

# **Stormwater Operation and Maintenance Control Plan**

Submitted Pursuant to the Massachusetts Stormwater Management Standards & the  
Stormwater and Land Disturbance Permit

July 2022



**0 Bartzak Drive  
Holliston, MA**

**Prepared for**

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**Prepared by**

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## A.1 Introduction

Development projects such as the proposed Large Scale Solar Power Generation System in Holliston, MA are typically constructed with low impact designs to maintain compliance with a variety of regulations and standards. Solar photovoltaic systems and gravel roadways do not require treatment of stormwater, and systems are generally designed to manage the rate of stormwater runoff. The introduction of new gravel surfaces and the clearing of wooded areas can impact receiving water bodies. The control of the resulting runoff from these surfaces is of paramount importance to improving and maintaining the quality of the Commonwealth's waterbodies.

Source control and other best management practices, have created non-erosive discharges to wetlands. These systems are essential to not causing erosion to the Commonwealth's waterbodies. Preventative maintenance of the system will include removal of litter and sediment within these features.

This long-term Stormwater Management System Operations and Maintenance (O&M) Manual, filed with the Town of Holliston, shall be implemented at the development site located on O Bartzak Drive to ensure that the stormwater management system functions as designed. The Owner possesses the primary responsibility for overseeing and implementing the O&M plan and assigning a property manager who will be responsible for the proper operation and maintenance of the stormwater structures. In case of the transfer of property ownership, future property owners shall be notified of the presence of the stormwater management system and the requirements for proper implementation of the O&M plan.

It is the intent of this document to provide guidance and detail for the long-term inspection and maintenance requirements of the project site to ensure the overall stormwater management system functions as intended for the life of the system. This manual provides basic criteria and schedules for inspection and trigger points for required maintenance. Included in this manual is an overall site plan which identifies the locations of the key components of the stormwater management system and a log for tracking the inspections and maintenance.

## A.2 Program Administration

A reliable administrative structure must be established to assure implementation of the maintenance programs described in the foregoing section. Key factors that must be considered in establishing a responsive administrative structure include:

1. Administrative body must be responsible for long-term operation and maintenance of the facilities.
2. Administrative body must have the financial resources to accomplish the inspection and maintenance program over the life of the facility.
3. The administrative body must have a responsible administrator to manage the inspection and maintenance programs.
4. The administrative body must have the staff to accomplish the inspection and maintenance programs, or must have authority to contract for the required services.
5. The administrative body must have a management information system sufficient to file, retain, and retrieve all inspection and maintenance records associated with the inspection and maintenance programs.

If any of the above criteria cannot be met by the entity assigned inspection and maintenance responsibilities, it is likely that the system will fail to meet its water quality objectives at some point during its life. While each of the above criteria may be met by a variety of formats, it is critical to clearly establish the assigned administrative body in a responsible and sustainable manner.

## A.3 Responsibility

The purpose of the Stormwater Operations and Maintenance Manual is to ensure the inspection of the system, removal of accumulated sediments and debris, and implementation of corrective action and record keeping activities. The ongoing responsibility is the Owner, its successors and assigns. Adequate maintenance is defined in this document as good working condition.


Stormwater Operations  
And Maintenance Manual

Large-Scale Solar Power Generation System  
Holliston, MA

Contact information is provided below:

**Responsibility for Operation and Maintenance of Large-Scale Solar Power Generation System**

Name: Bartzak PV I, LLC  
Address: 200 Portland Street, 5<sup>th</sup> Floor  
City, State: Boston, MA  
Contact: John Clifford  
Telephone: 603.235.5755  
Email: john.clifford@galeheaddev.com

DocuSigned by:  
  
608634DD6A4F42A...  
Signature

## A.4 Documentation

An Inspection and Maintenance Record Log and Schedule shall be kept by the Owner or Property Manager summarizing inspections, maintenance, repairs and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. Inspection and Maintenance Logs shall be kept on file at the property management office.

- Maintenance Program and Budget

The Owner, Property Manager and maintenance staff shall conduct the Operation and Maintenance program set forth in this document. The Owner or Property Manager will ensure that inspections and record keeping are timely and accurate and that cleaning and maintenance are performed in accordance with the recommended frequency for each stormwater component. Inspection and Maintenance Log Forms (provided herein) shall include the date and amount of the last significant storm event in excess of on (1) inch of rain in a 24-hour period, physical conditions of structures, depth of sediment in structures, evidence of overtopping or debris blockage and maintenance required of each structure. The estimated annual cost of the Maintenance Program is \$2,000 to \$5,000.

A list of the individual inspection/maintenance elements is provided in the table of contents. The guidelines are proposed for initial use with adjustments made as appropriate based upon specific project experience.

Stormwater Operations  
And Maintenance Manual

Large-Scale Solar Power Generation System  
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## A.5 Project Overview

Key permits issued (or applied for) on the project include:

- Site Plan Review and Special Permit
- Major Land Disturbance Permit
- Building Permit
- NPDES Construction General Permit

The permit applications for the project include the design information for the stormwater system.

The Owner/Operator of the stormwater management system should review these permits for a general description and background of the project, as well as any specific permit conditions or requirements of the project.

The Applicant has retained Beals Associates, Inc. for civil engineering for the proposed site design. Beals Associates, Inc. has prepared the design for the stormwater management facilities for this project and may be contacted at:

Beals Associates, Inc.  
2 Park Plaza, Suite 200  
Boston, Massachusetts 02116  
(617) 242.1120

It is recommended any particular questions on the design intent or similar issues be directed to the designer of the system.

The applicable plans/design documents which apply to the project are:

1. Civil Site Plans/Permit Applications
2. The Erosion Control/Sedimentation Control Plan for the project.
3. The Stormwater Management Plan for the project.
4. O&M Stormwater Maintenance Plan for the project.

A copy of these documents should be retained with the manual.

## Stormwater Operations And Maintenance Manual

## Large-Scale Solar Power Generation System Holliston, MA

### B.1 Routine Maintenance Tasks

A meadow mix will be used underneath the solar panels, and will not require significant maintenance, however any clippings and/or mulch shall not be washed into the drainage infrastructure. Mowing should only be performed for what is necessary to maintain proper functionality of the solar panels

Maintenance of the Stormwater Management System shall be in accordance with the Operations and Maintenance Checklist below.

Good housekeeping – all areas should be kept free of trash and debris. Any storage of materials and waste products shall be inside or under cover. Fertilizers, herbicides and pesticides shall not be stored or used onsite. Storage of salt or deicing chemicals, if any, shall be on impervious area, covered and protected from runoff.



#### B.1.1 Meadow Mix underneath solar panels

Meadow mix is to be spread beneath the solar panels to stabilize the ground. Upon stabilization, the meadow should only be mowed for what is necessary to maintain the proper functionality of the solar panels. Consistent mowing of the area to create a feeling of a lawn area is not acceptable for this project. Prior to mowing, the mower blades should be set no lower than 3 to 4 inches above the ground.

#### B.1.2 Infiltration Trench

Because infiltration trenches are prone to failure due to clogging, it is imperative that they be maintained on a regular schedule. Eventually, the infiltration trench will have to be rehabilitated, but regular maintenance will prolong its operational life and delay the day when rehabilitation is needed. With appropriate maintenance, rehabilitation can be delayed for a decade or more. Perform preventive maintenance at least twice a year.

Remove accumulated sediment, trash, debris, leaves and grass clippings from mowing. Remove tree seedlings, before they become firmly established. Inspect the infiltration trench after the first several rainfall events, after all major storms, and on regularly scheduled dates every six months. Routinely remove grass clippings leaves and accumulated sediment from the surface of the trench.

## Stormwater Operations And Maintenance Manual

## Large-Scale Solar Power Generation System Holliston, MA

Inspect the trench 24 hours or several days after a rain event, to look for ponded water. If there is ponded water at the surface of the trench, it is likely that the trench surface is clogged. To address surface clogging, remove and replace the topsoil or first layer of stone aggregate and the filter fabric. If water is ponded inside the trench, it may indicate that the bottom of the trench has failed. To rehabilitate a failed trench, all accumulated sediment must be stripped from the bottom, the bottom of the trench must be scarified and tilled to induce infiltration, and all of the stone aggregate and filter fabric or media must be removed and replaced.

### B.2 Winter Maintenance

The site does not contain stormwater features that require specific maintenance during the winter.

### B.3 Fertilizer Selection

There shall be no fertilizers, pesticides, or herbicides for these projects.



Stormwater Operations  
And Maintenance Manual

Large-Scale Solar Power Generation System  
Holliston, MA

## **APPENDIX A.1: STORMWATER MANAGEMENT SYSTEM SITE PLAN**

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**AVAILABLE UNDER SEPARATE COVER**

Stormwater Operations  
And Maintenance Manual

Large-Scale Solar Power Generation System  
Holliston, MA

## **APPENDIX A.2: STORMWATER MANAGEMENT SYSTEM MAINTENANCE PROGRAM SUMMARY CHECKLIST**

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Stormwater Management System Maintenance Program Summary Checklist					
Item	Commentary	Frequency			
		Monthly	Quarterly	Semi-Annually	Annually
Meadow Mix underneath solar panels	Meadow should only be mowed for what is necessary to maintain proper functionality of the solar panels. Creating a lawn area is not acceptable for this project, and mower blades should be set no lower than 3 to 4 inches above the ground		X	X	
Infiltration Trench	Remove accumulated sediment, trash, debris, leaves and grass clippings from mowing. Remove tree seedlings. Inspect after major storms and every six months.			X	

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## **APPENDIX A.3: STORMWATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE FORMS**

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STORMWATER OPERATIONS  
AND MAINTENANCE MANUAL

Large-Scale Power Generation System  
Holliston, MA

**STORM WATER MANAGEMENT SYSTEM  
OPERATIONS AND MAINTENANCE MANUAL  
MEADOW MIX UNDERNEATH SOLAR PANELS**

**LARGE-SCALE POWER GENERATION SYSTEM**

Name of Inspector: \_\_\_\_\_ Title of Inspector: \_\_\_\_\_

Inspector's Signature: \_\_\_\_\_

Inspection Date	Satisfactory			Location	Maintenance Needed and Description	Implementation Date of Maintenance
	Yes	No	N/A			

**STORM WATER MANAGEMENT SYSTEM  
OPERATIONS AND MAINTENANCE MANUAL  
INFILTRATION TRENCH**

**LARGE-SCALE POWER GENERATION SYSTEM**

Name of Inspector: \_\_\_\_\_ Title of Inspector: \_\_\_\_\_

Inspector's Signature: \_\_\_\_\_

Inspection Date	Satisfactory			Location	Maintenance Needed and Description	Implementation Date of Maintenance
	Yes	No	N/A			