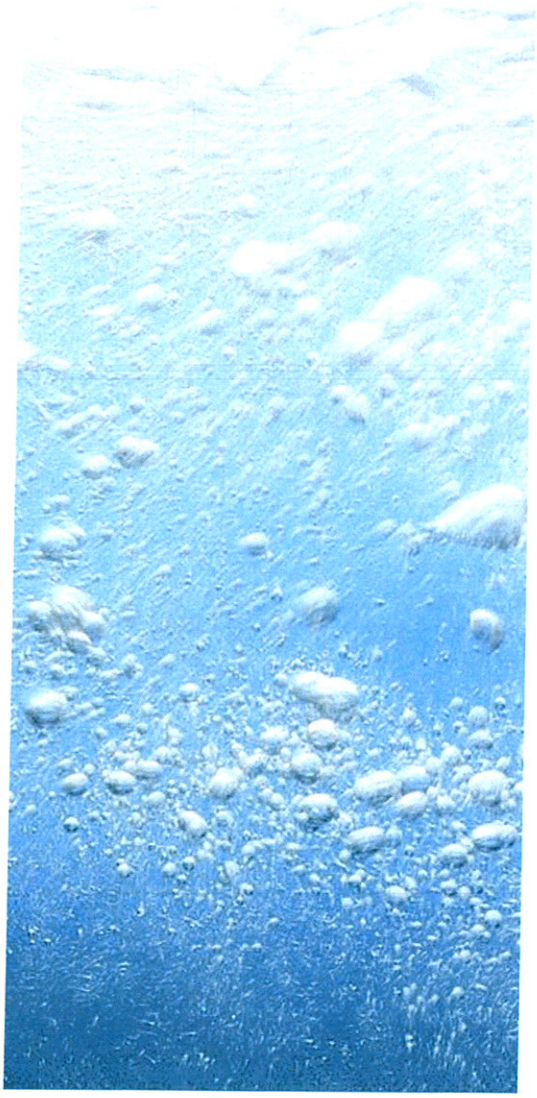
Stormwater Management Plan

under the
Massachusetts Stormwater Management Regulations

Proposed Mixed-Use Building

5 West Dane Street
Beverly, MA



September 2019

Applicant:
Benco, LLC

Submitted to:
City of Beverly, MA

Prepared by:
Griffin Engineering
Beverly, MA

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STORMWATER MANAGEMENT CHECKLIST

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

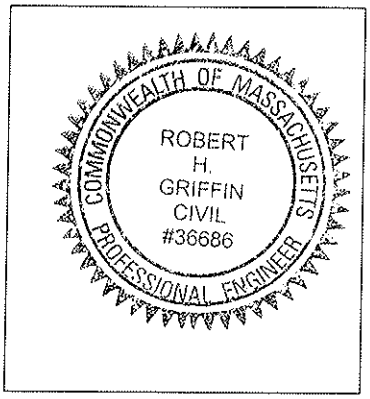
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date 9/20/19

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☒ Reduced Impervious Area (Redevelopment Only)

☒ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☐ Other (describe): _____

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☐ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☐ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☐ Sizing the infiltration, BMPs is based on the following method: Check the method used

☐ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Pl
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☐ The BMP is sized (and calculations provided) based on:

- ☐ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☒ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☒ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

ATTACHMENT A

PROJECT DESCRIPTION

Stormwater Management Report

Proposed Mixed-Use Building
w/ 10 Residential Units &
1 Commercial Unit

Benco, LLC
5 West Dane Street, Beverly, MA 01915

1.0 INTRODUCTION

This stormwater management report is prepared in support of the proposed residential and commercial development at 5 West Dane Street (Assessors Map 11 Lot 368) in Beverly, MA. The project involves demolishing an existing auto body repair and paint shop building and constructing a new mixed-use building consisting of ten (10) residential units and one (1) commercial unit.

1.1 Existing Conditions

The project site is an approximately 0.15-acre (6,686 sq. ft.) parcel currently developed with a 2,400 square-foot former garage building with associated driveway, parking area, and utilities. The project site is bounded to the south by West Dane Street, to the west by a residential property, and to the north and east by commercial properties. The topography of the site is generally flat, with a slight pitch toward the northwest corner of the lot. Nearly the entire site drains toward this area. The area in front of the building drains towards West Dane Street.

1.2 Proposed Conditions

The proposed project involves demolishing the existing garage building and constructing an approximately 4,600 square-foot mixed-use building. The structure will consist of an open-air parking garage at the lower level. Approximately 500 square-feet of commercial space is proposed at the front of the building at ground level. The two upper levels will consist of ten residential units (five units per floor). An approximately 20-ft by 44-ft roofed carport area is proposed at the rear of the building to provide additional parking. Site plans showing the proposed development and stormwater management features are provided with this submittal.

As part of the proposed project, improvements to the City's stormwater management system in West Dane Street will be made. Approximately 270 ft. of drain pipe will be installed within West Dane Street to adequately convey stormwater from the project site to the nearest stormwater management structure, located at the corner of West Dane Street and Mulberry Street.

The project is considered redevelopment and will reduce impervious surfaces by approximately 130 square-feet. The proposed stormwater management system will meet all DEP stormwater management standards, with the exception of Standard 2 which has been met to the maximum extent practicable. Each standard is reviewed below.

2.0 STORMWATER MANAGEMENT STANDARDS

2.1 Standard 1: No New Untreated Discharges

There are no new untreated discharges associated with the proposed project. The site discharges primarily clean roof runoff to the existing municipal drainage system in West Dane Street.

2.2 Standard 2: Peak Rate Attenuation

Stormwater from the subject property currently flows in two directions: 1) north/ northwest towards the abutting properties at 306 Cabot Street and 7R West Dane Street, and 2) towards West Dane Street. Only a small portion of the site at the front of the lot currently drains toward West Dane Street. Most of the subject property as well as portions of the upgradient neighboring properties at 298, 300, and 304 Cabot Street currently drain toward the northwest corner of the subject property and then onto the neighboring properties.

To minimize potential impacts to the neighboring properties the Applicant proposes to direct stormwater runoff into the stormwater management system in West Dane Street. As discussed in Section 1.2, approximately 270 ft. of drain pipe will be installed in West Dane Street to convey the stormwater. As a result, the peak flow rate towards West Dane Street will increase, while the peak flow rate towards the neighboring properties will decrease. As a redevelopment project, Standard 2 is met to the maximum extent practicable (see Standard 7).

2.3 Standard 3: Recharge

The proposed development reduces the amount of impervious area on-site by approximately 130 sf. For this reason, Standard 3 is met with no additional infiltration structures necessary.

2.4 Standard 4: Water Quality

The minimum required water quality treatment volume for the proposed development is the first half-inch from the qualifying impervious surfaces.

Most of the proposed development (approximately 5,470 square feet) will consist of building roof. Stormwater runoff from roof areas is considered "clean" per MassDEP

and is not required to be treated. As a result, the project will improve stormwater runoff quality by converting approximately 3,100 sq. ft. of existing, untreated pavement into clean building roof.

Stormwater runoff from the proposed building roof will be collected via gutters, downspouts and roof leaders and directed into Stormwater Management system in West Dane Street as described in section 1.2.

The remaining impervious surfaces consist of approximately 420 sq. ft. of pavement, pavers, and the retaining wall along the west property line. These areas are unable to be effectively captured and treated and are considered "de-minimis" under the Stormwater Management Standards.

As required by the Stormwater Management Standards, a Long-Term Pollution Prevention Plan has been prepared and is attached. In short, the plan identifies suitable practices for source control and pollution prevention measures.

2.5 Standard 5: Land Uses with Higher Potential Pollutant Loads

In accordance with the Stormwater Management Standards, the proposed use is not considered a Land Use with Higher Potential Pollutant Loads. Therefore, this standard does not apply to this project.

2.6 Standard 6: Critical Areas

The project site is not tributary to an environmentally-critical area as defined by the Massachusetts Stormwater Management Standards. Therefore, this standard does not apply to this project.

2.7 Standard 7: Redevelopment and Other Projects Subject to the Standards only to the Maximum Extent Practicable

The proposed project is considered redevelopment and decreases on-site impervious areas by approximately 130 sq. ft. As a result, the project is required to meet Standards 2, 3, and the pretreatment and structural BMP requirements of Standard 4, 5, and 6 only to the maximum extent practicable. The project must fully comply with all other Standards.

All standards have been met except for Standard 2, which has been meet to the maximum extent practicable. Due to the lack of sufficient space on-site for stormwater detention it is impracticable to fully meet Standard 2.

2.8 Standard 8: Construction Period Pollution Prevention and Erosion

and Sediment Control

The proposed project includes a comprehensive set of mitigation measures to protect the existing and surrounding sites from impacts due to construction. Prior to work commencing on-site, there will be a preconstruction conference with the contractor. The purpose of this meeting will be to coordinate the best methods for erosion and sedimentation control and other construction-related issues. The implementation of a comprehensive soil and erosion control plan will occur prior to any construction activities within the project area. In general, the following sequence of events will occur:

- Erosion and sedimentation control devices will be installed along the edge of the down-gradient side of the project area and property line prior to construction as depicted on the site plan.

- Erosion and sedimentation control devices will be inspected daily during periods of active construction and bi-weekly during the remainder of the construction period. Sediments will be removed from the barriers as soon as they reach a depth of 6-inches.

- Runoff from the site will be directed through sedimentation control barriers.

- During construction, disturbed areas will be kept to a minimum and vegetative stabilization of these areas will occur as soon as practicable.

- Temporary seeding, mulching, or other suitable stabilization measures will be used to protect exposed critical areas should unprotected soils remain exposed for prolonged periods.

Construction activities shall be monitored on-site by the construction supervisor to ensure that the soil erosion and sediment control features are installed properly, maintained, and to evaluate the need for additional erosion control and/or stabilization measures. The inspector will perform the following tasks:

- Supervise the installation and maintenance of the soil erosion and sediment control features.

- Evaluate the need for additional soil erosion and sediment control features.

- Scheduled inspections of erosion control features, including construction entrance, haybales, and dust control.

- Supervise and monitor temporary and permanent stabilization activities.

2.9 Standard 9: Operation and Maintenance Plan

An Operations & Maintenance plan has been provided and is attached. The property owner(s) are responsible for operation and maintenance of the proposed stormwater BMPs.

2.10 Standard 10: Illicit Discharges

The submitted Long-Term Pollution Prevention Plan specifies measures to prevent illicit discharges from entering the stormwater management system. Source control and response plans are also specified to prevent illicit discharges from being conveyed through the stormwater management system.

Consistent with the Massachusetts Stormwater Handbook, a signed Illicit Discharge Compliance Statement will be finalized prior to discharging stormwater to the post-construction stormwater BMP's. A draft copy of the Illicit Discharge Statement is attached.

3.0 SUMMARY

The proposed drainage system and site development plans for the proposed project conform to the MassDEP Stormwater Management Regulations. Proper construction and operation and maintenance of the proposed drainage system are critical to its long-term performance. To that end, an Operations and Maintenance Plan and Long-Term Pollution Prevention Plan have been prepared and will be instituted throughout the facility's life.

ATTACHMENT B

LONG TERM POLLUTION PREVENTION PLAN

Long Term Pollution Prevention Plan

Standard #4 of the MA DEP Stormwater Management Handbook requires that a Long Term Pollution Prevention Plan (LTPPP) be prepared and incorporated into the long term operation and maintenance plan of the projects stormwater management system. The purpose of the LTPPP is to identify potential sources of pollution that may affect the quality of stormwater discharges and to describe suggested practices to reduce pollutants in stormwater discharges.

Good housekeeping practices - The subject property owner(s) is/are to keep the site in a neat and orderly condition so that pollutants are not conveyed to the stormwater drainage system. Materials swept, blown or washed into the storm drain can decrease the system's effectiveness. Some examples of good housekeeping practices are pavement sweeping, litter control, contained outdoor waste and cigarette disposal receptacles, and protected material storage areas. The property owner(s) should provide proper training and assign responsibilities to personnel to keep the site in a neat and orderly condition.

Provisions for storing materials and waste products inside or under cover – Trash receptacles will be located in the garage area. A trash disposal company will pick up waste materials curbside and properly dispose at a state approved disposal facility.

The stormwater drainage system has a deep-sump catchbasin and water quality structure to capture and retain trash, debris, and sediments.

Vehicle washing controls – Outdoor vehicle washing has the potential of conveying wash water with heavy concentrations of detergents and sediments into the stormwater drainage system. The project site does not include any designated vehicle washing areas, nor is it expected that vehicle washing will take place on-site.

Requirements for routine inspections and maintenance of stormwater BMP's - Consistent with Standard 9 of the Massachusetts Stormwater Management Regulations, an Operation and Maintenance Plan has been provided in the Stormwater Management Report. The plan details routine inspection and maintenance of the stormwater BMP's along with associated record keeping forms.

Spill prevention and response plans – Sources of potential spill hazards include vehicle fluids and fuels, pesticides, paints, solvents, and liquid cleaning products. The majority of the spill hazards would likely occur within the building and would not enter the stormwater drainage system. However, there are spill hazards from vehicle fluids and fuels located outside of the buildings. These exterior spill hazards have the potential to enter the stormwater drainage system and are to be addressed as follows:

1) Spill hazards of pesticides, paints, and solvents shall be remediated using the Manufacturers' recommended spill cleanup protocol.
2) Vehicle fluid and fuel spills shall be remediated according to local and state regulations governing fuel spills.
3) The property owners shall have the following equipment and materials on hand to address a spill clean-up: brooms, dust-pans, mops, rags, gloves, trash bags, trash containers, and absorptive materials such as sand, sawdust, or kitty litter.
4) Spills of toxic or hazardous materials shall be reported to the Massachusetts Department of Environmental Protection at 1-888-304-1133.

Provisions for maintenance of lawns, garden, and other landscaped areas - It should be a general goal of the subject property owner to achieve a high-quality, well-groomed and stable landscape that evolves throughout the seasons and protects the overall condition of the property. All landscaped areas are to be maintained with dense vegetative growth or a layer of mulch or crushed stone so as to minimize sediment transport. Litter and waste is to be removed weekly from the landscaped areas and adjoining parking lots and disposed of properly.

Requirements for storage and use of fertilizer, herbicides, and pesticides - Fertilizers, herbicides, and pesticides are not to be stored on site or within the buildings. Should use of some become necessary, application should be performed by a state licensed contractor in accordance with the manufacturer's label instruction and when environmental conditions are conducive to product application.

Pet waste management provisions - All pet waste is to be scooped up, sealed in a plastic bag, and disposed of properly in the garbage. Pet waste should never be deposited in the stormwater management system for it contains high level of fecal coliform bacteria.

Snow disposal – Snow will be stockpiled on site until the stockpile areas become a hazard to the daily operation of the site. At that point, snow is to be disposed of at an off-site location. It will be the responsibility of the hired snow removal contractor to properly dispose of transported snow according to the Massachusetts DEP, Snow Disposal Guidelines. It is the responsibility of the snow removal contractor to follow these guidelines and all applicable laws and regulations.

ATTACHMENT C

OPERATION & MAINTENANCE PLAN

Operation & Maintenance Plan

System Owner: Benco, LLC (or Successors)

Party Responsible for O&M: Following construction, the parking area and drainage structures will be maintained by the property owner. This includes the catchbasin, manhole structures, and drain pipes.

Note: The inspector should note that drainage pipes often are considered "confined spaces" subject to strict OSHA standards regarding safe entry. Confined spaces present inherent hazards to workers. Only appropriately trained staff with appropriate safety equipment and monitors may enter confined spaces, and then only with a specific entry permit. Also, this work may pose hazards to workers, such as soft ground, flowing or standing water, snakes and rodents. Again, only appropriately trained staff with the necessary safety equipment should undertake such work.

The drainage system is to be operated and maintained in accordance with the following:

1). Inspections. The catch basin and piping system are to be inspected during the first year of operation on a quarterly basis. The inspection frequency can be reduced after the first year to annual inspections provided that the quarterly inspections do not indicate the need for more frequent inspections. If more frequent inspections become appropriate at any time, they should be implemented. Inspection Forms are attached.

Piping System. During each inspection, the piping is to be inspected for structural integrity, settlement and sedimentation. Sedimentation in the pipe indicates a need for cleaning.

Catch basin. Remove the cover from the catch basin and visually inspect for corrosion and structural damage. Using a wooden pole, probe the sump to determine the depth of sediment. Accumulation greater than 16" indicates clean-out. Cleaning should be by a vacuum truck or clamshell. Take care as to not damage the catch basin hood. If an oil layer is floating on the water surface, place an oil-absorbent pillow on surface, allow to soak and remove and replace. Repeat this process until the oil layer is removed. Alternatively, have the oil layer pumped out by a licensed disposal contractor and appropriately disposed of. The oil absorbent pillows must be drummed for disposal by a licensed disposal contractor.

Covered Parking Area. Remove debris from the parking lot as it accumulates, as part of normal site clean-up. Weekly patrolling for litter is recommended. Significant oil leaks should be swept up and disposed of using oil-absorbent material as they are discovered. Any oil spills or leaks that reach the drainage system must be reported to the Massachusetts DEP oil spill hotline.

2). Snow Storage. Snow removal will only be necessary for access to the garage. Snow accumulation on the small front driveway (approx. 9'x20') will be cast to either side of the driveway. Snow will be removed from the site if the snowbanks are too large. Do not obstruct the visibility of vehicles entering or exiting the site.

5 WEST DANE STREET, BEVERLY, MA
INSPECTION AND MAINTENANCE REPORT FORM

Inspection Date: _____

Inspector: _____

Item	Location	Depth of Sediment Build-Up	Sediment Need Removal?	General Condition	Oil Present? Thickness?	Repairs or Maintenance Required?
Catchbasin	Rear Parking Area					
Piping	General					
Drain Manhole	Garage					

Additional Notes:

_____

_____

ATTACHMENT D

ILLICIT DISCHARGE
STATEMENT

ILLICIT DISCHARGE COMPLIANCE STATEMENT

I verify that no illicit discharges exist on the 5 West Dane Street property. Through the implementation of Long Term Pollution Prevention Plan and Operation and Maintenance Plan, measures are set forth to prevent illicit discharges from entering the stormwater management drainage system.

Signature	Print Name	Date
Title	Company	
Signature	Print Name	Date
Title	Company	

Note: This certification must be signed before stormwater is conveyed to the proposed stormwater drainage system in accordance with Standard 10 of the Massachusetts Stormwater Management Standards.