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| To: | BC Ferries Recipient's Office | From: | Tomasz Zolyniak Sender's Office |
| File: | 1161107845 | Date: | January 8, 2019 |

**Reference: Transportation Consideration
Descanso Bay, Gabriola Island Ferry Terminal**

OVERVIEW

BC Ferries (BCF) is in the process of producing a Terminal Development Plan (TDP) for the Gabriola Island Terminal. The intent of the plan is to develop a concept level plan for the upgrades to the terminal which are anticipated to include the construction and a new berth as well as improvements to parking, queuing lanes, and traffic flows. Passenger amenities such as a waiting room with washroom facilities are also included in the TDP. This plan will provide the framework for BCF to implement the upgrade strategies over the next 25 years.

The implementation of the TDP will require rezoning and updates to the Gabriola Island Official Community Plan (OCP). Stantec has been retained by BCF to aide with this process.

This memorandum reviews the transportation considerations as they correspond to the updates to the OCP.

EXISTING TRANSPORTATION AMENITIES

Presently, the Gabriola terminal includes a terminal parking facility with 28 parking stalls (crew and patron, inclusive of two designated disabled stalls), a small waiting room, and a detached washroom facility. A pedestrian walkway is also located between the parking area and the loading zone, leading to the waiting room. The walkway is protected on either side by no post barriers and is further protected by a barrier mounted chain-link fence on the barrier facing the loading zone. Access to the parking lot is via a single driveway located off Easthom Road.

A privately-owned parking lot is also available to the ferry passengers on a fee basis. The lot is located south of the terminal, with access from Easthom Road and North Road.

There is no dedicated holding area for ferry traffic at the terminal site. Rather, ferry traffic queues along a 3.0m wide shoulder / lane along North Road and Taylor Bay Road. This shoulder is approximately 445m long and accommodates 73 automobile equivalents (AEQ). The shoulder lane is demarked with a white paint line to delineate it from the travel lane on the roadways. There are no dedicated pedestrian or cyclist facilities on the roadway to service the loading or unloading of ferry users.

Gabriola Terminal is serviced by the Quinsam vessel having a car capacity of 63 AEQ and capable of accommodating up to 400 crew and passengers. Service to the Gabriola Island Terminal is provided by 14 sailings per day and takes approximately 20 minutes to reach the Nanaimo Harbour Terminal.

Speed limits on North Road and Taylor Bay Road are posted at 50 km/h, however warning signs are posted in advance of the queue shoulder lane with an advisory speed of 30 km/h on North Road and 40 km/h on Taylor Bay Road. The advisory limit sign is coupled with a diamond warning sign noting 'Congestion' and a warning tab noting 'Ferry Line Up'

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Figure 1 - Existing Site Layout

TRAFFIC STATISTICS

Annually, ending in March of 2018, the Gabriola Terminal serviced 183,248 vehicle trips departing the terminal and 182,053 vehicles trips arriving at the terminal. August was the peak volume month in 2018 experiencing over 18,000 vehicle trips, while February experienced the fewest trips, at approximately 12,000 per direction¹.

Foot passenger counts performed out of the Nanaimo Harbour terminal for 2017 show that a total 101,025 passengers boarded the ferry to Gabriola Island. Similar to the vehicle trips, July and August were peak months with approximately 10,000 trips each while February showed the lowest number of trips at 6,860.²

¹ <https://www.bcferries.com/about/traffic.html> accessed December 10, 2018

² Gabriola Island Terminal Development Plan, Baseline Report, January 2018

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The Gabriola Terminal operates between 6:55am and 11:00pm, offering 14 sailings daily (13 sailings during peak season on Wednesday and Sunday, and 13 sailings during off peak season on Wednesday, Saturday, and Sunday) with additional sailings for transportation of dangerous goods. During the 2016/2017 season, a total 9,844 sailings were provided, of which 685 were overloaded (i.e. vehicles were left behind at the terminal due to the vessel being at capacity), representing approximately 7% of the total sailings.

PROPOSED TRANSPORTATION AMENITIES

Development of the TDP has included multiple alternatives for transportation infrastructure at the terminal and has undergone a community engagement process. Through this, the preferred option to be included in the TDP has been selected as Option 5, as depicted in Figure 2 below.

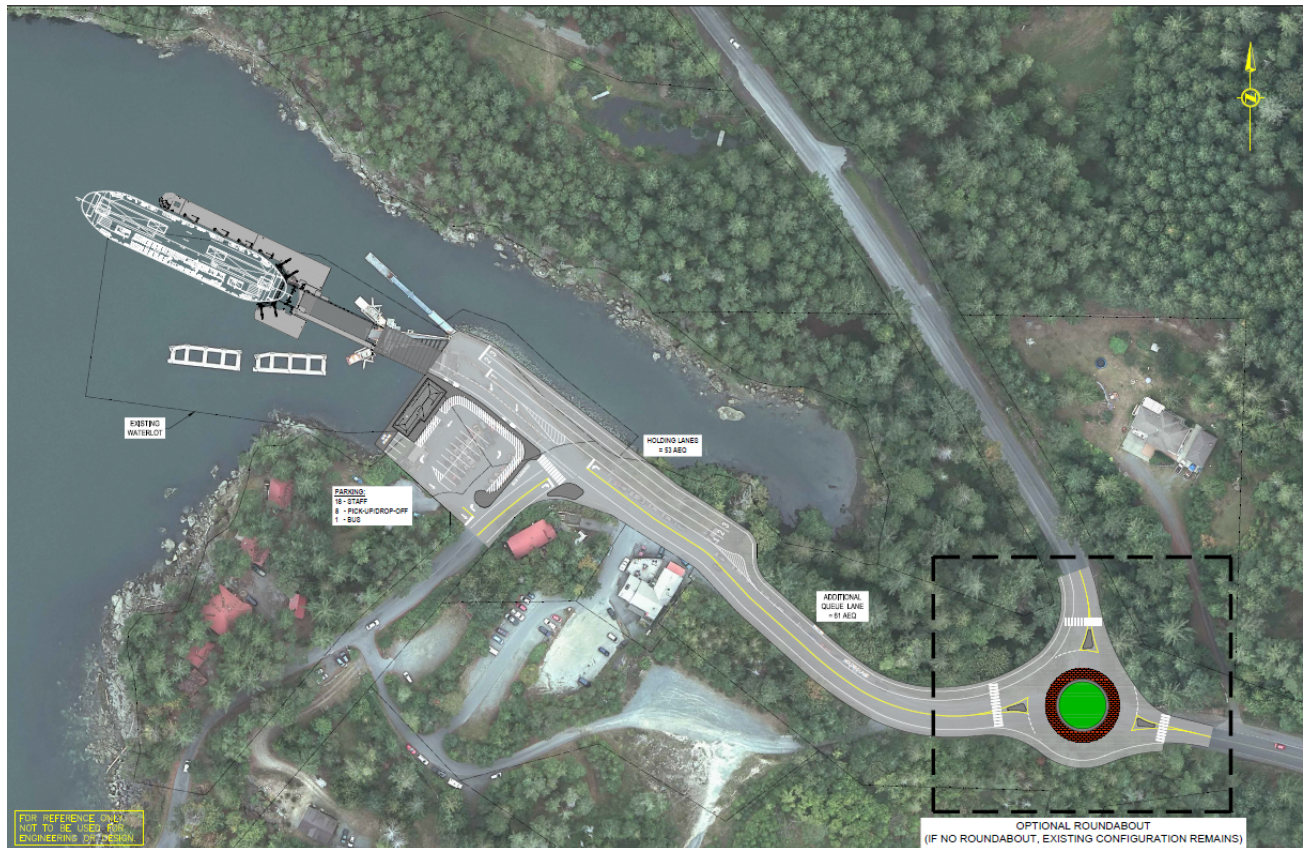


Figure 2 - Proposed Layout (Option 5)

The improvements below are based on the Terminal Development Option 5, Drawing GAB-TDP-Sk005-1, Revision C.

The plan involves the expansion of the northern foreshore to accommodate a dedicated BC Ferry holding compound as well as expanding the western foreshore for construction of an expanded passenger amenity building and parking facility. The holding compound is planned to accommodate 53 AEQ while the parking

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facility would contain 24 parking stalls, a bus bay as well as a drop-off and pick-up area. A bicycle storage facility would also be included at a new terminal building. As per the TDP, vehicle lanes would be 2.6m and commercial vehicle lanes are 3.5 m wide. Refer to the following figure for a proposed site layout.

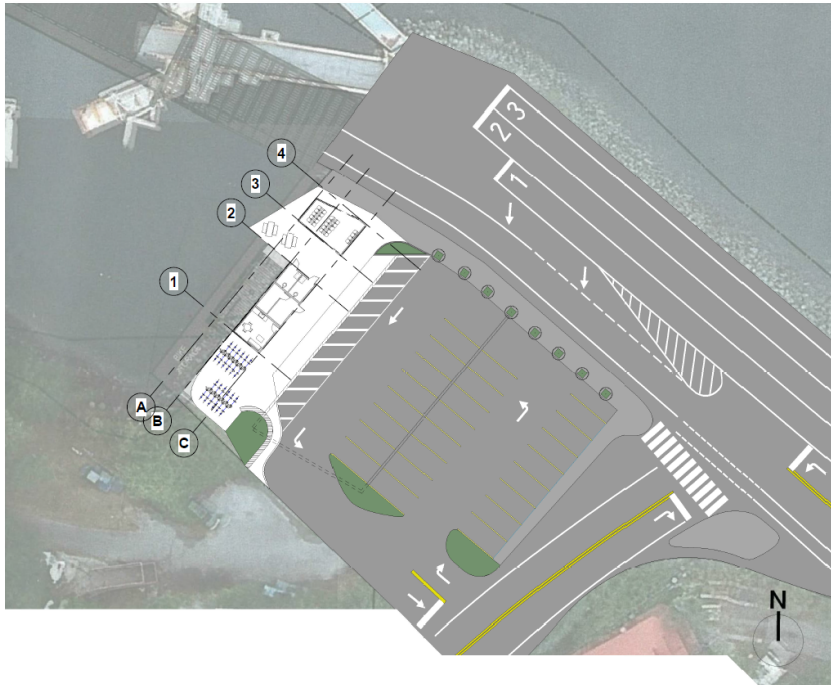


Figure 3 – Proposed Parking Layout

Several improvements are proposed to the adjacent roadways as part of the Terminal Development Plan.

- The intersection of North Road and Easthom Road will be upgraded to a near standard three legged 'T'-Intersection. This will include revised intersection geometry as well as marked pedestrian crossing. This arrangement improves sight angles and conforms to expected roadway treatments to improve safety.
- The intersection of North Road and Taylor Bay Road upgrade extents are either for creating a three-legged roundabout with an inscribed circle radius of 20m or re-laning the intersection (not depicted in Figure 2) to provide improved sight distances.
- Shoulders, a minimum of 1.5m wide, are proposed for both sides of North Road.

ADDITIONAL ITEMS

Watt Consulting Group undertook a traffic safety study at the terminal in 2017. Several recommendations were proposed in the study, some of which were addressed in the Proposed Layout drawings. In addition, the following elements were recommended.

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- Providing a multiuse trail for cyclists and pedestrians along North Road and Taylor Bay Road. The trail itself could be gravel or rock chipped surface. It would be off road and could have a small curb barrier between the ferry queued traffic and the trail. It is assumed that the length of trail would be the length of one ferry wait with the justification that the queued traffic is occupying the shoulder which would be the pedestrian/bike facility. (63AEQ x 6.2m= 400m)³
- Traffic entering the queue, coming from the south part of the Island, needs to make a U-turn. A designated U-turn facility exists on Ivory Way, approximately 800m from the terminal, however drivers risk making U-turn on Taylor Bay Road, which has restricted sight distances. Two potential solutions were proposed as follows
 - The first is to construct a median or erect median flex posts where sight lines are constrained due to the topography of the roadway. A median is a permanent fixture and would require widening the road to accommodate the median and lane widths required. Flex posts could be erected with no widening required. Flex posts would discourage “u” turning but the posts are flexible so vehicles could drive over them with no damage to the vehicles. This does become a maintenance issue if they are being driven over constantly as they would break down eventually and need to be replaced. It has been suggested by BC Ferries staff that where they are used, they need replacing every year.
 - The second is to remove the queuing from Taylor Bay Road by creating an off-road queuing compound. The compound would need to be 1500sq m in area.⁴

REZONING AND OFFICIAL COMMUNITY PLAN POLICY

The following section identifies relevant policies and discusses how the proposed terminal upgrades support the policies.

Gabriola Island Official Community Plan, Bylaw No. 434 Section 7.1 - Land Transportation Objectives

3. To support alternative transportation initiatives that reduce dependency on private automobile use and reduce greenhouse gas emissions, including, but not limited to, public transit, car stops, neighbourhood zero emission vehicles, car shares, bicycle routes, and walking trails that link population to services;

TDP Impact: Amenities provided as part of the Terminal Development Plan will support several aspects of this Land Transportation Objective clause.

- Designated bus parking stalls will be provided at the proposed terminal building to support public transit. The stall can be used by the Gabriola's Environmentally Responsible Trans-Island Express (Gertie) bus to provide an improved experience to the transit users.

³ Gabriola Terminal, BC Ferries Terminal Safety Review, Watt Consulting Group, March 26, 2018

⁴ Gabriola Terminal, BC Ferries Terminal Safety Review, Watt Consulting Group, March 26, 2018

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- Improved terminal building with a waiting room, bike storage, charging station, storage facility, washrooms, and staff facilities will provide an improved experience for foot passengers and cyclists, supporting increased modal split for these user groups.
- Cyclist facilities will be provided along the upgraded section of North Road.

Gabriola Island Official Community Plan, Bylaw No. 434 Section 7.1 - Land Transportation Objectives

4. To provide a network of bicycle routes and ensure island roads are able to accommodate cycling safely;

TDP Impact: Amenities provided as part of the Terminal Development Plan will support several aspects of this Land Transportation Objective clause.

- *Improvements along North Road will include cyclist accommodations. This is important as North Road is designated as part of Gabriola Islands Bicycle Route Plan.*
- *To further support this policy, it is recommended that BC Ferries review incorporating an off-road cyclist facility along North Road (and Taylor Bay Road), as identified in the Gabriola Terminal, BC Ferries Terminal Safety Review by Watt Consulting Group.*

Gabriola Island Official Community Plan, Bylaw No. 434 Section 7.1 - Land Transportation Objectives

5. To encourage the provision of a network of public pathways island-wide and safe pedestrian access along the Island's main roadways;

TDP Impact: Amenities provided as part of the Terminal Development Plan will support several aspects of this Land Transportation Objective clause.

- *Recognizing that the intersection of North Road and Easthom Road are subject to significant pedestrian, vehicular, and cyclist traffic, improvements to this intersection are included in the TDP. This includes a pedestrian crossing, revised intersection geometry, and cyclist accommodations.*
- *Deficiencies at the intersection of North Road and Taylor Bay Road will be addressed with the implementation of the TDP. Sightline issues have been identified in the Gabriola Terminal, BC Ferries Terminal Safety Review by Watt Consulting Group.*

Gabriola Island Official Community Plan, Bylaw No. 434 Section 7.1 - Land Transportation Objectives

6. To support the initiation of a practical and efficient public transportation system;

TDP Impact: Amenities provided as part of the Terminal Development Plan will support several aspects of this Land Transportation Objective clause.

- *The BC Ferries Terminal at Gabriola Island is a logical location for a transit facility hub. Designated parking stalls have been provided as part of the TDP.*

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Gabriola Island Official Community Plan, Bylaw No. 434 Section 7.1 - Land Transportation Policy

k) The creation of an off-road bicycle and pedestrian trail along Gabriola's busiest traffic corridor from the ferry hill to Tin Can Alley should be considered when land use decisions, rezonings, subdivisions, road resurfacing or other development occurs along this route

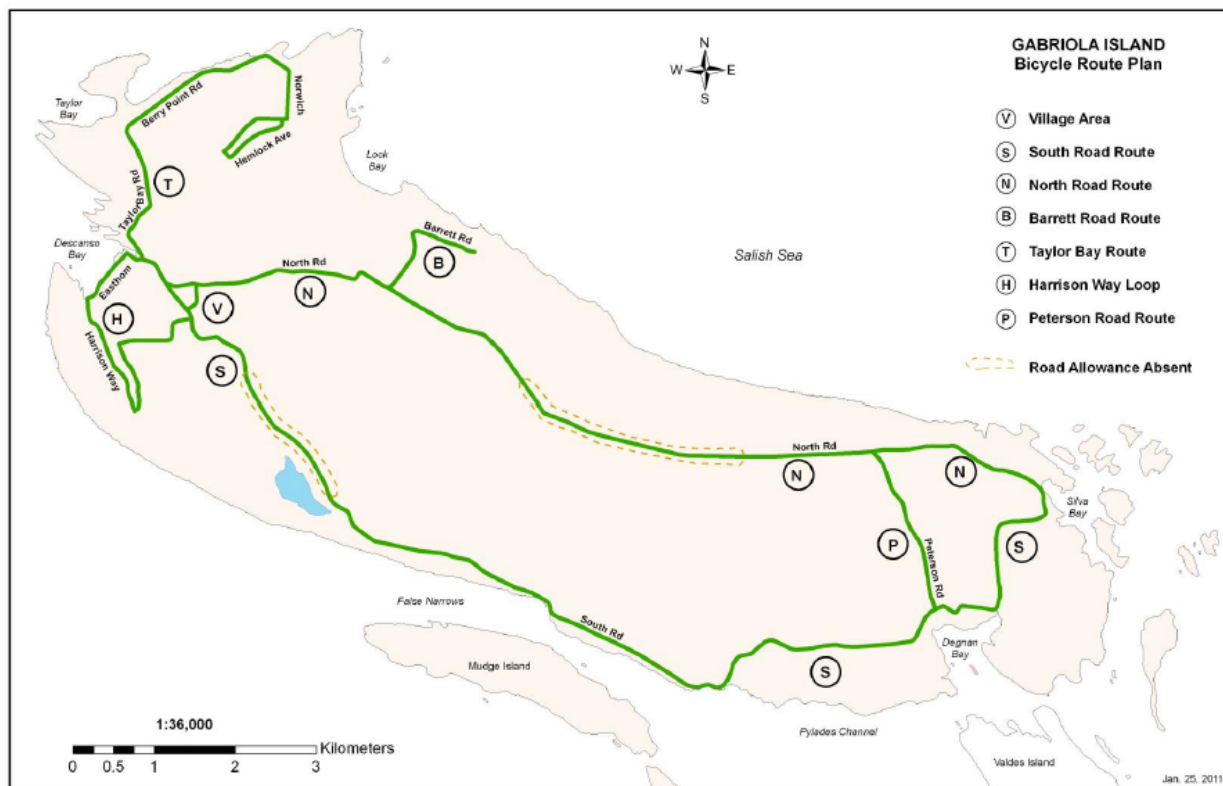


Figure 5 Bicycle Route Plan

TDP Impact: Amenities provided as part of the Terminal Development Plan will support several aspects of this Land Transportation Policy clause.

- Improvements along North Road will include cyclist accommodations. This is important as North Road is designated as part of Gabriola Islands Bicycle Route Plan.
- To further support this policy, it is recommended that BC Ferries review incorporating an off-road cyclist facility along North Road (and Taylor Bay Road), as identified in the Gabriola Terminal, BC Ferries Terminal Safety Review by Watt Consulting Group.

Gabriola Island Official Community Plan, Bylaw No. 434 Section 7.2 – Water Transportation Policies.

h) The following issues shall be discussed with the BC Ferry Corporation:

- i. the scheduling of a late evening weekend ferry;
- ii. the provision of parking at the Gabriola ferry terminal;

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- iii. safe pedestrian routes to the Gabriola ferry terminal;*
- iv. the scheduling of the ferry with the Nanaimo public transit service;*
- v. the establishment of incentives for foot-passengers.*

TDP Impact: Amenities provided as part of the Terminal Development Plan will support several aspects of this Land Transportation Policy clause.

- Bus parking will be provided as part of the TDP. Staff Parking is also included at the proposed terminal, as well as pick-up / drop-off areas.
- To promote pedestrian safety, pedestrian facilities will be included at the North Road / Easthom Road intersection. Also, a shoulder adjacent to the queue lane along North Road and Taylor Bay Road, would provide a pedestrian walking route.
- Improved pedestrian facilities such as a waiting room, washrooms, and bike storage and charging infrastructure will promote ferry use for foot passengers

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Attachment: Attachment

c. C.C.