



MEMO

TO: James Chao, P.Eng., PMP, ENV SP, VFPA
FROM: Cozmin Radu, M.Sc., P.Eng.
SUBJECT: Construction and Traffic Management Memo for the Fraser Surrey Port Lands Transportation Improvements Project
DATE: May 14, 2021

The Vancouver Fraser Port Authority (VFPA) assigned the WSP team and its subconsultants to deliver the Fraser Surrey Port Lands Transportation Improvements Project (FSPL-TI Project) to a preliminary engineering design level.

This memorandum presents a general description of the construction and traffic management plan anticipated for the construction of the new extension of Timberland Road South that will tie-into existing Robson Road, including new rail grade upgrades along Robson Road and Timberland Road North. This new road will become the main east-west connection, while the Timberland Road North will be terminated with a new cul-de-sac.

This memo has been prepared as part of VFPA's Project and Environmental Review (PER) and highlights approximate methods and assumptions based known site conditions at the current design level. Required sub-plans, risk assessment, and special conditions or limitations are not known at this time. The construction schedule noted later in this memo is a preliminary duration estimate based on a 30% level of completion for all disciplines involved. The next detailed design phase will finalize the dates based an updated construction phasing plan which will incorporate inputs from VFPA Land Operations and third-party expert opinion.

The selected Contractor is responsible for providing detailed construction management and traffic management plans to suit the Contractor's work program and submit the plans for approval prior to any construction activities that may affect traffic operations in the vicinity of the work zone.

CONSTRUCTION APPROACH AND PHASING

Currently, the main thoroughfare at Fraser Surrey Port Lands (FSPL) is through the Robson Road - Timberland Road North Corridor. The realigned thoroughfare, called Robson Road-Timberland Road South Corridor to be constructed as part of this Project, is a new extension on the Timberland Road South, which will then tie-into Robson Road, effectively disconnecting Timberland Road North for main east-west connection. Timberland Road North will continue serve as access road to the existing tenants and port operators that are located along that road.

The construction of this Robson Road-Timberland Road South Corridor can be split into three main phases and will take approximately 12 months. Based on the interdependencies between various components of the Project and weather-dependent work, phase may generally be sequenced as follows:

PHASE	DESCRIPTION OF WORK	DURATION
Phase 1	Construction of the new extension of Timberland Road South	8 months
Phase 2	Rehabilitation and construction of the existing Timberland Road South including Timberland Wye Intersection	5 months
Phase 3	Rehabilitation and construction of Timberland Road North, Elevator Road, and Robson Road	2 months

The phases mentioned above have been developed to minimize impacts to the traffic flow along the existing road corridor, maintaining continuous access for tenants and private residences (Gunderson Slough); this phasing also considers upholding security measures to accommodate ongoing VFPA and tenant operations, including rail operations in the area. It is imperative that continuous access throughout the site is maintained for emergency vehicles as the only access point into FSPL is through Tannery Interchange/ Timberland Wye Intersection.

Phase 1: By constructing the new portion of Timberland Road South first, there will be minimal impact to existing operations within FSPL as the port traffic will continue using the Robson Road-Timberland Road North Corridor. It is anticipated construction will take approximately eight months, from mid February 2022 to mid November 2022 (including mobilization time). There is an anticipated localized construction impact to Westran's access and egress to the empty container yard west of their current lease area during this phase. Proper construction phasing needs to be developed to minimize this impact.

Phase 2: Once the new Timberland Road South is complete, rehabilitation and construction of the existing Timberland Road South and Timberland Wye Intersection can commence. At this phase, no diversion of traffic is anticipated. Similar to Phase 1, vehicles can continue using the Robson Road-Timberland Road North Corridor as they are currently. As noted under the "Traffic Management" section later in this memo, works can be performed such that there is continuous access to the existing Timberland Road South for tenants including Westran and TMS Transportation. It is anticipated construction will take approximately five months, from July 2022 to November 2022, to alleviate any impacts to potential life habitat present in the ditch. The final lift of asphalt is currently contemplated to be placed late October/early November (if weather permits) to align with paving activities on Phase 1.

Phase 3: The final phase is to complete the rehabilitation and construction works along Timberland Road North, Elevator Road, and Robson Road. Traffic can be disconnected from Timberland Road North and diverted onto the newly constructed Timberland Road South. At this time, the new truck staging lane and Vehicle Access Control System (VACS) gates and staging area constructed during Phase 1 would be operational; thus, container trucks will no longer have to stage along the gravel shoulder at Robson Road. The gravel shoulder can then be utilized to as an extra lane to accommodate pavement rehabilitation work along Robson Road.



It is anticipated construction will take approximately two months, from February 2023 to March 2023. To minimize cost and schedule (if the weather permits), there may be opportunities to mill and overlay in Phase 3 during October/November 2022. Otherwise, paving activities will resume early March 2023.

Electrical and minor concrete works can be finalized between February to March 2023 to reach substantial completion by the end of March and final completion by the end of April 2023.

A construction staging plan showing the construction phasing zones is referenced in **Appendix A**. Specific tasks to be completed at each phase is detailed below.

PHASE 1: CONSTRUCTION OF THE NEW TIMBERLAND ROAD SOUTH

Construction will approximately follow these steps:

1. Place erosion and sediment control (ESC) measures including truck route and wash; system, water treatment, construction and silt fencing;
2. Place temporary construction fencing, primarily adjacent to active railroad tracks, while protecting exiting perimeter fencing that borders IDC Yard;
3. Survey and stake proposed roadway layout and construction limits;
4. Remove portable structures and rail tracks within CP-leased area;
5. Demolish and excavate building structures, including foundation bases;
6. Clear, grub, and dispose (if any) invasive vegetation, logs, upturned roots, and rubbish;
7. Excavate existing ditch and remove existing culvert and heavy vegetative growth within the ditch with excavators operating from the top of bank;
8. Fill ditches with specified base material with excavator operating from top of bank;
9. Build design sub-grade and trench for utilities;
10. Install drainage, water, and electrical and security infrastructure. Install concrete curbing;
11. Place new asphalt pavement structure using a loader, dump truck, paver, and compactor on the road;
12. Complete concrete works for medians, barriers, and fence foundations;
13. Install at-grade rail crossing infrastructure;
14. Install signage and pavement markings;
15. At areas outside of proposed roadway, infill ditch with approved native material with a loader, complete with topsoil and hydroseeding; and
16. Perform any commissioning and testing inspections.



PHASE 2: REHABILITATION AND CONSTRUCTION OF THE EXISTING TIMBERLAND ROAD SOUTH INCLUDING TIMBERLAND WYE INTERSECTION

Construction will approximately follow these steps:

1. Place erosion and sediment control (ESC) measures including truck route and wash system, water treatment, construction and silt fencing;
2. Survey and stake proposed roadway layout and construction limits;
3. Build design sub-grade for road widening and excavate trench for utilities;
4. Install drainage, water, electrical, security infrastructure, and concrete curbing;
5. Excavate existing pavement to sub-base depth and place new granular base and asphalt pavement using a loader, dump truck, paver, and compactor on the road;
6. Complete concrete works for medians, curbs, barriers, and fence foundations;
7. Install and upgrade at-grade rail crossing infrastructure;
8. Install signage and pavement markings; and
9. Perform any commissioning and testing inspections.

PHASE 3: REHABILITATION AND CONSTRUCTION OF TIMBERLAND ROAD NORTH, ELEVATOR ROAD, AND ROBSON ROAD

Construction will approximately follow these steps:

1. Place erosion and sediment control (ESC) measures including truck route and wash system, water treatment, construction and silt fencing;
2. Survey and stake proposed roadway layout and construction limits;
3. Pump water (as needed) with a dewatering pump in the ditch;
4. Clear heavy vegetative growth along bottom of existing ditch with excavator. Excavate slope along the area of road widening;
5. Fill the exposed side of ditch with light-weight fill material and compact with an excavator operating from the top of bank. Fill ditch at Timberland Road North with specified base material with excavator operating from the top of bank;
6. Excavate trench and install electrical and security infrastructure;
7. Cut existing asphalt pavement and mill surface layer of asphalt using a milling machine on the road;
8. Sweep or wash the exposed surface and repair cracks (if required) on the asphalt surface using crack-sealing material;
9. Apply a layer of tack coat and place new asphalt pavement using a loader, dump truck, paver, and compactor on the road;
10. Upgrade at-grade rail crossing infrastructure; and
11. Regrade gravel shoulder to facilitate drainage.

TRAFFIC MANAGEMENT AND CONTROL

Traffic management or control plans will be developed in detail by the Contractor at each construction phase to account for the type of traffic control required for the work and any special circumstances that must be accommodated.

The following table lists potential traffic management measures to be implemented at each construction phase such that traffic flow within FSPL is maintained and disruptions are minimized. These measures work in parallel with the work sequencing outlined in “Construction Approach and Staging” and are shown in drawings C-301 to 304 in **Appendix B** for construction Phases 1, 2, 3A and 3B.

PHASE	LOCATION	POTENTIAL ACTIVITIES AND TRAFFIC MEASURES
Phase 1	New Timberland Road South	<ul style="list-style-type: none"> - Minimal traffic management anticipated; motorists to use existing Robson Road – Timberland Road North Corridor. - Allow continuous access between container yard and Westran by maintaining existing east service road until curb and fencing are installed. Have flaggers on site.
Phase 2	Ex. Timberland Road South and Timberland Wye Intersection	<ul style="list-style-type: none"> - Maintain two lanes of traffic along Timberland Road South. - Maintain driveway access for tenants: Westran and TMS Transportation. - Clear and utilize existing west shoulder in front of Westran as a drive lane; maintain existing east side of the road. - Narrow lane width to 3.2 m in both directions by placing pylons during ditch infill and road-widening work. - Reroute traffic to west side of road once widening has been completed. - Use flaggers to direct alternating traffic when larger trailers are incoming. - Use flaggers to prevent any trucks from stopping on the road. - Split paving times: length of road along Westran to be paved at once. Road length along TMS Transportation to be paved during night shift.

Phase 3	<p>Timberland Road North, Elevator Road, and Robson Road</p>	<p>Phase 3A – Works along Robson Road</p> <ul style="list-style-type: none"> - Pave section of road connecting the new Timberland Road South section to Robson Road during the night. Do not install concrete barriers, crash attenuator, and pavement parking until toward end of Phase 3A. - Open the main traffic through the newly constructed Timberland Road South and Robson Road. All container trucks will use the newly constructed truck auxiliary lane. - Delineate through traffic from staging lane for inbound container truck traffic into DP World Fraser Surrey. Pave staging lane during night shift between 0100 to 0730 hours daily. - Maintain two lanes along Robson Road by utilizing existing gravel shoulder as a temporary lane and the staging lane at Plywood Road. - Mill and pave portions of Robson Road at a time; if needed, use temporary asphalt to provide sufficient road width for two-way traffic. - Pave Elevator Road roundabout while maintaining flow of traffic. Have flaggers and lighting present to direct traffic. - Alternate one-way traffic at portion of at-grade rail crossings during upgrade. <p>Phase 3 B – Works along Timberland Road North</p> <ul style="list-style-type: none"> - Provide flaggers for works pertaining to removal of existing spur track or installation of rail crossing upgrades along Timberland Road North. A new cul-de-sac at Timberland Road North will be constructed once all other rail crossing works have been completed. - All access through tenants and port operators will be maintained and uninterrupted.
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In general, the Contractor shall schedule construction such that the duration and extent of the proposed work and traffic control measures minimize the impact on the travelled way. All construction parking is identified. Part of the Contractor's responsibility will be to include these plans and forward this information to the City of Surrey and City of Delta for approval in accordance to their bylaws and permitting. A Traffic Control Supervisor who is responsible for the placement of all traffic control devices and the competence and conduct of all traffic control personnel.

The plans included in **Appendix B** are preliminary and should be used for concept reference only. Additional details identifying hours of work, work area size, traffic control devices,



accesses, ingress and egress points, haul routes, and more must be identified prior to construction.

SIGNAGE

All temporary construction signage shall conform to City of Surrey and BC Ministry of Transportation and Infrastructure (BC MoTI)'s requirements for Traffic Management Manual for Work on Roadways, 2020 Edition. Construction Warning, Job Site Identification signs, Contractor Identification signs will be required for this Project. Dynamic Message Signs (DMS) and Notice of Construction (NOC) signs advising motorists of the construction area shall be provided where required.

POTENTIAL TEMPORARY IMPACTS AND MITIGATION STRATEGIES

The follow lists potential impacts and mitigation strategies we anticipate during construction of the FSPL-TI Project.

As noted previously, it is imperative that emergency responders and Gunderson Slough residents are kept up to date on traffic routing changes through the FSPL area. We suggest this update is done on a weekly basis once road construction works commence. Relevant on-site contacts should be provided to emergency responders and the community in the event that emergency access through the work site is required on short notice.

Stakeholders

The potential temporary impacts to stakeholders (tenants), residents and port operators are going to minimal. This is because the project will not result in any roadway closures or detours. Driveway and street parking access to tenant properties is expected to be maintained. Coordination with First Responders from City of Surrey and Delta will need to be arranged so they are informed of the expected routes around FSPL during each phase of construction.

Community

As noted above, access to City of Delta residences south of the project site shall be maintained throughout construction. Majority of the work is anticipated to be carried out during normal working hours (7am to 10pm) in accordance with municipalities' Noise Control Bylaw. When night work is required, the Contractor shall provide advanced notice and strive to keep noise level to a minimum.

Environmental

The project team will apply and obtain approval for all necessary permits related to environmental works including ditch infilling, contaminated soil remediation, invasive species removal, planting, and erosion and sediment control (ESC) prior to the start of construction.

During construction, the Contractor is expected to submit a Construction Environmental Management Plan (CEMP) and follow all ESC measures specified by the team to prevent unwanted sediment being tracked off site. Haul routes are to be kept clean and free of dust and debris. The Contractor shall be responsible for road sweeping activities. An environmental monitor will be required to ensure all work is being carried out accordingly.



APPENDICES

APPENDIX A Drawing C-201 Construction Staging Overall Plan

APPENDIX B Drawings C-301 to C-304 Traffic Management Plans

Report prepared by:

Kelly Yang, EIT, ENV SP
Civil Designer

Report reviewed by:



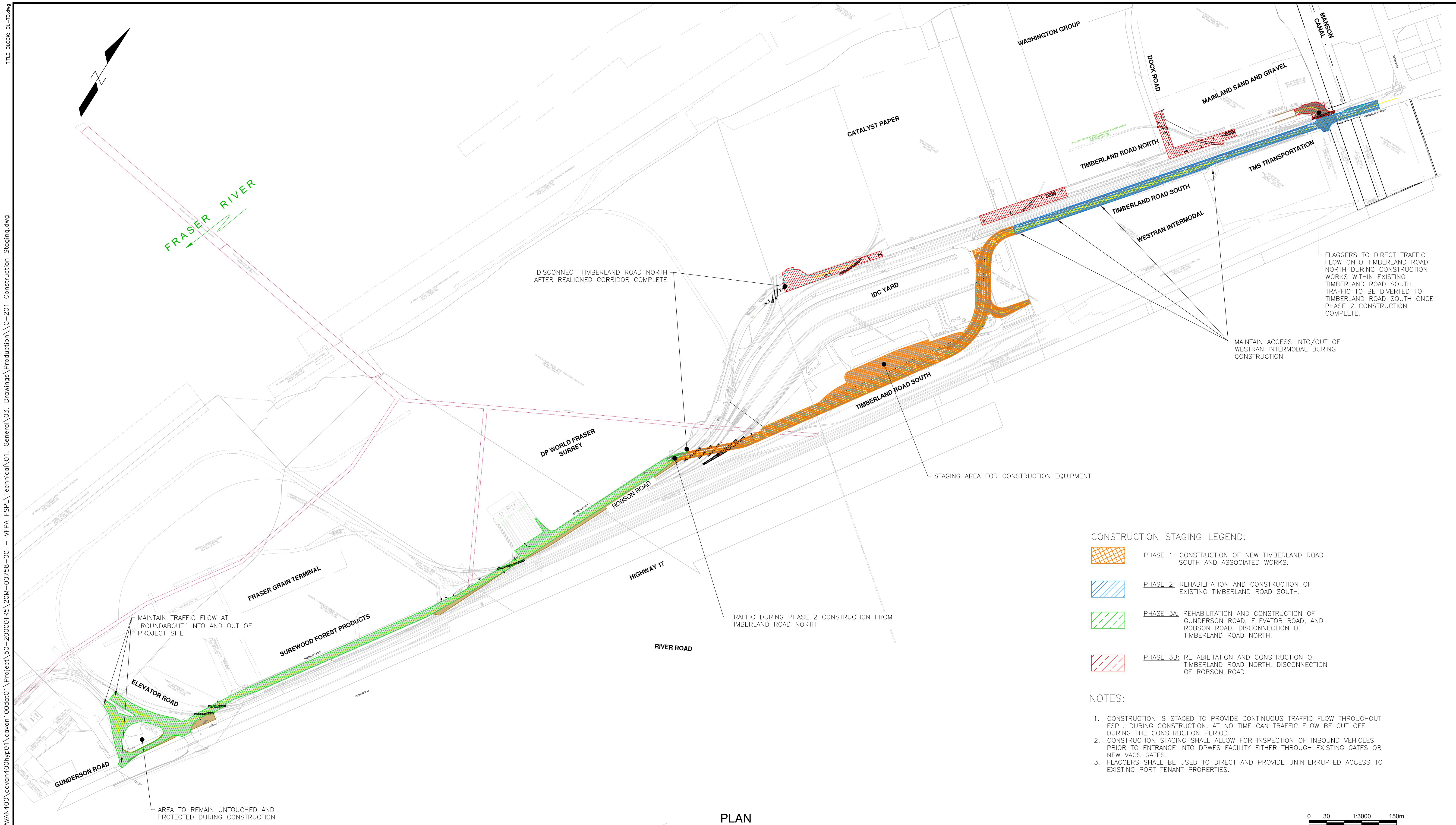
14-05-2021

Cozmin Radu M.Sc., P.Eng.
Manager, Transportation Engineering BC

APPENDIX

A

CONSTRUCTION
STAGING OVERALL
PLAN



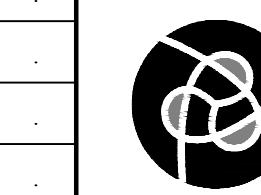
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1	WSP PROJECT NO. 20M-00758-00
Ref.No.	REFERENCE

NOT FOR CONSTRUCTION
April 20, 2021



PLAN



PORT of
Vancouver

VANCOUVER FRASER PORT AUTHORITY
ENGINEERING DEPARTMENT

DESIGN BY K. YANG
DRAWN BY K. YANG
APPROVED V. TJA
DATE 2020/12/18
SCALE 1:3000
PMV SITE ----

GREATER VANCOUVER GATEWAY 2030
FSPL TRANSPORTATION IMPROVEMENTS
CONSTRUCTION STAGING
OVERALL PLAN

SIZE D DWG. C-201

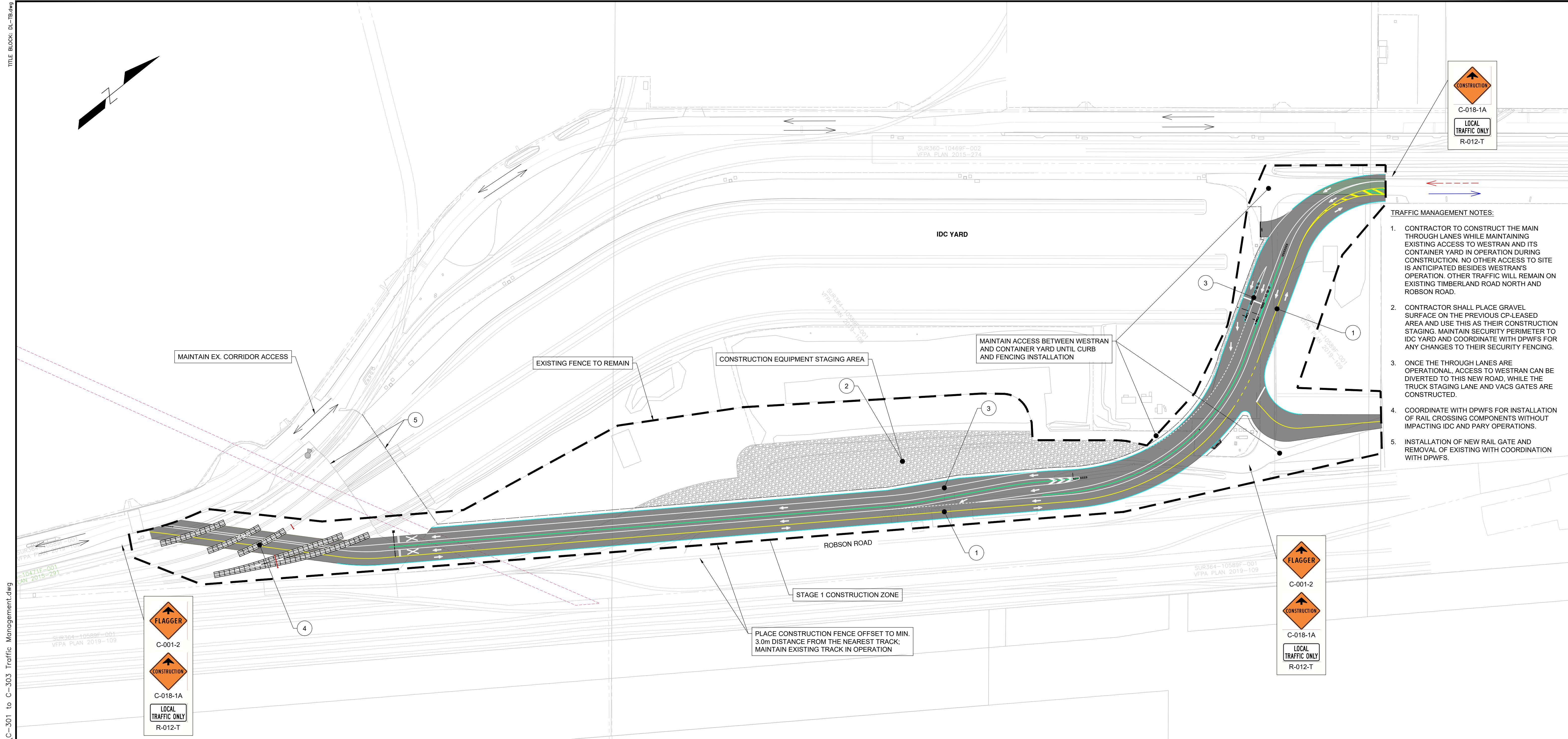
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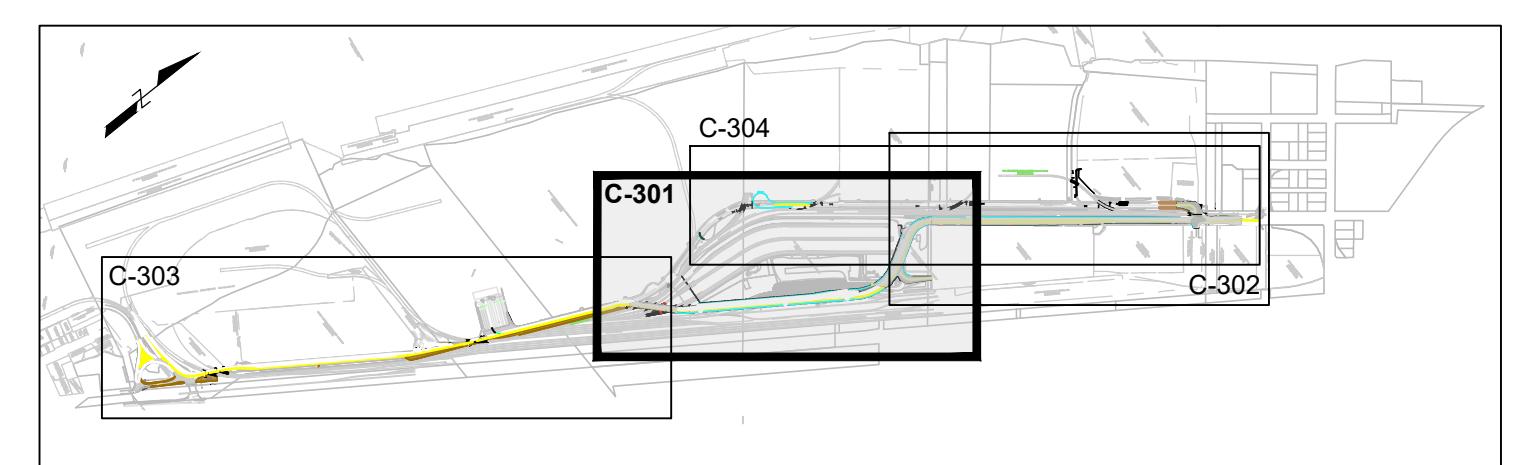
APPENDIX

B

TRAFFIC
MANAGEMENT
PLANS



PLAN



NOT FOR CONSTRUCTION
April 19, 2021



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Ref.No.	REFERENCE



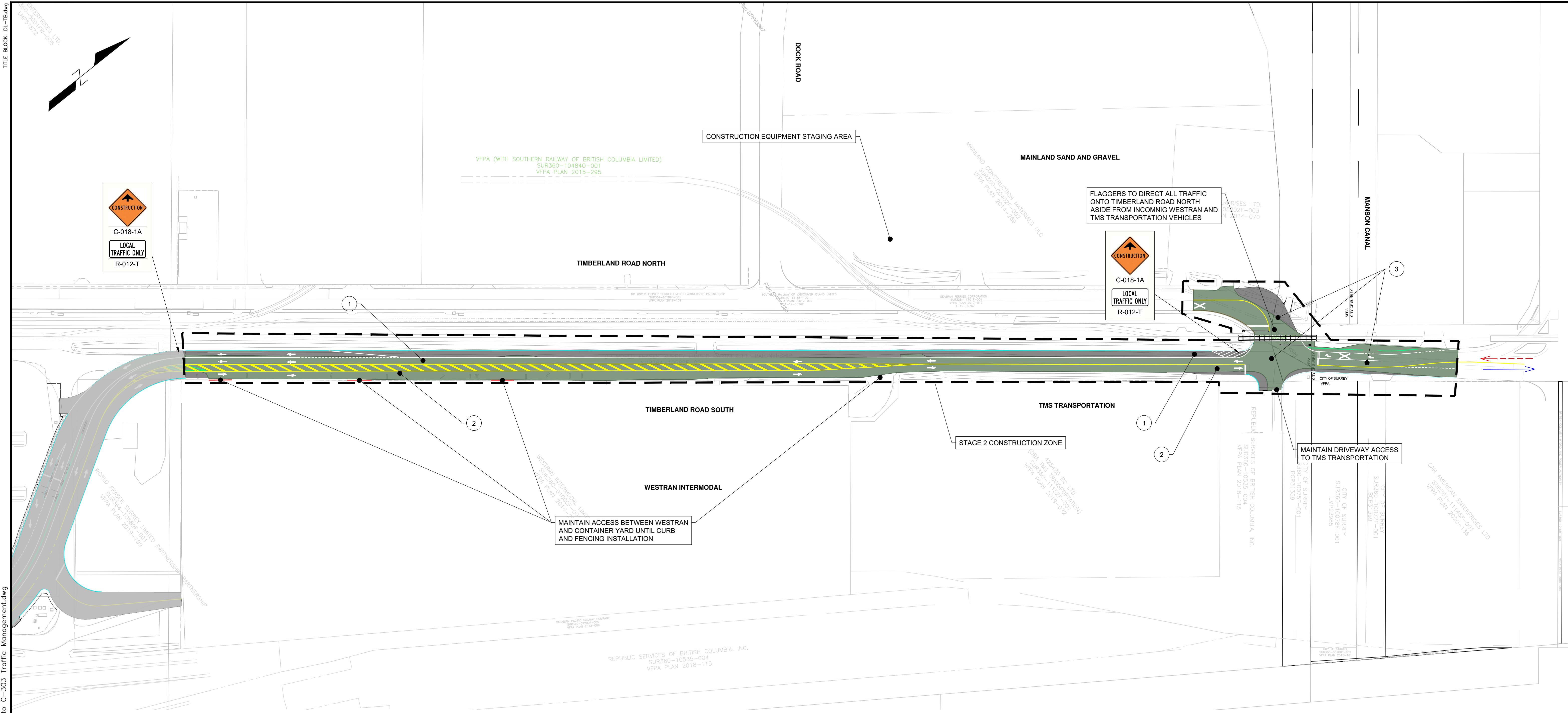
VANCOUVER FRASER PORT AUTHORITY
ENGINEERING DEPARTMENT

DESIGN BY K. YANG
DRAWN BY I. LOZADA
APPROVED V. TJA
DATE XX/XX/2020
SCALE 1:1000
PMV SITE -----

GREATER VANCOUVER GATEWAY 2030
FSPL TRANSPORTATION IMPROVEMENTS
TRAFFIC MANAGEMENT PLAN
STAGE 1

C-301

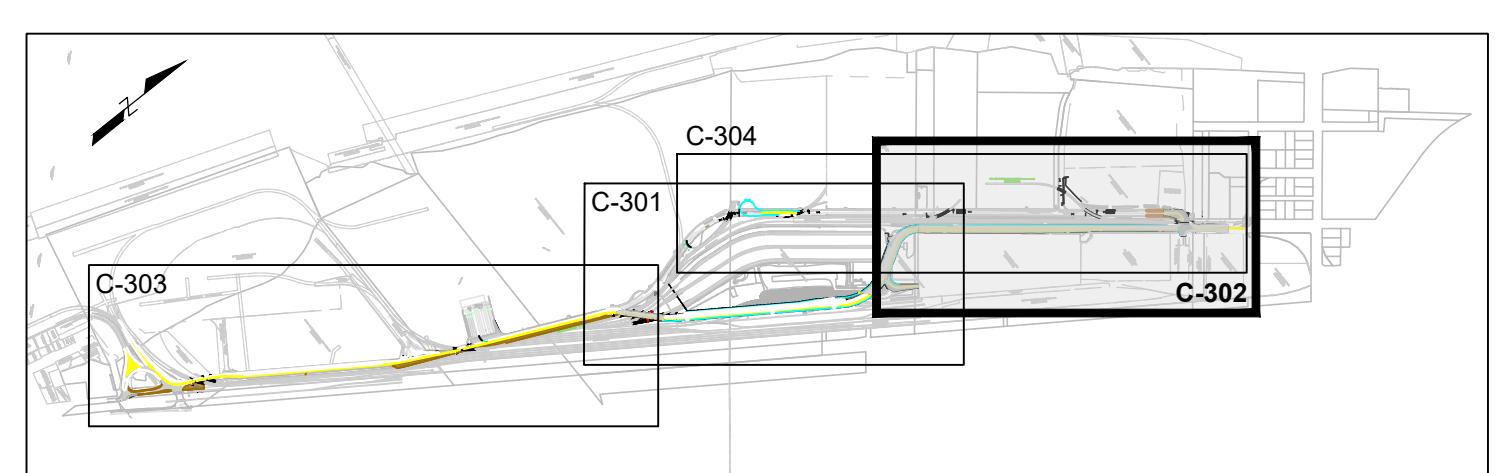
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TRAFFIC MANAGEMENT NOTES:

1. CONTRACTOR TO CONSTRUCT THE WEST PORTION OF TIMBERLAND ROAD SOUTH WHILE MAINTAINING EXISTING ACCESS TO WESTRAN IN OPERATION DURING CONSTRUCTION. NO OTHER ACCESS TO SITE IS ANTICIPATED BESIDE WESTRAN'S OPERATION. OTHER TRAFFIC WILL REMAIN ON EXISTING TIMBERLAND ROAD NORTH AND ROBSON ROAD.
2. ONCE THE WEST PORTION IS COMPLETE, TRAFFIC TO WESTRAN IS DIVERTED WHILE CONTRACTOR IS WORKING ON EAST PORTION. ALL WESTRAN DRIVEWAYS SHALL REMAIN OPEN.
3. COORDINATE WITH CITY OF SURREY AND SRY FOR INSTALLATION OF FLBG AND TRAFFIC SIGNAL AT THE INTERSECTION. FLAGGERS WILL BE REQUIRED AT ALL TIMES.

PLAN



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April 19, 2021



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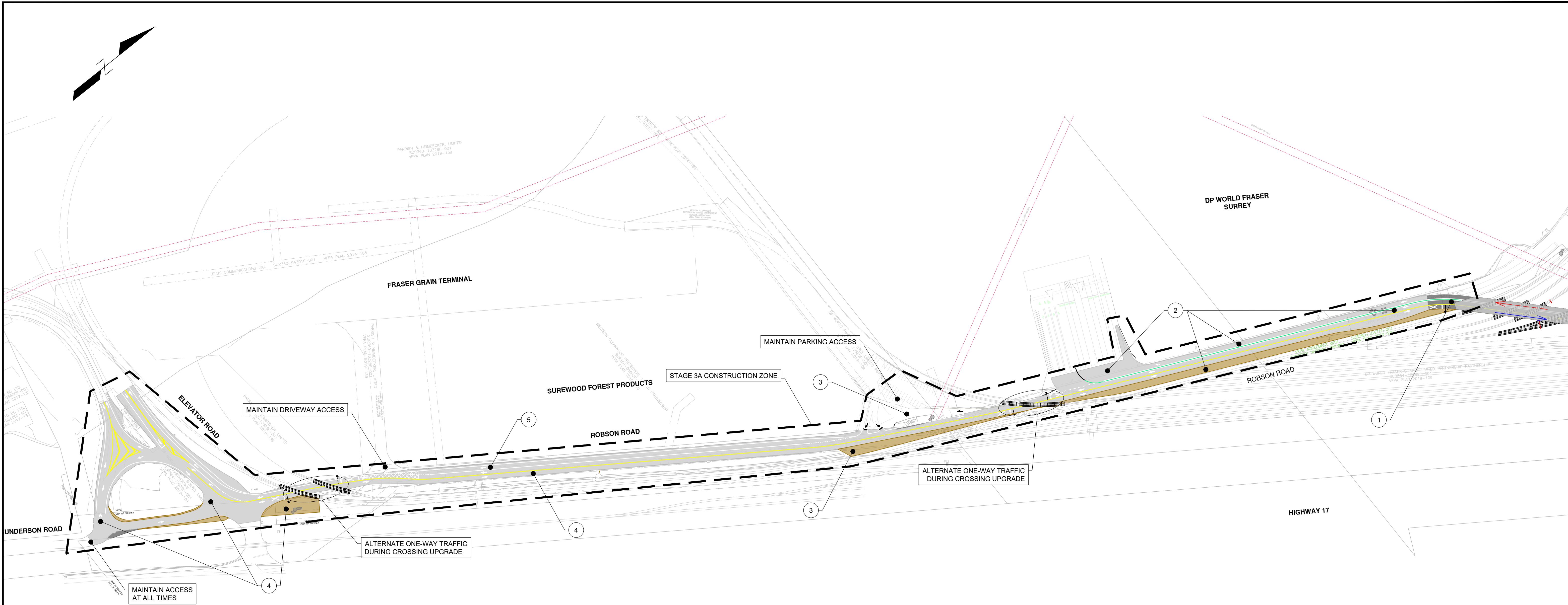
VANCOUVER FRASER PORT AUTHORITY
ENGINEERING DEPARTMENT

DESIGN BY K. YANG
DRAWN BY I. LOZADA
APPROVED V. TJA
DATE XX/XX/2020
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GREATER VANCOUVER GATEWAY 2030
FSPL TRANSPORTATION IMPROVEMENTS
TRAFFIC MANAGEMENT PLAN
STAGE 2

C-302

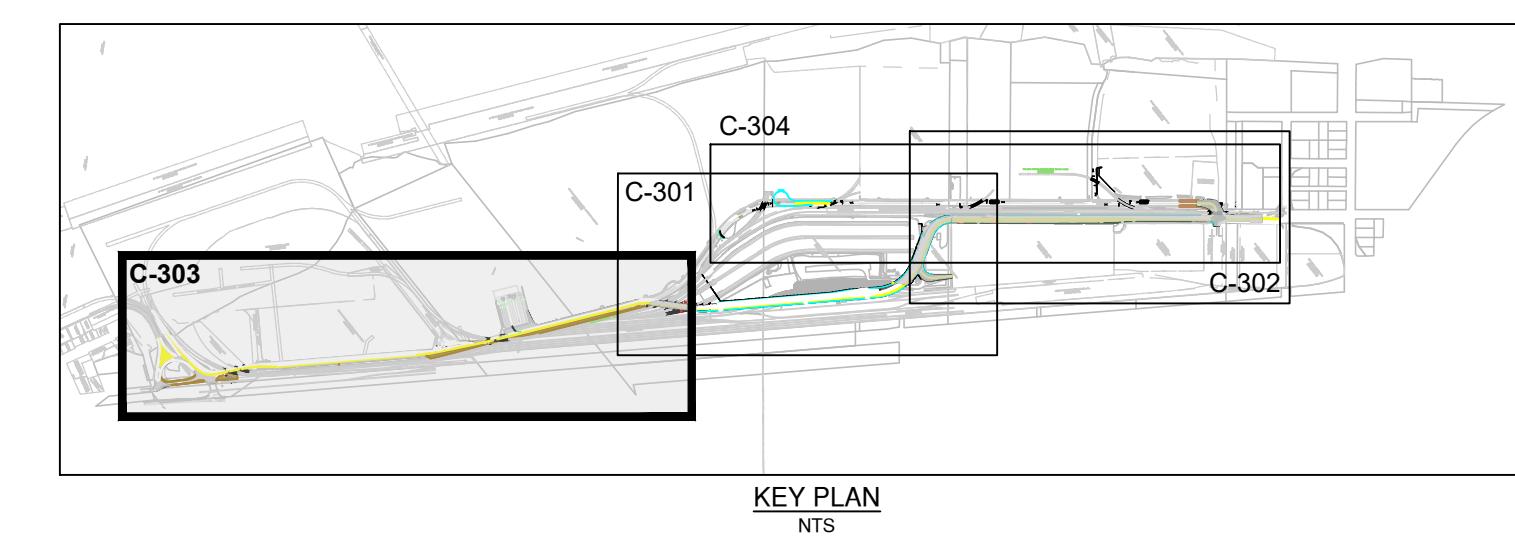
SHEET 53 of 55 REV. A



PLAN

TRAFFIC MANAGEMENT NOTES:

- PAVE ROBSON ROAD AND TIMBERLAND ROAD CONNECTION DURING THE NIGHT. MAINTAIN ACCESS AT ALL TIMES. DELINEATE THROUGH TRAFFIC FROM CONTAINER TRUCK TRAFFIC USING TEMPORARY BOLLARDS UNTIL CONSTRUCTION COMPLETION.
- START RECOMPACTATION OF EXISTING SHOULDER AND USE THE GRAVEL SHOULDER AS AN EXTRA LANE DURING CONSTRUCTION. PAVE CONTAINER TRUCK STAGING LANE UP TO THE TRUCK GATE BETWEEN 1:00AM - 7:30AM.
- CONTINUE WITH RESHAPE AND COMPACTING EXISTING SHOULDER AND USE AS AN EXTRA LANE TO ALLOW FOR MILLING AND PAVING EXERCISE. ACCESS TO EXISTING PARKING SHALL REMAIN OPEN DURING CONSTRUCTION.
- START MILLING AND OVERLAY FOR THE EASTERN PORTION OF THE ROAD WHILE KEEPING THE TWO-LANE TRAFFIC OPEN.
- ONCE THE EASTERN PORTION OF THE ROAD IS COMPLETE, CONTRACTOR CAN STAGE THE MILL AND OVERLAY AND CONTINUE THE PAVEMENT REHABILITATION WHILE MAINTAINING TWO-WAY TRAFFIC AT ALL TIMES.
- PAVE THE AREA NEAR ELEVATOR ROAD WHILE MAINTAINING EXISTING TRAFFIC AT ALL TIMES. NIGHTTIME WORK SHALL BE AVOIDED DUE TO VICINITY WITH RESIDENTIAL AREAS NEAR GUNDERSON ROAD.



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April 19, 2021



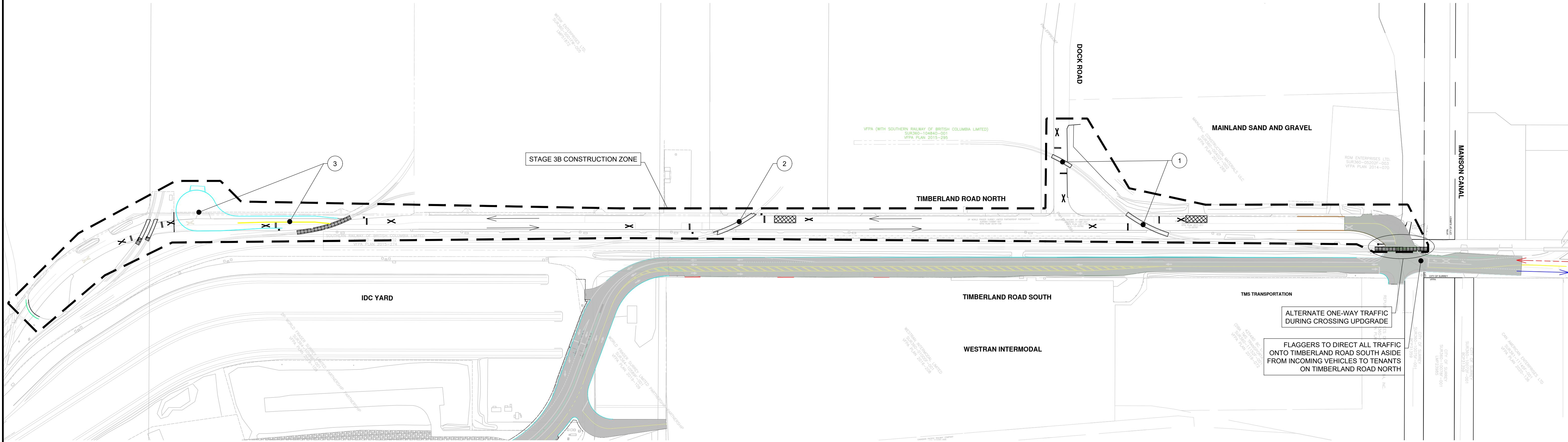
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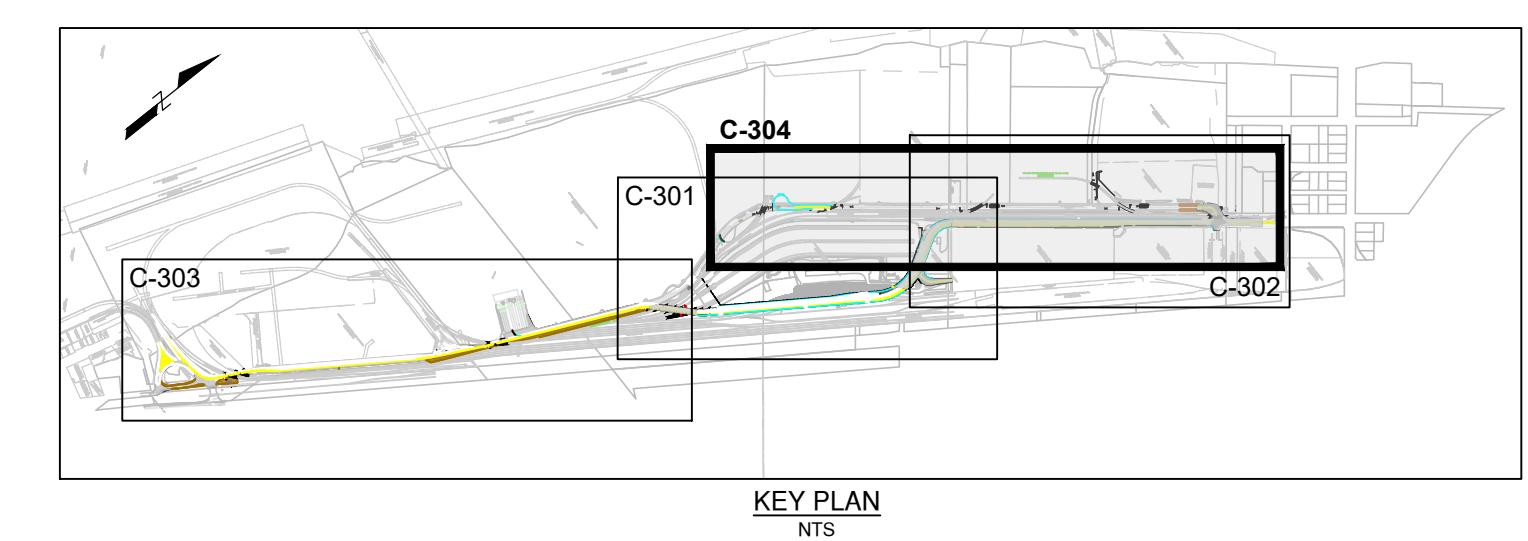
GREATER VANCOUVER GATEWAY 2030
FSPL TRANSPORTATION IMPROVEMENTS
TRAFFIC MANAGEMENT PLAN
STAGE 3A
SIZE D DWG. C-303 SHEET 54 of 55 REV. A



PLAN

TRAFFIC MANAGEMENT NOTES:

1. CONTRACTOR WILL REMOVE EXISTING SPUR TRACK, FLAGGERS WILL BE REQUIRED DURING THIS TIME.
2. CONTRACTOR WILL INSTALL RAIL CROSSING COMPONENTS, FLAGGERS WILL BE REQUIRED.
3. CONTRACTOR WILL INSTALL CUL-DE-SAC AND RAIL CROSSING COMPONENTS, FLAGGERS WILL BE REQUIRED.
4. UPON COMPLETION OF STAGE 3A, ALL TRAFFIC WILL BE RE-Routed TO THE NEW ROAD AT TIMBERLAND ROAD SOUTH.



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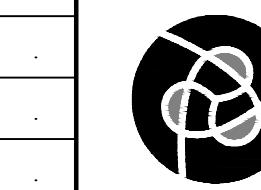
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April 19, 2021



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VANCOUVER FRASER PORT AUTHORITY
ENGINEERING DEPARTMENT

DESIGN BY	K. YANG
DRAWN BY	I. LOZADA
APPROVED	V. TJA
DATE	XX/XX/2020
SCALE	1:1500
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GREATER VANCOUVER GATEWAY 2030
FSPL TRANSPORTATION IMPROVEMENTS
TRAFFIC MANAGEMENT PLAN
STAGE 3B

C-304

SHEET 55 of 55 REV. A