

June 2, 2014

Mr. Kenneth Motta
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: Nitsch Project #9972
100 Duchaine Boulevard
Review Letter
New Bedford, MA

Dear Mr. Motta:

This letter is in regard to the proposed Logal, LLC project located at 100 Duchaine Boulevard in New Bedford, Massachusetts. Nitsch Engineering has reviewed the following revised items submitted as part of the proposed project:

- Plan set entitled, "Proposed Site Development, Logal, LLC, 100 Duchaine Boulevard, New Bedford, Massachusetts," prepared by Field Engineering Co., Inc., dated May 7, 2014;
- Plan set entitled, "Proposed Site Development, Logal, LLC, 100 Duchaine Boulevard, New Bedford, Massachusetts," prepared by Field Engineering Co., Inc., revised May 21, 2014;
- "Notice of Intent, Proposed Site Improvements," prepared by Field Engineering Co., Inc., dated May 8, 2014;
- "Stormwater Management System Report, Logal, LLC, Proposed Site Improvements," prepared by Field Engineering Co., Inc., dated May 7, 2014; and
- "Stormwater Management System Report, Addendum 1, Logal, LLC, Proposed Site Improvements," prepared by Field Engineering Co., Inc., dated May 21, 2014.

Additionally, Nitsch Engineering performed a site visit on May 29, 2014 to review the existing conditions on the project site. We have the following comments with regard to the above-referenced information, pertaining to drainage design only:

1. The Applicant is proposing site and drainage improvements at an existing facility, including the construction of 16 loading docks, a gravel tractor trailer parking lot, a gravel driveway, 15 paved parking spaces, and new paved access to the loading dock. The existing site has approximately 267,540 square feet of impervious area, while the proposed site has approximately 239,231 square feet of impervious area plus an additional 55,522 square feet of gravel surface. The Stormwater Report indicates that the site is considered a redevelopment due to the decrease in impervious area.
 - a. Due to the potential impact on the design of the stormwater management system, we request that the Applicant evaluate the intended use and frequency of tractor trailer trips on the proposed gravel surfaces, and confirm that these surfaces will not be compacted by the proposed use. If the gravel surfaces should be considered impervious due to the potential for compaction, the project would no longer be considered a redevelopment.
 - b. A detail showing the proposed gravel parking and driveway sections should be provided in the site plans. The detail should demonstrate how stormwater quality treatment may occur in the proposed cross section.

2. The Site Layout Plan indicates that there is a proposed above-ground fueling facility to be located west of the existing building and within the 100-foot Buffer Zone to Bordering Vegetated Wetland (BVW). This proposed use is a Land Use with Higher Potential Pollutant Loads (LUHPPLs) under the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards.
 - a. A detail of the fueling facility and associate tanks should be provided in the Site Plans, including detailed grading of the area.
 - b. We also recommend that the proposed fuel tank and pump area include a fuel detection system to notify the owner of any fuel spills or leaks as well as some type of fuel containment device that can prevent fuel from flowing to the wetlands during a spill.
 - c. Other LUHPPLs include industrial sectors regulated by the NPDES Multi-Sector General Permit, exterior fleet storage areas and parking lots with high-intensity uses (refer to the MassDEP Stormwater Handbook for the full list). The Applicant should confirm that there are no other areas considered LUHPPLs on the project site.
3. Soil testing results were not included in the Stormwater Report or indicated on the plans; therefore, soil texture, soil infiltrative capacity (hydrologic soil group), and estimated seasonal high groundwater elevations were not provided. Due to the site's close proximity to several BVWs, groundwater is anticipated to be close to the surface and may encroach on the bottom surface of the proposed bioretention basins and subsurface detention system. In accordance with the Standards, Nitsch Engineering recommends that soil testing be performed within the footprint of all proposed stormwater best management practices (BMPs).
4. The project includes work within the 25 feet of the easternmost BVW. This work is a reconstruction of an existing driveway, which is currently paved.
5. A Total Suspended Solids (TSS) Removal Spreadsheet was not provided for the double catch basin and subsurface detention system treatment train. Based on the MassDEP Stormwater Handbook, this treatment train appears to achieve 25% TSS removal, which is substantially less than the target 80% TSS removal under the MassDEP Standards.
6. The Proposed Conditions HydroCAD Report (revised May 21, 2014) indicates a total modelled area of 459,655 square feet, while the Existing Conditions HydroCAD Report has a total modelled area of 483,284 square feet. The analyzed areas should be consistent.
7. The Existing Conditions HydroCAD Report indicates that the wooded areas in PRE-B and PRE-D are considered "woods/grass comb", while the Narrative describes them as "heavily wooded", and the Proposed Conditions HydroCAD Report indicates them as "woods". The existing conditions model should be revised to be consistent with the Narrative and proposed conditions model.
8. The Existing Conditions HydroCAD Report indicates that the existing concrete rubble areas are modelled as impervious. However, Nitsch Engineering observed these areas to be pervious with concrete debris. The existing conditions model should be revised to denote this area as pervious, similar to the gravel in the proposed conditions model.
9. There is an existing swale that extends from the eastern portion of the site towards the easternmost BVW, labelled at WET-3 in the HydroCAD model. We observed this swale during a site visit on May 29, 2014, and it appears that it flows around the BVW to the north, without actually flowing into the

wetland. The hydrology of this area should be confirmed to ensure that assumptions made in the existing and proposed HydroCAD model are accurate.

10. There is an existing concrete slab located within drainage areas PRE-E and POST-4 that appears to be maintained in the proposed condition. There is minimal topographic data provided for the concrete slab and therefore difficult to confirm the direction that stormwater will flow from the slab. Since the slab was from the interior of the existing building, it is likely flat. The existing and proposed HydroCAD models indicate that runoff generated by the slab will flow to the east and into the BVW labelled as WET-3. In the proposed condition, the model assumes that the slab will be treated in Bioretention Basin 4. The Applicant should confirm that it is possible to direct all of the runoff from the slab into the basin for treatment.
11. The boundaries for proposed watersheds POST-4 and POST-4A appear to be incorrect based on the proposed grading. It does not appear that the southern portion of the driveway in POST-4 is graded to drain to Bioretention Basin 4, and will therefore not be treated. The Applicant should confirm the intended treatment of the driveway and revised the drainage boundaries as necessary. There are existing catch basins on the driveway that appear to drain to the existing swale that are not shown on the plans. It is unclear whether these catch basins will remain. We recommend that the entire driveway and proposed parking spaces within the limit of work be treated to achieve 80% TSS removal before discharging into the wetland.
12. There does not appear to be infiltration proposed from the Bioretention Basins; however, there are no underdrains proposed which may result in extended ponding within the subsurface and above-grade areas of the basins. If soil testing confirms that infiltration is not feasible due to high groundwater, we recommend that each bioretention basin have an underdrain as shown in the MassDEP Stormwater Handbook.
13. The 12-inch outlet pipe from the subsurface detention system should be labelled on the Site Plans.
14. The outlet control structure for Bioretention Basin 3 appears to be at an elevation less than the bottom surface elevation of the basin.
15. We recommend that the Long-Term Pollution Prevention Plan be updated to include language that prohibits snow storage within the proposed stormwater management system, including bioretention basins.
16. The Site Grading and Drainage plan indicates that there are two (2) curb cuts for Bioretention Basin 1. The grading associated with the northern curb cut and swale should be refined to provide a direct path to the sediment forebay and not into the main basin. The berm between the curb cut swale and main basin should be further elevated to avoid short-circuiting of flow around the sediment forebay.
17. Nitsch Engineering observed silt within the existing drainage swale that is located at the outfall of the 18-inch drainage pipe that flows under the driveway along the southern boundary of the project site. We recommend that the Applicant remove the silt and stabilize the swale as part of the proposed improvements.
18. The notes on the Bioretention Area Landscaping Plan provide for 2-inch plugs of herbaceous plants (grasses/sedges) to be spaced 24 inches on-center in the bottom of the basin and a conservation/wildlife seed mix for the basin sideslopes. We recommend that the bottom of the basin also be seeded with the conservation/wildlife seed mix to provide additional coverage and erosion protection while the plugs are becoming established.

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

Very truly yours,

Nitsch Engineering, Inc.



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