Solid Waste Management Consolidation Study

Final Report

Prepared for:

Martha's Vineyard Refuse Disposal District

February 2011

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Martha's Vineyard Refuse Disposal District

Funded by:
The Martha's Vineyard Commission with financial support from the Massachusetts Department of Housing and Community Development District Local Technical Assistance Program.

February 10, 2011

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TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **II**

1 INTRODUCTION **1**

1.1 BACKGROUND AND PURPOSE 1
1.2 PREVIOUS STUDIES 2
1.3 PURPOSE AND SCOPE OF THE STUDY 2
1.4 REPORT ORGANIZATION 3

2 REGULATORY STATUS **4**

2.1 SITE ASSIGNMENT 4
2.2 DEP AUTHORIZATION TO CONSTRUCT PERMIT 4
2.3 NEW STATUTORY PROVISIONS REGARDING SITE ASSIGNMENT AND TRANSFER STATIONS 5

3 SOLID WASTE AND RECYCLING VOLUMES **7**

3.1 DISTRICT SOLID WASTE TRENDS 7
3.2 2009 SOLID WASTE AND RECYCLING TONNAGE 8
3.3 SOLID WASTE TONNAGE FOR ISLAND-WIDE DISTRICT 9

4 EVALUATION OF EXISTING FACILITIES **11**

4.1 DISTRICT FACILITIES 11
4.1.1 Site Access Road and District Office *11*
4.1.2 Local Drop Off Area *12*
4.1.3 Gatehouse and Scale Operations *13*
4.1.4 Transfer Station and Solid Waste Processing *15*
4.1.5 Leaf and Yard Waste Composting *17*
4.1.6 Container Storage Area *18*
4.2 CONSTRAINTS OF THE DISTRICT FACILITY 18

5. PROPOSED OPERATIONS APPROACH FOR ISLAND-WIDE DISTRICT **20**

5.1 OVERVIEW ASSESSMENT OF AN ISLAND-WIDE OPERATION AT THE DISTRICT FACILITY 20
5.2 RECOMMENDATIONS FOR INITIAL OPERATIONS PHASE 21

Appendices:

Appendix A – MVRD Facility Site Assignment and Authorization to Construct Permits

Appendix B – Aerial Photos of Martha's Vineyard Solid Waste Facilities

Appendix C – Concept-Level Site Plan of Island-Wide District Facility (From the Report "Master Planning Initiative for Martha's Vineyard, Environmental Partners Group, January 2008

EXECUTIVE SUMMARY

The Marthas Vineyard Refuse District (MVRD) that serves Edgartown, West Tisbury, Chilmark and Aquinnah have been in ongoing discussion over the last two years with the Tisbury and Oak Bluffs of becoming an Island-wide District serving all of the Island communities. This study reviewed the existing regulatory permits held by the District and the implications on expanding to an Island-wide District, defined the solid waste tonnage that it would receive, the condition of MVRDs existing facilities at Edgartown and constraints these facilities would if they were to manage the additional waste and recycling streams, from Tisbury and Oak Bluffs, and provides a proposed concept for MVRD operations that could be used during the initial operating years.

MVRD currently holds a Site Assignment from the Edgartown Board of Health that allows the facility to accept up to 125 tons per day (tpd) of solid waste on an annual average day basis. The Department of Environmental Protection (DEP) Authorization to Construct and Operate permits redefine this 125 tonnage to be a maximum day threshold. The Massachusetts legislature made changes to the Solid Waste statutes that immediately shifts the regulatory authority from DEP to local Boards of Health for performing all Site Assignment permitting and, as of 2012, for transfer stations that receive up to 50 tons per day (annual daily average basis).

During 2009 MVRD received 11,934 tons, 33 tpd, of solid waste. During the peak summer season this average daily tonnage increases to 58 tpd. The Oak-Bluffs transfer station received 13,742 tons of solid waste, equivalent to an average of 38 tpd and a summer season daily average of 66 tpd. An Island-wide District would therefore manage an average 71 tpd of solid waste, which is within the Site Assigned threshold. This increase in tonnage would, however, require a modification to the DEP Authorization to Operate permit.

MVRDs existing facilities at its Edgartown complex consist of a District office, residential drop off area, gatehouse and weigh scale, transfer station building, leaf and yard waste collection area and container storage. Constraints associated with the drop off area, gate house/scale operations, transfer station and compost area were identified. The drop off area is in immediately adjacent to the gate house with very limited area for parking and maneuvering. This, in addition to the activities performed at the gate house – checking stickers, performing the weighing operations and cash transactions – results in queuing of traffic and vehicle congestion that is at times severe during busy operating periods and can present a public safety concern as users of the facility move around their vehicles.

The transfer station is used for processing of solid waste, construction debris and mainstream recyclables. Residents deposit their loads through side windows that are located within the travel lane for trucks that need to access the building, creating another potential safety concern. The tip floor has limited space that makes it difficult at best to process these various stream simultaneously and needs to be sequenced when time and room allow. The area used for collection of leaf and yard waste is too small to allow for windrowing and production of a good loam product, and is now used essentially as a storage area for brush, leaves and yard waste.

Recommended modifications to these facilities that should be considered as part of an Island-wide operation are:

- Relocating the drop off area to a separate area that provides more adequate room for these activities and reduces conflicts at the gatehouse area. The drop off should include containers for both recycling and solid waste
- Install a second weigh scale to promote improved traffic flow. In conjunction with this, adjust the method for assessing fees that places less reliance on the weigh scale
- As part of a long-term management program, construct separate building areas for C&D and recyclables processing
- Additional room for the leaf and yard waste composting that would allow for production of a good loam product
- Expansion of the container storage area

Developing a long-term vision and decisions on the specific facilities desired for an Island-wide District operation will likely take several years to define, permit and construct. An initial concept for how the District could operate during its first phase as an Island-wide operation was developed that relies on existing facilities and equipment at the District's facility in Edgartown, the Oak Bluffs transfer station and in Tisbury. It consists of allocating the operations in the following manner:

District Facility	*Oak Bluffs Transfer Station*	*Tisbury*
Edgartown Local Drop-Off Solid Waste Processing Recyclables Processing Recyclables Container Storage HHW Collection	C&D Processing Recyclables Container Storage Solid Waste Trailer Storage	L&Y Waste Composting

This approach is intended to allow for an efficient operation while at the same time taking advantage of facilities that are available to minimize the District's startup costs during these first years of operation on an Island-wide basis. This concept has been developed with the District staff, but has yet to be discussed with the governing bodies for the District, Oak Bluffs and Tisbury. Operations can be shifted as appropriate and as decided by the all-Island District, and these decisions will provide needed direction on assessing the Districts resource and equipment requirements during this initial phase.

1 INTRODUCTION

1.1 Background and Purpose

Municipal solid waste management on Martha's Vineyard is currently being performed by two entities: the Martha's Vineyard District (MVRD) serving the towns of Aquinnah, Chilmark, Edgartown and West Tisbury; and the Oak Bluffs and Tisbury Department of Public Works that jointly manage their solid waste together. The MVRD communities are served by local drop off facilities for solid waste and recyclables at each of ttheir Towns, and by a regional facility located off of the Edgartown-West Tisbury Road in Edgartown. This regional facility is also the location of Edgartown's local drop off. Similarly, Oak Bluffs and Tisbury have local drop offs in each of their Towns and these are served by a transfer station facility located off of Pennsylvania Avenue in Oak Bluffs.

Over the last fifteen years the costs of solid waste management have progressively escalated in response to higher tipping fees at disposal facilities and increasing requirements to remove material from the waste stream to achieve higher recycling rates. MVRD, Tisbury and Oak Bluffs have had common experiences in this regard, and are especially concerned about potential tip fee increases at the SEMASS facility in Rochester, MA that will come into effect in 2015. The perceived benefits of a solid waste management system that serves all of the Island communities are that it would allow for greater efficiencies of scale in the processing and disposal of solid waste and recyclables, and better position the Island communities for the future introduction of sustainable practices such as improved recycling, processing and reuse of building materials, organics composting, or other beneficial methods of managing solid waste and recyclables. For these reasons, all of the Vineyard communities together with the Martha's Vineyard Commission have been considering a possible merger of these two solid waste management groups into a single, Island-wide District. This merger would effectively consist of Oak Bluffs and Tisbury joining the Martha's Vineyard Refuse District under a revised Agreement that defines the governance, administration and cost sharing for the member communities.

A key consideration with regard to consolidation is the capacity of the District's existing property and facilities in .Edgartown to accommodate all of the Island's solid waste and recyclables, and whether facility improvements and new operational approaches would be needed to meet the increased volumes of solid waste and recyclables that would be received there. This is particularly important during the initial operating years, where existing facilities would be utilized to the greatest extent possible, and capital

costs would be minimized until the longer-term solid waste management needs and the corresponding support facilities and equipment for the Island-wide District can be identified.

1.2 Previous Studies

In the fall of 2007 Environmental Partners Group completed an initial feasibility evaluation of an Island-wide District for MVRD and the Towns of Tisbury and Oak Bluffs. The study, *Preliminary Solid Waste Management Master Planning Initiative for the Island of Martha's Vineyard* dated January 2008, provided an assessment of the existing solid waste management programs and facilities, and characterized specific issues that would need to be addressed if Island-wide consolidation was to be pursued.

The study concluded that consolidation offers solutions at a number of levels for achieving the goal of optimizing recycling, promoting environmentally sound practices and minimizing off-Island shipping and disposal costs. The study also identified challenges that would be posed by consolidation, but that these challenges could be overcome through an Island-wide commitment to a shared set of solid waste management goals and values. The long-term potential use of the District's central facility as a location for providing comprehensive solid waste and recycling management facilities was also evaluated. Environmental Partners prepared conceptual site plans of an expanded District facility that include a solid waste transfer station, construction and demolition debris (C&D) building, residential drop off facilities, household hazardous waste collection, leaf and yard waste composting, and provisions for other miscellaneous waste streams. The study demonstrated that insufficient space is available on the District's Edgartown parcel and within its currently Site Assigned area to accommodate all of these facilities, and recommended pursuing purchase of the 11-acre property adjacent to the District that is under a Purchase and Sale Agreement with Tisbury and Oak Bluffs.

1.3 Purpose and Scope of this Study

The overall purpose of this study is to identify an initial concept-level approach for how the District would serve as an all-Island entity during its initial operating years. The study evaluates the following issues:

- The regulatory status and current restrictions in the District's Site Assignment and Department of Environmental Protection (DEP) Authorization to Construct and Operating permits, and whether modifications to these permits should be anticipated;
- The tonnage of solid waste and recyclables currently managed by the District and Oak Bluffs facilities, and the overall tonnage that an Island-wide facility would need to handle;

- The current condition of the District facilities, and constraints to an Island-wide operation presented by them;

- Modifications to operational approaches and recommendations for additional facility needs that should be considered as part of the long-term concept for an Island-wide District;

- A proposed operations approach for the Island-wide District to be followed during the initial operating years that utilizes existing facilities, including local drop offs, the Oak Bluffs transfer station and the District facility,

As part of this planning effort, work sessions were held with the District staff and the Tisbury Department of Public Works on September 23, October 22, and December 7, 2010 where all of the above issues were discussed. In addition, meetings were held with the Vineyard Commission on December 7 and with the Department of Environmental Protection on December 9, 2010, at which the findings and initial recommendations of the study were discussed.

1.4 Report Organization

This report is organized into the following Sections:

Section 2 Regulatory status of the District facility, providing a review of the existing Site Assignment and DEP permits, conditions and limitations associated with them, and a summary of recent changes to the regulatory authority over these permits.

Section 3 Solid waste and recycling volumes, summarizing long-term solid waste tonnage trends at the MVRD facility and current solid waste and recycling tonnage received at the MVRD and Oak Bluffs transfer stations.

Section 4 Evaluation of the existing District facilities, highlighting present constraints on current operations and related operational complexities for an Island-wide operation.

Section 5 Proposed operations approach for the initial operating phase of an Island-wide District, and operational approaches to be considered for the longer-term.

2 REGULATORY STATUS

2.1 Site Assignment

The Martha's Vineyard Refuse Disposal District was granted Site Assignment approval in accordance with the provisions of MGL, Chapter 11, Section 150A and the Massachusetts Site Assignment Regulations (310 CMR16.00) by the Edgartown Board of Health on March 21, 1996. A copy of the Site Assignment is provided in Appendix A. As part of this permitting the Department of Environmental Protection and the Board of Health determined that the Edgartown property met the required site suitability criteria. The facility was approved with a disposal capacity of 125 tons of solid waste per day, based on an annual daily average (e.g., tonnage at the facility can exceed 125 tons on any given day so long as the annual average is less than this threshold).

The following conditions accompanied the Site Assignment approval:

1. A fifteen-foot high berm was to be constructed along the southerly and western perimeters of the operating area to mitigate noise from the facility.
2. The berm is to be planted with vegetation that will not attract birds or nesting.
3. A 200-foot buffer from the property boundary is to be provided and there can be no operations in the buffer zone with the exception of the primary access road. This is twice the usual statutory buffer zone of 100-feet.
4. A chain link fence is to be installed on the north and eastern perimeters of the property for litter control.
5. A network of monitoring wells was prescribed for monitoring groundwater quality.
6. The operating hours for the facility (seven days per week between the hours of 8:00 AM and 5:00 PM) were accepted.

The District has met these conditions and we understand it has operated in accordance with them since the facility began operations in 1999.

2.2 DEP Authorization to Construct Permit

The District received an Authorization to Construct permit from the Department of Environmental Protection on November 19, 1997, a copy of which is provided in Appendix A. This permit set a maximum daily tonnage of 125 tons per day that can be accepted by the facility, thereby being more

restrictive than the Site Assignment approval which established this threshold as an annual daily average. The permit states that this annual daily tonnage is expected to be 30 tons per day with a peak summer tonnage of 62 tons per day.

Several conditions were issued with the permit, including the requirement that a one-year study of bird movements and patterns be conducted and that controls be constructed to discourage birds from being attracted to the facility , consisting of grid wires over the transfer station and the trailer storage area.

2.3 New Statutory Provisions Regarding Site Assignment and Transfer Stations

Revisions to the Massachusetts Solid Waste statute (MGL, Chapter 11, Section 150A) were recently made by the State legislature during 2010 that make the following changes:

- Site Assignment permitting is to be performed solely by the local Board of Health. Previously DEP was responsible for issuing a Site Suitability Report that determines whether a proposed site meets the siting criteria established under the Site Assignment Regulations, and that this Site Suitability Report was to be considered as part of the Board of Health's decision making on the application. This revision eliminates DEP's role in preparing the Site Suitability Report and places this responsibility on the Board of Health.

- The regulatory authority for small transfer stations, being transfer stations that handle an average daily tonnage (annual basis) of less than 50 tons per day, will become the responsibility of the local Board of Health, shifting this responsibility from DEP.

These revisions were to become effective as of July 1, 2010, however the Permit Extension Act (Section 173 of Chapter 240 of the Acts of 2010), signed into law by Governor Patrick on August 5, 2010 automatically extends the permits for existing small transfer stations until July 2012. By July 1, 2012 all operating small transfer stations will require a permit from the local Board of Health. Thereafter the Board of Health will have regulatory oversight of these facilities rather than by DEP. Over the next several months DEP will be issuing guidance on how this transfer of regulatory responsibility is to be performed and specific actions local Boards of Health will need to undertake. The Permit Extension Act does not change the Board of Health's role in Site Assignment permitting, and effective July 1, 2010 Site Assignment permitting or existing permits are to be handled by the local Board of Health without the participation of DEP.

The effect these regulatory revisions have on an Island-wide District facility at Edgartown is reviewed in the context of the solid waste volumes that this facility would receive, presented in Section 3.

3 SOLID WASTE AND RECYCLING VOLUMES

The solid waste and recycling tonnage received by MVRD and the Oak Bluffs-Tisbury transfer stations were collected and summarized to determine the quantities that would be managed by an Island-wide facility. Tonnage records from the MVRD facility and the Oak Bluffs transfer station and the DEP Solid Waste Facility Report from each community were used as the basis of this summary.

3.1 District Solid Waste Trends

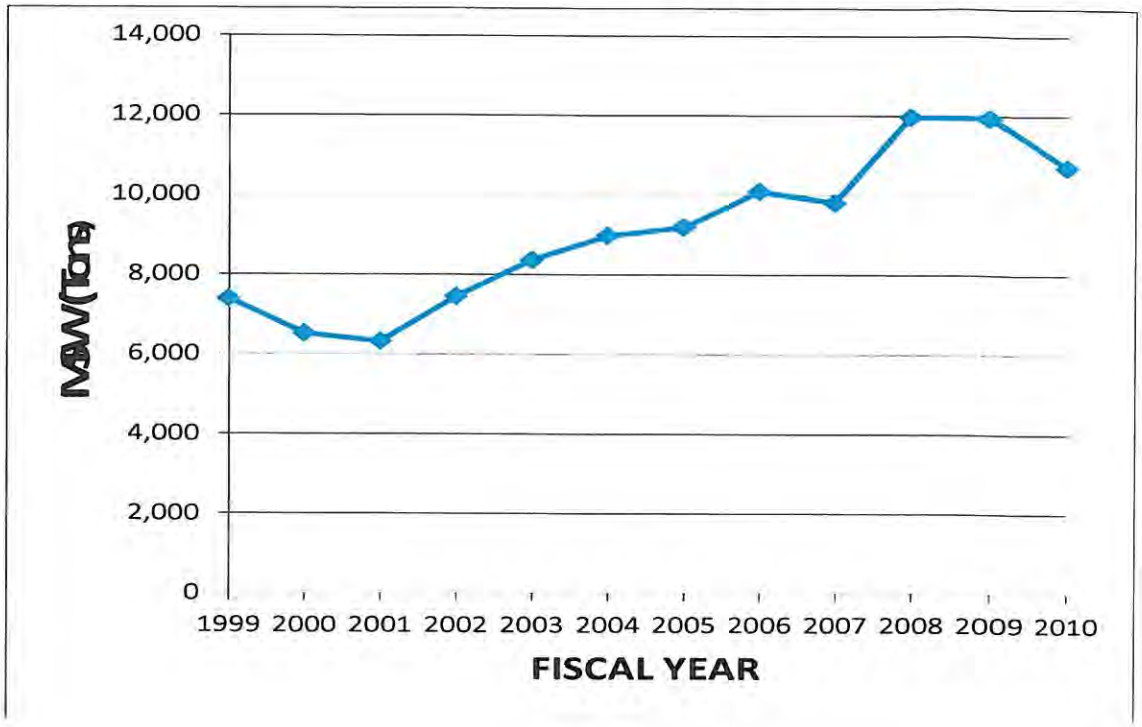
The solid waste tonnage received by the District between 1999 and 2010 are summarized in Table 1 and Figure 1. The solid waste tonnage reported includes both municipal solid waste and construction debris, both being waste streams that are classified by DEP as being solid waste. This tonnage data is reported on a Fiscal Year (July – June) basis.

Since 2001 the annual solid waste tonnage has progressively increased from 6,311 tons to 11,934 tons. In 2010 this tonnage decreased slightly to 10,704 tons, likely in response to the economic recession and the drop in construction activities. Over the last five years the solid waste quantities have generally ranged between 10,000 and 12,000 tons.

Table 1. Solid waste tonnage received by MVRD Transfer Station: 1999 – 2010.

Fiscal Year	*Solid Waste (Tons)*
1999	7,381
2000	6,514
2001	6,311
2002	7,449
2003	8,360
2004	8,973
2005	9,184
2006	10,088
2007	9,805
2008	11,968
2009	11,934
2010	10,704

Figure 1. Solid waste tonnage received by MVRD Transfer Station: 1999 – 2010.



3.2 2009 Solid Waste and Recycling Tonnage

The solid waste and recycling tonnage that were handled by the District during 2009 are summarized in the DEP Solid Waste Facility Reports, shown in Table 2 and are reported on a calendar year basis (January – December). The report for Edgartown includes tonnage received at the Edgartown local drop off and the District, which receives waste and recyclables from the Chilmark, West Tisbury and Aquinnah local drop offs as well as from commercial sources.

The category of General Recyclables includes the main recycling streams of cardboard, newspaper, glass, plastic and metal containers. The local drops off facilities served by the District do not accept C&D. The Solid Waste Facility Reports did not provide tonnage were for tires or brush.

The District transfer station received 7,093 tons of municipal solid waste, 4,430 tons of C&D and 1,696 tons of General Recyclables during 2009.

Table 2. 2009 Solid Waste and Recycling Tons Received at MVRD Facilities.

Item	Edgartown	Chilmark LDO	West Tisbury LDO	Aquinnah LDO
MSW	7093	173	417	71
C&D	4430			
General Recyclables	1696	106	328	76
Tires	16			
Metals	291	15	13	
Brush	411			

The Oak Bluffs transfer station received 8,289 tons of municipal solid waste during 2009, the majority of which was collected and delivered to the transfer station by the curbside collection trucks serving both communities. The small volumes of solid waste received at the Tisbury and Oak Bluffs Local Drop Offs were delivered to these facilities by residents. The same pattern exists for the general recyclables, the large majority of which are collected curbside and delivered to the Oak Bluffs transfer station.

Table 3. 2009 Solid Waste and Recycling Tonnage Received at Oak Bluffs Transfer Station and at Tisbury and Oak Bluffs Local Drop Offs.

2009			
Item	Oak Bluffs TS	Tisbury LDO	Oak Bluffs LDO
MSW	8289	438	981
C&D	5453		3
General Recyclables	762	138	11
Newspaper	112		8
Cardboard	101		4
Tires		2	
Metals	13	50	
Leaf & Yard Waste		320	
Bulky Waste		9	

3.3 Solid Waste Tonnage for Island-Wide District

The solid waste tonnage that would be handled by an Island-wide District, based on the 2009 tonnage reports, are summarized in Table 4 for the annual total, annual average daily and summer season (June through August) average day. The solid waste tons include both the municipal solid waste and construction debris streams in accordance with DEP's solid waste categories.

Table 4. 2009 solid waste (municipal solid waste and construction debris) tonnage received by the District and Oak Bluffs transfer stations.

Solid Waste Tons (MSW and C&D)	Transfer Station		Combined
	District	OB-Tisbury	
Annual Total	11,934	13,742	25,676
Average Day, Annual Basis	33	38	71
Average Day, Summer Season	58	66	124

An Island-wide District, based on the 2009 data, would receive 71 tons per day of solid waste on an annual average day basis, which would increase to 124 tons per day during the summer season. The peak day tonnage, being the maximum single day tonnage received during the year, would be in excess of this summer average day and would likely exceed 150 tons based on peaking factors experienced by communities on Cape Cod.

The relevance of these tonnage quantities is both to characterize the operating and equipment needs for an Island-wide facility, as well as to determine the status of an Island-wide District with respect to the limits within the existing Site Assignment and DEP Authorization to Construct and Operate permits. As described in Section 2, the Site Assignment allows the facility to accept up to 125 Tons Per Day of solid waste on an annual average day basis, while the Authorization to Construct Permit sets a maximum threshold that the District facility can accept of 125 tons per day. An Island-wide District would therefore be able to operate within the tonnage allowed under the Site Assignment, but would need to request from DEP an increase in the tonnage thresholds under the Authorization to Operate permit.

4 EVALUATION OF EXISTING FACILITIES

4.1 District Facilities

The District operates out of central facilities on a 23-acre site on West Tisbury Road across from the Martha's Vineyard Airport. These facilities, constructed in 2000, include a District office building, a weigh scale and attendant shack, a local drop off area for recyclables, a pre-fabricated metal transfer station building for commercial haulers, a container storage area and an area for leaf and yard waste. A description of each of these components of the facility is provided below. The present limitations on current operations and their associated constraints for serving as an Island-wide facility are also described.

4.1.1 Site Access Road and District Office

The District facility is accessed by a single access road off of the West Tisbury Road for all incoming and outgoing traffic. An orthophoto of the property and access road location is show on Figure 2. After crossing the 200' perimeter buffer zone, the roadway remains outside the buffer zone in the interior of the property. The District office is located at the entrance of the facility in a separate building with a small parking area.

Figure 2. Orthophoto of MVRD facility in Edgartown.

4.1.2 Local Drop Off Area

In addition to its central receiving point status, the facility also serves as Edgartown's local drop off station. The local drop off area is also available for use by any resident that is from a member community of the District. The drop off area was reportedly designed to accommodate a traffic flow of only 50 cars per day. Detailed traffic count data is not available for the facility, but according to the operations staff the facility sees 250 vehicles or more on busy days. This traffic volume results in extensive queuing and vehicle backups that, during peak use periods, can extend the full length of the access road to West Tisbury Road.

The drop off area, shown on Figure 3, consists of a low retaining wall with roll-off containers placed at the base of the wall into which residents place their mainstream recyclables (paper, cardboard, plastic, glass and metal) from above. The area has a canopy roof to provide some measure of protection from weather.

Figure 3. Local Drop off area at District Facility

The primary constraint associated with the local drop off is its location immediately adjacent to the gatehouse, shown on Figure 4, and the limited parking available, resulting in vehicle congestion and excessive queuing even during average operating days. The close proximity of the gatehouse to the drop off area substantially restricts vehicle maneuvering. Room is only available for parallel parking with capacity for up to three or four vehicles. If vehicles double park to use the drop off, it blocks access roadway to the gatehouse and the rest of the transfer station facility, contributing further to the congestion

and queuing. The need for users of the drop off to move about their vehicles presents a public safety concern.

The average use time of the drop off, being the amount of time typically required to perform the recycling drop off activities, is about four minutes/vehicle. During the busier days when 250+ vehicles are using the drop off area a vehicle is arriving an average of every two minutes over the operating day. During peak usage hours this can increase to two or three times this amount, resulting in the extensive queuing that is a major source of frustration for all users of the facility.

Figure 4. Proximity of Local Drop off to Gatehouse at District Facility

4.1.3 Gatehouse and Scale Operations

The gatehouse and weigh scale, located immediately adjacent to the drop off area, is a focus of the District operations where vehicles are weighed, stickers are checked and cash transactions take place.

The scale is used to weigh all solid waste loads incoming from the other District facilities, commercial and some residential solid waste loads, as well as outgoing containers of solid waste, C&D and recyclables. Because there is only one scale and each vehicle needs to be weighed before and after they deposit their loads, vehicles queue on both sides of the gatehouse area as they wait their turn to be weighed. Extensive queuing is frequently experienced from the access road to the gatehouse for incoming vehicles and from the gatehouse around the transfer station for outgoing vehicles. During some

periods, this queue line for the outgoing vehicles creates a conflict at the overhead door entrance into the transfer station, preventing trucks from depositing their loads inside the transfer station.

Because cash transactions and receipt exchanges take place at the gate house, users of the facility typically need to leave their vehicles to make these transactions. This activity contributes further to traffic congestion and queuing.

The weigh scale is 30 years old and the load cells were rebuilt and other repairs were made two years ago. It is still in need of a new deck, and it is uncertain what the remaining life of the scale is. The software that supports the scale system is ten years old and outdated.

Figure 5. Gate house and weigh scale.

Figure 6. Vehicle queuing at gatehouse/weigh scale.

4.1.4 Transfer Station Building and Solid Waste Processing

The transfer station building was constructed in 2000 and is of open-top trailer design, with a concrete tipping floor and transfer pit for 115-yard open top trailers. Packer truck and all of the large commercial loads are deposited directly onto the concrete tipping floor. A front end loader ten transfers refuse into the open top trailers.

The transfer station is used to process solid waste, C&D and some recyclables (newspapers and comingled glass, plastic and metal containers). Loads are crushed on the tip floor by a front end loader and placed into the open top trailers. The continuous wearing of the tip floor eventually exposes rebar, and the rear portion of the tip floor was resurfaced last year. The front portion of the tip floor near the open-top trailer will likely need to be replaced within the next couple of years.

The interior side walls of the station are unprotected building and frame skin, and a concrete push wall is needed to allow the front end loader operations to crush and pile material without damaging the side walls. The staff has therefore added precast concrete blocks along the interior north face of the building. Eight foot cast-in place walls along the north and south interior walls would provide greater operational usage of the tip floor.

Figure 7. Transfer station tip floor area.

One of the additional constraints of the transfer station is that the vertical opening of the overhead doors are too low to accommodate tilt frame rigs, packer trucks and dump trucks when their dump bodies are extended. Trucks therefore need to be careful to drop their dump bodies before exiting the building or they will hit the door frame.

Figure 8. Overhead Doors at Transfer Station

Residents deposit their loads onto the tip floor through windows on the north side of the building (shown in Figure 9). This location of the drop off window is within the traffic lane for trucks and other vehicles that need to access the transfer station tip floor, causing a vehicle conflict and potential pedestrian safety concern. The residential windows and the roof above it are not equipped with gutters, resulting in wet conditions during rain events and icing during the winter season.

Figure 9. Residential drop off windows at transfer station.

4.1.5 Leaf and Yard Waste Composting

The leaf and yard waste composting area is located in the front, east area of the facility. It has very limited room and is essentially used for storage of the compostable material and brush. Adequate area is not available for proper windrowing and turning of the leaf and yard waste, and therefore good compost product cannot be produced.

Figure 10. Leaf and yard waste composting area

Figure 11. Leaf and yard waste composting area

4.1.6 Container Storage Area

The container storage area is located adjacent to the compost area and behind the local drop off area. It is used for storage of empty and full roll-off containers that are either fully enclosed boxes or tarped open top boxes.

Figure 12. Container storage area.

4.2 Constraints of the District Facility

The existing District facility has substantialconstraints associated with its current buildings and operations that must be addressed if it is to become an Island-wide facility. These are:

- The close proximity of the gatehouse/weigh scale to the residential drop off area is a source of major congestion and vehicle queuing, even on average operating days. During peak summer use periods queuing sometimes extends all the way to West Tisbury Road.
- Inadequate parking capacity and vehicle maneuvering area at the drop off area. Access to this area is limited to only three or four vehicles at a time in parallel parking. The traffic congestion and vehicle movements in this area, coupled with the need for pedestrians to walk among their vehicles to the drop off containers, are a public safety concern.
- The single scale system and the number of vehicles that need to be weighed both into and exiting the facility is a major source of congestion on either side of the gate house and scale area.
- The multiple duties of the gate house staff, including checking stickers, performing the scale operations, cash transactions and exchanging receipts, is overwhelming and contributes further to vehicle congestion.

- The transfer station building is used for receiving all truck loads, as well as for processing of other solid waste and recycling streams, including municipal solid waste, construction debris, newspaper, cardboard and comingled containers. The tip floor area is limited in size and is often overly congested. Heavy use of the tip floor has required recent resurfacing. The tip floor has push walls on only one side of the building.
- The windows on the north side of the transfer station through which residents throw trash constitutes a hazard to the public from truck traffic.
- The area used for collection of brush, leaf and yard waste is very limited and does not provide adequate capacity for appropriate composting activities. The area is essentially used for storage rather than for composting.
- The weigh scale and supporting software is old and will likely need replacement in the near future.

5. PROPOSED OPERATIONS APPROACH FOR ISLAND-WIDE DISTRICT

5.1 Overview Assessment of an Island-Wide Operation at the District Facility

Average annual solid waste tonnage at the Island-wide District facility is projected to double from 33 tpd to 71 tpd day. The average summer season tonnage will increase from 58 tpd to 124 tpd, with peak operating days being higher.

From a regulatory perspecirtve, our interpretation is that increased throughput will not require modification to the Site Assignment permit ,which sets an average annual operating limit of 125 tpd. At 71 tpd, an Island-wide facility would still be well below this threshold. This increased throughput may require a revision to the Authorization to Operate permit, which under the 2010 revisions to the Massachusetts Solid Waste statute would continue to be controlled by DEP .

Multiple challenges exist for the District facilities to serve as an Island-wide facility, as described in Chapter 4. Facility improvements that should be considered if MVRD is to receive the Oak Bluffs and Tisbury waste streams are:

- Relocating the recycling drop off area away from the weigh scale and transfer station. This would allow for one-way traffic flow to and from the drop off points that minimize traffic crossover and turning movements. A separate access roadway that serves this relocated drop off area would serve to improve traffic flow and reduce vehicle congestion. A separate entrance off of West Tisbury Road could be considered, but would require modification of the Site Assignment.
- Installation of a second scale to better allow for the movement and processing of incoming and outgoing vehicles.
- Alternatively, the District could reduce the reliance on the scale to assess charges. This can be accomplished through a variety of methods such as setting fees for various vehicle sizes and waste stream volumes, tickets that are pre-purchased for use of the facility, similar to the pay-as-you-throw concept, or stickers for residential vehicles. This would potentially allow one scale to be used for commercial vehicles, especially if tare weights are logged, eliminating the need to weigh outgoing vehicles
- The transfer station is inadequate for all of the solid waste and recyclable processing demands for an Island-wide operation. A separate building is recommended so that the solid waste processing operations can be performed independently from the C&D and recycling processing. It is recognized

that construction of a second building for this purpose represents a significant capital cost, and this should be considered in the context of long-term planning for the facility.

- The residential solid waste drop off area should be relocated away from the transfer station building and combined with the recyclables drop off area, thereby segregating residential users from large vehicles and truck traffic areas. A small roll-off system that is emptied at the transfer station building could be provided for this purpose.
- Designation of substantial additional space is necessary to accommodate an Island-wide leaf and yard waste composting operation. This would require Site Assignment modification and possible purchase of the abutting parcel to the south in order to maintain appropriate buffers to abutters. This parcel is currently under a Purchase and Sale Agreement with Tisbury and Oak Bluffs.
- Designating additional space for container storage, since the number of containers onsite will likely double.

Conceptual layouts of an expanded District facility, serving as an Island-wide facility, was developed as part of the 2008 planning study and represents a long-term vision for the District facility. It includes dedicated areas for a solid waste transfer station, C&D processing building, a recycling center, household hazardous waste collection and storage, leaf and yard waste composting and future incorporation of alternative technologies. It assumes that the buffer zones are reduced to 100', which would require modification of the Site Assignment, and purchase of the adjoining 11-acre parcel. Copies of these concept site plans are provided in Attachment 3.

5.2 Recommendations for Initial Operations Phase

Development of the long-term vision and decisions on the specific facilities needed for an Island-wide District operation will likely take several years to define, permit and construct. The District therefore needs to identify an operations approach that will provide for the management of the Island-wide waste and recycling streams during the initial operating years while this longer-term program is developed. This initial operating phase will need to rely on the existing facilities and equipment that are available, while maintaining as efficient an operation as possible and minimizing startup costs. Because the District's current facilities are incapable of handling an approximately doubling of the waste tonnage that will result from becoming an Island-wide operation, the only method for achieving these goals is to perform some of the processing and shipping operations at some of the other existing facilities that are available within the District communities together with Oak Bluffs and Tisbury. The Oak Bluffs transfer station has inherent value in its transfer station building and paved surfaces and its site assigned status.

Tisbury has an existing leaf and yard waste composting area, with other areas that could potentially be used for this purpose.

While this concept has been discussed with the District staff as part of this planning effort, it has not been reviewed with Oak Bluffs, Tisbury or any of the other communities. It is recommended that this approach be discussed and agreed to in concept so that decisions can be made on what specific operations are to be performed at each facility. Following this, layout and design alternatives for each area can be developed.

A conceptual operations approach that uses the Oak Bluffs transfer station and Tisbury for leaf and yard waste composting in conjunction with the existing District facility is provided for consideration and as a basis for further discussion. The allocation of the operations between these facilities is summarized in Table 5.

Table 5. Potential allocation of District operations during initial operating years.

District Facility	*Oak Bluffs Transfer Station*	*Tisbury*
Edgartown Local Drop-Off Solid Waste Processing Recyclables Processing Recyclables Container Storage HHW Collection	C&D Processing Recyclables Container Storage Solid Waste Trailer Storage	L&Y Waste Composting

Under this scenario the District facility would continue to serve as the location of the Edgartown drop off, but that function would be relocated to another area of the site to encourage more uniform and safer traffic movement. The existing transfer station would continue to be used for receiving and processing solid waste from all of the Island local drop off centers and commercial traffic. The transfer station would also continue to be used for processing of the mainstream recyclables of newspaper, cardboard, and comingled glass, plastic and metal containers. Finally, the transfer station would also serve as a common location for household hazardous waste collection.

The Oak Bluffs transfer station facility would be used for C&D processing in the same manner that is performed today where incoming loads are placed inside the transfer station in a designated area, crushed on the tip floor by front-end loader and placed into open top wheeled trailers for shipment. In addition, the paved area at the station currently used for container storage would be used for temporary storage of

filled solid waste and recycling containers awaiting shipment. Tisbury currently has a registered leaf and yard waste operation adjacent to the local drop off area on High Point Lane. The available area at this location would need to be evaluated to confirm that sufficient room exists to serve as a District-wide facility. Alternatively, there may be other areas in the vicinity of the closed landfill that could be used for this purpose.

This approach is intended to allow for an efficient operation while at the same time taking advantage of facilities that are available to minimize the District's startup costs during these first years of operation on an Island-wide basis. This concept has been developed with the District staff, but has yet to be discussed with the governing bodies for the District, Oak Bluffs and Tisbury. Operations can be shifted as appropriate and as decided by the all-Island District, and these decisions will provide needed direction on assessing the Districts resource and equipment requirements during this initial phase.