

# BLUEBERRY HILL ESTATES O&M PLAN

## Stormwater Management System Operation and Maintenance Plan

### Catch Basins:

Inspection Schedule: Catch basins shall be inspected at the end of the foliage (November 1) and snow removal seasons (May 1).

Maintenance: Catch basin cleaning to be done when the sediment has reached a maximum of one half the depth from the bottom of the sump to the bottom of the trap. Catch basin cleanings shall be disposed of properly in accordance with DEP requirements.

### Drain Manholes:

Inspection Schedule: Drain manholes shall be inspected at the end of the foliage (November 1) and snow removal seasons (May 1).

Maintenance: Drain manholes shall be cleaned as necessary. Manhole cleanings shall be disposed of properly in accordance with DEP requirements.

### Drainage Piping:

Inspection Schedule: Drainage pipes shall be inspected once per year (November 1), and shall be video inspected on a 15 year interval.

Maintenance: Drainage pipes shall be cleaned as necessary. Drainage pipe cleanings shall be disposed of properly in accordance with DEP requirements.

### Subdrainage Piping:

Inspection Schedule: Subdrainage pipes shall be inspected once per year (November 1), and shall be video inspected on a 15 year interval.

Maintenance: Subdrainage pipes shall be cleaned as necessary. Drainage pipe cleanings shall be disposed of properly in accordance with DEP requirements.

**Rain Garden:**

Rain garden areas will be maintained in accordance with the following schedule:

**Rain Garden Maintenance Schedule  
(MA Stormwater Management Vol. 2 Ch. 2 Pg. 27)**

<b>Activity</b>	<b>Time of Year</b>	<b>Frequency</b>
Inspect and Remove Trash	Year Round	Monthly
Mulch	Spring	Annually
Remove Dead Vegetation	Fall or Spring	Annually
Replace Dead Vegetation	Spring	Annually
Prune	Fall	Annually
Inspect Monitoring Wells For Proper Function of Rain Gardens	Year Round	Monthly or After a Major Storm Event
Replace Entire Media and All Vegetation	Late Spring/Early Summer	*As Needed

\* Pay careful attention to pretreatment and operation & maintenance can extend the life of the soil media

Do not store snow in rain gardens at any time.

**Long-Term Pollution Prevention Plan**

**Lawns and other Landscaped Areas:**

Landscaped areas shall be well maintained and stabilized to prevent soil erosion. Eroded soil shall be repaired and stabilized as soon as practical. Use of fertilizers for the maintenance of landscaping should be kept to a minimum. All fertilizers shall be stored off site.

**Street Sweeping:**

The roadways will be swept as required by site conditions. All street sweepings shall be properly disposed of in accordance with DEP requirements.

### **Snow Disposal Guidance:**

Snow storage/disposal sites shall be carefully selected prior to the beginning of winter. Disposal sites shall not be located on top of catch basins, drainage system inlets, or drainage swales.

### **Water Distribution System Operation and Maintenance Plan**

- Flush all hydrants every 6 months (Spring & Fall) with the assistance of the Sturbridge Water Department.

### **ANNUAL TASKS**

- Initiate leak detection as necessary - low pressure complaints, wet or green spots, unaccounted-for-water, ect.
- Flush the distribution system as necessary based on the potential for sediments such as iron and manganese.
- Evaluate distribution system valves - record inspections and repairs.
- Conduct a preventive maintenance program on service meters - calibration, replacement, etc.
- Evaluate Emergency Response Plan - loss of water pressure, contamination, cross connections, overfeeds, ect.

### **TASKS ONCE EVERY FIVE YEARS**

- Perform flow tests on all fire hydrants at least once every five years - with local fire departments.

## Water Booster System

Task	Frequency	Description
Perform General Inspection	Every Month	Clean area and pumps and motors to remove any dust/debris. Inspect pumps for abnormal noise or vibration. On the controller home screen, record pressure setpoint (SP), process variable (PV), and suction pressure.
Lubricate Bearings	Every 2200 Operating Hours	Grease bearings per manufacturer's specs
Check Current Draw	Every 6 Months	Record current draw at 100% speed (60 Hz.) Record incoming phase-to-phase voltage
Check Pump Performance	Every 12 to 24 Months	Check pump shut off head. Close discharge isolation valve at the end of the discharge header and operate pump at 100% speed (60 Hz.) Record suction header pressure transducer reading and discharge header pressure transducer reading.

## Sewer Collection System Operation and Maintenance Plan

### Sewer Manholes:

Manhole inspections should be completed once a year and the following information should be noted in the inspections:

- Identify maintenance problems;
- Determine general sewer conditions;
- Identify extraneous flows.

### Sewer Pipes:

<b>Suggested Inspection And Maintenance Frequencies</b>	
<b>Task</b>	<b>Frequency in Year</b>
Video inspection/line testing (typical)	10 to 15
Walk alignment	1
Manhole inspection	5 to 15
Cleaning	10 to 15
System assessment	1

### Sewer Pump Systems:

<b>Suggested Inspection And Maintenance Frequencies</b>	
<b>Task</b>	<b>Frequency</b>
Pump all tanks	6 months
Wash down all tanks	6 months
Check all floats, valves, ect.	6 months
Check control panel, alarms, ect.	6 months

- Recommended to keep 2 spare pumps on hand at all times in case of failure

**Generators:**

SYSTEM/COMPONENT	PROCEDURE			FREQUENCY
X = Action R = Replace as Necessary *= Notify Dealer if Repair is Needed	Inspect	Change	Clean	W = Weekly M = Monthly Y = Yearly
<b>FUEL</b>				
Oil Level	X			M or 24 hours of continuous operation
Oil		X		2Y or 200 hours of operation**
Oil Filter		X		2Y or 200 hours of operation**
<b>COOLING</b>				
Enclosure louvers	X		X	W
<b>BATTERY</b>				
Remove corrosion, ensure dryness	X		X	M
Clean and tighten battery terminals	X		X	M
Check charge state	X	R		Every 6M
Electrolyte level	X	R		Every 6M
<b>ENGINE AND MOUNTING</b>				
Air cleaner	X	R		2Y or 200 hours
Spark plug(s)	X	R		2Y or 200 hours
<b>GENERAL CONDITION</b>				

Vibration, Noise, Leakage, Temperature*	X			M
<b>COMPLETE TUNE-UP*</b>	TO BE COMPLETED BY A DEALER		2Y or 200 hours	
<p>* Contact the nearest dealer for assistance if necessary.  ** Change oil and filter after the first eight (8) hours of operation and then every 200 hours thereafter, or 2 years, whichever occurs first. Change sooner when operating under a heavy load or in a dusty or dirty environment or in high ambient temperatures.</p>				

**Emergency Access:**

<b>Suggested Inspection And Maintenance Frequencies</b>	
<b>Task</b>	<b>Frequency</b>
Snow Plow & Sand	As Needed
Mow	As Needed
Replant Vegetation	As Needed

**Conservation Commission Items:**

De-icing: No salt is to be used on the roadways, driveways, or walkways within 200' of any wetlands. See attached plan for "No Salt" areas. In all other areas a liquid brine or equivalent is to be used.

Pesticides, Fertilizers, & Herbicides: The use of pesticides, fertilizers and herbicides within the 100-foot buffer zone and the use of quick-release pesticides, quick-release fertilizers and quick-release herbicides within the 200-foot buffer is prohibited.

Vernal Pool Monitoring Program: Monitoring of the vernal pools (marked on attached plan), including water quality testing, will be done in accordance with the recorded Order of Conditions. The time frame will be from the start of construction and conclude 2 years after construction is complete. If issues arise, the current owner & developer will schedule a meeting with the Conservation Commission to discuss next steps.

Signage: Check all open space & no mow signage and replace as necessary.

Planted Trees: Inspect and maintain the two planted trees on each developed lot. These trees shall be allowed to develop a canopy. No pruning/sculpting except the removal of dead limbs and hazard removal is permitted.

Invasive Species: Invasive species, as identified by the Massachusetts Invasive Plant Advisory Group (MIPAG), shall be monitored, managed, and reported on an as needed basis, implementing Best Management Practices (BMPs).

Wildlife / Amphibian Crossing (see attached plan for location):

<b>Suggested Inspection And Maintenance Frequencies</b>	
<b>Task</b>	<b>Frequency in Year</b>
Debris/vegetation removal within Wildlife / Amphibian Crossing Culvert (including catch basin openings) and adjoining retaining walls	Annual Site Inspection in late February/early March and/or following snow melt with Monthly Follow-up inspections through November
Inspection of natural soils inside of the crossing. Stabilized, natural bottom should be kept intact	See above and as needed

Open Space: The Open Space shall be inspected by a qualified individual on a yearly basis to confirm compliance. An annual inspection report shall be submitted to the Conservation Commission concurrent with O&M reporting.

Plans of Record: This O&M Plan is to be implemented in accordance with the attached *O&M Plan*, prepared by McClure Engineering, Inc., last revised on 8/16/23 and site plan set, entitled *Special Permit and Site Plan*, prepared by McClure Engineering, Inc., last revised June 27, 2023, or as otherwise revised and approved by the Conservation Commission; and the open space plans to be recorded at the Registry of Deeds.