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May 20, 2019

Mr. Craig Dixon
Chairman
New Bedford Conservation Commission
New Bedford City Hall
133 William Street
New Bedford, MA 02744

RE: Nitsch Project #9972
Bartlett Street
Bartlett Street Driveway
New Bedford, MA

Dear Mr. Dixon:

This letter is regarding the proposed Bartlett Street driveway and stream crossing. The project is proposing to cross an intermittent stream with a box culvert. Nitsch Engineering is reviewing this project for consistency with the Massachusetts Department of Ecological Restoration Stream Crossing Handbook. Specifically, we are reviewing the following items:

- Cover letter describing changes to the project prepared by Prime Engineering, dated April 30, 2019, and
- Plans entitled, "Bartlett Street Drive Extension, New Bedford, Massachusetts," prepared by Prime Engineering, revised through April 29, 2019.

Below are our comments regarding the Stream Crossing Standards only:

1. The Handbook requires the span width to be a minimum of 1.2 times the bank full width of the stream. The plans include a line showing the streams top of bank. The Applicant should demonstrate that the width of the span is a minimum of 1.2 times the width of the bank at its widest point. The width of the bank at its widest point and the width of the box culvert need to be shown on the driveway cross section to demonstrate that this performance standard is met.
2. The Handbook requires an openness ratio of .82. Openness ratio is measured as the ratio of the culvert cross sectional area divided by the stream crossing length. The Handbook describes the optimum openness ratio of 1.62 with a minimum height of six feet. The culvert is not six feet high. The Applicant should provide the openness ratio calculations.
3. The Handbook requires that the streams natural bottom substrate be used through the crossing and that it is consistent with the streams upstream and downstream conditions. The Applicant should demonstrate that this standard is being met. We interpret this requirement to include stream bottom material, vegetations, stones (if any), etc.

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

Very truly yours,

Nitsch Engineering, Inc.

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

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