B W A BERNARDO | WILLS
ARCHITECTS PC

153 South Jefferson Street
Spokane, WA 99201
509 838.4511 | fax 509 838.4605
www.bernardowills.com

Vegetation Restoration Plan Narrative

To: Dan Buller	**Date**: 8/4/16
From: Dell Hatch	**Project**: Spokane Falls CSO 26 Control Facility
Subject: Restoration Plan	**Project No**: 16-210

Introduction

Installation of the Spokane Falls CSO 26 control facility and plaza improvements will impact and disturb approximate 47,455 sq. ft. of the hillside below (northeast) of Spokane Falls Boulevard, north of the downtown Spokane Library. Approximately 18,756 sq. ft. of this area is within the shoreline jurisdiction. Bernado|Wills Architects proposes the vegetation restoration plan, attached, to mitigate disturbance of vegetation and erosion on the hillside within the shoreline jurisdiction.

Existing Conditions

The project site has steep slopes, approximately 1:1 and is largely comprised of fill material which was introduced during the construction of the Monroe Street Bridge. Basalt rock outcrops are visible in several locations. The majority of plant material on site is voluntary and not intentionally planted. A general inventory was taken for the site's exiting vegetation, however due to the site's difficult terrain and steep slopes it was not feasible to do a comprehensive count of all plant material in order to meet the replacement ratios outlined in the Environmental Standards section 17E.060 of the Spokane Municipal Code. Evergreen trees over 6" caliper and deciduous trees over 6" were counted. Evergreen and deciduous trees under 6" caliper, shrubs, and groundcovers numbers are assumed estimates based on visual site inventory. It is important to note that a majority of the significant trees on site are not located within the shoreline jurisdiction. Because of this, they are neither shown on the attached plan or counted for replacement. Existing site vegetation includes, but is not limited to the following:

- Evergreen Trees – Ponderosa Pine (Pinus ponderosa), Scotch Pine (Pinus sylvestris)
- Deciduous Trees – Amur Maple (Acer ginala), Sumac (Rhus Glabra), Norway Maple (Acer platanoides), Mountain Ash (Sorbus aucuparia), Common Elderberry (Sambucus nigra sp. Canadensis), Black Cottonwood (Populus trichocarpa), Apple Trees (variety unknown)
- Shrubs and Grasses – Serviceberry (Amelanchier alnifolia), Oceanspray (Holodiscus discolor), Ninebark (Physocarpos opulifolius), Common Snowberry (Symphoricarpos albus), Woods Rose (Rosa woodsii), Rabbitsbrush (Ericameria nauseosa), Oregon Grape (Mahonia aquifolium), Idaho fescue (Festuca idahoensis)

Vegetation Restoration Approach

The proposed CSO tank and pedestrian plaza improvements will cover approximately 7,091 sq. ft. of the 18,756 sq. ft. of the disturbed area within the shoreline jurisdiction, leaving approximately 11,665 sq. ft. for installation of restoration plantings. Vegetation used for restoration will mirror many of the desirable native varieties existing on site, with the addition of some additional regional natives. See the attached vegetation restoration plan for the full plant replacement schedule.

As previously mentioned, because of the site constraints and expanse of existing vegetation, only the evergreen trees over 6" caliper and deciduous trees over 6" were counted. Evergreen and deciduous trees under 6" caliper, shrubs, and groundcovers are assumed numbers based on visual site inventory. Because of the harsh site conditions, plant viability would likely be higher with smaller specimens. It is suggested that restoration tree and shrub plantings are installed at a 40 cubic inch plug or 4" pot sizes. Because it is suggested that vegetation is installed at smaller sizes than required by the municipal code we propose the ratio be adjusted to compensate for the variability in size. Where deeper soil conditions and more gentle slopes provide better planting conditions, larger specimens may be substituted. The below table explains the proposed ratio of removed plantings to new plug/pot sizes.

Vegetation Type	Required Replacement Ratio	Proposed Ratio
Native Deciduous Trees Less Than 6" Caliper	1:1 Replacement Ratio; Replacement tree(s) must be a minimum 2.5"caliper	Install 4 new native deciduous tree plugs for every one deciduous tree less than 6" caliper removed. *Note: Where soil conditions allow, 1" caliper trees may replace 4 tree plugs.
Native Deciduous Trees Over 6" Caliper	2:1 Replacement Ratio; Replacement Tree(s) must be a minim 2.5" caliper	Install 8 new native deciduous tree plugs for every one deciduous tree over 6" caliper removed. *Note: Where soil conditions allow, 1" caliper trees may replace 4 tree plugs.
Native Evergreen Trees Less Than 6" Caliper	1:1 Replacement Ratio; Replacement tree(s) must be a minimum 4" caliper	Install 4 new native evergreen tree plugs for every one evergreen tree less than 6" caliper removed. *Note: Where soil conditions allow, 1" caliper trees may replace 4 tree plugs.

Native Evergreen Trees Over 6” Caliper	2:1 Replacement Ratio; Replacement tree(s) must be a minimum 4” caliper	Install 8 new native evergreen tree plugs for every one evergreen tree over 6" caliper removed. *Note: Where soil conditions allow, 1" caliper trees may replace 4 tree plugs.
Native Shrubs	1:1 Replacement Ratio; Replacement shrub(s) must be at a minimum 12”-18 in diameter	Install 1 new native shrub every 50 sq. ft. of disturbed area within the shoreline jurisdiction. *Note: Where soil conditions allow, 1 gallon plants may replace plugs and 4" pots.
Native Groundcover	1:1 Replacement Ratio; Replacement groundcover(s) must be at a minimum 4” in diameter	Seeding Full Extent of Disturbed Area

Irrigation Approach

Temporary irrigation for a period of two years is suggested in order to establish restoration plantings. Irrigation should consist of Hunter MP Rotators or similar product at the top of the slope or at the interface between improvements and disturbed area. Irrigation shall be programed to a short, cycle-soak setting, in order to avoid rills and erosion due to over watering of the steep slopes. Site monitoring should be required as part of the project’s erosion control plan.