

St. George Rainway in Vancouver

Planting and Ecology Concept

Biodiversity: The majority of the plants installed are Pacific Northwest Natives, California natives, or at least naturalized within the region.

Over 22 species have been planted in **Block 4**, and **20 in Block 3**. The variety will aid in providing habitat and forage for a diverse range of birds and insects. The palette ranges from spring to fall blooming species to provide pollination opportunities throughout the seasons, and overwintering habitat in the evergreen species.

- In 2022, Citizen Science occurred at the rainway in the form of 4 different BioBlitz events, where City Staff and community members to collect data on the local flora and fauna existing at the rainway. Birds, Plant, and Insects were all identified at the separate events. Of the data collected, indicator species were identified such as:
 - Coopers Hawk, spotted towhee
 - Bumblebee, Western Bumblebee, Mason Bee
- Many of the plant species at SGR were chosen to support the pollination of the identified species. For example:
 - Serviceberry, Mahonia – berries and winter seedheads for the birds
 - Evergreen species for winter habitat
- Flowering species for pollinators:
 - Bumblebee preferences – sedum, rhododendron
 - Mason Bee preferences – Western Columbine, clover (bee turf),
 - Western Bumblebee – Geranium, Yarrow
- **Matrix planting:** Also called community planting - We have strived to blend the plants together where their roots systems will support each other as they perform different tasks (nitrogen fixing, structure forming, etc.)
 - Juncus, Camas and Iris in the centre for example is seen as a supporting community so the Juncus remains healthy and will be less prone to flopping in the summer.
- **Soil:** The soil is a compost blend where the compost is integral to ensure life within the soil. The plants will not survive without the millions of living organisms living in a healthy soil. The bacteria, fungi, and nematodes perform different tasks by breaking down nutrients, making them available for the root systems, creating pore spaces in the soil, and retaining water.
 - Soil inoculation will also occur after planting, and again in the fall to inject the valuable organisms and nutrients in the soil and ensure the soil ecology has a good start to be self sustaining in the future.
 - Composted mulch is also added after planting where it will provide a weed and evaporation cover, and will also breakdown to provide the soil with continual organics matter for the plants and organisms.

The intent is for the rainway ecology to blend with it's surrounding and provide respite for the local fauna, all while filtering pollutants out of the water and reducing flooding.

Block 4 Woodland Style Planting :

Pacific Rhododendron	<i>Rhododendron macrophyllum</i>	<ul style="list-style-type: none"> - Shade and acid tolerant - Evergreen – wildlife habitat - April / May blooms - PNW native
Dwarf Purple Willow	<i>Salix purpurea</i> 'nano'	<ul style="list-style-type: none"> - Structural and good pollinator forage - Thrive in wet conditions - Native to PNW (cultivar)
Black Huckleberry	<i>Vaccinium ovatum</i>	<ul style="list-style-type: none"> - Evergreen - Blooms early spring (butterfly + Hummingbird) - Berries in summer (birds) - PNW Native
Creeping blue blossom	<i>ceanothus thyrsiflorus</i> var. <i>repens</i>	<ul style="list-style-type: none"> - Low - Evergreen - May June purple blooms - Attract variety of pollinators - California/Oregon cultivar
Toughleaf iris	Iris Tenax	<ul style="list-style-type: none"> - Spring bloom - drought tolerant - PNW native
Thick Headed Sedge	<i>Carex pachystachya</i>	<ul style="list-style-type: none"> - Evergreen - Groundcover to hold in moisture and limit weed growth - Over wintering habitat - Seedheads for winter forage
Soft rush	<i>Juncas effusus</i>	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Evergreen - Upright form and structure - Seed heads consumed by birds - PNW Native
Blue Flag Iris	Iris Setosa	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Early spring blooming colour - Grows well in matrix with Juncas - PNW native
Camas bulb	<i>Camassia quamash</i>	<ul style="list-style-type: none"> - Ealy blooming - Marsh bulb for centre swale - Supports the root structure of the juncas - PNW native
Barrenwort	<i>Epimedium</i> x <i>versicolor</i> 'Sulpureum'	<ul style="list-style-type: none"> - Ground cover to hold moisture and reduce weeds - Semi-evergreen - Spreads through rhizomes - Red in leaves spring, followed by yellow blooms
Wood Sorrel	<i>Oxalis oregana</i>	<ul style="list-style-type: none"> - Shade evergreen - PNW native - Acidic condition native to understory
Sea Thrift	<i>Armeria maritima</i>	<ul style="list-style-type: none"> - Pink flower – summer - Evergreen - PNW native
Yarrow	<i>Achillea millefolium</i>	<ul style="list-style-type: none"> - Summer blooms - Winter seedheads - Pollinator and wildlife favourite - Very hardy and reliable
Western Columbine	<i>Aquilegia formosa</i>	<ul style="list-style-type: none"> - PNW native - Spring bloomer - Interesting red/yellow flower - Hummingbirds and bees
Sticky Geranium	<i>Geranium viscosissimum</i>	<ul style="list-style-type: none"> - PNW native - Evergreen - Winter seedheads - Nitrogen fixer
Nootka Cypress	<i>Chamaecyparis Nootkatensis</i> 'glaucá'	<ul style="list-style-type: none"> - Evergreen conifer - Specimen tree native to California - Provide winter habitat
River Birch	<i>Betula nigra</i> 'Heritage'	<ul style="list-style-type: none"> - Wet and drought tolerant - Resistant to blight
Vine Maple	<i>Acer circunatum</i>	<ul style="list-style-type: none"> - Bird habitat - Seeds, budges and flowers provide food for birds and insects - PNW native

Ameliancher canadensis	Service berry	<ul style="list-style-type: none"> - Early spring bloom white flowers - Berry forage for birds
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Block 3 Meadow Style Planting :

Oceanspray	<i>Holodiscus discolor</i>	<ul style="list-style-type: none"> - Creamy white (June / July) blooms. - Fruit for bird forage late summer. Flowers are pollinated by bees and flies - Native to PNW
Black Huckleberry	<i>Vaccinium ovatum</i>	<ul style="list-style-type: none"> - Evergreen - Blooms early spring (butterfly + Hummingbird) - Berries in summer (birds) - PNW Native
Wild Rose	<i>Rosa (nootka/pisocarpa)</i>	<ul style="list-style-type: none"> - Winter rose hips (birds ,squirrels) - Spring blooms (bee forage) - PNW native
Heather	<i>Calluna vulgaris</i>	<ul style="list-style-type: none"> - Evergreen / blooming - Distinctive and hardy, drought tolerant providing over wintering habitat
Sand Dune Sedge	<i>Carex pansa,</i>	<ul style="list-style-type: none"> - Evergreen - Groundcover to hold in moisture and limit weed growth - Over wintering habitat
Foothill Sedge	<i>Carex tumicola</i>	<ul style="list-style-type: none"> - Evergreen - Groundcover to hold in moisture and limit weed growth - Over wintering habitat - Seedheads for winter forage
Sesleria caerulea		<ul style="list-style-type: none"> - Evergreen - Groundcover to hold in moisture and limit weed growth - Over wintering habitat - Seedheads for winter forage and fall interest
Soft rush	<i>Juncas effusus</i>	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Evergreen - Upright form and structure - Seed heads consumed by birds - PNW Native
Blue Flag Iris	<i>Iris Setosa</i>	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Early spring blooming colour - Grows well in matrix with Juncas - PNW native
Camas bulb	<i>Camassia quamash</i>	<ul style="list-style-type: none"> - Ealy blooming - Marsh bulb for centre swale - Supports the root structure of the juncas - PNW native
Aster	<i>Aster oblongifolius</i>	<ul style="list-style-type: none"> - Fall bloomer - Considered a superfood for pollinators - Attracts the most pollinators - PNW native
Purple Coneflower	<i>Echinacea purpurea</i>	<ul style="list-style-type: none"> - Mid - summer flower - Winter seedheads - PNW
Tick seed	<i>Coreopsis</i>	<ul style="list-style-type: none"> - In the aster family of superfoods for bees - Late summer / fall bloomer - Yellow flowers - PNW native
Beardtongue / Cascade Penstemon	<i>Penstemon serrulatus</i>	<ul style="list-style-type: none"> - Purple summer bloomer - Bees, birds, hummingbirds - PNW native - Evergreen
Western Columbine	<i>Aquilegia formosa</i>	<ul style="list-style-type: none"> - PNW native - Spring bloomer - Interesting red/yellow flower - Hummingbirds and bees
Big leaf Lupine	<i>Lupinus pollyphylus</i>	<ul style="list-style-type: none"> - PNW native - Bees large - Winter seedheads - Nitrogen fixer
Eastern Redbud	<i>Cercis canadensis</i>	<ul style="list-style-type: none"> - Pink flower - Spring bloom - Ontario native - Small tree
Pacific Dogwood	<i>Cornus nutalli</i>	<ul style="list-style-type: none"> - Small tree

		- White spring flowers
Willow Oak	Quercus phellos	- Large shade tree
Black Tupelo	Nyssa Sylvatica	- Small vase – shaped tree

Block 2 Planting :

Snow Dwarf Mock Orange Oceanspray	<i>Philadelphus coronarius 'Snow Dwarf'</i>	<ul style="list-style-type: none"> - Spring blooms (bee forage) - White bloom - Drought tolerant and structural
Snowberry	<i>Symphoricarpos albus</i>	<ul style="list-style-type: none"> - Winter Seeds for interest and wildlife forage - PNW Native
California Lilac	<i>Ceanothus 'Puget Blue'</i>	<ul style="list-style-type: none"> - Lilac significant to neighbourhood - Spring/early summer blooms (bee forage) - Evergreen
Purple Willow	<i>Salix purpurea 'nana';</i>	<ul style="list-style-type: none"> - Structural and good pollinator forage - Thrive in wet conditions - Native to PNW (cultivar)
Kelseyi Red osier Dogwood	<i>Cornus sericea 'Kelseyi'</i>	<ul style="list-style-type: none"> - Red twig, winter interest - Structural and good pollinator forage - Thrive in wet conditions - PNW cultivar
Garden sage	<i>Salvia officinalis</i>	<ul style="list-style-type: none"> - Drought tolerant - Showy flowers for pollinators - Blue spring bloom
Thick-headed Sedge	<i>Carex pachystachya</i>	<ul style="list-style-type: none"> - Evergreen - Groundcover to hold in moisture and limit weed growth - Over wintering habitat - Seedheads for winter forage and fall interest - PNW native
Tufted Hairgrass	<i>Deschampsia cespitosa</i>	<ul style="list-style-type: none"> - Winter interest - Drought and moisture tolerance - PNW Native
Shenandoah Switchgrass	<i>Panicum virgatum 'Shenandoa'</i>	<ul style="list-style-type: none"> - Upright - Deciduous - North America Native
Soft rush	<i>Juncas effusus</i>	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Evergreen - Upright form and structure - Seed heads consumed by birds - PNW Native
Blue Flag Iris	<i>Iris Setosa</i>	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Early spring blooming colour - Grows well in matrix with Juncas - PNW native
Camas bulb	<i>Camassia quamash</i>	<ul style="list-style-type: none"> - Ealy blooming - Marsh bulb for centre swale - Supports the root structure of the juncas - PNW native
Aromatic Aster	<i>Aster oblongifolium</i>	<ul style="list-style-type: none"> - Fall bloomer - Considered a superfood for pollinators - Attracts the most pollinators - PNW native
Common Yarrow	<i>Achillea millefolium</i>	<ul style="list-style-type: none"> - Winter interest seed head forage - PNW native
White gaura	<i>Guara lindheimeri</i>	<ul style="list-style-type: none"> - Pink summer blooms - Pollinator summer forage - North America native
Penstemon	<i>Penstemon 'Dark Towers'</i>	<ul style="list-style-type: none"> - Purple foliage interest - Summer blooms attracts pollinator - Semi-evergreen - North America native cultivar
Western Columbine	<i>Aquilegia formosa</i>	<ul style="list-style-type: none"> - PNW native - Spring bloomer - Interesting red/yellow flower - Hummingbirds and bees
Aspen	<i>Populus tremuloides</i>	<ul style="list-style-type: none"> - Excelled bird habitat - North America native
Amelanchier canadensis	Serviceberry	<ul style="list-style-type: none"> - Small tree - White spring flowers - Forage for birds - PNW Native

Block 1 Planting :

Kinnickinnick - Bearberry	Arcotstaphylos uva-ursi	<ul style="list-style-type: none"> - Shade evergreen - PNW native - Berried provide forage for urban wildlife - Acidic condition native to understory
Wood Sorrel	Oxalis oregana	<ul style="list-style-type: none"> - Shade evergreen - PNW native - Acidic condition native to understory
Caltha palustris L.	Yellow Marsh Marigold	<ul style="list-style-type: none"> - Low yellow winter flower - Tolerant of moist conditions - BC Native
Black Eyed Susan	Rudbeckia fulgida	<ul style="list-style-type: none"> - Winter seedheads for interest and forage - Long lasting later summer blooms - North America Native
Woolly Lambs Ear	Stachys byzantina	<ul style="list-style-type: none"> - Evergreen - Groundcover to hold in moisture and limit weed growth - Over wintering habitat
Lupins	Lupinus latifolius	<ul style="list-style-type: none"> - Nitrogen fixing - later spring purple blooms - PNW native
Western Columbine	Aquilegia formosa	<ul style="list-style-type: none"> - PNW native - Spring bloomer - Interesting red/yellow flower - Hummingbirds and bees
Soft rush	Juncas effusus	<ul style="list-style-type: none"> - Tolerant of high water loading in winter - Evergreen - Upright form and structure - Seed heads consumed by birds - PNW Native
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