

**DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
MATERIALS MANAGEMENT INFRASTRUCTURE GRANT APPLICATION**

**TOWN OF MANCHESTER
41 CENTER STREET
MANCHESTER, CONNECTICUT 06040**

DUE DATE: DECEMBER 20, 2024





STEVE STEPHANOU, TOWN MANAGER

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December 20, 2024

Mr. Michael Looney
Bureau of Materials Management and Compliance Assistance
Department of Energy and Environmental Protection
79 Elm Street
Hartford, Connecticut 06103

Re: DEEP Materials Management Infrastructure Grant Application
Town of Manchester, Connecticut

Dear Mr. Looney:

The Town of Manchester is excited to submit this application for funding under the DEEP's Materials Management Infrastructure (MMI) Grant Program. We have proposed nine initiatives that will divert wastes from the MSW waste stream, increase the collection and processing of food wastes in the Capitol Region, improve existing recycling programs and make them more cost efficient, increase the types and quantities of materials recycled, and manage more of our waste streams in state.

These initiatives reflect the Town's commitment to sustainable waste diversion as a Participating Community in the Connecticut Coalition for Sustainable Materials Management (CCSMM). They will serve the residential, municipal, commercial, industrial, and institutional generators of wastes throughout our region. The initiatives include:

- 1) Expanded Residential Food Scrap Collection
- 2) Land Acquisition for Expanded Recycling and Diversion Facilities
- 3) Regional Food Waste Collection and Processing
- 4) Aerated Static Pile (ASP) Composting
- 5) New / Replacement Equipment for our Transfer Station
- 6) Mobile Grinder for Organic Wastes – to be shared with other municipalities
- 7) Mobile Screener for Compost – to be shared with other municipalities
- 8) Regional Plastic Film Collection and Processing Facility
- 9) Regional Styrofoam Collection and Processing Facility

Mr. Michael Looney
Manchester MMI Grant Application
December 20, 2024
Page 2

We look forward to working with the DEEP to enhance waste diversion, recycling, and food waste management locally and throughout the Capitol Region. Please do not hesitate to contact us if you have any questions or comments on this application.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Stephanou', with a long horizontal flourish extending to the right.

Steve Stephanou
Town Manager

cc: Tim Bockus; Director of Public Works
D. Scott Atkin; Environmental Services Manager

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1
2.0 ELIGIBILITY	1
2.1 Applicant	1
2.2 Proposal	2
3.0 SITE CONTROL	3
4.0 TOWN WASTE MANAGEMENT STRATEGIES AND PROGRAMS	5
4.1 Residential Curbside Collection Program	5
4.2 Municipal and Board of Education Collection Program	6
4.3 Municipal Transfer Station	6
4.4 Construction and Demolition Debris Landfill	6
4.5 Household Hazardous Waste (HHW) Program	7
4.6 Organic Wastes – Leaves, Brush, and Yard Wastes	8
4.7 Organic Wastes – Back Yard Composting and Food Scrap Programs	9
4.8 Food Waste Generation Rates and Diversion Potential	10
5.0 PROPOSED INITIATIVES	11
5.1 Additional Food Scrap Collection Units	11
5.2 Land Acquisition	13
5.3 Food Waste Collection and Processing	14
5.4 Aerated Static Pile (ASP) Composting	16
5.5 Transfer Station / Recycling Equipment	17
5.6 Mobile Grinder	19
5.7 Mobile Screener	20
5.8 Plastic Film Collection & Processing	21
5.9 Styrofoam Collection & Processing	23
6.0 STAKEHOLDER SUPPORT	24
7.0 ENVIRONMENTAL JUSTICE	25

TABLE

- 1 DEEP MMI Grant Proposal Summary

ATTACHED LETTERS OF SUPPORT / INTEREST

Manchester’s Legislative Delegation: Rep. Rojas, Rep. Currey, Rep. Luxenberg, Rep. Doucette,
 Sen. Rahman
 Capitol Region Council of Governments
 Central Connecticut Solid Waste Authority
 Town of Ellington
 Town of Glastonbury
 Town of South Windsor
 Quantum Biopower and Supreme Forest Products

1.0 INTRODUCTION

The Town of Manchester is seeking Materials Management and Infrastructure (MMI) grant funding for nine initiatives that will divert additional materials from the municipal solid waste (MSW) stream, increase food waste collection and processing in the Capitol Region, improve recycling programs and make them more cost efficient, expand recycling, and provide for more self-sufficient waste management in Connecticut.

This grant application discusses the eligibility of the Town and the proposal under the terms and conditions of the MMI grant, site control and land acquisition components of the application, the details of each initiative, stakeholder support, and environmental justice considerations.

2.0 ELIGIBILITY

2.1 Applicant

Manchester is a Connecticut municipality and therefore an eligible applicant for the DEEP MMI grant. As you read through this application package, note that our proposals include several short- and long-term regional initiatives. The Town also enjoys support from the Capitol Region Council of Governments (CROG), the Central Connecticut Solid Waste Authority (CCSWA), our state legislative delegation, and several municipalities that will be served by the proposed initiatives.

Manchester is a participating community of the Connecticut Coalition for Sustainable Materials Management (CCSMM). The Town believes now as we did when we signed on to CCSMM that:

...now is the time to take a step forward, harnessing State and Municipal innovation and collaboration to spur action and investment in new programs and services will achieve a more affordable, equitable, and sustainable waste system for our citizens. Our collective vision is that this system will:

- Make substantial progress towards reducing several hundred thousand tons of generated MSW statewide by 2027;
- Promote opportunities for innovation, investment, and employment in Connecticut;
- Provide for predictable and (long-term) cost-effective options;
- Seek to minimize and mitigate impacts of waste infrastructure on overburdened communities.

To advance that future, we commit to working together in this initiative to accomplish the following:

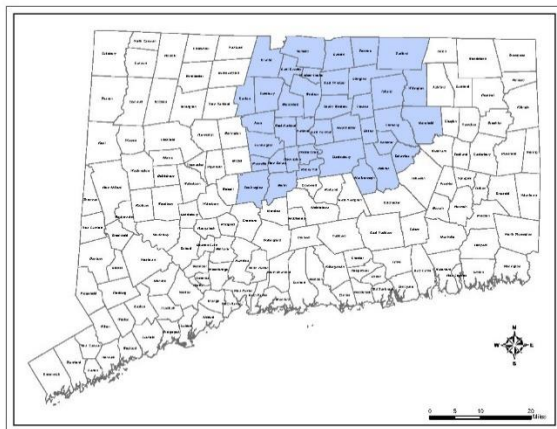
1. Share experiences and lessons learned from various efforts to adopt effective waste reduction strategies;
2. Engage market participants and local stakeholders to solicit input and proposed waste reduction solutions;
3. Seek creative means to fund solutions that further our collective goal;

4. Identify and evaluate a menu of options that municipalities and the state can adopt that will help us to collectively make progress towards our goal; ...

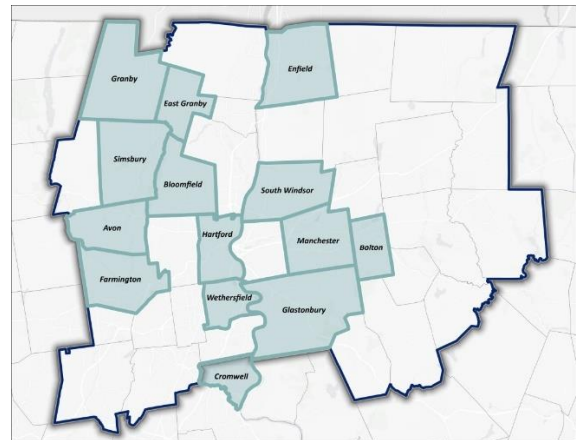
We recognize that by working together, we have the potential to achieve economies of scale and send a strong signal for private investment and sector transformation.

The Town's proposals for DEEP MMI Grant Funding reflect our belief and support in the vision and commitment of CCSMM participating communities.

The Town is also a participant in the Sustainable CT voluntary certification program. We are committed to an inclusive, resilient, and vibrant community with opportunities for all to thrive. Manchester achieved Silver Certification in 2022 and will be pursuing re-certification in 2025.



CRCOG



CCSWA

2.2 Proposal

The Town of Manchester's proposal for this DEEP MMI Grant Funding includes several local and regional initiatives, including but not limited to:

- 1) Procurement and installation of additional food scrap collection containers and stations for distribution to residents and use throughout town, including underserved areas, multi-family housing parcels, and potentially municipal facilities.
- 2) Purchase of 5 acres of adjacent land necessary to support the food scrap recycling program proposed below (see *Initiatives #3 and #4*).
- 3) Construction of a food waste receiving and processing facility to manage collected food wastes. This facility will be Phase I of our proposed food scrap recycling program. The facility will be sized to process food scraps from our collection program as well as other municipal, institutional, residential, retail, wholesale, and commercial sources; it is anticipated that this facility will serve as a regional food waste collection point for municipalities east of the river.
- 4) Construction of an aerated static pile (ASP) composting facility to compost collected food wastes with leaves and mixed yard wastes. This facility will be Phase II of our proposed onsite food scrap recycling program. At this time, we anticipate an ASP facility that can produce manage up to 2,000 tons per year of food waste, but will also be expandable to manage future demand.

- 5) Procurement of equipment for our municipal transfer station / recycling center, including rolloff containers, compactors, compactor boxes, and a rolloff truck.
- 6) Procurement of a mobile grinder for use by the Town and partner municipalities for grinding yard wastes and brush to facilitate organics management and recycling.
- 7) Procurement of a screener for use by the Town and partner municipalities for screening mature compost.
- 8) Procurement and installation of new equipment to collect and process (i.e., bale) residential plastic film collected at our transfer station as well as from municipalities in the region.
- 9) Procurement and installation of new equipment to collect and process (i.e., compact or densify) residential Styrofoam collected at our transfer station as well as from municipalities in the region.

These nine initiatives work in concert as part of the Town's overall waste management strategy. A summary of these initiatives is presented on Table 1. Detailed descriptions of each initiative and their impacts on effective materials management efforts follow in this application.

The initiatives presented in this proposal are eligible for the DEEP MMI grant as they support existing and proposed waste reduction and diversion activities with the overall goals of increasing diversion of municipal solid waste (MSW), increasing and improving recycling, and regaining self-sufficiency in managing MSW in state.

3.0 SITE CONTROL

The Town owns the property where the food waste management and additional recycling activities are proposed to be located. This preferred site is conveniently located adjacent to our existing landfill, municipal transfer station, and composting operations. It is currently used by the Highway Division for storage of vehicles, equipment, impounded vehicles, and materials, including salt. An overview of the current operational layout is presented below:



The Town's MMI grant application includes the purchase of approximately five acres of land adjacent to the Landfill – Transfer Station – Public Works campus (*Initiative #2*). Purchase of this property is necessary so that the Town can relocate the Highway Division's operations closer to the main Public Works / Highway Division building and to free up space to serve as the site for the proposed food waste management and new recycling activities (*Initiatives #3, 4, 8, and 9*).

Locating the food waste and new recycling initiatives on the preferred site offers several advantages over locating them on the 5-acre parcel to be purchased:

- It will maintain transfer station, recycling, and organics management related operations to one consolidated location at and to the east of the landfill.
- The preferred location is on a parcel with existing DEEP solid waste permits. Therefore, new and expanded operations and new equipment will be more easily permitted on the preferred site than on an unpermitted site. This will allow the Town to implement several of the proposed initiatives sooner at this location than at an unpermitted location.
- It will facilitate a better traffic flow for residential, commercial, and institutional users of the expanded transfer station, recycling, and food waste management operations. Users of these facilities will not need to cross the vehicular and heavy equipment utilized by the Town's Highway, Parks, Cemetery, and Facilities Divisions.
- It will allow the Town to take advantage of existing infrastructure at the landfill / municipal transfer station, including access roads, the scale house (staffed by Town personnel), the scale, weighing and invoicing software, etc.
- It will also allow for the Town to utilize the existing salt storage structures for proposed food waste and recycling activities.
- It will provide site access control for Sanitation Division staff over the food waste management and recycling operations.
- It should prevent the Town from having to hire more than one additional operator because the new activities will be near existing operations.
- It will provide separation between the transfer station users and the Public Works staff and equipment, and the access road will be safer without the transfer station users and Public Works staff both using it. The main Public Works building is used by approximately 75 operators and supervisors and a dozen office staff. Town staff vehicles, heavy equipment, and commercial trucks utilize the access road multiple times per day.
- It will limit the public's potential access to Highway Division vehicles and equipment and to impounded vehicles.
- It will keep the food waste management operations further away from the apartment complexes on Spencer Street and the Manchester Housing Authority apartments on Pascal Lane.

Another consideration for the preferred site is the large Eversource substation directly across Olcott Street. Future Town projects may include capturing the gases from food waste management programs and/or the Town's wastewater treatment facility, combining them with the collected landfill gas, and generating electricity. Use of the preferred site for these activities would facilitate and minimize the environmental impacts and the costs associated with any future utility interconnection.

Use of the preferred site to the east of the existing transfer station is an integral part of the Town's plans to construct enhance and expand our waste management infrastructure. For that to occur, the Town will need to acquire the 5-acre parcel.

4.0 TOWN WASTE MANAGEMENT STRATEGIES AND PROGRAMS

This section of the application provides background on the Town's current waste management strategies which is useful in evaluating the proposed initiatives and the potential to divert wastes and increase recycling.

4.1 Residential Curbside Collection Program

The Town provides for curbside collection of household trash (aka, MSW or municipal solid wastes), single stream recyclables, bulk waste items, and bagged yard wastes for all residences with four dwelling units or less. Wastes from 16,484 residential dwelling units are collected by a private contracted hauler. MSW and bagged yard wastes are collected weekly and recyclables are collected biweekly. Each residence is also allowed two on-call bulk waste pickups each year. Food scraps are not collected at curbside.

Collected MSW is transported to a private transfer station serving our area and then either to an in-state resource recovery facility (RRF) or to out-of-state landfill. The waste management option selected is based on a variety of factors, including available RRF capacity on any given day. Selection of an RRF also results in the need to dispose of ash residue at a private lined landfill - currently the Putnam Ash Landfill. Collected recyclables are transported to a private recycling facility in Berlin for separation and processing. Separated recyclables are then transported to markets for recycling / reuse. Bagged yard wastes are delivered to the Town's transfer station for processing and Bulk waste items, including mattresses and construction and demolition debris, are delivered to the transfer station for recycling or disposal.

From July 2023 – June 2024, over 13,200 tons of MSW were collected as part of the residential curbside collection program.



4.2 Municipal and Board of Education Collection Program

The Town provides for collection of MSW and recyclables at Town buildings, parks, bus stations, and schools. A contracted private hauler conducts these collection activities. These services are paid based on the frequency of collections and the size of the containers. The MSW and recyclables are managed in the same manner as the residential curbside collected materials. Detailed tonnage data for collected materials is not available.

4.3 Municipal Transfer Station

The Town operates a municipal transfer station on Olcott Street. The Town's landfill, water pollution control facility, and a portion of its Highway / Fleet Garage are also located on this 191-acre parcel. We accept each of the wastes and the single stream recyclables accepted at curbside at the transfer station. In addition, the facility accepts other wastes and recyclables, including scrap metal, used consumer and other electronics, propane tanks, paints, textiles, used crankcase oil, spent antifreeze, tires, batteries, appliances with CFCs, and bulk rigid plastics. In addition, we collect good, used, unupholstered furniture for distribution reuse. All residents are eligible for a free permit, no matter the number of dwelling units at their residence. Most recyclables can be dropped off for free and there is a nominal charge to drop off wastes, such as MSW and construction and demolition debris.



4.4 Construction and Demolition Debris Landfill

The Town also operates a 66-acre special waste landfill on Olcott Street. We accept construction and demolition debris, approved contaminated soils, approved industrial wastes, and grit, screenings, and sludge from the Town's water pollution control facility. The landfill serves the entire state as well as several out-of-state customers; wastes are accepted from residential, commercial, and municipal sources, including construction and demolition debris dropped off by Manchester residents at the transfer station. Wastes from Town projects are typically deposited at the landfill for no disposal fee.

Last year, the landfill accepted over 142,000 tons of wastes for disposal at the landfill and utilized an estimated 150,000 cubic yards of capacity. The landfill is anticipated to be open for six to seven more years – assuming that all three phases of the DEEP-approved MSE berm wall are constructed. The MSE berm wall allows overfilling of existing landfill side slopes to provide increased capacity. Construction of the first phase of the MSE berm wall was completed in the summer of 2024.

Revenues generated from permit fees, special waste disposal authorization application fees, and tip fees are deposited in and comprise the vast majority of annual revenue to the Sanitation Enterprise Fund.



4.5 Household Hazardous Waste (HHW) Program

The Town is a member of the Capitol Region East Operating Committee (CREOC) and long-time host community for regional HHW collection events. Household hazardous wastes are collected from residents of nine municipalities from April through November each year; typically, nine of the ten collection events are held in Manchester. CREOC member towns include Ellington, Glastonbury, Hebron, Manchester, Somers, South Windsor, Stafford, and Vernon. The collection events are conducted by a private vendor with many of the traffic control, recordkeeping, and accounting services provided by the Town. These collection events provide appropriate diversion for household hazardous waste streams from the MSW waste stream.

Each member town pays its per capita share of the administrative costs, including collection event set up fees for the ten events held each year, and also pays a fee based upon the quantity of wastes dropped off from their residents. Manchester's share of the operating expenses is paid for from the Sanitation Enterprise Fund. Revenues are generated in the form of a host community benefit, which is deposited in the Sanitation Enterprise Fund.

4.6 Organic Wastes – Leaves, Brush, and Yard Wastes

The Town currently has programs in place to collect and manage leaves, brush, and yard wastes:

- Leaves are collected in the fall by the Highway Division and are composted on our 5-acre pad at the site of our landfill and transfer station. Approximately 30,000 cubic yards of leaves are composted by the Town each year. The Town produces a high-quality compost which is sold under contract. Our compost is used by farmers and landscapers throughout the region. In addition, we maintain a stockpile of compost and make it available to our residents. Use of compost can improve soil health, retain nutrients and moisture thereby reducing pesticide use and lowering water needs, and help produce stronger plants.
- Leaves and yard wastes, bagged by residents, are collected at curbside each week. These are delivered to the landfill / transfer station.
- Leaves and yard wastes from other residential, institutional, and commercial sources are also collected at the landfill / transfer station. They are ground as needed and added to the windrows on the compost pad. Typically, they are ground up to six times per year.
- Brush is also collected at the transfer station. These materials are accepted from both residential and from local and regional commercial sources. They are chipped as needed and transported offsite for use as wood chips or mulch. Brush trimmed by our Parks Division is chipped and made available to our residents throughout the year.

These operations are working well and are successful in keeping these materials out of our landfill and the MSW waste stream. They are sized to manage current volumes and would need to be expanded to manage additional leaves, yard wastes, and brush from other communities in the region. Any expansion to incorporate more regionally generated materials would necessarily include additional land and equipment (infrastructure) and operating funds.

The Town needs to evaluate its reliance on outside vendors to grind the yards wastes, chip the brush, and market the woodchips and compost. Recently, one of the major contractors providing these services has elected not to extend existing contracts and to not provide contracted services that they said that they would extend.



4.7 Organic Wastes – Back Yard Composting and Food Scrap Programs

The Town currently has three composting programs:

- Residents are able to purchase compost bins (and rain barrels) at a reduced price with the Town subsidizing of portion of the cost. Historically, this program has been conducted in the spring, but we are investigating the possibility of making this program available year-round. This program encourages back yard composting. Residents are able to turn their own food scraps and yard wastes into compost that can be re-used in their own gardens and on their own yards.
- The Community Compost Program allows residents to drop off select food scraps at the Community Garden on Spruce Street. Acceptable materials include fruits and vegetables, bread, eggshells, coffee grounds, tea bags, and brown paper bags, towels, and napkins. Food scraps are composted at the site and the product is utilized at the Community Garden.
- The Food Scrap Drop-Off Program is a pilot program collecting food scraps from residents. Five satellite collection stations are located around town. Residents sign up to participate and receive access to open the collection stations via an app. Participating residents receive a five-gallon food scrap collection container and free compostable bags. Acceptable materials include fruits and vegetables, bread, eggshells, coffee grounds, tea bags, brown paper bags, brown paper towels, brown napkins, leftovers, dairy products, meat, fish, rice, pasta, cereal, and other grains, fats, sweets, and processed foods. Food scraps are collected once or twice per week by a vendor and transported to either an in-state anaerobic digestion (AD) facility or to an out-of-state depackaging and processing facility that then transports the processed food scraps to a farm-based AD cogeneration facility. These are both types of organic recycling facilities. Managing food scraps at an AD facility reduces greenhouse gas emissions, produces renewable energy and fertilizer/compost, conserves valuable landfill capacity for items that need to be landfilled, reduces out-of-state transportation costs, and can produce valuable green energy jobs.

The first two programs are operating well. They are small in size; detailed information about the quantity of wastes being composted is not available.

Compost Bin & Rain Barrel Sale
Hosted every spring!



The Earth Machine™
Up to 20% of all household waste can be composted right in your back yard with Earth Machine™.

- Lightweight and easy to assemble
- Adjustable ventilation
- Conical shape for easy removal
- Two locking green reservoirs for easy access
- Easy access reinforced door
- 20" flap warranty

System Rain Barrel
For water, rain from rooftops, is an excellent water source for lawns, plants, and gardens.

- 55 Gallon (208 liter) capacity
- Corrosive material water supply
- Late household water falls to top to filter
- Unique shape and neutral color
- Made of up to 100% recycled material
- Recycled materials made
- Easy access reinforced door
- Over-flow capability and can be linked to another System Rain Barrel
- Accessories included

Manchester residents will receive \$20 off!
For more information, visit ManchesterCT.gov/Sanitation and select "Residential Food Waste"

Pickup Date: First Saturday in May
& Location: Public Works Parking Lot, 321 Olcott St, Manchester, CT



The Food Scrap Drop-Off Program currently diverts between 500 and 750 pounds of food scraps from of the MSW waste stream each week. We are on track to divert 15 tons of food scraps during the first year of this pilot program. Additional public outreach and education is planned to expand the program.



4.8 Food Waste Generation Rates and Diversion Potential

Food wastes constitute a significant percentage of the MSW waste stream from both residential and industrial/commercial sources. Technologies exist and new technologies are being developed to divert food wastes from the MSW waste stream. However, food wastes and other compostable organics can be difficult to separate from other materials in the waste stream.

According to the DEEP's 2015 *Statewide Characterization Study*, food wastes make up 20% of the residential and 25% of the commercial waste streams, respectively. Additionally, that study reported that compostable organics make up over 50% of grocery store waste, 66% of restaurant waste, over 40% of hotel wastes, over 25% of retail big box wastes, over 30% of small retail wastes, and over 45% of office wastes. The *Statewide Characterization Study* confirms that food wastes and compostable organics are not easily source-separated prior to disposal.

State statute CGS 22a-226e, addressing Recycling of Source-Separated Organic Materials, has been in place for over ten years and recent amendments are expanding its scope. Beginning next year, any commercial food wholesaler or distributor, industrial food manufacturer or processor, supermarket, resort conference center or institution that generates an average of 0.5 tons per week (26 tons per year) of organic materials are required to source separate and to ensure that the materials are recycled at an authorized source-separate organic material composting facility. Institutions are defined as establishments providing hospitality, entertainment or rehabilitation and health care services, and any hospital, public or independent institution of higher education or facility or correctional facility. The law will no longer include a distance requirement between the generator and the organic material composting facility. The DEEP estimated that 90,000 – 2000,000 tons of food scraps are generated from these facilities covered by

this amendment to the statute. In 2026, the scope of the law will expand to include public or nonpublic schools generating more than an average 0.5 ton per week of organic materials and located within twenty miles of a composting facility.

Over 13,200 tons of MSW were collected last year via the Town's residential curbside collection program. Assuming that 20% of the MSW waste stream is food scraps, then approximately 2,600 tons of food scraps were collected and disposed of as MSW. The Food Scrap Drop-Off Program (pilot) is collecting less than 1% of these residential food scraps.

The Town believes that it can successfully collect more food scrap and that they can be managed in a more environmentally-responsible manner than landfilling or energy recovery. Several of the initiatives proposed in this MMI grant application, in conjunction with robust public education and outreach efforts, will lead to more food waste diversion from the MSW waste stream.

The Town of Manchester has approximately one-third of the population of the other towns in the CREOC region and one-seventh the population of the municipalities in the Capitol Region. At this time, it is reasonable to assume that other CREOC, CCSWA, and/ or CRCOG towns are similarly managing a very low percentage of their residentially generated food scraps. The initiatives proposed in this MMI grant application will help other municipalities in our region divert more of their food wastes from landfills to recycling.

5.0 PROPOSED INITIATIVES

In this section, each of the nine proposed initiatives will be discussed in greater detail, including:

- 1) The essential elements and proposed location.
- 2) The components of the waste stream that will be diverted, redirected, captured, or better managed.
- 3) The need for each and how they fit into the state's solid waste management hierarchy.
- 4) The proposed location.
- 5) The proposed users / populations served.
- 6) A description of the how initiative fits into the town's waste management strategies.
- 7) Data gathering and record keeping.
- 8) Level of grant funding requested.
- 9) The anticipated impact on current and future operating costs.
- 10) The anticipated development timeframes.

5.1 Additional Food Scrap Collection Units

The Town is seeking to procure new food scrap collection units to supplement the existing Food Scrap Drop-Off Program as part of the MMI grant. Currently, food scraps can be dropped off by residents at the transfer station during operating hours and anytime of the day at the Whiton Library on the north side of town, the Senior Center on the east side of town, Mt. Nebo Park on the south side of town, and outside of the transfer station on the west side of town. The four satellite collection containers are opened by residents with a mobile app.

The Town will purchase and install five additional satellite collection units and relocate an existing unit or two to increase collection capacity:

- Two keypad-operated units for the Senior Center. Two units are proposed due to the quantity of materials being collected at this location; keypad units are proposed because some users have had trouble using a mobile phone app.
- Two new units and the to-be-relocated Senior Center unit are proposed for new neighborhoods as residents surveyed prefer to use units that are convenient to their homes. Our intent is to place one or two of these units in our more densely populated areas and evaluate participation.
- One unit is proposed for a multi-family housing complex to evaluate participation from these types of dwelling units. If successful, the Town will present the data to the owners of other multi-family complexes to encourage food scrap diversion. If the data is significant, the owners may be able to reduce their MSW collection and disposal costs to support food scrap collection programs.

The Town will purchase and install a food waste compactor at the transfer station. This collection container will allow the Town to collect and consolidate food wastes in on location. If it is used to collect food scraps from the satellite collection units, it will decrease transportation and disposal costs and reduce greenhouse gas emissions.

Maintenance and expansion of the Food Scrap Drop-Off Program will require additional public education and outreach efforts, which the Town is prepared to conduct. These efforts will be presented in the three primary languages spoken in town: English, Spanish, and Bengali.

This equipment will allow the Town to expand its food waste diversion program and recycle / compost a higher percentage of its MSW waste stream. As previously discussed, there is un-diverted food waste in town and these satellite collection units, combined with strong public education and outreach efforts, will result in more of these materials being diverted from the waste stream. This initiative will reduce landfilling and/or energy recovery in favor of recycling/composting, which is a more preferred management strategy on the state's solid waste management hierarchy.

The satellite collection units will be located at convenient satellite drop-off locations around Town and the food waste compactor will be located at the transfer station on Olcott Street. This equipment will serve the Town's 59,000 residents.

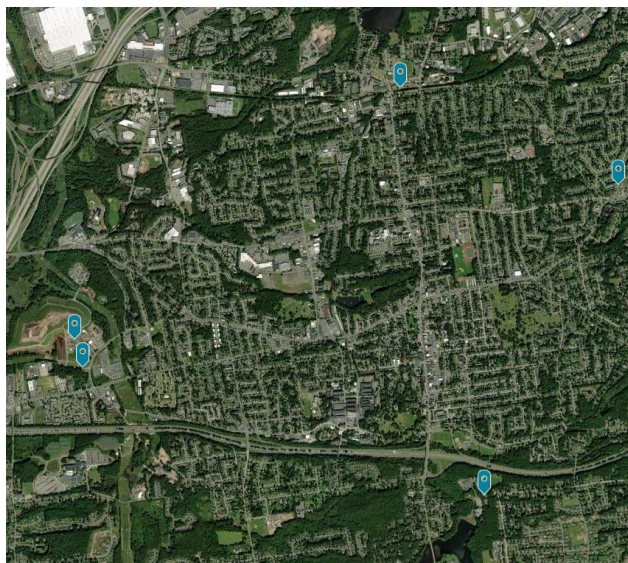
The Town will continue to track the total weight of food scraps collected for all satellite collection units and at the transfer station as well as the relative quantity (measured in inches) collected in each. This data will be utilized to evaluate program participation as well as the need for additional public education and outreach efforts.

The estimated cost to procure and install these additional satellite food scrap collection units is approximately \$20,000 and the cost to procure and install the food waste compactor is estimated at \$60,000 - \$70,000. The Town is requesting these funds from the DEEP MMI grant.

The Town anticipates that no additional personnel will initially be required to support this initiative. The Town's Recycling & Community Services Coordinator will handle the additional public education and outreach activities for this program. As more food scraps are dropped off, the Town will support additional

collection from these units as needed. This Town is committed to expanded food waste diversion efforts as part of its sustainability and waste minimization activities.

This equipment will be able to support the Town's food waste diversion and recycling efforts immediately. The Town anticipates procurement and operation within three to six months of approval.



Existing Food Scrap Collection Units

5.2 Land Acquisition

The Town is seeking to acquire a 5-acre parcel of land adjacent to the Landfill – Public Works campus as part of the MMI grant. As discussed in Section 3.0 Site Control, acquisition of this parcel is necessary to the expansion and enhancement of our regional waste management infrastructure as it will allow the Town to relocate existing Highway Division operations to the new parcel. More importantly, it will allow approximately 5-acres of land (aka, the “preferred site”) to the east of the existing transfer station to be used for the new recycling and food waste management activities proposed in *Initiatives #3, 4, 8, and 9*. Additionally, the two salt storage sheds on this preferred site will be re-purposed for the proposed recycling and food waste management activities.

The rationale for acquisition of this property and the preferred site is presented in Section 3.0 Site Control. The proposed new initiatives will benefit the over 400,000 residents of the Capitol Region.

The Town has had preliminary discussions with the landowner and will continue negotiating for purchase of this parcel. The estimated cost to acquire this parcel is \$1,250,000 to \$1,750,000; the Town is requesting these funds from the DEEP MMI grant.

Purchase of this land will allow the Town to expand its recycling and food waste management programs on the preferred site adjacent to the existing transfer station. The Town anticipates acquisition within three to nine months of approval.

5.3 Food Waste Collection and Processing

The Town is seeking to develop a food scrap collection and processing facility as part of the DEEP MMI grant. Currently, food scraps are collected from our drop-off program by a private contractor and transported to an in-state AD facility or an out-of-state depackaging facility for processing prior to anaerobic digestion.

The Town will engage in a public-private partnership to develop, construct, and operate a food waste collection and processing facility at the preferred location on Olcott Street. The Town of Manchester provides an excellent location for this type of facility because of our geographic location, accessibility to the highway networks, regional need, industrial zoning at the preferred location, and existing solid waste management facilities, infrastructure, scale, software, and operating procedures. The facility and its permits will be owned by the Town; we envision that it will be operated under an agreement with a private partner. Acquisition of the 5-acre parcel (*Initiative #2*) is key to locating this operation at the preferred location.

The facility will be designed to accept, process, and transfer 10,000 to 15,000 tons of food wastes annually from residential, commercial, industrial, and institutional sources throughout the region. Materials received could be transferred to an AD facility or depackaging facility, and/or processed onsite before transfer. Onsite processing will consist of a series of screens and hammer mills to remove inorganics (e.g., “contaminants”) and produce an organic slurry. Processed food waste slurry will be transported via tanker truck to a permitted composting or AD facility. A design that can transfer or process and then transfer food wastes will provide operational flexibility and the ability to commence operations sooner.

The Town intends to repurpose an existing salt storage structure into a facility to receive and process the food wastes. The building will be enclosed and retrofitted to support negative air pressure and a system to collect and control odors. Additional site improvements will include 3-phase power, a connection to the existing public water supply and sanitary sewer system, and an 80,000-gallon organics slurry holding tank.



The salt bin location at the Town of Manchester could be an ideal location to repurpose and rebuild an organics processing facility.



Collection and transportation costs are among the largest impediments to successful food waste management programs in our region. This facility will provide a cost-effective location for towns and other generators to properly manage their food wastes locally. It will also reduce environmental impacts and transportation costs associated with many generators hauling food wastes in small collection vehicles from the capitol region to other parts of the state or to out-of-state facilities. This facility will allow the municipalities throughout the area to expand their food waste diversion programs and recycle / compost a higher percentage of their MSW waste streams. This initiative will reduce landfilling and/or energy recovery in favor of recycling/composting, which is a more preferred management strategy on the state's solid waste management hierarchy.

This facility will be located at the preferred location east of and adjacent to the existing transfer station operations and infrastructure. The facility may serve the over 400,000 residents of the Capitol Region.

The Town will track the source and weight of incoming food scraps, the destination and weight of outgoing food waste slurry, and the weight of any residue. This data will be utilized to evaluate program participation.

The estimated cost to develop this initiative is \$3,000,000 to \$3,750,000; the Town is requesting these funds from the DEEP MMI grant.

The Town anticipates that no additional personnel will be required to support this initiative. We will provide management, operational support, and environmental compliance assistance to this operation and the day-to-day operations will be contracted to a private partner.

This facility will support the region's public and private food waste diversion programs and make it more effective for other communities to expand their programs. The Town anticipates development within two years of the land acquisition (*Initiative #2*).



5.4 Aerated Static Pile (ASP) Composting

The Town is seeking to develop an ASP composting facility as part of the DEEP MMI grant. Currently, food scraps are collected from our drop-off program by a private contractor and transported to an in-state AD facility or an out-of-state depackaging facility for processing prior to anaerobic digestion.

The Town will engage in a public-private partnership to develop, construct, and operate an ASP composting facility at the preferred location on Olcott Street. The Town of Manchester provides an excellent location for a composting facility because of our geographic location, accessibility to the highway networks, regional need, industrial zoning at the preferred location, and existing solid waste management facilities, existing leaf collection and composting operations, infrastructure, scale, software, and operating procedures. The facility and its permits will be owned by the Town; we envision that it will be operated under an agreement with a private partner. Acquisition of the 5-acre parcel (*Initiative #2*) is key to locating this operation at the preferred location.

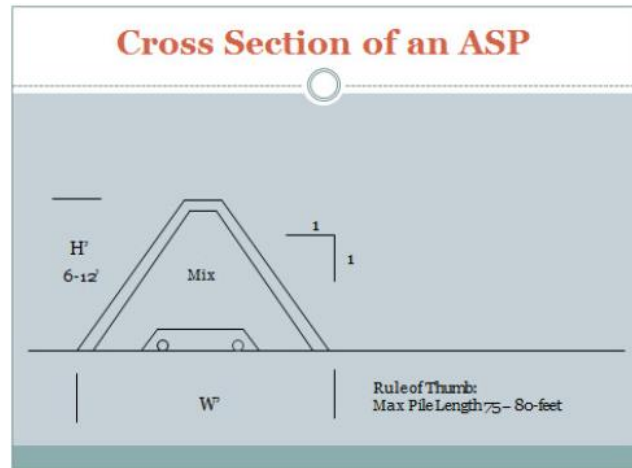
The composting facility will accept processed food waste slurry (from *Initiative #3*), mixed yard wastes (i.e., shredded leaves and yard wastes) from the Town of Manchester, and mixed yard wastes from other municipalities and commercial sources. ASP composting uses less area and is significantly quicker than the windrow-and-turn method used on our leaf compost pad. ASP composting facilities produce compost in ten to twelve weeks – six to eight weeks of active aerated composting and a month to cure. The mixture of food wastes with mixed yard wastes produces a nutrient rich, high quality compost.

At this time, the Town is considering an ASP composting facility sized to handle 1,000 tons of food waste slurry and scalable to manage more materials as food waste management programs expand throughout the region. A typical ratio of food wastes to mixed yard wastes is 5-to-1 by weight. An ASP composting facility designed to manage 1,000 tons of food wastes would need 5,000 tons of mixed yard wastes. At 450 pounds per cubic yard, the Town will compost approximately 22,000 cubic yards of shredded yard wastes with the food wastes at this facility. The estimate size requirements for this composting facility is 0.75 acres.

Proposed site improvements include concrete bunkers, a concrete composting pad, blowers for the aeration system designed to draw air through the static piles of mixed yard wastes and food waste slurry, and odor control through a biofilter. Additional site improvements will include 3-phase power and connection to the existing sanitary sewer system.



Potential ASP Locations



An ASP composting facility will provide a full circle on-site option for recycling food wastes and mixed yard wastes generated, received, and processed in Manchester. Providing a composting component with the proposed food waste collection and processing (Initiative #3) will provide the next step in the recycling process. In addition, a composting facility will allow us to demonstrate the operations and fruits of our food waste diversion and composting programs. Residential and commercial generators will be able to view the entire process and make it more tangible, which will assist with our public education and outreach efforts. In addition, the Town will continue to make a portion of our compost available to our Parks Division and our residents. This initiative will reduce landfilling and/or energy recovery in favor of recycling/composting, which is a more preferred management strategy on the state's solid waste management hierarchy.

This facility will be located at the preferred location east of and adjacent to the existing transfer station operations and infrastructure. The facility may serve over the 400,000 residents in the Capitol Region.

The Town will track the source and weight of incoming materials as well as the quantity of outgoing compost.

The estimated cost to develop this initiative is \$1,000,000 to \$1,500,000; the Town is requesting these funds from the DEEP MMI grant.

The Town anticipates that no additional personnel will be required to support this initiative. We will provide management, operational support, and environmental compliance assistance to this operation and the day-to-day operations will be contracted to a private partner.

This facility will support the region's public and private food waste diversion programs. The Town anticipates development within one year of the food waste collection and processing facility (*Initiative #3*).

5.5 Transfer Station / Recycling Equipment

The Town is seeking to procure new equipment for its municipal transfer station / recycling center as part of the MMI grant to replace aged and worn infrastructure. Currently, the Town operates a compactor for

source-separated corrugated cardboard and a compactor for household MSW. Both of the compactors are old and in need of substantial repair or replacement. Additionally, we rent collection containers for mattresses, electronics, and several recyclables.

The specific equipment to be purchased includes:

- A new cardboard compactor and collection boxes / receivers. These are proposed to replace the old compactor and to eliminate rental fees on the boxes. Compacting the cardboard reduces the number of trips required to haul collected cardboard to a recycling center thereby reducing costs and environmental impacts. The second collection box will provide operational flexibility allowing operators to connect an empty box to the compactor during operating hours, so that we will not be without one while the loads are being transported.
- A new household MSW compactor and collection boxes / receivers. This is proposed to replace old equipment. Compacting the household MSW reduces the number of trips required to haul MSW to a commercial transfer station thereby reducing costs and environmental impacts.
- Three rollofs for scrap metal collection. These are proposed to replace the two containers that the Town currently rents. Typically, there are two scrap metal collection rollofs in place at the transfer station. The third rolloff will provide operational flexibility when transporting a full container to the scrap yard.
- Three rollofs for recyclables collection. These are proposed to replace the two containers that the Town currently rents. Typically, one rolloff is used to collect single stream recyclables and the other is used to collect bulk rigid plastics. The third rolloff will provide operational flexibility when transporting a full container to the recycling center.
- One lockable ground-level storage container for scrap metal (copper, brass, aluminum, etc.) collection. This additional collection container will allow for the separation of these materials from the ferrous metal. These materials have a higher market value than mixed scrap metal and source separation at the transfer station should improve scrap metal revenue.
- Two lockable ground-level storage containers for electronics collection. These are proposed to replace the two containers that the Town currently rents and to provide for separation of consumer electronic devices from other used electronics.
- Two ground-level storage containers for mattress collection. These are to replace the container that the Town currently rents. The second collection container will provide operational flexibility as it will be available while the other one is being transported to the mattress recycling center in Willimantic.
- A rolloff truck. The Town currently has one rolloff truck and uses it to transport ten loads of sludge from the Town's wastewater treatment plant sludge and grit from the facility to the landfill each week, cardboard to a recycling facility, single stream recyclables to recycling facility, bulk rigid plastic to a recycling facility, scrap metal to a scrap metal yard, and mattresses to the mattress recycling center multiple times each week. A second rolloff truck would provide a needed level of redundancy to ensure continuous operations for these critical activities.

This equipment will allow the Town to continue its long-term commitment to recycling in an uninterrupted manner and to improve our scrap metal separation at the transfer station. It will improve and provide flexibility for our daily operations and support recycling activities conducted in accordance with the state's solid waste management hierarchy.

This equipment will be located at the Town's municipal transfer station / recycling center and will serve its 59,000 residents.

No additional recordkeeping is proposed for this equipment.

The estimated cost of this transfer station / recycling equipment is \$450,000 to \$500,000 the Town is requesting these funds from the DEEP MMI grant. The Town will follow required procurement procedures to purchase this equipment. If suitable used equipment is available, we will consider that option.

The Town anticipates that no additional personnel will be required to operate this equipment. The equipment is expected to reduce operational costs by reducing lease payments for collection containers and mitigating repair or replacement costs for the compactors. The additional collection container for select scrap metals is expected to increase revenue associated with these materials. This initiative provides a financially feasible and sustainable method to managing these components of the waste stream.

This equipment will be able to support the Town's transfer station / recycling operations immediately. The Town anticipates procurement and operation within three to six months of approval.

5.6 Mobile Grinder

The Town is seeking to procure and operate a mobile grinder as part of the MMI grant for processing clean wood, brush, and yard wastes (leaves and small brush) received at the transfer station. Currently, the Town contracts a private vendor to grind these materials several times per year. In recent years, the cost of these services has been increasing and the availability of the contractor to process these materials has been inconsistent.

The mobile grinder will be used to process clean wood, brush, and yard wastes collected at the transfer station. They include the yard wastes collected as part of the residential curbside collection program. The grinder, to be equipped with a magnet for metals removal, will allow the Town to process these organic materials better, more frequently, to defined specifications, and on a schedule dictated by our needs. It will allow the Town to control its own organics operations and provide a necessary feedstock for the proposed food waste ASP composting program discussed in *Initiative #4*.

As such, a mobile grinder will allow the Town to maintain compliance with the state's solid waste management hierarchy by continuing to collect, process, recycle/compost, and market clean wood, brush, and yard wastes. In the future, the Town may evaluate use of this equipment to process incoming loads of separated C&D wood wastes and to divert C&D wood wastes from the landfill to an energy recovery facility.

The mobile grinder will typically be located at the Town's transfer station on Olcott Street; operations will likely extend onto the preferred site discussed in *Initiative #2*. Additionally, we anticipate developing an inter-community agreement that will allow other municipalities in our region to utilize the grinder a few times per year. This is one of the reasons for pursuing mobile equipment, rather than a fixed location for the grinder. The agreement would allow participating municipalities to use the grinder at their wood and yard waste collection sites by sharing in the maintenance and transportation costs. Equipment

maintenance would be the responsibility of the Town of Manchester. With this type of agreement in place, the mobile grinder is likely to serve a population of 120,000 to 170,000.

The Town will keep track of the estimated volume and/or tonnage of materials processed through the grinder, the source of the materials, and the final disposition of the processed materials: recycling/composting, reuse, or energy recovery. Any participating communities using the mobile grinder will be required to gather the same information and provide it to the Town.

The estimated cost of a mobile grinder is \$375,000 to \$400,000; the Town is requesting these funds from the DEEP MMI grant. The Town will follow required procurement procedures to purchase this equipment. If suitable used equipment is available, we will consider that option.

The Town anticipates that no additional personnel will initially be required to operate this equipment; existing Sanitation and Public Works staff will be trained to operate and maintain it. This initiative is expected to reduce operational costs for processing organics and to be a long-term financially feasible and sustainable alternative to hiring an outside contractor to provide these services. As the food waste management program grows, it may be necessary to increase staffing to support that operation and more frequent processing of leaves, clean wood, and yard wastes.

The grinder will be able to support existing organics recycling / composting operations immediately. The Town anticipates procurement and operation within four to eight months of approval.



5.7 Mobile Screener

The Town is seeking to procure and operate a mobile screener as part of the MMI grant for screening compost processed on site. Currently, the Town contracts a private vendor to screen these materials three to five times per year. In recent years, the cost of these services has been increasing and the quality of the finished product has not been up to market standards.

The mobile screener will be used to screen cured product to produce a more marketable commodity. Having our own screener will allow the Town to process compost better, more frequently, to defined specifications, and on a schedule dictated by our needs. It will allow the Town to control its own organics operations both for our existing organics management programs and for the proposed food waste ASP.

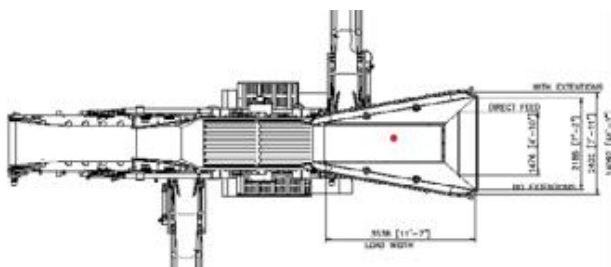
composting program discussed in *Initiative #4*. We anticipate that it will result in fewer “overs” (i.e., less residue) from the composting process. Sometimes a portion of this residue has to be landfilled, and controlling the screening operation will reduce that material from being deposited in the landfill.

The mobile screener will typically be located at the Town’s transfer station and the preferred composting site on Olcott Street. Additionally, we anticipate developing an inter-community agreement that will allow other municipalities in our region to utilize the screened for compost that they generate. This is one of the reasons for pursuing mobile equipment, rather than a fixed location for the screener. The agreement would allow participating municipalities to use the screener at their compost pads by sharing in the maintenance and transportation costs. Equipment maintenance would be the responsibility of the Town of Manchester. With this type of agreement in place, the mobile screener is likely to serve a population of 95,000 to 170,000.

The Town will keep track of the estimated volume and/or tonnage of materials processed through the screener, the source of the materials, and the final disposition of the compost. Any participating communities using the screener will be required to gather the same information and provide it to the Town.

The estimated cost of a screener is \$300,000 to 320,000; the Town is requesting these funds from the DEEP MMI grant. The Town will follow required procurement procedures to purchase this equipment. If suitable used equipment is available, we will consider that option.

The Town anticipates that no additional personnel will initially be required to operate this equipment; existing Sanitation and Public Works staff will be trained to operate and maintain it. This initiative is expected to increase the overall profitability of the composting operation as it will allow the Town to control the timing and quality of the finished product and develop a more marketable compost. As the food waste management program grown, it may be necessary to increase staffing to support the operation and more frequent processing of leaves, clean wood, and yard wastes.



The screener will be able to support existing organics recycling / composting operations immediately. The Town anticipates procurement and operation within four to eight months of approval.

5.8 Plastic Film Collection & Processing

The Town is seeking to procure and operate a baler to process (i.e., bale) plastic film. Currently, the Town does not collect and manage plastic film. Based on the DEEP’s 2015 *Statewide Waste Characterization*

Study and 2016 *Construction and Demolition Waste Characterization and Market Analysis*, plastic film constitutes over 3.5% of the MSW waste stream and approximately 0.4% of the C&D waste stream. Plastic film is difficult to separate at Connecticut's existing recycling centers and volume reduction facilities; it can also be difficult to manage as it gets caught in the screening components of these facilities.

Additionally, we observe incoming loads of construction and demolition debris mixed with oversized MSW containing significant quantities of plastic film. Based on discussions with neighboring communities, they also receive plastic film from residential and commercial sources.

The baler will be used to process plastic film for shipment to a recycling center or processing facility. A baler is necessary to economically collect and transport plastic film due to its low density. By reducing the volume of the film and the number of trips to the processing facility, we will reduce environmental impacts associated with transportation.

Collecting and managing plastic film will divert these materials from the MSW waste stream and the Town's C&D landfill. This initiative will reduce landfilling in favor of recycling, which is a more preferred management strategy on the state's solid waste management hierarchy.

Plastic film will be collected at the Town's transfer station and processing will take place in a re-purposed salt storage shed at the preferred site. Existing DEEP solid waste permits at this location will speed the regulatory approval process and reduce the time between grant approval and operation of this new waste diversion program. The Town would accept plastic film from residents, other municipalities, and industrial / commercial customers throughout the region. This operation could serve a population of 150,000 to 300,000 in the Capitol Region.

The Town will keep track of the tonnage of plastic film received and processed, the source of the materials, and their final disposition.

The estimated cost of a baler and any site improvements is 25,000 to \$40,000; the Town is requesting these funds from the DEEP MMI grant. The Town will follow required procurement procedures to purchase this equipment. If suitable used equipment is available, we will consider that option.

The Town anticipates that no additional personnel will initially be required to operate this equipment; existing Sanitation and Public Works staff will be trained to operate and maintain it. This initiative is expected to divert additional recyclables from the MSW and C&D waste streams.

In the future, this baler could be used to process other plastics and recyclables.

The Town anticipates procurement of the baler within four to six months of approval and procurement of the preferred site. This program could be put into temporary operation within a few months of grant approval. Final construction would not be completed until after a new salt storage shed had been constructed on the land acquired as described with *Initiative #2* and the existing structure is retrofitted for this activity.



5.9 Styrofoam Collection & Processing

The Town is seeking to procure and operate a densifier to compact polystyrene (Styrofoam). Currently, the Town does not collect and manage Styrofoam. Based on the DEEP's 2015 *Statewide Waste Characterization Study*, polystyrene constitutes approximately 0.6% of the MSW waste stream and this percentage was down from 1.5% in 2010.

Town Sanitation staff observe incoming loads of construction and demolition debris mixed with oversized MSW containing significant quantities of Styrofoam packing materials. Based on discussions with neighboring communities, they also receive Styrofoam from residential and commercial sources.

The densifier will be used to process Styrofoam for shipment to a recycling center or processing facility. The densifier should be able to receive volume reduction of approximately 30-to-1. A densifier is necessary to economically collect and transport Styrofoam due to its low density. By reducing the volume and the number of trips to the processing facility, we will reduce environmental impacts associated with transportation.

Collecting and managing Styrofoam will divert these materials from the MSW waste stream and the Town's C&D landfill. This initiative will reduce landfilling in favor of recycling, which is a more preferred management strategy on the state's solid waste management hierarchy.

Styrofoam will be collected at the Town's transfer station and processing will likely take place in a repurposed salt storage shed at the preferred site. Existing DEEP solid waste permits at this location will speed the regulatory approval process and the reduce the time between grant approval and operation of this new waste diversion program. The Town would accept Styrofoam from residents, other municipalities, and industrial / commercial customers throughout the region. This operation could serve a population of 150,000 to 300,000 in the Capitol Region.

The Town will keep track of the tonnage of Styrofoam received and processed, the source of the materials, and their final disposition.

The estimated cost of a Styrofoam densifier and any site improvements is \$75,000 to 100,000; the Town is requesting these funds from the DEEP MMI grant. The Town will follow required procurement procedures to purchase this equipment.

The Town anticipates that no additional personnel will initially be required to operate this equipment; existing Sanitation and Public Works staff will be trained to operate and maintain it. This initiative is expected to divert additional recyclables from the MSW and C&D waste streams.

The Town anticipates procurement of the Styrofoam densifier within four to six months of approval and procurement of the preferred site. This program could be put into temporary operation within a few months of grant approval. Final construction would not be completed until after a new salt storage shed had been constructed on the land acquired as described with *Initiative #2* and the existing structure is retrofitted for this activity.



6.0 STAKEHOLDER SUPPORT

The Town of Manchester has presented these initiatives to the Capitol Region Council of Governments (CRCOG) and the Central Connecticut Solid Waste Authority (CCSWA). We have also discussed the proposed mobile grinder, mobile screener, plastic film collection and processing, and Styrofoam collection and processing initiatives with several of our neighboring communities that may participate in these programs. In addition, the Town has discussed the potential for a food waste collection and processing facility and an aerated static pile composting facility with private food waste collection and AD facility operators. They have expressed interest in the projects as a way to manage food wastes in the Capitol Region and to reduce transportation costs and environmental impacts.

Letters of support from CRCOG, CCSWA, our State legislative delegation (State Rep. Rojas, State Rep. Currey, State Rep. Luxenberg, State Rep. Doucette, and State Sen. Rahman), the Town of Ellington, the Town of Glastonbury, and the Town of South Windsor are attached.

A letter of interest from Quantum Biopower and Supreme Forest Products is also attached.

7.0 ENVIRONMENTAL JUSTICE

The initiatives proposed in this MMI grant application are designed to increase and improve recycling program, to improve organics management programs, to expand food waste diversion and recycling / composting programs, and to manage a higher percentage of our waste stream within the State of Connecticut. One proposed initiative includes placing satellite food waste collection containers within environmental justice census block groups and public education and outreach to maximize participation. Each of the proposed initiatives will provide long-term environmental benefits to all of our residents.

The Town's existing and proposed solid waste management facilities on Olcott Street are not located within a distressed municipality or an environmental justice block group.

As the Town is committed to environmental justice, we will voluntarily develop and implement an environmental justice public participation plan following Connecticut General Statute 22a-20a and the DEEP's current guidance. The goal of this plan will be to seek meaningful public participation on the proposed activities. The public participation plan will identify:

- Proposed new or expanded activities, including location, operations, traffic, traffic patterns, and operating hours
- Potential environmental and health impacts
- Permits and/or authorizations needed
- Efforts to mitigate the potential environmental and health impacts
- Pollution control measures to be implemented
- Proximity to sensitive receptors
- The potentially impacted communities
- Individuals and groups to be notified of the proposed activities
- Proposed outreach efforts
- The date, time, and place of an informal public meeting
- Communication methods for the informal public meeting

The Town will seek input and concerns from the community and conduct meaningful review and consideration of the issues raised. We will respond to questions and concerns raised and document all actions in an environmental justice report. As appropriate, the Town will address concerns via modifications to the plans, mitigation efforts, and/or control measures.

TABLE 1

DEEP MMI GRANT PROPOSAL SUMMARY

TOWN OF MANCHESTER

DUE DATE: DECEMBER 20, 2024

Initiative Number	Initiative Description	Initiative Purpose	Consistent with CMMS & State Solid Waste Heirarchy	Initiative Type	Estimated Population Served	Anticipated Sectors Served	Estimated Cost	Estimated Development Timeframe (from MMI grant approval)
1	Additional Food Scrap Collection Units	Expand Organic Waste Mgmt / Diversion Program	Yes. Second most preferred strategy: Recycling/Composting.	Town	59,000	Residential, including Multi-Family	\$80,000 to \$90,000	3 to 6 months, beginning with MMI Grant Approval
2	Land Purchase	Support New Organic Waste Mgmt / Diversion Programs	Yes. Second most preferred strategy: Recycling/Composting.	Town	Over 400,000	Residential, Municipal, Institutional, Commercial Haulers	\$1,250,000 to \$1,750,000	3 to 9 months, beginning with MMI Grant Approval
3	Food Waste Collection & Processing	New Organic Waste Mgmt / Diversion Program	Yes. Second most preferred strategy: Recycling/Composting.	Regional	Over 400,000	Residential, Municipal, Institutional, Commercial - Retail & Wholesale	\$3,000,000 to \$3,750,000	24 to 36 months, after Land Purchase and Salt Shed Relocation
4	Aerated Static Pile (ASP) Composting	New Organic Waste Mgmt / Diversion Program	Yes. Second most preferred strategy: Recycling/Composting. Also, potential energy recovery.	Regional	Over 400,000	Residential, Municipal, Institutional, Commercial - Retail & Wholesale	\$1,000,000 to \$1,500,000	18 to 24 months, after Land Purchase and Salt Shed Relocation
5	Transfer Station / Recycling Equipment	Support Existing Recycling / Diversion Activities	Yes. Second most preferred strategy: Recycling/Composting.	Town	59,000	Residential, Municipal, Commercial	\$450,000 to \$500,000	3 to 6 months, beginning with MMI Grant Approval
6	Mobile Grinder	Support Existing Organic Waste Management	Yes. Second most preferred strategy: Recycling/Composting.	Regional	120,000 to 170,000	Residential, Municipal, Commercial	\$370,000 to \$400,000	4 to 8 months, beginning with MMI Grant Approval
7	Mobile Screener	Support Existing Organic Waste Management	Yes. Second most preferred strategy: Recycling/Composting.	Regional	95,000 to 170,000	Residential, Municipal, Commercial	\$300,000 to \$320,000	4 to 8 months, beginning with MMI Grant Approval
8	Plastic Film Collection & Processing	New Existing Recycling / Diversion Activity	Yes. Second most preferred strategy: Recycling/Composting.	Regional	150,000 to 300,000	Residential, Municipal , Commercial	\$25,000 to \$40,000	6 to 9 months for temp operations, 12 to 18 months after Land Purchase & Salt Shed Relocation
9	Styrofoam Collection & Processing	New Existing Recycling / Diversion Activity	Yes. Second most preferred strategy: Recycling/Composting.	Regional	150,000 to 300,000	Residential, Municipal, Commercial	\$75,000 to \$100,000	6 to 9 months for temp operations, 12 to 18 months after Land Purchase & Salt Shed Relocation
TOTAL							\$6,550,000 to \$8,450,000	

State of Connecticut



GENERAL ASSEMBLY

Mr. Mike Looney, Senior Advisor
Commissioner's Office
Department of Energy and Environmental Protection
79 Elm Street Hartford, Connecticut 06106

December 17, 2024

Re: Materials Management Infrastructure Grant Application
Town of Manchester

Dear Mr. Looney:

I am writing to express my support for the Town of Manchester's application for the DEEP's Materials Management Infrastructure (MMI) Grant. The Town's application includes several initiatives to divert and manage food wastes from landfill and incinerators and to increase and improve recycling. These proposals will benefit the Town as well as the communities throughout our entire region.

Food wastes represent over 20% of our waste stream and food can be readily composted or digested to produce compost and electricity. But our towns have trouble collecting food scraps separately from trash and having an economical outlet for them when they are collected. Manchester is proposing to expand their own collection program as well as to provide a regional collection and processing facility east of the river where other towns, businesses, institutions, and private haulers can manage the food scraps that they collect. This facility will help control costs associated with food waste diversion projects and encourage other towns to collect food wastes. The land acquisition and equipment proposed for this grant are critical to the overall success of Manchester's proposed food waste management strategy.

The proposals for a mobile shredder and mobile screener will support the food waste programs and will also be able to be used by Manchester and other towns in the region to manage their brush and leaves. This will help our towns control their costs and produce materials that are ready to be composted or marketed.

The proposed programs to collect and manage plastic film and Styrofoam will reduce the quantities of these materials in the waste stream as they are generally not recycled in our area. In addition, by removing these hard to recycle items from the material recycling facilities in Hartford, Berlin, and Willimantic, the Town's activities will help improve the efficiency and quality of those facilities.

I strongly encourage the DEEP to approve the Town of Manchester's application and support their recycling and waste diversion initiatives.

Sincerely,

A handwritten signature in black ink, appearing to read "J-Rj".

State Rep. Jason Rojas
9th Assembly District

A handwritten signature in black ink, appearing to read "Jeff Currey".

State Rep. Jeff Currey
11th Assembly District

A handwritten signature in black ink, appearing to read "Geoff Luxenberg".

State Rep. Geoff Luxenberg
12th Assembly District

A handwritten signature in black ink, appearing to read "Jason Doucette".

State Rep. Jason Doucette
13th Assembly District

A handwritten signature in blue ink, appearing to read "MD Rahman".

State Senator MD Rahman
4th Senatorial District

November 27, 2024

Mr. Michael Looney
Senior Advisor to the Commissioner
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Re: CRCOG support for Materials Management Infrastructure Grant (MMI) Application (Manchester)

Dear Mr. Looney:

Please accept this letter from the Capitol Region Council of Governments (CRCOG) in support of the Town of Manchester's application to the Materials Management Infrastructure (MMI) Grant Program to develop a regional organic material, food waste, and materials recycling/depackaging facility.

Connecticut disposes of approximately 2.2 million tons per year of municipal solid waste (MSW), with approximately 520,000 tons per year (or 22%+) being food waste. Food waste not only makes up a large portion of waste in landfills but contributes to increased methane (greenhouse gas) emissions and climate change. Diversion of food waste can save municipalities and taxpayers money on tipping fees, reduce our dependence on out-of-state transportation and our limited in-state disposal capacity, as well as address environmental and food insecurity issues in our communities.

Currently, CT state law requires businesses that generate more than 26 tons of food waste annually and are located within a 20-mile radius of a food scrap recycling facility to divert these materials from MSW. Effective January 1, 2025, state law will now require larger scale commercial diversion of food scraps from the solid waste stream by removing the radius requirement. Legislation has also been introduced to require institutions (including schools and educational facilities) to divert food waste from the solid waste stream.

The Town of Manchester, the Capitol Region Council of Governments (CRCOG), the Central Connecticut Solid Waste Authority (CCSWA), and various public/private entities have been exploring options to develop a regional organic material, food waste, and materials recycling/depackaging facility to serve Manchester and potentially surrounding communities. For half a century, local governments and municipalities in Connecticut have been primarily responsible for the financial and management burden of handling millions of tons of solid waste generated in this state, with over 860,000 tons per year of waste exported due to the closure of MIRA.

With a total population of nearly 1 million residents covering 1,047 square miles, CRCOG member municipalities have the potential to reduce and divert 100,000+/- tons of organic waste, 90,000+/- tons of recycled packaging and paper and reduce up to 20% of residential waste disposed.

We are excited about the potential for this project and encourage CTDEEP to approve the Town's application in the amount requested. CRCOG pledges its commitment to be a strong, collaborative partner in this project.

Should you have any questions, please do not hesitate to contact me at 860-724-4232 or mhart@crcog.org.

Sincerely,



Matthew W. Hart
Executive Director

CC: Steve Stephanou, Town of Manchester
Robyn Nichols, CRCOG
CCSWA Executive Committee
CRCOG Policy Board

November 27, 2024

Mike Looney – Senior Advisor to the Commissioner
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

RE: CCSWA Support for Materials Management Infrastructure Grant (MMI) Application (Manchester)

Dear Mike:

Please accept this letter from the Central CT Solid Waste Authority (CCSWA) Executive Committee in **support of the Town of Manchester's application for a Materials Management Infrastructure (MMI) Grant Program to develop a regional organic material, food waste, and depackaging facility.**

Connecticut disposes of approximately 2.2 million tons per year of municipal solid waste (MSW), with approximately 520,000 tons per year (or 22%+) being food waste. This contributes significantly to methane emissions and climate change. Diverting food waste offers substantial environmental and economic benefits, reducing reliance on out-of-state disposal, lowering tipping fees, and addressing food insecurity in our communities.

Currently, CT state law requires businesses that generate more than 26 tons of food waste annually and located within a 20-mile radius of a food scrap recycling facility to divert these materials from MSW. Effective January of 2025, S.B. 191, **AN ACT CONCERNING FOOD SCRAP DIVERSION FROM THE SOLID WASTE STREAM** eliminates the geographic radius requirement for commercial food scrap recycling, mandating larger-scale commercial diversion. Further legislation is pending to require food waste diversion from institutions, including schools and educational facilities.

The Town of Wethersfield, the Capitol Region Council of Governments (CRCOG), the Central Connecticut Solid Waste Authority (CCSWA), and various public/private entities have been in discussions to provide collaborative support in developing a regional food waste and organic material facility to serve Wethersfield and potentially surrounding communities within the CRCOG region. For half a century, local governments and municipalities in Connecticut have been primarily responsible for the financial and management burden of handling millions of tons of solid waste generated in this state annually, with over 860,000 tons per year of waste exported due to the closure of MIRA.

The Central Connecticut Solid Waste Authority (CCSWA) was organized as a regional waste authority in 2010 pursuant to C.G.S. Section 7-273aa-bb, which authorizes municipalities to establish, by municipal ordinance, regional resource recovery authorities with a broad range of powers to support a comprehensive program for solid waste disposal efforts and resources recovery in accordance with the state solid waste management plan.

CT's waste crisis and MIRA's shutdown reinvigorated interest in CCSWA as a regional waste authority with an ability to prioritize, develop, and implement waste management and diversion strategies to design and execute viable program and service approaches for our Region and beyond. Using Best Practices, CCSWA serves as a collaborator, innovator, and arm of implementation to advance the States' waste management and diversion efforts.

Currently, fourteen (14) municipalities are members of CCSWA – representing a population of over 400,000, a significant portion of the CROG region.

Member Town/Municipality	Population (2020 Decennial Census)
Avon	18,932
Bloomfield	21,535
Bolton	4,858
Cromwell*	14,225
East Granby	5,214
Enfield	42,141
Farmington	26,712
Glastonbury	35,159
Granby	10,903
Hartford	121,054
Manchester	59,713
Simsbury	24,517
South Windsor	26,918
Wethersfield	27,298
TOTAL CCSWA Population:	439,179

CCSWA has significant opportunity, reach, and ability to impact, reduce, and divert waste and other materials from the municipal solid waste stream in our Region and beyond through its proven and established collaborative public/private partnerships in the region and as evidenced by our member municipalities interest/pursuit in waste diversion and reduction efforts, including food waste programs, composting efforts, and materials recycling.

As such, at a meeting on November 18, 2024, the **CCSWA Executive Committee voted to support The Town of Manchester's Materials Management Infrastructure**

(MMI) Application.

The CCSWA Executive Committee strongly encourages CTDEEP to support the Town of Manchester in their Materials Management Infrastructure (MMI) Grant application with CCSWA's commitment to be a strong, collaborative partner in the process.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, reading "Fred Presley". The signature is fluid and cursive, with a large loop at the end of the last name.

Fred Presley, ICMA-CM
Central CT Solid Waste Authority – Chair
fred.presley@wethersfieldct.gov
Phone: 860-721-2801



STATE OF CONNECTICUT – COUNTY OF TOLLAND
INCORPORATED 1786

TOWN OF ELLINGTON

Tom Modzelewski
Director/WPCA
Administrator

Department of Public Works

21 MAIN STREET – PO BOX 187
ELLINGTON, CONNECTICUT 06029-0187
TEL 860-870-3140 FAX 860-870-3147
www.ellington-ct.gov

12-12-2024

To Whom It May Concern,

On behalf of the Town of Ellington, I am writing to express our strong support for the Town of Manchester's application for the Materials Management Infrastructure (MMI) Grant. This grant represents an invaluable opportunity to enhance regional collaboration and shared services across our communities.

The proposed equipment would empower Manchester and its neighboring towns, including Ellington, to better manage essential tasks and ensure the proper disposal of materials. By regionalizing these efforts, we can improve service delivery, reduce costs, and maximize the impact of our collective resources.

Regional collaboration is a cornerstone of sustainable and effective municipal management, particularly in the area of materials management. The MMI Grant would enable the participating towns to enhance their operational capacity while fostering a greater sense of partnership and shared responsibility across our region.

We commend Manchester for its leadership in this initiative and are fully committed to supporting this effort, including coordinating the usage and logistics of shared equipment should the grant be awarded. We are confident that the benefits of this project will extend far beyond the boundaries of individual towns, providing long-term value to our residents and the region as a whole.

Thank you for your consideration of this application. Please do not hesitate to reach out if additional information or support is needed.

Respectfully,

Tom Modzelewski
Town of Ellington
Director/WPCA Administrator/
Tree Warden
21 Main St.
Ellington, CT 06029
860-870-3140



Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

SANITATION/Refuse Disposal Division

860-652-7772

860-652-7771

November 26, 2024

Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

RE: Support for Materials Management Infrastructure Grant (MMI) Application - Manchester

Dear Grant Officer:

Please accept this letter from Glastonbury Sanitation in support of the Town of Manchester's application for a Materials Management Infrastructure (MMI) Grant Program to develop a regional materials recycling facility including polystyrene and plastic film collection as well as a depackaging facility.

The Town of Manchester, the Capitol Region Council of Governments (CRCOG), the Central Connecticut Solid Waste Authority (CCSWA), and our department have discussed collaborating on difficult-to-handle and/or recycle materials.

I strongly encourage CT DEEP to support the Town of Manchester in their Materials Management Infrastructure (MMI) Grant application with my commitment to be a strong, collaborative partner in the process.

Should you have any questions, please do not hesitate to contact me at **Mike.Manfre@Glastonbury-ct.gov**.

Please feel free to contact me directly at 860-652-7774 if you have any questions.

Very truly yours,

Mike Manfre
Superintendent of Sanitation

MTM/lad

December 12, 2024

Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Re: Support for Materials Management Infrastructure Grant (MMI) Application – Town of Manchester

Dear Grant Officer,

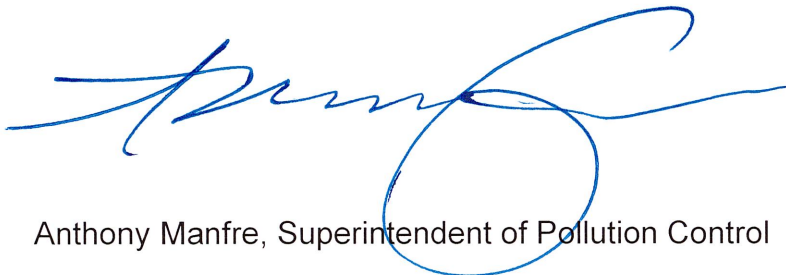
Please accept this letter from the Town of South Windsor Pollution Control Division in support of the Town of Manchester's application for a Materials Management Infrastructure (MMI) Grant Program, aimed at expanding their recycling and diversion facilities, as well as supporting regional food waste collection and processing.

The Town of Manchester has been an invaluable resource to us and neighboring towns, consistently innovating their recycling practices to reduce waste sent to the landfill.

I strongly encourage CT DEEP to support the Town of Manchester in their Materials Management Infrastructure Grant (MMI) Application with my commitment to be a dedicated and collaborative partner throughout the process.

Please reach out to me at Anthony.Manfre@SouthWindsor-CT.gov or (860) 644-2511, Ext. 2247 if you have any questions.

Very truly yours,



Anthony Manfre, Superintendent of Pollution Control

Town of Manchester, CT

Expression of Interest
Organics Recycling Infrastructure Partnership

December 6, 2024

Mr. Scott Atkin, Environmental Services Manager
Town of Manchester, CT
321 Olcott St,
Manchester, CT, 06040

Re: Expression of Interest In Supporting the Design & Operation of Organics Recycling Infrastructure at the Town Transfer Station Land Space.

Dear Mr. Atkin -

The following is a letter jointly crafted by the teams at Quantum Biopower (QBP) and Supreme Forest Products (SFP) who have designed and are actively operating the State's most robust organic waste recycling facility. Our companies handle and process 40,000 tons of food waste and 200,000 yards of green waste on an annual basis. We deploy sophisticated technology in the form of anaerobic digestion and purpose-built green waste processing equipment to achieve that outcome. We have been in operation for 40 years and have assembled one of the most well-trained and effective organic waste operations teams in the Northeast. Proudly, our flagship facility in Southington, CT has been nationally and regionally recognized as an example of how strong public and private partnerships can be well-formed to create meaningful organic waste infrastructure.

As it relates to the Town of Manchester, our vision is to create a collaborative public and private partnership whereby we jointly pursue the goal of diverting organic waste from the regional waste shed. We foresee this collaboration materializing in a variety of ways:

1. **Mutual Economic Benefit** – Manchester's landfill provides sufficient revenue back to the Town by way of disposal fees. The hallmark of a strong public and private relationship is mutually shared benefit, especially, economic upside. QBP & SFP would seek a revenue sharing model that its advantageous to the Town and our collaborative business.
2. **Design & Implementation** - Assisting the Town of Manchester with design considerations for food waste pre-treatment technology equipment, design, and installation to be located at the Town transfer station site. Such an installation will be purpose built with the commercial and residential customer in mind and designed to accommodate the regions organic waste needs.
3. **Operations** – QBP & SFP teams are prepared to support the operation of an organic waste processing facility designed to process organic waste volumes for on-site finished processing (ASP or traditional composting), or, subsequent transfer to Southington, CT for anaerobic digestion.
4. **Volume & Logistics** – Our team will bring our expansive fleet and robust logistics experience to ensure the Manchester facility has adequate volume of inbound organic waste and has access, through our company's network, to other disposal facilities (like our Southington campus) to ensure seamless and compliant operation.

Town of Manchester, CT

Expression of Interest

Organics Recycling Infrastructure Partnership

- 5. Commercial/Business Support** – The organic waste processing program in Manchester will require commercial volumes of waste in order to achieve the proper throughput to support such an operation. Our team will help augment, through access to its customer base in the Central & Northeast region of CT, appropriate inbound food waste volumes to throttle up/down food waste for the benefit of the operation. Said another way, Quantum's commercial customers in the greater Manchester Region can be directed to a more centrally located drop-off facility that is advantageous to all parties.

Design Footprint

Our vision for the future of organic waste receiving and processing involves the construction of intermediate processing facilities where organic waste can be received and processed from both residential and commercial food waste generators in Manchester. Such a facility, located in a region that is underserved for organic waste receipt and processing, will help to minimize the amount of time collection vehicles take to leave their collection routes for disposal drop off. This departure from the collection route is a primary impediment to the collection process and inhibits route densification.

Our team is prepared to support the design and installation of a 100' x 80' steel building that will be purpose built to receive Source Separated Organic (SSO) waste, collected in rear end collection type vehicles. The building will contain food waste pre-treatment equipment to remove contaminants from the SSO material, creating a clean slurry of food waste, suitable for digestion or composting.



Quantum Biopower's food waste pre-treatment facility located in Southington, CT on its organic waste recycling campus. The facility receives and process food waste from municipal and commercial customers.

The design aspects of the proposed food waste pre-treatment facility in Manchester, CT are as follows:

- ~10,000 square feet of operating space.
- Preferred utilities; 3-phase power, water, sewer (not necessary, but preferred)
- Odor control mitigation equipment, if storing material overnight.
- Drive-in dump lanes for food waste offloading.
- Pre-treatment equipment to decontaminate and slurry food waste.
- Exterior holding tank (not pictured) to store food waste.
- Inaudible from the outside.
- Computer and PLC integration.
- Discard containers for residual contaminants.

Town of Manchester, CT

Expression of Interest

Organics Recycling Infrastructure Partnership

Based on Quantum's experience in building and operating such facilities, we estimate the cost of the project to be roughly \$4,000,000. \$2,000,000 associated with building shell & MEP with \$2,000,000 in specialty equipment costs.

Site Location

In evaluating the site attributes of the landfill/transfer site in Manchester, our team is particularly interested in an area of the site located on the Eastern half of the land space that currently is home to the salt bins the town uses. This space is far enough away from residential activity, yet, close enough for scale access to warrant further investigation in converting into an organic waste processing facility. Also, additional thought and consideration can be placed in re-purposing the salt bin building if it provides the proper structural amenities suitable for an organic waste processing facility.



The salt bin location at the Town of Manchester could be an ideal location to repurpose and rebuild an organics processing facility.



Our teams at QBP & SFP are interested and eager to support the Town of Manchester in all aspects of design, development, construction, and even partial financing to create a first-in-class organics processing facility for the benefit of the Town, its citizens, and businesses.

With Regards,

A handwritten signature in blue ink, reading "Brian M. Paganini".

Brian M. Paganini
VP – Quantum Biopower



A handwritten signature in black ink, reading "Charles Leigus".

Charles Leigus
GM – Supreme Forest Products

