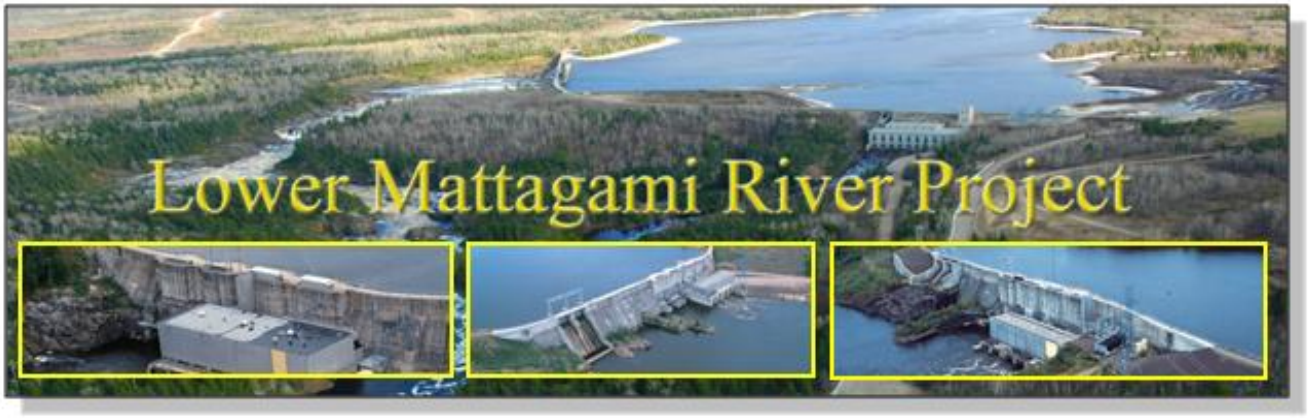


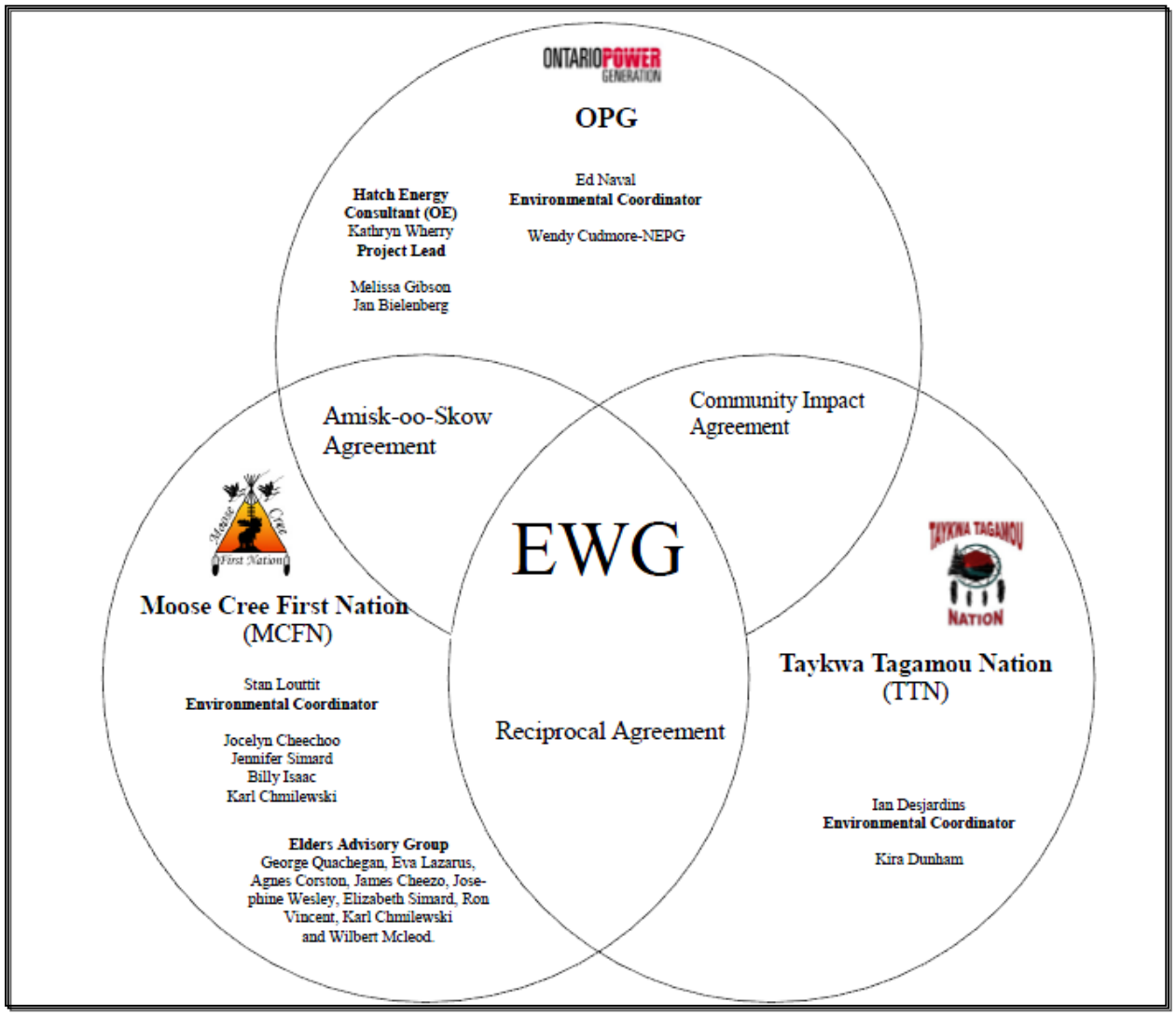
Environmental Working Group

Monthly Report

July 2013

ENVIRONMENTAL WORKING GROUP

Relationship Organizational Chart



- Weekly Environmental Working Group (EWG) and EWG/Kiewit – Alarie, a Partnership (KAP) meetings.
  - The EWG review its Action Items that include priority permit reviews, and deliverables to the Mattagami Extensions Coordinating Committee (MECC).
  - KAP gives EWG a construction up date every week and discusses any upcoming issues and/or urgent permit reviews.
  - Specific items that were discussed are below.
- First Nation members of the EWG continued its community consultation work with the LMRP Site Rehabilitation Plan.
- The EWG held its Environmental Due Diligence Audit on KAPs Environmental Management System on the LMRP site on July 30, 2013. The preliminary results were mainly positive, there were no major non-conformities/non-compliances found.
- The EWG also held it Face to Face meeting on July 31, 2013 in Kapuskasing. Items that were discussed included the Environmental Effects Monitoring Program (including action items for EWG members in order to move forward with the Program), the inclusion of TEK into the Cost Benefit Analysis Report for Reducing Spill Down Adam Creek, and the incorporation of TEK into the MECC Adam Creek Erosion Study.
- Inclusion of a First Nation perspective on the Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek. TTN and MCFN have completed their interviews and continue to look at ways to incorporate the First Nation perspective within the report. MCFN and TTN are now working independently to develop their own community's perspectives for the report.
- MCFN and TTN of the EWG members continue to work on the development of a TEK Monitoring Program. The TEK Monitoring Program is intended to work with the OPG Environmental Effects Monitoring Plan to address term and condition 13 - Aboriginal Knowledge.
- The MCFN members of the EWG did a presentation on their work with the LMRP for the Kapuskasing "Growing Together" Youth Conference July 25-27, 2013.
- Members of the EWG continued their work on the "Peoples of the Moose River Basin" historical text (EA Term and Condition 2c). Several members of the EWG have begun writing portions of the text. The MECC is now hosting the POMRB blog. The writing team has now also given itself a deadline for a first draft by Sept 2013 for review. The writing team held a teleconference to discuss the POMRB on August 1, 2013.
- The OPG and Hatch members of the EWG continue to work on collecting additional baseline information. The EWG members are also working on ways to implement the recommendations to incorporate TEK within the Baseline/monitoring EA Terms and Conditions.
- In an effort to improve the understanding of TEK, members of the EWG have been reading the "Wisdom of the Elders", by Peter Knudtson and David Suzuki. There is a discussion during the EWG weekly call to discuss each chapter as reading progresses.

ACTIONS TO BE COMPLETED in 2013

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
EWG Environnemental Due Diligence Audit #3												
EWG Face to Face Meetings												
EWG present to the MECC the result of its review of the draft "Cost Benefit Analysis of Mitigating and Reducing Adam Creek Spill" (Condition 4(c) and (e) of EA T&Cs) by Hatch.												TBD
EWG present to the MECC "Environmental Effects Monitoring Plan, Lower Mattagami Development" (EA T&C 3, 4b, 5b, 6, 7 and 14).												
EWG present to the MECC the "Erosion Monitoring Plan" (EA T&C 6).												TBD
EWG present to the MECC the results and recommendations of periodic re-evaluations (Condition 10 of EA T&Cs).												TBD
TEK Workshop												
MCFN TEK Workshop												
EWG read TEK book 'Sacred Ecology'.												
EWG read TEK book 'Ellen Smallboy: Glimpses of a Cree Women's Life'.												
EWG read TEK book 'Wisdom of the Elders'.												

Completed: Pending: *Additional work still required to fulfill EA Term and Condition

Construction

General

- There were approximately 1,200 people in the camp this month. The permanent camp is at capacity.

Little Long

- A bathymetric survey in the location of the cofferdam footprint revealed small areas with elevations which do not conform to the designer's requirements. As a result, KAP resumed clamming the area to remove additional debris from the river bed.
- Backfeed of Unit 3 was successfully completed on July 10th.
- A number of Turbine / Generator components were installed this month, including: the turbine shaft seal; the staircase at the top of the generator enclosure; the servomotor position indicator; the wicket gate closed position detector; shaft seal cooling water lines; compressed air lines; inner head cover water level transducers; thrust bearing oil level transmitter; fire protection system components; the lower shroud and air deflectors; and the generator enclosure floor panels and handrails. Andritz workers have substantially completed the installation of turbine and generator components (Figure 1).
- Pre-operational testing of components continues to ramping up with a number of tests completed in the month, including: the Hydrocyclone unit; compressors; the intake hoist; the neutral cabinet; the shaft seal; servomotors; the turbine guide bearing; the stator; and the rotor.
- The following components and systems were walked down: dewatering system; drainage system; Turbine – Unit alignment; turbine gate operating mechanism; turbine scroll case; turbine piezometer piping systems; turbine governor electronic cabinets and control systems; turbine hydrogen pressure tanks and piping; turbine servomotors; and turbine guide bearing.

Figure 1: Little Long – Overview of the Turbine and Generator Area

Harmon

- No concrete work was done this month. There is one minor pour remaining (2 m^3) for a parapet wall, scheduled for September.
- Cofferdam removal continues. Arc Cell 1-2 and Cell 2 removal was completed. KAP excavated material from Cell 1 to allow installation of the template, installed the template, and resumed excavation of fill from Cell 1. The shore tie-in and the bridge from the construction pad to Cell 1 were also removed (Figure 2).
- Stator winding was declared complete following the successful final hi-pot test. Andritz has started to demobilize the stator crew.
- Cladding installation for the splash wall east of the transformer pad was completed.
- CanAm continued to work towards finalizing work on the roof (installing roof joints and the top membrane).
- The turbine runner and the inner head cover were installed in the Unit.
- The lower bracket, thrust bearing materials, , thrust cone, operating ring, and generator shaft were delivered to the Harmon Service Bay.
- The generator and turbine shafts are being cleaned and prepared for installation, and the runner is being prepared for the turbine shaft installation.
- Thrust bearing assembly has started.
- The two halves of the rotor frame were positioned on the hub and leveling has started. The first rotor spider section was delivered to site and Andritz is preparing it to be welded to the rotor hub.
- KAP electricians continue to pull electrical cables, and install cable trays in various areas in the powerhouse.
- Installation of the Isolated Phase Bus (IPB) and IPB duct continues between the generator circuit breaker and the generator step-up (GSU) transformer.

Figure 2: Harmon –Clamming operation for cofferdam removal

Kipling

- 889 m^3 of concrete was poured this month, bringing the total poured to date to 8,638 m^3 of 11,885 m^3 total.
- KAP started repairs to the Unit 2 tailrace pier that had been damaged during the removal of the cofferdam pier tie-in.
- KAP's earthworks team started removing fill material from the cofferdam earth berm between the soldier pile wall and the timber lagging wall. This earth berm extension had been installed in order to prevent flooding during spring freshet and is no longer needed (Figure 3).
- AFI completed epoxy injection behind the existing intake gate guides.
- Andritz installed the four stay ring sections, bolted them together and aligned them.
- CanMec leveled and adjusted all draft tube gate guide embedded components in both the East and West draft tube bays, completed the pre-pour survey, and welded the connections between the lintel beams and gate guides and between the sill beams and gate guides.
- The draft tube gate guide secondary concrete pours were completed.
- KAP electricians started the installation of the new 600 VAC switchgear equipment for Unit 3 near the battery bank in the existing powerhouse.

Figure 3: Kipling – Preparation work for removing fill material from the cofferdam earth berm

Smoky Falls

- 6,688 m^3 of concrete was poured this month in the service bay, powerhouse, and intake areas, bringing the total poured to date to 120,310 m3 of 155,084 m^3 total.

- At the end of the month, eighteen (18) concrete pours are in various stages of work (formwork started and/or rebar being installed) and progressing in the intake, powerhouse, East service bay, East gravity dam, and at the permanent bridge. Thirty-four (34) pours were completed during the month.
- The permanent bridge concrete was completed and guardrails were installed. KAP is installing PVC conduits along the north side of the bridge (Figure 4).
- Alstom continues to prepare Turbine/Generator components in the West Service Bay (WSB). They have completed the following tasks:
  - Unit 1 stator – Alstom continues brazing, cleaning and insulating serial connections bars. Alstom completed welding the wedge carriers to the rotor oblique arms. No further work was performed on the transition between the upper and lower draft tube cones due to an outstanding non-conformance report (NCR). Alstom's engineering department is assessing the NCR;
  - At Unit 2, Alstom continues to assemble the Unit 2 rotor in the Service Bay; and
  - At Unit 3, KAP continues to install rebar and formwork for the scrollcase soffit concrete.
- Sluiceway Gate 5 – AFI installed the hoist cable, and worked on miscellaneous items in preparation for commissioning, such as: paint touch-ups; torquing bolts; welding; and erecting the structure needed to remove the stop logs.
- Service Bay East – superstructure footings concrete pours were completed. Work is expected to start on structural steel erection early in August (Figure 5).

Figure 4: Smoky Falls: Installing guardrails at permanent bridge

Figure 5: Smoky Falls: Overview of Unit 3 Superstructure Erection

Monthly Summary – July 2013

<table>
<tr><td colspan="4">SPILLS</td></tr>
<tr><td colspan="2">No. of Spills:</td><td colspan="2">11; Spill Reports 355-370 (see Figure 6 for LMRP spills breakdown).</td></tr>
<tr><td colspan="2">Classification of Spills:</td><td colspan="2"><u>KAP Project Classification</u>
Minor – 9 Moderate – 1 Major –1 To Water - 0
<u>MOE Classification</u>
Non-reportable - 11
Reportable to MOE
- Class C – 0
- Class B – 0
- Class A – 0</td></tr>
<tr><td colspan="4">Reportable Spills</td></tr>
<tr><td>No.</td><td>Quantity /Product Spilled</td><td>Spill Site</td><td>Reason for being Reportable</td></tr>
<tr><td>0</td><td>n/a</td><td>n/a</td><td>n/a</td></tr>
<tr><td colspan="2">KAP Project Classification
Minor: ≤ 10L
Moderate: Between 10L and 100L
Major: ≥100L
To Water: Any amount is reportable to the MOE
(See Figure 7: KAP Spills Response Flowchart)</td><td colspan="2">MOE Classification (see Reportable and Non-reportable Spills definition below)
Non-reportable: < 100L
Reportable to MOE
• Class C - Less Serious
• Class B – Serious
• Class A – Very Serious</td></tr>
<tr><td colspan="4">Sediment Pond Exceedance of Effluent Objective</td></tr>
<tr><td>No. of Exceedance days recorded</td><td>Location</td><td colspan="2">Mitigation Measures used</td></tr>
<tr><td>1 (July 10, 2013)</td><td>Kipling Sediment Pond</td><td colspan="2">The monthly sample collected from the Fuel Farm above the approval objective (15 mg/L) with a reading of 26 mg/L. KAP looked at the petro plug manufacturing specifications to ensure that it has been installed properly, as well as close the valve to make sure that no water is discharged from the containment until results return below the objectives. If the sample results are noted to be below the objectives, only then KAP allow the water to discharge through the plug. Should the results come back high, the water will be removed with a Vac-Truck.</td></tr>
</table>

Spills Response

When **any spill** occurs on site, KAPs spill response process is to be followed (Figure 7). This includes notification of the Supervisor and KAPs Environmental Department, and an assessment of the severity of the spill. Regardless of the quantity, clean-up measures are implemented for **every spill** using spill kits that are available throughout the site (materials used for clean-up and any contaminated soil are removed from the site). A spill report is then prepared for **each spill that occurs** which outlines the location, type, severity and quantity of the spill, in addition to details on how the spill occurred, how it was cleaned up and measures implemented on how the spill could be avoided for the future. This report is sent out to several OPG and Hatch representatives as well as all EWG members.

Reportable and Non-reportable Spills:

Section 92 of the *Environmental Protection Act* (EPA) requires that **a spill** be reported forthwith to the Ministry of the Environment. The definition of a spill in the EPA (subsection 91.1) is: a discharge,

(a) into the natural environment,
(b) from or out of a structure, vehicle or other container, and
(c) that is abnormal in quality (e.g. the product spilled) or quantity (e.g. the amount spilled) in light of all the circumstances of the discharge.

Spills that are exempt from reporting to the Ministry of the Environment (ie. non-reportable) are discharges that don't fall within the 'spill' definition or, are exempted under EPA Regulation 675/98, *Classification and Exemptions of Spills and Reporting of Discharges*. This includes (not limited to) Class VI – Motor Vehicle exemptions, which exempts reporting of spills that are less than 100 L of fluid from a motor vehicle.

Subsection 30 .2 of the *Ontario Water Resources Act*, requires that the discharge of any material of any kind into water that is not in the normal course of events (e.g. regardless of quantity or quality) be reported to the Ministry of the Environment.

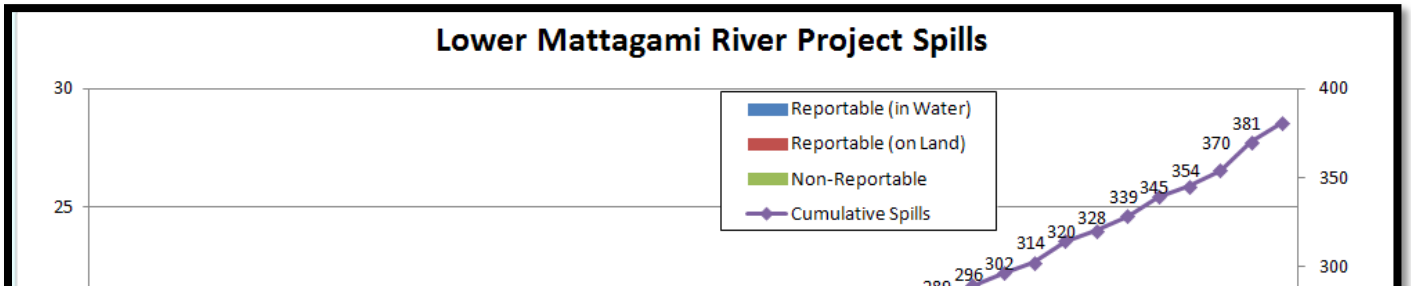


Figure 6: Lower Mattagami River Project spills

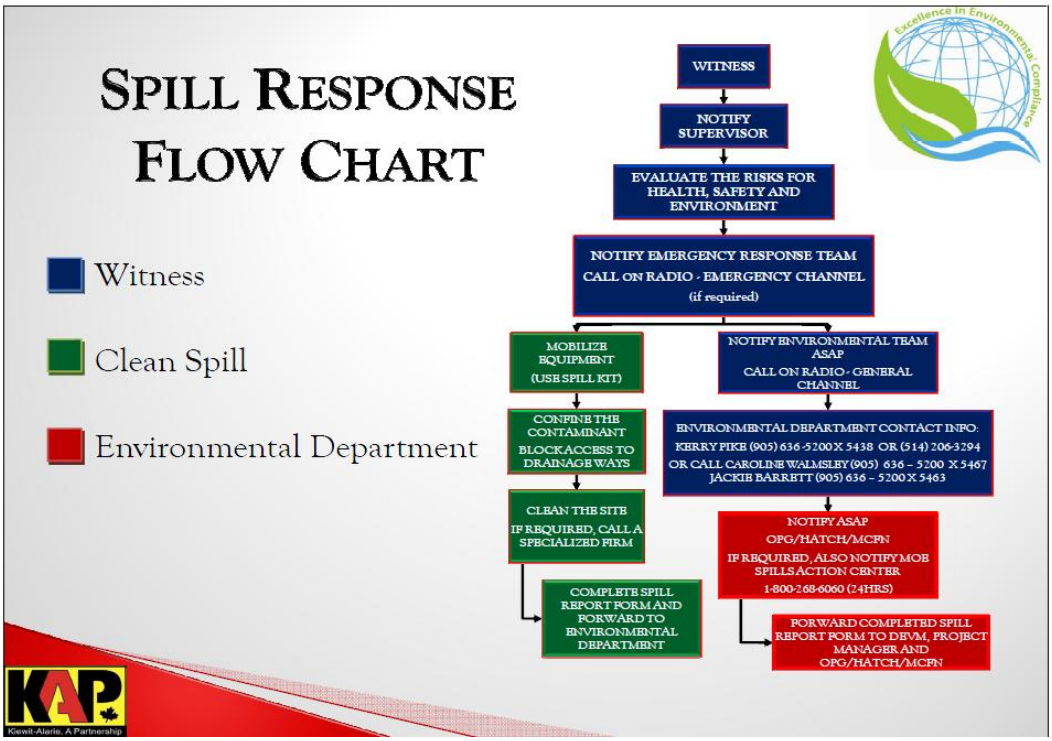


Figure 7: KAP Spills Response Flowchart

PERMIT AND APPROVAL REVIEW			
No. Reviewed:	8	List:	• Kipling Earthberm Removal Lakes and Rivers Improvement Act Application • KAPs Environmental Management Plan • Component Environmental Management Plan (CEMP) - Emergency Preparedness and Response-Spills • CEMP - Erosion and Sedimentation Control • CEMP - Environmental Water Use • CEMP - Hazardous Materials Management • CEMP - Habitat Protection and Compensation • CEMP - Waste Management
No. Sent to KAP:	8	List:	• Kipling Earthberm Removal Lakes and Rivers Improvement Act Application • KAPs Environmental Management Plan • Component Environmental Management Plan (CEMP) - Emergency Preparedness and Response-Spills • CEMP - Erosion and Sedimentation Control • CEMP - Environmental Water Use • CEMP - Hazardous Materials Management • CEMP - Habitat Protection and Compensation • CEMP - Waste Management
Reports Review			
No. Reviewed for KAP	0	List:	
No. Sent to KAP	0	List:	
No. Reviewed for MECC	5	List:	On-going: • Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek • Mercury in Fish Flesh Summary Report • Fish Habitat Assessment Report • Terrestrial Habitat Restoration Downstream of Kipling GS • Draft Environmental Effects Monitoring Plan

			• KAP LMRP Site Rehabilitation Plan
No. Review Completed	4	List:	• Operation Overview Report • Waste Management Plan • Noise Control Plan • The Interim Measures Agreement as it relates to EA Term and Condition 14c (Permit Review and Compliance Monitoring Protocol)
REQUESTS FOR INFORMATION (RFIs)			
No. Reviewed:	0	List:	n/a
No. Sent to KAP:	0	List:	n/a
See figures 8 to 13 below for site location of the permits that have been or are pending approval.			

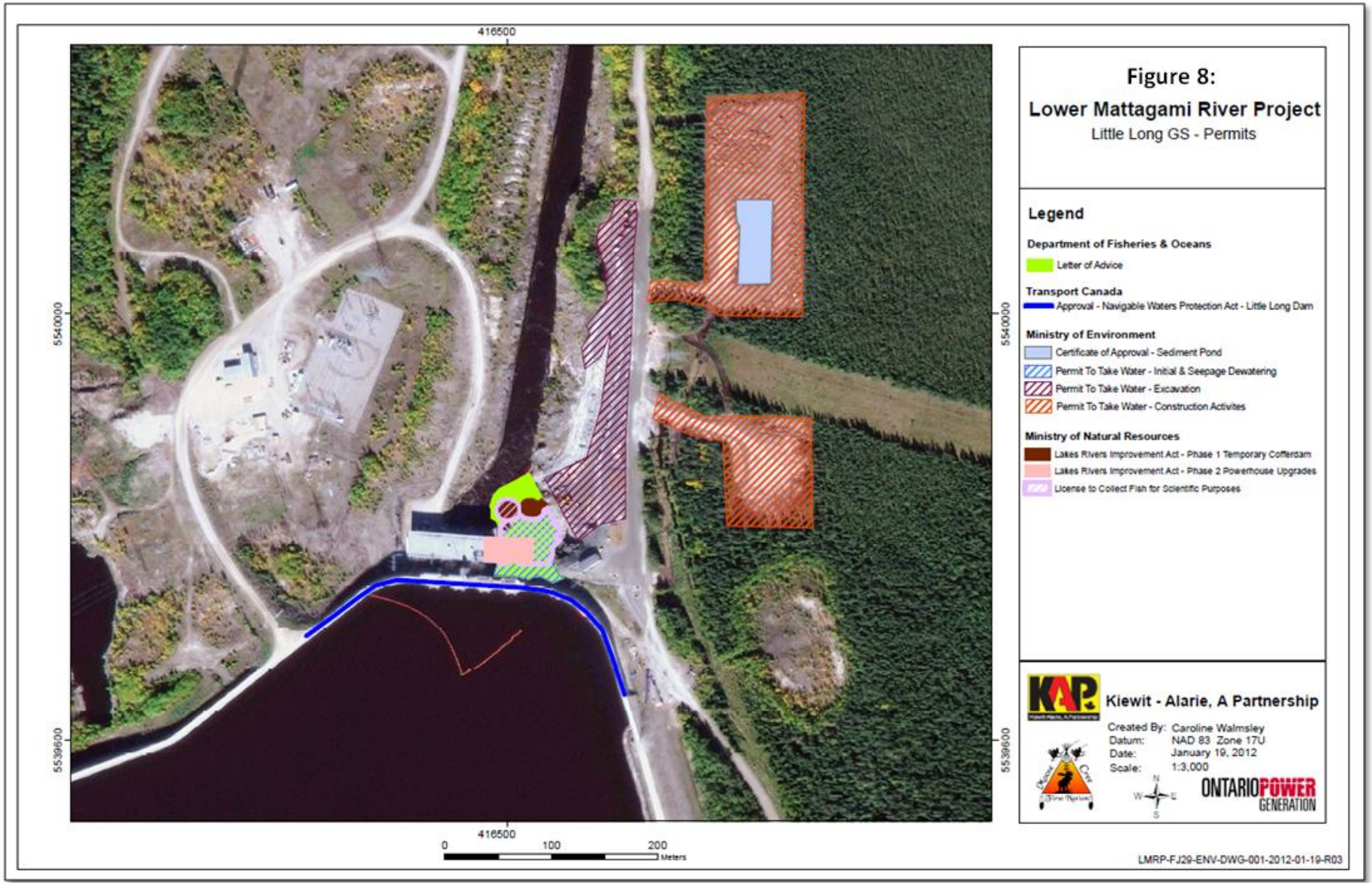

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Figure 8:
Lower Mattagami River Project
Little Long GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Approval - Navigable Waters Protection Act - Little Long Dam
Ministry of Environment
Certificate of Approval - Sediment Pond
Permit To Take Water - Initial & Seepage Dewatering
Permit To Take Water - Excavation
Permit To Take Water - Construction Activites
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades
License to Collect Fish for Scientific Purposes
Kiewit - Alarie, A Partnership
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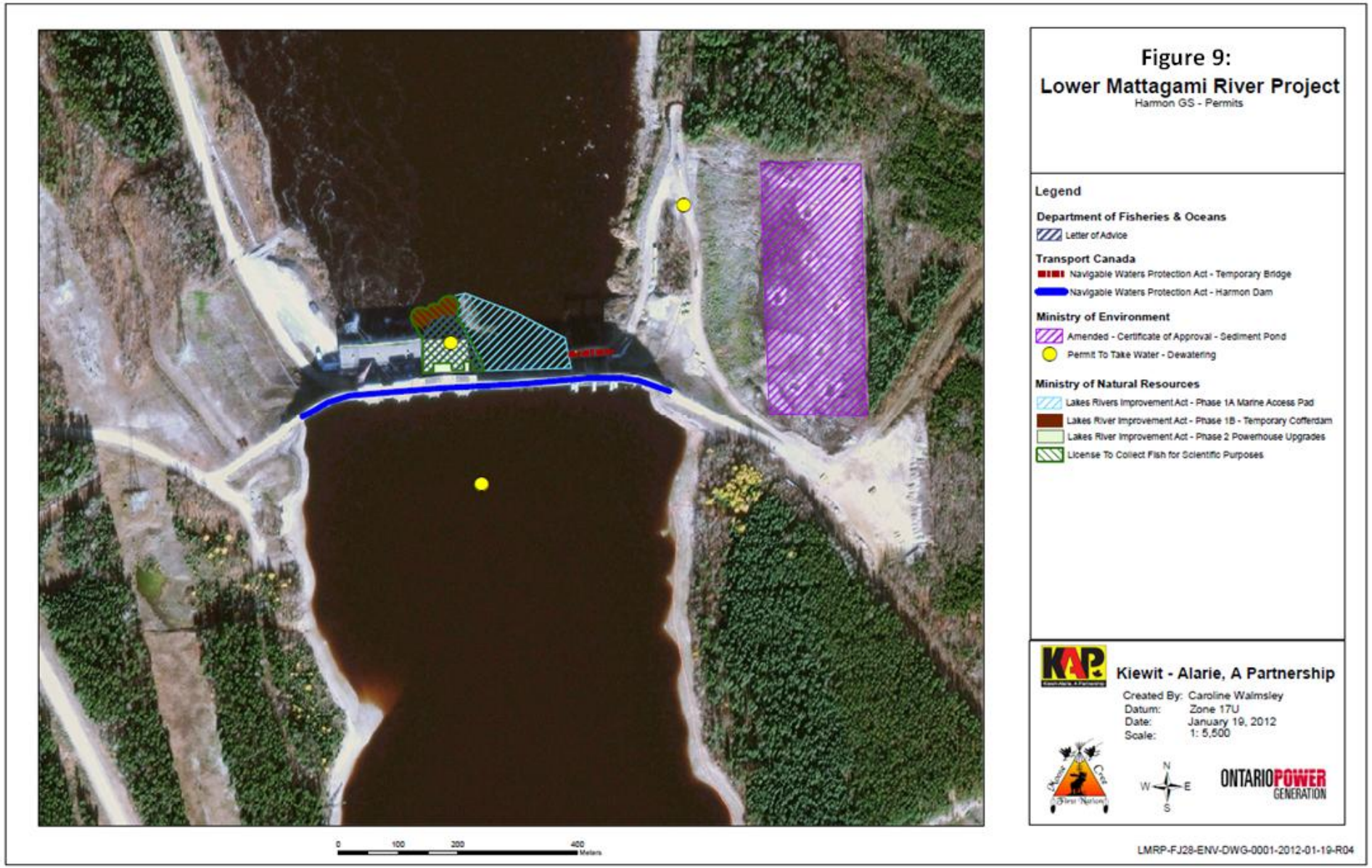
Figure 9:
Lower Mattagami River Project
Harmon GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Navigable Waters Protection Act - Temporary Bridge
Navigable Waters Protection Act - Harmon Dam
Ministry of Environment
Amended - Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 1A Marine Access Pad
Lakes River Improvement Act - Phase 1B - Temporary Cofferdam
Lakes River Improvement Act - Phase 2 Powerhouse Upgrades
License To Collect Fish for Scientific Purposes
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Figure 10:
Lower Mattagami River Project
Kipling GS - Permits

Legend

Department of Fisheries & Oceans
- Letter of Advice

Transport Canada
- Approval - Navigable Waters Protection Act - Kipling Dam

Ministry of Environmental
- Amended Certificate of Approval - Sediment Pond
- Permit To Take Water - Dewatering

Ministry of Natural Resources
- Lakes River Improvement Act - Phase 1A - Marine Access Pad
- Lakes Rivers Improvement Act - Phase 1A -1 Deflector Wall
- Lakes Rivers Improvement Act - Phase 1A - 2 Spillway Location Revised
- Lakes Rivers Improvement Act - Phase 1B Temporary Cofferdam
- Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades
- Licence to Collect Fish for Scientific Purposes

Kiewit - Alarie, A Partnership

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Datum: Zone 17U
Date: January 19, 2012
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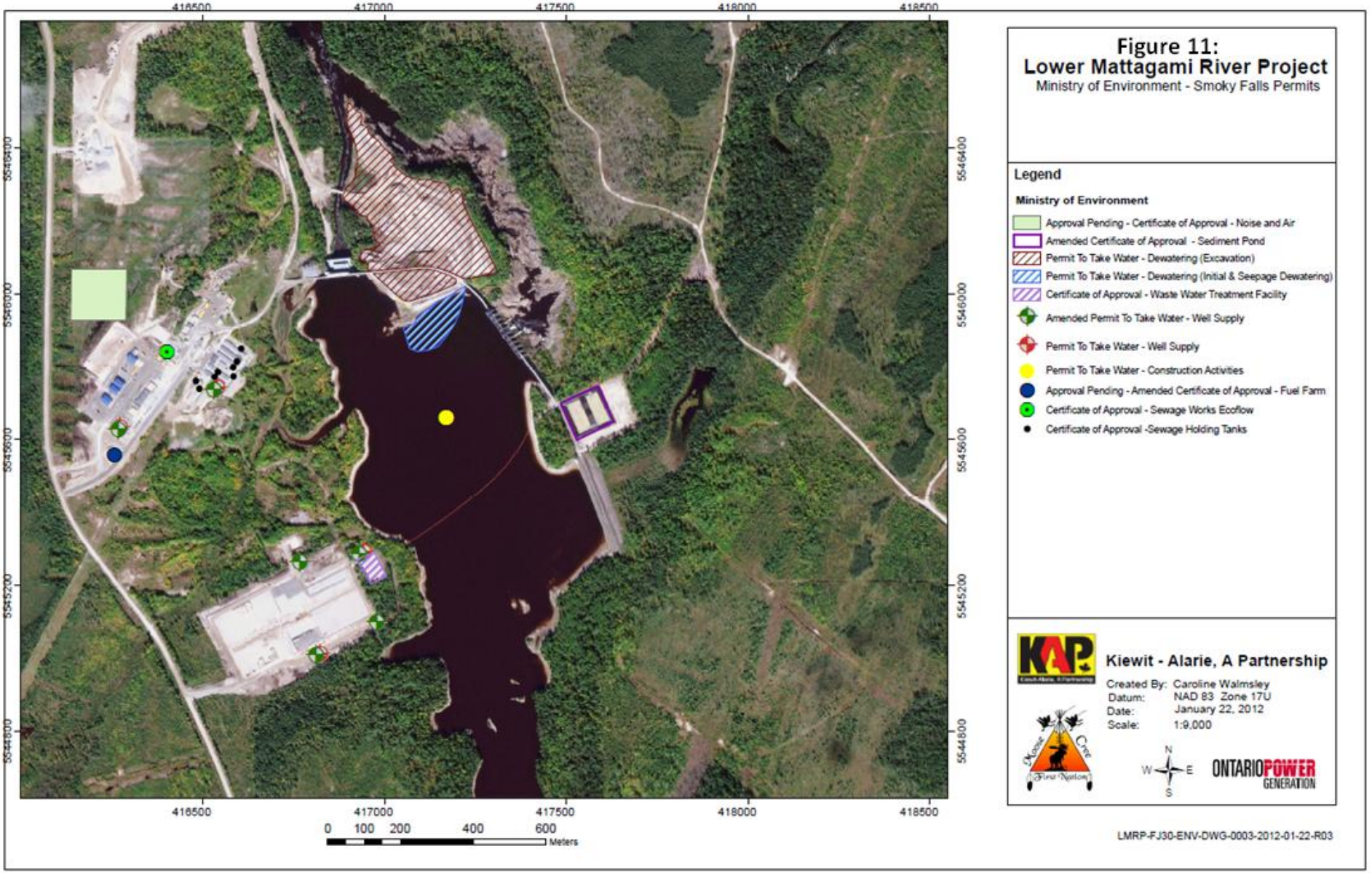
Figure 11:
Lower Mattagami River Project
Ministry of Environment - Smoky Falls Permits
Legend
Ministry of Environment
Approval Pending - Certificate of Approval - Noise and Air
Amended Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering (Excavation)
Permit To Take Water - Dewatering (Initial & Seepage Dewatering)
Certificate of Approval - Waste Water Treatment Facility
Amended Permit To Take Water - Well Supply
Permit To Take Water - Well Supply
Permit To Take Water - Construction Activities
Approval Pending - Amended Certificate of Approval - Fuel Farm
Certificate of Approval - Sewage Works Ecoflow
Certificate of Approval -Sewage Holding Tanks
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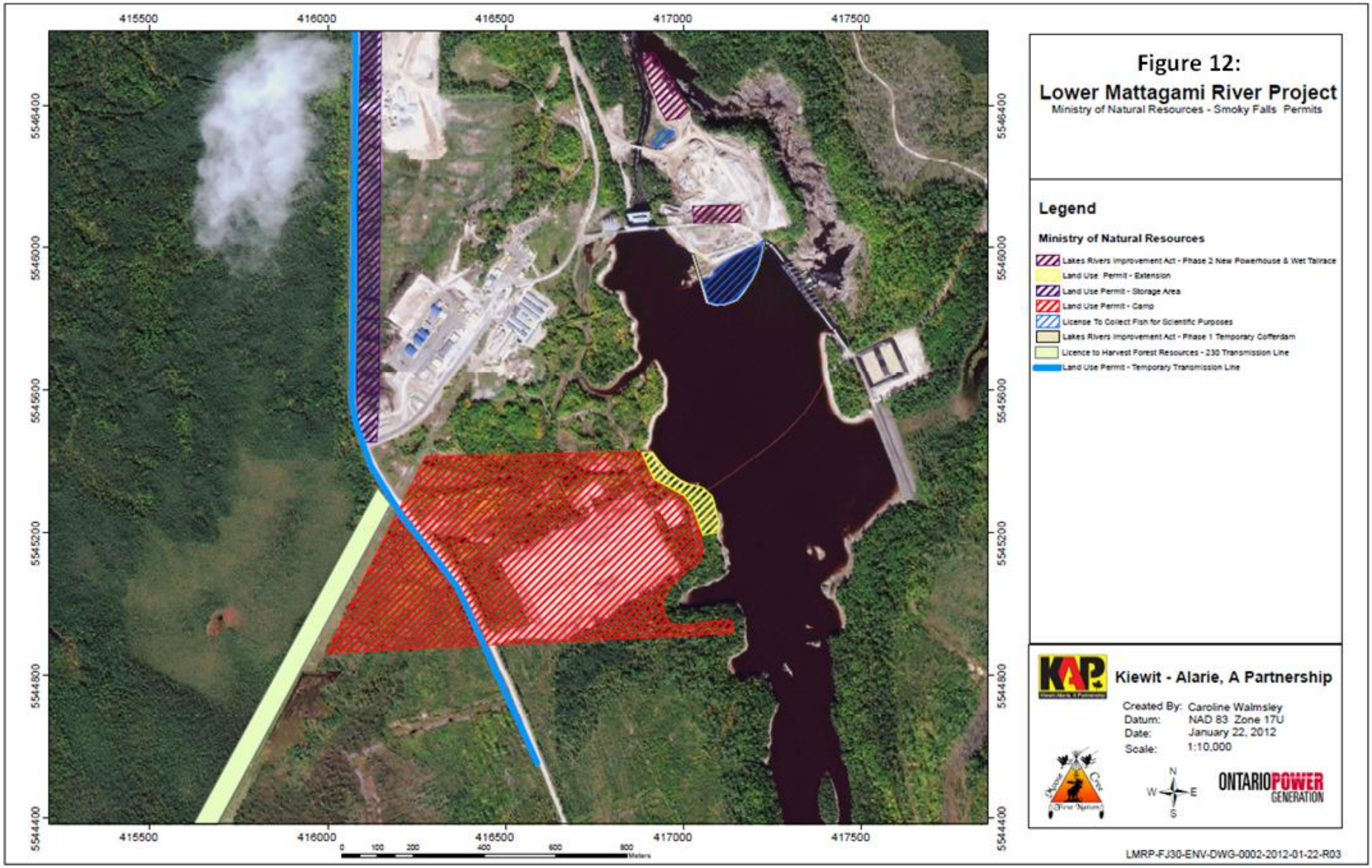
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Figure 12:
Lower Mattagami River Project
Ministry of Natural Resources - Smoky Falls Permits
Legend
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 2 New Powerhouse & Wet Tailrace
Land Use Permit - Extension
Land Use Permit - Storage Area
Land Use Permit - Camp
License To Collect Fish for Scientific Purposes
Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
Licence to Harvest Forest Resources - 230 Transmission Line
Land Use Permit - Temporary Transmission Line
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
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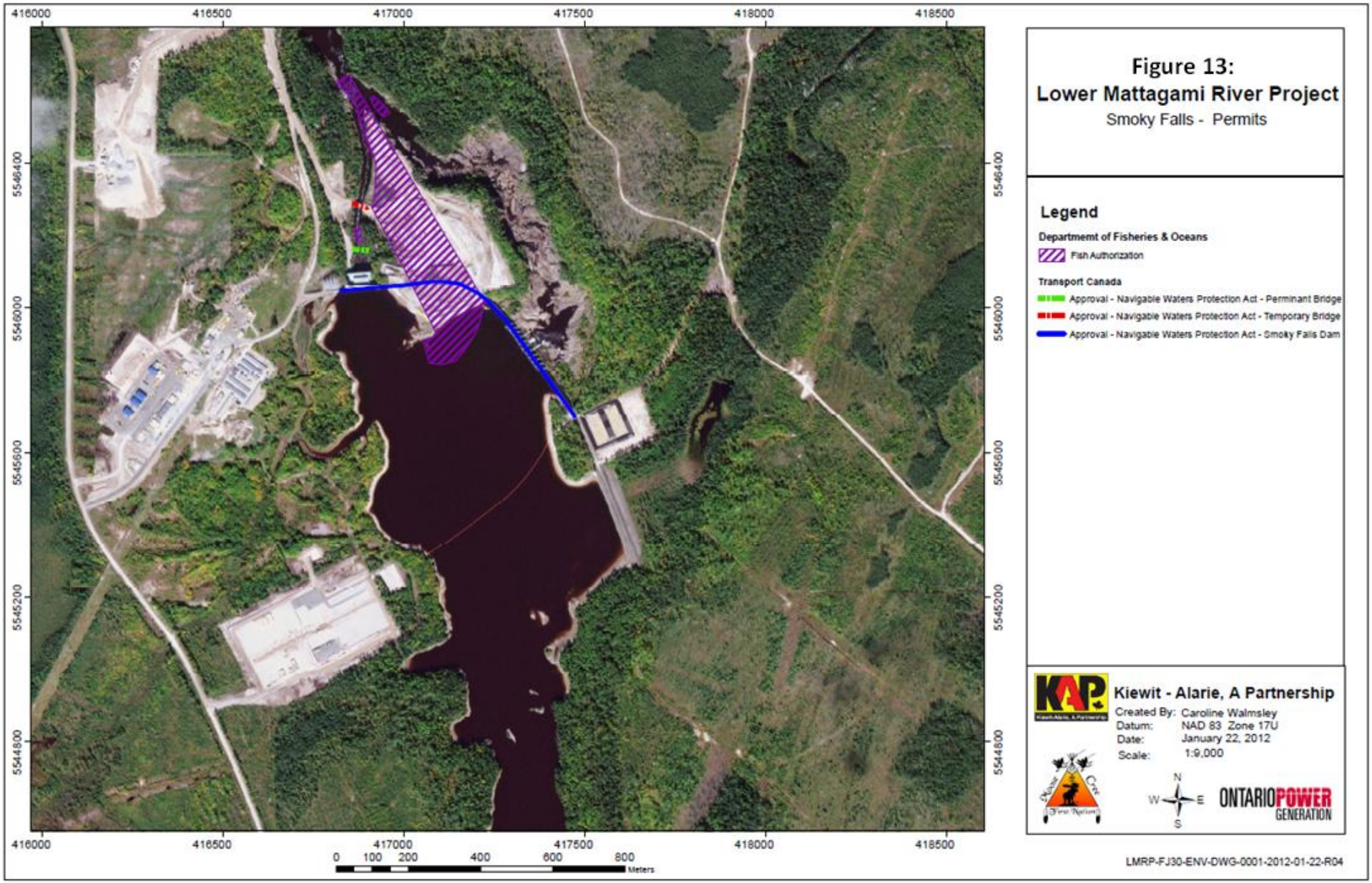
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Figure 13:
Lower Mattagami River Project
Smoky Falls - Permits
Legend
Department of Fisheries & Oceans
Fish Authorization
Transport Canada
Approval - Navigable Waters Protection Act - Perminant Bridge
Approval - Navigable Waters Protection Act - Temporary Bridge
Approval - Navigable Waters Protection Act - Smoky Falls Dam
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
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Issues and Concerns

- On July 30, 2013, the EWG conducted its annual Environmental Due Diligence Audit on KAPs Environmental Management Plan on the LMRP site. The preliminary results indicate that no major non-conformances/non-compliances were found, however the EWG did find the following immediate actions that can be taken to clean up the site:

  Harmon lay down area:

  - There were 2 drums (one was upside down) that were separate from all other drums
    - ⇒ Suggested Action: Turn the drum right side up and manage them both accordingly
  - There were spill pads and a filled secondary containment area on a piece of equipment
    - ⇒ Suggested Action: ensure the spill material is cleaned up after use.

  Smoky Falls:

  - In the sediment pond it looked like the one area that leaked before is very close to overflowing again
    - ⇒ Suggested Action: Put in additional barriers / precautions in that area to avoid a spill.

  Maintenance area and Megadome at Smoky:

  - WASTE Issues - discussed during the close out meeting,
    - ⇒ Suggested Action: make sure that the secondary spill containment for the materials is effective, with the rain they overflow and it's an automatic spill. Have someone double check the effectiveness and empty them after a rain event.
  - Spill beside the maintenance area
    - ⇒ Suggested Action: Clean up the spill that was caused by the secondary containment overflowing.

  Additional Suggestions

  - The waste areas are scattered in different areas, either side of the maintenance garage and beside megadome, would be good to have 1 designed waste area, well labelled and under cover to avoid spills. Also have a waste coordinator for the whole site who is responsible for managing this.
  - There was a mix of empty and full drums in the storage area, hard for the waste management company to arrive on site and dispose accordingly - should keep them separate.
  - At the old Smoky Falls sluiceway gates, waste material (metal sheets, woody debris) lying about near the openings on the tailrace side from KAP repairs to the gates was observed. Will these be cleaned up or just left? If there is spilling at SF the material will be carried downstream. KAP is repairing the gates but in the meantime the waste material is lying there.

Action Required: The EWG presented these issues to KAP and KAP subsequently took appropriate actions (see suggested actions above) to address all of the issues.