



Stantec

Stantec Consulting Services Inc.

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December 15, 2023

File: 179411159

Attention: Mr. William Andrews, Chair

UPTON ZONING BOARD OF APPEALS

One Main Street

P.O. Box 163

Upton, Massachusetts 01568

Reference: Comprehensive Permit Application (40B)

Upton Apartments

47 Main Street (Route 140)

Dear Mr. Andrews,

Pursuant to the Board's request, Stantec has reviewed the Comprehensive Permit Application for Upton Apartments, the proposed 68 units, single 4 story building, multifamily rental housing development with access off Main Street in Upton. Materials received to date relative to this submittal include the following:

- "Upton Apartments Preliminary Residential Development Plans" (16 Sheets), dated September 13, 2023; Hydraulic/Hydrologic Calculations, dated September 12, 2023, and supporting documentation as prepared by D&L Design Group, Inc (DLDG).
- Comprehensive Permit Application and supporting document as submitted by Lobisser Building Corporation.
- Traffic Impact Assessment dated June 15, 2023, as prepared by Vanasse & Associates, Inc (VAI).

The Comprehensive Permit Application submittal was reviewed for conformance with the Town's Zoning Board of Appeals Comprehensive Permit Rules and Regulations, the Town's Site Plan Approval Rules & Regulations, and generally accepted engineering practice.

Stantec reviewed the Traffic Impact Assessment submittal for the proposed development under separate letter report dated November 9, 2023. We offer the following comments and recommendations regarding the civil/site and stormwater aspects of the 47 Main Street Comprehensive Permit Application for the Board's consideration.

SITE VISIT

As part of the Stantec's review, Mr. David Glenn (Stantec) conducted a site visit on October 31, 2023, to review existing surface features and site conditions.

Design with community in mind



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SITE PLAN APPROVAL REGULATIONS

Section 308-8 Site Plan Approval Regulations require the applicant to submit specific information describing the proposed project to assist the Town in its review of the application. The Comprehensive Permit Application submittal contains information on the proposed project.

Stantec offers the following technical comments with respect to Section 308-8.

- (8) Landscaping – We recommend the site plan further identify the existing landscape features to be retained including trees (6) inches or more in diameter.
- (11) We recommend size of the existing/proposed water main and status of review by the Upton DPW and Fire Department regarding the proposed water main extension layout including location of fire hydrants as shown on Sheet No. C-6.0
- (12) Stantec recommends size of the existing sewer main and status of review by the Upton DPW regarding the proposed 8-inch pvc sewer main extension layout as shown on Sheet No. C-6.0 We recommend the applicant provide a profile of the proposed sewer main extension.
- (13) We recommend the applicant provide a profile of the proposed drainage system as shown on Sheet No. C-5.0
- (14) See comments below regarding stormwater management system.
- (18) We recommend the applicant provide a profile of the proposed sewer system as shown on Sheet No. C-6.0
- (20) *Parking* – We recommend location of proposed loading areas, fire lanes, compact, visitor spaces and parking calculations showing the required and proposed number of parking spaces.
- (21) *Rubbish Collection* – We recommend detail of screening and type of container be added to the site plan.
- (23) *Note - Proposed note “The Contractor shall give twenty-four notice to pertinent Town Departments before commencing any work in the field “should be added to the site plan*



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STORMWATER MANAGEMENT SYSTEM

The Comprehensive Permit Preliminary Residential Development Plans submittal provides a layout of the proposed open and closed storm drainage system facilities, including drain manholes, catch basins, piping, stormwater basins, and subsurface infiltration chamber system.

We offer the following comments on the proposed stormwater management system, specifically for compliance with the ten performance standards as outlined in the MassDEP Stormwater Management Standards.

1. No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The project is designed with no untreated stormwater discharge. We recommend the applicant provide rip-rap sizing calculations to confirm no erosion or scouring occurs at the drainage pipe outfalls and subsurface infiltration chambers. The design storm peak flow should be indicated on the calculations and in agreement with the HydroCAD analysis.

As shown on the Sheet No. C-5.0 the proposed footprint and rip rap outfall of Settling Basin #3 is located within the 30-foot No Disturbance Line from Wetland. We recommend this layout be reviewed by the Conservation Commission.

2. Standard 2 – Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development discharge rates.

We recommend the existing culvert located on Main Street adjacent to the proposed access drive be identified (pipe size and inverts) on the drainage area maps and request the design engineer confirm no stormwater runoff the project site flows to the culvert.

The Hydraulic/Hydrologic Report includes a pre- and post-development condition site hydrology analysis for the 2-, 10-, 25- and 100-year storm events at two points of interest areas (POI). Review of the peak flows as shown on the summary table and the HydroCAD peak flow analysis for POI No. 2 are not in agreement for the 2 thru 100-year storm events.

As per the Hydraulic/Hydrologic calculations, proposed infiltration basins and subsurface infiltration chamber systems are designed for the 2 through 100-year storm events. We recommend design engineer provide hydraulic calculations of the closed drainage system identifying the drainage areas and system capacities for the 25 through 100-year storm events.

3. Loss of annual recharge to groundwater should be eliminated or minimized using infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum



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annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type.

The proposed recharge volume is provided by two (2) infiltration basins (nos.1&2) and subsurface infiltration chamber system. We note review of the submitted soil logs within the infiltration basin footprints indicated the estimated depth of seasonal high groundwater (SHGW) varies between 24-inches and 28 inches. In general, grading of the infiltration basin bottom results in an excavation between 1 and 3 feet. As such, Stantec questions the feasibility of installing the infiltration basins at the selected locations while providing a two-foot separation to SHGW from the bottom of each infiltration basin. We recommend these items be further addressed by the design engineer.

Recommend cross sections of the proposed infiltration basins (nos.1&2) and subsurface infiltration chamber system identifying items such as existing and proposed grades, refusal and/or seasonal high groundwater be provided on the plans.

Request the stage-storage worksheets be reviewed and label the (2) infiltration basins (nos.1&2), subsurface infiltration chamber system and volume provided for each stormwater control measure.

We note the 72-hour drawdown calculations for the infiltration basins and subsurface infiltration system identified a K value associated with a Hydrologic Soil Group (HSG) A which is not in agreement with the HSG C as identified in the HydroCAD analysis.

4. Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:
 - a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained.
 - b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and
 - c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook

We request TSS Removal worksheets at each discharge point be provided to document the treatment train meets the 80% TSS Removal Requirement.

Review of the submitted require water quality volume table identifies an increase in impervious area of 64,390 square feet which is not in agreement with increase in impervious area of 86,790 square feet as noted on the Recharge Volume Summary Table. We note the required water quality volume is based on the total increase in impervious area.

5. For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If



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through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Water Act, M.G.L. c. 21, §§26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The project area is not associated with a land use with higher potential pollutant load; therefore, this standard is not applicable.

6. Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, considering site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "stormwater discharge" as defined in 314 CMR 3.04(2)(a) 1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The project is not associated with stormwater discharges near a critical area; therefore, this standard is not applicable.

7. A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable.
A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

This project is a redevelopment; therefore, this standard is applicable.

8. A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

Stantec recommends the submitted Erosion Control Plan and Narrative include a construction sequence, maintenance, and inspection program during construction. The design engineer should review the need for additional erosion control measures in areas of land disturbance. Proposed



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location construction staging equipment and areas of where earth and construction materials will be stockpiled on-site should be identified on the plan. We further recommend the Stormwater Pollution Prevention Plan, as required by the NPDES General Permit, be submitted to the Board prior to the start of any construction activities.

9. A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

An operation and maintenance plan are included as part of the Stormwater Report submittal.

10. All illicit discharges to the stormwater management system are prohibited.

An illicit discharge statement was not included as part of this submission.

If there are any questions regarding our comments and recommendations, please do not hesitate to call at 1-800-835-8666.

Regards,

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cc. Mr. Michael Antonellis, Town Planner