



# CONCENTRIC

GEOSCIENCE

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Concentric Project No. 1800162/

October 15, 2019

Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, Canada  
X0B 1J0

**Attn:      Licence Manager**

**RE:      Post Construction Report for Licence  
8BC-BTN1819**

Dear Licence Manager,

Concentric Associates International Incorporated and its geo-environmental partner, Concentric Geoscience Inc. (herein collectively referred to as 'Concentric'), has been providing the City of Iqaluit (City) permitting guidance and facilitation for the repair of three bridges within the City.

This letter is a post construction summary of the bridge repair projects as required by Nunavut Water Board (NWB) licence 8BC-BTN1819 (Licence).

**BACKGROUND**

In May 2018 the NWB issued the License to the City for the repair of the Road to Nowhere bridge crossing the Niaqunguk River (also referred to as the Apex River). Due to stringent environmental protection requirements for work within the channel during active flow, the work was rescheduled for the winter of 2019 to ease access restrictions to the bridge components in need of repair.

Repair work on the Road to Nowhere bridge was completed in March 2019. Concentric understood at that time there was further embankment rejuvenation to be completed after the ground had thawed. Two additional bridge locations, one on Niaqunngusiaq (Road to Apex), spanning the Niaqunguk River (also referred to as the Apex River), and the other on



Astro Hill Road, spanning the drainage channel from the Lake Geraldine dam, were added to the project scope and on June 5, 2019 an application to amend the Licence was filed with the NWB to include the additional locations. The scope of the additional locations was to repair guide rails and replace or repair granular material on the channel banks and abutments, similar to the outstanding work required for the Road to Nowhere bridge.

Prior the City and Concentric receiving the amended Licence on July 22, 2019, repair work at all three locations was authorized and completed by the City without consultation from Concentric. As such, Licence conditions related to schedule submission, environmental monitoring, and environmental protection could not be completed or cannot be certified by Concentric.

## ROAD TO NOWHERE BRIDGE CONSTRUCTION SUMMARY

During repair works to the abutment of the Road to Nowhere bridge completed in March 2019 full time environmental monitoring was undertaken by Concentric. The following are salient details of the work completed:

- Silt fencing was installed into the snow pack across the river channel;
- Inspections of the work site were conducted daily before and after work activities and periodically throughout the day;
- Granular material was removed from the cribbing under the bridge abutments and disposed of off site;
- Concrete footings were poured beneath cribbing to replace removed granular material;
- All debris from removal and construction activities was cleared from the river channel; and
- Snow pack and silt fencing was removed from the channel upon completion of works.

The EPP for this phase of work was followed and frozen conditions limited impacts to the channel and banks. No significant spills occurred during construction activities. Any construction material spilled, i.e. grout, was cleared away once hardened. Select photos from the works can be found in **Appendix A**. Daily inspection logs of construction activities are included in **Appendix B**.

Any further work at the Road to Nowhere bridge was not monitored by Concentric, however, the City reports that no impacts to water occurred during construction activities. No as-built drawings were provided by the City as it was reported that there were no changes or deviations from the tender drawings.

## ROAD TO APEX AND ASTRO HILL BRIDGE REPAIRS

It was reported to Concentric that all works were completed as described by the scope of the Licence amendment. The City reports no deviations from the work scope and no water usage during the works. Photographs of environmental protections in place at the locations can be found in **Appendix A**. Concentric cannot certify the information provided by the City as it relates to the construction activities or environmental protections. No as-built drawings were provided by the City as it was reported that there were no changes or deviations from the tender drawings.

The City has requested waiving the requirement for an annual report as they report water at these locations was not impacted by construction activities.

## CONCLUSIONS

All construction activities at the Road to Nowhere bridge location were conducted in accordance with all conditions of the Licence and the EPP supplied in February 2019. The City reports that construction activities complied with submitted EPPs for each location. The City indicates that water was not used or impacted during construction activities at each location. The City indicates that all locations were completed in August 2019.



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## CLOSING

This report was prepared exclusively for the purposes, project and site locations outlined in the report. The report is based on information provided to, or obtained by Concentric as indicated in the report.

This report was prepared by Concentric for the sole benefit of Nunavut Water Board. The material in it reflects Concentric's judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Concentric accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Should you have any questions, please contact the undersigned.

Yours sincerely,

**Concentric**

Daniel Elliot, B.Sc.

Eric Shilts, B.Sc.



## **Appendix A**

### Photographs



Photo 1: North face of the Road to Nowhere bridge. Heavy equipment and work camp on the west side of the bridge.



Photo 2: South face of the Road to Nowhere bridge looking west toward the work camp.



Photo 3: Looking south from the Road to Nowhere bridge at snow clearing activities to access the underside of the bridge.



Photo 4: Silt fence installation across the Apex River channel on the north (upstream) side of the Road to Nowhere bridge.



Photo 5: Silt fence installation across the Apex River channel on the south (downstream) side of the Road to Nowhere bridge.



Photo 6: West abutment enclosure for aggregate removal and concrete work.

## Appendix A: Photographs

**Project No.:** 1800162

Post Construction Summary  
Iqaluit Bridge Repairs, Iqaluit, Nunavut





Photo 7: Concrete form installed and awaiting grout on the west abutment of the Road to Nowhere bridge.



Photo 8: Secondary containment beneath concrete mixer on Road to Nowhere.



Photo 9: Heating units, with secondary containment, position on the Road to Nowhere bridge.



Photo 10: Minor grout seepage after pouring at the Road to Nowhere bridge. Area cleared of excess grout once hardened.



Photo 11: Completed concrete work under the west abutment of the Road to Nowhere bridge.



Photo 12: Riprap installed to protect Road to Nowhere bridge abutment concrete footings.

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## Appendix A: Photographs

**Project No.:** 1800162

Post Construction Summary  
Iqaluit Bridge Repairs, Iqaluit, Nunavut





Photo 13: Bank and guide rail repair silt fencing and erosion mitigation measures at the Astro Hill bridge.



Photo 14: Looking North toward finished bank and guide rail repair at Astro Hill bridge. Silt fence and erosion mitigation measures installed.



Photo 15: Looking south toward unfinished bank repair at Astro Hill bridge. Silt fence installed.



Photo 16: Bank repair in the foreground and graded bank in the background at the Astro Hill bridge.

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## Appendix A: Photographs

**Project No.:** 1800162

Post Construction Summary

Iqaluit Bridge Repairs, Iqaluit, Nunavut





## **Appendix B**

### Daily Logs



### Daily Monitoring Checklist

Date: 19-Mar-19

Environmental Monitor: D. G. Hilt

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Clean	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Physical Barrier Intact	<input type="checkbox"/>	Y	<input type="checkbox"/>	N	<input checked="" type="checkbox"/>	N/A
Equipment Mats Available	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits in Place	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits Stocked	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A

#### Pre-Work Corrective Steps Taken

Physical barrier not yet erected, part of today's activity list.

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

None

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits Stocked	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A

#### Other Observations

One fuelling event took place inside exclusion zone. Spoke to JS about it.

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 20 - Mar - 19

Environmental Monitor: D. Elliott

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

*Secondary containment under bearings on bridge.*

#### Work Activities Today (Check all that apply)

<input checked="" type="checkbox"/> Site Preparation	<input checked="" type="checkbox"/> Demolition	<input type="checkbox"/> Material Removal
<input type="checkbox"/> Forming	<input type="checkbox"/> Construction	<input type="checkbox"/> Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 21-Mar-19

Environmental Monitor: D. Elliott

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

Discharge ponded <sup>sett</sup> water in enclosure to channel.  
↳ Added extra hose to discharge water further on to shore  
↳ Only small amount of water discharged. (10-20 L)

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature: 



### Daily Monitoring Checklist

Date: 22-Mar-19  
Environmental Monitor: D. Elliott

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

- Informed workers about equipment storage protocols.

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 23 - Mar - 19

Environmental Monitor: D. Elliott, S. Chad

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature: D. Elliott



### Daily Monitoring Checklist

Date:

24-03-19

Environmental Monitor:

SPENCER CHAD

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

TALKED TO JS ABOUT REPAIRING SILT FEST (WEST SIDE) LAST NIGHT

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

WEST SILT FENCE RESTAPLED THIS MORNING (AND EAST)

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

HEAVY EQUIPMENT (small loader) - JUST 1 metre too far forward  
WILL REPAIR TOMORROW.

#### Post Work Corrective Steps Taken

TALKED w/ PIONEER TO PARK READER BACK TOMORROW.

#### Environmental Incidents Today?

Y

N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 25-03-2019

Environmental Monitor: S. Chay

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> D	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

DISCUSS SILT FENCE AND EQUIPMENT PARKING.

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

HEAVY EQUIP PARKED PAST EXCLUSION ZONE FOLLOWING  
DISCUSSION!

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

SILT FENCE WILL BE FIXED TOMORROW.

#### Environmental Incidents Today?

Y

N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 26-03-2019

Environmental Monitor: S. Chant

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Clean	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Physical Barrier Intact	<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Mats Available	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits in Place	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits Stocked	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A

#### Pre-Work Corrective Steps Taken

DISCUSSED FENCE → JS YESTERDAY

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

WEST SIDE BRIDGE - CONTINUE TO EXCAVATE AND BUILD FORMS.

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits Stocked	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A

#### Other Observations

WORKED WEST SIDE FOLLOWING ROUNDS - LOOKS TO HAVE A BIT OF CONCRETE MIX AROUND FORMWORK. WILL CHECK TO MAKE SURE IT IS REMOVED WHEN MORE EXCAVATION OCCURS.

#### Post Work Corrective Steps Taken

FENCE FIXED TODAY! DOUBLE BRACED - SHOULD STAB WELL NOW.

#### Environmental Incidents Today?

Y

N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 27-03-2019

Environmental Monitor: S. Choudhury

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

NOTHING TO NOTE TODAY -

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature:

A handwritten signature in black ink, appearing to read 'S. Choudhury'.



### Daily Monitoring Checklist

Date: 26-03-2019  
Environmental Monitor: S. Chauhan

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

[Large empty box for notes]

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

SECTION 21 - LEFT SEAM OF FORMWORK NOT SEALED WHEN CONCRETE WAS POURED. RESULTED IN LEAK DURING POURING.  
- REGROUTED SEAM TO PREVENT LEAK. WILL NEED TO MAKE SURE SURROUNDING CONCRETE IS EXCAVATED WHEN FORM IS REMOVED.

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

[Large empty box for notes]

#### Post Work Corrective Steps Taken

[Large empty box for notes]

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

[Large empty box for notes]

Signature: [Signature]



### Daily Monitoring Checklist

Date: 29-03-2019  
Environmental Monitor: S. Chee

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

*ASKED JS TO INFORM ME IF ANY OTHER CONCRETE LEAKS OCCURRED DURING PUMPING AS I CAN DOCUMENT.*

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 30-03-2019  
Environmental Monitor: S. Chaudhary

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/>	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Clean	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Physical Barrier Intact	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Mats Available	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits in Place	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits Stocked	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A

#### Pre-Work Corrective Steps Taken

MAY ASK TO GET EAST SILT FENCE SWO CLEARED UP AFTERNOON  
IS FLOW - STILL INTACT, NOT GETTING BURIED.

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

Section 22 leaked while pouring today. Will excavate  
excess concrete when form is removed.

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A
Spill Kits Stocked	<input checked="" type="checkbox"/>	Y	<input type="checkbox"/>	N	<input type="checkbox"/>	N/A

#### Other Observations

SWO CLEARED FROM FENCE AND FENCE REPAIRED.

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today? Y      N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: 31-03-2019

Environmental Monitor:

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

[Large empty box for notes]

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

[Large empty box for notes]

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

checked west side for any debris or concern before  
rip rap. No issues.

#### Post Work Corrective Steps Taken

[Large empty box for notes]

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

[Large empty box for notes]

Signature:



### Daily Monitoring Checklist

Date: 1-04-2019

Environmental Monitor:

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

Will mention Silt Fence rip & JS

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

Hip Rat COMPLETE - site DEMON LEFT.  
SILT FENCES removed and snow spread

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature: [Signature]



### Daily Monitoring Checklist

Date:

2-04-2019

Environmental Monitor:

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Equipment Mats Available	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A

#### Other Observations

Most of site has been demo'd. Only  
a few things to remove tomorrow that require  
different loading.

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature:



### Daily Monitoring Checklist

Date: \_\_\_\_\_  
Environmental Monitor: \_\_\_\_\_

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Mats Available	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits in Place	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

#### Post Work Checklist

Work Area Clean	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Spill Kits Stocked	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A

#### Other Observations

#### Post Work Corrective Steps Taken

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

Signature: \_\_\_\_\_



### Daily Monitoring Checklist

Date:

Environmental Monitor:

3-04-2019

#### Pre-Work Checklist

Equipment Leaks	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Physical Barrier Intact	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Equipment Mats Available	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Spill Kits in Place	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Spill Kits Stocked	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A

#### Pre-Work Corrective Steps Taken

[Large empty box for notes]

#### Work Activities Today (Check all that apply)

Site Preparation       Demolition       Material Removal  
 Forming       Construction       Site Reinstatement

#### Environmental Issues During Work Activity and Corrective Steps Taken

[Large empty box for notes]

#### Post Work Checklist

Work Area Clean	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Waste Removed from Work Area	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> N/A
Equipment Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Fuel Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Construction Materials Stored Outside Exclusion Zone	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A
Spill Kits Stocked	<input type="checkbox"/> Y	<input type="checkbox"/> N	<input checked="" type="checkbox"/> N/A

#### Other Observations

*Boards removed from site - nothing left.  
Site Demol is clear.*

#### Post Work Corrective Steps Taken

[Large empty box for notes]

#### Environmental Incidents Today?

Y       N

If Yes, give a brief description and Incident Report reference

[Large empty box for notes]

Signature: