

# CONSTRUCTING A REGIONAL ORGANIC WASTE MANAGEMENT PROGRAM FOR THE CENTRAL PIONEER VALLEY

Final Report



Prepared By  
Pioneer Valley Planning Commission

under a grant provided through the Massachusetts District Local Technical Assistance Fund

December 2010



CONSTRUCTING A  
REGIONAL ORGANIC WASTE  
MANAGEMENT PROGRAM  
FOR  
THE CENTRAL PIONEER VALLEY

FINAL REPORT

Prepared by the Pioneer Valley Planning Commission  
under a grant provided through the  
Massachusetts District Local Technical Assistance Fund



December 2010



# Acknowledgements

Prepared by Pioneer Valley Planning Commission

Development of this report was funded through a District Local Technical Assistance Grant. Funding for this program was provided by the Department of Housing and Community Development.

## Pioneer Valley Planning Commission Staff:

Danielle McKahn, Land Use Planner

Patty Gambarini, Senior Environmental Planner

Catherine Ratté, Principal Planner

## Central Pioneer Valley Organic Waste Management Working Group

Stuart Beckley, Planning Director, City of Easthampton

Veronique Blanchard-Smith, Recycling Coordinator, Town of South Hadley

Karen Bouquillon, Solid Waste Management Supervisor, City of Northampton

Ed Cauley, Highway Department Director, Town of Southampton

Phil Genovese, DPW Director, Town of Hatfield

Roger Guzowski, Recycling Manager, Five Colleges, Inc.

Lorenzo Macaluso, Waste Management Specialist, Center for Ecological Technology

Chris Martin, Executive Secretary, Town of Granby

Sumner Martinson, Composting Director, Massachusetts Department of Environmental Protection

David Nixon, Town Administrator, Town of Hadley

David Starr, Principal, Green Northampton

Susan Waite, Recycling Coordinator, Town of Amherst

Eric Weiss, Director, Hilltown Resources Management Cooperative



# TABLE OF CONTENTS

**SECTION 1: INTRODUCTION .....3**

    Need for Regionalization Efforts..... 3

    Project Overview ..... 6

    Project Scope of Work..... 6

    Project Timeline ..... 7

**SECTION 2: ECONOMIC FEASIBILITY OF NEW COMPOSTING FACILITIES .....10**

    Summary of Data Analysis ..... 10

    Method for Estimating the Market for New Composting Facilities..... 11

    Tipping Fees and Hauling Costs ..... 16

    Determining Locations for Composting Facilities ..... 17

    Conclusions ..... 17

**SECTION 3: REVIEW OF ORGANIC WASTE MANAGEMENT PROGRAMS .....19**

    1991-2002 Northampton Source Separated Organics (SSO) Program..... 19

    Incremental Versus Full Expansion Programs ..... 20

    Creating Incentives to Participate ..... 21

    Materials Accepted..... 21

    Obtaining the Optimal Mix of Wastes..... 21

    Siting Facilities ..... 22

    Mandates and Bans ..... 22

    Education and Outreach..... 22

    Contamination of the Organics Waste Stream ..... 22

    Characteristics that Contribute to Program Failure or Success ..... 24

    Examples for a Regional Program in the Pioneer Valley ..... 25

**SECTION 4: ACTION PLAN FOR A REGIONAL ORGANIC WASTE MANAGEMENT PROGRAM .....29**

    Role of a Regional Approach to Organic Waste Management ..... 29

    Establishing and Supporting Composting Facilities ..... 30

    Facilitating Source Separation & Waste Collection ..... 32

    Establishing an End-Marketing Program ..... 33

    Ongoing Monitoring and Assessment to Identify Future Needs ..... 33

    Project Development and Regional Coordination ..... 34

    Regional Program Management and Financing Structure ..... 34

**SECTION 5: CONCLUSIONS .....37**

    Final Assessment ..... 37

**TABLES AND MAPS** .....

Table 1: Food Waste in the Central Pioneer Valley ..... 10

Table 2: Gross Revenue Potential of New Composting Facilities Serving the Central Pioneer Valley ..... 11

Table 3: Waste Generator Categories and Collection Estimates ..... 14

Table 4: Current Tipping Fees and Potential Composting Savings in the Central Pioneer Valley Region ..... 16

Central Pioneer Valley Organic Waste Generation and Recovery Table ..... 38

Estimated Collectable Commercial and Residential Food Waste Map..... 39

**APPENDICES** .....

Appendix A: List of Potential Composting Sites for Further Assessment ..... 11

Appendix B: List of Potential Investors and Haulers in a Regional Composting Program..... 11

Appendix C: Example Inter-Municipal Agreements: Memorandum of Agreement for Barnes Aquifer Protection; Memorandum of Understanding by and between the Hilltown Resource Management Cooperative and the Town of Chester ..... 11

Appendix D: Example Request for Proposals: Request for Proposal for the Town of Raynham, Massachusetts to Design, Permit, Build, Operate and Manage a Large Scale Commercial Food Waste Composting Operation ..... 11

Appendix E: Sources Consulted for Section 3 Review of Organic Waste Management Programs ..... 11

Appendix F: Sustainable Materials Recovery Program Regional Initiatives / Pilot Program Grant Application ..... 11

Appendix G: Contact List of Participants ..... 11



## SECTION 1: INTRODUCTION

Organic wastes originate from plant or animal sources and are compostable - that is, they can be broken down by other living organisms and transformed into usable finished products for gardening and farming. Most compostable material in the municipal waste stream comes from food waste, uneaten food and food preparation scraps from residences, restaurants, cafes, grocery stores, and cafeterias. Because these materials constitute a large portion of the municipal solid waste stream (10-40 percent depending on sector), diverting organics from final disposal is an important waste reduction strategy.

Organic waste management is becoming a critical issue in the Central Pioneer Valley, an area defined here to include Amherst, Belchertown, Easthampton, Granby, Hadley, Hatfield, Northampton, South Hadley, Southampton, and the Hampshire County Hilltowns: Chesterfield, Goshen, Huntington, Middlefield, Plainfield, Westhampton, Williamsburg and Worthington. Nearby landfills in Northampton, Granby, and South Hadley are approaching capacity and are likely to close in the near future. These landfills are used by hauling companies that serve the entire region, so their eventual closure will impact a significant area. Organics diversion can help extend the useful life of these facilities as communities seek alternative trash disposal solutions. In addition, organic waste diversion is a timely issue due to the Food Waste Disposal Ban under consideration by the Massachusetts Department of Environmental Protection. There is already a Massachusetts disposal ban that prevents landfilling or incineration of leaves and yard waste, material that is, as a result, currently composted at brush composting facilities.

This study focuses on increasing diversion of food wastes. To divert food waste for composting, it must be properly separated from recyclable materials and other wastes, stored, hauled to a processing site, composted, and finally, distributed as an end-product. A healthy and economically viable composting system requires a sufficient quantity and quality of organic wastes, proper waste separation and storage, dense hauling routes, well-run facilities located in proximity to where the wastes are being generated, and a robust end-market for the finished products.

### *Need for Regionalization Efforts*

In February 2010, the Pioneer Valley Planning Commission convened a working group—the Central Pioneer Valley Organic Waste Management Working Group—consisting of communities, nonprofit organizations and other stakeholders in the Central Pioneer Valley Region to discuss the possibility of developing a regional program for recovering and managing organic wastes. Since then, the Working Group has been meeting to assess the need for organic waste management services in the region.

#### **Benefits of Food Waste Composting**

- Extend the life of our region's landfills
- Save money on waste disposal due to lower tipping fees at composting facilities
- Make efficient use of resources by creating a valuable end product
- Provide finished compost products that can be used to reduce the need for water, fertilizers and pesticides in agricultural operations

The current level of food waste composting in the region is largely the result of a patchwork of efforts undertaken by local farmers who have developed composting facilities, haulers who have developed food waste collection routes, commercial waste generators who have begun to separate their organic wastes and to participate in these new collection routes, and the Center for Ecological Technology (CET), a local nonprofit organization that has helped to coordinate a number of these efforts.

In the early 1990s Martin's Farm in Greenfield Massachusetts began hauling food waste from generators in the region to provide slop for its pigs. As regulations became tighter, requiring farmers to cook food waste for pigs, the farmer at Martin's Farm, Bob Martin, realized that it would be easier to compost organic wastes and then use this compost to grow food for his pigs. Within a short time, it became apparent that the organics composting operation was more viable than the pig farming operation. The composting operation was then expanded, and hauling routes were contracted out to professional haulers.

Around this same time, CET received grants from the United States Environmental Protection Agency, United States Department of Agriculture's Sustainable Agriculture Research and Education program, Massachusetts Department of Environmental Protection (MassDEP) and Department of Agricultural Resources (DAR) to work with farmers, waste generators, and haulers to augment composting in the region. This work involved a collaboration with the City of Northampton to develop a Source Separated Organics (SSO) Program. The backbone of this program was formed by connecting local supermarkets with haulers and farmers. Over time, and with the help of additional grant funding, the program evolved in response to market forces, and smaller businesses were brought into the fold. At its height, the Northampton program included 70 commercial waste generators, 10 waste haulers and 20 farms. Much of the waste was diverted to a composting site operated by the Smith Vocational High School Farm as well as several area farms. When the Smith Vocational High School Farm decided to stop its composting operation in 2004, however, the Northampton program largely fell apart.

Today, diversion of institutional and commercial organics is done primarily via destination facilities outside the study region along a north-south axis. Those primary destination sites for the largest number of commercial and institutional generators include Martin's Farm in Greenfield and Shadow Valley Farm in Hampden. Some of these routes predate or were created after the Northampton Source Separated Organics (SSO) Program went defunct, while a few are remnants from the Northampton program. Within the study region, the newly established New England Small Farm Institute in Belchertown has been growing as a destination site, especially for generators in the eastern side of the study region. In comparison to the Martin's Farm and Shadow Valley Farm sites, this facility still receives waste from a much smaller number of generators, but is growing considerably in the amount of tonnage that it receives. Recently, this facility began accepting between 30 and 40 tons of waste each week from the University of Massachusetts and the routes of Alternative Recycling Systems, a local hauling company.

There is also at least one example of a small institutional generator that has partnered in an exclusive relationship with a nearby farm to compost source separated food wastes from the institution, and there are several small farms in and near the region that take small amounts of organic waste. Further, CET continues to play a role in helping individual companies, schools and other

organizations to establish systems for food waste separation and to join existing hauling routes. Meanwhile, the vast majority of residential organics diversion within the study region is done via backyard composting, though there is some developing drop-off organics diversion at some municipal transfer stations.

Although there are many aspects of the composting system that can be improved, the Working Group has identified the lack of composting capacity (i.e. composting facilities) as the most pressing short-term need for the region. Existing composting facilities that serve the Central Pioneer Valley region are either at or near permitted capacity, accept limited quantities of organic materials, or are too distant from the generators for transport to be economically viable. The region is over-reliant on the two farm facilities in Greenfield and Hampden, so there is concern that losing either of these would significantly impact current organics diversion programs.

In addition to the need for new facilities, composting in the region can be augmented through efforts to increase organic waste diversion from residential and commercial waste streams, to ensure proper waste separation and storage, to establish dense hauling routes, to support the operations of existing composting facilities, and to develop new and stronger end-markets for finished compost. The Working Group noted that there are many small to medium sized commercial and institutional generators interested in diverting their organic waste. Restaurants like Judie's, Amherst Brewing Company, and Bueno Y Sano diverted food waste for composting in the previous (now defunct) Northampton-based composting program and would like to resume composting, and others like the Hotel Northampton, Cup and Top, Woodstar Café, and Amherst Coffee (to name just a few) have inquired about starting a new program.

Organic waste composting relies on the actions of many independent players, including composting facilities, haulers, municipalities, and residential, commercial, and institutional waste generators, among others. However, in order to augment composting in the region, there may be utility in a regional approach that views the independent parts of this system as a whole, that helps to coordinate the independent efforts of the various players, and that provides continuity. Establishment of a regional program could ensure that organic waste diversion is an ongoing effort, rather than a series of loosely connected projects taken up by different players only when grant funding opportunities arise or when individual municipalities allocate funding to launch new pilot programs. In addition, a regional program could help avoid duplication of effort, consolidate and strengthen the voice for composting, and improve the level of service.

Overall, the goal of a regional program would be to ensure that the various components of organic waste management in the region are coordinated and supported. Some possible roles include:

- Ongoing monitoring and assessment of composting in the region
- Evaluation of potential composting sites and technologies
- A match-making service that couples suitable sites with investors who are interested in establishing and operating composting facilities at these sites
- Initial and ongoing technical assistance to facilities, generators, haulers, and municipalities
- Development of cooperative agreements to share equipment (e.g. screening, debugging)

- Preparation of bid documents to procure services, equipment, and materials
- Development of recruitment strategies and materials for haulers/municipalities establishing residential programs
- Development of educational and outreach materials
- Assistance in the establishment of new hauling routes
- Establishment of a regional end-marketing program for the finished compost
- Development and execution of new projects that increase organic waste diversion and composting in the region

### ***Project Overview***

The Commonwealth provided funding in 2010 to the Pioneer Valley Planning Commission (PVPC) through the state's District Local Technical Assistance (DLTA) Program to:

1. Assess the need for and economic viability of additional organic waste composting capacity in the Central Pioneer Valley; and
2. Develop an Action Plan for a regional program to meet the region's unmet needs.

The City of Northampton initiated this project by inviting PVPC to a meeting to discuss establishment of new composting facilities to serve the region. Following this, a large group of towns and cities expressed an interest in the project, and letters requesting technical assistance from the PVPC under the DLTA Program were received from Amherst, Easthampton, Granby, Hadley, Hatfield, Northampton, South Hadley, and the Hilltown Resources Management Cooperative.

The Commonwealth awarded the Pioneer Valley Planning Commission \$20,000 to assess the need for regional composting services and to develop a plan to establish a Regional Organic Waste Management Program for the Central Pioneer Valley. If established, this program would help coordinate and augment organic waste diversion and composting in the region, and would provide a model for other regions.

This report is the final product of this planning process and includes an example Memorandum of Agreement for a regional program (Appendix C), as well as an example Request for Proposals that could be used as a template for services that assist with facility development (Appendix D).

### ***Project Scope of Work***

The following is a summary of the tasks that the Pioneer Valley Planning Commission undertook to complete this planning project:

#### **Task 1: Assess the Economic Feasibility of Establishing New Composting Facilities in the Region**

PVPC established a Central Pioneer Valley Organic Waste Management Working Group that consisted of member communities and officials from the Massachusetts Department of Environmental Protection. The Working Group helped the PVPC to assess the economic benefits of establishing new composting facilities in the region. This work included quantifying and

characterizing wastes being generated, determining the portion of organic wastes currently collected for composting, and identifying costs and potential sources of revenue.

Task 2: Develop an Action Plan for a Regional Organic Waste Management Program

PVPC reviewed organic waste management programs in order to determine desirable characteristics of a regional program, characteristics that contribute to program failure or instability, and the potential utility of and roles for a regional approach to organic waste management services. PVPC and the Working Group discussed the appropriate scale and locations of new composting facilities in the region, and identified potential sites for processing facilities. There was also discussion about how a regional program might be structured and funded, and possible roles for a regional program.

## ***Project Timeline***

February 2010

*Project Initiation*

February 23, 2010

*First Meeting of the Central Pioneer Valley Regional Organic Waste Management Working Group*

- Review of past efforts and current composting capacity in region
- Review of project scope
- Discussion of community needs for organic waste management services
- Discussion of needs for economic feasibility analysis

March – October 2010

*Research, Data Analysis and Mapping by PVPC*

- Assessment of organic waste generation by residential households and commercial generators in the region
- Assessment of “recoverable” wastes that can be reasonably diverted for composting
- Creation of a Composite Density Map showing organic waste generation rates by location
- Estimation of current composting capacity in region, and the need for new facilities in region
- Development of a method to refine organic waste generation estimates
- Research and analysis of regional organic waste management programs, and potential services, structure and financing mechanisms

May 6, 2010

*Working Group Meeting*

- Review of research and data analysis
- Review of organic waste management programs
- Discussion of a grant application to fund a Regional Pilot Program under the Massachusetts Department of Environmental Protection (MASSDEP) Sustainable Materials Recovery Program (SMRP)

May 11, 2010

*Working Group Meeting*

- Discussion of the MASSDEP SMRP grant application

June 2, 2010

*Submission of Sustainable Materials Recovery Program Regional Initiatives / Pilot Program Grant Application*

- Regional “match-making service” to couple sites suitable for compost facilities with investor / operators
- Implementation of the Action Plan for a Regional Organic Waste Management Program

September 2, 2010

*Working Group Meeting*

- Review of refined data analysis method and preliminary results
- Discussion of possible components of a regional program
- Discussion of potential composting sites
- Discussion of new composting facilities under development in larger region, including sites in New Hampshire, Hadley, Granville, Colrain, Rutland, and South Deerfield

October 19, 2010

*Working Group Meeting*

- Review of final data analysis results
- Discussion to identify most promising composting sites
- Discussion of the possible structure and financing of a regional program

November 30, 2010

*Working Group Meeting*

- Discussion of whether a program can be developed around new anaerobic digestion facilities to be constructed by AGreen Energy, LLC. in the region, particularly the Hadley and Granville facilities
- Discussion of the MassDEP Sustainable Materials Recovery Program Grant and next steps
- Review of draft Action Plan

December 15, 2010

*Completion of Final Report*

## SECTION 2: ECONOMIC FEASIBILITY OF NEW COMPOSTING FACILITIES

### *Summary of Data Analysis*

This study estimates that the Central Pioneer Valley region produces over 51 tons of organic food waste each day, and that of this, nearly 36 tons per day are recoverable (see Table 1 below and the Central Pioneer Valley Organic Waste Generation and Recovery Table at the end of this report). The study estimates that the current composting capacity of existing facilities within the region is 15 tons per day. Therefore, there are 21 tons per day of organic food waste materials available to support new composting facilities in the region.

**Table 1: Food Waste in the Central Pioneer Valley**

	<b>Tons / Day</b>
Food Waste Generated	51
Food Waste Recoverable	36
Current Food Waste Composting Capacity	15
Needed Food Waste Composting Capacity	21

Based on a density mapping analysis (see Estimated Collectable Commercial and Residential Food Waste Map at the end of this report), there are high generation areas (more than .5 tons per day, or 182 tons per year) in:

- Amherst
- Belchertown
- Hadley
- Northampton
- Easthampton
- South Hadley

There are also significant generation areas (more than .2 tons per day, or 73 tons per year) in a number of other communities. Much of the waste is being generated along major road corridors, in particular Route 9, but also including Routes 10, 116, and others.

Based on these figures, the needed composting capacity in the region is about 21 tons per day, or 7,517 tons per year. Given a tipping fee of \$45 per ton for food waste and sales revenues of approximately \$30 per ton of finished compost (\$20 per cubic yard), the gross revenue potential for new composting facilities in the region is estimated to be \$388,265 per year in tipping fees, plus \$225,510 in sales revenue, totaling \$613,775 per year (Table 2). It is unclear whether such a limited



revenue stream could support a single centralized composting facility. For this reason, the Working Group began to coalesce around a more decentralized approach involving relatively inexpensive, well-known composting technologies operated on a number of smaller composting sites. However, because several large anaerobic digestion facilities (which are intended to serve the Boston Metropolitan region) are planned to be built in the Pioneer Valley region, it may be possible to divert wastes from the Pioneer Valley region to these new facilities.

**Table 2: Gross Revenue Potential of New Composting Facilities Serving the Central Pioneer Valley**

	<b>Estimated Annual Revenue</b>
Tipping Fee Revenue	\$388,265
Finished Compost Sales Revenue	\$225,510
<b>Total Estimated Revenue</b>	<b>\$613,775</b>

In reviewing the results of this analysis, the Central Pioneer Valley Regional Organic Waste Management Working group identified a need to expand the study area to consider wastes being generated to the south along the Route I-91 corridor in Hampden County. These additions, as well as consideration of geographic barriers such as the Connecticut River and the Holyoke Range, would help to develop a more complete picture of how organic waste should be managed and where to site economically viable facilities within the region.

### ***Method for Estimating the Market for New Composting Facilities***

#### **Residential Generators**

Organic waste generation from residential sources was calculated on a per-capita basis using a multiple of .32 lbs of organic waste generated daily by each person. Census 2000 population data were used, and the .32 lbs/person/day multiple was borrowed from the results of the Eastern Hampshire Regional Refuse Management District Study (1995), which included Amherst, Hadley, South Hadley, Leverett, Shutesbury, and Pelham. It is worth noting that more recent results in other studies outside the region have indicated that per capita generation rates may be significantly higher. For example, the Town of Hamilton, which has a residential curbside collection program, has reported generation rates as high as 15 lbs per week per household. Because the study participants were self-selected, these numbers are likely to be higher than if the entire community had participated. However, using Hamilton's 2.87 Average Household Size of 2.87 person per household (U.S. Census 2000), this translates to .8 lbs per person per day, more than double the generation rate used for this study.

Organic waste from college and university campuses was considered under "commercial generators." Therefore, it was necessary to subtract the students living on a college campus from the municipal population estimates. The number of students subtracted was the number of students estimated to live on campus in the 2000 Census population count.

To estimate a feasible recovery rate for residential wastes, PVPC researched the recovery rates of existing programs. For example, the City of Ottawa established a “Green Bin” program that achieved diversion rates of 36 percent<sup>1</sup>. Prior to establishment of that program, Ottawa was able to achieve diversion rates of 27.5 percent. Meanwhile, a recent study of Intensive Source Separated Organics Programs in Italy<sup>2</sup> published average recovery rates of 53 percent. These intensive programs employ two to three curbside pickups each week and cover the costs by reducing the frequency of trash collection. Using these recent figures, a residential recovery rate of 53 percent was assumed for the purposes of this analysis.

### **Commercial Generators**

Initial estimates of commercial generation of organic wastes in the Central Pioneer Valley Region were obtained from the Massachusetts Department of Environmental Protection’s Identification, Characterization and Mapping of Food Waste and Food Waste Generators in Massachusetts (2002). To be included in this database, food manufacturers or processors had to have at least 5 employees; grocery stores had to have more than 15 employees or at least \$1.5 million in annual sales; and restaurants had to have at least 10 employees and at least \$200,000 in annual sales. This analysis estimated that commercial generators in the region produce over 27 tons of food waste each day.

However, after reviewing the data, the Working Group determined that a more refined analysis of commercial generators was needed. The method for this refined analysis is described below. This method uses estimates of actual observed collection rates provided by the Center for Ecological Technology (CET). Based on CET’s experience, it is assumed that the estimated collectable food waste quantities represent approximately 80 percent of the commercial total food waste produced.

### Data Source and Cleaning

The primary data source for commercial generators in this analysis was an employment list purchased from a private vendor (InfoUSA, Inc.) in January 2008. This list contains all employers in the target region along with the address and number of employees. While the data from InfoUSA was generally of good quality, it is acknowledged that there are likely to be some inaccuracies in the employer database due to changes over time (i.e. the opening and closing of businesses since January 2008) as well as occasional reporting errors by the businesses themselves. It was decided that given the goal of providing an educated but general estimate of the waste produced by commercial generators in the region, for the purpose of this analysis it can be assumed that the new businesses that are missing from the list are roughly equal to the businesses on the list that no longer exist.

This study also used the list of large organic waste generators provided by the state DEP’s Identification, Characterization and Mapping of Food Waste and Food Waste Generators in Massachusetts (2002). The list of large generators from the MassDEP database was cross referenced with the InfoUSA employer list and when generators were on the state DEP’s list but not on the InfoUSA employer list, they were added.

---

1 “Green Bin Boosts City of Ottawa Diversion Rate 30 Percent.” *Ottawa Start*, December 13, 2010. <http://ottawastart.com/story/10873.php>

2 Giavini, Michele, and Christian Garaffa. “Intensive Source Separated Organics.” *Biocycle*, April 2010.

The InfoUSA list was first reduced to include only the business categories with some form of food generation or sales. After compiling a list of generators in the designated region, some categories of businesses were eliminated due to the assumption that they are not significant organic waste generators or that they already have a built-in system for organic waste management. The categories eliminated were: soft drink manufacturers with more than five employees, liquor stores, miscellaneous crop farming, grain and field bean merchant wholesalers, and food, health and supplement stores. The list was then cleaned to eliminate duplicate entries and to correct some mis-categorizations of businesses.

Along the way, there was a temptation to use local knowledge of the researchers and other individuals involved in this project in order to add or eliminate entries from the list. However this piecemeal local knowledge was not used because it could not be guaranteed that all cities, towns, and neighborhoods would be updated with the same level of accuracy, and again PVPC fell back to the assumption that the incorrect or missing entries would balance each other out and continue to provide a relatively accurate estimate.

#### Generator Categories and Estimates

With the expertise of project consultant Lorenzo Macaluso from CET, the generators remaining on the list were re-categorized to fit into groups that would have similar average generation rates. In some cases this involved combining some categories together, while in others it involved separating one category into two or three. For example, pizza shops tend to have a much smaller amount of waste than other restaurants, so "Pizza" was created as a new category. Table 3 shows the final generator categories as well as the collection rate estimates applied to each establishment in each category.

**Table 3: Waste Generator Categories and Collection Estimates**

Category of Generator	Collection Estimate (lbs / week)
Coffee Roasters	100
Coffee, Snack & Nonalcoholic Beverage Bars	875
Confectionary & Nut Stores	100
Drinking Establishments	500
Fast Food	100
Florists	450
Nursing Care Facilities	6.3 lbs per bed
Pizza	150
Restaurants & Catering	650
Retail Bakeries	200
Schools	1.04 lbs per student
Small Grocery Stores	500
Small Restaurants & Catering	300
Supermarkets & Other Grocery Stores	4,000

The collection estimate numbers for each sector in the above chart are based on field observations of actual food waste collection for composting. In the early 2000s, CET worked with area haulers, restaurants and supermarkets to weigh totes and dumpsters immediately prior to service by haulers. Several weights were taken for each generator that was measured to create an average collection per week. These averages of known collected weights were examined to create the categories above, and generalized to create the above collection estimates.

Generators that were not primarily commercial food producers or distributors, such as schools and nursing homes, were examined in a different manner. Collection rates included for colleges, the University of Massachusetts, residential schools, and Cooley Dickinson Hospital were determined individually based on an actual observed number from recent food waste collection data. These estimates were provided by Lorenzo Macaluso at CET and Roger Guzowski, the Five Colleges Recycling Coordinator for the University of Massachusetts at Amherst, Smith College, Holyoke College, Amherst College and Hampshire College. Generation rates for schools are based on an estimate of 0.15 lbs. per student per day, and enrollment data was collected from the Massachusetts Department of Elementary & Secondary Education for the 2009-10 academic year. The generation

rate estimated for nursing care facilities is 0.9 lbs. per bed per day based on observed average institutional food waste generation on a per meal served basis. Data regarding the number of beds in each nursing care facility was collected, and the generation estimate was applied to each Hospital and Residential Facility based on this data.

The Miscellaneous category was given a generation rate of zero. Zero was used in order to be conservative, and also because many of the remaining generators in this category are likely to have little waste or to be unlikely to participate in a composting program, making their waste essentially unrecoverable.

The data obtained from this analysis indicates the actual amount that could be collected, or "recovered." To determine total generation, it was assumed that for commercial generators, this amount that can be recovered is approximately 80 percent of the total amount generated.

### **Existing Composting Capacity**

In order to determine the need for new composting facilities, this assessment compares the organic wastes that can be recovered for composting in the region to the quantity of organic wastes that can be composted by existing facilities (i.e. the processing capacity of existing composting facilities). The difference between these represents the need for new composting facilities.

None of the regional composting operations in the MassDEP database of Active Commercial and Municipal Compost Sites in Massachusetts (July 2010) accept food waste (these facilities all accept yard and leaf waste). However, the New England Small Farm Institute in Belchertown is a new agricultural composting site that can accept a significant quantity of food waste. In addition, there are three small agricultural composting facilities nearby in Sunderland, Westhampton and Whately, but these facilities accept minimal amounts of waste and therefore have not been included.

### **Composite Food Waste Density Map**

Once the data analysis was completed (see Central Pioneer Valley Organic Waste Generation and Recovery table at the end of this report), a composite food waste density map (see Estimated Collectable Commercial and Residential Food Waste Map at this end of this report) was developed to view how these recoverable wastes are spatially distributed. This composite analysis shows total recoverable food waste tons per day in different locations (based on 2000 Census Block Group). This analysis can be used to help determine appropriate locations for composting facilities.

### **Economic Feasibility**

Based on the figures developed in this analysis, the needed composting capacity in the region is about 21 tons per day, or 7,517 tons per year. Currently, compost tipping fees in the region are about \$45 per ton. Given these estimates, and assuming a finished compost price of about \$30 per ton (\$20 per cubic yard), the gross revenue potential for new composting facilities in the region is estimated to be:

- Tipping Fee Revenue: \$388,265 per year
- Sales Revenue: \$225,510 per year
- Total Revenue: \$613,775 per year

Startup and operating costs will vary for each site and investor. Estimated start-up costs for equipment would be about \$50,000 for bucket loader, grinder, screener, and turning equipment at each site. Additional cost items could include site preparation (e.g. clearing and grading), permitting and local approvals, labor for operations and equipment maintenance, site rental or purchase, and interest payments on borrowed funds.

### ***Tipping Fees and Hauling Costs***

A market-based composting system will require that the compost facility tipping fees plus the hauling costs are a lower cost to the waste generators than the tipping fees plus the hauling costs for landfilling the material. Tipping fees are the waste processing fees collected at the gate of waste disposal facilities. They are set based on the cost of processing the wastes, plus fixed costs (e.g. rent or mortgage costs) and profit, less revenues generated by selling the finished product. These fees are also affected by the total quantity of wastes processed at the facility. Tipping fees for composting are generally set by facilities based on costs, as well as the revenue that can be generated by selling finished compost.

In successful composting systems, compost tipping fees are substantially lower than landfill or other alternative waste tipping fees. On average, tipping fees at the Northampton, South Hadley and Granby landfills are approximately \$74 / per ton, and are expected to rise with the closing of the Northampton landfill in 2012 (Table 4). In contrast, compost tipping fees in the region are about \$45 per ton. This margin of approximately \$29 per ton presents sufficient savings and economic incentive for haulers to add organic waste collection to their services, provided they have a destination for delivery of the material. Haulers can pass on some of this savings to encourage customers to separate organics. Lower tipping fees for organics have the added benefit that they increase the distance that it is economically feasible to transport wastes to the composting facility, allowing more organics to be recovered from the waste stream.

Hauling costs, of course, will vary by generator and are a factor of hauling distance to the facility, as well as route and waste generator characteristics. A hauling route that consists of a few large generators along major roads presents a certain economy of scale, while a hauling route that must stop to pick up from many small generators and that travels along slower downtown streets will be more costly.

**Table 4: Current Tipping Fees and Potential Composting Savings  
in the Central Pioneer Valley Region**

	<b>Dollars per Ton</b>
Average Landfill Tipping Fee	\$74
Average Compost Tipping Fee	\$45
Potential Tipping Fee Savings for Source Separated Food Wastes	\$29

## ***Determining Locations for Composting Facilities***

Determining suitable locations for composting facilities is an important part of creating an economically viable composting system. The facility location determines the distance of the generators to the site, affecting hauling costs. In addition, the facility location and other site characteristics affect the technology that can be employed at the site, as well as the types of generators that can be served by the facility. As described above, economically feasible travel distances for hauling organic wastes to composting facilities will vary based on a host of factors, from the tipping fees to the characteristics of the waste generators and the hauling routes.

Rather than considering only the estimated total recoverable organic wastes in the region, the Working Group determined that selecting suitable locations for composting facilities may require a more nuanced approach that considers a variety of site and location characteristics, as well as the needs of different generating sectors. For example, restaurants have different collection needs than supermarkets, which affects hauling routes and in turn affects the economically viable locations of future composting facilities. As another example, schools generate a vastly different mix of materials than most other generators, which affects decisions about which composting technologies to use, and which in turn affects viable facility locations and site characteristics. This study includes a preliminary list of potential compost facility sites in Appendix A: List of Potential Composting Sites for Further Assessment. Based on an initial Working Group discussion of this list, ideal sites would be at least five acres large, and some of the most promising sites from the list include Barstow's Longview Farmland Dairy, the Hampshire College Site, the Northampton Landfill, and the Food Bank Farm.

## ***Conclusions***

Based on the results of this analysis, the Working Group determined that further study is still needed to assess the economic feasibility of new composting facilities in the region. To answer this question more definitively, it would be helpful to analyze this data by sector (i.e. based on the characteristics of different types of waste generators) to determine composting facility characteristics, collection strategies, and hauling routes that would meet the needs of different generator sectors. In addition, the original study area, which includes the 17 communities defined within the Central Pioneer Valley, does not generate enough waste to support a large centralized facility, but this conclusion could change if the rest of the Pioneer Valley (the remainder of Hampshire County and all of Hampden County) were to be considered. Further, looking at these 17 communities in isolation does not make logistical sense, as many of the economically viable hauling routes that have already been established travel from north to south (and vice versa) along the Route I-91 and Connecticut River corridor, while the Central Pioneer Valley Region has an east-west orientation. To address this, the study could be expanded to consider wastes being generated to the south along the Route I-91 corridor, in Hampden County. Further, an analysis of geographic barriers and transit routes could help to determine possible hauling routes to support new facilities.

For the region as a whole, there are some clear, though difficult to quantify, economic benefits to establishing new composting facilities. To begin, waste will be diverted from the region's landfills, which are approaching capacity. This will expand the useful life of these facilities and potentially defer public investments (and the associated debt) to support new landfill or incineration facilities. In addition, for the companies, institutions, municipalities and residents of the region, new

composting facilities can save money by: offering a waste disposal option with lower tipping fees; and shorter transport routes if composting facilities are located closer to waste generators than the area's current landfills or, once local landfills close, possibly landfills located outside the region. However, these cost savings cannot be quantified at present, as they will depend on the location, composting technology and other characteristics of the new facilities, as well as the tipping fees that are set. In addition, these savings will vary for each waste generator based on its location, the types and quantities of waste it produces, and the availability and characteristics of the hauling routes that are eventually established.

Based on this study, however, the Working Group believes that the region can support additional small and medium-scale composting facilities, and that these facilities will be economically viable if they are able to operate with tipping fees of \$40 to \$45 per ton. In addition, the Working Group believes that new facilities would lower the costs of waste disposal for both municipalities and the private sector, so the region as a whole could realize cost benefits from new facilities.



## SECTION 3: REVIEW OF ORGANIC WASTE MANAGEMENT PROGRAMS

While a number of municipalities in Massachusetts have backyard compost bin programs, there are currently very few organic waste collection programs in the state. Those in existence include a subscription curbside collection program in Hamilton and Wenham, and drop-off programs in Cambridge, New Salem, Whately and Northfield. Northampton recently began a small trial drop-off program as well.

To better understand desirable characteristics of organic waste management programs and those characteristics that contribute to program failure or instability, this study looked to the example of other programs within Massachusetts, New England, other regions in the country, and Canada. This section summarizes the findings from that exploration and turns to the former organics waste management program in Northampton for one of the most instructive examples. Sources consulted for this section are listed in Appendix E.

### *Lessons from Northampton's Source Separated Organics (SSO) Program*

The City of Northampton was once recognized as a leader in establishing food waste diversion programs for commercial Source Separated Organics (SSOs). From 1991 to 1997, the Smith Vocational High School Farm in Northampton maintained a food waste composting site at the school farm on Locust Street. This facility accepted food wastes from area restaurants and provided a finished compost product. The diversion of source-separated organics in Northampton was formally expanded in 1998-99. At that time, a grant provided to the Center for Ecological Technology (CET) funded a pilot program that successfully coordinated diversion of compostable wastes from 70 area generators, 10 waste haulers, and 20 farms in Western Massachusetts. Much of the waste was diverted to the site operated by the Smith Vocational High School Farm, though CET also worked with several other area farmers to accept this food waste for composting. Over time, most of the other farmers dropped out of the program as the issues of getting composting mixtures right and managing contamination in the food waste stream proved to be too challenging.

At its peak in 2002, dozens of food waste collection routes were operating throughout the city, and the composting site at the Smith Vocational High School Farm was receiving 25-30 tons of food waste per week. The Board of Health and Parking Division worked together to establish three cooperatives to serve restaurants in the downtown area. Program participants included large supermarkets (Stop & Shop and Big Y), food processors (e.g. Hot Mama's), small markets (e.g. Serio's and Coopers), restaurants (e.g. La Cazuela and Northampton Brewery), institutions (e.g. Smith College and the Hampshire County Jail), health care facilities (e.g. Cooley Dickinson Hospital), and public schools (e.g. JFK Middle School).

In 2004, all operations at the Smith Vocational High School Farm compost site ceased due to changes in administration and internal disputes about the program. Nearly all of the food waste diversion from smaller generators such as schools and restaurants that been established under the program disappeared within months. Efforts to resuscitate the program by restarting the composting facility at Smith Vocational and working more intensively with other area farmers were unsuccessful.

While the Northampton program was successful in many respects, its demise provides several key lessons:

- Organics programs must have the support of local decision makers, including politicians and administrators. Though they may seem far removed from the program's functioning, they are critical to decisions that will keep programs on track.
- It is risky to rely heavily on one farm for composting organic waste. If there is a change in ownership or administration as in the case of the Smith Vocational High School Farm, much good work can be lost.
- Contamination of the waste stream and getting the waste mixture right create significant learning curves for any composting operation.
- For most of the small generators that participated in this program, there were no other available cost-effective options for food waste composting. Large generators got picked up by CET's subsequent work with haulers delivering to either Martin's Farm in Greenfield or Shadow Valley Farm in Hampden.
- The stakeholders (haulers, schools, restaurants, etc) are still interested in composting and several have found a way to get back into composting over time. Some private haulers have found other composting outlets in response to customer demands. While the infrastructure is not as robust as it was, private efforts have found a way to keep some level of the original program going.
- With a more stable infrastructure and an entity(s) like CET that can bring the stakeholders together to facilitate a large scale diversion program, the Pioneer Valley area could very easily have a large scale food waste diversion program again, and arguably one that would greatly surpass the diversion tonnages of nearly a decade ago.

### ***Incremental Versus Full Expansion Programs***

Many communities throughout the nation and all of those with programs in the northeast, develop their composting programs incrementally. In San Francisco, California, for example, a pilot program serving the commercial-wholesale produce district began in 1996 and then gradually expanded to serve other commercial operations in the city. A residential program was later established after several pilot programs. Over four years, the residential program was established and expanded to serve all the city's single family residential households. Now, services are again being expanded to serve apartments where 60 percent of the city's population resides, and the city reports that it is achieving 70 percent organic waste diversion.

Programs do not always begin with commercial waste diversion, followed by residential diversion. In Alameda County, California, for example, a residential program was established prior to the development of a commercial program. However, informal commercial waste diversion had been taking place prior to the development of a formal program - many farmers had already established working relationships with large commercial organic waste generators.

Full expansion programs offer an alternative to incremental development. However, evidence suggests that these programs are riskier and more difficult to manage. In Toronto, Ontario, the city established a program that was designed from its inception to accept nearly a third more organic waste types than programs in the U.S., including diapers and pet wastes. The city invested heavily in a relatively new anaerobic digestion technology, and has employed many collection strategies to increase resident participation. For example, instead of charging for waste collection through property taxes, the city now has a solid waste fee that varies based on landfill waste cart size that a household selects. However, the city has struggled to cover shortfalls in financing the program, and it has not yet achieved the high diversion rate of 70 percent that it had hoped for. Currently, the diversion rate is at 45 percent.

### ***Creating Incentives to Participate***

Successful programs offer a cost-effective disposal option for organic wastes. For example, there must be an appreciable difference between tipping fees at landfills and fees at composting operations. This difference creates an incentive for haulers and for organic waste generators to divert their organic wastes. In Needham, Massachusetts, the main motivation for establishing a composting program was to avoid high landfill disposal costs. In Alameda County, California, the success of the residential and commercial programs has been attributed to the huge price difference between landfilling and composting, resulting in a savings of 25 percent to 50 percent. In Alameda County, landfill tipping fees are \$135 per ton, while compost facility tipping fees are \$55 per ton.

One strategy employed to increase participation in residential composting programs is to reduce the frequency of trash collection, for example to once every other week, while collecting recycling and organics weekly. This strategy can significantly reduce the costs of collecting trash and can offset the additional cost of processing extra categories of organic wastes. Less frequent trash collection also increases organic waste diversion by motivating residents to put organic wastes in the appropriate container - by doing this, residents avoid having organic wastes sit for long periods of time in the trash.

### ***Materials Accepted***

The types of facilities sited in the region will affect the types of organics that can be accepted. In most communities, where aerobic Windrow composting operations are used, the types of organic wastes that can be collected will be limited. On the other hand, employing more expensive anaerobic composting technologies could allow programs to accept a wide variety of waste types, including diapers, kitty litter and pet waste.

### ***Obtaining the Optimal Mix of Wastes***

For aerobic Windrow composting facilities, which are most common, food scraps, which are high in nitrogen, must be mixed with a carbon source. Soiled paper, cardboard, brush and leaves are all good sources of carbon. Recipes for composting mixtures vary, but the survey conducted by Gary Liss & Associates of 121 residential organics program in the United States and Canada reported success with mixtures in Windrows that consist of 75 percent leaves and brush and 25 percent food scraps, along with bulking agents. In Needham, Massachusetts, leaves and brush that had taken five to six months to compost in Windrows are now taking two to three months with the addition of food scraps. The Liss survey notes that in the future, as the number of composting programs increase, the

competition for sources of carbon will expand and Windrow facilities will be ever more challenged to manage nitrogen rich streams. This could eventually lead to greater investment in anaerobic composting technologies.

### ***Siting Facilities***

Siting a composting facility always presents significant hurdles. In Massachusetts, the Department of Environmental Protection (DEP) recommends that new composting facilities be established on active or inactive landfill or transfer station sites, as these facilities already have a “site assignment” permit. In Needham, for example, the food waste composting facility is located on a closed landfill site. It is worth noting that brush composting facilities do not have a site assignment, so a full permitting process is required to accept food wastes at these sites. In some circumstances, an agricultural composting facility can obtain a site assignment to operate as a full composting operation, allowing it to process a greater quantity of wastes. Martin’s Farm in Greenfield, Massachusetts, for example, began as an agricultural composting site and eventually obtained a site assignment from MassDEP to operate as a commercial composting facility.

In addition to site assigned facilities, farms that are permitted by the Department of Agricultural Resources can accept up to 15 tons of food waste per day, and this waste can be comprised of five tons of post consumer food waste and 10 tons of vegetative food waste (including waste from supermarkets, etc.). In some circumstances, an agricultural composting operation can obtain a determination of need from MassDEP to accept more than this. As previously mentioned, the New England Small Farm Institute in Belchertown is the only large agricultural composting operation within the Central Pioneer Valley Region.

### ***Mandates and Bans***

Mandates and bans are used in some organic waste composting programs. San Francisco, California and some communities in Canada require residential source separation of organics. San Francisco recently made its program mandatory through a requirement that organic wastes accepted within the residential organics program not be placed in residential trash containers or otherwise inappropriately disposed.

In other communities, cities have banned the use of plastic bags in order to prevent contamination of the waste stream. In San Francisco, the city instructs residents to use only biodegradable liners such as paper bags or compostable plastic bags, which are widely sold in food, hardware and drug stores in the city. However, in Alameda County, California, results suggest that requiring biodegradable liners can be confusing, as they are not easily distinguished from regular plastic bags.

### ***Education and Outreach***

Education is a major contributor to successful composting programs. Particularly in residential programs, the degree of education has direct bearing on levels of participation. Education and outreach programs should include marketing materials and consistent messaging. Postcards, flyers, or other printed materials can explain the basics of the program. Some programs also provide a kitchen pail for collecting food scraps that describe “dos and don’ts.” Stop Waste, the public agency for waste management in Alameda County, conducted a broad regional education campaign on

organics that delivered radio public service announcements (PSAs) and posted information on the side of trucks, bus shelters, and mass transit vehicles.

In addition to residential outreach, the Alameda County program conducted significant outreach to recruit businesses, train their staff, change their waste disposal service, redesign their waste storage area to include new bins, and conduct follow-up activities. These commercial outreach activities typically required \$1,000 per business. Locally, the Center for Ecological Technology has provided composting assistance to businesses at a similar cost. Finally, one interesting example of a commercial education program can be found in Cambridge, where the city initially hired a consultant to recruit and train program participants, but now the area's hauler's do their own recruiting and training of business customers. This suggests that technical assistance might be provided more efficiently to haulers, who can in turn train their commercial clients themselves.

### ***Contamination of the Organics Waste Stream***

Education is also critically important to reduce contamination of the organics stream in both residential and commercial collection programs. Large quantities of plastics and other non-organic materials can make it difficult for composting operations to manage contamination. In Needham the residential program failed due to contamination, though the town does now have a source separated organics program with grocery stores. In the early efforts by the Center for Ecological Technology (CET) to work with farms in Western Massachusetts, contamination was a contributing factor to farms dropping out of the program. In their subsequent work, CET has emphasized that organics in a food service operation be collected "at the back of the house" where there is relatively little contamination rather than "at the front of the house," where there is far more contamination. In the Cambridge program, there is less contamination because the hauler uses a rear loader and can see what is being dumped into the truck. If a problem with what is being put in the organics bin by a business is spotted, the hauler can immediately talk to the business about correcting the problem. For residential programs, Alameda County has worked to ensure that information about what is accepted and what is not accepted is printed on the food scrap bins distributed by participating municipalities. The program also conducts participation audits twice each year with a consultant, reviewing representative demographics and flipping lids to review bin contents. In the residential programs in Hamilton and Wenham, Massachusetts, to date there has been very little contamination in the organic waste stream.

## ***Characteristics that Contribute to Program Failure or Success***

Based on this review, it is clear that successful organic waste composting programs are developed incrementally, as was the case for all of the programs in the Northeast, as well as San Francisco, California and Alameda County, California. In contrast, the “full expansion” program in Toronto, Ontario has encountered many problems, especially financial instability. Although a successful phased approach can take many forms, earlier pilot programs focused on concentrated commercial sources of food scraps, while many contemporary pilot programs have instead begun with the residential sector, often with single family homes, and then have expanded to multi-family units and then to the commercial sector.

To begin a collection program, it is important to ensure that sufficient composting capacity is in place. Within collection programs, strategies that require mandatory separation of organics or that institute a local waste ban can improve program success, as can educational campaigns that offer significant outreach and training to residents and commercial generators. Finally, and perhaps most importantly, successful programs require a significant difference between trash and organics tipping fees.

On the other hand, there are a number of characteristics that contribute to program failure. These include over-reliance on a single privately-owned facility (Northampton, Massachusetts), problems with waste contamination that lead haulers or compost facilities to reject wastes or to cease offering composting services (Needham, Massachusetts residential program), and problems with getting the mixture right, pile turning, and other odor control issues that lead neighbors to complain (various farm-based composting facilities in Massachusetts).

Because most change encounters social resistance, lack of sufficient public education can also contribute to program failure through low participation rates, especially in residential composting programs. In addition, lack of understanding and support, and sometimes outright opposition by elected officials can lead to program decline, making political support critical to program success.

### **Source Separated Organics Composting - Lessons Learned**

1. Always establish contingency fund in the upfront financial plan for your facility.
2. Research the compost markets in your area prior to finalizing the design of your composting operation.
3. Once food residuals arrive on site, they need to be processed immediately. Food residuals should not be stockpiled or allowed to sit. Have a carbon source ready.
4. Buy technology that has been proven.
5. Composting smells. Plan for it, build capacity to contain as well as to treat the resultant odorous air.
6. Invest funds in public outreach and education. This investment is as important as any capital expense associated with the compost facility.

Source: *Biocycle*, May 1, 2005, “Composting Source Separated Organics – 25 Top Lessons Learned”, by Susan Antler, Composting Council of Canada, and Nora Goldstein

## ***Examples for a Regional Program in the Pioneer Valley***

Many composting programs have been established by single municipal jurisdictions. There are several programs, however, that provide examples from which to draw for a regional model in terms of operational and management structure and financing.

### **Operational and Management Structure**

In Hamilton and Wenham, Massachusetts, the organics program operates under an inter-municipal agreement signed by the Board of Selectmen in each town. The agreement sets up costs and services for residential curbside pickup of organics and a timetable for evaluation of this nascent program. Hamilton has the municipal contract with the hauler and the hauler, in turn, has the contract with the compost facility operator.

In Franklin County, Massachusetts, 22 member towns came together in 1989 to form the Franklin County Solid Waste Management District. While, the District does not currently have an organics program, it does help member towns manage all other aspects of their solid waste: recyclables, hazardous waste, wastewater treatment sludge, and trash. The District also provides administrative support, professional consultation, trainings, and outreach to residents and businesses. The District's governing body is its Board of Representatives, which includes representatives from each member municipality. The District is staffed by an executive director, program director, and administrative assistant. Waste management districts are established by special act of the state legislature and can be designed to generate fees or levy taxes. Districts can also issue bonds and notes and raise revenues to carry out their stated purposes. In the Berkshires, 12 towns are also organized in such a way, forming the Northern Berkshire Solid Waste Management District.

Established in 1989, the Hilltown Resource Management Cooperative has 11-member towns: including Ashfield, Chester, Chesterfield, Cummington, Goshen, Huntington, Middlefield, Plainfield, Westhampton, Williamsburg, and Worthington. Member towns sign a memorandum of understanding for assistance from the Cooperative's Administrator (see Appendix C). The Administrator manages solid waste disposal, including recycling, composting, and landfilling, and conducts outreach and education about recycling and rural sustainability. The Cooperative's board is composed of two representatives from each member town.

In Swift County Minnesota and Alameda County California, regional composting programs operate under the aegis of the county government. In Minnesota's Swift County there is mandatory source separation, including organics on a county-wide basis involving the 8 very rural municipal jurisdictions. The county provides region-wide education on organics, but 6 of the municipalities have their own contracts with a hauler and two municipalities are doing their own hauling. In Alameda County, California, where 17 of the 20 municipalities participate in the organics program, Stop Waste operates under an agreement for joint exercise of powers and is governed by a 17-member board composed of elected officials appointed by each member agency. Stop Waste

oversaw municipalities in meeting startup requirements and also provides a range of regional education programs as described above.<sup>3</sup>

## **Financing**

While the favorable margins that exist between tipping fees for trash versus organics (discussed in Section 2) offer economic impetus for an organics program in the region, financing a regional services component of an organics program requires some consideration. As described in Section 1, these regional services could help avoid duplication of effort, consolidate and strengthen the voice for composting, and improve the level of service. Services could include: initial and ongoing technical assistance to facilities, generators, haulers, and municipalities; development of cooperative agreements to share equipment (e.g. screening, debugging); preparation of bid documents to procure services, equipment, and materials; and development of educational and outreach materials.

Rather than rely on grants, a regional program would require a steady and reliable source of funds for these services. Other regional programs draw on a variety of strategies to fund such services, as described below.

In Franklin County, the work of the Solid Waste Management District is covered by annual administrative assessments that are paid by each of the member towns. These funds cover approximately 60 percent of the District's administrative operating expenses, and remaining expenses are covered through a fee-for-service program and grant income.

The work of the Hilltown Resource Management Cooperative is funded directly by the 11 member towns through annual assessments, which are based on tonnage and population. The program also receives funding support through grants and through its various disposal programs for the towns, including electronics, paint, household hazardous waste, propane tanks, freon removal, and tires.

In Hamilton and Wenham, Massachusetts, the organics program received a grant from the Department of Environmental Protection for the purchase of bins that went to the first 500 families in the program. A per household annual flat fee covers hauling costs, but other services associated with the program within the two towns are currently provided by volunteers.

In Swift County, Minnesota, financing to cover county administrative, planning and education work is drawn from the facility fee on garbage of \$80/ton at the county transfer stations (garbage is hauled to landfill in North Dakota) and a special assessment fee, a flat fee assessed on all landowners in the county, which generates approximately \$120,000/year.

In Alameda County, California, regional services are funded through three fees. A facility fee of \$4.34 per ton is levied by the county under the state waste compliance mandate on the two operators. Monies help to fund compliance with the state mandate of 50 percent diversion. Under

---

<sup>3</sup> Communities receiving funding to launch their program had to meet several conditions set by Stop Waste: They had to refer to the organics as "food scraps," they had to provide weekly collection of food scraps, and they had to use 4 pieces of marketing materials with their residents, including postcards announcing the basics of the program, a kitchen pail for collecting food scraps, label for their pails describing dos and don'ts, and a brochure. No community was allowed to start the program as a pilot; it was all or nothing.



Measure D (of the Alameda County Waste Reduction and Recycling Initiative Charter Amendment), there is a landfill surcharge currently set at \$8.17 per ton. Half of these monies go to participating municipalities for waste reduction efforts and half are allocated to countywide waste reduction programs administered by Stop Waste. There is also a waste *import mitigation fee* of \$4.53 per ton levied on wastes coming to landfills from out of county.

It is important to note that all of these fees in Alameda County are disposal based. As waste prevention and diversion programs are increasingly successful in reducing the need for disposal, agency revenues are decreasing. The county is currently working to identify alternative means of funding for the regional services, including: advance disposal fees (charged on certain products at point of sale); variable user fees (to be based on volume of service provided for organics and recycling as currently, recycling and organics services essentially free as they are subsidized by garbage operations); and a rate adjustment within the service package so that cover not only lowest bid from hauler, but program of services from municipalities and the county. As part of the effort to identify alternative means of supporting regional services, Alameda County had Skumatz Economic Research Associates conduct a comprehensive analysis of funding options. The report entitled, *Footing the Bill for Diversion Programs: Funding Options*, identifies some four dozen funding options that they divide into three categories: incentive based (e.g., variable user fees based on amount of trash disposed), waste-stream or service authority dependent (taxes and disposal or tip fee surcharges), and independent of waste stream (flat rate generator fees).

In discussing the regional services program with the Organic Waste Management Working Group, several ideas emerged that are worthy of further exploration. One member noted that “matchmaking services” (described in Section 4) would entail a one-time cost, while other services would need to be supported over the long term. The ideas outlined below are generally in keeping with existing financing approaches and reflect the tradition within Massachusetts communities of local home rule. Regional services might involve a combination of the following and additional ideas yet to come, depending on which services are provided by whom.

- A portion of the savings realized by haulers (between landfill and compost tipping fees) or a small surcharge on the per ton tipping fee for organics might be used for distribution of containers, technical assistance, and general education work. One working group member, who has already provided much technical assistance on organics in the region, observed that education and technical assistance is of primary importance to the success of the program and said that it will be important to ensure that this work indeed occurs. A meeting with haulers could be worthwhile to determine how these services could best be delivered.
- An inter-municipal agreement might include a dues component following the model of the Barnes Aquifer Protection Advisory Committee (mentioned earlier) to help cover certain regional services. One working group member noted that her community might be interested in paying dues to cover regional services for residential organics programs, but not for comparable services on the commercial or institutional side.
- Some communities in the region have a meals tax, a portion of which revenues might be used to provide regional services to restaurants and other establishments that are paying into this tax.

- There might be some savings in wastewater treatment operations that could be passed along if such operations no longer receive and need to treat organic waste, and particularly the accompanying oil and grease, from restaurant and homeowner sink disposal systems. Such a funding strategy might be appealing to communities that do not already have prohibitions against oil and grease on the books. The oil and grease, not the organic food waste itself, is the main issue, according to the wastewater operator in South Hadley.

## SECTION 4: ACTION PLAN FOR A REGIONAL ORGANIC WASTE MANAGEMENT PROGRAM

### *Role of a Regional Approach to Organic Waste Management*

This section discusses the potential roles and characteristics of a regional organic waste management program in the Central Pioneer Valley. Although the communities involved in the Organic Waste Management Working Group have decided that it is most appropriate for future composting facilities to be privately operated on sites that are either publicly or privately owned, there are many potential roles that a regional program can play to coordinate and facilitate composting in the region.

A healthy composting system requires that organic wastes be properly separated, transported to facilities, manufactured into finished compost products, and then sold or otherwise distributed to end users. This results from the individual actions of many entities, including organic waste generators (residential, commercial and institutional), municipalities, hauling companies, composting facilities, etc. In addition to the need for new facilities, the region can benefit from efforts to increase organic waste diversion from residential, commercial and institutional waste streams, and to develop new and stronger end markets for finished compost products.

Overall, PVPC recommends that the possibility of a regional program be explored further to help augment composting in the region through efforts to:

- Facilitate the creation and support the operations of composting facilities
- Maximize the use of the available composting facilities by supporting and/or establishing commercial, residential and institutional source separation programs and associated hauling routes
- Strengthen the composting market in the region, both from the supply-side (i.e. efforts to create greater incentives to divert organic wastes for composting) and from the demand-side (i.e. efforts to develop a stronger end-market for finished compost products)

The proposed program would be a strong regional asset because it would establish a single entity that is responsible for viewing the independent parts of the composting system as a whole, and it would help to coordinate the independent efforts of the various public, private and institutional players. It would also provide continuity through an ongoing effort, representing a significant improvement over the current ad hoc approach in which a series of loosely connected projects are taken up by different entities, often only when grant funding can be obtained.

Overall, the goal of the regional program would be to ensure that the various components of organic waste management in the region are coordinated and supported. Some possible specific roles include:

- Ongoing monitoring and assessment of composting in the region
- Evaluation of potential composting sites and technologies

- A match-making service that couples suitable sites with investors who are interested in establishing and operating composting facilities at these sites
- Initial and ongoing technical assistance to facilities, generators, haulers, and municipalities
- Development of cooperative agreements to share equipment (e.g. screening, debugging)
- Preparation of bid documents to procure services, equipment, and materials
- Development of recruitment strategies and materials for haulers/municipalities establishing residential programs
- Development of educational and outreach materials
- Assistance in the establishment of new hauling routes
- Establishment of a regional end-marketing program for the finished compost
- Development and execution of new projects that increase organic waste diversion and composting in the region

### ***Establishing and Supporting Composting Facilities***

A major role of a regional program would be to continually assess the need for additional composting capacity, and to facilitate new composting facility development. As part of this study, the Central Pioneer Valley Organic Waste Management Working Group identified a need for new composting facilities in the region. In turn, development of new composting facilities could be facilitated by finding suitable sites and establishing a “match-making service” that couples these suitable sites with investors who are interested in establishing and operating composting facilities at these sites.

A “match-making” approach has many advantages. By decoupling suitable composting sites from suitable facility owner-operators, the region would be able to take advantage of promising facility sites that might not otherwise be considered. At the same time, by professionalizing the operation of new composting facilities and by selecting individuals or organizations with the time, resources and access to capital, business experience, and technical/site operations expertise to run a successful composting business, the composting facilities that are established as a result of this program would have a greater likelihood of success and longevity. Finally, the regional program could further increase the likelihood of success by working to ensure that selected sites are “development-ready.” That is, the goal would be to do as much legwork as possible to make the project attractive to potential investors. This could include obtaining the necessary local approvals and drafting contract agreements prior to selection of the facility owner-operators.

This study identified potential sites, as well as potential facility investor-operators, as described below. In order to establish a match-making service, the data analysis completed for this study would need some refinement; potential sites would need to be evaluated and selected; and RFPs would be issued to solicit proposals and select among potential investor-operators. The appendices include a list of potential composting sites (Appendix A), as well as some potential investors who may be interested in responding to RFPs to develop and manage facilities on the selected sites (Appendix B). With regard to potential investors who may be interested in responding to RFPs, some possible areas for further exploration include local haulers (included in Appendix B), as well

as local landscapers and farmers. Finally, the appendices also include an example RFP that could be used to help develop an RFP to solicit investor-operators for the chosen sites (Appendix D). This example is of an RFP issued by the City of Gardener, Massachusetts to Design, Permit, Build, and Operate a Large Scale Commercial Food Waste Composting Operation.

### **Next Steps**

The next steps that would be needed to establish the proposed match-making service are:

- Expand the data analysis to provide detailed information on the total quantity and geographic concentrations of organic wastes in Hampden County. In addition, identify barriers to organics composting in the region to shed light on strategies that have the most potential to be economically viable while serving the region's needs.
- Identify sites capable of processing significant quantities of organic wastes, especially food waste. Prioritize sites with current Massachusetts Department of Environmental Protection Site Assignment status. Other potential sites, including farms, brush composting sites, sites owned by educational institutions, and others, could also be identified and considered.
- Identify potential investor operators. Reach out to individuals, known compost operators, corporations or others that may have an interest in operating a composting site of different scales and levels of technology.
- Complete a site review and select final sites. The goal of this would be to assist with final site selection through a "fatal flaw analysis" in which potential sites are considered from a permitting and operational standpoint.
- Match selected sites to investors. Using a formal RFP process, pair identified sites with investors who will implement and operate composting facilities at the selected site(s).

Three general work phases would be required to complete these tasks. In Phase I, the data analysis presented in this study would be refined in order to develop a better understanding of the types and locations of composting facilities needed in the region. In Phase II, potential sites would be more thoroughly evaluated, and one or more sites will be selected. In Phase III, the regional program would collaborate with the selected site owners to issue a Request for Proposals for facility owner-operators. These three phases are described in detail in the Sustainable Materials Recovery Program Regional Initiatives / Pilot Program Grant Application (Appendix F).

If the match-making service is established, the regional program could provide initial and ongoing technical assistance to the selected investors, as well as to haulers and municipalities. The program could:

- Assist with business plans and financing applications;
- Offer trouble shooting assistance for site or operations issues;
- Help establish and communicate what wastes are accepted at the facility;
- Assist in the development of marketing plans and materials;
- Help establish relationships and contracts with local haulers; and/or

- Provide educational materials and technical assistance to assist haulers and municipalities with source separation.

This technical assistance could be provided through additional grant funding, on a fee-for-service basis, and/or through the program's regional funding mechanism. Finally, the regional program could continue to monitor and assess the need for additional composting facilities. In addition to ongoing technical assistance, the match-making service itself could continue as needed to improve the region's composting capacity.

### ***Facilitating Source Separation & Waste Collection***

In addition to helping to develop additional composting capacity, a regional program could facilitate source separation and waste collection through a variety of source separation and waste collection activities. For example, the program could recruit and train commercial generators on organic waste source separation, help haulers establish new routes, and facilitate communication and coordination among haulers. As an alternative to direct training of waste generators, the program could train haulers to recruit and train generators. The program could also facilitate source separation by drafting model policies and working with municipalities to increase landfill tipping fees.

Right now, there is a timely opportunity to establish a collection program and new hauling routes for a number of new anaerobic digestion facilities being constructed in our region by AGreen Energy LLC., a partnership comprised of farmers, New England Organics, and a managing partner. These facilities will be located at dairy farms in Hadley, Granville, Colrain, Rutland, and South Deerfield. Each facility will each have an anaerobic digester that creates finished agricultural fertilizer products and converts organic material into methane and carbon dioxide. The finished products will include fiber, a peat moss-like material, for use on the farm for animal bedding and soil amendment, as well as a registered liquid agricultural fertilizer. The methane biogas products will be used to produce electricity. A small portion of the electricity produced will be used on the farm, and the portion that is not used by the farm will be sold back to the food scrap generators and others interested in purchasing green power. In addition, the heat captured from the biogas engine will be captured to heat the operation's greenhouse, farm building and other buildings, and for commercial purposes.

Each of the AGreen Energy facilities will be able to accept up to 30 tons of food waste each day of non-farm, pulped food scraps. MassDEP recently established a permitting pathway for these facilities, and the facility in Rutland is expected to begin operations in February 2011. Although the Rutland facility is currently accepting only food processing and supermarket materials, AGreen Energy, LLC. is interested in all food wastes, provided that they are source separated. However, because the facilities will accept pulped material only, pulping is an issue that must be addressed. This could be accomplished through trucks that are capable of pulping, or by establishing transfer stations where the pulping occurs. The AGreen Energy partnership was originally planning to source all of its organic waste material from the Boston Metropolitan area, but New England Organics has expressed interest in collaborating with the Organic Waste Management Working Group to source local waste materials. New England Organics may be willing to participate in or assist with collection as well. It is hoped that all of the facilities will be fully permitted, constructed and operating by the end of 2011.

In addition to this effort by AGreen Energy LLC, Triple T Trucking, a hauling company that is currently responsible for a large portion of organic waste hauling in the region, is considering development of a composting facility in New Hampshire. Even if Triple T Trucking does not build its own facility, however, it has expressed interest in aggressively expanding its services in the Pioneer Valley. This indicates a potential role for a regional program to work with various players and to help coordinate efforts to divert the greatest amount of organic waste materials as efficiently as possible.

Finally, a regional program could also assist municipalities that are establishing residential or commercial compost collection programs. For residential programs, the regional program might assist with outreach, development of educational materials, branding and standardization of materials across municipal programs, etc. For commercial programs, a regional program might help recruit and train haulers and small generators, develop educational materials, and establish and coordinate hauling routes.

### ***Establishing an End-Marketing Program***

Regional compost programs are often a supply-driven activity. That is, the goal is usually to recover organic materials from the waste stream, resulting in an increased supply of finished compost. However, the demand for finished compost products can have a large impact on the viability of composting. Perhaps most importantly, a strong demand for compost, and therefore the ability to sell the finished product, can keep tipping fees low, increasing the incentive to divert more organic wastes to composting facilities (versus paying the higher landfill tipping fees).

In order to augment demand for finished compost products and make organic waste diversion increasingly economically attractive to waste generators, a regional program could develop an end-marketing program for locally manufactured compost. This program, which might be similar to the local Community Involved in Sustaining Agriculture (CISA) Local Hero Program, could help consumers to identify and purchase locally manufactured compost. Specific program activities might include:

- Establishing a program name and branding materials
- Developing advertising and educational materials
- Recruiting compost facilities to participate in the program
- Conducting advertising and outreach activities
- Helping composting facilities to make packaging and distribution decisions
- Facilitating distribution of finished compost products to locations where consumers can purchase the products
- Helping composting facilities to market their products
- Improving local infrastructure to get finished compost to new markets

### ***Ongoing Monitoring and Assessment to Identify Future Needs***

A regional program, as previously mentioned, could play a critical role in continuing to monitor and assess composting in the region. The program could keep data on composting on the region,

including participating haulers, generators and municipalities, as well as data on participation rates, diversion rates, finished compost sales, greenhouse gas emissions, etc. A regional program could set goals, analyze the available data, assess current needs and barriers to composting, and periodically issue brief reports on the state of composting in the region.

### ***Project Development and Regional Coordination***

As new needs and additional barriers to composting are identified, a regional program could work to develop new projects to address these needs and to reduce these barriers. Project development could involve multiple municipal, nonprofit, institutional and private participants. In addition, a regional program would work to secure funding for new projects through grant writing or other funding mechanisms.

Finally, a regional program could help to facilitate communication and coordinate composting activities across municipalities. Addressing the needs or barriers that are identified may require actions by municipal, private, or institutional entities, and a regional program could play a role in communicating with these entities and facilitating the needed changes. For example, coordination between haulers may be required to improve the efficiency of hauling routes. Coordination of generators with similar characteristics could help result in the creation of new hauling routes, or in the identification of the need for new composting facilities to serve a particular generator sector.

A regional program could also facilitate communication between municipalities in order to help identify ways to streamline and share resources for local collection programs. It may be that there is a role for the regional program in securing or managing shared contracts. In addition, a regional program could help identify strategies and coordinate actions to reduce greenhouse gas emissions.

### ***Regional Program Management and Financing Structure***

There are three main structures suitable for a regional program in the Central Pioneer Valley. These are 1) Regional Solid Waste Management Districts; 2) Inter-Municipal Agreements; and 3) Non profit organization.

#### **Regional Solid Waste Management Districts (M.G.L. C.40, S. 1A)**

Solid waste management districts are legal and geographic entities established in order to provide services on regional basis, typically at a lower cost than is possible if services are delivered separately by each municipality. According to a document developed by Massachusetts Department of Environmental Protection, funding for the work of a district can occur in two ways: it can be designed to generate fees or levy taxes solely on the individuals benefiting from the services; or it can issue bonds and notes and raise revenues to carry out its stated purpose.

To establish a solid waste management district, municipalities are empowered to file a home rule petition with the Massachusetts legislature requesting enactment of a special law. The DEP document advises:

The municipal legislative body must approve a home rule petition before it can be acted on by the Legislature, although a local vote does not preclude legislative amendments. In addition to involving the municipality's executive, municipal counsel, and state legislator(s) in discussions about home rule petitions, it is also



important to consult with the Executive Office of Environmental Affairs and DEP. Both agencies will typically comment on the merits of the proposed legislation, and their support can be an important factor in securing passage of the bill.<sup>4</sup>

In Western Massachusetts, both Franklin and northern Berkshire County operate under solid waste management districts.

### **Inter-Municipal Agreements (M.G.L. c.40, S.4A)**

Inter-municipal agreements under M.G.L. c. 40, S. 4A, recently amended in July 2008, also allow for the provision of shared organic waste management among two or more communities. The 2008 amendments have made it much easier for communities with a town form of government to enter into an inter-municipal agreement by shifting the authority to approve such agreements from Town Meeting to the Board of Selectmen. The agreements, sometimes referred to as a Memorandum of Understanding or Memorandum of Agreement, are also extremely flexible, allowing communities to tailor them to their particular needs, e.g. sharing one or some services but not others, and allowing a variety of staffing options.

Inter-municipal agreements are in use in the Pioneer Valley at the Hilltown Resource Management Cooperative and on several regional projects related to water quality. The Barnes Aquifer Protection Advisory Committee, established in 1989, involves four communities that cooperatively review land use and development proposals that impact this sole source aquifer. The group meets regularly, and each community pays annual dues of \$2,000 to cover the costs of administrative and professional assistance from the Pioneer Valley Planning Commission. An inter-municipal agreement also provides the structure for the collaborative work of the seven municipalities on the Connecticut River Clean Up Committee, which advances the elimination of combined sewer overflows on the Connecticut River. In another example, an inter-municipal agreement was established between 11 municipalities to meet federal stormwater requirements by participating in the Connecticut River Think Blue Campaign.

In developing these agreements, it will be critical to work through the local Department of Public Works and Recycling Coordinators in participating communities.

### **Non Profit Organization (Section 501(c) of the Internal Revenue Code)**

One member of the Organic Waste Management Working Group suggested the possibility of establishing a new non profit organization devoted to regional organics services. Such an organization might be based on the example of the Northeast Resource Recovery Association (NRRRA), which works with more than 400 members, including municipalities, individuals, and businesses throughout New England on managing their recycling programs. NRRRA provides cooperative purchasing programs, educational and networking opportunities, technical assistance, and cooperative marketing programs, which pool the recyclables of its membership to secure stable and competitive markets. NRRRA's work is funded in large part by variable fees on the transactions they handle for marketable recyclables. For example, out of \$7 million in product transactions they handled for their members in 2010, NRRRA received fees totaling \$447,282. Establishing a new 501(c)

---

<sup>4</sup> Introduction to Management Districts In Massachusetts, <http://www.mass.gov/dep/water/wastewater/mgtdists.pdf>

would require the help of an attorney to establish the organization and to file a request for exemption to the Internal Revenue Service<sup>5</sup>. Another option might be for an existing nonprofit organization such as the Center for Ecological Technology (CET) to develop these services, as described below.

### **Evaluation and Recommendation**

The existing Regional Solid Waste Management Districts in Western Massachusetts are comprehensive solid waste programs that manage trash, recycling and household hazardous waste, and which are beginning to incorporate organics composting as well. The investment of effort into winning support for and establishing a management district for organics in Hampshire and possibly Hampden counties, however, would be significant. Further, municipalities are not inclined to form Regional Solid Waste Management Districts due to the financial burden associated with owning and operating facilities, and such a district may also present issues due to overlapping jurisdictions with the existing Hilltown Resource Management Cooperative.

CET has been a key player in the organics composting system to date in the Pioneer Valley region. Therefore, rather than establish another non profit organization with its own start up, overhead, and administrative costs, it may make sense to expand capacity within CET to offer new coordination and other composting-related services. This could be accomplished wholly within CET's organization and/or through subcontracts with the Pioneer Valley Planning Commission and other knowledgeable and existing organizations.

Therefore, an Inter-Municipal Agreement may provide the best starting point for structuring a program of regional services for organics. An Inter-Municipal Agreement does not require the establishment of an entirely new administrative body and would allow for communities to join based on the value they see for themselves in the services offered. This would work well for many of the regional services already described. Participating municipalities could follow the model of other such agreements, which entail regular meetings to identify priorities as the program evolves and to ensure that services are meeting community needs.

Funding for services under such an arrangement could be accomplished through affordable membership dues in combination with perhaps a small surcharge on the per ton tipping fee for organics. Program costs might also be covered through fee for service or transaction payments like those charged by the Northeast Resource Recovery Association for its services.

In the appendices, example Memorandum of Agreements (MOA) have been provided (Appendix C). One agreement is from the Hilltown Resource Management Cooperative. The other agreement is an inter-municipal contract that created the Barnes Aquifer Protection Advisory Committee, a regional program to advance the protection of the Barnes Aquifer.

---

<sup>5</sup> The Internal Revenue Service provides guidelines for establishing a non profit organization at: <http://www.irs.gov/pub/irs-pdf/p557.pdf>

## SECTION 5: CONCLUSIONS

### *Final Assessment*

The assessment conducted by PVPC and the Organic Waste Management Working Group demonstrates a need for additional services in the areas of facility development, source separation and establishment of new hauling routes, strengthening the end-market for finish compost, and composting system monitoring, assessment and regional coordination.

In general, while some of the region's larger communities and its higher education institutions are taking the lead to augment composting in the region, and while many communities and institutions have an interest in improving composting in the region, the region's smaller communities do not have the staff capacity or other local resources to focus on organic waste issues. In addition, there is a need for greater communication and coordination among communities to create a more comprehensive and efficient organic waste composting system. To date, efforts to augment composting in the region have been fragmented, often taken up by individual organizations (including the Five Colleges, the Center for Ecological Technology, individual waste hauling companies, etc.) or individual municipalities. The region's most successful program to date, the 1991 – 2002 Northampton Source Separated Organics (SSO) Program, was the result of a collaboration between the City of Northampton and the Center for Ecological Technology, a local nonprofit organization.

Greater diversion of organic food waste for composting would save money for both residential and commercial waste generators. However, it is worth noting that because there are few municipally operated curbside waste collection programs in the region, many municipalities do not have a direct fiscal incentive to participate in a regional organic waste management program, except to achieve modest savings that could be gained through municipal facilities that serve food, such as schools and senior centers. In Hampshire County, only the towns of Amherst and South Hadley have municipally operated curbside waste collection programs. However, in Hampden County, there are 12 municipalities with curbside collection, including Agawam, Brimfield, Chicopee, East Longmeadow, Ludlow, Holyoke, Longmeadow, Monson, Montgomery, Springfield, West Springfield and Westfield.

Due to the larger number of Hampden County municipalities with curbside waste collection programs, as well as the geographic distribution of organic waste generators, and the geographic barriers and other conditions that result in the north-south orientation of existing organic waste collection routes, this report recommends that any regional program extend to include the entire Pioneer Valley, not just the municipalities involved in this initial study.

**CENTRAL PIONEER VALLEY ORGANIC WASTE GENERATION & RECOVERY**

COMMUNITY	TONS/YEAR					TONS/DAY			
	NON-RESIDENTIAL GENERATION (A)	RESIDENTIAL GENERATION (B)	RECOVERABLE (C)	COMPOSTING CAPACITY IN REGION (D)	NEEDED CAPACITY IN REGION (E)	NON-RESIDENTIAL GENERATION	RESIDENTIAL GENERATION	RECOVERABLE	NEEDED CAPACITY IN REGION
NOTES	(1)	(2)	(3)	(4)	(5)				
AMHERST	3409.49	1369.01	3453.17	0.00		9.34	3.75	9.46	
BELCHERTOWN	445.72	760.08	759.42	5475.00		1.22	2.08	2.08	
CHESTERFIELD	6.32	70.43	42.38	0.00		0.02	0.19	0.12	
CUMMINGTON	22.75	57.12	48.47	0.00		0.06	0.16	0.13	
EASTHAMPTON	691.85	934.81	1048.93	0.00		1.90	2.56	2.87	
GOSHEN	0.00	53.96	28.60	0.00		0.00	0.15	0.08	
GRANBY	196.46	358.75	347.31	0.00		0.54	0.98	0.95	
HADLEY	1380.90	280.03	1253.13	0.00		3.78	0.77	3.43	
HATFIELD	168.16	190.03	235.25	0.00		0.46	0.52	0.64	
HUNTINGTON	65.94	127.49	120.32	0.00		0.18	0.35	0.33	
MIDDLEFIELD	28.44	31.65	39.53	0.00		0.08	0.09	0.11	
NORTHAMPTON	3230.07	1566.17	3414.13	0.00		8.85	4.29	9.35	
PLAINFIELD	0.00	34.46	18.26	0.00		0.00	0.09	0.05	
SOUTH HADLEY	1220.15	891.01	1448.35	0.00		3.34	2.44	3.97	
SOUTHAMPTON	328.46	315.42	429.94	0.00		0.90	0.86	1.18	
WESTHAMPTON	32.25	86.02	71.39	0.00		0.09	0.24	0.20	
WILLIAMSBURG	130.49	141.68	179.48	0.00		0.36	0.39	0.49	
WORTHINGTON	18.21	74.40	54.00	0.00		0.05	0.20	0.15	
<b>TOTALS</b>	<b>11,375.66</b>	<b>7,342.52</b>	<b>12,992.06</b>	<b>5,475.00</b>	<b>7517.06</b>	<b>31.17</b>	<b>20.12</b>	<b>35.59</b>	<b>20.59</b>

**NOTES**

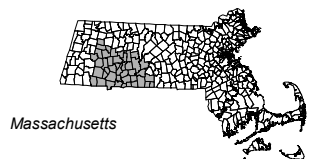
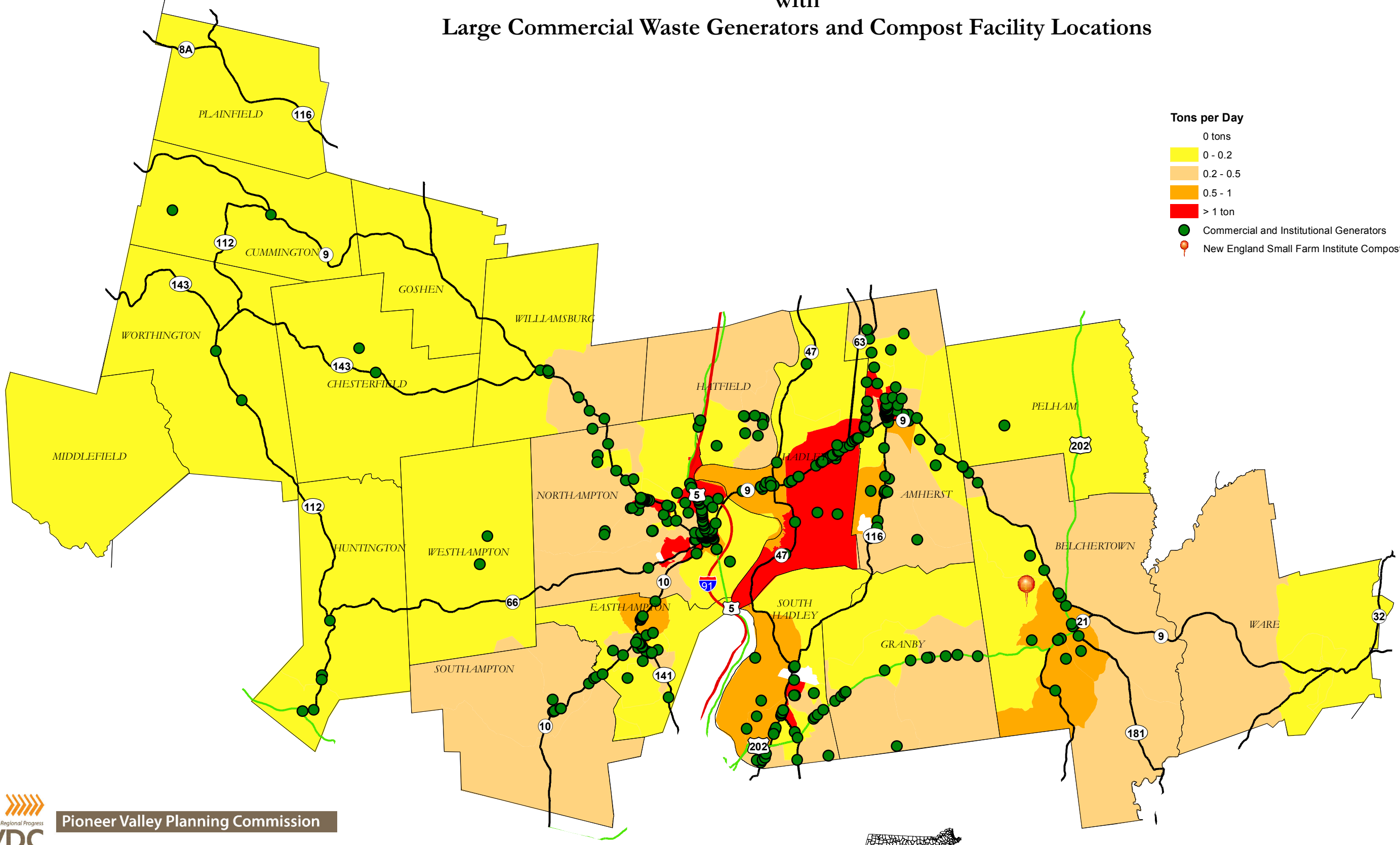
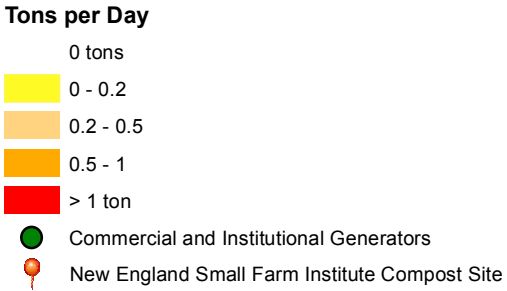
- (1) Generator data is from PVPC / CET Analysis and includes data from InfoUSA, DEP's Identification Characterization and Mapping of Food Waste and Food Waste Generators in Massachusetts (2002), Massachusetts Department of Elementary and Secondary Education, and the Center for Ecological Technology's organic waste collection program.
- (2) Based on Census 2000 population data x .32 lbs per person per day, a figure from the Eastern Hampshire Regional Refuse Mangement District Study (1995), which included Amherst, Hadley, South Hadley, Leverett, Shutesbury and Pellham.
- (3) [(A\*.80)+(B\*.53)]. Estimated organics tonnage that can be diverted for composting. Here we assume 80% of large commercial generator wastes and 53% of residential waste. Residential recovery rate is based on Intensive Source Separated Organics Programs in Italy, which employ 2-3 curbside pickups each week and reduce the frequency of trash collection (Biocycle, April 2010).
- (4) None of the regional composting operations in MassDEP database of Active Commercial and Municipal Compost Sites in Massachusetts (April 2010) accept food waste. Those facilities accept yard and leaf waste. Includes capacity of existing Agricultural Composting Sites, based on converstations with state and local experts. There are also three small facilities in the nearby towns of Sunderland, Westhampton, and Whately, but these facilities accept minimal amounts of waste and therefore have not been included.
- (5) [C Total - D Total], or total recoverable minus total already being composted in region. Note that this does not account for leaf and yard wastes.

**SUMMARY**

<b>18,718</b>	<b>TONS PER YEAR GENERATED (COMMERCIAL &amp; RESIDENTIAL)</b>
<b>12,992</b>	<b>TONS PER YEAR RECOVERABLE</b>
<b>5,475</b>	<b>TONS PER YEAR COMPOSTING CAPACITY IN REGION</b>
<b>7517.06</b>	<b>TONS PER YEAR NEEDED CAPACITY IN REGION</b>
<b>51</b>	<b>TONS PER DAY GENERATED (COMMERCIAL &amp; RESIDENTIAL)</b>
<b>36</b>	<b>TONS PER DAY RECOVERABLE</b>
<b>15</b>	<b>TONS PER DAY COMPOSTING CAPACITY IN REGION</b>
<b>20.59</b>	<b>TONS PER DAY NEEDED CAPACITY IN REGION</b>



# Estimated Collectable Organic Waste with Large Commercial Waste Generators and Compost Facility Locations





## APPENDICES

Appendix A: List of Potential Composting Sites for Further Assessment

Appendix B: List of Potential Investors and Haulers in a Regional Composting Program

Appendix C: Example Inter-Municipal Agreements: Memorandum of Agreement for Barnes Aquifer Protection; Memorandum of Understanding by and between the Hilltown Resource Management Cooperative and the Town of Chester

Appendix D: Example Request for Proposals: Request for Proposal for the Town of Raynham, Massachusetts to Design, Permit, Build, Operate and Manage a Large Scale Commercial Food Waste Composting Operation

Appendix E: Sources Consulted for Section 3 Review of Organic Waste Management Programs

Appendix F: Sustainable Materials Recovery Program Regional Initiatives / Pilot Program Grant Application

Appendix G: Contact List of Participants



## **Appendix A**

### **List of Potential Composting Sites for Further Assessment**

<b>List of Potential Composting Sites for Further Assessment</b>						
<b>Name</b>	<b>Address</b>	<b>Town</b>	<b>Permitted</b>	<b>Contact</b>	<b>Phone</b>	<b>Email</b>
Amherst Transfer Station	740 Belchertown Road	Amherst	Leaf & Yard	Susan Waite	259-3049	waites@amherstma.gov
Hampshire College Site	893 West St	Amherst	Agricultural	Roger Guzowski	658-5558	rguzowski@fivecolleges.edu
Wagner Wood (Farm)	305 North East Street	Amherst			253-5194	
Barstow's Longview Farm and Dairy	172 Hockanum Road / Rt 47	Hadley				
Food Bank Farm	97 N Hatfield Rd	Hadley	Agricultural	Andrew Morehouse	247-0312 x115	andrewm@foodbankwma.org
Four Rex Farm	110 West Street	Hadley		Ray Rex		
Bleiman Property	Potash Rd and Dike Rd	Northampton				
Burts Pitt Rd former Composting Site	Burts Pitt Rd	Northampton	Agricultural			
Dusseau Transfer Station Site	Route 10	Northampton	Site Assigned			
Northampton Landfill	170 Glendale Rd	Northampton	Site Assigned	Karen Bouquillan	587-1059	kbouquillon@nohodpw.org
Ruxton Gravel Yard	351 Pulpit Hill Road	N. Amherst		Susan Waite	259-3049	waites@amherstma.gov
Umass S. Deerfield Site		S. Deerfield		Roger Guzowski	658-5558	rguzowski@fivecolleges.edu
Southampton Leaf & Yard Composting Site		Southampton	Leaf & Yard	Ed Cauley	527-3666	ecauley@town.southampton.ma.u
Shadow Valley Farm		Hampden				
<b>Regional Facilities Under Development</b>						
AGreen Energy LLC.		Hadley, MA	Site Assigned	Jay Kilbourn	(207)347-3604	jay.kilbourn@casella.com
Clearview Compost		Orange, MA	DEP DON	Rick Innes		
TTT Trucking		Hinsdale, NH	Site Assigned			
<b>Other Possibilities for Consideration</b>						
Hampshire College Farm	731 West St.	Amherst	Agricultural			
Brookfield Farm	24 Hulst Road	Amherst	Agricultural			
Belchertown Transfer Station	135 Hamilton Street	Belchertown	Leaf and Yard			
Deerfield Transfer Station	8 Conway Street Lee Road South	Deerfield	Leaf and Yard			
Holyoke Sanitary Landfill Inc.	11 New Ludlow Road	Granby	Site Assigned			
Hadley Transfer Station	North Branch Road	Hadley	Leaf and Yard			
Western Mass Food Bank Farm	115 Bay Road	Hadley	Agricultural			
Hatfield Transfer Station	6 Straits Road	Hatfield	Leaf and Yard			
Bridgmont Farm	61 Chesterfield Road	Westhampton	Agricultural			

**Appendix B**  
**List of Potential Investors and Haulers**  
**in a Regional Composting Program**

## List of Potential Investors and Haulers in a Regional Composting Program

Name	Contact	Town	Phone	Email
<b>Potential Investors</b>				
New England Organics	Jen McDonnell	Portland, ME	(207)347-3614	jen.mcdonnell@casella.com
Alternative Recycling Systems	Patrick Kennedy	Northampton	587.4005	ars@valinet.com
Mountain View Farm	Ben Perrault	Easthampton	(413)329-0211	mountainviewfarmer@hotmail.com
Triple T Trucking		Brattleboro, VT	(802)254-5388	
<b>Haulers in Region</b>				
Alternative Recycling Systems	Patrick Kennedy	Northampton	587-4005	ars@valinet.com
Allied Waste	Brian Sullivan	Chicopee	(800)367-7778	
Waste Management, Inc.	Robert Paul	Westborough	(888)964-9752	
Complete Disposal	Don LaFarriere	Westfield	572-0015	
Duseau Trucking	David and Armand Duseau	Hatfield		
Wickles Trucking	Dave Wickles	Hatfield	247-9231	
Amherst Trucking		Hatfield	247-0177	
Central MA Disposal		Auburn	(800)467-2801	
MJC Rubbish Removal		Westfield	562-1973	
New England Waste		Agawam	786-2449	
USA Hauling & Recycling Inc.		Enfield, CT	(800)998-2984	
Triple T Trucking		Brattleboro, VT	(802)254-5388	
County Waste				
<b>Other</b>				
Agresource, Inc.	Geoffrey A Kuter	Hinsdale, NH	(978)388-4198	gakuter@verizon.net

## **Appendix C**

### **Example Inter-Municipal Agreements: Memorandum of Agreement for Barnes Aquifer Protection**

# Memorandum of Agreement for Barnes Aquifer Protection

by and among the Municipalities of  
Easthampton, Southamptton, Holyoke and Westfield  
and the  
Pioneer Valley Planning Commission

This memorandum is agreed to by and among the municipalities of Easthampton, Southamptton, Holyoke and Westfield, ("the municipalities") and the Pioneer Valley Planning Commission ("PVPC") for the purpose of establishing a Barnes Aquifer Protection Advisory Committee ("BAPAC"). This memorandum shall apply to the Barnes Aquifer region, as shown on a plan entitled "Barnes Regional Aquifer System", prepared by PVPC, dated June, 1989 and is intended to be the only land this agreement is concerned with.

*WHEREAS*, the municipalities and PVPC support the concept of cooperative planning and review of land use and development for the purpose of ensuring the continued quality and availability of groundwater from the Barnes Aquifer System to meet the present and future needs of their residents; and

*WHEREAS*, the municipalities and PVPC recognize that the Barnes Aquifer System is increasingly affected by the impacts of growth and development, including the resultant increases in water consumption and production of solid waste, wastewater, and other substances potentially detrimental to groundwater quality; and

*WHEREAS*, the municipalities and PVPC recognize that a mechanism for establishing and maintaining regional cooperation and communication is necessary to achieve the aquifer protection goals of each participant in this agreement;

*THEREFORE*, be it resolved, that the municipalities and PVPC do hereby form a permanent Committee, to be known as the Barnes Aquifer Protection Advisory Committee; and be it further

*RESOLVED*, that the purpose of BAPAC shall be to foster joint and cooperative action concerning all growth, development, and land uses or activities within the Barnes Aquifer Region, which is encompassed by the four municipalities; and be it further.

*RESOLVED*, that the BAPAC shall operate in accordance with the following provisions:

## I. FUNCTIONS AND POWERS OF THE BAPAC

### A. STATEMENT OF FUNCTIONS

The BAPAC shall have the following functions:

1. To assist and advise all local and regional agencies, boards and authorities in their policies and actions as they relate to growth, development, land use, and resource use within the Barnes Aquifer Region.
2. To develop and promote coordinated, uniform plans, programs, techniques and suggested municipal bylaws for growth management, land use and development review, and resource protection for all member municipalities.
3. To review and comment on proposed developments and land uses or activities with potential impacts on the Barnes Aquifer System.
4. To pursue governmental and public awareness of the Barnes Aquifer Region.

**B. REGIONAL REVIEW PROCEDURES IN THE BARNES AQUIFER REGION**

To assure that the BAPAC can carry out its functions, the following actions shall be taken:

1. PVPC shall send to each member municipality copies of all NEPA, MEPA, regional clearinghouse, industrial revenue bond, or other intergovernmental review notices received or initiated by PVPC regarding projects in the Barnes Aquifer Region as mapped by PVPC and approved by BAPAC.
2. The BAPAC shall, as soon as feasible after its formation, notify the Board of Selectmen, Planning Board, Board of Health, Conservation Commission, Water Commission and Zoning Board of Appeals within each participating municipality of the existence and objectives of BAPAC and shall thereafter send copies of all plans, programs, publications or recommendations of BAPAC to each such board.
3. The planning board of each municipality shall send to designated BAPAC members from each municipality and PVPC notice of all proposed and adopted zoning amendments, and, at the earliest possible time during review proceedings, information regarding any proposed site plan approval, special permit, subdivision requiring approval under subdivision control law, or removal of property from M.G.L. Chapters 61, 61A, or 61B, where such is to occur within the Barnes Aquifer Region. Said notice shall be accompanied by notice of comment periods and meetings or hearings to be held regarding the proposal.
4. Upon receipt of any item stated in Sections B(1) and B(3) above, the BAPAC and / or its member municipalities may request additional information or notice of action, and may recommend measures to minimize or mitigate foreseeable significant impacts of any such proposal.

**C. POWERS OF THE BAPAC**

To carry out its functions, the BAPAC shall have the following powers:

1. To receive money and support from any source by donation or appropriation, provided that such money is for the purpose of carrying out the business or goals of the BAPAC as a whole.
2. To establish a bank account, enter into contracts, and to expend money, provided that all such contracts and expenditures are for the sole purpose of carrying out the regular business and functions of the BAPAC as a whole.

The BAPAC may make expenditures for the purposes of carrying out their meetings, such as for meeting facilities, audio-visual equipment, supplies and refreshments.

3. To issue statements and materials in the name of the BAPAC.
4. To develop proposals for, seek, receive, and implement assistance and grants from state, federal and private sources, provided that the proposal for each shall be approved by two-thirds of the members of the BAPAC.

The BAPAC shall not be empowered to make binding decisions or commitments other than the contracts or expenditures listed above.

The BAPAC shall not act on behalf of or impose any requirements upon any member municipality or PVPC. BAPAC shall not be empowered to enter into any contract or agreement for the regular employment of any person or for the purchase or lease of any interest in real property or in personal property over the value of \$250.00, except as explicitly authorized by the unanimous vote of BAPAC.

## **II. STRUCTURE AND PROCEDURES OF THE BAPAC**

### **A. STRUCTURE**

The BAPAC shall consist of three representatives from each member municipality and the Executive Director of PVPC. The Executive Director of PVPC may appoint an appropriate designee to serve in his/her stead. The three representatives from each municipality shall be designated by the Board of Selectmen or Mayor, one designee to be nominated by each of the following municipal boards:

1. Board of Health or Water Commission
2. Conservation Commission
3. Planning Board

### **B. METHOD OF VOTING**

Each municipality and PVPC shall be considered one member of the BAPAC and shall accordingly have one vote. Where the representatives of any municipality disagree with one another, they shall determine the vote of their municipality by caucus vote of the three municipal representatives.

### **C. ADDITIONAL MEMBERS OF THE BAPAC**

The BAPAC may invite any other person or organization to participate in the BAPAC as an associate, non-voting member.

The BAPAC may be expanded by admitting to full membership any abutting city or municipality by a four-fifths affirmative vote of BAPAC; provided, however, that such expansion shall only occur at the request and initiation of such abutting city or municipality, and that such city or municipality shall ascribe to this Memorandum of Agreement, which shall be contemporaneously amended to include that city or municipality.

### **D. WITHDRAWAL FROM MEMBERSHIP**

Any member municipality may withdraw from participation in the BAPAC upon two months written notice signed by the Board of Selectmen, Board of Aldermen or City Council, such notice to be given only after approval of such withdrawals is given by majority vote of town meeting or of the Board of Aldermen or City Council of the withdrawing municipality.

### **E. RULES OF PROCEDURE AND OPERATION**

The BAPAC shall, at its first meeting, adopt rules governing its decision-making process, frequency and location of meetings, address for purpose of correspondence, and general operations. Adoption of these rules shall require an affirmative four-fifths vote.

PVPC may provide staff assistance to the BAPAC (such as coordinating meetings, maintaining a file of records and correspondence, etc.), act as executive secretary to BAPAC, and furnish professional assistance to BAPAC or its member municipalities.



**F. COMMITTEE EVALUATION**

Six months after the execution of this agreement the signatories or other then-participating members of the BAPAC shall review and evaluate the performance of the BAPAC and make recommendations concerning its future operations. After such initial evaluation, the BAPAC shall conduct similar evaluations once each twelve months.

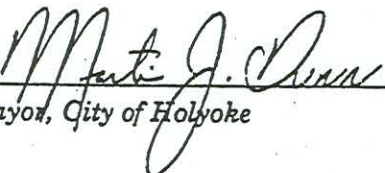
**G. AMENDMENTS**

This Memorandum of Agreement may be amended or rescinded at any time by mutual agreement of all member municipalities.

**H. AUTHORIZATION / EFFECTIVE DATE**


This agreement has been authorized by vote of the Pioneer Valley Planning Commission and by votes of the Town Meeting, City Council or Board of Aldermen in each municipality, in accordance with Massachusetts General Laws Chapter 40, Section 4a. This Memorandum will become effective when it is signed by all participating parties.

  
\_\_\_\_\_  
Chairman, Easthampton Board of Selectmen

  
\_\_\_\_\_  
Mayor, City of Holyoke

  
\_\_\_\_\_  
Chairman, Southampton Board of Selectmen

  
\_\_\_\_\_  
Mayor, City of Westfield

  
\_\_\_\_\_  
Executive Director, Pioneer Valley Planning Commission

## **Appendix C**

**Example Inter-Municipal Agreements:  
Memorandum of Understanding by and between the Hilltown  
Resource Management Cooperative and the Town of Chester**

Serving Hilltown Area  
Recycling, Solid Waste & Sustainability Needs  
Since 1989



**Hilltown Resource  
Management Cooperative**

Eric Weiss, Administrator

PO Box 630  
Williamsburg, MA. 01096  
Help Line: (413) 268 - 3845  
Cell # (413) 687 -3356  
Email: hrmc @crocker .com

**Memorandum of Understanding By and Between  
The Hilltown Resource Management Cooperative  
And the Town of Chester**

This Memorandum of Understanding, executed on this 21 day of June  
By and Between the **Town of Chester**, a municipal corporation of the Commonwealth of Massachusetts  
herein after referred to as the "**Town**" and the **Hilltown Resource Management Cooperative**, herein  
after referred as the "**HRMC**".

**Witnesseth That:**

**Whereas** the General court of the Commonwealth of Massachusetts has enacted **House Bill Chapter 584, Act of 1987, "An Act Relative To The Management Of Solid waste And The Abatement Of Pollution Resultant Therefrom"**, establishing the criteria for the solid waste disposal for The Commonwealth of Massachusetts, and

**Whereas**, it is clearly the purpose of said **Act** to encourage regional solutions to the solid waste problem. A regional solution will be given funding priority by the State upon the promulgation of funding guidelines by the **Department of Environmental Protection**. Said Towns may enter into an agreement to define the solid waste region and propose a solution for that region. This solution will be presented to **DEP** in the regions application for funding.

**Whereas**, the **Town** has read and approved the bylaws governing the **HRMC**.

**Whereas**, the **Town** has appropriated the funds required for participating in the **HRMC** .

**Therefore**, the **Town** hereby requests the formation of the cooperative with the following conditions:

- 1) That the **Hilltown Resource Management Cooperative** will be referred to as the **HRMC**.
- 2) There will be a **HRMC Board** hereinafter referred to as the **Board**, which shall serve as the principal decision-making body of the **HRMC**. The **Board** shall be comprised of two delegates from each participating town.
- 3) The principal office and the fiscal office shall be determined upon formation of the **HRMC**.
- 4) That the **HRMC** may seek out and recommend to the **Board** other sources of available funds beyond the jurisdiction of the **Town** and supplement those funds appropriated by the town for the purpose and may further acquire such funds at the request of the board.
- 5) That the **Town** may leave the **HRMC** at the end of the current fiscal year if the **Town** so votes at Town meeting, provided that such notice be given no later than December 31<sup>st</sup> of the current fiscal year.
- 6) That there shall be a **Resource Planner/Administrator** hired by the **HRMC** shall administer the Boards policy in accordance with its bylaws.
- 7) That the purpose of the **HRMC** shall be to develop and implement options for the deposal of solid waste for the participating towns consisting of some or all of the following Towns – Ashfield, Chesterfield, Cummington, Goshen, Huntington, Williamsburg, Westhampton and Worthington . (Other Towns or regional groups may join the **HRMC** in accordance to **Article III Section 7 of the HRMC Bylaws**. Disposal options shall include but not be limited to recycling,

composting, co-composting, land filling, and any and all manner of practical solid waste management deemed useful and appropriate by the HRMC.

In Witness thereof the Town of Chester and the HRMC have respectfully caused this memorandum of Understanding to be duly signed and executed as of the date and year first above written.

Attest:

Micheal W. Cochiere

Town Of Chester  
Michael W. Cochiere  
Chairman, Chester Board of Selectmen

Date 6-21-2010

## **Appendix D**

### **Example Request for Proposals:**

**Request for Proposal for the Town of Raynham, Massachusetts to  
Design, Permit, Build, Operate and Manage a Large Scale  
Commercial Food Waste Composting Operation**

# TABLE OF CONTENTS

## LETTER OF TRANSMITTAL

### SECTION 1 INTRODUCTION

### SECTION 2 BACKGROUND INFORMATION

2.1	Background .....	2-1
2.2	Intentions of this RFP .....	2-1
2.2.1	Available Property.....	2-2

### SECTION 3 SERVICES TO BE PROVIDED

3.1	Facility Design and Permitting .....	3-1
3.2	Facility Construction .....	3-1
3.3	Facility Operations.....	3-2
3.4	Ownership .....	3-2
3.5	Feedstock.....	3-2
3.6	Operations and Maintenance Plan .....	3-3
3.6.1	Receiving.....	3-3
3.6.2	Processing Plan.....	3-4
3.6.3	Odor Management Plan.....	3-4
3.6.4	Odor Response Plan .....	3-4
3.7	Final Products .....	3-4

### SECTION 4 INSTRUCTION TO PROPOSERS

4.1	Purpose .....	4-4
4.2	Submission Instructions.....	4-4
4.3	Goals and Objectives .....	4-5
4.4	Service Area.....	4-5
4.5	Acceptable Materials .....	4-5
4.6	Material Generators.....	4-6
4.6.1	Commercial/Institutional .....	4-6
4.6.2	Agricultural.....	4-6
4.6.3	Residential.....	4-6
4.7	Materials Management.....	4-6
4.7.1	Material Container .....	4-6
4.7.2	Transport to Raynham .....	4-7
4.7.3	Receiving.....	4-7
4.7.4	Curing.....	4-7
4.7.5	Stockpiling .....	4-7
4.7.6	Speculative Accumulation.....	4-8
4.7.7	Facility Management.....	4-8
4.8	Odor Management .....	4-8
4.8.1	Odor Management Plan.....	4-8
4.8.2	Odor Monitoring Program and Response Plan .....	4-8
4.8.3	Emergency Action Plan .....	4-9

4.9 Contract..... 4-9

**SECTION 5 DELIVERABLES**

5.1 Proposal Checklist..... 5-1  
5.2 Experience and Qualifications ..... 5-1  
5.3 Financial Resources ..... 5-2  
5.4 Bonds ..... 5-2

**SECTION 6 EVALUATION CRITERIA**

- APPENDIX A SERVICE AREA / ORGANIC GENERATORS**
- APPENDIX B DRAFT CONTRACT**
- APPENDIX C SITE PLANS**

J:\R\R0089\Yard Waste Project\RFP Final 021308.doc

The Inhabitants of the Town of Raynham, a Massachusetts municipal corporation (“The Town of Raynham”), will receive proposals from qualified compost vendors/operators, (“The Vendor”), through this Request for Proposals (RFP) until 2:00 PM March 6, 2008 to design, permit, build, operate and manage a large scale commercial food waste composting operation on town owned land in Raynham. Properties to be considered are the closed Raynham Sanitary Landfill off King Phillip Street and the closed Ash Landfill off of Thrasher Street. Both areas of land available for the food waste composting facility are site assigned for solid waste activities. The scope of this RFP includes permitting, management and operations of those lands and the Town’s current yard waste composting operation. The subject land will be provided to the Vendor under the terms of a lease of Public Lands.

The Town of Raynham is committed to being a successful part of Massachusetts Department of Environmental Protection (MassDEP) efforts to reduce landfill waste, build a sustainable culture for composting organic materials as a preferred waste management alternative and to provide a revenue source for the Town of Raynham.

The primary source of food waste is intended to be commercially generated source separated organic materials from supermarkets and other commercial and institutional sources of source separated organic materials (SSOM) free of non-compostable materials such as but not limited to glass, plastic and metal. Potential locations of some of this material are identified as Exhibit A in this document and shows 25 mile radius of Raynham location that has suitable materials. The successful compost vendor/operator will be responsible to secure the SSOM for their facility. The Town of Raynham and the MassDEP will provide assistance if requested.

This RFP is offered to and encourages a wide range of technologies. Each proposal will be considered based upon how well they meet the intentions of the Town as specified within this RFP.



**2.1 BACKGROUND**

The Town of Raynham submitted and received a grant from MassDEP through the Waste Reduction Grant Program for the sole purpose of developing an RFP and contract to establish a large-scale commercial food waste composting facility on site assigned municipal property at the Raynham Sanitary Landfills. Additionally, the Town is anticipating that the property will also be utilized for leaf and yard waste drop-off and composting operations under the criteria of 310 CMR 16.05 Site Assignment Regulations. The current zoning of the property, Zone Farm and Forest District II allows the use as proposed within this RFP. The Town of Raynham is providing the site, which is typically the most difficult step in establishing these facilities.

**2.2 INTENTIONS OF THIS RFP**

It is the Town's intention to meet following conditions under this RFP:

1. Provide a site, or sites for a regional compost facility for a period of 10 years with an option to extend the contract in 10-year increments up to a total of 30 years. Each 10-year extension of the contract would require evaluation of the terms and conditions of the contract from both contract participants.
2. Be the Host Community for a regional compost facility that meets or exceeds the goals of the State's Solid Waste Master Plan to reduce the tonnage of waste now being sent to landfills by converting it to useable and marketable compost materials.

The Vendor shall provide the following:

1. Provide a business plan that must be able to function totally from the revenues received on the front end (as tipping fee). Sale of the finished compost materials will be considered financial bonus to the total revenues.
2. Provide a well-run clean facility. The term "well-run" is further defined to mean that the facility is free of fugitive dust and odors, free of trash and litter, well maintained, providing a facility that is maintained similar to the condition that the Raynham Highway Department facilities look and operate similar to and shall meet all Federal, State and local regulations.
3. Provides a useful end product that is marketable. The successful Bidder must demonstrate how the composted material will be utilized/marketed. Keeping in mind that speculative accumulation will not be allowed, and that the Town's objective is to create a revenue sharing on the sale of this final compost material.

4. Provide for a yard-waste composting program for the residents of Raynham and commercial users by combining the existing Town yard waste composting facility with the food waste compost operations. This RFP requires the Vendor to continue the practice of accepting the yard-waste from residents of the Town at no cost as long as the resident is delivering the materials free of contamination. The Vendor is encouraged to cultivate and promote collection of yard-waste from commercial generators of the materials that will be subject to disposal charges as the market dictates.
5. Share the end product revenues with the Town.

### **2.2.1 Available Property**

The Town has two parcels of land available for the successful vendor to utilize for multiple operations. They can be identified on the Town Tax Maps as 10A-33 and 11-256-A.

These parcels of land representing two locations; one is along King Phillip Street referred to as (Parcel 1) and the other is along Thrasher Street referred to as (Parcel 2).

Parcel (1) is the property that now has the following conditions: (a) a 24-acre closed landfill with active gas collection system that includes a 40-mil HDPE flexible membrane liner (FML) over the top of the waste, (b) a 5 acre parcel of land on the southern end of the parcel along Thrasher Street, currently leased by Waste Management of Massachusetts, Inc. (W.M.M.I.) in which a 1,000 ton per day recycling and transfer facility is operated on as a separate business operation; (c) behind the W.M.M.I. transfer station there is an approximate ½ acre parcel of land that the Town of Raynham Highway Department is currently using as a compost pad for leaf, yard waste and grass; (d) to the west of the closed 24 acre landfill and north of the compost pad is approximately .6 acres parcel of land off the foot-print of the landfill that is currently being used for storage and (e) approximately 4 ½ acre parcel of land on top of the close 24 acre landfill with a 5 % top slope, which is a typical grade for the top of closed landfills. (f) one gravel surfaced access road leads to the top of the landfill from King Phillip Street. The property area available for composting operations is shown on the attached site plan.

Parcel (2) is an approximately 8-acre closed ash landfill with about 5 acres of available land on top of the landfill that has been closed for over 30 years. This landfill was closed to standards regulations for that time 30 years ago and presents a relative flat 5 acres of land on top an 8-acre landfill. The landfill has a clay cap with a vegetative cover and no liners or gas collection infrastructure. This landfill is bordered on three sides by wetland directly at the toe of slope. The property area available for composting operations is shown on the attached site plan.

Both sites have electrical power available from the Taunton Municipal Light Company (TMLP) along Thrasher and King Phillip Street. Bidders need to inquire with TMLP at P.O. Box 870, Taunton MA 02780-0870 telephone number (508-824-3104) to meet your electrical needs.

Municipal water is available in the street and the contact information is: Center Water District at P.O. Box 160, Raynham, MA 02767 at (508 824-0020) may be contacted for water services.

Neither site has municipal sanitary sewer available.

Both sites will require a Post Closure Use permit, which will be the responsibility of the successful compost Vendor/Operator. The possibility of post closure work exists if the landfill surface does not allow the proposed use as it currently exists. Proposals should include post closure work at the landfill sites.

The preferred truck routes to either or both of the facilities will be from off Thrasher Street. Vehicles collecting SSOM within the Town of Raynham may use other roads to access the facility provided the respective vendor/trucking company has requested permission in writing from the Town. The alternative access will be allowed only with written permission issued by the Town of Raynham.

**3.1 FACILITY DESIGN AND PERMITTING**

The Vendor will be responsible for the facility design including site access, vehicle circulation, site modifications, erosion and sedimentation controls, composting facility, i.e. building, pad, etc., stormwater controls. The Vendor shall be responsible for all permitting activities associated with establishing the food waste composting facility on either of the two identified sites. Permitting may include, but not be limited to, the Wetland Protection Act through the Raynham Conservation Commission, post closure use permits approvals through the MassDEP and other reviews and approvals by Town of Raynham Boards and Commissions as may be required based on the proposed facility. The Town of Raynham will be cooperative in the permitting process, but it can not guarantee final approvals. Town Boards and Commissions may include but not be limited to the following: Board of Health, Building Department, Planning Board, Board of Selectmen, Conservation Commission, Police and Fire Departments.

Vendors will be required to provide a facility description, i.e., technology, proposed footprint, site access, traffic circulation, facility capacity in tons per day (TPD), typical list of feedstock materials, a list of finished products, and a layout showing the proposed facility within the available areas of land.

Since the land available to conduct the intended operations is owned by the Town of Raynham, the land is considered to be “public lands”, which required the Town to seek Town Meeting approval to allow a lease for the intended purpose on the proposed lands. The “public lands” criteria also requires the Board of Selectmen to obtain Town Meeting approval to enter into a lease of the property for private purposes. Both of these approvals have occurred at a Special Town Meeting held November 19, 2007.

**3.2 FACILITY CONSTRUCTION**

The Vendor will be responsible for all construction activities associated with establishing the food waste composting facility. The Town is open to establishing a large-scale operation utilizing a “new” or “unproven” technology. That said, the Town is suggesting that the bidder consider a phased approach to be implemented at the onset until such time as the operations demonstrate that the proposed technology works for the intended feedstock materials and is acceptable to the Town and MassDEP. In the event that the bidder is proposing a new non demonstrated technology, the bidder will be required to provide additional assurances to protect the Town from failing to meet expectations as identified in the intent of this RFP. Additional assurances may take the form of additional bonding, providing travel for town officials to conduct site visits to locations where the proposed technology is operational and working successfully. The Town and MassDEP may elect to accept/approve individual phases of the operation.

In the context of this RFP “acceptable” shall mean that the operations produce a quality end product that is suitable for an off site use/reuse without the requirement of special permitting at a local, state or federal level, and with out creating a nuisance condition from odors, trash or litter.

The Vendor shall also demonstrate that the proposed technology has the financial capability to be self-sustaining from revenues obtained through the tipping fees on the front end of the process.

### **3.3 FACILITY OPERATIONS**

The Vendor will be responsible for the operation and maintenance of the facility. This shall include but not be limited to maintaining all necessary equipment, management of odors, noise, dust, trash, litter, material delivery, on-site traffic circulation, on-site material movement/flow, final product storage, residuals disposal, and incorporating the existing Town yard waste composting operations into the food waste composting program. Within their written proposal the Vendor shall identify any and all resources that will be required to be provided by the Town of Raynham, excluding the sites. Only those resources that are identified in writing may be considered in this agreement at the Town’s discretion. All financial aspects of the additional Town resources shall be identified within the Vendor’s business and financial plans for the project. The Vendor shall provide a written Operations and Maintenance (O&M) management plan with the proposal.

### **3.4 OWNERSHIP**

The Town of Raynham will remain the owner of the property, while the successful Vendor will own any improvements made to the existing land. Upon termination of the Vendor’s contract, the Vendor shall remove all improvements made as part of this RFP, including buildings and restore the leased land to a condition that is equal to or better than the original condition, unless other arrangements with the Town of Raynham are mutually negotiated and agreed upon in writing before the termination of the contract. The Vendor shall be responsible to document the predevelopment conditions of the site(s), which shall be subject to the review and approval of the Town of Raynham. Documentation of predevelopment odor conditions shall be included in the predevelopment conditions documentation.

### **3.5 FEEDSTOCK**

The providers of food waste materials are supermarkets, and other commercial and institutional organics generators. The Town may provide a separate container to allow residents to drop off food waste at the Town owned and operated Transfer Station

adjacent to the Highway Garage. The Town will be responsible for Quality Control at the Residential Drop-off Center. Commercial yard waste such as landscaping and tree removal company wastes, as well as residential yard waste, can also be a source of organic materials for the composting operations.

Attached to this RFP is a document that can be utilized as a resource to establish the available feedstock. A list of businesses with address and the approximate tons of organic materials generated per year.

Food Waste is defined as source separated organic material (SSOM) produced from human food preparation and consumption activities at homes, restaurants, cafeterias, schools, educational institutions, corrections facilities, hospitals and food preparatory facilities. The materials consist of fruits, vegetables and grains, fish and meat products and byproducts, and soiled paper unsuitable for recycling.

Vegetative Waste Material is defined as a source-separated material that consists solely of vegetative waste such as fruits, vegetables and grains that are produced from food preparation activities at, but not limited to, grocery stores, fruit or vegetable canning, freezing or preserving operations, and food and beverage processing establishments.

The Vendor may process materials not included in the above listing, provided the appropriate approvals are the obtained .

### **3.6 OPERATIONS AND MAINTENANCE PLAN**

The O&M plan shall address the process of incorporating food wastes delivered to the site from organic waste generators. All food wastes delivered to the site shall be incorporated into the composting process before the close of business on the day of delivery.

#### **3.6.1 Receiving**

The Vendor will be responsible for checking all loads received at the facility for contaminants. Any loads containing unacceptable amounts of materials, which shall be defined by the Vendor shall be rejected and removed from the site as the materials can not be incorporated into the composting process. Vendors shall describe all preprocessing operations. The Vendor shall also make sure all accepted loads are incorporated into the process in a timely manner to minimize odors, dust, and vectors. It will be the Vendors responsibility to properly collect, containerize and dispose off site all unacceptable materials that are discovered within the compost operations including all final product that does not meet the quality and criteria for use/reuse.

Disposal of unacceptable materials is the responsibility of the Vendor and all unacceptable materials shall be disposed of at a fully permitted facility. It should be noted that Waste Management of Massachusetts operates the waste Transfer Station at the southern end of the Raynham Landfill at the intersection of King Phillip and Thrasher Street and the transfer station may be available for disposal. Vendors shall identify the disposal facilities and methods for collection, storing and disposing of the materials in their written facility's O&M plan.

### **3.6.2 Processing Plan**

The Vendor shall fully describe the intended processing technology for the Raynham Food Waste management facility. While this RFP generally describes composting as the preferred technology, the RFP does not limit the technology to composting, or the type of composting, e.g. aerated static pile, mechanically agitated open bin, etc. A full description of the proposed processing technology is required as an integral part of the Vendor's proposal.

Anerobic digestion is another technology that can be acceptable. Although some may consider anaerobic digestion a form of composting. As such, it clearly is a specific process that requires a written description that includes the benefits of the process.

### **3.6.3 Odor Management Plan**

An odor management plan shall be prepared that supports the intended technology. The odor management plan should include the routine odor management methods as well as how to manage any upset in the processing that causes odors. The plan should also include how the Vendor intends to monitor odors, and the ambient conditions the surroundings neighborhoods. The odor management plan is required to be submitted with the Vendor's proposal.

### **3.6.4 Odor Response Plan**

In addition to the odor management plan, the Vendor shall also include an odor response plan that addresses off site odor monitoring, off-site complaints and mitigation of any odors detected off site that are related to the transport of materials, composting operations, curing or stockpiling of materials.

## **3.7 FINAL PRODUCTS**

The Vendor is responsible for producing quality compost that is in compliance with local, state and federal laws and regulations. The final product must be usable in the environment for which it is intended, it must be odor free and stable for applications

that meet the needs of the consumer. The Vendor shall include all the necessary testing needed to market the final compost to the best available markets. The Vendor is responsible for creating a product that is marketable for the area in which it will be sold, and marketing 100% of the compost. Speculative accumulation will not be considered acceptable. One of the criteria that the Vendor's proposal will be evaluated will be based on volumes of materials on site at any given point in time. It is intention of the Town with this RFP to establish a secondary revenue source for both the Town and the Vendor as a shared revenue through the sale of the compost materials. It is intended that the viability of the proposed facility be maintained based on the tipping fees of the incoming materials and not based on the sale of the final products.



**4.1 PURPOSE**

The purpose for this request is to attract capable and qualified compost vendors/operators to utilize the closed sanitary landfill(s) in Raynham for food waste and yard waste composting operations. Alternative technologies, such as anerobic digestion, are acceptable provided that they generate a similar beneficial reuse of the food waste/organic materials. Co-composting of food waste/organic materials with municipal solid waste is not considered an acceptable alternative technology.

**4.2 SUBMISSION INSTRUCTIONS**

- A. Six copies of the proposal shall be submitted to (additional copies to be provide upon request.):

Roger A Stolte Highway Superintendent  
Raynham Highway Department  
1555 King Phillip Street  
Raynham, MA 02767

- B. Questions shall be directed to:

Dana Huff  
Tighe & Bond, Inc.  
53 Southampton Road  
Westfield, MA 01085  
Tel. 413-572-3244  
Fax. 413-562-5317

Roger Stolte  
Above address  
508-824-2718 + FAX 508-880-6608

- C. Proposal must be submitted in a sealed proposal identifying the proposal as **REQUEST FOR PROPOSALS FOR FOOD WASTE COMPOSTING PROGRAM**
- D. The Vendor must submit a proposal that demonstrates and provides evidence that the Vendor has the capabilities, professional expertise, and experience to perform the permitting, design, construction and operation of a food waste composting facility.
- E. The Vendor must familiarize themselves with the conditions and objectives of the proposed project and services.

- F. A pre-bid meeting will be held at the Raynham Highway Department, 1555 King Phillip Street, Raynham, Massachusetts 02767 on February 22, 2008 at 10:00 AM. Attendance is strongly encouraged.
- G. The Town reserves the right to conduct interviews with two or more Vendors to satisfy the Town that the proposed program and technology is acceptable to the Town, is appropriate for the Town property, and is in the best interest of the Town of Raynham.

### **4.3 GOALS AND OBJECTIVES**

The goal is to create a composting program that will divert significant volumes of organic food waste from disposal facilities, and to produce a marketable end product that can be used for agricultural and landscaping purposes.

### **4.4 SERVICE AREA**

The greater Raynham/Taunton area. See attachments that list 102 potential locations for feedstock and a map depicting the physical location within a 25-mile radius.

### **4.5 ACCEPTABLE MATERIALS**

Acceptable organic generators include but are not limited to:

- Supermarket organics
- food processing by-products
- Commercial and institutional food waste
- Hotel and Restaurant Food Waste
- Correctional Institution Food Waste
- Yard waste
- Miscellaneous Items

The Vendor will arrange and facilitate training and communications with the large-scale commercial food waste and organic generators, which will produce the majority of the SSOM for the facility. Due to the fact the Town considers uncontaminated feedstock to be critical to the success of the program, the successful bidder must specify how a sustained training program will be conducted and what human resources will be committed to that effort. An adequate training program with knowledgeable operating personnel will be considered by the Town to be an essential part to the program's success. Failure to meet the training requirements will cause the Town to address the

requirement through the use of the bidders performance bond if other satisfactory solutions can not be agreed upon.

Vendors will be restricted to composting those materials that they can demonstrate that they are able to process in an acceptable manner. Prior to executing a contract, it will be the Vendor's responsibility to make successful operations available to the Town for viewing to demonstrate that they have the necessary experience to manage and process the materials contemplated.

## **4.6 MATERIAL GENERATORS**

### **4.6.1 Commercial/Institutional**

This includes big box stores, such as supermarkets, home improvement centers, wholesale clubs, restaurants, bakeries, schools, colleges, food services, hospitals, correctional facilities, food processors, and convention centers.

### **4.6.2 Agricultural**

This includes wastes from landscaping companies and animal wastes from farms. Agricultural manure/waste may be allowed by the Town depending on the technology proposed and the type and amount of waste proposed. The Vendor will be required to obtain prior written approval from the Town for agricultural wastes of any kind.

### **4.6.3 Residential**

This public sector includes: homes, condo complexes and apartment buildings that generate yard waste as well as food waste that is dropped off at the Town transfer station/Residential Drop-off center at the Highway Department, 1555 King Street.

## **4.7 MATERIALS MANAGEMENT**

### **4.7.1 Material Container**

While not specifically the Vendor's responsibility, it is necessary to educate the Generators regarding proper containers, and material separation, as it will be key to a successful operation. The successful Vendor shall work with the participating food waste generators to educate them concerning separation of the acceptable wastes from those that are not acceptable. All transport containers shall be equipped with appropriate seals to prevent liquids from leaking out during transport. The Vendor shall monitor the odor and water tightness of containers to prevent the release of odors

and/or free draining liquids from the containers during transport to the composting facility.

#### **4.7.2 Transport to Raynham**

The Vendor will be responsible for identifying the access routes to transport feedstock from the material generators to the composting facility. The Town reserves the right to approve the access truck routes to the facility.

#### **4.7.3 Receiving**

As referenced in Section 3.6 Operations and Maintenance Plan, the Vendor will be responsible for checking all incoming -loads received at the facility. Any loads containing unacceptable materials for the composting operation shall be rejected and removed from the site as the materials can not be incorporated into the composting process. The Vendor shall also make sure all accepted loads are incorporated into the process in a timely manner to minimize odors, dust, and vectors. It will be the Vendors responsibility to properly collect, containerize and dispose off site all unacceptable materials that are discovered within the compost operations including all final product that does not meet the quality and criteria for use/reuse. Disposal of unacceptable materials are the responsibility of the Vendor and all unacceptable materials shall be disposed of at a fully permitted facility. Vendors shall identify the disposal facilities and methods for collection, storing and disposing of the materials in the written proposal, which shall also be incorporated into the facility's O&M plan.

It should be noted that Waste Management of Massachusetts operates a waste transfer station at the southern end of the Raynham Landfill and it may be available to Vendors to dispose of off specification or unacceptable materials.

#### **4.7.4 Curing**

The vendor is responsible for maintaining an odor, dust, and vector free curing process which means "No Stink / No Vermin." The facility O&M plan shall establish the methods that the Vendor will measure the quality and stability of the finished products.

#### **4.7.5 Stockpiling**

The vendor is responsible for stockpiling materials in a timely fashion and to maintain an odor, dust, and vector free stockpiling/curing facility at all times. A written stockpiling plan shall be provided with the proposal that addresses the volume of materials to be stockpiled on site and the means and methods of controlling odor, vermin, vectors and excessive volume of curing materials. The written stockpiling plan shall include the means/methods of handling excessive amounts of cured compost and

identify the volume of materials that can be reasonable stockpiled on site, including yard wastes.

#### **4.7.6 Speculative Accumulation**

The vendor is responsible for minimizing the volume and amount of time that the final products are stockpiled to maintain an odor, dust, and vector free facility. It is understood that during certain times of the year the product will not be utilized, and it is necessary to develop a written operations plan so that the facility can manage the receipt of materials from the generators throughout the year.

#### **4.7.7 Facility Management**

A written facility O&M plan shall be included with the proposal and shall include a product quality monitoring and frequency program as referenced throughout this RFP.

### **4.8 ODOR MANAGEMENT**

#### **4.8.1 Odor Management Plan**

The Vendor must develop a written Odor Management Plan for the facility and operations that shall be a component of the O&M Management Plan described in Section 3.6.

The written Odor Management Plan shall be review by the Town of Raynham. The Odor Management Plan will be directly linked to the performance bond, which will be required to be furnished with execution of a contract.

#### **4.8.2 Odor Monitoring Program and Response Plan**

The vendor must develop a written odor management program to control odors. Odors shall not be able to be detected by the surrounding neighbors, or at the property limits, at any time during the composting and curing processes. The response to this RFP shall include an odor monitoring plan for review by the Town of Raynham. In the event of an odor complaint, it will be the Vendor's responsibility to determine the source and develop the mitigation in a timely manner. It should be noted that there are two potential sources of off site odors in the general area of the Raynham Landfill, the Taunton Landfill off East Britania Street and the Waste Management Transfer and Recycling facility off Thrasher Street.

In addition to the odor management plan, the Vendor shall also include an odor response plan that addresses off site odor monitoring, off-site complaints and mitigation of any odors detected off site that are related to the transport of materials, composting operations, curing or stockpiling of materials.

#### **4.8.3 Emergency Action Plan**

The vendor must develop an Emergency Action Plan (EAP) with a detailed description of the actions that should be taken during emergency situations. The EAP shall also address the waste materials management during the emergency situations to ensure that the food waste materials will continue to be processed from the generators during times of shut down or facility upsets. The EAP shall address natural emergencies such as but not limited to snow storms, earthquakes, tornadoes, hurricanes, etc. A contingency plan needs to be prepared and included within the O&M plan.

#### **4.9 CONTRACT**

Draft contract is provided as part of this RFP that identifies the terms and conditions of this proposed facility and the operations. The terms and conditions contain within the draft contract will be the base agreement between the Vendor and the Town of Raynham. The draft contract can be found in Appendix B.

**5.1 PROPOSAL CHECKLIST**

At a minimum, each proposal shall include the following items/documents:

- Six (6) complete copies of the proposal
- Facility description with conceptual foot print and capacity
- Project schedule/timeline
- Operations and maintenance plan
- Processing plan with technology identified
- Odor management plan
- Stockpiling plan
- Product marketing plan
- Experience and qualifications as described in 5.2 below
- Fee structure that explains the host fee, any cost to the Town, and compost sale revenues sharing.
- Name of surety to provide the bonds and insurances

**5.2 EXPERIENCE AND QUALIFICATIONS**

- Present a list of similar projects operated by Vendor and references with contact information.
- Present a list of municipal projects operated by Vendor with references and contact information.
- Present a list of existing projects operated by Vendor and status of each.
- Present environmental compliance records of the Vendor for each referenced facility.
- Present a list of contract defaults of the Vendor and reasons for default with associated contact information.

- Provide transportation and accommodations for up to three Town Officials to visit at least two Vendor operated facilities with similar technology at no cost to the Town, or Town Officials.
  
- 

### **5.3 FINANCIAL RESOURCES**

Provide a descriptive project financing plan for the project.

Provide company financial statements, which will be kept confidential.

### **5.4 BONDS**

- Evidence of ability to obtain Performance Bond.
  - Performance Bond to cover mitigation of odors and lack of staffing if not provided by Vendor
  - Clean up/removal the facility in the event of a shut down
- Evidence of ability to obtain Payment Bond and name of intended surety. (for limits see the draft contract in Appendix B)



## SECTION 6 EVALUATION CRITERIA

Ranking	Highly Advantageous (10 points)	Advantageous (5 points)	Not Advantageous (0 points)
1. Similar Food Waste Composting Projects	3-5 food waste composting facilities/projects and references rank the vendor highly	1-2 food waste composting facilities/projects and references rank the vendor highly	No food waste composting facilities/projects
2. Similar Yard waste Composting Projects	5 or more similar yard waste composting projects	2 to 4 yard waste composting projects	Less than 2 yard waste composting projects
3.A Composting Technology *	Advanced Technology *	Commonly used technology*	Low technology *
4. Environmental Compliance Record	Environmental compliance record with no deficiencies	Environmental compliance record with less than 5 deficiencies	Environmental compliance record with more than 5 deficiencies
5. Odor Management	Proposal has a very detailed and comprehensive odor management plan with demonstrated odor management experience at existing facilities	Reasonable odor management plan in the proposal with demonstrated odor management at existing facilities	Written odor management plan in proposal and references report odor issues at existing facilities
6. Materials Marketing	Demonstrated successful marketing program for compost products with net work of outlets	Demonstrated successful marketing program for compost products	No demonstrated marketing program for compost products
7A. Financial/Tipping Fee*	Vendor has zero tip fee for all host community organic wastes accepted at facility	Reduced tipping fee for all host community organic wastes accepted at facility	Full rate tipping fee for all host community organic wastes accepted at facility

**SECTION 6 EVALUATION CRITERIA**

7.B Financial/Host Fee*	Host fee 10% or greater of tip fee	Host fee less than 10% but greater than 5%	Host fee less than 5%
7.C Financial/Shared Revenue*	Shared revenue from sale of compost	Fixed revenue from sale of compost	No shared revenue from sale of compost

\* Extra weight will be given to any of the financial item rankings that include an annual escalator

\* “Advanced” composting technology is intended to mean an in-vessel type technology, “commonly used” is intended to mean enclosed type technologies, and “low technology is intended to be an “open air windrow” type technology with out any enclosures.

J:\R\R0089\YARD WASTE PROJECT\ RFP Final 021308.DOC

**Appendix E**  
**Sources Consulted for Section 3 Review of Organic Waste  
Management Programs**

## ***Sources Consulted for Section 3 Review of Organics Waste Management Programs***

### **Publications**

Antler, Susan and Nora Goldstein. "Composting Source Separated Organics – 25 Top Lessons Learned." *Biocycle*, May 2005.

Liss, Gary and Steve Sherman. *Beyond Recycling: Composting Food Scraps and Soiled Paper*. 2010. (This is a review of 121 residential organics programs in U.S. and Canada.)

Gorrie, Peter. "Economic Realities of Funding Waste Diversion." *Biocycle*, December 2009.

HF&HG Consultants, LLC. *Alameda County Source Reduction and Recycling Board 5-Year Audit: Program Assessment Final Report*, January 2008.

Skumatz, Lisa. *Footing the Bill for Diversion Programs: Funding Options*, October 2007.

### **Phone Interviews**

Brian Matthews, Stop Waste, Alameda County, phone interviews 4/28/10, 8/27/10

Dan Logan, Foreman for Recycling Transfer Station, Needham, MA, phone interview 4/28/10

Randi Mail, Recycling Director, City of Cambridge, MA, phone interview 5/3/10

Sumner Martinson, Mass DEP, Director, Composting Program, phone conversation 5/3/10

Gretel Clark, Chair, Hamilton Recycling Program, phone interviews 5/4/10, 8/31/10

Lorenzo Macaluso, Center For Ecological Technology and University of Massachusetts, phone conversation 5/5/10

Scott Collins, Swift County, Minnesota Environmental Center, phone interview 8/31/10

**Appendix F**

**Sustainable Materials Recovery Program Regional Initiatives / Pilot  
Program Grant Application**

# Massachusetts Department of Environmental Protection Sustainable Materials Recovery Program (SMRP) Grant Application for Pilot Programs and Regional Initiatives

## 1. Applicant Name

Pioneer Valley Planning Commission (PVPC)

## 2. Title

Establishing a “Match-Making Service” for Composting Facilities

## 3. Project Justification/Need

This proposal builds on work already underway (funded through a Massachusetts Department of Housing and Community Development grant) to assess the economic viability of developing additional organic waste composting capacity in the Central Pioneer Valley, an area defined to include Amherst, Belchertown, Easthampton, Hadley, Northampton, South Hadley, Southampton, Williamsburg, Hatfield, Granby, Chesterfield, Goshen, Huntington, Middlefield, Plainfield and Westhampton, and to develop recommendations and an Action Plan for a Regional Organic Waste Management Program.

Compostable materials constitute a large portion of municipal solid waste (10-40%, depending on sector), so diverting organics from disposal is an important waste reduction strategy. Organics diversion is a particularly critical issue in the Central Pioneer Valley because its landfills in Northampton, Granby, and South Hadley are approaching capacity and are likely to close in the near future. Organics diversion can help extend the useful life of these facilities as our communities seek alternative trash disposal solutions. Additional composting capacity implemented over the next few years may also help stabilize overall waste handling costs for some generators as these landfill options are eliminated. In addition, this project is timely because it will help provide the infrastructure necessary for generators to comply with the future organic waste ban being considered by MA DEP.

Currently, there is an unmet need for organics composting facilities in the Pioneer Valley. Existing facilities are either at or near permitted capacity, accept limited quantities of organic materials or are too distant from the generators for transport to be economically viable. In addition, the region is over-reliant on two large farm facilities in Greenfield and Hampden, so there is concern that losing either of these would significantly impact current organics diversion programs. There are many small to medium sized commercial and institutional generators interested in diverting food waste. Restaurants like Judie’s, Amherst Brewing Company, and Bueno Y Sano diverted food waste for composting in a previous (now defunct) composting program and would like to resume composting, and others like the Hotel Northampton, Cup and Top, Woodstar and Amherst Coffee have inquired about starting a new program (to name just a few).

Under the Massachusetts Department of Housing and Community Development grant, the Pioneer Valley Planning Commission convened a working group—the Central Pioneer Valley Organic Waste Management Working Group—of communities, nonprofit organizations and other stakeholders in the Central Pioneer Valley Region to discuss the possibility of developing a regional program for recovering and managing organic wastes. The group first met in February 2010, and based on a preliminary analysis, the region produces between 15 and 45 tons of “recoverable” organic wastes each day. This range represents a conservative estimate based on the best available data, which we have determined to be incomplete and outdated. “Back of the envelope” calculations relying on the extensive field knowledge of the Working Group suggest that the generation of recoverable organic wastes could be much higher. Data refinement and updating is necessary to provide reliable and current information on generation quantities and a more refined estimate of what is recoverable. The Working Group has also identified a need to expand the study area to consider wastes being generated to the south (Hampden County) along the Route I-91 corridor. These refinements, as well as consideration of geographic barriers such as the Connecticut River and the Holyoke Range, will help the Working Group develop a

more complete picture of how organic wastes should be managed and where to site economically viable facilities within the Pioneer Valley Region.

Sustainable Materials Recovery Program Grant funding is critical in order to build much-needed composting capacity in the region, and to expand upon initial work to establish a Regional Organic Waste Management Program. In addition to data collection to support a more detailed analysis, the Working Group has identified a need to understand barriers that have prevented establishment of new composting facilities, and then to use these findings to inform how we promote development of new facilities in the region. Additional composting capacity will benefit not only the Central Pioneer Valley communities but many other nearby municipalities as well. A Regional Program would ensure that the region can make a consistent, ongoing and organized effort to monitor, assess, coordinate and support composting in the region.

#### **4. Project Goals**

Using Sustainable Materials Recovery Program Grant funds, the Pioneer Valley Planning Commission, the Center for Ecological Technology and the communities and organizations of the Central Pioneer Valley Organic Waste Management Working Group propose to establish a “match-making service” that couples “development-ready” sites with investors who are interested in establishing and operating composting facilities at these sites. In addition to refining the analysis of recoverable wastes in the region, this work will implement the Action Plan developed under the DHCD grant. This implementation work will include detailed analysis of sites preliminarily evaluated within the Action Plan; selection of a final short list of suitable sites; working with site owners to issue the Request for Proposals for composting facility investors (drafted under the DHCD grant); and determining the role and operating structure of the Regional Program. PVPC requests \$100,000 over two years to implement “Establishing a ‘Match-Making Service’ for Composting Facilities.”

There are six goals for this project:

- Complete data collection and refine analysis. This analysis will provide detailed information on the total quantity and geographic concentrations of organic wastes that have the best potential for diversion. The new data will help identify barriers to organics composting in the region and will shed light on strategies that have the most potential to be economically viable while serving the region’s needs.
- Identify sites capable of processing significant quantities of organic wastes, especially food waste. The highest priority will be placed on sites with current MA DEP Site Assignment status, capable of hosting a centralized-type composting facility. Other potential sites, including farms, brush composting sites, sites owned by educational institutions, and others, will also be identified and considered.
- Identify potential operators. Reach out to individuals, known compost operators, corporations or others that may have an interest in operating a composting site of different scales and levels of technology.
- Complete site review and technology studies, and select final sites. At identified sites with the greatest potential to serve the needs of the region, the highest likelihood of neighborhood support and other factors identified in the “barriers” portion of the data analysis, the grantees will contract for professional site review and technology study. The goal of this study will be to assist with final site selection through a “fatal flaw analysis” in which potential sites are considered from a permitting and operational standpoint. For each selected site, a technology study will also provide information to help potential investors, including an estimate of the total volume that could be

composted, a list of possible composting technologies, and a recommendation on the best composting technology for each site.

- Match selected sites to investors. Using a formal RFP process, pair identified sites with investors who will implement and operate composting facilities at the selected site(s).
- Review the Action Plan recommendations on regional services to be offered by the Regional Program (completed under the DHCD grant), and take steps to implement the Regional Program by determining its roles, and management and financing structure. The goal of the Regional Program will be to ensure that the various components of organic waste management in the region are continually monitored/assessed, coordinated and supported.

Although the preferred strategy for developing composting capacity in the region will be to establish one or more centralized, professionally operated composting facilities, the Working Group will pursue any and all viable options to meet the goal of developing additional composting facilities in the region.

## **5. Work Plan**

In 2010, the Pioneer Valley Planning Commission received a \$20,000 grant from the Massachusetts Department of Housing and Community Development (DHCD) to explore the possibility of developing regional organic waste management services for the Central Pioneer Valley. This work included establishing the Central Pioneer Valley Organic Waste Management Working Group and assessing the economic benefits of establishing one or more composting facilities in the region. This project also includes developing recommendations and an Action Plan for a Regional Organic Waste Management Program. The DHCD grant includes drafting of a Request for Proposals for appropriate services to increase composting capacity in the region. SMRP Grant funds will build on this work by 1) developing a more detailed analysis of recoverable wastes by sector in the target region, as well as the region to the south in Hampden County along the Rt. 91 corridor; and 2) taking steps to implement the Central Pioneer Valley Regional Organic Waste Management Program Action Plan being developed under the DHCD grant.

In addition to in-kind contributions from members of the Central Pioneer Valley Organic Waste Management Working Group, the bulk of the work plan outlined here will be undertaken by the Pioneer Valley Planning Commission (PVPC), the Center for Ecological Technology (CET), and a technical consultant who will be hired through an RFP process. PVPC is in a unique position to conduct regional planning and to seek cooperation between member cities and towns to address the future of organics diversion, while CET has many years of technical and coordination experience working with composting facilities, haulers, and all types of generators in the Pioneer Valley.

We believe a phased approach has the highest likelihood of success and best explains the strategies to be employed by PVPC and CET to accomplish the above outlined goals. However, the process for establishing a “match-making service” for new composting facilities is not necessarily a linear one, so we will remain flexible and allow work on the phases to overlap as necessary. To the extent to which it makes sense to abbreviate or eliminate any given steps of the process, the project team will take appropriate measures.

While it may be appropriate to establish a centralized facility to meet the needs of certain sectors, a node-based approach may be more appropriate to meet the needs of other organic waste generating sectors, especially at a very localized level. The proposed match-making approach allows the region to be flexible as it moves forward; as opportunities arise and as decisions about the framework for the Regional Program are made, we will have a number of development-ready sites and interested entrepreneurs and investors poised to take advantage of these opportunities. In addition, as opportunities to work with communities not identified in the application process arise, we will consult with MA DEP.



### **Phase I: Complete Data Collection and Analysis**

PVPC and CET will work together to collect additional data to refine the existing analysis (completed under the DHCD grant) and to develop a better understanding of recoverable wastes by sector (residential, large commercial, and small commercial) and barriers to composting in the region. The existing data does not include small scale commercial generators, and the state's large scale commercial generator data needs to be compared to available actual field data and updated. In addition, the DHCD funded analysis does not consider wastes being generated by Hampden County communities to the south, and does not assess the specific needs of each sector.

- PVPC will be responsible for the bulk of data collection, organization and overview spreadsheet analysis, with assistance from CET in finding information and comparing data against observations in the field.
- CET will take a leadership role in analyzing the needs of different generating sectors and will identify the characteristics of programs and facilities that would meet the needs of each sector. Restaurants have different collection needs than supermarkets, and schools generate a vastly different mix of materials than most other generators. The type of composting facility that will ultimately accept these materials has a profound effect on hauling routes, collection efficiencies and viability of a regional program. This information will be incorporated in the analysis and later in the site reviews.
- PVPC will be primarily responsible for refining the existing map-based analysis to consider the region's southern neighbors, as well as its travel corridors and geographic boundaries, including Route 9, Route I-91, the Connecticut River, and the Holyoke Mountain Range. CET will provide input regarding existing hauling routes, collection facilities and other industry factors.
- PVPC, CET and other identified project partners will work together to assess obstacles to organics recovery and composting in the region. Historical successes and failures, current operating collection infrastructure and other potential capacity will be considered within the analysis.

### **Phase II: Identify Sites and Assist with Preparation for Compost Facility Development**

This phase builds on preliminary work under the DHCD grant to identify, evaluate and develop a list of possible sites for processing facilities. Using Sustainable Materials Recovery Program Grant funds, this preliminary evaluation will be refined and suitable sites will be identified. Site owners will be contacted, a detailed spreadsheet analysis considering multiple suitability factors will be developed, and the evaluation will be refined further by a consultant. Once the final sites are selected, the consultant will conduct additional analysis and provide a technology review for these sites. In this phase, we will work with site owners and the consultant to pursue necessary site permitting, local approvals and preliminary contracts between site owners and investors.

- PVPC will begin conversations with owners of potential sites. This could include state or municipal land with a current Site Assignment, such as active, closed, or closing landfills, transfer stations or other parcels that are appropriate for composting. PVPC will also engage private land owners that may have this designation within the region. CET will begin conversations with operators of existing composting facilities to assess their willingness to expand operations, to include food waste, and to generally assess their interest in the project.
- CET will provide a preliminary evaluation of potential composting sites, including site assigned and farm-based parcels. PVPC and CET will refine evaluation of sites based on site conditions, specific market served/recoverable materials, willingness of site owners to participate, and other considerations. Based on this evaluation, PVPC, CET and project partners will work together to narrow down the list of potential sites to a short list of the best sites with the highest potential for meeting the needs of the region and/or an identified local need (node) as discovered through Phase I.

- PVPC will draft a consultant RFP for site suitability and technology review. CET will issue the RFP and contract with the consultant. The consultant will review the evaluation that has been conducted by CET, PVPC and the Working Group; verify estimates of the food waste volume that could be processed at each potential site; and assess the possible sites from a permitting and operational standpoint. Once the final short list of sites is selected by the Working Group, the consultant will provide a technology review for these selected sites. The scope of this review will depend on the number and complexity of the final selected sites. At minimum, the technology review will make recommendations on the best compost technology or technologies to employ. The consultant may also provide recommendations on site operational controls. Further, informal conversations with experts indicate that within the amount budgeted, the consultant will be able to provide preliminary financial models that estimate capital and operational costs, as well as the required tipping fees. As needed, the contractor will also provide assistance with permitting, approvals, and draft technical specifications for the investor RFP (see Phase III), including draft contracts between the site owner and the investor/facility operator. CET will oversee the winning consultant, provide guidance and review the report.
- All project participants will work together to select a short list of appropriate sites based on the contractor report.
- PVPC will work with site owners, municipalities, and the consultant to pursue site permitting and local approvals that may be lacking (to be identified by the consultant in the site review), and to draft contracts between the site owner and the investor/facility operator. CET will provide appropriate support.

### **Phase III: Match-Making**

PVPC, CET and project partners will collaborate to identify potential owner-operators, which could be individual entrepreneurs, small firms or larger organizations, depending on the type and size of facility proposed. Once the sites are selected, we will work with site owners to issue a Request for Proposals (RFP) to select facility owner-operators who are interested in establishing a composting facility. Selected applicants will be coupled with a “development-ready” composting site (complete with permitting and draft contract agreements).

We believe a “match-making” approach has many advantages. By decoupling suitable composting sites from suitable facility owner-operators, the region will be able to take advantage of promising facility sites that might not otherwise be considered. At the same time, by professionalizing the operation of new composting facilities and by selecting individuals or organizations with the time, resources and access to capital, business experience, and technical/site operations expertise to run a successful composting business, the composting facilities that are established as a result of this program will have a greater likelihood of success and longevity. Finally, this proposal will further increase the likelihood of success by ensuring that selected sites are “development-ready.” That is, our goal is to obtain the necessary permitting and local approvals and draft contract agreements prior to selection of the facility owner-operators. Ultimately, this strategy is an approach that we believe is capable of increasing processing capacity to meet the region’s needs.

- PVPC will identify and contact potential investors who may be interested in responding to the Request for Proposals (RFP).
- PVPC will develop a draft Request for Proposals (RFP) (under the DHCD grant) by adapting the existing template that was developed for the City of Gardner. Using Sustainable Materials Recovery Program Grant funds, PVPC and CET will work together to finalize the RFP for investors (owner-operators) on selected sites. PVPC will be responsible for assisting site owners in issuing the RFP, while CET will and the consultant selected in Phase II will assist in organizing site visits and answering technical questions.
- RFP respondents will provide details about their related experience, their ability to finance the project, the composting technology they propose to employ at the site, and their business plan.

- All project participants will work together to make a recommendation on the best respondent and proposal for each participating site.
- PVPC will develop an information packet to be provided to the selected investors. This packet will include critical information the investors will need about their site (if not already included in the RFP).
- CET will deliver the information packet and discuss critical issues with the selected investors, and will connect the selected investors with important contacts. Throughout the project, PVPC and CET will keep an eye out for grant funding opportunities to provide further technical assistance to selected investors.

#### **Phase IV: Define the Regional Organic Waste Management Program Structure**

In order to establish an ongoing effort that does not end with this “match-making” project, and that is not dependent on the vagaries of grant funding to continue to support organic waste diversion and composting in the region, this proposal seeks funds to help implement an ongoing Regional Organic Waste Management Program. Under the DHCD grant, the Central Pioneer Valley Regional Organic Waste Management Program Action Plan will recommend regional services to be offered by the Regional Program (including facilitation of new facility development, as described in this proposal). Using Sustainable Materials Recovery Program Grant funds, the Working Group will review these recommendations and determine the roles of the Regional Program. Once the roles of the Regional Program are established, PVPC will research and evaluate possible management and financing structures, including intergovernmental compacts. The Working Group will use this evaluation to determine the best management and financing structure.

Overall, the goal of the Regional Program will be to ensure that the various components of organic waste management in the region are coordinated and supported. Some possible roles include providing initial and ongoing technical assistance to facilities, generators, haulers, and municipalities; helping to establish new hauling routes and coordination of hauling routes; helping to establish and communicate what wastes will be accepted at facilities; developing educational and outreach materials; establishing a regional end-marketing program for the finished compost; and continuing to monitor and assess composting in the region and to execute new projects that increase organic waste diversion and composting.

<b>Task / Milestone</b>	<b>Who Will Be Involved</b>	<b>Start</b>	<b>End</b>
1. Collect additional data to refine analysis	PVPC, CET	Month 1	Month 4
2. Analyze recoverable wastes by sector	CET	Month 2	Month 4
3. Complete spreadsheet and map analysis	PVPC	Month 2	Month 4
4. Assess obstacles to composting in region	PVPC, CET, Working Group	Month 3	Month 4
5. Identify and evaluate potential sites	PVPC, CET, Working Group	Month 3	Month 24
6. Begin discussions with site owners	PVPC, CET	Month 4	Month 24
7. Refine evaluation and select potential composting sites	CET, PVPC, Working Group	Month 7	Month 24
8. Issue RFP for site suitability and technology review	PVPC, CET, Working Group	Month 9	Month 9
9. Review submittals and select suitability and technology review consultant	PVPC, CET, Working Group	Month 10	Month 11
10. Identify and contact potential investors who may be interested in responding to the RFP	Working Group, PVPC	Month 10	Month 12
11. Complete site suitability and technology review	Consultant, CET	Month 11	Month 24
12. Select short list of appropriate sites	CET, PVPC, Working Group Consultant	Month 14	Month 24

13. Obtain permitting and local approvals, Develop contract agreements	PVPC, CET, Working Group, Consultant	Month 10	Month 24
14. Issue RFP for compost facility investors	PVPC, CET, Working Group, Consultant	Month 12	Month 24
15. Review and select best RFP submittals	PVPC, CET, Working Group, Consultant	Month 13	Month 24
16. Transmit critical information to the selected investors	CET	Month 14	Month 24
17. Apply for grants or pursue other funding to provide technical assistance to selected investors	CET, PVPC, Working Group	Ongoing	Ongoing
18. Define the Regional Program's services/roles	PVPC, Working Group	Month 6	Month 12
19. Evaluate management and financing structures	PVPC, Working Group	Month 12	Month 14
20. Determine management and financing structure	PVPC, Working Group	Month 14	Month 22
21. Prepare Final Report to MA DEP	PVPC, CET	Month 23	Month 24

## 6. Project Evaluation

In the long-term, the success of this program will be measured by its ability to augment composting capacity in the region through the establishment of one or more new food waste composting facilities, and by its ability to establish a Regional Program to provide ongoing regional organic waste management support services. However, each work phase has measurable outcomes as well.

In Phase I, the project team will produce a report that includes a refined analysis of the “recoverable” wastes in the target region, an analysis of the needs of different generator sectors, and the types and locations of composting facilities that can meet these needs. This analysis will help the project team to develop potential hauling routes and to provide an accurate estimate of the waste stream that will be captured for composting at the facility sites that are eventually selected. The final report from Phase I will also include a detailed analysis of obstacles to organics recovery and composting in the region. We will consider this phase a success if our analysis includes the generator data considered to be most important by the Working Group and if we have been able to draw reasonable conclusions regarding the amount and types of recoverable wastes.

In Phase II, the deliverables will include a detailed evaluation of potential composting sites and a short list of the final selected sites. We will consider this phase a success if we are able to select sites and obtain site permitting, local approvals and draft contract agreements for the final selected sites, in preparation for Phase III.

In Phase III, the final products will include the Request for Proposals, which can be used as a template for similar programs in other regions (and for future solicitations within our region). We will consider this phase a success if we are able to work with site owners to successfully issue the RFP to select investors.

Finally, we will consider Phase IV to be a success if we are able to define the roles and services for an ongoing Regional Program and determine an operating structure, including how the program will be managed and funded. We will also consider this phase to be a success if there is enthusiasm and momentum within the Working Group to move forward with establishment of the Regional Program.

## 7. Key Personnel

Danielle McKahn, Land Use Planner at the Pioneer Valley Planning Commission (PVPC) and Catherine Ratté, Principal Planner/Section Manager, PVPC, will serve as co-project coordinators. Lorenzo

Macaluso, Director of the Center for Ecological Technology's (CET) Green Business Services, will coordinate CET's activities. Additional key personnel include Patty Gambarini (Environmental Planning Specialist, PVPC). Advisory support will be provided by John Majercak (Associate Director, CET/ReStore), and technical support will be provided by PVPC's GIS/Cartographic Section and Regional Information and Policy Center. Key project participants from the Central Pioneer Valley Organic Waste Management Working Group include Karen Bouquillon, City of Northampton Solid Waste Management Supervisor; Susan Waite, City of Amherst Recycling Coordinator; Veronique Blanchard-Smith, Town of South Hadley Recycling Coordinator; Stuart Beckley, City of Easthampton Planner; Chris Martin, Granby Town Administrator; Eric Weiss, Hilltown Resources Management Cooperative Director; Roger Guzowski, Five Colleges Recycling Manager; David Starr, Principal of Green Northampton; and Sumner Martinson, MA DEP Composting Director, among others. Resumes/Biographies of key personnel are attached separately.

SMRP funding would help make possible the expansion of CET's waste/recycling staff. Some of the current work load for Lorenzo Macaluso would be shifted to new staff, allowing him time to dedicate to "Establishing a "Match-Making Service" for Composting Facilities." At PVPC, SMRP funding will allow the Land Use Section to allocate staff to this project. PVPC employees are not salaried, but work on a project basis using grant funding obtained for each project.

## 8. Letters of Support

Attached please find letters of support, including letters from the Center for Ecological Technology, Amherst, Easthampton, Granby, Hadley, Northampton, South Hadley, Southampton, the Hilltown Resource Management Cooperative, the Five College Recycling Manager, and the Food Bank of Western Massachusetts.

## 9. Budget

<b>MassDEP Grant Proposal Budget</b>			
<b>Expenses Description</b>	<b>Cost A (Request)</b>	<b>Cost B (Match)*</b>	<b>Total Costs (A+B)</b>
<b>Personnel / Professional Services</b>			
1. PVPC Land Use Section Staff	\$37,262	\$14,126	\$51,388
2. Center for Ecological Technology	\$31,080		\$31,080
3. PVPC GIS/Cartographic Section	\$1,058	\$2,249	\$3,307
4. PVPC Regional Information & Policy Center		\$3,020	\$3,020
5. Technical Consultant (TBD)	\$30,000		\$30,000
<b>Direct Costs (PVPC)</b>			
1. Travel	\$500	\$385	\$885
2. Printing	\$100	\$145	\$245
3. Miscellaneous		\$75	\$75
<b>Totals</b>	<b>\$100,000</b>	<b>\$20,000</b>	<b>\$120,000</b>

\*This match is provided through a DHCD District Local Technical Assistance grant for Municipal Partnerships. In this grant, PVPC was provided funding to establish the Central Pioneer Valley Organic Waste Management Working Group; to assess the economic benefits of additional organic waste composting capacity in the region; to develop an Action Plan for a regional program; and to draft a Request for Proposals (RFP) for services that assist with facility development.

**Appendix G**  
**Contact List of Participants**

## *Contact List of Participants*

### Pioneer Valley Planning Commission & Staff:

Pioneer Valley Planning Commission, 413-781-8045

Danielle McKahn, Land Use Planner, [djkahn@pvpc.org](mailto:djkahn@pvpc.org)

Patty Gambarini, Senior Environmental Planner, [pgambarini@pvpc.org](mailto:pgambarini@pvpc.org)

Catherine Ratté, Principal Planner, [cratte@pvpc.org](mailto:cratte@pvpc.org)

### Central Pioneer Valley Organic Waste Management Working Group

Stuart Beckley, Planning Director, City of Easthampton, [stuartb@easthampton.org](mailto:stuartb@easthampton.org)

Veronique Blanchard-Smith, Recycling Coordinator, Town of South Hadley,  
[vblanchardsmith@southhadleyma.gov](mailto:vblanchardsmith@southhadleyma.gov)

Karen Bouquillon, Solid Waste Management Supervisor, City of Northampton,  
[kbouquillon@nohodpw.org](mailto:kbouquillon@nohodpw.org)

Ed Cauley, Highway Department Director, Town of Southhampton,  
[ecauley@town.southampton.ma.us](mailto:ecauley@town.southampton.ma.us)

Phil Genovese, DPW Director, Town of Hatfield, [dpwdirector@townofhatfield.org](mailto:dpwdirector@townofhatfield.org)

Roger Guzowski, Recycling Coordinator, Five Colleges, [rguzowski@fivecolleges.edu](mailto:rguzowski@fivecolleges.edu)

Lorenzo Macaluso, Waste Management Specialist, Center for Ecological Technology,  
[lorenzom@cetonline.org](mailto:lorenzom@cetonline.org)

Chris Martin, Executive Secretary, Town of Granby, [chrism@granbyma.org](mailto:chrism@granbyma.org)

Sumner Martinson, Composting Director, Massachusetts Department of Environmental Protection

David Nixon, Town Administrator, Town of Hadley, [admin@hadleyma.org](mailto:admin@hadleyma.org)

David Starr, Principal, Green Northampton, [david.starr@comcast.net](mailto:david.starr@comcast.net)

Susan Waite, Recycling Coordinator, City of Amherst, [waites@amherstma.gov](mailto:waites@amherstma.gov)

Eric Weiss, Director, Hilltown Resources Management Cooperative, [hrmc@crocker.com](mailto:hrmc@crocker.com)