

ATTACHMENT I

RIPARIAN RESTORATION VEGETATION MANAGEMENT PLAN

RIPARIAN Restoration Vegetation Management Plan
591 Bradley Street
Nanaimo BC
January 20, 2023

1.0 INTRODUCTION

General Comments

- .1 REFERENCES for all Landscape work:
- BCSLA/BCNTA Landscape Standard, Latest Edition,
 - City of Nanaimo Manual of Engineering Standards and Specifications, latest edition.
 - Toth and Associates:
 - Summary of the environmental assessments conducted for proposed development of 591 Bradley Street (PID# 023-004-169), Nanaimo. January 11 2022
 - RAPR 2022
 - TRPA 1112022
 - Landscape Plans L0.1, L0.2, L0.3

The Landscape Contractor shall make him/herself aware of all prevailing standards Referenced therein and execute work accordingly as it will govern all landscape preparations, execution and deficiencies.

.2 SITE CONDITIONS

Location of all existing utilities are to be verified prior to working on site.

“Call First” Line at 1 800 474 6886

1.1 Site Overview

The site is bounded by the Millstone River to the south, Bradley Street to the north, a townhouse complex to the east and an apartment building to the west.

1.2 Objectives:

- To protect the area to the south of the Covenant/Watercourse Leave Strip/Excavation Boundary (see A1.1 RdB)
- To replant indigenous trees in this area south of the Covenant/Watercourse Leave Strip/ Excavation Boundary as noted on L0.1 and L0.2

- To replant indigenous species in the bioswale/riparian restoration area, between the building and the Covenant/Watercourse Leave Strip/ Excavation area
- Install City of Nanaimo Environmental Fence along the Covenant/Watercourse Leave Strip/Excavation boundary prior to start of construction
- To remove the invasives species where this does not impact slope stability, see notes below
- To remove all the garbage and non-organic debris from the area

2.0 EXISTING TREES and SHRUBS

2.1 Existing vegetation

- .1 “The property consists of a steep south facing slope above the Millstone River, with a previously disturbed bench area near the upper north end of the property. The previously disturbed area consists of young bigleaf maple, introduced invasive English holly and common hawthorn with an understory of Indian plum, introduced spurge laurel and Himalayan blackberry. The proposed development’s footprint would be within the previously disturbed young forest area. Below the proposed development footprint, the forest cover consists of mature Grand fir, Douglas-fir, and red alder, with an understory of Indian plum, sword fern, salmonberry and Himalayan blackberry with a nearly continuous matting of invasive English ivy”. (TRPA, Toth and Associates, January 11, 2022)

2.2 Site Protection

- .1 Install City of Nanaimo Environmental Fencing along the Covenant/Watercourse Leave Strip/Excavation Boundary prior to construction.
- .2 Install silt fencing along the Covenant/Watercourse Leave Strip/Excavation Boundary during construction.
- .3 All existing and new plants, site services, curbs, paving, structures, and all other features shall be protected against damage during the work.
- .4 Appropriate measures shall be taken to ensure that no spillage of fuels, fertilizers, toxic construction materials, or other toxic wastes occurs, and where use of such materials is necessary, to ensure that adequate containment facilities and clean-up equipment are utilized.

- .5 No toxic or waste materials, fuels and fertilizers shall be stored adjacent to or dumped into water courses or any other water body either on or off the job site, or in a location where spillage could result in seepage into a watercourse
- .6 All toxic wastes and other material shall be disposed of in a manner acceptable to the Owner and in accordance with municipal, provincial and federal regulations.

3.0 NON-NATIVE INVASIVE PLANT MANAGEMENT

- The following were the most common invasive plants identified on site:
 - English Ivy
 - Spurge Laurel
 - Himalayan Blackberry (Rubus discolor)

It is the responsibility of the Contractor to identify and remove invasive plant species that may be on the site in the future.

Due to slope conditions and potential for repeated invasive removal to cause erosion, the recommendations are:

- Remove ivy from all the trees.
- Any other invasive removal to be conducted under the supervision of the Environmental Monitor.

3.1 Invasive Plant Removal Methods

See City of Nanaimo website

https://www.nanaimo.ca/docs/services/home-and-property/invasive_plants.pdf

4.0 REPLANTING

4.1 Replant replacement trees according to Toth and Associates TRPA 1112022 and Landscape Plans L0.1, L0.2 and L0.3.

4.2 Plant bioswale/restoration, see Landscape Plans L0.1 and L0.2

5.0 MONITORING/MAINTENANCE STRATEGIES

5.1 Monitoring and maintenance will take place for three years from the time of acceptance of Substantial Completion of the project.

5.2 Monitoring newly planted areas

SCOPE:

- .1 Removal of invasive plants by hand
- .2 Indigenous plants shall be allowed to regenerate naturally
- .3 Do not remove fallen leaves

Maintenance Procedures and Frequencies

Maintenance Program to be recorded in a Landscape Maintenance Monthly Report (see BCSLA Landscape Standard, Landscape Maintenance Section for a sample report).

Procedure	M	A	M	J	J	A	S	O	Frequency
Inspection		x	x	x	x	x	x	x	5 times a year
Litter removal									As required
Reporting		x		x		x		x	4 times a year
Invasive removal		x		x	x	x			4 times a year or as directed by Environmental Monitor
repair									As required
Tree hazard assessment									As required
Fire management		x	x	x	x	x	x		To reduce risk of ignition when necessary
Replacement planting	x						x		As compensation for invasive plant removal or hazard tree removal

5.3 Monitoring existing vegetation for invasive plants and newly planted areas,

SCOPE:

- .1 Landscape maintenance operations shall include the removal of all invasive plants, and the removal of all other weeds, as directed by the Environmental Monitor carefully retaining all native plants that are naturally regenerating
- .2 Appearance Standards: The area is intended to be wild, so an informal appearance is desirable with the weeds kept to a minimum. Plants should be kept healthy. Plants should not be trimmed. There should be a routine maintenance of moderate frequency and intensity, with regular monitoring to avoid deterioration. See form below.
- .3 The maintenance period shall be from the time of planting until three years from the date of Substantial Completion of the landscape works. The Environmental Monitor will provide the City of Nanaimo with a progress report every six months.

- .4 Maintenance operations for the planted shrubs and ground covers shall include:
 - (a) Weeding, being careful not to weed out naturally regenerating native plants; These weeding sessions should be done on a regular basis, at least four times a year.
 - (b) Invasive plant removal throughout the growing season.

- .5 Maintenance operations should, where possible, follow ecologically sound practices such as:
 - (a) Integrated Pest Management (IPM)
 - (b) Plant Health Care (PHC)
 - (c) Composting
 - (d) Application of Organic Mulches

- .6 Maintain irrigation system

6.0 PLAN REVIEW

As part of the monitoring process, an adaptive management approach will be applied to this Vegetation Management Plan. As inspections take place the health of the scheme will be determined and changes may be made, if necessary, to ensure the success of the planting.