Waste Management

This guidance is intended to clarify how the Waste Management Goal and Objectives of the Regional Policy Plan (RPP) are to be applied and interpreted in Cape Cod Commission Development of Regional Impact (DRI) project review. This technical bulletin presents specific methods by which a project can meet the goal and objectives.

Waste Management Goal: To promote a sustainable solid waste management system for the region that prioritizes reuse and diversion and protects public health, safety, and the environment.

- ***Objective WM1*** *– To reduce waste and waste disposal by promoting waste diversion, reuse, beneficial reuse, deconstruction and other Zero Waste initiatives*
- ***Objective WM2*** *– Support an integrated solid waste management system*

The applicability and materiality of these goals and objectives to a project will be determined on a case-by-case basis considering a number of factors including the location, context (as defined by the Placetype of the location), scale, use, and other characteristics of a project.

THE ROLE OF CAPE COD PLACETYPES

The RPP incorporates a framework for regional land use policies and regulations based on local form and context as identified through categories of Placetypes found and desired on Cape Cod.

The Placetypes are determined in two ways: some are depicted on a map contained within the RPP Data Viewer located at www.capecodcommission.org/RPPDataViewer adopted by the Commission as part of the Technical Guidance for review of DRIs, which may be amended from time to time as land use patterns and regional land use priorities change, and the remainder are determined using the character descriptions set forth in Section 8 of the RPP.

The project context, as defined by the Placetype of the project's location, provides the lens through which the Commission will review the project under the RPP.

TABLE OF CONTENTS

INTRODUCTION

Solid waste management has improved greatly in the Commonwealth since 1990 when MassDEP issued the Commonwealth's first Solid Waste Master Plan. Today, Massachusetts has a modern solid waste management system that promotes waste reduction and recycling and ensures that facilities that handle and dispose of waste are properly designed and operated to protect public health and the environment.

There are increasingly fewer landfills and less landfill capacity in the Commonwealth, and for environmental, economic and other reasons, siting of new landfill facilities to maintain current disposal rates is unlikely or undesirable. In fact, a good deal of solid waste and recycling is shipped outside the Commonwealth for disposal or handling. The necessary alternative is to reduce reliance on landfilling and disposal.

The 2030 Massachusetts Solid Waste Master Plan states that in-state landfills will be closing soon, with no plan to create more in-state landfill disposal capacity. Similarly, the 2030 Solid Waste Master Plan does not anticipate increases in incineration capacity and notes that future regulation of incinerators may result in a decrease in that capacity. The Master Plan anticipates that the Commonwealth will address its solid waste management needs through diversion, recycling and other zero waste strategies.

The RPP's Waste Management Goal and Objectives are intended to support and further the Commonwealth's current Solid Waste Master Plan (2020-2030) and recognize Barnstable County's relationship and role with the Commonwealth (and beyond) in advancing a sustainable approach to waste management; and alternately, that it is neither feasible nor desirable for Barnstable County to have a waste management system and approach that is entirely independent from the Commonwealth's.

APPLICABILITY

WM1 applies to DRIs where the proposed development involves or is likely to involve solid waste generation, or if solid waste handling or management is a principal purpose, use, or component of the development.

Waste Management Objective WM2 applies to projects whose primary purpose is waste management, disposal, or reduction.

SUMMARY OF METHODS

GOAL | WASTE MANAGEMENT

To promote a sustainable solid waste management system for the region that prioritizes reuse and diversion and protects public health, safety, and the environment.

Objective WM1 – Reduce waste and waste disposal by promoting waste diversion, reuse, beneficial reuse, deconstruction and other Zero Waste initiatives.

The following are methods a project may use to achieve consistency with Objective WM1. Applicants are encouraged to propose alternate methods to meet Objective WM1 based on best practices for the type of project proposed, or as new technologies are developed and available.

Massachusetts has a waste ban which prohibits the disposal of certain recyclable and reusable construction and demolition (C&D) materials. Applicants for projects where WM1 is found applicable and material must provide a C&D materials management plan for the construction phase of the project. See *General Application Requirements*.

METHODS

- Incorporate alternatives to disposal, such as:
  - The beneficial re-use of materials and resource recovery of useful materials
  - Provide spaces and facilities for recycling
  - Create or expand opportunities to compost organic materials
- Provide opportunities for reuse, such as:
  - Bottle refill stations
  - Reuse buildings and structures
  - Reuse building materials and/or provide building materials for reuse through building deconstruction
  - Provide spaces and facilities for reuse, such as textile donation
- Incorporate clean waste-to-energy initiatives such as anaerobic digestion
- Improve collection and disposal of marine debris
- Properly manage construction and demolition waste and recycling

Objective WM2 – Support an integrated solid waste management system

WM2 is applicable to those projects whose primary purpose is waste management, disposal, or reduction. Implementation of one or more of the methods below can be used to support the finding that the project meets this objective. The following are methods a project may use to achieve consistency with Objective WM2. Applicants are encouraged to propose alternate methods to meet Objective WM2 based on best practices for the type of project proposed.

METHODS

- Incorporate waste diversion methods, facilities, and/or initiatives to preserve existing disposal capacity to serve regional needs
- Provide alternative methods to trucking to transport waste and recycling materials from Barnstable County, including rail and ship
- Promote regional solid waste management:
    - Support existing municipal waste facilities and encourage regional coordination between municipal facilities
    - Private waste facilities and markets provide support for and supplement municipal waste facilities and operations
    - Strengthen waste management collaboration between the Cape and Islands to increase efficiencies and opportunities
    - Advance opportunities for multi-town and public/private and public/military collaboration on diversion and disposal options
- Create integrated facility partnerships – including between municipalities and businesses – to support integrated solid waste management systems
- Support local and regional resilience and disaster debris management
- Develop or support local markets, infrastructure, technologies, jobs and firms in recycling, re-use, resource recovery and related material management efforts

DETAILED DISCUSSION OF METHODS FOR MEETING OBJECTIVE WM1

Objective WM1 *– To reduce waste and waste disposal by promoting waste diversion, reuse, beneficial reuse, deconstruction and other Zero Waste initiatives*

The intent of objective WM1 is to reduce the amount of waste generated and to provide for the recycling or reuse of waste.

Since the 1990's, Massachusetts has imposed state-wide waste bans that increase recycling, support the recycling economy, and are a key tool available in Massachusetts to reduce disposal and increase recycling and composting.

However, the disposal of materials that have significant value – in both monetary and natural-resource terms – continues and whose environmental impacts could be avoided if those materials were reused. Solid waste management represents a significant cost to taxpayers and businesses, and disposal of materials causes environmental impacts and is a waste of resources and a lost economic opportunity. The more consumers can reduce the amount of waste that has to be disposed of by reducing generation and increasing reuse, recycling, and composting, the better for the economy, public health and the natural environment. There have also been dramatic changes in the recycling markets at the state, national and international level over the past few years, suggesting that less reliance on recycling alone and the promotion of other forms of waste diversion are prudent approaches for future solid waste planning.

Incorporate alternatives to disposal

Projects should provide alternatives to waste disposal through resource recovery and beneficial reuse of materials, including the composting of organic waste, and may provide facilities for waste diversion such as recycling.

"Zero Waste" is an alternative vision to the traditional concept of waste disposal, involving the overall reduction in waste generation and the amount of wastes requiring disposal; and less overall reliance on disposal in landfill facilities by diverting materials from the waste stream. Waste diversion approaches include increasing reuse of materials; increasing recycling of materials that have served their useful purpose; resource recovery of useful materials that would otherwise be placed in the waste stream; and composting food and other organic materials. Resource recovery is using

wastes as an input material to create valuable products as new outputs. Plastic, paper, aluminum, glass and metal are examples of where value can be found in waste as input material.

Incorporate opportunities for reuse

Projects should incorporate opportunities for reuse, furthering alternatives to disposal and preserving already available resources, such as reusing buildings and building materials or provide for the reuse of items such as building materials or textiles. Water bottle refilling stations also promote the reuse of vessels for liquids and support waste diversion from the use of single-use plastic water bottles.

Diverting material from the waste stream saves money, promotes the more efficient use of materials, captures valuable resources, protects the environment, and supports the economy. Disposal of potentially useful and valuable materials is a waste of resources and lost economic opportunity.

Incorporate clean waste-to-energy initiatives

The project includes waste-to-energy technology, such as anaerobic digestion, which can reduce the amount of waste sent to landfills and provide an energy source for local or regional use.

Improve collection and disposal of marine debris

The project includes collection and/or reuse of marine debris (waste found along the shoreline or within the ocean). Increased collection and proper reuse or recycling of marine debris can promote waste diversion, recycling, or reuse of materials such as derelict fishing gear.

Properly manage construction and demolition waste

Massachusetts has a waste ban which prohibits the disposal of certain recyclable and reusable construction and demolition (C&D) materials. Applicants must provide a C&D materials management plan for the construction and/or demolition phase of the project.

DETAILED DISCUSSION OF METHODS FOR MEETING OBJECTIVE WM2

Objective WM2 *– Support an integrated solid waste management system*

The intent of objective WM2 is to promote an integrated system of solid waste management. Waste Management Objective WM2 applies to projects whose primary purpose is waste management, disposal, or reduction.

Integrated Solid Waste Management (ISWM) is a holistic waste reduction, diversion, collection, composting, recycling system that still relies on disposal to some degree, and is a step along the way to try to achieve a "Zero Waste" future. Preserving the scarce, remaining solid waste disposal capacity that is part of such an integrated system is a critical infrastructure consideration for the social and public health of the Cape Cod community and the environment.

ISWM systems rely on a network of individual facilities, with the backbone being municipal transfer stations/solid waste facilities. An ISWM system would include private solid waste or material management businesses to supplement municipal facilities and public markets, which partnerships help in preserving disposal capacity and managing costs. Such local public/ private partnerships, markets and networks can also benefit local economies and support existing or new local and regional businesses and industries. An integrated solid waste management facility (ISWMF) includes components such as:

- a comprehensive recycling drop-off center,
- a materials recovery facility,
- regular hazardous product collections,
- a reuse swap shop,
- grass and leaf waste composting,
- food composting,
- a C&D handling facility.

Incorporate waste diversion methods

Waste disposal facilities should include waste diversion components to support reuse and recycling and the preservation of existing disposal capacity for material that cannot be reused or recycled.

Provide alternative methods to trucking

Alternative methods to trucking, such as rail and ship, are used in waste management, disposal, and diversion operations to support an integrated network of materials handling and processing.

Transportation options, including rail, should be maintained and/or improved to support the management of solid waste and diverted material within and outside of Barnstable County. Any modifications to rail lines or rail heads should maintain or improve the capacity for efficient movement of solid waste and diverted materials.

In 2021, Barnstable County commissioned an Out-of-State MSW Disposal study that identified the most economic and environmentally beneficial MSW disposal option is to rail haul municipal MSW to one of several out-of-state disposal facilities. The existing rail line, and the two existing rail heads on the Cape (one in Yarmouth and one on Joint Base Cape Cod) provide the region with the transportation infrastructure to accomplish this method of disposal.

Promote regional solid waste management

Projects support existing municipal and private waste operations and promote regional coordination for materials management, such as projects that advance opportunities for multi-town, public-private, or public-private-military collaboration. This could include agreements, programs, land dedication, facility construction and/or operation to improve environmental and/or economic outcomes.

Support disaster debris management

Projects provide for the management and/or processing of disaster debris following major disasters such as hurricanes, wildfire, tornadoes, or severe storms.

Develop or support local markets, infrastructure, technologies

Projects support existing or new local markets, infrastructure, or technologies related to materials management and may provide opportunities to bolster the local workforce.

GENERAL APPLICATION REQUIREMENTS

As applicable:

- Narrative describing how the project supports the Objectives
- Site Plan showing how waste will be managed and/or waste management facility design
- Construction and Demolition (C&D) waste management plan
- Post- Construction/ operational solid waste and recycling management plan
- Education and outreach plan to encourage participation in recycling efforts
- Toxic waste management plan
- Food waste or other composting plan
- Waste material re-use/ resource recovery plan
- Corporate/ business sustainability plan, including operational best practices and employee training

Construction and Demolition Waste Management Plan Components

The purpose of a construction and demolition waste management plan is to plan for minimizing waste generation and the disposal of such materials prior to construction. A construction or demolition waste management plan does not need to be lengthy or complicated to be effective. Preparing a plan consists of identifying the types of debris that will be generated by the project and identifying how all waste streams will be handled. A successful waste management plan will contain the following information:

- Identify potential waste haulers, contractors, and facilities where materials will be handled
- Estimated types and quantities of materials or waste generated from the project site
- Proposed and intended disposal methods for these materials
- Intended procedures for handling the materials or waste
- Plans for reuse and salvage of materials, such as how those will be collected and separated and how those materials are intended to be reused
- Detailed instructions for the subcontractors and laborers on how to separate or collect the materials at the job site

REFERENCES AND RESOURCES

MassDEP Recycle Smart Initiative (Recyclopedia) - https://recyclesmartma.org/

MassDEP Managing Construction and Demolition Wastes - https://www.mass.gov/lists/managing-construction-demolition-cd-wastes

RecyclingWorks Massachusetts - https://recyclingworksma.com/

RecyclingWorks Massachusetts Construction and Demolition Materials Guidance - https://recyclingworksma.com/construction-demolition-materials-guidance/

Information on Massachusetts Recycling and Waste - https://www.mass.gov/topics/recycling-waste-management

Massachusetts Solid Waste Master Plan - https://www.mass.gov/guides/solid-waste-master-plan

Zero Waste Boston Deconstruction Initiative – Deconstruction in Boston

Massachusetts Solid Waste Bans - state-wide waste bans