



Highway 91/17 Upgrade Project

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REVISION LOG

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R0	07 July 2022	Nuzhat Beig, M. Eng., EIT	Patty Burt, RP Bio, AQP	
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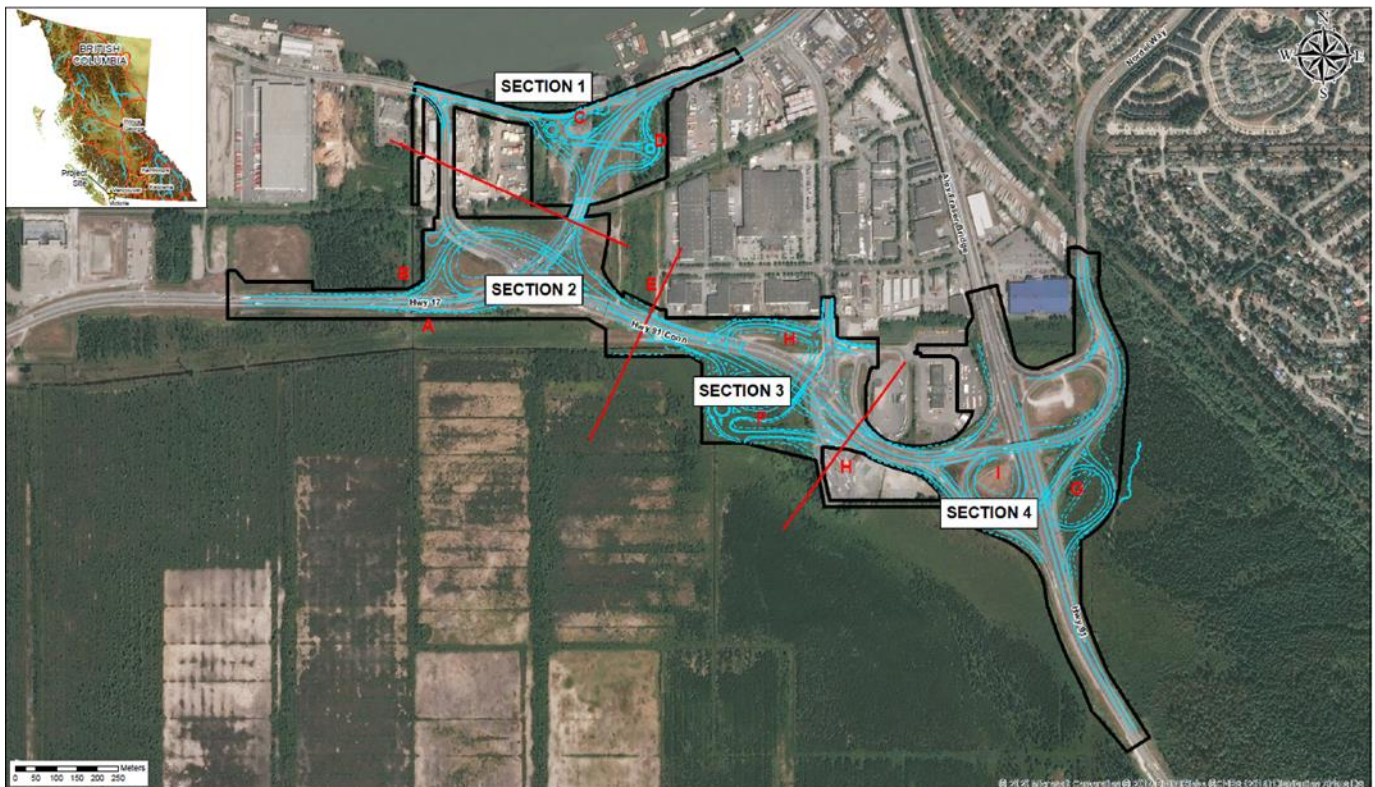
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- Appendix 1** Key Plan Drawing
- Appendix 2** Spill and Incident Tracker
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1.0 INTRODUCTION

This report covers all construction activities that occurred from 01 to 30 June 2022 on the Highway 91/17 Upgrades project. During this period works occurred in Areas A, C, D, E, F, G, H, and I. For the purposes of this report, the following areas shall be defined as:

- Area A: L100 North side of Hwy 17;
- Area C: Portion of River Road West of Highway 17 (Includes L250, L275, L325, L350, part of L375);
- Area D: East of Silda Ditch (L375, L450 & L475);
- Area E: Sunbury Mounds L500, L575 and L550;
- Area F: MK Delta (L1150S/1160/1170/1400) and C01 Detour;
- Area G: Delta Nature Reserve (L2300/2400);
- Area H: L1300 Weigh Scale and
- Area I: West side of Hwy 91, truck parking area, E02 and E04 Detour (L2100/L2200/L600E and W).



A Key Plan has been included showing the project alignments (See **Appendix 1**).

2.0 CONSTRUCTION ACTIVITIES

2.1 Activities for this Period

The following works took place within Section 1 from 01 to 30 June 2022. Representative Photos 01 to 03 are in Section 7:

Area C

- L350: TWE installed light poles on River Rd/ Frontage Rd, pedestrian crossing pole and streetlight at 96th St/River Road, removed wooden streetlight pole and backfilled barrier base on River Road. Eagle West maintained used barrier pile and removed used barriers at 96th Street.
- L425: Eagle West installed a customised barrier.

Area D

- L375: Blue Pine worked on landscaping.
- L450: Slope clean-up.
- L475/L450: Eagle West installed a customised barrier and TWE installed a guide sign.

The following works took place within Section 2 from 01 to 30 June 2022. Representative Photos 04 to 22 are in Section 7:

Area A

- L100: Eagle West removed existing barriers. FRPD attempted driving piles for guide sign. FRPD welded a pile cap for a guide sign and ATS installed a wooden post guide sign. Backfilled guide sign excavations.

Area E

- L100: Barriers removed, and riprap placed in a ditch. TWE installed light pole bases, removed lights and overhead span and DB Auger removed and backfilled poles. Completed side slopes and graded ditch bottom.
- L100/L400: Preparation for placing riprap around a ditch.
- L100/L500: Placed gravel and rip rap around a ditch
- L400: Gravel placed, and ramp closed. All Roads fine graded. Eagle West installed new barriers. Hydroseeded slopes.
- L425: Bike path lighting installed. Worked on bike lane shouldering.
- L400/L525: Placed gravel. TWE worked on electrical and ditch shaping
- L500: Eagle West repositioned C03 barriers for paving and All Roads placed asphalt base lift east of bridge. All Roads fine graded and levelled road alignment. Shoring on S2 Bridge and hauled out spoil. Worked on the approach slab rebar east & west of the S2 bridge.
- L500E: All Roads fine graded
- L520: All Roads paved the bike path.
- L525: Lined and shaped ditch, placed riprap on the right-side ditch, received spoil material at dump site, hydroseeded slopes. TWE completed electrical conduits and installed light base. JB's prepared for dry run on S2 Bridge. JB worked on cleaning the deck of S2 bridge.
- L500/L525: Ditch lining.
- L400/L500/L525: All Roads placed gravel.
- L550: Removed preload sand west of guide sign, Eagle West removed barriers, saw cut 7 catch basins to be removed, built access ramp for concrete trucks to pour guide sign 36 and installed guide sign 36 piles rebar cage. Guide sign 36 concrete pour and sand removal and slope pull. Removed two existing catch basins from west end and installed lead extensions. Installed 5 catch basins Electrical conduit installed. Strip guide sign forms. Removed existing guide signs and FRPD demobilised their crane. Filled gravel ramp along tie in.
- L575: Eagle West moved barriers to 96th St stockpile.

The following works took place within Section 3 from 01 to 30 June 2022. Representative Photos 23 to 58 are in Section 7:

Area F

- L500: Removed barriers on the center lane of 91C middle lanes. Catch basins installed. Excavation for cellular concrete fill by pumice and placed filter cloth. Trimmed slopes and placed topsoil on slopes. Raised catch basin and completed Burns Bog berm MSE wall. Blue Pine completed installation of fence on the bog berm wall and started hydroseeding on bog berm. All Roads paved top lift east of the S3 bridge. Saw cutting on the S3 bridge deck, TWE completed electrical works, placed gravel on shoulder, installed streetlights on bridge, and completed hydroseeding touch-ups along the slopes. Eagle West removed median barriers and stockpiled them in the yard.
- L500W: Placed topsoil.
- L500E: Raised a catch basin and placed topsoil
- L600: JB's worked on east stem wall form close and east rebar on S4 Bridge.
- L1150: Removed the S3 bridge curing water collection tank. Worked on bioswale and JB's working on removing overhangs of the S3 bridge, slope protection and column slab form work. Excavated and completed excavation of catch basins and began building road structure. Mega Crane removed lock blocks from the wall. CanWest completed some saw cutting. Placed riprap along slopes and placed topsoil along shoulders approaching the bridge, and JB's poured the remaining concrete for the east side slope protection/spillway.
- L500/L1150: Moved barriers.
- L500/L1160: Placed liner and pumice stone fill.
- L500/L1170: Pumice placement.
- L1150/L1400: Blue Pine planted along ditches
- L1150/L1160: Blue Pine hydroseeded and landscaped all over S3
- L1160/L1170: Finished ditch cutting, took out the road plates. Worked on the gore excavation.
- L1170: Backfilled and placed rip rap in Storm 330, and placed liner and backfilled bog berm. Peat being placed on bog berm. TWE worked on a guide sign install. Continued work on bog berm MSE wall, catch basins raised and streetlights installed. TWE worked along the road.
- L1180: Placed gravel on ramp tie-in.
- L1150/L1160/L1170: – Placed and corrected topsoil, completed work on the L1170 gore, hydroseeded slopes and gore.
- Entire Section – General site clean-up, deficiencies work. Placed gravel on shoulders, cleaned and graded slopes, placed barrier along the shoulder, asphalt coring of newly placed areas, hydroseeded remaining areas of S3, grouted catch basins.
- L1150/L1190/L1200 – Milled and removed existing roadways, removed asphalt and gravel, and started placing gravels. TWE removed existing sign bases, installing conduits and sign bases.
- L1300: Blue Pine installed fence.
- L1400: Barriers installed.
- L1150/L1600: All Roads paved top lift of the road widening area and the roundabout walkways.
- Truck Park – Cleaned up the truck park and moved material to lay down.

Area H

- L500: Pipes placed in area. All Roads milled and paved middle lanes.
- L500E: Asphalt placed

- L1200: Cold patched trenches. Weigh scale road widening excavation, and gravel placement, and decommissioned a sanitary line, and Civil preparations for a Guide Sign. Excavated to existing subgrade, placed, and compacted gravel.
- L1150: TWE worked on trench crossing at scale road.
- L1140: Prepared trench crossings for paving and asphalt placement.
- L1300: Traffic crew moved plywood from truck park in preparation for asphalt geogrid placement. Catch basin raised, curb placed and saw cutting. All Roads hand paved curbs. Blue Pine planting. Median curbs prepared and filled. Placed gravel on shoulders, topsoil placed along ditches and asphalt coring of top lift.
- L1150/L1200: – Intersection excavated to subgrade and placed road base. Hydrovaced utilities and traffic signage.
- L1150/L1300: Raised catch basins. Intersection excavated to subgrade and placed road base and Eagle West stockpiled three loads of barriers. Continued cut and prepared grade on west side and placed gravel.

The following works took place in Section 4 from 01 to 30 June 2022. Representative Photos 59 to 74 are in Section 7:

Area I

- L600: Storm 405 backfilled, catch basin and conduit installed. Paved the road and JB's worked on storm drain installed and stage 2 west pier diaphragm form work for the S4 bridge and west MSE wall.
- L2100: Blue Pine installed fence.

Area G

- L500: TWE removed streetlight in front of Planet Ice and excavated to below target elevation. Trimmed slopes & bioswale. Finished piling for guide sign and demobilized from area.
- L500E: Moved barriers, removed existing streetlights, and moved equipment.
- L600: All Roads paved a small patch and barriers were removed. Worked on overhang on S4 bridge and continued excavation for a storm drain. Girder survey of the S4 bridge. JB's worked on east pier on S4 Bridge. JB's installed bridge deck panel on S4 Bridge.
- L500/L600: All Roads milled and asphalt placement for levelling course
- L2250: Guide Sign backfilled. Asphalt placement of widening area. Girders surveyed and JB's working on east stem wall rebar on S4 Bridge. Compacted placing topsoil and placed riprap around a headwall and a catch basin lead outlet. Raised a storm drain manhole and a catch basin.
- L2300: Boardwalk planting. Backfilled a guide sign and installed a catch basin. TWE installed structure on a guide sign, worked on a storm drain and Blue Pine planting.
- L2400: Placed peat on top of DNR liner. Raised catch basins and installed catch basins. Slopes trimmed and Blue Pine planted. Guide sign installed. Finished liner placement.
- L600/L2300: Finished placing peat on DNR liner, graded slopes and placed topsoil along the slopes. Hauled spoil material to Section 2.
- L2300/L2400: Stockpiled sand.

2.2 Upcoming Activities

Section 1:

Hwy 17: All Roads milling and overlay for fast lanes.

L250: Lined ditch and slope grading.

Section 2:

L550: Ditching, liner and backfill, CB inserts. Proofroll, grading, priming and paving.

L500: Receiving spoil.

L525: Ditching, bioswale install, ditch liner welding and backfill. Culvert installation. Grading and paving.

S2 Bridge: Diaphragm curing, stripping and backfill. Approach and parapet forms, pouring, curing and stripping. Deck pours and stripping, waterproofing.

Section 3:

L1150: Bike railing installation.

L1150: Environmental compensation (EC) Wetland 9 and 10 excavations.

B3100: Bog berm MSE wall, topsoil/growing media placement, hydroseeding.

Truck Parking: Fence repairs and cleanup.

L1150: Slope protection form and pour.

Section 4:

L2400: Liner install, ditch cutting and bioswale. Topsoil and peat placement. Gravel placement and proofroll, grading and paving.

L600E: EC 18 excavation.

L600: Bridge approach cut slope and subgrade prep. Gravel placement and proofroll, grading and paving.

L2100: EC 12 excavation.

L220: EC 16 excavation and shaping.

L500E: Nordel Way CB install, paving.

S4 Bridge: East and west abutments, stem wall and wing wall formwork and pouring. East and west pier formwork, pouring and jumpspan erection.

S4 Guide signs: L2100 piling, L2500 foundation pouring.

3.0 ENVIRONMENTAL ISSUES

3.1 Environmental Incidents

- **03 June 2022:** After the completion of the concrete pour of the S3 bridge's parapet, a concrete truck emptied the remaining concrete from its discharge chute onto road alignment L1160. PGC crews immediately stopped the concrete truck driver and reminded them that equipment washing is not allowed on site. The released concrete was removed with an excavator to be disposed of off-site.

3.2 Non-Compliance

- **02 June 2022:** During the installation of a storm drainpipe south of road alignment L500, the road plates isolating the eastern portion of the L500 pond where a storm drain run was being installed were compromised by water. This resulted in turbid water entering the storm installation area and moving into a portion of the partially construction culvert connected to Silda Ditch. Immediate efforts were made to secure the road plates and re-

establish isolation; however, due to the high-water levels in the L500 pond, water continued to flow into the culvert. Work was immediately stopped, and efforts were made as to secure the road plates; however, a watertight seal could not be re-established. Water levels were drawn down via pumps to allow for proper realignment of the isolation plates, isolation was re-established by 15:30 on 2 June 2022. Water quality monitoring of Silda Ditch was conducted after the event and returned within acceptable range by the morning of 3 June 2022. Refer to **Appendix 9 – Report 042, NCR 120**.

- **02-03 June 2022:** PGC communicated incident and follow-up information on release of elevated turbidity water to Silda Ditch Midstream on 2 June 2022 to MoF. Monitoring data and follow-up actions were reported to MoF, and PGC continues to monitor and report on this incident.
- **06 June 2022:** Province representatives (MoF and MoTI) completed a site visit to review current conditions and active works in proximity to the Burns Bog. PGC representatives met with Province representatives on site for a tour of S2 works.
- **08 June 2022:** PGC provided follow-up reporting on conditions at Silda Ditch following the 02 June 2022 high turbidity water release. Elevated turbidity was observed due to re-suspended sediments and reduced flow at the Silda Ditch culvert discharge location and Silda Ditch midstream monitoring location.
- **15 June 2022:** PGC provided notification of elevated turbidity in Burns Bog adjacent to the Burns Bog Perimeter Ditch in exceedance of 8 NTU above background on 13 and 14 June 2022. Exceedances were associated with ongoing installation and peat placement at the berm constructed to separate the bog from project drainage.
- **17 June 2022:** PGC communicated follow-up information on resolution of elevated turbidity observed in Burns Bog. Peat placement on the berm was completed 17 June 2022. Elevated turbidity was observed in the Burns Bog due to work activities on 15 June 2022. On 16 June 2022, turbidity in the work area was observed to be below background turbidity in the bog (measured at a location away from work activities).
- **17 June 2022:** PGC communicated follow-up information on observed elevated turbidity levels in Silda Ditch Midstream from 15-16 June 2022 to MoF. No in-stream works were occurring at the time of the observations. PGC continues to monitor and report on this location.
- **21 June 2022:** Follow-up observations of elevated turbidity at Silda Ditch Midstream due to assumed bacterial growth was provided to MoF for 15 June 2022. PGC was not completing instream or near-stream works at the time of the observed elevated turbidity, and no pumping had occurred to Silda Ditch since 6 June 2022.
- **22 June 2022:** A correction was issued to MoF for data initially provided on 3 June 2022 – turbidity at the Silda Ditch culvert discharge location at 07:36 on 3 June 2022 was incorrectly reported as 30.92 NTU due to a typo, the correct value is 20.92 NTU.
- **23 June 2022:** Follow-up and reporting of resolution of elevated turbidity was provided to MoF for the elevated turbidity incident on 6 June 2022. Following up on the initial report provided 8 June 2022, data from 8-11 June 2022 was provided tracking continued elevated turbidity on 8 and 9 June 2022, and resolution of elevated turbidity at Silda Ditch midstream location on 9 June 2022 (32.71 NTU) and Silda Ditch culvert discharge location on 10 June 2022 (16.96 NTU). Refer to **Appendix 9 – Report 043, NCR 131, NCR 132**.

- **23 June 2022:** Follow-up observations of elevated turbidity at Silda Ditch Midstream due to assumed bacterial growth was provided to MoF for 22-23 June 2022. PGC was not completing instream or near-stream works at the time of the observed elevated turbidity, and no pumping had occurred to Silda Ditch since 6 June 2022.
- **30 June 2022:** Follow-up observations of elevated turbidity, stagnation and reversal of flow at Silda Ditch Midstream, Upstream and off-site reference was provided to MoF for 27-29 June 2022. PGC was not completing instream or near-stream works at the time of the observed elevated turbidity, and no pumping had occurred to Silda Ditch since 6 June 2022. Observed impacts are due to tidal influence and assumed bacterial growth, for which additional testing was completed on 27 and 29 June.

3.3 Non-Conformance

- **16 June 2022:** During an inspection by Province representatives, evidence of concrete equipment washing on site and without adequate containment/washout receptacles was observed in the work area at the S3 bridge. Uncured concrete waste was observed on the south abutment without adequate containment. Deficiencies were recorded for action and PGC opened NCR 128 for failure to comply with Environmental Work Plan 0043 for the S3 bridge and Concrete and Hazardous Waste Best Management Practices (BMPs) as stated in the CEMP. Toolbox training for subcontractors was completed 22 June 2022.
- **16 June 2022:** During an inspection by Province representatives, an excess of garbage and inadequate general housekeeping were observed in the work area at the S3 bridge. Wildlife-proof receptacles for food waste were not available at the work area. Deficiencies were recorded for action and PGC opened NCR 129 for failure to comply with Wildlife and Waste Management BMPs as stated in the CEMP. Toolbox training for subcontractors was completed 22 June 2022.

3.4 Opportunities for Improvement

- **16 June 2022:** During an inspection by Province representatives, a jerry can of suspected diesel fuel was observed placed on a concrete box above an embankment at the S3 bridge without secondary containment. A portable generator was also observed without secondary containment at the S2 bridge; however, it was not confirmed that the generator was remaining in place (i.e., whether it should be considered stationary equipment). Deficiencies were recorded for action for both observations, and PGC opened OFI 103 for providing additional training on secondary containment measures and hazardous waste handling. Toolbox training for subcontractors was completed 22 June 2022.

Toolbox topics are continually updated to maintain relevance with site construction activities, June topics included *Tack Application, Birds and Bats, Spill Trays, Pre-pumping Checklist and Wildlife Awareness*. Training records are provided in **Appendix 8**.

3.5 Outstanding Environmental Issues

Table 1 includes all environmental issues raised during the reporting period. All environmental issues for June were closed within the reporting period.

Table 1: Environmental Issues Tracking Table

Item No.	Date	Environmental Issue or Required Action	Corrective Action	Projected Closure Date	Open/Closed	Comments
146	02-Jun-22	During the installation of a storm drainpipe south of road alignment L500, the road	Immediate efforts were made to secure the road plates and re-establish isolation; however, due	03-Jun-22	Closed	Water monitoring of downstream ditch was conducted after

Item No.	Date	Environmental Issue or Required Action	Corrective Action	Projected Closure Date	Open/ Closed	Comments
		plates isolating the eastern portion of the L500 pond where a storm drain run was being installed were compromised by water. This resulted in turbid water entering the storm installation area and moving into a portion of the partially construction culvert connected to Silda Ditch.	to the high-water level in the L500 pond, water continued to flow into the culvert. Work was immediately stopped, and efforts were made as to secure the road plates; however, a watertight seal could not be re-established. The high-water levels were drawn down via pumps to allow for proper realignment of the isolation plates.			the event and returned within acceptable range by the morning of 03 June 2022. PGC will continue to monitor resolution of the incident.
147	03-Jun-22	After the completion of the concrete pour of the S3 bridge's parapet, a concrete truck emptied the remaining concrete from its discharge chute onto road alignment L1160.	The released concrete was removed with an excavator to be disposed of off-site.	03-Jun-22	Closed	PGC crews immediately stopped the concrete truck driver and reminded them that equipment washing is not allowed on site.
148	6-Jun-22	On the morning of 6 June 2022 PGC was pumping from the L1150 pond to Silda Ditch culvert discharge location via a manhole connected to the Silda culvert to manage pond water levels. At approximately 12 pm, water quality in the pond was measured at 35 NTU, greater than 8 NTU above Silda 1 background (13 NTU) and pumping from the pond was halted. Authorized pumping was also being intermittently conducted at the L500 pond to the manhole connected to Silda culvert in order to manage water levels as required for isolation plate removal ahead of rip-rap installation. At the time that the L1150 pumping was shut down, pumping was not occurring from L500 as the riprap placement preparation was occurring.	L1150 pumping was shut down at approximately 12:00. L500 pumping was shut down at approximately 14:00. Follow-up monitoring was conducted from 6 June 2022 to 11 June 2022. PGC submitted notification as a follow-up to MoF and MOTI on 8 June 2022 at 10:47 detailing the exceedance information for 6-7 June 2022. The information was provided classified as a follow-up report as the exceedance was assumed to be directly linked to suspended sediment remaining from the 2 June 2022 turbid water, with elevated turbidity levels observed once the flow of acceptable water pumped from L1150 was halted. Additional reporting to MoF and MOTI was provided following 23 June 2022 meeting between PGC and MOTI. NCRs 131 and 132, and incident report 043 were generated following the incident.	10-Jun-22	Closed	A notification to MoF and Province Representatives was issued at 10:47 on 8 June 2022 detailing the observed elevated turbidity on 6-7 June 2022. PGC continued to monitor water quality daily in Silda Ditch until all water quality monitoring locations returned to below baseline parameters on 11 June 2022. Following further discussion with Province Representatives on 23 June 2022, additional reporting for 8-9 June, 2022 was provided to MoF on 23 June 2022.
149	13-Jun-22	During peat placement on the Burns Bog berm ditch being constructed to separate project drainage flows from the bog habitat, elevated turbidity greater than 8 NTU above background was outside of the isolated work area.	Final peat placement continued in order to complete work as quickly as possible and remove equipment from the area in accordance with 2007783 Condition (q). Peat placement work will be completed on Friday, June 17. Following completion of peat placement, work in the berm area will pause for approximately 2 weeks. PGC will continue to monitor water quality to track	16-Jun-22	Closed	Water quality returned to below baseline levels for the Burns Bog by 16 June 2022. Peat placement was completed 17 June 2022 and no works are currently taking place in the berm area.

Item No.	Date	Environmental Issue or Required Action	Corrective Action	Projected Closure Date	Open/Closed	Comments
			resolution of elevated turbidity in this location and will review ESC measures and work plans ahead of work re-start.			

Table 2 includes environmental deficiencies (e.g., silt fencing repairs, erosion on slopes, general housekeeping) which have been recorded and remain open during the reporting period, and items that were raised and closed during the reporting period. Additional details are provided in relevant sections.

Table 2: Environmental Deficiencies Tracking Table

Environmental Deficiency	Progress	Severity	Start Date	Due Date	Completed Date	Status	Details
PGC – L1150 Concrete Waste	Complete	Medium	05/31/2022	06/17/2022	06/10/2022	On time	Issue: Waste concrete was left behind after the completion of the curb pours. Corrective Action: Waste concrete should be removed from site. Comment: Complete
PGC – L2400 Liner Repair	Complete	Medium	06/03/2022	06/24/2022	06/17/2022	On time	Issue: Repairs to L2400/L2300 liner along DNR required where sheet piles were removed Corrective Action: Dewater and repair liner. Comments:
PGC – Burns Bog Dewatering Bag	Complete	Medium	05/06/2022	06/17/2022	06/16/2022	On time	Issue: Dewatering bags have been left in Burns Bog perimeter ditch after their use Corrective Action: These dewatering bags should be removed from the water course once they are no longer used. Comment: Revised due date as excavator required for removal.
PGC – Silda Ditch Dewatering Bag	Complete	Medium	05/04/2022	06/06/2022	06/03/2022	On time	Issue: Dewatering bags have been left in Silda ditch after their use Corrective Action: These dewatering bags should be removed from the water course once they are no longer used. Comment: Excavator required to remove bag – requires Fortis inspector on site for work around Fortis line. Revised due date.
PGC – L2400 ESC Fencing	Complete	High	05/03/2022	05/20/2022	06/03/2022	Late	Issue: ESC fence along the NE edge of the DNR is not keyed in properly. Corrective Action: The ESC fences are to be keyed in properly Comment: Revised to high priority to reflect late completion.
PGC – L1300 Organics Stockpile	Complete	High	04/27/2022	05/09/2022	06/03/2022	Late	Issue: A small stockpile of material is located adjacent to Silda ditch and presents a risk of erosion. Corrective Action: ESC fencing should be installed between the stockpile and the ditch, or this stockpile should be covered. Comment: Revised to high priority to reflect late completion.

Environmental Deficiency	Progress	Severity	Start Date	Due Date	Completed Date	Status	Details
PGC – L550/L100 ESC Fencing	Complete	High	04/25/2022	05/09/2022	06/03/2022	Late	Issue: ESC fence along the southern edge of the L100 is overwhelmed with sand. Corrective Action: Remove the sand that is against the ESC fence on the L100/L550. Re-key in ESC fencing where required. Comment: Ends of ESC fencing should be placed to direct water/sediment into fencing away from the ditch. Revised to high priority to reflect late completion.
PGC – LWF Waste	Complete	Medium	06/03/2022	06/17/2022	06/23/2022	Late	Issue: LWF waste can be seen floating on water near pouring area Corrective Action: LWF waste to be removed from site Comment: Hydro pole depression area dewatered and LWF waste removed for off-site disposal.
JBs – S3 Bridge Concrete Washout	Complete	High	06/16/2022	06/24/2022	06/24/2022	On time	Issue: Evidence of concrete equipment washing on site and waste concrete remaining on site without adequate containment Corrective Action: Additional crew training, additional inspection, working with structures team to reinforce subcontractor requirements. Comment: Additional toolbox training completed 22 June clean-up complete
JBs – S3 Garbage/House keeping	Complete	High	06/16/2022	06/24/2022	06/24/2022	On time	Issue: Inadequate garbage disposal on site, garbage not being sorted, no wildlife-proof bins for food waste. Corrective Action: Comment: Additional toolbox training completed 22 June clean-up complete
JBs – S2 Garbage/House keeping	Complete	High	06/16/2022	06/24/2022	06/24/2022	On time	Issue: Inadequate garbage disposal on site, garbage not being sorted, no wildlife-proof bins for food waste. Corrective Action: Comment: Additional toolbox training completed 22 June clean-up complete
JBs – S2 Bridge Concrete Waste	Complete	High	06/16/2022	06/24/2022	06/24/2022	On time	Issue: Waste concrete remaining on site without adequate containment Corrective Action: Additional crew training, additional inspection, working with structures team to reinforce subcontractor requirements. Comment: Additional toolbox training completed 22 June clean-up complete
JBs – S2 Bridge Secondary Containment	Complete	High	06/16/2022	06/24/2022	06/24/2022	On time	Issue: Hazardous materials (chemicals, fuel) observed on site without adequate secondary containment. Corrective Action: Additional crew training, additional inspection, working with structures team to reinforce subcontractor requirements. Comment: Additional toolbox training completed 22 June clean-up complete
JBs – S3 Bridge Secondary Containment	Complete	High	06/16/2022	06/24/2022	06/24/2022	On time	Issue: Hazardous materials (chemicals, fuel) observed on site without adequate secondary containment. Corrective Action: Additional crew training, additional inspection, working with structures team to reinforce subcontractor requirements. Comment: Additional toolbox training completed 22 June clean-up complete

Environmental Deficiency	Progress	Severity	Start Date	Due Date	Completed Date	Status	Details
PGC – L475 Erosion	Complete	Medium	06/10/2022	07/08/2022	06/30/2022	On time	Issue: Erosion observed on slopes around L475 ditch Corrective Action: Stabilize slopes to prevent erosion into ditch. Comment: Slope stabilization completed.
PGC – L500 Haul Road Erosion	Complete	Medium	06/10/2022	7/08/2022	06/28/2022	On time	Issue: Erosion of haul road toward Burns Bog Corrective Action: Fix ESC measures Comment: Continue to monitor as traffic uses this road.
PGC – L400 ESC fencing	In progress	High	06/03/2022	06/30/2022		Late	Issue: ESC fencing along L400/L100 requires review Corrective action: Check fencing is fully keyed in and repair as needed. Comment: Late item – revised to high priority.
PGC – Silda Ditch Erosion, L1300/L575 ESC	In progress	Medium	06/30/2022	07/15/2022		On time	Issue: ESC fencing is in need of repair and removal of excess sand/sediment. Corrective Action: Fix ESC measures Comment:
PGC – S4 Bridge Concrete Waste	In progress	Medium	06/28/2022	07/11/2022		On time	Issue: Cured waste concrete observed at S4 bridge work area. Corrective Action: All waste concrete must be removed for off-site disposal. Comment: Reported to Structures team and JB management for action.

4.0 ENVIRONMENTAL MONITORING AND INSPECTION RESULTS

PGC completed daily site inspections during the reporting period, and a PGC Environmental Representative was available during the day and night shift, as applicable. All operators and equipment were visited/inspected multiple times during the reporting period to ensure work was completed in compliance with all applicable BMPs.

The PGC Environmental Representative completed spill kit inspections in Sections 1, 2, 3 and 4 during the reporting period and confirmed that they were compliant with the CEMP. MESL conducted site visits on 02, 10, 16, 24 and 30 June 2022 to review current site activities.

PGC completes regular inspections of machinery and equipment to confirm they are free of leaks, clean (e.g., free of grease, soils, or plant material), and equipped with spill kits, spill trays and fire extinguishers. Inspection records are maintained by PGC.

Inspections continue for equipment without spill trays deployed, supervisors in active work areas have been notified and crews will be reminded to deploy spill trays for equipment. Subcontractors are being reminded to ensure all equipment brought on site has appropriate secondary containment, and PGC will order additional spill trays in case of loss or breakage.

Toolbox training for the reporting period focused on *Tack Application (Appendix 8)*.

4.1 Air Quality and Dust Control

No issues were recorded during the month of June. Use of water trucks for dust suppression is indicated by weather conditions and completed as required.

4.2 Noise and Vibration Management

Monthly noise monitoring was conducted over a 24-hour period on 14/15 June 2022. Results are in **Table 3** below. Recorded noise levels did not exceed the baseline data.

Grey shaded: New revised baseline data (PGC letter Rev01 PGC-COR-000174 to MoTI – dated April 28, 2021)

Green shaded: Noise monitoring data not exceeding 15% of the baseline data

Yellow shaded (not used): Noise monitoring data is between 15%-30% of the baseline data

Red shaded (not used): Noise monitoring data exceeds 30% of the baseline data

Table 3. Monthly Noise Monitoring Data.

Start time	Location	Description	Ambient noise	GPS, Lat Long	BASELINE			RESULTS (Night) June 14 2022		
					Avg. (dB)	Min. (dB)	Max. (dB)	Avg. (dB)	Min. (dB)	Max. (dB)
20:33	3	Nordel Way Bog Area (Section 3)	Excavator, dozer, haul truck, and highway traffic	49.146941° -122.944797°	58.7	48.7	84.4	53.4	45.4	68.6
Start time	Location	Description	Ambient noise	GPS, Lat Long	BASELINE			RESULTS (Day) June 15, 2022		
					Avg. (dB)	Min. (dB)	Max. (dB)	Avg. (dB)	Min. (dB)	Max. (dB)
8:40	4	Nordel Road Interchange (Section 4)	Excavator and highway traffic	49.144169° -122.939111°	68.1	64.7	73.9	65.1	51.8	78.2
10:16	5	Nordel Road Interchange (Section 4)	General construction and light traffic	49.147573° -122.942903°	63.9	49.8	84.9	64.7	49.1	90.1
11:25	3	Nordel Way Bog Area (Section 3)	Excavators, haul trucks, general construction, and highway traffic.	49.146941° -122.944797°	74.8	66.9	85.8	58.7	45.4	76.0

4.3 Erosion and Sediment Control

PGC Environmental Representatives, Site Supervisors, and Foremen conduct weekly monitoring of installed erosion and sediment control measures in active work areas to make sure they are fully functional, effective and perform any required maintenance. Observed ESC deficiencies and timelines for correction are included in **Table 2**.

As noted in **Table 2**, items overdue are revised to high priority and PGC Environmental Representatives are following up on action lists with responsible superintendents to resolve identified deficiencies.

01 June – 05 June 2022

New Deficiency Items for Reporting Period:

03 June 2022: L2400 Liner Repair – repairs to liner required where sheet piles in DNR were removed.

03 June 2022: L400 ESC Fencing – newly installed ESC fencing requires inspection to confirm it is keyed in properly, and repairs completed where needed.

In Progress Deficiency Items for Reporting Period:

Burns Bog Dewatering Bag – remove dewatering bags from ditch. Removal requires excavator.

Closed Deficiency Items for Reporting Period:

03 June 2022: L550/L100 ESC Fencing – Sand removed and fencing repaired.

03 June 2022: L1300 Organics Stockpile – stockpile covered with poly.

03 June 2022: L2400 ESC – fencing maintenance completed.

03 June 2022: Silda Ditch Dewatering Bag – removed dewatering bags from ditch with excavator while Fortis inspector was on site.

06 June – 12 June 2022

New Deficiency Items for Reporting Period:

10 June 2022: L475 Erosion – erosion on slopes above L475 ditch observed during heavy rainfall. Repair/stabilize slopes.

In Progress Deficiency Items for Reporting Period:

L2400 Liner Repair – repairs to liner required where sheet piles in DNR were removed.

L400 ESC Fencing – newly installed ESC fencing requires inspection to confirm it is keyed in properly, and repairs completed where needed.

Burns Bog Dewatering Bag – remove dewatering bags from ditch. Removal requires excavator.

Closed Deficiency Items for Reporting Period: None.

13 June – 19 June 2022

New Deficiency Items for Reporting Period: None.

In Progress Deficiency Items for Reporting Period:

L400 ESC Fencing – newly installed ESC fencing requires inspection to confirm it is keyed in properly, and repairs completed where needed.

L475 Erosion – erosion on slopes above L475 ditch observed during heavy rainfall. Repair/stabilize slopes.

Closed Deficiency Items for Reporting Period:

16 June 2022: Burns Bog Dewatering Bag – dewatering bags removed from ditch with excavator.

17 June 2022: L2400 Liner Repair – dewatering and repairs to liner complete.

20 June - 26 June 2022

New Deficiency Items for Reporting Period: None.

In Progress Deficiency Items for Reporting Period:

L475 Erosion – erosion on slopes above L475 ditch observed during heavy rainfall. Repair/stabilize slopes.

L500 Haul Road Erosion – sand and sediment removal required along ESC fencing at haul road due to heavy traffic.

L400 ESC Fencing – newly installed ESC fencing requires inspection to confirm it is keyed in properly, and repairs completed where needed.

Closed Deficiency Items for Reporting Period: None

27 June – 30 June 2022

New Deficiency Items for Reporting Period:

30 June 2022: L1300/L575 Silda Ditch ESC – sand observed impacting ESC fencing along Silda Ditch Upstream. Repair and remove excess sand/sediment material.

In Progress Deficiency Items for Reporting Period:

L400 ESC Fencing – newly installed ESC fencing requires inspection to confirm it is keyed in properly, and repairs completed where needed.

Closed Deficiency Items for Reporting Period:

28 June 2022: L500 Haul Road Erosion – sand and sediment removed along ESC fencing at haul road. PGC will continue to monitor this location for erosion issues due to heavy traffic.

30 June 2022: L475 Erosion – Slopes have been repaired/re-stabilized to prevent sedimentation to L475 ditch.

Paved surfaces were observed in overall clean condition. TSI completes sweeping of public roadways during night shifts and PGC has indicated that paved surfaces are also swept at the end of each night shift. Areas with potential for erosion are largely covered by preload sand, which drains well and mitigates potential erosion from rain and surface flow.

4.4 Water Quality Management

Ongoing Management Items

01 to 05 June 2022

Berm placement works continued along L1170 within the isolated section of the Burns Bog Perimeter Ditch. As part of final drainage design and in accordance with applicable WSA permits, the eastern portion of the Burns Bog Perimeter Ditch has been isolated with road plates, separating the work area from the western extent of the ditch. The water quality monitoring point was adjusted slightly to the west, outside of the isolation area where earthworks are being completed under WSA Approval 2007783 (Area F). Water quality monitoring is completed in the bog south of the berm construction location, and second layer of silt fence has been installed to reduce potential for sediment mobilization outside of the work area. Works have been scheduled to be completed during lower water levels in the bog, but ahead of the dry season when equipment use near the bog poses potential fire hazards. Water quality monitoring is ongoing, no exceedances were recorded at the adjusted monitoring location downstream of the isolated work area.

On 01 June 2022, water was being pumped from the western portion S3 L500 pond to Silda Ditch under the supervision of PGC environmental representatives to draw down water levels in preparation for culvert connection. Water quality monitoring was ongoing during pumping and at approximately 16:00 the pumps were turned off due to observed elevated turbidity at the discharge location. Pumps remained off overnight.

At approximately 08:50 on 02 June 2022, the road plates isolating the eastern portion of the L500 pond where a storm drain run is being installed were compromised/overwhelmed due to elevated water levels in the pond. Turbid water entered the storm installation area and moved into the culvert connected to Silda Ditch. Immediate efforts were made to secure the road plates and re-establish isolation; however, due to the high-water level in the L500 pond, re-establishing the plates was not immediately successful and water continued to flow into the culvert.

Immediately following the release at approximately 09:30, water quality in Silda Ditch at the culvert discharge location was recorded at 240 NTU, Silda Ditch Midstream monitoring point was 373 NTU, and Silda Ditch Downstream was 655 NTU. By 14:00 within 8 hours of the release, turbidity at Silda Ditch Midstream had reduced to 52 NTU. Isolation was fully re-established for the L500 pond at approximately 15:30.

By 07:30 on 3 June 2022, within 24 hours of release, turbidity at the Silda Ditch culvert discharge location had reduced to 30.92 NTU, and Silda Ditch Midstream was 27.38 NTU. Background for Silda Ditch (off-site monitoring point Silda Ditch 1) is currently 17.19 NTU. PGC will continue to monitor the resolution of the elevated turbidity and will provide follow up reporting to MoF and the Province.

06 to 12 June 2022

Berm placement works continued along L1170 within the isolated section of the Burns Bog Perimeter Ditch. As part of final drainage design and in accordance with applicable WSA permits, the eastern portion of the Burns Bog Perimeter Ditch has been isolated with road plates, separating the work area from the western extent of the ditch. The water quality monitoring point was adjusted slightly to the west, outside of the isolation area where earthworks are being completed under WSA Approval 2007783 (Area F). Water quality monitoring is completed in the bog south of the berm construction location, and second layer of silt fence has been installed to reduce potential for sediment mobilization outside of the work area. Works have been scheduled to be completed during lower water levels in the bog, but ahead of the dry season when equipment use near the bog poses potential fire hazards. Water quality monitoring is ongoing, no exceedances were recorded past the second silt fence or at the adjusted monitoring location downstream of the isolated work area.

Water quality monitoring was completed at the DNR Ditch during dewatering from the S4 L2400 guide sign installation and DNR liner dewatering for liner repairs. Pumps from the L2300 pond remained off for the duration of the reporting period. Slightly elevated turbidity (15.12 NTU) was observed on 6 June 2022 at location K, PGC investigated the and noted elevated turbidity water (14.20 NTU) entering the DNR Ditch at this location via culvert connection to the roadside ditch on the west side of Highway 91, which flows northward carrying off-site run-off from south of the Project boundary. PGC will continue to monitor and note any off-site contributions to DNR Ditch turbidity. On 07 June 2022, pumps from the S4 L2400 guide sign installation were turned off during concrete pours, pumping remained off until 10 June 2022. Water quality for Location J (further downstream to the south, refer to Figure 3) remained within acceptable parameters during the reporting period.

Water management from the L1150 pond continued on 06 June, pumps were directed to the Silda Ditch culvert location. At 12:05 on 06 June 2022, water levels in the pond were drawn down and no longer providing acceptable quality water for pumping to Silda Ditch, and pumps were turned off. Water quality at the Silda Ditch culvert discharge location was measured at 59.00 NTU, and Silda Ditch Midstream was 62.00 NTU due to reduced flow and lowered water levels after pumping was halted.

PGC conducted follow-up monitoring on 07 and 08 June 2022 and continued to observe elevated turbidity and very low water levels in the culvert discharge and midstream locations. Silda Ditch downstream water quality impacts are minimal (approximately 10 NTU above background, including tidal influence from the river), indicating stagnant water in the culvert discharge and midstream locations with very minimal flow moving downstream. Water quality information was reported to MoF as follow-up to the reported high-turbidity release and in accordance with WSA approval conditions (see **Section 3.2**).

Heavy rain began on 09 June and continued 10 June 2022, SRE follow-up water quality monitoring was completed on 10 June and showed resolution of elevated turbidity at the Silda Ditch culvert discharge area. Elevated turbidity was observed at Silda Ditch MS (32.00 NTU). Follow-up monitoring was completed on 11 June 2022 and water quality in both the culvert discharge and the MS monitoring location were within acceptable parameters (16.49 NTU and 20.07 NTU respectively), increased flow flushing out stagnant water was observed following the SRE event.

L475 ditch continues to be monitored for water quality. Elevated turbidity was observed following the 10 June 2022 rain event due to slope erosion. The L475 ditch ultimately flows into Silda Ditch (near DS sampling location), but due to current water levels there is no connection of flow to Silda Ditch.

13 to 19 June 2022

Berm placement works continued along L1170 within the isolated section of the Burns Bog Perimeter Ditch. As part of final drainage design and in accordance with applicable WSA permits, the eastern portion of the Burns Bog Perimeter Ditch has been isolated with road plates, separating the work area from the western extent of the ditch. The water quality monitoring point was adjusted slightly to the west, outside of the isolation area where earthworks are being completed under WSA Approval 2007783 (Area F). Water quality monitoring is completed in the bog south of the berm construction location, and second layer of silt fence has been installed to reduce potential for sediment mobilization outside of the work area. Works have been scheduled to be completed during lower water levels in the bog, but ahead of the dry season when equipment use near the bog poses potential fire hazards.

Elevated turbidity was observed outside the berm work area on 13 June and 14 June 2022 during peat placement works on the berm. The significant rainfall event recorded 9-10 June 2022 resulted in elevated water levels in the work area and water movement/waves from peat placement resulted in suspended sediments and elevated turbidity greater than 8 NTU over background moving past the second layer of silt fencing. Works continued to complete the in-water works in as short a time period as possible, as peat placement was scheduled for completion on 17 June 2022, PGC reported the elevated turbidity to MoF on 15 June 2022 (see **Section 3.2**). Follow-up monitoring was conducted on 15 and 16 June 2022, turbidity remained elevated on 15 June 2022 (51 NTU) but by 16 June 2022 had returned to acceptable levels (23.82 NTU) below Burns Bog baseline (26.77 NTU, measured at a location away from active works). PGC reported the resolution of the elevated turbidity to MoF on 17 June 2022 (see **Section 3.2**). Peat placement was completed on 17 June 2022. No further work is scheduled on the berm for approximately 2 weeks.

Water management for the L500 pond is ongoing due to current connection to the L1150 pond via the Burns Bog berm ditch. To manage water levels in the ditch ahead of connection of the storm system to Silda Ditch, water is pumped to dewatering bags in high vegetation adjacent to the Burns Bog Ditch downstream of the isolated berm area. No impacts to water quality were observed during the reporting period.

Slightly elevated turbidity continues to be observed at Silda Ditch Midstream location. No pumping or instream works are currently occurring in Silda Ditch. Preparations are in progress for connecting the drainage from the south side of Highway 91 to the culvert discharge location above Silda Midstream. Observations of elevated turbidity continue to be reported to MoF (see **Section 3.2**).

L475 ditch continues to be monitored for water quality. Slightly elevated turbidity (24 NTU) was observed due to slope erosion during the 9-10 June 2022 SRE. The L475 ditch ultimately flows into Silda Ditch (near DS sampling location), but due to current water levels there is no connection of flow to Silda Ditch.

Dewatering of the L2400 liner to the DNR ditch was completed on 15 June 2022 ahead of liner repairs being completed on 16-17 June 2022. No impacts to water quality were observed in the DNR ditch.

Dewatering of the Guide Sign 037A excavation at L100 into 96 St Ditch was started on 17 June 2022 but all installation works including pumping were halted the same day due to subcontractor availability.

20 to 26 June 2022

PGC continued to monitor water quality in Burns Bog outside of the ESC measures (2 layers of silt fence) following the reported elevated turbidity in the previous reporting period. No works were completed in the Burns Bog berm ditch during the reporting period, water quality remained within acceptable parameters and turbidity continued to decline as anticipated following completion of berm works. Works for the MSE wall construction at the west end of the berm ditch are completed in the dry and do not impact surrounding water quality.

A new discharge location for water management for the L500 pond was selected to avoid any pumping to Silda Ditch. L500 is currently connected to the L1150 pond via the Burns Bog berm ditch. To manage water levels in the berm ditch ahead of connection of the storm system on the south side of Highway 91 to Silda Ditch, water is intermittently pumped to dewatering bags in high vegetation adjacent to the Burns Bog Ditch downstream of the isolated berm area, and water quality is measured at the Burns Bog L550 monitoring location shown in **Figure 2**. No impacts to water quality were observed from pumping on 22 June 2022. PGC will continue to monitor this location during discharge to vegetation.

Slightly elevated turbidity continues to be observed at Silda Ditch Midstream location. No pumping or instream works are currently occurring in Silda Ditch. Preparations are in progress for connecting the drainage from the south side of Highway 91 (comprising L1150 and L1170 ponds, berm ditch and L500 storm) to the culvert discharge location above Silda Midstream. Observations of elevated turbidity continue to be reported to MoF (see **Section 3.2**).

L475 ditch continues to be monitored for water quality, turbidity was within acceptable parameters. The L475 ditch ultimately flows into Silda Ditch (near DS sampling location), but due to current water levels there is no connection of flow to Silda Ditch.

Dewatering for L2300 pond was completed on 22 June 2022 ahead of start of bioswale installation. Water quality monitoring was completed during pumping, no impacts to water quality were observed in the DNR ditch.

27 to 30 June 2022

No works were completed in the Burns Bog berm ditch during the reporting period. Works for the MSE wall construction at the west end of the Burns Bog berm ditch were completed in the dry and no impacts to surrounding water quality were observed.

A new discharge location for water management for the L500 pond was selected to avoid any pumping to Silda Ditch. L500 is currently connected to the L1150 pond via the Burns Bog berm ditch. To manage water levels in the berm ditch ahead of connection of the storm system on the south side of Highway 91 to Silda Ditch, water is intermittently pumped to dewatering bags in high vegetation adjacent to the Burns Bog Ditch downstream of the isolated berm area, and water quality is measured at the Burns Bog L550 monitoring location shown in **Figure 2**. No impacts to water quality were observed from pumping on 27-30 June 2022. PGC will continue to monitor this location during discharge to vegetation.

Impacts to flow and turbidity due to tidal influence and stagnation/reversal of flow were observed in Silda Ditch at the midstream, upstream, and off-site reference (Silda 1) locations. On 27 June 2022, samples at Silda including off-site reference were slightly elevated (28 – 35 NTU). No works with the potential to cause erosion or dewatering works were occurring. PGC collected samples for bacterial plate count testing and recorded Silda and off-site water quality data.

On 28 June 2022, PGC and MOTI representatives noted the change in colour of the upper reaches of Silda and further investigation was planned.

On the morning of 29 June 2022, stagnation of flow and distinctly orange-coloured turbid water was observed in the upper reaches of Silda. Turbidity in the lower reaches was 20 NTU below values in the upper reaches and tidal/river influence was observed (good flow, change in water levels, turbidity of water similar to Fraser River).

Additional water quality monitoring was completed during night shift on 29 June 2022 to align with the higher high tide. Reversal of flow was observed in the upper reaches of Silda, with significantly elevated turbidity and assumed bacterial growth at the off-site reference (Silda 1 – 84 NTU and stagnant water). PGC collected additional samples for analysis to compare bacteria levels with 27 June samples. Observations of elevated turbidity continue to be reported to MoF (see **Section 3.2**).

L475 ditch continues to be monitored for water quality, turbidity was within acceptable parameters. The L475 ditch ultimately flows into Silda Ditch (near DS sampling location), but due to current water levels there is no connection of flow to Silda Ditch.

Water management for L2300 pond was completed from 27-30 June 2022 during bioswale installation. Water quality monitoring was completed during pumping. Slightly elevated turbidity (14.64 NTU) was observed on 27 June 2022, pumps were adjusted in the sump and water quality returned to normal by 28 June 2022 (11.70 NTU). Water quality remained within acceptable parameters for the remainder of the reporting period.

Toolbox training for the reporting period focused on *Pre-pumping Checklist (Appendix 8)*.

On 23 June 2022 a meeting was held between PGC and Province representatives to discuss and clarify reporting requirements for multiple water quality scenarios at Silda Ditch including initial, follow-up and resolution reporting for environmental incidents, as well as ongoing observations of elevated turbidity associated with assumed bacterial growth and related impacts, and establishment of site-specific background water quality parameters for reporting resolution of environmental incidents. Minutes were distributed for review and comment following the meeting.

Water quality results, including significant rainfall events for the reporting period can be found in **Appendix 7**.



Figure 2: Water sampling locations for the month of June 2022.

4.5 Wildlife and Habitat Management

No wildlife salvage efforts to report on for this reporting period.

07 June 2022: A mating pair of Killdeer were observed at L2550 west of the S4 dumpsite. Crews have been notified, a 30 m buffer and Environmentally Sensitive Area signage has been erected around the nest location. The proposed haul road has been relocated to a new route outside the 30 m buffer. The nest will be monitored at a safe distance to determine when chicks have fledged, and buffer/signage can be removed.

PGC continues to monitor the killdeer nest in S4 to assess if project works are causing impacts to the nesting birds. The eggs have hatched (chicks observed on 21 June 2022), no impacts have been observed. Work on the S4 haul road is complete and material movement was completed the week of 13 June 2022. Any workers entering the area for upcoming scheduled activities are informed of the environmentally sensitive area.

Toolbox training for the reporting period focused on *Birds and Bats* and *Wildlife Awareness (Appendix 8)*.

4.6 Vegetation Management.

Topsoil placement in the DNR for planting has been initiated in S4 along L2300.

4.7 Fisheries Habitat Management

No fish salvage efforts to report on for this reporting period.

4.8 Concrete Works and Grouting Management

PGC Environmental Representative completed inspections during concrete works to review concrete pouring and waste management practices.

01 June to 05 June 2022:

01 June 2022: Concrete was poured for the parapet on the S3 bridge. Concrete was poured into the form work and no equipment was allowed to be washed on site.

02 June 2022: Concrete was poured for the parapet on the S3 bridge and the pedestals on S4 wall. Concrete was poured into the form work and no equipment was allowed washed on site.

03 June 2022: Concrete was poured in for the parapet on south side of the S3 bridge. Concrete was poured into the form work and no issues were identified during this concrete pour. Refer to **Section 3.1** for reported incident with contractor releasing concrete on site.

New Items for Reporting Period: None.

Closed Items for Reporting Period: None.

06 June to 12 June 2022:

07 June 2022: Concrete was poured for guide sign 36, guide sign 1 and guide sign 4. Concrete was poured directly into the form work. No issues were identified during the concrete pour.

08 June 2022: JBs pouring parapet for S3 bridge north side. Concrete was pumped directly into the form work. No issues were identified during the concrete pour.

09 June 2022: JB's continued pouring parapet for S3 bridge north side. Concrete was pumped directly into the form work. No issues were identified during the concrete pour.

10 June 2022: JB's pouring east approach slab for S3 bridge, and east stem wall for S4 bridge, and guide sign 35. Concrete was pumped directly into the form work. No issues were identified during the concrete pour.

No equipment washing was permitted on site, and all waste concrete was removed for off-site disposal.

New Deficiency Items for Reporting Period: None.

In Progress Items for Reporting Period: None.

Closed Deficiency Items for Reporting Period:

L10 June 2022: 1150 Concrete Waste – waste concrete from curb pours removed.

13 June to 19 June 2022:

15 June 2022: Concrete was poured for the parapet on the S3 bridge. Concrete was poured into the form work.

16 June 2022: Concrete curing water from S3 bridge deck pour held and treated in the S3 tank was tested and confirmed acceptable quality for release to vegetated areas (pH 6.58, 8.54 NTU).

17 June 2022: Concrete was poured for L1300 curbs. All waste concrete was removed from site, no issues were noted.

New Deficiency Items for Reporting Period:

16 June 2022: S3 Bridge Concrete Waste Management – Evidence of equipment washing on site and concrete waste remaining on site without adequate containment was observed at the S3 bridge.

16 June 2022: S2 Bridge Concrete Waste Management – Evidence of concrete waste remaining on site without adequate containment was observed at the S2 bridge.

In Progress Items for Reporting Period: None.

Closed Deficiency Items for Reporting Period: None.

20 June to 26 June 2022:

No concrete works were completed during the reporting period due to a shortage of materials.

New Deficiency Items for Reporting Period: None.

In Progress Items for Reporting Period: None.

Closed Deficiency Items for Reporting Period:

24 June 2022: JB's S3 Bridge Concrete management – Concrete material and washout residue cleanup completed.

24 June 2022: JB's S2 Bridge Concrete management – Concrete material and washout residue cleanup completed.

27 June to 30 June 2022:

Due to continued concrete shortages, minimal concrete pouring was completed during the reporting period.

29 June 2022: Concrete was poured for median curbs. Concrete was poured into the form work and no equipment was allowed to be washed on site. No issues were identified during these concrete pours.

30 June 2022: JB's poured the remaining concrete for the east side slope protection/spillway of the S3 bridge with a single concrete truck. Concrete was poured into the form work and no issues were identified during this concrete pour. No issues were identified during this concrete pour and all concrete waste were disposed of at the end of the shift.

New Deficiency Items for Reporting Period:

28 June 2022: S4 Bridge Concrete Waste – cured concrete waste was observed at the S4 bridge. All waste concrete must be removed from the work area for off-site disposal.

In Progress Items for Reporting Period: None.

Closed Deficiency Items for Reporting Period: None.

Toolbox training for the reporting period focused on *Tack Application (Appendix 8)*.

4.9 Waste Management

Yellow wheelie bins with spill supplies are readily available and fully stocked at each active work location, and mobile equipment is also equipped with spill kits. PGC inspects spill kit contents based on the CEMP (Rev 7) checklist and ensures that any depleted supplies within these bins are restocked immediately. Spill kits were inspected in Section 1, 2, 3 and 4 during the reporting period. Drip trays for mobile equipment are available at equipment storage locations, and crews are regularly reminded to confirm drip trays are deployed for equipment.

Observed deficiencies are noted in **Table 2**.

01 to 05 June 2022:

New Items for Reporting Period:

03 June 2022: Light weight fill (LWF) Waste – floating LWF materials observed in water contained in hydro pole depression near pouring area, waste must be removed.

Closed Items for Reporting Period: None.

06 June to 12 June 2022:

New Items for Reporting Period: None.

In Progress Items for Reporting Period:

LWF Waste – floating LWF materials observed in water contained in hydro pole depression near pouring area, waste must be removed.

Closed Items for Reporting Period: None.

13 June to 19 June 2022:

New Items for Reporting Period:

16 June 2022: S2 Bridge General Housekeeping and Waste Management: Inadequate garbage disposal on site, garbage not being sorted, no wildlife-proof bins for food waste.

16 June 2022: S3 Bridge General Housekeeping and Waste Management: Inadequate garbage disposal on site, garbage not being sorted, no wildlife-proof bins for food waste.

In Progress Items for Reporting Period:

LWF Waste – floating LWF materials observed in water contained in hydro pole depression near pouring area, waste must be removed.

Closed Items for Reporting Period: None.

20 June to 26 June 2022:

New Items for Reporting Period: None.

In Progress Items for Reporting Period: None.

Closed Items for Reporting Period:

23 June 2022: LWF Waste – hydro pole depression water removed, and waste removed for off-site disposal.

24 June 2022: JB's S3 Bridge General and Food Waste Management – Site cleanup completed, waste sorting and removal completed.

24 June 2022: JB's S2 Bridge General and Food Waste Management – Site cleanup completed, waste sorting and removal completed.

27 June to 30 June 2022:

New Items for Reporting Period: None.

In Progress Items for Reporting Period: None.

Closed Items for Reporting Period: None.

Toolbox training for the week focused on *Spill Trays (Appendix E)*.

Table 4: Hazardous Waste Storage and Disposal Tracking

Location	Haz-Material Stored	Volume m ³	Comments	Date of Disposal
PGC Site Office Yard	Spent Absorbents	N/A	Approximately 2-3 L of diesel was spilt on the pavement. Spent absorbents to be collected by Tervita	24 September 2020 3 barrels
L575 Pre-load Area	Spent Absorbents	N/A	Less than 1 L of oil to spill tray, absorbent pads used to mitigate spill to ground. Spent absorbent pads to be collected by Tervita.	24 September 2020 3 barrels
Burns Bog perimeter ditch	Spent Absorbents	N/A	~100 mL of engine oil to water. Spent absorbent pads to be collected by Tervita.	24 September 2020 3 barrels
Site office waste area	Spent Absorbents	N/A	Excess pads that were placed in spill trays. Spent absorbent pads to be collected by Tervita.	24 September 2020 3 barrels
Site office waste area	Spent Absorbents	N/A	Excess pads that were placed in spill trays. Spent absorbent pads to be collected by Tervita.	24 September 2020 3 barrels
Site office waste area	Used aerosols	N/A	Spray paint cans that had collected to date.	24 September 2020 3/4 of a bin
PGC Site Office Yard	Used aerosol paint cans, contaminated soil, and plastic oil containers.	55 m ³	Spray paint cans that had collected to date, damaged drum with the soil and empty containers.	25 October 2020
Site office waste area	Wood waste bin	N/A	Pallets and other wood by-products	3 November 2020
Site office waste area	Spent absorbents, drum contaminated soil, plastic oil containers, bags with contaminated soil.	1.7 m ³	Used spill response materials and contaminated soils.	2 December 2020
PGC Site Office Yard	Used spill pads, aerosols, oily plastics, & contaminated soil	N/A	Aerosols taken to recycling depot by PGC, spill pads, oily plastic and soil removed from site by Tervita	11 February 2020

Location	Haz-Material Stored	Volume m ³	Comments	Date of Disposal
PGC Site Office Yard	Hazardous Waste	N/A	All hazardous waste was removed from the site by Tervita: manifest #BC064745-5	21 March 2021
PGC Site Office Yard	Used spill pads, used aerosols and contaminated soil	150 kg, 0.35 m ³ & 1500 kg	All hazardous waste was removed from the site by Tervita. Aerosol paint cans were taken by PGC to the Surrey Waste Transfer Station for recycling	24 June 2021
PGC Site Office Yard	Used Spill Pads, used aerosols and oily rags/plastic	100 kg, 0.25 m ³ & 50 kg	All hazardous waste was removed from the site by Tervita. Aerosol paint cans were taken by PGC to the Surrey Waste Transfer Station for recycling	3 November 2021
PGC Site Office Yard	Used Spill Pads, used aerosols and oily rags/plastic	300 kg, 0.50 m ³ & 50 kg	All hazardous waste was removed from the site by Tervita. Aerosol paint cans were taken by PGC to the Scott Road Bottle Depot for recycling	6 December 2021
PGC Site Office Yard	Used spill pads, contaminated soil, paint cans and used batteries	700 kg, 1000 kg, 0.45 m ³ , 0.25 m ³	All hazardous waste was removed from the site by Secure-Energy. Batteries and paint cans were taken by PGC to the Scott Road Bottle Depot for recycling.	2 February 2022
PGC Site Office Yard	Used spill pads, contaminated soil, oily plastic, oily rags, aerosol cans, paint cans and used batteries	0.40 m ³ , 0.40 m ³ , 0.30 m ³ , 0.10 m ³ , 0.30 m ³ , 0.40 m ³ , 0.15 m ³	All hazardous waste was removed from the site by Secure-Energy. Batteries and paint cans were taken by PGC to the Scott Road Bottle Depot for recycling.	19 April 2022
PGC Site Office Yard	Used spill pads, oily plastics, aerosol cans and used batteries	0.40 m ³ , 0.20 m ³ , 0.35 m ³ , 0.05 m ³	All hazardous waste was removed from the site by Secure-Energy. Batteries and aerosol cans were taken by PGC to the Scott Road Bottle Depot for recycling.	10 June 2022
Sunbury Mounds	Barrel excavated from Sunbury work area	0.25 m ²	Hazardous material was placed in a secure tote and removed from site by Secure Energy.	22 June 2022

4.10 Emergency Response

No incidents requiring emergency response were recorded during this reporting period.

4.11 Contaminated Sites Management

PGC has completed excavation and relocation of contaminated materials in the Sunbury Mounds area in Section 2. All excavated contaminated materials were retained in the permitted area as required by the conditions of the Approval in Principle (AiP) 14000.

No activities requiring excavation and relocation of contaminated material were completed during the reporting period. Secure Energy picked up the segregated contaminated waste (barrel found during excavation) on 22 June 2022.

Table 5: Contaminated Sites Tracking

Date	Soil	Water
Section 1		
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Section 2		
--	--	--
Section 3		
--	--	--
Section 4		
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5.0 ENVIRONMENTAL PERMITS

5.1 Status Update

A Permit Tracker is provided in **Appendix 4**. The permit tracking spreadsheet has been updated.

A Permit Conditions Tracker is included as **Appendix 5** outlining all DFO and WSA permit terms and conditions.

5.2 Status of the Table of Commitments and Assurances

The status of completed and ongoing commitments in the Table of Commitments and Assurances is provided in **Appendix 6**.

6.0 CONCLUDING REMARKS

PGC implements immediate actions when issues are observed and works with the Environmental Team and crews to identify, investigate and close issues and deficiencies in a timely manner with support from Senior management. PGC maintains an internal tracking system for deficiencies tracked by Project section, which provides information pertaining to all open and closed issues on the respective Project work fronts.

A list of open deficiencies including timelines for implementation of corrective actions are included in **Table 1** of this report, excerpted from PGC's internal tracking system. Incident trends are investigated to determine applicable mitigation and/or practices to prevent future deficiencies. Environmental Training is provided to site crews and is regularly reviewed for opportunities for continual improvement; new Environmental Training topics and refreshed environmental focus audit training are currently being investigated to align with the current site characteristics.

7.0 SITE PHOTOS

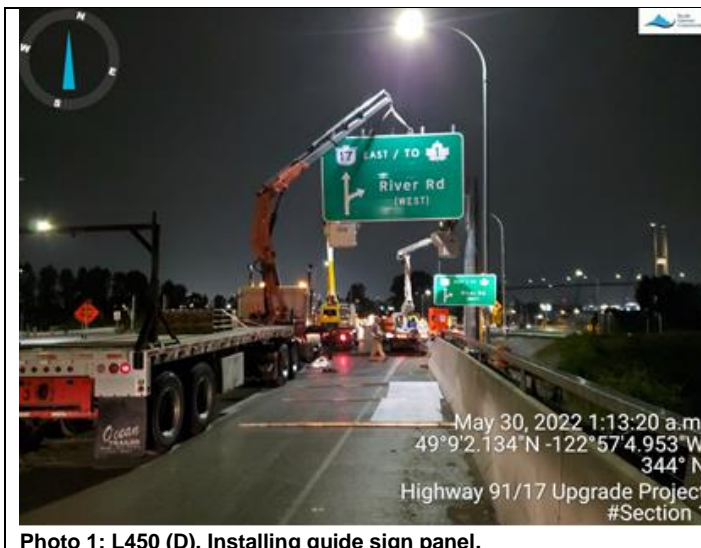


Photo 1: L450 (D). Installing guide sign panel.

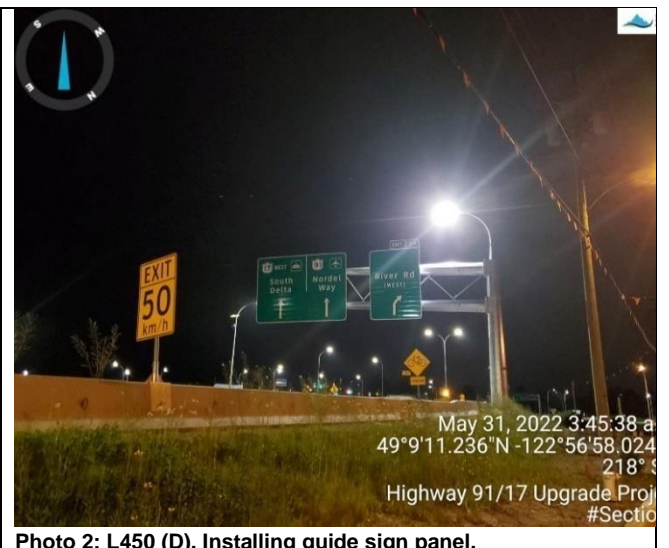


Photo 2: L450 (D). Installing guide sign panel.



Photo 3: L475 (D). Ditch sampled as part of weekly water quality testing.



Photo 4: L100 (A). Guide sign piling.



Photo 5: L400 (E). Ditching.



Photo 6: L400 (E). New erosion control fencing keyed.



Photo 7: L100 (E). Riprap being formed to the right of the picture.



Photo 8: L500 (E). Asphalt placement.



Photo 9: L550 (E). Guide sign formwork in preparation for concrete pour.



Photo 10: L550 (E). Dewatering with 6-inch pumps.



Photo 11: L550 (E). MSE wall being built.



Photo 12: L550 (E). Bike path asphalt placement.

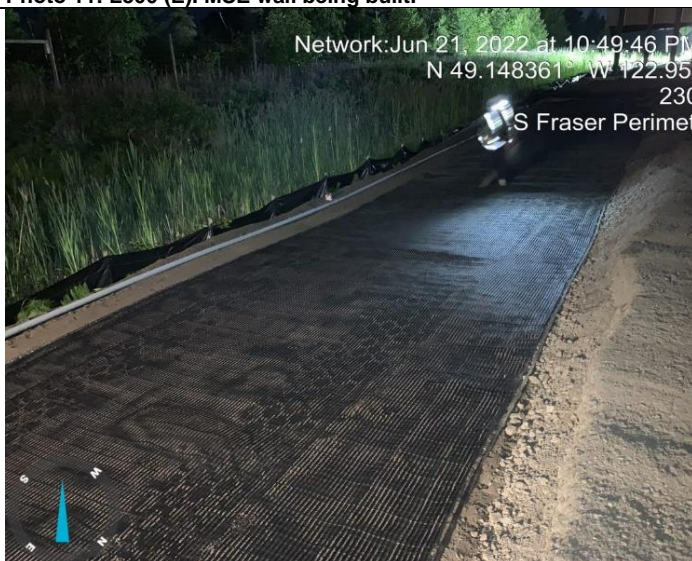


Photo 13: L550 (E). Geogrid placement.



Photo 14: L400 (E). Ditch infilling.



Photo 15: L1170/L500 (E). Freshly applied tack.



Photo 16: L400 (E). New barriers installed.



Photo 17: L500 (E). S2 bridge east side.



Photo 18: L500 (S2 Bridge). Curing water holding tank system installation.



Photo 19: L500 (E). S3 bridge south side.



Photo 20: L550 (E). Removing existing guide signs.



Photo 21: L1170 (E/F). Bog berm MSE wall progress.



Photo 22: L500 (E/H). Leveling course asphalt placement.



Photo 23: L1700 (F). Working on storm drain.



Photo 24: L1170 (F). Burns Bog berm construction.

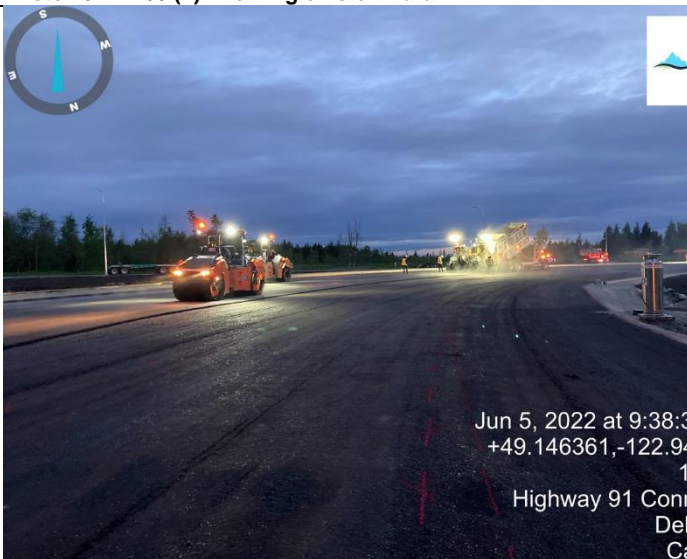


Photo 25: L1150(F). Asphalt placement.



Photo 26: L1170 (F). Bog liner install.



Photo 27: L1400 (F). Hydroseeding and landscaping.



Photo 28: L1160 (F). Pumice placement.



Photo 29: L1160 (F). Excavation for cellular concrete fill by pumice.

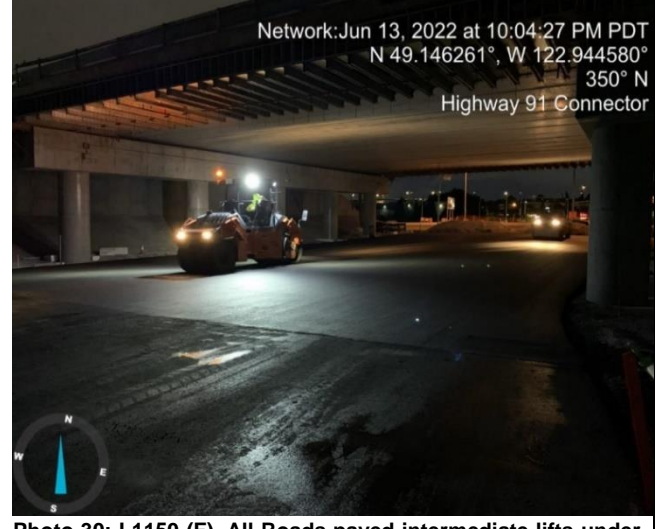


Photo 30: L1150 (F). All Roads paved intermediate lifts under S3 bridge



Photo 31: L1170 (F). Monthly noise monitoring at location 3.



Photo 32: L1150 (F). S3 bridge littering



Photo 33: L1170 (F). Cutting ditches.



Photo 34: L1170/L1160 (F). Excavation for gore



Photo 35: L1170 (F). Guide sign installation.



Photo 36: L1150 (F). Rip rap at S3 bridge.



Photo 37: L1500 (F). Asphalt placement on S3 bridge approach.



Photo 38: L500 (F). Burns Bog berm MSE wall.

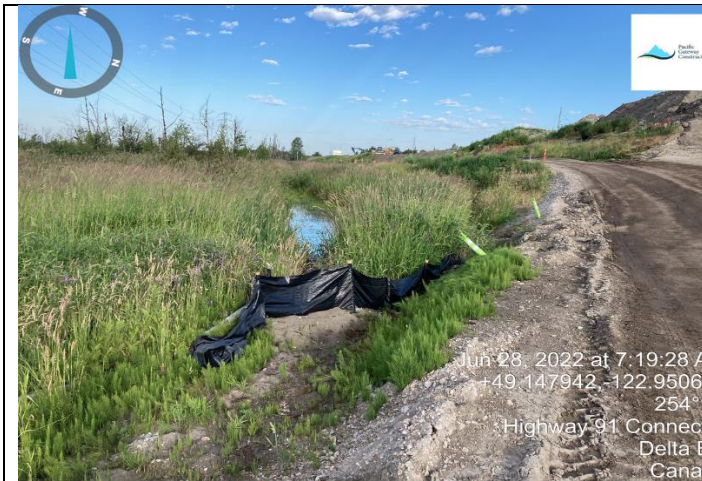


Photo 39: L500 (F). Fixed ESC fencing.

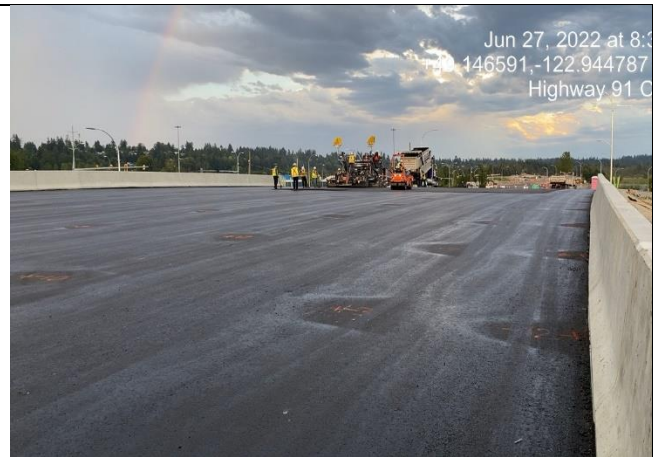


Photo 40: L1150 (F). All Roads paving the top lift on the S3 bridge deck.



Photo 41: L1150 (F). All roads sweeping the paved areas.



Photo 42: L1150 (F). S3 bridge spillway concrete pour.



Photo 43: L1150 (F). Removed lock blocks from wall.



Photo 44: L1150 (F). Hydroseeding.



Photo 45: L500 (F). Catch basin extension work.



Photo 46: L1150 (F). Paving complete.

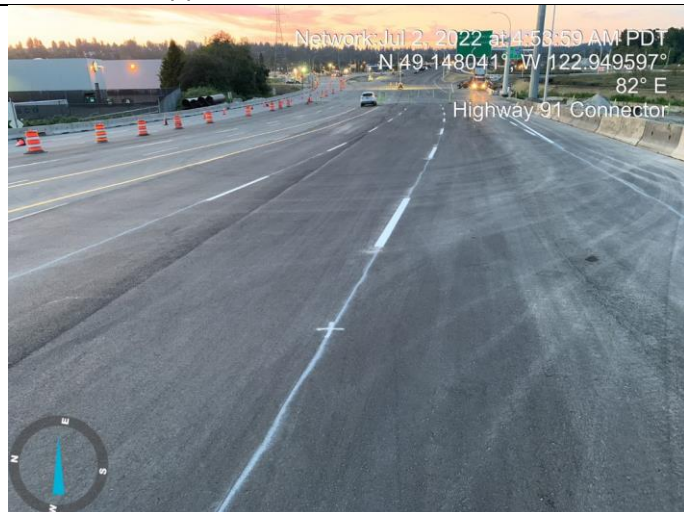


Photo 47: S3 Bridge (F). Paving complete.



Photo 48: L1300 (H). Placing asphalt geogrid.



Photo 49: L1300 (H). Asphalt placement.



Photo 50: L1300(H). Concrete pour for curbs



Photo 51: L500 (H). HDPE pipes moved to WB 91.



Photo 52: L1300 (H). Upstream Silda ditch.



Photo 53: L1130 (H). Tack being applied prior to asphalt placement.



Photo 54: L1300 (H). Night shift paving complete.



Photo 55: L600 (I). Tack spill.



Photo 56: L2200 (I). S4 bridge girder receipt.



Photo 57: L2250 (I). Head wall installed.



Photo 58: L1300 (H). Asphalt placement.



Photo 59: L2250 (I). Gravel placement.



Photo 60: L500 (I). All Roads asphalt placement.



Photo 61: L500 (I). Catch basin inserts installed for paving activity.



Photo 62: L600 (I). Storm drain connection progress.



Photo 63: L2250 (I). Paved the road widened area



Photo 64: L2250 (I). Paved the remaining base lift.



Photo 65: L600 (G). S4 bridge work and pour.



Photo 66: L2300 (G). Soil placed in DNR for planting.



Photo 67: L2300 (G). Concrete being poured into framework for guide sign.



Photo 68: L2550 (G). Killdeer nest and 30 m buffer.



Photo 69: L2300 (G). Guide sign concrete pour into formwork.



Photo 70: L600 (G). Removed streetlight.



Photo 71: L2400 (G). Formwork for a guide sign that will be poured with concrete.



Photo 72: L2400 (G). Peat placed on top of liner



Photo 73: L2300 (G). Installing a guide sign.



Photo 74: L600 (G). S4 bridge east side.



Photo 75: L525. Unauthorized pumping to 96 St Ditch US.



Photo 76: L525. Resolution of elevated turbidity at 96 St Ditch US.

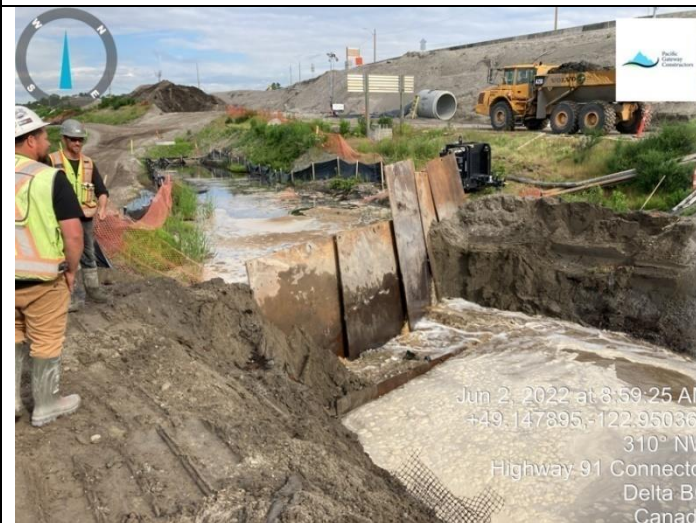


Photo 77: Isolation failure at L500 pond.



Photo 78: Culvert discharge location in Silda Ditch, 2 June 2022 at 09:13 (240 NTU)



Photo 79: Culvert discharge location in Silda Ditch, 3 June 2022 at 07:46 (30.92 NTU)

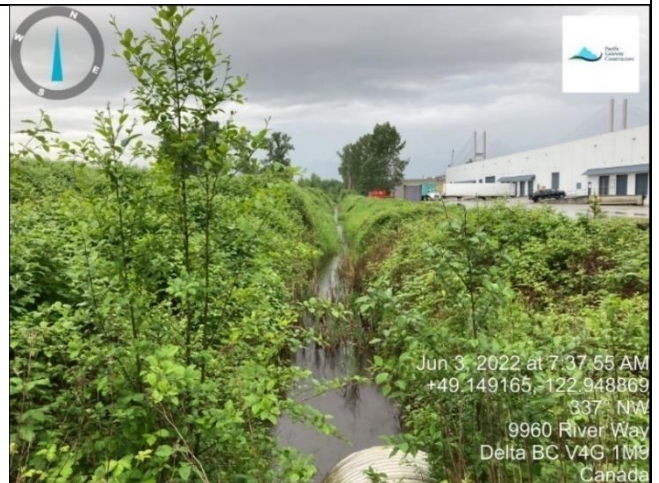


Photo 80: Silda Ditch Midstream monitoring location view downstream, 3 June 2022 at 07:37 (27.38 NTU)



Photo 81: Re-established isolation at L500 pond.



Photo 82: Low water levels and elevated turbidity at Silda culvert discharge location.



Photo 83: Low water levels and elevated turbidity at Silda midstream location.



Photo 84: S3 Bridge - Waste and food garbage observed without appropriate containment/disposal.



Photo 85: S3 Bridge - waste concrete left on site, inadequate containment.



Photo 86: S2 Bridge - waste concrete and garbage not disposed of properly.



Photo 87: S2 Bridge – hazardous materials without secondary containment.



Photo 88: S3 Bridge – jerry can with diesel fuel without secondary containment. Waste concrete and garbage not disposed of properly.



Photo 89: Hazardous waste material from Sunbury Mounds contained for removal from site by Secure Energy.



Photo 90: Hazardous waste material from Sunbury Mounds removed from site by Secure Energy.



Photo 91: Jacob Brothers S2 Bridge worksite cleanup – general waste sorted into appropriate receptacle.



Photo 92: JBs S3 Bridge worksite cleanup – Haz Mat and general construction waste removed from work area.



Photo 93: L500, S3 bridge ramp. All Roads paving the top lift on the S3 bridge ramp.



Photo 94: Downstream Silda Ditch showing turbidity influence from Fraser River.



Photo 95: Silda Ditch Upstream showing tidal influence (high tide at 04:22) and water conditions variability.



Photo 96: Silda Ditch Upstream showing tidal influence (high tide at 04:53) and water conditions variability.



Photo 97: Silda Ditch Upstream showing tidal influence (low tide at 14:22) and water conditions variability.

