

November 11, 2015

Mr. John G. Radcliffe
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: Nitsch Project #9972
Proposed Salt Shed
1484 Airport Road
New Bedford, MA

Dear Mr. Radcliffe:

This letter is in regard to the proposed Salt Shed project located at 1484 Airport Road in New Bedford, Massachusetts. Nitsch Engineering has reviewed the following revised items submitted as part of the proposed project:

- Plan entitled, "New Bedford Salt Shed Project, 1484 Airport Road, New Bedford, Massachusetts," prepared by the City of New Bedford Massachusetts Department of Public Infrastructure, dated August 13, 2015, and revised through October 26, 2015;
- Run-off Calculations Rational Method, no date;
- Run-off Calculations – NOAA Precipitation Frequency Estimates, no date;
- Operations and Maintenance Plan, 1484 Airport Road Salt Shed Project, no date;
- Soil Test pit log dated September 18, 2015;
- Response to comments letter prepared by the New Bedford Department of Public Infrastructure, dated October 28, 2015;
- Stormwater Management Checklist, no date;
- Erosion and Sedimentation Control narrative, no date; and
- Illicit Discharge Statement, no date.

We have the following comments with regard to the above-referenced information, pertaining to drainage design only:

1. The revised site plan has been revised to include a large 1-foot deep drainage swale that wraps around the rear of the proposed building and pad. This swale is intended to collect stormwater generated from the proposed building roof and surrounding pad. A second 101 contour should be added to the top of the swale to indicate the top of the berm. Although there are some errors in the calculations, the site is required to infiltrate 464 cf of water. The swale provides 1,322 cf of storage. Therefore, the swale provides adequate infiltration storage.
2. Construction details were provided for a sedimentation barrier. Typically, construction details are provided for all constructible elements including but not limited to the drainage swale.
3. The proposed project includes work within the 25-foot no disturb buffer although the extent of the intrusion into the 25-foot no disturb buffer has been decreased due to the relocation of the building closer to Airport Road.

4. Existing conditions and post-development conditions calculations were provided for review utilizing the rational method. With regards to storm intensities (I), we recommend the Steel Formula be used. This formula would yield the following rainfall intensities: 2 year – 4.6 in/hr, 10 year – 5.8 in/hr, 100 year – 7.9 in/hr. The storm intensities used were not consistent with the Steel formula and are yielding erroneous results. The calculations provided show an increase in peak flows between the existing conditions and post conditions. Under the Stormwater Management Guidelines, there should be a reduction in flows. There are some inconsistencies in the calculations. For example, the area analyzed under the existing condition is smaller than the area analyzed under the post developed condition. Typically, the areas to be analyzed are the identical area. Also, the water generated by the building and pad will be collected by the swale, as well as any rainfall that lands in the swale. Therefore, the area that effectively runs off the site should be analyzed without the building pad and swale, assuming the swale can effectively capture the run-off from the pad and swale. Using the information given and the Steel formula rainfall intensities, the building pad will generate 3,450 cf, 4,350 cf, and 5,920 cf during the 2-, 10-, and 100-year storms respectively. The storage volume of the swale is 1,322 cf. Therefore the swale – which has been designed to be 1 foot deep – is not large enough to capture the run-off from the any of the storms. If the applicant desires to capture the run-off from each of these storms and allow the remainder to run off the site, the volume of the storage volume of the swale will need to be enlarged. This can be accomplished by either increasing the footprint of making the swale deeper.
5. Additional calculations, including best management practices (BMP) sizing calculations, should be provided for review consistent with comment 1 above, regarding groundwater recharge. Typically, water quality BMP calculations demonstrating compliance with Standard 4 (Total Suspended Solids [TSS] removal) are included. However, discussions with DPI indicate they will be seeking a waiver from providing BMPs to address Total Suspended Solids removal.
6. Previous plans included a trench drain laid across the entrance driveway of the project. The trench drain has been removed from the project. It appears that any salt that drops on the ground from the project will flow away from the site untreated onto Airport Road.
7. The test pit logs indicate soils conditions onsite are suitable for groundwater recharge.
8. The project is a Light Industrial use and is therefore subject to Land Uses with Higher Potential Pollutant Load water quality requirements described under Standard 5 of the Stormwater Management Guidelines. The project will only be active during winter months and will not be active the entire year.
9. The applicant describes the site as a redevelopment project. Nitsch Engineering characterizes this project as a mix of new development and redevelopment. There will be an increase of impervious surface on the project and portions of the project are located in a currently wooded section of the buffer zone which is clearly undeveloped. Therefore, the project should meet the Stormwater Management Guidelines to their fullest extent. The applicant describes the amount of impervious surface on the site being increased from 6,981 square feet to 11,605 square feet. Per the Guidelines, the new impervious area needs to meet the Stormwater Management Guidelines.
10. An Erosion and Sedimentation Control plan is required for review under Standard 8 of the Stormwater Management Guidelines. An Erosion and Sedimentation Control Plan was submitted for review and is acceptable for this limited project.
11. A Long Term Operations and Maintenance Plan was revised and is acceptable.
12. An illicit discharge statement was provided. Typically, these statements are signed by the Applicant or Owner but otherwise the illicit discharge statement is acceptable.
13. A Stormwater Management Checklist is required under the Stormwater Management Guidelines. A checklist was provided as part of the original submittal and has been improved over the previous submittal.
14. Existing and proposed watershed plans are typically provided to accompany the hydrologic drainage calculations. Watershed plans were not provided for review.

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Many of the required items have been submitted but there are still items missing to document full compliance with the Guidelines. In particular, the drainage calculations need additional work.

If you have any questions, please call at 617-338-0063.

Very truly yours,

Nitsch Engineering, Inc.



Scott D. Turner, PE, AICP, LEED AP ND
Director of Planning

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