

Ref: 9132

April 6, 2023

Mr. Michael B. Silveira
Senior Planner
Town of Hingham
210 Central Street
Hingham, MA 02043

Re: 3rd Traffic Engineering Peer Review
Definitive Flexible Residential Development Plan – 213 and 215 Cushing Street
Hingham, Massachusetts

Dear Michael:

Vanasse & Associates, Inc. (VAI) has completed a review of the supplemental materials dated March 27, 2023 submitted on behalf of Bristol Bros. Development Corp. (the “Applicant”) in support of the Definitive Flexible Residential Development (FRD) that has been proposed for the property located at 213 and 215 Cushing Street in Hingham, Massachusetts (hereafter referred to as the “Project”). These materials were prepared in response to the comments that were provided by Town Departments and those offered by the Town’s independent review consultants, including those identified in our February 14, 2023 review letter. The information that was submitted included the following materials which are the subject of this supplemental review:

1. March 27, 2023 Memorandum prepared by Drohan Tocchio & Morgan, P.C., Subject: Bristol Bros. Development Corp. – Cushing Street Flexible Residential Development;
2. *Peer Review Comments, Proposed Flexible Residential Development*; Crocker Design Group; March 27, 2023; and
3. *Definitive FRD Plan* for 213 & 215 Cushing Street for WV Cushing LLC, Hingham, MA 02043, Map 156, Lots 9B & 8; Crocker Design Group (“CDG”); November 21, 2022, last revised March 27, 2023.

Based on our review of the supplemental materials, additional supporting information is required to demonstrate that the sight line looking to the north from the proposed roadway will meet the necessary distance for safe operation of the roadway. For reference, listed below are the comments that were raised in our letter followed by a summary of the information submitted on behalf of the Applicant, with additional comments indicated in **bolded** text for identification.

Comment 1: *The relocation of the retaining wall adjacent to and north of the proposed roadway should be shown on the Definitive FRD Plan along with the associated regrading and tree removal (see attached plan).*

CDG Response: *The tree removal has been completed and, pending the removal of the stumps, McMahan Associates has confirmed that the sight distances are adequate.*

Follow-Up Comment: An affidavit should be provided by the Professional Engineer from McMahon Associates stating the sight lines at the Project site roadway intersection with Cushing Street will meet or exceed 280 feet with the removal of the tree stumps, and that the relocation of the retaining wall and regrading of the slope where the trees were removed is not required. The affidavit should be signed and stamped by the Professional Engineer.

CDG Response: The Applicant has committed to grinding the stumps of the trees that have been removed, landscaping the slope beyond the existing retaining wall where the trees have been removed, and relocating a portion of the existing retaining wall back to the property line as originally agreed upon.

A review of Drawing C-5 and the elevations shown on Drawings C-6 and C-7 indicates that additional regrading between the retaining wall and the edge of Gardner Street may be required (see follow-up Comment 2).

Comment 2: The sight distances are shown on Drawing No. C-4; however the corresponding sight triangle areas should be added along with a note to indicate: "Signs, landscaping and other features located within sight triangle areas shall be designed, installed and maintained so as not to exceed 2.5-feet in height. Snow windrows located within sight triangle areas that exceed 3.5-feet in height or that would otherwise inhibit sight lines shall be promptly removed."

CDG Response: The sight triangles and requested note have been added to the Definitive FRD Plan (see Drawing C-5).

Follow-Up Comment: The sight line looking to the north of the proposed roadway should be a minimum of 280 feet based on an approach speed of 38 mph along Cushing Street.

CDG Response: The sight triangle looking to the north of the proposed roadway shown on Drawing C-5 provides the sight triangles for a driver positioned 14.5-feet from the edge of the traveled-way (180 feet) and at 10-feet from the edge of the traveled-way (280 feet).

The sight triangle looking to the north from the proposed roadway shown on Drawing C-5 indicates that a motorist needs to be positioned 10-feet from the edge of the traveled-way vs. 14.5-feet, the standard off-set when assessing sight lines,¹ in order to achieve the minimum distance of 280-feet. The available sight line at the 14.5-foot standard off-set is limited to 180-feet.

A review of the grading shown on Drawing C-6 and the proposed roadway profile shown on Drawing C-7 indicates that the surface elevation of the proposed roadway at the exiting driver position is approximately 68 feet. The driver's eye height is established as 3.5 feet above this elevation, or an elevation of 71.5 feet. Looking to the north, the surface elevation of the regraded area adjacent to the retaining wall that will be relocated ranges from 70 feet to 72 feet, with the 72 foot elevation

¹A Policy on Geometric Design of Highway and Streets, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.



potentially limiting the sight distance to less than 280 feet, particularly when considering snow accumulation in areas that will not be plowed.

Given the identified constraints, a sight distance plan should be prepared that illustrates the sight line looking to the north in both plan and profile. Baseline stationing should be provided along the sight line so that there is a reference between the plan and profile views. The sight distance plan should be developed using the standard off-set of 14.5-feet and should show the full extent of the sight line (280-feet). The sight line profile should consider a snow accumulation of 1-foot where the sight line crosses areas that will not be plowed or where snow accumulations (windrows) cannot reasonably be removed. Use of an off-set from the edge of the traveled-way of less than 14.5-feet is usually justified when a sidewalk, shoulder or parking lane is provided that allows for a vehicle to enter a portion of the roadway to observe an approaching vehicle without crossing into the traveled-way. These conditions do not exist along Gardner Street.

Comment 3: A note should be added stating: "All Signs and pavement markings to be installed within the Project site shall conform to the applicable specifications of the Manual on Uniform Traffic Control Devices (MUTCD).²"

Response: The requested note has been added to the Definitive FRD Plan (see Drawing C-5). Comment closed.

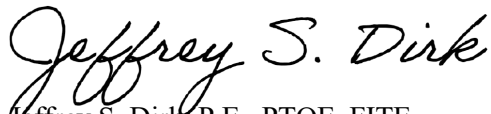
Comment 4: Pedestrian crossing warning signs should be added at the crosswalk (W11-2 and W16-7P) and on Cushing Street 125 feet in advance of the crossing (W11-2) in both directions.

Response: The requested signs have been added to the Definitive FRD Plan (see Drawing C-5). Comment closed.

This concludes our review of the materials that have been submitted to date in support of the Project. If you should have any questions regarding our review, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/jsd

²Manual on Uniform Traffic Control Devices (MUTCD); Federal Highway Administration; Washington, DC; 2009.

