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STORMWATER MANAGEMENT PLAN

30 Merrill Street
Portland, Maine

The following Stormwater Management Plan has been prepared for Banner Properties, LLC to evaluate stormwater runoff and erosion control for the proposed 6-unit residential building to be located at 30 Merrill Street, Portland, Maine.

Site Calculations

Total Property Area	5,100 S.F.
Existing Impervious Area	1,509 S.F.
New Paved Parking/Drive	2,190 S.F.
New Impervious Roof	1,824 S.F.
Total Landscaped Area	1,086 S.F.
Total Developed Area	5,100 S.F.
Total New Impervious Area	2,505 S.F.

Existing Conditions

The development parcel is located on the westerly side of Merrill Street, across from the intersection with Turner Street in Portland, Maine. The property is 5,100 square feet in area and currently includes a two-unit residential building with driveway and storage sheds. There is a brick sidewalk along the frontage of the lot and a street tree.

The lot gently slopes from west to east (back to front). Runoff is conveyed to Merrill Street via overland flow, in the lot's current state. A combined sewer overflow system within Merrill Street collects stormwater runoff in a limited number of catchbasins.

Proposed Development

The applicant is proposing to remove the existing building and replace it with a four-story building that will house (6) six residential units. There is to be a 10-foot wide driveway that will be adjacent to the south side of the building. The driveway will lead to a 6-space parking area at the rear of the site. Project fencing will be installed along the rear and side property lines.

Drainage Pattern

Runoff currently leaves the development area via overland flow to Merrill Street. Runoff will continue to flow off the site via overland flow in the developed state. Runoff from the access driveway will continue to flow to Merrill Street, as it does today. The first flush of runoff from the parking area will be directed to a dry well infiltration system. This system will allow the first flush to infiltrate into the native sandy soils and will limit the volume of stormwater runoff flowing to the City's system within Merrill Street.

Flooding

The development area is not located within an area of flood hazard according to the Federal Insurance Rate Map 2300510014 B. See attached map.

Onsite & Offsite Soils

The on-site soils are shown on the attached Medium Intensity Soil Survey and are categorized as follows:

Soil Type Summary Table		
Soil Symbol	Soil Name	HSG
HIB	Hinckley Loamy Sand	A

Water Quality (BMP Standard)

The use of LID features, such as the pervious pavers, reduces the overall impervious footprint of the site while offering water quality treatment for runoff from the highest areas for potential contaminants. For this particular project, the water quality requirements will be met by use of pervious pavers within the driveway and parking areas.

Dry Well Sizing:

The contributing watershed for the dry well system is the entire parking area for the 30 Merrill Street Condominium Project as well as the 5-7 Cumberland Ave. Condominium project.:

The dry well will receive 3,188 square feet of pavement. The bed sizing is as follows:

Area of Watershed: 3,188 SF

Treatment Volume Required: Area x runoff depth: 3,188 SF x 1/12 FT = **265.67 CF**

Treatment Volume Provided:
Dry Well Diameter = 7' +/- (inside diameter)
Storage area per foot of Dry Well = **38.47** s.f.
Required Depth of Dry Well = **7'** +/- (265.67CF/38.47s.f.=6.9')
Provided Depth of Dry Well = **7'**

There will be additional infiltration storage and contact area within the crushed stone on the outside of the dry well and piping.

Summary

Based on the results of this evaluation, the proposed stormwater design is not expected to cause flooding, erosion or other significant adverse effects downstream of the site.

Prepared by:
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2