

SUPPLEMENTAL 1 – PLANTING TEMPLATES & PLANT LISTS

Green Stormwater Infrastructure Design Guidelines for the Capital Region

SPRING 2019

SUPPLEMENTAL – PLANTING TEMPLATES & PLANT LISTS

This supplemental provides the following additional resources required for specific vegetated Green Stormwater Infrastructure (GSI) facilities of the design guidelines presented in this resource:

1. GSI planting templates
2. Candidate plants lists and planting details¹

Note: Guidelines for Growing media or Bioretention Soil Medium (BSM) are contained in the respective appendix of each GSI facility type.

Generally, any good design is in line with the following principles:

1. Plants and trees should fit into the existing natural and built environment.
2. Utilize native species indigenous to southern Vancouver Island.
3. The use of a columnar variety of tree is recommended for urban streetscapes as they require less maintenance costs and have less interaction with neighbouring buildings, vehicle traffic and overhead wires.
4. Select plant species based upon an understanding of hardiness and habitat requirements, including soil type, soil chemistry, soil moisture, frequency of flooding and microclimatic conditions.
5. Design planting plans with an appropriate mix of trees and shrubs, as well as native perennials, wildflowers and aquatics.
6. Use GSI BSM or growing media as guidelines for proper soil composition to ensure good infiltration, removal of contaminants and support plant growth.

¹ Sources:

LID Manual for Puget Sound (2012) http://www.psp.wa.gov/downloads/LID/20121221_LIDmanual_FINAL_secure.pdf

Washington (2014) <https://fortress.wa.gov/ecy/publications/parts/1210030part6.pdf>

Seattle Stormwater Manual (August 2017)

http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/p3495552.pdf

2014 Stormwater Management Manual for Western Washington

https://static1.squarespace.com/static/528fd58de4b07735ce1807b2/t/55e4995ae4b0ae5c1abea514/1441044826151/Vol-V_GSI_OM_Manual+%26+Appendix_July+2015_for_web.pdf

Portland Stormwater Management Manual (2016)

<https://www.portlandoregon.gov/bes/64040>

Planting Templates

Absorbent Landscapes

As sites can vary greatly, a planting template is not provided for absorbent landscapes. Local resources such as The Garry Oak Gardener's Handbook, Habitat Ecosystem Recovery Team (2011)², provides a variety of landscaping plans appropriate for much of the Greater Victoria area. The below GSI Candidate Plant lists are generally appropriate for absorbent landscapes across the region. Other trees and plants will be appropriate on a biogeoclimatic zone or ecosystem site-specific basis.

Green Roofs

See below for Candidate Plant List - Green Roof, however, a planting template is not provided for Green Roofs, as they have more specific or complex patterns, it is advised to consult a professional.

Ponds and Constructed Wetlands

See below for Candidate Plant List – Ponds and Constructed Wetlands, however, planting template for ponds and constructed wetlands have more specific or complex patterns, thus planting templates are not provided for these facilities, however, suggested plantings is provided below, it is advised to consult a professional.

Rain gardens, swales and planters

Typically, these bioretention and infiltration GSI facilities' basins and swales can be divided into 1 to 3 planting zones. The 4th planting zone is applicable only in a Right-of-Way where sight clearance is required for safety and plants are required to remain under 60 cm to 1 m with minimal maintenance. Some plants are suitable in multiple zones, some are indicated in table below. Over time, well-established plants and trees will optimize the GSI facility runoff reduction and contaminant removal rates. Consult a qualified professional.

Zone 1: Bottom/lowest periodically ponded area of the bioretention and infiltration facilities. Plants should be tolerant of periodic or frequent standing or flowing stormwater inundation. Many plants in Zone 1 will also tolerate the seasonally dry periods of summer without irrigation. These plants will assist in water quality treatment.

Zone 2: Plants that are used for water quality in the lower sloped area of the bioretention and infiltration facilities. These soils are periodically moist or ponded/saturated during rains that are heavy or long in duration storms.

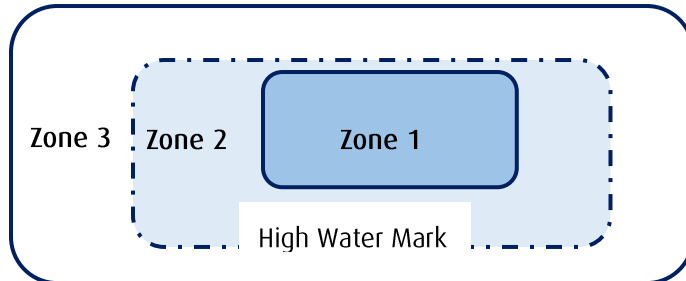
Zone 3: This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope.

Note: Plantings that fall within the right-of-way areas that require sight clearance (i.e., street corners and driveway or parking lot ingress/exit). Recommended plantings are low growing, durable plants that mature height is under 60 cm to 1 m. Before planting, confirm maximum mature height and maintenance plan.

² http://www.goert.ca/gardeners_restoration/garryoak_gardener.php

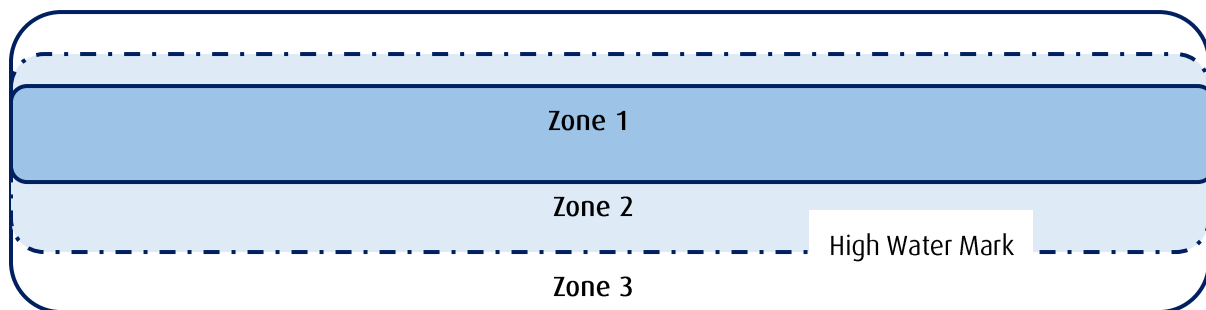
Planting Templates 1: Basins – Plan View Planting Zones for Bioretention and Infiltration Basins

i.e., rain gardens and curb bulges



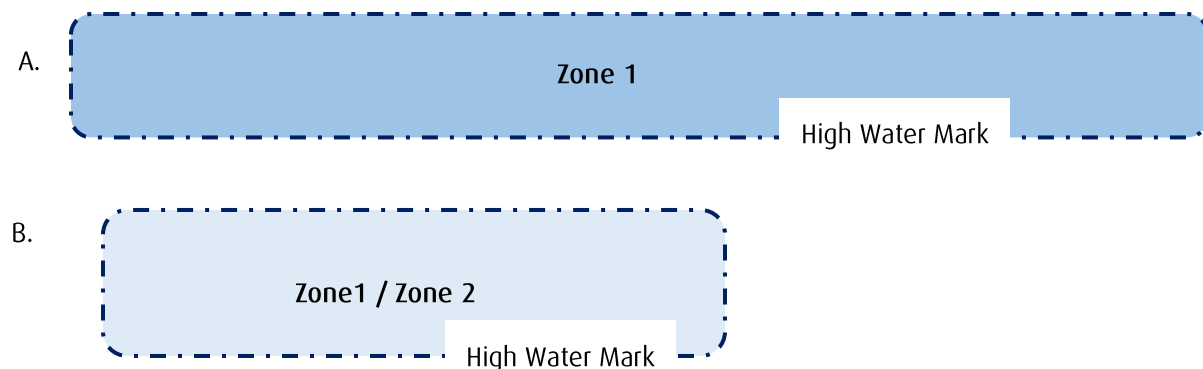
Planting Templates 2: Swales – Plan View Planting Zones for Bioretention and Infiltration Swales

i.e., vegetated and grassy swales



Planting Template 3: Planters – Plan View Planting Zone for Infiltration and Flow-Through Bioretention Planters

(A. typically below grade planter, and B. typically above grade planter)



Candidate Plant List and Details

Design plantings to respect the wet, moist or dry soil zones of the stormwater facilities. The plants listed in the following table are recommended for stormwater source control facilities³. Most plants listed are native.

Cautionary Notes:

- ❑ For information on invasive species see:
Capital Regional Invasive Species Partnership (CRISP) <http://crispinvasives.ca/>
Invasive Species Council of British Columbia (ISCBC) <http://bcinvasives.ca/>

Caution - Parrot's feather (*Myriophyllum aquaticum*) is an aquatic plant that is popular in recreational indoor fish tanks that can enter storm drainage system through incidental washing/rinsing/dumping into storm drain system. This plant has severely impacted several GSI facilities within the capital region and in the Lower Mainland. Routine maintenance of swales and constructed wetlands and ponds ought to include early detection and rapid response.

Learn more: <http://bcinvasives.ca/invasive-species/identify/invasive-plants/parrots-feather>

- ❑ Due to their invasive nature, the following sometimes commonly available species should not be utilized in GSI facilities or general landscaping:

Table 1 Commonly Available Plants That Should Not Be Utilized in GSI

| Botanical Name | Common Name |
|-----------------------------|---------------------------|
| <i>Crataegus laevigata</i> | English hawthorne |
| <i>Hedera helix</i> | all varieties English ivy |
| <i>Buddleia</i> | butterfly bush |
| <i>Hypericum perforatum</i> | St. John's-Wort |
| <i>Iris pseudacorus</i> | Yellow flag iris |
| <i>Phalaris arundinacea</i> | Reed canary grass |
| <i>Polygonum cuspidatum</i> | Japanese Knotweed |
| <i>Daphne laureola</i> | Spurge-laurel |
| <i>Vinca minor</i> | Periwinkle |
| <i>Clematis vitalba</i> | old man's beard |
| <i>Ilex aquifolium</i> | English holly |
| <i>Prunus laurocerasus</i> | English Laurel |
| <i>Polygonum aubertii</i> | silver lace vine |

³ Stormwater Source Control Design Guidelines, Metro Vancouver, 2012

Table 2 Zone 1 (Wet) Candidate Plant List for Vegetated GSI Facilities

The following table includes both native* and non-native plants commonly available and suitable for Bioretention and Infiltration GSI facilities suitable for planting in **Zone 1** in Rain Gardens, Swales and Planters.

| Zone 1: Bottom - Wet Weather Inundation with Temporary Ponding Bottom/lowest periodically ponded area of the bioretention and infiltration facilities. Plants should be tolerant of periodic or frequent standing or flowing stormwater inundation. Many plants in Zone 1 will also tolerate the seasonally dry periods of summer without irrigation. These plants will assist in water quality treatment. | | | |
|--|---------------------------------|--|-----------|
| Common Name | Botanical Name | Notes & Suitability | Also Zone |
| Emergents | | | |
| Slough sedge | <i>Carex obnupta</i> * | Moist to seasonally saturated soils; shiny foliage; excellent soil binder; drought-tolerant; sun/partial shade; plant 15 cm apart or seed; spreads 30 cm to 1.5 m; good choices for swales with significant periods of flow, such as those downstream of a detention facility; plant 15 cm spread; height 60-122 cm+; can be sheared more frequently if overcrowding | 2 |
| Dense sedge | <i>Carex densa</i> * | Wet soils; sun; plant as plugs; height 75 cm; urban frontage | 2 |
| Dewey's sedge | <i>Carex Deweyana</i> * | Wet soils; sun/shade; limit to areas of approx. 90 x 90 cm, height 20-90 cm | 2 |
| Chamisso sedge | <i>Carex pachystachya</i> * | Limit to areas of approx. 90 x 90 cm; plant as plugs; height 60-90 cm | 2 |
| Sawbeak or Beaked sedge | <i>Carex stipata</i> * | Wet soils; excellent soil binder; partial shade; plant 15 cm spread; limit to areas of approx. 90 x 90 cm; height 60-90 cm; urban frontage | 2 |
| Tufted Hair Grass | <i>Deschampsia Caespitosa</i> * | Limit to areas of approx. 90 x 90 cm; sun/shade; for neater appearance trim seed heads; height 60-100 cm | 2 |
| Common rush | <i>Juncus effusus</i> * | Wet soils; evergreen perennial; hardy and adaptable; drought-tolerant; small, non-showy flowers in summer; sun/partial shade | |
| Daggerleaf rush | <i>Juncus ensifolius</i> * | Wet soils; shallow water; excellent soil binder | |
| Continued on next page | | | |

| Zone 1: Bottom - Wet Weather Inundation with Temporary Ponding | | | |
|---|---------------------------------------|---|-----------|
| Bottom/lowest periodically ponded area of the bioretention and infiltration facilities. Plants should be tolerant of periodic or frequent standing or flowing stormwater inundation. Many plants in Zone 1 will also tolerate the seasonally dry periods of summer without irrigation. These plants will assist in water quality treatment. | | | |
| Common Name | Botanical Name | Notes & Suitability | Also Zone |
| Slender rush | <i>Juncus tenuis</i> * | Moist soils; tufted perennial; sun; plant 15 cm spread or seed | |
| Watercress | <i>Rorippa nasturtium-aquaticum</i> * | Spacing 30 cm; good choices for swales with significant periods of flow, such as those downstream of a detention facility; plant 30 cm spread | |
| Water parsley | <i>Oenanthe sarmentosa</i> | 15 cm; good choices for swales with significant periods of flow, such as those downstream of a detention facility; plant 15 cm spread | |
| Hardstem bulrush | <i>Scirpus acutus</i> * | Wet soils; favours prolonged inundation; excellent soil binder; sun; plant 15 cm spread | |
| Small-fruited bulrush | <i>Scirpus microcarpus</i> * | Wet soils; tolerates prolonged inundation; good soil binder; drought tolerant; sun/shade; plant 30 cm spread | |
| Cattail (<i>Typha latifolia</i>) is <u>not appropriate</u> for most wet swales because of its very dense and clumping growth habit which prevents water from filtering through the clump. | | | |
| Shrubs | | | |
| Kelsey redstem dogwood | <i>Cornus sericea 'Kelseyii'</i> * | Limit to areas of approx. 90 x 90 cm; sun/shade; stems fragile until established; dwarf version available; 60-75 cm; urban frontage zone | 23 |
| Black twinberry | <i>Lonicera involucrata</i> * | Moist soils; prefers loamy soils; tolerant of shallow flooding; yellow, tubular flowers attract hummingbirds; partial shade/shade; spreads to 60 cm–2.40 m | |
| Pacific wax myrtle | <i>Myrica californica</i> * | Evergreen shrub preferring moist soils; inconspicuous spring flowers; drought-tolerant; spreads to 9 m; sun/partial shade; if drought tolerance is not an issue try the smaller Washington native, <i>Myrica gale</i> * | |
| Pacific ninebark | <i>Physocarpus capitatus</i> * | Moist or dry soils; drought-tolerant; “snowball” shaped shrub; white flowers; seeds persist into winter; spreads to 4 m; sun/partial shade | |
| Clustered wild rose | <i>Rosa pisocarpa</i> * | Moist soils, tolerates seasonal flooding but also tolerant of dry conditions; pink clustered flowers; fruits persist; sun/partial shade; spreads to 2.5 m | |
| Continued on next page | | | |

Zone 1: Bottom - Wet Weather Inundation with Temporary Ponding

Bottom/lowest periodically ponded area of the bioretention and infiltration facilities. Plants should be tolerant of periodic or frequent standing or flowing stormwater inundation. Many plants in Zone 1 will also tolerate the seasonally dry periods of summer without irrigation. These plants will assist in water quality treatment.

| Common Name | Botanical Name | Notes & Suitability | Also Zone |
|-------------------------------|------------------------------|---|-----------|
| Dwarf Artic willow | <i>Salix purpurea</i> 'Nana' | Grows well in poor soils; moderately drought-tolerant; small yellow flowers in the fall; sun/partial shade; spreads to 1.5 m | |
| Douglas spirea Steeplebush | <i>Spiraea douglasii</i> * | Moist or dry, to seasonally inundated soils; spikes of small, pink flower clusters; sun/partial shade; spreads to 2 m | |
| Trees | | | |
| Red alder | <i>Alnus rubra</i> * | Prefers moist, rich soils, highly adaptable, drought-tolerant; nitrogen fixer; rapid growing, relatively short lived (60-90 years); sun/partial shade; mature height = 9-35 m with canopy = 7 m | |
| Pacific willow | <i>Salix lucida</i> * | Wet soils; tolerates seasonal flooding; should not be planted in areas near pavement or underground structures; sun; mature height = 12-18 m with canopy = 9 m | |
| Oregon ash | <i>Fraxinus latifolia</i> * | Moist, saturated or ponded soils; flood tolerant; small green-white flowers; sun/partial shade; mature height = 12-24 m with canopy = 9 m | |
| Pacific crab apple | <i>Malus fusca</i> * | Tolerant of prolonged soil saturation; produces fruit (do not plant near public walkways); sun/partial shade; height to 12 m with canopy = 10 m | |

Table 3 Zone 2 (Moist Sloped Sides) Candidate Plant List for Vegetated GSI Facilities

The following table includes both native* and non-native plants commonly available and suitable for Bioretention and Infiltration GSI facilities.

| Zone 2: Sloped Sides – Wet Weather Inundation | | | |
|--|-----------------------------|---|------------------------|
| Plants that are used for water quality in the lower sloped area of the bioretention and infiltration facilities. These soils are periodically moist or ponded/saturated during rains that are heavy or long in duration storms | | | |
| Common Name | Botanical Name | Notes | Also Zone |
| Herbaceous | | | |
| Western columbine | <i>Aquilegia formosa</i> * | Moist soils of varying quality; tolerant of seasonal flooding; red and yellow flowers attract hummingbirds and butterflies; sun/partial shade; spreads to 1 m, height 60-90 cm | 3 |
| Wild ginger | <i>Asarum caudatum</i> * | Moist organic soils; heart-shaped leaves; reddish-brown flowers; partial shade/shade; spreads up to 25 cm | |
| Common California aster | <i>Aster chilensis</i> * | Moist soils; white to purple flowers; sun; spreads to 1 m | |
| Douglas' aster | <i>Aster subspicatus</i> * | Moist soils; blue to purple flowers; sun; spreads to 75 cm | |
| Common camas | <i>Camassia quamash</i> * | Moist to dry soils; lots of watering needed to establish; loose clusters of deep blue flowers; sun/partial shade; spreads to 75 cm; height 60 | |
| Giant camas | <i>Camassia leichtlinii</i> | Moist to dry soils; lots of watering to establish; large clusters of white, blue or greenish-yellow flowers; spreads to 1 m; height <60 cm | |
| Pacific coast iris | <i>Iris douglasiana</i> * | Tolerates many soils; withstands summer drought and seasonal flooding; white, yellow, blue, reddish purple flowers; fast growing; velvety purple flowers; vigorous; sun/partial shade; spreads to 60 cm; height 60 cm; urban frontage | 3 |
| Gladwin iris | <i>Iris foetidissima</i> | Moist to dry, well-drained soils; pale lilac flower; also called Stinking Iris; sun/partial shade; spreads to 60 cm | |
| Slender rush | <i>Juncus tenuis</i> * | Moist soils; yellow flowers; sun; spreads to 75 cm | |
| Siberian Iris | <i>Iris sibirica</i> | Moist soils; deep blue, purple to white flowers; sun; spreads to 75 cm | |
| | | | Continued on next page |

Zone 2: Sloped Sides – Wet Weather Inundation

Plants that are used for water quality in the lower sloped area of the bioretention and infiltration facilities. These soils are periodically moist or ponded/saturated during rains that are heavy or long in duration storms

| Common Name | Botanical Name | Notes | Also Zone |
|----------------------------------|---|---|-----------|
| Fringecup | <i>Tellima grandiflora</i> * | Perennial preferring moist soils; yellowish-green to pink flowers; partial sun/shade; spreads 1 m | |
| Foamflower | <i>Tiarella trifoliata</i> * | Moist soils; perennial with some drought tolerance after established; can form dense colonies; white flowers; partial sun/shade; spreads 60 cm | |
| Youth-on-age/ Piggyback plant | <i>Tolmiea menziesii</i> * | Moist soils; brownish-purple flowers; also makes an effective ground cover; partial shade/shade; spreads 60 cm | |
| Violets | <i>Viola species</i> * | Moist soils; yellow to blue flowers; partial shade/shade; spreads 15-30 cm | |
| Deciduous Shrubs | | | |
| Vine maple | <i>Acer circinatum</i> * | Dry to moist soils; tolerant of shade and clay soils; excellent soil binder; beautiful fall colour; filtered sun/shade; mature height 7 m | |
| Diane witchhazel | <i>Hamamelis Intermedia Diane</i> | Moist, fertile, acidic soil; showy fall colour – yellow to yellow-orange; long lasting, slightly fragrant, coppery-red flowers; not drought-tolerant; may require watering in dry season; sun/partial shade; mature height 6 m with 25 cm spread | |
| Indian plum | <i>Oemleria cerasiformis</i> * | Moist to dry soils; prefers shade; tolerates fluctuating water table; sun/partial shade; mature height 4 m | |
| Mock-orange | <i>Philadelphus x lemoinei 'Belle Etoile'</i> | Prefers moist, well-drained soils, high in organic matter, but soil and pH adaptable; easily transplanted and established; fragrant, large white flowers, tinged red at the base; other cultivars available; sun/partial shade; 2 m | |
| Black swamp gooseberry | <i>Ribes lacustre</i> * | Moist soils; deciduous shrub; reddish flowers in drooping clusters; dark purple berries; <i>R. divaricatum</i> * (Wild gooseberry) grows to 1.5 m and is also an option; attracts butterflies, but is very thorny; partial shade; mature height 1 m | |
| Nootka rose | <i>Rosa nutkana</i> * | Moist to fairly dry soils; tolerates inundation and saturated soils; aggressive spreader; fruits persist; less thorny than <i>R. rugosa</i> ; sun/partial shade; mature height 3 m | |

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Zone 2: Sloped Sides – Wet Weather Inundation

Plants that are used for water quality in the lower sloped area of the bioretention and infiltration facilities. These soils are periodically moist or ponded/saturated during rains that are heavy or long in duration storms

| Common Name | Botanical Name | Notes | Also Zone |
|------------------------|--------------------------------|--|-----------|
| Rose (mixed varieties) | <i>Rosa rugosa</i> | Drought resistant; hardy, vigorous and aggressive; highly prickly; fragrant white to purple flowers; fruits persist; sun; mature height up to 2.5 m | |
| Thimbleberry | <i>Rubus parviflorus</i> * | Moist to dry soils; white flowers; red berries; makes thickets and spreads easily; partial sun/shade; mature height 1.5-3 m | |
| Salmonberry | <i>Rubus spectabilis</i> * | Prefers moist, wet soils; good soil binder; magenta flowers; yellow/orange fruit; early nectar source for hummingbirds; makes thickets; partial sun/shade; mature height 1.5-3 m | |
| Red elderberry | <i>Sambucus racemosa</i> * | Moist to dry soils; small white flowers; bright red berries; vase shaped; pithy stems lead to “messy” form – prune for tidiness; partial sun/partial shade; mature height up to 6 m | |
| Snowberry | <i>Symphoricarpos albus</i> * | Wet to dry soils, clay to sand; excellent soil binder; drought and urban air tolerant; provides good erosion control; spreads well in sun; white berries; flowers attract hummingbirds; sun/partial shade; mature height 0.5-2 m | |
| Red huckleberry | <i>Vaccinium parvifolium</i> * | Slightly moist to dry soils; prefers loamy, acid soils or rotting wood; tolerant of dry, shaded conditions; red fruit; tricky to transplant; partial shade/shade; mature height 1-3 m | |
| Deciduous Trees | | | |
| Pacific sunset maple | <i>Acer truncatum</i> | Prefers moist, well-drained soils, but drought-tolerant; very cold hardy; deciduous tree with moderate growth rate; sun; mature height up to 7.5 m with 6 m canopy | |
| Western serviceberry | <i>Amelanchier alnifolia</i> * | Moist to dry, well-drained soils; drought-tolerant; large white flowers; purple to black berries; deciduous; sun/partial shade; mature height 3-6 m with 7 m spread | |
| Beaked hazelnut | <i>Corylus cornuta</i> * | Moist, well-drained soils; edible nuts; intolerant of saturated soils; catkins throughout winter add interest; deciduous; sun/partial shade; mature height 6-9 m with 7 m spread | |
| Continued on next page | | | |

Zone 2: Sloped Sides – Wet Weather Inundation

Plants that are used for water quality in the lower sloped area of the bioretention and infiltration facilities. These soils are periodically moist or ponded/saturated during rains that are heavy or long in duration storms

| Common Name | Botanical Name | Notes | Also Zone |
|-----------------|------------------------------|--|-----------|
| Black hawthorn | <i>Crataegus douglasii</i> * | Moist to dry, well drained, gravelly soils; small white flowers, black berries; 1" spines; forms thickets; deciduous; sun/partial shade; mature height 2-9 m with up to 7 m canopy | |
| Raywood ash | <i>Fraxinus oxycarpa</i> | Drought-tolerant; grows in varying soil types; deciduous; can take extreme temperatures; does not tolerate constant wind or fog; resists pests and disease better than do non-native ashes; inconspicuous flowers; sun; mature height 7-14 m with up to 7 m canopy | |
| Cascara sagrada | <i>Rhamnus purshiana</i> * | Moist to fairly dry soils; small greenish-yellow flowers; deciduous; sensitive to air pollution; yellow fall colour; sun/partial shade; mature height 2-7 m; 7 m spread | |
| Sitka willow | <i>Salix sitchensis</i> * | Moist soils; tolerates seasonal flooding; deciduous tree; do not plant near paved surfaces or underground structures; partial shade/shade; mature height 6-30 m + with up to 18 m canopy | |

Table 4 Zone 3 (Upper Dry Flat Edge) Candidate Plant List for Vegetated GSI Facilities

The following table includes both native* and non-native plants commonly available and suitable for Bioretention and Infiltration GSI facilities.

| Zone 3: Dry upper slope / top flat ground | | |
|--|---------------------------------|--|
| This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope. | | |
| Common Name | Botanical Name | Notes |
| Evergreen Groundcover | | |
| Kinnikinnick | <i>Arctostaphylos vauisi*</i> | Prefers sandy/rocky, well-drained soils; flowers pinkish-white; bright red berries; slow to establish; plant closely for good results; sun/partial shade; spreads up to 25 cm, height <60 cm; urban frontage |
| Wild/Coastal strawberry | <i>Fragaria chiloensis*</i> | Sandy well drained soils; flowers white; small hairy strawberries; evergreen; aggressive spreader; sun/partial shade; spreads up to 25 cm |
| Sunrose | <i>Helianthemum nummularium</i> | Prefers moist, well-drained soils, but will tolerate various soils; low growing, woody perennial; many varieties are available with flowers in salmon, pink, red, yellow and golden colours; sun; spreads to 60 cm with 60 cm height |
| Lavender | <i>Lavandula angustifolia</i> | Adaptable to various soils; blue, lavender, pink to white flowers, semi-evergreen aromatic perennial; sun/partial shade; spreads to 50 cm |
| Creeping mahonia | <i>Mahonia repens</i> | Dry to moist soils; drought resistant; yellow flowers; blue berries; native of Eastern Washington; sun/partial shade; spreads up to 1 m |
| Davidson's penstemon | <i>Penstemon davidsonii*</i> | Low growing evergreen perennial; prefers well-drained soils; drought tolerant; blue to purple flowers; sun; spreads up to 1 m |
| Perennials and Ornamental Grasses | | |
| Western yarrow | <i>Achillea millefolium*</i> | Dry to moist, well-drained soils; white to pink/reddish flowers; many other yarrows are also available; sun; spreads to 75 cm |
| Pearly everlasting | <i>Anaphalis margaritaceae</i> | Drought-tolerant perennial; spreads quickly; attracts butterflies; sun/partial shade; spreads to 45 cm |
| Native California brome | <i>Bromus carinatus*</i> | Dry to moist soils; tolerates seasonal saturation; sun/partial shade; spreads up to 1.5 m |

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Zone 3: Dry upper slope / top flat ground

This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope.

| Common Name | Botanical Name | Notes |
|--|---|---|
| Great Camus or Common Camus | <i>Camus leichtlinii</i> * or <i>Camus quamash</i> * | Plant for in groups for effect. Can be planted as a bulb; sun and shade; height 60–90 cm |
| Leather leaf edge | <i>Carex buchanaii</i> | Prefers moist, well-drained soils; copper-coloured foliage; perennial clumping grass; tolerant of a wide range of soils; inconspicuous flowers; sun/partial shade; spreads to 1 m |
| 'Frosty curls' New Zealand hair sedge | <i>Carex comans</i> | Prefers moist soils; finely textured and light green; compact, clumping perennial grass; drought-tolerant when established; inconspicuous flowers; sun/partial shade; spreads up to 60 cm |
| Purple oneflower | <i>Echinacea purpurea</i> | Prefers well drained soils; hardy perennial; may need watering in dry months; sun; spreads up to 1.5 m |
| Blue wildrye | <i>Elymus glaucus</i> * | Dry to moist soils; shade tolerant; rapid developing, but short lived (1-3 years); not good lawn grass; sun/partial shade; spreads to 1.5 m |
| Subalpine fleabane daisy | <i>Erigeron peregrinus</i> | Urban frontage; <60 cm |
| Pacific bleeding heart | <i>Dicentra formosa</i> * | Moist, rich soils; heart-shaped flowers; sun/shade; spreads to 50 cm |
| Showy fleabane | <i>Erigeron speciosus</i> * | Moist to dry soils; dark violet or lavender blooms; fibrous roots; sun/partial shade; spreads to 60 cm; under 60 cm; urban frontage |
| Idaho fescue | <i>Festuca idahoensis</i> * | Bluish-green bunching perennial grass; drought-tolerant; sun/partial shade; spreads to 30 cm; height 90 cm |
| Wood strawberry | <i>Fragaria vesca</i> * | Dry to moist soils; white flowers; partial shade; spreads to 30 cm |
| Salal | <i>Gaultheria shallon</i> * | Dry and moist soils; white or pinkish flowers; reddish-blue to dark-purple fruit; spreads up to 2 m |
| Oregon wintergreen | <i>Gaultheria ovatifolia</i> * | Sun to shade; <60 cm; If height is a problem, can be sheared with hedge trimmer |
| Large-leaved avens | <i>Geum macrophyllum</i> * | Moist, well-drained soil; bright yellow flowers; other Geum cultivars available, some which may require supplemental watering; sun/partial shade; spreads to 1 m |

Continued on next page

Zone 3: Dry upper slope / top flat ground

This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope.

| Common Name | Botanical Name | Notes |
|----------------------------|---|---|
| Spotted eranium | <i>Geranium maculatum</i> | Moist, well-drained soils; low perennial; pale pink, blue to purple flowers; sun/shade; spreads to 4.5 m |
| Curry Plant | <i>Helichrysum italicum</i> | Moist or dry soils; hardy evergreen perennial; a good companion to lavender; bright yellow flowers; fragrant; sun; spreads to 60 cm |
| Day lilies | <i>Hemerocallis fulva</i> | Tolerant of a variety of soil types; easy to grow and tolerant of neglect; hardy perennial; entire plant is edible; sun/partial shade; spread up to 1.2 m |
| 'Palace purple' (alumroot) | <i>Heuchera micrantha</i> | Moist, well-drained soils; bronze to purple foliage in shade; small, yellowish-white flowers; perennial, evergreen; a number of other species and varieties are available (try <i>H. sanguinea</i> for bright red flowers); sun/partial shade; spreads to 60 cm |
| Lupine | <i>Lupinus bicolor</i> * <i>Lupinus latifolius</i> * <i>Lupinus polyphyllus</i> * | Dry to moist, sandy to gravelly soils; perennial; sun; spreads up to 1 m |
| Tall Oregon grape | <i>Mahonia aquifolium</i> * | Dry to moist soils; drought resistant; evergreen; blue-black fruit; bright yellow flowers; great low screening barrier; sun/partial shade; spreads to 3 m; 'Compacta' form averages 60 cm tall |
| False lily-of-the-valley | <i>Maianthemum dilatatum</i> * | Prefers moist soils; small, white flowers; light-green to red berries; partial shade/shade; spreads up to 30 cm |
| Fountain grass | <i>Pennisetum alopecuroides</i> | Moist, well-drained soils; tolerant of many soil types; clump forming grasses. A number of varieties are available in different heights and bloom times; sun/partial shade; spreads to 60 cm, in Zone 4 try <i>P. caudatum</i> (White-flowering fountain grass) and <i>P. alopecuroides</i> cultivars 'Hameln' and 'Little bunny' (Dwarf fountain grass). |
| Oriental fountain grass | <i>Pennisetum orientale</i> | Prefers moist, well-drained soils; somewhat drought-tolerant; small clumping, blooming grass, showy pink flowers; fountain grasses will benefit from annual shearing in late winter/early spring, but not required; sun/partial shade; spreads up to 1 m |

Continued on next page

Zone 3: Dry upper slope / top flat ground

This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope.

| Common Name | Botanical Name | Notes |
|-------------------------|-------------------------------|---|
| Bush penstemon | <i>Penstemon fruticosus</i> | Prefers well-drained soils; evergreen perennial; drought tolerant; violet-blue flowers 1" long attract hummingbirds; sun; spreads up to 25 cm |
| Swordfern | <i>Polystichum munitum</i> * | Prefers moist, rich soil conditions, but drought-tolerant; large evergreen fern; partial shade/deep shade; spreads to 1.2 m |
| Black-eyed Susan | <i>Rudbeckia hirta</i> | Moist to dry soils; showy flowers, hardy and easy to grow; several other varieties are available; sun/partial shade; spreads to 1.4 m |
| False Solomon's seal | <i>Smilacina racemosa</i> * | Moist soils; creamy white flowers; red berries; partial sun/shade; spreads to 1 m |
| Canadian goldenrod | <i>Solidago canadensis</i> * | Dry to moist soils; yellow flowers; sun/partial shade; spreads to 60 cm |
| Deciduous Shrubs | | |
| Oceanspray | <i>Holodiscus discolor</i> * | Dry to moist soils; drought tolerant; white to cream flowers; good soil binder; sun/partial shade; mature height 4.5 m |
| Mock-orange | <i>Philadelphus lewisii</i> * | Adapts to rich moist soils or dry rocky soils; drought-tolerant; fragrant flowers; sun/partial shade; spreads 1.5-3 m |
| Mugho pine | <i>Pinus mugo pumilio</i> | Adapts to most soils; slow growing and very hardy; newer additions with trademark names such as 'Slo-Grow' or 'Lo-Mound' are also available; sun; mature height 1-1.5 m with 1.5-2 m spread |
| Shrubby cinquefoil | <i>Potentilla fruticosa</i> | Moist to dry soils; several cultivars available with varying foliage and flower hues; try 'Tangerine' or 'Moonlight'; sun; spreads 1 m |
| Graceful cinquefoil | <i>Potentilla gracilis</i> * | Moist to dry soils; yellow flowers; sun; spreads 30-60 cm |
| Red-flowering currant | <i>Ribes sanguineum</i> * | Prefers dry soils; drought-tolerant; white to deep-red flowers attract hummingbirds; dark-blue to black berries; thornless; sun/partial shade; 2.5-3.5 m |
| Baldhip rose | <i>Rosa gymnocarpa</i> * | Dry or moist soils; drought tolerant; small pink to rose flowers; partial shade; up to 2 m spread |
| Continued on next page | | |

Zone 3: Dry upper slope / top flat ground

This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope.

| Common Name | Botanical Name | Notes |
|-------------------------|---|---|
| Evergreen Shrubs | | |
| Glossy abelia | <i>Abelia x grandiflora</i> | Prefers moist, well-drained soils, but drought-tolerant; white or faintly pink flowers; partial sun/partial shade; mature height 2.5 m with 1.5 m spread |
| 'Compacta' | <i>Arbutus unedo</i> | Prefers well drained soils; tolerant of poor soils; good in climate extremes; white to greenish-white flowers; striking red-orange fruit; sun/partial shade; up to 3 m spread |
| Orchid rockrose | <i>Cistus purpureus</i> | Moist to dry well-drained soils; drought resistant; fast growing; reddish purple flowers; sun; up to 1 m spread |
| White rockrose | <i>Cistus salviifolius</i> | Moist to dry well-drained soils preferred, but can tolerate poor soils; tolerant of windy conditions and drought; white flowers; sun; mature height 1 m with 1.8 m spread |
| Pink princess | <i>Escallonia x exoniensis 'fradesii'</i> | Tolerant of varying soils; drought tolerant when established; pink to rose coloured flowers; good hedge or border plant; attracts butterflies; sun/partial sun; 1-2 m spread |
| Salal | <i>Gaultheria shallon</i> * | Dry and moist soils; white or pinkish flowers; reddish-blue to dark-purple fruit; partial shade; spread 1-2 m |
| Dull Oregon grape | <i>Mahonia nervosa</i> * | Dry to moist soils; drought resistant; evergreen; yellow flowers; blue berries; partial shade/shade; spreads to 60 cm |
| Delavay Osmanthus | <i>Osmanthus delavayi</i> | Tolerant of a broad range of soils; attractive foliage and clusters of white fragrant flowers; slow growing; sun/partial shade; 1-2 m spread |
| Devil wood | <i>Osmanthus x burkwoodii</i> | Drought-tolerant once established; masses of small, white fragrant flowers; sun/partial shade; 1-2 m spread |
| 'PJM' hybrids | <i>Rhododendron</i> | Moist to fairly dry soils; well drained organic soil; lavender to pink flowers; sun/partial shade; 1 m spread |
| Evergreen huckleberry | <i>Vaccinium ovatum</i> * | Moist to slightly dry soils; small pinkish-white flowers; berries in August; sun/partial sun; 1-4.5 m spread |
| Continued on next page | | |

Zone 3: Dry upper slope / top flat ground

This area experiences dry to moist soils, commonly located on the upper side slopes or top even ground of the bioretention or infiltration facility. Plants should be drought tolerant and help stabilize the slope.

| Common Name | Botanical Name | Notes |
|------------------------------|--------------------------------|---|
| Deciduous Trees | | |
| Dogwood | <i>Cornus spp.</i> | Reliable flowering trees with attractive foliage and flowers; may need watering in dry season; try <i>C. florida</i> (Eastern dogwood), or <i>C. nuttallii</i> * (Pacific dogwood) or hybrid 'Eddie's White Wonder'. Also, <i>C. kousa</i> for small tree/shrub which is resistant to anthracnose; sun/partial shade; mature height 6-9 m with 9 m canopy |
| Bitter cherry | <i>Prunus emarginata</i> * | Dry or moist soils; intolerant of full shade; purple to black cherries; bright fruits are attractive to birds; roots spread extensively; sun/partial shade; mature height 6-15 m with 6 m canopy |
| Douglas-fir | <i>Pseudotsuga menziesii</i> * | Does best in deep, moist soils; evergreen conifer with medium to fast rate of growth; provides a nice canopy, but potential height will restrict placement |
| Garry oak (Oregon white oak) | <i>Quercus garryana</i> * | Dry to moist, well-drained soils; slow growing; acorns; sun; mature height up to 22 m |
| Evergreen Trees | | |
| Strawberry tree | <i>Arbutus unedo</i> | Tolerant of extremes; tolerant of urban/industrial pollution; white or greenish white flowers; sun/partial shade; mature height 2.5-10 m with 2.5-6 m canopy |
| Incense cedar | <i>Calocedrus decurrens</i> * | Tolerant of poor soils; drought tolerant after established; fragrant evergreen with a narrow growth habit; slow growing; sun; mature height 2.5-10 m with 2.5-6 m spread |
| Hinoki false cypress | <i>Chamaecyparis obtusa</i> | Moist, loamy, well-drained soils; very slow growing; prefers sun, but tolerates shade; does not transplant well or do well in alkaline soils. Note there are many alternative varieties of false cypress of varying sizes and forms from which to choose; sun/partial shade; mature height 12-15 m with 4-9 m spread |
| Swiss mountain pine | <i>Pinus mugo</i> | Prefers moist well-drained soil; slow growing, broadly spreading, bushy tree; hardy evergreen; sun/partial shade; mature height 4-6 m with 7.5-9 m spread |
| Japanese black pine | <i>Pinus thunbergiana</i> | Dry to moist soils; hardy; fast growing; sun; mature height 30 m with 12 m spread |

Grassy Swale Candidate Plant Lists

Below are planting list for consideration in grassy swales.

Table 5 Grassy Swale Mixes Good for Mowing

| Grassy Swale Mixes (good for mowing) | | | |
|--------------------------------------|----------------------------|----------------------------------|----------------------------|
| Grassy Swale Mix 1 (% by weight) | | Grassy Swale Mix 2 (% by weight) | |
| 75-80% | tall or meadow fescue | 60-70% | tall fescue |
| 10-15% | seaside/colonial bentgrass | 10-15% | seaside/colonial bentgrass |
| 5-10% | Redtop | 10-15% | meadow foxtail |
| | | 6-10% | alsike clover |
| | | 1-5% | marshfield big trefoil |
| | | 1-6% | Redtop |

Table 6 Ground Covers and Grasses Suitable For Upper Side Slopes of Swales

| Botanical Name | Common Name | Zone |
|---|------------------------|---------|
| Grasses (drought-tolerant, minimum mowing) | | |
| <i>Festuca spp.</i> (e.g., Many Mustang, Silverado) | dwarf tall fescues | 1,2 |
| <i>Festuca ovina duriuscula</i> (e.g., Reliant, Aurora) | hard fescue | 1,2 |
| <i>Festuca amethystine</i> | tufted fescue | 1,2 |
| <i>Buchloe dactyloides</i> 1 | buffalo grass | 1,2 |
| <i>Festuca rubra</i> | red fescue | 1,2 |
| <i>Festuca arundinacea</i> | tall fescue grass | 1,2 |
| <i>Helictotrichon sempervirens</i> | blue oatgrass | 1,2 |
| Ground Covers (not for mowing) | | |
| <i>Arctostaphylos uva-ursi</i> | kinnikinnick | 2, 3, 4 |
| <i>Epimedium grandiflorum</i> | Epimedium | 2 |
| <i>Omphalodes verna</i> | creeping forget-me-not | 2 |
| <i>Euonymus lanceolata</i> | | 2 |
| <i>Xanthorhiza simplissima</i> | yellow-root | 2 |
| <i>Genista</i> | | 2 |
| <i>Trifolium repens</i> | white lawn clover | 2 |
| <i>Rubus calycinoides</i> | | 2 |
| <i>Fragaria chiloensis</i> | strawberry | 2 |
| <i>Lupinus latifolius</i> | broadleaf lupine | 2 |

Table 7 Green Roof Candidate Plant List

Green Roofs require plant material adapted to hot/dry summers and wet winters. They must also be adapted to growing in very shallow soils. Plants suitable for growing in 100 mm deep extensive green roofs are sedums and stone crops. Plant composition for 150 mm deep extensive green roofs can include up to 50% grasses or perennials suitable for the site conditions with the remaining area being drought tolerant sedums.

| Green Roof Plant Candidate List (native species*) | | | | | |
|---|------------------------|-----------------|-----------------------|----------|---------------|
| Botanic Name | Common Name | Evergreen (yes) | Potential Height (cm) | Full Sun | Partial Shade |
| Succulents | | | | | |
| <i>Delosperma cooperi</i> | Ice Plant | Y | 10 | X | X |
| <i>Delosperma nubigenum</i> | Ice Plant | Y | 5 | X | X |
| <i>Opuntia</i> spp. | Prickly-Pear Cactus | | 13 | X | X |
| <i>Sedum acre</i> | Biting Stonecrop | Y | 5 | X | X |
| <i>Sedum divergens</i> * | Pacific Stonecrop | Y | 8 | X | X |
| <i>Sedum hispanicum</i> | Spanish Stonecrop | Y | 8 | X | X |
| <i>Sedum kamtschaticum</i> | Kirin-so | | 15 | X | X |
| <i>Sedum lanceolatum</i> * | Lance-leaved Stonecrop | | 10 | X | X |
| <i>Sedum oreganum</i> * | Oregon Stonecrop | Y | 10 | X | X |
| <i>Sedum oregonense</i> | Creamy Stonecrop | Y | 10 | X | X |
| <i>Sedum rupestre</i> | Crooked Stonecrop | Y | 15 | X | X |
| <i>Sedum sexangulare</i> | Tasteless Stonecrop | Y | 10 | X | X |
| <i>Sedum spathulifolium</i> * | Broad-leaved Stonecrop | Y | 10 | X | X |
| <i>Sedum spurium</i> | Two-row Stonecrop | Y | 15 | X | X |
| <i>Sedum takesimense</i> | Gold Carpet Stonecrop | Y | 23 | X | X |
| <i>Sedum telephium</i> | Autumn Joy | | 60 | X | X |
| <i>Sempervivum tectorum</i> | Hens and Chicks | Y | 15 | X | X |
| CAUTIONARY NOTE: <i>Sedum album</i> (common name: White Stonecrop) is a succulent that has been commonly used for green roof installations, however, it has been found to have invasive qualities in the capital region with birds as the dispersion vector. Ensure that plantings or succulent mats do not include this succulent. | | | | | |
| Herbaceous Plants | | | | | |
| <i>Achillea millefolium</i> * | Common Yarrow | | 90 | X | X |
| <i>Allium acuminatum</i> * | Hooker's Onion | | 15 | X | X |
| <i>Allium cernuum</i> * | Nodding Onion | | 30 | X | X |
| <i>Antennaria neglecta</i> | Field Pussytoes | | 10 | X | X |
| <i>Arenaria montana</i> | Sandwort | | 10 | X | X |
| <i>Aurinia saxatilis</i> | Basket-of-Gold | | 15 | X | X |
| <i>Campanula rotundifolia</i> * | Common Harebell | | 20 | X | X |

| Green Roof Plant Candidate List (native species*) | | | | | |
|---|---------------------|-----------------|-----------------------|----------|---------------|
| Botanic Name | Common Name | Evergreen (yes) | Potential Height (cm) | Full Sun | Partial Shade |
| <i>Dianthus</i> spp. | Dianthus | | 30 | X | X |
| <i>Erigeron compositus</i> | Fleabane | | 30 | X | X |
| <i>Erigeron glaucus</i> * | Beach Aster | | 15 | X | X |
| <i>Festuca idahoensis</i> * | Idaho Fescue | Y | 30 | X | X |
| <i>Fragaria chiloensis</i> * | Coastal Strawberry | Y | 15 | X | X |
| <i>Fragaria virginiana</i> * | Wild Strawberry | Y | 15 | X | X |
| <i>Gaillardia aristata</i> | Blanket Flower | | 50 | X | X |
| <i>Gazania linearis</i> | Gazania | | 15 | X | X |
| <i>Koeleria macrantha</i> * | Junegrass | | 60 | X | X |
| <i>Lobularia maritima</i> | Sweet Alyssum | | 30 | X | X |
| <i>Phlox douglasii</i> * | Tufted Phlox | | 10 | X | X |
| <i>Polypodium glycyrrhiza</i> * | Licorice Fern | Y | 30 | X | X |
| <i>Polystichum munitum</i> | Sword Fern | Y | 60 | X | X |
| <i>Potentilla nepalensis</i> | Nepal Cinquefoil | | 35 | X | X |
| <i>Potentilla neumanniana</i> | Cinquefoil | | 35 | X | |
| <i>Prunella vulgaris lanceolata</i> * | Self-Heal | | 10 | X | X |
| <i>Silene acaulis</i> | Moss Champion | | 8 | X | X |
| <i>Thymus serpyllum</i> | Creeping Thyme | | 8 | X | |
| <i>Veronica liwanensis</i> | Turkish speedwell | | 5 | X | X |
| Accent Plants | | | | | |
| <i>Camassia quamash</i> * | Common Camas | | 20 | X | X |
| <i>Clarkia amoena</i> * | Farewell-to-Spring | | 17 | X | X |
| <i>Gilia capitata</i> * | Globe Gilia | | 45 | X | X |
| <i>Linaria reticulata</i> | Purplenet Toadflax | | 50 | X | X |
| <i>Linum perenne</i> * | Blue Flax | | 20 | X | X |
| <i>Lupinus bicolor</i> * | Two-Coloured Lupine | | 13 | X | X |
| <i>Madia elegans</i> * | Elegant Tarweed | | 45 | X | X |
| <i>Nemophila menziesii</i> * | Baby Blue Eyes | | 13 | X | X |
| <i>Phacelia campanularia</i> | Desert Bluebells | | 25 | X | X |
| <i>Plectritis congesta</i> * | Sea Blush | | 13 | X | X |
| <i>Triteleia ixoides</i> * | Golden Star | | 25 | X | X |

Table 8 Emergent Wetland Plant Species Recommended for Wet Ponds and Wetlands Candidate Plant List for Vegetated GSI Facilities

| Botanical Name (*native plant) | Common Name | Notes | Maximum Depth (cm) |
|--|-----------------------|---|--------------------|
| Inundation to 30 cm | | | |
| <i>Agrostis exarata</i> * | Spike bent grass | | Up to 60 |
| <i>Carex stipata</i> * | Sawbeak sedge | Wet ground | |
| <i>Eleocharis palustris</i> * | Spike rush | Margins of ponds, wet meadows | Up to 60 |
| <i>Glyceria occidentalis</i> * | Western mannagrass | Marshes, pond margins | Up to 60 |
| <i>Juncus tenuis</i> * | Slender rush | Wet soils, wetland margins | |
| <i>Oenanthe sarmentosa</i> * | Water parsley | Shallow water along stream and pond margins; needs saturated soils all summer | |
| <i>Scirpus atrocinctus</i> * | Woolgrass | Tolerates shallow water; tall clumps | |
| <i>Scirpus microcarpus</i> * | Small-fruited bulrush | Wet ground to 45 cm depth | 45 cm |
| <i>Sagittaria latifolia</i> * | Arrowhead | | |
| Inundation to 30 to 60 cm | | | |
| <i>Agrostis exarata</i> * | Spike bent grass | | |
| <i>Alisma plantago-aquatica</i> * | Water plantain | | |
| <i>Eleocharis palustris</i> * | Spike rush | Margins of ponds, wet meadows | |
| <i>Glyceria occidentalis</i> * | Western mannagrass | Marshes, pond margins | |
| <i>Juncus effuses ssp. pacificus</i> * | Pacific Soft rush | Wet meadows, pastures, wetland margins | |
| <i>Scirpus microcarpus</i> * | Small-fruited bulrush | Wet ground to 45 cm depth | 45 cm |
| <i>Sparganium emersum</i> * | Bur-reed | Shallow standing water, saturated soils | |
| Inundation to 30 to 90 cm | | | |
| <i>Carex obnupta</i> * | Slough sedge | Wet ground or standing water | 45 cm to 90 cm |
| <i>Beckmannia syzigachne</i> * | Western sloughgrass | Wet prairie to pond margins | |
| <i>Scirpus validus</i> * | Softstem bulrush | | |
| Continued on next page | | | |

| Botanical Name (*native plant) | Common Name | Notes | Maximum Depth (cm) |
|---|--------------------------|------------|--------------------|
| <i>Inundation greater than 90 cm</i> | | | |
| <i>Nuphar polysepalum</i> * | Rocky Mountain pond-lily | Deep water | 90 cm to 2.3 m |
| Caution - Parrot's feather (<i>Myriophyllum aquaticum</i>) is an aquatic plant that is popular in recreational indoor fish tanks that can enter storm drainage system through incidental washing/rinsing/dumping into storm drain system. This plant has severely impacted several GSI facilities within the capital region and in the Lower Mainland. Routine maintenance of swales and constructed wetlands and ponds ought to include early detection and rapid response. Learn more: http://bcinvasives.ca/invasive-species/identify/invasive-plants/parrots-feather | | | |

Wet Pond Vegetation and Landscaping

- ❑ Plant native turf-forming grasses or irrigated turf on sloped area.
- ❑ Prohibit woody vegetation within 5 m of toe of embankment and within 7.5 m of spillway principal structure.

Dry Pond Vegetation and Landscaping

- ❑ Plant basin with native grasses or turf to enhance sediment entrapment and protect against erosion.
- ❑ Constructed Wetland Vegetation and Landscaping.
- ❑ Plant density of 4 to 8 plants per square metre.
- ❑ Planting should take place between April and mid-June so that plants have a full growing season to develop root reserves.
- ❑ Tall, emergent species should be planted on aquatic benches.
- ❑ Use native water plants, trees, shrubs or grass species.
- ❑ Remove grass clippings.