollution Control Facilities



Landfills	Transfer Stations	Permitted Compost Facilities
1. Prairie View	8. Apollo Disposal Service	10. Joyce Farms Recycling, Inc
2. Environtech	9. United Disposal of Bradley	11. Van Drunen Farms
3. Laraway		12 Christiansen Farms
4. Streator Area		
5. Livingston		
6. Newton County		
7. Illinois		

Transfer Stations. There are two transfer stations in Kankakee County permitted by the Illinois Environmental Protection Agency (IEPA): Apollo Disposal in Momence and United Disposal of Bradley. Both transfer stations accept municipal waste. Apollo and United Disposal are regional transfer stations. Table 6.1 lists the transfer stations in Kankakee County.

Table 6.1. Kankakee County Transfer Stations, 2009

Facility	Capacity (Tons accepted, 2008)	IEPA Site Number
Apollo Disposal Service Transfer Station* 120 E. Industrial Dr. Momence, IL 60954 815-472-3332	100,000	0910650003
United Disposal of Bradley Transfer Station 1000 E. Liberty, P.O. Box 179 Bradley, IL 60915 815-933-0081	Active but waste receipts unreported	0910200013
* Owner: Allied Transportation Inc., subsidiary of Allied Waste Industries Inc. Source: IEPA Annual Landfill Capacity Report, April 2011.		

Landfills. There are no permitted, municipal waste landfills currently operating in Kankakee County. There are six landfills in neighboring counties that may accept waste from Kankakee County; Livingston Landfill in Pontiac, Environtech in Morris, Laraway in Elwood, Streator Area landfill, Newton County Landfill in Brook, Indiana, and Illinois Landfill in Hoopeston. The Prairie View Recycling and Disposal Facility is a seventh nearby landfill, but is currently restricted to accepting waste only from Will County. Table 6.2 lists the landfills in Kankakee County and the immediate surrounding area.

Table 6.2. Kankakee County Area Landfills, 2009

Facility	Remaining Capacity (Gate Cubic Yards, 1/1/2009)	Projected Closure Date	IEPA Site Number
Livingston Landfill 14206 East 2100 North Road -A Pontiac, IL 61764 (Livingston County) 815-844-3054	100,438,000	2042	1058210002
Illinois Landfill, Inc. 16310 E. 4000 North Road P.O. Box 29 Hoopeston, IL 60942 217-283-5968	19,532,000	2203	1830450009
Newton County Landfill 2266 East 500 South Road Brook, Indiana 47922	53,294,876	2027	IDEM Operating # 56-05
Environtech Inc. 1800 N. Ashley Rd. Morris, IL 60450	999,000	2014	0638140002
Laraway Recycling and Disposal Facility 21101 W. Laraway Rd. Elwood, IL 60421	668,300* (Estimated)	n/a	1970450002
Prairie View Recycling and Disposal Facility 29755 Prairie View Dr. Wilmington, IL 60481 (Will Co.) 815-423-5120	53,380,000 (not available**)	2027	1971105050
TOTAL	~176.05 million yd^3		

* Includes recently permitted expansions of 497,000 cubic yards of airspace.

** Accepting waste only from Will County.

Source: IEPA Annual Landfill Capacity Report, April 2011
IN Dept. of Environmental Mgmt. Landfill Capacity Survey Report, 2010.

Table 6.3 lists the types of waste reportedly received by the Newton County Indiana landfill from Kankakee County.

Table 6.3. Kankakee County Wastes Disposed at Newton County Indiana Landfill, 2010

Waste Type	Tons Disposed
Municipal Solid Waste	72,626
Construction/Demolition Debris	286
Other Non-municipal Wastes	17461
Reuse	843
Total	**91,168**

Compost Facilities. Kankakee County contains two IEPA permitted landscape waste composting facilities and several on-farm composting facilities. On-farm facilities do not require IEPA permits but are restricted to accepting only the amount of material they can process and use on-site. Of Kankakee's neighboring counties, only Will County has permitted compost facilities. The closest is located in Peotone. Table 6.4 lists the compost facilities in Kankakee County and Peotone.

Table 6.4. Kankakee County Compost Facilities, 2009

Facility	Capacity (Tons accepted, 2009)	IEPA Site Number	Permit Expires
Joyce Farms Recycling Inc. 13256 W 3000 N. Road Essex, IL 60935 815-426-2133	36,751	0910355001 (note: also operates an on-farm facility at same site)	12/31/13
Van Drunen Farms 2584 North 8000 East Road Momence, IL 60954 815-472-3540	1,955	0910655024	9/1/13
Christiansen Farms 12151 W. Wilmington Road Peotone, IL 60468 708-258-6123	14,485	1970755021	9/13/15
Source: IEPA Annual Landfill Capacity Report, April 2011			

Recycling Facilities. By County ordinance all licensed waste haulers must offer recycling services to their customers. Both of the transfer stations in the County accept and handle recyclable materials. Table 6.5 lists drop-off locations and the scrap metal recyclers in Kankakee County. There are no significant recyclable materials processing facilities located in Kankakee County. The nearest large recycling processing facilities are Homewood Disposal/Diversified Recycling in East Hazel Crest (Cook County) and Resource Management in Plainfield (Will County).

Table 6.5. Scrap Metal Recyclers
Belson Steel Center Scrap, Inc. 1685 N. State Route 50 Bourbonnais, IL 60914-9393 815-932-7416
River Valley Recycling 288 W. South Tec Drive Kankakee, IL 60901-8310 815-928-8400 1244 W Grinnell Road Kankakee, IL (815) 937-5742

Projected Solid Waste Disposition: Projections of the means of disposition of the municipal waste generated by Kankakee County under the high and low growth scenarios proposed in Chapter 4 were developed, assuming landfilling, recycling and composting will continue to be the primary means of solid waste management.

The County of Kankakee has set a goal of increasing its recycling rate to 40% by the end of 2030 (not including composting of landscape waste). This goal and the assumption that composting will continue to handle nearly all the landscape waste generated were incorporated in the projections in Table 6.5 and Figures 6.3 and 6.4.

Table 6.6. Waste Disposition Projections (tons/year)					
Waste Disposition Projections (HIGH)	**2010**	**2015**	**2020**	**2025**	**2030**
Landfilled	110,068	108,742	107,107	105,137	102,805
Composted*	11,158	11,727	12,325	12,954	13,615
Recycled	42,508	50,339	58,774	67,851	77,613
Waste Disposition Projections (LOW)	**2010**	**2015**	**2020**	**2025**	**2030**
Landfilled	110,068	106,282	102,313	98,155	93,802
Composted*	11,158	11,440	11,729	12,025	12,328
Recycled	42,508	49,191	56,121	63,305	70,753
Recycling rate (Growth from 2004 rate to 40% in 2030)	26.0%	29.5%	33.0%	36.5%	40.0%
* Calculated as 99.8% of landscape waste generated					

As can be seen in the graphs below, the 40% recycling rate goal would result in a leveling off of the growth in the amount of waste being landfilled under the high-growth scenario. Under the low-growth scenario, this goal could eventually reduce the amount of waste landfilled.

Figure 6.3. Projected Solid Waste Disposition - High Growth Scenario

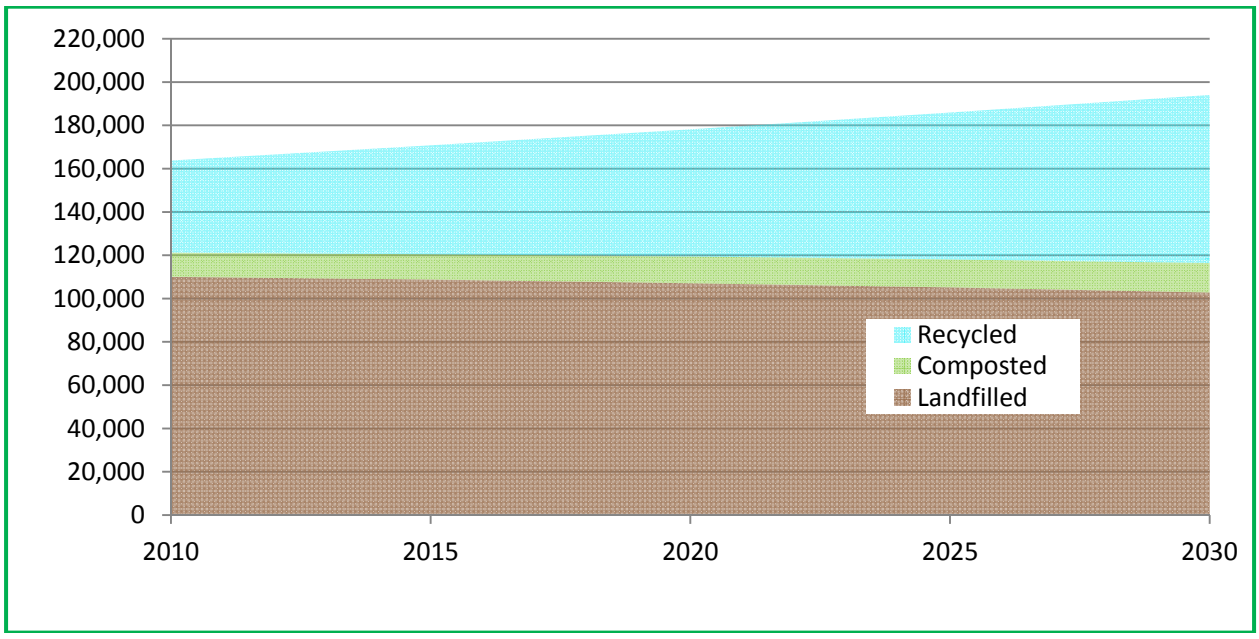
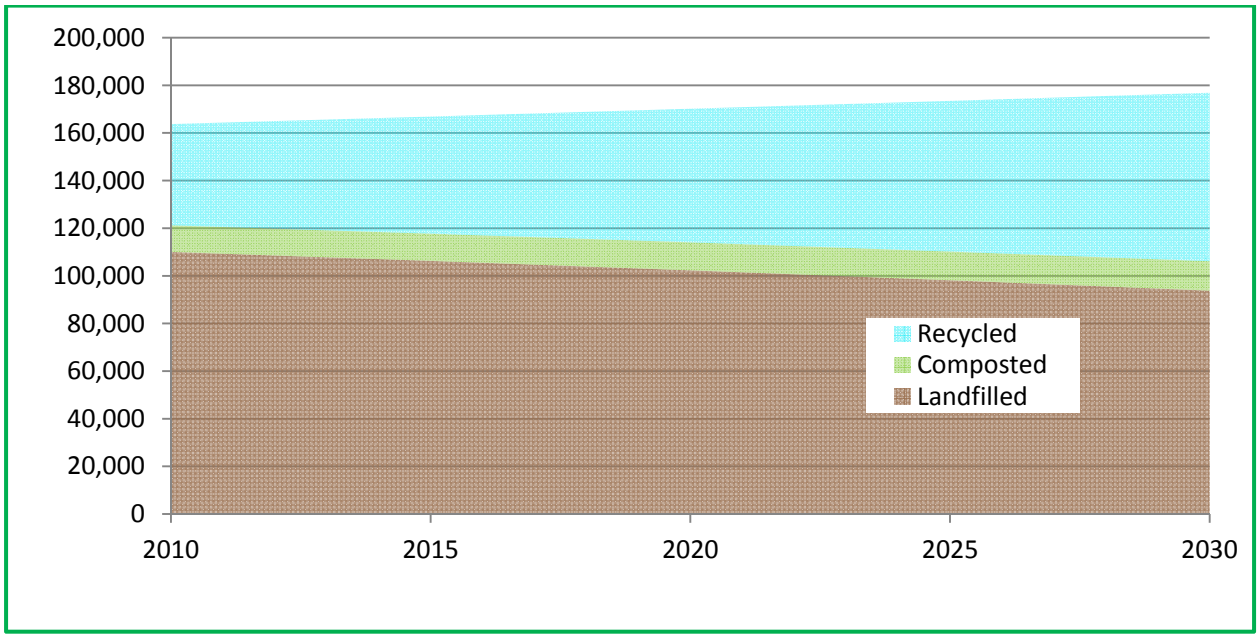


Figure 6.4. Projected Solid Waste Disposition - Low Growth Scenario



CHAPTER 7. WASTE REDUCTION AND RECYCLING RECOMMENDATIONS

The combination of materials collected for recycling (21.8%) and landscape waste collected for composting at off-site facilities (6.8%) amounted to 28.6% of the waste generated in Kankakee County in 2004, which exceeds the 25% goal required by the 1988 State of Illinois Solid Waste Planning and Recycling Act (See Figure 6.1, Chapter 6). Table 7.1 shows the estimated recycling rates by sector for Kankakee County and reveals the residential and commercial recycling rates (excluding landscape waste) to be far less than the 25% rate that is expected to have been reached by this time.

Table 7.1. Sector Recycling Rates in Kankakee County (2004)

Sector	Recycling Rate
Residential	7.3%
Commercial / Institutional	8.9%
Industrial	20.2%
Construction / Demolition	57.7%
Total	**21.8%**
From Table 4.1	

If the County wishes to make progress toward a goal of a 40% recycling rate, significant increases in the residential and commercial recycling rates will be necessary.

Optimizing Recycling Programs

Promotion and Education: Recycling programs are known to respond to public education and promotion programs. Participation rates and amounts of materials collected will peak after a focused promotion, but then gradually decline until the next. Regular and continuing feedback to the public on the need for, and the successes of, the recycling programs are necessary to maintain high participation and capture rates.

A promotion and education program could include but not be limited to the following:

- Incorporating recycling and waste reduction lessons into school curriculums.

- Publishing a regular newsletter or newspaper column on waste and recycling issues.
- Organizing regular promotional events. National events such as Earth Day and America Recycles Day provide excellent opportunities for such activities.
- Providing grant funding and technical assistance to help initiate recycling projects and programs.
- Assisting municipalities with public service announcements and promotional recycling events.

Availability: As discussed in Chapter 5, while 68.7% of Kankakee County residents have recycling services available through franchise agreements, 31.3% of the of the households in Kankakee County, including most small communities and unincorporated areas and residents of multi-family housing units, must rely on distant drop-offs or other hauler-provided services. The County Recycling Ordinance requires all licensed waste haulers to offer recycling services to their customers. The amount of materials collected for recycling in Kankakee County will increase if convenient recycling services are made available in these underserved areas.

Convenience and Larger Containers: Recycling programs increase recovery whenever inconvenience to the resident is reduced. Curbside programs collect more material than drop-off programs. Programs that collect on the same day as garbage collection usually have better participation. If participants don't run out of space for their recyclables, the recyclables are less likely to end up in the trash.

Bag programs, where participants must purchase special bags in which to set out their recyclables, often suffer from lower participation rates than programs using recycling bins partly due to the cost and inconvenience of purchasing the bags. In addition, if the resident runs out of bags, recyclables will usually end up in the trash until additional bags are obtained. Plastic bags also represent an additional sorting step for recycling processors, lowering the value of the recyclables collected.

Bag programs previously dominated in Kankakee County likely due to the influence of the Chicago Blue Bag Program on area recyclers and the lower start-up costs associated with bag programs. However, like the City of Chicago, Kankakee County municipalities are re-examining their systems and looking for alternatives that will increase their participation rate.

Many recycling programs rely on the use of the classic 14- or 18-gallon recycling bin for collection and set-out of recyclables. However it is not uncommon for this container to be insufficient for the weekly recyclables from many households. A common curbside scene is an odd assortment of other containers along with the original bin being used to set out recyclables. Recent studies in Northern Cook County and St. Paul, Minnesota as well as experiences in many other communities suggest that providing residents with larger recycling containers, such as wheeled 64-gallon carts or toters in place of the typical 18-gallon recycling bin, can result in significant increases in participation and recovery rates. Eureka Recycling in St. Paul reported a 20.8% increase in recyclables collected when using 64-gallon carts in bi-weekly collection in place of weekly collection of 18-gallon bins. The Village of Skokie in Cook County reported an 8% increase in materials collected and the City of Elgin's volume of recyclables collected increased by more than 40%. Lewisville, Texas reported their set out rate increased by 63% and they collected double the usual volume of recyclables in the first month after converting to larger carts.

In Kankakee County, Bourbonnais, Essex, Kankakee, Manteno and Momence have converted to large recycling carts. Survey data on recycling collection when Manteno first converted averaged approximately 1.25 pounds/household/day, which was nearly 40% higher than the average rate for Kankakee County (0.90 pounds/household/day for single family households with curbside recycling available).

The conversion to large carts often coincides with conversion to single-stream collection, in which residents are no longer required to sort their recyclables by type. Eliminating the inconvenience of sorting is often cited as part of the reason for increased participation and recovery. However, the St. Paul study found that the maximum recovery was achieved with

large carts in a dual-stream (1 cart for fiber and 1 for containers) collection system. Larger recycling containers also add to the effectiveness of PAYT programs (see below.)

Pay As You Throw (PAYT): PAYT programs, also known as unit-based pricing or variable-rate pricing, provide a direct economic incentive for residents to reduce the amount of waste they generate. Under PAYT, households are charged for waste collection based on the amount of waste they throw away—in the same way that they are charged for electricity, gas, and other utilities – while allowing them to recycle as much as they can at no additional cost. As a result, residents are motivated not only to increase the amount they recycle, but also to think about ways to generate less waste in the first place. The consulting firm, Skumatz Economic Research Associates, Inc. (SERA), a national firm that has documented and analyzed hundreds of PAYT programs, characterizes them as, "…the single most effective change a community can make to increase recycling."

A PAYT program can be structured in many different ways, but they can be categorized into 5 basic types:

- **Variable can or subscription service**: In this system, households sign up for a specific number of containers (or size of container) as their usual garbage service, and get a bill that increases with larger disposal volumes. An extra-small container (less than 18 gal) is often offered for the exceptionally well-motivated generators, which frequently includes many senior citizens.

- **Bag programs**: Households purchase special logo-ed bags (city or hauler logo, depending on the collection arrangement). The price of the bag includes some or all of the cost of collection and disposal of the amount of waste in the bag. Some programs have a customer charge or base fee in addition to the bag fees to help make sure they cover fixed costs. For convenience, bags are usually sold at convenience and grocery stores in addition to City hall-type outlets.

- **Sticker or tag programs**: Households purchase special tags or stickers to put on their bags or cans of garbage. The sticker price includes some or all of the cost of collection and disposal of the amount of waste in the container. As with bag programs,

some programs have a customer charge or base fee in addition to the sticker fees to help make sure they cover fixed costs. Like bags, stickers and tags are usually sold at convenience and grocery stores in addition to City hall-type outlets.

- **Hybrid programs**: In this system, households only pay for waste beyond some "base" set out volume. They pay a fixed bill or a tax bill that entitles them to a first can or bag of garbage (size limits are usually around 30 gallons). Then, additional waste is charged on a per-bag or per-sticker system as described above. This system is a "hybrid" between non-volume based, flat-fee garbage programs and the new incentive-based approach, and minimizes billing and collection changes.

- **Weight-based**: Under this program customer garbage cans are weighed on the back of retrofitted collection trucks, and the household is charged for the pounds of waste it actually disposes. This system is fairer, and communities can use large cans and automated collection but still provide a strong recycling incentive.

A multi-tiered billing system might be used in a subscription or hybrid system. In this scheme the basic (or lowest) charge can be set to cover the hauler's fixed costs and costs of recycling (if any). An incremental cost for disposing of additional amounts of waste is then added to reflect the system's variable costs. For example, a household might pay a $4/mo "service charge" to cover the costs of driving the route and recycling, and in addition, be required to purchase stickers for each bag or can of waste set out.

In a study of 1000 PAYT programs SERA found that communities that implemented new PAYT programs experienced not only a 5%-6% increase in their recycling rate (an average 50% increase in recycling tonnage) but also an average 6% reduction in waste generation.

Although changing to a PAYT system from a conventional system can be a difficult public education and public relations task, most communities have found that more than 90% of customers are pleased with systems after they are implemented and approve of the change. Most communities also have been able to find workable solutions to concerns about illegal dumping and costs for low-income residents.

Recycling Recommendations

Kankakee County intends to implement the following activities should sufficient funding and staffing be available.

Education and Promotion

- Kankakee County will hire or contract with an Illinois certified teacher to prepare and present solid-waste related lessons to school-age children (K-12). All programs will meet Illinois standards by elementary and secondary students.

  Programs will be updated on an on-going basis to meet specific needs of area schools.

  The chosen teacher will work with all Kankakee County schools on the Illinois Earth Flag Award Program or alternate programs in which schools are recognized each year for their efforts in recycling, waste reduction, energy savings and environmental education.

- County staff will maintain a solid waste library containing a variety of solid waste and recycling reference materials, including textbooks, magazines, and videos. The public is invited to use the library for school projects, research, or general reading.

- Staff will continue to disseminate the annual Waste & Recycling Pages to assist residents and businesses in finding alternatives to landfill disposal of wastes. Educational articles and local recycling events will be included.

- Staff will continue to prepare educational brochures and flyers on environmental issues for dissemination to the public.

- Staff will promote and celebrate Earth Day and America Recycles Day by coordinating local events in conjunction with State and Federal events. These activities may include waste-free lunch days, "green" shopping challenges, book recycling events, recycled product fairs, compost bin sales, etc.

- Staff will continue to rent exhibit space at the Kankakee County Fairgrounds on an annual basis. This fair is an excellent opportunity to interact with the public, hear complaints, answer questions, and hand out educational materials.

- Staff will prepare videos on solid waste topics for use in schools or for presentations to various community groups.

- Staff will maintain a solid waste web-site containing links to all available brochures, the Waste & Recycling Pages, the Solid Waste Plan Update, Solid Waste Ordinances, and Special Collection Event information.
- Kankakee County will provide technical assistance to schools, businesses, and municipalities with starting recycling programs, conducting waste audits and implementing waste reduction techniques.
- Staff will maintain a file of available grant opportunities for waste reduction, recycling, and environmental enhancement projects and will share with local municipalities. Staff will assist municipalities and other government agencies with preparation of grants as staffing levels allow.
- The County will continue its **Tipping Fee Recycling Grant Program** (dependent on funding) in which eligible entities within County borders can receive a $2500 grant for recycling projects per year with a $10,000 maximum total grant cap per year.
- Kankakee County will initiate, maintain, and expand **in-house recycling programs** at all County buildings. Staff will work with all Departments to ensure high participation rates in the program. Waste generation and recycling quarterly tonnage reports will be a required component of the program. Recycling successes will be advertised to the public to serve as a learning example.

<u>Recycling Expansion by Ordinance</u>

- Kankakee County has implemented a Recycling Ordinance to address low residential and commercial recycling rates.
- The Ordinance requires haulers to provide recycling services to all municipalities with curbside or drop-off methodology based on the population of the municipality. In addition, all multi-family dwellings, both incorporated and unincorporated, are required to have recycling service.

  Additionally, the Ordinance requires all haulers collecting waste and/or recyclables within the borders of Kankakee County to track and provide accurate and timely data on

tonnages collected, disposed, and recycled, annually to the Solid Waste Division. This provision will ensure the County has the needed information it requires to accurately track waste generation and recycling rates.

Amendments to this Recycling Ordinance may be added as needed to meet the State of Illinois and Kankakee County recycling rate goals. For instance, if residential rates are still not met with the initial Ordinance, the Ordinance may be amended to require the use of durable and reusable 64-gallon carts, PAYT billing systems, etc.

- Kankakee County may implement an amendment to the Recycling Ordinance to require all commercial businesses located within County borders to recycle the one or two materials that comprise the largest components of their waste stream. Similar ordinances are currently in place in Peoria and Kane counties and the City of Chicago.
- If the County finds that private sector efforts to provide recycling availability to residences in unincorporated areas are insufficient, Kankakee County in cooperation with Township governments will examine the feasibility of **franchising collection** of residential waste and recyclables in these areas. Through unincorporated franchising, the goals of reducing overall waste hauling prices, decreasing truck traffic, and providing recycling services to all unincorporated residents of a Township may be realized. Staff will research unincorporated waste franchising and meet with Township officials to explain this option. The County will assist with implementation including meetings, preparation of bid packages, and other services.

Material Recycling Facility

The County currently has no large material recycling facility (MRF) that can accept all types of typically generated recyclable materials from residential or commercial recycling programs. The availability of recycling and thus the County's recycling rate is influenced by the cost of recycling, which in turn is influenced by the distance materials must be transported for processing. Therefore, an effective means of increasing recycling would be to keep recycling costs low by implementing a County-wide MRF.

The MRF could be a full-function facility, sorting and preparing materials for marketing, or it could be a simple consolidation and transfer facility, collecting recyclables for bulk shipment to a large "mega-MRF" for processing. The latter option is a developing trend since the mega-MRFs have better access to markets and improved economies of scales, which keeps their processing costs low. In some cases recyclables are consolidated and shipped hundreds of miles more economically than they could be processed locally. The same transportation economies that apply for waste transfer stations would also apply in this situation (See the discussion in Section 8.1 Transfer Stations).

The Facility could be developed in one of three ways:

1. The County could develop the facility then contract for a private operator through an RFP process.
2. The County could rely on a private operator to develop an appropriate facility.
3. The County, acting as an agent for franchising municipalities and unincorporated areas, would contract for the development and operation of an appropriate facility by a private operator. The operator would provide a competitive rate under the contract, and municipalities could "buy-into" the contract through an inter-governmental agreement with the County and by directing their franchised recycling service provider to the designated facility.

With a local facility, it is likely that hauling costs will be lower which will encourage increased recycling opportunities.

Construction and Demolition Debris

Approximately one-quarter of the waste generated in Kankakee County and disposed of in a landfill consists of construction and demolition debris. A large portion of this material is recyclable. The material includes concrete, lumber, cardboard, gypsum board, metal, asphalt shingles, etc.

The County recognizes that continued growth in population over the next 20 years will result in higher generation rates of construction and demolition debris. In order to promote recycling of C & D debris, the following programs will be implemented:

- Assist contractors, developers, demolition firms, and waste haulers with locating C & D recycling locations.
- Maintain and update C & D recycling facility database.
- Develop educational materials and sponsor workshops to educate the public.
- Design and implement a Builder's Rebate Program, whereby homebuilders who recycle varying percentages of the C & D waste (with documentation provided) receive a rebate on their permit fee.
- Review established permitting and approval procedures based on conventional demolition processes to remove any obstacles for deconstruction. Streamlining the permitting process for deconstruction projects will help encourage deconstruction in lieu of conventional demolition."
- Pursue C & D recycling initiatives/locations within Kankakee County. Seek to develop County-supported deconstruction/recycling operations to provide job training for inmates, former inmates and other workers in need of new skills.

Special Collection Events

Staff will continue to sponsor special collection events to allow citizens to responsibly manage Household Hazardous Waste, Waste Tires, Electronic Equipment, and other items as collections become available. The County will investigate the feasibility of and funding mechanisms for a permanent Household Hazardous Waste collection facility within Kankakee County.

The County will maintain a drop-off location for used batteries from County operations; and will work with a national battery-recycling firm to ensure proper disposal/recycling of all batteries.

Procurement Policy

- Staff will work with all County Departments to initiate or amend procurement practices to favor the purchase of items manufactured with post-consumer recycled content, when performance standards, product availability, and cost are reasonably comparable to products made of virgin materials.

Composting

- Staff will promote the use of residential "grass-cycling" to keep grass out of the waste stream. A brochure will be created to educate the public on "grass-cycling"
- Staff will promote the use of backyard compost bins as an alternative to the collection and hauling of landscape wastes and kitchen vegetable scraps. Periodic backyard compost bin truckload sales will be conducted as well as dissemination of information by brochure, website and media outlets.
- Staff will prepare educational materials on vermi-composting, an indoor alternative to backyard composting. Vermi-composting is composting with worms and is an enjoyable activity for school age children.
- The County will support on-farm and permitted compost sites that operate in compliance with all applicable local and state environmental laws and regulations.

Waste Reduction/Reuse Recommendations

Kankakee County will conform to the Solid Waste Management hierarchy established in the Illinois Solid Waste Management Act [415 ILCS 20/2 (b)]. This hierarchy in descending order of preference, as State policy, is:

A. Volume reduction at the source/Reuse
B. Recycling
C. Combustion with energy recovery
D. Combustion for volume reduction
E. Disposal in landfill facilities.

Waste Reduction/Minimization means creating less waste in the first place, rather than having to recycle or dispose of it after generation. This is a vital component of waste management because, although the recycling rate in the United States has increased from approximately 7 % in 1970 to 33.2% in 2008, waste generation has increased during this same time period by 106% (according to the United States Environmental Protection Agency Office of Solid Waste report: *Municipal Solid Waste in the United States 2009 Data Tables)*. Only in 2007 and 2008, for the first time since 1960, waste generation rates per capita in the US declined slightly from previous years.

Staff recommends the following waste reduction and reuse policies should funding and staffing permit:

Public Outreach

- Kankakee County will prepare and disseminate educational materials to the public and businesses on proven waste reduction practices in general, as well as on the use of less-toxic products.
- Successful waste reduction/minimization practices will be advertised on the website and communicated to municipalities and businesses as examples.
- Kankakee County will prepare and disseminate educational materials to consumers targeting purchasing techniques that result in waste reduction. The relationship between consumption of goods and the generation of waste will be emphasized. Community and school activities such as Green Shopping Challenges will be sponsored and advertised to the public.
- Staff will promote and provide the means to the public to reduce/stop the receipt of junk advertising mail.
- Community, business, and school activities to reduce waste generation, such as waste-free lunch days will be sponsored and promoted by staff. Information on reducing food waste and increasing the use of non-disposable utensils and dishware will be disseminated to school cafeterias, as well as private cafeterias and restaurants.
- Kankakee County will promote the use of commercial and industrial material exchanges and will provide a link to several exchanges on the Solid Waste website. The use of

industrial material exchanges, disposal of various building supplies, chemicals, manufacturing remnants, equipment, etc. can be avoided through trade, donation, or sales.

- Staff will establish a database and disseminate the location of reuse and resale establishments located in the County, as well as charitable organizations with donation programs.
- Kankakee will research the effectiveness of unit-based "pay-as-you-throw" garbage collection programs as a method of promoting waste reduction through a pilot project study and analysis of other such programs already implemented.
- Staff will assist businesses, schools, industries, etc. with waste reduction audits as necessary.

In-House Programs

- A two-sided copying policy will be implemented in all Kankakee County Departments. Additionally, staff will promote a two-sided copying policy at all government agencies and businesses located within Kankakee County borders.
- Staff will work with all County Departments to institute a policy whereby all County vendors/suppliers offer products with reduced, minimal packaging. County purchasers will make arrangements with suppliers/vendors for returning shipping materials such as crates, cartons, pallets, and packaging for reuse. Additionally, the County will promote these practices at all government agencies and businesses located within Kankakee County borders.
- Kankakee County will purchase and promote the purchase of durable, long-lasting supplies and equipment that can be repaired easily and will establish and adhere to regular maintenance requirements.
- Kankakee County will reduce the use of hazardous constituents in its cleaning solvents, inks, paints, glues, and other materials used by maintenance, highway, and other departments. Suppliers of less-toxic products will be sought and equivalent-performing, economical products will be preferably purchased.

- Excess Kankakee County furniture and equipment will be offered for resale, bid out to the public, or donated to charitable organizations, with disposal in a landfill the choice of last resort.
- County Departments will be required to report implementation of and progress on these waste reduction practices on an annual basis to the Planning Department.

All recommendations are contingent upon adequate funding and staffing levels.

CHAPTER 8. POLLUTION CONTROL FACILITY RECOMMENDATIONS

Site Approval per SB 172. The first step in gaining regulatory approval of any pollution control facility - transfer station, incinerator or landfill - is to apply for local siting approval from the local governmental body that has jurisdiction over the proposed site. The siting process in Illinois is sometimes called "SB 172 siting" after the senate bill that introduced the legislation. This legislation amended the Environmental Protection Act by adding Section 39.2 to the Illinois Environmental Protection Act ("the Act"). The Kankakee County Siting Ordinance stipulates the local requirements for the siting approval process for landfills.

In September 2004, through Resolution 2004-09-14-194, the County Board amended the Solid Waste Management Plan to require a Host Community Agreement and fee for any type of Pollution Control Facility, including landfills, transfer stations, incinerators, etc., regardless of whether the proposed facility is to be sited inside or outside of municipal boundaries.

8.1. TRANSFER STATIONS

A transfer station is a facility that accepts waste for temporary storage or consolidation, and further transfers the waste to a waste disposal, treatment or storage facility. A transfer station is a facility designed to make the transportation of waste more efficient and economical. The traditional method of waste transportation has relied on packer trucks collecting the waste at the source of generation (households, businesses, etc.) and delivering the waste to a local disposal facility, predominantly landfills. The current trend towards fewer landfills results in larger, regional disposal facilities and generally results in longer haul distances (such as 50 to 100 miles) and increased transportation costs.

At a transfer station, waste from collection vehicles (such as packer trucks) is deposited on the transfer station floor. It is then reloaded into larger vehicles better suited for long haul. The types of vehicles used for the transportation of waste from the transfer station can include tractor-trailers, railcars or barges. Typically packer trucks have a net waste capacity from 7 to 12 tons. Packer trucks are extremely costly to use for long distance transportation. Tractor-trailers

are the most commonly used form of waste transport from the transfer station to the disposal facility, and often carry 22 to 25 tons. Rail transportation and barges are also used, with rail cars carrying up to 90 tons each. The choice of transportation is based on geographic and transportation infrastructure considerations.

Recovery Options. Transfer stations offer the potential for recovering recyclables by using dump and pick, or higher technology options to separate recyclables from incoming waste. Materials can be manually, mechanically or electronically screened and removed from the garbage after it is dumped on the transfer station floor. Options may include a conveyor system with manual picking stations where laborers pull materials from the waste as it passes by or more sophisticated automated systems. Such a system is often referred to as a "dirty MRF." Table 8.1.1 shows various separation options. These options are not as effective at capturing large percentages of recyclables from households as successful curbside recycling programs.

Table 8.1.1. Waste Separation Technologies

Technology	Materials Targeted
Screening	Large: film plastics, large paper, cardboard, misc. Fines: organics, metal fragments, misc.
Handpicking	Recyclables, inerts and chemical contaminants
Magnetic separation	Ferrous
Eddy current separation	Non-ferrous metals
Air Classification	Lights: paper, plastic Heavies: metals, glass, organics
Wet Separation	Floats: organics, misc. Sinks: metals, glass, gravel, misc.
Ballistic separation	Light: plastic, un-decomposed paper Medium: organics Heavy: metals, glass, gravel, misc.

Location and Regulatory Considerations

Setback Requirements. Section 22.14 of the Illinois Environmental Protection Act defines the setback requirements for transfer stations with respect to property that is zoned for

residential use. In counties with populations less than 300,000, such as Kankakee County, a transfer station may not be located within 1,000 feet of any property zoned primarily for residential use or within 1,000 feet of any dwelling.

Permitting. Transfer stations and other intermediate facilities are permitted by the Illinois Environmental Protection Agency, Bureau of Land. Four forms along with supplemental information are required for a permit application for a transfer station. The forms are: General Application for Permit (LPC-PA1), Application for Permit - Non-Special Municipal Waste Storage/Transfer Facility (LPC-PA5), Certification of Siting Approval (LPC-PA8), and Closure Plans and Post-Closure Care Plans (LPC-PA11).

It is the intent of Kankakee County that waste will be handled through transfer stations for the short term or longer depending upon other alternatives for waste disposal and management. The County would be open to siting another transfer station for economic reasons. Priority would be to include a recycling and a C&D component.

Environmental Impacts/Citizen Concerns A transfer station can potentially impact the surrounding air, water and land quality if designed and operated improperly. Most common citizens' concerns about transfer stations include noise, odor, traffic, dust, vectors, litter, and aesthetics. Other concerns include water pollution, fire concerns and hazardous waste.

Dust is created from waste tipping and loading operations. The use of liquid misting and air handling and filtering equipment can control dust. Dust collection ducts with filter or baghouse installations can be installed over the tipping floor and processing equipment to collect airborne particulate matter. The issues of noise, litter and odor should be addressed during the design and operations plan. Noise and litter can be controlled or minimized by fully enclosing the receiving and processing areas and requiring all vehicles to tarp their trucks. Odor control chemicals that react and neutralize odors should be considered, as well as utilizing a negative air pressure system inside the building. If necessary, exhaust air can be treated using activated carbon filters prior to being exhausted into the atmosphere.

Degradation of the water quality may be a potential problem occurring from washdown procedures of the facility floors and equipment. The washdown water may be treated onsite or held in a tank onsite before being released into the municipal sewer system. Special street sweepers and steam cleaners can be used to minimize the generation of washdown water. Groundwater contamination is less of a concern at a transfer station since all water contacting the waste (leachate) is collected and treated and should not contact the ground.

Economic and Planning Considerations

Facility Costs. Facility development costs vary widely depending upon building costs (local building codes), type of facility and equipment, site development costs, land costs, and siting and permitting costs. Operating costs will be dependent upon the level of processing planned (simple transfer versus material recovery, rail, barge or semi-trailer), labor costs, and numerous business costs including insurance and amortization costs.

Transfer Hauling Versus Direct Hauling. The economic feasibility of constructing and operating a transfer station can be determined by performing a break-even analysis of direct haul costs versus transfer haul costs. This analysis takes into account the cost of building a transfer station and hauling waste to a distant disposal facility in transfer trailer trucks (or trains or barges). The cost per ton of hauling waste is plotted against the distance to the disposal facility for both direct haul and for transfer haul. At the break-even point, the cost to direct haul waste is roughly equal to the cost of building a transfer station and of hauling waste with transfer trailers. At greater distances than the break-even distance, utilizing the transfer station is more economical than direct hauling waste in packer trucks. Table 8.1.2 and Figure 8.1.1 show an example of the breakeven analysis for a hypothetical 400-ton per day transfer station in Kankakee County. The cost estimates are based on conceptual facility development costs of approximately $4 million on a five-acre site.

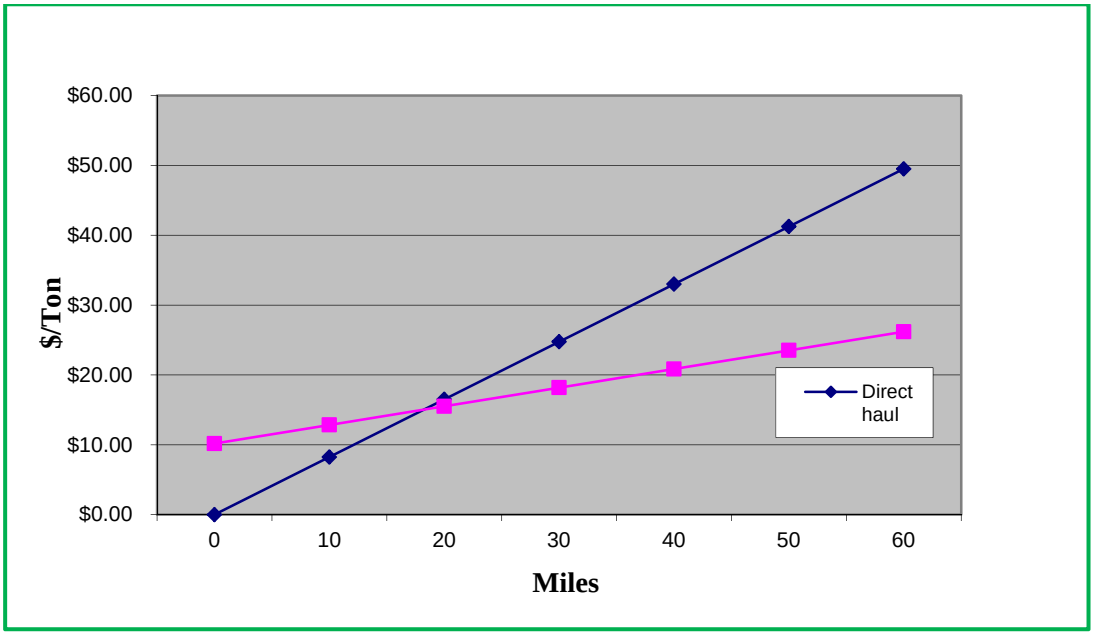
Table 8.1.2. Conceptual Cost Analysis for 400 Ton per Day Transfer Station

Total cost comparison, $/ton							
Haul distance (miles one way)	0	10	20	30	40	50	60
Direct Haul	$0.00	$8.25	$16.50	$24.75	$33.00	$41.25	$49.50
Transfer Station	$10.17	$12.84	$15.51	$18.18	$20.85	$23.52	$26.19
Breakeven Mileage for a 400 tpd facility						**18.2**	**miles**

Landfill	**Newton, IN**	**Livingston, IL**
Distance to Landfill (miles)	44	51
Cost to Direct Haul	$36.30	$42.07
Cost to Transfer Haul	$21.92	$23.78
Cost Savings with Transfer ($/ton)	$14.38	$18.29
Annual Savings ($)	**$1,553,241**	**$1,975,152**

Since the average Kankakee County household landfills approximately 1.2 tons of waste annually, a 30-mile increase in the haul distance to a landfill could result in an annual increase of about $30 in disposal costs for direct hauling, or $22 if a transfer station were used.

Figure 8.1.1. Direct Haul vs. Transfer



Economy of Scale. An economy of scale exists for transfer stations. Larger transfer stations cost less per ton of throughput than smaller transfer stations. Larger transfer stations generally cost less per ton because certain fixed costs, regardless of size, can be spread out over larger volumes of waste. For instance, the break-even cost for a small facility (68 ton per day facility) was estimated to be approximately 23 miles. The break-even cost for 1500 tons per day facilities are often shown to be less than 10 miles.

Impact on Regional Planning. Transfer stations provide local governments the option to send waste to distant landfills more economically. Transfer of waste has become the adopted waste management plan in a number of planning jurisdictions due to the desire to eliminate landfills and other final disposal facilities in their regions. They are the mainstay of jurisdictions with large, dense populations and a lack of suitable locations for siting a landfill.

Implementation Options. The four typical implementation ownership and operation arrangements are: public ownership and operation; public ownership, private operation; private ownership, public operation; and private ownership and operation. In all the options, an adequate waste stream must be assured over the economic life of the project. Ideally, contracts would be entered into between units of local government (suppliers) and the owner of the facility. However, like any business, supply and demand dictates the economic feasibility of each facility. Due to federal interstate commerce considerations, private haulers cannot be forced to send waste to a specific facility. However, municipal franchise contracts can be set up to direct waste to particular destinations.

Host Benefits. Communities and transfer station operators must enter into agreements called host benefits pursuant to the Kankakee County siting ordinance that are designed to ensure mitigation, of potential negative impacts of the facility, such as stipulation of odor control measures if complaints occur, measures in dealing with complaints, and compensation to the host community for siting the facility within its borders. Some common host agreement items are:

- Prohibit hazardous wastes.
- The owner must pay a host fee.

- Guaranteed access to the facility for the host government's non-hazardous solid waste.
- Property value protection program.
- An indemnification agreement to indemnify and hold harmless the host government and its officers, agents, and employees from liability associated with any and all operations at the facility.
- Assignment of rights clause granting the siting entity the authority to approve or disapprove any transfer of ownership in the facility.
- The siting authority is allowed unrestricted access to the facility as well as records necessary to insure compliance with the Host Agreement.

8.2. LANDFILLING

Historically, landfills have been the primary method for managing the disposal of municipal solid waste. Stringent new standards are in place to control how landfills are designed, constructed, operated, closed, and maintained after closure, with the purpose to minimize or eliminate their impact on the environment.

REGULATORY OVERVIEW

A sanitary landfill is a facility permitted by the IEPA for the disposal of waste on land meeting the requirements of the Resource Conservation and Recovery Act (RCRA). The federal regulations for landfills were originally addressed in "Criteria for the Classification of Solid Waste Disposal Facilities and Practices" (Code of Federal Regulations [CFR] 40 Part 257), and were established in 1979 under RCRA. Subtitle D of RCRA excludes Municipal Solid Waste Landfills (MSWLF's) from Part 257 (Hazardous Waste Landfills) and adds Part 258 specifically for MSWLF's. The Part 258 regulations contain minimum criteria for MSWLF's, primarily in the form of performance standards. The intent of the revised regulations is for states to become approved for the implementation and enforcement of the regulations under individual state permitting programs. If approved by the USEPA, states are allowed some flexibility for alternative requirements and/or schedules. Table 8.2.1 shows general requirements of the federal regulations.

The Illinois Landfill regulations pertaining to Subtitle D landfills are the Illinois Environmental Protection - Administrative Code Title 35 Parts 810 through 815. Part 811 includes the standards for new solid waste landfills.

Table 8.2.1. Federal Landfill Standards at a Glance	
Location Restrictions	Ensure that landfills are built in suitable geological areas away from faults, wetlands, floodplains, airports, historic and natural areas, areas critical for endangered or threatened species, water supply wells, occupied dwellings, schools, and hospitals.
Liners	Composite liner unless alternative is proven as effective. Geomembrane underlain by at least two feet of compacted clay on the bottom and sides of landfills
Operating Practices	Compacting waste, covering waste daily to reduce odor, vectors, and litter.
Groundwater Monitoring	Testing of groundwater wells to determine whether leachate has impacted groundwater or escaped the liner.
Gas Control	Maintain methane concentration in on-site structures at less than 25% of the lower explosive limit. Use Best Demonstrated Technology to collect gas and to reduce NMOC's in collected gas by 98%.
Closure and Post-Closure	Include the final covering of landfills, developing erosion control, and providing long-term care of systems for 30 years.
Financial Assurance	Provides funding for environmental protection during and after a landfill is closed.
Corrective Action	Controls and remediates releases and achieves groundwater protection standards.

KANKAKEE COUNTY ORDINANCES

Landfill. Kankakee County will not consider siting applications for a new or expanded landfill facilities within the County for a period of five (5) years after the approval date of this plan update. The County will rely on transfer stations and out-of-county regional landfill facilities for waste disposal. Siting applications for additional transfer stations will be considered.

Landfill siting applications may be considered within the above five (5) year period if the County Board determines that:

1. Regional landfill capacity is not sufficient for Kankakee County waste disposal, or;
2. Unacceptable increases in disposal costs within the County have occurred, or;

3. Unacceptable decreases in transfer station capacity within the County have occurred.

Any such landfill must:

1. Provide adequate disposal capacity for all municipal solid waste generated in Kankakee County for a minimum period of 20 years,
2. Meet or exceed all the requirements of Section 39.2 of the Illinois Environmental Protection Act and the Kankakee County Pollution Control Facility Siting Ordinance, and
3. Provide an economic benefit to the citizens of the County in the form of lower disposal costs as compared to hauling MSW to out-of-county landfills.

Financial Assurance. The owner/operator of any new or expanded pollution control facility (as that term is defined in the Environmental Protection Act) in the County shall be required to post and maintain for the life of such regional pollution control facility either: (1) an environmental contingency escrow fund of a minimum of $2 million dollars based upon an annual payment not to exceed five (5) years, or (2) some other type of payment or performance bond or policy of onsite/offsite environmental impairment insurance in a form and amount acceptable to the County. This requirement shall be in addition to satisfaction of any and all financial assurance requirements established by State and/or federal law and/or regulation.

Property Value Guaranty Program. The owner or operator of a proposed new landfill or landfill expansion in the County shall be required to establish a property value guarantee program for households within a site-specific distance from the proposed landfill site, such property value guarantee program to be prepared by an independent entity satisfactory to the County.

Domestic Well Water Protection. The owner or operator of a proposed landfill or landfill expansion in the County shall be required to establish a domestic water well protection plan for domestic wells located a minimum of 1000 feet of the proposed landfill site.

The contingency fund, property value guarantee program, and domestic well protection program are mandatory.

Host Community Agreement. Any applicant requesting site location approval for a new or expanded pollution control facility as defined in the Illinois Environmental Protection Act, within the County, including both incorporated and unincorporated locations within the County, shall agree, in a host community agreement negotiated with the County, to pay an appropriate host fee to the County. The host community agreement shall be signed prior to submitting a siting application pursuant to Section 39.2 of the Illinois Environmental Protection Act to the local siting authority, whether it be the County or the municipality. However, a host community agreement may be amended or amended thereafter. The host fee will be negotiated on a per ton basis and the pollution control facility must install a scale. The final host fee per ton will be escalated based on the appropriate consumer price index. Pursuant to the Solid Waste and Recycling Act, the County has primary responsibility for solid waste planning within the County borders and must ensure a source of funding for long-range solid waste management activities affecting the entire population of the County. This includes solid waste planning, solid waste enforcement, recycling, reuse and volume reduction programs, and solid waste related education at all County schools. These programs are for the benefit of all citizens and businesses within Kankakee County. Thus, a portion of any of these host fees, as approved by the County board, will be deposited into the County tipping fee fund to be used for the statutory purposes found in the environmental protection act. In addition, pursuant to Resolution # 00-01-11-208, passed by the Kankakee County Board on January 11, 2000, all solid waste disposal facilities permitted or required to be permitted by the Illinois Environmental Protection Agency within the County, including both incorporated and unincorporated areas, are required to pay Kankakee County a local surcharge fee as defined in said resolution. The requirement to negotiate a host fee is in addition to, and does not obviate, overrule, or in any way supersede the surcharge required under Kankakee County resolution # 00-01-11-208.

LANDFILL DESIGN

Sizing Requirements. Any new or expanded landfill should be designed and constructed to accommodate the needs of the area it is serving for approximately 20 years. Landfill economics are characterized by economies of scale, i.e., the more waste a facility handles per day, theoretically, the lower the tipping fee. Many landfills strive to operate with over 1,000 tons per day of waste to be competitive, and are being proposed at over 100 acres to allow for the large daily capacity and future growth.

Liner System. A liner system is used to prevent migration of liquid out of a landfill. An engineered composite liner often consists of a compacted layer of low permeability clay and a synthetic membrane liner, and possibly bentonite liners for use as landfill liners. A single composite liner system is the accepted practice for the containment of municipal solid waste in Illinois. Minimum requirements include 5 feet of compacted clay, or a 60-mil geomembrane over 3 feet of compacted clay. However, Illinois regulations have a performance standard for liner permeability and allow for alternate designs.

Leachate Collection System. The leachate collection system works with the liner system to contain, collect and remove leachate for treatment. The goal of this system is to keep the level of leachate on top of the liner to a minimum, thus reducing the driving force of the liquid through the liner. A leachate collection system generally includes a filter fabric, a granular drainage blanket over the base of the landfill, and slotted or perforated leachate collection pipes in the drainage blanket.

Leachate Recirculation. An emerging management method is leachate recirculation. Recirculating leachate increases the moisture content of the landfill. Biological activity will be enhanced, thus accelerating the rate of waste decomposition. This will increase the rate of settlement and the production of methane gas, which can be collected and used or sold as an energy source. By making the waste more stable earlier in the life of the landfill, the capacity of the landfill will be increased and there will be fewer problems later in the life of the landfill, such as differential settlement and possible groundwater contamination after the landfill has closed.

Some potential problems included with leachate recirculation include an increased potential for leachate popouts, methane migration and odors.

Landfill Gas Control System. Methane, carbon dioxide, hydrogen sulfide and, in smaller quantities, a host of other hazardous air pollutants and volatile organic compounds are generated from the biological decomposition of solid waste. Landfill gas, allowed to migrate freely throughout the landfill and surrounding areas, may cause air pollution and result in dangerous conditions. Left uncontrolled, if it escapes through the liner, methane can travel through permeable zones in the soil and enter into nearby buildings.

The 1996 New Source Performance Standards (NSPS) and Emission Guidelines for air emissions from MSW landfills requires that Best Demonstrated Technology (BDT) be used to reduce MSW landfill emissions from MSW landfills emitting 55 tons/yr or more of non-methane organic compounds (NMOCs). The NSPS/Emission Guidelines affect landfills with a design capacity of 2.75 million tons or more. Control systems require: (1) a well-designed and well-operated gas collection system, and (2) a control device capable of reducing NMOCs in the collected gas by 98 weight-percent.

Landfill gas (LFG) collection systems are either active or passive systems. Active collection systems provide a pressure gradient in order to extract LFG by use of mechanical blowers or compressors. Passive systems allow the natural pressure gradient created by the increase in pressure created by LFG generation within the landfill to mobilize the gas for collection. Collected landfill gas can be flared or processed as an energy source.

Cover System. Landfill cover minimizes the infiltration of precipitation and maintains an aesthetically acceptable landfill. Daily cover is applied at the end of each working day to the active portion of the landfill. Daily cover is required to 1) reduce leachate production from precipitation, 2) eliminate direct access to the refuse by vectors, and 3) control fires, odors and blowing litter. Methods of daily cover such as soil, tarps, foams or synthetic membranes are approved if they satisfy the above requirements.

Intermediate cover is required for any area of the landfill, which does not have final cover in-place and is inactive for more than 60 days. Regulatory standards require one foot of soil as intermediate cover.

Final cover is required to be a six foot thick soil cap, made up of three feet of compacted, low permeability clay and three feet of protective soil cover, or an equivalent system. Often a low-permeability membrane is used in place of part of the compacted clay layer. The clay layer is to reduce the infiltration of precipitation. The upper soil layer is placed directly above the cap to protect the clay layer from freezing, desiccation, erosion, and to support vegetation. The final cover is sloped to promote runoff of precipitation from the landfill.

Stormwater Management. A proper design includes methods of routing all stormwater off the landfill and away from the site without causing erosion or scouring. The design must consider how the facility will handle stormwater drainage from initial construction through post-closure. If there is discharge of stormwater off the site, the facility may require a National Pollutant Discharge Elimination System (NPDES) permit. The NPDES permit regulates the discharge limitations, and the monitoring and reporting requirements for any discharge off of the site.

Groundwater Monitoring. Both state and federal regulations require that a groundwater-monitoring network be set up around the landfill to detect impact to groundwater from the landfill. An extensive hydrogeological study is performed before site development can begin. From this study, the most appropriate design of the landfill can be used, an effective groundwater-monitoring network can be established, and the background concentrations of the regulated parameters can be established, from which all future analyses will be compared. Monitoring must be carried out quarterly during the life of the landfill and for a minimum of 30 years after closure. If contamination of the groundwater is detected, appropriate assessment and remediation procedures must be followed. Illinois' groundwater monitoring and quality standards are set forth in Administrative Code Title 35 Parts 811.318 through 811.320.

LANDFILL ECONOMICS

The cost of disposing waste or "tipping" at a solid waste landfill is a function of predevelopment, site development, operating, closure, and post-closure costs. The cost of solid waste landfill development varies significantly from site to site depending on numerous factors. Costs provided in the following analysis are to be used as illustrative purposes only.

Cost Summary. Table 8.2.2 summarizes the costs for a conceptual 1000 TPD facility. This table lists annual debt service which includes pre-development and site development costs, operating costs, closure and post-closure costs, local and state surcharges, and an allowance for overhead, taxes, and profit for the private operator. These costs were developed with the following assumptions:

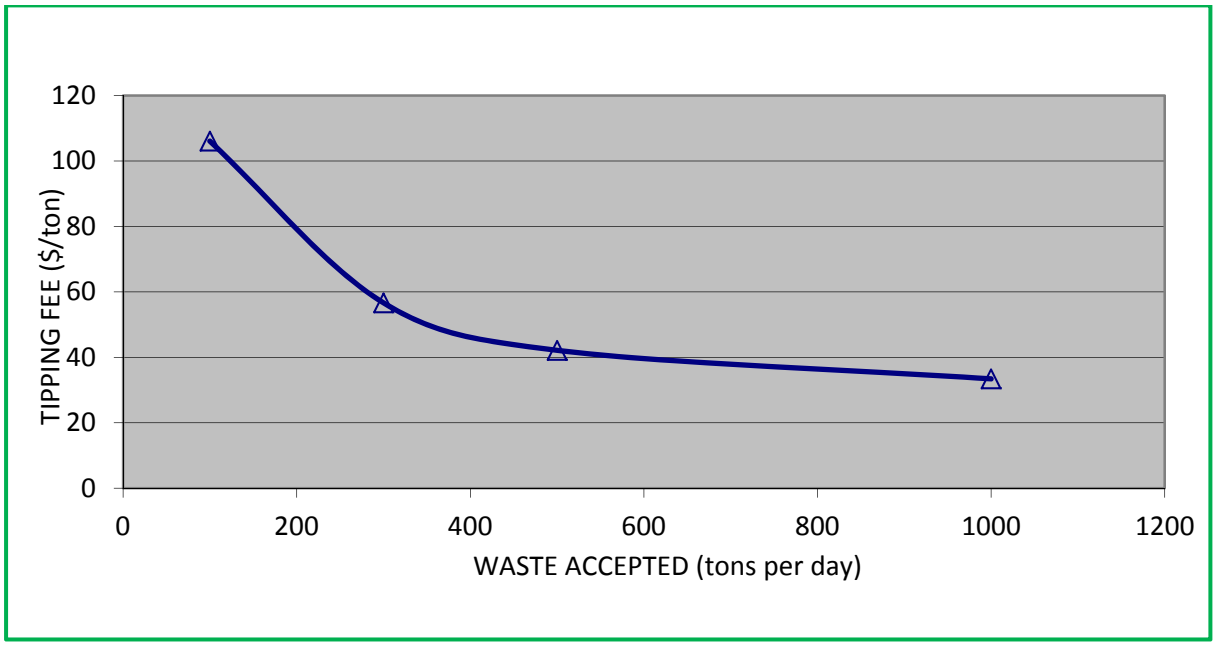
- 115 acre waste fill, 240 acre total facility size,
- Square landfill footprint on a relatively clear, level site,
- 500 foot buffer zones around waste fill area which includes ancillary facilities,
- Single composite liner of 3 feet of compacted clay from on-site over a 60-mil HDPE liner,
- Depth below grade is 30 feet and above grade is 90 feet.
- Full leachate control system and low-technology gas collection and flare system,
- 30 year post closure care period, and
- Inflation rate at 4.5% and debt service at 7.5%.

Table 8.2.2. Conceptual Landfill Costs Summary

COST DESCRIPTION	AMOUNT	AMOUNT PER TON
Annual Debt Service	$1,950,000	$ 6.82
Operating Expenses	$3,770,000	$13.18
Closure/Post Closure Fund	$ 500,000	$ 1.75
Operator Overhead and Profit	$2,100,000	$7.43
SUBTOTAL	$8,320,000	$29.09
State / Local Surcharge/Host Fees	$1,241,240	$ 4.34
TOTAL	**$9,561,240**	**$33.43**

Figure 8.2.1 shows a conceptual economy of scale for different size landfills. The advantage of large, regional landfills is apparent upon review of the economy of scale graph. Large regional landfills provide the advantage of serving a number of population areas with a single site, concentrating efforts with one site versus a number of scattered sites, as in the past. Past practices have left a number of abandoned smaller landfills with no funding mechanism for cleanup. Small, active landfills are quickly vanishing due to the competition from the larger facilities. However, today in Illinois a number of landfills still operate below 1,000 tons per day. This conflict between theory and reality is a result of the fact that landfills throughout the state have varying cost factors: land costs, facility costs, labor costs, host benefit expenses and self-imposed or locally imposed operating requirements.

Figure 8.2.1. Landfill Economies of Scale



The planning process must take into account the economics of landfills when developing options for long-term management strategies. Regional landfills are becoming more prevalent since many communities and counties have indicated landfills are not part of their waste plans and have no remaining land parcels suitable for landfill development. Host communities are obtaining a large economic boost, while numerous exporting communities are finding a final disposal site for waste that is distant from its residents and thus no longer an issue. The larger landfills' tip fees are lower, so distant communities can afford to transfer the waste to these sites. In today's competitive waste market, it is extremely unlikely that a landfill developer would propose to develop a county-only landfill. Larger waste flows allow tipping fees to remain low while providing sufficient return on investment on the costs to permit and develop a modern landfill.

Timeline. The time required to site, permit and construct a new landfill facility is approximately four years. Four years is considered a minimum, and recent experience indicates that the time necessary to develop a new landfill can be considerably longer.

Host Benefits. Communities and landfill operators have entered into agreements called host benefit agreements that are designed to provide environmental and financial assurance over and beyond that required by state regulations. Host agreement should include, but need not be limited to, the items listed below.

a. Prohibit hazardous wastes.
b. An environmental contingency fund
c. A domestic water well protection program
d. A host fee to be paid to the host government (county or city)
e. Guaranteed access to the facility for the host government's non-hazardous solid waste.
f. Property value protection program.

g. An indemnification agreement to indemnify and hold harmless the host government and its officers, agents, and employees from liability associated with any and all operations at the facility.

h. Assignment of rights clause granting the siting entity the authority to approve or disapprove any transfer of ownership in the facility.

i. The facility shall provide disposal capacity for the host government's non-hazardous solid waste for a negotiated period of time.

j. The siting authority is allowed unrestricted access to the facility as well as records necessary to insure compliance with the Host Agreement.

k. A cap on the amount of waste accepted per year.

8.3. INCINERATORS AND ALTERNATIVE TECHNOLOGIES

INTRODUCTION

Waste management practices in Kankakee County include recycling, landfill disposal, and composting. Since the previous update to the County's Solid Waste Management Plan, waste management /conversion technologies (including traditional, small-scale waste-to-energy technology and new and emerging conversion technologies) have been reviewed and evaluated. This section provides an overview of waste management conversion technologies, including a summary of life cycle costs, and compares conversion technologies to landfilling. The study evaluated technologies capable of processing post-recycled municipal solid waste, not individual, pre-sorted components of the waste stream.

INFORMATION SEARCH AND REVIEW

For purpose of this evaluation and assessment, in March 2005 Kankakee County prepared a Request for Information (RFI) to gather the most recent information available on conversion technologies. The RFI was issued to nineteen (19) companies that offer new and emerging conversion technologies for the management of solid waste. Additional companies that received the RFI included those identified by other, recent evaluations to have advanced their technologies the furthest for the management of municipal solid waste. Other cities and governmental jurisdictions completing such studies include: New York City; Los Angeles, California; Santa Barbara County, California; State of California; Toronto, Canada; Collier County, Florida; Seattle, Washington, and the Commonwealth of Puerto Rico.

The RFI requested technical and economic information specific to a facility that could process approximately 146,000 tons per year (tpy) of post-recycled municipal solid waste. This annual capacity is equivalent to an average daily processing capacity of 400 tons per day (tpd), 365 days per year.

Technical information requested in the RFI included: a description of the technology (including process flow diagrams and information on major system components); characterization (quantity and quality) of marketable products and process residuals; a description of environmental advantages and data regarding air emissions; identification of

facilities currently in commercial operation and using the technology to process municipal solid waste, and other technical information to enable review and evaluation of the technology. Cost information requested in the RFI for a 400-tpd facility included: design and construction costs; annual operating and maintenance costs; expected revenues for recovered materials and energy sales, and other economic information.

Ten companies responded to the County's RFI, representing thermal conversion technologies and anaerobic digestion technologies. The companies that responded to the RFI are identified in Table 8.3.2. The information submitted in response to the RFI is considered representative of the most advanced conversion technologies.

Table 8.3.2. List of Companies Responding to the RFI

Company	Type of Technology
Dynecology	Gasification - Briquetting with Coal
GEM America, Inc.	Gasification - Thermal Cracking
Interstate Waste Technologies	Gasification - High Temperature
Global Energy Solutions	Gasification - Pyrolysis, High Temperature
Rigel Resource Recovery & Conversion	Gasification - Plasma
Pan American Resources, Inc.	Gasification - Thermal Destructive Distillation
Arrow Ecology and Engineering	Anaerobic Digestion - Wet
Canada Composting	Anaerobic Digestion - BTA Process
Organic Waste Systems	Anaerobic Digestion - Dry
Waste Recovery Systems	Anaerobic Digestion - Valorga Process

OVERVIEW OF CONVERSION TECHNOLOGIES

A descriptive overview is provided for gasification, anaerobic digestion, and small-scale, traditional waste-to-energy.

Gasification

Gasification is a thermal conversion technology. Thermal technologies encompass a variety of processes that use or produce heat to change the composition of waste, resulting in the production of energy. Common descriptors for emerging thermal technologies include

gasification, pyrolysis, thermal cracking and plasma. For the purpose of this review, the common descriptor of "gasification" is used.

Gasification technologies are considered emerging for the management of municipal solid waste in the United States, because gasification is not currently in commercial use in the United States for municipal solid waste. Based on information submitted in response to the County's RFI, gasification has operated commercially in Europe and Japan for municipal solid waste (see Table 3). Gasification may offer certain potential environmental advantages as a waste conversion technology when compared to traditional technologies, but limited data is available at this time. In general, gasification occurs in a high-temperature reaction vessel. Air or oxygen may be intentionally added to or omitted from the reaction vessel to influence the composition of the resulting products. The inorganic fraction of the waste (including certain recyclables such as glass, ferrous metal and aluminum) may be sorted out prior to treatment or may be treated along with the organic fraction.

Within the reaction vessel, the organic fraction of the waste is converted to a synthesis gas ("syngas") composed of hydrogen, carbon monoxide and carbon dioxide gases. The syngas (and other products of the gasification process) represent un-oxidized or incompletely oxidized compounds, which in most cases differentiate the innovative thermal technologies from the more complete combustion attained in traditional waste-to-energy projects.

In addition to syngas, products of the gasification process may include char, which is a carbon-based solid residue, and organic liquids such as light hydrocarbons. If the inorganic fraction of waste is also processed in the reaction vessel, additional byproducts will be generated such as vitrified silica (slag or aggregate), mixed metals, salts and chemicals. These byproducts may comprise up to approximately 20% by weight of incoming MSW, depending on the characteristics of the waste delivered for processing. These byproducts may have beneficial uses, with slag potentially used as a sand substitute in concrete or bituminous paving material (subject to regulatory approval), and metals, salts and chemicals marketed to various industries. Such beneficial uses would require acceptance by the marketplace and in some cases, approval

by Illinois EPA. Market development work is required. Depending upon product characteristics and market conditions, some of these products could require landfill disposal.

Syngas produced through gasification of municipal solid waste may be converted to energy by using the gas as a fuel in traditional combustors such as boilers, reciprocating engines and combustion turbines. The companies that responded to the County's RFI convert the syngas to energy. As reported by two of the gasification companies in their RFI responses (i.e., Rigel and IWT), the combustion of syngas results in the emission of combustion-related pollutants such as particulate matter (PM), carbon monoxide (CO), nitrogen oxides (NOx), acid gases (HCl and SO_2), metals such as lead (Pb), cadmium (Cd) and mercury (Hg), and dioxins/furans. Some technologies pre-clean the syngas prior to combustion using standard, commercially available technology to remove sulfur compounds, chlorides, heavy metals and other impurities. This pre-cleaning reduces certain combustion-related emissions. Post-combustion air pollution control technology is also applied to further reduce emissions. It can be expected that emissions from the combustion of syngas can be controlled to the regulated levels for conventional waste-to-energy facilities (or better).

Alternately, the syngas may be chemically processed to produce other chemicals such as methanol. However, none of the companies that responded to the RFI are currently producing methanol from syngas. In cases where organic liquids are produced, these may also be used as fuels or as chemical feedstocks for production of commodity or specialty chemicals.

Anaerobic Digestion

Anaerobic digestion is a biological conversion technology whereby microorganisms digest organic material in the absence of oxygen, producing a solid byproduct (digestate), a gas (biogas), and reclaimed water. The fundamental objectives of anaerobic digestion are to produce a large quantity of methane-rich biogas (for production of electricity or for use as a fuel), and to produce a small quantity of well-stabilized digestate (which can be used to produce compost).

Anaerobic digestion technologies are considered emerging technologies for the conversion of municipal solid waste in the United States because anaerobic digestion is not currently in commercial use in the United States for municipal solid waste. Anaerobic digestion has been used extensively to stabilize sewage sludge, and has been used more recently to process the organic fraction of municipal solid waste. Based on information submitted in response to the County's RFI, anaerobic digestion is in commercial operation in Canada, Europe and Israel for municipal solid waste (see Table 3). Anaerobic digestion may offer certain potential environmental advantages as a waste conversion technology when compared to traditional technologies.

The anaerobic digestion process occurs in an enclosed, controlled environment. The process may be either "wet" or "dry", depending on the percent solids in the digester. The process temperature may also be controlled in order to promote the growth of a specific population of microorganisms, with process temperatures ranging from approximately 35-55 C (95-131°F). The anaerobic digestion process generally starts with the organic fraction of municipal solid waste, obtained by pre-processing mixed municipal solid waste to remove recyclables and non-recyclable inorganic materials. Pre-processing often includes shredding the waste. In the wet anaerobic digestion process, the organic waste is mixed with water and pulped. The pulp is fed into a reactor vessel, where optimal heat and moisture conditions are promoted to enhance microbial development and decomposition. The process may be conducted in a single-stage or two-stage reactor vessel. For dry anaerobic digestion, the organic waste is "inoculated" with previously digested material prior to introduction into the reactor vessel. Material in the digester has a retention time of 15 to 17 days, and moves through the digester in a plug flow manner.

The biogas produced from anaerobic digestion is primarily methane and carbon dioxide. Biogas is commonly burned in an internal combustion engine to generate electricity, similar to the production of electricity from combustion of landfill gas. Sulfur compounds may be scrubbed from the biogas prior to combustion to reduce SO_2 emissions. As reported by two of the anaerobic digestion companies in their RFI responses (i.e., Organic Waste Systems and WRSI), the combustion of biogas results in the emission of carbon dioxide, CO, NOx, and SO_2.

One company (WRSI) also reported that small quantities of particulate matter will be produced. None of the companies reported expected emissions of metals or dioxins/furans. These parameters are not as significant of a concern as with the thermal technologies because of the lower operating temperatures of the anaerobic digestion process. It is expected that emissions could be controlled to the regulated levels for combustion of landfill gas which is also predominantly methane.

Biogas also has other potential end uses. For example, biogas can be scrubbed of carbon dioxide, hydrogen sulfide and water to obtain methane, which can be used as an alternative fuel. Subject to regulatory approval, digested material may be used as a soil conditioner, or compost, after a period of aerobic stabilization. However, high-volume markets for compost produced from municipal solid waste are not yet well established in the United States. The quality of the compost, including concentration of metals and presence or absence of man-made foreign material (e.g., small pieces of plastic and glass), will impact the marketability of the compost and approval by the Illinois EPA.

Traditional, Small-Scale Waste-to-Energy

Traditional waste-to-energy is the most widely used conversion technology for municipal solid waste in the United States. Nationwide, there are 89 traditional waste-to-energy facilities operating in 27 states, disposing of nearly 29 million tons per year of municipal solid waste (IWSA, 2004 Directory of Waste-to-Energy Plants). These facilities generate over 2,700 megawatts of electricity, which is enough power to meet the needs of more than 2.4 million homes. Of these 89 waste-to-energy facilities, approximately 30% have a design or operating capacity less than 500 tpd.

Traditional waste-to-energy facilities include two basic types of technology: mass burn and refuse-derived fuel (RDF). Units can be field-erected or modular. Mass burn plants combust unprocessed, mixed municipal waste in furnaces dedicated to converting the waste into energy. Mass burn is the most common technology for existing waste-to-energy facilities in the

United States, in use at more than 70% of the operating facilities. RDF facilities pre-process the waste, by removing non-combustible materials and shredding the remaining waste to create a more uniform fuel. The resulting RDF can be burned on-site, or transported for use as fuel in off-site boilers.

Traditional waste-to-energy technologies use municipal solid waste as a fuel, recovering the heat value of the combusted waste in the form of steam. The steam may be sold, or subsequently converted into electricity in a turbine generator. Traditional waste-to-energy facilities have a net electricity generation rate (i.e., electricity available for sale) on the order of 500 kWh/ton or higher (IWSA, 2004 Directory of Waste-to-Energy Plants). Potential emissions from combustion of MSW include the regulated pollutants previously mentioned for gasification and anaerobic digestion technologies: PM, CO, NO_x, acid gases, metals and dioxins/furans. Air pollution control technology is generally applied after combustion to reduce emissions. Emissions can be controlled to regulated levels for this technology.

During the combustion process, approximately 25% by weight of the incoming municipal solid waste is generated as ash residue. Ash residue is predominantly disposed in a landfill. The ash residue can sometimes be used as landfill cover material or for other beneficial uses (e.g., as aggregate, fill material, and for asphalt manufacture), but this is not being done in Illinois. Any applications for beneficial reuse would require testing to determine that the ash is not hazardous.

Traditional waste-to-energy facilities frequently recover and recycle ferrous metal from the ash residue. A reasonable estimate is recovery of 2% by weight of the incoming waste in the form of post-combustion ferrous metal. Waste-to-energy facilities can also incorporate front-end recycling, recovering materials such as glass, metal, and cardboard for sale to secondary markets. Front-end recycling has recently been installed at several small-scale waste-to-energy facilities in Minnesota, and is proving successful. For example, the 80-tpd Polk County Resource Recovery Plant in Fosston, MN, installed a front-end materials recovery facility (MRF) in 1996. The Fosston MRF supplements curbside recycling and achieves the objectives of removing non-burnables from the wastestream and reducing ash residue generation rates (Willard Wilson, *Materials Recovery Facilities and Waste-to-Energy Plants, Do They Go Together*, 2003).

EVALUATION OF CONVERSION TECHNOLOGIES

Gasification, anaerobic digestion, and traditional waste-to-energy technologies are reviewed below regarding status of development, beneficial use of waste (i.e., energy and materials recovery, and diversion from landfill disposal), potential environmental impacts, and cost.

Status of Development

Status of development is a measure of the readiness and reliability of a technology, and allows for technologies to be categorized as those that are commercially processing municipal solid waste and those that are currently in the development stage. “Commercial” means a facility is in operation and accepting municipal solid waste on a contract basis as an established disposal mechanism. “Pilot” or "demonstration” means the technology is in the developmental stage. In general, this means the technology was constructed at a pilot or small-scale demonstration size to demonstrate the viability of the process using municipal solid waste as a feedstock.

Traditional waste-to-energy is a proven, commercial conversion technology, with numerous facilities in commercial operation in the United States processing municipal solid waste. As reported above, there are 89 waste-to-energy facilities in operation in the United States. These waste-to-energy facilities have rated design capacities ranging from small, modular units (less than 100 tpd) to as much as 3,000 tpd. However, there are no operating waste-to-energy facilities in Illinois.

Gasification and anaerobic digestion technologies are not currently in commercial operation in the United States for processing municipal solid waste. However, several companies that are sponsoring these two types of conversion technologies have documented commercial operation overseas for municipal solid waste. In addition, these and other companies have documented commercial operation for other types of waste such as industrial, chemical, and hazardous waste. Also, pilot or demonstration testing has been conducted for

several of these technologies processing municipal solid waste, both overseas and, in some cases, in the United States.

Anaerobic digestion technologies are in commercial use outside of the United States for municipal solid waste, with facilities in operation in Canada, Israel and Europe. Although limited in application when compared to conventional waste-to-energy and landfilling, anaerobic digestion has been used in Europe to process MSW for more than 10 years, with more recent operation in Canada and Israel.

Other private projects are also underway, including construction of a mechanical processing system for fiber recovery in Anaheim, California, and a hydrolysis project (MSW-to-ethanol) in Middletown, New York. Also, public sector interest is increasing and investigations and initiatives are underway in such locations as New York City; Hudson County, New Jersey; Los Angeles, California (City and County); Santa Barbara, California; Hawaii and Toronto, Canada. The State of California has assessed these technologies as a means to recover additional materials and reduce landfilling. New York City is considering a 500-TPD "demonstration facility". The City and County of Los Angeles and Toronto are also considering demonstration facilities. The intent of such facilities is to develop a project to demonstrate that the technologies can do the job with U.S. mixed MSW and to develop a database for use in developing larger, commercial projects. In Santa Barbara County and Hawaii, the intent is to conduct procurement for a commercial facility sized to serve the needs of that jurisdiction.

Gasification technologies are also in commercial use outside of the United States. Gasification facilities have been commercially operational in Japan for MSW since 1999 (i.e., for approximately six years), and three new facilities started operation in 2005. Gasification has also been used commercially for MSW in Karlsruhe, Germany, although this facility was shut down in December 2004, in part due to high costs.

Beneficial Use of Waste

Conversion technologies convert waste into products, providing for the beneficial use of waste if the products are marketable and are approved for such uses by the appropriate regulatory agencies. The benefits achieved are dependent on the quantity and quality of the products, as well as the viability of the market for those products. Conversion technologies can also produce residuals that require landfill disposal. Beneficial use of waste as used herein is a measure of the ability of a technology to convert waste into marketable products and divert waste from landfill disposal.

Gasification technologies provide a high potential for beneficial use of waste, subject to the ability to successfully obtain regulatory approval, where necessary, and market the products. The primary product of gasification is electricity, which is a viable product with strong market potential. As reported in the responses to the RFI, gasification technologies can produce electricity output (i.e., after meeting internal facility requirements) ranging from 300 kWh/ton of waste received to as high as 900 kWh/ton of waste received. At the higher end of the range, it appears that some of the energy output may be the result of firing supplemental fossil fuel (i.e., natural gas) with the syngas.

While electricity is the primary product of gasification, other theoretically marketable products are also generated. These products include metals, slag, char, industrial salts, and chemicals. The ability to successfully market these products is not well demonstrated, although some companies have had success at operational facilities overseas. Under a worst-case scenario, these materials could require disposal at a landfill, resulting in "residue" quantities that are 20% or more by weight of the incoming waste. Subject to regulatory approval in the U.S., some of the more advanced gasification technologies, specifically those that have greater commercial experience (e.g., IWT), could approach full beneficial use of the waste should hypothetical markets for residuals be realized.

Anaerobic digestion technologies also provide a reasonably high potential for beneficial use of waste, since electricity generated from the combustion of biogas is a viable end product

with strong market potential. However, anaerobic digestion generates less electricity than gasification, with net electric output up to approximately 200 kWh/ton of waste received. In anaerobic digestion, the stabilized digestate (i.e., soil amendment, typically characterized as compost) is also considered a primary product. Compost is produced at a rate of approximately 20-35% by weight of the incoming waste. A high-volume market for compost is not fully developed in the United States; this market is weaker than that for electricity, particularly for compost produced from mixed municipal solid waste (as compared to source-separated organic waste). Further development efforts are needed.

Traditional waste-to-energy provides for beneficial use of waste through the recovery of energy in the form of steam and/or electricity, with net electric output of 500 kWh/ton or higher. Ferrous metal and, at some facilities, other recyclable materials, are also recovered and sold. Ash residue is produced at a rate of approximately 25% by weight of incoming waste. Typically, ash residue is landfilled. Markets for ash residue are not fully developed in the United States.

Potential Environmental Impacts

Landfill disposal is the most widely used waste disposal mechanism in the United States, and specifically in Kankakee County. It is reliable, typically lower in cost, and landfill gas can be collected for conversion to electricity. However, conversion technologies offer volume reduction, enhanced beneficial use of waste, and certain environmental advantages to landfilling, and the emerging conversion technologies appear to offer certain additional advantages compared to traditional waste-to-energy technology.

Traditional waste-to-energy diverts 75% by weight (90% by volume) of the waste from landfill disposal, providing volume reduction and preserving land resources. In addition, traditional waste-to-energy beneficially converts the waste to electricity, supplying 500 kWh (or more) of electricity to the power grid for every ton of waste processed and displacing the need to burn fossil fuel for this equivalent power generation. Considering the displacement of fossil fuel and the avoided disposal in a landfill, traditional waste-to-energy results in a reduction in greenhouse gas emissions (IWSA, 2004 Directory of Waste-to-Energy Plants). Waste-to-energy results in combustion-related air emissions. Strict emission standards have been established for parameters such as particulates, metals, acid gases and dioxins, and these standards are typically achieved using state-of-the art air pollution control equipment. These combustion-related air emissions are an environmental impact of waste-to-energy. Landfilling may also result in air emissions and other environmental impacts, including combustion-related pollutants if landfill gas is collected and combusted. Landfilling presents the potential for greenhouse gas emissions (methane), particularly if landfill gas is not collected and controlled, and produces leachate, which must be collected and treated to meet standards. Most operating landfills will require methane gas capture and control either in an active flare or gas-to-energy system.

Similar to traditional waste-to-energy, anaerobic digestion and gasification technologies divert 75% to as much as 100% of waste from landfill disposal, and recover some energy value of this waste as electricity. As a result, these emerging conversion technologies result in a reduction in greenhouse gas emissions compared to landfilling.

Also similar to traditional waste-to-energy technology, anaerobic digestion and gasification technologies result in combustion-related emissions. However, emissions from these emerging conversion technologies are reported by vendors to be significantly less than emissions from traditional waste-to-energy facilities. Data available for review, while limited, is generally consistent with these reported claims. Generally, anaerobic digestion and gasification entail production of a gas from waste, followed by combustion of the gas to generate power. When the gas is combusted to generate power, standard combustion-related air pollutants are emitted. In general, the overall emission levels for the anaerobic digestion and gasification technologies would be less than for traditional waste-to-energy, since burning a gaseous fuel typically produces lower emissions than burning a solid fuel such as waste. In addition, some technologies (particularly gasification technologies) pre-clean the gas of some pollutants, such as sulfur, prior to the gas being combusted as a fuel. Anaerobic digestion and gasification would have lower emissions of dioxin and heavy metals, compared to traditional waste-to-energy, since the conditions needed for the formation or reformation of dioxin are not present in the process or the process is designed to reduce the formation of these emissions. Heavy metals present in the waste generally end up as a recovered solid, rather than in the gas.

Cost

The County's RFI requested cost information to develop and construct a 400-tpd conversion facility, along with annual operation and maintenance (O&M) costs. Table 8.3.5 summarizes cost information that was submitted in response to the RFI for emerging conversion technologies, along with comparable information for traditional waste-to-energy technology. Cost estimates for traditional waste-to-energy technology are based on a recent review of costs for similar facilities. The cost estimates presented in Table 8.3.5 are planning level estimates only, and are not site-specific or project-specific costs.

Table 8.3.5. Cost Estimates for Conversion Technologies

Technology	Facility Capacity [1]	Capital Cost [2]	Annual O&M Cost [3]
Anaerobic Digestion	400 tpd	$30,000,000 - $54,500,000	$2,000,000 - $6,000,000
Gasification	400 tpd	$25,000,000 - $75,000,000	$4,000,000 - $10,000,000
Traditional Waste-to-Energy	400 tpd	$64,700,000	$5,445,000

Note: Costs are based on 2005 dollars

The cost information summarized in Table 5 was used to complete life-cycle cost analyses for emerging conversion technologies, assuming a twenty-year project period. Analyses were completed for traditional waste-to-energy, four anaerobic digestion technologies, and for two of the gasification technologies.

Table 8.3.6 summarizes the results of the life-cycle analyses. Common assumptions were made for all analyses, including the following:

- Costs are calculated in 2005 dollars, and escalated to the first year of the project (2011) and subsequent project years using a 3% inflation rate.

- Residuals are assumed to be disposed of in a landfill, based on a current cost of approximately $46/ton.

- Electricity is assumed to be sold to an electric utility at a current rate of $0.034 per kWh, which is the current avoided cost rate for ComEd, the local electric utility. This rate is assumed to escalate at the 3% inflation rate. This assumed electric rate does not account for renewable energy credits that could potentially be realized in the future. However, the rate also does not account for an expected change in the methodology used by ComEd to calculate avoided cost, which reportedly may lower the avoided cost by as much as 1 cent per kilowatt hour.

- Materials recovered as recyclables are assumed to be sold to secondary material markets at the following prices: ferrous metal - $64/ton; aluminum (non-ferrous

metal) - $0.41/pound; glass - $18/ton (weighted average for clear, brown and green glass); mixed recyclables, including glass and plastic - $45/ton (weighted average). While recycling markets are traditionally volatile, these assumed prices are conservatively representative of typical average prices in the U.S. over the past year. Due to market volatility, the prices are not escalated in the economic analysis.

- For gasification technologies, other products such as slag, chemicals, and metals, are assumed to have a sale price of $35/ton, based on prices suggested by the gasification companies in response to the RFI. This sale price is not escalated, due to uncertainty in the marketability of these products.

- For anaerobic digestion technologies, finished compost is assumed to be sold for $5 per ton. This sale price is not escalated, since the market could potentially be as volatile as the secondary materials markets.

- All analyses include $500,000 for site acquisition as well as $500,000 for County implementation costs (e.g., site-specific feasibility study, procurement activities, and legal guidance).

- To be consistent with historic precedence in the County, the model assumes private ownership and financing of the project. For purposes of the analyses, the private equity contribution is assumed to be 15% of the total capital cost. The debt interest rate for private financing is assumed to be 5.25%, which are 75 basis points (0.75%) more than for public financing. Total annual capital amortization includes debt service payments and the payment of an equity return of 10% after tax (13.33% pre-tax). It should be noted that a higher equity return requirement would result in a higher annual capital amortization charge, even though debt interest would not be affected.

Based on the results of the planning level, life-cycle cost analyses as presented in Table 8.3.6, conversion technologies have a projected tipping fee between $45 per ton and $101 per ton in 2011, the earliest year a project could likely be developed and operated, for a facility designed to process 146,000 tpy of municipal solid waste. The lower range of tipping fees would be

comparable to projected landfill tipping fees in 2011 ($55 per ton) if current landfill tipping fees were escalated by 3% each year. However, the lower tipping fees are based on limited development and operating experience for these technologies, with such experience being overseas. Whether these lower tipping fees could be achieved in Kankakee County would require project-specific and site-specific evaluation, including verification and validation of data provided and a thorough review of the availability and strength of markets for products in the United States.

Table 8.3.6. Results of Life-Cycle Cost Analysis - Year 1 (2011)

	Anaerobic Digestion [1]		Gasification [2]		Traditional Waste-to-Energy
	Lower Cost [3]	Higher Cost	Lower Cost	Higher Cost	
Waste Processed	146,000 tpy	150,000 tpy	146,000 tpy	146,000 tpy	146,000 tpy
Average Annual Capital Amortization [4]	$4,560,465	$5,356,770	$2,765,633	$8,073,737	$7,025,478
Annual Operating Costs	4,992,571	8,546,759	9,227,332	11,940,523	8,506,429
Subtotal Costs	$9,553,036	$13,903,529	$11,992,965	$20,014,260	$15,531,907
Revenue	3,178,806	1,371,939	4,465,883	5,277,404	3,150,518
Net Annual Costs	$6,374,230	$12,531,590	$7,527,082	$14,736,856	$12,381,389
Year 1 Tipping Fee [5]	$44 / ton	$83 / ton	$52 / ton	$101 / ton	$85 / ton

(1) Four technologies were modeled for anaerobic digestion. The low and high costs are presented above, excluding the analyses for one company, which was for a smaller facility (274 tpd).

(2) Two technologies were modeled for gasification.

(3) The lower cost tipping fee for anaerobic digestion is based on cost information provided by Arrow Ecology and Engineering. We note that in its RFI submittal, Arrow indicated a tipping fee of $55/ton could be used as a preliminary point of reference for a privately owned facility. Arrow's estimated tipping fee is based on its assumed, higher cost of capital, as commented on by Arrow to ARI, and its tip fee is generally consistent with the results of the life-cycle analysis.

(4) Average Annual Capital Amortization includes debt service and return on equity.

(5) Landfill tipping fees for Kankakee County are currently on the order of $46/ton. Escalating this rate similarly to escalations used in the life-cycle cost analysis for conversion technologies results in a Year 1 (2011) landfill tipping fee of approximately $55/ton.

COMPARISON OF CONVERSION TECHNOLOGIES TO LANDFILLING

Currently, municipal solid waste generated in Kankakee County is predominantly disposed of by landfilling. Conversion technologies have been evaluated as an alternative or supplement to landfilling, including emerging conversion technologies (anaerobic digestion and gasification) and demonstrated, traditional waste-to-energy technology. Table 8.3.7 provides a qualitative comparison of the conversion technologies to landfilling.

Table 8.3.7. Comparison of Conversion Technologies to Landfilling

Category	Landfill	Anaerobic Digestion	Traditional Waste-to-Energy	Gasification
Status of Development	• Widespread commercial use in the United States	• Commercially operational overseas for MSW. In widespread use in U.S. for wastewater treatment only. Not used in U.S. for MSW at this time.	• Widespread commercial use in the United States	• Commercially operational overseas
Beneficial Use of Waste	• Captured landfill gas may be used as fuel to displace natural gas or to generate electricity.	• Digester gas may be used as fuel to displace natural gas or to generate electricity. • Organic residues may be composted as a soil amendment. • Glass, metals and plastics may be recoverable for recycling after digestion	• Mass burn and RDF systems recover energy from waste as heat to generate steam and/or electricity • Possible recovery of some metals after combustion. Some beneficial uses of ash have been developed but not widely used.	• Plastics and organics are thermally converted to a "producer gas" in a reduced oxygen reactor. The producer gas may be burned to generate steam and/or electricity. • Possible recovery of some metals after gasification. Some beneficial recovery of chars, aggregate, chemicals and other materials after gasification have been claimed
Environmental Impacts	• Landfill gas collection systems are typically not 100% efficient. CO_2, Methane (CH_4), hydrogen sulfide (H_2S), and other volatile organic compounds are potential emissions. Particulates and volatilized metals are not significant.	• Digester gas will be similar to landfill gas with higher methane content. However, in-vessel systems should allow close control of gas emissions. • Combustion of digester gas may result in releases of CO, SO_2, NO_X, HCl and other combustion byproducts.	• Waste combustion will result in releases of CO_2, CO, SO_2, NO_X, HCl, volatile organic compounds (VOCs), unburned hydrocarbons, dioxins and furans, particulates, volatilized metals including mercury, and other	• Depending on the gasification system and operating conditions, the producer gas will contain a mix of CO_2, CO, H_2, Methane and other hydrocarbon gases, SO_2, HCl, VOCs, dioxins and furans, particulates, volatilized metals including mercury, and other by-products. However, closed systems have potential to greatly reduce direct releases of the producer gas.

Category	Landfill	Anaerobic Digestion	Traditional Waste-to-Energy	Gasification
Environmental Impacts (Cont.)	• Combustion of landfill gas may result in releases of CO, SO_2, NO_X, HCl and other combustion byproducts. • Scrubbing of landfill gas before combustion may reduce SO_2 and chlorine stack emissions, but result in some liquid wastes. • Liquid leachates from landfills may contaminate groundwater if not properly contained and captured. • No combustion ash residue	• Scrubbing of digester gas before combustion may reduce SO_2 and chlorine stack emissions, but result in some liquid wastes. • In-vessel systems allow control, re-circulation and treatment of liquid waste. • Compost may be too contaminated for general use, unless contaminants are sorted from waste before digestion. • Landfill space may be required for some solid residues from sorting and/or digestion. • No combustion ash residue	combustion by-products. Emission control systems attempt to reduce these releases to regulated levels. • Liquid wastes may result from contaminated cooling water and from certain types of emission control systems (wet-scrubbers). • Ash, amounting to about 25% of the weight of the incoming waste, will generally require landfilling.	• Combustion of the producer gas will result in releases of CO_2, CO, SO_2, NO_X, HCl, volatile organic compounds (VOCs), unburned hydrocarbons, and other combustion by-products, which may include dioxins and furans, particulates, and volatilized metals including mercury. Scrubbing of the producer gas prior to combustion may reduce some stack emissions, and emission control systems attempt to reduce these releases to regulated levels. • Liquid wastes may result from contaminated cooling water and from certain types of gas scrubbers and emission control systems (wet-scrubbers). • It is expected that some unmarketable residues will require landfilling.
Cost	• Generally least costly alternative in Midwest • Tipping fee data widely available	• Theoretically comparable to or more costly, but untried in Midwest. • Actual tipping fee data for U.S. operation not available. • Cost projections assume compost is marketable.	• Significantly more costly than landfilling	• Theoretically comparable to or more costly, but untried in Midwest. • Actual tipping fee data for U.S. operation not available. • Cost projections typically assume markets for most residuals.

CONCLUSIONS

As described earlier in this report, certain anaerobic digestion and gasification processes are serving commercial needs for mixed MSW management on a limited basis in North America. Presently, there are very few commercial installations operating in this country. In addition, there are a limited number of such commercial installations for anaerobic digestion and thermal processes operating overseas and these installations have, for the most part, been operating with MSW for five years or less. Accordingly, there is limited operational data available from anaerobic digestion and gasification installations overseas, and there is not yet operational data available for any U.S. facilities. However, as shown in the status section, a number of facilities are being considered in New York, California, Florida and Hawaii.

Considering the above, the project risk and uncertainties related to the use of these technologies in a commercial setting is presently higher than that for conventional disposal methods, including reliability, performance, regulatory approval and market strength and feasibility for certain products, environmental impacts and cost. This is not to say that reliability and performance standards cannot be achieved for estimated costs, but the "track record" in this regard is presently limited. This situation is not unlike that in the late 1970s and early 1980s, when what is now conventional waste-to-energy technology was being introduced into the U.S. as a "new technology" from Europe and Japan. As this report notes, there are potential benefits to these emerging technologies when compared to conventional waste-to-energy technology, including lower air emissions and potentially enhanced recovery rates, as well as use of other MSW constituents (thereby resulting in reduced quantities of residuals requiring landfill disposal). Both anaerobic digestion and gasification technologies capture the heat value in MSW to generate electricity, and they also recover traditional recyclables and enhance other materials not typically recovered by traditional waste-to-energy technology by separation and by vitrification of the residue produced, and in the case of anaerobic digestion, by producing compost. Use of either the vitrified residue or MSW compost, however, will require both regulatory approval and further market development in the U.S., as neither is used in high volumes today.

CHAPTER 9. ENFORCEMENT/ IEPA DELEGATION AGREEMENT

IEPA Delegation Agreement Enforcement Recommendations

Kankakee County does not currently maintain a Delegation Agreement with the Illinois Environmental Protection Agency to conduct inspections and enforce provisions of the Illinois Environmental Protection Act (415 ILCS 5/1 et.seq.) and associated solid waste regulations of the 35 Illinois Administrative Code. A new Delegation Agreement would allow Kankakee County to apply for enforcement grants from the Illinois EPA, seeking the highest level of reimbursement possible as long as the enforcement grants are available.

Kankakee County would support a delegation agreement with the IEPA contingent upon sufficient program funding from the state to administer the program. Kankakee County will investigate intergovernmental agreements with other Counties to support re-establishment of a Delegation Agreement.

Groundwater Monitoring

Depending on funding and staff availability, the Solid Waste Division investigate a program of "split-sampling" of groundwater wells at each of Kankakee County's permitted sites that are required to sample and analyze groundwater at their site. This split-sampling program will check and maintain the integrity of each facility's groundwater sampling and analysis system. This currently includes the Kankakee Recycling and Disposal Facility (Landfill) and the Joyce Farms permitted compost site, but any newly sited and permitted site operating in Kankakee County at a future date will be included in the program as well.

Wells to be sampled will be chosen based on staff review of groundwater status, but random sampling events may also be conducted.

Staff will review results obtained from an independent, County-contracted laboratory having the necessary Illinois EPA certifications and qualifications, and compare them to the laboratory results obtained from the permitted site's laboratory. Any discrepancies will be investigated.

Staff will ensure sites are following proper sampling protocol, are using properly permitted methods, and are in compliance with their permitted groundwater monitoring programs.

Aerial Photograph & Altitude Comparison

Should a municipal solid waste landfill be operating within the County, staff will conduct aerial surveys, determine final cover elevations, and compare IEPA-permitted elevations and/or waste volumes with actual elevations and/or waste volumes. This data will be used to evaluate a facility's compliance with its permitted height contours, waste boundaries, and/or volumes.

CHAPTER 10. BROWNFIELDS

Brownfields are generally defined by the Illinois and USEPA as abandoned, unused or underused commercial and industrial properties that have actual or perceived contamination and are hindered from development for this reason. Brownfield sites can vary from a 1000-acre closed manufacturing plant to a one-acre abandoned gas station.

Historically, Brownfield properties were not redeveloped due to fear of environmental contamination and associated liability risks, as well as fear of high assessment and cleanup costs.

A number of tools and resources are now available to better address these types of properties. Left unaddressed, Brownfield sites pose a high community cost in terms of environmental contamination; reduction in local employment opportunities; decreased tax revenues; attraction of open dumping, vandals, and crime; lowering of surrounding property values; deterioration of neighborhoods; and urban sprawl, as developers target farmland and open space for their projects.

Kankakee County can play a role in Brownfield Redevelopment projects by:

- Keeping abreast of the Federal and State of Illinois Brownfield programs and initiatives by attending seminars and classes as necessary
- Educating municipalities, economic development agencies, the private sector, and the public at large by disseminating Brownfield information and sponsoring seminars and workshops.
- Maintaining an inventory (data base) of potential Brownfield properties, accessible by web-site access. Kankakee County will work with appropriate partners to help identify and inventory properties with a redevelopment potential, being hampered from development by actual or perceived contamination issues.
- Assisting parties with research of historical land use and environmental database searches of specific Brownfields properties, as well as determination of future end-use plans for the property of interest.

- Taking ownership of abandoned commercial and industrials sites to expedite the clean up and redevelopment process when appropriate and necessary. The means available to accomplish this include acquisition of tax delinquent property, lien foreclosure, negotiated sales or other appropriate and lawful means.
- Researching and assisting with determination of funding sources for site acquisition, environmental assessments, cleanup, and redevelopment.
- Assisting with in-kind service costs, depending on staffing levels, required in Brownfield grant agreements, when requested.

Kankakee County has submitted an application for a Brownfield Assessment Grant for Fiscal year 2012 for hazardous and petroleum contaminated sites.

CHAPTER 11. FUNDING MECHANISMS

There are several options for securing solid waste management (SWM) program funds, including landfill tipping fee surcharges, siting application fees, host fees, licensing fees, franchising fees, various solid waste taxes, recycling revenues, service fees and a household hazardous waste fee.

Landfill Tipping Fee Surcharge. The Illinois Environmental Protection Act [415 ILCS 5/22.15(j)] empowers units of local government to impose a tipping fee surcharge on landfills located within their jurisdiction. The total surcharge may not exceed $0.60/cubic yard or $1.27/ton of waste disposed.

However, no landfill has operated in Kankakee since late in 2005, and no siting approvals for new landfills or expansions have been finalized, this revenue source may not be available. By ordinance Kankakee County is authorized to collect the local surcharge from landfills operating within incorporated or unincorporated Kankakee County.

Siting Application Fees. It is not unusual, especially in Illinois with the complex SB172 siting process, for local governments to charge a fee for the processing and review of pollution control facility siting applications. While these fees are meant to cover the County's costs to evaluate the application, a potion of the fee could be maintained for ongoing program operations.

Host Fees. Siting approval for new or expanded pollution control facilities is often contingent on contractual host agreements between the local government and the developer. These agreements can include fees to be paid to the local government either at a flat rate or based on the how much waste is handled by the facility. These contractual agreements are not restricted by the limits placed on the tipping fee surcharge. Kankakee currently requires applicants requesting site location approval for a pollution control facility within the county to enter into a host agreement with the County and pay a host fee. (See the 2004 Amendment to the Solid Waste Management Plan in Chapter 2.)

Licensing Fees. Kankakee County currently licenses waste haulers. However, obtaining sufficient operating funds from a small number of haulers could result in exorbitant license fees, potentially driving smaller operators out of business. A fee structure that would reflect the size of the hauling operation, with higher license fees for larger businesses, would provide better revenue, more equitably. A simple way to accomplish this might be to license each truck, driver and/or waste container (dumpsters and roll-offs) used by the business.

Shared-Savings from Franchising. Should the County pursue franchised collection of recycling and solid waste in unincorporated Kankakee County, the County would have the opportunity to develop an additional revenue source that would continue, even if the landfill tip fee surcharge becomes unavailable. Several ways in which this funding option could be structured are described below; however, it should be understood that many variations to each concept are possible.

- Fixed User Fee. With this approach, each household would pay a monthly user fee (for example, $0.30 per month). The fee would be a part of the base rate in a multi-tiered PAYT billing structure. (Multi-tiered billing structure is described under PAYT in Chapter 7.) This user fee would be used by the County to offset its financial responsibility to manage the franchise contract(s). Additionally, the user fee could be used to enhance curbside and drop-off recycling in unincorporated areas of the County. The amount of the user fee is expected to be less than the expected savings per household resulting from the districting project. Therefore, it is expected that monthly costs to residents would be less, even with the addition of the user fee.
- Variable User Fee. In this scenario, each household would pay a user fee that is based on a percentage of residents' savings resulting from the districting project. For example, if the new rate contracted for each household in a district were $1.00 per month less than previous rates paid by the residents, the County would receive 30 percent of the savings or $0.30 per household per month. This approach would encourage the County to negotiate the lowest price for residential solid waste collection, reducing costs for residents as well as generating revenue streams for County recycling programs. A disadvantage of this option is that it would be difficult to calculate the annual savings, based on numerous and various rate structures

currently in place throughout the County. Another issue is determining the most appropriate annual escalation rate.

- Recycling Revenues. As a way to help the County meet its recycling goals while capturing alternative funds for the SWM program, the County could share in the recycling revenues resulting from residential recycling. Presumably, this approach would further increase the County's efforts to assist in enhancing recycling programs in unincorporated areas. Under this arrangement, the contractor would bid on the waste contract, which would include once-per-week recycling collection. A minimum capture rate for recyclable materials would be specified in the contract. The County would collect a percentage of revenues from sales of these materials. For materials collected above the minimum capture rate, the hauler would keep all revenues. In this way, the hauler would be enticed to capture greater quantities of material. As an incentive for haulers to capture the greatest possible quantities of low-value materials, fees on materials with low market value could be waived, depending on periodic market conditions. A disadvantage of this approach is that recycling revenue streams are highly variable and are unpredictable. Therefore, recycling revenues could not be considered a guaranteed funding source for fixed solid waste program costs. Another disadvantage of this approach is that it would require additional accounting efforts.

Solid Waste Tax. Since all property owners pay real estate taxes, an additional levy to fund solid waste management programs could be imposed. A disadvantage of this approach is that it would require voter approval, which increases the steps in the process.

A solid waste tax could also be structured as a sales tax. This concept has some appeal on a fairness basis, as those residents that purchase and consume more – and thus dispose more – would provide more funds for solid waste management. Unfortunately, in Illinois, only home rule municipalities and counties have the authority to enact local sales taxes,

A tax or service fee could be collected on solid waste materials collected for disposal. This could be accomplished by assessing a tax on the quantities hauled from the County, whether

disposed in County or out of County. Materials separated for recycling would not be counted in the quantity on which the tax would be based, thereby encouraging more recycling. The tax could also be structured as a County service fee to be added by the haulers to their customers' bills. Depending on how this tax/service fee is structured it may fall under the category of an excise tax, which could require home rule authority.

Hazardous Waste Fee. Funding for a County household hazardous waste (HHW) program is a high priority. The program needs stable funding to meet the needs of County residents. To help secure funding for this program, a HHW fee could be collected as a part of garbage service costs using one of the mechanisms discussed above. The amount of this fee would vary, depending on the selected long-term solution to HHW in the County.

General Funds. Solid Waste and Environmental Division operations could be budgeted from the County's General Fund.

Grants. Grant funds are available from the Illinois Department of Commerce and Economic Opportunity (DCEO) for starting and expanding recycling programs. These grants are awarded annually through a competitive solicitation.

The USEPA Region 5, Office of Solid Waste will occasionally offer grants for special solid waste related projects. These are also awarded through a competitive solicitation.

The Waste Reduction and Compliance Section of the IEPA provides grant funding to local governments for oversight, inspection, and enforcement programs from the State's Solid Waste Management Fund. Funds are used for investigations of citizen complaints about open dumping and inspections at permitted pollution control facilities. Enforcement grants to local governments each fiscal year total almost $750,000. Local governments must first enter into delegation agreements with the Illinois EPA, and hire and train landfill inspectors under the state's certification requirements.

CHAPTER 12. LEGISLATIVE ACTIVITY

Illinois General Assembly

Since the last solid waste plan update in 2000, the following legislation has made changes in state laws regarding waste collection and disposal.

- P.A. 91-0036 – Creates the Hazardous Waste Fund and Hazardous Waste Research Fund. Also, creates the Brownfields Redevelopment Grant Program and the Brownfields Redevelopment Loan Program.
- P.A. 91-0072 – Makes open dumping of construction and demolition debris a violation of the Environmental Protection Act.
- P.A. 91-0167 – Creates the Recycled Content Products Task Force to study and assess the existing market development for recycled content products in the private and public economy.
- P.A. 91-0588 – Creates addition requirements for the post-closure care plan for landfills located in a 100-year floodplain.
- P.A. 91-0110 – Establishes standards for livestock waste handling facilities not using lagoons. Requires notices of intent to construct, design review and registration of facilities with the Department of Agriculture.
- P.A. 91-0853 – Moves oversight of the Keep Illinois Beautiful Program from the Lieutenant Governor's office to the Department of Commerce and Economic Opportunity (DCEO)
- P.A. 91-0909 - Revises standards for use of clean construction and demolition debris as fill material. Also, requires IEPA to create rules for Environmental Land Use Control (ELUC).
- P. A. 92-0024 – Authorizes IEPA to enter into reimbursement agreements with site owner or operator for tire pile clean-ups over 250,000 tires.
- P.A. 92-0554 – Redefines activities and responsibilities for Leaking Underground Storage Tanks (LUST) site investigation and corrective action.

- P.A. 93-0032 – Increases the State tipping fee surcharge at landfills from $0.95 per ton to $2.00 per ton. Also increases the advance disposal fee on the sale of tires from $1.00 to $2.50 and applies it to used as well as new tires. Increases fees for Medical waste transportation and annual hauling permit fees.
- P.A. 93-0121 – Provides that a pet crematorium is not a waste management facility for the purposes of the Environmental Protection Act.
- P.A. 93-0165 – Bans the sale or distribution of mercury-containing fever thermometers or novelty items
- P.A. 93-0179 – Revises standards for use of clean construction and demolition debris as fill material.
- P.A. 93-0839 – Eliminated funding for DCEO Used Tire Recovery Grant Program.
- P.A. 093-0998 – Exempts facilities recycling broken, uncontaminated concrete from siting as pollution control facilities, if locally zoned.
- P.A. 94-0091 – Eliminated the State's Keep Illinois Beautiful fund and Solid Waste Management Revolving Loan fund.
- P.A. 094-0138 – Requires licensure for pumping, hauling and disposing of wastes from portable toilets.
- P.A. 094-0272 - Exempts recycled broken, uncontaminated concrete from the definition of waste. Creates an Open Dumping Clean-up Program within IEPA. Requires interim authorization and permits to use clean construction and demolition debris in certain fill operations.
- P.A. 094-0314 – Requires IEPA to notify property and well owners of potential threats when soil or groundwater contamination is found beyond the boundary of the site where releases occurred.
- P.A. 094-0518 – Establishes a commission to investigate options for the recycling and proper disposal of computer equipment.
- P.A. 094-0591 – Clarifies that a pollution control facility siting application must be consistent with the solid waste management plan in effect as of the application filing date.

- P.A. 094-0641 – Requires IDPH and IEPA to establish guidelines for the proper disposal of hypodermic needles and other sharps. Exempts sharps collection stations from permitting if wastes handled as infectious medical waste.
- P.A. 095-0741 – Extends requirements for schools to purchase recycled-content products and plan for recycling and waste reduction.
- P.A. 095-0959 - Electronic Products Recycling and Reuse Act, implements a "producer responsibility" program for recycling covered electronic devices.
- PA. 095-0288 – Specifies that siting authority vests with the governing authority of the location at the time of filing the application for siting approval.
- P.A. 095-0177 – Exempts temporary, containerized storage of non-putrescible waste while in-transit from PCF siting.
- P.A. 095-0268 – Implements a pilot plastic bag recycling program in Lake County, and creates the Plastic Bag Recycling Task Force to report on the results.
- P.A. 095-0856 – Requires public hearing process prior to awarding commercial waste hauling franchise contracts to new contractors.
- P.A. 095-0049 – Extends collections of tire disposal fee.
- P.A. 095-0119 – Authorizes township road districts to organize, administer, and participate in recycling programs.
- P.A. 095-0408 – Exempts landscape-waste-only transfer stations from PCF siting provided waste is removed within 24 hours of receipt.
- P.A. 095-0121 – Removes 30-day holding limit for C&D debris recycling. Defines speculative accumulation for asphalt pavement.
- P.A. 095-0913 – Burning MSW is not "renewable energy"
- P.A. 096-0077 – Requires state agencies to use compost materials in the maintenance 0f public lands.
- P.A. 096-0121 – Establishes rules for operation of Household Hazardous Waste (HHW) drop-off points and one-day collection events. Authorizes the IEPA to approve one-day collection events and to adopt rules for drop-off points.

- P.A. 096-0197 – Amends procurement code to define environmentally preferable procurement and provides price preference for recycled content materials which do not constitute an undue economic or practical hardship
- P.A. 096-0235 – Makes technical changes to the EPA Act concerning handling and recycling of C/D debris containing waste wood and cardboard.
- P.A. 096-0369 – Establishes the "MEDS" collaborative under IEPA to promote the environmentally responsible disposal of unwanted and expired medications.
- P.A. 096-0393 – Requires IEPA to create a website to inform the public on proper disposal of mercury-containing fluorescent lamps.
- P.A. 096-0418 – Defines food waste and landscape wastes and rules under which mixed organic waste composting facilities may be exempted from PCF siting. Modifies the public notice process for issuing compost facility permits.
- P.A. 096-0449 – Includes "qualified solid waste energy facilities" in the State's Renewable Energy Portfolio.
- P.A. 096-0489 – Authorizes IEPA to determine that a material otherwise required to be managed as waste may be managed as non-waste if that material is used beneficially. Applicant must demonstrate compliance with conditions. Such determinations may be effective for up to 5 years.
- P.A. 096-0611 – Requires a permit for facilities accepting exclusively C&D debris.
- P.A. 096-0659 – Defines "green industries" to include recycling, composting and large scale reuse of C/D debris for green career technical education programs.
- P.A. 096-0887 – Exempts demonstration MSW gasification from PCF siting for one year. Authorizes IEPA to issue permits for pilot-scale, gasification conversion technology demonstration projects. Establishes conditions for permit.
- P.A. 096-1068 – Exempts C&D facilities in counties contiguous with Cook County from PCF siting.
- P.A. 096-1154 – Modifies some provisions of the Electronic Products Recycling and Reuse Act regarding producer reporting and registration fees.

- P.A. 096-1215 - Amends public hearing process prior to awarding commercial waste hauling franchise contracts to new contractors established by P.A. 095-0856. Requires issuance of an RFP.
- P.A. 096-1295 – Provides producer responsibility for the collection and recycling of mercury thermostats.
- P.A. 096-1314 – Exempts a demonstration MSW thermochemical conversion project in Naperville from PCF siting. Authorizes IEPA to issue permit. Establishes conditions for permit.
- P.A. 096-1416 – Defines "clean construction or demolition" and "uncontaminated soil" fill operations and requires IEPA to establish rules for such operations. Establishes interim rules and fees. Authorizes delegated counties to impose fee/surcharge up to $0.10/yd3, or $0.07/ton, on materials accepted at fill operations.

Recycling and Reporting Ordinance.

The County has passed an amendment to the Kankakee County Solid Waste Management Ordinance. The purpose of the amendment is to increase the availability and convenience of recycling in Kankakee County, to collect data necessary to track solid waste generation and disposal rates, and to ascertain if the County is meeting the recycling goals mandated by the Solid Waste Planning and Recycling Act (415 ILCS 15/1 et.seq). The amendment focuses on increasing residential recycling rates as a first step. The residential recycling rate for 2004 was 7.3%, far below the 25% rate that should be realized, at a minimum, at this time. A copy of the amendment can be found in Appendix A.

CHAPTER 13. SUMMARY RECOMMENDATIONS AND CONCLUSION

It is the desire of the County of Kankakee to take responsibility for the proper management and disposal of wastes generated within the County. Final disposal at a single, well-managed facility within the county is preferable to shipment of wastes for out-of-county disposal.

Waste Reduction and Recycling.

Kankakee County recognizes the benefits of reducing the amount of waste disposed and recommends pursuing the following waste reduction and recycling program to the extent that funding availability and staffing allows.

1. Kankakee County will continue to pursue a goal of a 40% county-wide recycling rate.
2. Kankakee County will continue and expand public education and promotion programs to encourage increased waste reduction and recycling.
3. Kankakee County will provide leadership in this effort by implementing waste reduction principals and recycling programs in County operations whenever and wherever appropriate and practicable.
4. Kankakee County will promote to the municipalities and haulers a change-over to pay-as-you-throw billing systems for waste disposal and large collection carts for recycling.
5. If necessary to meet its recycling goal, Kankakee County will seek a change in its Solid Waste Management Ordinance to require commercial recycling.
6. Kankakee County will conduct a focused study on franchising waste collecting in unincorporated areas of the County with the goals of reducing prices, decreasing truck traffic, and providing recycling services to all unincorporated residents.
7. Kankakee County will investigate the feasibility of developing or obtaining a large, centralized Materials Recycling Facility (MRF) within the county.

More detailed recommendations are listed in Chapter 7.

Composting.

Kankakee County will study the feasibility of an ordinance imposing a local impact fee and/or an environmental protection bond requirement on permitted and on-farm landscape waste composting facilities, considering various factors such as permit status and compliance, and volumes processed.

Transfer Stations.

Depending upon the relative location of landfills available in the area to meet the long-term disposal needs of the County, and depending further upon whether direct hauling of waste from its point of generation within the County to one or more of these landfills is feasible, the establishment and utilization of one or more additional transfer stations within the County may be necessary to promote the safe, efficient, cost-effective management of waste generated within the County.

Any transfer stations approved and developed within the County should be located in the County so as to provide for the safe, convenient, cost-effective and efficient receipt and transfer of waste. Transfer stations that can provide recycling services and handle C&D debris will be preferred.

The County will continue to rely on the private sector to provide transfer station capacity.

Landfills

Kankakee County will not consider siting applications for a new or expanded landfill facilities within the County for a period of five (5) years after the approval date of this plan update. The County will rely on transfer stations and out-of-county regional landfill facilities for waste disposal. Siting applications for additional transfer stations will be considered.

Landfill siting applications may be considered within the above five (5) year period if the County Board determines that:

1. Regional landfill capacity is not sufficient for Kankakee County waste disposal, or;

- Unacceptable increases in disposal costs within the County have occurred, or;
- Unacceptable decreases in transfer station capacity within the County have occurred.

Any such landfill must:

1. Provide adequate disposal capacity for all municipal solid waste generated in Kankakee County for a minimum period of 20 years,
2. Meet or exceed all the requirements of Section 39.2 of the Illinois Environmental Protection Act and the Kankakee County Pollution Control Facility Siting Ordinance, and
3. Provide an economic benefit to the citizens of the County in the form of lower disposal costs as compared to hauling MSW to out-of-county landfills.

Traditional Waste-to-Energy and Alternative Conversion Technologies

Traditional waste-to-energy processes have been in commercial use in the United States since 1976, but there are no waste-to-energy facilities currently operating in Illinois. Waste-to-energy technologies are compatible with recycling and use the heating value of waste to generate electricity. Waste-to-energy results in combustion-related air emissions and generates ash residue requiring landfill disposal, but reduces greenhouse gas emissions compared to landfills without gas collection, reduces leachate generation, and preserves land resources when compared to landfilling. Waste-to-energy is also typically more costly than landfilling.

Alternative MSW conversion technologies, specifically anaerobic digestion and gasification, are not currently operating in the United States for mixed MSW, but are operating commercially outside the United States (e.g., Canada, Japan and Europe). In addition, the experience in operating these technologies in other countries is limited, both in the number of facilities and length of operation. Anaerobic digestion and gasification are compatible with recycling, and provide for beneficial use of waste through the generation of electricity and products. Anaerobic digestion and gasification offer potential environmental benefits compared to landfilling, including reduced greenhouse gas emissions (when compared to landfills that do not collect and control landfill gas), reduced leachate generation and preservation of land resources. The alternative technologies have combustion-related emissions (when burning

biogas or syngas to generate electricity). Although emissions data is limited, where such data is available, it indicates air emissions for alternative technologies are generally less than emissions for traditional waste-to-energy. Based on available planning level information, which is not project or site specific, the alternative technologies appear comparable to or (in most cases) more costly than landfilling. While costs may be somewhat comparable, and potential benefits may be realized, because of limited operating experience and operating data to demonstrate performance and benefits, particularly in the U.S., project risk for using alternative conversion technologies in a commercial setting and realizing potential benefits is presently higher than for conventional disposal methods.

Because certain emerging conversion technologies may offer potential advantages for municipal solid waste management, and recognizing that technological state-of-the-art and economic conditions are not static, it is recommended that development of these technologies be monitored, encouraged and reconsidered in the next Solid Waste Plan update.

The County will rely on the private sector to continue development of these technologies.

Siting Application Fee and Host Agreement

The County will require that anyone submitting a siting application for a pollution control facility to be located in Kankakee County, whether in incorporated or unincorporated areas shall submit an application fee to the County and enter into a host agreement with the county. The host agreement shall include at a minimum and at the discretion of the County:

a. Prohibition of hazardous wastes.
b. An environmental contingency fund.
c. A domestic water well protection program.
d. A host fee to be paid to the county.
e. Guaranteed first access to the facility for the county's non-hazardous solid waste.
f. Negotiated terms for the determination and availability of excess capacity for out-of-county waste.
g. Property value protection program.

h. An indemnification agreement to indemnify and hold harmless the county and its officers, agents, and employees from liability associated with any and all operations at the facility.

i. Assignment of rights clause granting the siting entity the authority to approve or disapprove any transfer of ownership in the facility.

j. The facility shall provide disposal capacity for the County's non-hazardous solid waste for a minimum period of 20 years.

k. The facility will agree to host one HHW collection event, one used electronics recycling event, and one used tire recovery event annually.

l. The County is allowed unrestricted access to the facility as well as records necessary to insure compliance with the Host Agreement.

m. A cap on the amount of wastes accepted annually.

Funding

It is recommended that the County continue to fund its solid waste programs with tipping fee surcharges and/or host fees, if possible. Resolution # 2004-09-14-194 dictates that the County receives the allowable surcharge from all new solid waste disposal facilities pursuant to the Environmental Protection Act. However, if a new solid waste facility consistent with the plan cannot be sited, the County General Fund should be used to support the vital aspects of this plan until other funding mechanisms can be investigated and developed.

Other

Kankakee County should seek to maintain a Delegation Agreement with the Illinois Environmental Protection Agency to conduct inspections and enforce provisions of the Illinois Environmental Protection Act provided program funding from the State is sufficient to administer the program.

Kankakee County should implement a Brownfields program to assist in restoring these areas for the economic benefit of the County. Kankakee County has submitted an application for a Brownfield Assessment Grant for Fiscal year 2012 for hazardous and petroleum contaminated sites.

APPENDIX A. KANKAKEE COUNTY RECYCLING ORDINANCE

Kankakee County Solid Waste and Recycling Ordinance

Art. I. **In General, §§ 9-1—9-15**

Art. II. **Disposal Areas, §§ 9-16—9-40**

Div. 1. Generally, §§ 9-16—9-25

Div. 2. License, §§ 9-26—9-40

Art. III. **Transportation of Refuse, §§ 9-41—9-67**

Div. 1. Generally, §§ 9-41—9-60

Div. 2. Refuse Hauler's License, §§ 9-61—9-67

Art. IV. **Hauler Reporting, Recycling and Additional Licensing Requirements**.

ARTICLE I. IN GENERAL

Sec. 9-1. Definitions.

The following definitions shall apply in the interpretation and enforcement of this chapter:

Agricultural wastes shall mean any refuse, except garbage and dead animals, generated on a farm or ranch by crop and livestock production practices including such items as bags, cartons, dry bedding, structural materials, and crop residues, but excluding landscape wastes.

Authorized waste disposal site shall mean a landfill or other site used for the proper disposal of solid waste or wastes as permitted and approved by the State of Illinois Environmental Protection Agency.

Boarding House shall mean a residential building, or portion thereof – other than a motel, apartment hotel, or hotel-containing lodging rooms for accommodation of two (2) or more persons who are not members of the keeper's family and where lodging or meals or both are provided by prearrangement and for definite periods, at a definite, prearranged price.

Board of health shall mean the Kankakee County Board of Health or its authorized representative(s).

Building means any structure designed, built, or occupied as a shelter or roofed enclosure for person, animals or property.

Code Enforcement Officer shall, for the purposes of this Ordinance, refer to a county employee authorized to issue citations for violations of this Ordinance.

County shall refer to Kankakee County, Illinois, both incorporated and unincorporated areas, for purposes of Article IV.

Construction and demolition debris means non-hazardous, uncontaminated materials resulting from the construction, remodeling, repair, and demolition of utilities and structures limited to the following: bricks, concrete (with and without rebar), and other masonry materials, rock, wood, including non-hazardous painted, treated, and coated wood and wood products; wall coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles and other roof coverings, reclaimed asphalt pavement, glass, plastics that are not sealed in a manner that conceals waste, electrical wiring and components containing no hazardous substances, and piping or metals incidental to any of those materials.

Curbside Collection means the pickup of garbage, general household waste and recyclables placed at a curb, alleyway, or roadside adjacent to or at the end of a private driveway leading to a residence or business.

Domicile wastes shall mean any refuse generated on single-family domiciliary property as a result of domiciliary activities. The term excludes landscape waste, garbage and trade waste.

Dwelling means a building, or portion thereof, exclusive of recreational vehicles, hotels, or motels, containing as its principle use one (1) or more dwelling units.

Dwelling Unit means a residential accommodation including complete kitchen facilities permanently installed which are arranged, designed, used or intended for use exclusively as living quarters of one family.

Effective Date means the date this ordinance amendment is approved and passed by the Kankakee County Board.

Garbage is any refuse products or materials, including, but not limited to, the following: putrescible animal and vegetable wastes resulting from the handling, storage, preparation, cooking, sale or consumption of food; animal excretion, glass or metal containers, products, or objects discarded as no longer useable; paper, wood and cardboard waste; uprooted weeds, grass clippings, leaves and the like; ashes and cinders; discarded furniture or clothing; and dead animals, or any matter that may decompose and become offensive or dangerous to health. The term “garbage” does not include human excretion of the form of body waste. Garbage is a subset of municipal waste.

Hauler means any person owning or controlling any vehicle used to carry or transport garbage, refuse, municipal waste, recyclables, landscape waste, or other forms of solid waste.

Health authority shall mean the administrator of the Kankakee County Health Department or his duly authorized representative(s).

Health department shall mean the Kankakee County Health Department, including its duly authorized representative(s).

Health department administrator shall mean the individual selected by the Kankakee County Board of Health to administer and enforce the policies, ordinances, resolutions, or law of said board.

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***Editor's note**—The county's solid waste ordinance, enacted on Nov. 10,1986, did not specifically amend this Code; hence, codification of the substantive provisions thereof as superseding former Arts. I and III of this chapter are at the discretion of the editor. Former Art. I, "In General" consisted of § 9-1, which contained definitions for the chapter and derived from § 4, Rule 12 of an ordinance of March 10,1964, and former Art. III, "Disposal Vehicles," consisted of §§ 9-41, 9-42 and 9-61—9-66, which derived from § 4, Rules 2,4,8,13 and 14 of the March 10, 1964 ordinance, as amended by ordinances of April 9,1968 and May 11, 1975.

Cross references—Health and sanitation generally, Ch. 9.5; health nuisances enumerated, § 9.5-22.

Hearing Officer means a person other than a code enforcement officer or law enforcement officer having the following powers and duties:

A) To preside at an administrative hearing called to determine whether a code violation exists.

B) To hear testimony, accept evidence, and make evidentiary rulings from the code enforcement officer, the respondent, and all interested parties relevant to the existence of a code violation.

C) To preserve and authenticate the record of the hearing and all exhibits and evidence introduced at the hearing.

D) To issue and sign written findings and a decision and order stating whether a code violation exists.

E) To impose penalties consistent with applicable code provisions and to assess costs reasonably related to instituting the proceedings upon finding the respondent liable for the charged violation. In no event, however, shall the hearing officer have the authority to impose a penalty of incarceration.

Landscape waste means a vegetable or plant refuse, except garbage and agricultural wastes. The term includes all accumulation of grass or shrubbery cuttings, leaves, tree limbs, trees, tree trimmings, branches, stumps, brush, weeds, and other materials accumulated as the result of the care of lawns, shrubbery, vines and trees. Landscape waste is a subset of municipal waste.

License shall mean a written permit issued by the Kankakee County Department permitting the collection, transportation, and disposal of solid waste within Kankakee County, Illinois.

Multi-Family Dwelling means a building or property containing two (2) or more dwelling units used for residential occupancy, including apartment houses, fraternities, sororities, dormitories, mobile home parks, town homes, condominiums and similar housing types but not including hotels, motels, hospitals, foster family homes, boarding houses, long-term care facilities or semi-independent group residents.

Municipal waste means garbage, general household and commercial waste, industrial waste (lunchroom, office, packaging), institutional waste (schools, hospitals, government offices), landscape waste, and construction or demolition debris.

Occupant means person or persons residing in dwellings of one or more units, which have either curbside, alley, or centrally located waste collection service.

Open Burning means the combustion of any matter is such a way that the products of the combustion are emitted to the open air without originating in or passing through equipment for which a permit could be issued under Section 9(b) of the Illinois Environmental Protection Act.

Open Dumping means the consolidation of refuse from one or more sources at a disposal site that does not fulfill the requirements of a sanitary landfill.

Ordinance shall mean the Kankakee County solid waste ordinance.

Person is any individual, group of individuals, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, beneficiary trust, estate, political subdivision, state agency, person doing business under an assumed name, or any other legal entity, business entity, or their legal representative, agency, or assigns.

Planning Department means the director of the Kankakee County Planning Department or his/her duly authorized representative in the Solid Waste & Environmental Division of the Planning Department.

Property owner shall mean the person in whose name legal title to the real estate is recorded.

Recyclables means materials separated from garbage, municipal waste, or refuse for the purpose of recycling, including, but not limited to any or all of the following: newspaper, newspaper inserts, junkmail, phone books, aluminum cans, steel and/or bi-metal cans, corrugated cardboard, colored or white paper, magazines, ferrous and non-ferrous metals, flint, amber, and green glass bottles and jars, HDPE (#2) and PETE (# 1) plastic containers of any color, landscape waste, and any other material accepted by the hauler for recycling. Recyclables are considered a subset of municipal waste and a subset of refuse.

Recycling means a method, technique, or process designed to remove any contaminants from waste so as to render such waste reusable, or any process by which materials that would otherwise be disposed of or discarded are collected, separated or processed and returned to the economic mainstream in the form of raw materials or products.

Refuse means any discarded matter; or any matter which is to be reduced in volume, or otherwise changed in chemical or physical properties, in order to facilitate its discard, removal or disposal. For purposes of this Ordinance refuse means solid waste and includes recyclables.

Rental Residential Dwelling Unit means a rental multi-family dwelling.

Respondent means a property owner, waste hauler, or other person charged with liability for an alleged code violation and the person to whom the notice of violation is directed.

Restricted Areas: The area within the boundaries of any "municipality" as defined in the Illinois Municipal Code, plus a zone extending one mile beyond the boundaries of any such municipality having a population of 1,000 or more according to the latest federal census.

Scavenging means the unauthorized collection of municipal waste and recyclable materials that have been set out by residents and businesses of Kankakee County specifically for an authorized collection.

Shall means mandatory and not discretionary.

Single Family Dwelling means a dwelling which is a detached building containing only one (1) dwelling unit.

Solid Waste refers to non-hazardous, non-special waste, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows, or coal combustion by-products as defined in Section 3.135, or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as now or hereafter amended, or source, special nuclear, or by-product materials as defined by the Atomic Energy Act of 1954, or any solid or dissolved material from any facility subject to the Federal Surface Mining Control and Reclamation Act of 1977 or the rules and regulations thereunder or any law or rule or regulation adopted by the State of Illinois pursuant thereto. For purposes of this Ordinance, Solid Waste refers to construction and demolition materials, food and industrial wastes, commercial wastes, garden trash, land-clearing waste, institutional waste, mixed refuse, non-combustible refuse, garbage, municipal waste, trash, debris, rubbish, inoperative, dismantled, unusable, or dilapidated appliances, furniture, equipment, machinery or parts thereof, oil, carcass of a dead animal, and any object likely to injure any person or create a traffic hazard, or anything else of an unsightly or unsanitary nature, which has been discarded, abandoned or otherwise disposed of improperly.

Trade Waste: Any refuse resulting from the prosecution of any trade, business, industry, commercial venture, utility or service activity, and any government or institutional activity, whether or not for profit. The term includes landscape waste but excludes agricultural waste.

(Ord. of 11-10-86, § 2)

Sec. 9-2. Unlawful dumping; exception.

(a) No person shall dump, deposit, drop, throw, discard, leave, cause, or permit the dumping, depositing, dropping, throwing, discarding, or leaving of refuse upon any public or private property in Kankakee County, or upon or into any river, lake, pond, or other stream or body of water in Kankakee County unless:

(1) The property has been designated as an authorized waste disposal site by the State of Illinois Environmental Protection Agency;

(2) The refuse is placed into a receptacle or other container, prescribed in section 9-7 of this chapter, intended by the owner or tenant in lawful possession of that property for the depositing of refuse;

(3) The person is acting under the direction of proper public officials during special cleanup days; or

(4) The person is lawfully acting in or reacting to an emergency situation where health and safety is threatened, and removes and property disposes of such refuse when the emergency situation no longer exists.

(b) No person shall transport refuse from any dwelling, residence, place of business, farm, or other site to deposit such material in, around or on top of refuse containers on any other property, public, or private.

(Ord. of 11-10-86, § 3)

Sec. 9-3. Accumulation, storage, disposal of refuse.

(a) No person shall cause or permit refuse to accumulate in any building or on any property, improved or vacant, public or private, within Kankakee County, Illinois. Authorized junkyards or salvage yards shall not cause or permit refuse to accumulate in any building or on any property, improved, or vacant, public or private, within Kankakee County, Illinois, except for items accumulated and stored as part of the junkyard or salvage business. This notwithstanding, authorized junkyards and salvage yards shall not cause or allow any violation of the Illinois Environmental Protection Act and/or associated Title 35 Illinois Administrative Code violations.

(b) The occupant, tenant, owner or his agent of any building or property shall be responsible for placing all refuse in containers, as prescribed in section 9-7 of this chapter and for subsequent removal from such property. No person shall remove the covers from or open refuse containers, except as permitted in this chapter, or to place or disturb such containers such that their contents might be spilled or scattered. Refuse shall be removed from any building or property not less than once every two (2) weeks.

(Ord. of 11-10-86, § 4)

Sec. 9-4. Open burning.

(a) *Prohibited:*

(1) No person shall cause or allow open burning in Kankakee County except as provided in section 9-4(b) of this chapter.

(2) No person shall cause to allow the burning of any refuse in any chamber or apparatus, unless such chamber or apparatus is designed for the purpose of disposing of the class or refuse being burned.

(b) Exemptions: The following activities are not in violation of this chapter unless they cause air pollution as defined by the Illinois Environment Protection Act (415 ILCS 5/1 et seq.). Nothing in this chapter shall exempt such activities from applicable local restrictions.

(1) The open burning of agricultural waste, but only:

a. On the premise on which such waste is generated;

b. In areas other than restricted areas;

c. When atmospheric conditions will readily dissipate contaminants;

d. If such burning does not create a visibility hazard on roadways, railroads tracks or air fields;

e. More than one thousand (1,000) feet from residential or other populated areas, and;

f. When it can be affirmatively demonstrated that no economically reasonable alternative method of disposal is available.

(2) The open burning of domicile waste, but only:

a. On the premise on which such waste is generated;

b. In areas other than restricted areas;

c. When atmospheric conditions will readily dissipate contaminants; and

d. If such burning does not create a visibility hazard on roadways, railroad tracks, or air fields.

(3) The open burning of landscape waste, but only:

a. On the premise on which such waste is generated;

b. When atmospheric conditions will readily dissipate contaminants;

c. If such burning does not create a visibility hazard on roadways, railroad tracks, or air fields; and

d. In those areas of the county which are not in the following prohibited areas:

1. Rural areas one thousand (1,000) feet or less from a municipality in which open burning of landscape waste is prohibited.

e. Fire location shall be located not less than 50 feet from any neighboring structure with adequate water supply source readily available to put out the fire. Neighboring structure means any and all buildings, whether structured on a foundation or mobile, including but not limited to houses, garages, shed, fences, and pole barns.

f. Only dry landscape wastes are permitted to be burned on the property on which such waste is generated.

g. A competent person is required to be present at all times the fire is burning or smoldering.

h. Fire location shall be located not less than 50 feet from any property line.

i. Burning is not permitted when the wind is blowing smoke into nearby residential areas.

j. Burning is not permitted on public roads, alleys, sidewalks, or easements.

k. Burning is not allowed between the hours of 11 pm and 7 am, seven days per week.

(4) The setting of fires to combat or limit existing fires, when reasonably necessary in the judgment of the responsible government official.

(5) The burning of fuels for legitimate campfire, recreational, and cooking purposes, or in domestic fireplaces, in areas where such burning is consistent with other laws provided that no garbage shall be burned in such cases.

(6) The burning of waste gases, provided that in the case of refineries all such flares shall be equipped with smokeless tips or comparable devices to reduce pollution.

(7) Small open flames for heating tar, for welding, acetylene torches, highway safety flares and the like.

(Ord. of 11-10-86, §§ 4.1,4.2)

Sec. 9-5. Highly flammable, explosive, or hazardous materials.

No person shall place or cause to be placed in refuse containers highly flammable, explosive, or hazardous materials. All such materials shall be disposed of according to applicable state laws.

(Ord. of 11-10-86, § 4.3)

Sec. 9-6. Vacated premises.

Any person occupying or controlling any property or building shall cause to be removed therefrom all refuse, before vacating the premises. In the event refuse is not removed from said building or property and the previous occupant or tenant cannot be located, responsibility for removing all refuse shall become the responsibility of the building or property owner.

(Ord. of 11-10-86, § 4.4)

Sec. 9-7. Refuse containers.

(a) *Required.* Containers as prescribed in paragraph (b), (c) and (d) of this section shall be provided at each building or property where refuse is generated or stored.

(b) *Residential properties or small businesses.* The occupant, tenant, owner or his agent of any house, building, apartment, or tenement where persons reside, board, lodge, or work shall provide and maintain in good repair approved containers for refuse storage and collection. A sufficient number of containers shall be provided to accommodate all refuse generated between regular collection or disposal dates. However, one (1) container of at least twenty (20) gallons capacity shall be provided for any small business or for each two (2) persons residing in any premises. All containers shall be:

(1) Of rigid design;

(2) Corrosion-resistant;

(3) Constructed of metal or plastic; and

(4) Leak proof and fly proof with tight-fitting lids and handles at the sides.

All hand-emptied containers shall have capacity of at least twenty (20) gallons, but shall not exceed a capacity of thirty (30) gallons. Plastic bags shall not be accepted for the storage and collection of refuse except as provided in paragraph (c) of this section.

(c) *Use of plastic bags*. The use of plastic bags for refuse storage and collection shall only be permitted if such bagged and sealed refuse is stored within a relatively flyproof or verminproof location such as a shed, garage, other out-building or within the dwelling. Only bags specially designed for refuse storage, which are leakproof and relatively strong shall be permitted. Bags filled with refuse shall be tied and shall be placed in the out-of-doors only on the date of collection as close to the time of pickup as practical. The use of plastic bags for refuse storage and collection shall only be permitted for a single-family dwelling or duplex apartment.

(d) *Apartments or larger businesses*. The owner of agent of any apartment building or larger businesses where eight (8) or more twenty-gallon refuse containers are provided or needed shall provide containers(s) of one (1) cubic yard capacity or larger. A sufficient amount of total refuse storage capacity shall be provided to accommodate all refuse generated between regular collection dates. Such large containers shall be:

(1) Stable while loaded or empty;

(2) Equipped with lids with hinges, or sliding doors;

(3) Equipped for mechanical dumping;

(4) Durable,

(5) Leakproof and relatively fly and vermin-proof; and

(6) Maintained in good repair.

(e) *Removal of covers*; *cleaning*. The covers of refuse containers shall be removed or opened only for the purpose of depositing or collecting refuse therein or for the purpose of cleaning such containers. All refuse containers shall be maintained in clean and sanitary conditions. All such containers shall be cleaned as often as necessary to minimize the attraction of vermin or other animals or the creation of unsanitary conditions or offensive odors. Refuse containers may be cleaned by thorough scrubbing with detergent and water, followed by application of a suitable disinfectant. Refuse containers may also be steam- and/or pressure-cleaned with cleaning solutions. Larger, mechanically dumped containers shall be cleaned at a properly designed and operated facility, or if cleaning is done on the premises, the debris and washings generated from the cleaning operations, shall not be discharged onto the ground surface. In all cleaning, solutions, washings, and residues shall be collected and disposed of in a proper manner.

(Ord. of 11-10-86, §§ 6-6.4)

Sec. 9-8. Investigation of nuisances.

The health authority shall investigate, upon complaint of any person or on its own initiative, any solid waste nuisance in Kankakee County other than Article IV provisions of this Ordinance.

The Planning Department shall investigate, upon compliant of any person or on its own initiative, any solid waste requirement under Article IV (and including the definitions under Article 1 of this Ordinance).

(Ord. of 11-10-86, § 8)

Sec. 9-9. Inspections; right of entry.

The health authority shall have the authority to enter any property at any reasonable time to inspect for health, sanitation, or safety purposes to determine compliance with the provisions of Articles I and III of this chapter. In the event the health authority, in attempting to enter any premises for the purpose of making an inspection to carry out provisions of this article, shall be refused entry, an affidavit may be made under oath to any judge of the circuit court for a warrant authorizing the health authority named in the affidavit to enter upon, or into such premises for the purpose of determining the existence of the conditions set forth in the affidavit.

The Planning Department shall have the authority to enter any property at any reasonable time to inspect and determine compliance with Article IV of this chapter. In the event the Planning Department, in attempting to enter any premises for the purpose of making an inspection to carry out the provisions of Article IV of this chapter, shall be refused entry, an affidavit may be made under oath to any judge of the circuit court for a warrant authorizing the Planning Department named in the affidavit to enter upon or into such premises for the purpose of determining the existence of the conditions set forth in the affidavit.

(Ord. Of 11-10-86, § 8)

Sec. 9-10. Violations.

(a) *Penalties*. Any person who violates any provision of Articles I and III of this chapter shall be guilty of a Class B misdemeanor. Each day's violation constitutes a separate offense.

(b) *Injunctions*. The state's attorney of Kankakee County may bring action for an injunction to restrain such violations or to enjoin the operations of any such establishment causing such violation.

(Ord. of 11-10-86, 11,12; Ord. No. 00009, 1, 7-13-93)

Sec. 9-11. Conflicts.

In any case where a provision of Article I or Article III of this chapter is found to be in conflict with a provision of any zoning, building, fire, safety, or health ordinance, or code of Kankakee County existing on January 1, 1987, the provision which, in the judgment of the health authority, established the higher standards for the promotion and protection of the health and safety of the people shall be deemed to prevail, and such other ordinance or codes are hereby declared to be repealed to the extent that they may be found in conflict.

(Ord. Of 11-10-86, § 13).

Sec. 9-12—9-15. Reserved.

ARTICLE II. DISPOSAL AREAS*

DIVISION 1. GENERALLY

Sec. 9-16. Inspections.

The zoning enforcement officer shall inspect all sanitary landfills licensed pursuant to the provisions of this article and at least once each week he shall file copy of a report of such inspections with the county clerk.

(Ord. of 8-13-74)

Sec. 9-17—9-25. Reserved.

DIVISION 2 LICENSE

Sec. 9-26. Required.

No person shall operate any garbage disposal area without a license issued by the county.

(Ord. of 3-10-64, § 4, Rule 1)

Sec. 9-27. Fee.

A person desiring the license required by the provisions of this division shall pay annual fee of five hundred dollars ($500.00) to the county.

(Ord. of 3-10-64, § 4, Rule 14; Ord. of 3-11-75, § 1)

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***State law reference**—Authority of county board to license and regulate garbage disposal sites, 55 ILCS 5/5-8002.

State law reference—License fee, 55 ILCS 5/5-8003.

Sec 9-28. Use of unlicensed areas.

No person shall dump garbage on any premises not licensed for such purposes hereunder.

(Ord. of 3-10-64, § 4, Rule 3)

Sec. 9-29. License does not authorize violations of law.

No license issued hereunder shall be construed to permit the violation of state law.

(Ord. of 3-10-64, § 4, Rule 4)

Sec. 9-30. Land not eligible for license.

No tract of land, the condition of which, in fact, constitutes a public nuisance shall be licensed as a garbage disposal area nor shall license for same be renewed.

(Ord. of 3-10-64, § 4, Rule 11)

Sec. 9-31. Expiration.

Licenses issued pursuant to the provisions of this division shall expire on April thirty of each year.

(Ord. of 3-10-64, § 4, Rule 13).

Sec. 9-32. Renewal.

An application for the renewal of a license issued pursuant to the provisions of the division must filed with the county clerk at least fifteen (15) days prior to the expiration of the license sought to be renewed.

(Ord. of 3-10-64, § 4, Rule 13)

Sec. 9-33—9-40. Reserved.

ARTICLE III TRANSPORTATION OF REFUSE*

DIVISION 1. GENERALLY

Sec. 9-41. Approval of container; exceptions.

No person shall transport or cause to be transported within Kankakee County, Illinois, any refuse except within a closed or covered container or specially constructed conveyance approved by the health authority. Exceptions to the section may be granted by the health authority such as for transportation of certain types of refuse which will not present a health or safety hazard or create littering of properties and roadways.

(Ord. of 11-10-86, § 5)

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***Editor's note—**See the editor's footnote at the beginning of this chapter.

State law reference—Authority or county board to license and regulate garbage disposal vehicles, 55 ILCS 5/5-8002.

Sec. 9-42—9-60. Reserved.

DIVISION 2. REFUSE HAULER'S LICENSE

Sec. 9-61. Required; application deemed consent to access and inspection.

(a) No person, except as provided in section 9-67 of this article, shall conduct a refuse transporting, processing, or disposal business nor conduct a refuse container cleaning business in Kankakee County unless such person possess a valid Kankakee County refuse hauler's license issued by the Health department.

(b) Application for a license is automatic consent to any and all reasonable inspections and access to determine compliance with this article. Failure to allow inspection and access is sufficient cause to suspend or revoke the license.

(Ord. of 11-10-86, § 7)

Sec. 9-62. Application.

Application for a Kankakee County refuse hauler's license shall be in writing and in such form as prescribed by the Health department.

The Planning Department and Health Department shall have concurrent authority to review the application for approval or denial with additional forms.

The Kankakee County Health Department shall not issue a hauling license or renew a hauling license until such time as the Planning Department approves applicant's compliance with this Ordinance.

(Ord. of 11-10-86, § 7.2)

Sec. 9-63. Fee; transferability.

(a) The fee for a Kankakee County refuse hauler's license shall be based on the number of refuse hauling vehicles operated by the applicant within Kankakee County, or it shall be based upon the number of container-cleaning and/or refuse processing sites operated by the applicant in Kankakee County.

(b) The fee for said license shall be fifty dollars ($50.00) per year for each vehicle or site. A license shall apply to any vehicle described in the supplication and to any replacement of such vehicle upon approval of the health authority, but a license may not be transferred from one person to another person.

(Ord. of 11-10-86, § 7.3)

Sec. 9-64. Issuance.

(a) Upon receipt of the required application the health authority shall make an inspection of each vehicle or facility to ascertain whether the applicable performance standard of section 9-66 of this division are being met. Each vehicle or facility shall be inspected at a mutually agreed upon time and location.

(b) If the health authority, after such inspection of equipment and investigation, is satisfied that the applicant has the qualifications, or knowledge and equipment to perform the services in a manner not detrimental to public health, and upon payment of the required fee, and upon approval by the Planning Department that the applicant meets the requirements of this Ordinance, a license shall be issued to the applicant.

For operations existing on November 10, 1986, the starting date and expiration date will remain as they currently exist. For operations which come into business after November 10, 1986, that starting date and expiration of its license will commence from the month of the issuance of the initial license. The same license number shall be reissued yearly, unless revoked by the health department administrator.

(Ord. of 11-10-86, § 7.5)

Sec 9-65. Suspension or revocation.

Whenever a license holder has failed to comply with any part of Article I or Article III of this chapter, the Health department may give a written notice to request compliance within a specified time. Upon failure by the license holder to comply with such notice in the time prescribed, the license may be suspended or revoked after an opportunity for a hearing has been provided by the health department administrator. Prior to such action, the health department administrator shall notify the operator in writing, stating the reasons for which the Kankakee County refuse hauler's license is subject to suspension or revocation, and advising that said license shall be suspended or revoked at the end of five (5) days following service of such notice, unless a request for a hearing is filed with the health department administrator, by the license holder, within such five-day period. A Kankakee County refuse hauler's license may be suspended for a cause pending its revocation or a hearing relative thereto.

(Ord. of 11-10-86, § 10)

Sec. 9-66. Performance standards.

The following standards for applicable vehicles, facilities, or equipment shall be met on an ongoing basis by holders of or applicants for Kankakee County refuse hauler's license:

(1) Each refuse hauling vehicle shall be in good mechanical condition

(2) Each refuse hauling vehicle shall be maintained in a safe, clean, and sanitary, condition, and shall be constructed, maintained, and operated to prevent spillage of solid waste and/or liquid waste. Each refuse hauling vehicle shall be constructed with a watertight body and cover which shall be a integral part of the vehicle, or under conditions approved by the health authority, there shall be a separate cover of suitable material with fasteners designed to secure all sides of the cover to the vehicle. Such cover shall be secured in place whenever the vehicle is transporting refuse. For refuse haulers with a regular collection route, only an enclosed packer-type vehicle with exposed loading hopper shall be permitted. No refuse shall be transported in the loading hopper.

(3) Overnight parking of a loaded refuse hauling vehicle on public or private property is prohibited.

(4) A shovel and broom shall be kept on each refuse hauling vehicle for the purpose of cleaning up spillage.

(5) Each refuse hauling vehicle and refuse container transported to any location of use shall be property identified with the operator's business name and of adequate letter size so as to be distinguishable at a reasonable distance. Letters should not be in any case less than four (4) inches high

(6) Current lists of customers shall be supplied to the health authority upon request.

(7) Licensed refuse haulers must comply with all applicable ordinances and laws of Kankakee County and the State of Illinois regarding the operation of their business.

(8) The license or a photostatic copy of the Kankakee County refuse hauler's license must be kept on each vehicle.

(9) Proof of ownership or of lease of a vehicle or vehicles shall be provided at the time of application.

(10) When a complaint is received regarding noise created by the operation of refuse collection vehicles and /or crews, the health department administrator may, upon review of the complaint, set the hours of collection so that the noise does not unduly disturb the neighborhood.

(11) Licensed refuse haulers shall be responsive to legitimate request from the health department for inquiry or action of such refuse haulers regarding collection, payment by customers, etc.

(Ord. of 11-10-86, § 7.4)

Sec. 9-67. Exception to license requirement.

A Kankakee County refuse hauler's license shall not be required of a property owner or tenant who may personally remove refuse generated on such single-family property. However, such exception does not relieve the property owner or tenant from complying with the other requirements of Articles I and III of this chapter. Nor shall license be required of a public (municipal entity) refuse hauling business operating in Kankakee County.

ARTICLE IV. HAULER REPORTING, RECYCLING AND ADDITIONAL LICENSING REQUIREMENTS

SECTION 9-68. AUTHORITY, PURPOSE, AND EXEMPTIONS

(a) Authority. This Article is adopted pursuant to provisions in the Illinois County Code (55 ILCS 5/5-8001 et seq.) and the Solid Waste Planning and Recycling Act (415 ILCS 15/1 et seq.).

(b) Purpose. The purpose of this Article is to establish additional rules, regulations and standards for the licensing of solid waste haulers, to increase the availability of recycling in Kankakee County, Illinois, and to collect necessary data with respect to solid waste generation and disposition to track progress towards the County's recycling goals mandated by the Solid Waste Planning and Recycling Act (415 ILCS 15/1 et seq.)

(c) Exemptions. The following entities are exempt from Article IV, Sections 9- 72, 9-73, 9-74, and 9-75 of this ordinance as designated below:

1) Local governmental entities (public entities) collecting and hauling debris from storm clean-up operations or illegal dumping activities;

2) Persons hauling municipal waste or other refuse from their own residence for proper disposal, recycling or processing;

3) Businesses, industry, institutions, etc. that generate waste but do not haul it to disposal, transfer, or recycling facilities;

4) Construction and demolition debris haulers, landscape waste haulers, and businesses and industries that haul waste are exempt from 9-72, 9-73, and 9-74 but must comply with 9-75 (reporting).

5) Municipal entity haulers (public haulers) collecting and hauling waste from residents and/or businesses and institutions located within the municipality are exempt from 9-72, 9-73 (except for 9-73(1)(A) and 9-73(2)(A)(i)(ii)(iii) and 9-73(4)), and 9-74 but must comply with 9-75 (reporting). Municipal entity haulers (public haulers) must provide recycling services to every municipal residential customer to whom municipal entity hauler provides municipal waste collection service even though they are not required to be licensed.

(d) Failure to Comply.

Failure to comply with the requirements of any section of Article IV is cause for suspension, revocation, or summary suspension of Planning Department Authorization and Health Department license, pursuant to Section 9-83 of this Article.

Section 9-69. RECYCLING, RESPONSIBILITIES, PROHIBITIONS

(a) Each household in a residential dwelling unit, each business, each industry and each institution in Kankakee County is encouraged to use regularly scheduled recycling collection services to be provided by a hauler licensed to do business in the County of Kankakee.

(b) Each household, business, industry, and institution in Kankakee County is encouraged to separate from their solid waste stream, an unlimited amount of recyclable materials as listed under the definition of “Recyclables” in Section 9-1.

Section 9-70. RESPONSIBILITY FOR REFUSE AND RECYCLABLES

(a) Responsibility for refuse and recyclable materials set out for collection shall remain with the occupant who sets out the material until it is removed by the licensed hauler. The occupant who sets out the refuse and recyclable material is totally responsible for its proper preparation, handling, care and storage.

(b) Upon removal by the licensed hauler, ownership and responsibility for the proper handling of the refuse and recyclable materials shall be vested in the hauler. Hauler has the right to refuse collection of recyclables which are improperly prepared or which contain garbage contaminants. If recyclables are refused by the hauler for this reason, hauler shall place a sticker indicating the reason for rejection on the specific contaminated recycling container at hand. Once the occupant corrects the contaminated recyclables condition, hauler shall remove recyclables from premises.

(c) It shall be unlawful for a licensed hauler to dispose of collected recyclable materials in a landfill or other final disposal facility (incinerator, transfer station, etc.). Recyclable materials which are collected and removed by a licensed hauler shall be delivered to the appropriate resource recovery facility or recycling center as identified in the hauler application submitted to the Planning Department.

Section 9-71. PROHIBITIONS

(a) It shall be unlawful for any person not approved by the Planning Department under Section 9-72 of this Ordinance to take, collect, or scavenge any recyclable material set out for licensed collection programs within the County.

Section 9-72. PLANNING DEPARTMENT APPLICATION AND AUTHORIZATION

(a) Planning Department Authorization Required.

No person shall engage in the business of collecting or hauling garbage, municipal waste, recyclables, landscape waste, brush or other refuse from any location within the County, including municipalities, without first procuring a written authorization to do so from the Kankakee County Planning Department.

(b) Application.

Application for a Kankakee County Planning Authorization shall be in such form as prescribed by the Planning Department.

(c) Unless earlier suspended or revoked, such Authorization shall be a prerequisite to and shall be included as part of the license issued by the Kankakee County Health Department and shall be valid for a 24-month period, starting date and expiration date of said approval to be specified on Authorization letter.

Section 9-73. CONDITION OF LICENSURE

Condition of Licensure.

As a condition of licensure by the Kankakee County Health Department, all applicants shall meet the following requirements of the Planning Department:

(1) Municipal Residential Services

(A) Recycling Service.

Licensee shall provide municipal waste recycling service to every County residential customer to whom licensee provides municipal waste collection service through a municipal contract, at a single combined price. Each duly licensed hauler serving a municipality shall be selected by each jurisdictional municipality.

(2) Thresholds for Recycling Service.

(A) Each duly licensed hauler shall accomplish the requirement of Section 9-73 (1)(A) above through the following methods:

(i) Through a curbside recycling method if the latest official U.S. Census Bureau - documented municipal population is greater than 2000.

(ii) Through either a curbside recycling method or a conveniently located recycling drop-off center if the latest official U.S. Census Bureau -documented municipal population is greater than 500.

(iii) Nothing in this Ordinance shall prohibit haulers or municipalities with an official U.S. Census Bureau –documented municipal population of less than 500 from contracting for waste and recycling services, either curbside or drop-off, upon resolution/contract to do so.

(3) Owners or managing agents of rental residential dwelling units and non-rental multi-family dwelling units, located within the boundaries of a municipality in the County of Kankakee having a U.S. Census – documented population of greater than 2000 shall furnish regularly scheduled garbage and recycling services to their tenants at a single, combined cost if such service is not provided for in a municipal contract.

Recycling collection services at rental residential dwelling units and non-rental multi-family dwelling units shall at a minimum, include recycling of the materials as listed under the definition of **“**recyclables” in Section 9-1.

(4) Materials To Be Collected in Incorporated Areas

Materials to be collected for recycling (at a minimum) include those listed under the definition of “recyclables” in Section 9-1.

(5) Unincorporated Residential Services

(A) Recycling Services

Owners or Managing agents shall provide recycling services to every unincorporated rental residential dwelling unit and non-rental multi-family dwelling units, including but not limited to mobile home parks, apartments, condominiums, in unincorporated areas of Kankakee County at a single combined price. Each duly licensed hauler serving a rental residential dwelling unit or

multi-family unit shall be selected by the owner and/or manager of each rental residential dwelling unit and non-rental multi-family dwelling unit property.

Any duly licensed hauler may provide recycling services to residents and owners of single-family residential dwelling units, upon request, in unincorporated areas of Kankakee County.

(B) Nothing in this Ordinance shall preclude the County of Kankakee or a Township located within the County of Kankakee from awarding a franchise agreement to a County-licensed hauler for exclusive residential waste and recycling services to specific unincorporated areas under the County of Kankakee's or the Township's jurisdiction.

(C) Materials To Be Collected in Unincorporated Areas

Materials to be collected for recycling (at a minimum) include those listed under the definition of "recyclables" in Section 9-1.

Section 9-74. RECYCLING PLAN.

(a) Each applicant for a license shall submit a recycling plan or plans to be offered to their municipal residential customers to the Planning Department for approval. The Planning Department, through the Solid Waste and Environmental Division of the County shall supply the form to be used for submission of these plans. The recycling plan or plans shall include, but not be limited to, the following information:

1) The means and methods to be employed for the collection, processing, and marketing of material collected from residential customers served. Each municipality served shall be listed individually and each individual contract with each municipality served shall be submitted with the plan. A copy of any new, amended, or renewed contract with any municipality shall be submitted to the Planning Department upon execution of said contract by both parties.

2) Identification of specific recycling services to be employed (i.e., curbside bins or bags, recycling drop-off containers, distinctly marked dumpsters used for recycling, etc.)

3) The plan shall include the means and methods used to notify customers regarding the availability of recycling services as well as information on how to comply with the hauler's requirements. This information for the public shall be in the form of a brochure or flyer and shall include a listing of all recyclable material to be accepted and shall also include, at a minimum, all the materials listed under the definition of "recyclables" under Section 9-1 of this Ordinance. If the recycling processing center to be utilized by the licensed hauler accepts single-stream recyclable materials, customer notification shall state that the customer does not have to separate recyclables.

4) All customers/households served shall receive a copy of said notification upon approval of the notification by the Planning Department.

5) Expected number of households to be serviced with garbage/recycling pick up during the license period by each method as referenced in Section 9-74 (a)(1) and (2) above.

6) Provisions, if any, being offered for collection or disposal of items that may not be landfilled including: major appliances, scrap tires, waste oil, landscape waste, or other materials currently banned from landfills.

7) The license plate number of all vehicles (both waste & recycling hauling vehicles) proposed to be used while conducting operations within Kankakee County borders.

8) Names and address of all facilities to which the waste and recyclables from each municipality or unincorporated Township area are anticipated to be hauled.

Section 9-75. REPORTING

(a) For purposes of tracking the implementation progress of the Solid Waste Management Plan, and in compliance with the mandates of 415 ILCS 15/4 as amended from time to time, all haulers of waste and/or recyclables shall submit annual reports to the Solid Waste Division of the Kankakee County Planning Department documenting the tonnages of municipal waste and recyclables collected from the following sectors in both the incorporated and unincorporated areas of Kankakee County:

(1) Residential Sector – including all single family, two-family, multi-family dwellings, rental residential dwelling units, mobile homes, apartment buildings, fraternity and sorority residences, rural residences, summer cottages, recreational cabins, and group homes.

(2) Commercial Sector – including all commercial businesses served. For purposes of this Reporting Ordinance, this includes hotels, motels, camps and campgrounds, cemeteries, child care centers, clinics, physician offices, hospitals, club houses, stores, recreational facilities, industrial park tenants, banks, financial institutions, auto salvage or wrecking yards, junk yards, kennels, airports, train stations, marinas, convalescent and nursing homes, agribusiness facilities, veterinarian facilities, nurseries, greenhouses, warehouses, laboratories, restaurants, sanitariums, scrap yards, and all other occupations, employment, or enterprises which occupy time, attention, labor and materials; or where merchandise is exchanged or sold, or where services are offered.

(3) Institutional Sector – including all pre-school, kindergarten, elementary, junior high, high school, college, junior college, and university public and private educational institutions and associated buildings (exempting fraternity or sorority residences), churches, chapels, temples, synagogues, municipal, township, county, state, and federal agencies and offices.

(4) Industrial Sector – including all manufacturing enterprises/businesses and all facilities zoned with an industrial designation.

(5) Construction and Demolition debris Sector – including all construction and demolition debris materials as defined under Section 9-1.

Section 9-76. ANNUAL REPORT REQUIRED CONTENTS AND DUE DATES

(a) Annual reports are due March 31 for the previous calendar year

(January 1 – December 31) and must include the following information:

(1) Total tonnages of municipal waste collected within Kankakee County borders by the sectors listed under Section 9-75. This data is to be reported in tonnage, not volume (cubic yards). Only where a scale is not available at the receiving storage, treatment, transfer or disposal facility, shall data be reported in cubic yards.

(2) Total tonnages of recyclable materials collected within Kankakee County by the sectors listed above. This data is to be reported in tonnage, not volume (cubic yards). Only where a scale is not available at the receiving storage, treatment, transfer or disposal facility, shall data be reported in cubic yards.

(3) In the case of transfer stations located within the boundaries of Kankakee County that do not have weighing capability, records must be kept and submitted of both cubic yards received and tonnage (based on all tonnage receipts received from the landfills, transfer stations, and/or recycling facilities to which the waste is ultimately transferred.)

(4) Identification (names/addresses/phone numbers of all recycling centers and waste transfer or disposal facilities utilized during the year to manage the reported tonnages of waste and recyclables.

(5) In case of doubt regarding which sector a particular waste and/or recycling customer belongs to, the Solid Waste & Environmental Division of the Kankakee County Planning Division shall be consulted.

(6) Annual reports from each licensed hauler must include documentation in the form of receipts from the receiving facility for each load of waste and recyclables delivered there.

(b) Reported data will be treated as proprietary and confidential business information, if so requested and stated by the hauler, and will not be released to the public except in aggregate form.

Section 9-77. PLANNING DEPARTMENT AUTHORIZATION PROCEDURE

(a) Initial Application.

1) Within sixty (60) days from the effective date of this amended Ordinance, each hauler engaged in waste or recycling hauling operations within Kankakee County prior to the effective date of this amended Ordinance, shall complete and return an application for Authorization in accordance with Section 9-72 above, on forms to be provided by the Solid Waste and Environmental Division.

2) Each hauler who first engages in hauling operations after the effective date of this amended Ordinance shall complete and return an application for Authorization as provided by the Solid Waste and Environmental Division within sixty (60) days of commencement of hauling operations.

3) Each hauler who has submitted an application for Authorization shall comply with the provisions of this amended Ordinance until the Solid Waste & Environmental Division has issued a written Authorization or a conditional written Authorization as provided under Section 9-77 (c) below.

(b) Authorization Renewal. All haulers authorized under Article IV of this Ordinance must complete and return to the Solid Waste and Environmental Division, an authorization renewal form within thirty (30) days prior to the expiration of the hauler's current authorization. The Solid Waste and Environmental Division will provide these renewal forms to all authorized haulers at least sixty (60) days prior to the expiration of the hauler's current authorization. However, the responsibility of timely renewal is that of the hauler only.

(c) Conditional Authorization. The Solid Waste and Environmental Division may grant a conditional Authorization where an application is incomplete. The conditional Authorization shall specify the conditions upon which a permanent Authorization will be granted and the time requirement within which the conditions must be satisfied. Failure to satisfy the specified conditions within the time frame required shall result in a revocation of conditional Authorization and denial of the permanent Authorization.

(d) Accuracy of Information. All information required by this Article should be complete, accurate, truthful, and submitted in a timely manner.

(e) Recycling Service Change. Each hauler shall notify the Solid Waste & Environmental Division of any change to the information submitted in the application thirty (30) days prior to the effective date of the change.

(f) Transfer of Ownership. No Authorization is transferable; any attempted transfer of an Authorization shall immediately void such Authorization. Notice of change in ownership shall be filed in the Solid Waste and Environmental Division a minimum of thirty (30) days prior to effective date of the change. At that time, the new owners shall apply for Authorization under the same terms and conditions set forth in Section 9-77.

Section 9-78. AUTHORIZATION ACTION

(a) License Action. Within thirty (30) days of receipt of a complete Authorization application or Authorization renewal application, the Solid Waste and Environmental Division shall either issue a new or renewed Authorization, issue a conditional Authorization, or deny such application. If a submitted application is not complete, the Solid Waste and Environmental Division shall request the necessary modifications or clarifications of the applicant within thirty (30) days from the receipt of the incomplete application.

(b) Notification. The Solid Waste and Environmental Division shall notify the Applicant in writing of its decision on an Authorization application. If issued, the Authorization shall be mailed by certified mail to the address provided in the application. If denied, a written decision shall be served by certified mail upon the applicant at the address provided in the application.

(c) Authorization Denial. A written decision of denial shall also include notice to the Applicant that, if an appeal is desired, a written request for a hearing must be received by the Solid Waste & Environmental Division within fifteen (15) calendar days following receipt of the County's decision by the applicant.

(d) Upon receipt of a request for hearing, the County shall set a time and place for the hearing. The hearing shall be conducted pursuant to the procedures in Section 9-84 of this Ordinance.
Section 9-79. AUTHORIZATION FEE.

(a) There shall be no fee required for each two-year hauler Authorization.

Section 9-80. VEHICLE REGISTRATION.

(a) The County reserves the right to issue each Authorization holder a vehicle registration decal on a two-year basis to be placed conspicuously on the outside of the vehicle identifying the hauler.

Section 9-81. COMPLIANCE WITH OTHER LAWS.

(a) Issuance of a waste hauling Authorization by the Kankakee County Planning Department shall not be deemed to exclude the necessity of obtaining other licenses, permits or approvals as required by applicable law or regulations. The hauler shall at all times operate in compliance with all applicable local, state, and federal laws, rules or regulations.

Section 9-82. VIOLATIONS AND PENALTIES

(a) Civil Penalties.

(1) Any hauler who violates any provision of this Article shall be subject to a fine of one hundred dollars ($100.00) for the first violation; two hundred fifty dollars ($250.00) for the second violation; and five hundred dollars ($500.00) for each additional violation. Each day any violation of this ordinance continues, following the third violation, shall constitute a separate offense and a $500.00 fine per day. The time period under which these violations accumulate shall be continuous and shall not accumulate under the time period of the license only.

Notwithstanding these provisions, any flagrant violation of this Article may result in suspension or revocation of Authorization proceedings pursuant to Section 9-83.

(2) Any person who scavenges municipal waste and recyclables that have been set out by residents or businesses, institutions, or agencies within Kankakee County for an authorized

collection under this Ordinance shall be subject to a fine of up to $ 500. Each day any violation of this Ordinance continues shall constitute a separate offense.

(b) Injunctive Relief.

(1) The County may institute appropriate actions or proceedings, including application for injunctive relief, action to compel performance or other appropriate action to prevent, restrain, correct or abate any violation or threatened violation of this Article.

Section 9-83. ADMINISTRATIVE PROCEDURES

(a) Warning Notice; Complaint. The Authorization of any hauler who fails to abide by the provisions of this Article may be suspended or revoked as herein provided.

(1) Within 14 days of becoming aware of an alleged violation of this Article, the Solid Waste & Environmental Division of Kankakee County shall issue and serve, by certified mail or personally, upon the person complained against, sent to the address of the respondent, a written warning notice informing that person that the County has evidence of the alleged violation. At a minimum, the written notice shall contain:

(2) An explanation by the County of the violation(s) alleged, including the type and nature of the violation; the date and time the violation was observed; the names of witnesses to the violation, if applicable, and the address of the location or property where the violation is observed.

(3) An explanation by the County of the actions the County believes may resolve the alleged violation(s), including a 30-day time period from the date of receipt by the respondent of the written notice to resolve such alleged violation(s).

(b) If the name or address of the respondent cannot be ascertained or if service on the respondent cannot be made by mail, service may be made on the respondent by posting a copy of the violation notice and report form in a prominent place on the property where the violation is found and photographing said posting.

(c) If the person complained against fails to comply with the required resolution after the 30-day time period, nothing shall preclude the County from proceeding with the provisions of Section 9-84 of Article IV of this Ordinance.

(d) Nothing in this Ordinance shall preclude the County and the apparent violator from meeting to discuss the alleged violation(s) during the 30-day time period for compliance, when requested by alleged violator(s).

Section 9-84. SUSPENSION; REVOCATION OF AUTHORIZATION

(a) Suspension; Revocation.

Written notice of a suspension or revocation shall be served personally or by certified return receipt mail upon the licensee at least fifteen (15) calendar days prior to the effective date of the suspension or revocation. The written notice shall contain:

(1) the effective date of the suspension or revocation,

(2) the facts which support the conclusion that a violation or violations have occurred,

(3) a statement that if the licensee desires to appeal, a written request for a hearing must be received by the Planning Department, Solid Waste & Environmental Division within fifteen (15) calendar days following receipt of the notice, and the request for hearing must state the grounds for appeal

If a hearing is requested, the suspension or revocation shall be stayed pending outcome of the hearing.

(4) The hearing shall be conducted pursuant to the procedures in Section 9-85 of Article IV of this Ordinance.

(b) Upon receipt of a request for hearing, the Planning Department, Solid Waste & Environmental Division shall set a date, time and place for the hearing. The hearing shall be conducted pursuant to the procedures in Section 9-85 of this Ordinance. A copy of such notice of date, time, and place for the hearing shall be mailed, certified receipt requested, to the alleged violator. Notice shall also be posted in a publicly conspicuous place within the County Administration Building. Said notice shall state that failure to appear at the hearing on the date and time indicated may result in a determination of liability for the cited apparent violation(s), and the imposition of fines and assessment of costs as provided by this Article. The notice shall also state that upon a determination of liability and the exhaustion of or failure to exhaust procedures for judicial review, any unpaid fines or costs imposed will constitute a debt due and owed the County.

(c) Summary Suspension of Authorization

(1) If the Planning Department, Solid Waste & Environmental Division determines that the public health, safety, or welfare requires immediate action, summary suspension of Authorization may be ordered.

(2) Written notice of a summary suspension shall be by personal service upon the hauler or sent by certified return receipt mail to the hauler's business address or home address. The Planning Department, Solid Waste & Environmental Division shall also take reasonable steps to notify the hauler by telephone prior to the summary suspension.

(3) The written notice shall state the effective date of the summary suspension; any violation(s) which has occurred; and a statement that if the hauler desires to appeal, a written request for hearing must be received by the Solid Waste and Environmental Division within fifteen (15)

calendar days following receipt of the notice. The request for hearing must state the grounds for appeal.

(4) Upon receipt of a request for hearing, the Solid Waste and Environmental Division shall set a date, time, and place for the hearing. The hearing shall be conducted pursuant to the procedures in Section 9-85 of this Ordinance.

(5) The summary suspension shall not be stayed pending an appeal.

Section 9-85. HEARING

(a) Hearings required pursuant to this Article shall be conducted as follows:

(1) Appointment of Hearing Officer

The hearing shall be before an impartial hearing officer to be appointed by the County Board Chairman with the approval of the County Board.

(2) Procedures.

The hearing shall comply with 55 ILCS 5/5-41010, but the County is not precluded from using other methods to enforce the provisions of its codes.

(3) Subpoenas; Default

A) At any time prior to the hearing date, at the request of the Planning Department Code Enforcement officer, the attorney for the county, the respondent, or the attorney for the respondent, the hearing officer assigned to hear the case may issue subpoenas directing witnesses to appear and give testimony at the hearing.
B) If the respondent or the respondent's attorney fails to appear on the date set for the hearing, the hearing officer may find the respondent in default and shall proceed with the hearing and accept evidence relating to the existence of a code violation.

(4) Representation at Hearings. The case for the county may be presented by the Planning Department Code Enforcement officer or by the State's Attorney. In no event, however, may the case for the county be presented by an employee or relative of the code-hearing unit. The case for the respondent may be presented by the respondent or the respondent's attorney. If the respondent is a corporation, it may appear through any officer, director, manager or supervisor of the corporation.

(5) Evidence at Hearings. The hearing officer shall preside at the hearing, shall hear testimony and shall accept any evidence relevant to the existence or non-existence of a code violation. The Planning Department's code enforcement officer's signed violation notice and report form shall be prima facie evidence of a code violation described in the form. The strict rules of evidence applicable to judicial proceedings do not apply to these code enforcement violation hearings. The hearing is subject to the general rules of evidence with latitude necessary to gain facts or

information. Irrelevant, immaterial, or unduly repetitive evidence shall be excluded by the hearing officer.

(6) Public Hearing. The hearing shall be public and shall be recorded by a certified court reporter. The cost of preparing a record shall be borne by the applicant or licensee.

(7) Witnesses. All witnesses shall testify under oath and affirmation.

(8) Presentation Order. The Solid Waste & Environmental Division, hauler or applicant, and additional parties as determined by the hearing officer shall present evidence in that order. Each party shall have the opportunity to cross-examine the witnesses.

(9) Findings, Decision, and Order. At the conclusion of the hearing, the Hearing Officer shall make a determination on the basis of the evidence presented at the hearing as to whether a code violation exists. The determination shall be in writing and shall be designated as the hearing officer's findings, decision, and order. The findings, decision, and order shall also include the hearing officer's findings of fact, a determination of whether a code violation exists based on the findings of fact, and an order imposing a fine or other penalty, directing the respondent to correct the violation, or dismissing the case if the violation is not proved. If the hearing officer determines that the respondent is liable for the cited violation, the hearing officer shall enter an order imposing sanctions that are provided for in the code for the violations proved, including the imposition of fines and the recovery costs of the proceedings. The order must also direct the respondent to correct the violation(s) within a specified time period. Costs may be recovered in the same manner as fines and penalties. A copy of the findings, decision, and order shall be served by personal service or by any method provided for service of the violation notice and report form under Section 5-41020 of the Illinois Counties Code. The payment of any penalty or fine or costs of the proceedings and the disposition of that money shall be in the manner provided in the Illinois Counties Code unless the County Board provides otherwise when establishing the code-hearing unit.

(10) Administrative Review. The findings, decision, and order of the Hearing Officer shall be subject to review in the circuit court of the county. The Administrative Review Law and the rules adopted pursuant thereto shall apply to and govern every action for the judicial review of the final findings and order of the Hearing Officer. The appeal of a decision by the Hearing Officer shall be made to the Circuit Court within 30 calendar days of the Hearing Officer decision.

(11) Collection of unpaid fines or other sanctions.

(A) Any fine or other sanction or costs imposed, or any part of any fine or other sanction or costs imposed, remaining unpaid after the exhaustion of or failure to exhaust procedures for judicial review under the Administrative Review Law is a debt due and owed to the county and, as such, may be collected in accordance with applicable law.

B) After expiration of the period within which judicial review under the Administrative Review Law may be sought for a final determination of the code violation, the county may commence a

proceeding in the circuit court of the county for purposes of obtaining a judgment on the hearing officer's findings, decision, and order. Nothing in the Section prevents a county from consolidating multiple findings, decisions, and orders against a person or property in such a proceeding.

C) Upon commencement of the action, the county shall file a certified copy of the findings, decision, and order, which shall be accompanied by a certification that recites facts sufficient to show that the findings, decision, and order were issued in accordance with Division 5-41 of the Illinois Counties Code and the applicable county ordinance. Service of the summons and a copy of the petition may be by any method provided by Section 2-203 of the Code of Civil Procedures or by certified mail, return receipt requested, provided that that total amount of fines or other sanctions and costs imposed by the findings, decision, and order does not exceed $ 5,000.

D) If the court is satisfied that the findings, decision, and order were entered within the requirements of this Division 5-41 of the Illinois Counties Code, and the applicable county ordinance and that the respondent had an opportunity for a hearing under this Division 5-41 of the Illinois Counties Code and for judicial review as provided in Section 5-41045:

(1) The court shall render judgment in favor of the county and against the respondent for the amount indicated in the findings, decision, and order plus court costs. The judgment has the same effect and may be enforced in the same manner as other judgments for the recovery of money.

(2) The court may issue other orders or injunctions, or both, requested by the county to enforce the order of the hearing officer or to correct a code violation.

Section 9-86 SEVERABILITY

(a) Provisions.

If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by any reason by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereof.

Section 9-87 PROVISIONS CUMULATIVE

(a) The provisions in this Ordinance are cumulative and are additional limitations upon all other laws and Ordinances covering any subject matter in this Ordinance.

Section 9-88 TOWNSHIPS

(a) If a Township within the County has a recycling ordinance in place on the effective date of this amended Ordinance which substantially conforms with or exceeds this amended Ordinance, the township may continue enforcing its ordinance and such enforcement shall be considered as meeting the requirement of this Ordinance except the County

licensing and authorization requirements which will continue in full force and effect. If a Township does not have a recycling ordinance in place on the effective date of this amended Ordinance or if such ordinance does not conform to this amended Ordinance in all respects, this amended Ordinance shall take precedence and be in effect in such Township on the effective date of this amended Ordinance.

A Township may choose, at any time to enact and enforce a recycling ordinance that is more stringent in all respects than this amended Ordinance.

Section 9-89 PARTICULAR APPLICATION

(a) Should any court of competent jurisdiction adjudge invalid the application of any provision of this amended Ordinance to a particular private or public hauler, recycling plan or recycling operation, such ruling shall not affect the application of such provision to any other private or public hauler, recycling plan, or recycling operation not specifically included in such judgment.

Section 9-90 EFFECTIVE DATE

(a) This Ordinance, shall be in full force and effect as of the date of County Board approval and passage.

Section 9-91. AMENDMENTS

(a) This Ordinance may be amended from time to time by amendatory ordinances.