Port Metro Vancouver

Roberts Bank Terminal 2 Project

Preliminary Environmental Mitigation Concepts Consultation Summary Report

October 2014

Prepared by:
Kirk & Co. Consulting Ltd.
About Kirk & Co. Consulting Ltd.

Kirk & Co. Consulting Ltd. is recognized as an industry leader in designing and implementing comprehensive public and stakeholder consultation programs. Utilizing best practices in consultation, the firm designs consultation programs to maximize opportunities for input.

Participants self-selected into consultation rather than being selected randomly; therefore, consultation feedback is not comparable to an opinion poll because respondents do not constitute a random sample.

The views represented in this report reflect the priorities and concerns of consultation participants. They may not be representative of the views of the public and other stakeholders.
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1. Background

Roberts Bank Terminal 2 Project

The Roberts Bank Terminal 2 Project is a proposed new three-berth container terminal at Roberts Bank in Delta, B.C. The Project would provide 2.4 million TEUs (twenty-foot equivalent units) of container capacity per year, which is required to meet forecast demand in the early to mid-2020s.

Environmental Assessment Process

The proposed Project is undergoing a federal environmental assessment by an independent review panel under the Canadian Environmental Assessment Act, 2012. It may also be subject to an environmental assessment process under the British Columbia Environmental Assessment Act.

As part of the environmental assessment, Port Metro Vancouver is studying the potential Project-related effects of construction and operation activities. The results of Port Metro Vancouver’s studies will be documented in the Environmental Impact Statement (EIS), which will be submitted to the Canadian Environmental Assessment Agency in early 2015. Input received from public consultation, Aboriginal groups, and regulators will be considered and presented in the EIS.

For more information regarding the Canadian Environmental Assessment Agency, please visit www.ceaa-acee.gc.ca.

For more information regarding the British Columbia Environmental Assessment Office, please visit www.eao.gov.bc.ca.

Port Metro Vancouver-Led Consultation Process

In addition to opportunities for public input that will be provided through the environmental assessment process, Port Metro Vancouver-led consultation regarding the proposed Roberts Bank Terminal 2 Project began in 2011, and has included three previous rounds. The timeline below outlines completed and upcoming rounds of consultation.

A separate but parallel consultation process with Aboriginal groups is underway.

PORT METRO VANCOUVER-LED CONSULTATION¹

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<th>CURRENT ROUND</th>
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<td>PORT METRO VANCOUVER-LED CONSULTATION¹</td>
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<td>Pre-Consultation (June 2011)</td>
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<td>Project Definition Consultation (October 22 to November 30, 2012)</td>
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<td>Pre-Design Consultation (October 7 to November 12, 2013)</td>
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<td>Preliminary Environmental Mitigation Concepts (September 15 to October 10, 2014)</td>
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<td>Detailed Design Consultation (TBC)</td>
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¹ Port Metro Vancouver-led consultation with communities, stakeholders and the public, and Port Metro Vancouver-led consultation with Aboriginal groups, will continue throughout Project development. Other communications and community engagement activities will be undertaken throughout Project review.
2. Pre-Consultation (JUNE 2011)

Pre-Consultation, held in June 2011, consulted local communities, stakeholders and the public about the design of the consultation program for the Roberts Bank Terminal 2 Project. Specifically, participants were asked how they wanted to be consulted and about the topics they wished to discuss regarding the Project.

There were multiple opportunities for stakeholders to participate in Pre-Consultation:

- 73 people attended small group meetings
- 55 feedback forms and 1 written submission were received

Overall, participants indicated interest in the following topics:

- **Socio-economic topics** such as road and rail traffic, economic benefits and jobs
- **Project design elements** such as the terminal layout, marine traffic, road and rail
- **Local and regional area issues** such as air quality, safety, greenhouse gases, land use, noise and light
- **Infrastructure** and port facilities, including the berth, terminal, shore protection, and road and rail access

For more information about Pre-Consultation, please see the Pre-Consultation Summary Report, and the Consideration of Pre-Consultation Input memo, available at: [www.portmetrovancouver.com/RBT2](http://www.portmetrovancouver.com/RBT2).
3. Project Definition Consultation
(October–November 2012)

Project Definition Consultation, held from October 22 to November 23, 2012, presented a conceptual design for the proposed Roberts Bank Terminal 2 Project and sought input from the community, stakeholders and the public about key impacts, benefits and features of the proposed Project.

There were multiple opportunities to participate in Project Definition Consultation:

- 175 people attended consultation events
  - 86 people attended 7 small group meetings
  - 72 people attended 5 open houses
  - 17 people participated in community interviews

- 47 feedback forms were received at small group meetings, at open houses, by mail and through the online feedback form
  - 33 were received online and 14 in hard copy

- 27 written submissions were received through email and mail

Overall, participants indicated interest in the following topics:

- Environmental impacts, including the effects of the Project on marine and bird habitat, and terrestrial ecosystems; impacts on agricultural land, as well as noise, vibration and lighting impacts.

- Road and rail traffic, including increases in truck traffic and truck staging, increases in the number and length of trains, and impacts on air quality.

- Access to technical information, including requests for technical reports, trade-off studies, and detailed environmental study designs.

- Economic forecasts and project need, including the economic justification for the Project, including container shipping forecasts.

For more information about Project Definition Consultation, please see the Project Definition Consultation Summary Report, and the Project Definition Consultation – Consideration of Consultation Input memo, available at www.portmetrovancouver.com/RBT2.
4. Pre-Design Consultation (OCTOBER – NOVEMBER 2013)

Pre-Design Consultation, held between October 7 and November 12, 2013, presented information regarding the conceptual Project design, and sought input from the community, stakeholders and the public regarding elements of the Project and the development of environmental mitigation plans.

There were multiple opportunities to participate in Pre-Design Consultation:

- 196 people attended consultation events
  - 100 people attended 6 small group meetings
  - 96 people attended 5 open houses
- 84 feedback forms were received at small group meetings, at open houses, by mail and through the online
  - 63 through the online feedback form and 21 in hard copy
- 44 written submissions were received through email and mail

Overall, participants indicated interest in the following topics:

- **Project justification and rationale**, including container traffic forecast and consideration of project alternatives.
- **Environmental impacts**, including the effects of the project on marine and bird habitat, and terrestrial ecosystems; as well as air quality, noise, vibration and light effects.
- **Road and rail traffic**, including increases in truck and train traffic, and related air quality and noise effects, as well as Port-related traffic improvement strategies including infrastructure, operational and technological improvements.
- **Approach to habitat mitigation** including species-specific habitat areas, restoration and/or protection of large habitat areas, infrastructure development that benefits wildlife; and provision of community resources for protecting wildlife.
- **Community legacy benefits** focused on environment, community well-being and recreation, and transportation.

For more information about Project Definition Consultation, please see the Pre-Design Consultation Summary Report, and the Pre-Design Consultation – Consideration of Consultation Input memo, available at www.portmetrovancouver.com/RBT2.
5. Preliminary Environmental Mitigation Concepts
(SEPTEMBER–OCTOBER 2014)

5.1 Purpose
From September 15–October 10, 2014, Port Metro Vancouver conducted consultation regarding Preliminary Environmental Mitigation Concepts, the fourth round of Port Metro Vancouver-led consultation regarding the proposed Roberts Bank Terminal 2 Project. Building on community and stakeholder input received during previous rounds of consultation, Port Metro Vancouver sought feedback regarding proposed environmental mitigation concepts.

5.2 Information Items
As part of this round, Port Metro Vancouver presented information regarding the following topics:

- **Increased demand for containerised trade**: A 2014 third-party forecast for container traffic through Canada’s west coast to 2030
- **Employment and economic benefits**: Anticipated employment and economic benefits from the proposed Roberts Bank Terminal 2 Project
- **Environmental assessment process**: The federal environmental assessment process for the proposed Roberts Bank Terminal 2 Project
- **Environmental effects assessment approach and topics**: Port Metro Vancouver’s environmental effects assessment approach for the proposed Project, as well as the valued and intermediate components that are central to the effects assessment of the proposed Project
- **Ecosystem modelling**: Port Metro Vancouver’s approach to assessing the ongoing productivity of the Roberts Bank ecosystem

5.3 Consultation Topics
During Preliminary Environmental Mitigation Concepts Consultation, Port Metro Vancouver sought feedback regarding:

- **Light mitigation concepts**
  Port Metro Vancouver is exploring ways to mitigate potential Project effects of light on marine fish, coastal birds and human health, and the visual quality from viewpoints near the Project. Port Metro Vancouver sought feedback regarding proposed mitigation measures that may be applied during construction and operations.

- **Noise mitigation concepts**
  Port Metro Vancouver is exploring ways to mitigate potential Project effects of noise on coastal birds, human health, marine commercial use, outdoor recreation, and current use of land and resources by Aboriginal groups for traditional purposes. Port Metro Vancouver sought feedback regarding proposed mitigation measures that may be applied during construction and operations.

- **Air quality mitigation concepts**
  Port Metro Vancouver is exploring ways to mitigate potential Project effects of air emissions on human health. Port Metro Vancouver sought feedback regarding proposed mitigation measures that may be applied during construction and operations.
Onsite habitat concepts for marine vegetation, marine invertebrates, marine fish and coastal birds
Port Metro Vancouver is exploring the feasibility of constructing onsite habitat mitigation adjacent to the terminal and causeway. These constructed habitats would soften the shoreline and provide habitats similar to those that exist today. Port Metro Vancouver sought feedback regarding five types of proposed habitats including:

- Tidal marsh
- Mudflat
- Subtidal reef
- Sand-gravel beach
- Eelgrass bed

How Input Will Be Used
Input received during this consultation round is summarised in this report and will be considered, along with technical and economic information and information obtained from Aboriginal groups and from regulators, as Port Metro Vancouver prepares and finalises the Environmental Impact Statement for submission in early 2015.

5.4 Consultation Participation
Participation in the Preliminary Environmental Mitigation Concepts consultation included:

- 92 people attended consultation events
  - 46 people attended two small group meetings
  - 7 people attended a local government elected roundtable meeting
  - 39 people attended two open houses
- 25 feedback forms were received at small group meetings, by mail and through the online feedback form
- 11 submissions were received through email

Some people may have participated through multiple consultation events or feedback methods.

5.5 Consultation Methods

5.5.1 Discussion Guide and Feedback Form
A Discussion Guide and Feedback Form explained the purpose and scope of consultation regarding Preliminary Environmental Mitigation Concepts and included a feedback form to gather input. This document was used in meetings with local government staff, stakeholders and the public and was available, along with an online version of the feedback form, on the Roberts Bank Terminal 2 Project website at portmetrovancouver.com/RBT2.

Results from the feedback form can be found starting on page 10 of this report.

A copy of the Discussion Guide and Feedback Form can be found in Appendix 1.

5.5.2 Online Consultation
All consultation materials were available on the project website, including an online version of the feedback form that could be submitted directly from the website. Of the 25 feedback forms that were received, 21 were completed online.
5.5.3 Notice of Opportunities to Participate in Consultation

Notice of opportunities to participate in consultation regarding Preliminary Environmental Mitigation Concepts for the proposed Roberts Bank Terminal 2 Project was provided through the following:

- **Invitation and Reminder Emails**: More than 5,600 emails were sent to invite people to attend, or remind people about, small group meetings and open houses.

- **Reminder Phone Calls**: More than 100 phone calls were made in follow-up to the email invitations, inviting or reminding people about meetings and open houses.

- **Advertising**: A newspaper ad inviting members of the public to attend small group meetings and open houses, and to participate in online consultation ran a total of 17 times in the following newspapers:
  - *Delta Optimist* (September 12, 17, 19, 24, and 26)
  - *Langley Advance* (September 18 and 25)
  - *Langley Times* (September 18 and 25)
  - *Richmond News* (September 19 and 26)
  - *Richmond Review* (September 19 and 26)
  - *Surrey-North Delta Leader* (September 18 and 25)
  - *Surrey Now* (September 18 and 25)

- **Household Mailer**: During the week of September 15, more than 18,000 postcards were sent to residents of Delta inviting them to attend small group meetings and open houses, and to participate in online consultation.

- **Twitter**: A series of tweets were sent from the Port Metro Vancouver twitter account (@PortMetroVan) providing notification of opportunities to participate in consultation, including small group meetings, open houses and the online feedback form. Eight tweets were made to over 7,000 followers between September 15 and October 6, 2014.

Notification samples can be found in Appendix 2.

5.5.4 Local Government Meetings


The Local Government Elected Roundtable (LGER) is an information-sharing committee that provides a forum for Port Metro Vancouver and elected officials to share information and discuss community interests, issues and benefits related to the project. Port Metro Vancouver met with the Local Government Elected Roundtable during consultation regarding Preliminary Environmental Mitigation Concepts and presented information in the Discussion Guide and Feedback Form, focusing on the consultation topics. The meeting was attended by representatives of the Corporation of Delta, City of Langley, Township of Langley, City of Richmond, City of Surrey, Tsawwassen First Nation and Metro Vancouver.

Local Government Technical Liaison Committees (LGTLC) provide a forum for regular communications between Project staff and staff from the Corporation of Delta, City of Langley, Township of Langley, City of Richmond and City of Surrey. Port Metro Vancouver convened LGTLC meetings with all five municipalities during the consultation period and shared information about the consultation process.

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2 For more information about this group, please visit: www.robertsbankterminal2.com/consultation/local-government-elected-roundtable/
Key themes from the Local Government Elected Roundtable meeting can be found on page 9. Meeting notes can be found in Appendix 3.

5.5.5 Small Group Meetings

46 people attended two small group meetings as part of consultation regarding Preliminary Environmental Mitigation Concepts.

A Kirk & Co. facilitator and meeting recorder attended the small group meetings along with members of the Roberts Bank Terminal 2 Project team. At each meeting, participants were provided with a copy of the Discussion Guide and Feedback Form, and project staff presented the information in the guide, focusing on the consultation topics. Participants were invited to provide comments and ask questions.

Key themes from the small group meetings can be found on page 9. Meeting notes can be found in Appendix 3.

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<thead>
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<th>SMALL GROUP MEETINGS</th>
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<tr>
<td><strong>DATE</strong></td>
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<tr>
<td>Thursday, September 25</td>
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<td>Monday, September 29</td>
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5.5.6 Open Houses

39 people attended two open houses

The Discussion Guide and Feedback Form was provided to all attendees at the open houses and display boards summarising the consultation materials were set up around the room. Project team members circulated and engaged attendees in one-on-one and small group discussions.

The Roberts Bank Terminal 2 Project video was played at the open houses. The video includes a computer animation of the proposed Project and can be viewed at www.portmetrovancouver.com/RBT2.

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<th>OPEN HOUSES</th>
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<tr>
<td><strong>DATE</strong></td>
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<tr>
<td>Thursday, September 25</td>
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<td>Saturday, September 27</td>
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6. Consultation Results

6.1 Key Themes from Local Government and Small Group Meetings

The following are key themes from the Local Government Elected Roundtable and two small group meetings held as part of the consultation.

Local Government Elected Roundtable Meeting: September 16, 2014 – 3:00 pm–4:30 pm

- Mayors, Councillors and Tsawwassen First Nation representatives expressed concern that the Gateway Transportation Collaboration Forum (GTCF) steering committee includes representatives from TransLink on behalf of local government, but does not include direct local government involvement. South of Fraser communities were interested in more direct involvement with the GTCF and expressed concern that infrastructure funds from the GTCF should not be taken for for-profit operations.
- Mayors, Councillors and Tsawwassen First Nation representatives noted that the material was very well put together and that complex information was presented in a very understandable way. The representatives reiterated the usefulness of the document.
- Mayors and Councillors expressed concerns regarding the scope of the Environmental Assessment and requested that the Panel Terms of Reference and Public Comment Period be broadened to include lands outside of the port footprint. In addition, Mayors and Councillors reiterated that truck traffic mitigation should be included in the Environmental Assessment as part of the cumulative effects.

Delta Small Group Meeting: Thursday, September 25, 2014 – 2:00 pm–4:00 pm

- Some participants expressed concern regarding the accuracy of the 2014 Ocean Shipping Consultants container forecast and requested that additional information be made available regarding the justification and need for the Project, including a business case and container forecast information from alternate sources.
- Some participants commented that Port Metro Vancouver should focus on bulk shipping through Vancouver and that container capacity should be expanded in Prince Rupert.
- Some participants suggested that the environmental baseline for the environmental assessment be defined as the conditions prior to any port development at Roberts Bank.
- Some participants were concerned that port expansion could cause a range of negative environmental changes, including sediment, noise and light impacts.
- Some participants expressed concern about the proposed mitigation options and were skeptical about whether or not the port would actually implement the mitigation measures.
- Some participants requested that a comprehensive plan for the entire Fraser River Estuary be developed, stating that the approach to conducting an environmental assessment for the Roberts Bank Terminal 2 and other projects are piecemeal in their approach.
Delta Small Group Meeting: Monday, September 29, 2014 – 6:00 pm–8:00 pm

- Some participants expressed skepticism regarding the validity of the 2014 Ocean Shipping Consultants forecast, and requested forecasts from previous years to verify the accuracy of past forecasts.
- Some participants expressed concern regarding potential Project-related effects on the environment.
- Some participants expressed concern about whether Port Metro Vancouver can enforce emissions standards or require ships to use shore power.
- Some participants expressed concern about artificial lighting at the terminal and were concerned that the proposed mitigation measures would not be effective.
- Some participants asserted that current and previous light and noise mitigation measures have not been effective and expressed concern about whether Port Metro Vancouver will implement required mitigation or whether the proposed mitigation would be successful.

Meeting notes can be found in Appendix 3.

6.2 Feedback Forms

The following are results from the 25 feedback forms received at small group meetings, by mail and through the online feedback form. The number in brackets at the end of each theme corresponds to the number of respondents who raised the theme.

LIGHT

PROPOSED MITIGATION CONCEPTS

Proposed measures to mitigate Project-related effects on Valued Components that may result from changes in lighting associated with the Project will be outlined in the Environmental Impact Statement.

Mitigation measures during construction could include:

- Shielding lights to minimise light spillage
- Where lighting equipment cannot be shielded, directing lighting to the north and west to avoid effects to residential areas that are typically located to the east and south of the Project

Mitigation measures during operations could include:

- Directing lighting downward at the wharf and container yard while still ensuring safety for workers
- Shielding lights to minimise light spillage
- Using LED lights, which makes it easier to control light spill, in the terminal and intermodal yard areas
- Using lighting control systems to reduce the amount of lighting during periods of low activity
- Incorporating an automatic light shutdown system on ship-to-shore gantry cranes so that lights turn off when the cranes are raised and inactive for more than 15 minutes
- Evaluating innovative mounting systems for lighting on ship-to-shore gantry cranes to minimise light during the raising and lowering of the cranes
1. After reviewing the proposed mitigation measures for light, please identify any considerations or issues that you think Port Metro Vancouver should be aware of, or provide any additional mitigation ideas that you may want Port Metro Vancouver to consider.

The following are the themes from the 19 responses to this question:

- Concern regarding the impact of light on nearby residents (8 respondents)
- Concern regarding the impact of light on birds and wildlife habitat, breeding and migration (7)
- Suggestion that Port Metro Vancouver implement lighting mitigation measures at the existing Deltaport terminal prior to proceeding with the proposed Roberts Bank Terminal 2 Project (4)
- Support for the proposed mitigation measures (3)
- Locate power lines underground (2)
- Concern regarding the use of LED lights, suggesting that LED lights would be blinding and cold, and would be worse than existing lighting (2)
- Suggestion that Port Metro Vancouver consider reflected light from multiple sources (1)
- The only mitigation for light is not to build the proposed Project (1)
- Suggestion of a “shore line blanket” to shield nearby communities from terminal light (1)
- Blinking lights should not be used, as they can be a distraction (1)
- Suggestion that Port Metro Vancouver refer to the Tennessee Valley Authority’s guidelines for lighting to protect heron colonies (1)

NOISE

PROPOSED MITIGATION CONCEPTS

Shore power connections have been incorporated into the Project design and would allow ships equipped with shore power capability to plug into electrical power while berthed, rather than running on generator power. This would eliminate noise from generators for ships that make use of shore power.

In addition to shore power, proposed measures to mitigate Project-related effects on Valued Components due to noise will be outlined in the Environmental Impact Statement.

Mitigation measures during construction could include:

- Establishing a maximum allowable noise emission for machinery to ensure that contractors do not use excessively noisy equipment
- Providing training to ensure that construction workers are aware of the noise created during construction and are trained to minimise noise where possible

Mitigation measures during operations could include:

- Installing alarms on ship-to-shore cranes and rail-mounted gantry cranes that operate at a higher frequency, so that they are inaudible from shore while still meeting health and safety requirements
- Providing regular operator awareness and training to minimise noise during operations
- Regular maintenance of equipment, such as replacement of mufflers and lubrication of moving parts, to minimise noise from heavy equipment
• Using electric-powered equipment to move containers, which are quieter than diesel-powered or
diesel/electric-powered equipment
• Using equipment with enhanced exhaust silencers, where possible
• Installing barriers adjacent to noise sources to reduce noise travel
• Facing sound sources away from residential areas

2. After reviewing the proposed mitigation measures for noise, please identify any considerations or issues that you think Port Metro Vancouver should be aware of, or provide any additional mitigation ideas that you may want Port Metro Vancouver to consider.

The following are the themes from the 19 responses to this question:

• Concern regarding the impacts of noise on birds and wildlife (5 respondents)
• Port Metro Vancouver should mandate shore power for all terminals within its jurisdiction, including all three berths at Deltaport (3)
• Suggestion of using a buffer of trees or other noise abatement along the shoreline or causeway (3)
• Demonstrate that Port Metro Vancouver can control noise at the existing Deltaport terminal prior to building the proposed Roberts Bank Terminal 2 Project (3)
• Skepticism regarding Port Metro Vancouver’s commitment to providing mitigation measures (2)
• All mitigation measures should be required, suggesting that references to “mitigation measures could include” should be changed to “would include” (2)
• Statement that noise impacts on birds cannot be mitigated or would be very difficult to mitigate (2)
• Support for proposed mitigation measures (2)
• Suggestion that container handling vehicles be powered by electricity or natural gas (2)
• Concern regarding noise from additional trains through Surrey and a request for engine and rail car noise mitigation (1)
• Concern regarding impacts of underwater noise on marine mammals (1)
• Concern that foam earplugs worn by terminal workers pose a hazard for wildlife when disposed of improperly (1)
• Suggestion that Port Metro Vancouver refer to the Tennessee Valley Authority’s guidelines for protecting heron colonies (1)
AIR QUALITY

PROPOSED MITIGATION CONCEPTS

Port Metro Vancouver is actively involved with a number of initiatives designed to reduce air emissions. These initiatives would be in place during operations and it is anticipated that they would contribute to further reduction of port-related air quality impacts. These initiatives include:

- Port Metro Vancouver’s EcoAction Program provides incentives for shipping lines to reduce their emissions
- The Landside Air Emissions Inventory documents any changes to common air contaminants and greenhouse gases to provide data for Port Metro Vancouver’s environmental planning and emissions reduction efforts
- Port Metro Vancouver’s Truck Licensing System manages a reduction in truck emissions by reducing idling and restricting the engine age and emissions standards of trucks allowed to enter terminals within Port Metro Vancouver’s jurisdiction
- Port Metro Vancouver collaborates with the Port of Seattle and the Port of Tacoma in the Northwest Ports Clean Air Strategy to reduce emissions from shipping and port operations within the Georgia Basin-Puget Sound airshed

The proposed Project has been designed to include shore power connections, which allows ships to plug into electrical grid power while berthed so that diesel generators can be turned off.

In addition to shore power and the Port Metro Vancouver-wide existing initiatives, which would be in place during operations, proposed measures to mitigate effects on the Valued Component of human health due to changes in air quality will be outlined in the Environmental Impact Statement, and could include:

- Implementing a Dust Control Plan during construction to manage dust in construction areas

3. After reviewing the proposed mitigation measures for air quality, please identify any considerations or issues that you think Port Metro Vancouver should be aware of, or provide any additional mitigation ideas that you may want Port Metro Vancouver to consider.

The following are the themes from the 21 responses to this question:

- Mandate the use of shore power by ships calling at Deltaport and the proposed Roberts Bank Terminal 2 Project (9 respondents)
- Concern with the impact of idling trucks and suggestion of ways of reducing idling, such as “batching” procedures in place at some border crossings and powering trucks with alternative energy sources such as natural gas (5)
- Concern about air quality impacts on residents and wildlife (4)
- Suggestion that container handling vehicles be powered by electricity or natural gas (3)
- Ensure regular monitoring and enforcement of air quality guidelines are in place and make monitoring data and reports public (3)
- Concern with coal dust (2)
- Support for proposed mitigation measures (2)
- Suggestion that Port Metro Vancouver pay Metro Vancouver to monitor and report on air quality (1)
- Suggestion that short sea shipping or an inland port such as Ashcroft or Kamloops be used to reduce the number of trucks (1)
• Concern about the costs of shore power and whether the cost of electricity would be borne by taxpayers (1)
• Concern with impact of additional trains through Surrey on air quality (1)
• Concern with pollutants other than CO₂ such as NOₓ, diesel particulate matter and sulphur dioxide and the contribution of ships to these pollutants (1)
• Suggestion to warn and ban trucks and ships that do not meet air quality standards from accessing port facilities (1)
• Suggestion of using wind baffles to reduce the scouring of marine winds on the ships and docks (1)
• Suggestion of a procurement requirement for newer trucks (2007 or newer) and low emissions non-road equipment and marine equipment during construction (1)
• Suggestion of Project-specific air emissions mitigation plan with details of the expected emissions reductions of the EcoAction, Truck Licensing System and Northwest Ports Clean Air Strategy, as well as the approach for monitoring and reporting reductions achieved (1)
• Suggestion of a detailed ambient air monitoring plan, with strategies for establishing baseline ambient air quality, air quality during construction, and ongoing air quality following Project completion (1)
• Suggestion to reduce idling from ships anchored in English Bay and other locations near Vancouver and Roberts Bank (1)
TIDAL MARSH AND MUDFLAT

Tidal marshes are highly productive habitats that provide food and shelter for invertebrates, fish, birds and other wildlife. Tidal marshes provide critical feeding and breeding habitat for migratory birds and rearing habitat for juvenile salmon, and also serve other important functions such as shoreline stabilisation, nutrient cycling, filtering of contaminants, and increasing biological diversity. At high tide, marshes provide feeding and cover habitat for juvenile chum and chinook salmon and for foraging wading birds. At low tide, they provide benefits to other species, including shorebirds and waterfowl.

Species that would benefit from the construction of tidal marsh at Roberts Bank include juvenile chum and chinook salmon, hawks and owls, snow geese, American widgeon, and shorebirds.

Mudflats are coastal wetlands that form when fine sediments are deposited by tides or rivers. They are found in sheltered areas such as estuaries. Most of the sediment within a mudflat is within the intertidal zone, which is submerged and exposed approximately twice daily. They support large wildlife populations, and are key habitat for shorebirds staging on north-south migrations. They are of vital importance to juvenile fish, crabs, and bivalves such as clams.

Mudflats could be constructed adjacent to tidal marshes. Species that would benefit from the construction of mudflat at Roberts Bank include amphipods, clams, juvenile Dungeness crab, great blue heron, dabbling ducks, and shorebirds such as the western sandpiper. Pioneering tidal marshes could be constructed to provide sheltered areas of mudflat that would promote the growth of biofilm.
4. Tidal Marsh and Mudflat – please identify any considerations or issues that you think Port Metro Vancouver should be aware of.

The following are the themes from the 16 responses to this question:

- Concern regarding the impacts of the Project on birds migration, habitat and food sources (4 respondents)
- Suggestion that Port Metro Vancouver breach the existing Roberts Bank and BC Ferries causeways to allow for water to flow through (4)
- The Roberts Bank Terminal 2 Project is proposed for the wrong/worst location because of impacts to wildlife and migratory and shorebirds (2)
- Skepticism regarding statements in the discussion guide and Port Metro Vancouver’s understanding of the Roberts Bank area (2)
- Concern and request for more information regarding the success of previous habitat projects (2)
- Suggestion that Port Metro Vancouver gather input and direction from those who live and work in Delta (2)
- Suggestion that the Habitat Enhancement Program is a public relations exercise and that the salt marsh habitats created recently have not enhanced habitat for raptors and owls (1)
- Suggestion to bury the powerlines along the Roberts Bank causeway (1)
- Concern regarding the impact of industrial light at night attracting marine life from where it would normally be (1)
- Concern regarding erosion of Tsawwassen Beach and a request that Port Metro Vancouver mitigate for erosion, such as creating sea walls or gravel beaches (1)
- Habitat at Roberts Bank is irreplaceable (1)
- Concern regarding the pollution of air and the ocean (1)
- Suggestion to build the proposed Roberts Bank Terminal 2 Project on concrete pilings and platforms to allow water to flow underneath (1)
- Suggestion that Port Metro Vancouver build a clam garden (1)
- Concern that Port Metro Vancouver is destroying marshes and mudflats and should not be receiving credit for replacing what it is destroying (1)
- Ensure that created habitat sites are monitored, maintained and protected (1)
- Suggestion of establishing and funding an extensive long-term environmental monitoring program with allowances for adaptive management (1)
SUBTIDAL REEF

Creating rocky reefs is a well-established way of enhancing diversity and productivity and promotes the development of kelp. Reefs have been used successfully for subtidal habitat at Roberts Bank, first in 1983, and with expansions in 1993 and 2005.

Species that would benefit from the construction of subtidal reef at Roberts Bank include Dungeness crab, ling cod, rockfish and diving birds such as scoters, loons and grebes.

5. Subtidal Reef – please identify any considerations or issues that you think Port Metro Vancouver should be aware of.

The following are the themes from the 14 responses to this question:

- Support for the construction of subtidal reefs (3 respondents)
- Concern with invasive plant and insect species arriving via ships (2)
- Concern and request for more information regarding the success of previous habitat projects (2)
- Concern that creating reefs will not help if there is increased ship traffic and pollution (1)
- Port Metro Vancouver should replace habitat that has already been destroyed by port development (1)
- Concern that the proposed Project would be destroying crab habitat and that there is no guarantee that the construction of reefs would bring crabs back (1)
- More important to protect existing habitat than to create different ones (1)
- Mudflat and sand banks are more uncommon on the BC coast and therefore should be protected (1)
- Ensure that created habitat sites are monitored, maintained and protected (1)
- Suggestion of establishing and funding an extensive long-term environmental monitoring program with allowances for adaptive management (1)
- Suggestion that any subtidal reefs that are created would be fouled by coal dust and jet fuel (1)
- Retain natural flows at the mouth of the Fraser River (1)
SAND-GRAVEL BEACH AND EELGRASS BED

Sand-gravel beaches are an important spawning area for forage fish, such as surf smelt, sand lance and herring, and provide habitat for bivalves, such as clams. Species that would benefit from the construction of sand-gravel beach at Roberts Bank include clams, forage fish, and shorebirds such as dunlin.

Eelgrass beds are productive areas that provide food and shelter to invertebrates, fish and birds. Enhancement of eelgrass could include transplanting and expanding existing eelgrass beds away from construction areas. Species that would benefit include juvenile Dungeness crab, herring, and brant and snow geese.

6. Sand-Gravel Beach and Eelgrass Bed – please identify any considerations or issues that you think Port Metro Vancouver should be aware of.

The following are the themes from the 10 responses to this question:

- Support for the construction of sand-gravel beach (2 respondents)
- Suggestion to let sand-gravel beaches occur naturally (2)
- Concern and request for more information regarding the success of previous habitat projects (2)
- The current eelgrass composition at Roberts Bank has been changed with the non-native species of eelgrass proliferating (1)
- Questions regarding the value of habitat to be created versus the habitat that would be lost (1)
- Skepticism regarding the success of eelgrass bed creation, noting that the eelgrass bed at the BC Ferries terminal has become a salt marsh (1)
- Mitigation will not help and the proposed Project should not be built (1)
- Suggestion to recreate the pre-port development habitat (1)
- Ensure that created habitat sites are monitored, maintained and protected (1)
- Suggestion of establishing and funding an extensive long-term environmental monitoring program with allowances for adaptive management (1)
ADDITIONAL ONSITE HABITAT MITIGATION

7. Please provide any additional onsite habitat mitigation ideas that you may want Port Metro Vancouver to consider.

The following are the themes from the 10 responses to this question:

- Port Metro Vancouver must address the effects of previous port development prior to moving forward with the proposed Roberts Bank Terminal 2 Project (2 respondents)
- Retain the natural ecosystem of the Fraser River, which is important to the quality of life and the survival of the human race and its environment (2)
- Port Metro Vancouver should deal with the effects of cliff erosion at Tsawwassen Beach (1)
- Suggestion of establishing and funding an extensive long-term environmental monitoring program with allowances for adaptive management (1)
- Support for proposed mitigation measures (1)
- Skepticism regarding previous commitments for mitigation which have not been implemented (1)
- Ensure that created habitat sites are monitored, maintained and protected (1)
- Suggestion of creating clam gardens (1)
- Replace biofilm that would be lost from construction of the Project (1)
- Concern regarding the impact of cell towers and radar on migrating birds (1)

ADDITIONAL COMMENTS

8. Please provide any additional comments you may have regarding any aspect of the proposed Roberts Bank Terminal 2 Project.

The following are the themes from the 15 responses to this question:

- Focus should be given to expanding the capacity of Prince Rupert’s container handling facilities (4 respondents)
- Port Metro Vancouver must deal with the effects of past port development prior to proceeding with the proposed Roberts Bank Terminal 2 Project (4)
- Statement that forecasted container volumes and capacity increases are false (2)
- Request that Port Metro Vancouver provide individual terminal capacities and throughput (1)
- Offsite habitat restoration is not like for like and must not be used to offset the effects of the proposed Roberts Bank Terminal 2 Project (1)
- Statement that rail capacity to and from the Fraser Canyon is limited and would not be able to handle the forecasted demand (1)
- Concern with the impacts of an increase of trucks on local roads (1)
- Suggestion that Port Metro Vancouver retail capacity for Canadian exports and not just focus on handling container traffic to/from the United States (1)
- Port Metro Vancouver should focus on increasing capacity at existing terminals (1)
- Request that Port Metro Vancouver build an overpass as part of the Great Blue Heron Trail to provide safe...
pedestrian and cyclist access across railway tracks. It was noted that the overpass would have multiple benefits, including tourism benefits, a greater appreciation for the seashore, First Nations contributions, and would demonstrate Port Metro Vancouver providing an amenity for neighbouring communities (1)

• Statement that Port Metro Vancouver has inflated employment numbers to promote the benefits of the proposed Project (1)
• Concern that while Port Metro Vancouver may be able to require mitigation measures during construction, they may not be able to enforce mitigation measures during operations (1)
• Statement that American coal should not be shipped through Canadian ports (1)
• Statement that thermal coal should not be shipped (1)
• Statement that further development at Roberts Bank is irresponsible (1)
• Information provided in the discussion guide and by Project team members is informative and interesting (1)
• Concern that the effects of the proposed Roberts Bank Terminal 2 Project have not been considered cumulatively along with other projects in the Delta area, such as the South Fraser Perimeter Road, Tsawwassen First Nations development, Southlands development and greenhouses (1)
• Concern regarding safety and security of increased container traffic, including illegal activity (smuggling of people and goods) and spills (1)
• Concern that community services such as water, garbage and sewage are already at their limit and question regarding whether the Corporation of Delta would get a share of port profits to pay for these services (1)
• Concern regarding the visual impacts of coal trains through the community (1)
• Concern of the potential for an oil spill (1)
• Statement that agricultural land should be protected (1)
6.3 Submissions

During consultation regarding Preliminary Environmental Mitigation Concepts, Port Metro Vancouver received 11 open ended submissions through email. The following is a summary of themes within the 11 submissions. It should be noted that many submissions included more than one theme.

- The scope of the environmental assessment should be expanded to include the impacts of port-related truck traffic and passenger vehicles beyond the footprint of the Project.

- Mitigation measures to address truck traffic impacts and public concerns should include the development of a Transportation Plan with involvement from municipalities and contributions from Port Metro Vancouver to fund infrastructure improvements to local roads; a “smart” fleet trucking strategy to reduce truck traffic; operational improvements at terminals such as extending terminal hours to reduce truck traffic congestion during the day.

- Suggestion that a cumulative effects assessment be conducted to consider the impacts of the proposed Roberts Bank Terminal 2 Project with the impacts of other large industrial and transportation projects, including the Vancouver Airport Fuel Delivery Project, Fraser Surrey Docks’ Direct Transfer Coal Facility, the Trans Mountain Expansion Project and the George Massey Tunnel Replacement Project.

- Suggestion that Port Metro Vancouver explore alternatives to intra-regional container movement that address the impacts of land movements on communities, such as short sea shipping.

- Statement of understanding that the regional transportation implications of the proposed Roberts Bank Terminal 2 Project would be addressed as part of the “Roberts Bank Rail/Road Interface Study II” being led by the Gateway Transportation Collaboration Forum (GTCF) and not part of the Environmental Impact Statement for the proposed Project.

- Concerns regarding potential impacts of the proposed Roberts Bank Terminal 2 Project on agricultural businesses from noise disturbances, air quality impacts, disruptions in transportation access, increased wildlife impacts on crop lands and impacts to water quality from accidental and dangerous materials from increased truck and train traffic.

- Concerns regarding potential impacts of Port Metro Vancouver activities on agricultural land.

- Suggestion that the environmental assessment for the Project include an Agriculture Impact Assessment like that completed for the South Fraser Perimeter Road Project.

- Statement that the agriculture industry is important to the economic framework of Delta, and that if port transportation expands on farmland, it would have economic, environmental and social implications.

- Concern regarding the impact of the proposed Project and increased vehicle and vessel traffic on marine habitat for a diversity of animals, birds and fish.

- Concern regarding the impacts of the proposed Project on the Southern Orca Community, including stress, risk of ship strikes and injury or death, construction noise that could interrupt orca lifestyles, release of contaminants affecting health, increased ship traffic resulting in noise and water pollution, and long term impacts that can affect food availability and use of habitat.

- Suggestion that the US government should be advised and included in the review of the proposed Project to protect endangered orcas and other species at risk.

- Concern that land-based monitors would not be able to accurately anticipate approaching orcas in time to shut down noise and other operations-related disturbances.

- Request that Port Metro Vancouver review The National Academies Environmental Health Sciences Decision Making Risk Management, Evidence and Ethics – Workshop Summary and take it into account when selecting experts for Technical Advisory Groups and review panel members.

- Request for a comprehensive Health Impact Assessment to be included in the review of the proposed Roberts Bank Terminal 2 Project.

- Request that efforts to mitigate environmental and human health effects begin now and remain in effect.

- Request that Port Metro Vancouver access the Vancouver Aquarium’s Coastal Research Project and Ocean Pollution Research Project for data in developing mitigation measures.

- Disagree with Port Metro Vancouver dividing public consultation from First Nation consultation due to a lack of transparency.
• Statement that Port Metro Vancouver’s consultation process is “window dressing” and that the Roberts Bank Terminal 2 Project was designed before any meaningful public consultation took place

• A detailed submission entitled “DFO and the Habitat No Net Loss Policy Flip Flops: Marsh Clean-up by Port Metro Vancouver guarantees Fraser River Estuary Habitat Losses — Accommodation of Port Plans by DFO for Continued Destruction of Roberts Bank” which is critical of DFO allowing Port Metro Vancouver’s Habitat Enhancement Program to undertake habitat projects and receive credit for them, when this type of activity used to be required of port authorities and other land owners

• Concern regarding the impacts of the proposed Project on cetaceans (Humpbacks, Minkes, Harbour porpoises and more), sea lions, seals and marine/terrestrial birds

• Suggestion that Port Metro Vancouver provide printed copies of the Environmental Impact Statement to libraries in Surrey, Delta and Richmond

• Suggestion that Port Metro Vancouver hold small group meetings to introduce and explain the business case for port expansion

• Suggestion that Port Metro Vancouver develop environmental accords with the province and Metro Vancouver for emissions, noise, light, waste and effluent

• Request for more information regarding the data gathering involved in developing baseline conditions and defining valued components

• Suggestion that Port Metro Vancouver provide quarterly and annual reports on environmental conditions based on indicator species, and in so doing, meet or exceed environmental effects monitoring requirements of the Fisheries Act regulations

• Ensure that Port Metro Vancouver staff can assign dollar values to environmental losses caused by port expansion and how proposed habitat compensation would offset these values

• Suggestion that Port Metro Vancouver should prove that it knows more about the Roberts Bank ecosystem — sediment, hydrology and biology — and changes that have occurred, than anyone else on the planet. Suggestion that this be done by estimating pre-development conditions, and then estimating changes that have occurred by each stage of port development at Roberts Bank.

• Suggestion that Port Metro Vancouver should limit its customers’ environmental impact and turn away any customers who do not meet certain standards

• Suggestion that Port Metro Vancouver should restrict ship and train activities to daylight hours

• Concern with black dust found in Ladner, and a statement of support for a second terminal if the issue of black dust could be remedied

• Concern that mitigation for the loss of an entire species is not possible

• Statement that the environment should supersede the economy, rather than the other way around

• Statement that should the Project proceed, all ships should be required to use shore power while docked to reduce noise impacts

• Suggestion that prior to shore power becoming commonplace, Port Metro Vancouver should insist that ships calling terminals within Port Metro Vancouver’s jurisdiction use diesel or bunker fuel that must not exceed some standard of opacity

• Skepticism regarding how the port would effectively monitor anticipated Project-related changes in air quality and use the data to inform the assessment of potential effects on human health

• Skepticism regarding the ability of economists to predict requirements for additional container capacity

• Concern regarding the availability of labour for the construction and operations phases of the Project and the impact of additional employees on the area and neighbouring residents

• Concern regarding increases in garbage that would be created during the construction and operations phase including coffee cups, water bottles and ear plugs

• Suggestion that the Canadian Environmental Assessment Agency public comment period for the Draft Panel Terms of Reference should have been conducted in conjunction with the Port Metro Vancouver-led consultation, to avoid confusion for participants

• Statement of support for the proposed mitigation measures and the proposed Roberts Bank Terminal 2 Project