Rules of Engagement

We're very glad you've taken the time to join us and to engage on important issues for your community.

Around the room you'll find lots of information and friendly and well-informed Metro Vancouver staff who are here to speak with you and answer your questions.

We are committed to listening carefully, engaging constructively, and addressing concerns you may have as fully as we can.

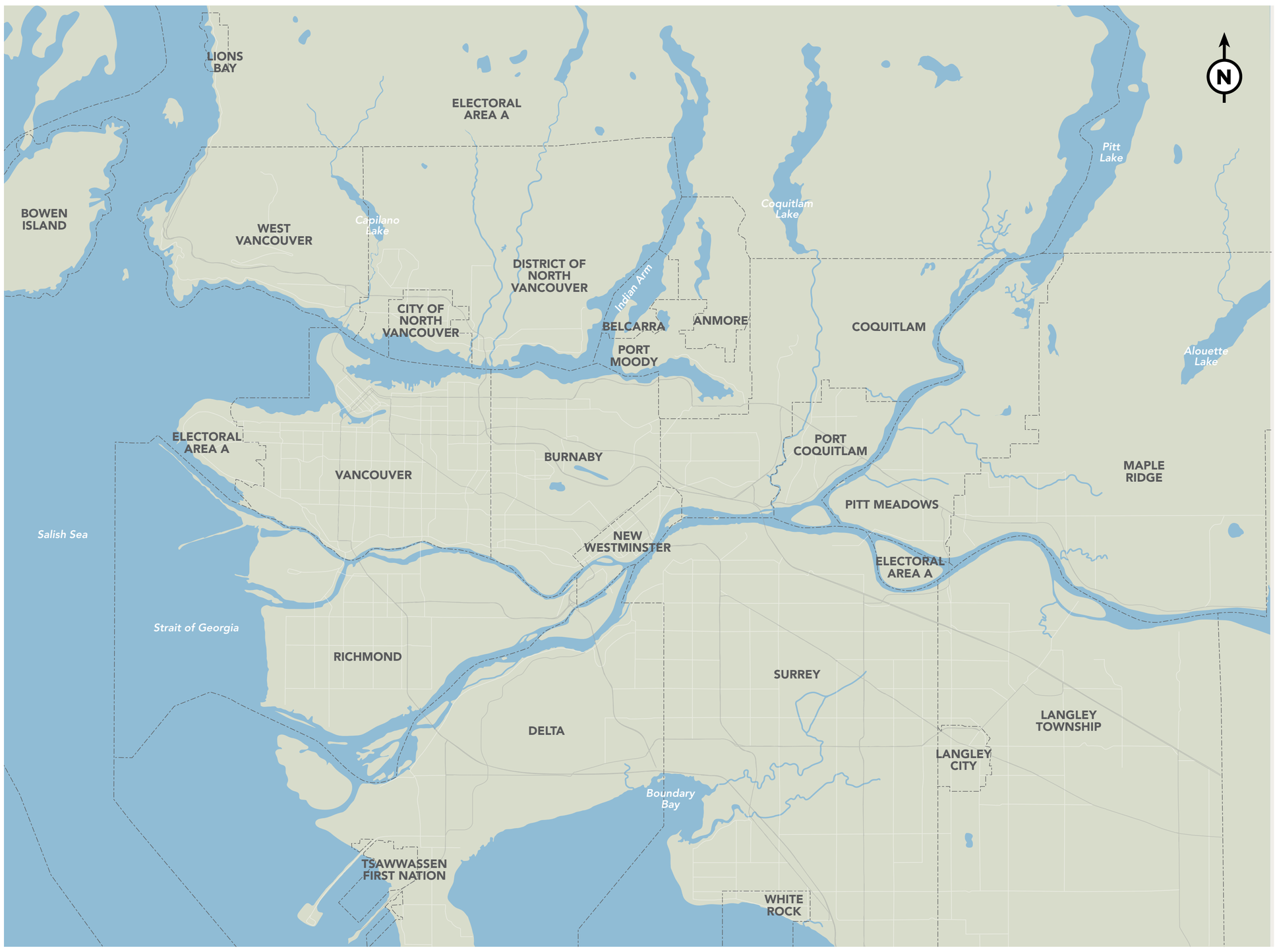
There will be zero tolerance for any intimidating, confrontational, or discriminatory language or behaviour at this event.

Thank you.

About Metro Vancouver

Metro Vancouver is a diverse organization that plans for and delivers regional utility services, including water, sewers and wastewater treatment, and solid waste management.

Metro Vancouver also regulates air quality, plans for urban growth, manages a regional parks system, provides affordable housing, and serves as a regional federation. The organization is a federation of 21 municipalities, one electoral area, and one treaty First Nation located in the region of the same name. The organization is governed by a Board of Directors of elected officials from each member jurisdiction.



Mission

Metro Vancouver's mission is framed around three broad roles:

Serve as a Regional Federation

Serve as the main political forum for discussion of significant community issues at the regional level and facilitate the collaboration of members in delivering the services best provided at the regional level.

Deliver Core Services

Provide regional utility services related to drinking water, liquid waste, and solid waste to members. Provide regional services, including parks and affordable housing, directly to residents and act as the local government for Electoral Area A.

Plan for the Region

Carry out planning and regulatory responsibilities related to the three utility services as well as air quality, climate action, regional planning, regional parks, Electoral Area A, affordable housing, labour relations, regional economic prosperity, and regional emergency management.

About the Current Iona Island Wastewater Treatment Plant Projects

The Iona Island Wastewater Treatment Plant is being upgraded to ensure continued protection of public health and the environment in a growing region.

Metro Vancouver wants to ensure that by upgrading the wastewater treatment plant, we are making a positive contribution to the health and well-being of people and the environment. A number of ecological restoration projects are planned in coordination with the plant upgrades.

The current plant services about 750,000 residents in the Vancouver Sewerage Area, processes 40% of the region's wastewater, and treats more than triple its original capacity. Opened in 1963, the existing treatment facility is:

- Reaching the end of its service life
- One of the last plants on the west coast of North America to provide only primary level wastewater treatment
- Highly vulnerable to both earthquakes and sea level rise

Project Goals

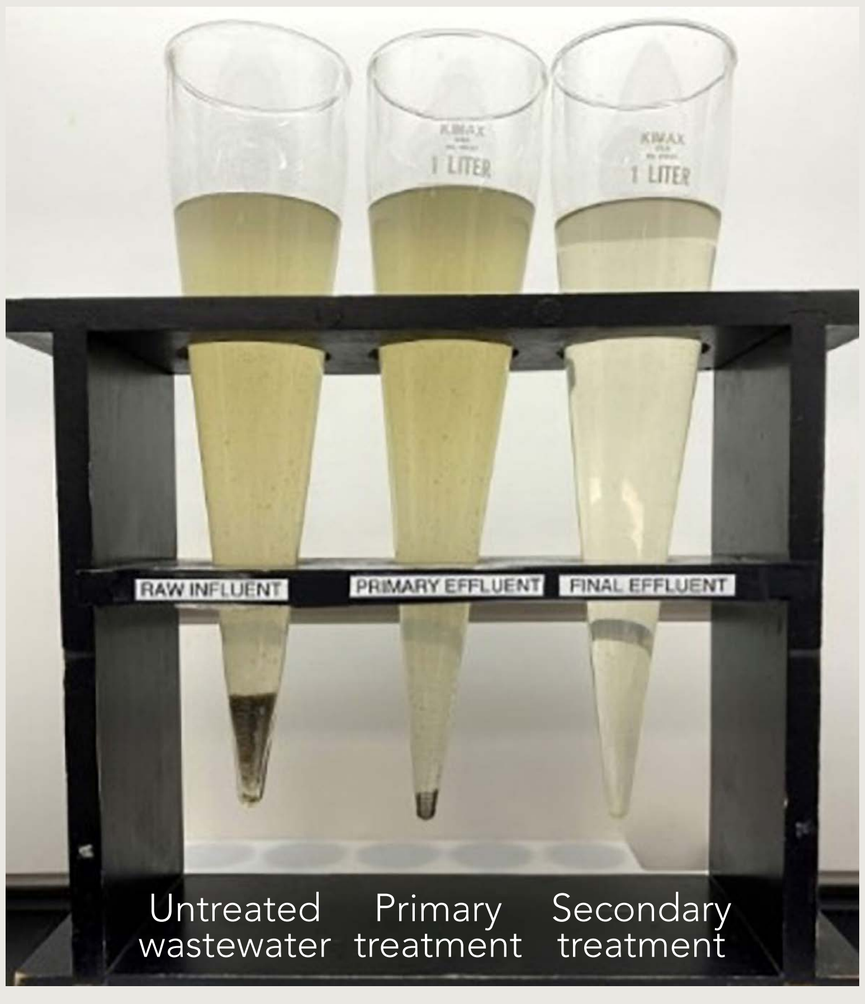
- Improve the level of treatment from primary to tertiary to protect water quality and the marine environment
- Recover sustainable energy and resources from wastewater
- Withstand earthquakes and sea level rise
- Integrate with Iona Beach Regional Park and the surrounding environment
- Restore estuary health and fish habitat, protect bird habitat, and enhance terrestrial and freshwater ecosystems
- Minimize odours
- Connect people to nature
- Integrate xʷməθkʷəy̓əm (Musqueam) interests

Improving Wastewater Treatment Levels

To ensure the health of the approximately 750,000 residents who rely on this service today — and the estimated 950,000 people anticipated to be served by the plant in 2051 — a new secondary treatment plant will replace the current primary facility. This advanced plant will provide tertiary treatment to significantly improve the treated wastewater quality being discharged to the Salish Sea. The new facility will not only meet future population demands, but will comply with national regulations that help protect our waters.

Regulatory Requirements

Metro Vancouver's 2011 Liquid Waste Management Plan (approved by the provincial Minister of Environment), and federal Wastewater Systems Effluent Regulation, legislated in 2012, require that the plant be upgraded to secondary treatment no later than December 31, 2030.



Wastewater Treatment Process

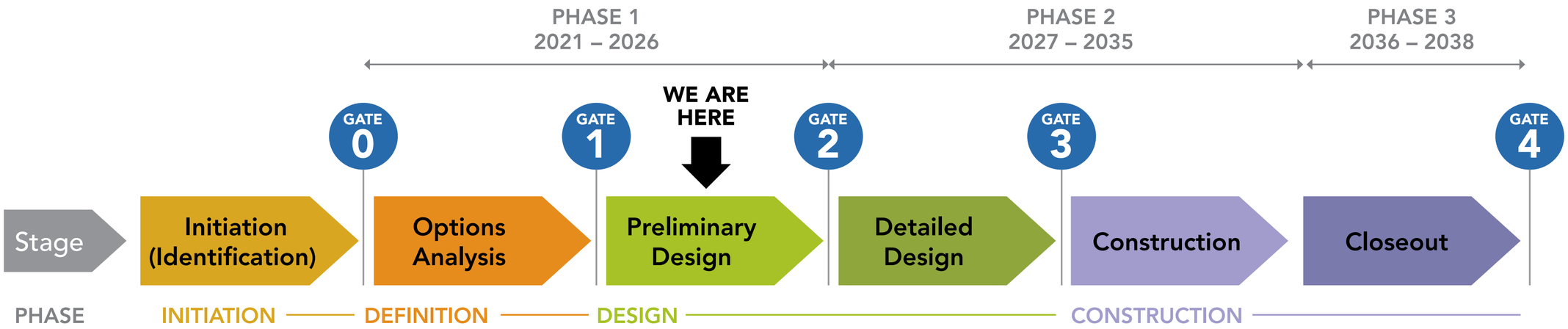
Wastewater treatment is the process of removing contaminants and pollutants from wastewater, ensuring it is safe for release into the environment. This helps to mitigate environmental and public health risks associated with untreated wastewater.

Wastewater treatment plants can provide primary, secondary, and tertiary treatment services. Currently the Iona Island Wastewater Treatment Plant provides primary treatment.

- **Primary treatment** typically removes around 30-40% of pollutants from wastewater.
- **Secondary treatment** is more effective and can remove up to 85-90% of pollutants.
- **Tertiary treatment** can achieve a much higher level of pollutant removal, often exceeding 90%.

Conceptual Design

The Iona Projects are currently in preliminary design (Phase 1). Early works are underway on site to prepare for construction. Other work taking place includes preliminary planning, estimated scheduling, and cost and risk assessments.



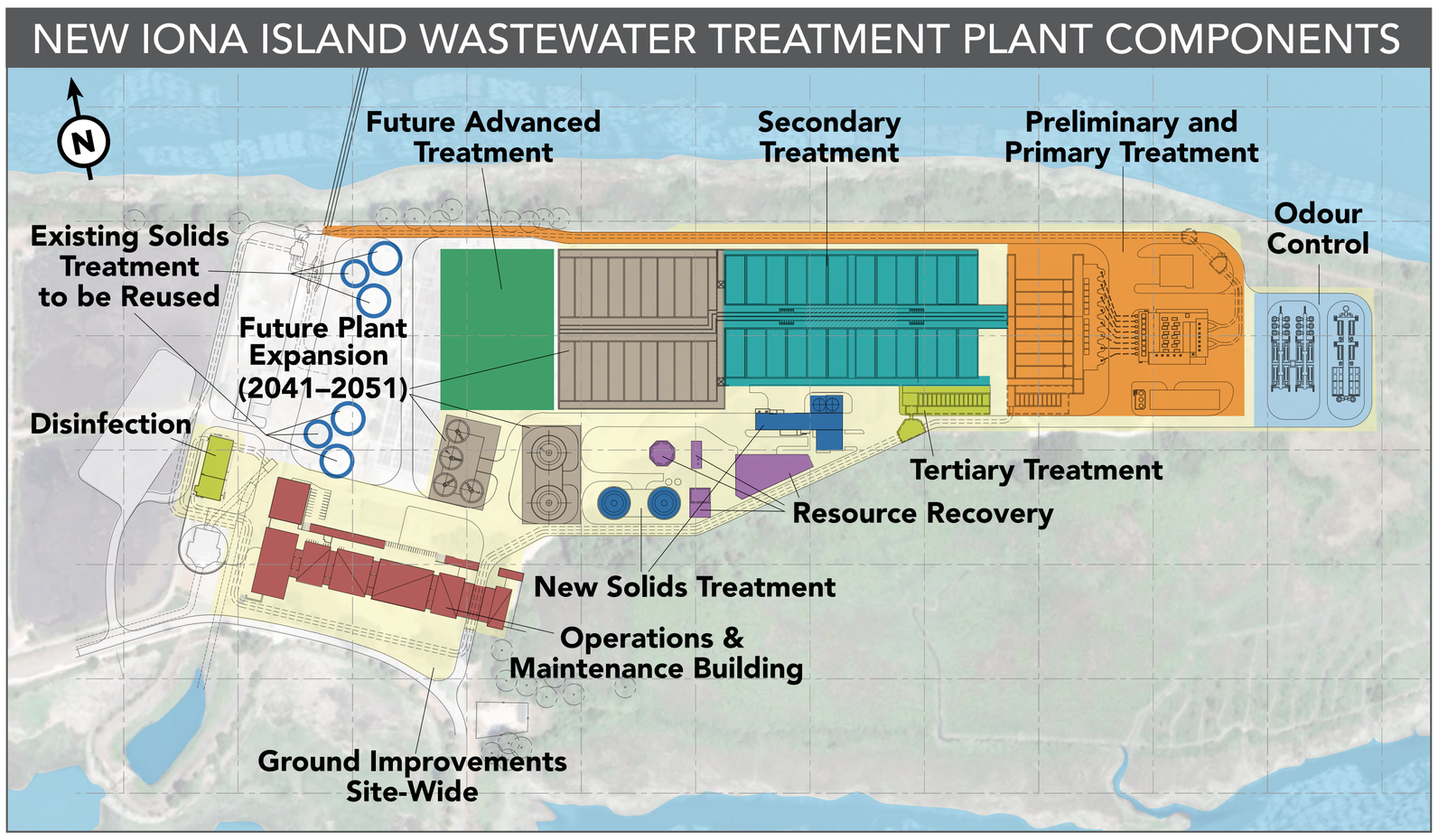
Implementing upgrades to the plant as required by law provides Metro Vancouver with an opportunity to implement one of Canada's most dynamic and transformative urban sustainability projects.

Key Components and Features of the New Plant

Early and enabling works are currently underway to prepare for project construction. In addition to the components shown on the future site map, the operations and maintenance building will include a regional laboratory and welcome centre.

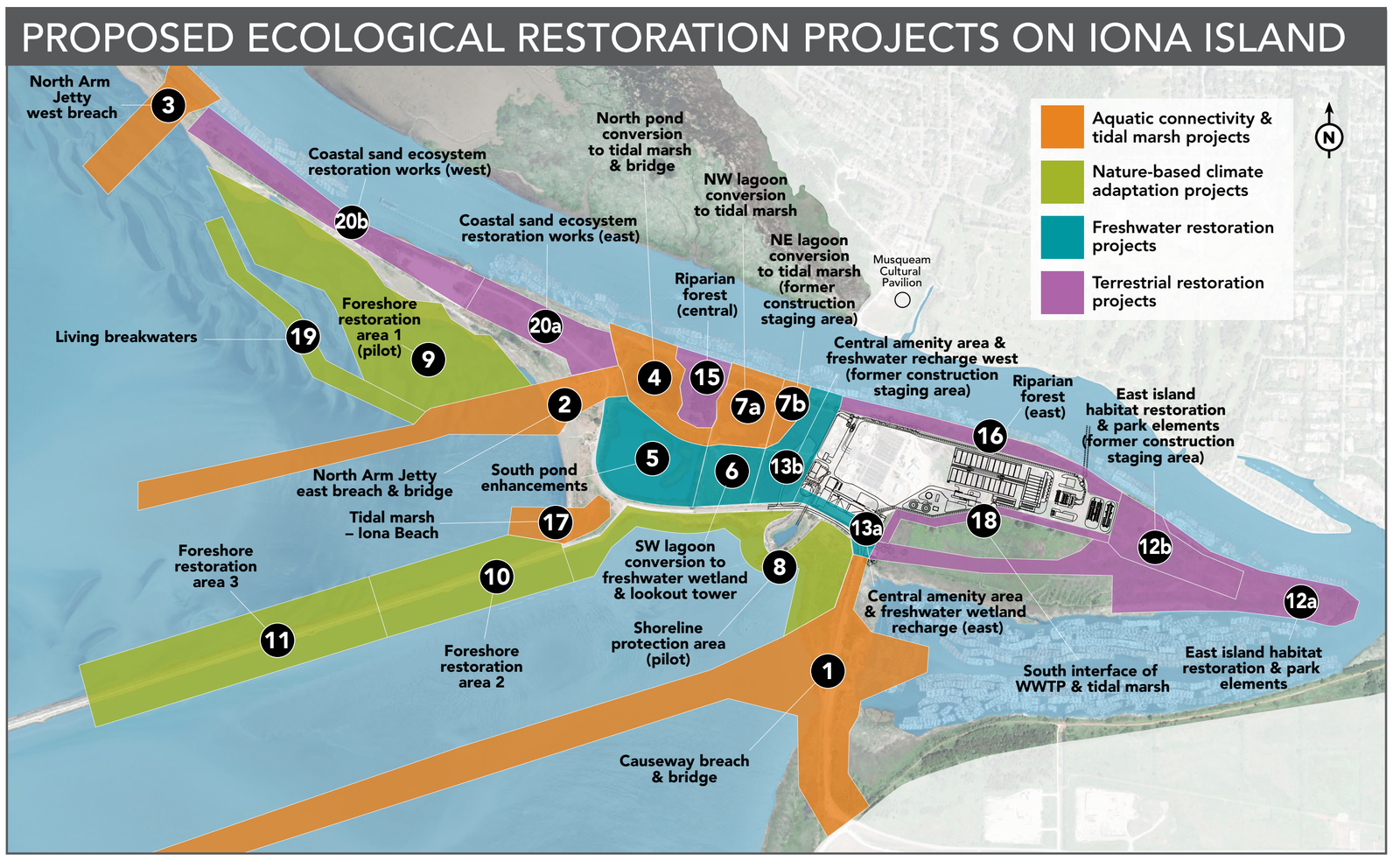
Resource recovery opportunities will include biogas generation, reclaimed water distribution, district energy heating, and biosolids beneficial use.

A priority for the project is to integrate the new plant with Iona Beach Regional Park and the surrounding communities.



Ecological Restoration Projects

The planned ecological restoration projects are designed to improve water quality, restore fish habitat, improve and protect bird habitat, and enhance terrestrial ecosystems.



Reconciliation and First Nations Community Engagement

Metro Vancouver is engaging 14 First Nations on the projects and is working closely with the xʷməθkʷəy̓əm (Musqueam) Indian Band, whose primary reserve lands are directly across from the treatment plant. Metro Vancouver has incorporated the ecological priorities and interests shared by xʷməθkʷəy̓əm (Musqueam) into the conceptual design.

We have heard that xʷməθkʷəy̓əm (Musqueam) priorities include:

- Supporting fish and fish habitat
- Designing xʷəyeyət (Iona Island) ecosystems that support traditional harvesting
- Breaching the jetties (human-made coastal structures for wave control) and causeway
- Allowing xʷməθkʷəy̓əm (Musqueam) access for traditional resource use, cultural practices, and knowledge transfer

The ecological restoration projects are also part of our work to redress the effect of the plant's construction in the 1960s and on-going operation on the well-being and cultural practices of xʷməθkʷəy̓əm (Musqueam). Acknowledging those impacts and beginning to remedy them are part of Metro Vancouver's reconciliation journey with xʷməθkʷəy̓əm (Musqueam) and other First Nations.

xʷəyeyət (Iona Island) 2019

Environmental and Social Benefits

Future Advanced Treatment: Can increase the removal of contaminants of emerging concern (CECs) such as pharmaceuticals and micro-plastics.

Ecological Restoration Projects: The existing treatment plant has disrupted the natural estuary processes. The proposed park and ecological projects will restore estuary health and fish habitat.

Climate Adaptation: The projects will restore the foreshore and implement ecosystem-based flood protection strategies such as building to keep pace with sea level rise.

FOSTER RESILIENCE TO SEA-LEVEL RISE

CONNECT PEOPLE TO NATURE

COLLABORATE WITH xʷməθkʷəy̓əm (MUSQUEAM)

RESTORE ESTUARY HEALTH AND FISH HABITAT

ENHANCE TERRESTRIAL AND FRESHWATER HABITATS

IMPROVE WATER QUALITY

Environmental and Social Goals

The proposed ecological restoration projects will support:

- Increased connection to nature for park visitors
- Nature-based climate change adaptation
- Restoration of the island's diverse and sensitive ecosystems
- Integration of the wastewater treatment plant with Iona Beach Regional Park and the community

Purpose of the Barge Berth

The Iona Island Wastewater Treatment Plant Projects combined are the region's largest infrastructure projects and will require significant movement of goods and people for construction over the next 15 years.

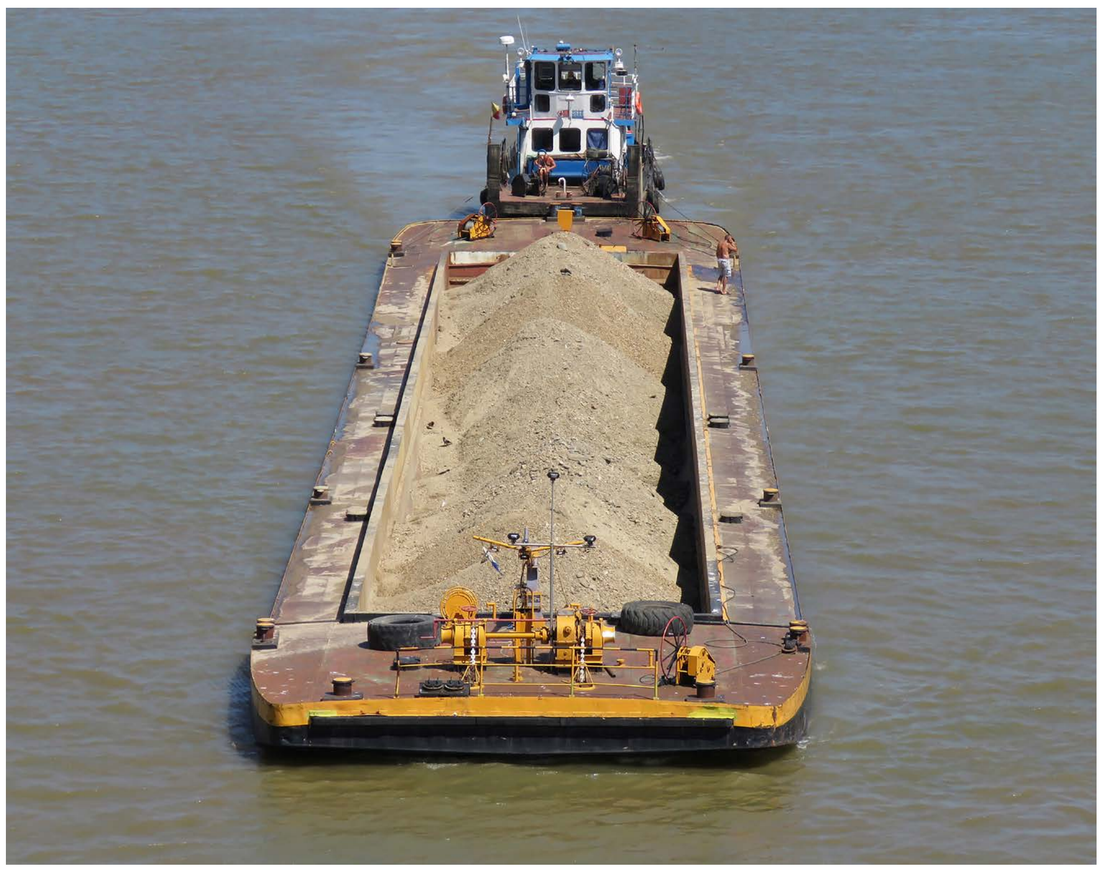
The site requires extensive ground improvements because it is in the Fraser River Delta. With limited road access, the barge berth will facilitate movement of materials so that we can build a strong and reliable foundation. The ground improvements will allow the future treatment plant to withstand a large magnitude earthquake and future rising sea levels.

Benefits of Barging

- **Reduce construction traffic** by replacing approximately 500 dump trucks each day
- **Improve safety** for over 370,000 annual park visitors
- **Reduce greenhouse gas emissions** through traffic reduction and align with regional sustainability objectives
- **Maintain the project schedule** which will minimize costs and delays to comply with regulatory requirements

Barge Activities

- **Will comply with City of Richmond bylaws**
- **Barges would be pulled by tug** (not powered)
- **Would bring materials for ground improvements and plant construction:**
  - Sand
  - Crushed stone
  - Aggregate for concrete
- **Would remove unsuitable soils and leftover preload sand from site**
- **Average of one barge per day** (sometimes two barges)
- **Anticipated hours of work**
  - 7:00 am – 8:00 pm
  - Monday – Friday
  - Hours of work will comply with City of Richmond bylaws
- **We anticipate the barge berth to be in peak operation between 2026 and 2030.** The barge berth design and construction timelines will depend on the selected site.



An example of the type of barge expected to berth and supply materials to the construction site

Previous barge berths off of Iona Island at Site 2 (1959)

Barge Berth Location Selection Criteria

The proposed locations were identified after careful review and used the following criteria:

xʷməθkʷəy̓əm (Musqueam) Interests

- Consider xʷməθkʷəy̓əm (Musqueam) interests and perspectives including cultural, health impacts, and disruptions.

Impact on Stakeholders and the Community

- Examine how the selected site will affect residents, businesses, park users, and organizations in the area; including health impacts and disruptions.
- Evaluate noise, air, light, and associated health impacts on the surrounding community.

Functionality

- Assess if the proposed site can effectively accommodate a barge berth, considering constructability, ability to operate effectively, permitting, land availability, and transportation of materials.

Cost

- Evaluate the financial implications, including acquisition, construction, ongoing operation, maintenance, and potential unexpected expenses.

Schedule

- Ensure timely progress to avoid significant financial and operational delays; assess the feasibility of meeting project milestones.

Ecological Impact

- Evaluate the environmental consequences of the site selection, including effects on habitats, water bodies, air quality, biodiversity, and necessary mitigation measures for sustainable development.

A study is being completed to evaluate the identified sites, including the environmental and health impacts at each of the four locations. Metro Vancouver will select the optimal site.

Barge Berth – Proposed Site Location 1: Northwest of Iona Island

Initial Site Analysis

Advantages:

+ Wider section of the river and good channel depth for navigation
+ Currently permitted for industrial use
+ Adequate space for construction laydown materials

Constraints/Risks:

- 2 kilometres away from the project site
- Requires building a new road to transport materials to project site
- May result in increased construction duration due to location of barge berth to construction area
- Requires agreement from Vancouver Fraser Port Authority
- Close proximity to xʷməθkʷəy̓əm (Musqueam) wetlands
- Impact to ecological habitat due to site location and transport of materials to construction area

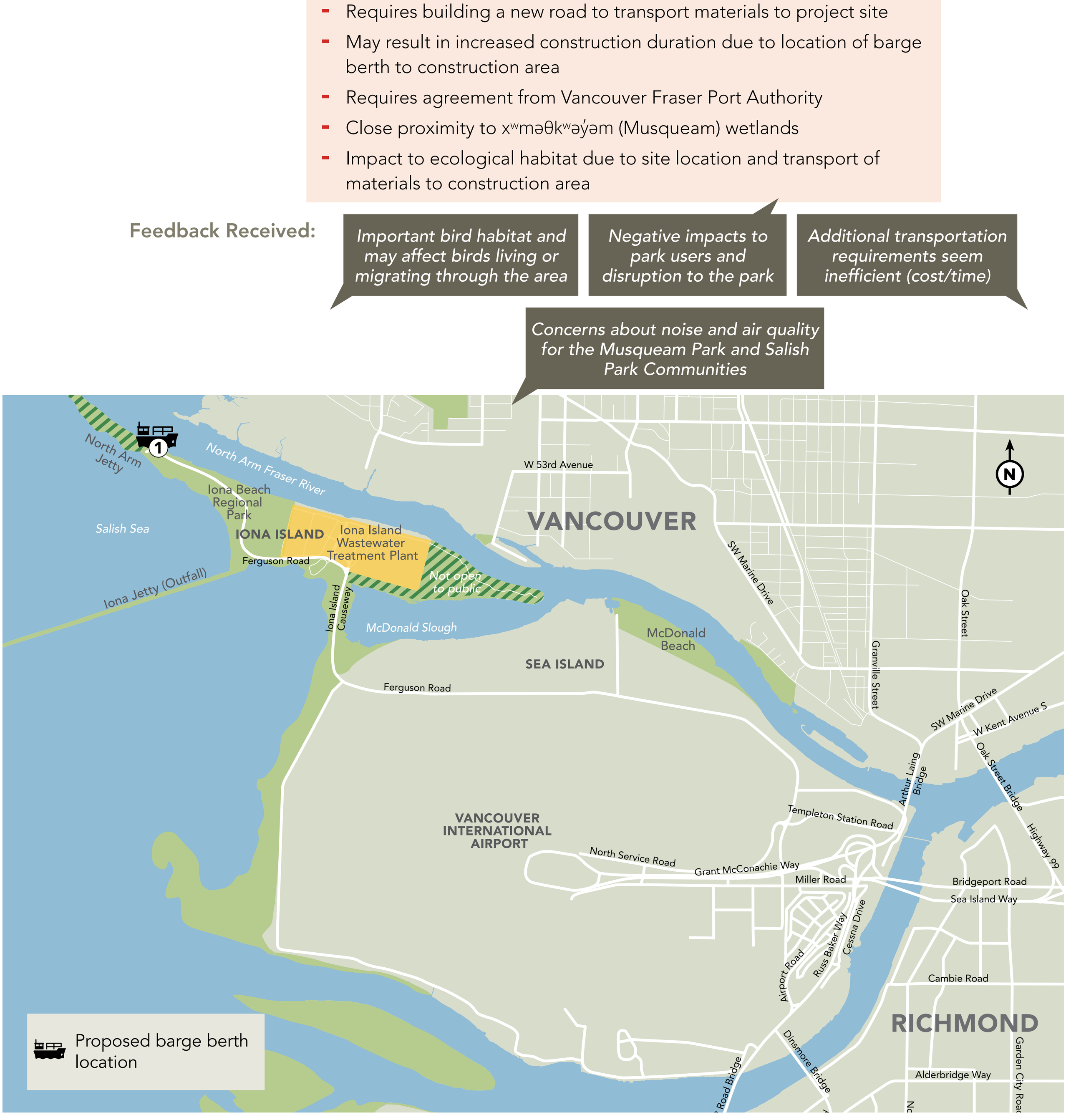
Feedback Received:

Important bird habitat and may affect birds living or migrating through the area

Negative impacts to park users and disruption to the park

Additional transportation requirements seem inefficient (cost/time)

Concerns about noise and air quality for the Musqueam Park and Salish Park Communities



Barge Berth – Proposed Site Location 2: Adjacent to Construction Laydown Area

Initial Site Analysis

Advantages:

+ Close proximity to construction site and sufficient space to laydown construction materials
+ Site of the original barge berth location for the Iona Island Wastewater Treatment Plant in the 1950s and classified as disturbed land
+ Site is not in proximity to publicly accessible area
+ Minimal impacts on current site and ecological surrounding

Constraints/Risks:

- Close proximity to Deering Island and Southland residents
- May require dredging to construct the barge berth
- Would need to acquire tenure over a portion of log boom tenure

Feedback Received:

Health concerns from Deering Island and Southlands residents (noise and air quality)

Marine safety concerns noting previous accidents in the area

Impacts to xʷməθkʷəy̓əm (Musqueam) canoe club

Proximity to Deering Island and Southlands River Trail and impacts to parks

Proximity to the project site is favourable

Barge Berth – Proposed Site Location 3: McDonald Slough

Initial Site Analysis

Advantages:

+ Minimal impact on current navigation channels
+ Low impact to neighbours and park users

Constraints/Risks:

- Site surrounded by a sensitive inter-tidal marsh, including salmon bearing fish channels, and local habitat would be disturbed; fish channels would be disturbed impacting future salmon runs
- Shallow and narrow access that makes it difficult for construction
- Requires extensive dredging to create a full navigation channel in the slough would impact local environment
- McDonald Slough has significant wooden debris on the bottom and has never been dredged. There is a potential for contaminated materials to be present in the areas that would require dredging
- Major negative impacts on the Province's logging industry, as McDonald Slough is very important to the industry

Feedback Received:

Uncertainties related to environmental and permitting processes. Including log tenures and dredging

This area is important to the logging industry to remove shipworms from logs and allows for freshwater decontamination

Further away from Deering Island with potential to reduce noise

Potential benefit for this location to facilitate future breaching of the causeway

Barge Berth – Proposed Site Location 4: YVR Facility

Initial Site Analysis

Advantages:

+ Existing facility owned and operated by the Vancouver Airport Authority (YVR)
+ Access to existing Airport Road to transport materials to project site
+ Existing road network
+ Minimal terrestrial and foreshore impacts
+ Most cost-effective option
+ Would meet needs of Iona Projects for the first 2–3 years of work

Constraints/Risks:

- 7 kilometres from the project site
- Shared facility that may limit use by the Iona Projects and impact schedule
- Would only accommodate bringing in construction materials – no export
- Facility upgrades or alternatives would be required for use beyond next 2–3 years

Photos courtesy of YVR and Nearmap.com

Barge Berth – Transportation Options from Site 4 to Construction Area

Upcoming Milestones – Barge Berth

Engagement on proposed Sites 1–3

Engagement on proposed Site 4

Site selection study is completed and summary is shared

Final location of barge berth is announced

Preliminary design for barge berth begins*

Provide timely project updates as design progresses

* Subject to location selected as applicable to sites 1–3 only

Minimizing Impacts on Community

Air & Noise Monitoring

Metro Vancouver will install a noise and air quality monitoring station before work begins and will monitor throughout operations. Locations will be determined based on community input.

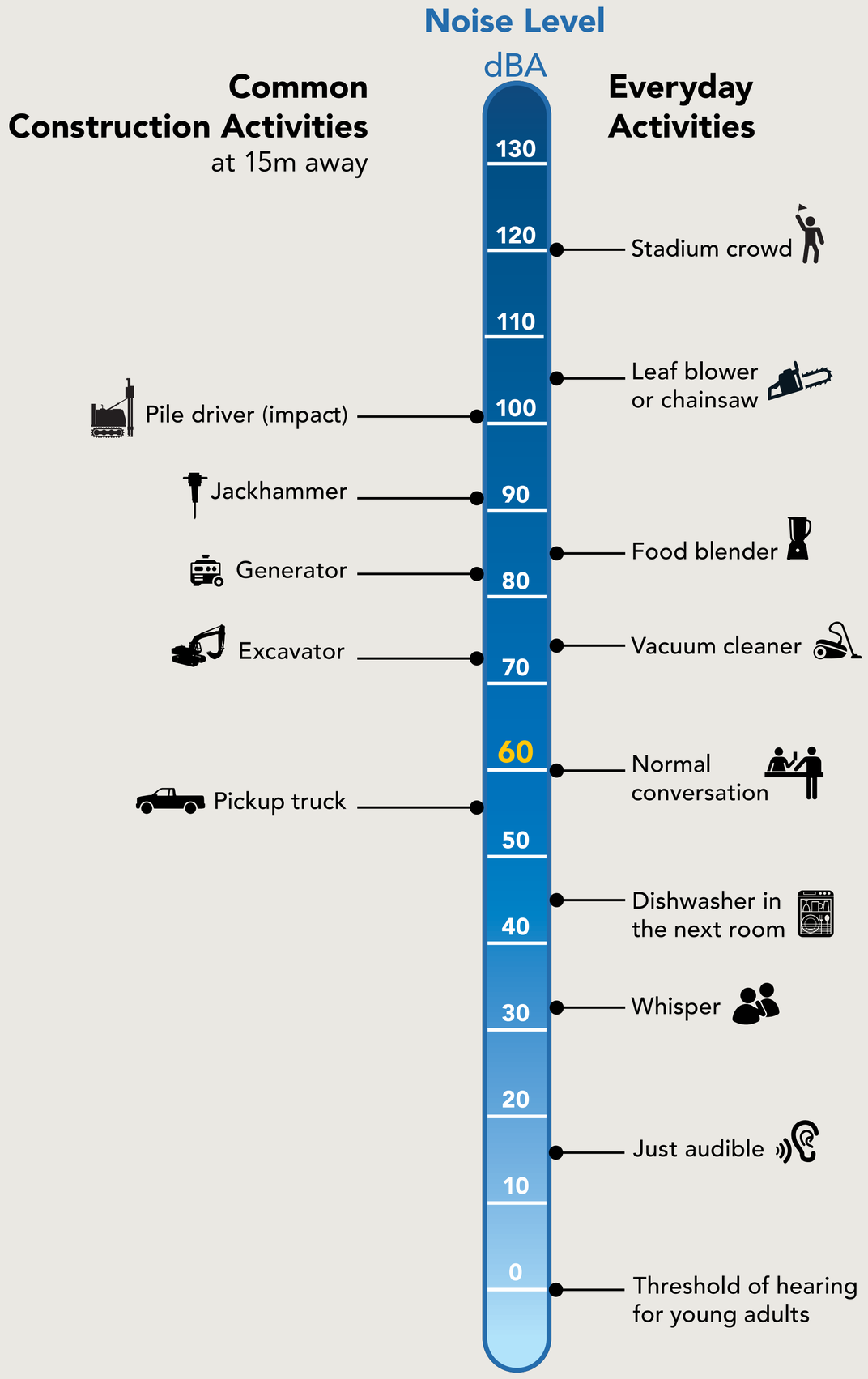
What We Heard: **Reduce Noise**

Barge construction and operations will:

- Follow City of Richmond's noise by-law (7:00 am – 8:00 pm, Monday–Friday)
- Not exceed 85 dBA

Mitigation measures will include:

- Noise reducing linings at material transfer points
- Low speed conveyors
- Sound baffles



What We Heard: **Reduce Dust**

Dust control measures include:

- Misting material on barges to control dust emissions from the barge
- Misting incoming supplier materials to meet mandated dust control requirements
- Methods to capture and limit dust emissions

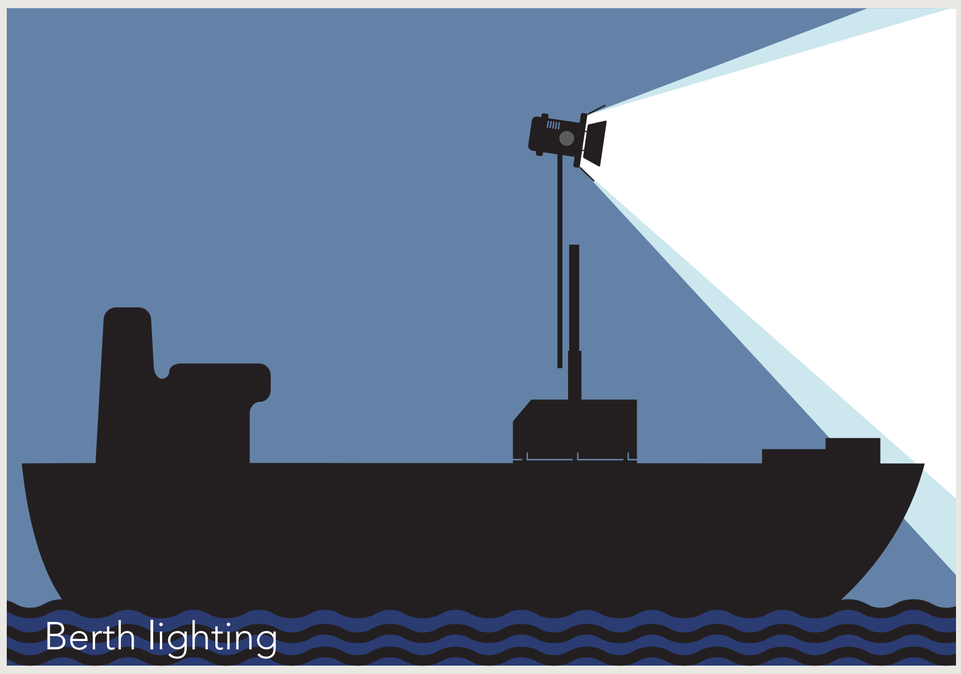
Metro Vancouver implementing dust control measures

Minimizing Impacts on Community

What We Heard:
Reduce Light Pollution

Mitigation measures will include:

- Operational lights outside of mobile equipment to be shielded and directed on the barge only
- Other than navigational lights, nighttime (non-operational) lighting on the barge berth not expected



Berth lighting

What We Heard:
Ensure Marine Safety

Metro Vancouver is working with regulators and North Arm Fraser River Marine users to ensure the project considers all marine user safety standards.

- Barge berth will be located outside the active navigation channel
- Metro Vancouver is engaging with:
  - Transport Canada
  - North Arm Fraser River marine users
  - Recreational marine users

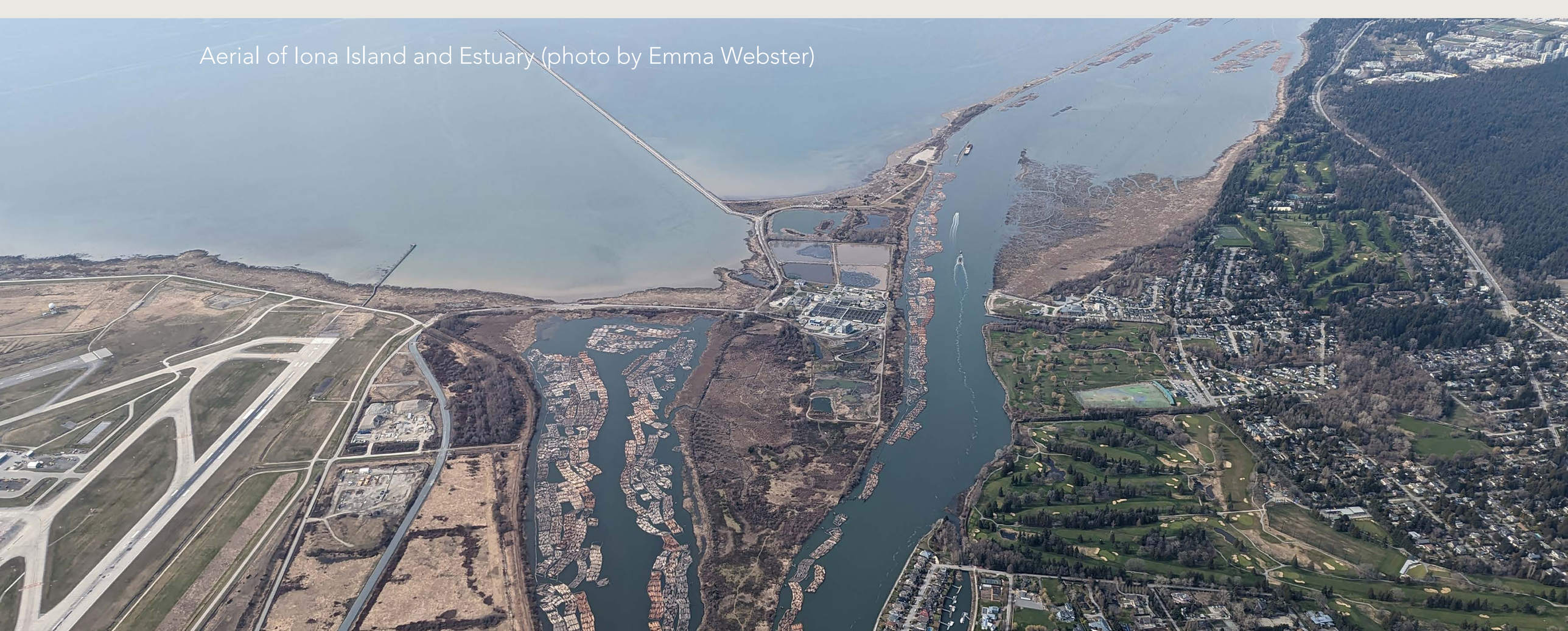
Recreational boaters in Fraser River

What We Heard:
Reduce Environmental Impacts

Metro Vancouver will ensure that the berth is:

- Constructed in accordance with provincial environmental standards
- Permitted by Transport Canada and Fisheries and Oceans Canada

Great Blue Heron (photo by Mike Baird)



Aerial of Iona Island and Estuary (photo by Emma Webster)

Our Commitment to the Community

We are committed to:

- **Accountability –** Metro Vancouver upholds the commitments it makes to the public and demonstrates that the results and outcomes of the engagement processes are consistent with the approved plans for engagement
- **Inclusiveness –** Metro Vancouver makes its best efforts to reach, involve and hear from those who are impacted. Plain language will be used in all engagement materials
- **Transparency –** Metro Vancouver provides clear and timely information, and endeavours to ensure decision processes, procedures, and constraints are understood
- **Commitment –** Metro Vancouver, within its ability and work plans, allocates sufficient resources for effective engagement
- **Responsiveness –** Metro Vancouver seeks to understand and be receptive to the public's input

Next steps:

- Summary report of today's engagement session will be available at **metrovancouver.org/iona**
- Metro Vancouver will provide an executive summary of the third-party study on the proposed barge berth locations once completed

Our community engagement team is here to listen to you and answer your questions. You can reach us at:

- **Email:** ionawwtp@metrovancouver.org
- **Phone:** 604-432-6200
- **Website:** metrovancouver.org/iona

TOGETHER
WE MAKE OUR REGION
STRONG