

**STORMWATER
MANAGEMENT
SYSTEM OPERATION AND
MAINTENANCE PLAN**

for:

CLUB HOUSE

**ASSESSOR'S PLAT 20/2, LOTS 2112, 2116 & 2170
320 SCITUATE AVENUE
CRANSTON, RHODE ISLAND**

Owner/Applicant:

**WEST BAY LLC
1414 ATWOOD AVENUE
JOHNSTON, RHODE ISLAND**

Prepared by:



GAROFALO

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The owner shall designate a qualified professional entity or individual to perform all monitoring & maintenance of the stormwater management system. The name, address and telephone number of the entity or individual shall be provided to the RIDEM & the local D.P.W. office.

Land Use & Site Area:

The development proposes renovation of an existing 5,480 s.f. residential home into a commercial clubhouse building to serve an adjacent residential development. The project also includes a clubhouse swimming pool area, along with associated parking facilities, landscaping and other site amenities.

General:

Stormwater Management structures, facilities and permanent BMP's must be inspected in accordance with this document. All documentation on scheduled inspections, times of inspections, maintenance completed, remedial actions taken to make repairs, and any modifications or reconstruction of the stormwater management system shall be submitted to the RIDEM and the local DPW within (30) days of the inspection.

Disposal of the accumulated sediment must be in accordance with all applicable local, state, and federal guidelines and regulations. If any drainage structure or outfall indicates the presence of petroleum it shall be removed and disposed of immediately in accordance with all applicable local, state and federal regulations.

Emergency Contacts:

**West Bay LLC
1414 Atwood Avenue
Johnston, Rhode Island 02919
401-273-6800**

A. Maintenance Operations

Pavement Sweeping:

1. Parking lots, roads and all access ways and gutters must be swept clean of all sediment and debris on a bi-annual basis in spring and fall, or as needed.

Drain Manholes:

1. All drain manholes must be inspected and maintained on a bi-annual basis in March and October of each year. Drain manholes must be inspected to ensure frames and covers are not damaged, inlet and outlet pipes are flowing freely and there are no blockages within the manhole, and brick course is intact.
2. Drain manholes are to be cleaned once per year at minimum, and shall be cleaned whenever any sediment has accumulated within the drain manhole.
3. If inspection indicates the presence of petroleum, it shall be removed immediately and disposed of off-site in accordance with all applicable local, state and federal regulations.

Catch Basins:

1. All catch basins must be inspected and maintained on a bi-annual basis in March and October of each year. Catch basins must be inspected to ensure frames and grates are not damaged, inlet and outlet pipes are flowing freely and there are no blockages within the catch basin.
2. Catch basins are to be cleaned once per year at minimum, and shall be cleaned whenever the depth of sediment is equal to or greater than half the sump depth. Care shall be taken during inspection and cleaning operations to avoid damage to any baffles, hoods, or other control structures that may be present.
3. All debris, sediment, and/or grease shall be removed from the oil/water separator catch basins and disposed of off-site in accordance with state and federal guidelines.

Infiltration Basin:

1. Long-term maintenance of infiltration system is the responsibility of Owner or as specified in City permits and approvals. The Infiltration Basin must be inspected annually and after every rain event greater than a 1-year, 24-hour, Type III event to ensure that the design infiltration rate is being met. Any accumulated sediment within the Basin system shall be removed bi-annually using lightweight equipment such as shovels and wheelbarrows and disposed off-site.
2. Vegetative Maintenance
 - a. First Growing Season: Whenever overall vegetative canopy height reaches 18"-24", trim the meadow to a height of 8" using a string trimmer. Trimming will reduce competition by fast-growing weeds for sunlight and nutrients needed by slow-growing perennial natives. Trimming should cease by mid-September. Problem weeds should be hand pulled or spot sprayed with an approved aquatic herbicide such as Rodeo® or Garlon® 3A.

- b. Second Growing Season: Problem weeds, such as purple loosestrife, phragmites, Japanese knotweed and reed canary grass, should be hand pulled or spot sprayed with an approved aquatic herbicide such as Rodeo® or Garlon® 3A. Mow to desired height as needed.
3. The system must be monitored for a 72-hour period after every rain storm event of two inches (2") or more. If any infiltration system fails to drain in a 72-hour period the Owner shall retain a qualified professional engineer to assess whether the infiltration system has failed and recommend any corrective action that is required. The corrective action determined shall be immediately implemented to restore the function of the systems to original design conditions. If sediment or organic debris build-up has limited the infiltration capabilities (infiltration basins) to below the design rate, the top 6 inches shall be removed and the surface roto-tilled to a depth of 12 inches. The basin bottom should be restored according to original design specifications.
3. Check pipes for clogging and flush as necessary.
4. If inspection indicates the presence of petroleum, it shall be removed immediately and disposed of off-site in accordance with all applicable local, state and federal regulations.

B. Pollution Prevention

Solid Waste Containment:

Solid waste storage and removal shall be ongoing and the responsibility of the owner.

Snow Disposal and Deicing:

1. Snow removal shall happen in conformance with RIDEM requirements. No snow shall be placed within regulated wetlands.
2. No exterior storage or deicing materials shall be allowed at the site or at individual properties within the development area. Application of deicing materials shall be in conformance with the applicable RIDEM requirements.
3. During winter conditions salt and sand use site-wide shall be applied to the minimum extent possible to maintain safe conditions.

Good Housekeeping Operations:

Good housekeeping and material management reduce the risk of accidental exposure of materials and substances to stormwater runoff.

1. All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers and under a roof or other weather proof enclosure.
2. Products shall be kept in their original containers with the original manufacturer's label.
3. Substances should not be mixed with one another, unless recommended by the manufacturer.
4. Whenever possible, all of a product will be used up before disposing of a container.
5. Petroleum Products:

All on-site vehicles and parking areas shall be regularly monitored for leaks and spills. Spills encountered during monitoring must be cleaned immediately.

6. Fertilizers:

1. Fertilizers shall only be used in the minimum amounts as recommended by the manufacturer.
2. The contents of any un-used fertilizer shall be transferred to a clearly labeled, weather proof sealable plastic bin, to avoid spillage.

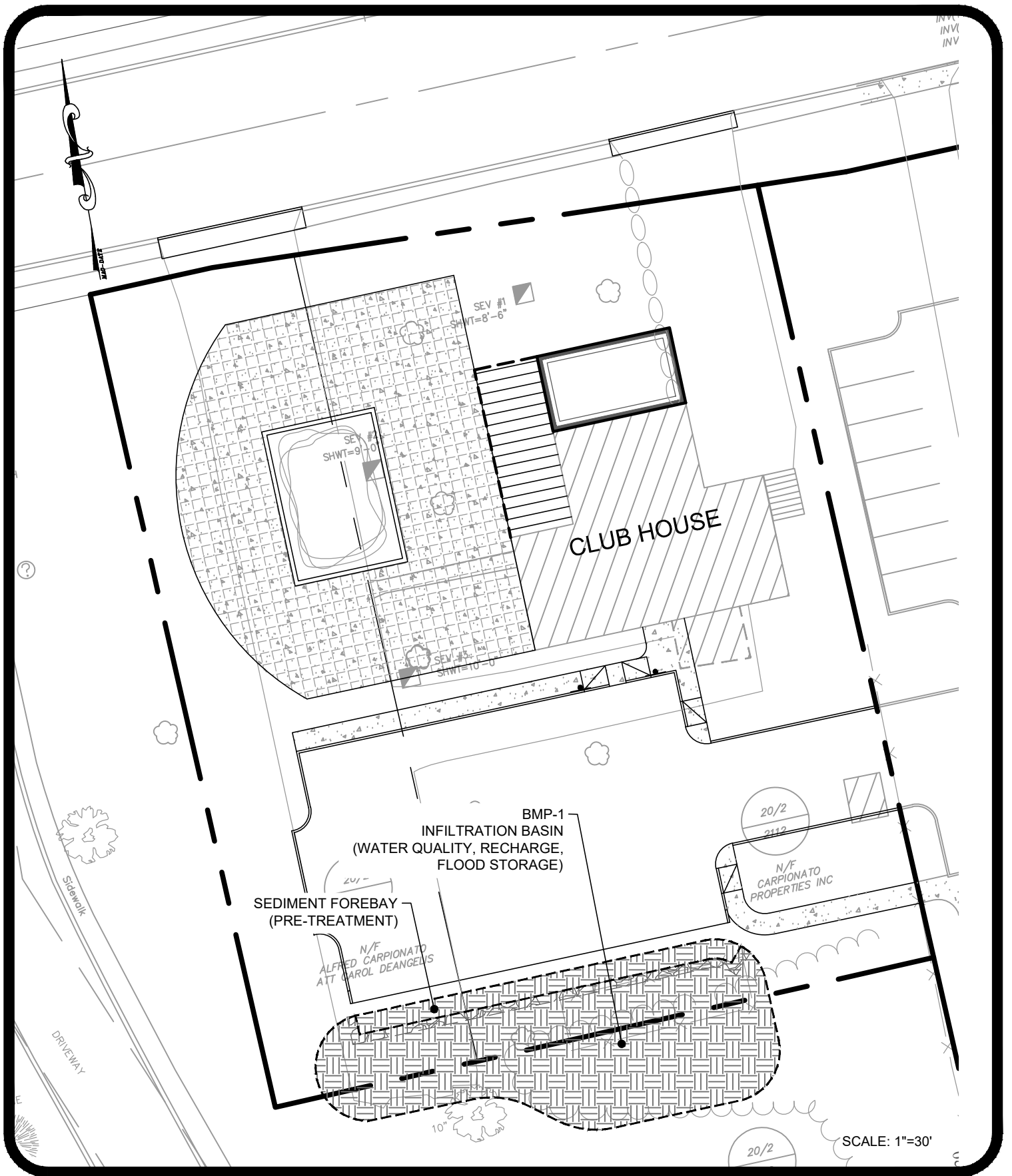
7. Paints, Solvents:

1. All paints and solvents shall be stored in original manufacturer's containers and in a weather-proof covered location.
2. The use of paints and solvents shall, whenever possible, be limited to service or storage bays. Where not possible, the work area shall be protected with impermeable drop clothes or tarps.

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APPENDIX - A

BMP LOCATION MAP



GAROFALO

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85 CORLISS STREET \ P.O. BOX 6145
PROVIDENCE, RHODE ISLAND 02940

CLUB HOUSE
320 SCITUATE AVENUE
CRANSTON, RHODE ISLAND
BMP LOCATION MAP

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APPENDIX - B

BMP INSPECTION CHECKLISTS

Infiltration System Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Annual)		
Trench/chamber or basin surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Annual)		
Trench/chamber or basin dewateres between storms		
4. Sediment Cleanout of Trench/Chamber or Basin (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
No evidence of sedimentation in trench/chamber or basin		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench/Chamber or basin does not need rehabilitation		

Comments:

Actions to be Taken:
