Exhibit B

Environmentally Critical Areas – Best Available Science Review (Supplemental Report)
February 12, 2015

Introduction

Seattle is proposing to revise three sections of the Stormwater Code (SMC 22.800-22.808), through the "2015 Revisions to the Stormwater Code" legislation that is anticipated to be effective May 25th, 2015.

This document is intended to fulfill the provisions of Revised Code of Washington (RCW) 36.70A.172, which requires that cities and counties "include the best available science in developing policies and development regulations to protect the functions and values of critical areas" and the Washington Administrative Code (WAC) 365-198-900 through WAC 365-198-925, which contain rules designed to assist cities and counties in identifying and including the best available science in adopted policies and regulations.

This document incorporates and supplements the *Best Available Science Review (Supplemental Report): Stormwater Code & Grading Code Revisions Stormwater* (2009 BAS Report) (Seattle, 2009). The 2009 BAS Report is a review of selected literature that is representative of the best available science regarding urban stormwater management, written at the time of related to 2009 Stormwater Code revisions. Because the proposed "2015 Revisions to the Stormwater Code" legislation is limited to three proposed Stormwater Code revisions, the new material in this 2015 supplemental review of best available science is limited. It includes additional literature on the general impacts of stormwater management and selected information related to street sweeping and structural proprietary BMP performance that was considered in developing the proposed 2015 revisions. In addition, the "References" section contains other literature that is being considered in relation to the more extensive "2016 Stormwater Code Update" (anticipated to be effective January 1, 2016) for which a separate BAS report will be developed.

This document also supplements the City's Environmentally Critical Areas: Best Available Science Reviews (Seattle 2005, Seattle 2007, Seattle 2013), which present detailed reviews of the best available science regarding wetlands, fish and wildlife conservation areas, geologic hazard areas, flood-prone areas, abandoned landfills, and critical aquifer recharge areas.

Effects of Urban Stormwater

The best available science related to the effects of urban stormwater is summarized extensively in the 2009 BAS Report (Seattle, 2009) that accompanied the 2009 Stormwater Code revisions and is incorporated in this document. The general impacts of urban stormwater have not changed since then, but there is more recent scientific literature that adds to the understanding of these general impacts including: National Research Council 2009; Ecology 2014a. Neither the 2009 BAS Report nor this document is intended to present an exhaustive review of the scientific literature on any aspect of urban stormwater management as the literature is extensive but, instead, both documents highlight selected literature.

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Street Sweeping and Water Quality

Street sweeping with high-efficiency or regenerative air sweepers can be an effective means of removing pollutants from roadways before they become entrained in stormwater runoff. The effectiveness of street sweeping depends on many factors including, but not limited to, type of sweeper, sweeping frequency, pavement condition, pollutant build-up, parking restrictions, and season. Studies of street sweeping effectiveness in the Puget Sound region include Seattle Public Utilities (SPU) and Herrera Consultants (2009) and SPU (2012a). Other useful studies include Bannerman (2008), Depree (2008), Eisenberg et al (2007), Florida Department of Environmental Protection (2004), Kalinosky *et al.* (2012), Law *et al.* (2008), Nevada Tahoe Conservation District (2011), Pitt (1979, 1985, 2013), Sansalone (2011), Selbig *et al.* (2007), URS (2010, 2011), Weston Solutions (2010), and Zarriello *et al.* (2002).

Proprietary Stormwater Treatment Technologies

Proprietary stormwater treatment technologies increasingly are being used to treat stormwater, especially in highly urbanized areas where there is limited space for traditional facilities. The performance of these facilities depends on many factors including, but not limited to, sizing, maintenance frequency, installation location, filtration media, inlet pollutant concentrations, rainfall intensity, and seasonality. Washington State Department of Ecology (Ecology) has a proprietary stormwater treatment technology program that reviews engineering reports and scientific studies on the performance of new technologies and posts information on Ecology's website (http://www.ecy.wa.gov/programs/wq/stormwater/newtech/index.html). In addition, Seattle has recently evaluated several proprietary stormwater technology installations within Seattle (SPU 2012b, 2013). National studies and evaluations of the performance of stormwater treatment technologies are found on the International Stormwater BMP Database (http://www.bmpdatabase.org/).

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