



December 13, 2019

Amy Green
Conservation Coordinator
Littleton Conservation Commission
PO Box 1305/Room 303
Littleton, MA 01460

Re: Repair/Rehabilitation of Littleton RTE 495 Station Parking Lot
Foster Street Littleton, MA
Stormwater Peer Review
Fuss & O'Neill Reference No. 20170044.P11

Dear Ms. Green:

Fuss & O'Neill has conducted a review of the documents submitted by Green International Affiliates, Inc. relating to an expansion/repairs of existing parking lot and associated site features at Route 495 MBTA Station Littleton, MA.

Materials Reviewed

1. Stormwater Report, dated August 20, 2019, prepared by Green International Affiliates, Inc.
2. Site Plans titled "Repair/Rehabilitation of Littleton RTE 495 Station Parking Lot" dated August 20, 2019, and revised December 4, 2019, prepared Green International Affiliates, Inc.

We offer the following comments based on compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook (Handbook), and standard engineering practice.

Project Narrative & Stormwater Management Report

1. HydroCad shows a 55' long 12" culvert with an inlet invert equal to 249.0' and outlet invert equal to 241.0 for the proposed Northern Basin. However, this same culvert appears to be 40' long with an inlet invert equal to 248.6 and outlet invert equal to 246.0 as shown on sheet C202. Plans and calculation should be consistent, please review and revise accordingly.
2. Emergency spillway was modeled in HydroCad as 40.0' long with a 10.0' breadth however on Sheet C202 the spillway appears to be 16.0' long with a 16.0' breadth and on sheet C-303 it's depicted as 10.0' long. Plans and calculations should be consistent, please review and revise accordingly.

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3. BMP water quality and recharge volume calculations shows a storage volume of 2,448 CF (below lowest orifice at elevation 249.6'). However, HydroCad shows a storage volume of 2,378 CF at elevation 250.0'. Storage volume used for water quality and recharge volume calculations should be revised with the correct volume provided by the BMP..

General Stormwater Design

4. Per Massachusetts Stormwater Handbook Volume 2, Chapter 2, one monitoring well should be install in the basin floor per every 5,000 square feet of basin floor.
5. Per Massachusetts Stormwater Handbook Volume 1, Chapter 1, Standard 9 a Long Term Operation and Maintenance Plan (O&M) must be provided. The applicant states MBTA have a Long Term O&M Plan that they normally use in their facilities. Fuss & O'Neill recommends that a copy of it be included with the Stormwater Report.

Site Plans and General Comments

6. It is good engineering practice to provide a level spreader to avoid erosion from concentrated flow. Fuss & O'Neill recommends riprap protection should be provided at the location of the flared end within the proposed forebay and the flared end leaving the sub drain outlet for the retaining wall.
7. A granite curb detail was not provided with this submission. Please provide granite curb detail.
8. Based on the Construction General Permit (CGP), site construction activities, that will disturb one or more acres of land, shall provide a Stormwater Pollution Prevention Plan (SWPPP). Before beginning of construction, the Applicant shall provide a copy of the SWPPP to the Conservation Commission to ensure proper erosion and sedimentation control measures are provided. It is at the discretion of the Conservation Commission if review of the SWPPP is required by Fuss & O'Neill. Please provide draft.
9. The Applicant is proposing to abandon two existing catch basins located within the expansion are of the parking lot. Please clarify how the existing catch basin will be abandoned.

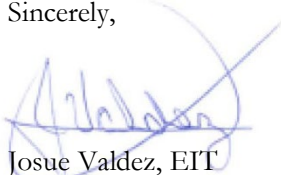
In review of the connection driveway layout, it appears as the Applicant is proposing 9.7 foot drive isle for the connection driveway between the two existing parking lots. With parallel parking on the edge of the drive isle, this is very tight for driveway. Fuss & O'Neill understands this is not part of

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the stormwater, however we recommend the Applicant should review the width and ensure it will not become a safety issues for vehicles traveling within the driveway.

The above comments are based on plans, documentation, and calculations received at the time of review. Any revisions to the plans, documentations, and calculations will need further review. Please feel free to contact us with any questions.

Sincerely,



Josue Valdez, EIT
Project Engineer



Aimee Bell
Project Manager