



June 14, 2017  
06172

Jean Fraser, City Planner  
City of Portland  
City Hall, 389 Congress Street  
Portland, ME 04101

**Level III Site Plan Application, 218-220 Washington Avenue, LLC**  
**218-220 Washington Ave, Tax Map 10, Block A, Lot 10 & 15**

Dear Jean:

This letter, associated materials and the enclosed plans are provided in response to the Level III Site Plan Application engineering review comments for 218-220 Washington Ave, the 45-unit residential condominium building off from Washington Avenue.

The following itemized responses correspond to the review comments as contained in the memorandum dated April 21, 2017. The comments are shown below with our responses to follow.

**City Planner Memorandum – Woodard & Curran Review Comments – Dated April 21, 2017:**

- 1) In general, we have constructability concerns with this project. There are varying steep slopes on the site, and significant features proposed for construction, including a tall retaining wall and deep stormdrain features. These features may be constructible, but larger impact areas and limits of work may be required than what is currently shown on the plans. We understand that maintenance of existing vegetation is proposed, so it will be important to ensure that these areas can be maintained.
  - We recognize the constructability concerns given the challenging site topography. The proposed retaining wall will be constructed from the inside, within the building footprint, with minimal disturbance to the embankment below. The proposed tree line, shown on the Utility Plan, identifies the limit of disturbance.
- 2) In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. We offer the following comments:
  - b) Basic Standard: Plans, notes, and details have been provided to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in accordance with Appendix A, B, & C of MaineDEP Chapter 500. No erosion control has been specified associated with the proposed stormdrain installation, and additional clarification will be required in this area.
    - A sediment barrier and silt protection for the existing catch basin on Anderson Street has been added to the Grading and Utility Plan.
  - c) General Standard: The project will result in a net increase in impervious area of approximately 17,460 square feet. As such, the project is required to include stormwater management features for stormwater quality control. The Applicant has proposed an

Underdrained Subsurface Sand Filter. The stormwater system is required to comply with the requirements of Chapter 7.3 of Volume III of the MaineDEP Stormwater BMP Manual. In general, we are in agreement with the stormwater management approach. We recommend that the applicant review the project layout with the Stormtech manufacturer to ensure that the design is in conformance with the manufacturer's standards. The Applicant should confirm that adequate access for maintenance will be provided. We are completing further review of the stormwater model, and will provide additional comments following the workshop.

- The engineering support team from Stormtech has reviewed the layout/design to ensure sizing and conformance. We will continue to coordinate with Mr. Cheever from Advanced Drainage Systems throughout the design process. The access manholes are located in the garage which can be accessed by a maintenance vehicle and/or small equipment.
- d) Flooding Standard: The project will result in a net increase in impervious area of approximately 17,460 square feet. As such, the project is required to control the rate or quantity of stormwater runoff from the site. Stormwater flow will increase during the 2-year storm event. We agree that the impact will be minimal, but we do recommend that the Applicant review their stormwater system for potential changes.
- The stormwater runoff from the proposed development is detained within the Underdrained Subsurface Sand Filter and slowly released through the filter media and the underdrain outlet. The HydroCAD model routing was refined and now indicates a stormwater peak flow increase of 1.6% under proposed conditions. The increase is considered "insignificant" in relation to the accuracy of the HydroCAD computations.
- 3) The Applicant is proposing to connect their stormdrain system to the City's infrastructure in Anderson Street. The City has been completing a project on Anderson Street, and the street will be under a moratorium.
- The proposed stormdrain is shown to connect into the stormdrain infrastructure in Anderson Street via gravity flow. The applicant understands that any trench repair/repaving that may be required will have to be completed according to the City's moratorium standards.
- 4) The Applicant should review their stormdrain design relative to the depth of structures and pipes. DMH 4 is proposed with nearly 45' in depth, and DMH 5 is proposed with nearly a 28' depth. These are unreasonable for construction. Other structures are not as deep, but still deep enough to require a fairly significant trench width. The Applicant should review all structure depths and provide a realistic impact width to manage construction of stormwater systems at these depths.
- The rim and invert elevations have been revised for stormdrain structures DMH-4 and DMH-5. An additional manhole was added between the downslope of the retaining wall and Anderson Street to reduce the depth of excavation. The proposed depth from rim to invert for DMH-4 is nearly 21 feet. The existing grade at the manhole is approximately 5 feet lower so the depth of excavation is approximately 15 feet. The proposed depth from rim to invert and depth of excavation for DMH-5 is nearly 19 feet.
  - In accordance to OSHA requirements, we anticipate stormdrain excavation of 20 feet to consist of a 6 foot high trench box at the bottom of the excavation with ¾:1 sloping (Type A soils) to existing grade. The proposed tree line shown on the Utility Plan defines the approximate limits of excavation.

- 5) Relative to the depths discussed above, pipes will also be installed with steep slopes. The Applicant should address concerns associated with steep slopes (internal pipe scour, trench backfill erosion, etc.).
  - The maximum slope of the proposed stormdrain installation is approximately 12 percent which flows at around 9 fps on a hundred year storm event. Based upon a recommendation from engineering at Advanced Drainage Systems, HP Storm (polypropylene) pipe is proposed, which has a higher pipe stiffness and superior joint performance. We have also specified concrete anchoring used for steep slope installation to ensure pipe stability and reduce the potential trench erosion.
- 6) A stormwater inspection and maintenance plan is required in accordance with and in reference to MaineDEP Chapter 500 guidelines and Chapter 32 of the City of Portland Code of Ordinances. A plan has been provided, but it should be updated to reflect the current proposed stormwater treatment systems.
  - The Inspection, Maintenance, and Housekeeping Plan has been updated.
- 7) Per the City of Portland's recently adopted modifications to the sidewalk standards, the driveway apron must match the sidewalk material.
  - The driveway apron has been revised to show a continuous brick sidewalk crossing the apron.
- 8) All work within the City of Portland right-of-way must meet the City of Portland Technical standards. The Applicant should review this standards relative to pipe installation and pavement. Specifically note, that 9.5 mm HMA is not the City's standard for surface pavement.
  - The details have been revised to reflect the current City's standards.
- 9) Additional geotechnical information will be required for the retaining wall design.
  - Additional geotechnical information will be provided as part of the wall design.

We are hopeful that we have adequately addressed the review comments such that the Planning Board may consider the Site Plan Application. Upon your review of the enclosed plans and information, please call with any questions or if you require additional information. Thank you for your consideration.

Sincerely,

SEBAGO TECHNICS, INC.



Keith D. Gray, P.E.  
Project Engineer

KDG/SMF  
Enc.