

5. STORMWATER MANAGEMENT

The proposed commercial redevelopment will include stormwater management infrastructure and incorporate low-impact development techniques where possible. The proposed stormwater management infrastructure is shown on the enclosed Grading and Drainage Plans (Sheet C-202), and further summarized below.

5.1 EXISTING CONDITIONS

The 19,130 square-foot site, located in a highly developed urban environment, currently consists of a paved parking lot surrounded by a grassed esplanade with street trees. Stormwater from the northern portion of the site drains into an existing catch basin located along the east property line. This catch basin flows to a combined sewer located beneath the adjacent parking garage before flowing to the combined sewer system located in Fore Street. Stormwater from the remainder of the site drains from the north towards an existing catch basin located in the southwest corner of the parking lot. This catch basin drains into the combined sewer system in Union Street. The Fore Street and Union Street combine sewer systems intersect at the Fore Street and Union Street intersection and proceed down Union Street to the existing brick sewer system on Commercial Street. From there stormwater flows to the Long Wharf Diversion Structure and combines with the Lower Fore River Interceptor. The Lower Fore River Interceptor flows to the India Street Pumping Station where flow is pumped to the Portland Wastewater Treatment Plant.

An existing separated storm drain system is located in the Union Street and Fore Street intersection. This storm drain flows down Fore Street, to Cross Street and down to Commercial Street where it ties into the existing combine sewer system.

5.2 PROPOSED DEVELOPMENT

The northern portion of the site will serve as service access drive for the hotel. The remainder of the site will consist of the proposed hotel footprint. The majority of the existing pervious grassed esplanade and impervious parking lot area will become an impervious roof structure. A summary of the existing impervious areas and proposed impervious areas are provided in Table 5-1 below.

Table 5-1: Existing and Proposed Impervious Areas

TOTAL PARCEL SIZE	EXISTING IMPERVIOUS	PROPOSED IMPERVIOUS	NET CHANGE
19,130 SF	14,639 SF	17,785 SF	3,146 SF (Increase)

The existing catch basin located on the eastern property line will be demolished and a catch basin will be provided outside the proposed hotel service entrance. The proposed catch basin will connect to the existing combined sewer located beneath the adjacent parking garage. A tree box filter is proposed upstream of the new catch basin, which will treat stormwater runoff from the hotel's service access drive.

The existing catch basin located in the southwest corner of the site will be demolished as it will be located within the proposed hotel footprint. Stormwater will be collected from the roof of the proposed hotel through roof drains, and discharged to the separated storm drain system located in the Union Street and Fore Street intersection. New storm drain pipe and drain manholes will be provided in Union Street to connect the roof drain leaders to the existing storm drain system.

5.3 STORMWATER QUANTITY

Woodard& Curran anticipates that the City of Portland will prefer that stormwater from the site be re-directed into the nearby separated system. While discharging stormwater to the separated storm drain system will slightly increase the overall flow of the separated storm drain (approximately 2 CFS for the 25-year, 24-hour storm), this approach aligns with the City's long-term goal of removing stormwater flows from the combined sewer systems. The project team will work with the City's Department of Public Services to coordinate connection of the proposed site's stormwater runoff to the separated storm drain system.

Approximately 3,600 square feet of area near the service entrance drive, will continue to discharge to the combined sewer line under the abutting parking garage, since this area has no practicable alternative for connection to a separated system. Peak post-development stormwater runoff from the service access drive will decrease from the pre-existing condition because of a decrease in the impervious drainage area. As a result, stormwater runoff flow into the existing combined sewer system in Fore Street will also decrease.

5.4 STORMWATER QUALITY

The project has been designed to incorporate stormwater treatment systems in compliance with Section 5 of the City of Portland Technical Design Manual. The site was developed prior to 2005, and is classified as "redevelopment" per Section 5-4-B(e) of the City's Technical Manual, which states: "For a project [...] that includes redevelopment of impervious area that was in existence as of November 16, 2005 (the effective date of Chapter 500 revisions), redevelopment of that impervious area is not required to meet General standards provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts resulting from the proposed project's stormwater runoff beyond the level of impact already caused by the runoff from the existing impervious area." Construction of a tree filter box is proposed for treatment of stormwater runoff from the impervious receiving access drive, which is equal to more than 90 percent of the new impervious area. The remainder of the site is changing from parking areas with high pollutant loading to a rooftop structure with relatively low pollutant loading.

5.5 MAINTENANCE OF STORMWATER SYSTEMS

Upon completion of the project, Cow Plaza Hotel, LLC will assume responsibility for the inspection and maintenance of the site's stormwater drainage system and treatment measures. The inspection and maintenance outlined in the Maine Department of Environmental Protection's Stormwater Best management Practices (BMP) Manual will be followed.

5.6 CONCLUSION

The proposed Canal Plaza Hotel project will be redeveloped on an existing parking area. Although there will be a minor net increase in impervious area, the pollutant loading will decrease due to the nature of the new areas. The areas susceptible to heavy pollutant loading will be treated by a tree box filter. Additionally, it is proposed to remove most of the site's stormwater runoff from the combined sewer system and discharge into a separated storm drain system located in the Union Street and Fore Street intersection.