

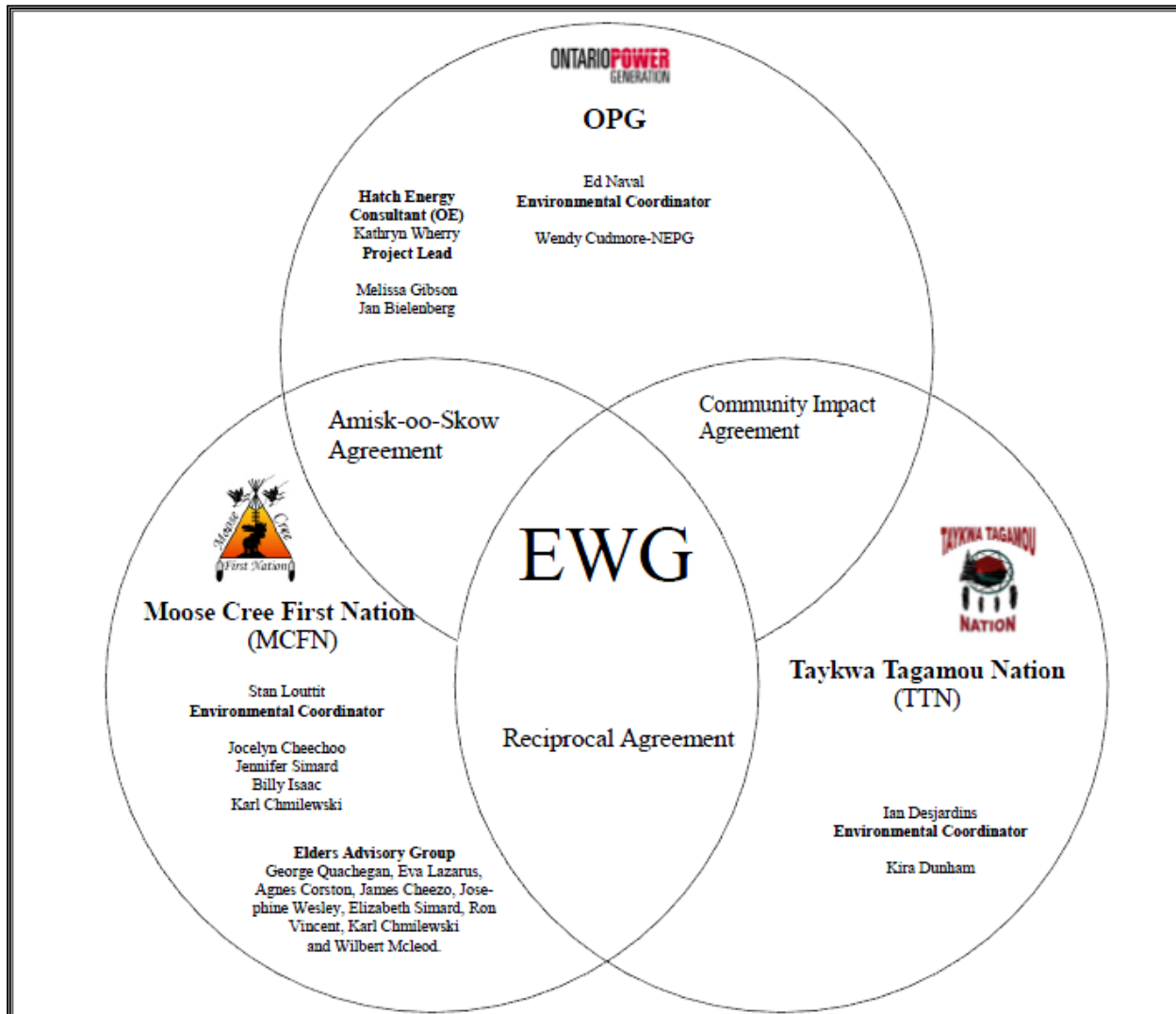
Environmental Working Group

Monthly Report

April 2014



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.
- The EWG has been tracking the work related to the watering up of Smoky Falls, specifically the work on the tailrace and its potential impacts to seasonal fish spawning.
- The EWG have reviewed the proposed Site Rehabilitation Plans for Harmon and Kipling.
- As part of the baseline work required for the LMRP Environmental Effects Monitoring Plan, MCFN member of the EWG have conducted a winter survey of wildlife downstream on Kipling.
- On April 9, 2014, members of the EWG attended the MECC meeting in Timmins. The topics that were discussed included the recommendations from last month's presentation by SENES on the Cultural/Archeological Assessment work conducted on the LMRP (EA Term and Condition 2 - Heritage Resources). Unfortunately, since TTN did not have a MECC member in attendance, no final decisions could be made on whether or not the EA Term and Conditions were completed. The MECC also updated the MECC EA Term and Condition Priority list in order to set the priorities and expectations for the year with regards to work related to the fulfillment of specific EA Terms and Conditions (ex. LMRP Environmental Effects Monitoring Plan).
- TTN members of the EWG continued to work on developing their own Elders Advisory Group as well as the Custodial Body.
- MCFN and TTN members of the EWG worked on incorporating TEK into the SENES Erosion and Aquatic Reports for Adam Creek (commissioned by the MECC).
- 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 have completed their draft, TTN continues to conduct additional Elder interviews.
- 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 OPG and Hatch members of the EWG continue to work on collecting additional baseline information.
- In an effort to improve the understanding of TEK, members of the EWG will watched the documentary entitled "Cree Hunters of the Mistassini".

ACTIONS TO BE COMPLETED in 2014

| | | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
|--|--|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|
| EWG Environmental Due Diligence Audit #4 | | | | | | | | | | | | | |
| 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. | | | | | | | | | | | | | |
| EWG present to the MECC the results and recommendations of periodic re-evaluations (Condition 10 of EA T&Cs). | | | | | | | | | | | | | |
| EA T&C 3a: Visual and Aesthetic Impacts | EWG present to the MECC "Environmental Effects Monitoring Plan, Lower Mattagami Development" | | | | | | | | | | | | |
| EA T&C 4b: Hydrology, Fish and Aquatic Habitat | | | | | | | | | | | | | |
| EA T&C 5b: Terrestrial Ecology | EWG present to the MECC "TEK - Environmental Effects Monitoring Plan, Lower Mattagami Development" | | | | | | | | | | | | |
| EA T&C 6: Erosion and Sedimentology | | | | | | | | | | | | | |
| EA T&C 7: Mercury | | | | | | | | | | | | | |
| EA T&C 14: Permit Review and Compliance Monitoring Protocol | | | | | | | | | | | | | |
| EA T&C 3a: Visual and Aesthetic Impacts | EWG present to the MECC the results and recommendations of Little Long Rehabilitation Plan | | | | | | | | | | | | |
| EA T&C 5d: Terrestrial Ecology | EWG present to the MECC the results and recommendations of Harmon Rehabilitation Plan | | | | | | | | | | | | |
| | EWG present to the MECC the results and recommendations of Kipling Rehabilitation Plan | | | | | | | | | | | | |
| | EWG present to the MECC the results and recommendations of Smoky Falls Rehabilitation Plan | | | | | | | | | | | | |
| EWG presents to the MECC a draft of the 'Peoples of the Moose River Basin', the cultural text outlined in EA T&C 2c. | | | | | | | | | | | | | |
| EWG read TEK book 'The Inconvenient Indian, A Curious Account of Native People in North America'. | | | | | | | | | | | | | |
| EWG watch TEK related films or documentaries (The Reel Injun, and Cree Hunters of the Mistassini). | | | | | | | | | | | | | |
| Completed:  Pending:  *Additional work still required to fulfill EA Term and Condition | | | | | | | | | | | | | |

Construction**General**

- There were approximately 750 people in the camp this month. Several dorms are vacant and KAP continues to reduce the numbers further in the coming months as construction activities wind down and more units come into service. Preparations are under way to begin demobilizing dorms at the permanent camp.

Little Long

- KAP and OPG closed out 16 punch list items this month.
- KAP resubmitted its notice of substantial completion for review and acceptance by OPG.
- Little Long Unit was 3 (Figure 1) was declared in service on January 19, 2014.



Figure 1: Little Long Unit 3

Harmon

- The focus of the work this month was operational testing and commissioning (Figure 2).
- During periods when the Unit was not being tested, injection of hydrophobic polyurethane resin into concrete floor cracks occurred.
- On April 5th, KAP primed the Unit as part of testing and discovered issues with the priming procedure. An investigation was completed and the procedure was revised.
- The Unit was successfully synchronized to the grid on April 17th and online testing proceeded for the balance of the month.
- At month-end KAP was doing demonstration testing for OPG and preparing for the 10-day trial run of the Unit, leading up to in-service.
- Details on backfeed activities can be found in Section 6.2.6.
- It is forecasted that Harmon Unit 3 will be declared in service in May 2014.



Figure 2: Harmon stop log removal

Kipling (Figure 3)

- KAP performed concrete repairs in the scroll case soffit using epoxy grout injection and corrected minor deficiencies using point and patch on the scroll case walls and in the intake.
- Rotor rim piling was completed and fan blades were installed on the top and bottom of the rotor rim.
- Stator winding continued on plan this month and is forecast to continue into next month.
- Installation of BOP electrical components such as instrument panels and pulling and terminating cables was performed, along with welding of the IPB.
- KAP employees erected the formwork and then grouted the intake gate guide roller paths.
- KAP ironworkers started assembling the draft tube stop log hoist structure at the tailrace deck.
- Runner blade / discharge ring clearance remediation was completed and Andritz installed the runner in the turbine pit at month-end.
- It is forecasted that Kipling Unit 3 will be declared in service in February 2015.



Figure 3: Kipling Overview

Smoky Falls

- 145 m³ of concrete was poured this month, bringing the total poured to date to 142,601 m³ of 143,056 m³.
- At Zone 5, anchors and formwork for anchor plate bearing pads were installed.
- Alstom continued to prepare Turbine/Generator components in the West Service Bay (WSB) and work inside the Units. They have completed the following tasks:
 - At Unit 1, piping and instrumentation for various subsystems were installed, flushed, and pressure tested. Alstom re-adjusted stator verticality and stator elevation. Other Unit assembly activities progressed to plan.
 - At Unit 2, rotor assembly was nearing completion, the heat shrink procedure for the rotor rim was completed and rotor poles were installed. The tower assembly (runner / inner head cover) was installed in the turbine pit and the turbine shaft and generator shaft were installed in the Unit. Alstom assembled the operating ring in the pit and started assembling wicket gate linkages.
 - At Unit 3, stator winding progressed. Alstom centred and leveled the discharge ring / bottom ring assembly in the pit. Welding of the upper and lower draft tube cones was completed. Rotor assembly continued.
- Canmec corrected the identified deficiencies in the intake gate hoist assemblies.
- BOP Mechanical and Electrical installation work throughout the powerhouse continued to progress.
- Excavating powerhouse and tailrace pads as well as excavating top portion of rockplug (Figure 4 and 5).
- At month-end, KAP had nearly completed the preparations for watering up the forebay, as well as installation of instrumentation, cables and control panels for dam monitoring (once the forebay has been watered up). Water-up will occur in May.
- It is forecasted that the in service date for Unit 1 will be in September 2014, November 2014 for Unit 2 and February 2015 for Unit 3.



Figure 4: Smoky Falls – Rock-plug excavations



Figure 5: Smoky Falls – Intake excavations

Monthly Summary – April 2014

| SPILLS | | | |
|--|---------------------------|--|---|
| No. of Spills: | | 7; Spill Reports 426-432 (see Figure 6 for LMRP spills breakdown). | |
| Classification of Spills: | | <u>KAP Project Classification</u> Minor – 7 Moderate – 0 Major –0 To Water - 0 <u>MOE Classification</u> Non-reportable - 6 Reportable to MOE <div><div>- Class C – 1</div><div>- Class B – 0</div><div>- Class A – 0</div></div> | |
| Reportable Spills | | | |
| No. | Quantity /Product Spilled | Spill Site | Reason for being Reportable |
| 1 | Diesel fuel | Harmon GS Upper Deck | In-water Spill. KAP commissioning was running some alarm tests on the head gate at Harmon. In order to do this the gate needed to be raised. Normal procedure was followed. However, as the gate was raised up, a large surge of water came out of the hoarded gate opening and a wave washed across the road. The emergency stop was immediately activated and the gate dropped back to the sill. The wave pushed 2 Frost Fighters across the road. One of the frost fighters was overturned allowing a small amount of fuel to leak out before it was uprighted. This fuel was carried with the water on the deck into the headpond. Fuel containing equipment will be moved out of areas if there is a potential of flooding due to flow tests, operations, weather events, etc. |
| 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) | | | MOE Classification (see Reportable and Non-reportable Spills definition below) Non-reportable: < 100L Reportable to MOE <ul style="list-style-type: none">• Class C - Less Serious• Class B – Serious• Class A – Very Serious |
| Sediment Pond Exceedance of Effluent Objective | | | |
| No. of Exceedance days recorded | Location | Mitigation Measures used | |
| n/a | | | |

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.

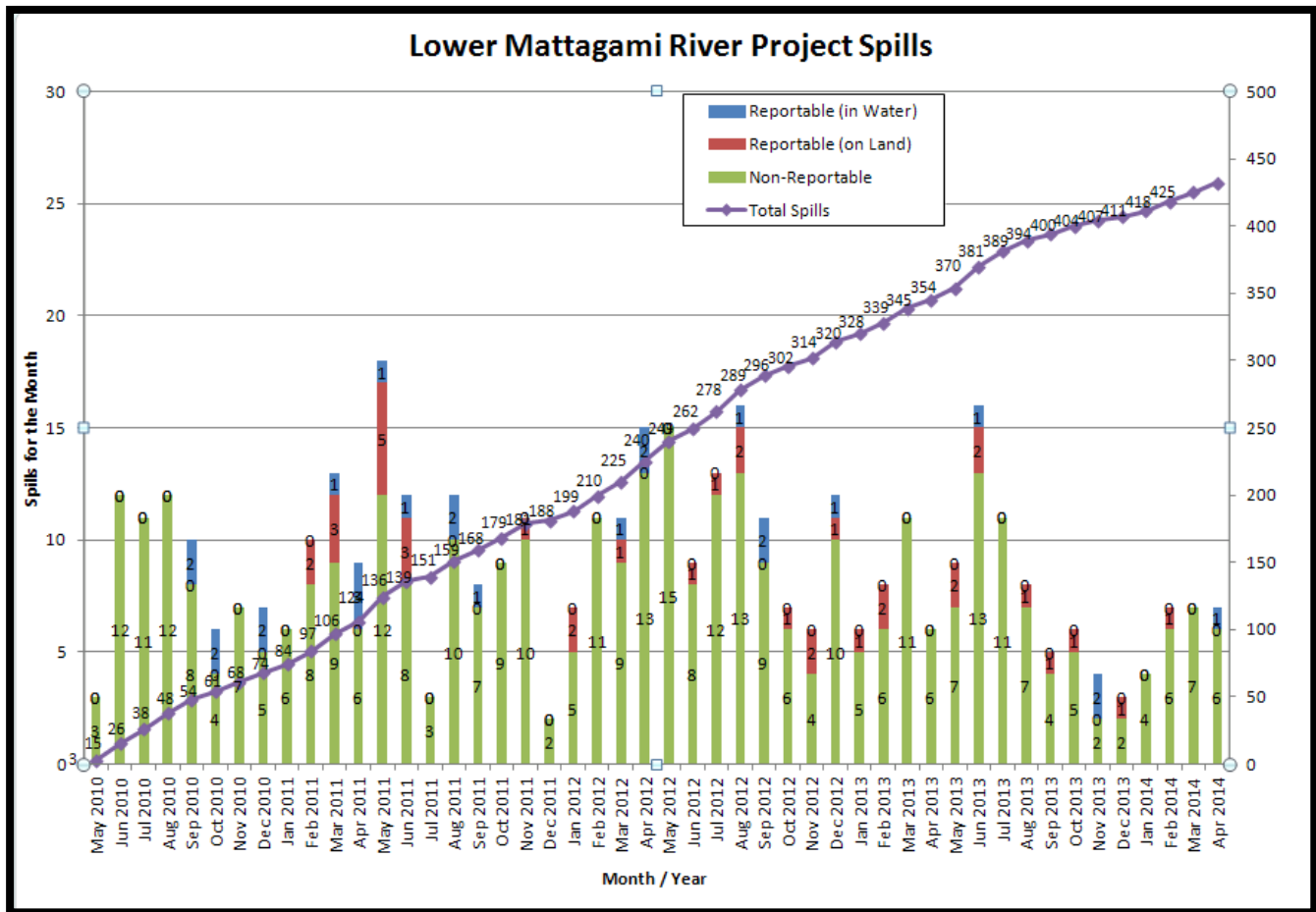


Figure 6: Lower Mattagami River Project spills

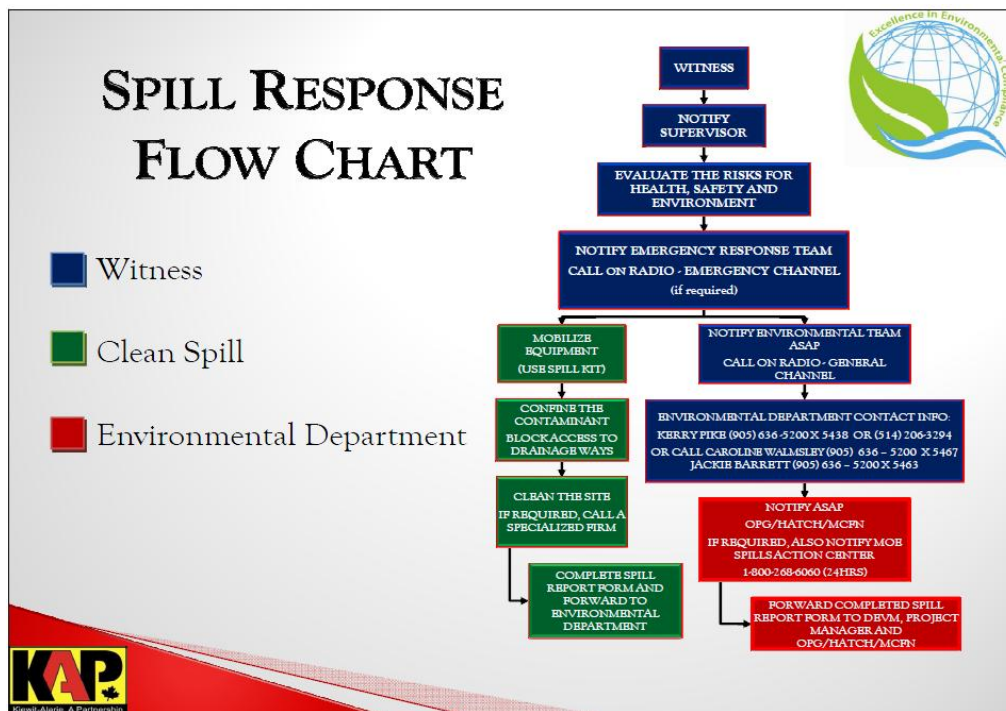


Figure 7: KAP Spills Response Flowchart

Monthly Permit and Approval Review Table

| No. | PERMIT AND/OR APPROVAL REVIEW | Reviewed by EWG | Submitted to KAP |
|-----|-------------------------------|-----------------|------------------|
| - | 0 | 0 | 0 |

**Provincial Environmental Assessment Term and Condition (EA T&C)
Reports Review and Environmental Audits Table**





























| No. | Report or Audit | Applicable EA T&C | Reviewed or Under Review by EWG | Submitted to KAP | Submitted to MECC |
|-----|--|-------------------------|--|---|---|
| 14 | KAP Kipling Site Rehabilitation Plan. | 3a and 5 |  |  | - |
| 13 | KAP Harmon Site Rehabilitation Plan. | 3a and 5 |  |  | - |
| 12 | Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek | 4c |  | n/a | - |
| 11 | Mercury in Fish Flesh Summary Report | 4b and 7a |  | n/a | - |
| 10 | Fish Habitat Assessment Report | 4b |  | n/a | - |
| 9 | Terrestrial Habitat Restoration Downstream of Kipling GS | 5b |  | n/a | - |
| 8 | Draft Environmental Effects Monitoring Plan | 3a, 4b, 5b, 6, 7 and 14 |  | n/a | - |
| 7 | KAP Little Long Site Rehabilitation Plan. | 3a and 5 |  |  | - |
| 6 | Operation Overview Report | 4a |  | n/a |  |
| 5 | Waste Management Plan | 19 |  |  |  |
| 4 | Noise Control Plan | 18 |  |  |  |
| 3 | The Interim Measures Agreement as it relates to EA Term and Condition 14c (Permit Review and Compliance Monitoring Protocol) | 14c |  |  |  |
| 2 | 2013 Environmental Audit | 14 |  |  |  |
| 1 | 2012 Environmental Audit | 14 |  |  |  |



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

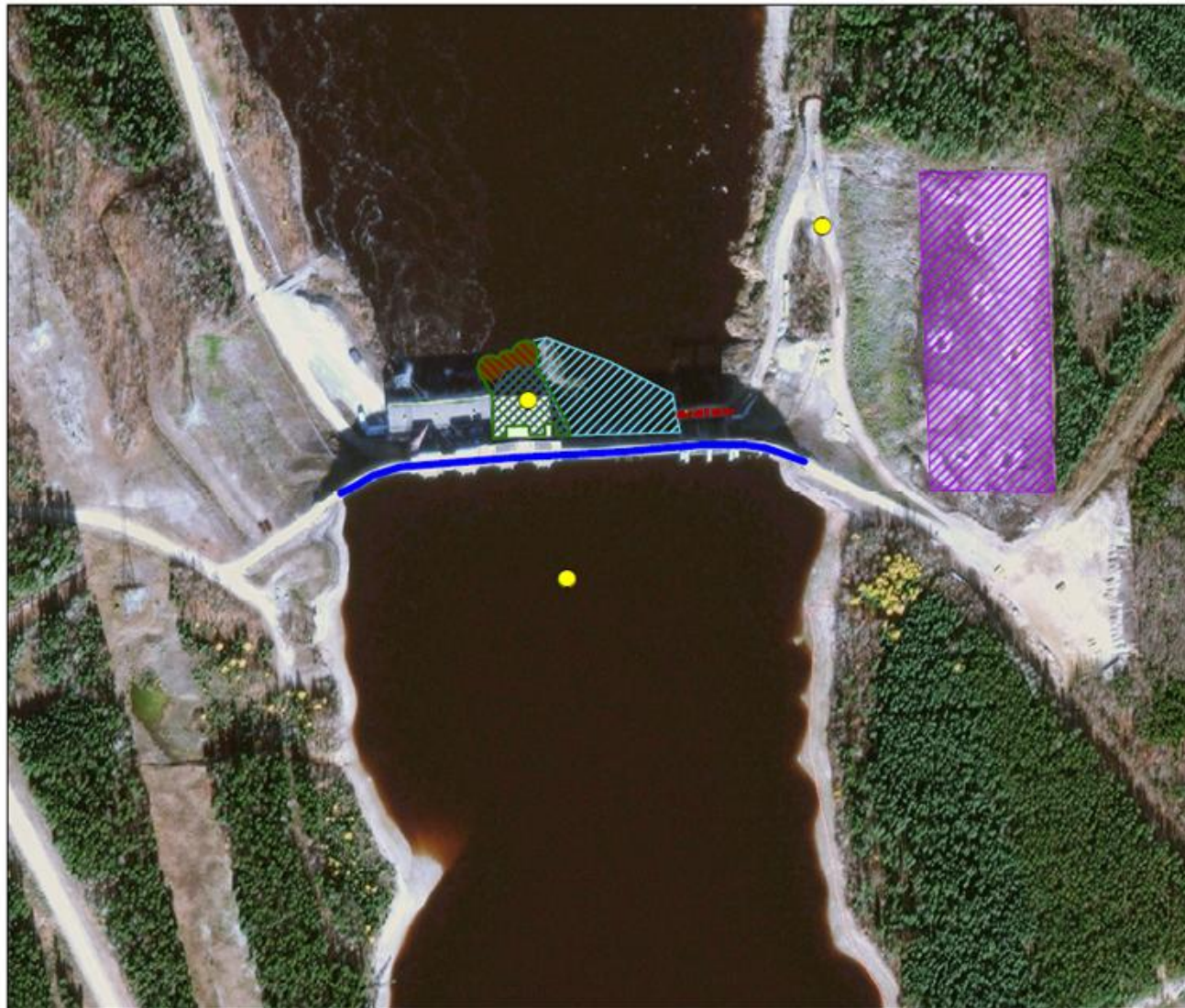
Ministry of Natural Resources

 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



0 100 200 400
Meters



Kiewit - Alarie, A Partnership

Created By: Caroline Walmsley

Datum: Zone 17U

Date: January 19, 2012

Scale: 1: 5,500



ONTARIO POWER
GENERATION

LMRP-FJ28-ENV-DWG-0001-2012-01-19-R04



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 River Improvement Act - Phase 1A - 1 Deflector Wall

Lakes River Improvement Act - Phase 1A - 2 Spillway Location Revised

Lakes River Improvement Act - Phase 1B Temporary Cofferdam

Lakes River Improvement Act - Phase 2 Powerhouse Upgrades

Licence to Collect Fish for Scientific Purposes



Kiewit - Alarie, A Partnership

Created By: Caroline Walmsley

Datum: Zone 17U

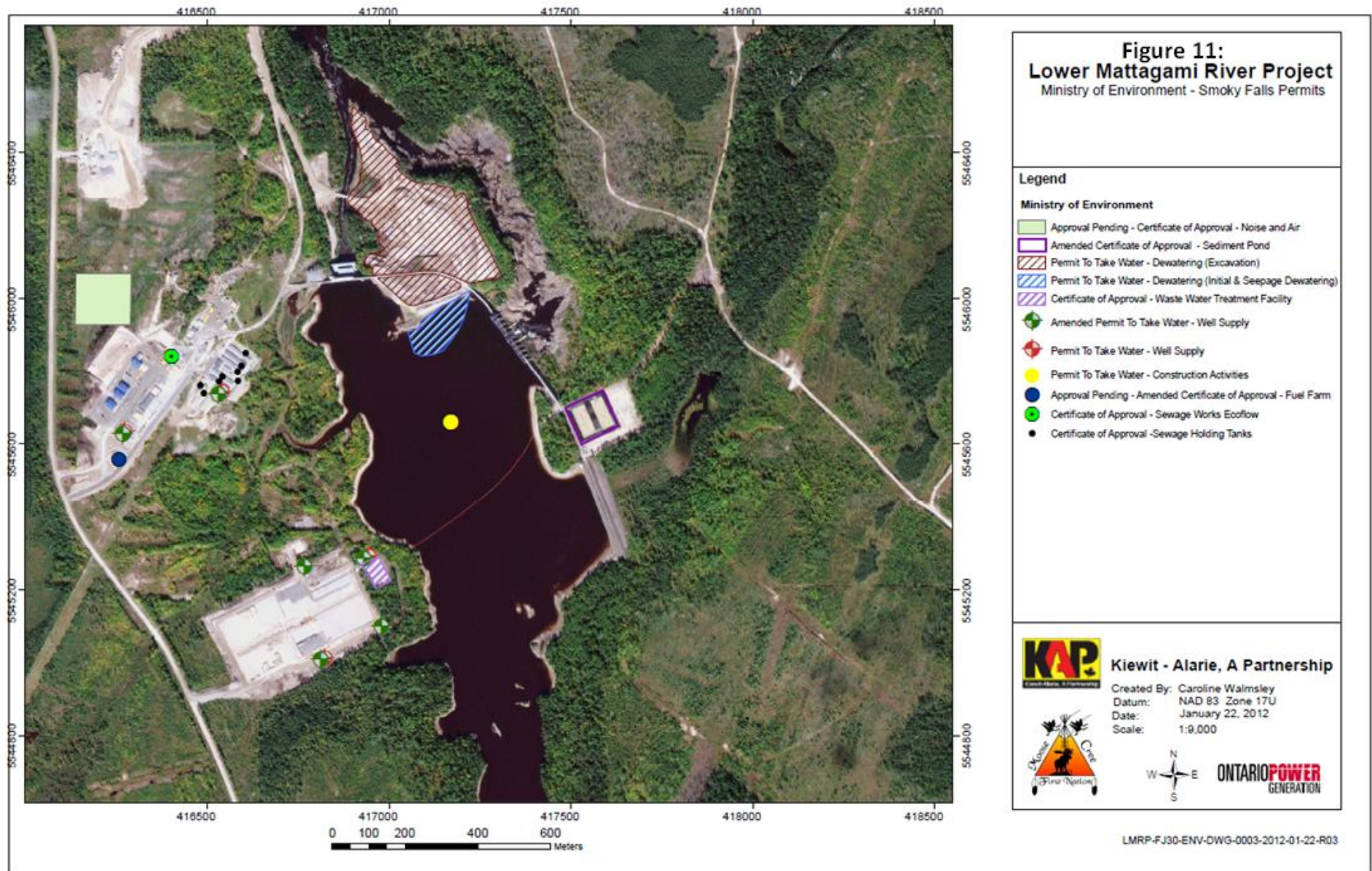
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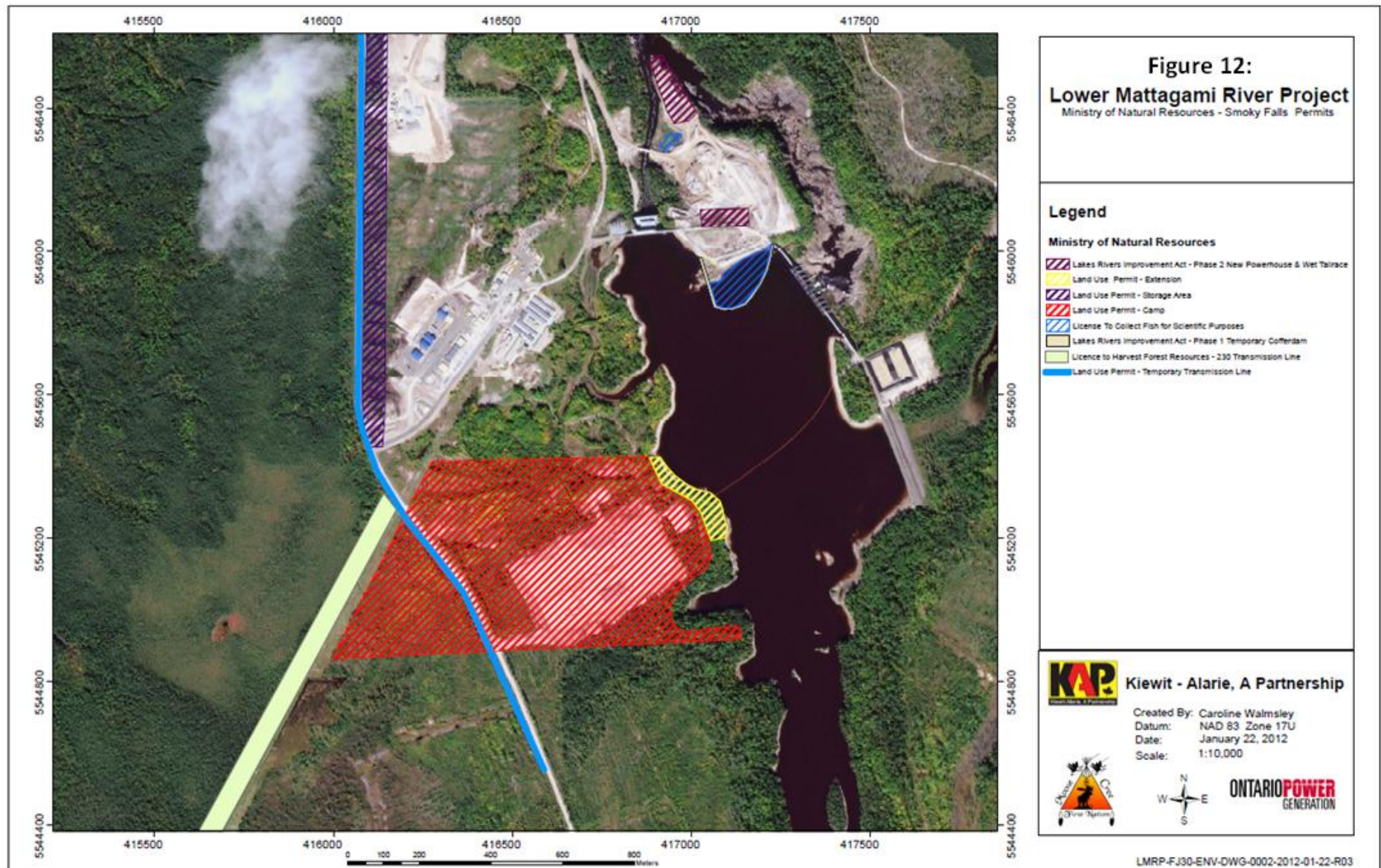
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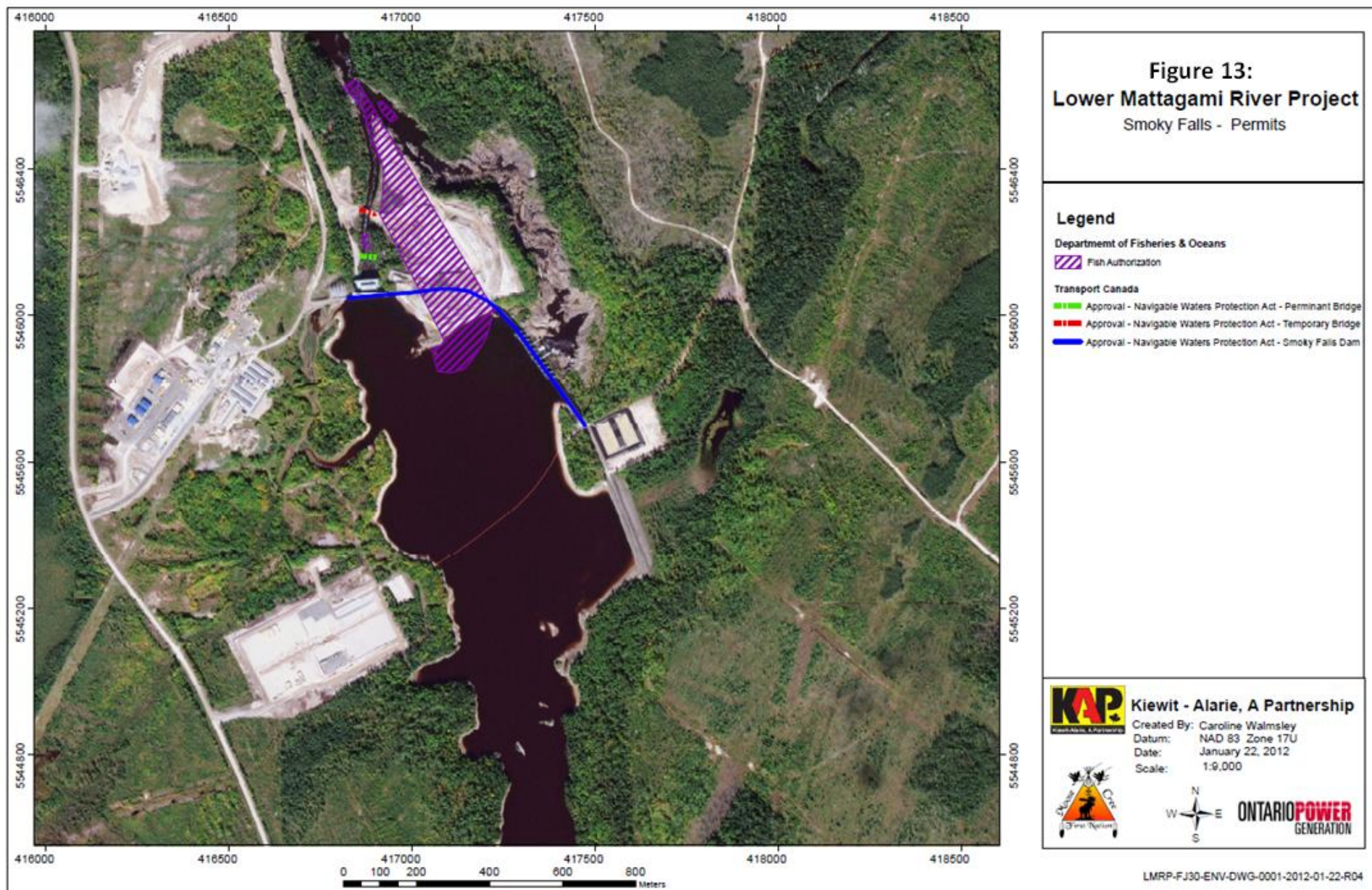


ONTARIO POWER
GENERATION

LMRP-FJ27-ENV-DWG-0001-22012-01-19-R04







Issues and Concerns

- MCFN member of the EWG was on-site and found used construction materials that have not been properly disposed of and drip trays that were frozen full despite the daily checklists identify that the drip trays have been checked.

Action Required: EWG followed-up with KAP to ensure that all construction debris is being properly disposed of and that drip trays are properly maintained.