

Project No. READ-0030

December 3, 2018

Mr. John Jarema
Acting Chairman
Zoning Board of Appeals
Town of Reading
16 Lowell Street
Reading, MA 01867



Subject: Response to Peer Review – Eaton Lakeview Apartments, Reading, MA

Dear Mr. Jarema & Members of the Zoning Board of Appeals,

The purpose of this letter is to address peer review comments provided by Nitsch Engineering dated October 19, 2018. The format of this letter lists the comment/ recommendation from Nitsch Engineering followed by our response. Attached to this letter is the revised site plan set.

ZONING COMPLIANCE, PARKING, and ACCESS

1. Zoning Bylaw Section 9.1.1.7 requires two (2) parking spaces per dwelling unit for townhouses and one and one half (1.5) parking spaces per dwelling unit for apartment buildings. The townhouses proposed on Lot A appear to include garage parking and at least one (1) or more exterior driveway parking spaces, though not marked. The parking and access area of Lot A also includes 4 visitor-designated parking spaces and one (1) accessible parking space.

The 74 proposed dwelling units correspond to a total parking requirement of 111 parking spaces. The Applicant has proposed a total of 101 parking spaces including six (6) accessible spaces on Lot B and has not requested a waiver from the corresponding bylaw requirement. The Applicant has designated a portion of the Lot B as “land banked for future parking” with a total of 10 potential parking spaces. Should these spaces be added to the total parking space count, the Project would comply with the parking required under this section of the Zoning Bylaw. We recommend that if the actual parking spaces are not designated for construction as part of the Project, that the Applicant request a waiver from this item.

Response: The applicant requests a waiver from Section 9.1.1.7 of the Zoning Bylaw to allow the construction 101 parking spaces including six (6) accessible spaces on Lot B and to designate an area on Lot B as “land-banked for future parking.” This land-bank area will allow for the construction of 10 additional parking spaces should the need arise. Should these 10 parking spaces be constructed in the future, the total number of parking spaces on Lot B would be 111.

2. Zoning Bylaw Section 9.1.1.7 requires one (1) 12’x35’ off-street loading and unloading space for each 20 rental units. This equates to a total of four (4) required spaces for Lot B. No loading spaces are required under the Zoning Bylaw for townhouses. The Project does not include off-street loading spaces and the Applicant has requested a waiver from this requirement. We recommend that the Applicant describe the functionality of the Project relative to the intent of this zoning requirement in support of the waiver request.

Response: Two 12'X35' off street loading spaces are added to Lot B. Applicant requests waiver of Section 9.1.1.7 of the Zoning Bylaw to allow two off-street loading spaces in place of the four (4) required by the Zoning Bylaw. In addition, the applicant has prepared a "Loading Zone and Parking Regulations" document for the Eaton Lakeview Development (a copy is attached to this letter).

3. *The accessible parking spaces noted above are indicated on the plan by striping. We recommend that the Drawings be augmented to indicate appropriate signage in accordance with corresponding state code requirements under 521CMR 23.00.*

Response: Appropriate signage has been added to the civil drawings. Please see the note on Sheet 8 of 17 calling for the signage.

GRADING DESIGN

1. *The proposed grading as shown on the Drawings is somewhat unclear in certain areas due to relatively shallow slopes. We recommend that the Applicant revise the proposed grading plans to reflect a 1' proposed contour interval, or to include additional proposed spot grades sufficient to indicate minimum pitch for surface drainage, and to verify ADA accessible routes from the designated parking spaces to the corresponding buildings and outdoor amenity spaces.*

Response: The proposed grading plan has been revised to reflect a 1' contour interval and additional spot elevations have been added to provide additional detail.

2. *Related to the preceding comment, we specifically recommend that the Applicant provide additional grading information:*

a. *Along the Eaton Street frontage where the townhouse entrance walks intersect with the proposed sidewalk,*

Response: Additional grading information has been added to the plan.

b. *At the townhouse garage driveways where it appears some relatively flat slopes might be present,*

Response: Garage driveways are designed with a minimum slope of 1%.

c. *At the open space / landscaped area central to the apartment buildings on Lot B, and*

Response: Additional grading information has been added to the plan.

d. *In the open space areas proximate to several of the apartment building entrance areas where relatively flat slopes might be present.*

Response: The finished floor grade of all the apartment buildings has been raised 3" to improve positive drainage and to reflect minor changes to the architectural plans.

3. *We note that a minor grading adjustment is needed on Lot A to correspond to what appears to be a curb line revision adjacent to several town house units.*

Response: Grading adjustments have been made on Lot A.

4. We note that although the future parking area is not designated for construction, the corresponding proposed contours reflect a curbed condition, and a minor revision may be needed.

Response: Grading adjustment have been made to reflect the "no curb" condition.

UTILITY SERVICES

1. Water Service

a. Lot A includes a 6" water service for each building providing fire protection and domestic water service. We recommend that the Applicant verify that the Reading Department of Public Works (DPW) will allow this configuration in lieu of separate fire protection and domestic water services for each building with domestic water shutoffs within the right of way.

Response: We have conferred with the Town Engineer and DPW regarding this configuration and it represents the typical configuration for the Town.

b. The Drawings indicate that the three (3) water service pipes for Lot A will connect to the existing 6" water main with tapping sleeves and valves. Presumably, these connections will need to be made with new tee connections requiring temporary shutdown of the water main. We recommend that the Applicant confirm this condition and revise the Drawings accordingly.

Response: We have conferred with the Town Engineer and DPW regarding this configuration and it represents the typical configuration for the Town.

c. The Drawings indicate a series of individual domestic water service connections for the townhouses along Eaton Street, and what appears to be a single connection for the townhouses on the east side of Lot A. We recommend that the Applicant revise the Drawings to reflect the location of service valves and confirm that the configuration of the services and valves are consistent with Reading DPW requirements.

Response: We have conferred with the Town Engineer and DPW regarding this configuration and it represents the typical configuration for the Town. Water shut off valves have been added as discussed with the Town Engineer and DPW.

d. We recommend that the Applicant confirm that the single existing fire hydrant located at the intersection of Eaton Street and Lakeview Avenue will provide sufficient coverage for the Project and that no new hydrants are needed, relative to review by the Reading Fire Department.

Response: We met with Reading Fire Chief Gregory Burns on August 13, 2018 where we reviewed hydrant locations and fire department connections. The existing hydrant at the intersection of Lakeview Avenue and Eaton Street is sufficient for the Reading Fire Department. The Town Engineer requested that we replace the existing hydrant with a new hydrant. A note regarding the replacement of this hydrant has been added to the plans.

2. Sanitary Sewer Service

a. Sanitary sewer service for the townhouses on the eastern side of Lot A is provided via a pump station that is intended to convey sewage to a new gravity sewer in Lakeview Avenue. The proposed system does not appear to include emergency power, or emergency storage capacity. We recommend that the Applicant

provide additional information on the pump station, its intended operating conditions, and provisions for sewer service for these townhouses in the event of a power outage.

Response: Additional information regarding the sewer pump station has been added to the plan set. Please see Sheet 17 of 17. In the event of a power outage the sewer pump station will be sized to provide 24-hours of emergency storage.

b. We recommend that the Drawings be augmented to provide details of the proposed sanitary pump station, and the proposed force main connection to the gravity system.

Response: Additional information regarding the sewer pump station has been added to the plan set. Please see Sheet 17 of 17. The final design will be submitted to the Town Engineer and DPW prior to construction.

c. The Project includes the construction of a new sanitary sewer main in Lakeview Avenue, connecting to the terminus of an existing gravity sewer system west of the Project. The existing conditions information does not appear to include pipe invert information for the existing sanitary sewer manhole to which the proposed system will connect. We recommend that the Applicant provide this information to verify that the proposed service can be connected as proposed.

Response: Pipe information for the existing gravity sanitary sewer is provided on sheet C4.1 Utility Plan.

d. The Drawings include a standard gas trap detail which is typically related to structured/covered parking or fueled equipment storage. It is not clear if/where this structure is proposed. We recommend that the Applicant clarify if/where a gas trap is proposed.

Response: At one time, underground parking was proposed on Lot A. This detail has been removed from the plan set.

3. Electric Service

a. Electric service for the Project is not indicated on the Drawings. We recommend that the Applicant provide information related to electricity for the Project, specifically, if transformers will be required for each Lot and their proposed locations.

Response: Proposed electric transformer locations are now shown on Lots A and B.

STORMWATER MANAGEMENT

1. The Drawings indicate that several of the roof drains for the apartment buildings on Lot B will connect to catch basins. We recommend that the Applicant revise the Drawings to indicate that roof drains will bypass catch basins and connect directly to the drainage system.

Response: Roof drain connections have been revised to bypass catch basins and connect directly to the drainage system.

2. The proposed stormwater management system includes a closed pipe drainage collection and conveyance system that directs runoff to a series of subsurface infiltration/detention fields. The fields consist of prefabricated storage chambers in a crushed stone bed and are intended to allow pretreated runoff to infiltrate

into the ground and to provide volume storage capacity (detention volume) during heavy rainfall events. The Drawings indicate that the closed pipe system connects to the infiltration fields at the bottom of the chambers' elevation. Based on the hydraulic calculations included with the Report, this configuration will result in a surcharged condition in portions of the closed pipe system during all storm events evaluated. The drainage system modeling accounts for the resulting tailwater condition and indicates that the system is not likely to experience an overall surcharge to grade (i.e., is not likely to flood). However, during these frequent surcharge conditions the pipe velocity within the surcharged portions of the system will effectively be reduced to zero, making the system prone to sediment/debris accumulation. We recommend that the Applicant explore the potential for increasing the overall closed pipe system elevation to maximize its capacity for free discharge gravity pipe flow, consistent with standard engineering practice.

Response: The closed pipe system upstream of the subsurface infiltration chambers has been elevated approximately 1-foot to maximize the capacity for free discharge.

3. The Drawings and the Report do not include a graphic depiction of the various drainage subcatchments described in the hydrologic stormwater model. We recommend that the Applicant provide this material to enable a review of the subcatchment delineation and its relation to the hydrologic model in the Report.

Response: An existing and proposed condition watershed map is provided in the Stormwater Report.

4. In accordance with a request from the Town of Reading, Nitsch Engineering assessed the general feasibility of incorporating Low Impact Design (LID) features into the Project, without recommending a redesign of the currently proposed stormwater management system. We offer the following comments:

a. The Site includes well-drained parent soil, as indicated by the NRCS soil records and the on-site soil evaluation completed by the Applicant.

Response: No comment necessary.

b. The Project's layout includes a series of open areas and landscaped areas that are not designated specifically for recreation.

Response: No comment necessary.

Based solely on these two factors, it may be possible to incorporate passive treatment and infiltration LID elements such as rain gardens or bioretention areas into the Project. It is not likely that incorporation of these elements would require a redesign of the stormwater management system, although their inclusion could affect the hydrologic/hydraulic condition of the Project to the extent that portions of the infiltration systems might be reduced. It is not possible to quantitatively assess these effects without conducting corresponding modeling.

Response: Two rain gardens have been added near Building 1.

The soil conditions and groundwater levels generally do not preclude the incorporation of porous paving materials into the Project. These could include porous asphalt paving, or permeable paver installations in pedestrian access and/or plaza areas. However, as with the passive infiltration systems noted above, inclusion of these elements could affect the current drainage system design to the extent that portions of the infiltration systems might be reduced.

Response: No porous paving materials are proposed.

WETLANDS / FLOODPLAIN

1. The Project does not present any direct alteration of wetland resource areas and appears to meet the performance standards of the Reading Wetland Regulations in terms of grading and structure setbacks, associated erosion control measures, and references to appropriate construction site management measures. The Project does include several areas of impact to the floodplain on the east side of the Site. The Drawings indicate areas and volumes of floodplain storage loss due to grading impacts, and an area and volume of compensatory floodplain storage. It is not clear, based on the information provided on the Drawings, how these volumes were calculated. We recommend that the Applicant provide calculations detailing the proposed floodplain storage loss and the compensatory floodplain volume proposed consistent with the requirements of the WPA.

Response: Calculations of the floodplain areas are provided and attached hereto.

In summary, this letter was prepared to address peer review comments provided by Nitsch Engineering dated October 19, 2018. We look forward to presenting the revised site plan to the Zoning Board of Appeals at our next scheduled hearing date on December 12, 2018. In the meantime, please feel free to call me with any questions, comments, or concerns.

Very truly yours,



Chris Sparages, P.E.
Principal

Enclosures

cc: Eaton Lakeview Development, LLC
Attorney Theodore C. Regnante
Matthew Brassard, P.E., Nitsch Engineering