



City of
Richmond

Report to Development Permit Panel

To: Development Permit Panel

Date: October 24, 2018

From: Wayne Craig
Director of Development

File: DP 18-820582

Re: **Application by Greater Vancouver Sewerage and Drainage District for a
Development Permit at 1000 Ferguson Road**

Staff Recommendation

That a Development Permit be issued at 1000 Ferguson Road in order to allow construction of temporary dewatering facilities on a site designated an Environmentally Sensitive Area.

Wayne Craig
Director of Development

WC:je
Att. 8

Staff Report

Origin

Greater Vancouver Sewerage and Drainage District (GVS&DD) has applied to the City of Richmond for an Environmentally Sensitive Area (ESA) Development Permit (DP) to allow construction of temporary mechanical dewatering facilities at 1000 Ferguson Road (Attachments 1 and 2). As the site is currently designated as an ESA, a Development Permit is required prior to Building Permit approval.

The 48.36 ha (119.45 acre) subject site currently contains the Iona Island Wastewater Treatment Plant (IIWWTP) that provides primary sewage and stormwater treatment for the City of Vancouver and the University Endowment Lands, and portions of the Cities of Richmond and Burnaby.

The Province has mandated that the IIWWTP be upgraded to secondary treatment by 2030. In preparation for the upgrades, the site's existing sludge lagoons and stockpiles, which currently serve as the dewatering facilities, must be decommissioned to create space for the expansion. As a result, temporary dewatering facilities are proposed as an interim measure to replace the lagoons and stockpiles until all of the secondary treatment upgrades have been completed.

The proposed project footprint for the temporary facilities is 13,666 m², and would include a dewatering building, storage tanks, a truck loading building for removing the biosolids to off-site locations, and an odour control facility. Once the upgrades to secondary treatment are complete, the temporary dewatering facilities would be decommissioned by no later than 2031. The applicant has committed to undertaking a new ESA DP in advance of decommissioning the facility to guide rehabilitation of the project footprint. A master plan for the upgrades to secondary treatment is planned for 2019; once details are known, staff will work with GVS&DD to determine the necessary permits and approvals.

In compensation for disturbing ESA to develop the temporary facilities, GVS&DD has committed to undertaking invasive species removal and enhancement of an equal amount (13,666 m²) of low-value natural area within the adjacent regional park (at a ratio of 1:1 to the project footprint). Additionally, the applicant will provide a total of 1,245 m² of landscape restoration within and immediately adjacent to the project footprint.

An ESA DP was adopted in 2015 to allow the GVS&DD to expand the IIWWTP with a 550 m² screening and de grit building, a 20 m diameter thickener, a 25 m² thickener pump station and four 36 m² digester mixing pump buildings within the ESA at 1000 Ferguson Road (DP14-676361). The project committed to 3,300 m² of landscape restoration (a ratio of 0.5:1 to the project footprint). The as-built information submitted by GVS&DD shows that 3,791 m² has been restored as a result of the project.

Development Information

Please refer to the attached Development Application Data Sheet (Attachment 3) for a comparison of the proposed development data with the relevant Bylaw requirements.

Background

The area surrounding the site consists of:

- To the north, the North Arm of the Fraser River;
- To the east, is the Iona Beach Regional Park (Canfor Point), managed by Metro Vancouver;
- To the south, the Iona Island causeway; and,
- To the west, Iona Beach, Iona Jetty and the North Arm Jetty. The North Arm Jetty is under Port of Vancouver jurisdiction.

With the exception of the Iona and North Arm Jetties, Iona Island is entirely designated as “Conservation” in Richmond’s Official Community Plan, and zoned “School & Institutional Use (SI)” under Zoning Bylaw 8500.

Staff Comments

The proposed scheme attached to this report has satisfactorily addressed the significant Environmentally Sensitive Area (ESA) issues and other staff comments identified as part of the review of the subject Development Permit application. In addition, it complies with the intent of the applicable sections of the Official Community Plan and is generally in compliance with the School and Institutional (SI) zone. No variances are being sought through this ESA Development Permit application.

Advisory Design Panel

As the scope of this Development Permit does not involve any building design components, the application has not been reviewed by the Advisory Design Panel.

Analysis

Site Planning

GVS&DD advises that the project is for a temporary mechanical dewatering facility adjacent to the existing IWWTP. The IWWTP currently provides primary sewage treatment, which involves the removal of primary sludge and anaerobic digestion prior to storage in sludge lagoons. The treated effluent is discharged to the Strait of Georgia, while the treated biosolids are stockpiled onsite following lagoon stabilization. GVS&DD is working towards upgrading the facility to provide secondary waste treatment by 2030.

To create space for the upcoming IWWTP upgrades, the biosolids stockpiles and storage lagoons must be decommissioned. Temporary dewatering facilities are required in lieu of the sludge piles and lagoons until the longer term IWWTP upgrades are complete. Once the secondary treatment is in place, the temporary dewatering facilities would no longer be required and would be decommissioned. Decommissioning would occur within a year of completing the secondary treatment facility and the area would be rehabilitated under a future ESA DP.

The project footprint is proposed to be 13,666 m² (Attachment 4) and includes various temporary structures and paved areas for vehicle circulation. The facility will include a dewatering building, storage tanks, a truck loading building for removing the biosolids to off-site locations, and an odour control facility. After site clearing and grubbing, three areas within the project footprint and immediately adjacent the project footprint (totalling 1,275 m²) would be re-landscaped with native vegetation selected to attract pollinator species. Final design of the temporary dewatering facility, vehicle circulation and landscaping will be determined through a design-build process that will include applications for a Building Permit, which is to be completed following adoption of the Development Permit.

To accommodate the proposed temporary dewatering facility, the entire project footprint will be cleared of existing vegetation, and developed or re-landscaped with native vegetation. While the entire project footprint is within the ESA, the area was selected by GVS&DD because of its proximity to the existing IIWWTP and because it has been previously disturbed. A detailed Environmental Assessment completed by AECOM notes that, of the 13,666 m² ESA required for the project footprint, only 5,097 m² is vegetated. Of that total, 4,078 m² is vegetated with exotic or invasive species and 1,019 m² is vegetated with native species. The remaining 8,569 m² consists of previously disturbed gravel piles and un-vegetated biosolids stockpiles.

ESA Environmental Inventory

The area proposed for the temporary dewatering facility is designated as “Freshwater Wetland” ESA, and is contiguous with “Shoreline” ESA, “Intertidal” ESA and non-ESA natural areas within the Iona Island Regional Park. The total contiguous ESA measures approximately 182.4 ha (450.5 acre) and is designated as a hub in the Ecological Network Management Plan.

The biophysical inventory submitted by AECOM (completed in January and August 2018), found no wet areas, rare plants or species at risk. AECOM describes the project area as an anthropogenic ecosystem that is generally flat, dominated by grasses, partially forested with pioneer young tree and shrub species, and several exotic and invasive plant species. Soils were found to be sandy with no standing water. The area offers habitat for foraging, nesting and rearing. During the inventory, three species of song bird (song sparrow, spotted towhee, and golden-crowned sparrow) were observed and two raptor species (peregrine falcon and bald eagle) were noted flying over the site or perching on the cellular towers.

Within the vicinity of the project area, a provincially blue-listed wetland exists to the west and is home to a Provincially red-listed population of western painted turtle. The project area is situated in an area mapped as estuarine marsh by the Metro Vancouver Sensitive Ecosystem Inventory, and is contiguous with estuarine marsh, wetland swamp and freshwater pond.

Tree Inventory

There were no bylaw sized trees found on-site during the inventory, but 100 undersized poplar trees were counted. All trees are proposed to be removed as part of the project works.

Mitigation

The project was intentionally sited in an area with limited sensitive habitat value, between the existing IIWWTP and wastewater sludge piles.

Increased impermeable surfaces from construction and paving is not expected to impact runoff or infiltration as existing soils are sandy and support only vertical infiltration, not horizontal movement of groundwater. Surface run-off will be directed to the site's stormwater system, which is processed through the IWWTP.

Proposed Compensation and Landscape Restoration

To compensate for impacts to 13,666 m² of ESA within the project footprint, GVS&DD proposes to restore to natural condition an equal area within Iona Island Park on Canfor Point (a compensation ratio of 1:1). Proposed compensation would include invasive species removal and enhancement of 13,666 m² of existing ESA within the park, resulting in an overall net gain in ESA function (Attachment 5).

The proposed compensation area is divided into two distinct but contiguous planting areas, A and B, which are detailed below. Both compensation areas have well-drained, sandy soils, and are dominated by invasive plant species, including three species identified as priority species in the City's Invasive Species Action Plan (scotch broom, Himalayan blackberry and reed canarygrass). Restoration of each area will include removal of invasive plant species and enhancement with native plant species.

Specific enhancement plans for each area are differentiated according to existing topography, location, and hydrology:

- Area A (670 m²): Enhancement is proposed to create a small tree and shrub ecosystem free of invasive species that helps to provide ecosystem connectivity within the regional park. Plant species include a mix of 260 native trees and shrubs, including:
 - black cottonwood (60 trees),
 - chokecherry (40 trees),
 - red elderberry (60 small trees/shrubs),
 - crabapple (40 trees), and
 - willow (60 small trees).

The selected plant species provide fruits and berries as food sources for wildlife, as well as structural diversity for roosting, nesting and denning.

- Area B (12,996 m²): located on the south side of the compensation area, Area B is slightly below Area A in elevation. The intent is to create an open shrub/dune grass ecosystem that provides wildlife habitat, including food sources, nesting, borrowing, foraging and dispersal habitat, and helps to provide connectivity to habitats within the regional park. Species were selected for these objectives and to provide structural diversity include:
 - red elderberry (203 small trees/shrubs),
 - tall Oregon grape (203 plants),
 - coastal strawberry (2000 plants), and
 - dune grass (11,000 plants).

The proposed compensation plan includes 200 trees at a 4:1 replacement ratio to trees removed for the temporary dewatering facilities, to a total of 13,666 native plants. Plant density would be 1 plant/m².

While the compensation area is not designated as ESA, the ecosystem services resulting from the proposed compensation plan will be protected through Metro Vancouver's long term objectives for Iona Beach Regional Park.

In addition to the compensation area proposed within Canfor Point, the applicant commits to restoring and re-vegetating a minimum landscape area of 1,245 m² with native plant species, within and immediately adjacent the project footprint. Landscaping restoration is proposed in three distinct areas: Areas I (360 m²), Area II (210 m²) and Area III (675 m²) (Attachment 6). Landscape restoration in each area would include:

- removal of invasive species while preserving existing native plant species, if possible;
- restoring soils with growing medium and topsoil;
- re-planting with native trees, shrubs and other plant species selected to attract pollinators and wildlife; and,
- providing wood mulch around the planting areas to maintain soil moisture and control re-growth of invasive species.

Planting within each of the three planting areas includes an evenly-distributed mix of small trees, shrubs and plants:

- vine maple (6 trees),
- tall Oregon grape (35 shrubs),
- red-flowering currant (55 shrubs),
- red elderberry (55 small trees/shrubs),
- baldhip rose (145 shrubs),
- common snowberry (130 shrubs),
- red huckleberry (165 shrubs),
- salal (265 plants),
- dwarf Oregon grape (155 plants), and
- sword fern (240 plants).

If approved, the project would result in:

- the development of 13,666 m² of low value ESA on-site;
- landscaping using native plant species for 1,245 m² on-site; and
- the restoration of 13,666 m² of low value habitat area off-site.

The result would be a total of 14,911 m² of enhanced natural area and ESA within Iona Island, which represents a net gain in habitat function and ecosystem services by improving:

- the density and diversity of native plant species;
- the quality of wildlife habitat through focusing on berry and fruit producing vegetation;
- tree canopy cover through planting 200 trees (a ratio of 2:1 for non-by-law sized trees); and,
- connectivity with the contiguous ESA, the Ecological Network and Metro Vancouver's regional park as a result of removing invasive species and enhancing the function of contiguous natural areas.

For details on the proposed compensation and landscape restoration, refer to Development Permit Plans #1 – 5.

Monitoring and Maintenance

To ensure that the proposed enhancements have the best chance of survival and that invasive species are controlled, monitoring and annual reporting by a Qualified Environmental Professional (QEP) will occur for five years following completion of the landscape restoration plan. Reports will be provided to the City.

The applicant has submitted a letter committing to implementing the works described above by 2021, and to complete monitoring and maintenance of the compensation area following completion (Attachment 6). Receipt of the commitment letter is included as a Development Permit Considerations (Attachment 7).

Engineering Comments

A Servicing Agreement will not be required for this development. Utility connections and frontage improvements will be addressed at the time of Building Permit.

Financial Impacts

The application results in an insignificant Operational Budget Impact (OBI) for off-site City infrastructure (such as road works, waterworks, storm sewers, sanitary sewers, street lights, street trees and traffic signals).

Conclusions

The applicant proposes to develop a total of 13,666 m² within an area designated as Environmentally Sensitive Area (ESA) as part of upgrades to the IWWTP. Compensation is proposed through a combination of invasive species removal, off-site restoration of 13,666 m² within the adjacent Metro Vancouver regional park, and landscaping with native species for at least 1,245 m² within the project footprint adjacent to the IWWTP. As the proposed, compensation plan would result in a net gain in ESA function; staff recommend that the Development Permit be endorsed, and issuance by Council be recommended.



Jeanette Elmore
Planner 2

JE:cas

Attachments:

Attachment 1: Location Map

Attachment 2: Context Map

Attachment 3: Data Sheet

Attachment 4: Site Landscape Plan

Attachment 5: Off-site Compensation Plan

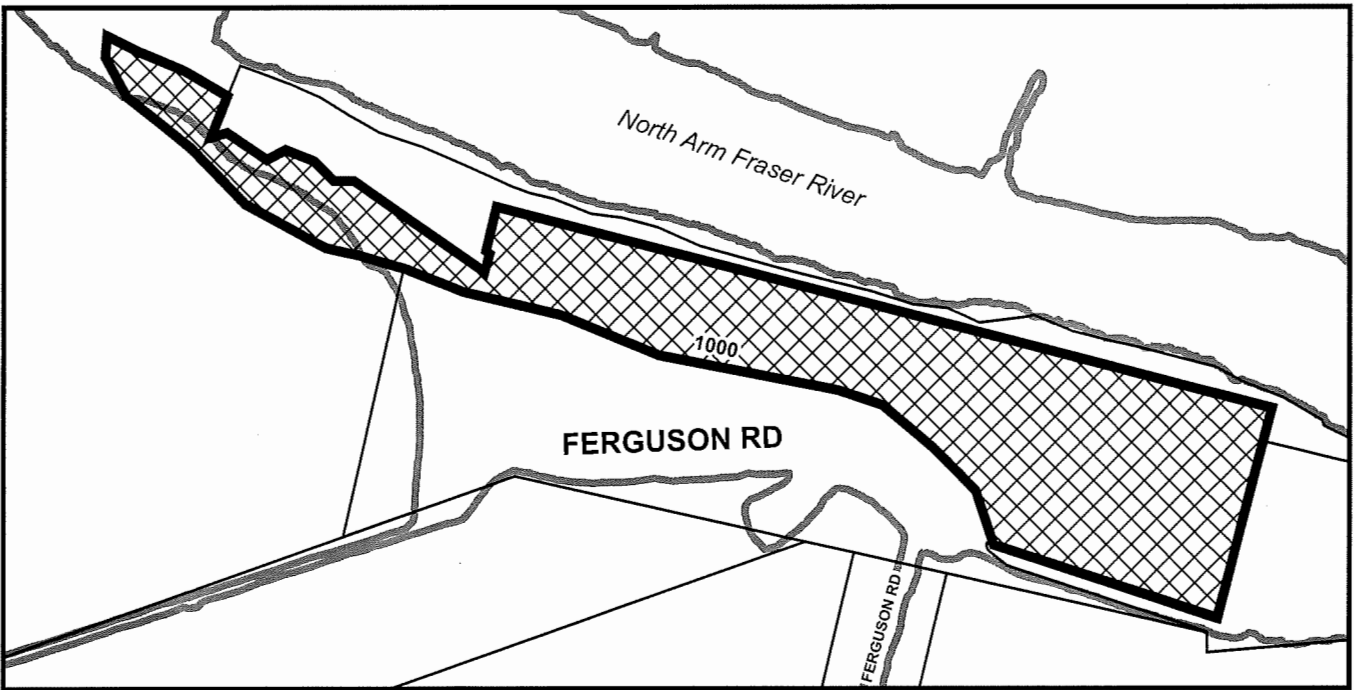
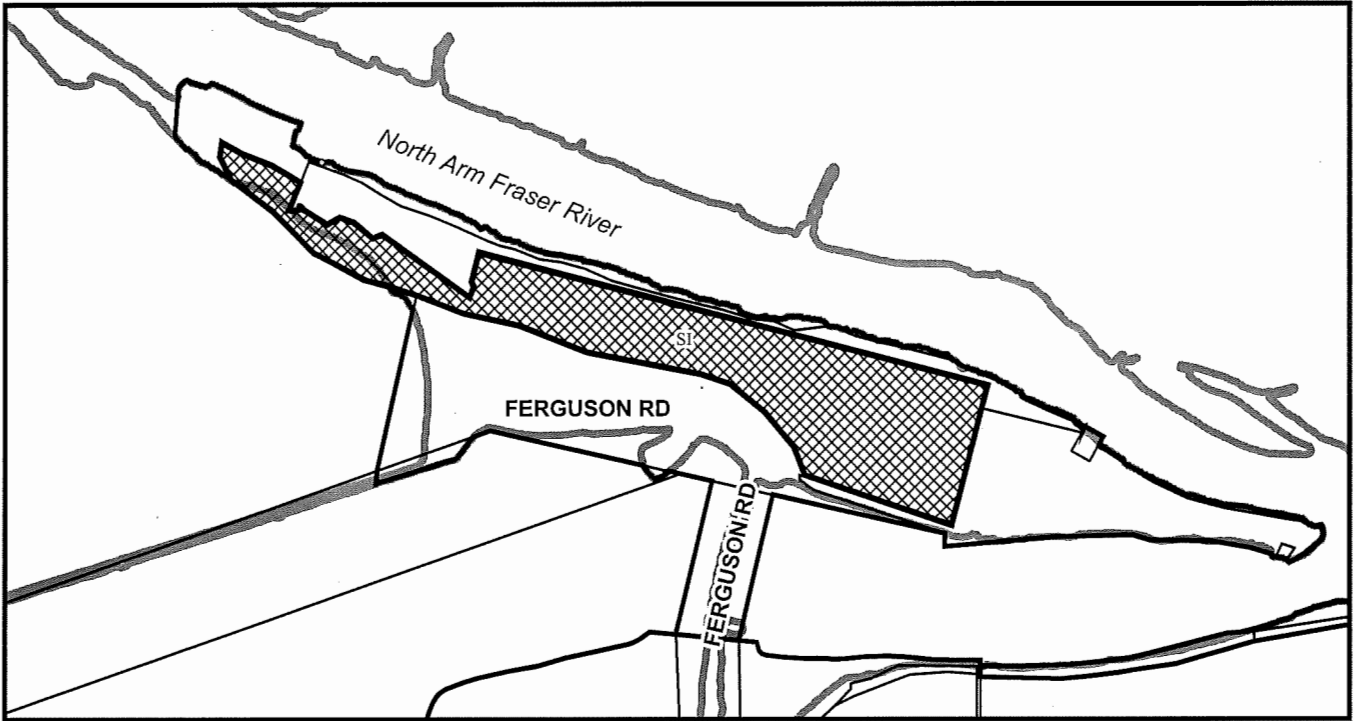
Attachment 6: Landscape Restoration Detail

Attachment 7: Commitment Letter from Metro Vancouver

Attachment 8: Development Permit Considerations



City of
Richmond



DP 18-820582

Original Date: 04/26/18

Revision Date:

Note: Dimensions are in METRES

Context Plan



Project Site

Compensation Areas A & B

 Environmentally Sensitive Areas (ESA)



DP 18-820582

Attachment 3

Address: 1000 Ferguson Road

Greater Vancouver Sewerage and Drainage

Greater Vancouver Sewerage and

Applicant: District

Owner: Drainage District

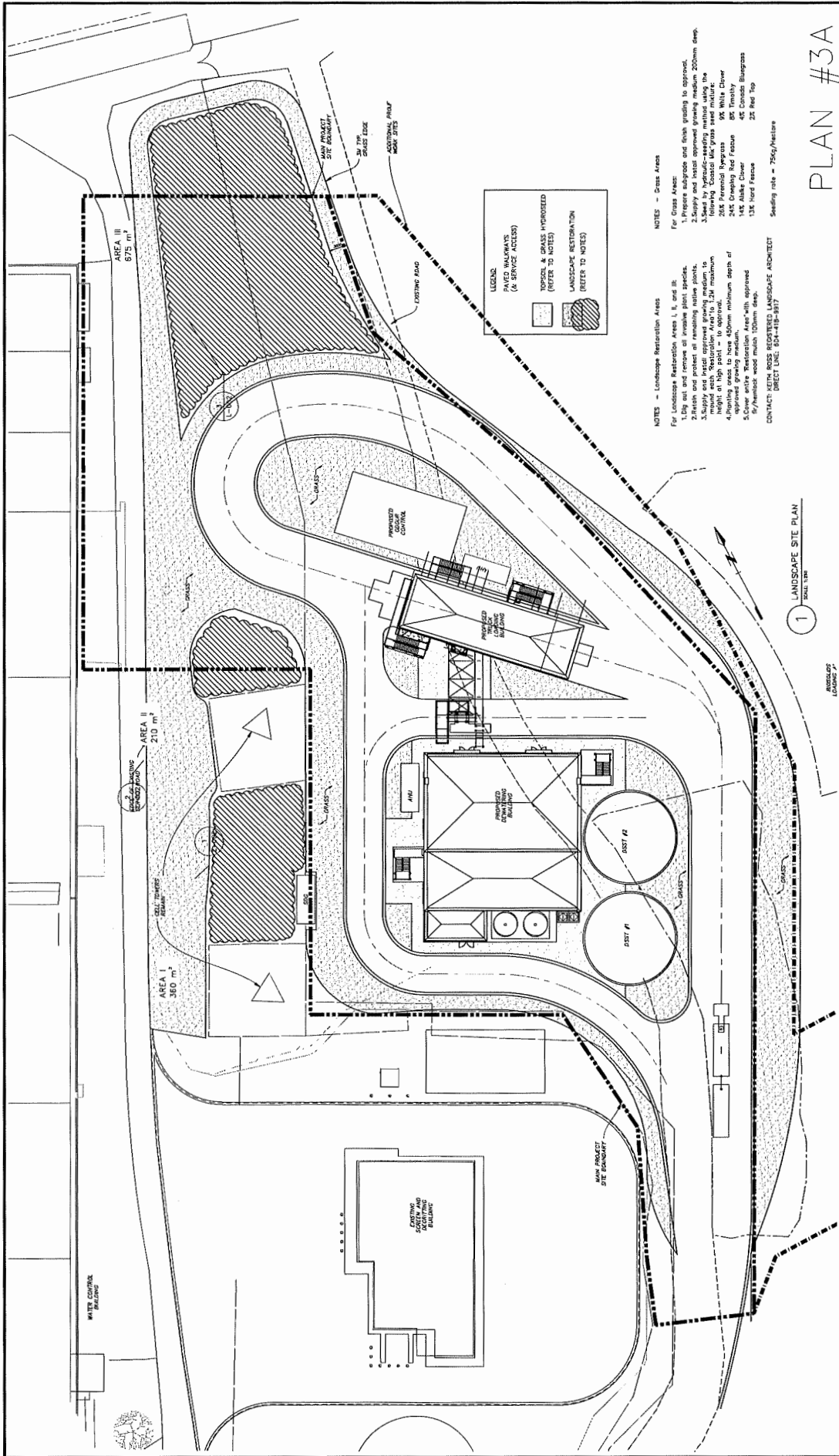
Planning Area(s): Sea Island

Floor Area Gross: N/A

Floor Area Net: N/A

	Existing	Proposed
Site Area:	48.36 Ha	No change
Land Uses:	Waste water treatment facility	No change
OCP Designation:	Conservation	No change
Zoning:	School and Institutional Use (SI)	No change
Number of Units:	0	No change

	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	No maximum	Consistent with zone	none permitted
Lot Coverage:	No maximum	Consistent with zone	none
Setback – Front Yard:	Min. 6.0 m	Consistent with zone	none
Setback – Side Yard (one side):	Min. 3.0 m	Consistent with zone	none
Setback – Rear Yard:	Min. 3.0 m	Consistent with zone	none
Height (m):	Max. 12 m within 10 m of a residential zone, otherwise no minimum	Consistent with zone	none
Lot Size:	No minimum	Consistent with zone	none
Total off-street Spaces:	None	79 existing	none



LEGEND

- WATER PLANTINGS (AS SERVICE ACCESS)
- TREES & SHRUBS HYDROSEED (REFER TO NOTES)
- LANDSCAPE RESTORATION (REFER TO NOTES)

NOTES - Dress Areas

For Grass Areas:

1. Prepare subgrade and finish grading to approval.
2. Supply and install approved seeding medium 200mm deep.
3. Seed with approved mix of grass seed.
4. Apply approved fertilizer according to manufacturer's instructions.
5. Water daily until established.
6. 20% Perennial Ryegrass
7. 50% White Clover
8. 30% Timothy
9. 10% Lucerne
10. 10% Cocksfoot
11. 10% Red Top
12. 10% Ryegrass
13. 10% Hard Fescue
14. 10% Red Fescue
15. 10% Hard Fescue
16. 10% Red Top
17. 10% Ryegrass

Seeding rate = 75kg/ha/ha

NOTES - Landscape Restoration Areas

For Landscape Restoration Areas I, II, and III:

1. Dig out and remove all remaining plant species.
2. Refresh and protect all remaining native plants.
3. Spread each vegetation species in 200mm deep seedbed.
4. Apply approved fertilizer according to manufacturer's instructions.
5. Water daily until established.
6. 20% Perennial Ryegrass
7. 50% White Clover
8. 30% Timothy
9. 10% Lucerne
10. 10% Cocksfoot
11. 10% Red Top
12. 10% Ryegrass
13. 10% Hard Fescue
14. 10% Red Fescue
15. 10% Hard Fescue
16. 10% Red Top
17. 10% Ryegrass

Seeding rate = 75kg/ha/ha

CONTRACT: KEITH MOSE REGISTERED LANDSCAPE ARCHITECT
DIRECT LINE: 804-492-9117

PLAN #3A

PREPARED BY:
AECOM
 4th FLOOR, 8000 HWY. 100
 BURNABY, BC, V4A 4G6
 604-444-6600

SUBURBAN SOLUTIONS ARCHITECTURE LIMITED
 Landscape Planning, Architecture, Building Ecology, Project Management
 8150 Louisa Avenue, Suite 100
 Burnaby, BC V4N 1L5
 Tel: (604) 291-6108 Fax: (604) 291-6103
 Email: urban@solutions.ca
 Website: www.solutions.ca

GREATER VANCOUVER SEWAGE AND DRAINAGE DISTRICT
 AS SHOWN
 BIOGAS/DIGESTING FACILITY
 DISTRICT TITLE

CO LANDSCAPE
 SUPERSEDES PRINTS OF THIS DOCUMENT

Date	Drawn By	Description
A. SEP 18	KRE. MRS. D.Y. LI	RE-COISE FOR DEVELOPMENT PERMIT
A. APR 18	KRE. MRS. D.Y. LI	ISSUE FOR DEVELOPMENT PERMIT
		Final 10% Final Model
		Approved
		Manager

Scale: 1" = 20m
 Bar is 20m On Original Drawing. If Not On This Sheet, Refer to Other Drawings.
 Photographed: [Blank]

Off-Site Compensation Area



2 COMPENSATION AREAS
SCALE NTS

NATIVE SPECIES PLANTING — SITE A:

RAISED, NORTH SITE AREA = 670 SQ. METERS

NATIVE PLANT SPECIES (*with fruits / berries)	COMMON NAME	SIZE	QTY	PLANTING RATIOS (in Site A)
<i>Malus fusca</i> *	Pacific Crab Apple	2 gal	40	15%
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	Black Cottonwood	5 gal	60	23%
<i>Prunus virginiana</i> *	Choke Cherry	2 gal	40	15%
<i>Salix hookeriana</i>	Hooker's Willow	2 gal	60	23%
<i>Sambucus racemosa</i> var. <i>arborescens</i> *	Red Elderberry	2 gal	60	23%

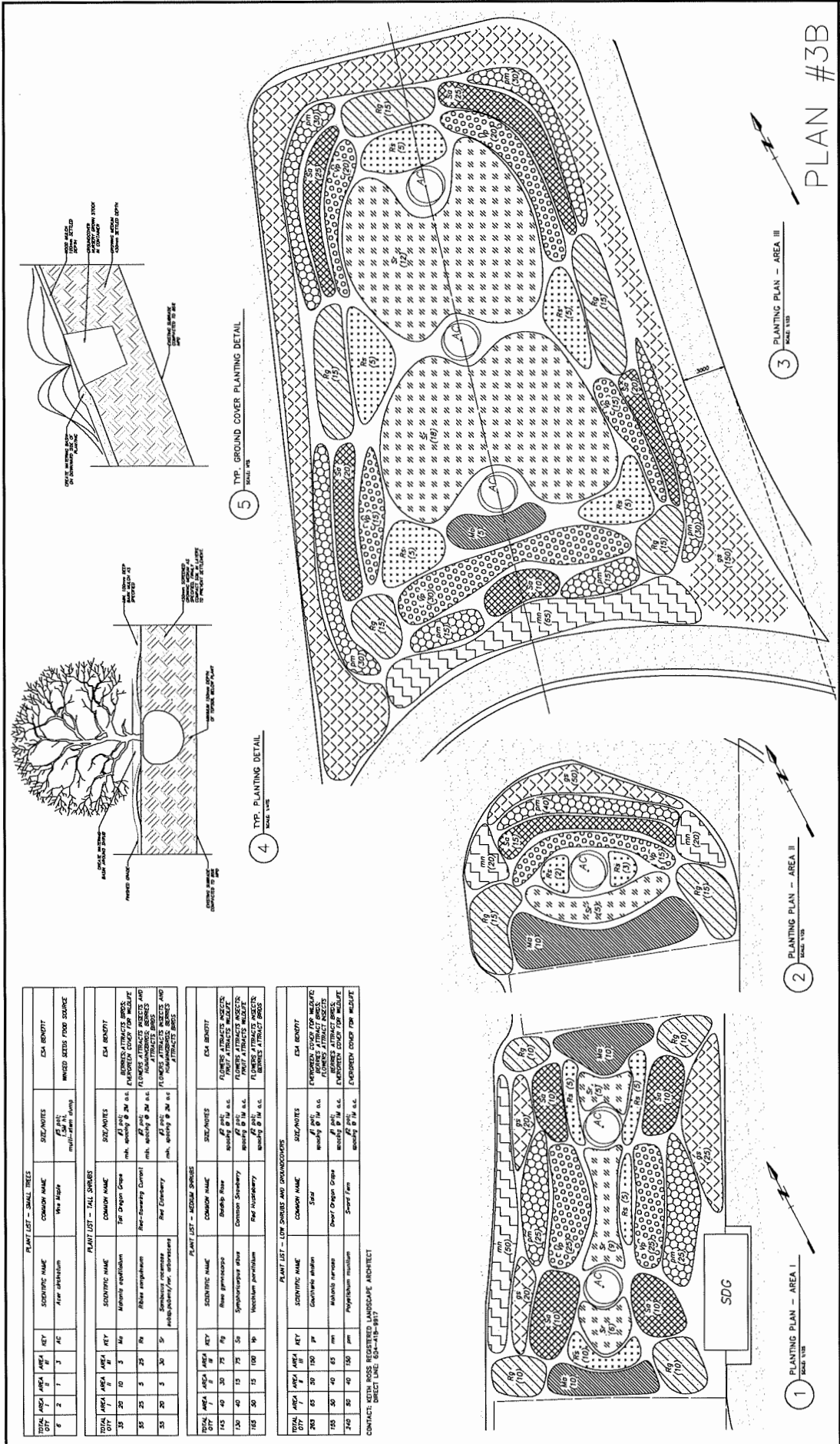
TOTAL = 260 PLANTS

NATIVE SPECIES PLANTING — SITE B:

FLAT, SOUTH SITE AREA = 12,936 SQ. METERS

NATIVE PLANT SPECIES (*with fruits / berries)	COMMON NAME	SIZE	QTY	PLANTING RATIOS (in Site B)
<i>Fragaria chiloensis</i> *	Coastal Strawberry	1.5"	2800	15%
<i>Leymus mollis</i>	Dune Grass	Plugs	11,000	82%
<i>Matricaria oregonensis</i> *	Tall Oregon Grass	2 gal	203	1.5%
<i>Sambucus racemosa</i> var. <i>arborescens</i> *	Red Elderberry	2 gal	203	1.5%

TOTAL = 13,406 PLANTS



PLAN #3B

3 PLANTING PLAN - AREA III
SCALE 1:20

2 PLANTING PLAN - AREA II
SCALE 1:20

1 PLANTING PLAN - AREA I
SCALE 1:20

PLANT LIST - SMALL TREES			
TOTAL AREA	AREA #	SCIENTIFIC NAME	COMMON NAME
1	1	Acacia saligna	Wax Myrtle
2	2	Acacia saligna	Wax Myrtle
3	3	Acacia saligna	Wax Myrtle
4	4	Acacia saligna	Wax Myrtle
5	5	Acacia saligna	Wax Myrtle
6	6	Acacia saligna	Wax Myrtle
7	7	Acacia saligna	Wax Myrtle
8	8	Acacia saligna	Wax Myrtle
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PLANT LIST - MEDIUM TREES			
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PREPARED BY: **AECOM**
 400 FLOOR, 3300 PREDICITION WAY, FORT COLLINS, CO 80504
 970.226.4600

SOLUBAN SOLUTIONS ARCHITECTURE
 Land-use Planning, Architecture, Building Ecology, Project Management
 8188 16th Avenue, Vancouver, BC, Canada, V6N 1Z2
 Phone: 604.273.3333 Fax: 604.273.3334
 Email: info@soluban.com Website: www.soluban.com

DESIGN: [] CHECKED: [] APPROVED: []
 DRAWN: [] DATE: []
 SCALE: []
 SHEET: [] OF []

PROJECT: GREATER VANCOUVER SEWAGE AND DRAINAGE DISTRICT
 FACILITY: BIOSOLIDS DEWATERING FACILITY
 DISTRICT FILE: []
 DOCUMENT CODE: L-002
 PREVIOUS TO: []

CONCEPTUAL PLANTING PLANS

DATE: []

SCALE: []

PROFESSIONAL SEAL: []

*Liquid Waste Services
Project Delivery Division
Tel: 604 451 6011 Fax: 604 436 6714*

August 28, 2018

File: SE-02-01-16006/50

Mr. Wayne Craig, Director of Development
The City of Richmond
Development Applications Division
6911 No. 3 Road
Richmond, BC V6Y 2C1

Dear Mr. Craig:

RE: DP 18-820582 – Letter of Commitment, Iona Island Wastewater Treatment Plant Biosolids Dewatering Facility - Environmental Considerations

The Greater Vancouver Sewerage & Drainage District (GVS&DD) is proposing to construct a new Biosolids Dewatering Facility at its existing Iona Island Wastewater Treatment Plant at 1000 Ferguson Road. To support this work, the GVS&DD has made an application to the City of Richmond for a Development Permit. The Development Permit is for an area of approximately of 13,666 m² on the east side of the wastewater treatment plant, and will include a Dewatering Building, a Truck Loading area, an area for odour control equipment, and a temporary haul road.

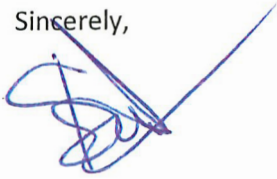
The location of the proposed works is zoned by the City of Richmond as an Environmentally Sensitive Area. An Environmental Assessment has been conducted for the project area and a Compensation Plan has been developed which describes compensation measures used to offset project effects that cannot be mitigated through other means.

Based on the above, and to support the Development Permit process, the GVS&DD is committing to the following actions:

- Implement the site restoration, invasive species management and compensation measures outlined in the final Environmental Assessment Report by December 2021 (within 1 year of completion of the Dewatering Facility);
- Undertake and maintain the landscape installations outlined in the final Landscape Compensation Plan by December 2021; and
- Submit to the City of Richmond for information only, annual monitoring and maintenance reports for 5 years following installation of compensation plantings.

Should you have any questions with respect to this letter, please do not hesitate to contact me.

Sincerely,



Daniel Wee, P. Eng.
Lead Senior Engineer

DW/KKH/js

cc: Kate Ho, MV, LWS Project Delivery
Rick Bitcon, AECOM
Donald Yen, Urban Solutions Architecture Ltd.



Development Permit Considerations

Development Applications Department
6911 No. 3 Road, Richmond, BC V6Y 2C1

Address: 1000 Ferguson Road

File No.: DP 18-820582

Prior to approval of the Development Permit, the developer is required to complete the following:

1. Ministry of Environment (MOE) Certificate of Compliance or alternative approval to proceed granted from MOE regarding potential site contamination issues. This approval is required prior to dedication of land or road to the City if applicable.
2. Receipt of a Letter of Commitment from the Greater Vancouver Sewerage and Drainage District to undertake the landscape restoration works as described in the Iona Island Wastewater Treatment Plant Biosolids Dewatering Facility Expansion Environmental Assessment, dated August 2018.

***Prior to Building Permit Issuance, the developer must complete the following requirements:**

1. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
2. If applicable, payment of latecomer agreement charges associated with eligible latecomer works.
3. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.
All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.
The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.
- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contains prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed _____

Date _____



City of Richmond

Development Permit

No. DP 18-820582

To the Holder: Great Vancouver Sewerage and Drainage District

Property Address: 1000 Ferguson Road

Address: c/o Donald Yen
Urban Solutions Architecture Ltd.
6189 Elm Street, Vancouver, BC V6N 1B2

1. This Development Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Permit applies to and only to those lands shown in cross hatch on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. Subject to Section 692 of the Local Government Act, R.S.B.C.: buildings and structures; off-street parking and loading facilities; roads and parking areas; and landscaping and screening shall be constructed generally in accordance with Plans #1 to #5 attached hereto.
4. Sanitary sewers, water, drainage, highways, street lighting, underground wiring, and sidewalks, shall be provided as required.
5. As a condition of the issuance of this Permit, the applicant will install the works shown on the Landscape Compensation Plan before 2021, and once in place, the applicant will provide landscape monitoring and maintenance for the compensation for 5 years following completion.
6. If the Holder does not commence the construction permitted by this Permit within 36 months of the date of this Permit, this Permit shall lapse and the security shall be returned in full.
7. The land described herein shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.

This Permit is not a Building Permit.

AUTHORIZING RESOLUTION NO.
OF

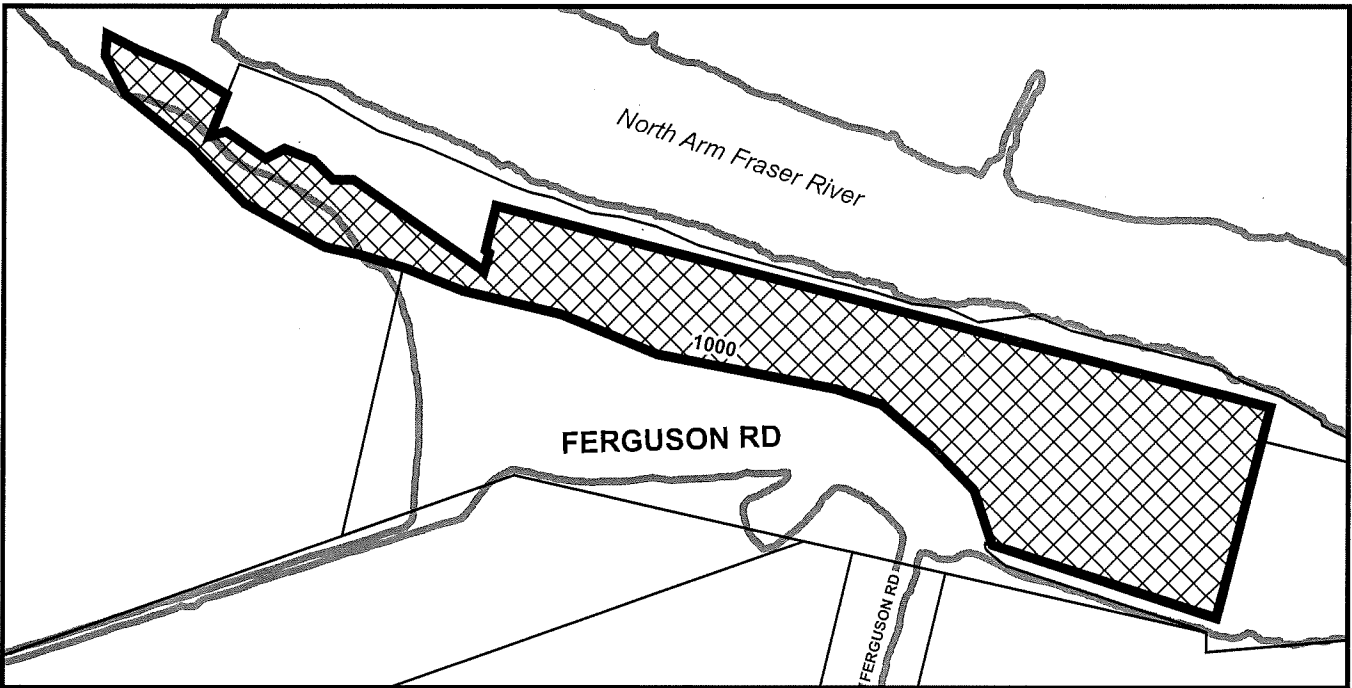
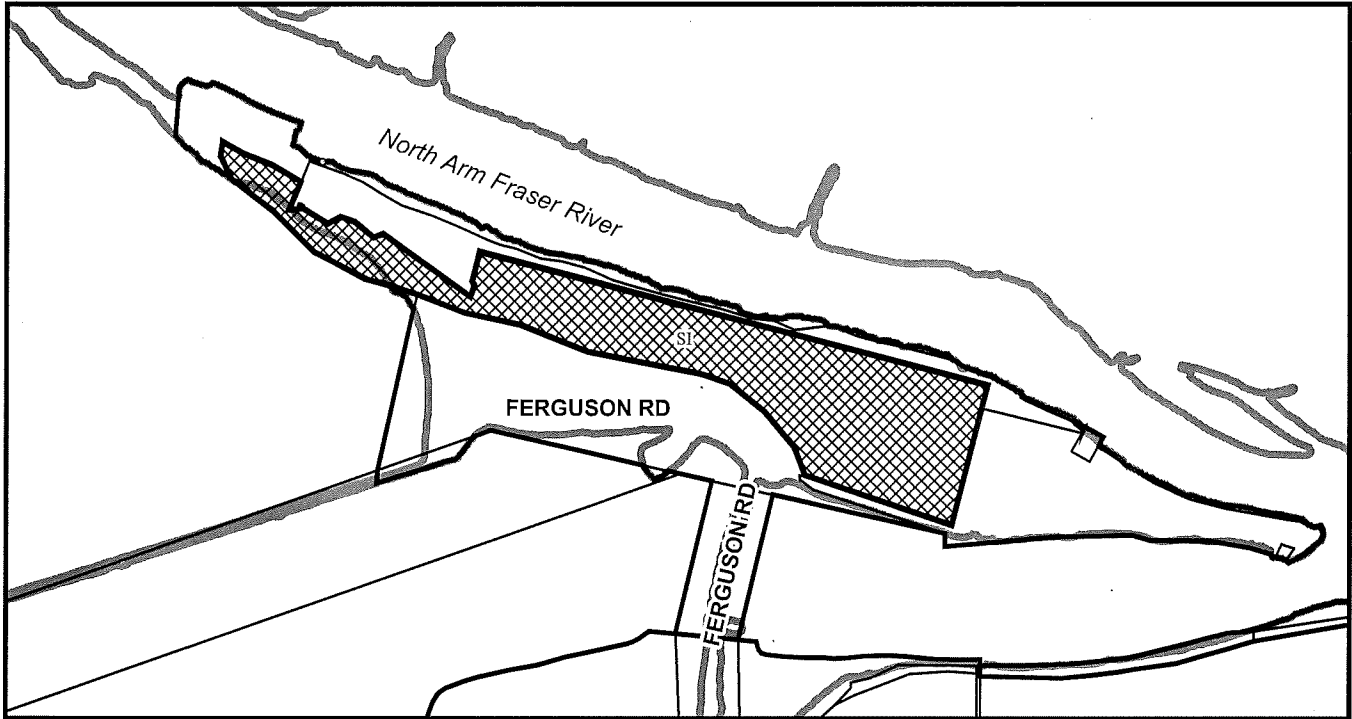
ISSUED BY THE COUNCIL THE DAY

DELIVERED THIS DAY OF

MAYOR



City of Richmond



DP 18-820582
SCHEDULE "A"

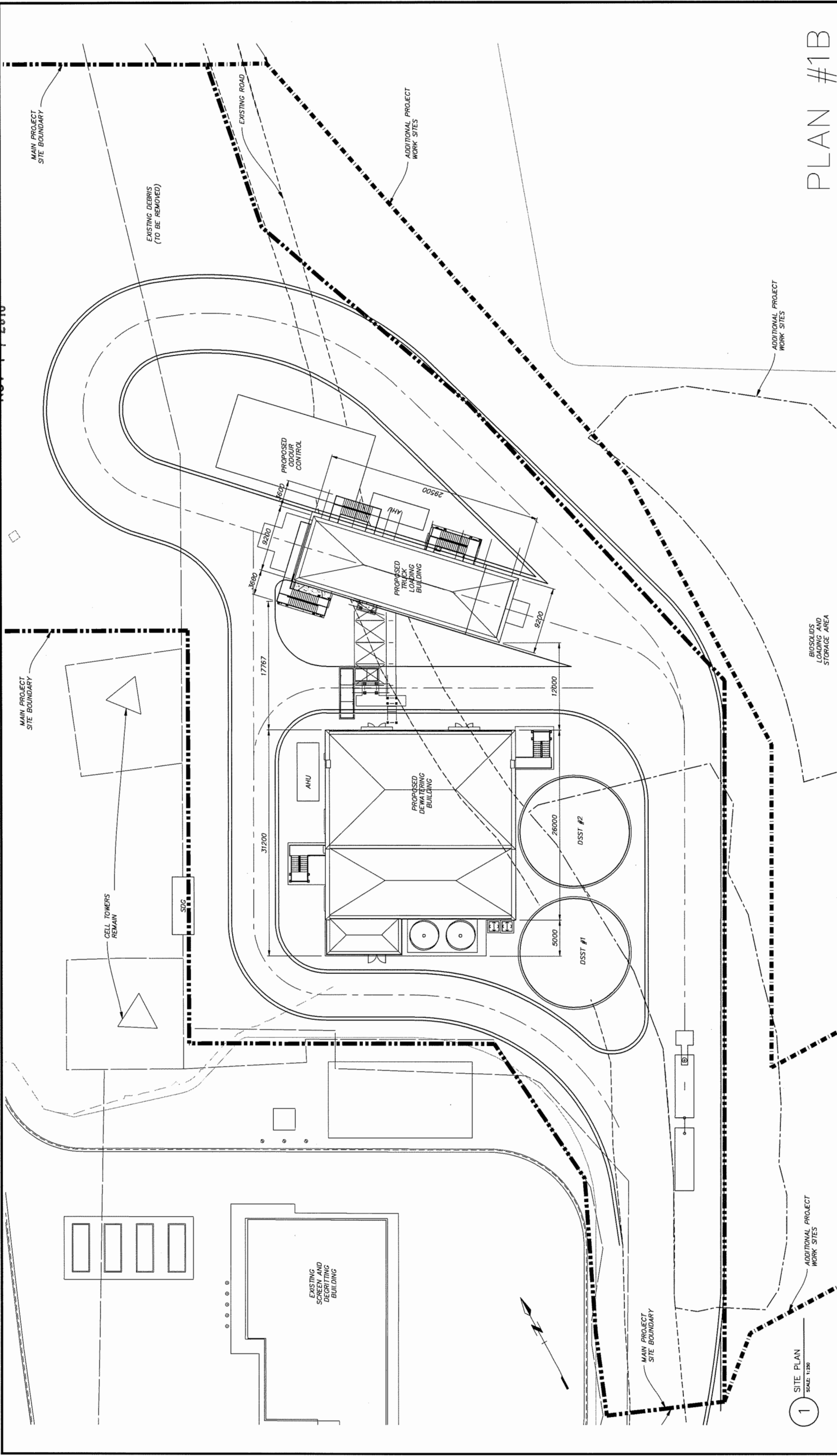
Original Date: 04/26/18

Revision Date:

Note: Dimensions are in METRES

Plan 2

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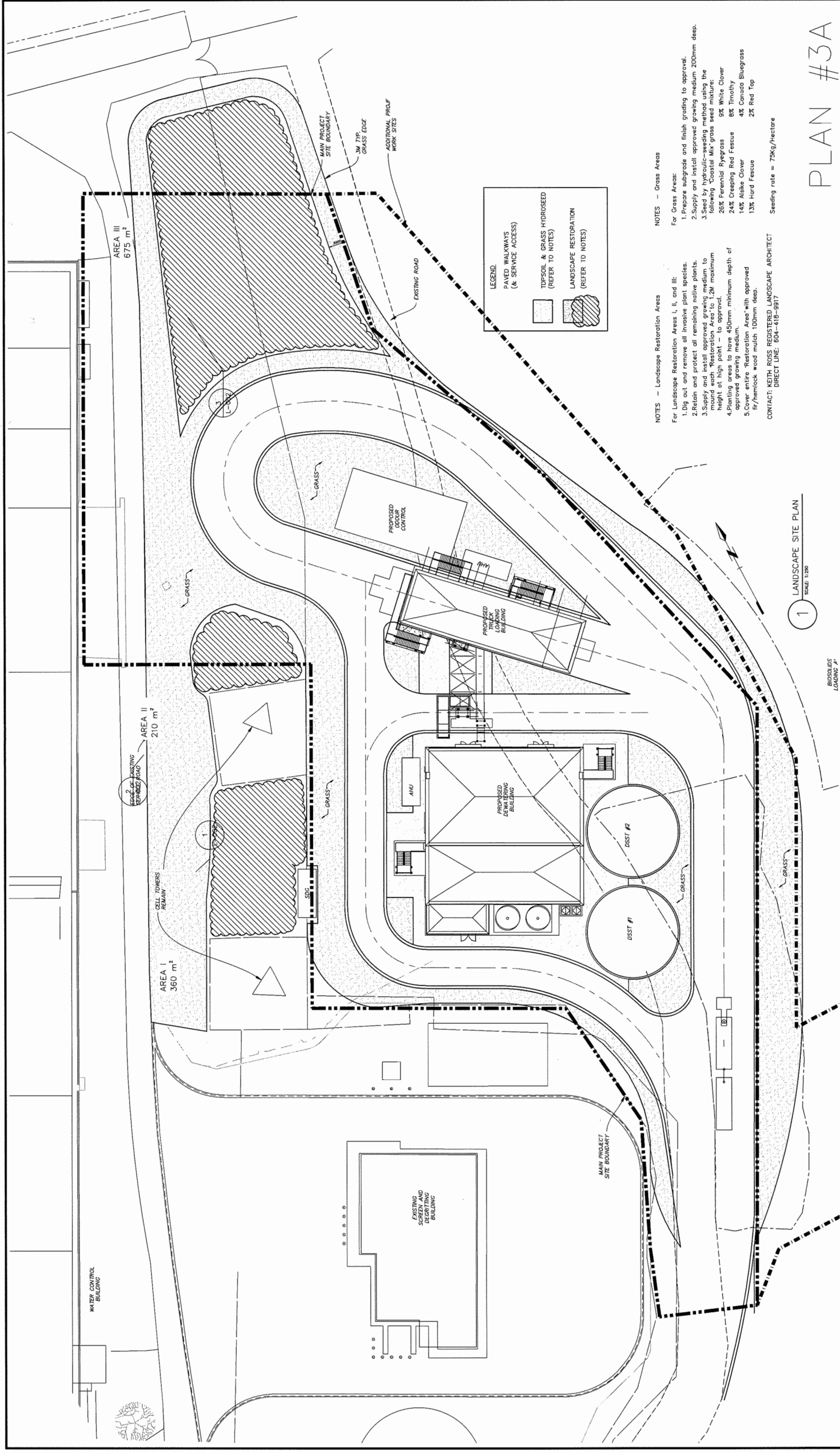


PLAN #1B

1 SITE PLAN
SCALE: 1:200

PREPARED BY: AECOM 4th FLOOR, 3292 PRODUCTION WAY, BURNABY, B.C., V5A 4R4 604-444-6400		URBANSOLUTIONS ARCHITECTURE LIMITED Land-use Planning, Architecture, Building Ecology, Project Management 6188 Elm Street, Vancouver, BC, Canada, V6N 1B2 Ph.: (604) 261-6106 Fax: (604) 261-6103 Email: urbansolutions@urbans.net Website: www.urbansolutionsarch.ca		Professional Seal	
GREATER VANCOUVER SEWAGE AND DRAINAGE DISTRICT IONA ISLAND WWTP BIOSOLIDS DEWATERING FACILITY		Design: DY Drawn: MRM Checked: DY Approved: _____ Manager: _____		SCALE: AS SHOWN DISTRICT FILE: _____ DOCUMENT CODE: A-002	
Issue: _____ Date: _____ Description: _____		RE-ISSUE FOR DEVELOPMENT PERMIT ISSUE FOR DEVELOPMENT PERMIT		SUPERSEDES PRINTS OF THIS DOCUMENT CODE WITH LETTERS PREVIOUS TO _____	

09 18-820582



NOTES - Landscape Restoration Areas

1. Dig out and remove all invasive plant species.
2. Retain and protect all remaining native plants.
3. Supply and install approved growing medium to Restoration Area to 1.2M maximum height at high point - to approval.
4. Planting areas to have 450mm minimum depth of approved growing medium.
5. Cover entire "Restoration Area" with approved fir/hemlock wood mulch 100mm deep.

CONTACT: KEITH ROSS REGISTERED LANDSCAPE ARCHITECT
DIRECT LINE: 604-418-9817

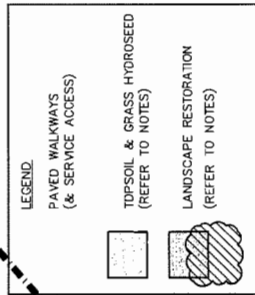
NOTES - Grass Areas

For Grass Areas:

1. Prepare subgrade and finish grading to approval.
2. Supply and install approved growing medium 200mm deep.
3. Seed by hydroculti-seeding method using the following "Coastal Mix" grass seed mixture:

26% Perennial Ryegrass	9% White Clover
24% Creeping Red Fescue	8% Timothy
14% Alsike Clover	4% Canada Bluegrass
13% Hard Fescue	2% Red Top

Seeding rate = 75Kg/Hectare



1 LANDSCAPE SITE PLAN
 SCALE: 1:250

PLAN #3A

PREPARED BY:
AECOM
 4th FLOOR
 3252 PRODUCTION WAY
 BURNABY, B.C., V5A 4R4
 604-444-6400

DESIGNER: KRR
DRAWN: MRM
CHECKED: DY
APPROVED:
MANAGER:

URBAN SOLUTIONS ARCHITECTURE LIMITED
 Land-use Planning Architecture Building Ecology Project Management
 6189 Elm Street, Vancouver, BC, Canada, V6N 1B2
 Ph: (604) 261-6106 Fax: (604) 261-6103
 Email: urban@solutions@telus.net
 Website: www.urbansolutionsarch.ca

GREATER VANCOUVER SEWAGE AND DRAINAGE DISTRICT
 IONA ISLAND WWTP
 BIOSOLIDS DEWATERING FACILITY

SCALE: AS SHOWN
DISTRICT FILE:

CO LANDSC

Professional Seal

ISSUE TRACKING

Issue	Date	Drawn	Drawn	Checked	App'd	Description
A	SEP.18	KRR	MRM	DY	TJ	RE-ISSUE FOR DEVELOPMENT PERMIT
-	APR.18	KRR	MRM	DY	TJ	ISSUE FOR DEVELOPMENT PERMIT

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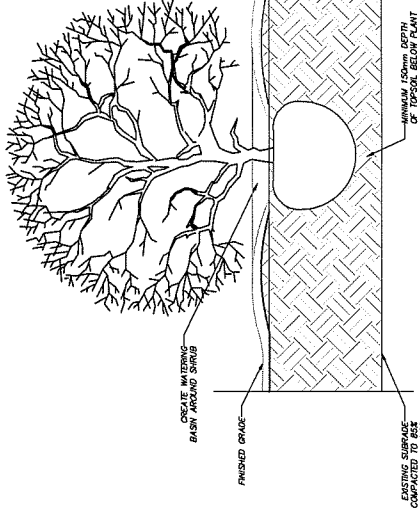
PLANT LIST - SMALL TREES								
TOTAL QTY	AREA I	AREA II	AREA III	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE/NOTES	ESA BENEFIT
6	2	1	3	AC	<i>Acer glabrum</i>	Vine Maple	#1 pot; 1.5M HT. multi-stem clump	WINGED SEEDS FOOD SOURCE

PLANT LIST - TALL SHRUBS								
TOTAL QTY	AREA I	AREA II	AREA III	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE/NOTES	ESA BENEFIT
35	20	10	5	Mo	<i>Mohelia aquifolium</i>	Tall Oregon Grape	#1 pot; min. spacing @ 2M o.c.	BERRIES ATTRACTS BIRDS; EVERGREEN COVER FOR WILDLIFE
55	25	5	25	Re	<i>Ribes sanguineum</i>	Red-flowering Currant	#2 pot; min. spacing @ 2M o.c.	FLOWERS ATTRACTS INSECTS AND HUMMINGBIRDS; BERRIES ATTRACTS BIRDS
55	20	5	30	Sr	<i>Sambucus racemosa</i> subsp. <i>rac.</i> <i>ambrosioides</i>	Red Elderberry	#1 pot; min. spacing @ 2M o.c.	FLOWERS ATTRACTS INSECTS AND HUMMINGBIRDS; BERRIES ATTRACTS BIRDS

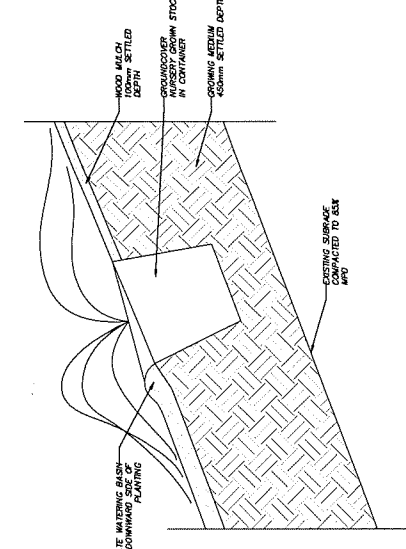
PLANT LIST - MEDIUM SHRUBS								
TOTAL QTY	AREA I	AREA II	AREA III	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE/NOTES	ESA BENEFIT
145	40	30	75	Rg	<i>Rosa gymnocarpa</i>	Baldhip Rose	#2 pot; spacing @ 1M o.c.	FLOWERS ATTRACTS INSECTS; FRUIT ATTRACTS WILDLIFE
130	40	15	75	Sa	<i>Symphoricarpos albus</i>	Common Snowberry	#2 pot; spacing @ 1M o.c.	FLOWERS ATTRACTS WILDLIFE
165	50	15	100	Vp	<i>Vaccinium parvifolium</i>	Red Huckleberry	#2 pot; spacing @ 1M o.c.	FLOWERS ATTRACTS INSECTS; BERRIES ATTRACT BIRDS

PLANT LIST - LOW SHRUBS AND GROUNDCOVERS								
TOTAL QTY	AREA I	AREA II	AREA III	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE/NOTES	ESA BENEFIT
265	65	50	150	gs	<i>Gaultheria shallon</i>	Saleil	#1 pot; spacing @ 1M o.c.	EVERGREEN COVER FOR WILDLIFE; BERRIES ATTRACT BIRDS
155	50	40	65	mn	<i>Mehonia nervosa</i>	Dwarf Oregon Grape	#1 pot; spacing @ 1M o.c.	BERRIES ATTRACT BIRDS; EVERGREEN COVER FOR WILDLIFE
240	50	40	150	pm	<i>Polytaichum munifolium</i>	Sword Fern	#2 pot; spacing @ 1M o.c.	EVERGREEN COVER FOR WILDLIFE

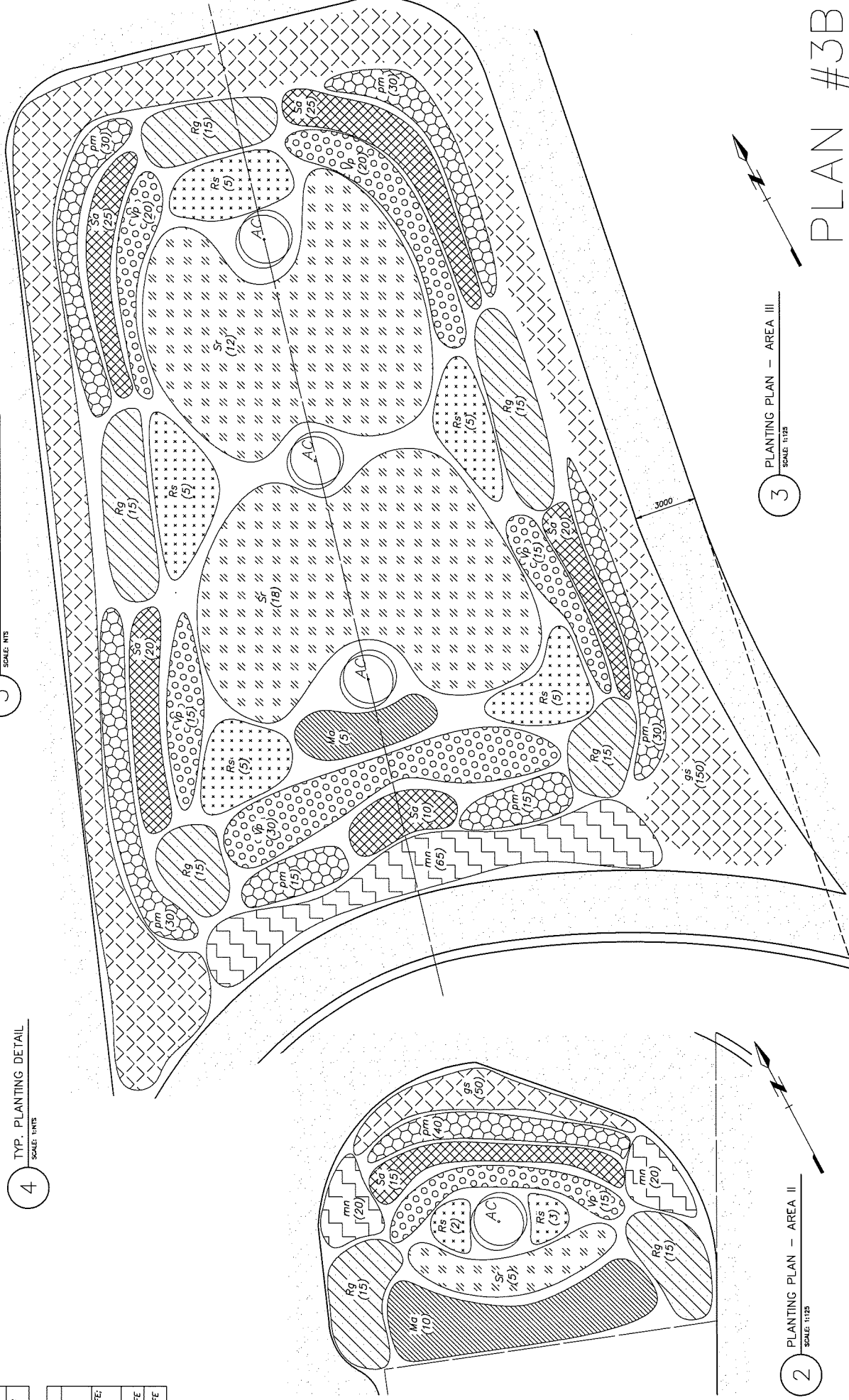
CONTACT: KEITH ROSS REGISTERED LANDSCAPE ARCHITECT
DIRECT LINE: 604-418-9817



4 TYP. PLANTING DETAIL
SCALE: 1:125



5 TYP. GROUND COVER PLANTING DETAIL
SCALE: NTS



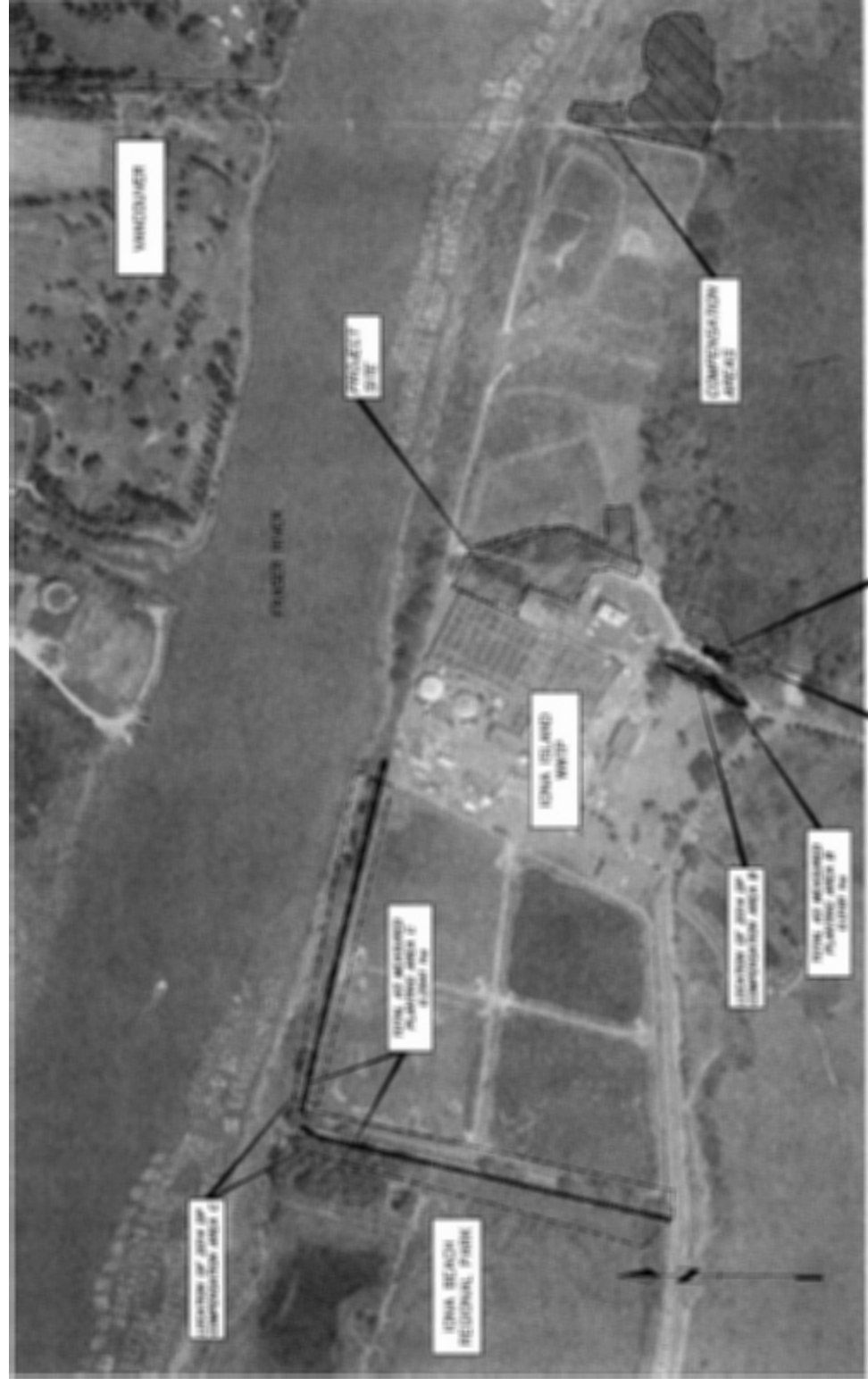
1 PLANTING PLAN - AREA I
SCALE: 1:125

2 PLANTING PLAN - AREA II
SCALE: 1:125

3 PLANTING PLAN - AREA III
SCALE: 1:125

PLAN #3B

<p>PREPARED BY:</p> <p>AECOM</p> <p>4th FLOOR, 3292 PRODUCTION WAY, BURNABY, B.C., V5A 4R4 604-444-6400</p>		<p>URBAN SOLUTIONS ARCHITECTURE LIMITED</p> <p>Land-use Planning Architecture Building Ecology Project Management 6189 Elm Street, Vancouver, BC, Canada, V6N 1B2 Ph: (604) 281-8105 Fax: (604) 281-6103 Website: www.urban-solutions.ca</p>		<p>Professional Seal</p>	
<p>DESIGN: KRR</p> <p>DRAWN: MRM</p> <p>CHECKED: DJ</p> <p>APPROVED: [Signature]</p> <p>MANAGER: [Signature]</p>		<p>SCALE: AS SHOWN</p> <p>DISTRICT FILE: [Blank]</p> <p>DOCUMENT CODE: L-002</p>		<p>GREATHER VANCOUVER SEWAGE AND DRAINAGE DISTRICT</p> <p>IONA ISLAND WWTP</p> <p>BIOSSOLDS DEWATERING FACILITY</p> <p>CONCEPTUAL PLANTING PLANS</p>	
<p>ISSUE: A SEP 18 KRR MRM DJ TJ RE-ISSUE FOR DEVELOPMENT PERMIT</p> <p>ISSUE: B APR 18 KRR MRM DJ TJ RE-ISSUE FOR DEVELOPMENT PERMIT</p> <p>ISSUE: C [Blank] [Blank] [Blank] [Blank] Description App'd</p>					
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ESA COMPENSATION SUMMARY

(Refer to Environmental Assessment Report - AECOM 2018)

- Project Site Area in ESA = 13,666 sq. meters (1.37 ha)
- Compensation Ratio @ 1 : 1 = 13,666 sq. meters (1.37 ha) Compensation Area required
- Existing trees to be removed on Project site = 100 trees (young Eastern Cottonwoods - less than 20cm dbh)
- Replacement trees @ 2 : 1 ratio = 200 Replacement Trees required

Proposed Compensation Sites for habitat restoration / native species planting at Confor Point park site in Metro Vancouver Iona Beach Regional Park.

- Site A (raised mound shape, northern site) = 670 sq. meters (0.07 ha)
- Site B (flat topography, southern site) = 12,966 sq. meters (1.3 ha)
- TOTAL COMPENSATION AREA = 13,666 sq. meters (1.37 ha)
- TOTAL RESTORATION PLANTING = 13,666 Plants
- Total number of Trees = 200 trees @ 3.0 m o.c. minimum spacing
- Total number of Shrubs, Grasses, and Groundcovers = 13,466 plants @ 1 plant per sq. meter

LANDSCAPE PRESCRIPTION

- INVASIVE SPECIES REMOVAL:**
- Remove all invasive plants and their rootballs by machine excavator
 - Remove top 30cm of seed-laden soil by machine excavator
 - Include blinding and trucking of removed materials off site to green waste facility
 - Use of best practices containment and disposal techniques for removed materials
- SITE PREPARATION:**
- Exposed sand on north Site A to be regraded to maintain a mound shape.
 - South Site B to remain as flat topography.
 - Shape and finish grading on both sites to approval as coastal sand dune zone.
- NATIVE SPECIES PLANTING:**
- All trees, shrubs, grasses, and groundcovers to be native species.
 - Diversity of native plantings includes fruiting and berries bearing plants.

MONITORING AND MAINTENANCE

- 5 YEAR MONITORING AND MAINTENANCE PROGRAM (OMP)
- SITE VISITS BY OEP AT YEAR 1, 2, 3 AND 5 WITH ANNUAL REPORT TO MV PARKS AND CITY OF RICHMOND
- 80% SURVIVAL RATE
- ANNUAL WEEDING OF INVASIVE SPECIES
- ANNUAL REPLACEMENT OF DEAD PLANTS

CONTACT: KEITH ROSS REGISTERED LANDSCAPE ARCHITECT
DIRECT LINE: 604-418-9917

PREPARED BY:

4th FLOOR
3292 PRODUCTION WAY,
BURNABY, B.C., V5A 4R4
604-444-6400

U R B A N S O L U T I O N S
ARCHITECTURE LIMITED

Land-use Planning Architecture Building Ecology Project Management
6189 Elm Street, Vancouver, BC, Canada, V6M 1B2
PH: (604) 261-6106 Fax: (604) 261-6103
Email: urbansolutions@urbans.net
Website: www.urbansolutionsarch.ca

Professional Seal



2 COMPENSATION AREAS

SCALE 1:500

NATIVE SPECIES PLANTING - SITE A:

RAISED, NORTH SITE AREA = 670 SQ. METERS

NATIVE PLANT SPECIES (With fruits / berries)	COMMON NAME	SIZE	QTY	PLANTING RATIOS (in Site A)
<i>Malus fusca</i> *	Pacific Crab Apple	2 gal	40	15%
<i>Populus balsamifera ssp. trichocarpa</i> *	Black Cottonwood	5 gal	60	23%
<i>Prunus virginiana</i> *	Choke Cherry	2 gal	40	15%
<i>Salix hookeriana</i>	Hooker's Willow	2 gal	60	23%
<i>Sambucus racemosa</i> var. <i>auriculata</i> *	Red Elderberry	2 gal	60	23%
TOTAL = 260 PLANTS				

NATIVE SPECIES PLANTING - SITE B:

FLAT, SOUTH SITE AREA = 12,966 SQ. METERS

NATIVE PLANT SPECIES (With fruits / berries)	COMMON NAME	SIZE	QTY	PLANTING RATIOS (in Site B)
<i>Fragaria chiloensis</i> *	Coastal Strawberry	3.5"	2000	15%
<i>Leymus mollis</i>	Dune Grass	Plugs	11,000	82%
<i>Mahonia aquifolium</i> *	Tall Oregon Grape	2 gal	203	1.5%
<i>Sambucus racemosa</i> var. <i>auriculata</i> *	Red Elderberry	2 gal	203	1.5%
TOTAL = 13,406 PLANTS				

TOTAL = 260 PLANTS

PLAN #4

Design: KRR	SCALE: AS SHOWN
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Checked: DJ	
Approved: _____	
Manager: _____	
Issue: _____	DOCUMENT CODE: L-003
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Supersedes: _____	SUPERSEDES PRINTS OF THIS DOCUMENT CODE WITH LETTERS PREVIOUS TO _____