



Feedback Form Inside Page 32

G3 Terminal Vancouver (G3)
Proposed Grain Terminal: Project Permit Application
Discussion Guide and Feedback Form

Consultation Period for the Application Review Phase: January 4, 2016 to February 1, 2016

Table of Contents

Introduction: Discussion Guide and Feedback Form	1
Section 1: Background and Economic Benefits	2
Section 2: Community Engagement and How to Provide Feedback	6
Section 3: Key Project Facts	8
Section 4: Technical Evaluations, Assessments and Studies	10
Section 5: Specific Technical Study Information and Mitigation Strategies	10
Section 6: Construction	27
Section 7: Feedback Forms	32

Introduction: Discussion Guide and Feedback Form

The discussion guide and feedback form are available online at www.g3terminalvancouver.ca

How Can I Provide Feedback?

Submit your Feedback Form:

- Online
- By email
- By mail
- Provide a written submission at the Open House on January 9, 2016. (more details on page 7)



Contact Information

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- **Email:** info@g3terminalvancouver.ca
- **Telephone:** 1-844-263-2398
- **Mail:** G3 Terminal Vancouver, c/o Suite 1600-777 Hornby Street, Vancouver BC V6Z 2T3

Reporting

Community and stakeholder feedback will be summarized and posted online at www.g3terminalvancouver.ca

Section 1: Background and Economic Benefits

Background

In June 2015, G3 Global Holdings (a limited partnership between Bunge Canada and SALIC Canada) announced a joint venture partnership with Western Stevedoring Company to examine the feasibility of building an export grain terminal – G3 Terminal Vancouver (G3) – at Lynnterm West Gate in the City of North Vancouver at Port Metro Vancouver (PMV).

G3 Global Holdings is a limited partnership established by Bunge Canada and SALIC Canada Limited. Bunge Canada is a vertically integrated food and feed ingredient company, supplying raw and processed agricultural commodities and specialized food ingredients to a wide range of customers in the animal feed, food processor, foodservice and bakery industries. SALIC Canada Limited is a wholly owned subsidiary of Saudi Agricultural and Livestock Investment Company (SALIC), a joint stock company based in Riyadh, Saudi Arabia. SALIC is building a global agribusiness by investing in greenfield and existing ventures.

Western Stevedoring is a diversified stevedoring, terminal and logistics company with operations throughout British Columbia since 1948. Western is operator of Lynnterm East Gate and West Gate, located in North Vancouver, which specializes in handling forest products, steel and project cargoes. Western Stevedoring is a wholly owned subsidiary of Carrix Inc., headquartered in Seattle, Washington. Carrix is the parent company of SSA Marine and is the world's largest privately held marine and rail terminal operator.



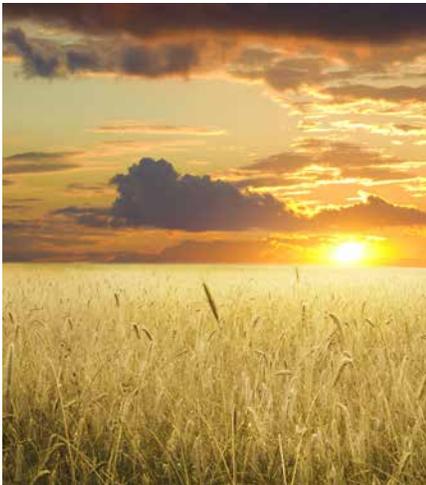
G3 is leveraging Western Stevedoring's expertise and local knowledge, Bunge's vast experience in facility construction and operation, and SALIC's global relationships to examine the feasibility of this project.

Between September 9, 2015 and October 7, 2015 – as part of a preliminary comment period that was held during the Preliminary Review Phase in accordance with Port Metro Vancouver's project and environmental review process – G3 invited comments and questions regarding the scope of technical studies as G3 examined the feasibility of building a new export grain facility.

G3 submitted its Project Permit Application to PMV in November to build a new export grain facility. The purpose of this discussion guide is to support the consultation phase occurring during the application review phase.

The goal of G3's communication and consultation is to provide information to the public, respond to and incorporate feedback, and work collaboratively in a timely and comprehensive manner throughout the preliminary comment period and project permit application phase of Port Metro Vancouver's project and environmental review process.

Economic Benefits



In the coming years, Canadian agricultural production is predicted to increase, at the same time as global demand for agri-products is also increasing, due in large part to global population growth and increasing wealth. Canada's position as a top global agricultural producer with a stable and secure business environment makes our agribusiness sector an attractive location for investment in infrastructure development.

Canada's grain and oilseed crops generate \$23 billion in exports each year – almost ½ of Canada's total food and agriculture exports – making them a major contributor to the Canadian economy. However, recent challenges have highlighted the fact that the industry's current grain movement infrastructure is not

sufficient to meet the need created by the increasing supply and demand for Canadian grain. Western Canadian farmers also have the longest average distance to port of any grain-exporting country, creating a natural challenge in getting their products to market at a competitive price. Modernizing infrastructure such as rail links and port facilities is necessary for Canadian producers to maintain competitive access.

G3 will also provide local benefits including 175 construction jobs, and 50-60 permanent jobs. Indirectly, G3 will help generate additional employment through its work with suppliers and other companies.

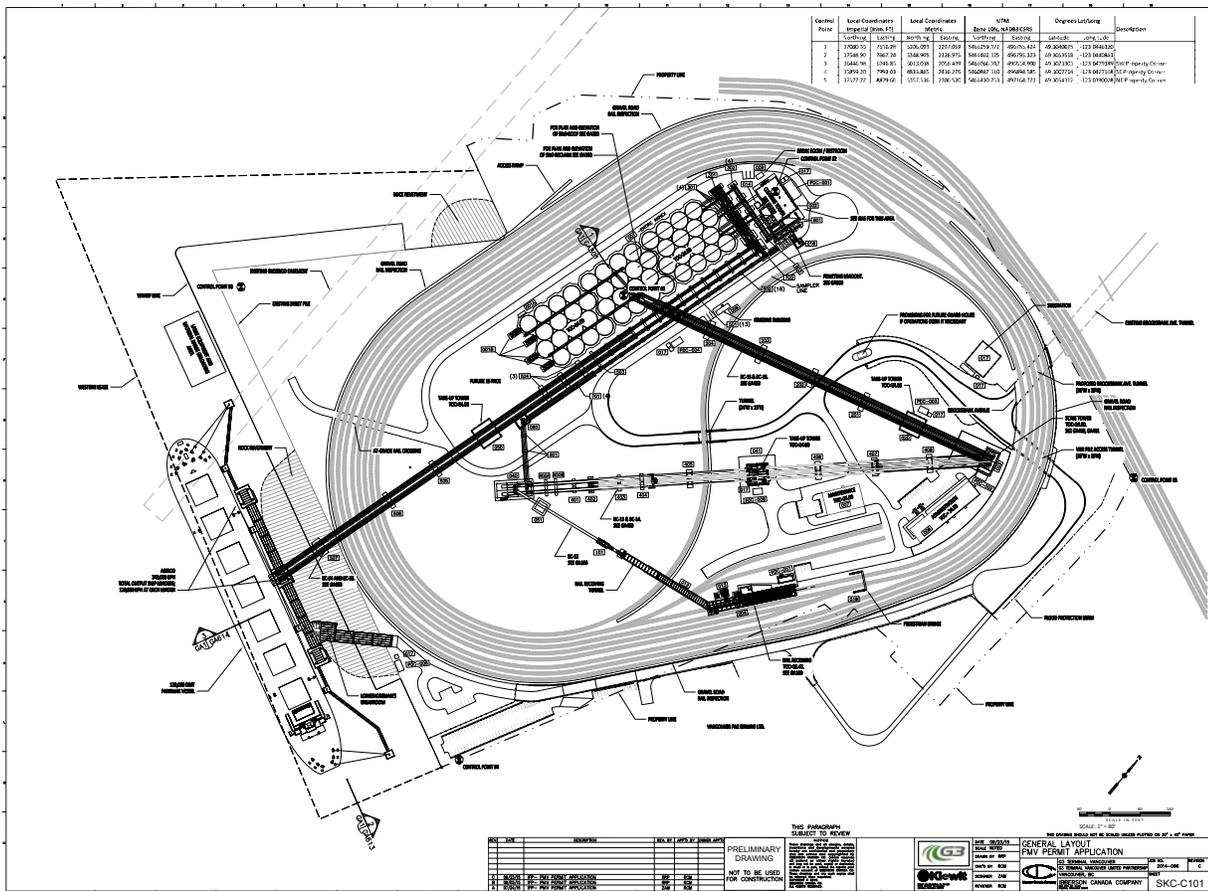
Should the project be approved, G3 would intend to use local suppliers and labour whenever economically feasible. Recognizing the strong interconnectedness of industry, community and the environment in North Vancouver in particular, G3 intends to be a positive neighbour and community citizen.



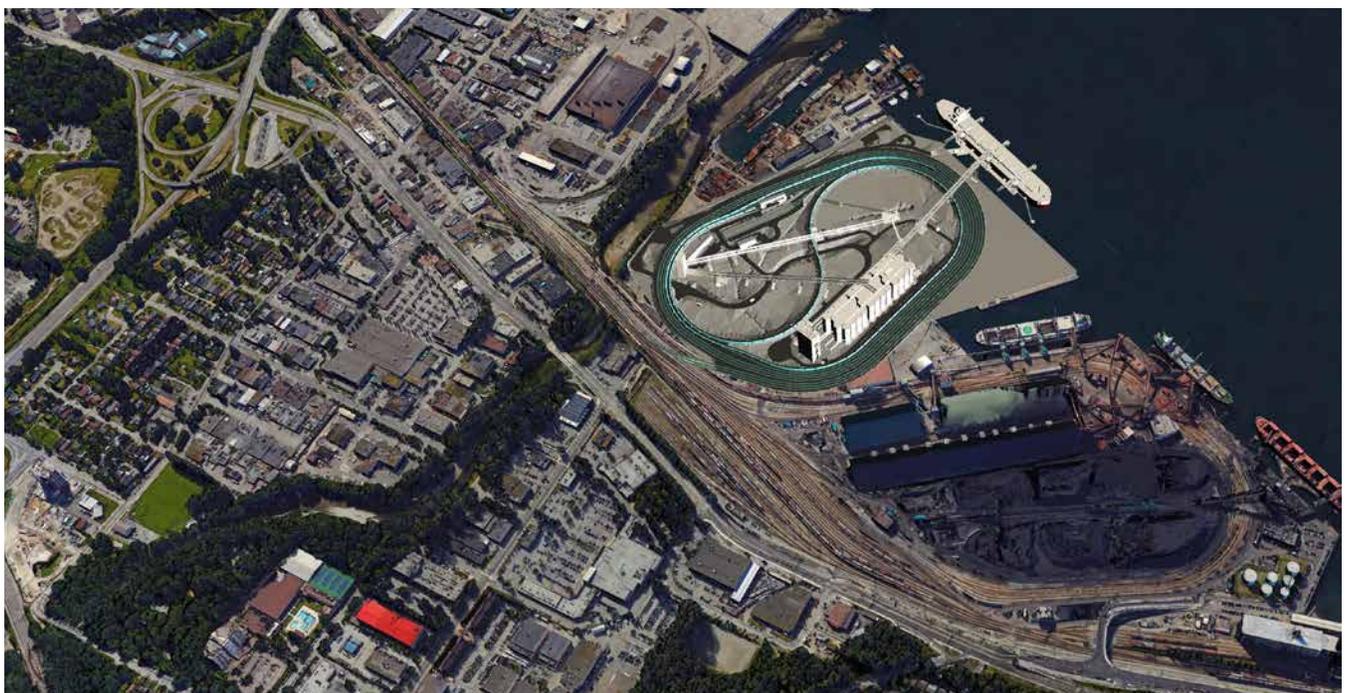
Proposed export grain terminal on Lynnterm West Gate site in North Vancouver



Location of proposed export grain terminal at Lynnterm West Gate in North Vancouver



Site schematic for proposed export grain terminal at Lynnterm West Gate in North Vancouver showing rail loop and silo placement



Proposed export grain terminal on Lynnterm West Gate site in North Vancouver

Section 2: Community Engagement and How to Provide Feedback

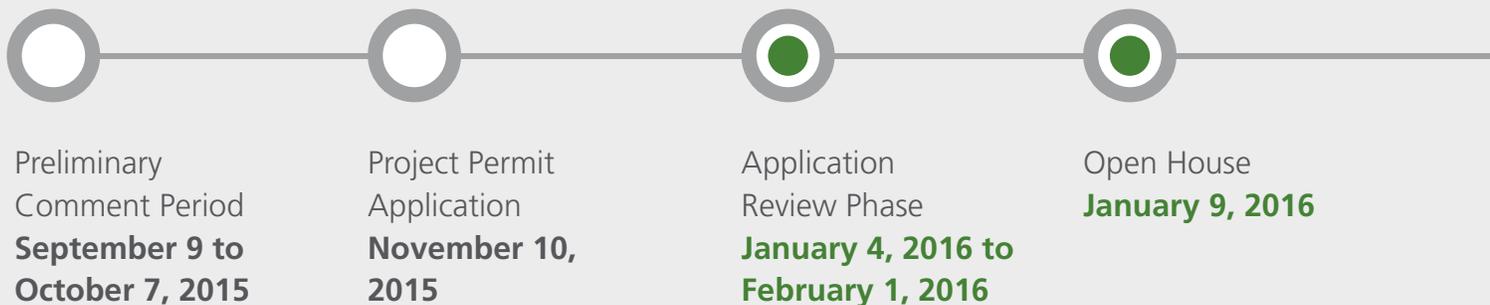
Community Engagement

G3 shared information on the scope of its technical studies in an online consultation between September 9, 2015 and October 7, 2015 as part of a preliminary review phase. During this time G3 also met with local residents and businesses, municipal staff and elected officials and other key stakeholders. The goal of this outreach was to ensure that project information was shared and feedback received and considered. All feedback gathered in the preliminary review phases has been included in an Engagement Summary Report, which is available on Port Metro Vancouver's website – www.portmetrovancover.com/g3terminal. The feedback received expressed interest in 4 key areas:

- **Marine:** Traffic
- **Land:** Road Traffic
- **Community:** Viewscapes, Light, Dust and Air Emissions, Noise, Fire Safety and Emergency Preparedness
- **Environment:** Biophysical Habitat Assessment and Nesting Birds

G3 has worked closely with Port Metro Vancouver, independent environmental and engineering experts, and our operational partners to study these areas and develop mitigation measures where necessary.

The specific plans in the above defined key areas are outlined in this discussion guide, starting on page 10.



Next Steps

G3 is holding an Open House on January 9, 2016 during a 20 business day consultation period beginning January 4, 2016 until February 1, 2016. Any project questions or comments can be address to info@g3terminalvancouver.ca or 1-844-263-2398. Feedback can also be provided through the feedback form attached to this guide and submitted via email to info@g3terminalvancouver.ca or in person at the upcoming public information session.

Open House Date:

Saturday, January 9, 2016, 1:00 pm to 5:00 pm

Holiday Inn & Suites

700 Old Lillooet Rd, North Vancouver

info@g3terminalvancouver.com

For information about Port Metro Vancouver's project review process, please visit the website at www.portmetrovancover.com/per



Section 3: Key Project Facts

Key Project Facts



Proposed export grain terminal on Lynnterm West Gate site in North Vancouver

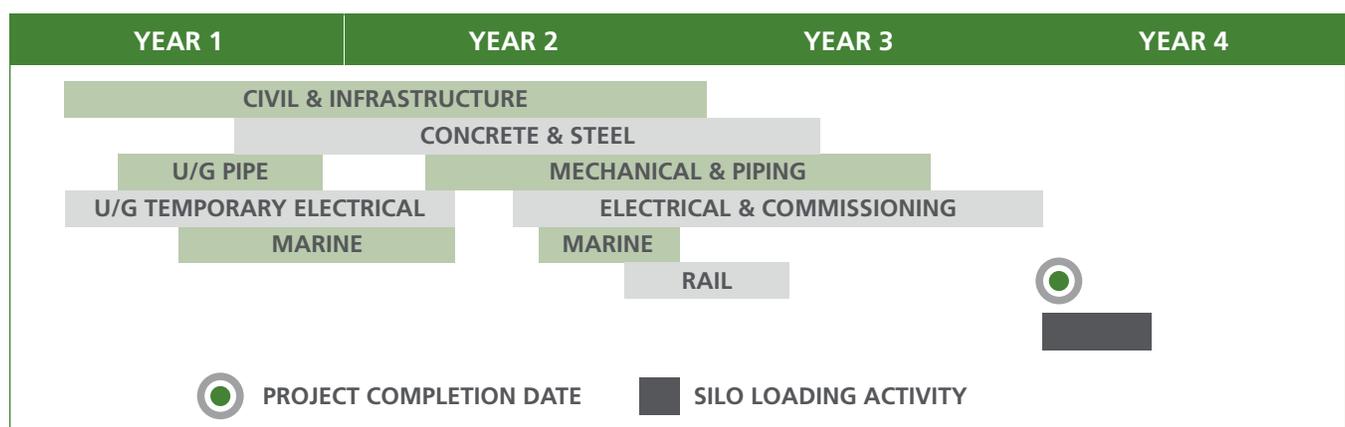
G3 Terminal Vancouver – should it be approved and built – would be designed to optimize grain receiving, storage, and shipping throughput operations on Canada’s west coast, and would be an essential conduit for Canadian farmers and marketers to ensure global competitiveness in moving agricultural commodities to world markets. Primary materials handled at the G3 facility would be wheat, soybeans, canola, peas, corn (occasionally) and some specialty by-products.

The Project Permit Application includes the demolition of existing facilities and several site improvements, including buildings, overpasses/underpasses and modification of the existing dock. Use of an existing industrial operations site would allow G3 to minimize impacts to the neighbourhood, region and foreshore while maximizing the full marine exporting potential of Vancouver’s North Shore. The proposed export grain terminal itself will involve installing and operating the following key assets:

- A railcar receiving facility that can unload two rail cars simultaneously. This facility will include a rail track loop configuration that allows for the storage or holding of up to three trains, the maximum rail loop can support a train up to 2,680 metres (8,793) ft. in length.
- A conveyor system network that begins at the railcar receiving facility, traveling partially through an underpass, onto the terminal’s bulk scale and sampling systems, then on to the storage facility and cleaning house, and finally onto the ship loading facility to be placed on berthed vessels.

- A grain storage facility consisting of up to forty eight (48) concrete storage silos with an overhead conveyor system for distributing grain commodities. The storage facility is approximately 64.0 m (210 ft.) tall, the silos being approximately 42.6 m (140 ft.) tall and the remaining 21.3 m (70 ft.) of height consisting of the overhead conveyor system and associated spouting and structures.
- A grain cleaning facility (264 ft. tall) that will clean and direct grain(s) to storage. The cleaning facility consists of conveying equipment, grain cleaning equipment, grain bins and byproducts bins, a byproduct load out system and other related systems.
- The existing dock deck will be demolished in part, and a berth structure will be added that includes pile driving 25 meters south of the existing berth face to support up to three ship-loading cranes. The ship loading system will include three articulated booms that can load ships up to a post-Panamax size.
- Dust aspiration systems that collect grain dust and in some instances turn it into a pelletized commodity to be sold to the local animal feed industry. As part of this system, pelleted byproduct storage bins will be used for truck load-out. The site will also contain other environmental controls to ensure that the facility is operating within all applicable federal, provincial and regional guidelines and regulations.
- A maintenance shop building to ensure the terminal is properly maintained.
- A control centre, administration office and locker rooms for required staffing.
- Access roads and underpasses to ensure unencumbered operational traffic flow.
- An electrical substation, protection equipment, meters, power poles and lines required to upgrade to transmission voltage and connect into the BC Hydro transmission system at Brooksbank Avenue.
- A longshore building for stevedoring personnel breaks, complete with restroom facilities.

The project is being reviewed by Port Metro Vancouver. This review includes detailed technical and environmental assessments, and public, municipal stakeholder, and First Nations consultation. If approved, the project would take approximately 36 months to construct and start operating. Please see the projected construction timeline in the figure below.



Section 4: Technical Evaluations, Assessments and Studies

In preparing G3's Project Permit Application, numerous technical studies have been conducted or are being reviewed and addressed including assessments, studies and plans related to a range of subjects including noise, viewsapes, dust and air emissions, and marine and road traffic. To see the full list and to review all of G3's technical studies, please visit portmetrovanancouver.com/g3terminal.

Section 5: Specific Technical Study Information and Mitigation Strategies

G3 has received feedback from the public and other key stakeholders in the following 4 key areas:

- **Marine:** Traffic
- **Land:** Road Traffic
- **Community:** Viewsapes, Light, Dust and Air Emissions, Noise, Fire Safety and Emergency Preparedness
- **Environment:** Biophysical Habitat Assessment and Nesting Birds

The following provides further information on the scope of G3's assessment, key findings and mitigation measures in these key areas.

Marine: Traffic

Scope of Assessment

G3 has identified and estimated the type and number of vessel calls expected at G3.

G3 assessed:

- Existing harbour operations, procedures and practices;
- Existing navigational channels, and anchorages within the Port's jurisdiction, in proximity to the proposed G3 terminal;
- Identification of a design vessel, based on vessel types anticipated to call at the new facility;
- Feasibility of the anticipated design vessel(s) and marine traffic proposed in relation to existing navigational restrictions or control points within Burrard Inlet that may limit access to such vessels; and
- Potential effects of the G3 terminal operations on the Ports Movement Restriction Area (MRA) procedures based on preliminary discussions with the Pacific Pilotage Authority (PPA).

Key Findings

There would be 168 anticipated ship movements to site per year over a variety of vessels at G3, as compared to 56 vessels to the site in 2013. It should be noted that not all of the anticipated 168 vessels would be incremental to the inlet as that figure includes vessel top-offs, and vessels that may otherwise have been serviced by other grain handling facilities. Average vessel stays in berth at G3 are also anticipated to be significantly shorter than current average vessel stays at the West Gate site.

Anticipated Grain Terminal Vessel Type	Capacity Range	Anticipated Annual Vessel Calls (# of ships)
Vessel Top-off	<20,000 mt.	24
Handysize	20,000 to 40,000 mt.	60
Handymax	40,000 to 60,000 mt.	72
Panamax	60,000 to 80,000 mt.	12
CapeSize (Post Panamax)	80,000 to 125,000 mt.	1
Ships Per Year		168

The most frequent vessel utilized would be a Handymax class (40,000-60,000mt) supporting 72 calls, followed by Handysize (20,000-40,000mt) supporting 60 calls, 12 calls by Panamax and very rarely there is a potential for Cape size (Post Panamax, 80,000-125,000mt) vessels.

Based on the types of vessels anticipated at the facility, the overall length, beam and air draft for all vessels are less than current channel design limits and therefore do not pose an issue with existing navigational design parameters established by PMV.

For the larger vessels some operational restrictions may be imposed by the Pacific Pilotage Authority (PPA) and the harbour master to address currents and vessel draft. These restrictions will come from the Berthing Simulation Modeling.



Mitigation Measures

G3 falls within the Port's Movement Restriction Area and therefore discussions with the PPA have been initiated as part of this project review.

The PPA has developed a protocol for pilotage requirements designed to ensure that all new terminals/loading have taken the necessary steps to confirm the maximum sized vessels expected can safely negotiate the approaches to and from the facility. The protocol applies to all new terminal and loading areas in the compulsory pilotage areas of the Canadian west coast.

Consultation with the PPA has led to identifying the need to complete Berthing Simulation Modeling with various vessel sizes and tidal conditions. The Berthing Simulation Model is expected to be completed by early March 2016, at which point it will be provided to the PMV and interested stakeholders. G3 will continue to discuss bunkering (refueling), maneuvering and implications with neighbouring tenants and with the PPA.

Land: Road Traffic

Scope of Assessment

G3's facility would use Brooksbank Avenue for vehicle access for all employees (up to 50 employees, split over three shifts) and service vehicles accessing the terminal.

To assess the transportation implications of G3's terminal, G3:

- Collected vehicle, pedestrian and cyclist traffic data between 7:00 – 9:00 am and 3:30 – 5:30 pm peak periods at Brooksbank Avenue/Cotton Road
- Estimated number of future trips by mode (e.g., pedestrian, cyclist, bus) generated by G3's terminal
- Reviewed site access and on-site circulation
- Reviewed parking to address the issue of parking proposed versus how much is required given the anticipated staffing levels
- Identified Transportation Demand Management (TDM) strategies that may reduce car trips to site

During part of the construction phase, road traffic will be re-routed to exit the site via the Mountain Highway access under the CN Rail line. Please see the construction traffic section for information on mitigation strategies for traffic generated during the construction phase.

Key Findings

In its operational phase, G3's facility is expected to generate less than 20% of the traffic currently generated by the existing break bulk terminal during the weekday AM and PM peak hours.

The existing land uses at West Gate typically generate up to 145 vehicle trips during the peak hour. When completed, the grain terminal is expected to generate approximately 20 vehicle trips to the road network via Brooksbank Avenue during the weekday AM, midday and PM peak hours.

Application of the City of North Vancouver's off-street parking requirements yields an obligation for 20 parking spaces. The proposed parking supply of 50 parking stalls would exceed the City's requirements. There is ample space available on the terminal for additional parking should this be required.

Mitigation Measures

While the overall traffic to site is anticipated to be significantly reduced from present day, where practicable G3 intends to employ strategies to facilitate non-auto travel and cleaner transportation methods for employees and third parties such as:

- Shower/locker room for employees
- Parking management that contains parking on site, including secure bicycle parking spaces, priority /preferred parking, and emergency vehicle parking
- Signage to enforce lower vehicle speeds within the site and to warn drivers of turning vehicles / conflict zones ahead
- On-site streetscape design – pedestrian friendly streets and walkways – to facilitate employee and visitor foot traffic
- Guaranteed ride home program in emergency circumstances for bike/pedestrian commuters (e.g. facilitate rides to or from a nearby transit station)

Community: Viewscapes

Scope of Assessment

G3 has assessed how the proposed siting, shape and size of its development may have view impacts on the surrounding community and public areas. View locations selected to illustrate how the facility will appear from a variety of locations include the Hastings – Sunrise neighbourhood in the City of Vancouver, the Moodyville community in the City of North Vancouver, and the Calverhall community in the District of North Vancouver.

View impacts were assessed from a variety of public, private and skyline vantage points to illustrate the potential impacts. Renditions of the facility were superimposed on photographs utilizing Google Earth and Google Street View and a 3 dimensional model of the proposed terminal to illustrate what the project would look like.

Key structures visible in the viewscape analysis are: the storage silos, the cleaning building, the scale building, the conveyors and the ship loaders.

Key Findings

G3 would be visible within the context of the Vancouver skyline from the vantage points utilized in this assessment. However, due to similar existing developments within the predominantly industrial area of the north and south shore waterfront (Richardson Grain Terminal, Neptune Terminals, Viterra) the visual impacts of such a terminal is lessened as it is consistent with the existing skyline.

Residential areas will be far less impacted, as the natural contour elevations of residences on the hillside limit the direct views of the facilities.

Existing vegetation further limits the impacts on residences in the Moodyville Neighbourhood.



Current View

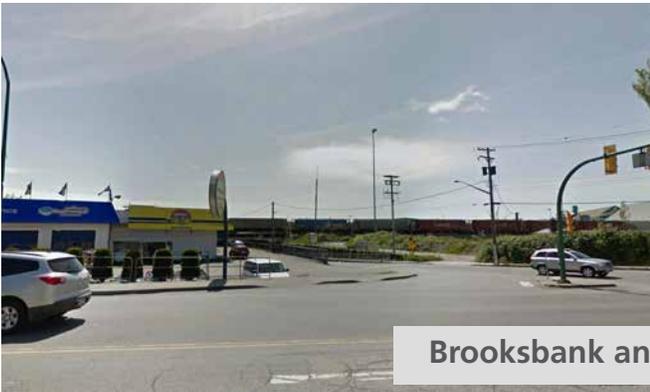


Cloverly Park

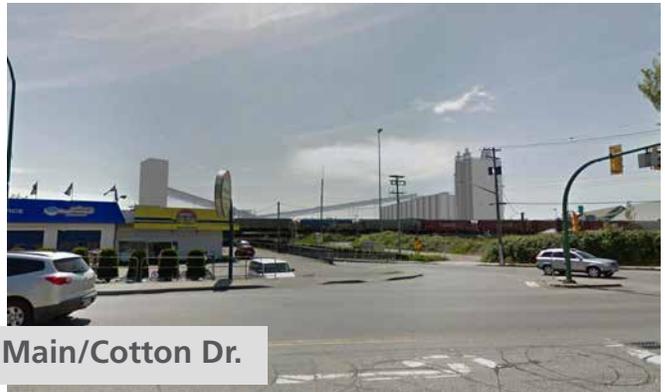
View with G3 Terminal Vancouver



Harbourview Park



Brooksbank and Main/Cotton Dr.



Mitigation Measures

During project planning and design, there was an Alternative Siting Study conducted with numerous considerations taken into account regarding the positioning of the grain silos, including visual impact. After weighing these considerations the grain silos were repositioned

from their original designed east-west orientation to a north-south orientation. This orientation limits the massing of the facility and significantly reduces the visual impact from the Moodyville neighbourhood to the north.

Community: Light

Scope of Assessment

G3 developed a lighting plan of proposed exterior lighting including the location, type of bulbs, orientation and design level of illumination.

Key Findings

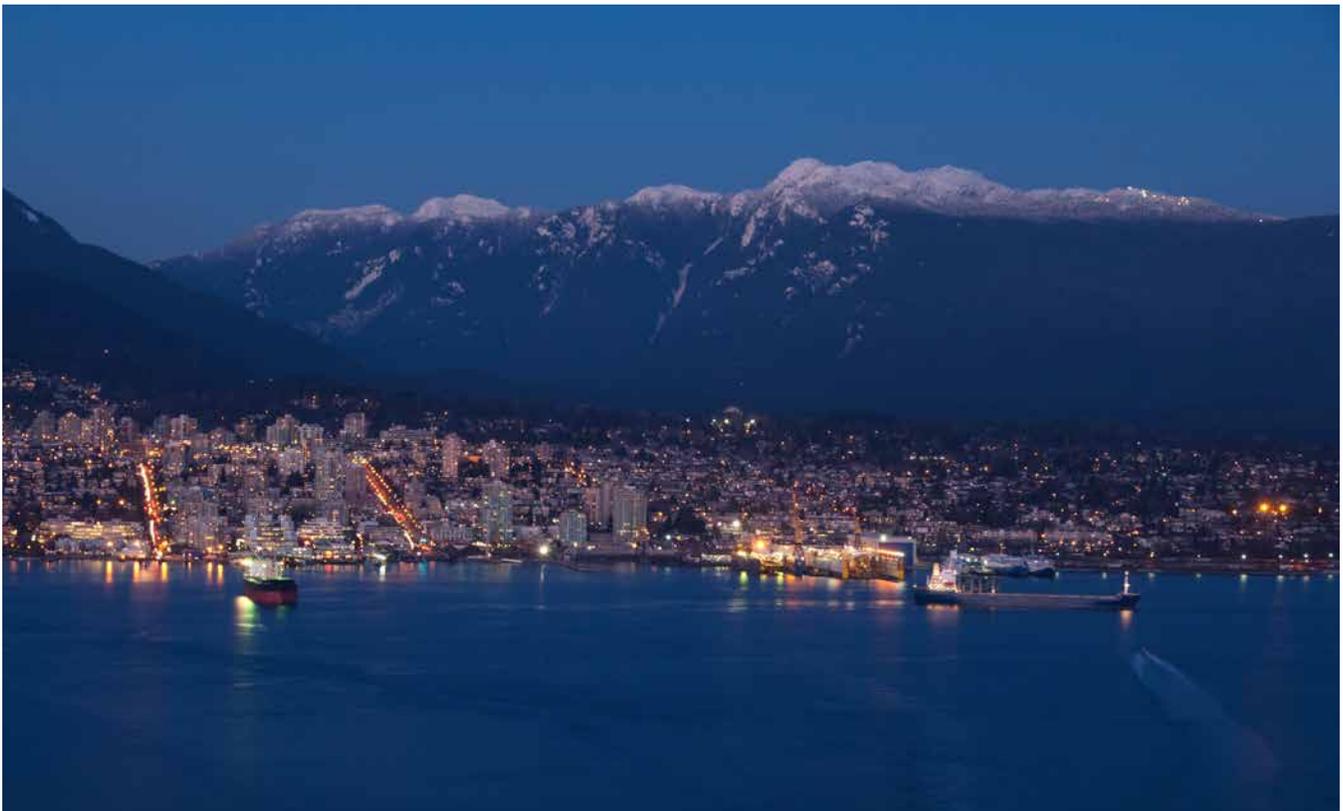
Illumination levels for the facility will be in compliance with the latest safety codes for minimum lighting levels.

Mitigation Measures

During construction, care will be taken to direct light fixtures into the facility and away from any residential areas.

A lighting plan will be developed and adhered to. The lighting design will consider building code requirements and light exposure to surrounding areas.

The existing high mast lighting will be decommissioned and removed. The permanent facility lights will be directed into the facility and not towards neighbouring sites. Where necessary, light shields will be used to control the light profile and avoid light pollution. Since LED lights are being used and fixtures will be directed down, there will be very minimal (less than 1%) illumination above the 90% plane. Special care will be taken to keep light from being directed towards the water to avoid affecting marine navigation. The majority of the outdoor lights will be controlled via the facility control system and kept off unless needed, significantly reducing the potential for light leaving the facility.



Community: Dust and Air Emissions

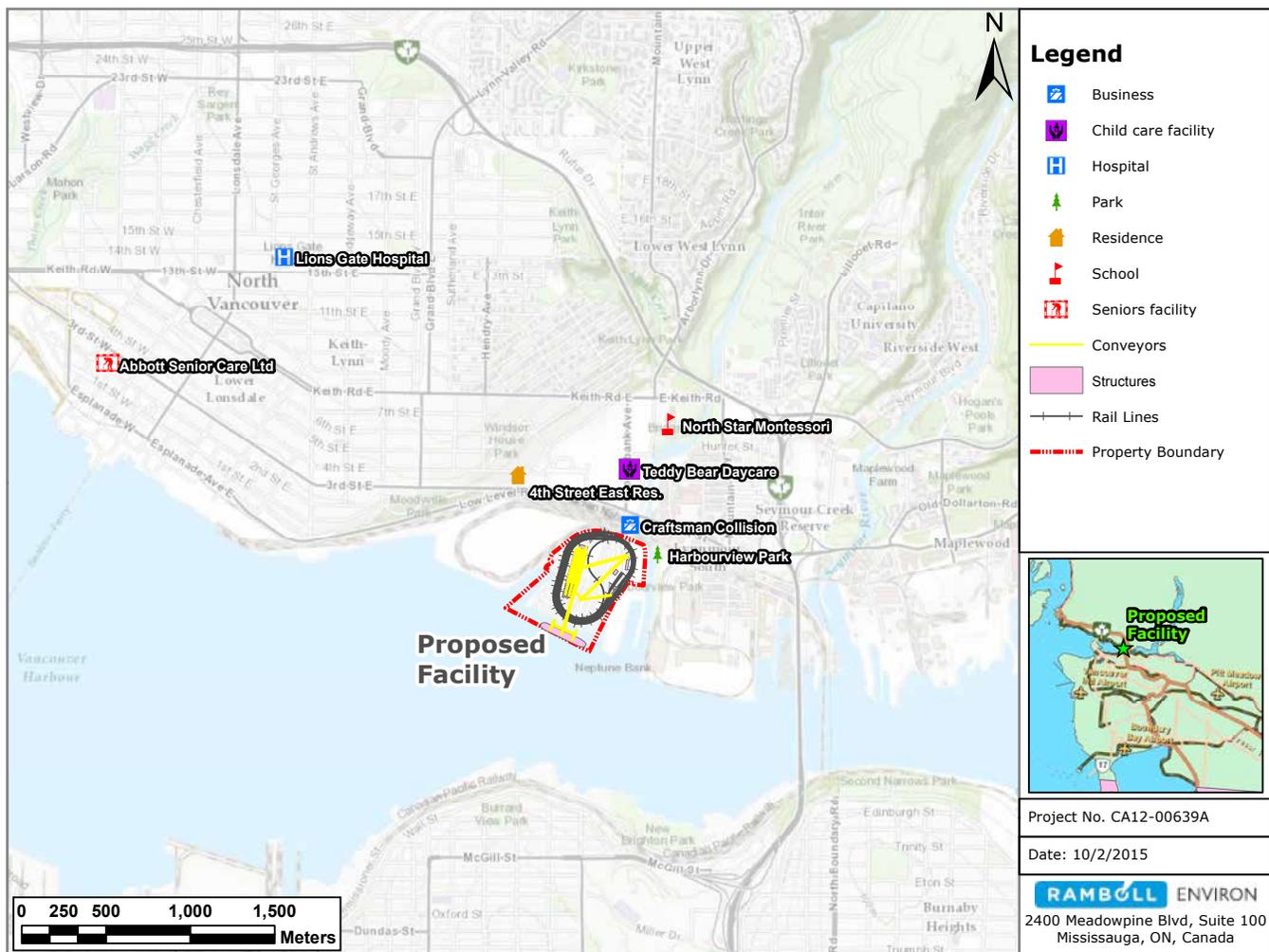
Scope of Assessment

The Environmental Air Assessment evaluated the potential impact on air quality that would result from ceasing current break bulk operations at West Gate and operating the proposed G3 grain storage and export terminal. The Environmental Air Assessment was completed based on the new PMV Environmental Dust and Air Assessment Guidelines. The study takes into account dust and other air emissions generated by the facility, as well as the trains and marine vessels that service the facility.

G3 produced a description of existing conditions, potential impacts, and proposed

mitigation. Facility description and emissions estimates are complete, and preliminary modeling has been done.

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors. Sensitive receptor locations for G3's Terminal are indicated on the figure below.



Key Findings

The current air quality in the vicinity of the proposed facility is considered to be good, and well within applicable air quality objectives.

Even when the G3 terminal reaches full capacity, annual air emissions of many pollutants from combustion sources within the terminal boundary will be reduced by 55% to 71% compared to the existing West Gate operation, primarily due to lower marine emissions at berth. However, dust emissions will increase due to grain handling activities. As described below in the mitigation section, G3 is applying the best available techniques to minimize dust emissions, including state-of-the-art telescoping ship loader spouts and point-of-generation capture systems with fabric filter control.

The new facility will ship 8,000,000 MT annually compared to the existing 750,000

MT, which will result in an increase in overall greenhouse gas emissions within the G3 facility boundary, measured in CO₂ equivalents (CO₂e), of approximately 8.8% from 4,710 MT to a total of 5,125 MT annually (CO₂e account for the combined global warming potential of the greenhouse gases: CO₂, CH₄, and N₂O). However, the new facility will operate with significantly higher efficiency, producing 0.6kg of CO₂e per MT of material shipped, versus the existing operations which produce 6.4kg of CO₂e per MT of material shipped. This accounts for a 90% reduction in CO₂e per MT of material shipped, as highlighted in the table below. Please see the table for a breakdown of current and future total greenhouse gas emissions within the facility boundary (including vessels at berth), and greenhouse gas emissions per MT of material shipped.

	Existing Operations		Future Operations	
Material Handled	750,000	MT	8,000,000	MT
Total CO ₂ e emissions	4,710	MT	5,125	MT
CO ₂ e emissions per MT shipped	6.28	kg/MT	0.64	kg/MT
Percentage CO ₂ e Change per MT of Material Shipped				-90%

*MT = Metric Tonne

Mitigation Measures

G3 will use the best available technologies to control air emissions and dust produced by the facility in various stages of process, including:

- **Railcar unloading**: Point-of-generation capture at the receiving hoppers and receiving belt conveyors
- **Baghouses and bin vents**: All conveyors, elevators, and transfer points are completely closed at the points of dust generation and equipped with dust collectors with filters.
- **Ship loadout system**: Moveable, covered belt conveyors extend over the ships for loading, each with a spout that extends down from the end of the conveyor into holds of the ship. The configuration at the top of the spout creates an artificial “plug” to minimize the air in the grain column. The spout’s “dead box” near the bottom slows down the flow of grain and minimizes dust created; the relatively small amount of dust created in the spout is controlled by the filters connected to it.
- **Pelleted screening loadout system**: Pelleted screenings will be loaded onto trucks using a Dust Suppression Hopper (DSH) loading spout equipped with a dust collector. Spouts are suspended and kept at fixed operating level minimizing the grain free fall distance.
- **Locomotive emission sources**: The continuous movement rail loop and receiving system will allow grain to be received using the line-haul locomotives directly, optimizing the railcar unloading process by synchronizing car movements with the robotic rail car gate openers/closers. The system will minimize the train accelerations and limits the use of higher throttle notches, generating fewer exhaust emissions than a more traditional shunting method with relatively frequent stop-start accelerations.

Community: Noise

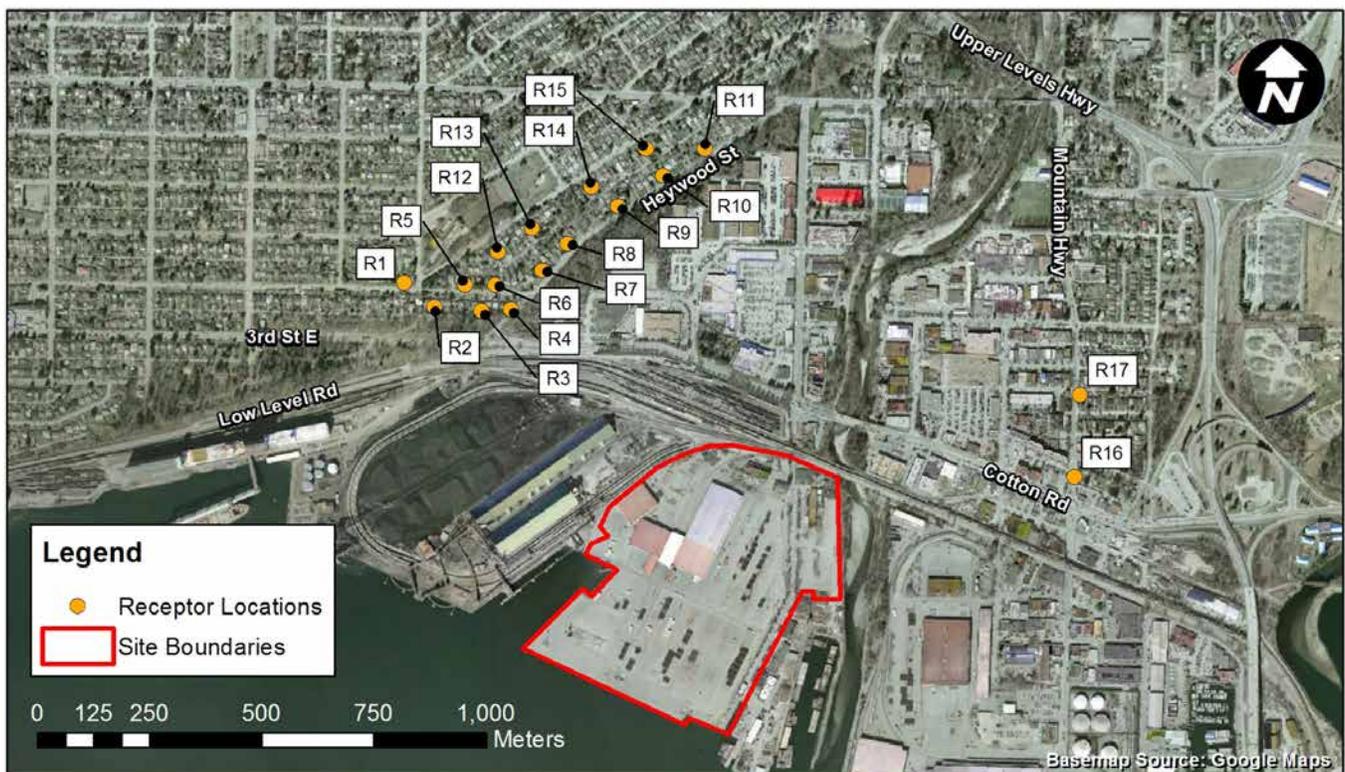
Scope of Assessment

G3 assessed the potential for noise from construction and operation of its facility at residential properties near the site. The operational noise impact assessment was completed based on the new PMV Environmental Noise Assessment Guidelines. The PMV guidance is based on the percentage increase in the number of residences that would be expected to be disturbed once a project is operational, compared with baseline conditions. Noise emissions from construction and demolition-related activities were evaluated using both published data from commonly used types of construction equipment and through modelling of specific construction activities. Operational noise was evaluated through predictive noise modelling of all expected acoustically-significant sources of noise at the G3 facility, including from dust collection, conveyance, truck transport, ship loading,

and rail movement. Noise source data were measured at a similar facility to ensure that predictive modelling was accurate and representative of proposed operations at G3.

The potential for both construction and operational noise impacts was predicted at 17 noise model receptor locations, representing a large number of residences in both the City of North Vancouver and the District of North Vancouver. Model receptor locations were selected to be representative of those areas with the highest potential for impact due to G3 construction and operation. The figure below illustrates the receptor locations.

The assessment of the potential for operational noise impacts relied on guidance from external authorities that provides a method by which to evaluate quantitatively the changes in environmental noise.



Key Findings

The construction noise assessment indicated that G3's facility would be unlikely to generate sound levels that would be considered an impact, with noise levels predicted to remain well below the construction noise limits of both the City of North Vancouver and the District of North Vancouver including noise associated with pile driving.

The assessment determined that of all operational activity, including all equipment for conveyance and dust collection, as well as truck traffic, ship loading, and rail movement, that the noisiest operational equipment would include four (4) baghouse aspirator blower exhausts and two (2) pairs of belt tensioner tower motors. Note that rail movement will utilize a streamlined, state of the art unloading system that employs robotic gate openers and continuous unloading practices which significantly reduces noise, including that associated with shunting.

In the absence of noise mitigation, noise from G3's facility would result in a 4.7% increase of disturbance at the most affected residences. Under the United States Federal Transit Administration (FTA) criteria (no equivalent criteria in Canada), prior to mitigation "moderate" noise impacts would be expected at 14 of the 17 modelling receptor locations considered.

Projected future noise impacts that would be considered "moderate" under FTA criteria were considered for potential noise mitigation in an attempt to eliminate such impacts, to a point at which the change in disturbance would be insignificant.

Mitigation Measures

Efforts will be made to ensure that noise from construction activities is minimized, including, if necessary, for pile driving activities. Noise mitigation measures for construction are provided in the Construction Environmental Management Plan (CEMP).

Rail lubricators and friction devices will be employed to further reduce noise emissions from rail movement resulting in a rail source that is not expected to contribute noise significantly to the overall the project.

Operational noise mitigation focused on what is predicted to be the noisiest operating equipment, these include:

- **Four baghouse aspirator blower exhausts:** achieving a reduction of 10 decibels from exhaust silencers, considered to be a reasonable and achievable reduction.
- **Two pair of belt tensioner tower motors:** achieving a reduction of 10 decibels through use of either barriers, enclosures, quieter motors, or a combination thereof..

Noise control mitigations measures are equipment specific. These measures for aspirators and drive motors will be determined once the equipment selection is finalized. The expected noise impact of 4.7% will be reduced to 2.6% at the most affected residences by measures to control noise from dust collector aspirator exhausts and drive motors.



Mitigation Measures

The following fire risks have been taken into account for the facility's operations:

- The facility will be operated from a central control room in the administration building and will have many safety features built in to the programming;
- There is an extensive hazard monitoring system extended to all of the handling equipment to bearings, alignment, over loading, excess vibration of motors, proper equipment speeds, temperature and pressure sensors, etc.
- Mechanical explosion isolation (back blast dampers) will be utilized to prevent flame propagation back into the unit from upstream equipment.
- Dust collectors with multiple sources will have an isolation system to prevent flame propagation back into the process.

For design purposes, wheat dust properties were used as the main commodity. For explosion vent design, corn was used as the design commodity. The use of corn properties as a governing commodity for explosion vent design ensures adequate protective measures are considered.

The design has relied upon enclosed equipment whenever grains are handled inside of structures. Extensive dust control is also utilized in the facility's design:

- In addition to using traditional bag houses and cyclones, this design uses point of use filters (bin vent filters) to provide dust control at remote locations such as belt conveyor transfer points.
- The cleaning building has dust filters on the roof to control dust created by equipment in a small area.
- The cleaning tower and the pelletizing unit will have a pre-action sprinkler system, fire extinguishers, and dry sandpipes to the annex bin deck.

An emergency action and response plan was developed and has been reviewed with appropriate local authorities and emergency response agencies/groups in the event of a fire or other emergency. All facility employees will receive training on the content of this plan so they are familiar with the procedures. This will happen yearly.

Environment: Biophysical Habitat Assessment

Scope of Assessments

Terrestrial and aquatic habitat assessments, that have the potential to be impacted by project activities such as infilling, vegetation removal, or shoreline modification, were completed in August 2015.

It should be noted that the terrestrial habitat assessment was confined to a relatively small (0.125 ha) strip of vegetation that will be cleared for construction of the facility. No other vegetation clearing will be required. Similarly, the aquatic area assessed was restricted to the marine areas impacted by construction. There will be no construction impacts to adjacent Lynn Creek and the Lynn Creek estuary. The key findings and are outlined below.

No federally or provincially listed species at risk were observed during either the aquatic or terrestrial surveys. In addition, both the aquatic and terrestrial biophysical assessments concluded the assessed areas are not considered conducive to the presence of federally or provincially listed species at risk.

Key Findings

Aquatic Assessment

The existing marine habitat at the bases of the piles, outer edge of the wharf and under the existing dock along the edge of the bulkhead was assessed using underwater cameras. In general terms, the substrate in all locations consists of medium to large rocks, shell hash overlain with silt and organic matter. There were also various types man-made material (e.g., rope, cable, metal pipe) identified on the ocean bottom throughout the survey area.

Marine habitat impacts associated with proposed works include habitat loss from pile removal and the loss of existing sea bottom attributable to rock placement. Conversely, the removal of creosote-treated piles will remove a contaminant of concern for aquatic life. New rock will provide habitat for fish and invertebrates, including Dungeness crab. New rock, in concert with the removal of decks that will enhance ambient light conditions within the water column, will prospectively enhance kelp and algae production. The presence of kelp and algae will mitigate the loss of structural complexity associated with pile removal. Structural complexity within the water column is important as fish forage and seek refuge in structurally complex habitats. The potential habitat enhancement resulting from the proposed Project will offset negative impacts to the marine environment. Figures x and y show marine survey locations.

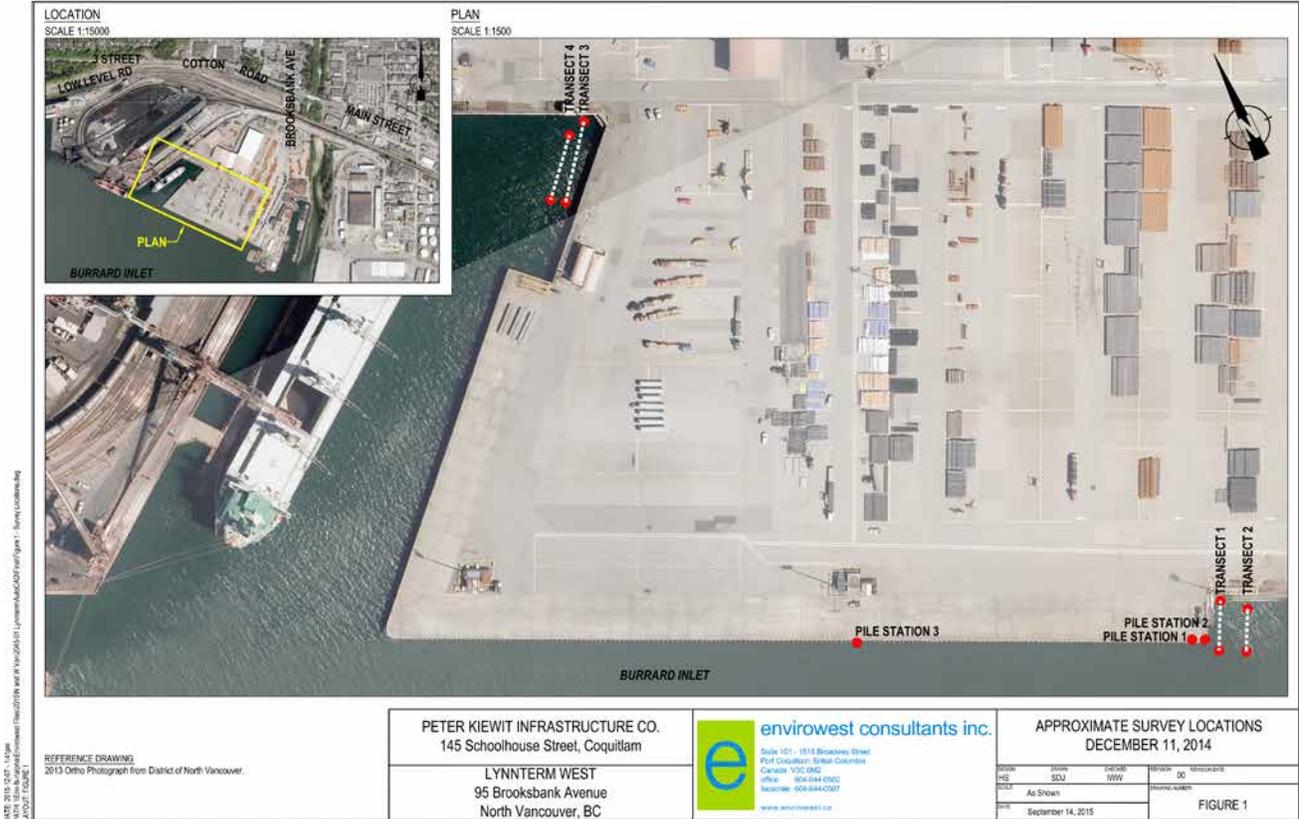


Figure x



Figure y

Terrestrial Assessment

The Assessment Area shown in Figure z is the only vegetated area on the site and comprises a linear area of ornamental, primarily non-native vegetation. The area is situated along the east side of a chain link and barbed wire fence at the eastern perimeter of the terminal. A parking lot is located immediately east of the Assessment Area.

Canopy vegetation within the Assessment Area is characterized by European birch. A majority of the birch within the Assessment Area has previously been topped and lack typical crown and branching structure. Two elms are present at the north end of the Assessment

Area. Shrubs are sparsely distributed within the Assessment Area, and include rowan, tall Oregon-grape, laurel, and viburnum. Ground cover within the Assessment Area is characterized by English ivy, which covers the majority of the ground area and many of the birch. Other ground cover is distributed sparsely throughout the Assessment Area, and includes spurge-laurel, hairy cat's-ear, wall lettuce, vetch, common horsetail, ribwort plantain, ornamental sage, and grasses. English laurel, English ivy, and spurge laurel are considered invasive plants by the Invasive Species Council of Metro Vancouver.

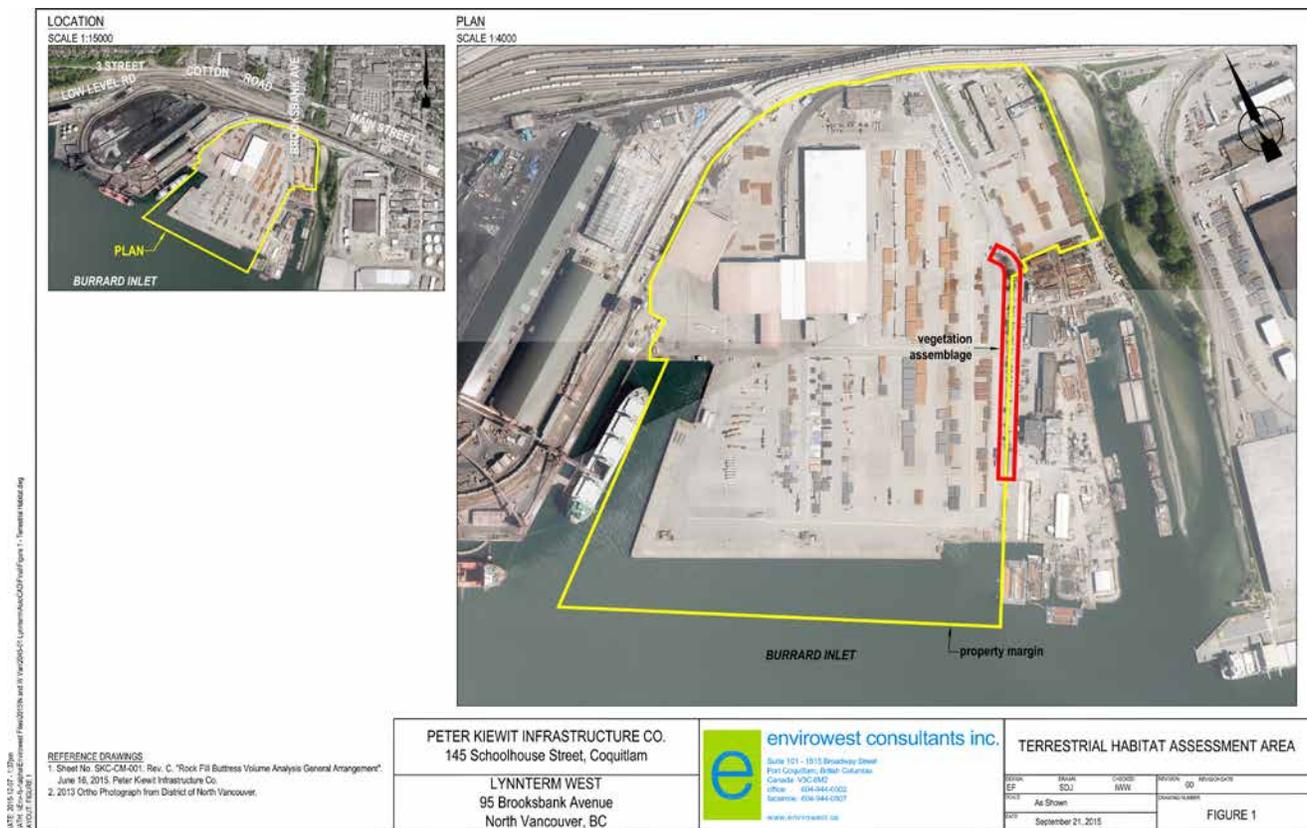


Figure z

Wildlife or existing bird nests were not detected within the Assessment Area at the time of the survey. However, it should be noted that the surveys were conducted outside of the April 1 to July 31 general bird nesting window for the Lower Mainland. Northwestern crow was observed perching on an adjacent power line. Gulls were observed in other areas of the terminal. The Assessment Area is unlikely to provide significant habitat value to wildlife. Wildlife habitat value is primarily limited to perching or roosting sites for birds (e.g. northwestern crow). Birch and elm within the Assessment Area could be used as nesting sites, but these nesting sites would be of low quality due to the exposed nature of the site to both predators and weather conditions. No bird nests were detected during the assessment.

Other wildlife use of the Assessment Area is considered unlikely, as the location is isolated from other vegetation by large expanses of paved area and existing vegetation provides little shelter or food value.

Mitigation Measures

Due to the removal of all onsite vegetation prior to construction, there are no mitigation efforts required. However, Lynn Creek and Lynn Creek estuary are considered environmentally sensitive areas (ESAs) and run parallel to the east edge of the site. Mitigation measures that will be implemented to protect the vegetation within this sensitive area include:

- Isolation fencing and signage along the border
- Erosion and sediment control measures preventing runoff
- Maintain appropriate buffer zones
- Not allowing fueling within 30m of the ESA

For additional mitigation measures related to the Construction Environmental Management Plan (CEMP) as they related to the biophysical habitat, please see page 26.

Nesting Birds

All vegetation clearing will be conducted outside of the general bird nesting window (April 1 – July 31), therefore bird nesting surveys will not be required prior to clearing. Should clearing be conducted during the bird nesting window, nesting surveys will be conducted prior to clearing by a qualified environmental professional.

Section 6: Construction

Construction activities will include:

- Demolition
- Excavation and grading
- Concrete Work
- Structural Steel
- Electrical Work
- Mechanical Work
- Rail Construction
- Marine Work

Anticipated Impacts of Construction Activities

The primary impacts due to construction may include:

- An increased volume of traffic due to increase in employment at the site and delivery of materials,
- Dust emissions from excavation and grading activities,
- Noise generated by equipment and certain construction activities, and,
- Light pollution from temporary construction lighting.

Mitigation Measures

Construction Traffic

The site will be secured to restrict access by unauthorized personnel. This restriction will reduce the possibility of interactions between construction equipment and the public. A construction communications plan directs proactive communications regarding any disruptions and mitigations related to construction activities.

Measures will be implemented to ensure the traffic flow in the local area is not significantly impacted. Some measures to mitigate traffic during these specific construction operations will be detours, signage, off duty officers, or traffic control personnel (TCP).

A temporary site access road will be required during the early stages of construction. This temporary access road will be implemented to accommodate the construction of the t-intersection underpass adjacent to the Brooksbank structure. The temporary road will be decommissioned and removed after the newly constructed t-intersection is put into service. The new t-intersection will accommodate subsequent construction traffic and activities.

The temporary site access road (figure below) will tie into Harbourview Road at the east side of Lynn Creek.

Should G3's project be approved, the general weekly schedule for above ground and below ground construction activities is expected to be 5 days/week at 10 hours/day. Due to the time sensitive nature of slipform pours they will be conducted 7 days/week at 24 hours/day.



Slip forming is a construction method used to continuously pour concrete for long periods of time so that large structures can be built without pause. There will be 5 slipform pours currently scheduled in the range of 6 to 10 days each.

All in-water work for dock expansion will be conducted during the window of least risk for fish (August 16 to February 28 annually) for two consecutive seasons and are also expected to be 5 days/week at 10 hours/day.

Dust Emissions

The Dust generated onsite (during construction) will primarily be a result of onsite equipment operating on gravel or dirt roads. Dust sources will be mitigated by watering roads or stock piles as necessary and using a water truck or sprinklers as is best suited for the situation.

Noise Levels

Noise levels generated on site will remain below best practice standards of 85dBA. The majority of construction activities, particularly those that generate noise (pile driving, demolition, etc.) will occur during the regular day time hours (7am to 8pm window).

Light Pollution

Construction lighting, in the form of fixed lights and portable light plants, will be utilized for safety and security of the project personnel. It is intended that all lights will be pointed away from the property line, so as to minimize the amount of light pollution reaching the neighbouring properties. All lights will be affixed with a directional shields to cut-off the amount of light escaping. The exception to this would be any navigation hazard lighting as directed by Nav Canada to identify tall structures such as cranes, form work or other structures on which it is deemed necessary. Any such exceptions will be identified by Nav Canada in their pre-construction assessment.



Image used by permission of Port Metro Vancouver

Construction Environmental Management Plan

G3 has developed a Construction Environmental Management Plan (CEMP) to guide the overall environmental best management practices to be implemented by the construction team for the terminal to reduce or eliminate effects on the environment and to meet regulatory requirements. The general objectives of the CEMP are to:

- protect valued ecological components and socio-economic features during the design, demolition and construction phases of the project;
- ensure compliance with the conditions of environmental approvals from regulatory authorities; and
- reduce potential environmental liabilities.

Mitigation Measures

Environmental and Construction Managers will be responsible for the overall construction process, adherence to principles and orientation to the CEMP for field supervisors. A key component for the implementation of a successful environmental program is an understanding by field crews and supervision of how construction activities impact the environment and mitigations measures to reduce or eliminate those impacts. This CEMP provides guidance to field supervision on those mitigation efforts.

Numerous measures will be taken during construction to minimize these potential impacts. Some of the key measures are highlighted below. For a list of all mitigation measures planned, please refer to the full CEMP.



Air Quality

- Minimize the handling of soils and aggregates;
- Minimize generation of road dust (e.g., use watering or sweeping); and,
- Implement a vehicle/equipment anti-idling policy for construction equipment and vehicles; and
- Maintain all equipment in good working order and use at optimal loads to minimize emissions.

Noise and Vibration

- When feasible, conduct construction activities from Monday to Saturday between 7:00 am and 8:00 pm;
- Communicate with the public regarding work procedures and scheduling of noisy activities; and,
- Maintain construction equipment in good working condition and operate equipment at or within load tolerances.

Erosion and Sediment Control

- Minimize the area disturbed by construction;
- Minimize the volume of overland flow entering, or flowing through, construction areas;
- Apply suitable applicable best management practices (BMPs) for surface water quality and sediment and erosion control; and,
- Ensure that sufficient filter cloth, rock, seed, drain rock, culverts, staking, and other materials used for erosion prevention or control is readily available on site.

Contaminated Soil and Groundwater Management

- Refine design to avoid, where practical, areas of soil contamination;
- Minimize excavation areas;
- When possible, re-use soil within the project boundary;
- When possible, limit the depth of excavations to above the groundwater table to reduce dewatering;
- To the extent possible, limit dewatering activities; and, if dewatering is required, utilize a baker-type tank system to store water, treat for pH, turbidity and providing the water meets guidelines, release to the natural environment or stormwater system.

Vegetation and Wildlife Management;

- Vegetation clearing is expected to be minimal;
- Conduct pre-clearing surveys for any rare or sensitive species;
- Prepare and implement a clearing and grubbing plan;
- Mark the clear and grub “No Disturbance” and “Vegetation to Remain” boundaries on the environment construction drawings and in the field;
- Dispose of any invasive plant species in accordance with local by-laws;
- Conduct all clearing outside of the bird breeding season;
- Maintain all construction sites free of wildlife attractants such as food, garbage, petroleum products or other materials with a strong odor; and,
- Use only animal proof garbage containers.

Marine Works

- Pile removal and pile-driving in open water will occur during the window of least risk for impacts to fish and fish habitat (August 16 to February 28);
- The area of pile removal will be surrounded by a containment boom during pile removal, and an oil boom will be placed within the containment boom;
- A bubble curtain will be utilized around pile driving activities to ensure underwater sound levels (peak pressures) do not exceed allowable levels;
- Use biodegradable hydraulic fluid in marine based machinery (type of equipment permitting); and,
- Ensure a marine based large spill clean-up kit including sufficient booms to contain a major spill will be on site during all marine operations.

Archeological Resources

- Develop and implement an Archeological Discovery Protocol (Chance Find Management Document as defined in the Archeological Overview Assessment) on the possible discovery or archeological artifacts and remains.

Emergency Spill Response

- Develop and implement a Spill Response and Reporting Protocol;
- Maintain a functional spill kit on each construction related vehicle;
- Station properly furnished spill kits at appropriate intervals throughout the work area and near main water bodies; and,
- Store hazardous materials in a centralized location with adequate secondary containment.

General Waste Management

- Implement a waste minimization policy for the Project including procurement of construction materials and services;
- Maintaining general site cleanliness (i.e., “good housekeeping”) by cleaning up construction debris, garbage and other non-hazardous solid waste materials on a regular basis;
- Removing non-hazardous solid waste for off-site disposal at an appropriate frequency.
- The demolition contractor will salvage any material that has a salvage value. Concrete will be sent for crushing/recycling. Steel will be sent for recycling. Asphalt is being reclaimed for re-use on the project site.



Section 7: Feedback Forms

We want to hear from you.

Please share your thoughts on the information you have just reviewed. Provide information on any and all information you have an interest.

The consultation period runs from January 4, 2016 to February 1, 2016. Please provide any feedback in this time period.

Comments provided by:

Name: _____

Email Address: _____

Postal Code: _____

Marine

We would appreciate your input on the information you reviewed in relation to Marine Traffic:

Land

We would appreciate your input on the information you reviewed in relation to Road Traffic:

Community

We would appreciate your input on the information you reviewed in relation to Viewscapes:

We would appreciate your input on the information you reviewed in relation to Light:

We would appreciate your input on the information you reviewed in relation to Dust and Air Emissions:

We would appreciate your input on the information you reviewed in relation to Noise:

We would appreciate your input on the information you reviewed in relation to Fire Safety and Emergency Preparedness:

Environment

We would appreciate your input on the information you reviewed in relation to Environment: Biophysical Habitat Assessment and Nesting Birds:

Construction

We would appreciate your input on the information you reviewed in relation to Construction:

General

We would appreciate any general feedback you'd like to provide to G3:

Survey

Why did you choose to attend the Open House?

- To learn about the details of the G3 Terminal Vancouver Project Permit Application
- To discuss potential project effects, including noise, dust, light, or viewscales with G3 staff
- I'm generally interested in Port development projects
- To get more information about contract or job opportunities with G3

How important are the potential effects of construction?

Rank 1 – 4 (1 being most important)

- Dust caused by construction activity
- Noise caused by construction activity
- Emissions from construction activity
- Truck traffic

How important are the potential effects of operations?

Rank 1 – 4 (1 being most important)

- Noise
- Dust
- Traffic
- Light

What topics would you like to receive email updates about?

- Construction status updates
- Job postings
- Engagement Summary Report
- Traffic advisories
- Bidding opportunities

When thinking about local community benefits (sponsorship, partnerships, donations, etc.), what are your thoughts on the areas G3 should consider?

- Child focused initiatives
- Senior's centers
- Educational institutions
- Arts and culture
- Environment
- Food bank
- Public and industrial safety initiatives
- Other: Please specify

Contact Information

- **Web:** www.g3terminalvancouver.ca and shareyourthoughts.g3terminalvancouver.ca
- **Email:** info@g3terminalvancouver.ca
- **Telephone:** 1-844-263-2398
- **Mail:** G3 Terminal Vancouver, c/o Suite 1600-777 Hornby Street, Vancouver BC V6Z 2T3

Information regarding Port Metro Vancouver's Project and Environmental Review Process is available at www.portmetrovancover.com/per.

For questions regarding Port Metro Vancouver's Project and Environmental Review Process, please contact Tim Blair, Senior Planner, Port Metro Vancouver by email: tim.blair@portmetrovancover.com or phone: **604-665-9378**.

