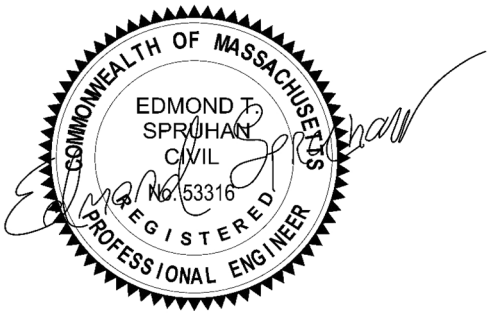
SPRUHAN ENGINEERING, P.C.

OPERATIONS & MAINTENANCE PLAN

242 Islington Road, Newton, MA.



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Operations & Maintenance Plan

Introduction

The following Stormwater Operations & Maintenance plan is for **242 Islington Road, Newton, Massachusetts**. All erosion and sediment control measures to be used are to be constructed and installed according to the 'Massachusetts Erosion and Sediment Control Guidelines for Urban and Sub-Urban Areas.'
The plan consists of the following elements:

- Owners' information
- Operation and maintenance guidance – Pre and Post Construction
- Landscape installation and maintenance guidance
- Proposed inspection log

All erosion and sediment control measures must be installed prior to the commencement of any work. All sediment and erosion control measures shall remain in place until the entire site has been stabilized. The site is deemed stabilized when all landscaped areas have been loamed and seeded with vegetation having had the chance to establish itself. Any proposed paved areas shall have their binder course of pavement installed prior to the removal of these control measures.

The long-term operation and maintenance of a stormwater management system is as critical to its performance as its design and construction. Proper operation and maintenance ensure that the BMP will continue to remove pollutants effectively over the long-term, decreases the risk of re-suspending sediment; and therefore, improves water quality. Without proper maintenance, BMPs are likely to fail and no longer provide the necessary stormwater treatment.

The maintenance of the Drainage System is the exclusive responsibility of the Property Owner. Annual reports (example below) shall be submitted to the City Engineer every January for the prior year

Owner and/or Manager contact information:

Owner/Manager: _____.
Address: _____.
Contact info: _____.

Change on ownership: The owner(s) of the stormwater management systems, with the exception of those associated with two-family dwellings, shall notify the Department of Public Works and Conservation Commission of changes in ownership or assignment of financial responsibility.

<u>This plan is valid in perpetuity and any future property owners are solely responsible for the management of the stormwater system on-site in accordance with this O&M Plan.</u>

Operations & Maintenance

The following operations and maintenance plan has been developed in order to preserve the drainage infrastructure that will be constructed and to ensure the drainage and infiltration system continues to function as designed.

- **Before & During Construction Operation and Maintenance Plan:**
    - Significant efforts shall be made to only disturb the minimum amount of area necessary to reduce potential erosion and sediment runoff. The control of dust in disturbed areas shall consist of at the least, wetting of disturbed soil or application of calcium chloride as required to minimize airborne dust.
    - All drainage structures shall be protected by filter fabric (or approved equal) to prevent sedimentation from entering the drainage system during the construction period.
    - Driveway, pavement, and roadway (if required) areas shall be swept to remove sediments prior to introduction into the storm water management system.
    - Drainage structures shall be inspected daily and cleaned as necessary of all sedimentation and construction materials during the construction period.
    - The contractor is required to contact the engineer of record for drainage system inspection at least 72 hours prior to backfilling in order to receive inspection signoff.

- **Post Construction Operation and Maintenance Plan**

    Once the construction is completed, it is the owner's responsibility to maintain the items outlined below to ensure the efficiency and integrity of the drainage systems. The post construction inspections shall take place at a minimum of once during the Spring (March-May), and a minimum of once during the fall (September – November) and after every major storm.

    - **Pipes** shall be inspected on a minimum on a semi-annual basis. These inspections shall take place during the spring and fall months of the year. The inspector shall take note of any debris/sediment/clogging and shall document the condition of each structure. Based upon the observed condition, the inspector shall make recommendations if any further action is required.

    - **All drainage structures, including manholes trench drains, area drains, cleanouts and catch basins**, shall be inspected four times per year and shall be cleaned of all sand, debris, and sediment four times per year or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin.

    - **Roof Gutters** shall be inspected annually and after major rain events. Remove leaves and sediment as necessary to allow rainwater to flow to system.

    - **Stormtech DC-780 maintenance procedures:**
        - The stormtech system shall be inspected at a minimum on a semi-annual basis, or after a major storm event.
        - Remove lid and cap from inspection ports which must be brought to finished grade.
        - Using a flashlight and stadia rod, measure the depth of sediment
        - If sediment is above 3" depth, then cleaning is required

- A licensed professional shall provide cleanout/ flushing services of all sediment and debris via cleanouts and catch basins located per plans.
- All caps and covers shall be replaced

Other Activities:

Pavement Sweeping: The paved areas shall be swept every quarter, so four (4) times per year.

Lawn and Landscape Repairs: The lawn and landscaped areas on the site shall be inspected in the spring and fall of each year and the areas shall be restabilized as needed by seeding as lawn or mulching landscaped areas.

An INSPECTION LOG example format is shown below on Table B.1. This must be filled every time an inspection or maintenance activity is performed on any element of the stormwater management on site, included but not limited to:

- Pretreatment devices.
- Vegetation or filter media.
- Control structures.
- Embankments and slopes.
- Inlet and outlet channels and structures.
- Underground drainage.
- Sediment and debris accumulation in storage and forebay areas (including catch basins).
- Any nonstructural practices.
- Any other item that could affect the proper function of the stormwater management system

FINAL IMPORTANT NOTES:

- **PROVISIONS MUST EXIST ALLOWING THE CITY OF NEWTON OR ITS DESIGNEE TO ENTER THE PROPERTY AT REASONABLE TIMES AND IN A REASONABLE MANNER FOR THE PURPOSE OF INSPECTION.**

- **ANNUAL INSPECTION LOGS SHALL BE SUBMITTED TO THE DPW ENGINEERING DIVISION AS REQUIRED TO MAINTAIN CERTIFICATION OF COMPLIANCE UNDER NEWTON'S NPDES MS4 PERMIT.**

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PROPERTY OWNER OR MANAGER

ATTACHMENT A. LOG SHEET AND TABLES

OPERATION & MAINTENANCE PLAN
LOG SHEET
242 Islington Road, Newton, Massachusetts
INSPECTION REPORT:

Inspection Firm:_____

Inspector's Name:_____Date:_____

Components Inspected: _____

Signed: _____

SYSTEM MAINTENANCE:

Maintenance Firm:_____Date:_____

Drain Lines Inspected: Yes_____No_____Comments:_____

_____

Stormwater unit System Cleaned: Yes___No_____Comments:_____

_____

Estimate of Material Removed: _____

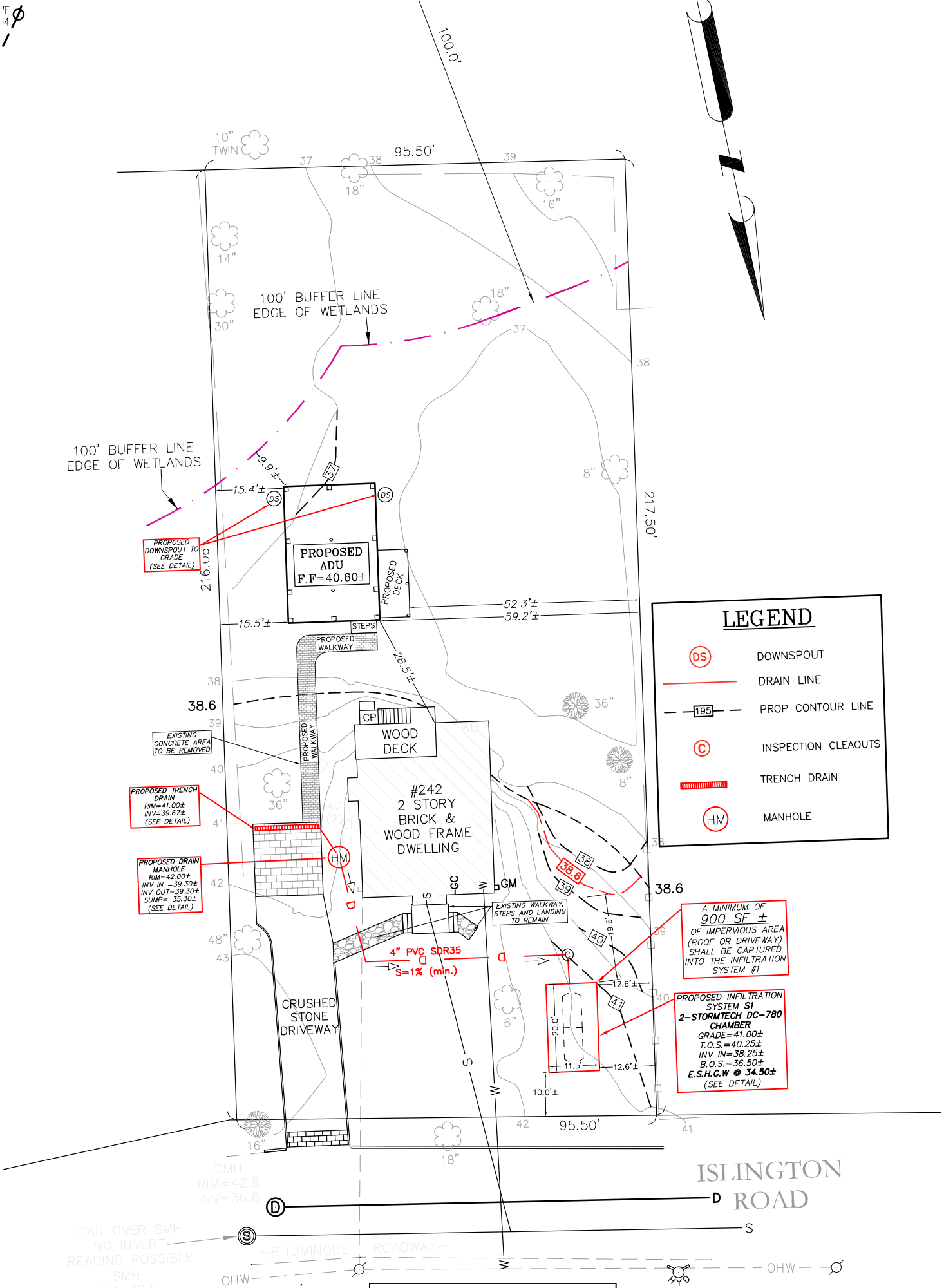
Other Comments: _____

Signed: _____

Table 1 - Inspection log for BMP's

STORMWATER MANAGEMENT SYSTEMS INSPECTION LOG						
DATE	NAME OF INSPECTOR	NAME/TYPE OF BMP INSPECTED	CONDITION OF BMP OBSERVED	DESCRIPTION OF NEED FOR MAINTENANCE	OBSERVATIONS OF ANY PHYSICAL CHANGES TO SYSTEM COMPARED TO AS BUILT PLAN	ANNUAL SUBMISSION TO DPW

ATTACHMENT B. BMP MAP



100.0'
95.50'
217.50'
216.00'
100' BUFFER LINE
EDGE OF WETLANDS
100' BUFFER LINE
EDGE OF WETLANDS
PROPOSED DOWNSPOUT TO GRADE (SEE DETAIL)
PROPOSED ADU F.F=40.60±
PROPOSED DECK
STEPS
PROPOSED WALKWAY
15.4'±
9.9'±
15.5'±
52.3'±
59.2'±
26.5'±
38.6
EXISTING CONCRETE AREA TO BE REMOVED
PROPOSED TRENCH DRAIN RIM=41.00± INV=39.67± (SEE DETAIL)
PROPOSED DRAIN MANHOLE RIM=42.00± INV IN =39.30± INV OUT=39.30± SUMP= 35.30± (SEE DETAIL)
WOOD DECK
#242 2 STORY BRICK & WOOD FRAME DWELLING
EXISTING WALKWAY, STEPS AND LANDING TO REMAIN
4" PVC SDR35
S=1% (min.)
CRUSHED STONE DRIVEWAY
A MINIMUM OF 900 SF ± OF IMPERVIOUS AREA (ROOF OR DRIVEWAY) SHALL BE CAPTURED INTO THE INFILTRATION SYSTEM #1
PROPOSED INFILTRATION SYSTEM S1 2-STORMTECH DC-780 CHAMBER GRADE=41.00± T.O.S.=40.25± INV IN=38.25± B.O.S.=36.50± E.S.H.G.W @ 34.50± (SEE DETAIL)
20.0'
11.5'
12.6'±
10.0'±
19.6'
LEGEND
DOWNSPOUT
DRAIN LINE
PROP CONTOUR LINE
INSPECTION CLEAOUTS
TRENCH DRAIN
MANHOLE
ISLINGTON ROAD
DMH RIM=42.8 INV=36.8
CAR OVER SMH NO INVERT READING POSSIBLE SMH RIM=42.8
~BITUMINOUS ROADWAY~
OHW

BMP PLAN