

MEMORANDUM



TO: Shukria Wiar, Planner
FROM: Lauren Swett, PE
DATE: July 20, 2016
RE: 70 Anderson Street, Level III Site Plan Application

Woodard & Curran has reviewed the Level III Site Plan Application for the proposed redevelopment located at 70 Anderson Street. The project includes the construction of a 10-unit townhouse urban infill redevelopment on the parcel which currently contains a single story home and garage.

Documents Reviewed by Woodard & Curran

- Level III Site Plan application and attachments, dated April 26, 2016, prepared by Acorn Engineering, Inc., on behalf of Redfern Properties, LLC.
- Project plans, dated April 26, 2016, prepared by Acorn Engineering, Inc., on behalf of Redfern Properties, LLC.

Comments

- 1) The Applicant has submitted requests for ability to serve to the City of Portland for sewer and Portland Water District for water. The Applicant should note that they will be required to provide evidence of capacity to serve and approval of the proposed design from the City of Portland and Portland Water District.
- 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:
 - a) Basic Standard: Plans, notes, and details have been provided to address erosion and sediment control requirements and inspection and maintenance requirements, in accordance with the Basic Standard.
 - b) General Standard: The project is required to include stormwater management features for stormwater quality control. The Applicant is proposing to install a rain garden and a roof drip edge filter as stormwater management BMPs. It appears that the proposed systems will provide adequate stormwater treatment in accordance with Maine DEP standards. We have the following comments on the stormwater design:
 - Additional clarification is needed on the HydroCAD model of the Rain Garden. The modeled storage is unclear. It appears that separate volumes have been calculated for the water quality volume, loam/soil filter layer, and crushed stone layer, but it is not clear if only the void space within the soil materials was included as storage. It also appears, based on elevations, that the calculated volumes for water quality volume and loam/soil filter may overlap. The Maine DEP BMP standard for bioretention cells allows for one third of the soil filter volume to be included as storage volume when designing a system.
 - The Applicant should clarify the exfiltration invert included in the model for the rain garden. The elevation doesn't match the base elevation of the rain garden.
 - The Applicant has noted that a vertical orifice/grate has been modeled for both the rain garden and the roof drip edge outlet to provide for 24-hour stormwater detention. This orifice is not identified on the plans.
 - c) Flooding Standard: The project is required to include stormwater management features to control the rate or quantity of stormwater runoff from the site. A comparison of pre-development flows with post-development flows shows that there is no increase in the 10-year and the 25-year storm events, but there is a small increase in the 2-year storm. We are in agreement that the level of increase indicated by the Applicant for this storm event is minor and should not negatively impact the site or



the stormwater system. Please see additional comments under the general standard for questions in regards to the stormwater modeling method utilized for the site and the stormwater BMPs. If any changes are made to the stormwater model, compliance with the flooding standard will be re-evaluated as required.

- 3) All of the bituminous pavement details should be corrected to refer to 12.5mm HMA (not 9.5 mm) for the surface courses of pavement, in accordance with the City of Portland Technical Standards.
- 4) A call-out note for street trees is included on the Site Plan (sheet C-10), but the trees and planters within the sidewalk are not shown.
- 5) The Applicant has noted that there will be an existing sewer lateral abandoned at the site. The Applicant should include a note referencing the City's technical standards for sewer lateral abandonment. Per Section 2 of the standards, a permit will be required, and the City will need to be notified at the time of demolition so that the Sewer Maintenance Division may assist with the abandonment.
- 6) Pavement trenching/repair in the roadway should be noted on the plan at the locations of the connections to the storm drain.
- 7) The plans show a foundation drain with connected in-line drains around the southern-most building. The Applicant should clarify where this system will discharge.
- 8) The rain garden is shown with numerous sewer and water service crossings. The Applicant should verify that these utility pipes will be adequately deep beneath the rain garden system to provide for adequate frost protection. The landscaping plan identifies serviceberry as the trees planted within the raingarden. The Applicant should verify that these plants will not be in conflict with the utility crossings. The pipe trench detail included in the plans notes that no trees should be planted within five feet of a sewer pipe.