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Basic Impact Analysis

MERRICKVILLE SWING BRIDGE REPAINTING

Rideau Canal, Ottawa,

September 03, 2014



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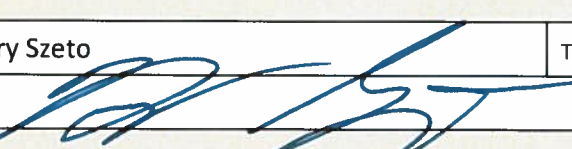
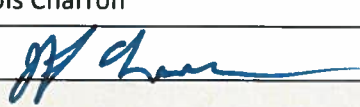
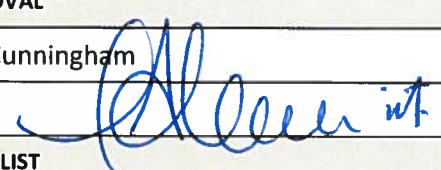
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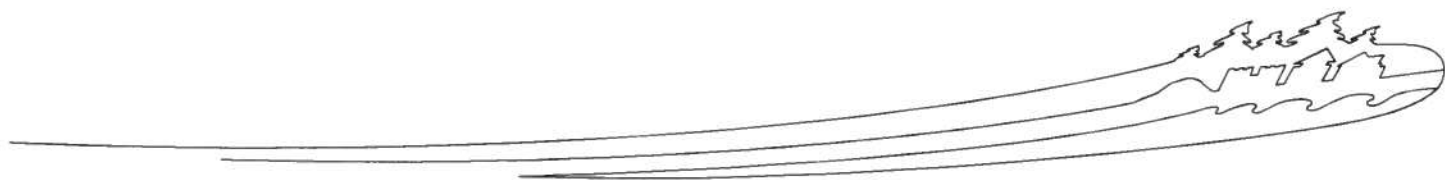


1. PROJECT TITLE	Merrickville Swing Bridge Rehabilitation	
2. PROJECT LOCATION (Park, Site, Canal, NMCA)	Rideau Canal, Merrickville Lock Station	
3. PROJECT SITE(S)	Rideau Canal, Merrickville Lock Station	
4. PROPONENT	Jean Francois Charron	
5. PROPONENT CONTACT INFORMATION	Smiths Falls, Wood Mills, 613-283-7199	
6. PROJECT DATES	Commencement: 2014-11-03	Completion: 2015-05-09
7. INTERNAL PROJECT FILE #	30025841	
8. PROJECT DESCRIPTION		
Repainting of Merrickville Swing Bridge, require the bridge to be swung over land for the duration of the project. A single lane bridge will be in place for the duration of the project.		
9. ENVIRONMENTAL COMPONENTS LIKELY TO BE AFFECTED		
None		
10. IMPORTANT EFFECTS IDENTIFIED		
Public access, temporary one lane bridge will be in place for the duration of the project.		
11. MITIGATION MEASURES		
See appendix #1		
12. IMPACT SIGNIFICANCE		
Public access. X		
13. SITE INSPECTION		
<input type="checkbox"/>	Site inspection not required	
<input checked="" type="checkbox"/>	Site inspection required	
Site Inspection program details		
Harry Szeto		
14. EXPERTS CONSULTED (Including PC Experts)		
Department/Agency/Institution	N/A	
Contact Information	N/A	
Date of Request	N/A	
Expertise Requested	N/A	
Response	N/A	





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Contact Information	N/A	
Date of Request	N/A	
Expertise Requested	N/A	
Response	N/A	
15. PUBLIC PARTICIPATION Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/>
16. DECISION		
Taking into account implementation of mitigation measures outlined in the analysis, the project is:		
<input checked="" type="checkbox"/>	Not likely to cause significant adverse environmental effects.	
<input type="checkbox"/>	Likely to cause significant adverse environmental effects.	
SIGNATURES AND APPROVAL		
EA Author		
Name: Harry Szeto	Title: Environmental Assessment Officer (Rdeau Canal)	
Signature 	Date 2014-09-02	
REVIEW BY		
Name: Jean Francois Charron	Title: Project Engineer, Ontario Waterways	
Signature 	Date 2014-09-08	
DECISION APPROVAL		
Name: Jewel Cunningham	Title: Director, Ontario Waterways Unit	
Signature 	Date 2014-09-12	
17. REFERENCE LIST		
N/A		
18. ATTACHMENTS LIST		
Appendix #1		
19. ADDITIONAL CONSIDERATIONS / COMMENTS		
N/A		





Appendix 1: Mitigation Measures

Safety Standards

- The Canadian Occupational & Safety Regulations and all approved Parks Canada Safe Work Practices will be strictly adhered to during all stages of work perform, in order to ensure safety of staff and others at all times. Contact Yves Racine (Yves.racine@pc.gc.ca, 613-692-2581 or 613-290-7573) for more detail.
- Meet or exceed the requirements of all applicable federal and/or provincial health and safety legislation, regulations, and permits.
- Ensure all workers wear protective gear (for example, safety work boots, hard hats, etc.) in accordance with the Occupational Health and Safety Act and regulations.
- Restrict public access to active work areas to minimize potential accidents.
- Implement pedestrian control plan to prevent land access to the work site.
- Minimize construction timing to reduce the period of disruption.

Work Restriction Periods; Migratory Bird Nesting and Fish Spawning Periods

- Do not schedule removal of vegetation between April 15 - July 31 to avoid destruction of active migratory bird nests, breeding, migration/staging, hibernation or nursing periods.
- No in-water work permitted between March 31-July 01.
- Contact Harry Szeto (harry.szeto@pc.gc.ca, 613-283-7199 ext. 274, Rideau) for more detail.
- Conduct disruptive (i.e. noise generating) activities outside of breeding season, sensitive migration, hibernation, or nursing periods.

Cultural Resources

- Should any cultural resource be encountered during a work project, such as, an archaeological resource or piece of machinery that has been identified as an object of historic significance to the Waterway, work shall cease. Contact Harry Szeto (harry.szeto@pc.gc.ca, 613-283-7199 ext. 274, Rideau) for more detail.
- Should any pre-contact or historic archaeological materials be found during any construction activities within the original Rideau River footprint, Parks Canada Underwater Archaeology Service, (613) 993-2125, and Rideau Canada National Historic Site of Canada Office (*Contact Harry Szeto (harry.szeto@pc.gc.ca, 613-283-7199 ext. 274)*) should be contacted immediately.
- In the event that human remains are encountered during construction activities, both Parks Canada, Harry Szeto (harry.szeto@pc.gc.ca, 613-283-7199 ext. 274, and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Small Business and Consumer Relations, (416) 326-8393, should be notified immediately.

Species At Risk (SAR)

- Should work-related activities have potential to negatively impact SAR, Contact Harry Szeto (harry.szeto@pc.gc.ca, 613-283-7199 ext. 274, Rideau) for more detail.

Noise Restrictions





- Adhere to local noise by-laws, notify residents of planned activities that may cause disturbance and schedule them to avoid sensitive time periods and ask them to stay clear of site.
- Conduct work during normal business hours and in accordance with local noise bylaw.
- Monitor and mitigate public complaints by keeping a record of complaints and addressing issues raised by the public should they arise.

Clearing Vegetation

- Prior to commencement of work inspect area for any nests or dens and avoid disturbing any that may be found, minimize operation of machinery in areas where migratory birds are breeding. Do not schedule removal of vegetation between April and August to avoid destruction of active bird nests.
- Before cutting of trees, rap their trunks repeatedly with a stick (or similar object) to awaken hibernating mammals
- Minimize clearing as much as possible to maintain vegetative cover and windbreaks, where possible maintain vegetated buffer at shoreline and minimize clearing near water bodies. If buffers cannot be maintained, avoid grubbing of vegetation root mass in proximity to shorelines and stream banks.
- Avoid movement of heavy machinery on areas with sensitive slopes; hand clear on steep slopes that do not require grading.
- Establish vegetative buffers between work zones and areas known to have sensitive vegetation and wildlife.
- Minimize site changes regarding water supplies for wildlife and vegetative habitat cover.

Erosion Control

- Avoid activity during wet weather conditions and ensure that a consistent access route is used and maintained throughout vegetation clearing.
- Maintain effective surface drainage, ensure work does not promote flood hazards or create undesired obstructions to drainage into natural water bodies.
- Direct runoff and overland flows into adequately vegetated areas, away from waterbodies, working areas and areas of exposed soils.
- Stabilize slopes afterwards as appropriate for local site conditions; possible methods include: grading to a stable slope, hard and soft designs or combinations of designs using riprap, crib walls, revetments, erosion control blanket, brush bundles and replanting with native species.

Staging Area





- All equipment used for the purpose of vegetation removal shall be maintained to avoid leakage of fuels and liquids and stored and operated in a manner that prevents any deleterious substances from entering the water.
- Store all oils, lubricants, fuels and chemicals in secure areas on impermeable pads.
- Refuelling of equipment and maintenance shall be conducted off slopes and away from water bodies on impermeable pads or buried liners to allow full containment of spills at a recommended distance of 30 meters from any watercourse.
- No tools, equipment, temporary structures or parts thereof, used or maintained for the purpose of this project, shall be permitted to remain at the site or enter the water after completion of the project.
- Upon completion of the work all debris shall be completely removed and the area restored to its original state or better. Repair all damages to property due to project activities. Replace riparian trees, shrubs and other deep root vegetation. Stream banks and shorelines fully restored and re-vegetated to near original soil materials and contours where this activity does not conflict with the purpose of this project, restore area with fast-growing, low maintenance, diverse native species adapted to the project area to enhance the local plant community.

Sediment Control

- Prior to commencement of work, install sediment and erosion control measures, such as, rock or straw bale flow checks, silt fences, drainage swales, or other methods necessary to prevent silt or sediment from entering the watercourse.
- These measures shall be maintained throughout the project lifespan to prevent entry of sediment into the water.
- All sediment and erosion control measures shall be inspected daily to ensure they are functioning properly and maintained and upgraded as required.
- In the event the sediment and erosion control measures are not functioning, the supervisor shall order the work stopped. No further work shall be carried out until the sediment control plan is adjusted to address the sediment problem.
- Erosion and sediment control measures shall remain in place and maintained until project activity is completed and the site has been stabilized.
- Remove accumulated sediments prior to removing erosion control measures.
- Following completion of work, and prior to removal of sediment and erosion control measures all disturbed surfaces and shorelines shall be stabilized and re-vegetated with native species only, as soon as possible.



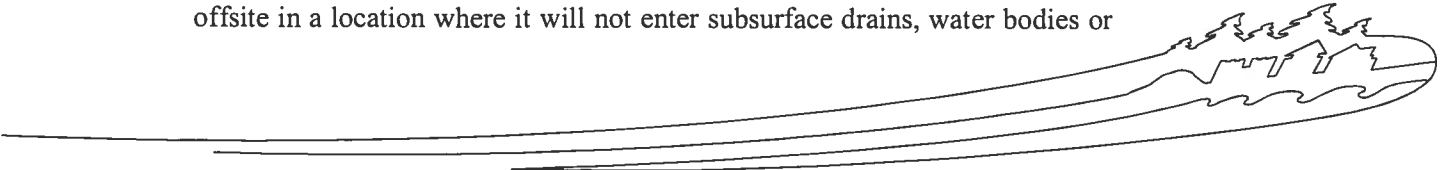


Heavy Equipment & Machinery

- Use new or well-maintained heavy equipment and machinery, preferably fitted with fully functional emission control systems/muffler/exhaust system baffles, engine covers, etc.
- Check equipment and machinery prior to entering site to ensure they are clean; if not, clean them before entering site.
- Minimize vehicle idling and minimize vehicle traffic on exposed soils.
- Ensure refuelling and handling of contaminants are located off-site where possible, and well away from critical wildlife habitat.
- Refuel equipment off slopes and away from aquatic habitats/water bodies.
- Avoid fording watercourses or operating equipment within water bodies below the normal water level (N/A for lock/dam maintenance). Any equipment operating in water bodies must be cleaned prior to entering the water and inspected daily for leaks; never leave equipment in the water overnight.
- Stabilize high traffic areas with clean gravel surface layer or other suitable cover material, minimize vehicle traffic on exposed soils.
- Instruct workers and equipment operators on dust control methods and take actions to suppress dust as necessary.

Work Area

- Ensure all painting and staining are done upland well above high water mark. Attach drop cloths to prevent paints, timbers, concrete, solvents, etc. from entering the water; cofferdam (clean rock with clay & filter fabric, sandbags or sheet piling) may be required for work on abutment/bridge support. For additional guidelines for working with concrete around water: <http://www.env.gov.bc.ca/wld/BMP/concrete.html>
- All debris on bed (including unused aggregate/concrete rubble) shall be completely removed and area restored to original state upon completion of work.
- All concrete, sealants or other compounds used for this project shall be utilized according to the appropriate Product Technical Data Sheet, stating guidelines and methods for proper use, and provided by the manufacturer of the product. Refer to following web link for additional guidelines for working with concrete around water: <http://www.env.gov.bc.ca/wld/BMP/concrete.html>
- Pressure treated lumber shall not be used below the high water mark and cutting and treating cuts with preservative must take place away from the water.
- As concrete leachate is alkaline and highly toxic to fish and other aquatic life, ensure that all works involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials (concrete) sediments, debris, concrete, concrete fines, wash or contact water do not deposit, directly or indirectly, into or about any watercourse. Concrete materials cast in place must remain inside formed structure. Provide containment facilities for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment. All concrete wash water will be disposed of offsite in a location where it will not enter subsurface drains, water bodies or



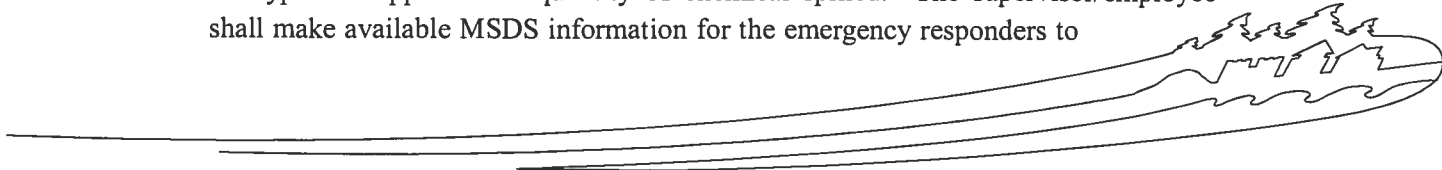


storm drains. Prevent water that contacts uncured or partly cured concrete during activities like exposed aggregate wash-off, wet curing, or equipment washing from directly or indirectly entering any watercourse or storm water system. Maintain complete isolation of any watercourse or storm water system. Maintain complete isolation of all cast-in-place concrete and grouting from fish-bearing waters for a minimum of 48 hours if ambient air temperature is above 0C and for a minimum of 72 hours if ambient air temperature is below 0C isolate and hold any water that contacts uncured or partly cured concrete until the ph is between 6.5 and 8.0 ph. Use only non-toxic biodegradable form stripping agents.

- Avoid site preparation or construction during dry and windy periods, monitor dust conditions visually and take actions to suppress dust as necessary.
- Use only clean material free of fine particulate matter in the water; rocks/stone used shall not be taken from the bed or shoreline of any water body.

Spill Response Procedure

- Once a spill (regardless of severity) has been identified, it is the responsibility of the Site Supervisor to ensure that the MOE is notified through its Spills Action Centre (1-800-268-6060); Parks Canada (Harry Szeto (harry.szeto@pc.gc.ca, 613-283-7199 ext. 274) will also be notified. In addition, any spill which is greater than 5L must be reported to the appropriate Provincial authority.
- Proper spill control equipment/items (spill kits, MSDSs, absorbents, containers, caution sign/tape, etc) will be readily available in areas where large quantities of hazardous materials are to be stored.
- In case of small spills less than 2 feet in diameter, a trained employee shall quickly control the spill by securing the spill source, whether it be by standing up a tipped-over container or using absorbent pads to soak up spilled material. The spilled material shall than be secured in a container and disposed of in accordance with the recommendations stated on the MSDSs or as directed by a member of MOE.
- In the case of medium size spills (2 to 6 feet in diameter), immediate action shall be taken to contain the spill by up righting a container or covering it with a lid. In the event that the spill cannot be quickly contained, MOE's Spill Action Centre shall be alerted immediately and the area should be evacuated at that point. The area outside of the spill area shall be evaluated to determine if any equipment (engines, generators, power equipment, etc) needs to be turned off. Once the spill area has been evacuated, it should not be entered back into. When emergency responders have arrived and successfully contained the spill, the employee should be in position to provide prompt assistance from outside the spill area by providing them with MSDSs, absorbents, and containers.
- For larger spills (over 6 feet in diameter) where a continuous flow of hazardous chemical is observed at the source of the spill and cannot be stopped, or in cases where the spill involves a flammable liquid, the area should be evacuated immediately and the Spills Action Centre should be alerted immediately. Specific information shall be provided as to the location, and the type and approximate quantity of chemical spilled. The supervisor/employee shall make available MSDS information for the emergency responders to





use, and advise them of the location of any power sources that will need to be shut off.

The emergency responders shall also be informed of the location of any absorbents, containers or other spill control equipment that is available. The worker shall cooperate by providing any information that is necessary for reporting to their supervisor and emergency responders.

Waste Disposal

- Implement construction, renovation, and demolition (CRD) waste measures for solid, non-hazardous material generated during construction, demolition, and/or upgrades as per Chapter 9 of the PWGSC document entitled, *The Environmental Responsible Construction and Renovation Handbook (PWGSC, 2000)*.
- Waste generated will be disposed according to regulations (i.e., O. Reg. 102/94 and O. Reg. 558/00, R.R.O. 1990, 347).
- A solid waste management program will be implemented for typical debris handling and disposal.
- Comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials and regarding labelling and the provision of material safety data sheets acceptable to Labour Canada.



