

STORMWATER MANAGEMENT REPORT AND HYDROLOGIC ANALYSIS

Proposed Site Plan

**100 Duchaine Boulevard (Assessors Map 134 Lot 5)
New Bedford, Massachusetts 02745**

Project Summary

The project area associated with this proposed development is located at the southern terminus of Duchaine Boulevard in the New Bedford Business Park in northern New Bedford. The site is comprised tax parcel Lot 5 on Assessor's Map 134, and consists of approximately 65.1+/- acres. The proposed project area is comprised of the Southern half of the parcel area, and does not include any of the northern half of the property. Much of the parcel area, including the entire proposed project area, is located in the city's Industrial C zoning district. The site currently contains a large commercial building of the warehouse style consistent with other buildings within this business park. There also exists associated parking, loading, and landscaped areas, as well as several flagged areas of bordering vegetated wetlands. Access to the site is gained from a looped road off of Duchaine Boulevard, over which access easements have been provided.

The applicant is seeking permission to provide parking, loading, and drainage improvements to the project site, as well as a 15,000 S.F. addition to the existing building to be used as a shipping and receiving wing. The applicant is also seeking to expand the existing gravel parking area to the west of the existing building while adding in a concrete pad with an asphalt apron which will be utilized for material sorting and storage. The proposed plans depict the addition of a large solar canopy to be installed above the existing parking lot to the east of the existing building. This parking lot will be re-painted to include a total of 60 employee or visitor parking spaces, and 42 large trailer parking spaces. Outside of the parking lot covered by the solar canopy, there is an additional 11 proposed box truck parking spaces, and 11 employee parking spaces. These spaces are to be added to all existing parking spaces on the property for a grand total of 142 available parking spaces which would be in compliance with the zoning requirement of 55 total spaces for the intended use.

The current use of the property is a warehouse and distribution company that handles mostly food products. The applicant will be changing the use to a recycling facility handling mostly plastics and glass products. After meeting parking requirements for the governing zoning laws, the loading requirements will also be met by keeping all existing loading docks in use for a total of 20 loading bays.

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PLANNING
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DEPARTMENT

In order to attenuate the increased stormwater runoff generated by the proposed impervious site coverage and to provide the appropriate level of water quality treatment, additional stormwater management practices have been proposed. Proposed structural BMP's include sediment forebays, detention basin and subsurface recharge system.

Methodology

Drainage computations were performed using the Natural Resources Conservation Services (NRCS) TR-20 method and HydroCAD® Drainage Calculation Software to determine the change in the existing and post-development runoff rates from each drainage area for the 2-, 10-, and 100-year 24 hour storm events. The limits of the work proposed to complete the project fall within an area subject to protection by the Wetlands Protection Act, therefore, compliance with DEP Stormwater Management Standards is required. Sketches of the existing and proposed watershed areas, HydroCAD® Report, and copies of the calculation sheets are included as appendices to this report.

Existing Conditions

The soils underlying the site are identified in the Natural Resources Conservation Service (NRCS) Soil Survey of Bristol County (*see Exhibit D*). The site soils are classified as 39A (Scarboro mucky fine sandy loam, 0-3 percent slopes, Hydrologic Soil Group: "C") and 602 (Urban Land, HSG: "Unranked")

Stormwater Management Overview

Existing Conditions:

The project site has been divided into two existing subcatchment drainage areas, which discharge to one design point. The design point chosen for this site are the existing infiltration basin located to the west of the existing building. A singular depression in the existing parking lot collects stormwater runoff for this site and directs it to the aforementioned basin, both of which have been incorporated into the existing drainage model. Although this basin is small in depth and volume, it does provide peak rate attenuation for runoff which is directed to it. An existing outlet control within the wet basin has been incorporated into the model, and the outflow from the pond is combined with the off-site runoff to provide a total flow to the design points.

Proposed Conditions:

Under proposed conditions, four subcatchment areas have been included in the drainage model. New paved area to be added to the existing gravel parking area direct runoff towards an enlarged infiltration basin, located between the existing driveway and the proposed paved area. The runoff from the new building will be recharged through a subsurface infiltration cultec system.

The proposed infiltration basin has been designed in accordance with the DEP Stormwater Handbook. In accordance with the Stormwater Handbook, the rate